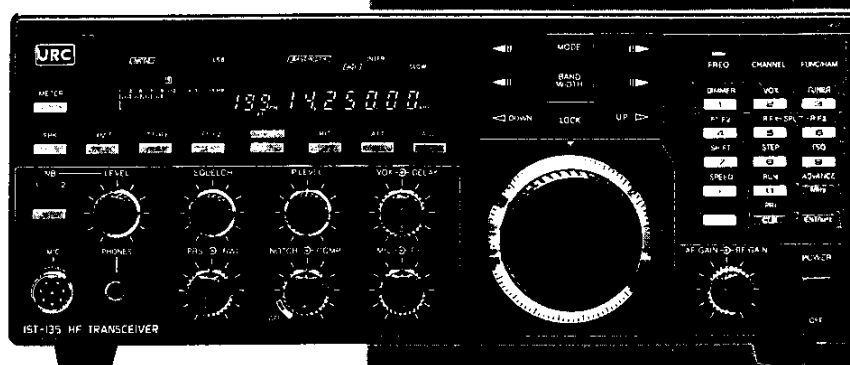


# MODEL JST-135 SERVICE MANUAL

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**JRC**

*Japan Radio Co. Ltd.*

# HF TRANSCEIVER

## Introduction

This manual contains information required for maintenance and/or repairment of the JST-135 HF Transceiver. For operating procedures, refer to the instruction manuals for JST-135 and optional equipment.

The JST-135 can be fitted with the following optional units:

|                        |         |
|------------------------|---------|
| TONE SQ Unit           | CCL-212 |
| BWC Unit               | CFL-243 |
| NOTCH FOLLOW Unit      | CDD-366 |
| ECSS Unit              | CMF-78  |
| RS-232C INTERFACE Unit | CMH-741 |
| DAUGHTER BOARD Unit    | CMH-742 |

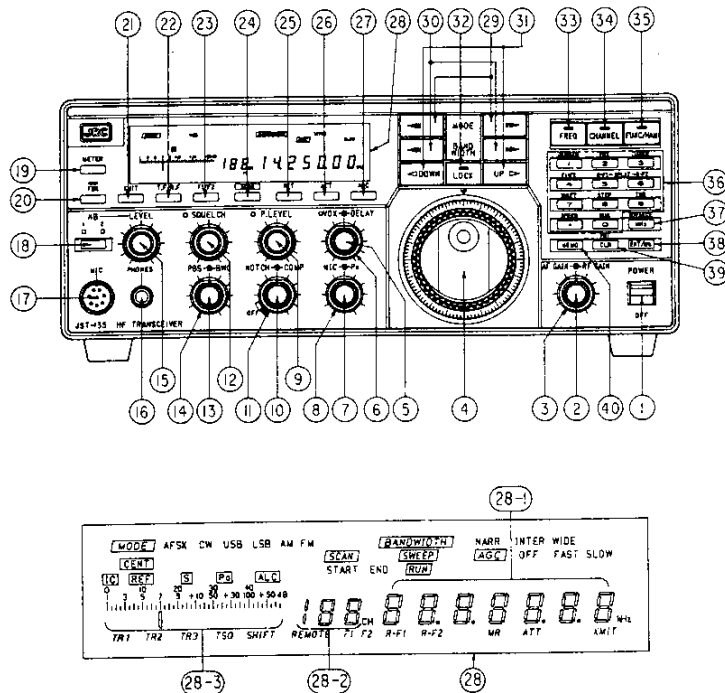
This manual, however, describes the standard operation of the JST-135 without optional units, and the description of those optional units is followed. (excluding Daughter Board Unit CMH-742).

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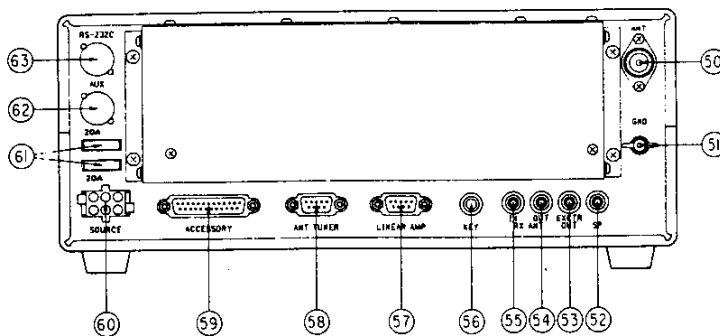
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## Parts Identification



## Front Panel

- ① POWER switch
- ② AF GAIN control
- ③ RF GAIN control
- ④ TUNING control
- ⑤ VOX gain control
- ⑥ DELAY (VOX delay) control
- ⑦ MIC (microphone gain) control
- ⑧ Po (power) control
- ⑨ P LEVEL (pause level) control
- ⑩ NOTCH control
- ⑪ COMP (voice compressor) control
- ⑫ SQUELCH control
- ⑬ PBS (pass band shift) control
- ⑭ BWC (bandwidth) control
- ⑮ NB LEVEL (noise blanker level) control
- ⑯ PHONES (headphones) jack
- ⑰ MIC (microphone) connector
- ⑱ NB (noise blanker) control
- ⑲ METER switch
- ⑳ FBK (full-brake-in) switch
- ㉑ XMIT (standby) switch
- ㉒ T.F/R.F (transmit frequency/receive frequency) switch
- ㉓ F1/F2 (VFO select) switch
- ㉔ SCAN switch
- ㉕ RIT (receiver increment tuning) switch
- ㉖ ATT (attenuator) switch
- ㉗ AGC switch
- ㉘ Display
- ㉘-1 Frequency display
- ㉘-2 Channel display
- ㉘-3 Meter
- ㉙ MODE switch
- ㉚ BANDWIDTH switch
- ㉛ UP/DOWN switches
- ㉜ LOCK switch
- ㉝ FREQ (frequency) switch
- ㉞ CHANNEL switch
- ㉟ FUNC/HAM (function/harm band) switch
- ㊱ Ten keys
- ㊲ MHz switch
- ㊳ ENT/kHz (enter/kHz) switch
- ㊴ CLR (clear) switch
- ㊵ MEMO (memory) switch



## Rear Panel

- ⑤① ANT (antenna) connector
- ⑤② GND (ground) terminal
- ⑤③ SP (external speaker) jack
- ⑤④ EXCITER OUT (exciter output) jack
- ⑤⑤ RX ANT OUT (receiving antenna output) jack
- ⑤⑥ RX ANT IN (receiving antenna input) jack
- ⑤⑦ KEY jack
- ⑤⑧ LINEAR AMP (linear amplifier) connector
- ⑤⑨ ANT TUNER (antenna tuner) connector
- ⑤⑩ ACCESSORY connector
- ⑤⑪ SOURCE (DC power) connector
- ⑤⑫ FUSES (DC fuse)
- ⑤⑬ AUX (auxiliary) connector
- ⑤⑭ RS-232C connector

## 1. SPECIFICATIONS

### General

#### Transmitting

frequency range: 1.8 MHz band 1.8 to 2.0 MHz  
3.5 MHz band 3.5 to 4.0 MHz  
7 MHz band 7.0 to 7.3 MHz  
10 MHz band 10.1 to 10.15 MHz  
14 MHz band 14.0 to 14.35 MHz  
18 MHz band 18.068 to 18.168 MHz  
21 MHz band 21.0 to 21.45 MHz  
24 MHz band 24.89 to 24.99 MHz  
28 MHz band 28.0 to 29.7 MHz

Receiving frequency range:

100 kHz to 30 MHz

Operating mode: SSB (LSB, USB)

CW

AME (Single Side band with full carrier)

FM

AFSK

Frequency stability: Less than  $\pm 10$  PPM from 5-minute warm-up to 60 minutes  
Less than  $\pm 2$  PPM per hour after 60 minutes

Frequency increment: 10 Hz

Number of memory

channels: 200 channels

Antenna impedance:  $50\Omega$  (unbalanced)

Input voltage: 13.8 VDC  $\pm 10\%$

(nominal 13.8V)

Negative grounded

Power consumption: Approx. 1.5 A (receiving with no signal)  
Approx. 33 A (transmitting at 150W output)

Dimensions: 330 (330)W x 130 (142)H x 280 (391) Dmm

Dimensions written in ( ) include projecting parts and controls

Weight: Approx. 8.5 kg

#### Transmitter

Power output: 10 to 150W (continuously adjustable)

Carrier suppression: 50 dB or more

Undersired sideband

suppression: 60 dB or more (at 1.5 kHz modulation)

Intermodulation: 3rd order:  $-38$  dB or less

Frequency response: 400 to 2600 Hz (within 6 dB, SSB)

Microphone

impedance:  $600\Omega$

Modulation system: SSB, AME, AFSK:  
Balanced modulation  
FM: Reactance modulation

Maximum frequency deviation (FM):  $\pm 5$  kHz

#### Receiver

Receiving system: SSB, CW, AM, AFSK:  
Triple superheterodyne  
FM: Double superheterodyne

Intermediate

frequency: 1st IF : 70.455 MHz

2nd IF : 455 kHz

3rd IF : 98 kHz

Sensitivity:

|             | SSB, CW, AFSK | AM          | FM          |
|-------------|---------------|-------------|-------------|
| 0.1-0.5 MHz | 14 dB $\mu$   | 24 dB $\mu$ | —           |
| 0.5-1.6 MHz | 6 dB $\mu$    | 16 dB $\mu$ | —           |
| 1.6-30 MHz  | -10 dB $\mu$  | 6 dB $\mu$  | -6 dB $\mu$ |

(at 12 dB SINAD for FM, at 10 dB S/N for other modes)

Image rejection: 70 dB or more

IF rejection: 70 dB or more

Selectivity:

|                          | - 6 dB         | -60 dB                 |
|--------------------------|----------------|------------------------|
| SSB, CW(W), AFSK (INTER) | 2 kHz or more  | 6 kHz or less          |
| FM (WIDE)                | 12 kHz or more | —                      |
| AM (INTER)               | 6 kHz or more  | -40 dB, 18 kHz or less |

Note: Maximum two optional filters can be mounted.

RIT range:  $\pm 20$  kHz

PBS range:  $\pm 1$  kHz

BWC minimum

bandwidth: Approx. 800 Hz (when mounting optional BWC unit)

NOTCH filter

attenuation: Approx. 40 dB

AF output: 1W or more (at  $4\Omega$  load and with less than 10% distortion)

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## 2. BLOCK DIAGRAM

### 2.1 Signal Flow

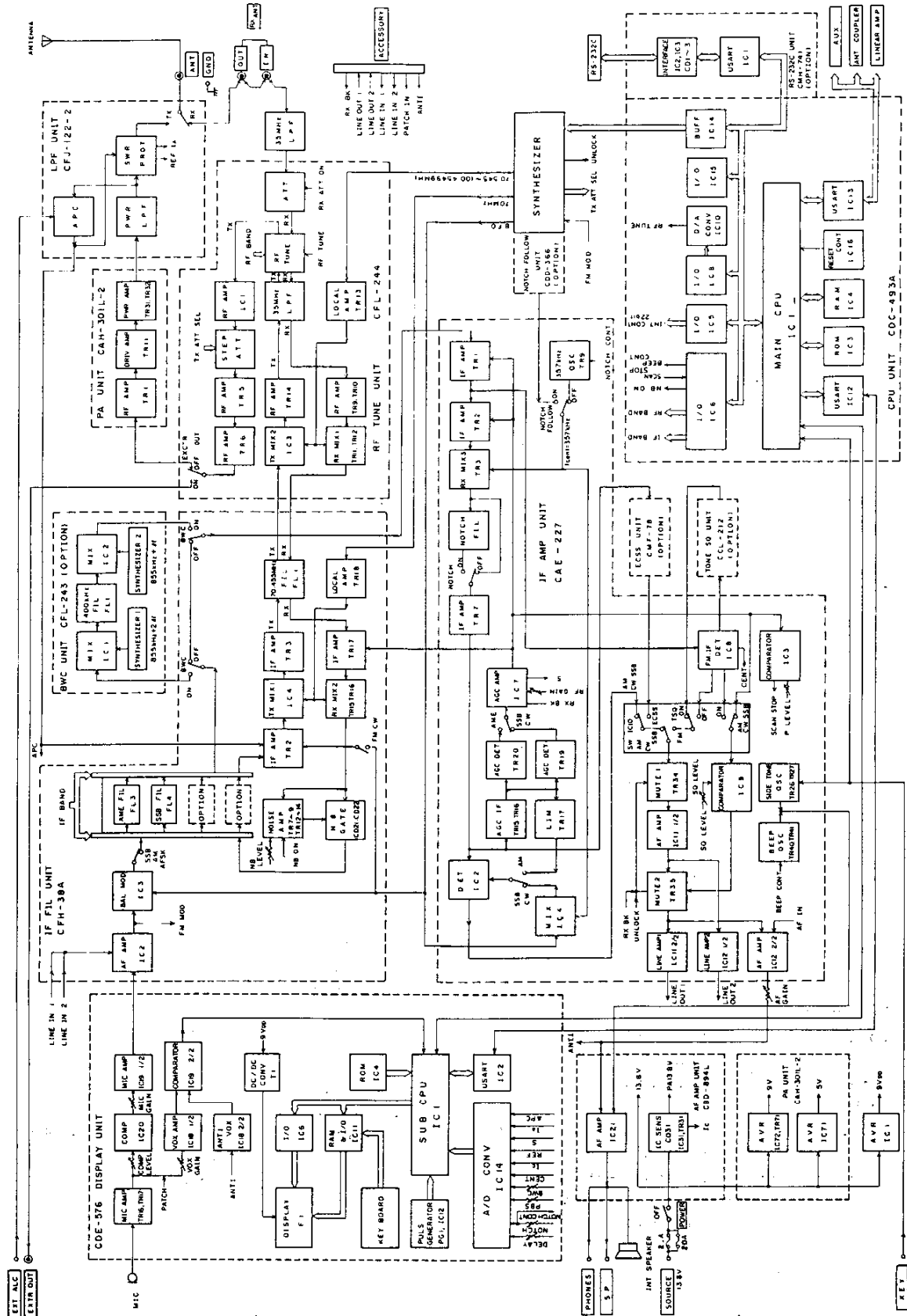


Diagram illustrating the Block Diagram of the CGA-145 Loop Unit, showing the flow of signals and components.

**REF DDS UNIT CGK-81A**

**NOTCH FOLLOW UNIT CDD-366 (OPTION)**

**LOOP UNIT CGA-145**

**BFO Frequency:**

- 452.79MHz - AFSK
- 453.5MHz - LSB
- 456.5MHz - USB
- 455.0MHz - CW TX
- 454.2MHz - CW RX

The diagram shows the following components and signal paths:

- REF DDS UNIT CGK-81A:** Includes OSC TR5, LPF, I/100V IC19, and BUFF TR7. It provides a 20MHz signal to the Loop Unit.
- NOTCH FOLLOW UNIT CDD-366 (OPTION):** Includes a BPF and DDS IC1, 3, 4. It receives a 357.10kHz signal and outputs a BFO signal.
- LOOP UNIT CGA-145:**
  - DDS IC2, 6, 20:** Receives BFO and 20MHz signals. It outputs 0.545~0.445MHz signals to BPFs and MIX IC12.
  - MIX IC12:** Receives 0.545~0.445MHz signals and outputs 2.545~2.445MHz signals to BPFs.
  - BPFs:** Filter the signals at various stages.
  - MIX IC6:** Receives 2.545~2.445MHz signals and outputs 60MHz signals to X3 TRI2.
  - AMP TRI3:** Amplifies the 60MHz signal.
  - MIX IC4:** Receives the amplified 60MHz signal and outputs 57.455~57.555MHz signals to LPF.
  - LPF:** Filters the 57.455~57.555MHz signal.
  - BUFF IC2:** Buffers the 57.455~57.555MHz signal.
  - TR5-7:** Receives the 57.455~57.555MHz signal and outputs 70.545~100.45499MHz signals.
  - IC5:** Receives the 57.455~57.555MHz signal and outputs 13~43MHz signals.
  - IC3:** Receives the 13~43MHz signal and outputs 2MHz signals.
  - IC17:** Receives the 2MHz signal and outputs 1/2 DIV and 1/70 DIV signals.
  - P D:** Receives the 1/2 DIV and 1/70 DIV signals and outputs DATA and TO LAT signals.
  - IC13~16:** Receives the DATA and TO LAT signals and outputs FM TX, VCO3, VCO2, VCO1, LP LAT, 70 LAT, DDS LD, BFO LD, FOL LD, BFO CLK, DDS CLK, LP CLK, and DATA signals.

### 3. CIRCUIT DESCRIPTION

#### 3.1 General

The JST-135 consists of the six blocks: panel, receiver, transmitter, synthesizer, control and chassis blocks. Each block consists of the units listed in Table 3.1.

Table 3.1 Block & Units

| Block       | Unit              |            |
|-------------|-------------------|------------|
| Panel       | DISPLAY UNIT      | CDE-576    |
|             | DISPLAY (VR) UNIT | CDE-576    |
| Receiver    | RF TUNE UNIT      | CFL-244    |
|             | IF FILTER UNIT    | CHF-38A    |
|             | IF AMP UNIT       | CAE-227    |
|             | AF AMP UNIT       | CBD-894L   |
| Transmitter | 12V PA UNIT       | CAH-301L-2 |
|             | LPF UNIT          | CFJ-122-2  |
| Synthesizer | LOOP 1 UNIT       | CGA-145    |
|             | REF DDS UNIT      | CGK-81A    |
| Control     | CPU UNIT          | CDC-493A   |
| Chassis     | MOTHER BOARD      | CFQ-2625A  |
|             | CHASSIS           | JST-135    |
| Option      | TONE SQ UNIT      | CCL-212    |
|             | BWC UNIT          | CFL-243    |
|             | NOTCH FOLLOW UNIT | CDD-366    |
|             | ECSS UNIT         | CMF-78     |
|             | RS-232C UNIT      | CMH-741    |

The panel is equipped with switches and controls to operate the transceiver, and with a large custom-Fluorescent Indication Panel (FIP) to indicate the operating condition, frequency, mode, etc..

The receiver employs the triple superheterodyne configuration: 1st IF of 70.455 MHz, 2nd IF of 455 kHz, and 3rd IF of 97 kHz. The input circuit employs the electronic tuning to improve two-signal characteristic. The electronic tuning circuit is also used for transmitter to suppress the spurious emission. The circuit tunes according to the control voltage from the CPU Unit CDC-493A.

The transmitter converts the audio signal from a microphone into 455 kHz (BAL MOD), 70.455 MHz (TX MIX1) and desired frequency (TX MIX2).

The desired signal is amplified by the PA Unit up to the rated power, filtered by the LPF Unit and fed to the ANT terminal. The PA Unit employs the newly developed cooling system to enable continuous transmission.

The synthesizer employs the highly stable reference oscillator of 20 MHz to generate 70.545 to 100.45499 MHz, 70 MHz, and BFO signal used in the transmitter and receiver blocks. Of these, 70.545-100.45499 MHz local and BFO signals are generated by the newly developed Direct Digital Synthesizer (DDS). The DDS features:

- (1) Vibration resistant since no VCO is used.
- (2) Quick response since no feedback loop is used.
- (3) Simple circuit configuration.

The control block employs two CPUs: MAIN CPU and SUB CPU. The MAIN CPU is located on the CPU Unit to control and switch the transmitter, receiver and synthesizer circuits. The SUB CPU is located on the DISPLAY Unit to drive the FIP and to process the ten-key entry. The two CPUs communicate each other with 4800 bps serial data.

The chassis block employs the Mother Board for interconnection of the plug-in units to ensure high reliability and easy maintenance.

### 3.2 Description of Units

#### 3.2.1 RF TUNE UNIT (CFL-244)

This unit includes the RF tuning circuit mainly, and is used in both transmission and reception. It consists of the circuits that receive the incoming signal through the antenna terminal and convert it into the 70.455 MHz receiver IF signal, and the circuits that convert and amplify the 70.455 MHz transmitter IF signal into the desired transmit frequency.

The RF tuning, which is the main circuit in this unit, consists of six frequency bands. One of the bands is selected according to the operating frequency by the decoder (IC2) and TR7. For each band, a variable parallel tuning circuit is formed by the variable capacitors and transformers, and the variable double tuning method is employed to assure more sharp tuning characteristic. (except for the 100 kHz-400 kHz band)

Table 3.2 Band Classification in RF Tuning Circuit

| Class | Frequency         | Remarks                       |
|-------|-------------------|-------------------------------|
| 1     | 100 kHz-0.4 MHz   | LPF method                    |
| 2     | 0.4 MHz-1.6 MHz   | Variable double tuning method |
| 3     | 1.6 MHz-4.4 MHz   |                               |
| 4     | 4.4 MHz-12.3 MHz  |                               |
| 5     | 12.3 MHz-20.5 MHz |                               |
| 6     | 20.5 MHz-30 MHz   |                               |

The tuning frequency of the circuit is controlled by the tuning voltage from the CPU. The tuning voltage is generated in the CPU Unit according to the operating frequency in 100 kHz steps. This tuning circuit is used in both transmission and reception.

The incoming signal received through the antenna terminal passes through the 20 dB attenuator switching circuit (K1), excessive input protection diodes (CD6-CD9), and enters the RF tuning circuit. The unwanted components among the incoming signals are eliminated by the RF tuning circuit, and the desired signal passes through the 35 MHz LPF and is applied to the receiver RF amplifier (TR9 and TR10). The receiver RF amplifier is composed of the gate-grounded low noise junction FETs to amplify the wide frequency range with high reliability and low noise. The output signal of the RF amplifier is mixed with the local signal by the mixer (TR11 and TR12), and converted into the 70.455 MHz receiver IF signal. The mixer employs the

balanced type circuit and assures high receiver performance with the aid of the RF tuning circuit and receiver RF amplifier. The 70.545-100.45499 MHz local signal supplied by the Loop 1 Unit is amplified to the required level by TR13, and supplied to the receiver mixer circuit (TR11 and TR12) and to the transmitter mixer circuit (IC3).

In transmission, the 70.455 MHz transmitter IF signal from the IF FIL Unit is mixed with the local signal by the double balanced mixer IC3 and converted into the desired transmit frequency signal. This signal passes through the buffer amplifier (TR14), and the unwanted spurious components are eliminated by the 35 MHz LPF and the RF tuning circuit, which are also used for reception. The transmit signal through the RF tuning circuit is applied to the wide band amplifier IC (IC1), and fed to the step attenuator circuit (TR1 through TR4). The step attenuator circuit compensates the loss of the RF tuning circuit and maintains the transmitter response within  $\pm 0.5$  dB at the antenna terminal. The circuit can control the attenuation up to 8 dB in 0.5 dB steps. With the aid of the CPU, the circuit controls in 100 kHz steps. Then, the transmit signal is amplified by TR5 and TR6 to the level suitable for driving the PA Unit. The TR6 output is switched to either the PA Unit side or the rear panel EXCTR OUT side by the relay K2.

#### 3.2.2 IF FIL UNIT (CFH-38A)

The IF Filter Unit is mainly composed of the IF filters to determine the bandwidth in both transmission and reception. In reception, the received 70.455 MHz IF signal from the RF TUNE Unit is converted to the 455 kHz IF signal. The 455 kHz IF signal passes through the noise blanker (NB) and one of the IF filter selected to secure the required selectivity. In transmission, the voice signal from the DISPLAY Unit is converted into the 455 kHz SSB signal. The signal is also converted into the 70.455 MHz IF signal to drive the RF TUNE Unit. In this unit, the carrier injection circuit for AME, CW and FM modes is also installed.

The filter circuit consisting of FL3 through FL6 determines the IF bandwidth in both transmission and reception. IC1 decodes the IF filter selection data from the CPU Unit to select the desired filter. Only for reception in FM mode, CD8 and CD9 are activated to pass through the filter circuit. Therefore, the selectivity for FM mode is determined by the 70.455 MHz IF filter FL1 and NB circuit filter FL2.

The 70.455 MHz receiver IF signal from the RF TUNE Unit passes through the monolithic filter (MCF) FL1 and is amplified by TR17. TR17 is the dual gate MOS FET and with the satisfactory AGC characteristic. TR17 output is mixed with the local signal (70 MHz) from the REF/DDS Unit by the balanced FET mixer (TR15 and TR16), and converted into the 455 kHz receiver IF signal.

This local signal is amplified by TR18, and supplied to the receiver mixer (TR15 and TR16) and the transmitter mixer (IC4). The NB circuit consists of the gate circuit and noise amplifier circuit. The 455 kHz receiver IF signal is applied to these two circuits. The signal directed to the gate circuit side passes through FL2 and the balance type gate circuit (CD21 and CD22). On the other hand, the signal directed to the noise amplifier circuit is amplified by the noise amplifier (TR12, TR13, and TR14). The gain of this noise amplifier is automatically controlled by the AGC circuit (CD20, TR10, and TR11). The time constant of AGC (R80, C92) is so chosen that a relatively slow variation of amplitude as an SSB voice is compensated by the AGC, then constant amplitude appears at TP6. However, the AGC does not follow very quick variation and impulsive noise appears at TP6 as it is. The impulsive noise components contained in the IF signal are detected by the noise detector circuit (CD18, CD19, TR7, TR8 and TR9). The detected impulsive noise turns on and off the gate circuit to blank the noise components contained in the 455 kHz IF signal. The signal from the NB gate is fed to the IF filter group (FL3 through FL6) and the desired selectivity is secured. Then, the signal is sent to the IF AMP Unit.

The voice signal from the DISPLAY Unit and the line input signal from the rear panel are mixed and the level is adjusted by IC2. Then, the signal is sent to IC3 and to the REF/DDS Unit for FM modulation. IC3 is a balanced modulator which generates the 455 kHz DSB signal by mixing the BFO signal and the voice signal. The DSB signal is changed into the SSB signal as it passes through the FL4 in the filter group, and applied to the 455 kHz amplifier (TR2). To TR2 the carrier is injected for AME, CW and FM modes. TR2 amplifies the input signal and the gain is automatically controlled by the APC voltage from the LPF Unit to maintain the power output constant. The output of TR2 is mixed with the 70 MHz local signal by the double balanced mixer (IC4), and converted into 70.455 MHz transmitter IF signal. The IF signal passes through the IF amplifier (TR3) and the unwanted component is eliminated

by the monolithic filter (FL1), and the signal is sent to the RF TUNE Unit.

### 3.2.3 IF AMP UNIT (CAE-227)

This unit includes the receiver local OSC block, IF AMP block, demodulator, AGC circuit, squelch circuit, and line out amplifiers.

The local OSC block consists of the 358 kHz oscillator (TR9), buffer amplifier (TR10), and mixer (IC4). The 358 kHz oscillator (TR9) utilizes the ceramic oscillator (X1). CD2 and CD28 are the variable capacitor diodes for adjusting the X1 oscillator frequency. The frequency is controlled by the control voltage from TR11. The output signal from TR9 passes through the buffer amplifier (TR10), and is supplied to the gate 2 of TR3 and Pin 2 on IC4. The mixer (IC4) mixes the 358 kHz signal and the BFO signal, and its output signal is used as the carrier signal for the product detection. The frequency of the carrier signal is allocated according to the mode as follows:

Table 3.3 BFO and Product Detection Frequencies

| Mode | BFO Frequency | Carrier frequency for product detection |
|------|---------------|-----------------------------------------|
| CW   | 454.2 kHz     | 96.2 kHz                                |
| AFSK | 456.7 kHz     | 98.7 kHz                                |
| LSB  | 453.5 kHz     | 95.5 kHz                                |
| USB  | 456.5 kHz     | 98.5 kHz                                |

The IF AMP block consists of the 455 kHz IF amplifier (TR1 and TR2), mixer (TR3), and nominal 97 kHz IF amplifier (TR7). The 455 kHz IF signal is amplified by TR1 and TR2. The output of TR2 is mixed with the 358 kHz local signal supplied from TR10 and converted into the 97 kHz IF signal by TR3. The 97 kHz IF signal is fed to the NOTCH circuit consists of TR4 to TR6 and T4. When NOTCH function is ON, the signal passes through TR4 and filtered by the T-NOTCH (T4). Since the notch frequency is fixed, the filtering frequency is controlled by adjusting the 358 kHz local oscillator frequency. When NOTCH function is OFF, the signal passes through TR7 to bypass the NOTCH circuit. The signal from the NOTCH circuit is amplified by TR7 to a level suitable for the demodulator circuit in the next stage.

The demodulator except for FM mode consists of IC2. IC2 operates as the synchronous detector in AM mode, and as the product detector in other modes. The carrier for synchronous detection is supplied to Pin 2 on IC2 from the limiter circuit (TR17). The carrier for product detection is supplied to Pin 2 on IC2 from IC4. FM signal is demodulated by IC8, which includes limiter, Quadrature Discriminator, etc..

The AGC circuit consists of the rectifiers (CD5, CD6, TR19, and TR20), time constant circuit (C103, R105), analog switches (IC5 and IC6), and operational amplifier (IC7). Two AGC rectifiers are employed. One is for peak detection and the other is for average detection. The peak detection consists of CD6 and TR19, and is used in SSB, CW, and AFSK modes. The average detection consists of CD5, R98, C100, and TR20, and is used in AM mode. These rectifiers are switched by the analog switch (IC5). IC6 switches the AGC time constant. The AGC voltage is output from Pin 7 on IC7, and controls the gate 2 of TR1 and TR2. The AGC voltage passes through R115 and also controls TR17 in the IF FIL Unit.

The squelch circuit consists of a comparator (IC9) and a muting circuit (TR35). This squelch circuit is effective in all modes. The AGC voltage from Pin 7 on IC7 is applied to Pin 5 on IC9. The control voltage to adjust the squelch level is also applied to Pin 6 on IC7 from the DISPLAY Unit. These two voltages are compared by IC9. When the voltage at Pin 5 on IC9 is higher than the voltage at Pin 6 on IC9, TR35 is turned on to mute the AF output.

The line out amplifiers consist of IC11 1/2 and IC12 1/2. IC12 1/2 is an amplifier for LINE OUT 1. The LINE OUT 1 is off while the squelch is closed. IC11 1/2 is an amplifier for LINE OUT 2. The LINE OUT 2 is on regardless of the squelch.

In this unit, the beep sound oscillator (TR14) and the side tone oscillator (TR26) are also provided. The former generates approximately 2 kHz short sound when the switch on the panel is operated. The later generates approximately 800 Hz monitoring sound when the Morse key is pressed in CW mode. The outputs from these oscillators are applied to the AF AMP Unit to drive the speaker.

### 3.2.4 PA UNIT (CAH-301L-2)

The desired frequency transmit output signal from the CFL-244 RF TUNE Unit TR6 is amplified to 150W PEP in the PA UNIT CAH-301L-2. This unit contains three stages of amplification. First and second stages are Class A amplifiers and the third is Class AB push-pull.

Bias currents for TR1 and TR11 are supplied by TR52 while those for TR31 and TR32 are supplied by the bias circuit made up of TR53 and IC51. The idle currents of TR31 and TR32 are adjusted by RV51 to total about 300 mA. CD53 cathode is thermally coupled to the flange of TR31 which controls the bias according to the temperature of the transistors.

The PA Unit, together with the LPF Unit, is cooled with a fan to allow the continuous transmission. The fan is switched on and off by the IC81 and TR81 circuit according to the heatsink temperature. When the temperature rises up to approximately 60°C, the fan is activated. If the temperature rises up to approximately 90°C, the protect signal is generated by IC81 and fed to the CPU to reduce the power output. This protection is not released until the radio is turned off and on.

Two voltage regulators are physically located on this board; IC72 and TR71, which are a 9 Vdc source for analog circuits throughout the transceiver, and IC71 which is a 5 Vdc source for digital circuits throughout the transceiver.

### 3.2.5 LPF UNIT (CFJ-122-2)

The LPF Unit consists of six filters to attenuate harmonics from the power amplifier. The filters are selected by relays which are driven by relay driver IC1 which is controlled by a 3 bit code through IC2. The relationship between the frequencies, coded signal, and filters is as follows:

Table 3.4 Filter Selection Code, LPF Unit

| Frequency Range<br>(MHz) | FIL<br>SEL |   |   | Filter       |
|--------------------------|------------|---|---|--------------|
|                          | 4          | 2 | 1 |              |
| 1.6000 – 2.5999          | 0          | 0 | 1 | 2.6 MHz LPF  |
| 2.6000 – 4.1999          | 0          | 1 | 0 | 4.2 MHz LPF  |
| 4.2000 – 6.7999          | 0          | 1 | 1 | 6.8 MHz LPF  |
| 6.8000 – 11.0999         | 1          | 0 | 0 | 11.1 MHz LPF |
| 11.1000 – 18.0999        | 1          | 0 | 1 | 18.1 MHz LPF |
| 18.1000 – 29.9999        | 1          | 1 | 0 | 30 MHz LPF   |

The sample of the transmit forward power is rectified by CD152, which composes the SWR detector together with CD151 and T151, and amplified by IC4 and IC3 to generate the APC voltage. The APC voltage controls the gain of TR2 in the IF FIL Unit to remain the transmitter

output at 150W PEP. The sample of the transmit reflected power is also rectified by CD151 and amplified by IC4. If the higher reflected power is detected, IC3 generates the APC voltage to protect the power amplifier by reducing the output.

The full power level (150W PEP) is adjusted by RV191, reduced power (50W PEP) by RV192, and coupler tuning power by RV193.

The transmit signal is fed to the antenna terminal through the antenna current detector. The antenna current is detected and rectified by T152 and CD153 to indicate the power output (Po) on the meter.

The received signal from the antenna is fed to the RF TUNE Unit through the TR switching relays K1 and K2. These relays are controlled by the CPU so that they can not be activated at the same time.

### 3.2.6 REF/DDS UNIT (CGK-81A)

The REF/DDS Unit includes the address decoder, 20 MHz standard oscillator (STD OSC), two Direct Digital Synthesizers (DDS), and 70 MHz PLL synthesizer.

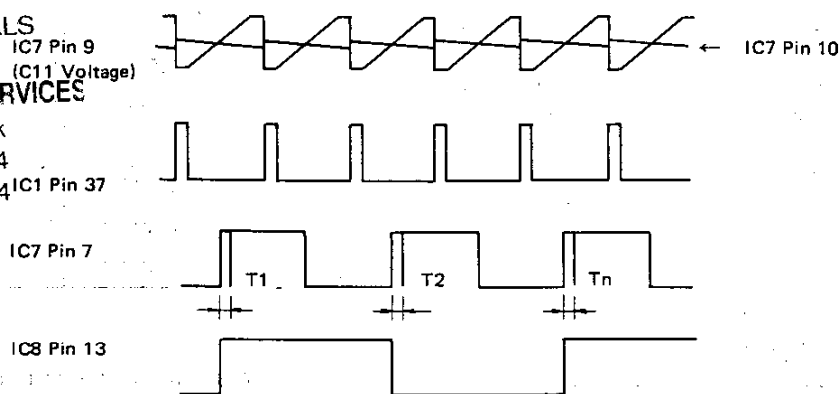
The address decoder consists of the NAND (IC13), addressable latch (IC14), and 3 to 8 line decoders (IC15 and IC16). It transfers the data from MAIN CPU to the individual synthesizers.

The 20 MHz STD OSC consists of the 20 MHz crystal oscillator (TR5), buffer (TR6-TR8), and 1/10 divider (IC9). The STD OSC supplies all the reference frequencies to the synthesizers. The 20 MHz output signal from TR5 is supplied to Pin 14

on IC19 and Pin 16 on IC1 and IC2. The output from IC19 (1/10 divider) is 2 MHz. The waveform of this signal is shaped by the LPF, and the signal is supplied to Pin 10 on IC12 and Pin 5 on IC17, and TR8. The signal amplified by TR8 is supplied to the Loop 1 Unit.

Two DDSes generate a part of the frequencies in the local frequency synthesizer and the BFO signal. The local frequency synthesizer consists of the PLL synthesizer and DDS. The PLL synthesizer on the Loop1 Unit generates 70.545-100.45499 MHz in 100 kHz steps, and the DDS on the REF/DDS Unit generates 0.545-0.445 MHz in 10 Hz steps. The DDS circuit consists of the DDS IC (IC1), level converter (IC3 and IC4), D-A converter (RA1 and RA2), constant current circuit (IC5 and TR1), comparator (IC7), and flip flop (IC8). The frequency data is serially written to IC1 by the CPU. The data is supplied to Pin 18 on IC1, and the clock signal is supplied to Pin 19 on IC1. When 24-bit data is supplied to the IC, the latch signal is applied to Pin 17 on IC1, and writes the frequency data to complete one-cycle operation. IC1 converts the serial data into parallel. According to the data, IC1 directly synthesizes the frequency from the 20 MHz reference signal supplied to Pin 16 on IC1. The output frequency from Pin 37 on IC1 is equivalent to two times the written frequency data. This output signal, containing an error, drives TR2 and discharges C11. The output data with an error is fed to Pins 38 to 47 on IC1. The data is D-A converted and supplied to Pin 10 on IC7. The following figure illustrates the waveforms at some pins described above.

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T1 - Tn varies in the range of 0 to 50 ns according to the error.

Figure 3.1 DDS Waveforms

The frequency data is output to Pins 26-35 on IC1, and the data is D-A converted by the ladder (RA2), and supplied to the constant current circuit to IC5. IC1 has the frequency compensatory circuit which assures the low phase jitter in the frequency range of 0.545-0.455 MHz of the DDS. The output signal (Pin 12 on IC8) from the DDS passes through the 0.545-0.445 MHz BPF and is supplied to Pin 1 on the mixer (IC12), where it is mixed with 2 MHz supplied to Pin 10 on IC12, and converted into 2.545-2.445 MHz. The unwanted components of the converted signal (at Pin 6 on IC12) are eliminated by the 2.545-2.445 MHz BPF, and the signal is supplied to the Loop 1 Unit.

The BFO signal synthesizer consists of the DDS (IC2), D-A converter (RA3), constant current circuit (TR3), comparator (IC6), and flip flop (IC20). The BFO synthesizer is the same circuit

configuration as the DDS block mentioned above. This DDS covers the output frequency range of 453.5-456.7 kHz in 10 Hz steps. Because the frequency range in the BFO synthesizer is so narrow that the DDS frequency compensation is not required. For this reason, Pins 26-35 on IC2 are not used. The waveform of the BFO signal (Pin 13 on IC20) from the DDS is shaped by the LPF, and then the signal is supplied to the transceiver block as the BFO signal.

The 70 MHz PLL synthesizer consists of the VCO (TR9), buffer amplifier (TR10, TR11, and TR15), PLL IC (IC17), and active LPF (TR12-TR14). The VCO output frequency from TR9 is 70 MHz. This signal passes through the buffer amplifier (TR10 and TR11), and is supplied to Pin 11 on IC17.

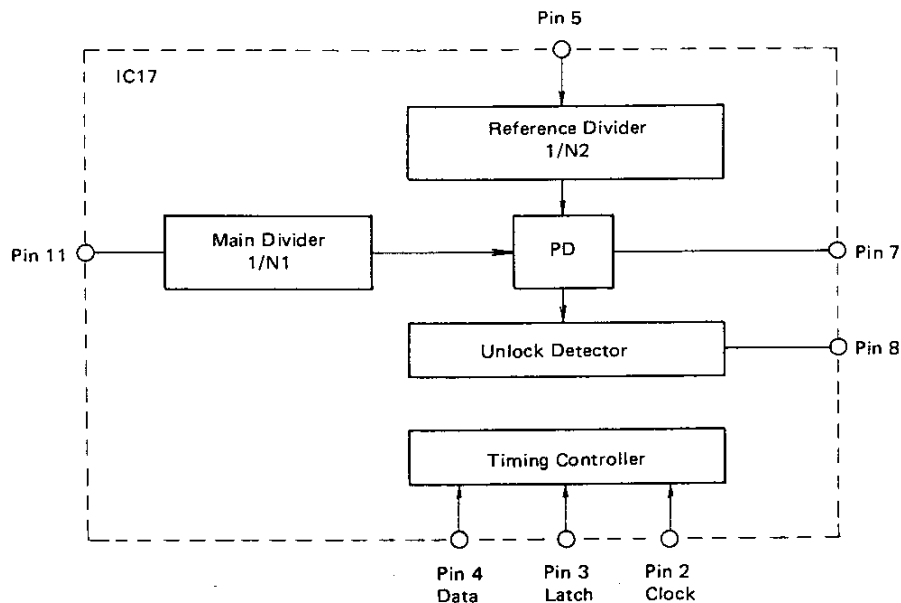


Figure 3.2 PLL IC Configuration (IC17)

Since the output frequency from this synthesizer is fixed to 70 MHz, the division number N1 and N2 are set to 70 and 2, respectively. The reference frequency of the phase detector is 1 MHz. So, 2 MHz from the 20 MHz STD OSC is supplied to Pin 5 on IC17. The data of N1 for the main divider and N2 for the reference divider is serially written to IC17 by supplying the data,

latch and clock signals from the CPU to the Pins 4, 3, and 2. The phase detector output (Pin 7 on IC17) is converted into the DC signal by the active LPF to control the frequency according to the phase error. This output from Pin 8 on IC17 goes high if the PLL is unlocked, and drives TR17 to illuminate the UNLOCK indicator CD7. CD4 and IC18 constitute the FM modulator circuit.

### 3.2.7 LOOP1 UNIT (CGA-145)

The Loop 1 Unit is a PLL type synthesizer and generates 70.545-100.45499 MHz frequency in 100 kHz steps. The Loop 1 Unit consists of the frequency converter (TR12, IC6, FL3, and TR13), VCO (TR1, TR2, and TR3), and PLL IC (IC5). TR12 in the frequency converter is the multiplying circuit. It multiplies 20 MHz by 3 to produce 60 MHz, and supplies it to Pin 11 on IC6. IC6 is a mixer which converts 2.545-2.445 MHz signal from DDS into 57.455-57.555 MHz signal. The unwanted components are eliminated by the SAW filter (FL3). The signal is amplified by TR13 and supplied to Pin 11 on IC4. The three VCOs in the VCO block cover the frequency range of 70.545-100.45499 MHz as follows:

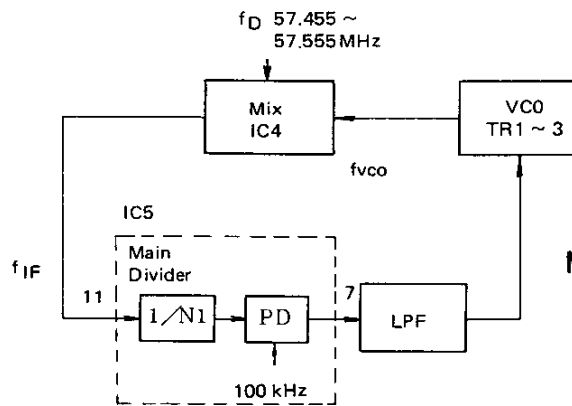
|          |                      |
|----------|----------------------|
| TR1 VCO1 | 70.545- 80.45499 MHz |
| TR2 VCO2 | 80.455- 90.45499 MHz |
| TR3 VCO3 | 90.455-100.45499 MHz |

TR9, TR10, and TR11 are the switching transistors of VCO1, VCO2, and VCO3. One of these transistors is turned on according to frequency

selected. The output signal from VCO passes through the buffer amplifier (TR4), and is supplied to local amplifiers (IC1 and IC2). The output from IC1 passes through the BFP, and is supplied to the transceiver block as the 70.545-100.45499 MHz local signal. On the other hand, the output from IC2 is converted into 13-43 MHz by the mixer (IC4), passes through the LPF and buffer amplifier (IC3), and is supplied to PLL IC (IC5). The PLL IC (IC5) is the same as IC17 used in the REF/DDS Unit. The dividers has the following division range:

$$\begin{aligned} N1 &= 130-430 \\ N2 &= 20 \end{aligned}$$

The division number is serially set by the CPU. The reference frequency of this PLL is 100 kHz. So, 2 MHz is supplied to Pin 5 on IC5. The relations among the transmit/receive frequency ( $f_{TR}$ ), VCO frequency ( $f_{VCO}$ ), frequency at IC5 Pin 11 ( $f_{IF}$ ), and the division number ( $N1$ ) for the main divider are as follows:



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Figure 3.3 Loop 1 PLL Configuration

Assume the 100 kHz digit and more of the transmit/receive frequency ( $f_{TR}$ ) as F1, and the 10 kHz digit and less as F2. For instance, when the transmit/receiver frequency is 2.154 MHz, F1 is 2.1 MHz, and F2 is 0.054 MHz.

$$\begin{aligned} f_{VCO} &= 70.455 + f_{TR} \\ f_{VCO} &= f_{IF} + f_D \\ N1 &= 10 \times (13 + F1) \\ f_{IF} &= N1 \times 0.1 \text{ MHz} \\ f_D &= 57.455 \text{ MHz} + F2 \end{aligned}$$

When  $f_{TR} = 12.354$  MHz, then  $N1$ ,  $f_{IF}$ ,  $f_D$ , and  $f_{VCO}$  are as follows:

$$f_{TR} = \underbrace{12.354}_{F1} \text{ MHz}$$

$$\begin{aligned} f_{VCO} &= 70.455 \text{ MHz} + 12.345 \text{ MHz} \\ &= 82.809 \text{ MHz} \end{aligned}$$

$$N1 = 10 \times (13 + 12.3) = 253$$

$$f_{IF} = 253 \times 0.1 \text{ MHz} = 25.3 \text{ MHz}$$

$$f_D = 57.455 \text{ MHz} + 0.054 \text{ MHz} = 57.509 \text{ MHz}$$

### 3.2.8 CPU UNIT (CDC-493A)

The major part of this unit is an 8-bit CPU (IC1). The program for the CPU is stored in the 32-kilobyte EP-ROM (IC3). The frequency of the memory channel and the various control data are stored in the 8-kilobyte CMOS RAM (IC4), and they are backed up by a lithium battery (BT1). The analog circuits are controlled by the I/O controller (IC5 and IC6) and the synthesizer circuits by IC14. IC12 is a USART for serial data communication with the antenna coupler (NFG-230), and operates at asynchronous 1200 bps. IC13 is a USART for serial data communication with the DISPLAY Unit, and operates at asynchronous 4800 bps. IC17 constitutes the tuning voltage generator circuit for the RF TUNE Unit.

When the 5V is supplied to the unit, IC16 release the reset of the CPU. Then, the CPU starts control according to the program stored in the ROM (IC3). The major control items are as follows: First, the CPU checks the RAM (IC4) if memory channel frequency and the operating data of the last power off is normally backed up. To reproduce the status before power off, the CPU controls the analog circuits through the I/O controller (IC5 and IC6), and the synthesizer circuits through IC14. The CPU sends the display data to the DISPLAY Unit through the USART (IC12). When the antenna coupler (NFG-230) is connected at this time, CPU sends the operating frequency data through the USART (IC13). When the CPU completes the above operations, it waits the next control request. The next control request occurs when:

- (1) The panel switch is operated.
- (2) The PTT switch on the microphone is operated.
- (3) The Morse key is operated in CW mode.

When the CPU detects any one of these control requests, it controls the analog and/or synthesizer circuits according to the request. When control is over, the CPU waits the next control request again.

The tuning voltage generator circuit consists of the DC/DC converter (IC17, diodes, and capacitors), D/A converter (IC8 and RA4), and control circuit (IC7, TR1, RV1, and RV2). The CPU outputs the proper data to the D/A converter according to the operating frequency. The output from the D/A converter is fed to the control circuit. The control circuit controls the DC/DC converter voltage (approx. 35V) to maintain it at 5.47V to 20V. Thus, the tuning voltage is generated and supplied to the RF TUNE Unit.

### 3.2.9 AF AMP UNIT (CBD-894L)

This unit consists of the AF power amplifier, collector current detection circuit, and the over current detection circuit.

The AF power amplifier amplifies the demodulated signal which is level adjusted by AF GAIN control on the DISPLAY Unit, the beep and the side tone signal from the IF AMP Unit to drive the speaker.

The collector current detection circuit detects the collector current of the final power amplifier. The collector current passes through L22 and L23, where the current is converted into magnetic flux. The magnetic flux is converted into the DC voltage by the Hall device (CD31). The DC voltage is amplified by IC31 1/2, and converted into digital signal by the A/D converter (IC14) on the DISPLAY Unit. The digital signal is processed by CPU (IC1) on the DISPLAY Unit, and displayed on the FIP.

The overcurrent detection circuit consists of the other IC31 1/2. The circuit detects the overcurrent of the collector current to protect the final transistors. If the overcurrent is detected by IC31 1/2, the  $\overline{\text{PTCT}}$  signal goes "0" and the CPU reduces the output power to approx. 50W. This protection is not released until the radio is turned off and on.

### 3.2.10 DISPLAY UNIT (CDE-576)

This unit includes SUB CPU, microphone amplifier, and VOX circuits. The SUB CPU consists of an 8-bit CPU (IC1), 8-kilobyte EP-ROM (IC4), and I/O controllers (IC6 and IC11). IC6 drives the FIP and LEDs to indicate the operating condition. IC11 also drives the FIP, and detects the switch operation on the panel to inform the condition to the SUB CPU. IC12 processes the data from the rotary encoder coupled to the TUNING control. IC14 is an A/D converter, which takes in the position data of the NOTCH, PBS, BWC controls, and the data for meter indication. IC2 is a USART for serial data communication with the MAIN CPU on the CPU Unit.

The microphone amplifier consists of TR16, TR17, IC20 and IC19 1/2. The voice signal from a microphone is amplified by TR16 and TR17. The output signal from the amplifier is compressed by IC20 and amplified by IC19 1/2. The signal is fed to the modulator on the IF FIL Unit.

The VOX circuit consists of IC18 and IC19 1/2. IC18 operates as the VOX and ANTI-VOX amplifiers. IC19 operates as the VOX comparator and switches transmission/reception.

### 3.3 Description of Optional Units

#### 3.3.1 TONE SQ UNIT CCL-212

This Tone Squelch unit operates as a CTCSS system tone decoder in reception and as a CTCSS or BURST system tone encoder in transmission for FM mode. The LSI IC3 has the tone encoder and decoder functions, and can generate 37 frequencies from 67.0 to 250.3 Hz. One of the frequencies is selected by the selection data sent from the MAIN CPU. The data is sent in serial format from the CPU, converted into parallel by IC1 and IC2, and applied to IC3. When operating as a tone encoder, either CTCSS or BURST system can be selectable.

CTCSS system ..... Transmitter is modulated by the voice signal and the continuous tone signal simultaneously.

BURST system ..... Transmitter is modulated by the tone signal for 1 to 2 seconds at beginning of the every transmission.

This unit is activated only in the FM mode.

#### 3.3.2 BWC UNIT CFL-243

This BWC Unit controls the receiver bandwidth continuously. The received 455 kHz signal from the IF FIL Unit is applied to the MIX (IC1) and converted into 400 kHz. The signal passes through the crystal filter (FL1) and enters the MIX (IC2). The signal is reconverted into 455 kHz and fed to the IF AMP Unit. The local signal for MIX1 and MIX2 is generated by DDS in this unit. The receiver bandwidth is controlled by changing the local frequency.

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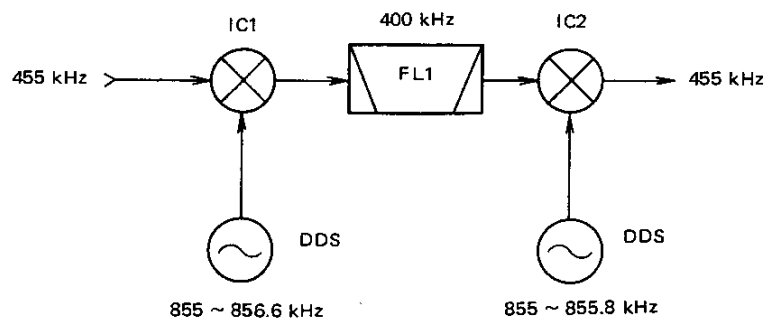


Figure 3.4 Block Diagram of BWC Unit

#### 3.3.3 NOTCH FOLLOW UNIT CDD-366

This Notch Follow Unit allows the JST-135 to follow the notch filter frequency to the interfering signal even when the receiving frequency is changed. This unit consists of DDS IC (IC1), D-A converter (RA1), constant current source (TR1), comparator (IC3) and flip-flop (IC4), and generates 355 kHz $\pm$ 10 kHz local signal. The operation of this circuit is the same as DDS block in the REF/DDS Unit CGK-81 A. The local signal generated is supplied to the IF AMP Unit CAE-227 and substitutes for the 357 kHz oscillator in the IF AMP Unit.

#### 3.3.4 ECSS UNIT CMF-78

This ECSS Unit allows to select either upper or

lower sideband not interfered without using a narrow band filter in the AM reception.

The received AM signal (97 kHz) is supplied to IC1, IC3 and IC4. IC1 limits the signal amplitude and feeds the signal to IC2. IC2 generates the synchronous carrier signal with the received AM signal. The carrier signal is phase-shifted to  $\pm 45$  degree and supplied to IC3 and IC4. IC3 and IC4 demodulate the AM signal. The demodulated AF signals are phase-shifted and supplied to IC7. IC7 adds and subtracts the two AF signals to separate LSB and USB components. Thus the LSB or USB component of the AM signal is detected and one of the sidebands can be selected for interferedless AM reception.

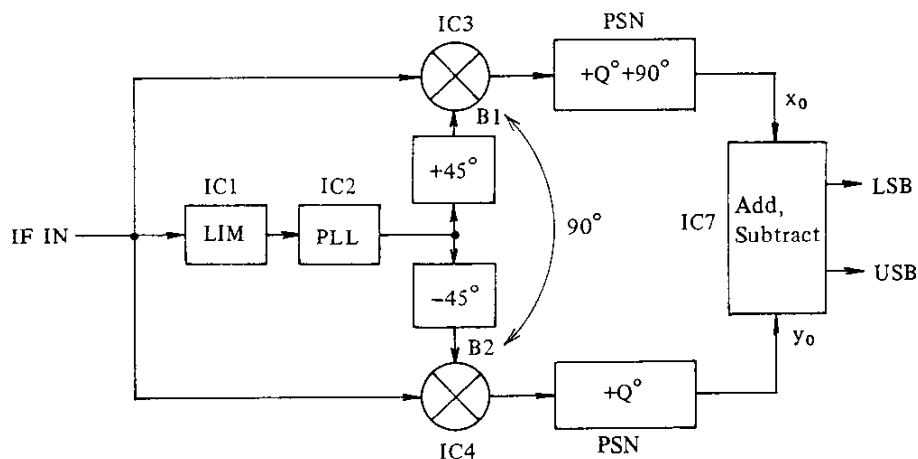


Figure 3.5 ECSS Unit Configuration

### 3.3.5 RS-232C INTERFACE UNIT CMH-741

This unit allows the remote-control of various functions with a personal computer or other external device having an RS-232C interface.

IC1 is a USART for data communication with

the CPU unit CDC-493A. Photo-couplers (CD1 and CD2) isolates IC1 ports from RS-232C lines.

IC5 generates  $\pm 12$  V dc required for RS-232C signal level.

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## 4. ADJUSTMENT

### 4.1 Preparation

#### 4.1.1 Presetting

Set the switches and the controls as shown below.

|                       |                              |
|-----------------------|------------------------------|
| LOCK switch .....     | OFF                          |
| RF GAIN .....         | Fully clockwise              |
| NOTCH control .....   | Fully counterclockwise (OFF) |
| SQUELCH control ..... | Fully counterclockwise       |
| PBS control .....     | Center                       |
| NB switch .....       | OFF                          |
| ATT switch .....      | OFF                          |
| VOX switch .....      | OFF                          |
| COMP control .....    | Fully counterclockwise       |
| Po control .....      | Fully counterclockwise       |
| MIC control .....     | Fully counterclockwise       |

#### 4.1.2 Required Measuring Instruments

|                             |                                             |
|-----------------------------|---------------------------------------------|
| DC (AC) voltmeter .....     | Digital voltmeter                           |
| Frequency counter .....     | 10 kHz to 100 MHz                           |
| Vacuum tube voltmeter ..... | 455 kHz to 150 MHz, (RF voltmeter)          |
|                             | 0.001 to 3 Vrms                             |
| VU meter .....              | 600 $\Omega$ , 0 to 35 dBm                  |
| AF level meter .....        | 600 $\Omega$ /10 k $\Omega$ , -50 to 30 dBm |
| Distortion meter .....      | 600 $\Omega$ /10 k $\Omega$ , 0.5 to 30%    |

|                           |                                                                    |
|---------------------------|--------------------------------------------------------------------|
| AF oscillator .....       | 600 $\Omega$ , -70 dBm to 20 dBm, 100 Hz to 5 kHz                  |
| SSG .....                 | 50 $\Omega$ , -20 to 126 dB $\mu$ V, 90 kHz to 150 MHz             |
|                           | AM, FM modulation, with external modulating input                  |
| Tracking scope .....      | 50 $\Omega$ , 400 kHz to 100 MHz                                   |
| Spectrum analyzer .....   | 50 $\Omega$ , 400 kHz to 100 MHz                                   |
| Linear detector .....     | 70 MHz, Frequency deviation Max. $\pm$ 10 kHz                      |
| Automatic keyer .....     | Being able to switch the RF signal ON for 20 mS and OFF for 100 mS |
| Oscilloscope .....        | Two channels, DC to 100 MHz                                        |
| Wattmeter .....           | 50 $\Omega$ , DC to 30 MHz, Max. 250 W                             |
| Directional coupler ..... | Max. 250 W                                                         |
| DC power supply .....     | 13.8 V, Max. 40 A                                                  |
| DC ammeter .....          | Max. 10 A, 30 A                                                    |
| Audio transformer .....   | 4 $\Omega$ : 600 $\Omega$ (3W)                                     |
| Headphones .....          | ST-3 or equivalent                                                 |
| Morse key .....           | KY-3A or equivalent                                                |
| DC dummy resistor .....   | 0.4 to 30 $\Omega$ , Max. 400 W                                    |

### 4.1.3 Standard Test Circuit

#### (1) Sensitivity Measurement

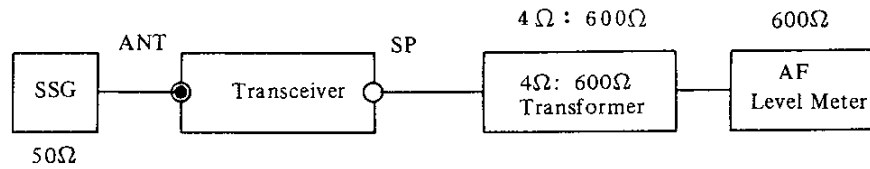


Figure 4.1

#### (2) Power Output Measurement (SSB)

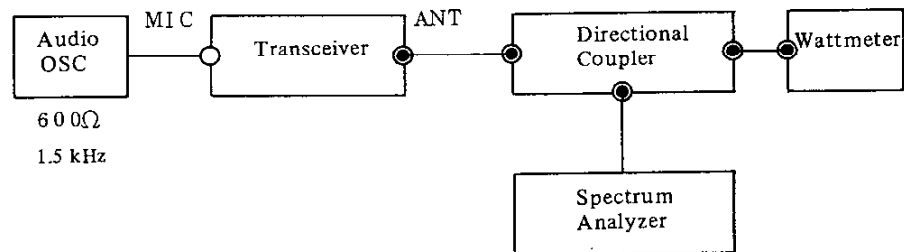


Figure 4.2

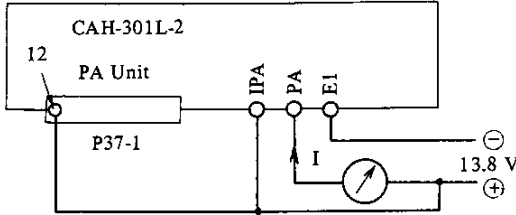
### 4.1.4 Notes

- (1) "fr" means receiving frequency and "ft" means transmitting frequency.
- (2) SSG level is indicated by "emf".

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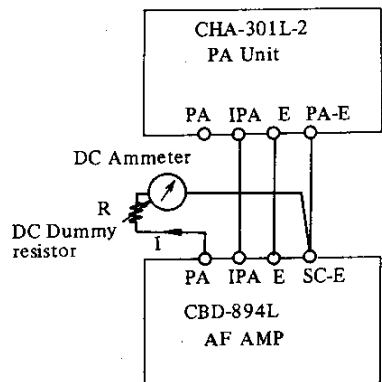
## 4.2 Unit Adjustment

### 4.2.1 PA UNIT CAH-301L-2

| No. | Item                       | Adjusting Procedure                                                                                                                                                                                                                                                                                                                                                                                                 | Rating<br>(reference) |
|-----|----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|
| 1   | PA idle current adjustment | <ol style="list-style-type: none"> <li data-bbox="539 365 1134 394">1 Disconnect P44 and set RV51 fully counterclockwise.</li> <li data-bbox="539 416 1134 477">2 Connect a power supply (13.8V dc) and an ammeter as shown below:<br/><br/>  </li> <li data-bbox="539 846 919 875">3 Adjust the idle current by RV51.</li> </ol> | 300 ±20 mA            |

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## 4.2.2 AF AMP UNIT CBD-894L

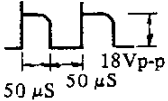
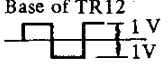
| No. | Item                 | Adjusting Procedure                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Rating<br>(reference)                                                |
|-----|----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------|
| 1   | IC meter calibration | <p>1 Disconnect P44 and connect an ammeter and a dc dummy resistor as shown below:</p>  <p>2 Transmit and select IC meter display.</p> <p>3 Adjust R so that the ammeter reads 30A.</p> <p>4 Adjust RV32 on the CBD-894L AF AMP Unit so that the IC meter on the panel indicates 30A.</p> <p>5 Adjust R so that the ammeter reads 5A.</p> <p>6 Adjust RV31 on the CBD-894L so that the IC meter indicates 5A.</p> <p>7 Repeat steps 4 to 6 until above two are satisfied.</p> <p>8 IC meter indication should be "0" when I is zero.</p> <p style="text-align: center;">FOR SERVICE MANUALS<br/>CONTACT:<br/><b>MAURITRON TECHNICAL SERVICES</b><br/>www.mauritron.co.uk<br/>TEL: 01844 - 351694<br/>FAX: 01844 - 352554</p> | <p><math>30 \pm 1</math> digit</p> <p><math>5 \pm 1</math> digit</p> |

#### 4.2.3 CPU UNIT CDC-493A

| No. | Item                    | Adjusting Procedure                                                                                                                                                                                                                                                                                                                                                 | Rating<br>(reference)                     |
|-----|-------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------|
| 1   | TUNE voltage adjustment | <ol style="list-style-type: none"> <li>1 Connect a digital voltmeter to TP1.</li> <li>2 Set the receiving frequency to 400 kHz and adjust RV2 so that TP1 voltage becomes 5.74V.</li> <li>3 Set the receiving frequency to 799.9 kHz and adjust RV1 so that TP1 voltage becomes 20 V.</li> <li>4 Repeat steps 2 and 3 until the above two are satisfied.</li> </ol> | <p>5.72 ~ 5.76 V</p> <p>19.8 ~ 20.2 V</p> |

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#### 4.2.4 DISPLAY Unit CDE-576

| No. | Item                         | Adjusting Procedure                                                        | Rating<br>(reference)                                                                                                                                                                                                                                                                     |
|-----|------------------------------|----------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1   | Fluorescent Indication Panel | 1 Connect an oscilloscope to the collector of TR12 and check the waveform. | <p>Collector of TR12</p>  <p>50 <math>\mu</math>S 50 <math>\mu</math>S 18Vp-p</p> <p>Base of TR12</p>  <p>1V 1V</p> |

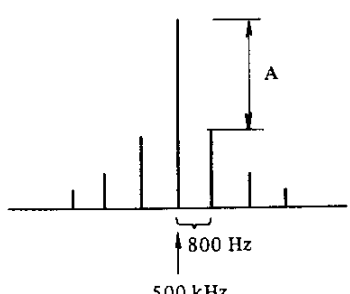
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#### 4.2.5 LOOP1 Unit CGA-145

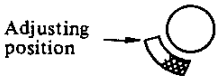
| No.                 | Item                  | Adjusting Procedure                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Rating<br>(reference)                   |                     |                    |             |                     |     |            |            |     |            |            |     |
|---------------------|-----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------|---------------------|--------------------|-------------|---------------------|-----|------------|------------|-----|------------|------------|-----|
| 1                   | AVR adjustment        | <div>1 Connect a digital voltmeter to TP4.</div> <div>2 Adjust RV1 so that the TP4 voltage becomes 8.5 V.</div>                                                                                                                                                                                                                                                                                                                                                            | 8.4 ~ 8.6 V                             |                     |                    |             |                     |     |            |            |     |            |            |     |
| 2                   | 60 MHz tuning         | <div>1 Connect an RF voltmeter to TP5.</div> <div>2 Adjust T1 so that the TP5 voltage becomes maximum.</div>                                                                                                                                                                                                                                                                                                                                                               |                                         |                     |                    |             |                     |     |            |            |     |            |            |     |
| 3                   | 57 MHz tuning         | <div>1 Connect an RF voltmeter to TP6.</div> <div>2 Adjust T2 so that the TP6 voltage becomes maximum.</div>                                                                                                                                                                                                                                                                                                                                                               |                                         |                     |                    |             |                     |     |            |            |     |            |            |     |
| 4                   | VCO adjustment        | <div>1 Connect a digital voltmeter to TP1.</div> <div>2 Set the receiving frequency as shown below and adjust the proper trimmer capacitor so that the TP1 voltage becomes 7.5 V.</div> <table><tr><th>Receiving frequency</th><th>Trimmer capacitor</th><th>TP1 voltage</th></tr><tr><td>9.999 MHz</td><td>CV1</td><td>7.5 ±0.1 V</td></tr><tr><td>19.999 MHz</td><td>CV2</td><td>7.5 ±0.1 V</td></tr><tr><td>29.999 MHz</td><td>CV3</td><td>7.5 ±0.1 V</td></tr></table> |                                         | Receiving frequency | Trimmer capacitor  | TP1 voltage | 9.999 MHz           | CV1 | 7.5 ±0.1 V | 19.999 MHz | CV2 | 7.5 ±0.1 V | 29.999 MHz | CV3 |
| Receiving frequency | Trimmer capacitor     | TP1 voltage                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                         |                     |                    |             |                     |     |            |            |     |            |            |     |
| 9.999 MHz           | CV1                   | 7.5 ±0.1 V                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                         |                     |                    |             |                     |     |            |            |     |            |            |     |
| 19.999 MHz          | CV2                   | 7.5 ±0.1 V                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                         |                     |                    |             |                     |     |            |            |     |            |            |     |
| 29.999 MHz          | CV3                   | 7.5 ±0.1 V                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                         |                     |                    |             |                     |     |            |            |     |            |            |     |
| 5                   | Operating level check | <div>3 The PLL (LOOP1) shall not be locked out in the frequency range of 100 kHz to 29.99999 MHz.</div> <div>1 Check the operating level with an RF voltmeter.</div>                                                                                                                                                                                                                                                                                                       | CD11 shall not illuminate continuously. |                     |                    |             |                     |     |            |            |     |            |            |     |
|                     |                       | <table><tr><td>Pin 11 of IC5</td><td>More than 0.1 Vrms</td></tr><tr><td>TP3</td><td>More than 0.12 Vrms</td></tr></table>                                                                                                                                                                                                                                                                                                                                                 |                                         | Pin 11 of IC5       | More than 0.1 Vrms | TP3         | More than 0.12 Vrms |     |            |            |     |            |            |     |
| Pin 11 of IC5       | More than 0.1 Vrms    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                         |                     |                    |             |                     |     |            |            |     |            |            |     |
| TP3                 | More than 0.12 Vrms   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                         |                     |                    |             |                     |     |            |            |     |            |            |     |

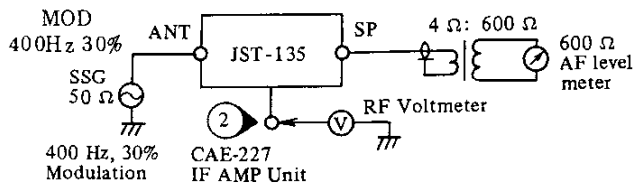
#### 4.2.6 REF DDS Unit CGK-81A

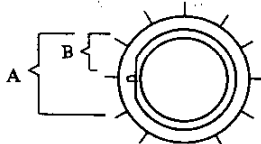
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| No. | Item                        | Adjusting Procedure                                                                                                                                                                                                                                                                                                                                                                                               | Rating<br>(reference) |
|-----|-----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|
| 1   | DDS cancellation adjustment | <ol style="list-style-type: none"> <li>1 Connect a spectrum analyzer to TP1.<br/>(center freq. = 500 kHz, span = 10 kHz)</li> <li>2 Set the receiving frequency to 0.4501 MHz and the mode to AM.</li> <li>3 Adjust RV1 so that the side spurious becomes minimum.<br/>(A = max.)</li> </ol>                                    |                       |
| 2   | 2 MHz balance adjustment    | <ol style="list-style-type: none"> <li>1 Connect a spectrum analyzer to TP4.<br/>(center freq. = 2.5 MHz, span = 5 MHz)</li> <li>2 Set the receiving frequency to 0.4501 MHz and the mode to AM.</li> <li>3 Adjust RV3 so that the 2 MHz component becomes minimum.</li> </ol>                                                                                                                                    |                       |
| 3   | 70 MHz PLL adjustment       | <ol style="list-style-type: none"> <li>1 Connect a digital voltmeter to TP8.</li> <li>2 Adjust CV2 so that the TP8 voltage becomes 3.5 V and check that CD7 is extinct (locked condition).</li> <li>3 CD7 should illuminate when TP8 is grounded (unlocked condition).</li> <li>4 Connect an RF voltmeter to TP9 and adjust T1 so that the TP9 voltage becomes maximum.</li> </ol>                                | 3.4 ~ 3.6 V           |
| 4   | Frequency adjustment        | <ol style="list-style-type: none"> <li>1 Connect a frequency counter to TP9.</li> <li>2 Adjust CV1 so that the TP9 frequency becomes 70 MHz.</li> </ol>                                                                                                                                                                                                                                                           | 70.0 MHz              |
| 5   | FM modulation adjustment    | <ol style="list-style-type: none"> <li>1 Connect a linear detector to TP9.</li> <li>2 Connect an audio oscillator to MIC connector.<br/>(level = -40 dBm, freq. = 2 kHz)</li> <li>3 Set the COMP control to fully counterclockwise and the MIC control to center.</li> <li>4 Tune the linear detector to 70 MHz.</li> <li>5 Adjust RV4 so that the frequency deviation becomes <math>\pm 5</math> kHz.</li> </ol> |                       |

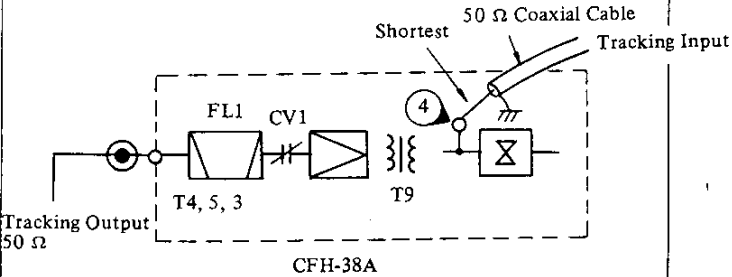
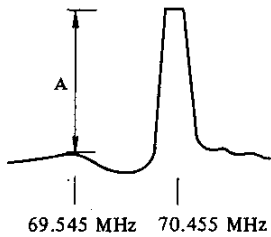
#### 4.2.7 IF AMP Unit CAE-227

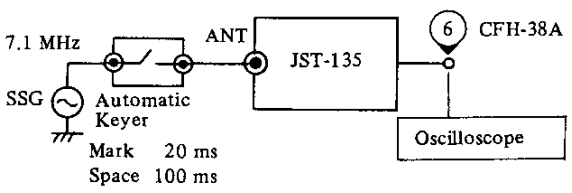
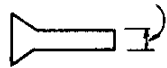
| No. | Item                       | Adjusting Procedure                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Rating<br>(reference) |
|-----|----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|
| 1   | Notch frequency adjustment | <ol style="list-style-type: none"> <li>1 Connect a frequency counter and an RF voltmeter to TP4.</li> <li>2 Set the NOTCH control to center.</li> <li>3 Adjust RV2 so that the TP4 frequency becomes 357 kHz.</li> </ol>                                                                                                                                                                                                                                                                                                                                             |                       |
| 2   | IF AMP tuning              | <ol style="list-style-type: none"> <li>1 Set the controls and conditions as follows: <ul style="list-style-type: none"> <li>RF GAIN : fully clockwise</li> <li>NOTCH : fully counterclockwise</li> <li>AGC : OFF</li> <li>MODE : AM</li> <li>NOTCH : OFF</li> <li>BANDWIDTH : INTER</li> <li>ATT : OFF</li> </ul> </li> <li>2 Connect an RF voltmeter to TP2.</li> <li>3 Connect an SSG (7.1 MHz, 10 dBμ) to ANT connector.</li> <li>4 Set the receiving frequency to 7.1 MHz.</li> <li>5 Adjust T1 to T3 and T5 so that the TP2 voltage becomes maximum.</li> </ol> |                       |
| 3   | NOTCH ON/OFF adjustment    | <ol style="list-style-type: none"> <li>1 Adjust RV3 so that CD4 goes off at the OFF position of the NOTCH control and illuminates at the ON position.</li> </ol> <div style="text-align: center;">  <p>Adjusting position</p> </div>                                                                                                                                                                                                                                              |                       |
| 4   | NOTCH adjustment           | <ol style="list-style-type: none"> <li>1 Connections and conditions are the same as No. 2.</li> <li>2 Set the SSG level to 40 dBμ.</li> <li>3 Set the NOTCH control to center.</li> <li>4 Adjust RV1 so that the RF voltmeter indication becomes minimum.</li> </ol>                                                                                                                                                                                                                                                                                                 |                       |
| 5   | AGC adjustment             | <ol style="list-style-type: none"> <li>1 Set the operating conditions as follows: <ul style="list-style-type: none"> <li>Frequency : 7.1 MHz      MODE : AM</li> <li>BANDWIDTH : INTER      AGC : ON</li> <li>NOTCH : OFF      ATT : OFF</li> </ul> </li> <li>2 Connect measuring instruments as follows:</li> </ol>                                                                                                                                                                                                                                                 |                       |

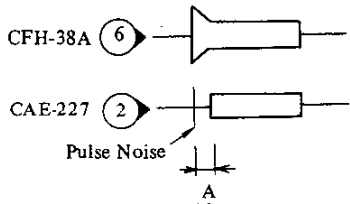
| No.  | Item                      | Adjusting Procedure                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Rating<br>(reference) |             |    |                |     |                  |  |
|------|---------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|-------------|----|----------------|-----|------------------|--|
|      |                           | <div></div> <div><div>3</div><div>Set the SSG level to 100 dBμ.</div></div> <div><div>4</div><div>Adjust RV4 so that the TP2 voltage becomes 0.07 Vrms.</div></div> <div><div>5</div><div>Set the MODE to LSB and check the TP2 voltage.</div></div> <div><div>☆</div><div>Adjusting resistor: R95</div></div>                                                                                                                                                                                                                                                                  | 0.065 ~<br>0.075 Vrms |             |    |                |     |                  |  |
| 6    | S-meter<br>adjustment     | <div><div>1</div><div>Connect measuring instruments as shown in Figure 4.1.</div></div> <div><div>2</div><div>Set the operating conditions as follows:<div><div>Frequency</div><div>: 7.1 MHz</div><div>AGC</div><div>: ON</div><div>ATT</div><div>: OFF</div><div>MODE</div><div>: LSB</div><div>BANDWIDTH</div><div>: INTER</div></div></div></div>                                                                                                                                                                                                                                                                                                             |                       |             |    |                |     |                  |  |
| 7    | Detector carrier<br>level | <div><div>2</div><div>Set the SSG frequency to 7.1 MHz and the level to 40 dBμ.</div></div> <div><div>3</div><div>Adjust RV5 so that S-meter indicates S9.</div></div> <div><div>1</div><div>Connections and operating conditions are the same as No. 5. Set the SSG level to 40 dBμ.</div></div> <div><div>2</div><div>Check the TP3 voltage in both AM and LSB modes.</div></div> <div><div>☆</div><div>Adjusting resistors</div><div><div>AM</div><div>: R90</div><div>LSB</div><div>: R67</div></div><table><tr><th>MODE</th><th>TP3 voltage</th></tr><tr><td>AM</td><td>0.2 ~ 0.3 Vrms</td></tr><tr><td>LSB</td><td>0.04 ~ 0.06 Vrms</td></tr></table></div> | MODE                  | TP3 voltage | AM | 0.2 ~ 0.3 Vrms | LSB | 0.04 ~ 0.06 Vrms |  |
| MODE | TP3 voltage               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                       |             |    |                |     |                  |  |
| AM   | 0.2 ~ 0.3 Vrms            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                       |             |    |                |     |                  |  |
| LSB  | 0.04 ~ 0.06 Vrms          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                       |             |    |                |     |                  |  |
| 8    | LINE OUT<br>adjustment    | <div><div>1</div><div>Connect measuring instruments as shown in Figure 4.1. Set the operating conditions as follows:<div><div>Frequency</div><div>: 7.1 MHz</div><div>AGC</div><div>: SLOW</div><div>MODE</div><div>: LSB</div></div></div></div> <div><div>FOR SERVICE MANUALS</div><div>CONTACT:</div><div>MAURITRON TECHNICAL SERVICES</div><div>www.mauritron.co.uk</div><div>TEL: 01844 - 351694</div><div>FAX: 01844 - 352554</div></div>                                                                                                                                                                                                                   |                       |             |    |                |     |                  |  |

| No.       | Item                 | Adjusting Procedure                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Rating<br>(reference)                        |                  |                  |           |              |     |           |              |     |  |
|-----------|----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------|------------------|------------------|-----------|--------------|-----|-----------|--------------|-----|--|
| 9         | FM receiving circuit | <p>Set the SSG level to 40 dB<math>\mu</math>.</p> <p>2 Connect an AF level meter (600 <math>\Omega</math>) to pin 8 or pin 9 in ACCESSORY connector (J51) located on the rear panel.</p> <p>3 Adjust RV9 or RV8 so that LINE OUT1 or LINE OUT2 level becomes -2 dBm respectively.</p> <table><tr><td></td><td>Output</td><td>Trimmer resistor</td></tr><tr><td>LINE OUT1</td><td>Pin 8 of J51</td><td>RV9</td></tr><tr><td>LINE OUT2</td><td>Pin 9 of J51</td><td>RV8</td></tr></table> |                                              | Output           | Trimmer resistor | LINE OUT1 | Pin 8 of J51 | RV9 | LINE OUT2 | Pin 9 of J51 | RV8 |  |
|           |                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Output                                       | Trimmer resistor |                  |           |              |     |           |              |     |  |
| LINE OUT1 | Pin 8 of J51         | RV9                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                              |                  |                  |           |              |     |           |              |     |  |
| LINE OUT2 | Pin 9 of J51         | RV8                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                              |                  |                  |           |              |     |           |              |     |  |
|           |                      | <p>1 Connect measuring instruments as shown in Figure 4.1. Set the receiving frequency to 7.1 MHz and MODE to FM. Set the SSG frequency to 7.1 MHz, modulation to <math>\pm 5</math> kHz and the level to 40 dB<math>\mu</math>.</p> <p>2 Adjust T6 so that the AF output becomes maximum without distortion.</p> <p>3 Select CENTER meter indication.</p> <p>4 Adjust RV7 so that meter indicates the center position.</p>                                                              |                                              |                  |                  |           |              |     |           |              |     |  |
| 10        | Squelch adjustment   | <p>1 Set the conditions as follows:</p> <p>AGC : FAST</p> <p>RF GAIN : Fully clockwise</p> <p>ANT connector : Open</p> <p>MODE : LSB</p> <p>2 Turn the SQUELCH control to check the squelch threshold position.</p> <p>☆ Adjusting resistor: R167</p> <p>3 Set the MODE to FM. Adjust RV6 so that the squelch is turned ON or OFF at the assigned position of the SQUELCH control.</p> <div></div>    | <p>In the A range</p> <p>In the B range.</p> |                  |                  |           |              |     |           |              |     |  |

#### 4.2.8 IF FILTER Unit CFH-38A

| No. | Item                                     | Adjusting Procedure                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Rating<br>(reference) |
|-----|------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|
| 1   | 70.455 MHz<br>Filter (MCF)<br>adjustment | <p><b>CAUTION:</b> This adjustment requires special tool.<br/>The adjustment should be performed only when required.</p> <p>1 Connect a tracking scope as shown below:</p>  <p>2 Adjust CV1 and T9 so that 70.455 MHz point becomes maximum.</p> <p>3 Adjust T3 to T5 so that 6 dB bandwidth becomes more than <math>\pm 7.5</math> kHz.<br/>Inband response is flattened by T3 and T4.<br/>Bandwidth is adjusted by T5.</p> <p>4 Adjust T3 and T4 so that 69.545 MHz point attenuation becomes more than 70 dB.</p>  <p>A is more than 70 dB</p> <p>FOR SERVICE MANUALS<br/>CONTACT:<br/><b>MAURITRON TECHNICAL SERVICES</b><br/>www.mauritron.co.uk<br/>TEL: 01844 - 351694<br/>FAX: 01844 - 352554</p> |                       |

| No. | Item                                  | Adjusting Procedure                                                                                                                                                                                                                                                                                                                                                             | Rating<br>(reference)                                                                                  |
|-----|---------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------|
|     | <u>Receiver circuit</u>               |                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                        |
| 2   | 70 MHz MIX injection level adjustment | 1 Connect an RF voltmeter to TP7 and adjust T13 so that the TP7 voltage becomes maximum.                                                                                                                                                                                                                                                                                        |                                                                                                        |
| 3   | Tuning adjustment                     | 1 Connect measuring instruments as shown in Figure 4.1. Set the receiving frequency to 7.1 MHz, MODE to LSB and AGC to OFF.<br>2 Connect an RF voltmeter to TP2 on the IF AMP Unit CAE-227.<br>3 Set the SSG level to 10 dB $\mu$ and adjust T6 to T9 so that the RF voltmeter reading becomes maximum.                                                                         |                                                                                                        |
| 4   | Noise blanker adjustment              | 1 Set the receiving frequency to 7.1 MHz and MODE to AM. Set the SSG level to 10 dB $\mu$ .<br>2 Connect an automatic keyer, an oscilloscope and an SSG as shown below :<br><br>3 Set NB-1 to ON and NB control to fully clockwise.<br>4 Set the automatic keyer to the mark hold condition. |                                                                                                        |
|     | Noise AMP Tuning                      | 5 Adjust T10 to T12 so that TP6 voltage becomes maximum. When the turning is difficult, adjust the NB control or SSG output level.                                                                                                                                                                                                                                              |                                                                                                        |
|     | Noise AMP AGC adjustment              | 6 Key the automatic keyer.<br>7 Check the TP6 waveform by changing the SSG level from 10 to 100 dB $\mu$ .                                                                                                                                                                                                                                                                      | 0.6 ~ 0.8Vp-p<br> |
|     | Sensitivity adjustment                | 8 Turn RV4 fully clockwise.                                                                                                                                                                                                                                                                                                                                                     |                                                                                                        |
|     | Balance adjustment                    | 9 Connect the CH1 input of an oscilloscope to TP6 on the CFH-38A and the CH2 input to TP2 on CAE-227.<br>10 Key the automatic keyer and adjust RV3 on the CFH-38A so that the TP2 pulse noise becomes minimum.                                                                                                                                                                  |                                                                                                        |

| No. | Item                                 | Adjusting Procedure                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Rating<br>(reference) |
|-----|--------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|
|     |                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                       |
|     | NB-2 check                           | 11 Confirm that A becomes wider when NB-2 is ON.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                       |
|     | <u>Transmitter</u><br><u>Circuit</u> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                       |
| 5   | Tuning<br>adjustment                 | <ol style="list-style-type: none"> <li>1 Terminate J44-1 on the RF TUNE Unit CFL-244 with a 50 <math>\Omega</math> load and connect an RF voltmeter to the load.</li> <li>2 Feed the 1.5 kHz, -70 dBm signal to the MIC connector on the panel.</li> <li>3 Turn the COMP control fully counterclockwise and the MIC control fully clockwise.</li> <li>4 Set the MODE to LSB and transmit on the frequency of 7.05 MHz.</li> <li>5 Adjust T2 so that the J44-1 output level becomes maximum.</li> <li>6 Check the J44-1 output level by changing the MODE to CW and FM respectively.</li> </ol> | More than 1 Vrms      |
|     |                                      | <p>FOR SERVICE MANUALS<br/>CONTACT:<br/><b>MAURITRON TECHNICAL SERVICES</b><br/>www.mauritron.co.uk<br/>TEL: 01844 - 351694<br/>FAX: 01844 - 352554</p>                                                                                                                                                                                                                                                                                                                                                                                                                                        |                       |

#### 4.2.9 RF TUNE Unit CFL-244

| No.                                                                                           | Item                 | Adjusting Procedure                                                                                                       |                       |                           |                    | Rating<br>(reference) |                                                                                             |
|-----------------------------------------------------------------------------------------------|----------------------|---------------------------------------------------------------------------------------------------------------------------|-----------------------|---------------------------|--------------------|-----------------------|---------------------------------------------------------------------------------------------|
| 1                                                                                             | Tuning<br>adjustment | 1 Connect the tracking scope output to the RX ANT IN connector on the rear panel and the tracking scope input to the TP7. |                       |                           |                    |                       |                                                                                             |
|                                                                                               |                      | 2 Adjust proper parts according to the following table.                                                                   |                       |                           |                    |                       |                                                                                             |
|                                                                                               |                      | Frequency Range                                                                                                           |                       | Receiving<br>Frequency    | Adjusting<br>parts |                       |                                                                                             |
|                                                                                               |                      | 400 kHz LPF                                                                                                               |                       | Any of 0.4 MHz<br>or less |                    |                       | 400 kHz: less than<br>3 dB<br>600 kHz: more than<br>30 dB<br>referenced to 300<br>kHz level |
|                                                                                               |                      | 0.4~1.6 MHz                                                                                                               | SUB<br>0.8~1.599 MHz  | 0.8 MHz<br>1.599 MHz      | T11, T12<br>—      |                       | Tuning error:<br>less than 3 dB                                                             |
|                                                                                               |                      |                                                                                                                           | MAIN<br>0.4~0.799 MHz | 0.799 MHz<br>0.4 MHz      | CV5, CV6<br>—      |                       |                                                                                             |
|                                                                                               |                      | 1.6~4.4 MHz                                                                                                               | SUB<br>2.65~4.399 MHz | 2.65 MHz<br>4.399 MHz     | T9, T10<br>—       |                       |                                                                                             |
|                                                                                               |                      |                                                                                                                           | MAIN<br>1.6~2.649 MHz | 2.649 MHz<br>1.6 MHz      | CV3, CV4<br>—      |                       |                                                                                             |
|                                                                                               |                      | 4.4~12.3 MHz                                                                                                              | SUB<br>7.4~12.299 MHz | 7.4 MHz<br>12.299 MHz     | T7, T8<br>—        |                       |                                                                                             |
|                                                                                               |                      |                                                                                                                           | MAIN<br>4.4~7.399 MHz | 7.399 MHz<br>4.4 MHz      | CV1, CV2<br>—      |                       |                                                                                             |
|                                                                                               |                      | 12.3~20.5 MHz                                                                                                             |                       | 12.3 MHz<br>20.499 MHz    | T5, T6<br>—        |                       |                                                                                             |
|                                                                                               |                      | 20.5~30 MHz                                                                                                               |                       | 20.5 MHz<br>29.999 MHz    | T3, T4<br>—        |                       |                                                                                             |
| (Example)<br>For adjusting the "SUB 0.8 ~ 1.599 MHz" range:                                   |                      |                                                                                                                           |                       |                           |                    |                       |                                                                                             |
| (1) Set the frequency to 0.8 MHz.                                                             |                      |                                                                                                                           |                       |                           |                    |                       |                                                                                             |
| (2) Adjust T11 and T12 so that the tuning frequency becomes 0.8 MHz.                          |                      |                                                                                                                           |                       |                           |                    |                       |                                                                                             |
| (3) Set the frequency to 1.599 MHz and check the tuning.<br>If detuned, readjust T11 and T12. |                      |                                                                                                                           |                       |                           |                    |                       |                                                                                             |

| No.                                                                                                                                                                                 | Item                          | Adjusting Procedure                                                                                                                                                                                                                                                                                                                                                                                                       | Rating<br>(reference) |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|
|                                                                                                                                                                                     | <u>Receiver Circuit</u>       |                                                                                                                                                                                                                                                                                                                                                                                                                           |                       |
| 2                                                                                                                                                                                   | 1st MIX injection level check | <ol style="list-style-type: none"> <li>1 Set RV1 to center.</li> <li>2 Connect an RF voltmeter to TP10.</li> <li>3 Check the 1st MIX injection level by changing the frequency from 100 kHz to 29.999 MHz in 1 MHz steps.<br/>☆ Adjusting resistor: R119</li> </ol>                                                                                                                                                       | More than 0.5 Vrms    |
| 3                                                                                                                                                                                   | Tuning adjustment             | <ol style="list-style-type: none"> <li>1 Connect measuring instruments as shown in Figure 4.1. Set the frequency to 7.1 MHz, MODE to LSB and AGC to OFF.</li> <li>2 Connect an RF voltmeter to TP2 on the CAE-227.</li> <li>3 Set the SSG level to 10 dBμ and adjust T14 so that the RF voltmeter reading becomes maximum.</li> </ol>                                                                                     |                       |
|                                                                                                                                                                                     | <u>Transmitter Circuit</u>    |                                                                                                                                                                                                                                                                                                                                                                                                                           |                       |
| 4                                                                                                                                                                                   | Gain check                    | <ol style="list-style-type: none"> <li>1 Terminate J44-1 with a 50 Ω load and connect an RF voltmeter to the load.</li> <li>2 Feed the 1.5 kHz, -70 dBm signal to the MIC connector.</li> <li>3 Turn the COMP control fully counterclockwise and the MIC control fully clockwise.</li> <li>4 Set the MODE to LSB and transmit on the frequency of 7.05 MHz.</li> <li>5 Check the RF voltmeter reading.</li> </ol>         | More than 1 Vrms      |
| 5                                                                                                                                                                                   | Exciter output level check    | <ol style="list-style-type: none"> <li>1 Terminate J57 on the rear panel with a 50 Ω load and connect an RF voltmeter to the load.</li> <li>2 Connect P57 to J57-1.</li> <li>3 Turn ON the exciter output by user definition No. 6.</li> <li>4 Set the MODE to LSB and transmit on the frequency of 7.05 MHz. Check the RF voltmeter reading.</li> <li>5 Turn OFF the exciter output by user definition No. 6.</li> </ol> | More than 1 Vrms      |
| <p style="text-align: center;">FOR SERVICE MANUALS<br/>CONTACT:<br/><b>MAURITRON TECHNICAL SERVICES</b><br/>www.mauritron.co.uk<br/>TEL: 01844 - 351694<br/>FAX: 01844 - 352554</p> |                               |                                                                                                                                                                                                                                                                                                                                                                                                                           |                       |

### 4.3 Overall Adjustment

#### 4.3.1 Receiver

| No. | Item                       | Adjusting Procedure                                                                                                                                                                        | Rating<br>(reference) |
|-----|----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|
| 1   | 1st MIX balance adjustment | <ol style="list-style-type: none"><li>1 Set the receiving frequency to 100 kHz and MODE to CW.</li><li>2 Adjust RV1 on the CFL-244 so that the beat sound level becomes minimum.</li></ol> |                       |

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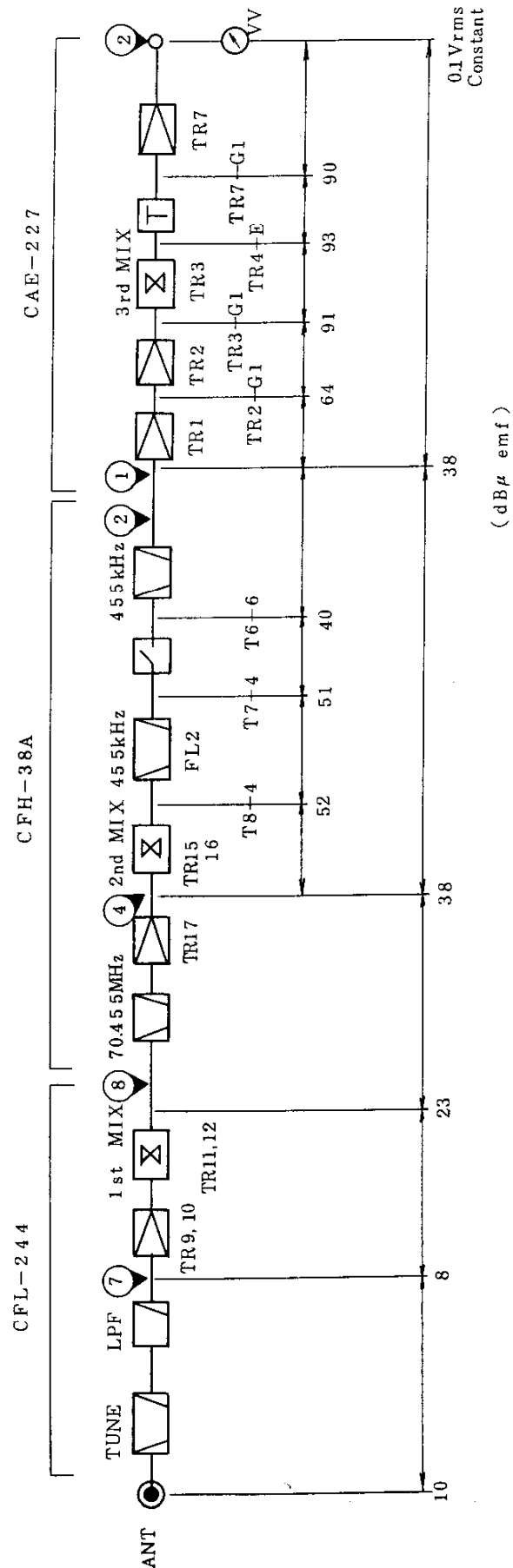
### 4.3.2 Transmitter

| No. | Item                     | Adjusting Procedure                                                                                                                                                                                                                                                                                                                      | Rating<br>(reference) |
|-----|--------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|
| 1   | APC adjustment           | <ol style="list-style-type: none"> <li>1 Set the frequency to 7.05 MHz, MODE to FM and Po control to fully clockwise.</li> <li>2 Adjust RV191 on the LPF unit CFJ-122-2 so that the power output becomes 150W.</li> </ol>                                                                                                                |                       |
| 2   | AME transmit adjustment  | <ol style="list-style-type: none"> <li>1 Feed the 1.5 kHz, -60 dBm to the MIC connector.</li> <li>2 Turn the COMP control fully clockwise and the MIC connector fully counterclockwise.</li> <li>3 Connect an oscilloscope to a directional coupler.</li> <li>4 Set the MODE to AM and transmit on the frequency of 7.05 MHz.</li> </ol> |                       |
|     | Carrier level adjustment | <ol style="list-style-type: none"> <li>5 Adjust RV2 ( <b>AMC</b> ) on the CFH-38A so that the carrier output becomes 50W.</li> <li>6 Set the MIC control to center and adjust RV1 ( <b>AML</b> ) so that the modulation depth becomes 100%.</li> </ol>                                                                                   |                       |
| 3   | LINE IN level adjustment | <ol style="list-style-type: none"> <li>1 Feed the 1.5 kHz, 0 dBm signal to pin 16 in the J51 connector on the rear panel.</li> <li>2 Turn the Po control fully clockwise.</li> <li>3 Set the MODE to LSB and transmit on the frequency of 7.05 MHz.</li> </ol>                                                                           |                       |
|     | LINE IN 1 adjustment     | <ol style="list-style-type: none"> <li>4 Adjust RV1 on the Mother Board so that the power output becomes 150W.</li> </ol>                                                                                                                                                                                                                |                       |
|     | LINE IN 2 adjustment     | <ol style="list-style-type: none"> <li>5 Feed the 1.5 kHz signal to pin 17 in the J51 connector and adjust RV2 on the Mother Board so that the power output becomes 150W.</li> </ol>                                                                                                                                                     |                       |

4.4 Level Diagram  
4.4.1 Receiver

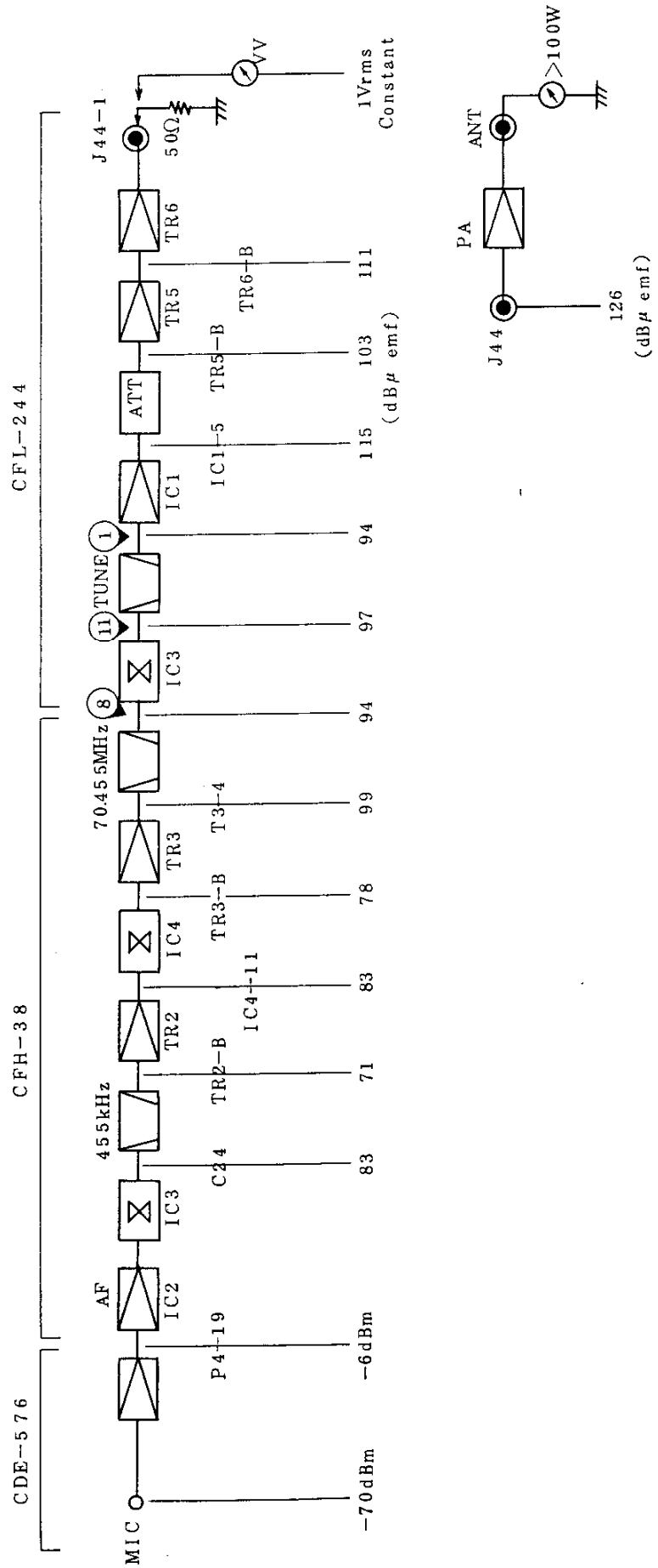
F<sub>r</sub> = 7.1MHz  
MODE : LSB  
AGC : OFF

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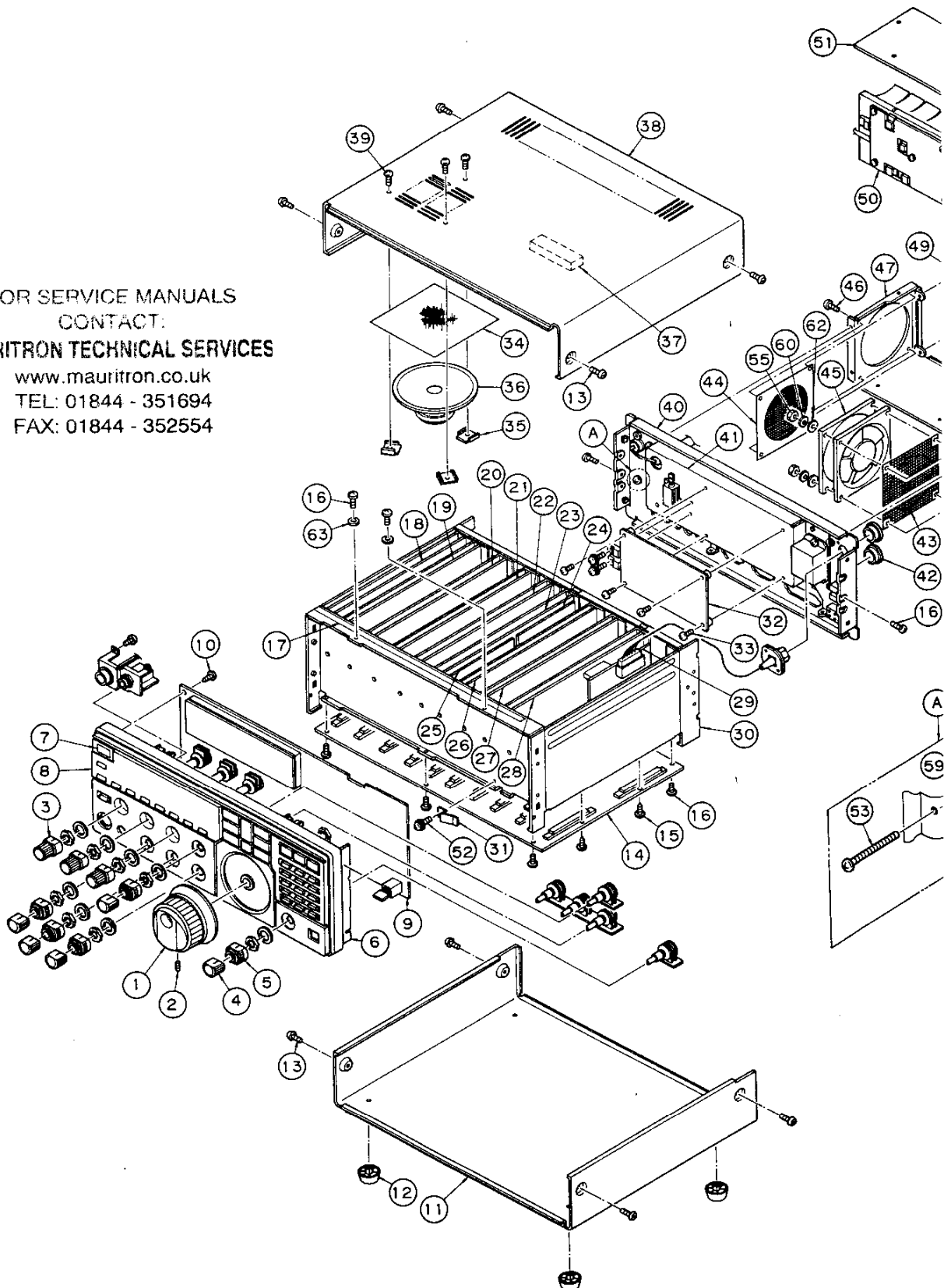
#### 4.4.2 Transmitter

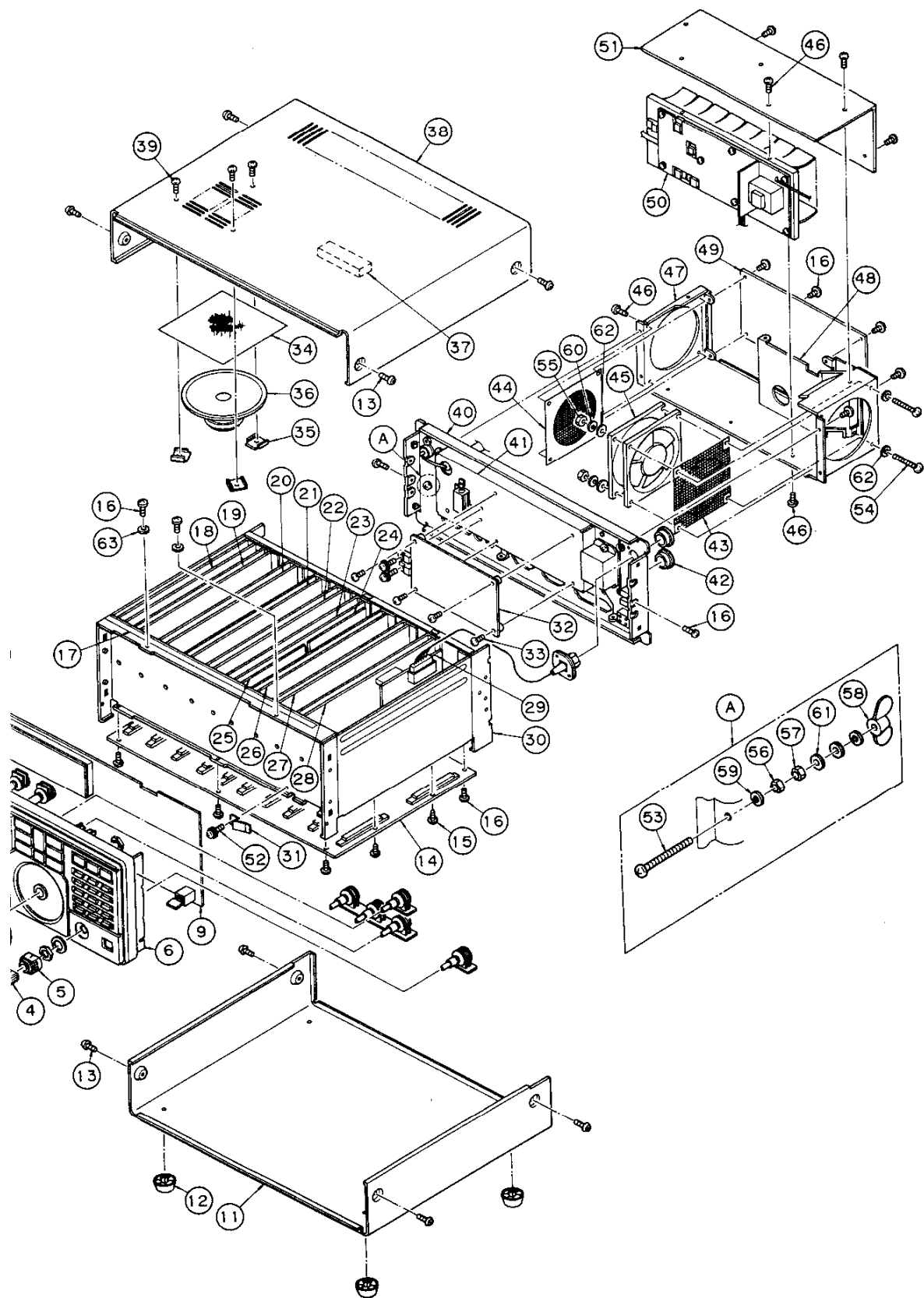
$F_t = 70.5\text{MHz}$   
 MODE : LSB  
 COMP : Min  
 MIC : Max

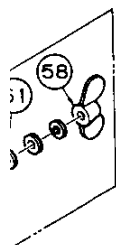
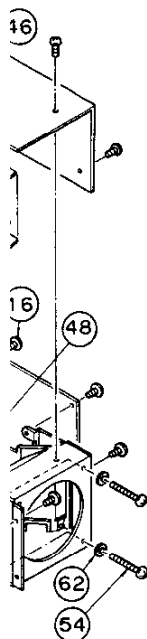


## 5. ASSEMBLY DRAWING

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| LOCATION | DESCRIPTION            | PART NUMBER | QTY | REMARKS       |
|----------|------------------------|-------------|-----|---------------|
| 1        | Dial                   | MPHD01145   | 1   |               |
| 2        | Screw                  | BSHT030045  | 1   | 3T3x4         |
| 3        | Kneb                   | MPHD01135   | 3   |               |
| 4        | Kneb                   | MTV000317   | 5   |               |
| 5        | Kneb                   | MTV000318   | 5   |               |
| 6        | Panel                  | MPBC07727   | 1   |               |
| 7        | JRC badge              | MPNL09514   | 1   |               |
| 8        | Filter                 | MPDL00926   | 1   |               |
| 9        | Display unit           | CDE-276     | 1   | MDLW03760     |
| 10       | Screw                  | BRTG02970   | 7   | M3x8 FE ZMC   |
| 11       | Cover bottom           | MTD004496   | 1   |               |
| 12       | Leg                    | BRKU00159   | 4   | NO.1052       |
| 13       | Screw                  | BRTG03311   | 8   | M3x8 Bs BNM2  |
| 14       | Motherboard            | CFQ-2625A   | 1   | MDYW02679     |
| 15       | Screw                  | BRTG00970   | 20  | M2.6x6 FE ZMC |
| 16       | Screw                  | BRTG01225   | 16  | M3x6 FE ZMC   |
| 17       | Label                  | MPNN21126A  | 1   |               |
| 18       | RF Tune unit           | CFL-244     | 1   | MDNW05951     |
| 19       | IF Filter unit         | CFH-38A     | 1   | MDNW05952     |
| 20       | BWC unit               | CFL-243     | 1   | MDNW05954     |
| 21       | IF AMP unit            | CAE-227     | 1   | MDHW00825     |
| 22       | ECSS unit              | CMF-78      | 1   | MDHW01524     |
| 23       | Daughter Board unit    | CMH-742     | 1   | MDYW02680     |
| 24       | Tone SQ unit           | CCL-212     | 1   | MDCW02209     |
| 25       | Watch Follow unit      | CDQ-366     | 1   | MDLW03761     |
| 26       | REF DDS unit           | CGX-81A     | 1   | MDYW00769     |
| 27       | Loop I unit            | CGA-145     | 1   | MDYW00768     |
| 28       | CPU unit               | CDC-493A    | 1   | MDLW03759     |
| 29       | RS-232C interface unit | CMH-741     | 1   | MDYW02681     |
| 30       | Chassis assy           | MPBC07977   | 1   |               |
| 31       | Accessory              | 5ZKAH00006  | 1   |               |
| 32       | AF AMP                 | CBO-894L    | 1   | MDRW01698     |
| 33       | Screw                  | BRTG01227   | 4   | M3x10 FE ZMC  |
| 34       | Speaker grill cloth    | MTZ002537   | 1   |               |
| 35       | Mounting plate         | MTB099587A  | 3   |               |
| 36       | Speaker                | SUSAC00028  | 1   |               |
| 37       | Rubber                 | MTT021775   | 1   |               |
| 38       | Cover top              | MTD004495   | 1   |               |
| 39       | Screw                  | BRTG02145   | 3   | M5x8 Bs BLK   |
| 40       | Back board             | MTD004504   | 1   |               |
| 41       | Mounting plate         | MTD004506   | 1   |               |
| 42       | Hole plug              | BRNG00179   | 2   | DP-625        |
| 43       | Wire cloth             | MPFM00340   | 1   |               |
| 44       | Wire cloth             | MPFM00339   | 1   |               |
| 45       | Fan Motor              | 6BFJ000004  | 1   |               |
| 46       | Screw                  | BRTG02082   | 14  | M3x6 Bs BNM2  |
| 47       | Case                   | MTD004505   | 1   |               |
| 48       | Drift plate            | MTD004508A  | 1   |               |
| 49       | LPF unit               | CEJ-122     | 1   | MDNW05950     |
| 50       | PA unit(100W)          | CAH-301L-2  | 1   | MDTW00834     |
|          | PA unit(10W)           | CAH-301L-1  | 1   | MDTW00833     |
| 51       | Cover                  | MTD004507   | 1   |               |
| 52       | Screw                  | BSNA03006B  | 1   | ANK3x6 Bs     |
| 53       | Screw                  | BSNK04020B  | 1   | NK4x20 Bs     |
| 54       | Screw                  | BSNK03025B  | 4   | NK3x25 Bs     |
| 55       | Nut                    | BSHNO4000B  | 2   | N4 Bs         |
| 56       | Nut                    | BSHNO3000B  | 1   | N3 Bs         |
| 57       | Nut                    | BSLNO4000B  | 1   | LN4 Bs        |
| 58       | Wing Nut               | BSBN04000B  | 1   | BN4 Bs        |
| 59       | Spring Lock Washer     | BSSW04000S  | 1   | SW4           |
| 60       | Spring Lock Washer     | BSSW03000S  | 2   | SW3           |
| 61       | Washer                 | BSEW04000B  | 2   | W4 Bs         |
| 62       | Washer                 | BSEW03000B  | 6   | W3 Bs         |
| 63       | Washer                 | BSEW03000B  | 2   | W3 Bs         |

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## 6. CIRCUIT DIAGRAM, COMPONENT LAYOUT AND PARTS LIST

|      |                              |            |
|------|------------------------------|------------|
| 6.1  | RF TUNE UNIT                 | CFL-244    |
| 6.2  | IF FILTER UNIT               | CFH-38A    |
| 6.3  | IF AMP UNIT                  | CAE-227    |
| 6.4  | 12 V PA UNIT                 | CAH-301L-2 |
| 6.5  | LPF UNIT                     | CFJ-122-2  |
| 6.6  | LOOP1 UNIT                   | CGA-145    |
| 6.7  | REF DDS UNIT                 | CGK-81A    |
| 6.8  | CPU UNIT                     | CDC-493A   |
| 6.9  | DISPLAY UNIT                 | CDE-576    |
| 6.10 | DISPLAY (VR) UNIT            | CDE-576    |
| 6.11 | AF AMP UNIT                  | CBD-894L   |
| 6.12 | TONE SQ UNIT                 | CCL-212    |
| 6.13 | BWC UNIT                     | CFL-243    |
| 6.14 | NOTCH FOLLOW UNIT            | CDD-366    |
| 6.15 | ECSS UNIT                    | CMF-78     |
| 6.16 | RS-232C INTERFACE UNIT       | CMH-741    |
| 6.17 | MOTHER BOARD                 | CFQ-2625A  |
|      | CHASSIS                      | JST-135    |
|      | SIGNAL NOMENCLATURE OF UNITS |            |

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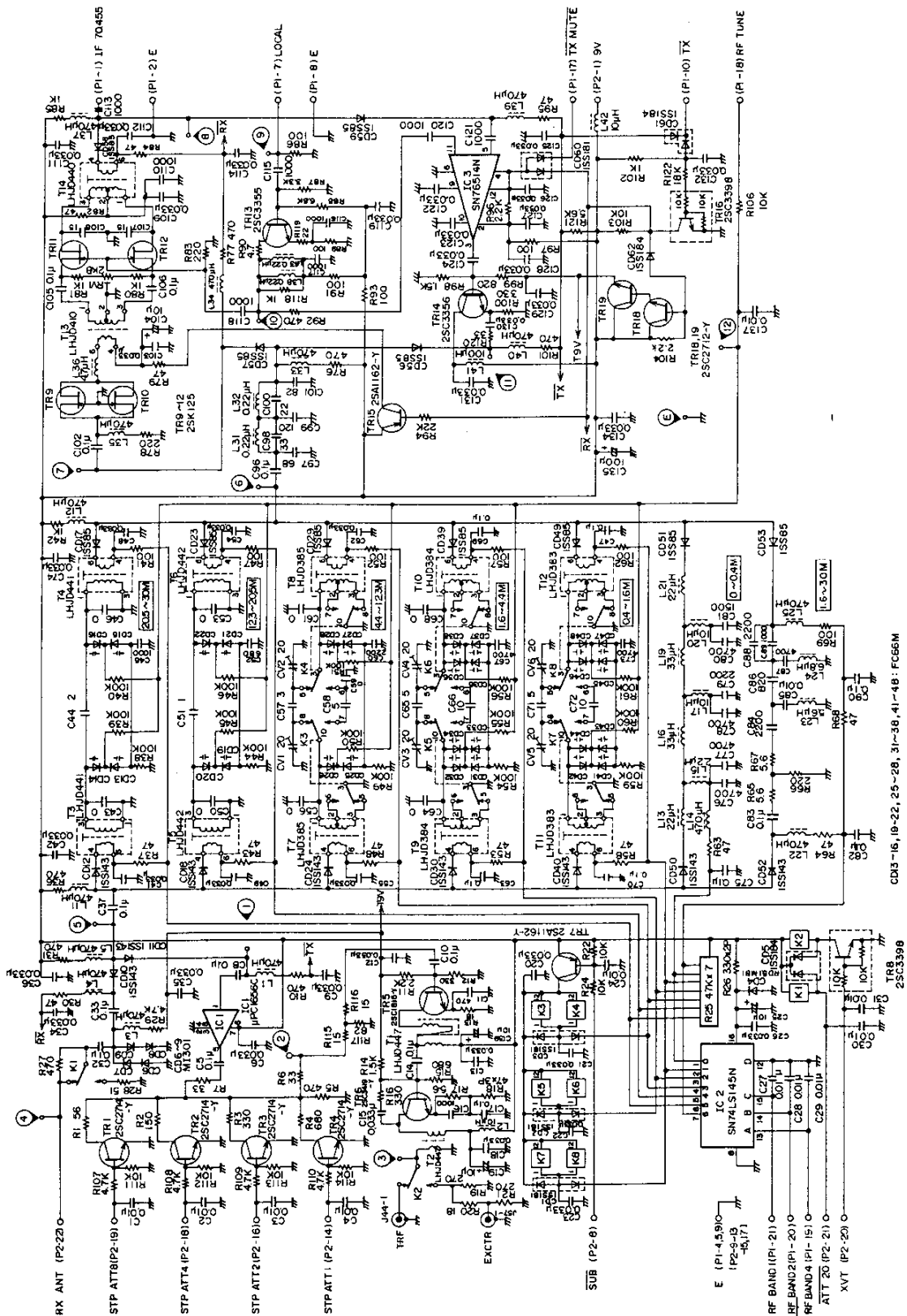


Figure 6.1.1 RF TUNE UNIT CFL-244 Circuit Diagram

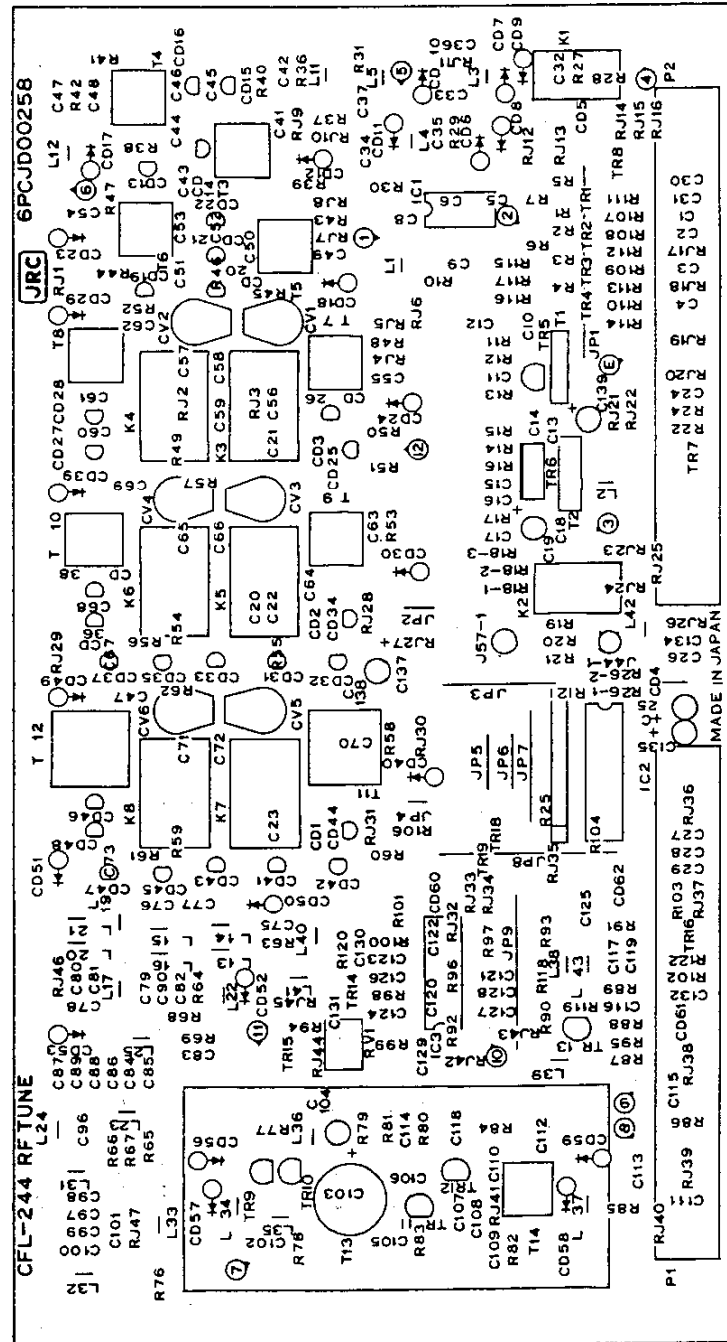


Figure 6.1.2 RF TUNE UNIT CFL-244 Component Layout

| PARTS LIST |                |                     |             |            |  |
|------------|----------------|---------------------|-------------|------------|--|
| RF TUNE    |                | TITLE               |             | SHEET NO.  |  |
|            |                | CFL-244             |             | 1          |  |
| PARTS NO   | PARTS NAME     | TYPE                | DESCRIPTION | CODE       |  |
| C1         | CAP,FXD CER    | C3216JB1H103K-E-TP  | 0.01UF      | 5CAAD00789 |  |
| C2         | CAP,FXD CER    | C3216JB1H103K-E-TP  | 0.01UF      | 5CAAD00789 |  |
| C3         | CAP,FXD CER    | C3216JB1H103K-E-TP  | 0.01UF      | 5CAAD00789 |  |
| C4         | CAP,FXD CER    | C3216JB1H103K-E-TP  | 0.01UF      | 5CAAD00789 |  |
| C5         | CAP,FXD CER    | C3216X7R1E104K-E-TP | 0.1U        | 5CAAD01237 |  |
| C6         | CAP,FXD CER    | C3216X7R1H333K-E-TP | 50V 0.033U  | 5CAAD01357 |  |
| C8         | CAP,FXD CER    | C3216X7R1E104K-E-TP | 0.1U        | 5CAAD01237 |  |
| C9         | CAP,FXD CER    | C3216X7R1H333K-E-TP | 50V 0.033U  | 5CAAD01357 |  |
| C10        | CAP,FXD CER    | C3216X7R1E104K-E-TP | 0.1U        | 5CAAD01237 |  |
| C11        | CAP,FXD CER    | C3216CH1H471J-E-TP  | 470PF       | 5CAAD00797 |  |
| C12        | CAP,FXD CER    | C3216X7R1H333K-E-TP | 50V 0.033U  | 5CAAD01357 |  |
| C13        | CAP,FXD CER    | C3216X7R1H333K-E-TP | 50V 0.033U  | 5CAAD01357 |  |
| C14        | CAP,FXD CER    | C3216X7R1E104K-E-TP | 0.1U        | 5CAAD01237 |  |
| C15        | CAP,FXD CER    | C3216X7R1H333K-E-TP | 50V 0.033U  | 5CAAD01357 |  |
| C16        | CAP,FXD CER    | C3216SL1H102J-E-TP  | 1000PF      | 5CAAD00782 |  |
| C17        | CAP,FXD CER    | C3216X7R1E104K-E-TP | 0.1U        | 5CAAD01237 |  |
| C18        | CAP,FXD CER    | C3216X7R1E333K-E-TP | 0.033U      | 5CAAD01203 |  |
| C19        | CAP,FXD ELCTLT | ECE-A1EU100B        |             | 5CEAA01864 |  |
| C20        | CAP,FXD CER    | C3216X7R1H333K-E-TP | 50V 0.033U  | 5CAAD01357 |  |
| C21        | CAP,FXD CER    | C3216X7R1H333K-E-TP | 50V 0.033U  | 5CAAD01357 |  |
| C22        | CAP,FXD CER    | C3216X7R1H333K-E-TP | 50V 0.033U  | 5CAAD01357 |  |
| C23        | CAP,FXD CER    | C3216X7R1H333K-E-TP | 50V 0.033U  | 5CAAD01357 |  |
| C24        | CAP,FXD CER    | C3216JB1H103K-E-TP  | 0.01UF      | 5CAAD00789 |  |
| C25        | CAP,FXD TANTAL | 202L1602 106KB      |             | 5CSAC00932 |  |
| C26        | CAP,FXD CER    | C3216X7R1H333K-E-TP | 50V 0.033U  | 5CAAD01357 |  |
| C27        | CAP,FXD CER    | C3216JB1H103K-E-TP  | 0.01UF      | 5CAAD00789 |  |
| C28        | CAP,FXD CER    | C3216JB1H103K-E-TP  | 0.01UF      | 5CAAD00789 |  |
| C29        | CAP,FXD CER    | C3216JB1H103K-E-TP  | 0.01UF      | 5CAAD00789 |  |
| C30        | CAP,FXD CER    | C3216JB1H103K-E-TP  | 0.01UF      | 5CAAD00789 |  |
| C31        | CAP,FXD CER    | C3216JB1H103K-E-TP  | 0.01UF      | 5CAAD00789 |  |
| C32        | CAP,FXD CER    | C3216X7R1E104K-E-TP | 0.1U        | 5CAAD01237 |  |
| C33        | CAP,FXD CER    | C3216X7R1E104K-E-TP | 0.1U        | 5CAAD01237 |  |
| C34        | CAP,FXD CER    | C3216X7R1H333K-E-TP | 50V 0.033U  | 5CAAD01357 |  |
| C35        | CAP,FXD CER    | C3216X7R1H333K-E-TP | 50V 0.033U  | 5CAAD01357 |  |
| C36        | CAP,FXD CER    | C3216X7R1H333K-E-TP | 50V 0.033U  | 5CAAD01357 |  |

| PARTS LIST |             |                     |             |            |  |
|------------|-------------|---------------------|-------------|------------|--|
| RF TUNE    |             | TITLE               |             | SHEET NO.  |  |
|            |             | CFL-244             |             | 2          |  |
| PARTS NO   | PARTS NAME  | TYPE                | DESCRIPTION | CODE       |  |
| C37        | CAP,FXD CER | C3216X7R1E104K-E-TP | 0.1U        | 5CAAD01237 |  |
| C41        | CAP,FXD CER | C3216X7R1H333K-E-TP | 50V 0.033U  | 5CAAD01357 |  |
| C42        | CAP,FXD CER | C3216X7R1H333K-E-TP | 50V 0.033U  | 5CAAD01357 |  |
| C43        |             |                     | *           | 6ZZAB10000 |  |
| C44        | CAP,FXD CER | C3216CH1H020C-E-TP  | 2PF         | 5CAAD00798 |  |
| C45        | CAP,FXD CER | C3216SL1H102J-E-TP  | 1000PF      | 5CAAD00782 |  |
| C46        |             |                     | *           | 6ZZAB10000 |  |
| C47        | CAP,FXD CER | C3216X7R1E104K-E-TP | 0.1U        | 5CAAD01237 |  |
| C48        | CAP,FXD CER | C3216X7R1H333K-E-TP | 50V 0.033U  | 5CAAD01357 |  |
| C49        | CAP,FXD CER | C3216X7R1H333K-E-TP | 50V 0.033U  | 5CAAD01357 |  |
| C50        |             |                     | *           | 6ZZAB10000 |  |
| C51        | CAP,FXD CER | C3216CH1H010C-E-TP  | 1PF         | 5CAAD00795 |  |
| C52        | CAP,FXD CER | C3216CH1H681J-E-TP  | 680P        | 5CAAD00788 |  |
| C53        |             |                     | *           | 6ZZAB10000 |  |
| C54        | CAP,FXD CER | C3216X7R1H333K-E-TP | 50V 0.033U  | 5CAAD01357 |  |
| C55        | CAP,FXD CER | C3216X7R1H333K-E-TP | 50V 0.033U  | 5CAAD01357 |  |
| C56        |             |                     | *           | 6ZZAB10000 |  |
| C57        | CAP,FXD CER | C3216CH1H030C-E-TP  | 3PF         | 5CAAD00796 |  |
| C58        | CAP,FXD CER | C3216CH1H050C-E-TP  | 5PF         | 5CAAD00800 |  |
| C60        | CAP,FXD CER | C3216SL1H222J-E-TP  | 2200P       | 5CAAD00792 |  |
| C61        |             |                     | *           | 6ZZAB10000 |  |
| C62        | CAP,FXD CER | C3216X7R1H333K-E-TP | 50V 0.033U  | 5CAAD01357 |  |
| C63        | CAP,FXD CER | C3216X7R1E104K-E-TP | 0.1U        | 5CAAD01237 |  |
| C64        |             |                     | *           | 6ZZAB10000 |  |
| C65        | CAP,FXD CER | C3216CH1H050C-E-TP  | 5PF         | 5CAAD00800 |  |
| C66        | CAP,FXD CER | C3216CH1H100D-E-TP  |             | 5CAAD00862 |  |
| C67        | CAP,FXD CER | C3216B1H472K-E-TP   | 4700PF      | 5CAAD00783 |  |
| C68        |             |                     | *           | 6ZZAB10000 |  |
| C69        | CAP,FXD CER | C3216X7R1E104K-E-TP | 0.1U        | 5CAAD01237 |  |
| C70        | CAP,FXD CER | C3216X7R1E104K-E-TP | 0.1U        | 5CAAD01237 |  |
| C71        | CAP,FXD CER | C3216CH1H050C-E-TP  | 5PF         | 5CAAD00800 |  |
| C72        | CAP,FXD CER | C3216CH1H100D-E-TP  |             | 5CAAD00862 |  |
| C73        | CAP,FXD CER | C3216B1H472K-E-TP   | 4700PF      | 5CAAD00783 |  |
| C74        | CAP,FXD CER | C3216X7R1H333K-E-TP | 50V 0.033U  | 5CAAD01357 |  |
| C75        | CAP,FXD CER | C3216X7R1E104K-E-TP | 0.1U        | 5CAAD01237 |  |

| PARTS LIST |            |         |                     |            |            |
|------------|------------|---------|---------------------|------------|------------|
|            |            | RF TUNE |                     | TITLE      | SHEET NO.  |
|            |            |         |                     | CFL-244    | 3          |
| PARTS NO   | PARTS NAME | TYPE    | DESCRIPTION         | CODE       |            |
| C76        | CAP,FXD    | CER     | C3216B1H472K-E-TP   | 4700PF     | 5CAAD00783 |
| C77        | CAP,FXD    | CER     | C3216B1H472K-E-TP   | 4700PF     | 5CAAD00783 |
| C78        | CAP,FXD    | CER     | C3216B1H472K-E-TP   | 4700PF     | 5CAAD00783 |
| C79        | CAP,FXD    | CER     | C3216SL1H222J-E-TP  | 2200P      | 5CAAD00792 |
| C80        | CAP,FXD    | CER     | C3216B1H472K-E-TP   | 4700PF     | 5CAAD00783 |
| C81        | CAP,FXD    | CER     | C3216SL1H152J-E-TP  | 1500PF     | 5CAAD00791 |
| C82        | CAP,FXD    | CER     | C3216X7R1E104K-E-TP | 0.1U       | 5CAAD01237 |
| C83        | CAP,FXD    | CER     | C3216X7R1E104K-E-TP | 0.1U       | 5CAAD01237 |
| C84        | CAP,FXD    | CER     | C3216SL1H222J-E-TP  | 2200P      | 5CAAD00792 |
| C85        | CAP,FXD    | CER     | C3216JB1H103K-E-TP  | 0.01UF     | 5CAAD00789 |
| C86        | CAP,FXD    | CER     | C3216SL1H821J-E-TP  |            | 5CAAD01068 |
| C87        | CAP,FXD    | CER     | C3216B1H472K-E-TP   | 4700PF     | 5CAAD00783 |
| C88        | CAP,FXD    | CER     | C3216SL1H222J-E-TP  | 2200P      | 5CAAD00792 |
| C89        | CAP,FXD    | CER     | C3216SL1H102J-E-TP  | 1000PF     | 5CAAD00782 |
| C90        | CAP,FXD    | CER     | C3216X7R1E104K-E-TP | 0.1U       | 5CAAD01237 |
| C96        | CAP,FXD    | CER     | C3216X7R1E104K-E-TP | 0.1U       | 5CAAD01237 |
| C97        | CAP,FXD    | CER     | C3216CH1H680J-E-TP  | 68PF       | 5CAAD00929 |
| C98        | CAP,FXD    | CER     | C3216CH1H330J-E-TP  | 33PF       | 5CAAD00794 |
| C99        | CAP,FXD    | CER     | C3216CH1H121J-E-TP  | 120PF      | 5CAAD00931 |
| C100       | CAP,FXD    | CER     | C3216CH1H220J-E-TP  | 22PF       | 5CAAD00869 |
| C101       | CAP,FXD    | CER     | C3216CH1H820J-E-TP  | 82P        | 5CAAD00930 |
| C102       | CAP,FXD    | CER     | C3216X7R1E104K-E-TP | 0.1U       | 5CAAD01237 |
| C103       | CAP,FXD    | CER     | C3216X7R1H333K-E-TP | 50V 0.033U | 5CAAD01357 |
| C104       | CAP,FXD    | TANTAL  | 202L1602 106KB      |            | 5CSAC00932 |
| C105       | CAP,FXD    | CER     | C3216X7R1E104K-E-TP | 0.1U       | 5CAAD01237 |
| C106       | CAP,FXD    | CER     | C3216X7R1E104K-E-TP | 0.1U       | 5CAAD01237 |
| C107       | CAP,FXD    | CER     | C3216CH1H150J-E-TP  | 15PF       | 5CAAD00787 |
| C108       | CAP,FXD    | CER     | C3216CH1H150J-E-TP  | 15PF       | 5CAAD00787 |
| C109       | CAP,FXD    | CER     | C3216X7R1H333K-E-TP | 50V 0.033U | 5CAAD01357 |
| C110       | CAP,FXD    | CER     | C3216SL1H102J-E-TP  | 1000PF     | 5CAAD00782 |
| C111       | CAP,FXD    | CER     | C3216X7R1H333K-E-TP | 50V 0.033U | 5CAAD01357 |
| C112       | CAP,FXD    | CER     | C3216X7R1H333K-E-TP | 50V 0.033U | 5CAAD01357 |
| C113       | CAP,FXD    | CER     | C3216SL1H102J-E-TP  | 1000PF     | 5CAAD00782 |
| C114       | CAP,FXD    | CER     | C3216X7R1H333K-E-TP | 50V 0.033U | 5CAAD01357 |
| C115       | CAP,FXD    | CER     | C3216SL1H102J-E-TP  | 1000PF     | 5CAAD00782 |

| PARTS LIST |            |         |                     |            |            |
|------------|------------|---------|---------------------|------------|------------|
|            |            | RF TUNE |                     | TITLE      | SHEET NO.  |
|            |            |         |                     | CFL-244    | 4          |
| PARTS NO   | PARTS NAME | TYPE    | DESCRIPTION         | CODE       |            |
| C116       | CAP,FXD    | CER     | C3216SL1H102J-E-TP  | 1000PF     | 5CAAD00782 |
| C117       | CAP,FXD    | CER     | C3216SL1H102J-E-TP  | 1000PF     | 5CAAD00782 |
| C118       | CAP,FXD    | CER     | C3216SL1H102J-E-TP  | 1000PF     | 5CAAD00782 |
| C119       | CAP,FXD    | CER     | C3216X7R1H333K-E-TP | 50V 0.033U | 5CAAD01357 |
| C120       | CAP,FXD    | CER     | C3216SL1H102J-E-TP  | 1000PF     | 5CAAD00782 |
| C121       | CAP,FXD    | CER     | C3216SL1H102J-E-TP  | 1000PF     | 5CAAD00782 |
| C122       | CAP,FXD    | CER     | C3216X7R1H333K-E-TP | 50V 0.033U | 5CAAD01357 |
| C123       | CAP,FXD    | CER     | C3216X7R1H333K-E-TP | 50V 0.033U | 5CAAD01357 |
| C124       | CAP,FXD    | CER     | C3216X7R1H333K-E-TP | 50V 0.033U | 5CAAD01357 |
| C125       | CAP,FXD    | CER     | C3216X7R1H333K-E-TP | 50V 0.033U | 5CAAD01357 |
| C126       | CAP,FXD    | CER     | C3216X7R1H333K-E-TP | 50V 0.033U | 5CAAD01357 |
| C127       | CAP,FXD    | CER     | C3216X7R1H333K-E-TP | 50V 0.033U | 5CAAD01357 |
| C128       | CAP,FXD    | CER     | C3216X7R1H333K-E-TP | 50V 0.033U | 5CAAD01357 |
| C129       | CAP,FXD    | CER     | C3216X7R1H333K-E-TP | 50V 0.033U | 5CAAD01357 |
| C130       | CAP,FXD    | CER     | C3216X7R1H333K-E-TP | 50V 0.033U | 5CAAD01357 |
| C131       | CAP,FXD    | CER     | C3216X7R1H333K-E-TP | 50V 0.033U | 5CAAD01357 |
| C132       | CAP,FXD    | CER     | C3216X7R1H333K-E-TP | 50V 0.033U | 5CAAD01357 |
| C134       | CAP,FXD    | CER     | C3216X7R1H333K-E-TP | 50V 0.033U | 5CAAD01357 |
| C135       | CAP,FXD    | ELCTLT  | ECE-A1EU101B        |            | 5CEAD01813 |
| C137       | CAP,FXD    | CER     | C3216JB1H103K-E-TP  | 0.01UF     | 5CAAD00789 |
| C139       | CAP,FXD    | ELCTLT  | ECE-A1EU100B        |            | 5CEAD01864 |
| CD1        | DIODE      |         | 1SS181 TE85L        |            | 5TXAD00356 |
| CD2        | DIODE      |         | 1SS181 TE85L        |            | 5TXAD00356 |
| CD3        | DIODE      |         | 1SS181 TE85L        |            | 5TXAD00356 |
| CD4        | DIODE      |         | RD5.1MB1-T1         |            | 5TXAD00515 |
| CD5        | DIODE      |         | 1SS184 TE85L        |            | 5TXAD00290 |
| CD6        | DIODE      |         | MI301               |            | 5TXAR00004 |
| CD7        | DIODE      |         | MI301               |            | 5TXAR00004 |
| CD8        | DIODE      |         | MI301               |            | 5TXAR00004 |
| CD9        | DIODE      |         | MI301               |            | 5TXAR00004 |
| CD10       | DIODE      |         | 1SS143T-87          |            | 5TXCW00021 |
| CD11       | DIODE      |         | 1SS143T-87          |            | 5TXCW00021 |
| CD12       | DIODE      |         | 1SS143T-87          |            | 5TXCW00021 |
| CD13       | DIODE      |         | FC66M-010           |            | 5TXAB00035 |
| CD14       | DIODE      |         | FC66M-010           |            | 5TXAB00035 |

## PARTS LIST

|          |            | TITLE      |             | SHEET NO.  |
|----------|------------|------------|-------------|------------|
|          |            | RF TUNE    | CFL-244     | 5          |
| PARTS NO | PARTS NAME | TYPE       | DESCRIPTION | CODE       |
| CD15     | DIODE      | FC66M-010  |             | STXAB00035 |
| CD16     | DIODE      | FC66M-010  |             | STXAB00035 |
| CD17     | DIODE      | 1SS85RE    |             | STXAE00590 |
| CD18     | DIODE      | 1SS143T-87 |             | STXCW00021 |
| CD19     | DIODE      | FC66M-010  |             | STXAB00035 |
| CD20     | DIODE      | FC66M-010  |             | STXAB00035 |
| CD21     | DIODE      | FC66M-010  |             | STXAB00035 |
| CD22     | DIODE      | FC66M-010  |             | STXAB00035 |
| CD23     | DIODE      | 1SS85RE    |             | STXAE00590 |
| CD24     | DIODE      | 1SS143T-87 |             | STXCW00021 |
| CD25     | DIODE      | FC66M-010  |             | STXAB00035 |
| CD26     | DIODE      | FC66M-010  |             | STXAB00035 |
| CD27     | DIODE      | FC66M-010  |             | STXAB00035 |
| CD28     | DIODE      | FC66M-010  |             | STXAB00035 |
| CD29     | DIODE      | 1SS85RE    |             | STXAE00590 |
| CD30     | DIODE      | 1SS143T-87 |             | STXCW00021 |
| CD31     | DIODE      | FC66M-010  |             | STXAB00035 |
| CD32     | DIODE      | FC66M-010  |             | STXAB00035 |
| CD33     | DIODE      | FC66M-010  |             | STXAB00035 |
| CD34     | DIODE      | FC66M-010  |             | STXAB00035 |
| CD35     | DIODE      | FC66M-010  |             | STXAB00035 |
| CD36     | DIODE      | FC66M-010  |             | STXAB00035 |
| CD37     | DIODE      | FC66M-010  |             | STXAB00035 |
| CD38     | DIODE      | FC66M-010  |             | STXAB00035 |
| CD39     | DIODE      | 1SS85RE    |             | STXAE00590 |
| CD40     | DIODE      | 1SS143T-87 |             | STXCW00021 |
| CD41     | DIODE      | FC66M-010  |             | STXAB00035 |
| CD42     | DIODE      | FC66M-010  |             | STXAB00035 |
| CD43     | DIODE      | FC66M-010  |             | STXAB00035 |
| CD44     | DIODE      | FC66M-010  |             | STXAB00035 |
| CD45     | DIODE      | FC66M-010  |             | STXAB00035 |
| CD46     | DIODE      | FC66M-010  |             | STXAB00035 |
| CD47     | DIODE      | FC66M-010  |             | STXAB00035 |
| CD48     | DIODE      | FC66M-010  |             | STXAB00035 |
| CD49     | DIODE      | 1SS85RE    |             | STXAE00590 |

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TEL: 01844 - 351694  
FAX: 01844 - 352554

## PARTS LIST

|          |                 | TITLE        |             | SHEET NO.  |
|----------|-----------------|--------------|-------------|------------|
|          |                 | RF TUNE      | CFL-244     | 6          |
| PARTS NO | PARTS NAME      | TYPE         | DESCRIPTION | CODE       |
| CD50     | DIODE           | 1SS143T-87   |             | STXCW00021 |
| CD51     | DIODE           | 1SS85RE      |             | STXAE00590 |
| CD52     | DIODE           | 1SS143T-87   |             | STXCW00021 |
| CD53     | DIODE           | 1SS85RE      |             | STXAE00590 |
| CD56     | DIODE           | 1SS85RE      |             | STXAE00590 |
| CD57     | DIODE           | 1SS85RE      |             | STXAE00590 |
| CD58     | DIODE           | 1SS85RE      |             | STXAE00590 |
| CD59     | DIODE           | 1SS85RE      |             | STXAE00590 |
| CD60     | DIODE           | 1SS181 TE85L |             | STXAD00356 |
| CD61     | DIODE           | 1SS184 TE85L |             | STXAD00290 |
| CD62     | DIODE           | 1SS184 TE85L |             | STXAD00290 |
| CV1      | CAPACITOR VAR   | TZ03T200FR   |             | SCVAA00166 |
| CV2      | CAPACITOR VAR   | TZ03T200FR   |             | SCVAA00166 |
| CV3      | CAPACITOR VAR   | TZ03T200FR   |             | SCVAA00166 |
| CV4      | CAPACITOR VAR   | TZ03T200FR   |             | SCVAA00166 |
| CV5      | CAPACITOR VAR   | TZ03T200FR   |             | SCVAA00166 |
| CV6      | CAPACITOR VAR   | TZ03T200FR   |             | SCVAA00166 |
| IC1      | IC              | UPC1656C     |             | 5DAAA00183 |
| IC2      | IC              | SN74LS145N   |             | 5DDAS00138 |
| IC3      | IC              | SN76514N     |             | 5DDAL00251 |
| J44-1    | CONNECTOR       | TMP-J01X-V2  |             | 5JDA000009 |
| J57-1    | CONNECTOR       | TMP-J01X-V2  |             | 5JDA000009 |
| JP1      | TIN COATED WIRE | TA-0.6P      |             | 2717100001 |
| JP2      | TIN COATED WIRE | TA-0.6P      |             | 2717100001 |
| JP3      | TIN COATED WIRE | TA-0.6P      |             | 2717100001 |
| JP4      | TIN COATED WIRE | TA-0.6P      |             | 2717100001 |
| JP5      | TIN COATED WIRE | TA-0.6P      |             | 2717100001 |
| JP6      | TIN COATED WIRE | TA-0.6P      |             | 2717100001 |
| JP7      | TIN COATED WIRE | TA-0.6P      |             | 2717100001 |
| JP8      | TIN COATED WIRE | TA-0.6P      |             | 2717100001 |
| JP9      | TIN COATED WIRE | TA-0.6P      |             | 2717100001 |
| K1       | RELAY           | HD1-M-0C9V   |             | 5KLAD00660 |
| K2       | RELAY           | HD1-M-0C9V   |             | 5KLAD00660 |
| K3       | RELAY           | DF2-DC9V     |             | 5KLAD00578 |
| K4       | RELAY           | DF2-DC9V     |             | 5KLAD00578 |

| PARTS LIST |            |             |             |            |
|------------|------------|-------------|-------------|------------|
| TITLE      |            |             | SHEET NO.   |            |
| RF TUNE    |            |             | CFL-244     |            |
| PARTS NO   | PARTS NAME | TYPE        | DESCRIPTION | CODE       |
| K5         | RELAY      | DF2-DC9V    |             | SKLAD00578 |
| K6         | RELAY      | DF2-DC9V    |             | SKLAD00578 |
| K7         | RELAY      | DF2-DC9V    |             | SKLAD00578 |
| K8         | RELAY      | DF2-DC9V    |             | SKLAD00578 |
| L1         | COIL       | LAL03VB471K | 470UH       | 5LCAA00270 |
| L2         | COIL       | LAL03VB100K | 10UH        | 5LCAA00273 |
| L3         | COIL       | LAL03VB471K | 470UH       | 5LCAA00270 |
| L4         | COIL       | LAL03VB471K | 470UH       | 5LCAA00270 |
| L5         | COIL       | LAL03VB471K | 470UH       | 5LCAA00270 |
| L11        | COIL       | LAL03VB471K | 470UH       | 5LCAA00270 |
| L12        | COIL       | LAL03VB471K | 470UH       | 5LCAA00270 |
| L13        | COIL       | LAL03VB220K | 22UH        | 5LCAA00277 |
| L14        | COIL       | LAL03VB471K | 470UH       | 5LCAA00270 |
| L15        | COIL       | LAL03VB2R2M | 2.2UH       | 5LCAA00278 |
| L16        | COIL       | LAL03VB330K | 33UH        | 5LCAA00279 |
| L17        | COIL       | LAL03VB100K | 10UH        | 5LCAA00273 |
| L19        | COIL       | LAL03VB330K | 33UH        | 5LCAA00279 |
| L20        | COIL       | LAL03VB100K | 10UH        | 5LCAA00273 |
| L21        | COIL       | LAL03VB220K | 22UH        | 5LCAA00277 |
| L22        | COIL       | LAL03VB471K | 470UH       | 5LCAA00270 |
| L23        | COIL       | LAL03VB5R6K | 5.6UH       | 5LCAA00275 |
| L24        | COIL       | LAL03VB6R8K | 6.8UH       | 5LCAA00276 |
| L25        | COIL       | LAL03VB471K | 470UH       | 5LCAA00270 |
| L31        | COIL       | LAL03VBR22M | 0.22UH      | 5LCAA00280 |
| L32        | COIL       | LAL03VBR22M | 0.22UH      | 5LCAA00280 |
| L33        | COIL       | LAL03VB471K | 470UH       | 5LCAA00270 |
| L34        | COIL       | LAL03VB471K | 470UH       | 5LCAA00270 |
| L35        | COIL       | LAL03VB471K | 470UH       | 5LCAA00270 |
| L36        | COIL       | LAL03VB4R7K |             | 5LCAA00323 |
| L37        | COIL       | LAL03VB471K | 470UH       | 5LCAA00270 |
| L38        | COIL       | LAL03VBR22M | 0.22UH      | 5LCAA00280 |
| L39        | COIL       | LAL03VB471K | 470UH       | 5LCAA00270 |
| L40        | COIL       | LAL03VB471K | 470UH       | 5LCAA00270 |
| L41        | COIL       | LAL03VB101K |             | 5LCAA00333 |
| L42        | COIL       | LAL03VB100K | 10UH        | 5LCAA00273 |

| PARTS LIST |            |                        |               |            |
|------------|------------|------------------------|---------------|------------|
| TITLE      |            |                        | SHEET NO.     |            |
| RF TUNE    |            |                        | CFL-244       |            |
| PARTS NO   | PARTS NAME | TYPE                   | DESCRIPTION   | CODE       |
| L43        | COIL       | LAL03VBR22M            | 0.22UH        | 5LCAA00280 |
| P1         | CONNECTOR  | EC1C-22P-2.5DSA        | 22P           | 5JWBS00070 |
| P2         | CONNECTOR  | EC1C-22P-2.5DSA        | 22P           | 5JWBS00070 |
| PC1        | PCB        | H-6PCJD00258B          |               | 6PCJD00258 |
| R1         | RESISTOR   | FXD ERJ-8GEYJ560V      | 1/8W 56 OHM   | 5REAG01723 |
| R2         | RESISTOR   | FXD ERJ-8GEYJ151V      | 1/8W 150 OHM  | 5REAG01728 |
| R3         | RESISTOR   | FXD ERJ-8GEYJ331V      | 1/8W,330 OHM  | 5REAG01732 |
| R4         | RESISTOR   | FXD ERJ-8GEYJ681V      | 1/8W 680 OHM  | 5REAG01736 |
| R5         | RESISTOR   | FXD ERJ-8GEYJ471V      | 1/8W 470 OHM  | 5REAG01734 |
| R6         | RESISTOR   | FXD ERJ-8GEYJ330V      | 1/8W 33 OHM   | 5REAG01720 |
| R7         | RESISTOR   | FXD ERJ-8GEYJ330V      | 1/8W 33 OHM   | 5REAG01720 |
| R10        | RESISTOR   | FXD ERJ-8GEYJ471V      | 1/8W 470 OHM  | 5REAG01734 |
| R11        | RESISTOR   | FXD ERJ-8GEYJ222V      | 1/8W 2.2K OHM | 5REAG01742 |
| R12        | RESISTOR   | FXD ERJ-8GEYJ331V      | 1/8W,330 OHM  | 5REAG01732 |
| R13        | RESISTOR   | FXD ERJ-8GEYJ180V      | 1/8W 18 OHM   | 5REAG01717 |
| R14        | RESISTOR   | FXD ERJ-8GEYJ152V      | 1/8W 1.5K OHM | 5REAG01740 |
| R15        | RESISTOR   | FXD ERJ-8GEYJ681V      | 1/8W 680 OHM  | 5REAG01736 |
| R16        | RESISTOR   | FXD ERJ-8GEYJ331V      | 1/8W,330 OHM  | 5REAG01732 |
| R17        | RESISTOR   | FXD ERJ-8GEYK5R6V      |               | 5REAG02207 |
| R18-1      | RESISTOR   | FXD ERJ-8GEYJ470V      | 1/8W 47 OHM   | 5REAG01722 |
| R18-2      | RESISTOR   | FXD ERJ-8GEYJ470V      | 1/8W 47 OHM   | 5REAG01722 |
| R18-3      | RESISTOR   | FXD ERJ-8GEYJ470V      | 1/8W 47 OHM   | 5REAG01722 |
| R19        | RESISTOR   | FXD ERJ-8GEYJ271V      | 1/8W 270 OHM  | 5REAG01731 |
| R20        | RESISTOR   | FXD ERJ-8GEYJ180V      | 1/8W 18 OHM   | 5REAG01717 |
| R21        | RESISTOR   | FXD ERJ-8GEYJ271V      | 1/8W 270 OHM  | 5REAG01731 |
| R22        | RESISTOR   | FXD ERJ-8GEYJ103V      | 1/8W 10K OHM  | 5REAG01750 |
| R24        | RESISTOR   | FXD ERJ-8GEYJ103V      | 1/8W 10K OHM  | 5REAG01750 |
| R25        | RESISTOR   | FXD RKC1/8B7-47K OHM J |               | 5REAE00172 |
| R26-1      | RESISTOR   | FXD ERJ-8GEYJ331V      | 1/8W,330 OHM  | 5REAG01732 |
| R26-2      | RESISTOR   | FXD ERJ-8GEYJ331V      | 1/8W,330 OHM  | 5REAG01732 |
| R27        | RESISTOR   | FXD ERJ-8GEYJ471V      | 1/8W 470 OHM  | 5REAG01734 |
| R28        | RESISTOR   | FXD ERJ-8GEYJ510V      | 1/8W 51 OHM   | 5REAG02025 |
| R29        | RESISTOR   | FXD ERJ-8GEYJ472V      |               | 5REAG01746 |
| R30        | RESISTOR   | FXD ERJ-8GEYJ470V      | 1/8W 47 OHM   | 5REAG01722 |
| R31        | RESISTOR   | FXD ERJ-8GEYJ471V      | 1/8W 470 OHM  | 5REAG01734 |

## PARTS LIST

|          |              | RF TUNE       |               | TITLE      | CFL-244 | SHEET NO |
|----------|--------------|---------------|---------------|------------|---------|----------|
|          |              |               |               |            |         | 9        |
| PARTS NO | PARTS NAME   | TYPE          | DESCRIPTION   | CODE       |         |          |
| R36      | RESISTOR FXD | ERJ-8GEYJ471V | 1/8W 470 OHM  | 5REAG01734 |         |          |
| R37      | RESISTOR FXD | ERJ-8GEYJ470V | 1/8W 47 OHM   | 5REAG01722 |         |          |
| R38      | RESISTOR FXD | ERJ-8GEYJ104V | 1/8W 100K OHM | 5REAG01762 |         |          |
| R39      | RESISTOR FXD | ERJ-8GEYJ104V | 1/8W 100K OHM | 5REAG01762 |         |          |
| R40      | RESISTOR FXD | ERJ-8GEYJ104V | 1/8W 100K OHM | 5REAG01762 |         |          |
| R41      | RESISTOR FXD | ERJ-8GEYJ101V | 1/8W 100 OHM  | 5REAG01726 |         |          |
| R42      | RESISTOR FXD | ERJ-8GEYJ102V | 1/8W 1K OHM   | 5REAG01738 |         |          |
| R43      | RESISTOR FXD | ERJ-8GEYJ470V | 1/8W 47 OHM   | 5REAG01722 |         |          |
| R44      | RESISTOR FXD | ERJ-8GEYJ104V | 1/8W 100K OHM | 5REAG01762 |         |          |
| R45      | RESISTOR FXD | ERJ-8GEYJ104V | 1/8W 100K OHM | 5REAG01762 |         |          |
| R46      | RESISTOR FXD | ERJ-8GEYJ104V | 1/8W 100K OHM | 5REAG01762 |         |          |
| R47      | RESISTOR FXD | ERJ-8GEYJ101V | 1/8W 100 OHM  | 5REAG01726 |         |          |
| R48      | RESISTOR FXD | ERJ-8GEYJ470V | 1/8W 47 OHM   | 5REAG01722 |         |          |
| R49      | RESISTOR FXD | ERJ-8GEYJ104V | 1/8W 100K OHM | 5REAG01762 |         |          |
| R50      | RESISTOR FXD | ERJ-8GEYJ104V | 1/8W 100K OHM | 5REAG01762 |         |          |
| R51      | RESISTOR FXD | ERJ-8GEYJ104V | 1/8W 100K OHM | 5REAG01762 |         |          |
| R52      | RESISTOR FXD | ERJ-8GEYJ101V | 1/8W 100 OHM  | 5REAG01726 |         |          |
| R53      | RESISTOR FXD | ERJ-8GEYJ470V | 1/8W 47 OHM   | 5REAG01722 |         |          |
| R54      | RESISTOR FXD | ERJ-8GEYJ104V | 1/8W 100K OHM | 5REAG01762 |         |          |
| R55      | RESISTOR FXD | ERJ-8GEYJ104V | 1/8W 100K OHM | 5REAG01762 |         |          |
| R56      | RESISTOR FXD | ERJ-8GEYJ104V | 1/8W 100K OHM | 5REAG01762 |         |          |
| R57      | RESISTOR FXD | ERJ-8GEYJ101V | 1/8W 100 OHM  | 5REAG01726 |         |          |
| R58      | RESISTOR FXD | ERJ-8GEYJ470V | 1/8W 47 OHM   | 5REAG01722 |         |          |
| R59      | RESISTOR FXD | ERJ-8GEYJ104V | 1/8W 100K OHM | 5REAG01762 |         |          |
| R60      | RESISTOR FXD | ERJ-8GEYJ104V | 1/8W 100K OHM | 5REAG01762 |         |          |
| R61      | RESISTOR FXD | ERJ-8GEYJ104V | 1/8W 100K OHM | 5REAG01762 |         |          |
| R62      | RESISTOR FXD | ERJ-8GEYJ101V | 1/8W 100 OHM  | 5REAG01726 |         |          |
| R63      | RESISTOR FXD | ERJ-8GEYJ470V | 1/8W 47 OHM   | 5REAG01722 |         |          |
| R64      | RESISTOR FXD | ERJ-8GEYJ470V | 1/8W 47 OHM   | 5REAG01722 |         |          |
| R65      | RESISTOR FXD | ERJ-8GEYK5R6V |               | 5REAG02207 |         |          |
| R66      | RESISTOR FXD | ERJ-8GEYJ221V | 1/8W 220 OHM  | 5REAG01730 |         |          |
| R67      | RESISTOR FXD | ERJ-8GEYK5R6V |               | 5REAG02207 |         |          |
| R68      | RESISTOR FXD | ERJ-8GEYJ470V | 1/8W 47 OHM   | 5REAG01722 |         |          |
| R69      | RESISTOR FXD | ERJ-8GEYJ101V | 1/8W 100 OHM  | 5REAG01726 |         |          |
| R76      | RESISTOR FXD | ERJ-8GEYJ471V | 1/8W 470 OHM  | 5REAG01734 |         |          |

## PARTS LIST

|          |              | RF TUNE       |               | TITLE      | CFL-244 | SHEET NO |
|----------|--------------|---------------|---------------|------------|---------|----------|
|          |              |               |               |            |         | 10       |
| PARTS NO | PARTS NAME   | TYPE          | DESCRIPTION   | CODE       |         |          |
| R77      | RESISTOR FXD | ERJ-8GEYJ471V | 1/8W 470 OHM  | 5REAG01734 |         |          |
| R78      | RESISTOR FXD | ERJ-8GEYJ221V | 1/8W 220 OHM  | 5REAG01730 |         |          |
| R79      | RESISTOR FXD | ERJ-8GEYJ470V | 1/8W 47 OHM   | 5REAG01722 |         |          |
| R80      | RESISTOR FXD | ERJ-8GEYJ102V | 1/8W 1K OHM   | 5REAG01738 |         |          |
| R81      | RESISTOR FXD | ERJ-8GEYJ102V | 1/8W 1K OHM   | 5REAG01738 |         |          |
| R82      | RESISTOR FXD | ERJ-8GEYJ470V | 1/8W 47 OHM   | 5REAG01722 |         |          |
| R83      | RESISTOR FXD | ERJ-8GEYJ221V | 1/8W 220 OHM  | 5REAG01730 |         |          |
| R84      | RESISTOR FXD | ERJ-8GEYJ470V | 1/8W 47 OHM   | 5REAG01722 |         |          |
| R85      | RESISTOR FXD | ERJ-8GEYJ102V | 1/8W 1K OHM   | 5REAG01738 |         |          |
| R86      | RESISTOR FXD | ERJ-8GEYJ101V | 1/8W 100 OHM  | 5REAG01726 |         |          |
| R87      | RESISTOR FXD | ERJ-8GEYJ332V | 1/8W 3.3K OHM | 5REAG01744 |         |          |
| R88      | RESISTOR FXD | ERJ-8GEYJ682V |               | 5REAG01748 |         |          |
| R89      | RESISTOR FXD | ERJ-8GEYJ101V | 1/8W 100 OHM  | 5REAG01726 |         |          |
| R90      | RESISTOR FXD | ERJ-8GEYK4R7V | 1/8W 4.7 OHM  | 5REAG02256 |         |          |
| R91      | RESISTOR FXD | ERJ-8GEYJ101V | 1/8W 100 OHM  | 5REAG01726 |         |          |
| R92      | RESISTOR FXD | ERJ-8GEYJ471V | 1/8W 470 OHM  | 5REAG01734 |         |          |
| R93      | RESISTOR FXD | ERJ-8GEYJ101V | 1/8W 100 OHM  | 5REAG01726 |         |          |
| R94      | RESISTOR FXD | ERJ-8GEYJ223V | 1/8W 22K OHM  | 5REAG01754 |         |          |
| R95      | RESISTOR FXD | ERJ-8GEYJ470V | 1/8W 47 OHM   | 5REAG01722 |         |          |
| R96      | RESISTOR FXD | ERJ-8GEYJ222V | 1/8W 2.2K OHM | 5REAG01742 |         |          |
| R97      | RESISTOR FXD | ERJ-8GEYJ101V | 1/8W 100 OHM  | 5REAG01726 |         |          |
| R98      | RESISTOR FXD | ERJ-8GEYJ152V | 1/8W 1.5K OHM | 5REAG01740 |         |          |
| R99      | RESISTOR FXD | ERJ-8GEYJ821V | 1/8W 820 OHM  | 5REAG01737 |         |          |
| R100     | RESISTOR FXD | ERJ-8GEYJ331V | 1/8W 330 OHM  | 5REAG01732 |         |          |
| R101     | RESISTOR FXD | ERJ-8GEYJ471V | 1/8W 470 OHM  | 5REAG01734 |         |          |
| R102     | RESISTOR FXD | ERJ-8GEYJ102V | 1/8W 1K OHM   | 5REAG01738 |         |          |
| R103     | RESISTOR FXD | ERJ-8GEYJ103V | 1/8W 10K OHM  | 5REAG01750 |         |          |
| R104     | RESISTOR FXD | ERJ-8GEYJ222V | 1/8W 2.2K OHM | 5REAG01742 |         |          |
| R106     | RESISTOR FXD | ERJ-8GEYJ103V | 1/8W 10K OHM  | 5REAG01750 |         |          |
| R107     | RESISTOR FXD | ERJ-8GEYJ472V |               | 5REAG01746 |         |          |
| R108     | RESISTOR FXD | ERJ-8GEYJ472V |               | 5REAG01746 |         |          |
| R109     | RESISTOR FXD | ERJ-8GEYJ472V |               | 5REAG01746 |         |          |
| R110     | RESISTOR FXD | ERJ-8GEYJ472V |               | 5REAG01746 |         |          |
| R111     | RESISTOR FXD | ERJ-8GEYJ103V | 1/8W 10K OHM  | 5REAG01750 |         |          |
| R112     | RESISTOR FXD | ERJ-8GEYJ103V | 1/8W 10K OHM  | 5REAG01750 |         |          |

| PARTS LIST |              |               |               |            |           |
|------------|--------------|---------------|---------------|------------|-----------|
|            |              | RF TUNE       |               | TITLE      | SHEET NO. |
|            |              |               |               | CFL-244    | 11        |
| PARTS NO   | PARTS NAME   | TYPE          | DESCRIPTION   | CODE       |           |
| R113       | RESISTOR FXD | ERJ-8GEYJ103V | 1/8W 10K OHM  | 5REAG01750 |           |
| R114       | RESISTOR FXD | ERJ-8GEYJ103V | 1/8W 10K OHM  | 5REAG01750 |           |
| R115       | RESISTOR FXD | ERJ-8GEYJ150V | 1/8W,15 OHM   | 5REAG01716 |           |
| R116       | RESISTOR FXD | ERJ-8GEYJ150V | 1/8W,15 OHM   | 5REAG01716 |           |
| R117       | RESISTOR FXD | ERJ-8GEYJ820V | 1/8W 82 OHM   | 5REAG01725 |           |
| R118       | RESISTOR FXD | ERJ-8GEYJ102V | 1/8W 1K OHM   | 5REAG01738 |           |
| R119       | RESISTOR FXD | ERJ-8GEYJ220V |               | 5REAG01718 |           |
| R120       | RESISTOR FXD | ERJ-8GEYJ330V | 1/8W 33 OHM   | 5REAG01720 |           |
| R121       | RESISTOR FXD | ERJ-8GEYJ562V | 1/8W 5.6K OHM | 5REAG01747 |           |
| R122       | RESISTOR FXD | ERJ-8GEYJ183V | 1/8W,18K OHM  | 5REAG01753 |           |
| RJ1        | RESISTOR FXD | ERJ-8GEYOR00V | 0 OHM         | 5REAG01775 |           |
| RJ2        | RESISTOR FXD | ERJ-8GEYOR00V | 0 OHM         | 5REAG01775 |           |
| RJ3        | RESISTOR FXD | ERJ-8GEYOR00V | 0 OHM         | 5REAG01775 |           |
| RJ4        | RESISTOR FXD | ERJ-8GEYOR00V | 0 OHM         | 5REAG01775 |           |
| RJ5        | RESISTOR FXD | ERJ-8GEYOR00V | 0 OHM         | 5REAG01775 |           |
| RJ6        | RESISTOR FXD | ERJ-8GEYOR00V | 0 OHM         | 5REAG01775 |           |
| RJ7        | RESISTOR FXD | ERJ-8GEYOR00V | 0 OHM         | 5REAG01775 |           |
| RJ8        | RESISTOR FXD | ERJ-8GEYOR00V | 0 OHM         | 5REAG01775 |           |
| RJ9        | RESISTOR FXD | ERJ-8GEYOR00V | 0 OHM         | 5REAG01775 |           |
| RJ10       | RESISTOR FXD | ERJ-8GEYOR00V | 0 OHM         | 5REAG01775 |           |
| RJ11       | RESISTOR FXD | ERJ-8GEYOR00V | 0 OHM         | 5REAG01775 |           |
| RJ12       | RESISTOR FXD | ERJ-8GEYOR00V | 0 OHM         | 5REAG01775 |           |
| RJ13       | RESISTOR FXD | ERJ-8GEYOR00V | 0 OHM         | 5REAG01775 |           |
| RJ14       | RESISTOR FXD | ERJ-8GEYOR00V | 0 OHM         | 5REAG01775 |           |
| RJ15       | RESISTOR FXD | ERJ-8GEYOR00V | 0 OHM         | 5REAG01775 |           |
| RJ16       | RESISTOR FXD | ERJ-8GEYOR00V | 0 OHM         | 5REAG01775 |           |
| RJ17       | RESISTOR FXD | ERJ-8GEYOR00V | 0 OHM         | 5REAG01775 |           |
| RJ18       | RESISTOR FXD | ERJ-8GEYOR00V | 0 OHM         | 5REAG01775 |           |
| RJ19       | RESISTOR FXD | ERJ-8GEYOR00V | 0 OHM         | 5REAG01775 |           |
| RJ20       | RESISTOR FXD | ERJ-8GEYOR00V | 0 OHM         | 5REAG01775 |           |
| RJ21       | RESISTOR FXD | ERJ-8GEYOR00V | 0 OHM         | 5REAG01775 |           |
| RJ22       | RESISTOR FXD | ERJ-8GEYOR00V | 0 OHM         | 5REAG01775 |           |
| RJ23       | RESISTOR FXD | ERJ-8GEYOR00V | 0 OHM         | 5REAG01775 |           |
| RJ24       | RESISTOR FXD | ERJ-8GEYOR00V | 0 OHM         | 5REAG01775 |           |
| RJ25       | RESISTOR FXD | ERJ-8GEYOR00V | 0 OHM         | 5REAG01775 |           |

| PARTS LIST |              |               |             |            |           |
|------------|--------------|---------------|-------------|------------|-----------|
|            |              | RF TUNE       |             | TITLE      | SHEET NO. |
|            |              |               |             | CFL-244    | 12        |
| PARTS NO   | PARTS NAME   | TYPE          | DESCRIPTION | CODE       |           |
| RJ26       | RESISTOR FXD | ERJ-8GEYOR00V | 0 OHM       | 5REAG01775 |           |
| RJ27       | RESISTOR FXD | ERJ-8GEYOR00V | 0 OHM       | 5REAG01775 |           |
| RJ28       | RESISTOR FXD | ERJ-8GEYOR00V | 0 OHM       | 5REAG01775 |           |
| RJ29       | RESISTOR FXD | ERJ-8GEYOR00V | 0 OHM       | 5REAG01775 |           |
| RJ30       | RESISTOR FXD | ERJ-8GEYOR00V | 0 OHM       | 5REAG01775 |           |
| RJ31       | RESISTOR FXD | ERJ-8GEYOR00V | 0 OHM       | 5REAG01775 |           |
| RJ32       | RESISTOR FXD | ERJ-8GEYOR00V | 0 OHM       | 5REAG01775 |           |
| RJ33       | RESISTOR FXD | ERJ-8GEYOR00V | 0 OHM       | 5REAG01775 |           |
| RJ34       | RESISTOR FXD | ERJ-8GEYOR00V | 0 OHM       | 5REAG01775 |           |
| RJ35       | RESISTOR FXD | ERJ-8GEYOR00V | 0 OHM       | 5REAG01775 |           |
| RJ36       | RESISTOR FXD | ERJ-8GEYOR00V | 0 OHM       | 5REAG01775 |           |
| RJ37       | RESISTOR FXD | ERJ-8GEYOR00V | 0 OHM       | 5REAG01775 |           |
| RJ38       | RESISTOR FXD | ERJ-8GEYOR00V | 0 OHM       | 5REAG01775 |           |
| RJ39       | RESISTOR FXD | ERJ-8GEYOR00V | 0 OHM       | 5REAG01775 |           |
| RJ40       | RESISTOR FXD | ERJ-8GEYOR00V | 0 OHM       | 5REAG01775 |           |
| RJ41       | RESISTOR FXD | ERJ-8GEYOR00V | 0 OHM       | 5REAG01775 |           |
| RJ42       | RESISTOR FXD | ERJ-8GEYOR00V | 0 OHM       | 5REAG01775 |           |
| RJ43       | RESISTOR FXD | ERJ-8GEYOR00V | 0 OHM       | 5REAG01775 |           |
| RJ44       | RESISTOR FXD | ERJ-8GEYOR00V | 0 OHM       | 5REAG01775 |           |
| RJ45       | RESISTOR FXD | ERJ-8GEYOR00V | 0 OHM       | 5REAG01775 |           |
| RJ46       | RESISTOR FXD | ERJ-8GEYOR00V | 0 OHM       | 5REAG01775 |           |
| RJ47       | RESISTOR FXD | ERJ-8GEYOR00V | 0 OHM       | 5REAG01775 |           |
| RV1        | RESISTOR VAR | EVN-D1AA00B23 |             | 5RVAB00323 |           |
| T1         | RF XFMR      | H-6LHJD00447  |             | 6LHJD00447 |           |
| T2         | RF XFMR      | H-6LHJD00447  |             | 6LHJD00447 |           |
| T3         | RF XFMR      | H-6LHJD00441  |             | 6LHJD00441 |           |
| T4         | RF XFMR      | H-6LHJD00441  |             | 6LHJD00441 |           |
| T5         | RF XFMR      | H-6LHJD00442  |             | 6LHJD00442 |           |
| T6         | RF XFMR      | H-6LHJD00442  |             | 6LHJD00442 |           |
| T7         | RF XFMR      | H-6LHJD00385  |             | 6LHJD00385 |           |
| T8         | RF XFMR      | H-6LHJD00385  |             | 6LHJD00385 |           |
| T9         | RF XFMR      | H-6LHJD00384  |             | 6LHJD00384 |           |
| T10        | RF XFMR      | H-6LHJD00384  |             | 6LHJD00384 |           |
| T11        | RF XFMR      | H-6LHJD00383  |             | 6LHJD00383 |           |
| T12        | RF XFMR      | H-6LHJD00383  |             | 6LHJD00383 |           |

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 CONTACT:  
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 www.mauritron.co.uk  
 TEL: 01844 - 351694  
 FAX: 01844 - 352554

| PARTS LIST |               |                 |             |            |
|------------|---------------|-----------------|-------------|------------|
| RF TUNE    |               | TITLE           |             | SHEET NO.  |
|            |               | CFL-244         |             | 13         |
| PARTS NO   | PARTS NAME    | TYPE            | DESCRIPTION | CODE       |
| T13        | RF XFMR       | H-6LHJD00410    |             | 6LHJD00410 |
| T14        | RF XFMR       | H-6LHJD00440    |             | 6LHJD00440 |
| TP1        | TEST TERMINAL | PCN6-PEA        |             | 5JDAA00364 |
| TP2        | TEST TERMINAL | PCN6-PEA        |             | 5JDAA00364 |
| TP3        | TEST TERMINAL | PCN6-PEA        |             | 5JDAA00364 |
| TP4        | TEST TERMINAL | PCN6-PEA        |             | 5JDAA00364 |
| TP5        | TEST TERMINAL | PCN6-PEA        |             | 5JDAA00364 |
| TP6        | TEST TERMINAL | PCN6-PEA        |             | 5JDAA00364 |
| TP7        | TEST TERMINAL | PCN6-PEA        |             | 5JDAA00364 |
| TP8        | TEST TERMINAL | PCN6-PEA        |             | 5JDAA00364 |
| TP9        | TEST TERMINAL | PCN6-PEA        |             | 5JDAA00364 |
| TP10       | TEST TERMINAL | PCN6-PEA        |             | 5JDAA00364 |
| TP11       | TEST TERMINAL | PCN6-PEA        |             | 5JDAA00364 |
| TP12       | TEST TERMINAL | PCN6-PEA        |             | 5JDAA00364 |
| TP13       | TEST TERMINAL | PCN6-PEA        |             | 5JDAA00364 |
| TR1        | TRANSISTOR    | 2SC2714Y TE85L  |             | 5TCAF00436 |
| TR2        | TRANSISTOR    | 2SC2714Y TE85L  |             | 5TCAF00436 |
| TR3        | TRANSISTOR    | 2SC2714Y TE85L  |             | 5TCAF00436 |
| TR4        | TRANSISTOR    | 2SC2714Y TE85L  |             | 5TCAF00436 |
| TR5        | TRANSISTOR    | 2SC1815-Y       |             | 5TCAF00219 |
| TR6        | TRANSISTOR    | 2SC3419-Y       |             | 5TCAF00536 |
| TR7        | TRANSISTOR    | 2SA1162-Y TE85L |             | 5TAA600182 |
| TR8        | TRANSISTOR    | 2SC3398-TB      |             | 5TCAZ00011 |
| TR9        | TRANSISTOR    | 2SK125          |             | 5TKAH00002 |
| TR10       | TRANSISTOR    | 2SK125          |             | 5TKAH00002 |
| TR11       | TRANSISTOR    | 2SK125          |             | 5TKAH00002 |
| TR12       | TRANSISTOR    | 2SK125          |             | 5TKAH00002 |
| TR13       | TRANSISTOR    | 2SC3355         |             | 5TCAB01223 |
| TR14       | TRANSISTOR    | 2SC3356-T1B     |             | 5TCAB01142 |
| TR15       | TRANSISTOR    | 2SA1162-Y TE85L |             | 5TAA600182 |
| TR16       | TRANSISTOR    | 2SC3398-TB      |             | 5TCAZ00011 |
| TR18       | TRANSISTOR    | 2SC2712Y TE85L  |             | 5TAA600186 |
| TR19       | TRANSISTOR    | 2SC2712Y TE85L  |             | 5TAA600186 |

## FOR SERVICE MANUALS

## CONTACT:

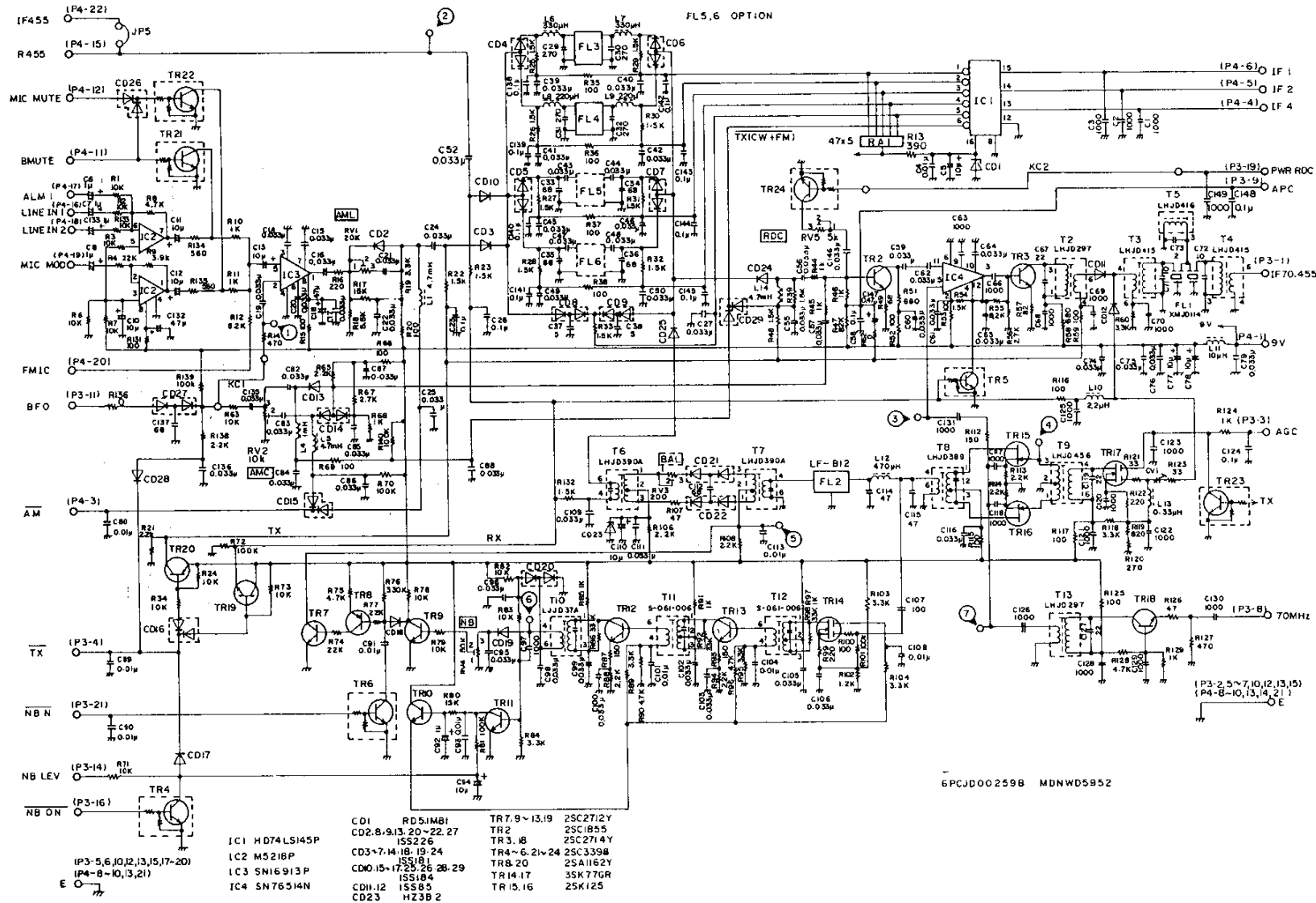
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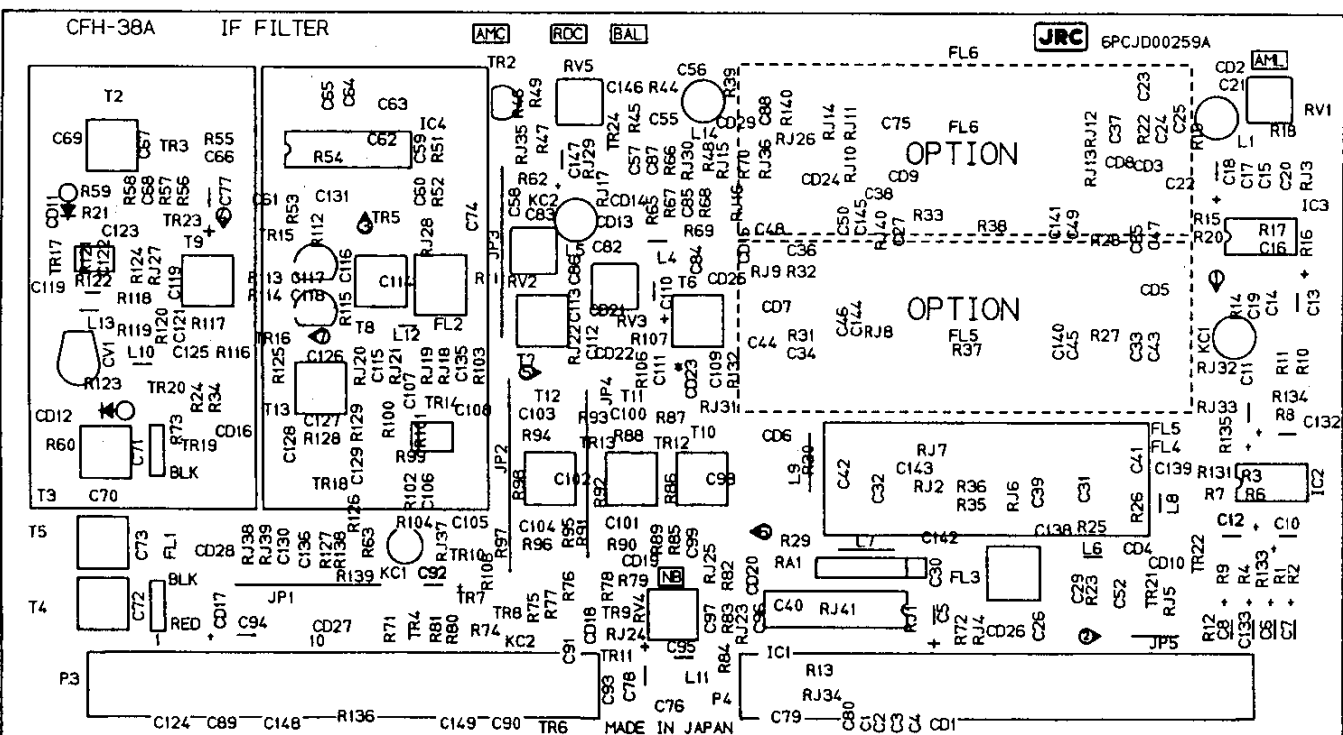
FAX: 01844 - 352554

Figure 6.2.1 IF FILTER UNIT CFH-38A Circuit Diagram



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**Figure 6.2.2 IF FILTER UNIT CFH-38A Component Layout**

| PARTS LIST |                |                     |             |            |  |
|------------|----------------|---------------------|-------------|------------|--|
|            |                | TITLE               |             | SHEET NO.  |  |
|            |                | IF FILTER           |             | CFH-38A    |  |
|            |                |                     |             | 1          |  |
| PARTS NO   | PARTS NAME     | TYPE                | DESCRIPTION | CODE       |  |
| C1         | CAP,FXD CER    | C3216SL1H102J-E-TP  | 1000PF      | 5CAAD00782 |  |
| C2         | CAP,FXD CER    | C3216SL1H102J-E-TP  | 1000PF      | 5CAAD00782 |  |
| C3         | CAP,FXD CER    | C3216SL1H102J-E-TP  | 1000PF      | 5CAAD00782 |  |
| C4         | CAP,FXD CER    | C3216JB1H103K-E-TP  | 0.01UF      | 5CAAD00789 |  |
| C5         | CAP,FXD ELCTLT | ECE-A1EU100B        |             | 5CEAA01864 |  |
| C6         | CAP,FXD TANTAL | 202L3502 105KB      | 35V 1UF     | 5CSAC00982 |  |
| C7         | CAP,FXD TANTAL | 202L3502 105KB      | 35V 1UF     | 5CSAC00982 |  |
| C8         | CAP,FXD TANTAL | 202L3502 105KB      | 35V 1UF     | 5CSAC00982 |  |
| C10        | CAP,FXD ELCTLT | ECE-A1EU100B        |             | 5CEAA01864 |  |
| C11        | CAP,FXD ELCTLT | ECE-A1EU100B        |             | 5CEAA01864 |  |
| C12        | CAP,FXD ELCTLT | ECE-A1EU100B        |             | 5CEAA01864 |  |
| C13        | CAP,FXD ELCTLT | ECE-A1EU100B        |             | 5CEAA01864 |  |
| C14        | CAP,FXD CER    | C3216JB1E333K-E-TP  |             | 5CAAD01235 |  |
| C15        | CAP,FXD CER    | C3216JB1E333K-E-TP  |             | 5CAAD01235 |  |
| C16        | CAP,FXD CER    | C3216JB1E333K-E-TP  |             | 5CAAD01235 |  |
| C17        | CAP,FXD CER    | C3216JB1E333K-E-TP  |             | 5CAAD01235 |  |
| C18        | CAP,FXD ELCTLT | ECE-A1EU470B        | 25V 47UF    | 5CEAA01816 |  |
| C19        | CAP,FXD CER    | C3216JB1E333K-E-TP  |             | 5CAAD01235 |  |
| C20        | CAP,FXD CER    | C3216JB1E333K-E-TP  |             | 5CAAD01235 |  |
| C21        | CAP,FXD CER    | C3216JB1E333K-E-TP  |             | 5CAAD01235 |  |
| C22        | CAP,FXD CER    | C3216JB1E333K-E-TP  |             | 5CAAD01235 |  |
| C23        | CAP,FXD CER    | C3216X7R1E104K-E-TP | 0.1UF       | 5CAAD01237 |  |
| C24        | CAP,FXD CER    | C3216JB1E333K-E-TP  |             | 5CAAD01235 |  |
| C25        | CAP,FXD CER    | C3216JB1E333K-E-TP  |             | 5CAAD01235 |  |
| C26        | CAP,FXD CER    | C3216X7R1E104K-E-TP | 0.1UF       | 5CAAD01237 |  |
| C27        | CAP,FXD CER    | C3216JB1E333K-E-TP  |             | 5CAAD01235 |  |
| C29        | CAP,FXD CER    | C3216CH1H271J-E-TP  | 50V 270PF   | 5CAAD00883 |  |
| C30        | CAP,FXD CER    | C3216CH1H271J-E-TP  | 50V 270PF   | 5CAAD00883 |  |
| C31        | CAP,FXD CER    | C3216CH1H271J-E-TP  | 50V 270PF   | 5CAAD00883 |  |
| C32        | CAP,FXD CER    | C3216CH1H271J-E-TP  | 50V 270PF   | 5CAAD00883 |  |
| C33        | CAP,FXD CER    | C3216CH1H680J-E-TP  | 68PF        | 5CAAD00929 |  |
| C34        | CAP,FXD CER    | C3216CH1H680J-E-TP  | 68PF        | 5CAAD00929 |  |
| C35        | CAP,FXD CER    | C3216CH1H680J-E-TP  | 68PF        | 5CAAD00929 |  |
| C36        | CAP,FXD CER    | C3216CH1H680J-E-TP  | 68PF        | 5CAAD00929 |  |
| C37        | CAP,FXD CER    | C3216CH1H050C-E-TP  | 5PF         | 5CAAD00800 |  |

| PARTS LIST |             |                     |             |            |  |
|------------|-------------|---------------------|-------------|------------|--|
|            |             | TITLE               |             | SHEET NO.  |  |
|            |             | IF FILTER           |             | CFH-38A    |  |
|            |             |                     |             | 2          |  |
| PARTS NO   | PARTS NAME  | TYPE                | DESCRIPTION | CODE       |  |
| C38        | CAP,FXD CER | C3216CH1H050C-E-TP  | 5PF         | 5CAAD00800 |  |
| C39        | CAP,FXD CER | C3216JB1E333K-E-TP  |             | 5CAAD01235 |  |
| C40        | CAP,FXD CER | C3216JB1E333K-E-TP  |             | 5CAAD01235 |  |
| C41        | CAP,FXD CER | C3216JB1E333K-E-TP  |             | 5CAAD01235 |  |
| C42        | CAP,FXD CER | C3216JB1E333K-E-TP  |             | 5CAAD01235 |  |
| C43        | CAP,FXD CER | C3216JB1E333K-E-TP  |             | 5CAAD01235 |  |
| C44        | CAP,FXD CER | C3216JB1E333K-E-TP  |             | 5CAAD01235 |  |
| C45        | CAP,FXD CER | C3216JB1E333K-E-TP  |             | 5CAAD01235 |  |
| C46        | CAP,FXD CER | C3216JB1E333K-E-TP  |             | 5CAAD01235 |  |
| C47        | CAP,FXD CER | C3216JB1E333K-E-TP  |             | 5CAAD01235 |  |
| C48        | CAP,FXD CER | C3216JB1E333K-E-TP  |             | 5CAAD01235 |  |
| C49        | CAP,FXD CER | C3216JB1E333K-E-TP  |             | 5CAAD01235 |  |
| C50        | CAP,FXD CER | C3216JB1E333K-E-TP  |             | 5CAAD01235 |  |
| C52        | CAP,FXD CER | C3216JB1E333K-E-TP  |             | 5CAAD01235 |  |
| C55        | CAP,FXD CER | C3216JB1E333K-E-TP  |             | 5CAAD01235 |  |
| C56        | CAP,FXD CER | C3216JB1E333K-E-TP  |             | 5CAAD01235 |  |
| C57        | CAP,FXD CER | C3216JB1E333K-E-TP  |             | 5CAAD01235 |  |
| C58        | CAP,FXD CER | C3216X7R1E104K-E-TP | 0.1UF       | 5CAAD01237 |  |
| C59        | CAP,FXD CER | C3216JB1E333K-E-TP  |             | 5CAAD01235 |  |
| C60        | CAP,FXD CER | C3216JB1E333K-E-TP  |             | 5CAAD01235 |  |
| C61        | CAP,FXD CER | C3216JB1E333K-E-TP  |             | 5CAAD01235 |  |
| C62        | CAP,FXD CER | C3216JB1E333K-E-TP  |             | 5CAAD01235 |  |
| C63        | CAP,FXD CER | C3216SL1H102J-E-TP  | 1000PF      | 5CAAD00782 |  |
| C64        | CAP,FXD CER | C3216JB1E333K-E-TP  |             | 5CAAD01235 |  |
| C65        | CAP,FXD CER | C3216JB1E333K-E-TP  |             | 5CAAD01235 |  |
| C66        | CAP,FXD CER | C3216SL1H102J-E-TP  | 1000PF      | 5CAAD00782 |  |
| C67        | CAP,FXD CER | C3216CH1H220J-E-TP  | 22PF        | 5CAAD00869 |  |
| C68        | CAP,FXD CER | C3216SL1H102J-E-TP  | 1000PF      | 5CAAD00782 |  |
| C69        | CAP,FXD CER | C3216SL1H102J-E-TP  | 1000PF      | 5CAAD00782 |  |
| C70        | CAP,FXD CER | C3216SL1H102J-E-TP  | 1000PF      | 5CAAD00782 |  |
| C71        | CAP,FXD CER | C3216CH1H100D-E-TP  | 10PF        | 5CAAD00785 |  |
| C72        | CAP,FXD CER | C3216CH1H100D-E-TP  | 10PF        | 5CAAD00785 |  |
| C73        | CAP,FXD CER | C3216CH1H020C-E-TP  | 2PF         | 5CAAD00798 |  |
| C74        | CAP,FXD CER | C3216JB1E333K-E-TP  |             | 5CAAD01235 |  |
| C75        | CAP,FXD CER | C3216JB1E333K-E-TP  |             | 5CAAD01235 |  |

| PARTS LIST |                |                    |             |            |  |
|------------|----------------|--------------------|-------------|------------|--|
|            |                | TITLE              |             | SHEET NO.  |  |
|            |                | IF FILTER          |             | CFH-38A    |  |
|            |                |                    |             | 3          |  |
| PARTS NO   | PARTS NAME     | TYPE               | DESCRIPTION | CODE       |  |
| C76        | CAP,FXD CER    | C3216JB1E333K-E-TP |             | SCAAD01235 |  |
| C77        | CAP,FXD ELCTLT | ECE-A1EU100B       |             | SCEAA01864 |  |
| C78        | CAP,FXD ELCTLT | ECE-A1EU100B       |             | SCEAA01864 |  |
| C79        | CAP,FXD CER    | C3216JB1E333K-E-TP |             | SCAAD01235 |  |
| C80        | CAP,FXD CER    | C3216B1H103K-E-TP  | 0.01U       | SCAAD01597 |  |
| C82        | CAP,FXD CER    | C3216JB1E333K-E-TP |             | SCAAD01235 |  |
| C83        | CAP,FXD CER    | C3216JB1E333K-E-TP |             | SCAAD01235 |  |
| C84        | CAP,FXD CER    | C3216JB1E333K-E-TP |             | SCAAD01235 |  |
| C85        | CAP,FXD CER    | C3216JB1E333K-E-TP |             | SCAAD01235 |  |
| C86        | CAP,FXD CER    | C3216JB1E333K-E-TP |             | SCAAD01235 |  |
| C87        | CAP,FXD CER    | C3216JB1E333K-E-TP |             | SCAAD01235 |  |
| C88        | CAP,FXD CER    | C3216JB1E333K-E-TP |             | SCAAD01235 |  |
| C89        | CAP,FXD CER    | C3216B1H103K-E-TP  | 0.01U       | SCAAD01597 |  |
| C90        | CAP,FXD CER    | C3216B1H103K-E-TP  | 0.01U       | SCAAD01597 |  |
| C91        | CAP,FXD CER    | C3216B1H103K-E-TP  | 0.01U       | SCAAD01597 |  |
| C92        | CAP,FXD TANTAL | 202L3502 105KB     | 35V 1UF     | SCSAC00982 |  |
| C93        | CAP,FXD CER    | C3216B1H103K-E-TP  | 0.01U       | SCAAD01597 |  |
| C94        | CAP,FXD ELCTLT | ECE-A1EU100B       |             | SCEAA01864 |  |
| C95        | CAP,FXD CER    | C3216JB1E333K-E-TP |             | SCAAD01235 |  |
| C96        | CAP,FXD CER    | C3216JB1E333K-E-TP |             | SCAAD01235 |  |
| C97        | CAP,FXD CER    | C3216SL1H102J-E-TP | 1000PF      | SCAAD00782 |  |
| C98        | CAP,FXD CER    | C3216JB1E333K-E-TP |             | SCAAD01235 |  |
| C99        | CAP,FXD CER    | C3216JB1E333K-E-TP |             | SCAAD01235 |  |
| C100       | CAP,FXD CER    | C3216JB1E333K-E-TP |             | SCAAD01235 |  |
| C101       | CAP,FXD CER    | C3216B1H103K-E-TP  | 0.01U       | SCAAD01597 |  |
| C102       | CAP,FXD CER    | C3216JB1E333K-E-TP |             | SCAAD01235 |  |
| C103       | CAP,FXD CER    | C3216JB1E333K-E-TP |             | SCAAD01235 |  |
| C104       | CAP,FXD CER    | C3216B1H103K-E-TP  | 0.01U       | SCAAD01597 |  |
| C105       | CAP,FXD CER    | C3216JB1E333K-E-TP |             | SCAAD01235 |  |
| C106       | CAP,FXD CER    | C3216JB1E333K-E-TP |             | SCAAD01235 |  |
| C107       | CAP,FXD CER    | C3216CH1H101J-E-TP | 100PF       | SCAAD00780 |  |
| C108       | CAP,FXD CER    | C3216B1H103K-E-TP  | 0.01U       | SCAAD01597 |  |
| C109       | CAP,FXD CER    | C3216JB1E333K-E-TP |             | SCAAD01235 |  |
| C110       | CAP,FXD ELCTLT | ECE-A1EU100B       |             | SCEAA01864 |  |
| C111       | CAP,FXD CER    | C3216JB1E333K-E-TP |             | SCAAD01235 |  |

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|            |                | TITLE               |             | SHEET NO.  |  |
|            |                | IF FILTER           |             | CFH-38A    |  |
|            |                |                     |             | 4          |  |
| PARTS NO   | PARTS NAME     | TYPE                | DESCRIPTION | CODE       |  |
| C112       | CAP,FXD CER    | C3216CH1H680J-E-TP  | 68PF        | SCAAD00929 |  |
| C113       | CAP,FXD CER    | C3216B1H103K-E-TP   | 0.01U       | SCAAD01597 |  |
| C114       | CAP,FXD CER    | C3216CH1H470J-E-TP  | 47PF        | SCAAD00864 |  |
| C115       | CAP,FXD CER    | C3216CH1H470J-E-TP  | 47PF        | SCAAD00864 |  |
| C116       | CAP,FXD CER    | C3216JB1E333K-E-TP  |             | SCAAD01235 |  |
| C117       | CAP,FXD CER    | C3216SL1H102J-E-TP  | 1000PF      | SCAAD00782 |  |
| C118       | CAP,FXD CER    | C3216SL1H102J-E-TP  | 1000PF      | SCAAD00782 |  |
| C119       | CAP,FXD CER    | C3216CH1H220J-E-TP  | 22PF        | SCAAD00869 |  |
| C120       | CAP,FXD CER    | C3216SL1H102J-E-TP  | 1000PF      | SCAAD00782 |  |
| C121       | CAP,FXD CER    | C3216SL1H102J-E-TP  | 1000PF      | SCAAD00782 |  |
| C122       | CAP,FXD CER    | C3216SL1H102J-E-TP  | 1000PF      | SCAAD00782 |  |
| C123       | CAP,FXD CER    | C3216SL1H102J-E-TP  | 1000PF      | SCAAD00782 |  |
| C124       | CAP,FXD CER    | C3216F1H104Z-E-TP   | 0.1UF       | SCAAD01056 |  |
| C125       | CAP,FXD CER    | C3216SL1H102J-E-TP  | 1000PF      | SCAAD00782 |  |
| C126       | CAP,FXD CER    | C3216SL1H102J-E-TP  | 1000PF      | SCAAD00782 |  |
| C127       | CAP,FXD CER    | C3216CH1H220J-E-TP  | 22PF        | SCAAD00869 |  |
| C128       | CAP,FXD CER    | C3216SL1H102J-E-TP  | 1000PF      | SCAAD00782 |  |
| C129       | CAP,FXD CER    | C3216SL1H102J-E-TP  | 1000PF      | SCAAD00782 |  |
| C130       | CAP,FXD CER    | C3216SL1H102J-E-TP  | 1000PF      | SCAAD00782 |  |
| C131       | CAP,FXD CER    | C3216SL1H102J-E-TP  | 1000PF      | SCAAD00782 |  |
| C132       | CAP,FXD ELCTLT | ECE-A1EU470B        | 25V 47UF    | SCEAA01816 |  |
| C133       | CAP,FXD TANTAL | 202L3502 105KB      | 35V 1UF     | SCSAC00982 |  |
| C135       | CAP,FXD CER    | C3216JB1E333K-E-TP  |             | SCAAD01235 |  |
| C136       | CAP,FXD CER    | C3216JB1E333K-E-TP  |             | SCAAD01235 |  |
| C137       | CAP,FXD CER    | C3216CH1H680J-E-TP  | 68PF        | SCAAD00929 |  |
| C138       | CAP,FXD CER    | C3216X7R1E104K-E-TP | 0.1UF       | SCAAD01237 |  |
| C139       | CAP,FXD CER    | C3216X7R1E104K-E-TP | 0.1UF       | SCAAD01237 |  |
| C140       | CAP,FXD CER    | C3216X7R1E104K-E-TP | 0.1UF       | SCAAD01237 |  |
| C141       | CAP,FXD CER    | C3216X7R1E104K-E-TP | 0.1UF       | SCAAD01237 |  |
| C142       | CAP,FXD CER    | C3216X7R1E104K-E-TP | 0.1UF       | SCAAD01237 |  |
| C143       | CAP,FXD CER    | C3216X7R1E104K-E-TP | 0.1UF       | SCAAD01237 |  |
| C144       | CAP,FXD CER    | C3216X7R1E104K-E-TP | 0.1UF       | SCAAD01237 |  |
| C145       | CAP,FXD CER    | C3216X7R1E104K-E-TP | 0.1UF       | SCAAD01237 |  |
| C146       | CAP,FXD CER    | C3216JB1E333K-E-TP  |             | SCAAD01235 |  |
| C147       | CAP,FXD TANTAL | 202L3502 474KB      |             | SCSAC01065 |  |

| PARTS LIST |               |      |                     |           |            |
|------------|---------------|------|---------------------|-----------|------------|
| IF FILTER  |               |      |                     | TITLE     | SHEET NO.  |
|            |               |      |                     | CFH-38A   | 5          |
| PARTS NO   | PARTS NAME    | TYPE | DESCRIPTION         | CODE      |            |
| C148       | CAP.FXD       | CER  | C3216X7R1E104K-E-TP | 0.1UF     | 5CAAD01237 |
| C149       | CAP.FXD       | CER  | C3216SL1H102J-E-TP  | 1000PF    | 5CAAD00782 |
| CD1        | DIODE         |      | ROS.1MB1-T1         |           | 5TXAAD0515 |
| CD2        | DIODE         |      | 1SS226 TE85L        |           | 5TXAD00320 |
| CD3        | DIODE         |      | 1SS181 TE85L        |           | 5TXAD00356 |
| CD4        | DIODE         |      | 1SS181 TE85L        |           | 5TXAD00356 |
| CD5        | DIODE         |      | 1SS181 TE85L        |           | 5TXAD00356 |
| CD6        | DIODE         |      | 1SS181 TE85L        |           | 5TXAD00356 |
| CD7        | DIODE         |      | 1SS181 TE85L        |           | 5TXAD00356 |
| CD8        | DIODE         |      | 1SS226 TE85L        |           | 5TXAD00320 |
| CD9        | DIODE         |      | 1SS226 TE85L        |           | 5TXAD00320 |
| CD10       | DIODE         |      | 1SS184 TE85L        |           | 5TXAD00290 |
| CD11       | DIODE         |      | 1SS85RE             |           | 5TXAE00590 |
| CD12       | DIODE         |      | 1SS85RE             |           | 5TXAE00590 |
| CD13       | DIODE         |      | 1SS226 TE85L        |           | 5TXAD00320 |
| CD14       | DIODE         |      | 1SS181 TE85L        |           | 5TXAD00356 |
| CD15       | DIODE         |      | 1SS184 TE85L        |           | 5TXAD00290 |
| CD16       | DIODE         |      | 1SS184 TE85L        |           | 5TXAD00290 |
| CD17       | DIODE         |      | 1SS184 TE85L        |           | 5TXAD00290 |
| CD18       | DIODE         |      | 1SS181 TE85L        |           | 5TXAD00356 |
| CD19       | DIODE         |      | 1SS181 TE85L        |           | 5TXAD00356 |
| CD20       | DIODE         |      | 1SS226 TE85L        |           | 5TXAD00320 |
| CD21       | DIODE         |      | 1SS226 TE85L        |           | 5TXAD00320 |
| CD22       | DIODE         |      | 1SS226 TE85L        |           | 5TXAD00320 |
| CD23       | DIODE         |      | HZ3B2               | 3V        | 5TXAE00107 |
| CD24       | DIODE         |      | 1SS181 TE85L        |           | 5TXAD00356 |
| CD25       | DIODE         |      | 1SS184 TE85L        |           | 5TXAD00290 |
| CD26       | DIODE         |      | 1SS184 TE85L        |           | 5TXAD00290 |
| CD27       | DIODE         |      | 1SS226 TE85L        |           | 5TXAD00320 |
| CD28       | DIODE         |      | 1SS184 TE85L        |           | 5TXAD00290 |
| CD29       | DIODE         |      | 1SS184 TE85L        |           | 5TXAD00290 |
| CV1        | CAPACITOR VAR |      | TZ03T200FR          |           | 5CVAA00166 |
| FL1        | CRYSTAL       | CKT  | H-6XMJD00114        | 70.455MHZ | 6XMJD00114 |
| FL2        | COIL          |      | LF-B12              |           | 5LFAE00009 |
| FL3        | COIL          |      | LF-B6               |           | 5LFAE00015 |
| FL4        | FILTER        |      | MF-455-10G2         |           | 5NMAA00015 |

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| PARTS LIST |                 |      |                 |               |            |
|------------|-----------------|------|-----------------|---------------|------------|
| IF FILTER  |                 |      |                 | TITLE         | SHEET NO.  |
|            |                 |      |                 | CFH-38A       | 6          |
| PARTS NO   | PARTS NAME      | TYPE | DESCRIPTION     | CODE          |            |
| IC1        | IC              |      | HD74LS145P      |               | 5DDAF00704 |
| IC2        | IC              |      | M5218P          |               | 5DDAB00152 |
| IC3        | IC              |      | SN16913P        |               | 5DDAL00301 |
| IC4        | IC              |      | SN76514N        |               | 5DDAL00251 |
| JP1        | TIN COATED WIRE |      | TA-0.6P         |               | 2717100001 |
| JP2        | TIN COATED WIRE |      | TA-0.6P         |               | 2717100001 |
| JP3        | TIN COATED WIRE |      | TA-0.6P         |               | 2717100001 |
| JP4        | TIN COATED WIRE |      | TA-0.6P         |               | 2717100001 |
| JP5        | TIN COATED WIRE |      | TA-0.6P         |               | 2717100001 |
| KC1        | CABLE           |      | H-6ZCJD35004    |               | 6ZCJD35004 |
| KC2        | CABLE           |      | H-6ZCJD44008    |               | 6ZCJD44008 |
| L1         | COIL            |      | FL-7H472J       | 4.7MH         | 5LCAA00023 |
| L4         | COIL            |      | LAL03VB102K     | 1UH           | 5LCAA00318 |
| L5         | COIL            |      | FL-7H472J       | 4.7MH         | 5LCAA00023 |
| L6         | COIL            |      | LAL03VB331K     | 330UH         | 5LCAA00271 |
| L7         | COIL            |      | LAL03KH331K     | 330UH         | 5LCAA00250 |
| L8         | COIL            |      | LAL03VB221K     | 220UH         | 5LCAA00272 |
| L9         | COIL            |      | LAL03KH221K     |               | 5LCAA00441 |
| L10        | COIL            |      | LAL03VB2R2M     | 2.2UH         | 5LCAA00278 |
| L11        | COIL            |      | LAL03VB100K     | 10UH          | 5LCAA00273 |
| L12        | COIL            |      | LAL03VB471K     | 470UH         | 5LCAA00270 |
| L13        | COIL            |      | LAL03VBR33M     | 0.33UH        | 5LCAA00274 |
| L14        | COIL            |      | FL-7H472J       | 4.7MH         | 5LCAA00023 |
| P3         | CONNECTOR       |      | EC1C-22P-2.5DSA | 22P           | 5JWBS00070 |
| P4         | CONNECTOR       |      | EC1C-22P-2.5DSA | 22P           | 5JWBS00070 |
| PC1        | PCB             |      | H-6PCJD00259B   |               | 6PCJD00259 |
| R1         | RESISTOR        | FXD  | ERJ-8GEYJ103V   | 1/8W 10K OHM  | 5REAG01750 |
| R2         | RESISTOR        | FXD  | ERJ-8GEYJ103V   | 1/8W 10K OHM  | 5REAG01750 |
| R3         | RESISTOR        | FXD  | ERJ-8GEYJ103V   | 1/8W 10K OHM  | 5REAG01750 |
| R4         | RESISTOR        | FXD  | ERJ-8GEYJ223V   | 1/8W 22K OHM  | 5REAG01754 |
| R6         | RESISTOR        | FXD  | ERJ-8GEYJ103V   | 1/8W 10K OHM  | 5REAG01750 |
| R7         | RESISTOR        | FXD  | ERJ-8GEYJ103V   | 1/8W 10K OHM  | 5REAG01750 |
| R8         | RESISTOR        | FXD  | ERJ-8GEYJ472V   | 1/8W 4.7K OHM | 5REAG01746 |
| R9         | RESISTOR        | FXD  | ERJ-8GEYJ392V   | 1/8W 3.9K OHM | 5REAG01745 |
| R10        | RESISTOR        | FXD  | ERJ-8GEYJ102V   | 1/8W 1K OHM   | 5REAG01738 |

## PARTS LIST

|          |              | IF FILTER     |               | TITLE      | SHEET NO. |
|----------|--------------|---------------|---------------|------------|-----------|
|          |              |               |               | CFH-38A    | 7         |
| PARTS NO | PARTS NAME   | TYPE          | DESCRIPTION   | CODE       |           |
| R11      | RESISTOR FXD | ERJ-8GEYJ102V | 1/8W 1K OHM   | 5REAG01738 |           |
| R12      | RESISTOR FXD | ERJ-8GEYJ822V |               | 5REAG01749 |           |
| R13      | RESISTOR FXD | ERJ-8GEYJ391V | 1/8W 390 OHM  | 5REAG01733 |           |
| R14      | RESISTOR FXD | ERJ-8GEYJ471V | 1/8W 470 OHM  | 5REAG01734 |           |
| R15      | RESISTOR FXD | ERJ-8GEYJ101V | 1/8W 100 OHM  | 5REAG01726 |           |
| R16      | RESISTOR FXD | ERJ-8GEYJ221V | 1/8W 220 OHM  | 5REAG01730 |           |
| R17      | RESISTOR FXD | ERJ-8GEYJ153V | 1/8W 15K OHM  | 5REAG01752 |           |
| R18      | RESISTOR FXD | ERJ-8GEYJ562V | 1/8W 5.6K OHM | 5REAG01747 |           |
| R19      | RESISTOR FXD | ERJ-8GEYJ332V | 1/8W 3.3K OHM | 5REAG01744 |           |
| R20      | RESISTOR FXD | ERJ-8GEYJ101V | 1/8W 100 OHM  | 5REAG01726 |           |
| R21      | RESISTOR FXD | ERJ-8GEYJ222V | 1/8W 2.2K OHM | 5REAG01742 |           |
| R22      | RESISTOR FXD | ERJ-8GEYJ152V | 1/8W 1.5K OHM | 5REAG01740 |           |
| R23      | RESISTOR FXD | ERJ-8GEYJ152V | 1/8W 1.5K OHM | 5REAG01740 |           |
| R24      | RESISTOR FXD | ERJ-8GEYJ103V | 1/8W 10K OHM  | 5REAG01750 |           |
| R25      | RESISTOR FXD | ERJ-8GEYJ152V | 1/8W 1.5K OHM | 5REAG01740 |           |
| R26      | RESISTOR FXD | ERJ-8GEYJ152V | 1/8W 1.5K OHM | 5REAG01740 |           |
| R27      | RESISTOR FXD | ERJ-8GEYJ152V | 1/8W 1.5K OHM | 5REAG01740 |           |
| R28      | RESISTOR FXD | ERJ-8GEYJ152V | 1/8W 1.5K OHM | 5REAG01740 |           |
| R29      | RESISTOR FXD | ERJ-8GEYJ152V | 1/8W 1.5K OHM | 5REAG01740 |           |
| R30      | RESISTOR FXD | ERJ-8GEYJ152V | 1/8W 1.5K OHM | 5REAG01740 |           |
| R31      | RESISTOR FXD | ERJ-8GEYJ152V | 1/8W 1.5K OHM | 5REAG01740 |           |
| R32      | RESISTOR FXD | ERJ-8GEYJ152V | 1/8W 1.5K OHM | 5REAG01740 |           |
| R33      | RESISTOR FXD | ERJ-8GEYJ152V | 1/8W 1.5K OHM | 5REAG01740 |           |
| R34      | RESISTOR FXD | ERJ-8GEYJ103V | 1/8W 10K OHM  | 5REAG01750 |           |
| R35      | RESISTOR FXD | ERJ-8GEYJ101V | 1/8W 100 OHM  | 5REAG01726 |           |
| R36      | RESISTOR FXD | ERJ-8GEYJ101V | 1/8W 100 OHM  | 5REAG01726 |           |
| R37      | RESISTOR FXD | ERJ-8GEYJ101V | 1/8W 100 OHM  | 5REAG01726 |           |
| R38      | RESISTOR FXD | ERJ-8GEYJ101V | 1/8W 100 OHM  | 5REAG01726 |           |
| R39      | RESISTOR FXD | ERJ-8GEYJ152V | 1/8W 1.5K OHM | 5REAG01740 |           |
| R44      | RESISTOR FXD | ERJ-8GEYJ102V | 1/8W 1K OHM   | 5REAG01738 |           |
| R45      | RESISTOR FXD | ERJ-8GEYJ102V | 1/8W 1K OHM   | 5REAG01738 |           |
| R46      | RESISTOR FXD | ERJ-8GEYJ102V | 1/8W 1K OHM   | 5REAG01738 |           |
| R47      | RESISTOR FXD | ERJ-8GEYJ823V |               | 5REAG01761 |           |
| R48      | RESISTOR FXD | ERJ-8GEYJ152V | 1/8W 1.5K OHM | 5REAG01740 |           |
| R49      | RESISTOR FXD | ERJ-8GEYJ680V | 1/8W 68 OHM   | 5REAG01724 |           |

## PARTS LIST

|          |              | IF FILTER     |               | TITLE      | SHEET NO. |
|----------|--------------|---------------|---------------|------------|-----------|
|          |              |               |               | CFH-38A    | 8         |
| PARTS NO | PARTS NAME   | TYPE          | DESCRIPTION   | CODE       |           |
| R51      | RESISTOR FXD | ERJ-8GEYJ681V | 1/8W 680 OHM  | 5REAG01736 |           |
| R52      | RESISTOR FXD | ERJ-8GEYJ101V | 1/8W 100 OHM  | 5REAG01726 |           |
| R53      | RESISTOR FXD | ERJ-8GEYJ101V | 1/8W 100 OHM  | 5REAG01726 |           |
| R54      | RESISTOR FXD | ERJ-8GEYJ152V | 1/8W 1.5K OHM | 5REAG01740 |           |
| R55      | RESISTOR FXD | ERJ-8GEYJ822V |               | 5REAG01749 |           |
| R56      | RESISTOR FXD | ERJ-8GEYJ272V | 1/8W 2.7K OHM | 5REAG01743 |           |
| R57      | RESISTOR FXD | ERJ-8GEYJ820V | 1/8W 82 OHM   | 5REAG01725 |           |
| R58      | RESISTOR FXD | ERJ-8GEYJ681V | 1/8W 680 OHM  | 5REAG01736 |           |
| R59      | RESISTOR FXD | ERJ-8GEYJ101V | 1/8W 100 OHM  | 5REAG01726 |           |
| R60      | RESISTOR FXD | ERJ-8GEYJ332V | 1/8W 3.3K OHM | 5REAG01744 |           |
| R62      | RESISTOR FXD | ERJ-8GEYJ000V | 0 OHM         | 5REAG01775 |           |
| R63      | RESISTOR FXD | ERJ-8GEYJ103V | 1/8W 10K OHM  | 5REAG01750 |           |
| R65      | RESISTOR FXD | ERJ-8GEYJ222V | 1/8W 2.2K OHM | 5REAG01742 |           |
| R66      | RESISTOR FXD | ERJ-8GEYJ101V | 1/8W 100 OHM  | 5REAG01726 |           |
| R67      | RESISTOR FXD | ERJ-8GEYJ272V | 1/8W 2.7K OHM | 5REAG01743 |           |
| R68      | RESISTOR FXD | ERJ-8GEYJ102V | 1/8W 1K OHM   | 5REAG01738 |           |
| R69      | RESISTOR FXD | ERJ-8GEYJ101V | 1/8W 100 OHM  | 5REAG01726 |           |
| R70      | RESISTOR FXD | ERJ-8GEYJ104V | 1/8W 100K OHM | 5REAG01762 |           |
| R71      | RESISTOR FXD | ERJ-8GEYJ103V | 1/8W 10K OHM  | 5REAG01750 |           |
| R72      | RESISTOR FXD | ERJ-8GEYJ104V | 1/8W 100K OHM | 5REAG01762 |           |
| R73      | RESISTOR FXD | ERJ-8GEYJ103V | 1/8W 10K OHM  | 5REAG01750 |           |
| R74      | RESISTOR FXD | ERJ-8GEYJ223V | 1/8W 22K OHM  | 5REAG01754 |           |
| R75      | RESISTOR FXD | ERJ-8GEYJ472V | 1/8W 4.7K OHM | 5REAG01746 |           |
| R76      | RESISTOR FXD | ERJ-8GEYJ334V | 1/8W 330K OHM | 5REAG01768 |           |
| R77      | RESISTOR FXD | ERJ-8GEYJ223V | 1/8W 22K OHM  | 5REAG01754 |           |
| R78      | RESISTOR FXD | ERJ-8GEYJ103V | 1/8W 10K OHM  | 5REAG01750 |           |
| R79      | RESISTOR FXD | ERJ-8GEYJ103V | 1/8W 10K OHM  | 5REAG01750 |           |
| R80      | RESISTOR FXD | ERJ-8GEYJ153V | 1/8W 15K OHM  | 5REAG01752 |           |
| R81      | RESISTOR FXD | ERJ-8GEYJ104V | 1/8W 100K OHM | 5REAG01762 |           |
| R82      | RESISTOR FXD | ERJ-8GEYJ103V | 1/8W 10K OHM  | 5REAG01750 |           |
| R83      | RESISTOR FXD | ERJ-8GEYJ103V | 1/8W 10K OHM  | 5REAG01750 |           |
| R84      | RESISTOR FXD | ERJ-8GEYJ332V | 1/8W 3.3K OHM | 5REAG01744 |           |
| R85      | RESISTOR FXD | ERJ-8GEYJ102V | 1/8W 1K OHM   | 5REAG01738 |           |
| R86      | RESISTOR FXD | ERJ-8GEYJ333V | 1/8W 33K OHM  | 5REAG01756 |           |
| R87      | RESISTOR FXD | ERJ-8GEYJ151V | 1/8W 150 OHM  | 5REAG01728 |           |

| PARTS LIST |              |               |               |            |  |
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|            |              | TITLE         |               | SHEET NO.  |  |
|            |              | IF FILTER     |               | CFH-38A    |  |
| PARTS NO   | PARTS NAME   | TYPE          | DESCRIPTION   | CODE       |  |
| R88        | RESISTOR FXD | ERJ-8GEYJ222V | 1/8W 2.2K OHM | 5REAG01742 |  |
| R89        | RESISTOR FXD | ERJ-8GEYJ332V | 1/8W 3.3K OHM | 5REAG01744 |  |
| R90        | RESISTOR FXD | ERJ-8GEYJ472V | 1/8W 4.7K OHM | 5REAG01746 |  |
| R91        | RESISTOR FXD | ERJ-8GEYJ102V | 1/8W 1K OHM   | 5REAG01738 |  |
| R92        | RESISTOR FXD | ERJ-8GEYJ333V | 1/8W 33K OHM  | 5REAG01756 |  |
| R93        | RESISTOR FXD | ERJ-8GEYJ151V | 1/8W 150 OHM  | 5REAG01728 |  |
| R94        | RESISTOR FXD | ERJ-8GEYJ222V | 1/8W 2.2K OHM | 5REAG01742 |  |
| R95        | RESISTOR FXD | ERJ-8GEYJ332V | 1/8W 3.3K OHM | 5REAG01744 |  |
| R96        | RESISTOR FXD | ERJ-8GEYJ472V | 1/8W 4.7K OHM | 5REAG01746 |  |
| R97        | RESISTOR FXD | ERJ-8GEYJ102V | 1/8W 1K OHM   | 5REAG01738 |  |
| R98        | RESISTOR FXD | ERJ-8GEYJ333V | 1/8W 33K OHM  | 5REAG01756 |  |
| R99        | RESISTOR FXD | ERJ-8GEYJ221V | 1/8W 220 OHM  | 5REAG01730 |  |
| R100       | RESISTOR FXD | ERJ-8GEYJ101V | 1/8W 100 OHM  | 5REAG01726 |  |
| R101       | RESISTOR FXD | ERJ-8GEYJ104V | 1/8W 100K OHM | 5REAG01762 |  |
| R102       | RESISTOR FXD | ERJ-8GEYJ122V | 1/8W 1.2K OHM | 5REAG01739 |  |
| R103       | RESISTOR FXD | ERJ-8GEYJ332V | 1/8W 3.3K OHM | 5REAG01744 |  |
| R104       | RESISTOR FXD | ERJ-8GEYJ332V | 1/8W 3.3K OHM | 5REAG01744 |  |
| R106       | RESISTOR FXD | ERJ-8GEYJ222V | 1/8W 2.2K OHM | 5REAG01742 |  |
| R107       | RESISTOR FXD | ERJ-8GEYJ470V | 1/8W 47 OHM   | 5REAG01722 |  |
| R108       | RESISTOR FXD | ERJ-8GEYJ222V | 1/8W 2.2K OHM | 5REAG01742 |  |
| R111       | RESISTOR FXD | ERJ-8GEYD00V  | 0 OHM         | 5REAG01775 |  |
| R112       | RESISTOR FXD | ERJ-8GEYJ151V | 1/8W 150 OHM  | 5REAG01728 |  |
| R113       | RESISTOR FXD | ERJ-8GEYJ222V | 1/8W 2.2K OHM | 5REAG01742 |  |
| R114       | RESISTOR FXD | ERJ-8GEYJ222V | 1/8W 2.2K OHM | 5REAG01742 |  |
| R115       | RESISTOR FXD | ERJ-8GEYJ101V | 1/8W 100 OHM  | 5REAG01726 |  |
| R116       | RESISTOR FXD | ERJ-8GEYJ101V | 1/8W 100 OHM  | 5REAG01726 |  |
| R117       | RESISTOR FXD | ERJ-8GEYJ101V | 1/8W 100 OHM  | 5REAG01726 |  |
| R118       | RESISTOR FXD | ERJ-8GEYJ332V | 1/8W 3.3K OHM | 5REAG01744 |  |
| R119       | RESISTOR FXD | ERJ-8GEYJ821V | 1/8W 820 OHM  | 5REAG01737 |  |
| R120       | RESISTOR FXD | ERJ-8GEYJ101V | 1/8W 100 OHM  | 5REAG01726 |  |
| R121       | RESISTOR FXD | ERJ-8GEYJ330V | 1/8W 33 OHM   | 5REAG01720 |  |
| R122       | RESISTOR FXD | ERD-25UJ221   | 1/4W 220 OHM  | 5RDAA01329 |  |
| R123       | RESISTOR FXD | ERJ-8GEYJ330V | 1/8W 33 OHM   | 5REAG01720 |  |
| R124       | RESISTOR FXD | ERJ-8GEYJ102V | 1/8W 1K OHM   | 5REAG01738 |  |
| R125       | RESISTOR FXD | ERJ-8GEYJ101V | 1/8W 100 OHM  | 5REAG01726 |  |

| PARTS LIST |              |                    |               |            |  |
|------------|--------------|--------------------|---------------|------------|--|
|            |              | TITLE              |               | SHEET NO.  |  |
|            |              | IF FILTER          |               | CFH-38A    |  |
| PARTS NO   | PARTS NAME   | TYPE               | DESCRIPTION   | CODE       |  |
| R126       | RESISTOR FXD | ERJ-8GEYJ470V      | 1/8W 47 OHM   | 5REAG01722 |  |
| R127       | RESISTOR FXD | ERJ-8GEYJ471V      | 1/8W 470 OHM  | 5REAG01734 |  |
| R128       | RESISTOR FXD | ERJ-8GEYJ472V      | 1/8W 4.7K OHM | 5REAG01746 |  |
| R129       | RESISTOR FXD | ERJ-8GEYJ102V      | 1/8W 1K OHM   | 5REAG01738 |  |
| R131       | RESISTOR FXD | ERJ-8GEYJ101V      | 1/8W 100 OHM  | 5REAG01726 |  |
| R132       | RESISTOR FXD | ERJ-8GEYJ152V      | 1/8W 1.5K OHM | 5REAG01740 |  |
| R133       | RESISTOR FXD | ERJ-8GEYJ103V      | 1/8W 10K OHM  | 5REAG01750 |  |
| R134       | RESISTOR FXD | ERJ-8GEYJ561V      | 1/8W 560 OHM  | 5REAG01735 |  |
| R135       | RESISTOR FXD | ERJ-8GEYJ561V      | 1/8W 560 OHM  | 5REAG01735 |  |
| R136       | RESISTOR FXD | ERJ-8GEYD00V       | 0 OHM         | 5REAG01775 |  |
| R138       | RESISTOR FXD | ERJ-8GEYJ222V      | 1/8W 2.2K OHM | 5REAG01742 |  |
| R139       | RESISTOR FXD | ERJ-8GEYJ104V      | 1/8W 100K OHM | 5REAG01762 |  |
| R140       | RESISTOR FXD | ERJ-8GEYJ104V      | 1/8W 100K OHM | 5REAG01762 |  |
| RA1        | RESISTOR FXD | RKC1/8B5-47K OHM J |               | 5REAE00173 |  |
| RJ1        | RESISTOR FXD | ERJ-8GEYD00V       | 0 OHM         | 5REAG01775 |  |
| RJ2        | RESISTOR FXD | ERJ-8GEYD00V       | 0 OHM         | 5REAG01775 |  |
| RJ3        | RESISTOR FXD | ERJ-8GEYD00V       | 0 OHM         | 5REAG01775 |  |
| RJ4        | RESISTOR FXD | ERJ-8GEYD00V       | 0 OHM         | 5REAG01775 |  |
| RJ5        | RESISTOR FXD | ERJ-8GEYD00V       | 0 OHM         | 5REAG01775 |  |
| RJ6        | RESISTOR FXD | ERJ-8GEYD00V       | 0 OHM         | 5REAG01775 |  |
| RJ7        | RESISTOR FXD | ERJ-8GEYD00V       | 0 OHM         | 5REAG01775 |  |
| RJ8        | RESISTOR FXD | ERJ-8GEYD00V       | 0 OHM         | 5REAG01775 |  |
| RJ9        | RESISTOR FXD | ERJ-8GEYD00V       | 0 OHM         | 5REAG01775 |  |
| RJ10       | RESISTOR FXD | ERJ-8GEYD00V       | 0 OHM         | 5REAG01775 |  |
| RJ11       | RESISTOR FXD | ERJ-8GEYD00V       | 0 OHM         | 5REAG01775 |  |
| RJ12       | RESISTOR FXD | ERJ-8GEYD00V       | 0 OHM         | 5REAG01775 |  |
| RJ13       | RESISTOR FXD | ERJ-8GEYD00V       | 0 OHM         | 5REAG01775 |  |
| RJ14       | RESISTOR FXD | ERJ-8GEYD00V       | 0 OHM         | 5REAG01775 |  |
| RJ15       | RESISTOR FXD | ERJ-8GEYD00V       | 0 OHM         | 5REAG01775 |  |
| RJ16       | RESISTOR FXD | ERJ-8GEYD00V       | 0 OHM         | 5REAG01775 |  |
| RJ17       | RESISTOR FXD | ERJ-8GEYD00V       | 0 OHM         | 5REAG01775 |  |
| RJ18       | RESISTOR FXD | ERJ-8GEYD00V       | 0 OHM         | 5REAG01775 |  |
| RJ19       | RESISTOR FXD | ERJ-8GEYD00V       | 0 OHM         | 5REAG01775 |  |
| RJ20       | RESISTOR FXD | ERJ-8GEYD00V       | 0 OHM         | 5REAG01775 |  |
| RJ21       | RESISTOR FXD | ERJ-8GEYD00V       | 0 OHM         | 5REAG01775 |  |

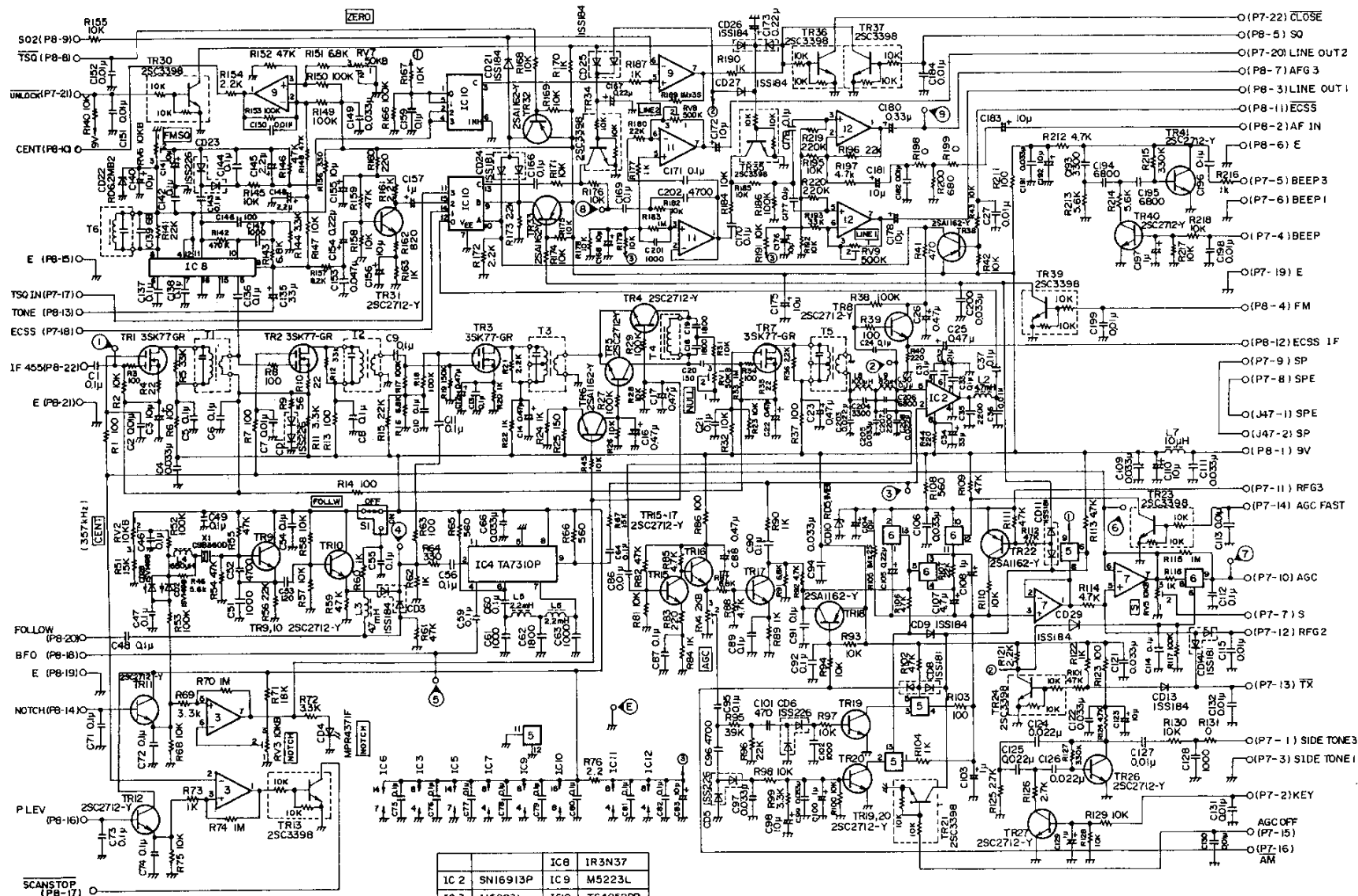
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|------------|--------------|---------------|-------------|------------|--|
|            |              | TITLE         |             | SHEET NO.  |  |
|            |              | IF FILTER     |             | CFH-38A    |  |
|            |              |               |             | 11         |  |
| PARTS NO   | PARTS NAME   | TYPE          | DESCRIPTION | CODE       |  |
| RJ22       | RESISTOR FXD | ERJ-8GEYOR00V | 0 OHM       | 5REAG01775 |  |
| RJ23       | RESISTOR FXD | ERJ-8GEYOR00V | 0 OHM       | 5REAG01775 |  |
| RJ24       | RESISTOR FXD | ERJ-8GEYOR00V | 0 OHM       | 5REAG01775 |  |
| RJ25       | RESISTOR FXD | ERJ-8GEYOR00V | 0 OHM       | 5REAG01775 |  |
| RJ26       | RESISTOR FXD | ERJ-8GEYOR00V | 0 OHM       | 5REAG01775 |  |
| RJ27       | RESISTOR FXD | ERJ-8GEYOR00V | 0 OHM       | 5REAG01775 |  |
| RJ28       | RESISTOR FXD | ERJ-8GEYOR00V | 0 OHM       | 5REAG01775 |  |
| RJ29       | RESISTOR FXD | ERJ-8GEYOR00V | 0 OHM       | 5REAG01775 |  |
| RJ30       | RESISTOR FXD | ERJ-8GEYOR00V | 0 OHM       | 5REAG01775 |  |
| RJ31       | RESISTOR FXD | ERJ-8GEYOR00V | 0 OHM       | 5REAG01775 |  |
| RJ32       | RESISTOR FXD | ERJ-8GEYOR00V | 0 OHM       | 5REAG01775 |  |
| RJ33       | RESISTOR FXD | ERJ-8GEYOR00V | 0 OHM       | 5REAG01775 |  |
| RJ34       | RESISTOR FXD | ERJ-8GEYOR00V | 0 OHM       | 5REAG01775 |  |
| RJ35       | RESISTOR FXD | ERJ-8GEYOR00V | 0 OHM       | 5REAG01775 |  |
| RJ36       | RESISTOR FXD | ERJ-8GEYOR00V | 0 OHM       | 5REAG01775 |  |
| RJ37       | RESISTOR FXD | ERJ-8GEYOR00V | 0 OHM       | 5REAG01775 |  |
| RJ38       | RESISTOR FXD | ERJ-8GEYOR00V | 0 OHM       | 5REAG01775 |  |
| RJ39       | RESISTOR FXD | ERJ-8GEYOR00V | 0 OHM       | 5REAG01775 |  |
| RJ40       | RESISTOR FXD | ERJ-8GEYOR00V | 0 OHM       | 5REAG01775 |  |
| RJ41       | RESISTOR FXD | ERJ-8GEYOR00V | 0 OHM       | 5REAG01775 |  |
| RV1        | RESISTOR VAR | EVN-D1AA00B24 | 20K         | 5RVAB00372 |  |
| RV2        | RESISTOR VAR | EVN-D1AA00B14 | 10K OHM     | 5RVAB00324 |  |
| RV3        | RESISTOR VAR | EVN-D1AA00B22 |             | 5RVAB00320 |  |
| RV4        | RESISTOR VAR | EVN-D4AA00B54 |             | 5RVAB00317 |  |
| RV5        | RESISTOR VAR | EVN-D1AA00B53 |             | 5RVAB00325 |  |
| T2         | RF XFMR      | H-6LHJD00297  |             | 6LHJD00297 |  |
| T3         | RF XFMR      | H-6LHJD00415  | 70.455MHZ   | 6LHJD00415 |  |
| T4         | RF XFMR      | H-6LHJD00415  | 70.455MHZ   | 6LHJD00415 |  |
| T5         | RF XFMR      | H-6LHJD00416  | 0.95UH      | 6LHJD00416 |  |
| T6         | RF XFMR      | H-6LHJD00390A |             | 6LHJD00390 |  |
| T7         | RF XFMR      | H-6LHJD00390A |             | 6LHJD00390 |  |
| T8         | RF XFMR      | H-6LHJD00389  |             | 6LHJD00389 |  |
| T9         | RF XFMR      | H-6LHJD00456  |             | 6LHJD00456 |  |
| T10        | RF XFMR      | H-6LJJD00037A | 455KHZ      | 6LJJD00037 |  |
| T11        | RF XFMR      | S-061-006     |             | 5LJAA00006 |  |

| PARTS LIST |               |                 |             |            |  |
|------------|---------------|-----------------|-------------|------------|--|
|            |               | TITLE           |             | SHEET NO.  |  |
|            |               | IF FILTER       |             | CFH-38A    |  |
|            |               |                 |             | 12         |  |
| PARTS NO   | PARTS NAME    | TYPE            | DESCRIPTION | CODE       |  |
| T12        | RF XFMR       | S-061-006       |             | 5LJAA00006 |  |
| T13        | RF XFMR       | H-6LHJD00297    |             | 6LHJD00297 |  |
| TP1        | TEST TERMINAL | PCN6-PEA        |             | 5JDA000364 |  |
| TP2        | TEST TERMINAL | PCN6-PEA        |             | 5JDA000364 |  |
| TP3        | TEST TERMINAL | PCN6-PEA        |             | 5JDA000364 |  |
| TP4        | TEST TERMINAL | PCN6-PEA        |             | 5JDA000364 |  |
| TP5        | TEST TERMINAL | PCN6-PEA        |             | 5JDA000364 |  |
| TP6        | TEST TERMINAL | PCN6-PEA        |             | 5JDA000364 |  |
| TP7        | TEST TERMINAL | PCN6-PEA        |             | 5JDA000364 |  |
| TR2        | TRANSISTOR    | 2SC1855         |             | 5TCAA00134 |  |
| TR3        | TRANSISTOR    | 2SC2714Y TE85L  |             | 5TCAF00436 |  |
| TR4        | TRANSISTOR    | 2SC3398-TB      |             | 5TCAZ00011 |  |
| TR5        | TRANSISTOR    | 2SC3398-TB      |             | 5TCAZ00011 |  |
| TR6        | TRANSISTOR    | 2SC3398-TB      |             | 5TCAZ00011 |  |
| TR7        | TRANSISTOR    | 2SC2712Y TE85L  |             | 5TAA000186 |  |
| TR8        | TRANSISTOR    | 2SA1162-Y TE85L |             | 5TAA000182 |  |
| TR9        | TRANSISTOR    | 2SC2712Y TE85L  |             | 5TAA000186 |  |
| TR10       | TRANSISTOR    | 2SC2712Y TE85L  |             | 5TAA000186 |  |
| TR11       | TRANSISTOR    | 2SC2712Y TE85L  |             | 5TAA000186 |  |
| TR12       | TRANSISTOR    | 2SC2712Y TE85L  |             | 5TAA000186 |  |
| TR13       | TRANSISTOR    | 2SC2712Y TE85L  |             | 5TAA000186 |  |
| TR14       | TRANSISTOR    | 3SK77-GR        |             | 5TKAA00108 |  |
| TR15       | TRANSISTOR    | 2SK125          |             | 5TKAH00002 |  |
| TR16       | TRANSISTOR    | 2SK125          |             | 5TKAH00002 |  |
| TR17       | TRANSISTOR    | 3SK77-GR        |             | 5TKAA00108 |  |
| TR18       | TRANSISTOR    | 2SC2714Y TE85L  |             | 5TCAF00436 |  |
| TR19       | TRANSISTOR    | 2SC2712Y TE85L  |             | 5TAA000186 |  |
| TR20       | TRANSISTOR    | 2SA1162-Y TE85L |             | 5TAA000182 |  |
| TR21       | TRANSISTOR    | 2SC3398-TB      |             | 5TCAZ00011 |  |
| TR22       | TRANSISTOR    | 2SC3398-TB      |             | 5TCAZ00011 |  |
| TR23       | TRANSISTOR    | 2SC3398-TB      |             | 5TCAZ00011 |  |
| TR24       | TRANSISTOR    | 2SC3398-TB      |             | 5TCAZ00011 |  |

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FOR SERVICE MANUALS

Figure 6.3.1 IF AMP UNIT CAE-227 Circuit Diagram



|      |           |       |          |
|------|-----------|-------|----------|
| IC 2 | 5N161913P | IC 8  | 1R3N37   |
| IC 3 | M5223L    | IC 9  | M5223L   |
| IC 4 | TA7310P   | IC 10 | TC4052BP |
| IC 5 | TC4066BP  | IC 11 | M5260L   |
| IC 6 | TC4066BP  | IC 12 | M5260L   |
| IC 7 | M5223L    |       |          |

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**Figure 6.3.2**

| PARTS LIST |                |                     |             |            |           |
|------------|----------------|---------------------|-------------|------------|-----------|
| IF AMP     |                |                     | TITLE       |            | SHEET NO. |
|            |                |                     | CAE-227     |            | 1         |
| PARTS NO   | PARTS NAME     | TYPE                | DESCRIPTION | CODE       |           |
| C1         | CAP,FXD CER    | C3216X7R1E104K-E-TP | 0.1UF       | 5CAAD01237 |           |
| C2         | CAP,FXD CER    | C3216JB1H103K-E-TP  | 50V 0.01UF  | 5CAAD00789 |           |
| C3         | CAP,FXD ELCTLT | ECE-A1EU100B        |             | 5CEAA01864 |           |
| C4         | CAP,FXD CER    | C3216X7R1H333K-E-TP | 50V 0.033U  | 5CAAD01357 |           |
| C5         | CAP,FXD CER    | C3216X7R1E104K-E-TP | 0.1UF       | 5CAAD01237 |           |
| C6         | CAP,FXD CER    | C3216X7R1E104K-E-TP | 0.1UF       | 5CAAD01237 |           |
| C7         | CAP,FXD CER    | C3216JB1H103K-E-TP  | 50V 0.01UF  | 5CAAD00789 |           |
| C8         | CAP,FXD CER    | C3216X7R1E104K-E-TP | 0.1UF       | 5CAAD01237 |           |
| C9         | CAP,FXD CER    | C3216X7R1E104K-E-TP | 0.1UF       | 5CAAD01237 |           |
| C10        | CAP,FXD CER    | C3216X7R1E104K-E-TP | 0.1UF       | 5CAAD01237 |           |
| C11        | CAP,FXD CER    | C3216X7R1E104K-E-TP | 0.1UF       | 5CAAD01237 |           |
| C12        | CAP,FXD TANTAL | 202L3502 474KB      |             | 5CSAC01065 |           |
| C13        | CAP,FXD CER    | C3216X7R1E104K-E-TP | 0.1UF       | 5CAAD01237 |           |
| C14        | CAP,FXD TANTAL | 202L3502 474KB      |             | 5CSAC01065 |           |
| C16        | CAP,FXD TANTAL | 202L3502 474KB      |             | 5CSAC01065 |           |
| C17        | CAP,FXD TANTAL | 202L3502 474KB      |             | 5CSAC01065 |           |
| C18        | CAP,FXD PLSTC  | ECQ-B1H182J23       |             | 5CRAA00875 |           |
| C19        | CAP,FXD PLSTC  | ECQ-B1H182J23       |             | 5CRAA00875 |           |
| C20        | CAP,FXD CER    | C3216CH1H151J-E-TP  | 150P        | 5CAAD00870 |           |
| C21        | CAP,FXD CER    | C3216X7R1E104K-E-TP | 0.1UF       | 5CAAD01237 |           |
| C22        | CAP,FXD TANTAL | 202L3502 474KB      |             | 5CSAC01065 |           |
| C23        | CAP,FXD TANTAL | 202L3502 474KB      |             | 5CSAC01065 |           |
| C24        | CAP,FXD CER    | C3216X7R1E104K-E-TP | 0.1UF       | 5CAAD01237 |           |
| C25        | CAP,FXD TANTAL | 202L3502 474KB      |             | 5CSAC01065 |           |
| C26        | CAP,FXD TANTAL | 202L3502 474KB      |             | 5CSAC01065 |           |
| C27        | CAP,FXD CER    | C3216JB1H103K-E-TP  | 50V 0.01UF  | 5CAAD00789 |           |
| C30        | CAP,FXD CER    | C3216X7R1E104K-E-TP | 0.1UF       | 5CAAD01237 |           |
| C31        | CAP,FXD CER    | C3216X7R1E104K-E-TP | 0.1UF       | 5CAAD01237 |           |
| C32        | CAP,FXD CER    | C3216X7R1E104K-E-TP | 0.1UF       | 5CAAD01237 |           |
| C33        | CAP,FXD CER    | C3216X7R1E104K-E-TP | 0.1UF       | 5CAAD01237 |           |
| C34        | CAP,FXD ELCTLT | ECE-A1EU330B        |             | 5CEAA01822 |           |
| C35        | CAP,FXD CER    | C3216SL1H222J-E-TP  | 2200PF      | 5CAAD00792 |           |
| C36        | CAP,FXD CER    | C3216JB1H103K-E-TP  | 50V 0.01UF  | 5CAAD00789 |           |
| C37        | CAP,FXD CER    | C3216X7R1E104K-E-TP | 0.1UF       | 5CAAD01237 |           |
| C46        | CAP,FXD CER    | C3216X7R1E104K-E-TP | 0.1UF       | 5CAAD01237 |           |

| PARTS LIST |                |                     |             |            |           |
|------------|----------------|---------------------|-------------|------------|-----------|
| IF AMP     |                |                     | TITLE       |            | SHEET NO. |
|            |                |                     | CAE-227     |            | 2         |
| PARTS NO   | PARTS NAME     | TYPE                | DESCRIPTION | CODE       |           |
| C47        | CAP,FXD CER    | C3216X7R1E104K-E-TP | 0.1UF       | 5CAAD01237 |           |
| C48        | CAP,FXD CER    | C3216X7R1E104K-E-TP | 0.1UF       | 5CAAD01237 |           |
| C49        | CAP,FXD CER    | C3216X7R1E104K-E-TP | 0.1UF       | 5CAAD01237 |           |
| C51        | CAP,FXD CER    | C3216SL1H102J-E-TP  | 1000PF      | 5CAAD00782 |           |
| C52        | CAP,FXD CER    | C3216B1H472K-E-TP   | 4700PF      | 5CAAD00783 |           |
| C53        | CAP,FXD CER    | C3216CH1H121J-E-TP  | 120PF       | 5CAAD00931 |           |
| C54        | CAP,FXD CER    | C3216X7R1E104K-E-TP | 0.1UF       | 5CAAD01237 |           |
| C55        | CAP,FXD CER    | C3216X7R1E104K-E-TP | 0.1UF       | 5CAAD01237 |           |
| C56        | CAP,FXD CER    | C3216X7R1E104K-E-TP | 0.1UF       | 5CAAD01237 |           |
| C59        | CAP,FXD CER    | C3216X7R1E104K-E-TP | 0.1UF       | 5CAAD01237 |           |
| C60        | CAP,FXD CER    | C3216X7R1E104K-E-TP | 0.1UF       | 5CAAD01237 |           |
| C61        | CAP,FXD CER    | C3216SL1H102J-E-TP  | 1000PF      | 5CAAD00782 |           |
| C62        | CAP,FXD CER    | C3216SL1H182J-E-TP  |             | 5CAAD01070 |           |
| C63        | CAP,FXD CER    | C3216SL1H102J-E-TP  | 1000PF      | 5CAAD00782 |           |
| C64        | CAP,FXD CER    | C3216X7R1E104K-E-TP | 0.1UF       | 5CAAD01237 |           |
| C66        | CAP,FXD CER    | C3216X7R1H333K-E-TP | 50V 0.033U  | 5CAAD01357 |           |
| C71        | CAP,FXD CER    | C3216X7R1E104K-E-TP | 0.1UF       | 5CAAD01237 |           |
| C72        | CAP,FXD CER    | C3216X7R1E104K-E-TP | 0.1UF       | 5CAAD01237 |           |
| C73        | CAP,FXD CER    | C3216X7R1E104K-E-TP | 0.1UF       | 5CAAD01237 |           |
| C74        | CAP,FXD CER    | C3216X7R1E104K-E-TP | 0.1UF       | 5CAAD01237 |           |
| C75        | CAP,FXD CER    | C3216X7R1E104K-E-TP | 0.1UF       | 5CAAD01237 |           |
| C76        | CAP,FXD CER    | C3216X7R1E104K-E-TP | 0.1UF       | 5CAAD01237 |           |
| C77        | CAP,FXD CER    | C3216X7R1E104K-E-TP | 0.1UF       | 5CAAD01237 |           |
| C78        | CAP,FXD CER    | C3216X7R1E104K-E-TP | 0.1UF       | 5CAAD01237 |           |
| C79        | CAP,FXD CER    | C3216X7R1E104K-E-TP | 0.1UF       | 5CAAD01237 |           |
| C80        | CAP,FXD CER    | C3216X7R1E104K-E-TP | 0.1UF       | 5CAAD01237 |           |
| C81        | CAP,FXD CER    | C3216X7R1E104K-E-TP | 0.1UF       | 5CAAD01237 |           |
| C82        | CAP,FXD CER    | C3216X7R1E104K-E-TP | 0.1UF       | 5CAAD01237 |           |
| C83        | CAP,FXD ELCTLT | ECE-A1EU100B        |             | 5CEAA01864 |           |
| C86        | CAP,FXD CER    | C3216JB1H103K-E-TP  | 50V 0.01UF  | 5CAAD00789 |           |
| C87        | CAP,FXD CER    | C3216X7R1E104K-E-TP | 0.1UF       | 5CAAD01237 |           |
| C88        | CAP,FXD TANTAL | 202L3502 474KB      |             | 5CSAC01065 |           |
| C89        | CAP,FXD CER    | C3216X7R1E104K-E-TP | 0.1UF       | 5CAAD01237 |           |
| C90        | CAP,FXD CER    | C3216X7R1E104K-E-TP | 0.1UF       | 5CAAD01237 |           |
| C91        | CAP,FXD CER    | C3216X7R1E104K-E-TP | 0.1UF       | 5CAAD01237 |           |

## PARTS LIST

|          |                | TITLE               |             | SHEET NO.  |  |
|----------|----------------|---------------------|-------------|------------|--|
|          |                | IF AMP              |             | CAE-227    |  |
| PARTS NO | PARTS NAME     | TYPE                | DESCRIPTION | CODE       |  |
| C92      | CAP,FXD CER    | C3216X7R1E104K-E-TP | 0.1UF       | 5CAAD01237 |  |
| C94      | CAP,FXD CER    | C3216X7R1H333K-E-TP | 50V 0.033U  | 5CAAD01357 |  |
| C95      | CAP,FXD CER    | C3216X7R1E104K-E-TP | 0.1UF       | 5CAAD01237 |  |
| C96      | CAP,FXD CER    | C3216B1H472K-E-TP   | 4700PF      | 5CAAD00783 |  |
| C97      | CAP,FXD CER    | C3216X7R1H333K-E-TP | 50V 0.033U  | 5CAAD01357 |  |
| C98      | CAP,FXD ELCTLT | ECE-A1EU100B        |             | 5CEAA01864 |  |
| C99      | CAP,FXD CER    | C3216X7R1H333K-E-TP | 50V 0.033U  | 5CAAD01357 |  |
| C100     | CAP,FXD TANTAL | 202L3502 105KB      | 35V 1UF     | 5CSAC00982 |  |
| C101     | CAP,FXD CER    | C3216CH1H471J-E-TP  | 470PF       | 5CAAD00797 |  |
| C102     | CAP,FXD CER    | C3216SL1H102J-E-TP  | 1000PF      | 5CAAD00782 |  |
| C103     | CAP,FXD TANTAL | 202L3502 105KB      | 35V 1UF     | 5CSAC00982 |  |
| C104     | CAP,FXD ELCTLT | ECE-A1EU100B        |             | 5CEAA01864 |  |
| C105     | CAP,FXD TANTAL | 202L3502 224KB      | 0.22UF 35V  | 5CSAC00988 |  |
| C106     | CAP,FXD CER    | C3216X7R1H333K-E-TP | 50V 0.033U  | 5CAAD01357 |  |
| C107     | CAP,FXD TANTAL | 202L2502 475KB      |             | 5CSAC00934 |  |
| C108     | CAP,FXD TANTAL | 202L3502 105KB      | 35V 1UF     | 5CSAC00982 |  |
| C109     | CAP,FXD CER    | C3216X7R1H333K-E-TP | 50V 0.033U  | 5CAAD01357 |  |
| C110     | CAP,FXD ELCTLT | ECE-A1EU100B        |             | 5CEAA01864 |  |
| C111     | CAP,FXD CER    | C3216X7R1H333K-E-TP | 50V 0.033U  | 5CAAD01357 |  |
| C112     | CAP,FXD CER    | C3216X7R1E104K-E-TP | 0.1UF       | 5CAAD01237 |  |
| C113     | CAP,FXD CER    | C3216JB1H103K-E-TP  | 50V 0.01UF  | 5CAAD00789 |  |
| C114     | CAP,FXD CER    | C3216X7R1E104K-E-TP | 0.1UF       | 5CAAD01237 |  |
| C115     | CAP,FXD CER    | C3216JB1H103K-E-TP  | 50V 0.01UF  | 5CAAD00789 |  |
| C121     | CAP,FXD CER    | C3216X7R1H333K-E-TP | 50V 0.033U  | 5CAAD01357 |  |
| C122     | CAP,FXD CER    | C3216X7R1H333K-E-TP | 50V 0.033U  | 5CAAD01357 |  |
| C123     | CAP,FXD ELCTLT | ECE-A1EU100B        |             | 5CEAA01864 |  |
| C124     | CAP,FXD CER    | C3216B1H223K-E-TP   | 0.022UF     | 5CAAD01109 |  |
| C125     | CAP,FXD CER    | C3216B1H223K-E-TP   | 0.022UF     | 5CAAD01109 |  |
| C126     | CAP,FXD CER    | C3216B1H223K-E-TP   | 0.022UF     | 5CAAD01109 |  |
| C127     | CAP,FXD CER    | C3216JB1H103K-E-TP  | 50V 0.01UF  | 5CAAD00789 |  |
| C128     | CAP,FXD CER    | C3216SL1H102J-E-TP  | 1000PF      | 5CAAD00782 |  |
| C129     | CAP,FXD TANTAL | 202L3502 105KB      | 35V 1UF     | 5CSAC00982 |  |
| C130     | CAP,FXD CER    | C3216JB1H103K-E-TP  | 50V 0.01UF  | 5CAAD00789 |  |
| C131     | CAP,FXD CER    | C3216JB1H103K-E-TP  | 50V 0.01UF  | 5CAAD00789 |  |
| C132     | CAP,FXD CER    | C3216JB1H103K-E-TP  | 50V 0.01UF  | 5CAAD00789 |  |

## PARTS LIST

|          |                | TITLE               |             | SHEET NO.  |  |
|----------|----------------|---------------------|-------------|------------|--|
|          |                | IF AMP              |             | CAE-227    |  |
| PARTS NO | PARTS NAME     | TYPE                | DESCRIPTION | CODE       |  |
| C135     | CAP,FXD ELCTLT | ECE-A1EU330B        |             | 5CEAA01822 |  |
| C136     | CAP,FXD CER    | C3216X7R1E104K-E-TP | 0.1UF       | 5CAAD01237 |  |
| C137     | CAP,FXD CER    | C3216X7R1E104K-E-TP | 0.1UF       | 5CAAD01237 |  |
| C138     | CAP,FXD CER    | C3216X7R1E104K-E-TP | 0.1UF       | 5CAAD01237 |  |
| C139     | CAP,FXD CER    | C3216CH1H680J-E-TP  | 68PF        | 5CAAD00929 |  |
| C140     | CAP,FXD ELCTLT | ECE-A1EU100B        |             | 5CEAA01864 |  |
| C141     | CAP,FXD ELCTLT | ECE-A1EU100B        |             | 5CEAA01864 |  |
| C142     | CAP,FXD CER    | C3216X7R1E104K-E-TP | 0.1UF       | 5CAAD01237 |  |
| C143     | CAP,FXD CER    | C3216X7R1E104K-E-TP | 0.1UF       | 5CAAD01237 |  |
| C144     | CAP,FXD CER    | C3216X7R1E104K-E-TP | 0.1UF       | 5CAAD01237 |  |
| C145     | CAP,FXD TANTAL | 202L2502 225KB      | 2.2UF 25V   | 5CSAC01129 |  |
| C146     | CAP,FXD CER    | C3216CH1H101J-E-TP  | 50V 100PF   | 5CAAD00780 |  |
| C147     | CAP,FXD CER    | C3216SL1H102J-E-TP  | 1000PF      | 5CAAD00782 |  |
| C148     | CAP,FXD TANTAL | 202L3502 225KB      |             | 5CSAC01069 |  |
| C149     | CAP,FXD CER    | C3216X7R1H333K-E-TP | 50V 0.033U  | 5CAAD01357 |  |
| C150     | CAP,FXD CER    | C3216JB1H103K-E-TP  | 50V 0.01UF  | 5CAAD00789 |  |
| C151     | CAP,FXD CER    | C3216JB1H103K-E-TP  | 50V 0.01UF  | 5CAAD00789 |  |
| C152     | CAP,FXD CER    | C3216JB1H103K-E-TP  | 50V 0.01UF  | 5CAAD00789 |  |
| C153     | CAP,FXD CER    | C3216JB1E473K-E-TP  |             | 5CAAD01131 |  |
| C154     | CAP,FXD TANTAL | 202L3502 224KB      | 0.22UF 35V  | 5CSAC00988 |  |
| C155     | CAP,FXD ELCTLT | ECE-A1EU100B        |             | 5CEAA01864 |  |
| C156     | CAP,FXD ELCTLT | ECE-A1EU100B        |             | 5CEAA01864 |  |
| C157     | CAP,FXD TANTAL | 202L3502 105KB      | 35V 1UF     | 5CSAC00982 |  |
| C159     | CAP,FXD CER    | C3216X7R1E104K-E-TP | 0.1UF       | 5CAAD01237 |  |
| C166     | CAP,FXD CER    | C3216X7R1E104K-E-TP | 0.1UF       | 5CAAD01237 |  |
| C167     | CAP,FXD TANTAL | 202L3502 224KB      | 0.22UF 35V  | 5CSAC00988 |  |
| C168     | CAP,FXD ELCTLT | ECE-A1EU100B        |             | 5CEAA01864 |  |
| C169     | CAP,FXD CER    | C3216X7R1E104K-E-TP | 0.1UF       | 5CAAD01237 |  |
| C170     | CAP,FXD CER    | C3216X7R1E104K-E-TP | 0.1UF       | 5CAAD01237 |  |
| C171     | CAP,FXD CER    | C3216X7R1E104K-E-TP | 0.1UF       | 5CAAD01237 |  |
| C172     | CAP,FXD ELCTLT | ECE-A1EU100B        |             | 5CEAA01864 |  |
| C173     | CAP,FXD TANTAL | 202L3502 224KB      | 0.22UF 35V  | 5CSAC00988 |  |
| C175     | CAP,FXD ELCTLT | ECE-A1EU100B        |             | 5CEAA01864 |  |
| C176     | CAP,FXD ELCTLT | ECE-A1EU100B        |             | 5CEAA01864 |  |
| C177     | CAP,FXD CER    | C3216X7R1E104K-E-TP | 0.1UF       | 5CAAD01237 |  |

| PARTS LIST |                |                     |             |            | SHEET NO. |
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| IF AMP     |                | TITLE               |             | CAE-227    |           |
| PARTS NO   | PARTS NAME     | TYPE                | DESCRIPTION | CODE       | 5         |
| C178       | CAP,FXD ELCTLT | ECE-A1EU100B        |             | 5CEAA01864 |           |
| C179       | CAP,FXD CER    | C3216X7R1E104K-E-TP | 0.1UF       | SCAAD01237 |           |
| C180       | CAP,FXD TANTAL | 202L3502 334KB      | 35V 0.33U   | 5CSAC01151 |           |
| C181       | CAP,FXD ELCTLT | ECE-A1EU100B        |             | 5CEAA01864 |           |
| C182       | CAP,FXD CER    | C3216JB1H103K-E-TP  | 50V 0.01UF  | SCAAD00789 |           |
| C183       | CAP,FXD ELCTLT | ECE-A1EU100B        |             | 5CEAA01864 |           |
| C184       | CAP,FXD CER    | C3216JB1H103K-E-TP  | 50V 0.01UF  | SCAAD00789 |           |
| C191       | CAP,FXD CER    | C3216X7R1H333K-E-TP | 50V 0.033U  | SCAAD01357 |           |
| C192       | CAP,FXD ELCTLT | ECE-A1EU100B        |             | 5CEAA01864 |           |
| C193       | CAP,FXD CER    | C3216B1H332K-E-TP   | 3300PF      | 5CAAD01020 |           |
| C194       | CAP,FXD CER    | C3216JB1H682K-E-TP  |             | 5CAAD01137 |           |
| C195       | CAP,FXD CER    | C3216JB1H682K-E-TP  |             | 5CAAD01137 |           |
| C196       | CAP,FXD CER    | C3216X7R1E104K-E-TP | 0.1UF       | SCAAD01237 |           |
| C197       | CAP,FXD TANTAL | 202L3502 105KB      | 35V 1UF     | 5CSAC00982 |           |
| C198       | CAP,FXD CER    | C3216JB1H103K-E-TP  | 50V 0.01UF  | SCAAD00789 |           |
| C199       | CAP,FXD CER    | C3216JB1H103K-E-TP  | 50V 0.01UF  | SCAAD00789 |           |
| C200       | CAP,FXD CER    | C3216X7R1H333K-E-TP | 50V 0.033U  | SCAAD01357 |           |
| C201       | CAP,FXD CER    | C3216SL1H102J-E-TP  | 1000PF      | 5CAAD00782 |           |
| C202       | CAP,FXD CER    | C3216B1H472K-E-TP   | 4700PF      | 5CAAD00783 |           |
| C203       | CAP,FXD CER    | C3216JB1H223K-E-TP  |             | 5CAAD01645 |           |
| C204       | CAP,FXD CER    | C3216JB1H332K-E-TP  | 3300PF      | 5CAAD01599 |           |
| C205       | CAP,FXD CER    | C3216X7R1H333K-E-TP | 50V 0.033U  | SCAAD01357 |           |
| C206       | CAP,FXD CER    | C3216JB1H682K-E-TP  |             | 5CAAD01137 |           |
| C207       | CAP,FXD CER    | C3216SL1H222J-E-TP  | 2200PF      | 5CAAD00792 |           |
| C208       | CAP,FXD CER    | C3216JB1H223K-E-TP  |             | 5CAAD01645 |           |
| CD1        | DIODE          | 1SS226 TE85L        |             | 5TXAD00320 |           |
| CD2        | DIODE          | 1SV149B             |             | 5TXAD00332 |           |
| CD3        | DIODE          | 1SS184 TE85L        |             | 5TXAD00290 |           |
| CD4        | DIODE          | MPR4371F            |             | 5TXBG00037 |           |
| CD5        | DIODE          | 1SS226 TE85L        |             | 5TXAD00320 |           |
| CD6        | DIODE          | 1SS226 TE85L        |             | 5TXAD00320 |           |
| CD8        | DIODE          | 1SS181 TE85L        |             | 5TXAD00356 |           |
| CD9        | DIODE          | 1SS184 TE85L        |             | 5TXAD00290 |           |
| CD10       | DIODE          | RD5.1MB1-T1         |             | 5TXAA00515 |           |
| CD11       | DIODE          | 1SS181 TE85L        |             | 5TXAD00356 |           |

| PARTS LIST |                 |                 |             |            | SHEET NO. |
|------------|-----------------|-----------------|-------------|------------|-----------|
| IF AMP     |                 | TITLE           |             | CAE-227    |           |
| PARTS NO   | PARTS NAME      | TYPE            | DESCRIPTION | CODE       | 6         |
| CD13       | DIODE           | 1SS184 TE85L    |             | 5TXAD00290 |           |
| CD14       | DIODE           | 1SS181 TE85L    |             | 5TXAD00356 |           |
| CD21       | DIODE           | 1SS184 TE85L    |             | 5TXAD00290 |           |
| CD22       | DIODE           | RD6.2MB2-T1     |             | 5TXAA00455 |           |
| CD23       | DIODE           | 1SS226 TE85L    |             | 5TXAD00320 |           |
| CD24       | DIODE           | 1SS181 TE85L    |             | 5TXAD00356 |           |
| CD25       | DIODE           | 1SS184 TE85L    |             | 5TXAD00290 |           |
| CD26       | DIODE           | 1SS184 TE85L    |             | 5TXAD00290 |           |
| CD27       | DIODE           | 1SS184 TE85L    |             | 5TXAD00290 |           |
| CD28       | DIODE           | 1SV149B         |             | 5TXAD00332 |           |
| CD29       | DIODE           | 1SS184 TE85L    |             | 5TXAD00290 |           |
| IC2        | IC              | SN16913P        |             | 5DDAL00301 |           |
| IC3        | IC              | M5223L          |             | 5DDAB00164 |           |
| IC4        | IC              | TA7310P         |             | 5DAAD00091 |           |
| IC5        | IC              | TC4066BP        |             | 5DDAE00078 |           |
| IC6        | IC              | TC4066BP        |             | 5DDAE00078 |           |
| IC7        | IC              | M5223L          |             | 5DDAB00164 |           |
| IC8        | IC              | 1R3N37          |             | 5DDBN00049 |           |
| IC9        | IC              | M5223L          |             | 5DDAB00164 |           |
| IC10       | IC              | TC4052BP        |             | 5DDAE00208 |           |
| IC11       | IC              | M5260L          |             | 5DDAB00312 |           |
| IC12       | IC              | M5260L          |             | 5DDAB00312 |           |
| J1         | CONNECTOR       | IL-G-2P-S3L2-E  |             | 5JWAD00094 |           |
| JP1        | TIN COATED WIRE | TA-0.6P         |             | 2717100001 |           |
| JP2        | TIN COATED WIRE | TA-0.6P         |             | 2717100001 |           |
| JP3        | TIN COATED WIRE | TA-0.6P         |             | 2717100001 |           |
| L2         | COIL            | FL-7H472J       | 4.7MH       | 5LCAA00023 |           |
| L3         | COIL            | FL-7H472J       | 4.7MH       | 5LCAA00023 |           |
| L4         | COIL            | LAL03VB681K     |             | 5LCAA00442 |           |
| L5         | COIL            | FL7H-222J       | 2.2MH       | 5LCAA00021 |           |
| L6         | COIL            | FL7H-222J       | 2.2MH       | 5LCAA00021 |           |
| L7         | COIL            | LAL03VB100K     | 10UH        | 5LCAA00273 |           |
| L8         | COIL            | LAL03VB101K     |             | 5LCAA00333 |           |
| L9         | COIL            | LAL03VB820K     |             | 5LCAA00388 |           |
| P7         | CONNECTOR       | EC1C-22P-2.50SA | 22P         | 5JWBS00070 |           |

FOR SERVICE MANUALS  
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FAX: 01844 - 352554

## PARTS LIST

|          |              | TITLE           |               | SHEET NO.  |  |
|----------|--------------|-----------------|---------------|------------|--|
|          |              | IF AMP          |               | CAE-227    |  |
| PARTS NO | PARTS NAME   | TYPE            | DESCRIPTION   | CODE       |  |
| P8       | CONNECTOR    | EC1C-22P-2.50SA | 22P           | 5JWBS00070 |  |
| PC1      | PCB          | H-6PCJD00260A   |               | 6PCJD00260 |  |
| R1       | RESISTOR FXD | ERJ-8GEYJ101V   | 1/8W 100 OHM  | 5REAG01726 |  |
| R2       | RESISTOR FXD | ERJ-8GEYJ103V   | 1/8W 10K OHM  | 5REAG01750 |  |
| R3       | RESISTOR FXD | ERJ-8GEYJ101V   | 1/8W 100 OHM  | 5REAG01726 |  |
| R4       | RESISTOR FXD | ERJ-8GEYJ220V   | 1/8W 22 OHM   | 5REAG01718 |  |
| R5       | RESISTOR FXD | ERJ-8GEYJ333V   | 1/8W 33K OHM  | 5REAG01756 |  |
| R6       | RESISTOR FXD | ERJ-8GEYJ101V   | 1/8W 100 OHM  | 5REAG01726 |  |
| R7       | RESISTOR FXD | ERJ-8GEYJ101V   | 1/8W 100 OHM  | 5REAG01726 |  |
| R8       | RESISTOR FXD | ERJ-8GEYJ101V   | 1/8W 100 OHM  | 5REAG01726 |  |
| R9       | RESISTOR FXD | ERJ-8GEYJ560V   | 1/8W 56 OHM   | 5REAG01723 |  |
| R10      | RESISTOR FXD | ERD-25UJ220     | 1/4W 22 OHM   | 5RDAAD1305 |  |
| R11      | RESISTOR FXD | ERJ-8GEYJ332V   | 1/8W 3.3K OHM | 5REAG01744 |  |
| R12      | RESISTOR FXD | ERJ-8GEYJ333V   | 1/8W 33K OHM  | 5REAG01756 |  |
| R13      | RESISTOR FXD | ERJ-8GEYJ101V   | 1/8W 100 OHM  | 5REAG01726 |  |
| R14      | RESISTOR FXD | ERJ-8GEYJ101V   | 1/8W 100 OHM  | 5REAG01726 |  |
| R15      | RESISTOR FXD | ERJ-8GEYJ223V   | 1/8W 22K OHM  | 5REAG01754 |  |
| R16      | RESISTOR FXD | ERJ-8GEYJ682V   | 1/8W 6.8K OHM | 5REAG01748 |  |
| R17      | RESISTOR FXD | ERJ-8GEYJ104V   | 1/8W 100K OHM | 5REAG01762 |  |
| R18      | RESISTOR FXD | ERJ-8GEYJ104V   | 1/8W 100K OHM | 5REAG01762 |  |
| R19      | RESISTOR FXD | ERJ-8GEYJ154V   | 1/8W 150K OHM | 5REAG01764 |  |
| R20      | RESISTOR FXD | ERJ-8GEYJ102V   | 1/8W 1K OHM   | 5REAG01738 |  |
| R21      | RESISTOR FXD | ERJ-8GEYJ222V   | 1/8W 2.2K OHM | 5REAG01742 |  |
| R22      | RESISTOR FXD | ERJ-8GEYJ102V   | 1/8W 1K OHM   | 5REAG01738 |  |
| R23      | RESISTOR FXD | ERJ-8GEYJ103V   | 1/8W 10K OHM  | 5REAG01750 |  |
| R24      | RESISTOR FXD | ERJ-8GEYJ102V   | 1/8W 1K OHM   | 5REAG01738 |  |
| R25      | RESISTOR FXD | ERJ-8GEYJ151V   | 1/8W 150 OHM  | 5REAG01728 |  |
| R26      | RESISTOR FXD | ERJ-8GEYJ103V   | 1/8W 10K OHM  | 5REAG01750 |  |
| R27      | RESISTOR FXD | ERJ-8GEYJ104V   | 1/8W 100K OHM | 5REAG01762 |  |
| R28      | RESISTOR FXD | ERJ-8GEYJ103V   | 1/8W 10K OHM  | 5REAG01750 |  |
| R29      | RESISTOR FXD | ERJ-8GEYJ104V   | 1/8W 100K OHM | 5REAG01762 |  |
| R31      | RESISTOR FXD | ERJ-8GEYJ103V   | 1/8W 10K OHM  | 5REAG01750 |  |
| R32      | RESISTOR FXD | ERJ-8GEYJ103V   | 1/8W 10K OHM  | 5REAG01750 |  |
| R33      | RESISTOR FXD | ERJ-8GEYJ105V   | 1/8W 1M OHM   | 5REAG01774 |  |
| R34      | RESISTOR FXD | ERJ-8GEYJ101V   | 1/8W 100 OHM  | 5REAG01726 |  |

## PARTS LIST

|          |              | TITLE         |               | SHEET NO.  |  |
|----------|--------------|---------------|---------------|------------|--|
|          |              | IF AMP        |               | CAE-227    |  |
| PARTS NO | PARTS NAME   | TYPE          | DESCRIPTION   | CODE       |  |
| R35      | RESISTOR FXD | ERJ-8GEYJ220V | 1/8W 22 OHM   | 5REAG01718 |  |
| R36      | RESISTOR FXD | ERJ-8GEYJ222V | 1/8W 2.2K OHM | 5REAG01742 |  |
| R37      | RESISTOR FXD | ERJ-8GEYJ101V | 1/8W 100 OHM  | 5REAG01726 |  |
| R38      | RESISTOR FXD | ERJ-8GEYJ104V | 1/8W 100K OHM | 5REAG01762 |  |
| R39      | RESISTOR FXD | ERJ-8GEYJ101V | 1/8W 100 OHM  | 5REAG01726 |  |
| R40      | RESISTOR FXD | ERJ-8GEYJ221V | 1/8W 220 OHM  | 5REAG01730 |  |
| R41      | RESISTOR FXD | ERJ-8GEYJ471V | 1/8W 470 OHM  | 5REAG01734 |  |
| R42      | RESISTOR FXD | ERJ-8GEYJ103V | 1/8W 10K OHM  | 5REAG01750 |  |
| R43      | RESISTOR FXD | ERJ-8GEYJ103V | 1/8W 10K OHM  | 5REAG01750 |  |
| R44      | RESISTOR FXD | ERJ-8GEYJ221V | 1/8W 220 OHM  | 5REAG01730 |  |
| R45      | RESISTOR FXD | ERJ-8GEYJ103V | 1/8W 10K OHM  | 5REAG01750 |  |
| R46      | RESISTOR FXD | ERJ-8GEYJ562V | 1/8W 5.6K OHM | 5REAG01747 |  |
| R51      | RESISTOR FXD | ERJ-8GEYJ153V | 1/8W 15K OHM  | 5REAG01752 |  |
| R52      | RESISTOR FXD | ERJ-8GEYJ104V | 1/8W 100K OHM | 5REAG01762 |  |
| R53      | RESISTOR FXD | ERJ-8GEYJ104V | 1/8W 100K OHM | 5REAG01762 |  |
| R54      | RESISTOR FXD | ERJ-8GEYJ473V | 1/8W 47K OHM  | 5REAG01758 |  |
| R55      | RESISTOR FXD | ERJ-8GEYJ473V | 1/8W 47K OHM  | 5REAG01758 |  |
| R56      | RESISTOR FXD | ERJ-8GEYJ222V | 1/8W 2.2K OHM | 5REAG01742 |  |
| R57      | RESISTOR FXD | ERJ-8GEYJ103V | 1/8W 10K OHM  | 5REAG01750 |  |
| R58      | RESISTOR FXD | ERJ-8GEYJ103V | 1/8W 10K OHM  | 5REAG01750 |  |
| R59      | RESISTOR FXD | ERJ-8GEYJ473V | 1/8W 47K OHM  | 5REAG01758 |  |
| R60      | RESISTOR FXD | ERJ-8GEYJ102V | 1/8W 1K OHM   | 5REAG01738 |  |
| R61      | RESISTOR FXD | ERJ-8GEYJ473V | 1/8W 47K OHM  | 5REAG01758 |  |
| R62      | RESISTOR FXD | ERJ-8GEYJ102V | 1/8W 1K OHM   | 5REAG01738 |  |
| R63      | RESISTOR FXD | ERJ-8GEYJ101V | 1/8W 100 OHM  | 5REAG01726 |  |
| R64      | RESISTOR FXD | ERJ-8GEYJ331V | 1/8W 330 OHM  | 5REAG01732 |  |
| R65      | RESISTOR FXD | ERJ-8GEYJ561V | 1/8W 560 OHM  | 5REAG01735 |  |
| R66      | RESISTOR FXD | ERJ-8GEYJ561V | 1/8W 560 OHM  | 5REAG01735 |  |
| R67      | RESISTOR FXD | ERJ-8GEYJ153V | 1/8W 15K OHM  | 5REAG01752 |  |
| R68      | RESISTOR FXD | ERJ-8GEYJ103V | 1/8W 10K OHM  | 5REAG01750 |  |
| R69      | RESISTOR FXD | ERJ-8GEYJ332V | 1/8W 3.3K OHM | 5REAG01744 |  |
| R70      | RESISTOR FXD | ERJ-8GEYJ105V | 1/8W 1M OHM   | 5REAG01774 |  |
| R71      | RESISTOR FXD | ERJ-8GEYJ183V | 1/8W 18K OHM  | 5REAG01753 |  |
| R72      | RESISTOR FXD | ERJ-8GEYJ332V | 1/8W 3.3K OHM | 5REAG01744 |  |
| R73      | RESISTOR FXD | ERJ-8GEYJ102V | 1/8W 1K OHM   | 5REAG01738 |  |

| PARTS LIST |              |               |               |            |  |
|------------|--------------|---------------|---------------|------------|--|
|            |              | TITLE         |               | SHEET NO.  |  |
|            |              | IF AMP        |               | CAE-227    |  |
| PARTS NO   | PARTS NAME   | TYPE          | DESCRIPTION   | CODE       |  |
| R74        | RESISTOR FXD | ERJ-8GEYJ105V | 1/8W 1M OHM   | 5REAG01774 |  |
| R75        | RESISTOR FXD | ERJ-8GEYJ103V | 1/8W 10K OHM  | 5REAG01750 |  |
| R76        | RESISTOR FXD | ERJ-8GEYK2R2V |               | 5REAG02210 |  |
| R81        | RESISTOR FXD | ERJ-8GEYJ103V | 1/8W 10K OHM  | 5REAG01750 |  |
| R82        | RESISTOR FXD | ERJ-8GEYJ473V | 1/8W 47K OHM  | 5REAG01758 |  |
| R83        | RESISTOR FXD | ERJ-8GEYJ221V | 1/8W 220 OHM  | 5REAG01730 |  |
| R84        | RESISTOR FXD | ERJ-8GEYJ102V | 1/8W 1K OHM   | 5REAG01738 |  |
| R85        | RESISTOR FXD | ERJ-8GEYJ472V | 1/8W 4.7K OHM | 5REAG01746 |  |
| R86        | RESISTOR FXD | ERJ-8GEYJ101V | 1/8W 100 OHM  | 5REAG01726 |  |
| R87        | RESISTOR FXD | ERJ-8GEYJ682V | 1/8W 6.8K OHM | 5REAG01748 |  |
| R88        | RESISTOR FXD | ERJ-8GEYJ472V | 1/8W 4.7K OHM | 5REAG01746 |  |
| R89        | RESISTOR FXD | ERJ-8GEYJ102V | 1/8W 1K OHM   | 5REAG01738 |  |
| R90        | RESISTOR FXD | ERJ-8GEYJ102V | 1/8W 1K OHM   | 5REAG01738 |  |
| R91        | RESISTOR FXD | ERJ-8GEYJ682V | 1/8W 6.8K OHM | 5REAG01748 |  |
| R92        | RESISTOR FXD | ERJ-8GEYJ472V | 1/8W 4.7K OHM | 5REAG01746 |  |
| R93        | RESISTOR FXD | ERJ-8GEYJ103V | 1/8W 10K OHM  | 5REAG01750 |  |
| R94        | RESISTOR FXD | ERJ-8GEYJ103V | 1/8W 10K OHM  | 5REAG01750 |  |
| R95        | RESISTOR FXD | ERJ-8GEYJ393V | 1/8W 39K OHM  | 5REAG01757 |  |
| R96        | RESISTOR FXD | ERJ-8GEYJ223V | 1/8W 22K OHM  | 5REAG01754 |  |
| R97        | RESISTOR FXD | ERJ-8GEYJ103V | 1/8W 10K OHM  | 5REAG01750 |  |
| R98        | RESISTOR FXD | ERJ-8GEYJ103V | 1/8W 10K OHM  | 5REAG01750 |  |
| R99        | RESISTOR FXD | ERJ-8GEYJ332V | 1/8W 3.3K OHM | 5REAG01744 |  |
| R100       | RESISTOR FXD | ERJ-8GEYJ103V | 1/8W 10K OHM  | 5REAG01750 |  |
| R101       | RESISTOR FXD | ERJ-8GEYJ473V | 1/8W 47K OHM  | 5REAG01758 |  |
| R102       | RESISTOR FXD | ERJ-8GEYJ473V | 1/8W 47K OHM  | 5REAG01758 |  |
| R103       | RESISTOR FXD | ERJ-8GEYJ101V | 1/8W 100 OHM  | 5REAG01726 |  |
| R104       | RESISTOR FXD | ERJ-8GEYJ102V | 1/8W 1K OHM   | 5REAG01738 |  |
| R105-1     | RESISTOR FXD | ERJ-8GEYJ105V | 1/8W 1M OHM   | 5REAG01774 |  |
| R105-2     | RESISTOR FXD | ERJ-8GEYJ105V | 1/8W 1M OHM   | 5REAG01774 |  |
| R106       | RESISTOR FXD | ERJ-8GEYJ473V | 1/8W 47K OHM  | 5REAG01758 |  |
| R107       | RESISTOR FXD | ERJ-8GEYJ223V | 1/8W 22K OHM  | 5REAG01754 |  |
| R108       | RESISTOR FXD | ERJ-8GEYJ561V | 1/8W 560 OHM  | 5REAG01735 |  |
| R109       | RESISTOR FXD | ERJ-8GEYJ473V | 1/8W 47K OHM  | 5REAG01758 |  |
| R110       | RESISTOR FXD | ERJ-8GEYJ103V | 1/8W 10K OHM  | 5REAG01750 |  |
| R111       | RESISTOR FXD | ERJ-8GEYJ473V | 1/8W 47K OHM  | 5REAG01758 |  |

| PARTS LIST |              |               |                |            |  |
|------------|--------------|---------------|----------------|------------|--|
|            |              | TITLE         |                | SHEET NO.  |  |
|            |              | IF AMP        |                | CAE-227    |  |
| PARTS NO   | PARTS NAME   | TYPE          | DESCRIPTION    | CODE       |  |
| R112       | RESISTOR FXD | ERJ-8GEYJ473V | 1/8W 47K OHM   | 5REAG01758 |  |
| R113       | RESISTOR FXD | ERJ-8GEYJ472V | 1/8W 4.7K OHM  | 5REAG01746 |  |
| R114       | RESISTOR FXD | ERJ-8GEYJ472V | 1/8W 4.7K OHM  | 5REAG01746 |  |
| R115       | RESISTOR FXD | ERJ-8GEYJ105V | 1/8W 1M OHM    | 5REAG01774 |  |
| R116       | RESISTOR FXD | ERJ-8GEYJ102V | 1/8W 1K OHM    | 5REAG01738 |  |
| R117       | RESISTOR FXD | ERJ-8GEYJ104V | 1/8W 100K OHM  | 5REAG01762 |  |
| R121       | RESISTOR FXD | ERJ-8GEYJ222V | 1/8W 2.2K OHM  | 5REAG01742 |  |
| R122       | RESISTOR FXD | ERJ-8GEYJ102V | 1/8W 1K OHM    | 5REAG01738 |  |
| R123       | RESISTOR FXD | ERJ-8GEYJ101V | 1/8W 100 OHM   | 5REAG01726 |  |
| R124       | RESISTOR FXD | ERJ-8GEYJ472V | 1/8W 4.7K OHM  | 5REAG01746 |  |
| R125       | RESISTOR FXD | ERJ-8GEYJ272V | 1/8W, 2.7K OHM | 5REAG01743 |  |
| R126       | RESISTOR FXD | ERJ-8GEYJ272V | 1/8W, 2.7K OHM | 5REAG01743 |  |
| R127       | RESISTOR FXD | ERJ-8GEYJ334V | 1/8W 330K OHM  | 5REAG01768 |  |
| R128       | RESISTOR FXD | ERJ-8GEYJ103V | 1/8W 10K OHM   | 5REAG01750 |  |
| R129       | RESISTOR FXD | ERJ-8GEYJ103V | 1/8W 10K OHM   | 5REAG01750 |  |
| R130       | RESISTOR FXD | ERJ-8GEYJ103V | 1/8W 10K OHM   | 5REAG01750 |  |
| R131       | RESISTOR FXD | ERJ-8GEYDROOV | 0 OHM          | 5REAG01775 |  |
| R140       | RESISTOR FXD | ERJ-8GEYJ103V | 1/8W 10K OHM   | 5REAG01750 |  |
| R141       | RESISTOR FXD | ERJ-8GEYJ223V | 1/8W 22K OHM   | 5REAG01754 |  |
| R142       | RESISTOR FXD | ERJ-8GEYJ474V | 1/8W 470K OHM  | 5REAG01770 |  |
| R143       | RESISTOR FXD | ERJ-8GEYJ682V | 1/8W 6.8K OHM  | 5REAG01748 |  |
| R144       | RESISTOR FXD | ERJ-8GEYJ332V | 1/8W 3.3K OHM  | 5REAG01744 |  |
| R145       | RESISTOR FXD | ERJ-8GEYJ103V | 1/8W 10K OHM   | 5REAG01750 |  |
| R146       | RESISTOR FXD | ERJ-8GEYJ473V | 1/8W 47K OHM   | 5REAG01758 |  |
| R147       | RESISTOR FXD | ERJ-8GEYJ103V | 1/8W 10K OHM   | 5REAG01750 |  |
| R148       | RESISTOR FXD | ERJ-8GEYJ473V | 1/8W 47K OHM   | 5REAG01758 |  |
| R149       | RESISTOR FXD | ERJ-8GEYJ104V | 1/8W 100K OHM  | 5REAG01762 |  |
| R150       | RESISTOR FXD | ERJ-8GEYJ104V | 1/8W 100K OHM  | 5REAG01762 |  |
| R151       | RESISTOR FXD | ERJ-8GEYJ682V | 1/8W 6.8K OHM  | 5REAG01748 |  |
| R152       | RESISTOR FXD | ERJ-8GEYJ473V | 1/8W 47K OHM   | 5REAG01758 |  |
| R153       | RESISTOR FXD | ERJ-8GEYJ104V | 1/8W 100K OHM  | 5REAG01762 |  |
| R154       | RESISTOR FXD | ERJ-8GEYJ222V | 1/8W 2.2K OHM  | 5REAG01742 |  |
| R155       | RESISTOR FXD | ERJ-8GEYJ103V | 1/8W 10K OHM   | 5REAG01750 |  |
| R156       | RESISTOR FXD | ERJ-8GEYJ331V | 1/8W, 330 OHM  | 5REAG01732 |  |
| R157       | RESISTOR FXD | ERJ-8GEYJ822V |                | 5REAG01749 |  |

## PARTS LIST

|          |              | IF AMP        |               | TITLE      | SHEET NO. |
|----------|--------------|---------------|---------------|------------|-----------|
|          |              |               |               | CAE-227    | 11        |
| PARTS NO | PARTS NAME   | TYPE          | DESCRIPTION   | CODE       |           |
| R158     | RESISTOR FXD | ERJ-8GEYJ103V | 1/8W 10K OHM  | SREAG01750 |           |
| R159     | RESISTOR FXD | ERJ-8GEYJ473V | 1/8W 47K OHM  | SREAG01758 |           |
| R160     | RESISTOR FXD | ERJ-8GEYJ221V | 1/8W 220 OHM  | SREAG01730 |           |
| R161     | RESISTOR FXD | ERJ-8GEYJ222V | 1/8W 2.2K OHM | SREAG01742 |           |
| R162     | RESISTOR FXD | ERJ-8GEYJ821V | 1/8W 820 OHM  | SREAG01737 |           |
| R163     | RESISTOR FXD | ERJ-8GEYJ102V | 1/8W 1K OHM   | SREAG01738 |           |
| R166     | RESISTOR FXD | ERJ-8GEYJ104V | 1/8W 100K OHM | SREAG01762 |           |
| R167     | RESISTOR FXD | ERJ-8GEYJ103V | 1/8W 10K OHM  | SREAG01750 |           |
| R168     | RESISTOR FXD | ERJ-8GEYJ103V | 1/8W 10K OHM  | SREAG01750 |           |
| R169     | RESISTOR FXD | ERJ-8GEYJ103V | 1/8W 10K OHM  | SREAG01750 |           |
| R170     | RESISTOR FXD | ERJ-8GEYJ102V | 1/8W 1K OHM   | SREAG01738 |           |
| R171     | RESISTOR FXD | ERJ-8GEYJ103V | 1/8W 10K OHM  | SREAG01750 |           |
| R172     | RESISTOR FXD | ERJ-8GEYJ222V | 1/8W 2.2K OHM | SREAG01742 |           |
| R173     | RESISTOR FXD | ERJ-8GEYJ222V | 1/8W 2.2K OHM | SREAG01742 |           |
| R174     | RESISTOR FXD | ERJ-8GEYJ103V | 1/8W 10K OHM  | SREAG01750 |           |
| R175     | RESISTOR FXD | ERJ-8GEYJ103V | 1/8W 10K OHM  | SREAG01750 |           |
| R176     | RESISTOR FXD | ERJ-8GEYJ103V | 1/8W 10K OHM  | SREAG01750 |           |
| R177     | RESISTOR FXD | ERJ-8GEYJ102V | 1/8W 1K OHM   | SREAG01738 |           |
| R178     | RESISTOR FXD | ERJ-8GEYJ103V | 1/8W 10K OHM  | SREAG01750 |           |
| R179     | RESISTOR FXD | ERJ-8GEYJ103V | 1/8W 10K OHM  | SREAG01750 |           |
| R180     | RESISTOR FXD | ERJ-8GEYJ223V | 1/8W 22K OHM  | SREAG01754 |           |
| R182     | RESISTOR FXD | ERJ-8GEYJ103V | 1/8W 10K OHM  | SREAG01750 |           |
| R183     | RESISTOR FXD | ERJ-8GEYJ105V | 1/8W 1M OHM   | SREAG01774 |           |
| R184     | RESISTOR FXD | ERJ-8GEYJ103V | 1/8W 10K OHM  | SREAG01750 |           |
| R185     | RESISTOR FXD | ERJ-8GEYJ103V | 1/8W 10K OHM  | SREAG01750 |           |
| R186     | RESISTOR FXD | ERJ-8GEYJ104V | 1/8W 100K OHM | SREAG01762 |           |
| R187     | RESISTOR FXD | ERJ-8GEYJ102V | 1/8W 1K OHM   | SREAG01738 |           |
| R189-1   | RESISTOR FXD | ERJ-8GEYJ105V | 1/8W 1M OHM   | SREAG01774 |           |
| R189-2   | RESISTOR FXD | ERJ-8GEYJ105V | 1/8W 1M OHM   | SREAG01774 |           |
| R189-3   | RESISTOR FXD | ERJ-8GEYJ105V | 1/8W 1M OHM   | SREAG01774 |           |
| R190     | RESISTOR FXD | ERJ-8GEYJ102V | 1/8W 1K OHM   | SREAG01738 |           |
| R191     | RESISTOR FXD | ERJ-8GEYJ103V | 1/8W 10K OHM  | SREAG01750 |           |
| R192     | RESISTOR FXD | ERJ-8GEYJ103V | 1/8W 10K OHM  | SREAG01750 |           |
| R193     | RESISTOR FXD | ERJ-8GEYJ333V | 1/8W 33K OHM  | SREAG01756 |           |
| R195     | RESISTOR FXD | ERJ-8GEYJ103V | 1/8W 10K OHM  | SREAG01750 |           |

## PARTS LIST

|          |              | IF AMP        |               | TITLE      | SHEET NO. |
|----------|--------------|---------------|---------------|------------|-----------|
|          |              |               |               | CAE-227    | 12        |
| PARTS NO | PARTS NAME   | TYPE          | DESCRIPTION   | CODE       |           |
| R196     | RESISTOR FXD | ERJ-8GEYJ223V | 1/8W 22K OHM  | SREAG01754 |           |
| R197     | RESISTOR FXD | ERJ-8GEYJ472V | 1/8W 4.7K OHM | SREAG01746 |           |
| R198     | RESISTOR FXD | ERJ-8GEYOR00V | 0 OHM         | SREAG01775 |           |
| R199     | RESISTOR FXD | ERJ-8GEYOR00V | 0 OHM         | SREAG01775 |           |
| R200     | RESISTOR FXD | ERJ-8GEYJ681V | 1/8W 680 OHM  | SREAG01736 |           |
| R211     | RESISTOR FXD | ERJ-8GEYJ101V | 1/8W 100 OHM  | SREAG01726 |           |
| R212     | RESISTOR FXD | ERJ-8GEYJ472V | 1/8W 4.7K OHM | SREAG01746 |           |
| R213     | RESISTOR FXD | ERJ-8GEYJ562V | 1/8W 5.6K OHM | SREAG01747 |           |
| R214     | RESISTOR FXD | ERJ-8GEYJ562V | 1/8W 5.6K OHM | SREAG01747 |           |
| R215     | RESISTOR FXD | ERJ-8GEYJ334V | 1/8W 330K OHM | SREAG01768 |           |
| R216     | RESISTOR FXD | ERJ-8GEYJ102V | 1/8W 1K OHM   | SREAG01738 |           |
| R217     | RESISTOR FXD | ERJ-8GEYJ103V | 1/8W 10K OHM  | SREAG01750 |           |
| R218     | RESISTOR FXD | ERJ-8GEYJ103V | 1/8W 10K OHM  | SREAG01750 |           |
| R219     | RESISTOR FXD | ERJ-8GEYJ224V | 1/8W 220K OHM | SREAG01766 |           |
| R220     | RESISTOR FXD | ERJ-8GEYJ224V | 1/8W 220K OHM | SREAG01766 |           |
| RJ1      | RESISTOR FXD | ERJ-8GEYOR00V | 0 OHM         | SREAG01775 |           |
| RJ2      | RESISTOR FXD | ERJ-8GEYOR00V | 0 OHM         | SREAG01775 |           |
| RJ3      | RESISTOR FXD | ERJ-8GEYOR00V | 0 OHM         | SREAG01775 |           |
| RJ4      | RESISTOR FXD | ERJ-8GEYOR00V | 0 OHM         | SREAG01775 |           |
| RJ5      | RESISTOR FXD | ERJ-8GEYOR00V | 0 OHM         | SREAG01775 |           |
| RJ6      | RESISTOR FXD | ERJ-8GEYOR00V | 0 OHM         | SREAG01775 |           |
| RJ7      | RESISTOR FXD | ERJ-8GEYOR00V | 0 OHM         | SREAG01775 |           |
| RJ8      | RESISTOR FXD | ERJ-8GEYOR00V | 0 OHM         | SREAG01775 |           |
| RJ9      | RESISTOR FXD | ERJ-8GEYOR00V | 0 OHM         | SREAG01775 |           |
| RJ10     | RESISTOR FXD | ERJ-8GEYOR00V | 0 OHM         | SREAG01775 |           |
| RJ11     | RESISTOR FXD | ERJ-8GEYOR00V | 0 OHM         | SREAG01775 |           |
| RJ12     | RESISTOR FXD | ERJ-8GEYOR00V | 0 OHM         | SREAG01775 |           |
| RJ13     | RESISTOR FXD | ERJ-8GEYOR00V | 0 OHM         | SREAG01775 |           |
| RJ14     | RESISTOR FXD | ERJ-8GEYOR00V | 0 OHM         | SREAG01775 |           |
| RJ15     | RESISTOR FXD | ERJ-8GEYOR00V | 0 OHM         | SREAG01775 |           |
| RJ16     | RESISTOR FXD | ERJ-8GEYOR00V | 0 OHM         | SREAG01775 |           |
| RJ17     | RESISTOR FXD | ERJ-8GEYOR00V | 0 OHM         | SREAG01775 |           |
| RJ19     | RESISTOR FXD | ERJ-8GEYOR00V | 0 OHM         | SREAG01775 |           |
| RJ20     | RESISTOR FXD | ERJ-8GEYOR00V | 0 OHM         | SREAG01775 |           |
| RJ21     | RESISTOR FXD | ERJ-8GEYOR00V | 0 OHM         | SREAG01775 |           |

| PARTS LIST |              |               |             |            |           |
|------------|--------------|---------------|-------------|------------|-----------|
| IF AMP     |              |               |             | TITLE      | SHEET NO. |
| CAE-227    |              |               |             |            | 13        |
| PARTS NO   | PARTS NAME   | TYPE          | DESCRIPTION | CODE       |           |
| RJ23       | RESISTOR FXD | ERJ-8GEYOR00V | 0 OHM       | 5REAG01775 |           |
| RJ24       | RESISTOR FXD | ERJ-8GEYOR00V | 0 OHM       | 5REAG01775 |           |
| RJ25       | RESISTOR FXD | ERJ-8GEYOR00V | 0 OHM       | 5REAG01775 |           |
| RJ27       | RESISTOR FXD | ERJ-8GEYOR00V | 0 OHM       | 5REAG01775 |           |
| RJ28       | RESISTOR FXD | ERJ-8GEYOR00V | 0 OHM       | 5REAG01775 |           |
| RJ29       | RESISTOR FXD | ERJ-8GEYOR00V | 0 OHM       | 5REAG01775 |           |
| RJ30       | RESISTOR FXD | ERJ-8GEYOR00V | 0 OHM       | 5REAG01775 |           |
| RJ31       | RESISTOR FXD | ERJ-8GEYOR00V | 0 OHM       | 5REAG01775 |           |
| RJ32       | RESISTOR FXD | ERJ-8GEYOR00V | 0 OHM       | 5REAG01775 |           |
| RJ33       | RESISTOR FXD | ERJ-8GEYOR00V | 0 OHM       | 5REAG01775 |           |
| RJ34       | RESISTOR FXD | ERJ-8GEYOR00V | 0 OHM       | 5REAG01775 |           |
| RJ35       | RESISTOR FXD | ERJ-8GEYOR00V | 0 OHM       | 5REAG01775 |           |
| RJ36       | RESISTOR FXD | ERJ-8GEYOR00V | 0 OHM       | 5REAG01775 |           |
| RJ37       | RESISTOR FXD | ERJ-8GEYOR00V | 0 OHM       | 5REAG01775 |           |
| RJ38       | RESISTOR FXD | ERJ-8GEYOR00V | 0 OHM       | 5REAG01775 |           |
| RJ39       | RESISTOR FXD | ERJ-8GEYOR00V | 0 OHM       | 5REAG01775 |           |
| RJ40       | RESISTOR FXD | ERJ-8GEYOR00V | 0 OHM       | 5REAG01775 |           |
| RJ41       | RESISTOR FXD | ERJ-8GEYOR00V | 0 OHM       | 5REAG01775 |           |
| RJ42       | RESISTOR FXD | ERJ-8GEYOR00V | 0 OHM       | 5REAG01775 |           |
| RJ43       | RESISTOR FXD | ERJ-8GEYOR00V | 0 OHM       | 5REAG01775 |           |
| RJ44       | RESISTOR FXD | ERJ-8GEYOR00V | 0 OHM       | 5REAG01775 |           |
| RJ45       | RESISTOR FXD | ERJ-8GEYOR00V | 0 OHM       | 5REAG01775 |           |
| RJ46       | RESISTOR FXD | ERJ-8GEYOR00V | 0 OHM       | 5REAG01775 |           |
| RJ47       | RESISTOR FXD | ERJ-8GEYOR00V | 0 OHM       | 5REAG01775 |           |
| RJ48       | RESISTOR FXD | ERJ-8GEYOR00V | 0 OHM       | 5REAG01775 |           |
| RJ49       | RESISTOR FXD | ERJ-8GEYOR00V | 0 OHM       | 5REAG01775 |           |
| RJ50       | RESISTOR FXD | ERJ-8GEYOR00V | 0 OHM       | 5REAG01775 |           |
| RJ51       | RESISTOR FXD | ERJ-8GEYOR00V | 0 OHM       | 5REAG01775 |           |
| RJ52       | RESISTOR FXD | ERJ-8GEYOR00V | 0 OHM       | 5REAG01775 |           |
| RJ53       | RESISTOR FXD | ERJ-8GEYOR00V | 0 OHM       | 5REAG01775 |           |
| RJ54       | RESISTOR FXD | ERJ-8GEYOR00V | 0 OHM       | 5REAG01775 |           |
| RJ55       | RESISTOR FXD | ERJ-8GEYOR00V | 0 OHM       | 5REAG01775 |           |
| RJ56       | RESISTOR FXD | ERJ-8GEYOR00V | 0 OHM       | 5REAG01775 |           |
| RJ57       | RESISTOR FXD | ERJ-8GEYOR00V | 0 OHM       | 5REAG01775 |           |
| RJ58       | RESISTOR FXD | ERJ-8GEYOR00V | 0 OHM       | 5REAG01775 |           |

| PARTS LIST |              |                |             |            |           |
|------------|--------------|----------------|-------------|------------|-----------|
| IF AMP     |              |                |             | TITLE      | SHEET NO. |
| CAE-227    |              |                |             |            | 14        |
| PARTS NO   | PARTS NAME   | TYPE           | DESCRIPTION | CODE       |           |
| RJ59       | RESISTOR FXD | ERJ-8GEYOR00V  | 0 OHM       | 5REAG01775 |           |
| RJ60       | RESISTOR FXD | ERJ-8GEYOR00V  | 0 OHM       | 5REAG01775 |           |
| RJ61       | RESISTOR FXD | ERJ-8GEYOR00V  | 0 OHM       | 5REAG01775 |           |
| RJ62       | RESISTOR FXD | ERJ-8GEYOR00V  | 0 OHM       | 5REAG01775 |           |
| RJ63       | RESISTOR FXD | ERJ-8GEYOR00V  | 0 OHM       | 5REAG01775 |           |
| RJ64       | RESISTOR FXD | ERJ-8GEYOR00V  | 0 OHM       | 5REAG01775 |           |
| RJ65       | RESISTOR FXD | ERJ-8GEYOR00V  | 0 OHM       | 5REAG01775 |           |
| RJ66       | RESISTOR FXD | ERJ-8GEYOR00V  | 0 OHM       | 5REAG01775 |           |
| RJ67       | RESISTOR FXD | ERJ-8GEYOR00V  | 0 OHM       | 5REAG01775 |           |
| RJ68       | RESISTOR FXD | ERJ-8GEYOR00V  | 0 OHM       | 5REAG01775 |           |
| RJ69       | RESISTOR FXD | ERJ-8GEYOR00V  | 0 OHM       | 5REAG01775 |           |
| RJ70       | RESISTOR FXD | ERJ-8GEYOR00V  | 0 OHM       | 5REAG01775 |           |
| RJ71       | RESISTOR FXD | ERJ-8GEYOR00V  | 0 OHM       | 5REAG01775 |           |
| RJ72       | RESISTOR FXD | ERJ-8GEYOR00V  | 0 OHM       | 5REAG01775 |           |
| RJ73       | RESISTOR FXD | ERJ-8GEYOR00V  | 0 OHM       | 5REAG01775 |           |
| RJ74       | RESISTOR FXD | ERJ-8GEYOR00V  | 0 OHM       | 5REAG01775 |           |
| RJ75       | RESISTOR FXD | ERJ-8GEYOR00V  | 0 OHM       | 5REAG01775 |           |
| RJ76       | RESISTOR FXD | ERJ-8GEYOR00V  | 0 OHM       | 5REAG01775 |           |
| RJ77       | RESISTOR FXD | ERJ-8GEYOR00V  | 0 OHM       | 5REAG01775 |           |
| RJ78       | RESISTOR FXD | ERJ-8GEYOR00V  | 0 OHM       | 5REAG01775 |           |
| RJ79       | RESISTOR FXD | ERJ-8GEYOR00V  | 0 OHM       | 5REAG01775 |           |
| RJ80       | RESISTOR FXD | ERJ-8GEYOR00V  | 0 OHM       | 5REAG01775 |           |
| RJ81       | RESISTOR FXD | ERJ-8GEYOR00V  | 0 OHM       | 5REAG01775 |           |
| RJ82       | RESISTOR FXD | ERJ-8GEYOR00V  | 0 OHM       | 5REAG01775 |           |
| RJ83       | RESISTOR FXD | ERJ-8GEYOR00V  | 0 OHM       | 5REAG01775 |           |
| RJ85       | RESISTOR FXD | ERJ-8GEYOR00V  | 0 OHM       | 5REAG01775 |           |
| RJ86       | RESISTOR FXD | ERJ-8GEYOR00V  | 0 OHM       | 5REAG01775 |           |
| RJ87       | RESISTOR FXD | ERJ-8GEYOR00V  | 0 OHM       | 5REAG01775 |           |
| RV1        | RESISTOR VAR | EVN-D1AA00B54  | 50K OHM     | 5RVAB00380 |           |
| RV2        | RESISTOR VAR | EVN-D4AA00B-14 | 10K OHM     | 5RVAB00279 |           |
| RV3        | RESISTOR VAR | EVN-D4AA00B-14 | 10K OHM     | 5RVAB00279 |           |
| RV4        | RESISTOR VAR | EVN-D1AA00B23  |             | 5RVAB00323 |           |
| RV5        | RESISTOR VAR | EVN-D1AA00B14  | 10K OHM     | 5RVAB00324 |           |
| RV6        | RESISTOR VAR | EVN-D4AA00B-14 | 10K OHM     | 5RVAB00279 |           |
| RV7        | RESISTOR VAR | EVN-D4AA00B54  |             | 5RVAB00317 |           |

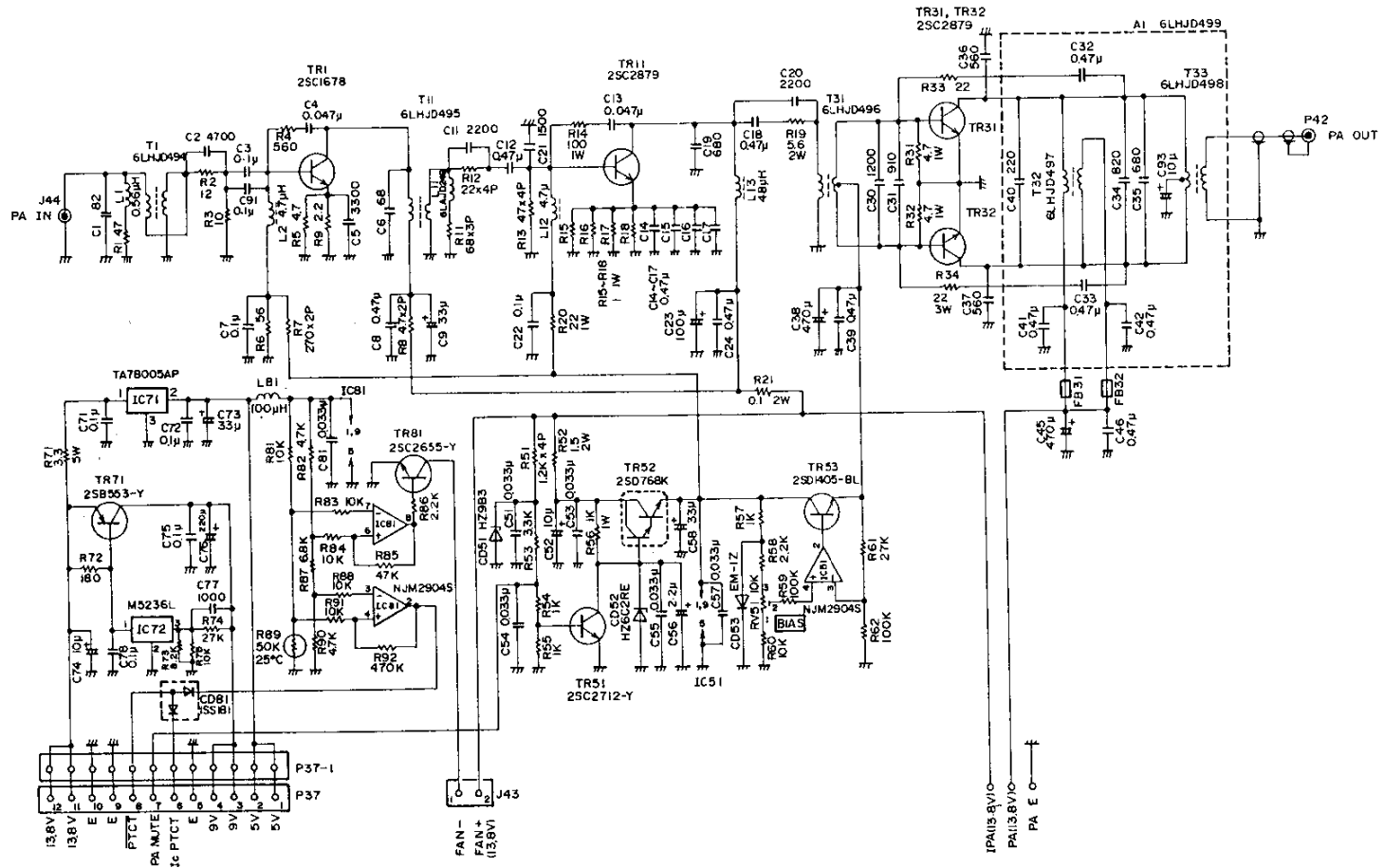
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|------------|---------------|--------------------|-------------|------------|
| IF AMP     |               | TITLE              |             | SHEET NO.  |
|            |               | CAE-227            |             | 15         |
| PARTS NO   | PARTS NAME    | TYPE               | DESCRIPTION | CODE       |
| RV8        | RESISTOR VAR  | EVN-D1AA00B55      |             | 5RVAB00389 |
| RV9        | RESISTOR VAR  | EVN-D1AA00B55      |             | 5RVAB00389 |
| S1         | TERMINAL      | A2-3PA-2.54DSA(01) |             | 5JTBX00010 |
| S1P        | CONNECTOR     | HIF3GA-2.54SP      |             | 5JFAA01151 |
| T1         | RF XFMR       | S-061-006          |             | 5LJAA00006 |
| T2         | RF XFMR       | S-061-006          |             | 5LJAA00006 |
| T3         | RF XFMR       | H-6LHJD00489       | 100KHZ      | 6LHJD00489 |
| T4         | RF XFMR       | H-6LHJD00490       | 100KHZ      | 6LHJD00490 |
| T5         | RF XFMR       | H-6LHJD00489       | 100KHZ      | 6LHJD00489 |
| T6         | COIL          | 5D-ELD19A-41       |             | 6LAFD00018 |
| TP         | TEST TERMINAL | PCN6-PEA           |             | 5JDAA00364 |
| TR1        | TRANSISTOR    | 3SK77-GR           |             | 5TKAA00108 |
| TR2        | TRANSISTOR    | 3SK77-GR           |             | 5TKAA00108 |
| TR3        | TRANSISTOR    | 3SK77-GR           |             | 5TKAA00108 |
| TR4        | TRANSISTOR    | 2SC2712Y TE85L     |             | 5TAAG00186 |
| TR5        | TRANSISTOR    | 2SC2712Y TE85L     |             | 5TAAG00186 |
| TR6        | TRANSISTOR    | 2SA1162-Y TE85L    |             | 5TAAG00182 |
| TR7        | TRANSISTOR    | 3SK77-GR           |             | 5TKAA00108 |
| TR8        | TRANSISTOR    | 2SC2712Y TE85L     |             | 5TAAG00186 |
| TR9        | TRANSISTOR    | 2SC2712Y TE85L     |             | 5TAAG00186 |
| TR10       | TRANSISTOR    | 2SC2712Y TE85L     |             | 5TAAG00186 |
| TR11       | TRANSISTOR    | 2SC2712Y TE85L     |             | 5TAAG00186 |
| TR12       | TRANSISTOR    | 2SC2712Y TE85L     |             | 5TAAG00186 |
| TR13       | TRANSISTOR    | 2SC3398-TB         |             | 5TCAZ00011 |
| TR15       | TRANSISTOR    | 2SC2712Y TE85L     |             | 5TAAG00186 |
| TR16       | TRANSISTOR    | 2SC2712Y TE85L     |             | 5TAAG00186 |
| TR17       | TRANSISTOR    | 2SC2712Y TE85L     |             | 5TAAG00186 |
| TR18       | TRANSISTOR    | 2SA1162-Y TE85L    |             | 5TAAG00182 |
| TR19       | TRANSISTOR    | 2SC2712Y TE85L     |             | 5TAAG00186 |
| TR20       | TRANSISTOR    | 2SC2712Y TE85L     |             | 5TAAG00186 |
| TR21       | TRANSISTOR    | 2SC3398-TB         |             | 5TCAZ00011 |
| TR22       | TRANSISTOR    | 2SA1162-Y TE85L    |             | 5TAAG00182 |
| TR23       | TRANSISTOR    | 2SC3398-TB         |             | 5TCAZ00011 |
| TR24       | TRANSISTOR    | 2SC3398-TB         |             | 5TCAZ00011 |
| TR26       | TRANSISTOR    | 2SC2712Y TE85L     |             | 5TAAG00186 |

| PARTS LIST |            |                 |             |            |
|------------|------------|-----------------|-------------|------------|
| IF AMP     |            | TITLE           |             | SHEET NO.  |
|            |            | CAE-227         |             | 16         |
| PARTS NO   | PARTS NAME | TYPE            | DESCRIPTION | CODE       |
| TR27       | TRANSISTOR | 2SC2712Y TE85L  |             | 5TAAG00186 |
| TR30       | TRANSISTOR | 2SC3398-TB      |             | 5TCAZ00011 |
| TR31       | TRANSISTOR | 2SC2712Y TE85L  |             | 5TAAG00186 |
| TR32       | TRANSISTOR | 2SA1162-Y TE85L |             | 5TAAG00182 |
| TR33       | TRANSISTOR | 2SA1162-Y TE85L |             | 5TAAG00182 |
| TR34       | TRANSISTOR | 2SC3398-TB      |             | 5TCAZ00011 |
| TR35       | TRANSISTOR | 2SC3398-TB      |             | 5TCAZ00011 |
| TR36       | TRANSISTOR | 2SC3398-TB      |             | 5TCAZ00011 |
| TR37       | TRANSISTOR | 2SC3398-TB      |             | 5TCAZ00011 |
| TR38       | TRANSISTOR | 2SA1162-Y TE85L |             | 5TAAG00182 |
| TR39       | TRANSISTOR | 2SC3398-TB      |             | 5TCAZ00011 |
| TR40       | TRANSISTOR | 2SC2712Y TE85L  |             | 5TAAG00186 |
| TR41       | TRANSISTOR | 2SC2712Y TE85L  |             | 5TAAG00186 |
| X1         | RESONATOR  | CSB360D         |             | 5NRAD00198 |

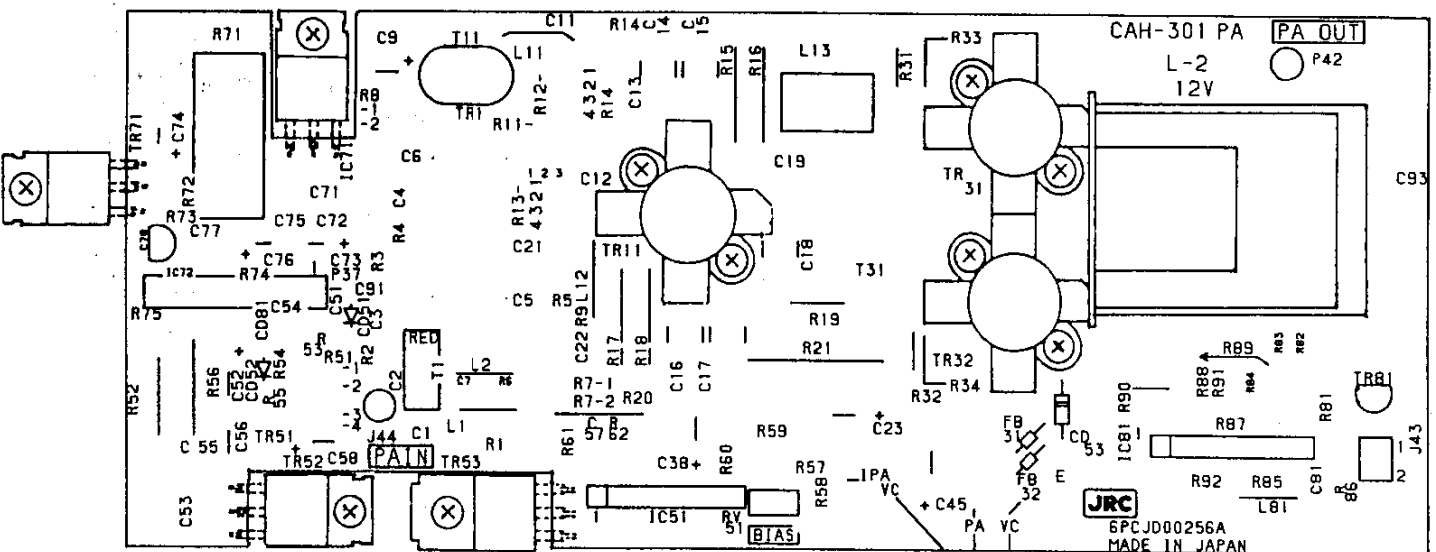
FOR SERVICE MANUALS  
CONTACT:  
MAYNITON TECHNICAL SERVICES  
WWW.MAYNITON.CO.UK  
TEL: 01844 351694  
FAX: 01844 352554

Figure 6.4.1

12 V PA UNIT CAH-301L-2 Circuit Diagram



H-6PCJDO0256A  
MDTW00834



FOR SERVICE MANUALS  
CONTACT:  
MAURITRON TECHNICAL SERVICES  
www.mauritron.co.uk  
TEL: 01844 - 351694  
FAX: 01844 - 352554

Figure 6.4.2 12 V PA UNIT CAH-301L-2 Component Layout

| PARTS LIST |                |                     |              |            |  |
|------------|----------------|---------------------|--------------|------------|--|
|            |                | TITLE               |              | SHEET NO.  |  |
|            |                | 12V PA              | CAH-301L-2   | 1          |  |
| PARTS NO   | PARTS NAME     | TYPE                | DESCRIPTION  | CODE       |  |
| A1.        | RF XFMR        | H-6LHJD00499        |              | 6LHJD00499 |  |
| C1         | CAP,FXD CER    | C3216CH1H820J-E-TP  | 82P          | SCAAD00930 |  |
| C2         | CAP,FXD CER    | C3216B1H472K-E-TP   | 4700PF       | SCAAD00783 |  |
| C3         | CAP,FXD CER    | C3216X7R1E104K-E-TP | 0.1U         | SCAAD01237 |  |
| C4         | CAP,FXD CER    | C3216X7R1H473K-E-TP | 0.047UF 50V  | SCAAD01082 |  |
| C5         | CAP,FXD CER    | C3216B1H332K-E-TP   | 3300PF       | SCAAD01020 |  |
| C6         | CAP,FXD CER    | C3216CH1H680J-E-TP  | 68PF         | SCAAD00929 |  |
| C7         | CAP,FXD CER    | C3216X7R1E104K-E-TP | 0.1U         | SCAAD01237 |  |
| C8         | CAP,FXD CER    | C5650X7R1H474K      |              | SCAAD00588 |  |
| C9         | CAP,FXD ELCTLT | ECEA1HU330B         | 50V 33U      | SCEAA02305 |  |
| C11        | CAP,FXD MICA   | DM19C222J5          | 500WV 2200PF | SCMAB00149 |  |
| C12        | CAP,FXD CER    | C5650X7R1H474K      |              | SCAAD00588 |  |
| C13        | CAP,FXD CER    | C3216X7R1H473K-E-TP | 0.047UF 50V  | SCAAD01082 |  |
| C14        | CAP,FXD CER    | C5650X7R1H474K      |              | SCAAD00588 |  |
| C15        | CAP,FXD CER    | C5650X7R1H474K      |              | SCAAD00588 |  |
| C16        | CAP,FXD CER    | C5650X7R1H474K      |              | SCAAD00588 |  |
| C17        | CAP,FXD CER    | C5650X7R1H474K      |              | SCAAD00588 |  |
| C18        | CAP,FXD CER    | C5650X7R1H474K      |              | SCAAD00588 |  |
| C19        | CAP,FXD MICA   | DM15C681J1          | 100WV 680PF  | SCMAB00039 |  |
| C20        | CAP,FXD MICA   | DM19C222J5          | 500WV 2200PF | SCMAB00149 |  |
| C21        | CAP,FXD CER    | C3216SL1H152J-E-TP  | 1500PF       | SCAAD00791 |  |
| C22        | CAP,FXD CER    | C3216X7R1E104K-E-TP | 0.1U         | SCAAD01237 |  |
| C23        | CAP,FXD ELCTLT | ECEA1HU101B         | 50V 100U     | SCEAA02306 |  |
| C24        | CAP,FXD CER    | C5650X7R1H474K      |              | SCAAD00588 |  |
| C30        | CAP,FXD MICA   | DM19C122J5          | 500WV 1200PF | SCMAB00146 |  |
| C31        | CAP,FXD MICA   | DM19C911J5          | 500WV 910PF  | SCMAB00277 |  |
| C32        | CAP,FXD CER    | C5650X7R1H474K      |              | SCAAD00588 |  |
| C33        | CAP,FXD CER    | C5650X7R1H474K      |              | SCAAD00588 |  |
| C34        | CAP,FXD MICA   | DM19C821J5          | 500WV 820PF  | SCMAB00144 |  |
| C35        | CAP,FXD MICA   | DM19C681J5          | 500WV 680PF  | SCMAB00143 |  |
| C36        | CAP,FXD MICA   | DM19C561J5          | 500WV 560PF  | SCMAB00142 |  |
| C37        | CAP,FXD MICA   | DM19C561J5          | 500WV 560PF  | SCMAB00142 |  |
| C38        | CAP,FXD ELCTLT | ECE-A1CU471B        | 470UF        | SCEAA01829 |  |
| C39        | CAP,FXD CER    | C5650X7R1H474K      |              | SCAAD00588 |  |
| C40        | CAP,FXD MICA   | DM15C221J5          | 500WV 220PF  | SCMAB00137 |  |

| PARTS LIST |                |                     |             |            |  |
|------------|----------------|---------------------|-------------|------------|--|
|            |                | TITLE               |             | SHEET NO.  |  |
|            |                | 12V PA              | CAH-301L-2  | 2          |  |
| PARTS NO   | PARTS NAME     | TYPE                | DESCRIPTION | CODE       |  |
| C41        | CAP,FXD CER    | C5650X7R1H474K      |             | SCAAD00588 |  |
| C42        | CAP,FXD CER    | C5650X7R1H474K      |             | SCAAD00588 |  |
| C45        | CAP,FXD ELCTLT | ECE-A1HU471B        | 470UF 50V   | SCEAA01835 |  |
| C46        | CAP,FXD CER    | C5650X7R1H474K      |             | SCAAD00588 |  |
| C51        | CAP,FXD CER    | C3216X7R1H333K-E-TP | 50V 0.033U  | SCAAD01357 |  |
| C52        | CAP,FXD ELCTLT | ECE-A1HU100B        | 50V 10UF    | SCEAA02184 |  |
| C53        | CAP,FXD CER    | C3216X7R1H333K-E-TP | 50V 0.033U  | SCAAD01357 |  |
| C54        | CAP,FXD CER    | C3216X7R1H333K-E-TP | 50V 0.033U  | SCAAD01357 |  |
| C55        | CAP,FXD CER    | C3216X7R1H333K-E-TP | 50V 0.033U  | SCAAD01357 |  |
| C56        | CAP,FXD TANTAL | 202L2502 225KB      | 2.2UF 25V   | SCSAC01129 |  |
| C57        | CAP,FXD CER    | C3216X7R1H333K-E-TP | 50V 0.033U  | SCAAD01357 |  |
| C58        | CAP,FXD ELCTLT | ECE-A1EU330B        |             | SCEAA01822 |  |
| C71        | CAP,FXD CER    | C3216X7R1E104K-E-TP | 0.1U        | SCAAD01237 |  |
| C72        | CAP,FXD CER    | C3216X7R1E104K-E-TP | 0.1U        | SCAAD01237 |  |
| C73        | CAP,FXD ELCTLT | ECE-A1EU330B        |             | SCEAA01822 |  |
| C74        | CAP,FXD ELCTLT | ECE-A1EU100B        |             | SCEAA01864 |  |
| C75        | CAP,FXD CER    | C3216X7R1E104K-E-TP | 0.1U        | SCAAD01237 |  |
| C76        | CAP,FXD ELCTLT | ECE-A1EU221B        | 25V 220UF   | SCEAA01786 |  |
| C77        | CAP,FXD CER    | C3216SL1H102J-E-TP  | 1000PF      | SCAAD00782 |  |
| C78        | CAP,FXD CER    | C3216X7R1E104K-E-TP | 0.1U        | SCAAD01237 |  |
| C81        | CAP,FXD CER    | C3216X7R1H333K-E-TP | 50V 0.033U  | SCAAD01357 |  |
| C91        | CAP,FXD CER    | C3216X7R1E104K-E-TP | 0.1U        | SCAAD01237 |  |
| C93        | CAP,FXD ELCTLT | ECE-A1HU100B        | 50V 10UF    | SCEAA02184 |  |
| CD51       | DIODE          | HZ9B3               |             | STXAE00224 |  |
| CD52       | DIODE          | HZ6C2RE             |             | STXAE00630 |  |
| CD53       | DIODE          | EM1Z                | 200V 1A     | STXAN00061 |  |
| CD81       | DIODE          | 1SS181 TE85L        |             | STXAD00356 |  |
| FB31       | CORE           | FB-801              |             | 5MBAD00005 |  |
| FB32       | CORE           | FB-801              |             | 5MBAD00005 |  |
| IC51       | IC             | NJM2904S            |             | 5DAAN00239 |  |
| IC71       | IC             | TA78005AP           |             | 5DAAD00082 |  |
| IC71Z      | SILICON SHEET  | TC-30A (T0-220)     |             | 5ZZKB00002 |  |
| IC72       | IC             | M5236L              |             | 5DDAB00170 |  |
| IC81       | IC             | NJM2904S            |             | 5DAAN00239 |  |
| J43        | CONNECTOR      | IL-S-2P-S2T2-EF     |             | 5JWAD00121 |  |

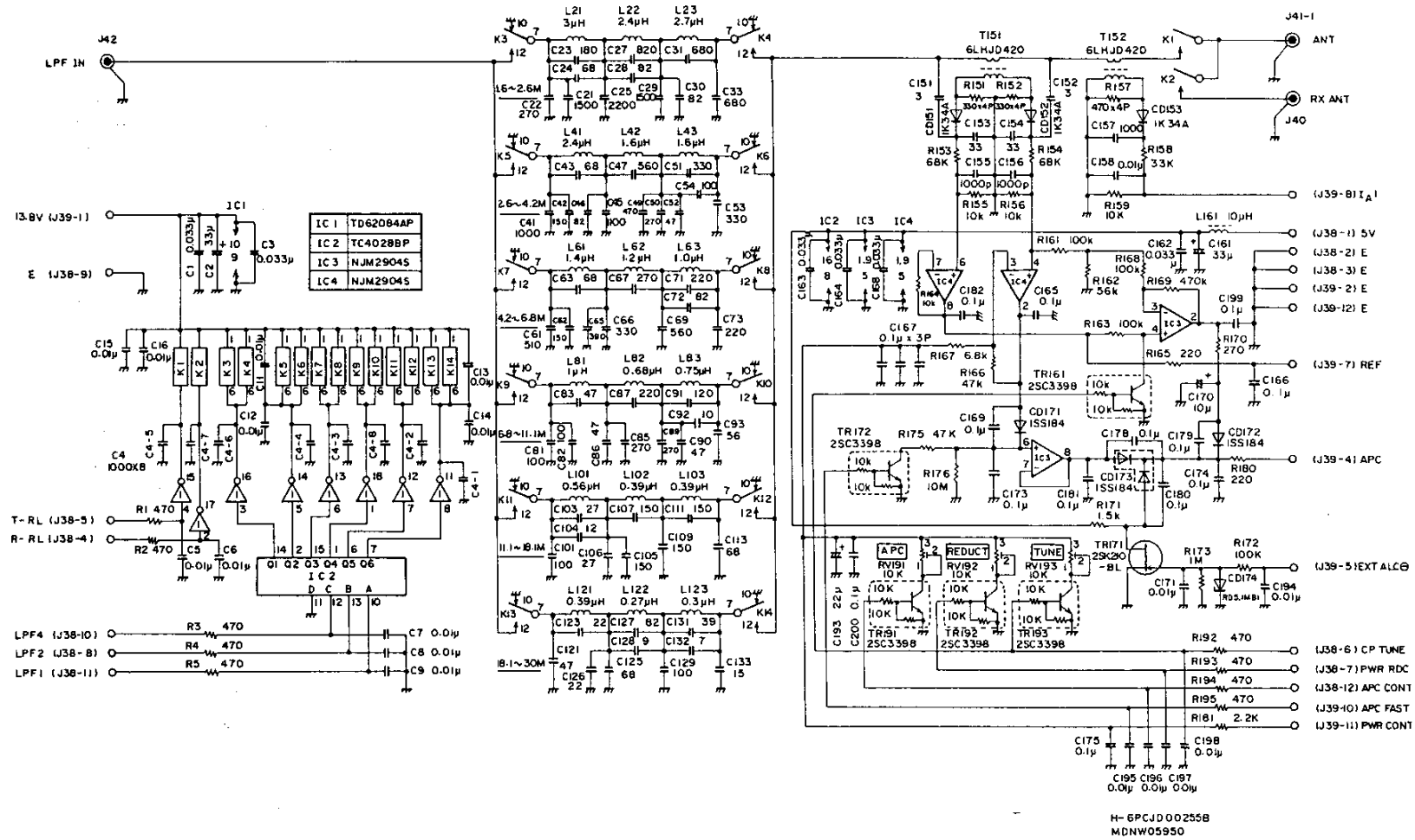
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|------------|--------------|---------------|--------------|------------|--|
| 12V PA     |              | TITLE         |              | SHEET NO.  |  |
|            |              | CAH-301L-2    |              | 3          |  |
| PARTS NO   | PARTS NAME   | TYPE          | DESCRIPTION  | CODE       |  |
| J44        | CONNECTOR    | TMP-J01X-V2   |              | 5JDAX00009 |  |
| L1         | COIL         | LAL03KHR56M   | 0.56UF       | 5LCAA00443 |  |
| L2         | COIL         | LAL03KHR4R7K  | 4.7UF        | 5LCAA00444 |  |
| L11        | COIL         | H-6LAJD00249  |              | 6LAJD00249 |  |
| L12        | COIL         | LAL04KB4R7K   |              | 5LCAA00317 |  |
| L13        | COIL         | SK-5M-4       | 48UH         | 5LWAJ00001 |  |
| L81        | COIL         | LAL03KH101K   | 100UH        | 5LCAA00331 |  |
| P37        | CONNECTOR    | H-6ZCJD4303D  |              | 6ZCJD4303D |  |
| P42        | CABLE        | H-6ZCJD3701S  | L=150        | 6ZCJD3701S |  |
| PC1        | PCB          | H-6PCJD00256A |              | 6PCJD00256 |  |
| R1         | RESISTOR FXD | ERJ-8GEYJ470V | 1/8W 47 OHM  | 5REAG01722 |  |
| R2         | RESISTOR FXD | ERJ-8GEYJ120V | 1/8W 12 OHM  | 5REAG01715 |  |
| R3         | RESISTOR FXD | ERJ-8GEYJ100V | 1/8W 10 OHM  | 5REAG01714 |  |
| R4         | RESISTOR FXD | ERJ-8GEYJ561V | 1/8W 560 OHM | 5REAG01735 |  |
| R5         | RESISTOR FXD | ERJ-8GEYK4R7V | 1/8W 4.7 OHM | 5REAG02256 |  |
| R6         | RESISTOR FXD | ERJ-8GEYJ560V | 1/8W 56 OHM  | 5REAG01723 |  |
| R7-1       | RESISTOR FXD | ERJ-8GEYJ271V | 1/8W 270 OHM | 5REAG01731 |  |
| R7-2       | RESISTOR FXD | ERJ-8GEYJ271V | 1/8W 270 OHM | 5REAG01731 |  |
| R8-1       | RESISTOR FXD | ERJ-8GEYK4R7V | 1/8W 4.7 OHM | 5REAG02256 |  |
| R8-2       | RESISTOR FXD | ERJ-8GEYK4R7V | 1/8W 4.7 OHM | 5REAG02256 |  |
| R9         | RESISTOR FXD | ERJ-8GEYK2R2V |              | 5REAG02210 |  |
| R11-1      | RESISTOR FXD | ERJ-8GEYJ680V | 1/8W 68 OHM  | 5REAG01724 |  |
| R11-2      | RESISTOR FXD | ERJ-8GEYJ680V | 1/8W 68 OHM  | 5REAG01724 |  |
| R11-3      | RESISTOR FXD | ERJ-8GEYJ680V | 1/8W 68 OHM  | 5REAG01724 |  |
| R12-1      | RESISTOR FXD | ERJ-8GEYJ220V |              | 5REAG01718 |  |
| R12-2      | RESISTOR FXD | ERJ-8GEYJ220V |              | 5REAG01718 |  |
| R12-3      | RESISTOR FXD | ERJ-8GEYJ220V |              | 5REAG01718 |  |
| R12-4      | RESISTOR FXD | ERJ-8GEYJ220V |              | 5REAG01718 |  |
| R13-1      | RESISTOR FXD | ERJ-8GEYJ470V | 1/8W 47 OHM  | 5REAG01722 |  |
| R13-2      | RESISTOR FXD | ERJ-8GEYJ470V | 1/8W 47 OHM  | 5REAG01722 |  |
| R13-3      | RESISTOR FXD | ERJ-8GEYJ470V | 1/8W 47 OHM  | 5REAG01722 |  |
| R13-4      | RESISTOR FXD | ERJ-8GEYJ470V | 1/8W 47 OHM  | 5REAG01722 |  |
| R14        | RESISTOR FXD | ERG-1ANJ101   | 1W 100 OHM   | 5REAG00011 |  |
| R15        | RESISTOR FXD | ERX-1ANJ1R0   | 1 OHM 1W     | 5REAG00030 |  |
| R16        | RESISTOR FXD | ERX-1ANJ1R0   | 1 OHM 1W     | 5REAG00030 |  |

| PARTS LIST |              |               |               |            |  |
|------------|--------------|---------------|---------------|------------|--|
| 12V PA     |              | TITLE         |               | SHEET NO.  |  |
|            |              | CAH-301L-2    |               | 4          |  |
| PARTS NO   | PARTS NAME   | TYPE          | DESCRIPTION   | CODE       |  |
| R17        | RESISTOR FXD | ERX-1ANJ1R0   | 1 OHM 1W      | 5REAG00030 |  |
| R18        | RESISTOR FXD | ERX-1ANJ1R0   | 1 OHM 1W      | 5REAG00030 |  |
| R19        | RESISTOR FXD | ERX-2ANJ5R6   | 5.6 OHM 2W    | 5REAG00033 |  |
| R20        | RESISTOR FXD | ERG-1ANJ220   | 1W 22 OHM     | 5REAG00028 |  |
| R21        | RESISTOR FXD | 2SG0.1 OHM K  |               | 5RHAA02566 |  |
| R31        | RESISTOR FXD | ERX-1ANJ4R7   | 1W 4.7 OHM    | 5REAG00412 |  |
| R32        | RESISTOR FXD | ERX-1ANJ4R7   | 1W 4.7 OHM    | 5REAG00412 |  |
| R33        | RESISTOR FXD | ERG-3ANJ220   |               | 5REAG01462 |  |
| R34        | RESISTOR FXD | ERG-3ANJ220   |               | 5REAG01462 |  |
| R51-1      | RESISTOR FXD | ERJ-8GEYJ122V | 1/8W 1.2K OHM | 5REAG01739 |  |
| R51-2      | RESISTOR FXD | ERJ-8GEYJ122V | 1/8W 1.2K OHM | 5REAG01739 |  |
| R51-3      | RESISTOR FXD | ERJ-8GEYJ122V | 1/8W 1.2K OHM | 5REAG01739 |  |
| R51-4      | RESISTOR FXD | ERJ-8GEYJ122V | 1/8W 1.2K OHM | 5REAG01739 |  |
| R52        | RESISTOR FXD | ERX-2ANJ1R5   | 2W 1.5 OHM    | 5REAG00388 |  |
| R53        | RESISTOR FXD | ERJ-8GEYJ332V | 1/8W 3.3K OHM | 5REAG01744 |  |
| R54        | RESISTOR FXD | ERJ-8GEYJ102V | 1/8W 1K OHM   | 5REAG01738 |  |
| R55        | RESISTOR FXD | ERJ-8GEYJ102V | 1/8W 1K OHM   | 5REAG01738 |  |
| R56        | RESISTOR FXD | ERG-1ANJ102   | 1W 1K OHM     | 5REAG00100 |  |
| R57        | RESISTOR FXD | ERJ-8GEYJ102V | 1/8W 1K OHM   | 5REAG01738 |  |
| R58        | RESISTOR FXD | ERJ-8GEYJ222V | 1/8W 2.2K OHM | 5REAG01742 |  |
| R59        | RESISTOR FXD | ERJ-8GEYJ104V | 1/8W 100K OHM | 5REAG01762 |  |
| R60        | RESISTOR FXD | ERJ-8GEYJ103V | 1/8W 10K OHM  | 5REAG01750 |  |
| R61        | RESISTOR FXD | ERJ-8GEYJ273V |               | 5REAG01755 |  |
| R62        | RESISTOR FXD | ERJ-8GEYJ104V | 1/8W 100K OHM | 5REAG01762 |  |
| R71        | RESISTOR FXD | 5SG3.3 OHM K  |               | 5RHAA02611 |  |
| R72        | RESISTOR FXD | ERJ-8GEYJ181V | 1/8W 180 OHM  | 5REAG01729 |  |
| R73        | RESISTOR FXD | ERJ-8GEYJ822V |               | 5REAG01749 |  |
| R74        | RESISTOR FXD | ERJ-8GEYJ273V |               | 5REAG01755 |  |
| R75        | RESISTOR FXD | ERJ-8GEYJ103V | 1/8W 10K OHM  | 5REAG01750 |  |
| R81        | RESISTOR FXD | ERJ-8GEYJ103V | 1/8W 10K OHM  | 5REAG01750 |  |
| R82        | RESISTOR FXD | ERJ-8GEYJ472V |               | 5REAG01746 |  |
| R83        | RESISTOR FXD | ERJ-8GEYJ103V | 1/8W 10K OHM  | 5REAG01750 |  |
| R84        | RESISTOR FXD | ERJ-8GEYJ103V | 1/8W 10K OHM  | 5REAG01750 |  |
| R85        | RESISTOR FXD | ERJ-8GEYJ473V |               | 5REAG01758 |  |
| R86        | RESISTOR FXD | ERJ-8GEYJ222V | 1/8W 2.2K OHM | 5REAG01742 |  |

| PARTS LIST |               |                 |              |            |
|------------|---------------|-----------------|--------------|------------|
|            |               | TITLE           |              | SHEET NO.  |
| 12V PA     |               | CAH-301L-2      |              | 5          |
| PARTS NO   | PARTS NAME    | TYPE            | DESCRIPTION  | CODE       |
| R87        | RESISTOR FXD  | ERJ-8GEYJ682V   |              | 5REAG01748 |
| R88        | RESISTOR FXD  | ERJ-8GEYJ103V   | 1/8W 10K OHM | 5REAG01750 |
| R89        | THERMISTOR    | 150-503-00(5)   | 50K OHM      | 5RXAB00091 |
| R90        | RESISTOR FXD  | ERJ-8GEYJ472V   |              | 5REAG01746 |
| R91        | RESISTOR FXD  | ERJ-8GEYJ103V   | 1/8W 10K OHM | 5REAG01750 |
| R92        | RESISTOR FXD  | ERJ-8GEYJ474V   |              | 5REAG01770 |
| RV51       | RESISTOR VAR  | EVN-D1AA00B14   | 10K OHM      | 5RVAB00324 |
| T1         | RF XFMR       | H-6LHJD00494    |              | 6LHJD00494 |
| T11        | RF XFMR       | H-6LHJD00495    |              | 6LHJD00495 |
| T31        | RF XFMR       | H-6LHJD00496    |              | 6LHJD00496 |
| T32        | RF XFMR       | H-6LHJD00497    |              | 6LHJD00497 |
| T33        | RF XFMR       | H-6LHJD00498    |              | 6LHJD00498 |
| TR1        | TRANSISTOR    | 2SC1678         |              | 5TCAF00173 |
| TR1Z-1     | SILICON SHEET | TC-30A (T0-220) |              | 5ZZKB00002 |
| TR1Z-2     | BUSHING       | YC-40B          |              | 5ZZDY00005 |
| TR1Z-3     | ACCESSORY     | RH-14           |              | 5ZKAH00006 |
| TR11       | TRANSISTOR    | 2SC2879         |              | 5TCAF00359 |
| TR31       | TRANSISTOR    | 2SC2879         |              | 5TCAF00359 |
| TR32       | TRANSISTOR    | 2SC2879         |              | 5TCAF00359 |
| TR51       | TRANSISTOR    | 2SC2712Y TE85L  |              | 5TAAG00186 |
| TR52       | TRANSISTOR    | 2SD768K         |              | 5TDAA00034 |
| TR52Z-1    | SILICON SHEET | TC-30A (T0-220) |              | 5ZZKB00002 |
| TR52Z-2    | BUSHING       | YC-40B          |              | 5ZZDY00005 |
| TR53       | TRANSISTOR    | 2SD1405-BL      |              | 5TDAE00145 |
| TR53Z      | SILICON SHEET | TC-30A (T0-220) |              | 5ZZKB00002 |
| TR71       | TRANSISTOR    | 2SB553-Y        |              | 5TBAE00036 |
| TR71Z-1    | SILICON SHEET | TC-30A (T0-220) |              | 5ZZKB00002 |
| TR71Z-2    | BUSHING       | YC-40B          |              | 5ZZDY00005 |
| TR81       | TRANSISTOR    | 2SC2655-Y       |              | 5TCAF00246 |

FOR SERVICE MANUALS  
CONTACT:  
MAINTENANCE TECHNICAL SERVICES  
www.maintenance.co.uk  
TEL: 01844 - 351694  
FAX: 01844 - 352554

**Figure 6.5.1 LPF UNIT CFJ-122-2 Circuit Diagram**



FOR SERVICE MANUALS  
CONTACT:  
MAURITRON TECHNICAL SERVICES  
www.mauritron.co.uk  
TEL: 01844 - 351694  
FAX: 01844 - 352554

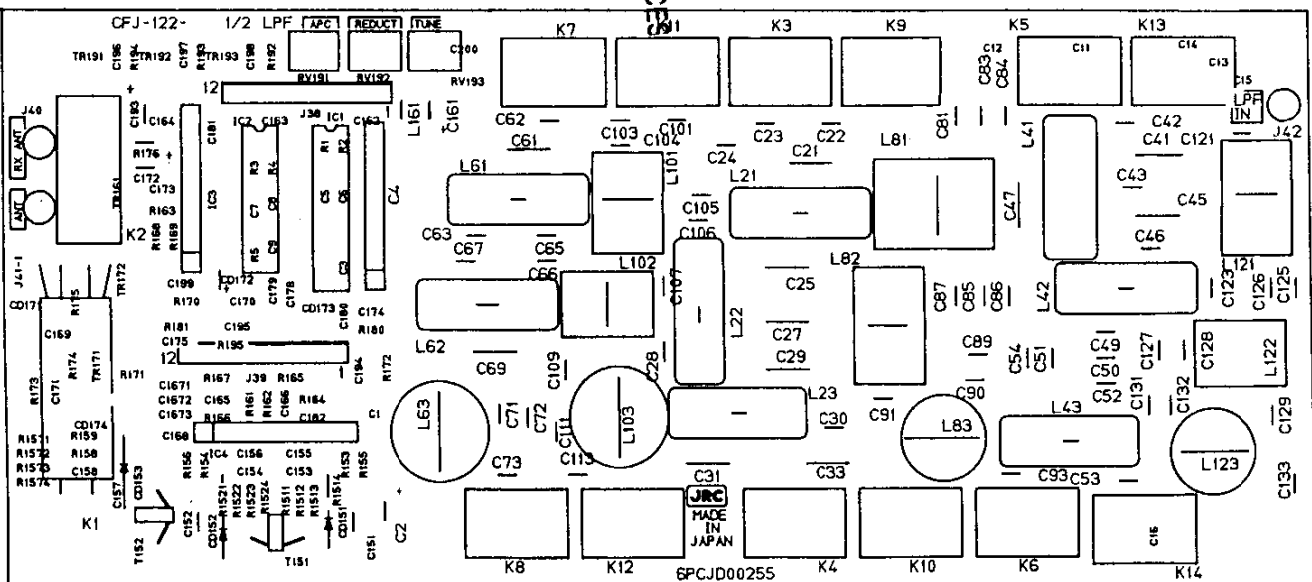


Figure 6.5.2 LPF UNIT CFJ-122-2 Component Layout

| PARTS LIST |                |                     |              |            |  |
|------------|----------------|---------------------|--------------|------------|--|
| LPP        |                | TITLE               |              | SHEET NO.  |  |
|            |                | CFJ-122-2           |              | 1          |  |
| PARTS NO   | PARTS NAME     | TYPE                | DESCRIPTION  | CODE       |  |
| C1         | CAP,FXD CER    | C3216X7R1H333K-E-TP | 50V 0.033U   | 5CAAD01357 |  |
| C2         | CAP,FXD ELCTLT | ECE-A1EU330B        |              | 5CEAA01822 |  |
| C3         | CAP,FXD CER    | C3216X7R1H333K-E-TP | 50V 0.033U   | 5CAAD01357 |  |
| C4         | CAP,FXD CER    | EXF-P8102ZW         | 1000PF X8    | 5CXAD00008 |  |
| C5         | CAP,FXD CER    | C3216JB1H103K-E-TP  | 0.01UF       | 5CAAD00789 |  |
| C6         | CAP,FXD CER    | C3216JB1H103K-E-TP  | 0.01UF       | 5CAAD00789 |  |
| C7         | CAP,FXD CER    | C3216JB1H103K-E-TP  | 0.01UF       | 5CAAD00789 |  |
| C8         | CAP,FXD CER    | C3216JB1H103K-E-TP  | 0.01UF       | 5CAAD00789 |  |
| C9         | CAP,FXD CER    | C3216JB1H103K-E-TP  | 0.01UF       | 5CAAD00789 |  |
| C11        | CAP,FXD CER    | C3216JB1H103K-E-TP  | 0.01UF       | 5CAAD00789 |  |
| C12        | CAP,FXD CER    | C3216JB1H103K-E-TP  | 0.01UF       | 5CAAD00789 |  |
| C13        | CAP,FXD CER    | C3216JB1H103K-E-TP  | 0.01UF       | 5CAAD00789 |  |
| C14        | CAP,FXD CER    | C3216JB1H103K-E-TP  | 0.01UF       | 5CAAD00789 |  |
| C15        | CAP,FXD CER    | C3216JB1H103K-E-TP  | 0.01UF       | 5CAAD00789 |  |
| C16        | CAP,FXD CER    | C3216JB1H103K-E-TP  | 0.01UF       | 5CAAD00789 |  |
| C21        | CAP,FXD MICA   | DM19C152J5          | 500WV 1500PF | 5CMAB00147 |  |
| C22        | CAP,FXD CER    | CC45SL2H271JYP-FP   |              | 5CAAB01900 |  |
| C23        | CAP,FXD CER    | CC45SL2H181JYP-FP   |              | 5CAAB01896 |  |
| C24        | CAP,FXD CER    | CC45SL2H680JYP-FP   |              | 5CAAB01897 |  |
| C25        | CAP,FXD MICA   | DM19C222J5          | 500WV 2200PF | 5CMAB00149 |  |
| C27        | CAP,FXD MICA   | DM19C821J5          | 500WV 820PF  | 5CMAB00144 |  |
| C28        | CAP,FXD CER    | CC45SL2H820JYP-FP   |              | 5CAAB01898 |  |
| C29        | CAP,FXD MICA   | DM19C152J5          | 500WV 1500PF | 5CMAB00147 |  |
| C30        | CAP,FXD CER    | CC45SL2H820JYP-FP   |              | 5CAAB01898 |  |
| C31        | CAP,FXD MICA   | DM19C681J5          | 500WV 680PF  | 5CMAB00143 |  |
| C33        | CAP,FXD MICA   | DM19C681J5          | 500WV 680PF  | 5CMAB00143 |  |
| C41        | CAP,FXD MICA   | DM19C102J5          | 500WV 1000PF | 5CMAB00145 |  |
| C42        | CAP,FXD CER    | CC45SL2H151JYP-FP   |              | 5CAAB01899 |  |
| C43        | CAP,FXD CER    | CC45SL2H680JYP-FP   |              | 5CAAB01897 |  |
| C45        | CAP,FXD MICA   | DM19C112J5          | 500WV 1100PF | 5CMAB00256 |  |
| C46        | CAP,FXD CER    | CC45SL2H820JYP-FP   |              | 5CAAB01898 |  |
| C47        | CAP,FXD MICA   | DM19C561J5          | 500WV 560PF  | 5CMAB00142 |  |
| C49        | CAP,FXD CER    | CC45SL2H471JYP-FP   |              | 5CAAB01901 |  |
| C50        | CAP,FXD CER    | CC45SL2H271JYP-FP   |              | 5CAAB01900 |  |
| C51        | CAP,FXD CER    | CC45SL2H331JYP-FP   |              | 5CAAB01902 |  |

| PARTS LIST |              |                   |             |            |  |
|------------|--------------|-------------------|-------------|------------|--|
| LPP        |              | TITLE             |             | SHEET NO.  |  |
|            |              | CFJ-122-2         |             | 2          |  |
| PARTS NO   | PARTS NAME   | TYPE              | DESCRIPTION | CODE       |  |
| C52        | CAP,FXD CER  | CC45SL2H470JYP-FP |             | 5CAAB01903 |  |
| C53        | CAP,FXD CER  | CC45SL2H331JYP-FP |             | 5CAAB01902 |  |
| C54        | CAP,FXD CER  | CC45SL2H101JYP-FP |             | 5CAAB01910 |  |
| C61        | CAP,FXD MICA | DM15C511J5        | 510PF 500WV | 5CMAB00175 |  |
| C62        | CAP,FXD CER  | CC45SL2H151JYP-FP |             | 5CAAB01899 |  |
| C63        | CAP,FXD CER  | CC45SL2H680JYP-FP |             | 5CAAB01897 |  |
| C65        | CAP,FXD CER  | CC45SL2H391JYP-FP |             | 5CAAB01904 |  |
| C66        | CAP,FXD CER  | CC45SL2H331JYP-FP |             | 5CAAB01902 |  |
| C67        | CAP,FXD CER  | CC45SL2H271JYP-FP |             | 5CAAB01900 |  |
| C69        | CAP,FXD MICA | DM19C561J5        | 500WV 560PF | 5CMAB00142 |  |
| C71        | CAP,FXD CER  | CC45SL2H221JYP-FP |             | 5CAAB01905 |  |
| C72        | CAP,FXD CER  | CC45SL2H820JYP-FP |             | 5CAAB01898 |  |
| C73        | CAP,FXD CER  | CC45SL2H221JYP-FP |             | 5CAAB01905 |  |
| C81        | CAP,FXD CER  | CC45SL2H101JYP-FP |             | 5CAAB01910 |  |
| C82        | CAP,FXD CER  | CC45SL2H101JYP-FP |             | 5CAAB01910 |  |
| C83        | CAP,FXD CER  | CC45SL2H470JYP-FP |             | 5CAAB01903 |  |
| C85        | CAP,FXD CER  | CC45SL2H271JYP-FP |             | 5CAAB01900 |  |
| C86        | CAP,FXD CER  | CC45SL2H470JYP-FP |             | 5CAAB01903 |  |
| C87        | CAP,FXD CER  | CC45SL2H221JYP-FP |             | 5CAAB01905 |  |
| C89        | CAP,FXD CER  | CC45SL2H271JYP-FP |             | 5CAAB01900 |  |
| C90        | CAP,FXD CER  | CC45SL2H470JYP-FP |             | 5CAAB01903 |  |
| C91        | CAP,FXD CER  | CC45SL2H121JYP-FP |             | 5CAAB01908 |  |
| C92        | CAP,FXD CER  | CC45SL2H100JYP-FP |             | 5CAAB01913 |  |
| C93        | CAP,FXD CER  | CC45SL2H560JYP-FP |             | 5CAAB01909 |  |
| C101       | CAP,FXD CER  | CC45SL2H101JYP-FP |             | 5CAAB01910 |  |
| C103       | CAP,FXD CER  | CC45SL2H270JYP-FP |             | 5CAAB01911 |  |
| C104       | CAP,FXD CER  | CC45SL2H120JYP-FP |             | 5CAAB01912 |  |
| C105       | CAP,FXD CER  | CC45SL2H151JYP-FP |             | 5CAAB01899 |  |
| C106       | CAP,FXD CER  | CC45SL2H270JYP-FP |             | 5CAAB01911 |  |
| C107       | CAP,FXD CER  | CC45SL2H151JYP-FP |             | 5CAAB01899 |  |
| C109       | CAP,FXD CER  | CC45SL2H151JYP-FP |             | 5CAAB01899 |  |
| C111       | CAP,FXD CER  | CC45SL2H151JYP-FP |             | 5CAAB01899 |  |
| C113       | CAP,FXD CER  | CC45SL2H680JYP-FP |             | 5CAAB01897 |  |
| C121       | CAP,FXD CER  | CC45SL2H470JYP-FP |             | 5CAAB01903 |  |
| C123       | CAP,FXD CER  | CC45SL2H220JYP-FP |             | 5CAAB01907 |  |

| PARTS LIST |                |                     |             |            | SHEET NO. |   |
|------------|----------------|---------------------|-------------|------------|-----------|---|
| LPF        |                | TITLE               |             | CFJ-122-2  |           | 3 |
| PARTS NO   | PARTS NAME     | TYPE                | DESCRIPTION | CODE       |           |   |
| C125       | CAP,FXD CER    | CC45SL2H680JYP-FP   |             | 5CAAB01897 |           |   |
| C126       | CAP,FXD CER    | CC45SL2H220JYP-FP   |             | 5CAAB01907 |           |   |
| C127       | CAP,FXD CER    | CC45SL2H820JYP      | 500V 82P    | 5CAAB01824 |           |   |
| C128       | CAP,FXD CER    | CC45SL2H090DYP-FP   |             | 5CAAB01919 |           |   |
| C129       | CAP,FXD CER    | CC45SL2H101JYP-FP   |             | 5CAAB01910 |           |   |
| C131       | CAP,FXD CER    | CC45SL2H390JYP-FP   |             | 5CAAB01915 |           |   |
| C132       | CAP,FXD CER    | CC45SL2H070DYP-FP   |             | 5CAAB01916 |           |   |
| C133       | CAP,FXD CER    | CC45SL2H150JYP-FP   |             | 5CAAB01917 |           |   |
| C151       | CAP,FXD CER    | CC45SL2H030DYP-FP   |             | 5CAAB01918 |           |   |
| C152       | CAP,FXD CER    | CC45SL2H030DYP-FP   |             | 5CAAB01918 |           |   |
| C153       | CAP,FXD CER    | C3216CH1H330J-E-TP  | 33PF        | 5CAAD00794 |           |   |
| C154       | CAP,FXD CER    | C3216CH1H330J-E-TP  | 33PF        | 5CAAD00794 |           |   |
| C155       | CAP,FXD CER    | C3216SL1H102J-E-TP  | 1000PF      | 5CAAD00782 |           |   |
| C156       | CAP,FXD CER    | C3216SL1H102J-E-TP  | 1000PF      | 5CAAD00782 |           |   |
| C157       | CAP,FXD CER    | C3216SL1H102J-E-TP  | 1000PF      | 5CAAD00782 |           |   |
| C158       | CAP,FXD CER    | C3216JB1H103K-E-TP  | 0.01UF      | 5CAAD00789 |           |   |
| C161       | CAP,FXD ELCTLT | ECE-A1EU330B        |             | 5CEAA01822 |           |   |
| C162       | CAP,FXD CER    | C3216X7R1H333K-E-TP | 50V 0.033U  | 5CAAD01357 |           |   |
| C163       | CAP,FXD CER    | C3216X7R1H333K-E-TP | 50V 0.033U  | 5CAAD01357 |           |   |
| C164       | CAP,FXD CER    | C3216X7R1H333K-E-TP | 50V 0.033U  | 5CAAD01357 |           |   |
| C165       | CAP,FXD CER    | C3216X7R1E104K-E-TP | 0.1UF       | 5CAAD01237 |           |   |
| C166       | CAP,FXD CER    | C3216X7R1E104K-E-TP | 0.1UF       | 5CAAD01237 |           |   |
| C168       | CAP,FXD CER    | C3216X7R1H333K-E-TP | 50V 0.033U  | 5CAAD01357 |           |   |
| C169       | CAP,FXD CER    | C3216X7R1E104K-E-TP | 0.1UF       | 5CAAD01237 |           |   |
| C170       | CAP,FXD ELCTLT | ECE-A1EU100B        |             | 5CEAA01864 |           |   |
| C171       | CAP,FXD CER    | C3216JB1H103K-E-TP  | 0.01UF      | 5CAAD00789 |           |   |
| C173       | CAP,FXD CER    | C3216X7R1E104K-E-TP | 0.1UF       | 5CAAD01237 |           |   |
| C174       | CAP,FXD CER    | C3216X7R1E104K-E-TP | 0.1UF       | 5CAAD01237 |           |   |
| C175       | CAP,FXD CER    | C3216X7R1E104K-E-TP | 0.1UF       | 5CAAD01237 |           |   |
| C178       | CAP,FXD CER    | C3216X7R1E104K-E-TP | 0.1UF       | 5CAAD01237 |           |   |
| C179       | CAP,FXD CER    | C3216X7R1E104K-E-TP | 0.1UF       | 5CAAD01237 |           |   |
| C180       | CAP,FXD CER    | C3216X7R1E104K-E-TP | 0.1UF       | 5CAAD01237 |           |   |
| C181       | CAP,FXD CER    | C3216X7R1E104K-E-TP | 0.1UF       | 5CAAD01237 |           |   |
| C182       | CAP,FXD CER    | C3216X7R1E104K-E-TP | 0.1UF       | 5CAAD01237 |           |   |

| PARTS LIST |                |                     |             |             | SHEET NO. |   |
|------------|----------------|---------------------|-------------|-------------|-----------|---|
| LPF        |                | TITLE               |             | CFJ-122-2   |           | 4 |
| PARTS NO   | PARTS NAME     | TYPE                | DESCRIPTION | CODE        |           |   |
| C193       | CAP,FXD TANTAL | 202L1602 226KB      |             | 5CSAC00939  |           |   |
| C194       | CAP,FXD CER    | C3216JB1H103K-E-TP  | 0.01UF      | 5CAAD00789  |           |   |
| C195       | CAP,FXD CER    | C3216JB1H103K-E-TP  | 0.01UF      | 5CAAD00789  |           |   |
| C196       | CAP,FXD CER    | C3216JB1H103K-E-TP  | 0.01UF      | 5CAAD00789  |           |   |
| C197       | CAP,FXD CER    | C3216JB1H103K-E-TP  | 0.01UF      | 5CAAD00789  |           |   |
| C198       | CAP,FXD CER    | C3216JB1H103K-E-TP  | 0.01UF      | 5CAAD00789  |           |   |
| C199       | CAP,FXD CER    | C3216X7R1E104K-E-TP | 0.1UF       | 5CAAD01237  |           |   |
| C200       | CAP,FXD CER    | C3216X7R1E104K-E-TP | 0.1UF       | 5CAAD01237  |           |   |
| C1671      | CAP,FXD CER    | C3216X7R1E104K-E-TP | 0.1UF       | 5CAAD01237  |           |   |
| C1672      | CAP,FXD CER    | C3216X7R1E104K-E-TP | 0.1UF       | 5CAAD01237  |           |   |
| C1673      | CAP,FXD CER    | C3216X7R1E104K-E-TP | 0.1UF       | 5CAAD01237  |           |   |
| CD151      | DIODE          | 1K34A               |             | 5TXCH00001  |           |   |
| CD152      | DIODE          | 1K34A               |             | 5TXCH00001  |           |   |
| CD153      | DIODE          | 1K34A               |             | 5TXCH00001  |           |   |
| CD171      | DIODE          | 1SS184 TE85L        |             | 5TXAD00290  |           |   |
| CD172      | DIODE          | 1SS184 TE85L        |             | 5TXAD00290  |           |   |
| CD173      | DIODE          | 1SS184 TE85L        |             | 5TXAD00290  |           |   |
| CD174      | DIODE          | RD5.1MB1-T1         |             | 5DXAA00515  |           |   |
| IC1        | IC             | TD62084AP           |             | 5DDAE00546  |           |   |
| IC2        | IC             | TC4028BP            |             | 5DDAE00069  |           |   |
| IC3        | IC             | NJM2904S            |             | 5DAAND00239 |           |   |
| IC4        | IC             | NJM2904S            |             | 5DAAND00239 |           |   |
| J38        | CONNECTOR      | IL-S-12P-S2T2-EF    |             | 5JWAD00156  |           |   |
| J39        | CONNECTOR      | IL-S-12P-S2T2-EF    |             | 5JWAD00156  |           |   |
| J40        | CONNECTOR      | TMP-J01X-V2         |             | 5JDAX00009  |           |   |
| J41-1      | CONNECTOR      | TMP-J01X-V2         |             | 5JDAX00009  |           |   |
| J42        | CONNECTOR      | TMP-J01X-V2         |             | 5JDAX00009  |           |   |
| K1         | RELAY          | UAM-22912           |             | 5KRAL00057  |           |   |
| K2         | RELAY          | TC-112M             |             | 5KRAL00027  |           |   |
| K3         | RELAY          | G6E-184P DC12V      | 12V         | 5KLBM00005  |           |   |
| K4         | RELAY          | G6E-184P DC12V      | 12V         | 5KLBM00005  |           |   |
| K5         | RELAY          | G6E-184P DC12V      | 12V         | 5KLBM00005  |           |   |
| K6         | RELAY          | G6E-184P DC12V      | 12V         | 5KLBM00005  |           |   |
| K7         | RELAY          | G6E-184P DC12V      | 12V         | 5KLBM00005  |           |   |
| K8         | RELAY          | G6E-184P DC12V      | 12V         | 5KLBM00005  |           |   |

## PARTS LIST

|          |              | TITLE          |              | SHEET NO.  |  |
|----------|--------------|----------------|--------------|------------|--|
|          |              | LPF            |              | CFJ-122-2  |  |
|          |              |                |              | 5          |  |
| PARTS NO | PARTS NAME   | TYPE           | DESCRIPTION  | CODE       |  |
| K9       | RELAY        | G6E-184P DC12V | 12V          | 5KLBM00005 |  |
| K10      | RELAY        | G6E-184P DC12V | 12V          | 5KLBM00005 |  |
| K11      | RELAY        | G6E-184P DC12V | 12V          | 5KLBM00005 |  |
| K12      | RELAY        | G6E-184P DC12V | 12V          | 5KLBM00005 |  |
| K13      | RELAY        | G6E-184P DC12V | 12V          | 5KLBM00005 |  |
| K14      | RELAY        | G6E-184P DC12V | 12V          | 5KLBM00005 |  |
| L21      | COIL         | H-6LFJD30300   | 3.0UH        | 6LFJD30300 |  |
| L22      | COIL         | H-6LFJD30240   | 2.4UH        | 6LFJD30240 |  |
| L23      | COIL         | H-6LFJD30270   | 2.7UH        | 6LFJD30270 |  |
| L41      | COIL         | H-6LFJD30240   | 2.4UH        | 6LFJD30240 |  |
| L42      | COIL         | H-6LFJD30160   | 1.6UH        | 6LFJD30160 |  |
| L43      | COIL         | H-6LFJD30160   | 1.6UH        | 6LFJD30160 |  |
| L61      | COIL         | H-6LFJD30140   |              | 6LFJD30140 |  |
| L62      | COIL         | H-6LFJD30120   | 1.2UH        | 6LFJD30120 |  |
| L63      | COIL         | H-6LFJD82110   | 1.1UH        | 6LFJD82110 |  |
| L81      | COIL         | H-6LFJD30100   | 1UH          | 6LFJD30100 |  |
| L82      | COIL         | H-6LFJD81068   | 0.68UH       | 6LFJD81068 |  |
| L83      | COIL         | H-6LFJD82075   | 0.75UH       | 6LFJD82075 |  |
| L101     | COIL         | H-6LFJD81056   | 0.56UH       | 6LFJD81056 |  |
| L102     | COIL         | H-6LFJD81039   | 0.39UH       | 6LFJD81039 |  |
| L103     | COIL         | H-6LFJD82039   | 0.39UH       | 6LFJD82039 |  |
| L121     | COIL         | H-6LFJD60039   |              | 6LFJD60039 |  |
| L122     | COIL         | H-6LFJD60027   | 0.27UH       | 6LFJD60027 |  |
| L123     | COIL         | H-6LFJD70030   |              | 6LFJD70030 |  |
| L161     | COIL         | LAL03VB100K    | 10UH         | 5LCAA00273 |  |
| PC1      | PCB          | H-6PCJD00255B  |              | 6PCJD00255 |  |
| R1       | RESISTOR FXD | ERJ-8GEYJ471V  | 1/8W 470 OHM | SREAG01734 |  |
| R2       | RESISTOR FXD | ERJ-8GEYJ471V  | 1/8W 470 OHM | SREAG01734 |  |
| R3       | RESISTOR FXD | ERJ-8GEYJ471V  | 1/8W 470 OHM | SREAG01734 |  |
| R4       | RESISTOR FXD | ERJ-8GEYJ471V  | 1/8W 470 OHM | SREAG01734 |  |
| R5       | RESISTOR FXD | ERJ-8GEYJ471V  | 1/8W 470 OHM | SREAG01734 |  |
| R153     | RESISTOR FXD | ERJ-8GEYJ683V  | 1/8W 68K OHM | SREAG01760 |  |
| R154     | RESISTOR FXD | ERJ-8GEYJ683V  | 1/8W 68K OHM | SREAG01760 |  |
| R155     | RESISTOR FXD | ERJ-8GEYJ103V  | 1/8W 10K OHM | SREAG01750 |  |

## PARTS LIST

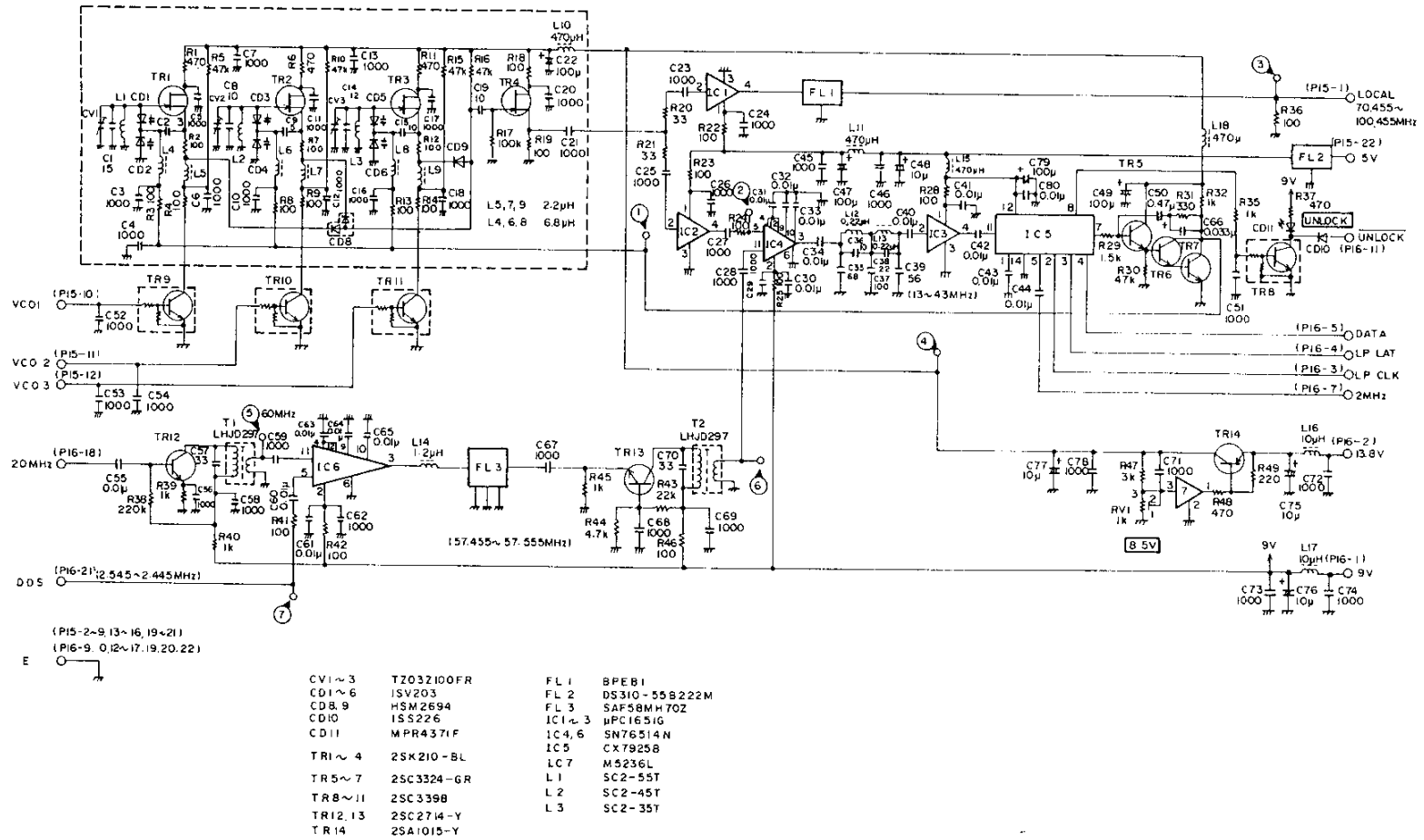
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|----------|--------------|--------------------|---------------|------------|--|
|          |              | LPF                |               | CFJ-122-2  |  |
|          |              |                    |               | 6          |  |
| PARTS NO | PARTS NAME   | TYPE               | DESCRIPTION   | CODE       |  |
| R156     | RESISTOR FXD | ERJ-8GEYJ103V      | 1/8W 10K OHM  | SREAG01750 |  |
| R158     | RESISTOR FXD | ERJ-8GEYJ333V      | 1/8W 33K OHM  | SREAG01756 |  |
| R159     | RESISTOR FXD | ERJ-8GEYJ103V      | 1/8W 10K OHM  | SREAG01750 |  |
| R161     | RESISTOR FXD | ERJ-8GEYJ104V      | 1/8W 100K OHM | SREAG01762 |  |
| R162     | RESISTOR FXD | ERJ-8GEYJ563V      |               | SREAG01759 |  |
| R163     | RESISTOR FXD | ERJ-8GEYJ104V      | 1/8W 100K OHM | SREAG01762 |  |
| R164     | RESISTOR FXD | ERJ-8GEYJ103V      | 1/8W 10K OHM  | SREAG01750 |  |
| R165     | RESISTOR FXD | ERJ-8GEYJ221V      | 1/8W 220 OHM  | SREAG01730 |  |
| R166     | RESISTOR FXD | ERJ-8GEYJ473V      | 1/8W 47K OHM  | SREAG01758 |  |
| R167     | RESISTOR FXD | ERJ-8GEYJ682V      | 1/8W 6.8K OHM | SREAG01748 |  |
| R168     | RESISTOR FXD | ERJ-8GEYJ104V      | 1/8W 100K OHM | SREAG01762 |  |
| R169     | RESISTOR FXD | ERJ-8GEYJ474V      | 1/8W 470K OHM | SREAG01770 |  |
| R170     | RESISTOR FXD | ERJ-8GEYJ271V      | 1/8W 270 OHM  | SREAG01731 |  |
| R171     | RESISTOR FXD | ERJ-8GEYJ152V      | 1/8W 1.5K OHM | SREAG01740 |  |
| R172     | RESISTOR FXD | ERJ-8GEYJ104V      | 1/8W 100K OHM | SREAG01762 |  |
| R173     | RESISTOR FXD | ERJ-8GEYJ105V      | 1/8W 1M OHM   | SREAG01774 |  |
| R175     | RESISTOR FXD | ERJ-8GEYJ473V      | 1/8W 47K OHM  | SREAG01758 |  |
| R176     | RESISTOR FXD | HMGL1/4A-10M OHM J |               | SREAA05607 |  |
| R180     | RESISTOR FXD | ERJ-8GEYJ221V      | 1/8W 220 OHM  | SREAG01730 |  |
| R181     | RESISTOR FXD | ERJ-8GEYJ222V      | 1/8W 2.2K OHM | SREAG01742 |  |
| R192     | RESISTOR FXD | ERJ-8GEYJ471V      | 1/8W 470 OHM  | SREAG01734 |  |
| R193     | RESISTOR FXD | ERJ-8GEYJ471V      | 1/8W 470 OHM  | SREAG01734 |  |
| R194     | RESISTOR FXD | ERJ-8GEYJ471V      | 1/8W 470 OHM  | SREAG01734 |  |
| R195     | RESISTOR FXD | ERJ-8GEYJ471V      | 1/8W 470 OHM  | SREAG01734 |  |
| R1511    | RESISTOR FXD | ERJ-8GEYJ331V      | 1/8W,330 OHM  | SREAG01732 |  |
| R1512    | RESISTOR FXD | ERJ-8GEYJ331V      | 1/8W,330 OHM  | SREAG01732 |  |
| R1513    | RESISTOR FXD | ERJ-8GEYJ331V      | 1/8W,330 OHM  | SREAG01732 |  |
| R1514    | RESISTOR FXD | ERJ-8GEYJ331V      | 1/8W,330 OHM  | SREAG01732 |  |
| R1521    | RESISTOR FXD | ERJ-8GEYJ331V      | 1/8W,330 OHM  | SREAG01732 |  |
| R1522    | RESISTOR FXD | ERJ-8GEYJ331V      | 1/8W,330 OHM  | SREAG01732 |  |
| R1523    | RESISTOR FXD | ERJ-8GEYJ331V      | 1/8W,330 OHM  | SREAG01732 |  |
| R1524    | RESISTOR FXD | ERJ-8GEYJ331V      | 1/8W,330 OHM  | SREAG01732 |  |
| R1571    | RESISTOR FXD | ERJ-8GEYJ471V      | 1/8W 470 OHM  | SREAG01734 |  |
| R1572    | RESISTOR FXD | ERJ-8GEYJ471V      | 1/8W 470 OHM  | SREAG01734 |  |

| PARTS LIST |              |                |              |            |  |
|------------|--------------|----------------|--------------|------------|--|
|            |              | TITLE          |              | SHEET NO.  |  |
| LPP        |              | CFJ-122-2      |              | 7          |  |
| PARTS NO   | PARTS NAME   | TYPE           | DESCRIPTION  | CODE       |  |
| R1573      | RESISTOR FXD | ERJ-8GEYJ471V  | 1/8W 470 OHM | 5REAG01734 |  |
| R1574      | RESISTOR FXD | ERJ-8GEYJ471V  | 1/8W 470 OHM | 5REAG01734 |  |
| RV191      | RESISTOR VAR | EVN-D1AA00B14  | 10K OHM      | 5RVAB00324 |  |
| RV192      | RESISTOR VAR | EVN-D1AA00B14  | 10K OHM      | 5RVAB00324 |  |
| RV193      | RESISTOR VAR | EVN-D1AA00B14  | 10K OHM      | 5RVAB00324 |  |
| T151       | RF XFMR      | H-6LHJD00420   |              | 6LHJD00420 |  |
| T152       | RF XFMR      | H-6LHJD00420   |              | 6LHJD00420 |  |
| TR161      | TRANSISTOR   | 2SC3398-TB     |              | 5TCAZ00011 |  |
| TR171      | TRANSISTOR   | 2SK210BL-TE85L |              | 5TKAA00189 |  |
| TR172      | TRANSISTOR   | 2SC3398-TB     |              | 5TCAZ00011 |  |
| TR191      | TRANSISTOR   | 2SC3398-TB     |              | 5TCAZ00011 |  |
| TR192      | TRANSISTOR   | 2SC3398-TB     |              | 5TCAZ00011 |  |
| TR193      | TRANSISTOR   | 2SC3398-TB     |              | 5TCAZ00011 |  |

FOR SERVICE MANUALS  
CONTACT:  
MAURITRON TECHNICAL SERVICES  
www.mauritron.co.uk  
TEL: 01844 - 351694  
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Figure 6.6.1

LOOP1 UNIT CGA-145 Circuit Diagram



FOR SERVICE MANUALS  
 CONTACT:  
**MAURITRON TECHNICAL SERVICES**  
[www.mauritron.co.uk](http://www.mauritron.co.uk)  
 TEL: 01844 - 351694  
 FAX: 01844 - 352554

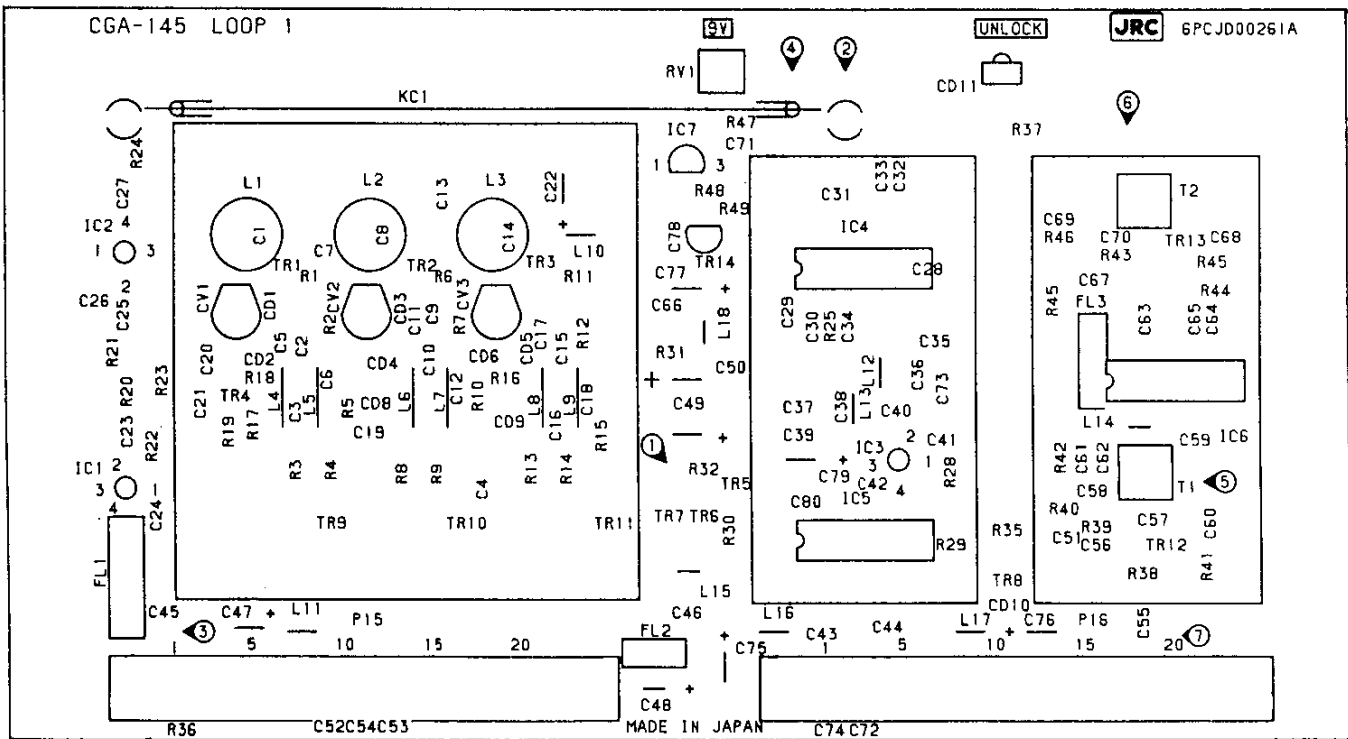


Figure 6.6.2 LOOP1 UNIT CGA-145 Component Layout

| PARTS LIST |                |                    |             |            |  |
|------------|----------------|--------------------|-------------|------------|--|
|            |                | TITLE              |             | SHEET NO.  |  |
|            |                | LOOP1              |             | CGA-145    |  |
| PARTS NO   | PARTS NAME     | TYPE               | DESCRIPTION | CODE       |  |
| C1         | CAP,FXD CER    | C3216CH1H150J-E-TP | 15PF        | SCAAD00787 |  |
| C2         | CAP,FXD CER    | C3216CH1H030C-E-TP | 50V 3PF     | SCAAD00796 |  |
| C3         | CAP,FXD CER    | C3216SL1H102J-E-TP | 1000PF      | SCAAD00782 |  |
| C4         | CAP,FXD CER    | C3216SL1H102J-E-TP | 1000PF      | SCAAD00782 |  |
| C5         | CAP,FXD CER    | C3216SL1H102J-E-TP | 1000PF      | SCAAD00782 |  |
| C6         | CAP,FXD CER    | C3216SL1H102J-E-TP | 1000PF      | SCAAD00782 |  |
| C7         | CAP,FXD CER    | C3216SL1H102J-E-TP | 1000PF      | SCAAD00782 |  |
| C8         | CAP,FXD CER    | C3216CH1H100D-E-TP |             | SCAAD00862 |  |
| C9         | CAP,FXD CER    | C3216CH1H050C-E-TP | 50V 5PF     | SCAAD00800 |  |
| C10        | CAP,FXD CER    | C3216SL1H102J-E-TP | 1000PF      | SCAAD00782 |  |
| C11        | CAP,FXD CER    | C3216SL1H102J-E-TP | 1000PF      | SCAAD00782 |  |
| C12        | CAP,FXD CER    | C3216SL1H102J-E-TP | 1000PF      | SCAAD00782 |  |
| C13        | CAP,FXD CER    | C3216SL1H102J-E-TP | 1000PF      | SCAAD00782 |  |
| C14        | CAP,FXD CER    | C3216CH1H120J-E-TP | 12P         | SCAAD00784 |  |
| C15        | CAP,FXD CER    | C3216CH1H100D-E-TP | 10PF        | SCAAD00785 |  |
| C16        | CAP,FXD CER    | C3216SL1H102J-E-TP | 1000PF      | SCAAD00782 |  |
| C17        | CAP,FXD CER    | C3216SL1H102J-E-TP | 1000PF      | SCAAD00782 |  |
| C18        | CAP,FXD CER    | C3216SL1H102J-E-TP | 1000PF      | SCAAD00782 |  |
| C19        | CAP,FXD CER    | C3216CH1H100D-E-TP | 10PF        | SCAAD00785 |  |
| C20        | CAP,FXD CER    | C3216SL1H102J-E-TP | 1000PF      | SCAAD00782 |  |
| C21        | CAP,FXD CER    | C3216SL1H102J-E-TP | 1000PF      | SCAAD00782 |  |
| C22        | CAP,FXD ELCTLT | ECE-A1EU101B       |             | SCAAA01813 |  |
| C23        | CAP,FXD CER    | C3216SL1H102J-E-TP | 1000PF      | SCAAD00782 |  |
| C24        | CAP,FXD CER    | C3216SL1H102J-E-TP | 1000PF      | SCAAD00782 |  |
| C25        | CAP,FXD CER    | C3216SL1H102J-E-TP | 1000PF      | SCAAD00782 |  |
| C26        | CAP,FXD CER    | C3216SL1H102J-E-TP | 1000PF      | SCAAD00782 |  |
| C27        | CAP,FXD CER    | C3216SL1H102J-E-TP | 1000PF      | SCAAD00782 |  |
| C28        | CAP,FXD CER    | C3216SL1H102J-E-TP | 1000PF      | SCAAD00782 |  |
| C29        | CAP,FXD CER    | C3216SL1H102J-E-TP | 1000PF      | SCAAD00782 |  |
| C30        | CAP,FXD CER    | C3216JB1H103K-E-TP | 50V 0.01UF  | SCAAD00789 |  |
| C31        | CAP,FXD CER    | C3216JB1H103K-E-TP | 50V 0.01UF  | SCAAD00789 |  |
| C32        | CAP,FXD CER    | C3216JB1H103K-E-TP | 50V 0.01UF  | SCAAD00789 |  |
| C33        | CAP,FXD CER    | C3216JB1H103K-E-TP | 50V 0.01UF  | SCAAD00789 |  |
| C34        | CAP,FXD CER    | C3216JB1H103K-E-TP | 50V 0.01UF  | SCAAD00789 |  |
| C35        | CAP,FXD CER    | C3216CH1H680J-E-TP | 68PF        | SCAAD00929 |  |

| PARTS LIST |                |                     |             |            |  |
|------------|----------------|---------------------|-------------|------------|--|
|            |                | TITLE               |             | SHEET NO.  |  |
|            |                | LOOP1               |             | CGA-145    |  |
| PARTS NO   | PARTS NAME     | TYPE                | DESCRIPTION | CODE       |  |
| C36        | CAP,FXD CER    | C3216CH1H100D-E-TP  | 10PF        | SCAAD00785 |  |
| C37        | CAP,FXD CER    | C3216CH1H101J-E-TP  | 50V 100PF   | SCAAD00780 |  |
| C38        | CAP,FXD CER    | C3216CH1H220J-E-TP  | 22PF        | SCAAD00869 |  |
| C39        | CAP,FXD CER    | C3216CH1H560J-E-TP  |             | SCAAD00863 |  |
| C40        | CAP,FXD CER    | C3216JB1H103K-E-TP  | 50V 0.01UF  | SCAAD00789 |  |
| C41        | CAP,FXD CER    | C3216JB1H103K-E-TP  | 50V 0.01UF  | SCAAD00789 |  |
| C42        | CAP,FXD CER    | C3216JB1H103K-E-TP  | 50V 0.01UF  | SCAAD00789 |  |
| C43        | CAP,FXD CER    | C3216JB1H103K-E-TP  | 50V 0.01UF  | SCAAD00789 |  |
| C44        | CAP,FXD CER    | C3216JB1H103K-E-TP  | 50V 0.01UF  | SCAAD00789 |  |
| C45        | CAP,FXD CER    | C3216SL1H102J-E-TP  | 1000PF      | SCAAD00782 |  |
| C46        | CAP,FXD CER    | C3216SL1H102J-E-TP  | 1000PF      | SCAAD00782 |  |
| C47        | CAP,FXD ELCTLT | ECE-A1EU101B        |             | SCAAA01813 |  |
| C48        | CAP,FXD ELCTLT | ECE-A1EU100B        |             | SCAAA01864 |  |
| C49        | CAP,FXD ELCTLT | ECE-A1EU101B        |             | SCAAA01813 |  |
| C50        | CAP,FXD TANTAL | 202L3502 474KB      |             | SCSAC01065 |  |
| C51        | CAP,FXD CER    | C3216SL1H102J-E-TP  | 1000PF      | SCAAD00782 |  |
| C52        | CAP,FXD CER    | C3216SL1H102J-E-TP  | 1000PF      | SCAAD00782 |  |
| C53        | CAP,FXD CER    | C3216SL1H102J-E-TP  | 1000PF      | SCAAD00782 |  |
| C54        | CAP,FXD CER    | C3216SL1H102J-E-TP  | 1000PF      | SCAAD00782 |  |
| C55        | CAP,FXD CER    | C3216JB1H103K-E-TP  | 50V 0.01UF  | SCAAD00789 |  |
| C56        | CAP,FXD CER    | C3216SL1H102J-E-TP  | 1000PF      | SCAAD00782 |  |
| C57        | CAP,FXD CER    | C3216CH1H330J-E-TP  | 33PF        | SCAAD00794 |  |
| C58        | CAP,FXD CER    | C3216SL1H102J-E-TP  | 1000PF      | SCAAD00782 |  |
| C59        | CAP,FXD CER    | C3216SL1H102J-E-TP  | 1000PF      | SCAAD00782 |  |
| C60        | CAP,FXD CER    | C3216JB1H103K-E-TP  | 50V 0.01UF  | SCAAD00789 |  |
| C61        | CAP,FXD CER    | C3216JB1H103K-E-TP  | 50V 0.01UF  | SCAAD00789 |  |
| C62        | CAP,FXD CER    | C3216SL1H102J-E-TP  | 1000PF      | SCAAD00782 |  |
| C63        | CAP,FXD CER    | C3216JB1H103K-E-TP  | 50V 0.01UF  | SCAAD00789 |  |
| C64        | CAP,FXD CER    | C3216JB1H103K-E-TP  | 50V 0.01UF  | SCAAD00789 |  |
| C65        | CAP,FXD CER    | C3216JB1H103K-E-TP  | 50V 0.01UF  | SCAAD00789 |  |
| C66        | CAP,FXD CER    | C3216X7R1H333K-E-TP | 50V 0.033U  | SCAAD01357 |  |
| C67        | CAP,FXD CER    | C3216SL1H102J-E-TP  | 1000PF      | SCAAD00782 |  |
| C68        | CAP,FXD CER    | C3216SL1H102J-E-TP  | 1000PF      | SCAAD00782 |  |
| C69        | CAP,FXD CER    | C3216SL1H102J-E-TP  | 1000PF      | SCAAD00782 |  |
| C70        | CAP,FXD CER    | C3216CH1H330J-E-TP  | 33PF        | SCAAD00794 |  |

| PARTS LIST |                |                    |               |            |  |
|------------|----------------|--------------------|---------------|------------|--|
|            |                | TITLE              |               | SHEET NO.  |  |
| LOOP1      |                | CGA-145            |               | 3          |  |
| PARTS NO   | PARTS NAME     | TYPE               | DESCRIPTION   | CODE       |  |
| C71        | CAP,FXD CER    | C3216SL1H102J-E-TP | 1000PF        | 5CAAD00782 |  |
| C72        | CAP,FXD CER    | C3216SL1H102J-E-TP | 1000PF        | 5CAAD00782 |  |
| C73        | CAP,FXD CER    | C3216SL1H102J-E-TP | 1000PF        | 5CAAD00782 |  |
| C74        | CAP,FXD CER    | C3216SL1H102J-E-TP | 1000PF        | 5CAAD00782 |  |
| C75        | CAP,FXD ELCTLT | ECE-A1EU100B       |               | 5CEAA01864 |  |
| C76        | CAP,FXD ELCTLT | ECE-A1EU100B       |               | 5CEAA01864 |  |
| C77        | CAP,FXD TANTAL | 202L1602 106KB     |               | 5CSAC00932 |  |
| C78        | CAP,FXD CER    | C3216SL1H102J-E-TP | 1000PF        | 5CAAD00782 |  |
| C79        | CAP,FXD ELCTLT | ECE-A1EU101B       |               | 5CEAA01813 |  |
| C80        | CAP,FXD CER    | C3216JB1H103K-E-TP | 50V 0.01UF    | 5CAAD00789 |  |
| CD1        | DIODE          | 1SV203-7TLC        |               | 5TXAE00678 |  |
| CD2        | DIODE          | 1SV203-7TLC        |               | 5TXAE00678 |  |
| CD3        | DIODE          | 1SV203-7TLC        |               | 5TXAE00678 |  |
| CD4        | DIODE          | 1SV203-7TLC        |               | 5TXAE00678 |  |
| CD5        | DIODE          | 1SV203-7TLC        |               | 5TXAE00678 |  |
| CD6        | DIODE          | 1SV203-7TLC        |               | 5TXAE00678 |  |
| CD8        | DIODE          | HSM2694TLC         |               | 5TXAE00627 |  |
| CD9        | DIODE          | HSM2694TLC         |               | 5TXAE00627 |  |
| CD10       | DIODE          | 1SS226 TEB5L       |               | 5TXAD00320 |  |
| CD11       | DIODE          | MPR4371F           |               | 5TXBG00037 |  |
| CV1        | CAPACITOR VAR  | TZ03Z100FR         | 10PF          | 5CVAA00190 |  |
| CV2        | CAPACITOR VAR  | TZ03Z100FR         | 10PF          | 5CVAA00190 |  |
| CV3        | CAPACITOR VAR  | TZ03Z100FR         | 10PF          | 5CVAA00190 |  |
| FL1        | FILTER         | 8PEB1              |               | 5NBAG00011 |  |
| FL2        | FILTER         | DS310-55B222M      | 100V 0.0022UF | 5NXAA00002 |  |
| FL3        | FILTER         | SAF58MH70Z         |               | 5NRAA00191 |  |
| IC1        | IC             | UPC1651G           |               | 5DAAA00171 |  |
| IC2        | IC             | UPC1651G           |               | 5DAAA00171 |  |
| IC3        | IC             | UPC1651G           |               | 5DAAA00171 |  |
| IC4        | IC             | SN76514N           |               | 5DDAL00251 |  |
| IC5        | IC             | CX7925B            |               | 5DZCJ00008 |  |
| IC6        | IC             | SN76514N           |               | 5DDAL00251 |  |
| IC7        | IC             | MS236L             |               | 5DDAB00170 |  |
| KC1        | CABLE          | H-6ZCJD35003       |               | 6ZCJD35003 |  |
| L1         | COIL           | SC2-55T 3775       |               | 5LZNL00001 |  |

| PARTS LIST |              |                 |              |            |  |
|------------|--------------|-----------------|--------------|------------|--|
|            |              | TITLE           |              | SHEET NO.  |  |
| LOOP1      |              | CGA-145         |              | 4          |  |
| PARTS NO   | PARTS NAME   | TYPE            | DESCRIPTION  | CODE       |  |
| L2         | COIL         | SC2-45T         |              | 5LZNL00002 |  |
| L3         | COIL         | SC2-35T 3775    |              | 5LZNL00003 |  |
| L4         | COIL         | LAL03KH6R8K     |              | 5LCAA00437 |  |
| L5         | COIL         | LAL03KH2R2M     | 2.2UH        | 5LCAA00326 |  |
| L6         | COIL         | LAL03KH6R8K     |              | 5LCAA00437 |  |
| L7         | COIL         | LAL03KH2R2M     | 2.2UH        | 5LCAA00326 |  |
| L8         | COIL         | LAL03KH6R8K     |              | 5LCAA00437 |  |
| L9         | COIL         | LAL03KH2R2M     | 2.2UH        | 5LCAA00326 |  |
| L10        | COIL         | LAL03VB471K     | 470UH        | 5LCAA00270 |  |
| L11        | COIL         | LAL03VB471K     | 470UH        | 5LCAA00270 |  |
| L12        | COIL         | LAL03VBR22M     | 0.22UH       | 5LCAA00280 |  |
| L13        | COIL         | LAL03VBR22M     | 0.22UH       | 5LCAA00280 |  |
| L14        | COIL         | LAL03VB1R2M     |              | 5LCAA00334 |  |
| L15        | COIL         | LAL03VB471K     | 470UH        | 5LCAA00270 |  |
| L16        | COIL         | LAL03VB100K     | 10UH         | 5LCAA00273 |  |
| L17        | COIL         | LAL03VB100K     | 10UH         | 5LCAA00273 |  |
| L18        | COIL         | LAL03VB471K     | 470UH        | 5LCAA00270 |  |
| P15        | CONNECTOR    | EC1C-22P-2.5DSA | 22P          | 5JWBS00070 |  |
| P16        | CONNECTOR    | EC1C-22P-2.5DSA | 22P          | 5JWBS00070 |  |
| PC1        | PCB          | H-6PCJD00261A   |              | 6PCJD00261 |  |
| R1         | RESISTOR FXD | ERJ-8GEYJ471V   | 1/8W 470 OHM | 5REAG01734 |  |
| R2         | RESISTOR FXD | ERJ-8GEYJ101V   | 1/8W 100 OHM | 5REAG01726 |  |
| R3         | RESISTOR FXD | ERJ-8GEYJ101V   | 1/8W 100 OHM | 5REAG01726 |  |
| R4         | RESISTOR FXD | ERJ-8GEYJ101V   | 1/8W 100 OHM | 5REAG01726 |  |
| R5         | RESISTOR FXD | ERJ-8GEYJ473V   | 1/8W 47K OHM | 5REAG01758 |  |
| R6         | RESISTOR FXD | ERJ-8GEYJ471V   | 1/8W 470 OHM | 5REAG01734 |  |
| R7         | RESISTOR FXD | ERJ-8GEYJ101V   | 1/8W 100 OHM | 5REAG01726 |  |
| R8         | RESISTOR FXD | ERJ-8GEYJ101V   | 1/8W 100 OHM | 5REAG01726 |  |
| R9         | RESISTOR FXD | ERJ-8GEYJ101V   | 1/8W 100 OHM | 5REAG01726 |  |
| R10        | RESISTOR FXD | ERJ-8GEYJ473V   | 1/8W 47K OHM | 5REAG01758 |  |
| R11        | RESISTOR FXD | ERJ-8GEYJ471V   | 1/8W 470 OHM | 5REAG01734 |  |
| R12        | RESISTOR FXD | ERJ-8GEYJ101V   | 1/8W 100 OHM | 5REAG01726 |  |
| R13        | RESISTOR FXD | ERJ-8GEYJ101V   | 1/8W 100 OHM | 5REAG01726 |  |
| R14        | RESISTOR FXD | ERJ-8GEYJ101V   | 1/8W 100 OHM | 5REAG01726 |  |
| R15        | RESISTOR FXD | ERJ-8GEYJ473V   | 1/8W 47K OHM | 5REAG01758 |  |

| PARTS LIST |               |               |               |            |  |
|------------|---------------|---------------|---------------|------------|--|
| TITLE      |               |               |               | SHEET NO.  |  |
| LOOP1      |               |               |               | 5          |  |
| PARTS NO   | PARTS NAME    | TYPE          | DESCRIPTION   | CODE       |  |
| R16        | RESISTOR FXD  | ERJ-8GEYJ473V | 1/8W 47K OHM  | 5REAG01758 |  |
| R17        | RESISTOR FXD  | ERJ-8GEYJ104V | 1/8W 100K OHM | 5REAG01762 |  |
| R18        | RESISTOR FXD  | ERJ-8GEYJ101V | 1/8W 100 OHM  | 5REAG01726 |  |
| R19        | RESISTOR FXD  | ERJ-8GEYJ101V | 1/8W 100 OHM  | 5REAG01726 |  |
| R20        | RESISTOR FXD  | ERJ-8GEYJ330V | 1/8W 33 OHM   | 5REAG01720 |  |
| R21        | RESISTOR FXD  | ERJ-8GEYJ330V | 1/8W 33 OHM   | 5REAG01720 |  |
| R22        | RESISTOR FXD  | ERJ-8GEYJ101V | 1/8W 100 OHM  | 5REAG01726 |  |
| R23        | RESISTOR FXD  | ERJ-8GEYJ101V | 1/8W 100 OHM  | 5REAG01726 |  |
| R24        | RESISTOR FXD  | ERJ-8GEYJ101V | 1/8W 100 OHM  | 5REAG01726 |  |
| R25        | RESISTOR FXD  | ERJ-8GEYJ101V | 1/8W 100 OHM  | 5REAG01726 |  |
| R28        | RESISTOR FXD  | ERJ-8GEYJ101V | 1/8W 100 OHM  | 5REAG01726 |  |
| R29        | RESISTOR FXD  | ERJ-8GEYJ152V | 1/8W 1.5K OHM | 5REAG01740 |  |
| R30        | RESISTOR FXD  | ERJ-8GEYJ473V | 1/8W 47K OHM  | 5REAG01758 |  |
| R31        | RESISTOR FXD  | ERJ-8GEYJ331V | 1/8W 330 OHM  | 5REAG01732 |  |
| R32        | RESISTOR FXD  | ERJ-8GEYJ102V | 1/8W 1K OHM   | 5REAG01738 |  |
| R35        | RESISTOR FXD  | ERJ-8GEYJ102V | 1/8W 1K OHM   | 5REAG01738 |  |
| R36        | RESISTOR FXD  | ERJ-8GEYJ101V | 1/8W 100 OHM  | 5REAG01726 |  |
| R37        | RESISTOR FXD  | ERJ-8GEYJ471V | 1/8W 470 OHM  | 5REAG01734 |  |
| R38        | RESISTOR FXD  | ERJ-8GEYJ224V | 1/8W 220K OHM | 5REAG01766 |  |
| R39        | RESISTOR FXD  | ERJ-8GEYJ102V | 1/8W 1K OHM   | 5REAG01738 |  |
| R40        | RESISTOR FXD  | ERJ-8GEYJ102V | 1/8W 1K OHM   | 5REAG01738 |  |
| R41        | RESISTOR FXD  | ERJ-8GEYJ101V | 1/8W 100 OHM  | 5REAG01726 |  |
| R42        | RESISTOR FXD  | ERJ-8GEYJ101V | 1/8W 100 OHM  | 5REAG01726 |  |
| R43        | RESISTOR FXD  | ERJ-8GEYJ223V | 1/8W 22K OHM  | 5REAG01754 |  |
| R44        | RESISTOR FXD  | ERJ-8GEYJ472V | 1/8W 4.7K OHM | 5REAG01746 |  |
| R45        | RESISTOR FXD  | ERJ-8GEYJ102V | 1/8W 1K OHM   | 5REAG01738 |  |
| R46        | RESISTOR FXD  | ERJ-8GEYJ101V | 1/8W 100 OHM  | 5REAG01726 |  |
| R47        | RESISTOR FXD  | ERJ-8GEYJ302V | 1/8W 3K OHM   | 5REAG02211 |  |
| R48        | RESISTOR FXD  | ERJ-8GEYJ471V | 1/8W 470 OHM  | 5REAG01734 |  |
| R49        | RESISTOR FXD  | ERJ-8GEYJ221V | 1/8W 220 OHM  | 5REAG01730 |  |
| RV1        | RESISTOR VAR  | EVN-D1AA00B13 | 1K OHM        | 5RVAB00313 |  |
| T1         | RF XFMR       | H-6LHJD00297  |               | 6LHJD00297 |  |
| T2         | RF XFMR       | H-6LHJD00297  |               | 6LHJD00297 |  |
| TP1        | TEST TERMINAL | PCN6-PEA      |               | 5JDAA00364 |  |
| TP2        | TEST TERMINAL | PCN6-PEA      |               | 5JDAA00364 |  |

| PARTS LIST |               |                 |             |            |
|------------|---------------|-----------------|-------------|------------|
| TITLE      |               |                 |             | SHEET NO.  |
| LOOP1      |               |                 |             | 6          |
| PARTS NO   | PARTS NAME    | TYPE            | DESCRIPTION | CODE       |
| TP3        | TEST TERMINAL | PCN6-PEA        |             | 5JDAA00364 |
| TP4        | TEST TERMINAL | PCN6-PEA        |             | 5JDAA00364 |
| TP5        | TEST TERMINAL | PCN6-PEA        |             | 5JDAA00364 |
| TP6        | TEST TERMINAL | PCN6-PEA        |             | 5JDAA00364 |
| TP7        | TEST TERMINAL | PCN6-PEA        |             | 5JDAA00364 |
| TR1        | TRANSISTOR    | 2SK210BL-TE85L  |             | 5TKAA00189 |
| TR2        | TRANSISTOR    | 2SK210BL-TE85L  |             | 5TKAA00189 |
| TR3        | TRANSISTOR    | 2SK210BL-TE85L  |             | 5TKAA00189 |
| TR4        | TRANSISTOR    | 2SK210BL-TE85L  |             | 5TKAA00189 |
| TR5        | TRANSISTOR    | 2SC3324GR TE85L |             | 5TCAF00711 |
| TR6        | TRANSISTOR    | 2SC3324GR TE85L |             | 5TCAF00711 |
| TR7        | TRANSISTOR    | 2SC3324GR TE85L |             | 5TCAF00711 |
| TR8        | TRANSISTOR    | 2SC3398-TB      |             | 5TCAZ00011 |
| TR9        | TRANSISTOR    | 2SC3398-TB      |             | 5TCAZ00011 |
| TR10       | TRANSISTOR    | 2SC3398-TB      |             | 5TCAZ00011 |
| TR11       | TRANSISTOR    | 2SC3398-TB      |             | 5TCAZ00011 |
| TR12       | TRANSISTOR    | 2SC2714Y TE85L  |             | 5TCAF00436 |
| TR13       | TRANSISTOR    | 2SC2714Y TE85L  |             | 5TCAF00436 |
| TR14       | TRANSISTOR    | 2SA1015-Y       |             | 5TAAG00070 |

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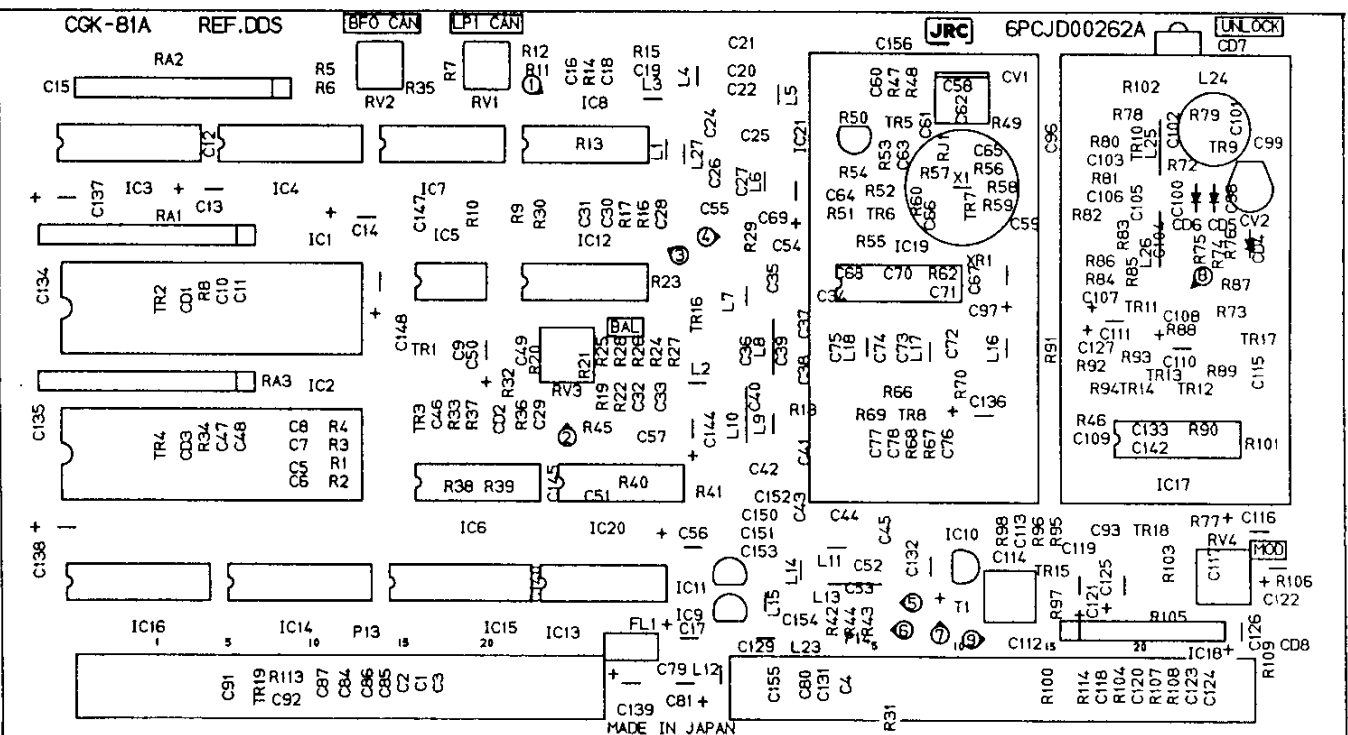


Figure 6.7.2 REF DDS UNIT CGK-81A Component Layout

| PARTS LIST |                |                    |             |            |  |
|------------|----------------|--------------------|-------------|------------|--|
| REF DDS    |                | TITLE              |             | SHEET NO.  |  |
|            |                | CGK-81A            |             | 1          |  |
| PARTS NO   | PARTS NAME     | TYPE               | DESCRIPTION | CODE       |  |
| C1         | CAP,FXD CER    | C3216SL1H102J-E-TP | 1000PF      | SCAAD00782 |  |
| C2         | CAP,FXD CER    | C3216SL1H102J-E-TP | 1000PF      | SCAAD00782 |  |
| C3         | CAP,FXD CER    | C3216SL1H102J-E-TP | 1000PF      | SCAAD00782 |  |
| C4         | CAP,FXD CER    | C3216SL1H102J-E-TP | 1000PF      | SCAAD00782 |  |
| C5         | CAP,FXD CER    | C3216SL1H102J-E-TP | 1000PF      | SCAAD00782 |  |
| C6         | CAP,FXD CER    | C3216SL1H102J-E-TP | 1000PF      | SCAAD00782 |  |
| C7         | CAP,FXD CER    | C3216SL1H102J-E-TP | 1000PF      | SCAAD00782 |  |
| C8         | CAP,FXD CER    | C3216SL1H102J-E-TP | 1000PF      | SCAAD00782 |  |
| C9         | CAP,FXD CER    | C3216JB1E333K-E-TP |             | SCAAD01235 |  |
| C10        | CAP,FXD CER    | C3216CH1H101J-E-TP | 100PF       | SCAAD00780 |  |
| C11        | CAP,FXD CER    | C3216CH1H470J-E-TP | 47PF        | SCAAD00864 |  |
| C12        | CAP,FXD CER    | C3216JB1H103K-E-TP | 0.01UF      | SCAAD00789 |  |
| C13        | CAP,FXD ELCTLT | ECE-A1EU101B       |             | SCEAA01813 |  |
| C14        | CAP,FXD ELCTLT | ECE-A1EU101B       |             | SCEAA01813 |  |
| C15        | CAP,FXD CER    | C3216JB1H103K-E-TP | 0.01UF      | SCAAD00789 |  |
| C16        | CAP,FXD CER    | C3216JB1E333K-E-TP |             | SCAAD01235 |  |
| C17        | CAP,FXD ELCTLT | ECE-A1EU100B       |             | SCEAA01864 |  |
| C18        | CAP,FXD CER    | C3216SL1H821J-E-TP |             | SCAAD01068 |  |
| C19        | CAP,FXD CER    | C3216CH1H121J-E-TP | 120PF       | SCAAD00931 |  |
| C20        | CAP,FXD CER    | C3216SL1H152J-E-TP | 1500PF      | SCAAD00791 |  |
| C21        | CAP,FXD CER    | C3216CH1H331J-E-TP | 330PF       | SCAAD01066 |  |
| C22        | CAP,FXD CER    | C3216SL1H102J-E-TP | 1000PF      | SCAAD00782 |  |
| C24        | CAP,FXD CER    | C3216CH1H471J-E-TP | 470PF       | SCAAD00797 |  |
| C25        | CAP,FXD CER    | C3216JB1H332K-E-TP | 3300PF      | SCAAD01599 |  |
| C26        | CAP,FXD CER    | C3216CH1H331J-E-TP | 330PF       | SCAAD01066 |  |
| C27        | CAP,FXD CER    | C3216SL1H122J-E-TP |             | SCAAD01069 |  |
| C28        | CAP,FXD CER    | C3216SL1H102J-E-TP | 1000PF      | SCAAD00782 |  |
| C29        | CAP,FXD CER    | C3216JB1H103K-E-TP | 0.01UF      | SCAAD00789 |  |
| C30        | CAP,FXD CER    | C3216JB1E333K-E-TP |             | SCAAD01235 |  |
| C31        | CAP,FXD CER    | C3216JB1E333K-E-TP |             | SCAAD01235 |  |
| C32        | CAP,FXD CER    | C3216JB1E333K-E-TP |             | SCAAD01235 |  |
| C33        | CAP,FXD CER    | C3216JB1E333K-E-TP |             | SCAAD01235 |  |
| C34        | CAP,FXD CER    | C3216SL1H152J-E-TP | 1500PF      | SCAAD00791 |  |
| C35        | CAP,FXD CER    | C3216CH1H121J-E-TP | 120PF       | SCAAD00931 |  |
| C36        | CAP,FXD CER    | C3216SL1H222J-E-TP | 2200PF      | SCAAD00792 |  |

| PARTS LIST |                |                     |             |            |  |
|------------|----------------|---------------------|-------------|------------|--|
| REF DDS    |                | TITLE               |             | SHEET NO.  |  |
|            |                | CGK-81A             |             | 2          |  |
| PARTS NO   | PARTS NAME     | TYPE                | DESCRIPTION | CODE       |  |
| C37        | CAP,FXD CER    | C3216SL1H821J-E-TP  |             | SCAAD01068 |  |
| C38        | CAP,FXD CER    | C3216SL1H222J-E-TP  | 2200PF      | SCAAD00792 |  |
| C39        | CAP,FXD CER    | C3216CH1H561J-E-TP  |             | SCAAD01067 |  |
| C40        | CAP,FXD CER    | C3216SL1H152J-E-TP  | 1500PF      | SCAAD00791 |  |
| C41        | CAP,FXD CER    | C3216SL1H102J-E-TP  | 1000PF      | SCAAD00782 |  |
| C42        | CAP,FXD CER    | C3216JB1H153K-E-TP  |             | SCAAD01600 |  |
| C43        | CAP,FXD CER    | C3216CH1H681J-E-TP  | 680P        | SCAAD00788 |  |
| C44        | CAP,FXD CER    | C3216JB1H682K-E-TP  |             | SCAAD01137 |  |
| C45        | CAP,FXD CER    | C3216CH1H681J-E-TP  | 680P        | SCAAD00788 |  |
| C46        | CAP,FXD CER    | C3216JB1E333K-E-TP  |             | SCAAD01235 |  |
| C47        | CAP,FXD CER    | C3216CH1H101J-E-TP  | 100PF       | SCAAD00780 |  |
| C48        | CAP,FXD CER    | C3216CH1H470J-E-TP  | 47PF        | SCAAD00864 |  |
| C49        | CAP,FXD CER    | C3216JB1H103K-E-TP  | 0.01UF      | SCAAD00789 |  |
| C50        | CAP,FXD ELCTLT | ECE-A1EU101B        |             | SCEAA01813 |  |
| C51        | CAP,FXD CER    | C3216JB1E333K-E-TP  |             | SCAAD01235 |  |
| C52        | CAP,FXD CER    | C3216JB1H682K-E-TP  |             | SCAAD01137 |  |
| C53        | CAP,FXD CER    | C3216SL1H122J-E-TP  |             | SCAAD01069 |  |
| C54        | CAP,FXD CER    | C3216JB1H103K-E-TP  | 0.01UF      | SCAAD00789 |  |
| C55        | CAP,FXD CER    | C3216JB1H103K-E-TP  | 0.01UF      | SCAAD00789 |  |
| C56        | CAP,FXD ELCTLT | ECE-A1EU100B        |             | SCEAA01864 |  |
| C57        | CAP,FXD CER    | C3216JB1H103K-E-TP  | 0.01UF      | SCAAD00789 |  |
| C58        | CAP,FXD CER    | C3216CH1H070D-E-TP  | 7PF         | SCAAD00977 |  |
| C59        | CAP,FXD CER    | C3216JB1H103K-E-TP  | 0.01UF      | SCAAD00789 |  |
| C60        | CAP,FXD CER    | C3216X7R1E104K-E-TP | 0.1UF       | SCAAD01237 |  |
| C61        | CAP,FXD CER    | C3216CH1H221J-E-TP  | 220PF       | SCAAD00790 |  |
| C62        | CAP,FXD CER    | C3216CH1H101J-E-TP  | 100PF       | SCAAD00780 |  |
| C63        | CAP,FXD CER    | C3216CH1H220J-E-TP  | 22PF        | SCAAD00869 |  |
| C64        | CAP,FXD CER    | C3216JB1H103K-E-TP  | 0.01UF      | SCAAD00789 |  |
| C65        | CAP,FXD CER    | C3216CH1H220J-E-TP  | 22PF        | SCAAD00869 |  |
| C66        | CAP,FXD CER    | C3216JB1H103K-E-TP  | 0.01UF      | SCAAD00789 |  |
| C67        | CAP,FXD CER    | C3216JB1H103K-E-TP  | 0.01UF      | SCAAD00789 |  |
| C68        | CAP,FXD CER    | C3216JB1H103K-E-TP  | 0.01UF      | SCAAD00789 |  |
| C69        | CAP,FXD ELCTLT | ECE-A1EU100B        |             | SCEAA01864 |  |
| C70        | CAP,FXD CER    | C3216JB1H103K-E-TP  | 0.01UF      | SCAAD00789 |  |
| C71        | CAP,FXD CER    | C3216SL1H222J-E-TP  | 2200PF      | SCAAD00792 |  |

## PARTS LIST

|          |                | TITLE              |             | SHEET NO.  |  |
|----------|----------------|--------------------|-------------|------------|--|
| REF      |                | DDS                |             | CGK-81A    |  |
| PARTS NO | PARTS NAME     | TYPE               | DESCRIPTION | CODE       |  |
| C72      | CAP,FXD CER    | C3216CH1H21J-E-TP  | 120PF       | 5CAAD00931 |  |
| C73      | CAP,FXD CER    | C3216SL1H22J-E-TP  | 2200PF      | 5CAAD00792 |  |
| C74      | CAP,FXD CER    | C3216CH1H271J-E-TP | 50V 270PF   | 5CAAD00883 |  |
| C75      | CAP,FXD CER    | C3216SL1H22J-E-TP  | 2200PF      | 5CAAD00792 |  |
| C76      | CAP,FXD CER    | C3216JB1H103K-E-TP | 0.01UF      | 5CAAD00789 |  |
| C77      | CAP,FXD CER    | C3216JB1H103K-E-TP | 0.01UF      | 5CAAD00789 |  |
| C78      | CAP,FXD CER    | C3216JB1H103K-E-TP | 0.01UF      | 5CAAD00789 |  |
| C79      | CAP,FXD CER    | C3216JB1H103K-E-TP | 0.01UF      | 5CAAD00789 |  |
| C80      | CAP,FXD CER    | C3216JB1H103K-E-TP | 0.01UF      | 5CAAD00789 |  |
| C81      | CAP,FXD ELCTLT | ECE-A1EU100B       |             | 5CEAA01864 |  |
| C84      | CAP,FXD CER    | C3216SL1H102J-E-TP | 1000PF      | 5CAAD00782 |  |
| C85      | CAP,FXD CER    | C3216SL1H102J-E-TP | 1000PF      | 5CAAD00782 |  |
| C86      | CAP,FXD CER    | C3216SL1H102J-E-TP | 1000PF      | 5CAAD00782 |  |
| C87      | CAP,FXD CER    | C3216SL1H102J-E-TP | 1000PF      | 5CAAD00782 |  |
| C91      | CAP,FXD CER    | C3216SL1H102J-E-TP | 1000PF      | 5CAAD00782 |  |
| C92      | CAP,FXD CER    | C3216SL1H102J-E-TP | 1000PF      | 5CAAD00782 |  |
| C93      | CAP,FXD CER    | C3216SL1H102J-E-TP | 1000PF      | 5CAAD00782 |  |
| C96      | CAP,FXD CER    | C3216SL1H102J-E-TP | 1000PF      | 5CAAD00782 |  |
| C97      | CAP,FXD ELCTLT | ECE-A1EU101B       |             | 5CEAA01813 |  |
| C98      | CAP,FXD CER    | C3216CH1H030C-E-TP | 3PF         | 5CAAD00796 |  |
| C99      | CAP,FXD CER    | C3216CH1H270J-E-TP | 27P         | 5CAAD00793 |  |
| C100     | CAP,FXD CER    | C3216CH1H030C-E-TP | 3PF         | 5CAAD00796 |  |
| C101     | CAP,FXD CER    | C3216SL1H102J-E-TP | 1000PF      | 5CAAD00782 |  |
| C102     | CAP,FXD CER    | C3216SL1H102J-E-TP | 1000PF      | 5CAAD00782 |  |
| C103     | CAP,FXD CER    | C3216SL1H102J-E-TP | 1000PF      | 5CAAD00782 |  |
| C104     | CAP,FXD CER    | C3216SL1H102J-E-TP | 1000PF      | 5CAAD00782 |  |
| C105     | CAP,FXD CER    | C3216SL1H102J-E-TP | 1000PF      | 5CAAD00782 |  |
| C106     | CAP,FXD CER    | C3216SL1H102J-E-TP | 1000PF      | 5CAAD00782 |  |
| C107     | CAP,FXD CER    | C3216SL1H102J-E-TP | 1000PF      | 5CAAD00782 |  |
| C108     | CAP,FXD CER    | C3216SL1H102J-E-TP | 1000PF      | 5CAAD00782 |  |
| C109     | CAP,FXD CER    | C3216JB1H103K-E-TP | 0.01UF      | 5CAAD00789 |  |
| C110     | CAP,FXD TANTAL | 202L2502 106KB     | 25V 10UF    | 5CSAC00950 |  |
| C111     | CAP,FXD ELCTLT | ECE-A1EU101B       |             | 5CEAA01813 |  |
| C112     | CAP,FXD CER    | C3216SL1H102J-E-TP | 1000PF      | 5CAAD00782 |  |
| C113     | CAP,FXD CER    | C3216SL1H102J-E-TP | 1000PF      | 5CAAD00782 |  |

## PARTS LIST

|          |                | TITLE              |             | SHEET NO.  |  |
|----------|----------------|--------------------|-------------|------------|--|
| REF      |                | DDS                |             | CGK-81A    |  |
| PARTS NO | PARTS NAME     | TYPE               | DESCRIPTION | CODE       |  |
| C114     | CAP,FXD CER    | C3216CH1H220J-E-TP | 22PF        | 5CAAD00869 |  |
| C115     | CAP,FXD CER    | C3216SL1H102J-E-TP | 1000PF      | 5CAAD00782 |  |
| C116     | CAP,FXD TANTAL | 202L3502 105KB     | 35V 1UF     | 5CSAC00982 |  |
| C117     | CAP,FXD CER    | C3216JB1H103K-E-TP | 0.01UF      | 5CAAD00789 |  |
| C118     | CAP,FXD CER    | C3216SL1H331J-E-TP | 330PF       | 5CAAD00918 |  |
| C119     | CAP,FXD ELCTLT | ECE-A1EU100B       |             | 5CEAA01864 |  |
| C120     | CAP,FXD CER    | C3216SL1H152J-E-TP | 1500PF      | 5CAAD00791 |  |
| C121     | CAP,FXD CER    | C3216CH1H101J-E-TP | 100PF       | 5CAAD00780 |  |
| C122     | CAP,FXD TANTAL | 202L3502 105KB     | 35V 1UF     | 5CSAC00982 |  |
| C123     | CAP,FXD CER    | C3216JB1E333K-E-TP |             | 5CAAD01235 |  |
| C124     | CAP,FXD CER    | C3216CH1H151J-E-TP | 150P        | 5CAAD00870 |  |
| C125     | CAP,FXD ELCTLT | ECE-A1EU100B       |             | 5CEAA01864 |  |
| C126     | CAP,FXD ELCTLT | ECE-A1EU100B       |             | 5CEAA01864 |  |
| C127     | CAP,FXD CER    | C3216JB1H103K-E-TP | 0.01UF      | 5CAAD00789 |  |
| C129     | CAP,FXD CER    | C3216JB1H103K-E-TP | 0.01UF      | 5CAAD00789 |  |
| C131     | CAP,FXD CER    | C3216JB1H103K-E-TP | 0.01UF      | 5CAAD00789 |  |
| C132     | CAP,FXD ELCTLT | ECE-A1EU100B       |             | 5CEAA01864 |  |
| C133     | CAP,FXD CER    | C3216JB1H103K-E-TP | 0.01UF      | 5CAAD00789 |  |
| C134     | CAP,FXD CER    | C3216JB1H103K-E-TP | 0.01UF      | 5CAAD00789 |  |
| C135     | CAP,FXD CER    | C3216JB1H103K-E-TP | 0.01UF      | 5CAAD00789 |  |
| C136     | CAP,FXD ELCTLT | ECE-A1EU100B       |             | 5CEAA01864 |  |
| C137     | CAP,FXD ELCTLT | ECE-A1EU100B       |             | 5CEAA01864 |  |
| C138     | CAP,FXD ELCTLT | ECE-A1EU100B       |             | 5CEAA01864 |  |
| C139     | CAP,FXD ELCTLT | ECE-A1EU100B       |             | 5CEAA01864 |  |
| C140     | CAP,FXD CER    | C3216JB1H103K-E-TP | 0.01UF      | 5CAAD00789 |  |
| C142     | CAP,FXD CER    | C3216JB1H103K-E-TP | 0.01UF      | 5CAAD00789 |  |
| C144     | CAP,FXD ELCTLT | ECE-A1EU101B       |             | 5CEAA01813 |  |
| C145     | CAP,FXD CER    | C3216JB1H103K-E-TP | 0.01UF      | 5CAAD00789 |  |
| C147     | CAP,FXD CER    | C3216JB1H103K-E-TP | 0.01UF      | 5CAAD00789 |  |
| C148     | CAP,FXD ELCTLT | ECE-A1EU101B       |             | 5CEAA01813 |  |
| C150     | CAP,FXD CER    | C3216JB1H682K-E-TP |             | 5CAAD01137 |  |
| C151     | CAP,FXD CER    | C3216SL1H821J-E-TP |             | 5CAAD01068 |  |
| C152     | CAP,FXD CER    | C3216JB1H103K-E-TP | 0.01UF      | 5CAAD00789 |  |
| C153     | CAP,FXD CER    | C3216JB1H332K-E-TP | 3300PF      | 5CAAD01599 |  |
| C154     | CAP,FXD CER    | C3216JB1H472K-E-TP | 4700PF      | 5CAAD01138 |  |

| PARTS LIST |               |                            |               |            | SHEET NO. |   |
|------------|---------------|----------------------------|---------------|------------|-----------|---|
| REF DDS    |               | TITLE                      |               | C6K-81A    |           | 5 |
| PARTS NO   | PARTS NAME    | TYPE                       | DESCRIPTION   | CODE       |           |   |
| C155       | CAP,FXD CER   | C3216SL1H102J-E-TP         | 1000PF        | 5CAAD00782 |           |   |
| C156       | CAP,FXD CER   | DD105TH390J50              |               | 5CBAB02366 |           |   |
| CD1        | DIODE         | 1SS184 TE85L               |               | 5TXAD00290 |           |   |
| CD2        | DIODE         | 1SS181 TE85L               |               | 5TXAD00356 |           |   |
| CD3        | DIODE         | 1SS184 TE85L               |               | 5TXAD00290 |           |   |
| CD4        | DIODE         | 1SV203-7TLC                |               | 5TXAE00678 |           |   |
| CD5        | DIODE         | 1SV203-7TLC                |               | 5TXAE00678 |           |   |
| CD6        | DIODE         | 1SV203-7TLC                |               | 5TXAE00678 |           |   |
| CD7        | DIODE         | MPR4371F                   |               | 5TXBG00037 |           |   |
| CD8        | DIODE         | 1SS184 TE85L               |               | 5TXAD00290 |           |   |
| CV1        | CAPACITOR VAR | ECR-HB010A11               |               | 5CVAC00134 |           |   |
| CV2        | CAPACITOR VAR | TZ03Z100FR                 | 10PF          | 5CVAA00190 |           |   |
| FL1        | FILTER        | DS310-55B222M              | 100V D.0022UF | 5NXAA00002 |           |   |
| IC1        | IC            | H-6DDJD00018 MB67116<br>8P |               | 6DDJD00018 |           |   |
| IC2        | IC            | H-6DDJD00018 MB67116<br>8P |               | 6DDJD00018 |           |   |
| IC3        | IC            | TC5020BP                   |               | 5DDAE00235 |           |   |
| IC4        | IC            | TC5020BP                   |               | 5DDAE00235 |           |   |
| IC5        | IC            | NJM3404AD                  |               | 5DAAN00161 |           |   |
| IC6        | IC            | NJM319D                    |               | 5DAAN00206 |           |   |
| IC7        | IC            | NJM319D                    |               | 5DAAN00206 |           |   |
| IC8        | IC            | TC4013BAP                  |               | 5DDAE00817 |           |   |
| IC9        | IC            | NJM78L08A                  | 8V 100MA      | 5DAAN00079 |           |   |
| IC10       | IC            | NJM78L08A                  | 8V 100MA      | 5DAAN00079 |           |   |
| IC11       | IC            | NJM78L05A                  | 5V 100MA      | 5DAAN00046 |           |   |
| IC12       | IC            | MC1496P                    |               | 5DAAJ00083 |           |   |
| IC13       | IC            | TC74HC00P                  |               | 5DDAE00439 |           |   |
| IC14       | IC            | TC74HC259P                 |               | 5DDAE00609 |           |   |
| IC15       | IC            | TC74HC138P                 |               | 5DDAE00440 |           |   |
| IC16       | IC            | TC74HC138P                 |               | 5DDAE00440 |           |   |
| IC17       | IC            | CX7925B                    |               | 5DZCJ00008 |           |   |
| IC18       | IC            | AN6410                     |               | 5DAAR00057 |           |   |
| IC19       | IC            | SN74LS90N                  |               | 5DDAL00116 |           |   |
| IC20       | IC            | TC4013BAP                  |               | 5DDAE00817 |           |   |
| IC21       | IC            | NJM78L05A                  | 5V 100MA      | 5DAAN00046 |           |   |
| L1         | COIL          | LAL03VB471K                | 470UH         | 5LCAA00270 |           |   |

| PARTS LIST |              |                 |               |            | SHEET NO. |   |
|------------|--------------|-----------------|---------------|------------|-----------|---|
| REF DDS    |              | TITLE           |               | C6K-81A    |           | 6 |
| PARTS NO   | PARTS NAME   | TYPE            | DESCRIPTION   | CODE       |           |   |
| L2         | COIL         | LAL03VB471K     | 470UH         | 5LCAA00270 |           |   |
| L3         | COIL         | LAL03VB121K     |               | 5LCAA00440 |           |   |
| L4         | COIL         | LAL03VB101K     |               | 5LCAA00333 |           |   |
| L5         | COIL         | LAL03VB221K     | 220UH         | 5LCAA00272 |           |   |
| L6         | COIL         | LAL03VB271K     |               | 5LCAA00438 |           |   |
| L7         | COIL         | LAL03VB3R9K     |               | 5LCAA00338 |           |   |
| L8         | COIL         | LAL03KH2R7M     |               | 5LCAA00439 |           |   |
| L9         | COIL         | LAL03VB2R7M     |               | 5LCAA00329 |           |   |
| L10        | COIL         | LAL03KH2R7M     |               | 5LCAA00439 |           |   |
| L11        | COIL         | LAL03VB2R7M     |               | 5LCAA00329 |           |   |
| L12        | COIL         | LAL03VB100K     | 10UH          | 5LCAA00273 |           |   |
| L13        | COIL         | LAL03KH2R7M     |               | 5LCAA00439 |           |   |
| L14        | COIL         | LAL03VB150K     |               | 5LCAA00324 |           |   |
| L15        | COIL         | LAL03VB120K     |               | 5LCAA00386 |           |   |
| L16        | COIL         | LAL03VB100K     | 10UH          | 5LCAA00273 |           |   |
| L17        | COIL         | LAL03VB3R9K     |               | 5LCAA00338 |           |   |
| L18        | COIL         | LAL03VB3R9K     |               | 5LCAA00338 |           |   |
| L23        | COIL         | LAL03VB100K     | 10UH          | 5LCAA00273 |           |   |
| L24        | COIL         | SC2-45T         |               | 5LZNL00002 |           |   |
| L25        | COIL         | LAL03KH2R2M     | 2.2UH         | 5LCAA00326 |           |   |
| L26        | COIL         | LAL03KH2R2M     | 2.2UH         | 5LCAA00326 |           |   |
| L27        | COIL         | LAL03VB471K     | 470UH         | 5LCAA00270 |           |   |
| P13        | CONNECTOR    | EC1C-22P-2.5DSA | 22P           | 5JWBS00070 |           |   |
| P14        | CONNECTOR    | EC1C-22P-2.5DSA | 22P           | 5JWBS00070 |           |   |
| PC1        | PCB          | H-6PCJD00262A   |               | 6PCJD00262 |           |   |
| R1         | RESISTOR FXD | ERJ-8GEYJ101V   | 1/8W 100 OHM  | 5REAG01726 |           |   |
| R2         | RESISTOR FXD | ERJ-8GEYJ101V   | 1/8W 100 OHM  | 5REAG01726 |           |   |
| R3         | RESISTOR FXD | ERJ-8GEYJ101V   | 1/8W 100 OHM  | 5REAG01726 |           |   |
| R4         | RESISTOR FXD | ERJ-8GEYJ101V   | 1/8W 100 OHM  | 5REAG01726 |           |   |
| R5         | RESISTOR FXD | ERJ-8GEYJ123V   | 1/8W 12K OHM  | 5REAG01751 |           |   |
| R6         | RESISTOR FXD | ERJ-8GEYJ822V   |               | 5REAG01749 |           |   |
| R7         | RESISTOR FXD | ERJ-8GEYJ122V   | 1/8W 1.2K OHM | 5REAG01739 |           |   |
| R8         | RESISTOR FXD | ERJ-8GEYJ103V   | 1/8W 10K OHM  | 5REAG01750 |           |   |
| R9         | RESISTOR FXD | ERJ-8GEYJ123V   | 1/8W 12K OHM  | 5REAG01751 |           |   |
| R10        | RESISTOR FXD | ERJ-8GEYJ101V   | 1/8W 100 OHM  | 5REAG01726 |           |   |

## PARTS LIST

|          |              | REF DDS       |               | TITLE      | SHEET NO. |
|----------|--------------|---------------|---------------|------------|-----------|
|          |              |               |               | CGK-81A    | 7         |
| PARTS NO | PARTS NAME   | TYPE          | DESCRIPTION   | CODE       |           |
| R11      | RESISTOR FXD | ERJ-8GEYJ153V | 1/8W 15K OHM  | SREAG01752 |           |
| R12      | RESISTOR FXD | ERJ-8GEYJ153V | 1/8W 15K OHM  | SREAG01752 |           |
| R13      | RESISTOR FXD | ERJ-8GEYJ472V | 1/8W 4.7K OHM | SREAG01746 |           |
| R14      | RESISTOR FXD | ERJ-8GEYJ471V | 1/8W 470 OHM  | SREAG01734 |           |
| R15      | RESISTOR FXD | ERJ-8GEYJ471V | 1/8W 470 OHM  | SREAG01734 |           |
| R16      | RESISTOR FXD | ERJ-8GEYJ221V | 1/8W 220 OHM  | SREAG01730 |           |
| R17      | RESISTOR FXD | ERJ-8GEYJ471V | 1/8W 470 OHM  | SREAG01734 |           |
| R18      | RESISTOR FXD | ERJ-8GEYJ221V | 1/8W 220 OHM  | SREAG01730 |           |
| R19      | RESISTOR FXD | ERJ-8GEYJ102V | 1/8W 1K OHM   | SREAG01738 |           |
| R20      | RESISTOR FXD | ERJ-8GEYJ101V | 1/8W 100 OHM  | SREAG01726 |           |
| R21      | RESISTOR FXD | ERJ-8GEYJ101V | 1/8W 100 OHM  | SREAG01726 |           |
| R22      | RESISTOR FXD | ERJ-8GEYJ821V | 1/8W 820 OHM  | SREAG01737 |           |
| R23      | RESISTOR FXD | ERJ-8GEYJ101V | 1/8W 100 OHM  | SREAG01726 |           |
| R24      | RESISTOR FXD | ERJ-8GEYJ122V | 1/8W 1.2K OHM | SREAG01739 |           |
| R25      | RESISTOR FXD | ERJ-8GEYJ103V | 1/8W 10K OHM  | SREAG01750 |           |
| R26      | RESISTOR FXD | ERJ-8GEYJ332V | 1/8W 3.3K OHM | SREAG01744 |           |
| R27      | RESISTOR FXD | ERJ-8GEYJ101V | 1/8W 100 OHM  | SREAG01726 |           |
| R28      | RESISTOR FXD | ERJ-8GEYJ332V | 1/8W 3.3K OHM | SREAG01744 |           |
| R29      | RESISTOR FXD | ERJ-8GEYJ102V | 1/8W 1K OHM   | SREAG01738 |           |
| R30      | RESISTOR FXD | ERJ-8GEYJ102V | 1/8W 1K OHM   | SREAG01738 |           |
| R32      | RESISTOR FXD | ERJ-8GEYJ221V | 1/8W 220 OHM  | SREAG01730 |           |
| R33      | RESISTOR FXD | ERJ-8GEYJ102V | 1/8W 1K OHM   | SREAG01738 |           |
| R34      | RESISTOR FXD | ERJ-8GEYJ103V | 1/8W 10K OHM  | SREAG01750 |           |
| R35      | RESISTOR FXD | ERJ-8GEYJ122V | 1/8W 1.2K OHM | SREAG01739 |           |
| R36      | RESISTOR FXD | ERJ-8GEYJ123V | 1/8W 12K OHM  | SREAG01751 |           |
| R37      | RESISTOR FXD | ERJ-8GEYJ101V | 1/8W 100 OHM  | SREAG01726 |           |
| R38      | RESISTOR FXD | ERJ-8GEYJ153V | 1/8W 15K OHM  | SREAG01752 |           |
| R39      | RESISTOR FXD | ERJ-8GEYJ153V | 1/8W 15K OHM  | SREAG01752 |           |
| R40      | RESISTOR FXD | ERJ-8GEYJ472V | 1/8W 4.7K OHM | SREAG01746 |           |
| R41      | RESISTOR FXD | ERJ-8GEYJ470V | 1/8W 47 OHM   | SREAG01722 |           |
| R42      | RESISTOR FXD | ERJ-8GEYJ100V | 1/8W 10 OHM   | SREAG01714 |           |
| R43      | RESISTOR FXD | ERJ-8GEYJ100V | 1/8W 10 OHM   | SREAG01714 |           |
| R44      | RESISTOR FXD | ERJ-8GEYJ151V | 1/8W 150 OHM  | SREAG01728 |           |
| R45      | RESISTOR FXD | ERJ-8GEYJ101V | 1/8W 100 OHM  | SREAG01726 |           |
| R46      | RESISTOR FXD | ERJ-8GEYJ221V | 1/8W 220 OHM  | SREAG01730 |           |

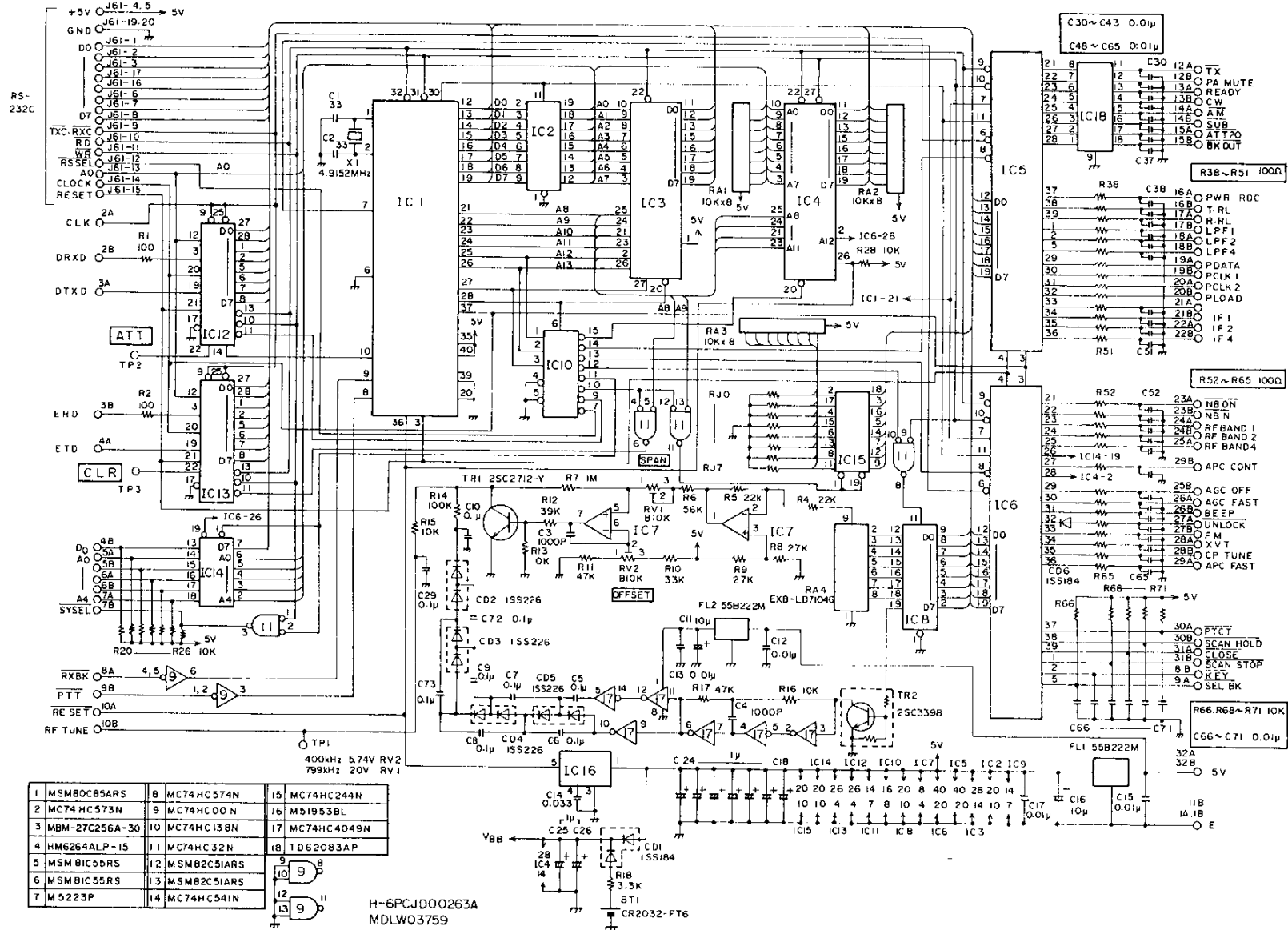
## PARTS LIST

|          |              | REF DDS       |               | TITLE      | SHEET NO. |
|----------|--------------|---------------|---------------|------------|-----------|
|          |              |               |               | CGK-81A    | 8         |
| PARTS NO | PARTS NAME   | TYPE          | DESCRIPTION   | CODE       |           |
| R47      | RESISTOR FXD | ERJ-8GEYJ183V | 1/8W 18K OHM  | SREAG01753 |           |
| R48      | RESISTOR FXD | ERJ-8GEYJ103V | 1/8W 10K OHM  | SREAG01750 |           |
| R49      | RESISTOR FXD | ERJ-8GEYJ471V | 1/8W 470 OHM  | SREAG01734 |           |
| R50      | RESISTOR FXD | ERJ-8GEYJ102V | 1/8W 1K OHM   | SREAG01738 |           |
| R51      | RESISTOR FXD | ERJ-8GEYJ221V | 1/8W 220 OHM  | SREAG01730 |           |
| R52      | RESISTOR FXD | ERJ-8GEYJ103V | 1/8W 10K OHM  | SREAG01750 |           |
| R53      | RESISTOR FXD | ERJ-8GEY0R00V | 0 OHM         | SREAG01775 |           |
| R54      | RESISTOR FXD | ERJ-8GEYJ103V | 1/8W 10K OHM  | SREAG01750 |           |
| R55      | RESISTOR FXD | ERJ-8GEYJ221V | 1/8W 220 OHM  | SREAG01730 |           |
| R56      | RESISTOR FXD | ERJ-8GEYJ153V | 1/8W 15K OHM  | SREAG01752 |           |
| R57      | RESISTOR FXD | ERJ-8GEYJ223V | 1/8W 22K OHM  | SREAG01754 |           |
| R58      | RESISTOR FXD | ERJ-8GEYJ223V | 1/8W 22K OHM  | SREAG01754 |           |
| R59      | RESISTOR FXD | ERJ-8GEYJ331V | 1/8W 330 OHM  | SREAG01732 |           |
| R60      | RESISTOR FXD | ERJ-8GEYJ221V | 1/8W 220 OHM  | SREAG01730 |           |
| R62      | RESISTOR FXD | ERJ-8GEYJ470V | 1/8W 47 OHM   | SREAG01722 |           |
| R66      | RESISTOR FXD | ERJ-8GEYJ223V | 1/8W 22K OHM  | SREAG01754 |           |
| R67      | RESISTOR FXD | ERJ-8GEYJ223V | 1/8W 22K OHM  | SREAG01754 |           |
| R68      | RESISTOR FXD | ERJ-8GEYJ222V | 1/8W 2.2K OHM | SREAG01742 |           |
| R69      | RESISTOR FXD | ERJ-8GEYJ221V | 1/8W 220 OHM  | SREAG01730 |           |
| R70      | RESISTOR FXD | ERJ-8GEY0R00V | 0 OHM         | SREAG01775 |           |
| R72      | RESISTOR FXD | ERJ-8GEYJ104V | 1/8W 100K OHM | SREAG01762 |           |
| R73      | RESISTOR FXD | ERJ-8GEYJ103V | 1/8W 10K OHM  | SREAG01750 |           |
| R74      | RESISTOR FXD | ERJ-8GEYJ474V | 1/8W 470K OHM | SREAG01770 |           |
| R75      | RESISTOR FXD | ERJ-8GEYJ473V | 1/8W 47K OHM  | SREAG01758 |           |
| R76      | RESISTOR FXD | ERJ-8GEYJ474V | 1/8W 470K OHM | SREAG01770 |           |
| R77      | RESISTOR FXD | ERJ-8GEYJ224V | 1/8W 220K OHM | SREAG01766 |           |
| R78      | RESISTOR FXD | ERJ-8GEYJ221V | 1/8W 220 OHM  | SREAG01730 |           |
| R79      | RESISTOR FXD | ERJ-8GEYJ471V | 1/8W 470 OHM  | SREAG01734 |           |
| R80      | RESISTOR FXD | ERJ-8GEYJ101V | 1/8W 100 OHM  | SREAG01726 |           |
| R81      | RESISTOR FXD | ERJ-8GEYJ221V | 1/8W 220 OHM  | SREAG01730 |           |
| R82      | RESISTOR FXD | ERJ-8GEYJ102V | 1/8W 1K OHM   | SREAG01738 |           |
| R83      | RESISTOR FXD | ERJ-8GEYJ102V | 1/8W 1K OHM   | SREAG01738 |           |
| R84      | RESISTOR FXD | ERJ-8GEYJ101V | 1/8W 100 OHM  | SREAG01726 |           |
| R85      | RESISTOR FXD | ERJ-8GEYJ223V | 1/8W 22K OHM  | SREAG01754 |           |
| R86      | RESISTOR FXD | ERJ-8GEYJ223V | 1/8W 22K OHM  | SREAG01754 |           |

| PARTS LIST |               |               |               |            | SHEET NO<br>9 |
|------------|---------------|---------------|---------------|------------|---------------|
| REF DDS    |               | TITLE         |               | CGK-81A    |               |
| PARTS NO   | PARTS NAME    | TYPE          | DESCRIPTION   | CODE       |               |
| R87        | RESISTOR FXD  | ERJ-8GEYJ222V | 1/8W 2.2K OHM | SREAG01742 |               |
| R88        | RESISTOR FXD  | ERJ-8GEYJ102V | 1/8W 1K OHM   | SREAG01738 |               |
| R89        | RESISTOR FXD  | ERJ-8GEYJ153V | 1/8W 15K OHM  | SREAG01752 |               |
| R90        | RESISTOR FXD  | ERJ-8GEYJ473V | 1/8W 47K OHM  | SREAG01758 |               |
| R91        | RESISTOR FXD  | ERJ-8GEYJ101V | 1/8W 100 OHM  | SREAG01726 |               |
| R92        | RESISTOR FXD  | ERJ-8GEYJ102V | 1/8W 1K OHM   | SREAG01738 |               |
| R93        | RESISTOR FXD  | ERJ-8GEYJ821V | 1/8W 820 OHM  | SREAG01737 |               |
| R94        | RESISTOR FXD  | ERJ-8GEYJ101V | 1/8W 100 OHM  | SREAG01726 |               |
| R95        | RESISTOR FXD  | ERJ-8GEYJ103V | 1/8W 10K OHM  | SREAG01750 |               |
| R96        | RESISTOR FXD  | ERJ-8GEYJ223V | 1/8W 22K OHM  | SREAG01754 |               |
| R97        | RESISTOR FXD  | ERJ-8GEYJ470V | 1/8W 47 OHM   | SREAG01722 |               |
| R98        | RESISTOR FXD  | ERJ-8GEYJ101V | 1/8W 100 OHM  | SREAG01726 |               |
| R100       | RESISTOR FXD  | ERJ-8GEYJ102V | 1/8W 1K OHM   | SREAG01738 |               |
| R101       | RESISTOR FXD  | ERJ-8GEYJ102V | 1/8W 1K OHM   | SREAG01738 |               |
| R102       | RESISTOR FXD  | ERJ-8GEYJ471V | 1/8W 470 OHM  | SREAG01734 |               |
| R103       | RESISTOR FXD  | ERJ-8GEYJ472V | 1/8W 4.7K OHM | SREAG01746 |               |
| R104       | RESISTOR FXD  | ERJ-8GEYJ184V | 1/8W 180K OHM | SREAG01765 |               |
| R105       | RESISTOR FXD  | ERJ-8GEYJ104V | 1/8W 100K OHM | SREAG01762 |               |
| R106       | RESISTOR FXD  | ERJ-8GEYJ184V | 1/8W 180K OHM | SREAG01765 |               |
| R107       | RESISTOR FXD  | ERJ-8GEYJ222V | 1/8W 2.2K OHM | SREAG01742 |               |
| R108       | RESISTOR FXD  | ERJ-8GEYJ223V | 1/8W 22K OHM  | SREAG01754 |               |
| R109       | RESISTOR FXD  | ERJ-8GEYJ152V | 1/8W 1.5K OHM | SREAG01740 |               |
| R113       | RESISTOR FXD  | ERJ-8GEYJ101V | 1/8W 100 OHM  | SREAG01726 |               |
| R114       | RESISTOR FXD  | ERJ-8GEYJ105V | 1/8W 1M OHM   | SREAG01774 |               |
| RA1        | RESISTOR FXD  | 20B-12X-ME1   |               | SREAD00716 |               |
| RA2        | RESISTOR FXD  | 20B-12X-ME1   |               | SREAD00716 |               |
| RA3        | RESISTOR FXD  | 20B-12X-ME1   |               | SREAD00716 |               |
| RJ1        | RESISTOR FXD  | ERJ-8GEYDR00V | 0 OHM         | SREAG01775 |               |
| RJ2        | RESISTOR FXD  | ERJ-8GEYDR00V | 0 OHM         | SREAG01775 |               |
| RV1        | RESISTOR VAR  | EVN-D1AA00B13 | 1K OHM        | SRVAB00313 |               |
| RV2        | RESISTOR VAR  | EVN-D1AA00B13 | 1K OHM        | SRVAB00313 |               |
| RV3        | RESISTOR VAR  | EVN-D4AA00B54 |               | SRVAB00317 |               |
| RV4        | RESISTOR VAR  | EVN-D4AA00B54 |               | SRVAB00317 |               |
| T1         | RF XFMR       | H-6LHJD00297  |               | 6LHJD00297 |               |
| TP1        | TEST TERMINAL | PCN6-PEA      |               | SJDA000364 |               |

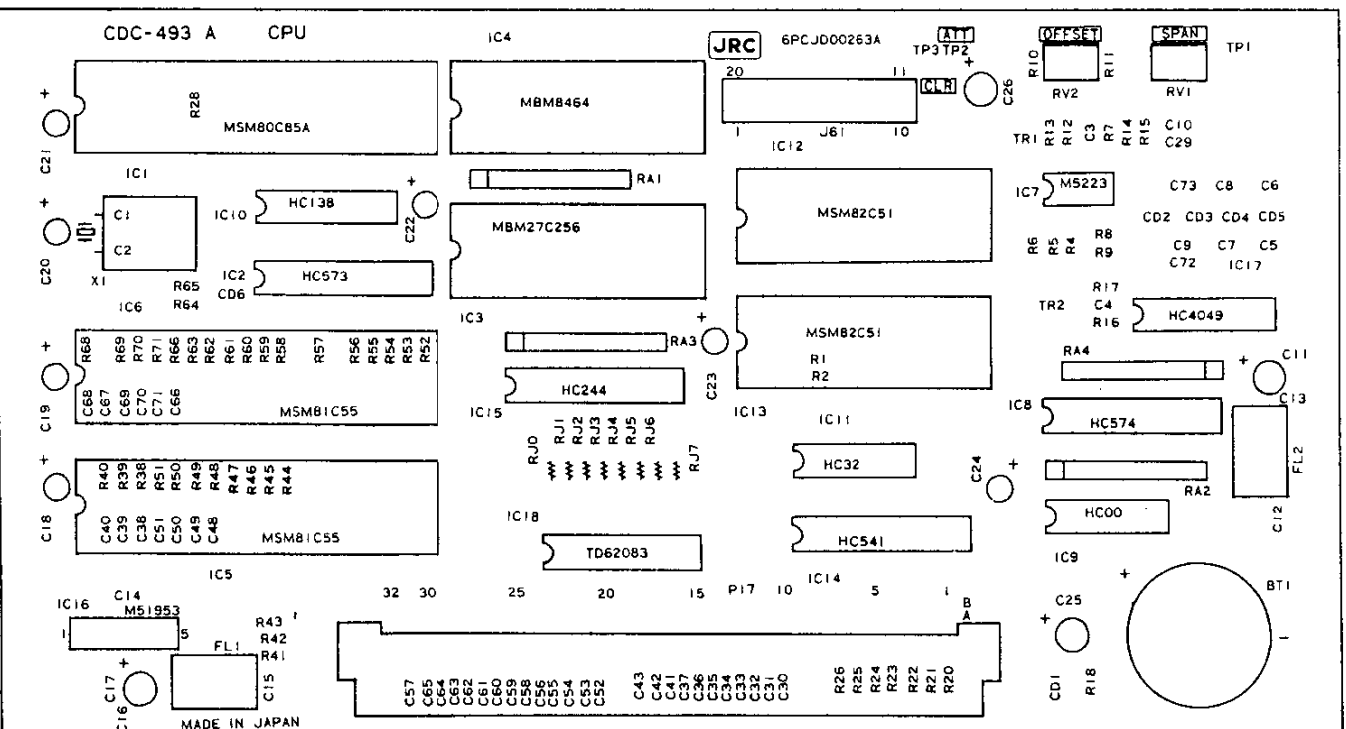
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|------------|---------------|-----------------|-------------|------------|----------------|
| REF DDS    |               | TITLE           |             | CGK-81A    |                |
| PARTS NO   | PARTS NAME    | TYPE            | DESCRIPTION | CODE       |                |
| TP2        | TEST TERMINAL | PCN6-PEA        |             | SJDA000364 |                |
| TP3        | TEST TERMINAL | PCN6-PEA        |             | SJDA000364 |                |
| TP4        | TEST TERMINAL | PCN6-PEA        |             | SJDA000364 |                |
| TP5        | TEST TERMINAL | PCN6-PEA        |             | SJDA000364 |                |
| TP6        | TEST TERMINAL | PCN6-PEA        |             | SJDA000364 |                |
| TP7        | TEST TERMINAL | PCN6-PEA        |             | SJDA000364 |                |
| TP8        | TEST TERMINAL | PCN6-PEA        |             | SJDA000364 |                |
| TP9        | TEST TERMINAL | PCN6-PEA        |             | SJDA000364 |                |
| TR1        | TRANSISTOR    | 2SA1162-Y TE85L |             | STAAG00182 |                |
| TR2        | TRANSISTOR    | 2SC2714Y TE85L  |             | STCAF00436 |                |
| TR3        | TRANSISTOR    | 2SA1162-Y TE85L |             | STAAG00182 |                |
| TR4        | TRANSISTOR    | 2SC2714Y TE85L  |             | STCAF00436 |                |
| TR5        | TRANSISTOR    | 2SC2714Y TE85L  |             | STCAF00436 |                |
| TR6        | TRANSISTOR    | 2SC2714Y TE85L  |             | STCAF00436 |                |
| TR7        | TRANSISTOR    | 2SC2714Y TE85L  |             | STCAF00436 |                |
| TR8        | TRANSISTOR    | 2SC2714Y TE85L  |             | STCAF00436 |                |
| TR9        | TRANSISTOR    | 2SK210BL-TE85L  |             | STKAA00189 |                |
| TR10       | TRANSISTOR    | 2SK210BL-TE85L  |             | STKAA00189 |                |
| TR11       | TRANSISTOR    | 2SC2714Y TE85L  |             | STCAF00436 |                |
| TR12       | TRANSISTOR    | 2SC3324GR TE85L |             | STCAF00711 |                |
| TR13       | TRANSISTOR    | 2SC3324GR TE85L |             | STCAF00711 |                |
| TR14       | TRANSISTOR    | 2SC3324GR TE85L |             | STCAF00711 |                |
| TR15       | TRANSISTOR    | 2SC2714Y TE85L  |             | STCAF00436 |                |
| TR16       | TRANSISTOR    | 2SC2712Y TE85L  |             | STAAG00186 |                |
| TR17       | TRANSISTOR    | 2SC3398-TB      |             | STCAZ00011 |                |
| TR18       | TRANSISTOR    | 2SC3398-TB      |             | STCAZ00011 |                |
| TR19       | TRANSISTOR    | 2SC3398-TB      |             | STCAZ00011 |                |
| X1         | CRYSTAL       | H-6XHJD00199    |             | 6XHJD00199 |                |

MAURITON TECHNICAL SERVICES  
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 TEL: 01844 - 351694  
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FAX: 01844 - 352554



**Figure 6.8.2 CPU UNIT CDC-493A Component Layout**

| PARTS LIST |                |                     |             |            |
|------------|----------------|---------------------|-------------|------------|
| CPU        |                | TITLE               |             | SHEET NO.  |
|            |                | CDC-493A            |             | 1          |
| PARTS NO   | PARTS NAME     | TYPE                | DESCRIPTION | CODE       |
| BT1        | BATTERY        | CR-2032FT6          | 3V 190MAH   | 5ZBAD00067 |
| C1         | CAP,FXD CER    | C3216CH1H330J-E-TP  | 33PF        | 5CAAD00794 |
| C2         | CAP,FXD CER    | C3216CH1H330J-E-TP  | 33PF        | 5CAAD00794 |
| C3         | CAP,FXD CER    | C3216SL1H102J-E-TP  | 1000PF      | 5CAAD00782 |
| C4         | CAP,FXD CER    | C3216SL1H102J-E-TP  | 1000PF      | 5CAAD00782 |
| C5         | CAP,FXD CER    | C3216X7R1E104K-E-TP | 0.1UF       | 5CAAD01237 |
| C6         | CAP,FXD CER    | C3216X7R1E104K-E-TP | 0.1UF       | 5CAAD01237 |
| C7         | CAP,FXD CER    | C3216X7R1E104K-E-TP | 0.1UF       | 5CAAD01237 |
| C8         | CAP,FXD CER    | C3216X7R1E104K-E-TP | 0.1UF       | 5CAAD01237 |
| C9         | CAP,FXD CER    | C3216X7R1E104K-E-TP | 0.1UF       | 5CAAD01237 |
| C10        | CAP,FXD CER    | C3216X7R1E104K-E-TP | 0.1UF       | 5CAAD01237 |
| C11        | CAP,FXD TANTAL | 202L1602 106KB      |             | 5CSAC00932 |
| C12        | CAP,FXD CER    | C3216JB1H103K-E-TP  | 0.01UF      | 5CAAD00789 |
| C13        | CAP,FXD CER    | C3216JB1H103K-E-TP  | 0.01UF      | 5CAAD00789 |
| C14        | CAP,FXD CER    | C3216X7R1H333K-E-TP | 50V 0.033U  | 5CAAD01357 |
| C15        | CAP,FXD CER    | C3216JB1H103K-E-TP  | 0.01UF      | 5CAAD00789 |
| C16        | CAP,FXD TANTAL | 202L1602 106KB      |             | 5CSAC00932 |
| C17        | CAP,FXD CER    | C3216JB1H103K-E-TP  | 0.01UF      | 5CAAD00789 |
| C18        | CAP,FXD TANTAL | 202L3502 105KB      | 35V 1UF     | 5CSAC00982 |
| C19        | CAP,FXD TANTAL | 202L3502 105KB      | 35V 1UF     | 5CSAC00982 |
| C20        | CAP,FXD TANTAL | 202L3502 105KB      | 35V 1UF     | 5CSAC00982 |
| C21        | CAP,FXD TANTAL | 202L3502 105KB      | 35V 1UF     | 5CSAC00982 |
| C22        | CAP,FXD TANTAL | 202L3502 105KB      | 35V 1UF     | 5CSAC00982 |
| C23        | CAP,FXD TANTAL | 202L3502 105KB      | 35V 1UF     | 5CSAC00982 |
| C24        | CAP,FXD TANTAL | 202L3502 105KB      | 35V 1UF     | 5CSAC00982 |
| C25        | CAP,FXD TANTAL | 202L3502 105KB      | 35V 1UF     | 5CSAC00982 |
| C26        | CAP,FXD TANTAL | 202L3502 105KB      | 35V 1UF     | 5CSAC00982 |
| C29        | CAP,FXD CER    | C3216X7R1E104K-E-TP | 0.1UF       | 5CAAD01237 |
| C30        | CAP,FXD CER    | C3216JB1H103K-E-TP  | 0.01UF      | 5CAAD00789 |
| C31        | CAP,FXD CER    | C3216JB1H103K-E-TP  | 0.01UF      | 5CAAD00789 |
| C32        | CAP,FXD CER    | C3216JB1H103K-E-TP  | 0.01UF      | 5CAAD00789 |
| C33        | CAP,FXD CER    | C3216JB1H103K-E-TP  | 0.01UF      | 5CAAD00789 |
| C34        | CAP,FXD CER    | C3216JB1H103K-E-TP  | 0.01UF      | 5CAAD00789 |
| C35        | CAP,FXD CER    | C3216JB1H103K-E-TP  | 0.01UF      | 5CAAD00789 |
| C36        | CAP,FXD CER    | C3216JB1H103K-E-TP  | 0.01UF      | 5CAAD00789 |

| PARTS LIST |             |                     |             |            |
|------------|-------------|---------------------|-------------|------------|
| CPU        |             | TITLE               |             | SHEET NO.  |
|            |             | CDC-493A            |             | 2          |
| PARTS NO   | PARTS NAME  | TYPE                | DESCRIPTION | CODE       |
| C37        | CAP,FXD CER | C3216JB1H103K-E-TP  | 0.01UF      | 5CAAD00789 |
| C38        | CAP,FXD CER | C3216JB1H103K-E-TP  | 0.01UF      | 5CAAD00789 |
| C39        | CAP,FXD CER | C3216JB1H103K-E-TP  | 0.01UF      | 5CAAD00789 |
| C40        | CAP,FXD CER | C3216JB1H103K-E-TP  | 0.01UF      | 5CAAD00789 |
| C41        | CAP,FXD CER | C3216JB1H103K-E-TP  | 0.01UF      | 5CAAD00789 |
| C42        | CAP,FXD CER | C3216JB1H103K-E-TP  | 0.01UF      | 5CAAD00789 |
| C43        | CAP,FXD CER | C3216JB1H103K-E-TP  | 0.01UF      | 5CAAD00789 |
| C48        | CAP,FXD CER | C3216JB1H103K-E-TP  | 0.01UF      | 5CAAD00789 |
| C49        | CAP,FXD CER | C3216JB1H103K-E-TP  | 0.01UF      | 5CAAD00789 |
| C50        | CAP,FXD CER | C3216JB1H103K-E-TP  | 0.01UF      | 5CAAD00789 |
| C51        | CAP,FXD CER | C3216JB1H103K-E-TP  | 0.01UF      | 5CAAD00789 |
| C52        | CAP,FXD CER | C3216JB1H103K-E-TP  | 0.01UF      | 5CAAD00789 |
| C53        | CAP,FXD CER | C3216JB1H103K-E-TP  | 0.01UF      | 5CAAD00789 |
| C54        | CAP,FXD CER | C3216JB1H103K-E-TP  | 0.01UF      | 5CAAD00789 |
| C55        | CAP,FXD CER | C3216JB1H103K-E-TP  | 0.01UF      | 5CAAD00789 |
| C56        | CAP,FXD CER | C3216JB1H103K-E-TP  | 0.01UF      | 5CAAD00789 |
| C57        | CAP,FXD CER | C3216JB1H103K-E-TP  | 0.01UF      | 5CAAD00789 |
| C58        | CAP,FXD CER | C3216JB1H103K-E-TP  | 0.01UF      | 5CAAD00789 |
| C59        | CAP,FXD CER | C3216JB1H103K-E-TP  | 0.01UF      | 5CAAD00789 |
| C60        | CAP,FXD CER | C3216JB1H103K-E-TP  | 0.01UF      | 5CAAD00789 |
| C61        | CAP,FXD CER | C3216JB1H103K-E-TP  | 0.01UF      | 5CAAD00789 |
| C62        | CAP,FXD CER | C3216JB1H103K-E-TP  | 0.01UF      | 5CAAD00789 |
| C63        | CAP,FXD CER | C3216JB1H103K-E-TP  | 0.01UF      | 5CAAD00789 |
| C64        | CAP,FXD CER | C3216JB1H103K-E-TP  | 0.01UF      | 5CAAD00789 |
| C65        | CAP,FXD CER | C3216JB1H103K-E-TP  | 0.01UF      | 5CAAD00789 |
| C66        | CAP,FXD CER | C3216JB1H103K-E-TP  | 0.01UF      | 5CAAD00789 |
| C67        | CAP,FXD CER | C3216JB1H103K-E-TP  | 0.01UF      | 5CAAD00789 |
| C68        | CAP,FXD CER | C3216JB1H103K-E-TP  | 0.01UF      | 5CAAD00789 |
| C69        | CAP,FXD CER | C3216JB1H103K-E-TP  | 0.01UF      | 5CAAD00789 |
| C70        | CAP,FXD CER | C3216JB1H103K-E-TP  | 0.01UF      | 5CAAD00789 |
| C71        | CAP,FXD CER | C3216JB1H103K-E-TP  | 0.01UF      | 5CAAD00789 |
| C72        | CAP,FXD CER | C3216X7R1E104K-E-TP | 0.1UF       | 5CAAD01237 |
| C73        | CAP,FXD CER | C3216X7R1E104K-E-TP | 0.1UF       | 5CAAD01237 |
| CD1        | DIODE       | 1SS184 TE85L        |             | 5TXAD00290 |
| CD2        | DIODE       | 1SS226 TE85L        |             | 5TXAD00320 |

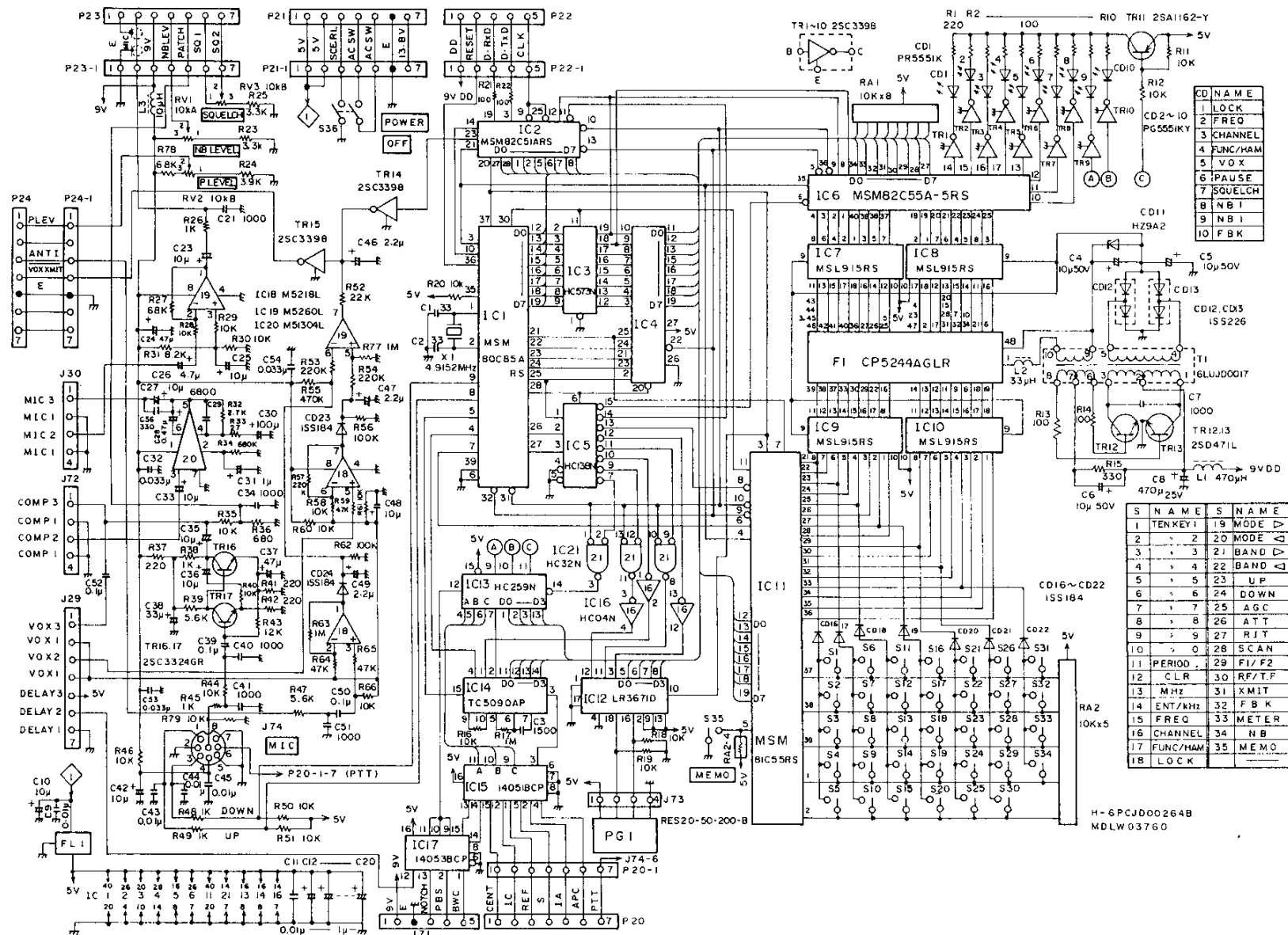
| PARTS LIST |            |                   |               |            | SHEET NO. |  |
|------------|------------|-------------------|---------------|------------|-----------|--|
|            |            | CPU               | TITLE         | CDC-493A   | 3         |  |
| PARTS NO   | PARTS NAME | TYPE              | DESCRIPTION   | CODE       |           |  |
| CD3        | DIODE      | 1SS226 TE85L      |               | 5TXAD00320 |           |  |
| CD4        | DIODE      | 1SS226 TE85L      |               | 5TXAD00320 |           |  |
| CD5        | DIODE      | 1SS226 TE85L      |               | 5TXAD00320 |           |  |
| CD6        | DIODE      | 1SS184 TE85L      |               | 5TXAD00290 |           |  |
| FL1        | FILTER     | DS310-55B222M     | 100V 0.0022UF | 5NXAA00002 |           |  |
| FL2        | FILTER     | DS310-55B222M     | 100V 0.0022UF | 5NXAA00002 |           |  |
| IC1        | IC         | MSM80C85ARS       |               | 5DDAG00062 |           |  |
| IC2        | IC         | MC74HC573N        |               | 5DAAJ00229 |           |  |
| IC3        | IC         | H-7DEJ00102       | MBM27C256A-30 | 7DEJ00102  |           |  |
| IC4        | IC         | HM6264ALP-15      |               | 5DAAJ00380 |           |  |
| IC5        | IC         | MSM81C55RS        |               | 5DDAG00081 |           |  |
| IC6        | IC         | MSM81C55RS        |               | 5DDAG00081 |           |  |
| IC7        | IC         | M5223P            |               | 5DDAB00171 |           |  |
| IC8        | IC         | MC74HC574N        |               | 5DAAJ00230 |           |  |
| IC9        | IC         | MC74HC00N         |               | 5DAAJ00142 |           |  |
| IC10       | IC         | MC74HC138N        |               | 5DAAJ00174 |           |  |
| IC11       | IC         | MC74HC32N         |               | 5DAAJ00160 |           |  |
| IC12       | IC         | MSM82C51ARS       |               | 5DDAG00110 |           |  |
| IC13       | IC         | MSM82C51ARS       |               | 5DDAG00110 |           |  |
| IC14       | IC         | MC74HC541N        |               | 5DAAJ00226 |           |  |
| IC15       | IC         | MC74HC244N        |               | 5DAAJ00138 |           |  |
| IC16       | IC         | M51953BL          |               | 5DAAJ00150 |           |  |
| IC17       | IC         | MC74HC4049N       |               | 5DAAJ00247 |           |  |
| IC18       | IC         | TD62083AP         |               | 5DDAE00507 |           |  |
| IC33       | SOCKET     | ICCO5-028-360TP   |               | 5ZJCK00056 |           |  |
| J61        | CONNECTOR  | HKP-20FD2         |               | 5JJA000085 |           |  |
| P17        | CONNECTOR  | ME03-64P-D4LT1-B1 |               | 5JBAF00457 |           |  |
| PC1        | PCB        | H-6PCJD00263A     |               | 6PCJD00263 |           |  |
| R1         | RESISTOR   | FXD ERJ-8GEYJ101V | 1/8W 100 OHM  | 5REAG01726 |           |  |
| R2         | RESISTOR   | FXD ERJ-8GEYJ101V | 1/8W 100 OHM  | 5REAG01726 |           |  |
| R4         | RESISTOR   | FXD ERJ-8GEYJ223V | 1/8W 22K OHM  | 5REAG01754 |           |  |
| R5         | RESISTOR   | FXD ERJ-8GEYJ223V | 1/8W 22K OHM  | 5REAG01754 |           |  |
| R6         | RESISTOR   | FXD ERJ-8GEYJ563V |               | 5REAG01759 |           |  |
| R7         | RESISTOR   | FXD ERJ-8GEYJ105V | 1/8W 1M OHM   | 5REAG01774 |           |  |
| R8         | RESISTOR   | FXD ERJ-8GEYJ273V | 1/8W 27K OHM  | 5REAG01755 |           |  |
| R9         | RESISTOR   | FXD ERJ-8GEYJ273V | 1/8W 27K OHM  | 5REAG01755 |           |  |

| PARTS LIST |            |                   |               |            | SHEET NO. |  |
|------------|------------|-------------------|---------------|------------|-----------|--|
|            |            | CPU               | TITLE         | CDC-493A   | 4         |  |
| PARTS NO   | PARTS NAME | TYPE              | DESCRIPTION   | CODE       |           |  |
| R10        | RESISTOR   | FXD ERJ-8GEYJ333V | 1/8W 33K OHM  | 5REAG01756 |           |  |
| R11        | RESISTOR   | FXD ERJ-8GEYJ473V | 1/8W 47K OHM  | 5REAG01758 |           |  |
| R12        | RESISTOR   | FXD ERJ-8GEYJ393V | 1/8W 39K OHM  | 5REAG01757 |           |  |
| R13        | RESISTOR   | FXD ERJ-8GEYJ103V | 1/8W 10K OHM  | 5REAG01750 |           |  |
| R14        | RESISTOR   | FXD ERJ-8GEYJ104V | 1/8W 100K OHM | 5REAG01762 |           |  |
| R15        | RESISTOR   | FXD ERJ-8GEYJ103V | 1/8W 10K OHM  | 5REAG01750 |           |  |
| R16        | RESISTOR   | FXD ERJ-8GEYJ103V | 1/8W 10K OHM  | 5REAG01750 |           |  |
| R17        | RESISTOR   | FXD ERJ-8GEYJ473V | 1/8W 47K OHM  | 5REAG01758 |           |  |
| R18        | RESISTOR   | FXD ERJ-8GEYJ332V | 1/8W 3.3K OHM | 5REAG01744 |           |  |
| R20        | RESISTOR   | FXD ERJ-8GEYJ103V | 1/8W 10K OHM  | 5REAG01750 |           |  |
| R21        | RESISTOR   | FXD ERJ-8GEYJ103V | 1/8W 10K OHM  | 5REAG01750 |           |  |
| R22        | RESISTOR   | FXD ERJ-8GEYJ103V | 1/8W 10K OHM  | 5REAG01750 |           |  |
| R23        | RESISTOR   | FXD ERJ-8GEYJ103V | 1/8W 10K OHM  | 5REAG01750 |           |  |
| R24        | RESISTOR   | FXD ERJ-8GEYJ103V | 1/8W 10K OHM  | 5REAG01750 |           |  |
| R25        | RESISTOR   | FXD ERJ-8GEYJ103V | 1/8W 10K OHM  | 5REAG01750 |           |  |
| R26        | RESISTOR   | FXD ERJ-8GEYJ103V | 1/8W 10K OHM  | 5REAG01750 |           |  |
| R28        | RESISTOR   | FXD ERJ-8GEYJ103V | 1/8W 10K OHM  | 5REAG01750 |           |  |
| R38        | RESISTOR   | FXD ERJ-8GEYJ101V | 1/8W 100 OHM  | 5REAG01726 |           |  |
| R39        | RESISTOR   | FXD ERJ-8GEYJ101V | 1/8W 100 OHM  | 5REAG01726 |           |  |
| R40        | RESISTOR   | FXD ERJ-8GEYJ101V | 1/8W 100 OHM  | 5REAG01726 |           |  |
| R41        | RESISTOR   | FXD ERJ-8GEYJ101V | 1/8W 100 OHM  | 5REAG01726 |           |  |
| R42        | RESISTOR   | FXD ERJ-8GEYJ101V | 1/8W 100 OHM  | 5REAG01726 |           |  |
| R43        | RESISTOR   | FXD ERJ-8GEYJ101V | 1/8W 100 OHM  | 5REAG01726 |           |  |
| R44        | RESISTOR   | FXD ERJ-8GEYJ101V | 1/8W 100 OHM  | 5REAG01726 |           |  |
| R45        | RESISTOR   | FXD ERJ-8GEYJ101V | 1/8W 100 OHM  | 5REAG01726 |           |  |
| R46        | RESISTOR   | FXD ERJ-8GEYJ101V | 1/8W 100 OHM  | 5REAG01726 |           |  |
| R47        | RESISTOR   | FXD ERJ-8GEYJ101V | 1/8W 100 OHM  | 5REAG01726 |           |  |
| R48        | RESISTOR   | FXD ERJ-8GEYJ101V | 1/8W 100 OHM  | 5REAG01726 |           |  |
| R49        | RESISTOR   | FXD ERJ-8GEYJ101V | 1/8W 100 OHM  | 5REAG01726 |           |  |
| R50        | RESISTOR   | FXD ERJ-8GEYJ101V | 1/8W 100 OHM  | 5REAG01726 |           |  |
| R51        | RESISTOR   | FXD ERJ-8GEYJ101V | 1/8W 100 OHM  | 5REAG01726 |           |  |
| R52        | RESISTOR   | FXD ERJ-8GEYJ101V | 1/8W 100 OHM  | 5REAG01726 |           |  |
| R53        | RESISTOR   | FXD ERJ-8GEYJ101V | 1/8W 100 OHM  | 5REAG01726 |           |  |
| R54        | RESISTOR   | FXD ERJ-8GEYJ101V | 1/8W 100 OHM  | 5REAG01726 |           |  |
| R55        | RESISTOR   | FXD ERJ-8GEYJ101V | 1/8W 100 OHM  | 5REAG01726 |           |  |

| PARTS LIST |               |                      |              |  |            |
|------------|---------------|----------------------|--------------|--|------------|
| CPU        |               |                      | TITLE        |  | SHEET NO.  |
|            |               |                      | CDC-493A     |  | 5          |
| PARTS NO   | PARTS NAME    | TYPE                 | DESCRIPTION  |  | CODE       |
| R56        | RESISTOR FXD  | ERJ-8GEYJ101V        | 1/8W 100 OHM |  | 5REAG01726 |
| R57        | RESISTOR FXD  | ERJ-8GEYJ101V        | 1/8W 100 OHM |  | 5REAG01726 |
| R58        | RESISTOR FXD  | ERJ-8GEYJ101V        | 1/8W 100 OHM |  | 5REAG01726 |
| R59        | RESISTOR FXD  | ERJ-8GEYJ101V        | 1/8W 100 OHM |  | 5REAG01726 |
| R60        | RESISTOR FXD  | ERJ-8GEYJ101V        | 1/8W 100 OHM |  | 5REAG01726 |
| R61        | RESISTOR FXD  | ERJ-8GEYJ101V        | 1/8W 100 OHM |  | 5REAG01726 |
| R62        | RESISTOR FXD  | ERJ-8GEYJ101V        | 1/8W 100 OHM |  | 5REAG01726 |
| R63        | RESISTOR FXD  | ERJ-8GEYJ101V        | 1/8W 100 OHM |  | 5REAG01726 |
| R64        | RESISTOR FXD  | ERJ-8GEYJ101V        | 1/8W 100 OHM |  | 5REAG01726 |
| R65        | RESISTOR FXD  | ERJ-8GEYJ101V        | 1/8W 100 OHM |  | 5REAG01726 |
| R66        | RESISTOR FXD  | ERJ-8GEYJ103V        | 1/8W 10K OHM |  | 5REAG01750 |
| R68        | RESISTOR FXD  | ERJ-8GEYJ103V        | 1/8W 10K OHM |  | 5REAG01750 |
| R69        | RESISTOR FXD  | ERJ-8GEYJ103V        | 1/8W 10K OHM |  | 5REAG01750 |
| R70        | RESISTOR FXD  | ERJ-8GEYJ103V        | 1/8W 10K OHM |  | 5REAG01750 |
| R71        | RESISTOR FXD  | ERJ-8GEYJ103V        | 1/8W 10K OHM |  | 5REAG01750 |
| RA1        | RESISTOR      | EXB-F9E103JY         |              |  | 5RZAS00499 |
| RA2        | RESISTOR      | EXB-F9E103JY         |              |  | 5RZAS00499 |
| RA3        | RESISTOR      | EXB-F9E103JY         |              |  | 5RZAS00499 |
| RA4        | RESISTOR      | EXB-LD7104G          |              |  | 5RZAS00180 |
| RJ0        | RESISTOR FXD  | ERD-25UJ1R0T         | 1 OHM        |  | 5RDAA01733 |
| RJ1        | RESISTOR FXD  | ERD-25UJ1R0T         | 1 OHM        |  | 5RDAA01733 |
| RJ2        | RESISTOR FXD  | ERD-25UJ1R0T         | 1 OHM        |  | 5RDAA01733 |
| RJ3        | RESISTOR FXD  | ERD-25UJ1R0T         | 1 OHM        |  | 5RDAA01733 |
| RJ4        | RESISTOR FXD  | ERD-25UJ1R0T         | 1 OHM        |  | 5RDAA01733 |
| RJ5        | RESISTOR FXD  | ERD-25UJ1R0T         | 1 OHM        |  | 5RDAA01733 |
| RJ6        | RESISTOR FXD  | ERD-25UJ1R0T         | 1 OHM        |  | 5RDAA01733 |
| RJ7        | RESISTOR FXD  | ERD-25UJ1R0T         | 1 OHM        |  | 5RDAA01733 |
| RV1        | RESISTOR VAR  | EVN-D1AA00B14        | 10K OHM      |  | 5RVAB00324 |
| RV2        | RESISTOR VAR  | EVN-D1AA00B14        | 10K OHM      |  | 5RVAB00324 |
| TP1        | TEST TERMINAL | PCN6-PEA             |              |  | 5JDAA00364 |
| TP2        | TEST TERMINAL | PCN6-PEA             |              |  | 5JDAA00364 |
| TP3        | TEST TERMINAL | PCN6-PEA             |              |  | 5JDAA00364 |
| TR1        | TRANSISTOR    | 2SC2712Y TE85L       |              |  | 5TAAG00186 |
| TR2        | TRANSISTOR    | 2SC3398-TB           |              |  | 5TCAZ00011 |
| X1         | CRYSTAL       | LN-X-0008 F=4.9152MH |              |  | 5XHAA00422 |
| Z1         | ROM LABEL     | MPNN21183            |              |  | MPNN21183  |

FOR SERVICE MANUALS  
CONTACT:  
MAURITRON TECHNICAL SERVICES  
www.mauritron.co.uk  
TEL: 01844 - 351694  
FAX: 01844 - 352554

Figure 6.9.1 DISPLAY UNIT CDE-576 Circuit Diagram



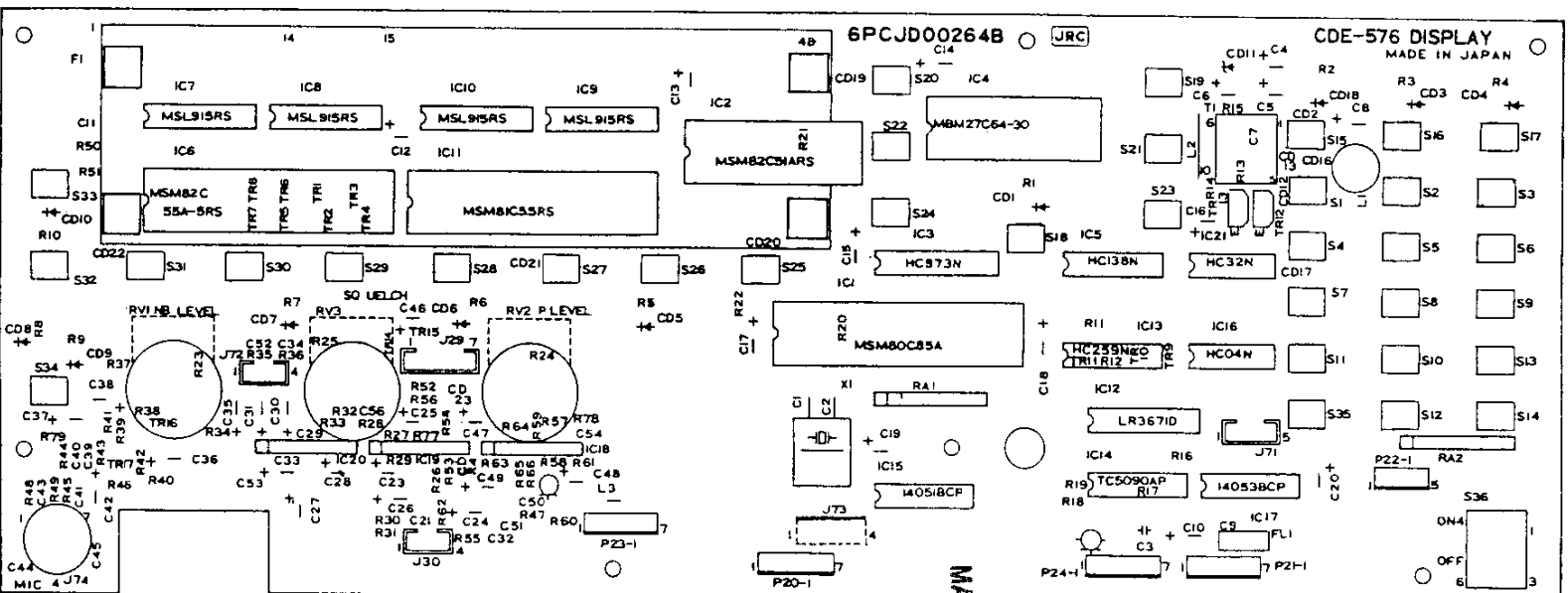


Figure 6.9.2 DISPLAY UNIT CDE-576 Component Layout

FOR SERVICE MANUALS  
CONTACT:  
MAURITRON TECHNICAL SERVICES  
www.mauritron.co.uk  
TEL: 01844 - 351694  
FAX: 01844 - 352554

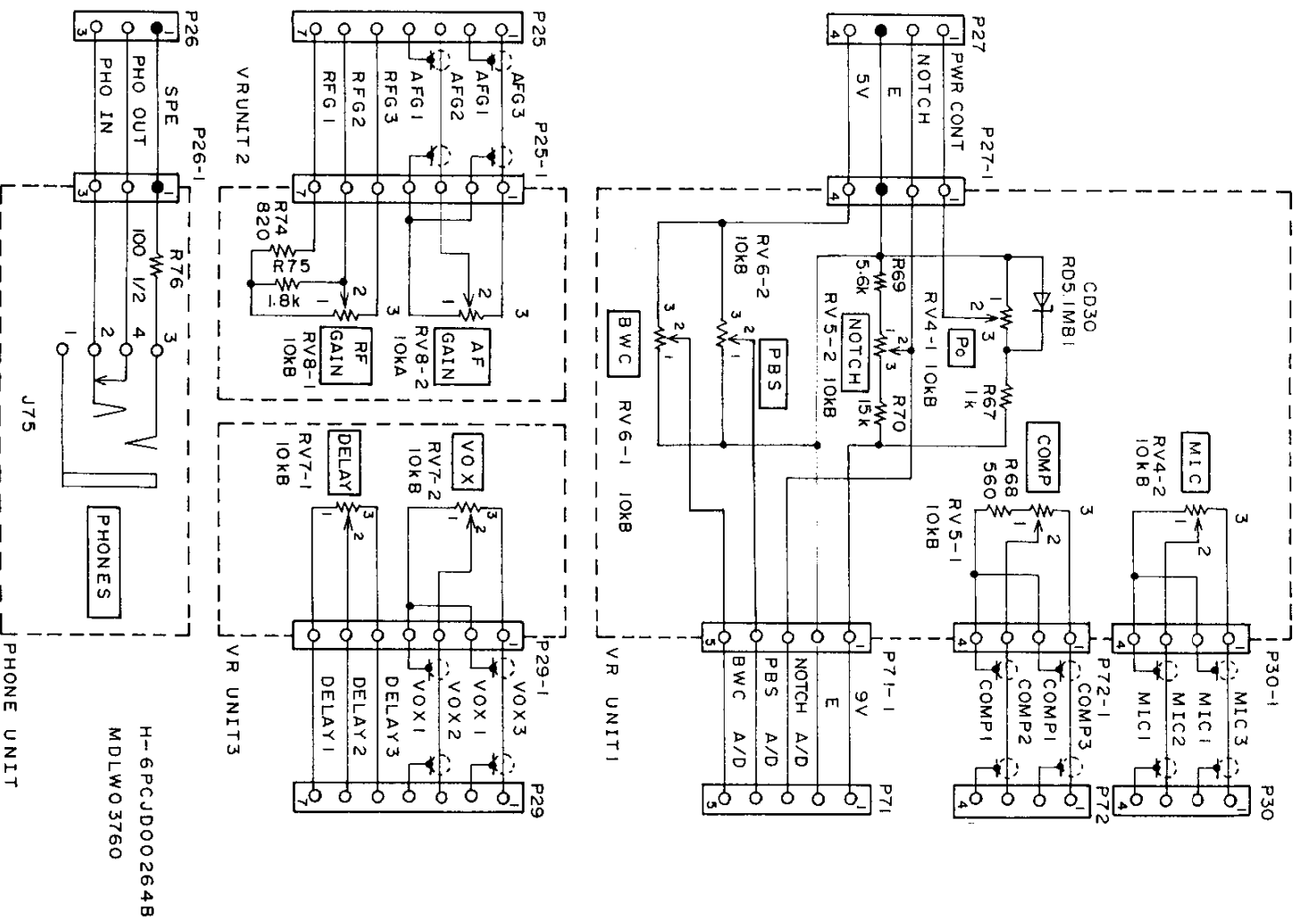
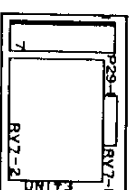
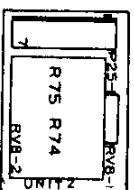
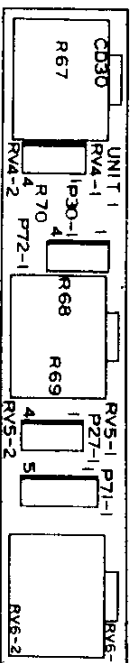


Figure 6.10.1 DISPLAY (VR) UNIT CDE-576 Circuit Diagram



FOR SERVICE MANUALS  
CONTACT:

**MAURITRON TECHNICAL SERVICES**  
www.mauritron.co.uk  
TEL: 01844 - 351694  
FAX: 01844 - 352554

Figure 6.10.2 DISPLAY (VR) UNIT CDE-576 Component Layout

| PARTS LIST |                |                    |             |            |           |
|------------|----------------|--------------------|-------------|------------|-----------|
| DISPLAY    |                |                    |             | TITLE      | SHEET NO. |
| CDE-576    |                |                    |             |            | 1         |
| PARTS NO   | PARTS NAME     | TYPE               | DESCRIPTION | CODE       |           |
| C1         | CAP,FXD CER    | C3216CH1H330J-E-TP | 33PF        | 5CAAD00794 |           |
| C2         | CAP,FXD CER    | C3216CH1H330J-E-TP | 33PF        | 5CAAD00794 |           |
| C3         | CAP,FXD PLSTC  | ECQ-B1H152JZ3      |             | 5CRAA00727 |           |
| C4         | CAP,FXD ELCTLT | ECE-A1HU100B       | 50V 10UF    | 5CEAA02184 |           |
| C5         | CAP,FXD ELCTLT | ECE-A1HU100B       | 50V 10UF    | 5CEAA02184 |           |
| C6         | CAP,FXD ELCTLT | ECE-A1HU100B       | 50V 10UF    | 5CEAA02184 |           |
| C7         | CAP,FXD CER    | C3216SL1H102J-E-TP | 1000PF      | 5CAAD00782 |           |
| C8         | CAP,FXD ELCTLT | ECE-A1EU471B       |             | 5CEAA01865 |           |
| C9         | CAP,FXD CER    | C3216JB1H103K-E-TP | 50V 0.01UF  | 5CAAD00789 |           |
| C10        | CAP,FXD ELCTLT | ECE-A1EU100B       |             | 5CEAA01864 |           |
| C11        | CAP,FXD CER    | C3216JB1H103K-E-TP | 50V 0.01UF  | 5CAAD00789 |           |
| C12        | CAP,FXD TANTAL | 202L3502 105KB     | 35V 1UF     | 5CSAC00982 |           |
| C13        | CAP,FXD TANTAL | 202L3502 105KB     | 35V 1UF     | 5CSAC00982 |           |
| C14        | CAP,FXD TANTAL | 202L3502 105KB     | 35V 1UF     | 5CSAC00982 |           |
| C15        | CAP,FXD TANTAL | 202L3502 105KB     | 35V 1UF     | 5CSAC00982 |           |
| C16        | CAP,FXD TANTAL | 202L3502 105KB     | 35V 1UF     | 5CSAC00982 |           |
| C17        | CAP,FXD TANTAL | 202L3502 105KB     | 35V 1UF     | 5CSAC00982 |           |
| C18        | CAP,FXD TANTAL | 202L3502 105KB     | 35V 1UF     | 5CSAC00982 |           |
| C19        | CAP,FXD TANTAL | 202L3502 105KB     | 35V 1UF     | 5CSAC00982 |           |
| C20        | CAP,FXD TANTAL | 202L3502 105KB     | 35V 1UF     | 5CSAC00982 |           |
| C21        | CAP,FXD CER    | C3216SL1H102J-E-TP | 1000PF      | 5CAAD00782 |           |
| C23        | CAP,FXD ELCTLT | ECE-A1EU100B       |             | 5CEAA01864 |           |
| C24        | CAP,FXD ELCTLT | ECE-A1EU470B       | 25V 47UF    | 5CEAA01816 |           |
| C25        | CAP,FXD ELCTLT | ECE-A1EU100B       |             | 5CEAA01864 |           |
| C26        | CAP,FXD TANTAL | 202L2502 475KB     |             | 5CSAC00934 |           |
| C27        | CAP,FXD ELCTLT | ECE-A1EU100B       |             | 5CEAA01864 |           |
| C28        | CAP,FXD TANTAL | 202L3502 474KB     |             | 5CSAC01065 |           |
| C29        | CAP,FXD CER    | C3216B1H682K-E-TP  | 6800PF      | 5CAAD00990 |           |
| C30        | CAP,FXD ELCTLT | ECE-A1EU101B       |             | 5CEAA01813 |           |
| C31        | CAP,FXD TANTAL | 202L3502 105KB     | 35V 1UF     | 5CSAC00982 |           |
| C32        | CAP,FXD CER    | C3216JB1E333K-E-TP |             | 5CAAD01235 |           |
| C33        | CAP,FXD ELCTLT | ECE-A1EU100B       |             | 5CEAA01864 |           |
| C34        | CAP,FXD CER    | C3216SL1H102J-E-TP | 1000PF      | 5CAAD00782 |           |
| C35        | CAP,FXD ELCTLT | ECE-A1EU100B       |             | 5CEAA01864 |           |
| C36        | CAP,FXD TANTAL | 202L2502 106KB     | 25V 10UF    | 5CSAC00950 |           |

| PARTS LIST |                |                     |             |            |           |
|------------|----------------|---------------------|-------------|------------|-----------|
| DISPLAY    |                |                     |             | TITLE      | SHEET NO. |
| CDE-576    |                |                     |             |            | 2         |
| PARTS NO   | PARTS NAME     | TYPE                | DESCRIPTION | CODE       |           |
| C37        | CAP,FXD ELCTLT | ECE-A1EU470B        | 25V 47UF    | 5CEAA01816 |           |
| C38        | CAP,FXD ELCTLT | ECE-A1EU330B        |             | 5CEAA01822 |           |
| C39        | CAP,FXD CER    | C3216X7R1E104Z-E-TP | 0.1U        | 5CAAD01007 |           |
| C40        | CAP,FXD CER    | C3216SL1H102J-E-TP  | 1000PF      | 5CAAD00782 |           |
| C41        | CAP,FXD CER    | C3216SL1H102J-E-TP  | 1000PF      | 5CAAD00782 |           |
| C42        | CAP,FXD ELCTLT | ECE-A1EU100B        |             | 5CEAA01864 |           |
| C43        | CAP,FXD CER    | C3216JB1H103K-E-TP  | 50V 0.01UF  | 5CAAD00789 |           |
| C44        | CAP,FXD CER    | C3216JB1H103K-E-TP  | 50V 0.01UF  | 5CAAD00789 |           |
| C45        | CAP,FXD CER    | C3216JB1H103K-E-TP  | 50V 0.01UF  | 5CAAD00789 |           |
| C46        | CAP,FXD TANTAL | 202L2502 225KB      | 2.2UF 25V   | 5CSAC01129 |           |
| C47        | CAP,FXD TANTAL | 202L2502 225KB      | 2.2UF 25V   | 5CSAC01129 |           |
| C48        | CAP,FXD ELCTLT | ECE-A1EU100B        |             | 5CEAA01864 |           |
| C49        | CAP,FXD TANTAL | 202L2502 225KB      | 2.2UF 25V   | 5CSAC01129 |           |
| C50        | CAP,FXD CER    | C3216X7R1E104Z-E-TP | 0.1U        | 5CAAD01007 |           |
| C51        | CAP,FXD CER    | C3216SL1H102J-E-TP  | 1000PF      | 5CAAD00782 |           |
| C52        | CAP,FXD CER    | C3216X7R1E104Z-E-TP | 0.1U        | 5CAAD01007 |           |
| C53        | CAP,FXD CER    | C3216X7R1H333K-E-TP | 50V 0.033U  | 5CAAD01357 |           |
| C54        | CAP,FXD CER    | C3216X7R1H333K-E-TP | 50V 0.033U  | 5CAAD01357 |           |
| C56        | CAP,FXD CER    | C3216CH1H331J-E-TP  | 330PF       | 5CAAD01066 |           |
| CD1        | LED            | PR5551K             |             | 5TZAW00035 |           |
| CD2        | LED            | PG5551KY            |             | 5TZAW00055 |           |
| CD3        | LED            | PG5551KY            |             | 5TZAW00055 |           |
| CD4        | LED            | PG5551KY            |             | 5TZAW00055 |           |
| CD5        | LED            | PG5551KY            |             | 5TZAW00055 |           |
| CD6        | LED            | PG5551KY            |             | 5TZAW00055 |           |
| CD7        | DIODE          | AA5551K             |             | 5TZAW00037 |           |
| CD8        | LED            | PG5551KY            |             | 5TZAW00055 |           |
| CD9        | LED            | PG5551KY            |             | 5TZAW00055 |           |
| CD10       | LED            | PG5551KY            |             | 5TZAW00055 |           |
| CD11       | DIODE          | HZ9A2RE             |             | 5TXAE00592 |           |
| CD12       | DIODE          | 1SS226 TE85L        |             | 5TXAD00320 |           |
| CD13       | DIODE          | 1SS226 TE85L        |             | 5TXAD00320 |           |
| CD16       | DIODE          | 1SS184 TE85L        |             | 5TXAD00290 |           |
| CD17       | DIODE          | 1SS184 TE85L        |             | 5TXAD00290 |           |
| CD18       | DIODE          | 1SS184 TE85L        |             | 5TXAD00290 |           |

| PARTS LIST |            |                 |               |            |
|------------|------------|-----------------|---------------|------------|
| DISPLAY    |            | TITLE           |               | SHEET NO.  |
|            |            | CDE-576         |               | 3          |
| PARTS NO   | PARTS NAME | TYPE            | DESCRIPTION   | CODE       |
| CD19       | DIODE      | 1SS184 TE85L    |               | 5TXAD00290 |
| CD20       | DIODE      | 1SS184 TE85L    |               | 5TXAD00290 |
| CD21       | DIODE      | 1SS184 TE85L    |               | 5TXAD00290 |
| CD22       | DIODE      | 1SS184 TE85L    |               | 5TXAD00290 |
| CD23       | DIODE      | 1SS184 TE85L    |               | 5TXAD00290 |
| CD24       | DIODE      | 1SS184 TE85L    |               | 5TXAD00290 |
| CD30       | DIODE      | RD5.1MB1-T1     |               | 5TXAD00515 |
| F1         | VFD        | CP5244A GLR     |               | 5NZBE00003 |
| FL1        | FILTER     | DS310-55B222M   | 100V 0.0022UF | 5NXAA00002 |
| IC1        | IC         | MSM80C85ARS     |               | 5DDAG00062 |
| IC2        | IC         | MSM82C51ARS     |               | 5DDAG00110 |
| IC3        | IC         | MC74HC573N      |               | 5DAAJ00229 |
| IC4        | IC         | H-7DEJD0103     | MBM27C64-30   | 7DEJD0103  |
| IC5        | IC         | MC74HC138N      |               | 5DAAJ00174 |
| IC6        | IC         | MSM82C55A-SRS   |               | 5DDAG00102 |
| IC7        | IC         | MSL915RS        |               | 5DDAG00052 |
| IC8        | IC         | MSL915RS        |               | 5DDAG00052 |
| IC9        | IC         | MSL915RS        |               | 5DDAG00052 |
| IC10       | IC         | MSL915RS        |               | 5DDAG00052 |
| IC11       | IC         | MSM81C55RS      |               | 5DDAG00081 |
| IC12       | IC         | LR3671D         |               | 5DDBN00037 |
| IC13       | IC         | MC74HC259N      |               | 5DAAJ00207 |
| IC14       | IC         | TC5090AP        |               | 5DDAE00396 |
| IC15       | IC         | MC14051BCP      |               | 5DAAJ00348 |
| IC16       | IC         | MC74HC04N       |               | 5DAAJ00141 |
| IC17       | IC         | MC14053BCP      |               | 5DDAS00052 |
| IC18       | IC         | M5218L          |               | 5DDAB00158 |
| IC19       | IC         | M5260L          |               | 5DDAB00312 |
| IC20       | IC         | M51304L         |               | 5DAA000144 |
| IC21       | IC         | MC74HC32N       |               | 5DAAJ00160 |
| ICS4       | SOCKET     | ICC05-028-360TP |               | 5ZJCK00056 |
| J29        | CONNECTOR  | IL-S-7P-S2T2-EF |               | 5JWAD00083 |
| J30        | CONNECTOR  | IL-S-4P-S2T2-EF | 4PIN          | 5JWAD00183 |
| J71        | CONNECTOR  | IL-S-5P-S2T2-EF |               | 5JWAD00141 |
| J72        | CONNECTOR  | IL-S-4P-S2T2-EF | 4PIN          | 5JWAD00183 |

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| PARTS LIST |             |                   |              |            |
|------------|-------------|-------------------|--------------|------------|
| DISPLAY    |             | TITLE             |              | SHEET NO.  |
|            |             | CDE-576           |              | 4          |
| PARTS NO   | PARTS NAME  | TYPE              | DESCRIPTION  | CODE       |
| J73        | CONNECTOR   | B4P-SHF-1AA       |              | 5JWAP00089 |
| J74        | CONNECTOR   | FM214-8S          | 8P           | 5JJB000001 |
| J75        | CONNECTOR   | HLJ4305-01-090    |              | 5JJAM00032 |
| L1         | COIL        | FL-9H471J         |              | 5LCAA00089 |
| L2         | COIL        | LAL04NA330K       |              | 5LCAA00196 |
| L3         | COIL        | LAL03VB100K       | 10UH         | 5LCAA00273 |
| P20        | CONNECTOR   | H-6ZCJD43028      |              | 6ZCJD43028 |
| P21        | CONNECTOR   | H-6ZCJD43028      |              | 6ZCJD43028 |
| P22        | CONNECTOR   | H-6ZCJD43015      |              | 6ZCJD43015 |
| P23        | CONNECTOR   | H-6ZCJD00222      | 7P L=150     | 6ZCJD00222 |
| P24        | CONNECTOR   | H-6ZCJD43028      |              | 6ZCJD43028 |
| P25        | CONNECTOR   | H-6ZCJD00224      |              | 6ZCJD00224 |
| P26        | CONNECTOR   | H-6ZCJD43040      |              | 6ZCJD43040 |
| P27        | CONNECTOR   | H-6ZCJD43029      |              | 6ZCJD43029 |
| P29        | CONNECTOR   | H-6ZCJD00217      | 7P L=100     | 6ZCJD00217 |
| P30        | CONNECTOR   | H-6ZCJD00215      |              | 6ZCJD00215 |
| P71        | CONNECTOR   | H-6ZCJD43001      | 5P L=250     | 6ZCJD43001 |
| P72        | CONNECTOR   | H-6ZCJD00215      |              | 6ZCJD00215 |
| PC1        | PCB         | H-6PCJD00264B     |              | 6PCJD00264 |
| PG1        | PULSE MOTOR | RES20-50-200-B    |              | 5BPFA00004 |
| R1         | RESISTOR    | FXD ERJ-8GEYJ221V | 1/8W 220 OHM | 5REAG01730 |
| R2         | RESISTOR    | FXD ERJ-8GEYJ101V | 1/8W 100 OHM | 5REAG01726 |
| R3         | RESISTOR    | FXD ERJ-8GEYJ101V | 1/8W 100 OHM | 5REAG01726 |
| R4         | RESISTOR    | FXD ERJ-8GEYJ101V | 1/8W 100 OHM | 5REAG01726 |
| R5         | RESISTOR    | FXD ERJ-8GEYJ101V | 1/8W 100 OHM | 5REAG01726 |
| R6         | RESISTOR    | FXD ERJ-8GEYJ101V | 1/8W 100 OHM | 5REAG01726 |
| R7         | RESISTOR    | FXD ERJ-8GEYJ101V | 1/8W 100 OHM | 5REAG01726 |
| R8         | RESISTOR    | FXD ERJ-8GEYJ101V | 1/8W 100 OHM | 5REAG01726 |
| R9         | RESISTOR    | FXD ERJ-8GEYJ101V | 1/8W 100 OHM | 5REAG01726 |
| R10        | RESISTOR    | FXD ERJ-8GEYJ101V | 1/8W 100 OHM | 5REAG01726 |
| R11        | RESISTOR    | FXD ERJ-8GEYJ103V | 1/8W 10K OHM | 5REAG01750 |
| R12        | RESISTOR    | FXD ERJ-8GEYJ103V | 1/8W 10K OHM | 5REAG01750 |
| R13        | RESISTOR    | FXD ERJ-8GEYJ101V | 1/8W 100 OHM | 5REAG01726 |
| R14        | RESISTOR    | FXD ERJ-8GEYJ101V | 1/8W 100 OHM | 5REAG01726 |
| R15        | RESISTOR    | FXD ERJ-8GEYJ331V | 1/8W 330 OHM | 5REAG01732 |

| PARTS LIST |              |               |                |            |           |
|------------|--------------|---------------|----------------|------------|-----------|
| DISPLAY    |              |               |                | TITLE      | SHEET NO. |
|            |              |               |                | CDE-576    | 5         |
| PARTS NO   | PARTS NAME   | TYPE          | DESCRIPTION    | CODE       |           |
| R16        | RESISTOR FXD | ERJ-8GEYJ103V | 1/8W 10K OHM   | SREAG01750 |           |
| R17        | RESISTOR FXD | ERJ-8GEYJ105V | 1/8W 1M OHM    | SREAG01774 |           |
| R18        | RESISTOR FXD | ERJ-8GEYJ103V | 1/8W 10K OHM   | SREAG01750 |           |
| R19        | RESISTOR FXD | ERJ-8GEYJ103V | 1/8W 10K OHM   | SREAG01750 |           |
| R20        | RESISTOR FXD | ERJ-8GEYJ103V | 1/8W 10K OHM   | SREAG01750 |           |
| R21        | RESISTOR FXD | ERJ-8GEYJ101V | 1/8W 100 OHM   | SREAG01726 |           |
| R22        | RESISTOR FXD | ERJ-8GEYJ101V | 1/8W 100 OHM   | SREAG01726 |           |
| R23        | RESISTOR FXD | ERJ-8GEYJ332V | 1/8W 3.3K OHM  | SREAG01744 |           |
| R24        | RESISTOR FXD | ERJ-8GEYJ392V | 1/8W 3.9K OHM  | SREAG01745 |           |
| R25        | RESISTOR FXD | ERJ-8GEYJ332V | 1/8W 3.3K OHM  | SREAG01744 |           |
| R26        | RESISTOR FXD | ERJ-8GEYJ102V | 1/8W 1K OHM    | SREAG01738 |           |
| R27        | RESISTOR FXD | ERJ-8GEYJ683V | 1/8W 68K OHM   | SREAG01760 |           |
| R28        | RESISTOR FXD | ERJ-8GEYJ103V | 1/8W 10K OHM   | SREAG01750 |           |
| R29        | RESISTOR FXD | ERJ-8GEYJ103V | 1/8W 10K OHM   | SREAG01750 |           |
| R30        | RESISTOR FXD | ERJ-8GEYJ103V | 1/8W 10K OHM   | SREAG01750 |           |
| R31        | RESISTOR FXD | ERJ-8GEYJ822V |                | SREAG01749 |           |
| R32        | RESISTOR FXD | ERJ-8GEYJ272V | 1/8W, 2.7K OHM | SREAG01743 |           |
| R33        | RESISTOR FXD | ERJ-8GEYJ270V |                | SREAG01719 |           |
| R34        | RESISTOR FXD | ERJ-8GEYJ684V |                | SREAG01772 |           |
| R35        | RESISTOR FXD | ERJ-8GEYJ103V | 1/8W 10K OHM   | SREAG01750 |           |
| R36        | RESISTOR FXD | ERJ-8GEYJ681V | 1/8W 680 OHM   | SREAG01736 |           |
| R37        | RESISTOR FXD | ERJ-8GEYJ221V | 1/8W 220 OHM   | SREAG01730 |           |
| R38        | RESISTOR FXD | ERJ-8GEYJ102V | 1/8W 1K OHM    | SREAG01738 |           |
| R39        | RESISTOR FXD | ERJ-8GEYJ562V | 1/8W 5.6K OHM  | SREAG01747 |           |
| R40        | RESISTOR FXD | ERJ-8GEYJ103V | 1/8W 10K OHM   | SREAG01750 |           |
| R41        | RESISTOR FXD | ERJ-8GEYJ221V | 1/8W 220 OHM   | SREAG01730 |           |
| R42        | RESISTOR FXD | ERJ-8GEYJ221V | 1/8W 220 OHM   | SREAG01730 |           |
| R43        | RESISTOR FXD | ERJ-8GEYJ123V | 1/8W 12K OHM   | SREAG01751 |           |
| R44        | RESISTOR FXD | ERJ-8GEYJ103V | 1/8W 10K OHM   | SREAG01750 |           |
| R45        | RESISTOR FXD | ERJ-8GEYJ102V | 1/8W 1K OHM    | SREAG01738 |           |
| R46        | RESISTOR FXD | ERJ-8GEYJ103V | 1/8W 10K OHM   | SREAG01750 |           |
| R47        | RESISTOR FXD | ERJ-8GEYJ562V | 1/8W 5.6K OHM  | SREAG01747 |           |
| R48        | RESISTOR FXD | ERJ-8GEYJ102V | 1/8W 1K OHM    | SREAG01738 |           |
| R49        | RESISTOR FXD | ERJ-8GEYJ102V | 1/8W 1K OHM    | SREAG01738 |           |
| R50        | RESISTOR FXD | ERJ-8GEYJ103V | 1/8W 10K OHM   | SREAG01750 |           |

| PARTS LIST |              |               |               |            |           |
|------------|--------------|---------------|---------------|------------|-----------|
| DISPLAY    |              |               |               | TITLE      | SHEET NO. |
|            |              |               |               | CDE-576    | 6         |
| PARTS NO   | PARTS NAME   | TYPE          | DESCRIPTION   | CODE       |           |
| R51        | RESISTOR FXD | ERJ-8GEYJ103V | 1/8W 10K OHM  | SREAG01750 |           |
| R52        | RESISTOR FXD | ERJ-8GEYJ223V | 1/8W 22K OHM  | SREAG01754 |           |
| R53        | RESISTOR FXD | ERJ-8GEYJ224V | 1/8W 220K OHM | SREAG01766 |           |
| R54        | RESISTOR FXD | ERJ-8GEYJ224V | 1/8W 220K OHM | SREAG01766 |           |
| R55        | RESISTOR FXD | ERJ-8GEYJ474V | 1/8W 470K OHM | SREAG01770 |           |
| R56        | RESISTOR FXD | ERJ-8GEYJ104V | 1/8W 100K OHM | SREAG01762 |           |
| R57        | RESISTOR FXD | ERJ-8GEYJ224V | 1/8W 220K OHM | SREAG01766 |           |
| R58        | RESISTOR FXD | ERJ-8GEYJ103V | 1/8W 10K OHM  | SREAG01750 |           |
| R59        | RESISTOR FXD | ERJ-8GEYJ473V | 1/8W 47K OHM  | SREAG01758 |           |
| R60        | RESISTOR FXD | ERJ-8GEYJ103V | 1/8W 10K OHM  | SREAG01750 |           |
| R61        | RESISTOR FXD | ERJ-8GEYJ103V | 1/8W 10K OHM  | SREAG01750 |           |
| R62        | RESISTOR FXD | ERJ-8GEYJ104V | 1/8W 100K OHM | SREAG01762 |           |
| R63        | RESISTOR FXD | ERJ-8GEYJ105V | 1/8W 1M OHM   | SREAG01774 |           |
| R64        | RESISTOR FXD | ERJ-8GEYJ473V | 1/8W 47K OHM  | SREAG01758 |           |
| R65        | RESISTOR FXD | ERJ-8GEYJ473V | 1/8W 47K OHM  | SREAG01758 |           |
| R66        | RESISTOR FXD | ERJ-8GEYJ103V | 1/8W 10K OHM  | SREAG01750 |           |
| R67        | RESISTOR FXD | ERJ-8GEYJ102V | 1/8W 1K OHM   | SREAG01738 |           |
| R68        | RESISTOR FXD | ERJ-8GEYJ561V | 1/8W 560 OHM  | SREAG01735 |           |
| R69        | RESISTOR FXD | ERJ-8GEYJ562V | 1/8W 5.6K OHM | SREAG01747 |           |
| R70        | RESISTOR FXD | ERJ-8GEYJ153V | 1/8W 15K OHM  | SREAG01752 |           |
| R74        | RESISTOR FXD | ERJ-8GEYJ821V | 1/8W 820 OHM  | SREAG01737 |           |
| R75        | RESISTOR FXD | ERJ-8GEYJ182V | 1/8W 1.8K OHM | SREAG01741 |           |
| R76        | RESISTOR FXD | ERD-50TJ101   | 1/2W 100 OHM  | SRDAA00811 |           |
| R77        | RESISTOR FXD | ERJ-8GEYJ105V | 1/8W 1M OHM   | SREAG01774 |           |
| R78        | RESISTOR FXD | ERJ-8GEYJ682V | 1/8W 6.8K OHM | SREAG01748 |           |
| R79        | RESISTOR FXD | ERJ-8GEYJ103V | 1/8W 10K OHM  | SREAG01750 |           |
| RA1        | RESISTOR     | EXB-F9E103JY  |               | SRZAS00499 |           |
| RA2        | RESISTOR     | EXB-F9E103JY  |               | SRZAS00499 |           |
| RV1        | RESISTOR VAR | EVH-0XA009A14 |               | SRVAB00261 |           |
| RV2        | RESISTOR VAR | EVH-0XA009B14 |               | SRVAB00262 |           |
| RV3        | RESISTOR VAR | EVH-0XA009B14 |               | SRVAB00262 |           |
| RV4        | RESISTOR VAR | EWJ-CGAS05B14 |               | SRVAB00377 |           |
| RV5        | RESISTOR VAR | EWJ-CGAS05B14 |               | SRVAB00377 |           |
| RV6        | RESISTOR VAR | EWJ-CGAS05B14 |               | SRVAB00377 |           |
| RV7        | RESISTOR VAR | EWJ-CGAS05B14 |               | SRVAB00377 |           |

| PARTS LIST |              |                |             |            |
|------------|--------------|----------------|-------------|------------|
| DISPLAY    |              | TITLE          |             | SHEET NO.  |
|            |              | CDE-576        |             | 7          |
| PARTS NO   | PARTS NAME   | TYPE           | DESCRIPTION | CODE       |
| RV8        | RESISTOR VAR | EWJ-CGAS05 105 |             | SRVAB00392 |
| S1         | SWITCH       | B3F-1022S      |             | SSCAP00036 |
| S2         | SWITCH       | B3F-1022S      |             | SSCAP00036 |
| S3         | SWITCH       | B3F-1022S      |             | SSCAP00036 |
| S4         | SWITCH       | B3F-1022S      |             | SSCAP00036 |
| S5         | SWITCH       | B3F-1022S      |             | SSCAP00036 |
| S6         | SWITCH       | B3F-1022S      |             | SSCAP00036 |
| S7         | SWITCH       | B3F-1022S      |             | SSCAP00036 |
| S8         | SWITCH       | B3F-1022S      |             | SSCAP00036 |
| S9         | SWITCH       | B3F-1022S      |             | SSCAP00036 |
| S10        | SWITCH       | B3F-1022S      |             | SSCAP00036 |
| S11        | SWITCH       | B3F-1022S      |             | SSCAP00036 |
| S12        | SWITCH       | B3F-1022S      |             | SSCAP00036 |
| S13        | SWITCH       | B3F-1022S      |             | SSCAP00036 |
| S14        | SWITCH       | B3F-1022S      |             | SSCAP00036 |
| S15        | SWITCH       | B3F-1022S      |             | SSCAP00036 |
| S16        | SWITCH       | B3F-1022S      |             | SSCAP00036 |
| S17        | SWITCH       | B3F-1022S      |             | SSCAP00036 |
| S18        | SWITCH       | B3F-1022S      |             | SSCAP00036 |
| S19        | SWITCH       | B3F-1022S      |             | SSCAP00036 |
| S20        | SWITCH       | B3F-1022S      |             | SSCAP00036 |
| S21        | SWITCH       | B3F-1022S      |             | SSCAP00036 |
| S22        | SWITCH       | B3F-1022S      |             | SSCAP00036 |
| S23        | SWITCH       | B3F-1022S      |             | SSCAP00036 |
| S24        | SWITCH       | B3F-1022S      |             | SSCAP00036 |
| S25        | SWITCH       | B3F-1022S      |             | SSCAP00036 |
| S26        | SWITCH       | B3F-1022S      |             | SSCAP00036 |
| S27        | SWITCH       | B3F-1022S      |             | SSCAP00036 |
| S28        | SWITCH       | B3F-1022S      |             | SSCAP00036 |
| S29        | SWITCH       | B3F-1022S      |             | SSCAP00036 |
| S30        | SWITCH       | B3F-1022S      |             | SSCAP00036 |
| S31        | SWITCH       | B3F-1022S      |             | SSCAP00036 |
| S32        | SWITCH       | B3F-1022S      |             | SSCAP00036 |
| S33        | SWITCH       | B3F-1022S      |             | SSCAP00036 |
| S34        | SWITCH       | B3F-1022S      |             | SSCAP00036 |

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| PARTS LIST |             |                      |             |            |
|------------|-------------|----------------------|-------------|------------|
| DISPLAY    |             | TITLE                |             | SHEET NO.  |
|            |             | CDE-576              |             | 8          |
| PARTS NO   | PARTS NAME  | TYPE                 | DESCRIPTION | CODE       |
| S35        | SWITCH      | B3F-1022S            |             | SSCAP00036 |
| S36        | SWITCH      | M-2022NB AT-451      | (BLACK)     | SSAAB00733 |
| T1         | TRANSFORMER | H-6LUJD00017         |             | 6LUJD00017 |
| TR1        | TRANSISTOR  | 2SC3398-TB           |             | STCAZ00011 |
| TR2        | TRANSISTOR  | 2SC3398-TB           |             | STCAZ00011 |
| TR3        | TRANSISTOR  | 2SC3398-TB           |             | STCAZ00011 |
| TR4        | TRANSISTOR  | 2SC3398-TB           |             | STCAZ00011 |
| TR5        | TRANSISTOR  | 2SC3398-TB           |             | STCAZ00011 |
| TR6        | TRANSISTOR  | 2SC3398-TB           |             | STCAZ00011 |
| TR7        | TRANSISTOR  | 2SC3398-TB           |             | STCAZ00011 |
| TR8        | TRANSISTOR  | 2SC3398-TB           |             | STCAZ00011 |
| TR9        | TRANSISTOR  | 2SC3398-TB           |             | STCAZ00011 |
| TR10       | TRANSISTOR  | 2SC3398-TB           |             | STCAZ00011 |
| TR11       | TRANSISTOR  | 2SA1162-Y TE85L      |             | STAAG00182 |
| TR12       | TRANSISTOR  | 2SD471L              | HFE135-270  | STDAB00020 |
| TR13       | TRANSISTOR  | 2SD471L              | HFE135-270  | STDAB00020 |
| TR14       | TRANSISTOR  | 2SC3398-TB           |             | STCAZ00011 |
| TR15       | TRANSISTOR  | 2SC3398-TB           |             | STCAZ00011 |
| TR16       | TRANSISTOR  | 2SC3324GR TE85L      |             | STCAF00711 |
| TR17       | TRANSISTOR  | 2SC3324GR TE85L      |             | STCAF00711 |
| X1         | CRYSTAL     | LN-X-0008 F=4.9152MH |             | 5XHAA00422 |
| Z1         | ROM LABEL   | MPNN21185            |             | MPNN21185  |

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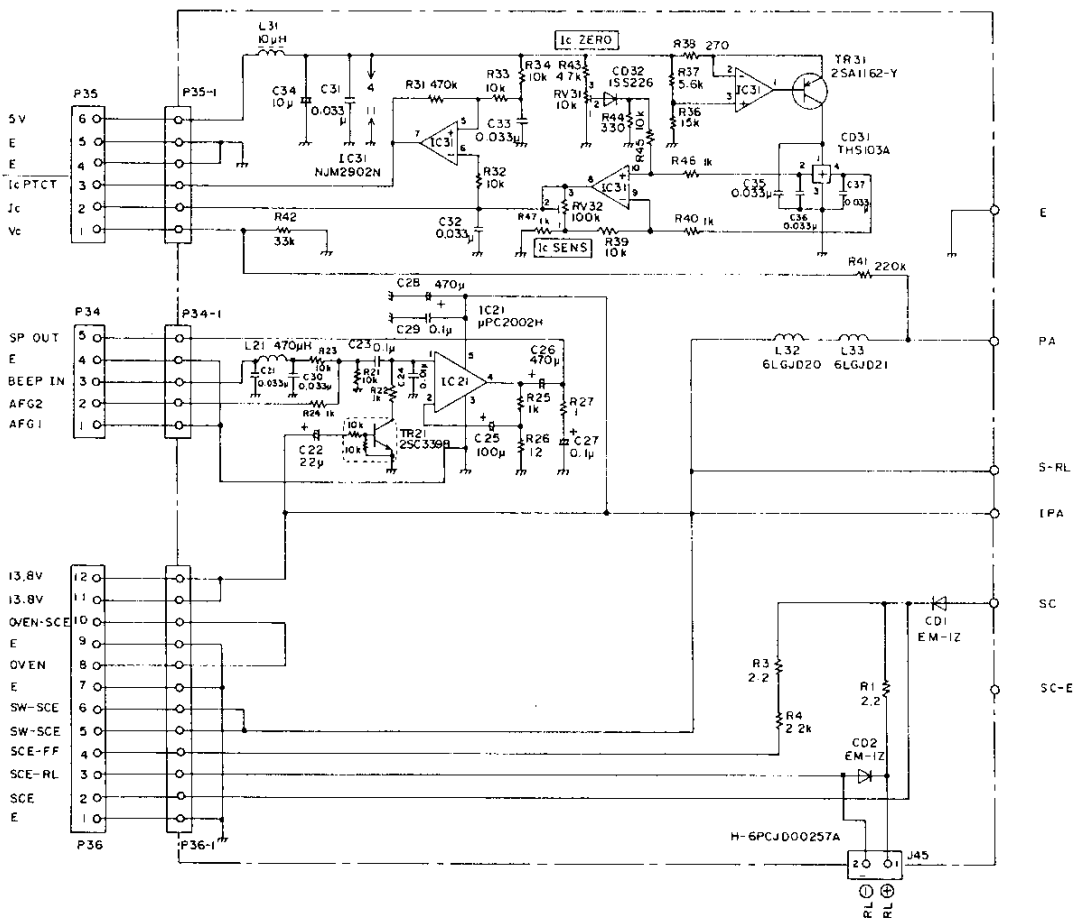


Figure 6.11.1 AF AMP UNIT CBD-894L Circuit Diagram

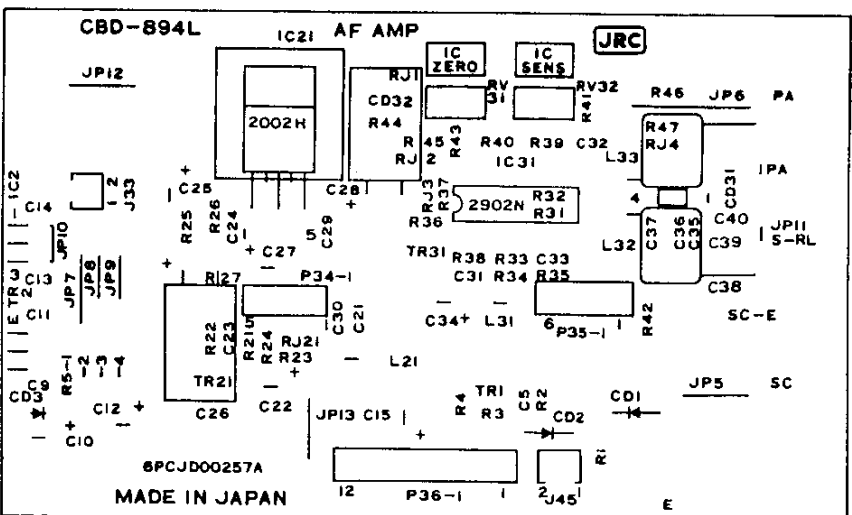


Figure 6.11.2 AF AMP UNIT CBD-894L Component Layout

| PARTS LIST |                         |                     |             |            |  |
|------------|-------------------------|---------------------|-------------|------------|--|
|            |                         | TITLE               |             | SHEET NO.  |  |
|            |                         | AF AMP              |             | CBD-894L   |  |
| PARTS NO   | PARTS NAME              | TYPE                | DESCRIPTION | CODE       |  |
| C21        | CAP,FXD CER             | C3216X7R1H333K-E-TP | 50V 0.033U  | 5CAAD01357 |  |
| C22        | CAP,FXD ELCTLT          | ECEA1EU220B         |             | 5CEAA02323 |  |
| C23        | CAP,FXD CER             | C3216X7R1E104K-E-TP | 0.1U        | 5CAAD01237 |  |
| C24        | CAP,FXD CER             | C3216JB1H103K-E-TP  | 0.01UF      | 5CAAD00789 |  |
| C25        | CAP,FXD ELCTLT          | ECE-A1EU101B        |             | 5CEAA01813 |  |
| C26        | CAP,FXD ELCTLT          | ECEA1EU471          | 25V 470UF   | 5CEAA01756 |  |
| C27        | CAP,FXD TANTAL          | 202L3502 104KB      |             | 5CSAC01068 |  |
| C28        | CAP,FXD ELCTLT          | ECEA1EU471          | 25V 470UF   | 5CEAA01756 |  |
| C29        | CAP,FXD CER             | C3216X7R1E104K-E-TP | 0.1U        | 5CAAD01237 |  |
| C30        | CAP,FXD CER             | C3216X7R1H333K-E-TP | 50V 0.033U  | 5CAAD01357 |  |
| C31        | CAP,FXD CER             | C3216X7R1H333K-E-TP | 50V 0.033U  | 5CAAD01357 |  |
| C32        | CAP,FXD CER             | C3216X7R1H333K-E-TP | 50V 0.033U  | 5CAAD01357 |  |
| C33        | CAP,FXD CER             | C3216X7R1H333K-E-TP | 50V 0.033U  | 5CAAD01357 |  |
| C34        | CAP,FXD ELCTLT          | ECE-A1EU100B        |             | 5CEAA01864 |  |
| C35        | CAP,FXD CER             | C3216X7R1H333K-E-TP | 50V 0.033U  | 5CAAD01357 |  |
| C36        | CAP,FXD CER             | C3216X7R1H333K-E-TP | 50V 0.033U  | 5CAAD01357 |  |
| C37        | CAP,FXD CER             | C3216X7R1H333K-E-TP | 50V 0.033U  | 5CAAD01357 |  |
| CD1        | DIODE                   | EM1Z                | 200V 1A     | 5TXAN00061 |  |
| CD2        | DIODE                   | EM1Z                | 200V 1A     | 5TXAN00061 |  |
| CD31       | MAGNETIC SENSOR         | THS103A             |             | 5ZJAR00033 |  |
| CD32       | DIODE                   | 1SS226 TE85L        |             | 5TXAD00320 |  |
| IC21       | IC                      | UPC2002H            |             | 5DAAA00109 |  |
| IC21Z-1    | SILICON SHEET           | TC-30A (T0-220)     |             | 5ZZKB00002 |  |
| IC21Z-2    | HEAT SINK               | 6073B               |             | 5ZKAG00169 |  |
| IC31       | IC                      | NJM2902N            |             | 5DAAN00004 |  |
| J45        | CONNECTOR               | IL-S-2P-S2T2-EF     |             | 5JWAD00121 |  |
| JP6        |                         |                     | *           | 6ZZAB10000 |  |
| JP7        | TIN COATED WIRE TA-D.6P |                     |             | 2717100001 |  |
| JP8        |                         |                     | *           | 6ZZAB10000 |  |
| JP9        |                         |                     | *           | 6ZZAB10000 |  |
| JP10       |                         |                     | *           | 6ZZAB10000 |  |
| JP11       |                         |                     | *           | 6ZZAB10000 |  |
| JP12       | TIN COATED WIRE TA-0.6P |                     |             | 2717100001 |  |
| JP13       | TIN COATED WIRE TA-0.6P |                     |             | 2717100001 |  |
| L21        | COIL                    | LAL03VB471K         | 470UH       | 5LCAA00270 |  |

| PARTS LIST |              |               |               |            |  |
|------------|--------------|---------------|---------------|------------|--|
|            |              | TITLE         |               | SHEET NO.  |  |
|            |              | AF AMP        |               | CBD-894L   |  |
| PARTS NO   | PARTS NAME   | TYPE          | DESCRIPTION   | CODE       |  |
| L31        | COIL         | LAL03VB100K   | 10UH          | 5LCAA00273 |  |
| L32        | COIL         | H-6LGJD00020  |               | 6LGJD00020 |  |
| L33        | COIL         | H-6LGJD00021  |               | 6LGJD00021 |  |
| P34        | CONNECTOR    | H-6ZCJD00216  | 5P L=200      | 6ZCJD00216 |  |
| P35        | CONNECTOR    | H-6ZCJD43009  | 6P L=200      | 6ZCJD43009 |  |
| P36        | CONNECTOR    | H-6ZCJD43011  | 12P L=200     | 6ZCJD43011 |  |
| PC1        | PCB          | H-6PCJD00257A |               | 6PCJD00257 |  |
| R1         | RESISTOR FXD | ERJ-8GEYK2R2V |               | 5REAG02210 |  |
| R3         | RESISTOR FXD | ERJ-8GEYK2R2V |               | 5REAG02210 |  |
| R4         | RESISTOR FXD | ERJ-8GEYJ222V | 1/8W 2.2K OHM | 5REAG01742 |  |
| R21        | RESISTOR FXD | ERJ-8GEYJ103V | 1/8W 10K OHM  | 5REAG01750 |  |
| R22        | RESISTOR FXD | ERJ-8GEYJ102V | 1/8W 1K OHM   | 5REAG01738 |  |
| R23        | RESISTOR FXD | ERJ-8GEYJ103V | 1/8W 10K OHM  | 5REAG01750 |  |
| R24        | RESISTOR FXD | ERJ-8GEYJ102V | 1/8W 1K OHM   | 5REAG01738 |  |
| R25        | RESISTOR FXD | ERJ-8GEYJ102V | 1/8W 1K OHM   | 5REAG01738 |  |
| R26        | RESISTOR FXD | ERJ-8GEYJ120V | 1/8W 12 OHM   | 5REAG01715 |  |
| R27        | RESISTOR FXD | ERJ-8GEYK1R0V |               | 5REAG02208 |  |
| R31        | RESISTOR FXD | ERJ-8GEYJ474V |               | 5REAG01770 |  |
| R32        | RESISTOR FXD | ERJ-8GEYJ103V | 1/8W 10K OHM  | 5REAG01750 |  |
| R33        | RESISTOR FXD | ERJ-8GEYJ103V | 1/8W 10K OHM  | 5REAG01750 |  |
| R34        | RESISTOR FXD | ERJ-8GEYJ103V | 1/8W 10K OHM  | 5REAG01750 |  |
| R36        | RESISTOR FXD | ERJ-8GEYJ153V |               | 5REAG01752 |  |
| R37        | RESISTOR FXD | ERJ-8GEYJ562V | 1/8W 5.6K OHM | 5REAG01747 |  |
| R38        | RESISTOR FXD | ERJ-8GEYJ271V | 1/8W 270 OHM  | 5REAG01731 |  |
| R39        | RESISTOR FXD | ERJ-8GEYJ103V | 1/8W 10K OHM  | 5REAG01750 |  |
| R40        | RESISTOR FXD | ERJ-8GEYJ102V | 1/8W 1K OHM   | 5REAG01738 |  |
| R41        | RESISTOR FXD | ERJ-8GEYJ224V |               | 5REAG01766 |  |
| R42        | RESISTOR FXD | ERJ-8GEYJ333V |               | 5REAG01756 |  |
| R43        | RESISTOR FXD | ERJ-8GEYJ472V |               | 5REAG01746 |  |
| R44        | RESISTOR FXD | ERJ-8GEYJ331V | 1/8W,330 OHM  | 5REAG01732 |  |
| R45        | RESISTOR FXD | ERJ-8GEYJ103V | 1/8W 10K OHM  | 5REAG01750 |  |
| R46        | RESISTOR FXD | ERJ-8GEYJ102V | 1/8W 1K OHM   | 5REAG01738 |  |
| R47        | RESISTOR FXD | ERJ-8GEYJ102V | 1/8W 1K OHM   | 5REAG01738 |  |
| RJ1        | RESISTOR FXD | ERJ-8GEY0R00V | 0 OHM         | 5REAG01775 |  |

## PARTS LIST

|          |              | TITLE           |             | SHEET NO.  |  |
|----------|--------------|-----------------|-------------|------------|--|
| AF AMP   |              | CBD-894L        |             | 3          |  |
| PARTS NO | PARTS NAME   | TYPE            | DESCRIPTION | CODE       |  |
| RJ2      | RESISTOR FXD | ERJ-8GEY0R00V   | 0 OHM       | 5REAG01775 |  |
| RJ3      | RESISTOR FXD | ERJ-8GEY0R00V   | 0 OHM       | 5REAG01775 |  |
| RJ4      | RESISTOR FXD | ERJ-8GEY0R00V   | 0 OHM       | 5REAG01775 |  |
| RJ21     | RESISTOR FXD | ERJ-8GEY0R00V   | 0 OHM       | 5REAG01775 |  |
| RV31     | RESISTOR VAR | EVN-D1AA00B14   | 10K OHM     | 5RVAB00324 |  |
| RV32     | RESISTOR VAR | EVN-D1AA00B15   | 100K        | 5RVAB00314 |  |
| TR21     | TRANSISTOR   | 2SC3398-TB      |             | 5TCAZ00011 |  |
| TR31     | TRANSISTOR   | 2SA1162-Y TE85L |             | 5TAAG00182 |  |

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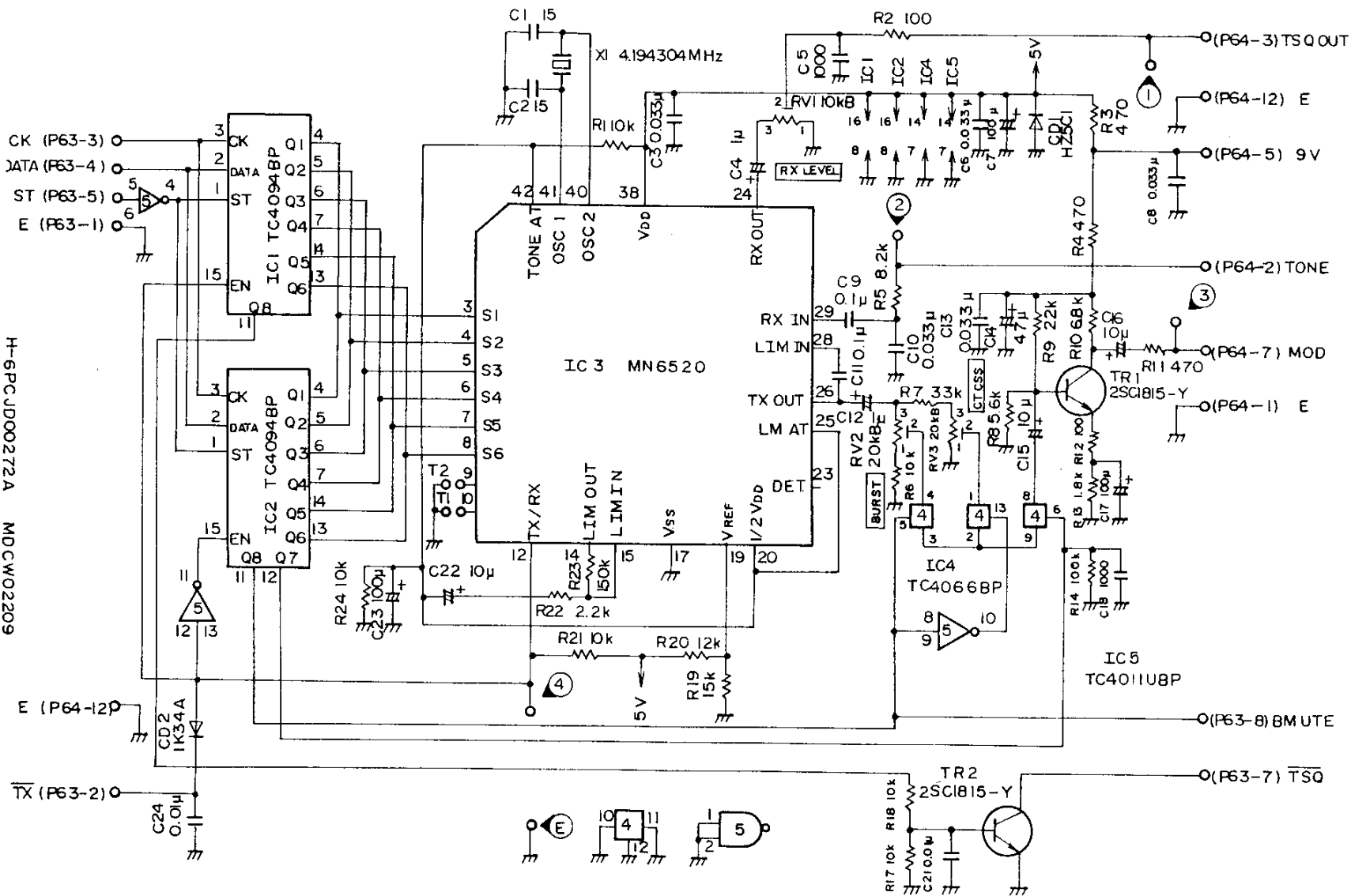
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Figure 6.12.1

H-6PCJDOO272A MDCWO2209  
TONE SQ UNIT CCL-212 Circuit Diagram





| PARTS LIST |                |                   |              |            | SHEET NO. |  |
|------------|----------------|-------------------|--------------|------------|-----------|--|
| TONE SQ    |                |                   | TITLE        |            | CCL-212   |  |
| PARTS NO   | PARTS NAME     | TYPE              | DESCRIPTION  | CODE       | 1         |  |
| C1         | CAP,FXD CER    | DD104-979CH150J50 |              | 5CAAA02580 |           |  |
| C2         | CAP,FXD CER    | DD104-979CH150J50 |              | 5CAAA02580 |           |  |
| C3         | CAP,FXD PLSTC  | ECQ-V1H333JZ3     |              | 5CRAA00804 |           |  |
| C4         | CAP,FXD TANTAL | 202L3502 105KB    | 35V 1UF      | 5CSAC00982 |           |  |
| C5         | CAP,FXD CER    | DD104-979B102K50  | 1000PF 50V   | 5CBA802031 |           |  |
| C6         | CAP,FXD PLSTC  | ECQ-V1H333JZ3     |              | 5CRAA00804 |           |  |
| C7         | CAP,FXD ELCTLT | ECE-A1EU101B      |              | 5CEAA01813 |           |  |
| C8         | CAP,FXD PLSTC  | ECQ-V1H333JZ3     |              | 5CRAA00804 |           |  |
| C9         | CAP,FXD PLSTC  | ECQ-V1H104JZ3     |              | 5CRAA00617 |           |  |
| C10        | CAP,FXD PLSTC  | ECQ-V1H333JZ3     |              | 5CRAA00804 |           |  |
| C11        | CAP,FXD PLSTC  | ECQ-V1H104JZ3     |              | 5CRAA00617 |           |  |
| C12        | CAP,FXD TANTAL | 202L3502 105KB    | 35V 1UF      | 5CSAC00982 |           |  |
| C13        | CAP,FXD PLSTC  | ECQ-V1H333JZ3     |              | 5CRAA00804 |           |  |
| C14        | CAP,FXD ELCTLT | ECE-A1EU470B      | 25V 47UF     | 5CEAA01816 |           |  |
| C15        | CAP,FXD ELCTLT | ECE-A1EU100B      |              | 5CEAA01864 |           |  |
| C16        | CAP,FXD ELCTLT | ECE-A1EU100B      |              | 5CEAA01864 |           |  |
| C17        | CAP,FXD ELCTLT | ECE-A1EU101B      |              | 5CEAA01813 |           |  |
| C18        | CAP,FXD CER    | DD104-979B102K50  | 1000PF 50V   | 5CBA802031 |           |  |
| C21        | CAP,FXD PLSTC  | ECQ-B1H103JZ3     |              | 5CRAA00587 |           |  |
| C22        | CAP,FXD ELCTLT | ECE-A1EU100B      |              | 5CEAA01864 |           |  |
| C23        | CAP,FXD ELCTLT | ECE-A1EU101B      |              | 5CEAA01813 |           |  |
| C24        | CAP,FXD PLSTC  | ECQ-B1H103JZ3     |              | 5CRAA00587 |           |  |
| CD1        | DIODE          | HZ5C1RE           | 1/2W 5V      | 5TXAE00568 |           |  |
| CD2        | DIODE          | 1K34A             |              | 5TXCH00001 |           |  |
| IC1        | IC             | TC4094BP          |              | 5DDAE00337 |           |  |
| IC2        | IC             | TC4094BP          |              | 5DDAE00337 |           |  |
| IC3        | IC             | MN6520            |              | 5DZAH00024 |           |  |
| IC4        | IC             | TC4066BP          |              | 5DDAE00078 |           |  |
| IC5        | IC             | TC4011UBP         |              | 5DDAE00129 |           |  |
| P63        | CONNECTOR      | XX2B-1241         |              | 5JBAR00023 |           |  |
| P64        | CONNECTOR      | XX2B-1241         |              | 5JBAR00023 |           |  |
| PC1        | PCB            | H-6PCJ000272A     |              | 6PCJ000272 |           |  |
| R1         | RESISTOR FXD   | ERD-25UJ103T      | 10K OHM 1/4W | 5RDAA01547 |           |  |
| R2         | RESISTOR FXD   | ERD-25UJ101T      | 1/4W 100 OHM | 5RDAA01599 |           |  |

| PARTS LIST |               |                   |               |            | SHEET NO. |  |
|------------|---------------|-------------------|---------------|------------|-----------|--|
| TONE SQ    |               |                   | TITLE         |            | CCL-212   |  |
| PARTS NO   | PARTS NAME    | TYPE              | DESCRIPTION   | CODE       | 2         |  |
| R3         | RESISTOR FXD  | ERD-25UJ471T      | 470 OHM 1/4W  | 5RDAA01541 |           |  |
| R4         | RESISTOR FXD  | ERD-25UJ471T      | 470 OHM 1/4W  | 5RDAA01541 |           |  |
| R5         | RESISTOR FXD  | ERD-25UJ822T      | 1/4W,8.2K OHM | 5RDAA01821 |           |  |
| R6         | RESISTOR FXD  | ERD-25UJ103T      | 10K OHM 1/4W  | 5RDAA01547 |           |  |
| R7         | RESISTOR FXD  | ERD-25UJ333T      | 1/4W 33K OHM  | 5RDAA01591 |           |  |
| R8         | RESISTOR FXD  | ERD-25UJ562T      | 1/4W 5.6K OHM | 5RDAA01597 |           |  |
| R9         | RESISTOR FXD  | ERD-25UJ223T      | 22K OHM 1/4W  | 5RDAA01545 |           |  |
| R10        | RESISTOR FXD  | ERD-25UJ682T      |               | 5RDAA01713 |           |  |
| R11        | RESISTOR FXD  | ERD-25UJ471T      | 470 OHM 1/4W  | 5RDAA01541 |           |  |
| R12        | RESISTOR FXD  | ERD-25UJ101T      | 1/4W 100 OHM  | 5RDAA01599 |           |  |
| R13        | RESISTOR FXD  | ERD-25UJ182T      | 1/4W 1.8K OHM | 5RDAA01617 |           |  |
| R14        | RESISTOR FXD  | ERD-25UJ104T      | 100K OHM 1/4W | 5RDAA01623 |           |  |
| R17        | RESISTOR FXD  | ERD-25UJ103T      | 10K OHM 1/4W  | 5RDAA01547 |           |  |
| R18        | RESISTOR FXD  | ERD-25UJ103T      | 10K OHM 1/4W  | 5RDAA01547 |           |  |
| R19        | RESISTOR FXD  | ERD-25UJ153T      | 1/4W 15K OHM  | 5RDAA01594 |           |  |
| R20        | RESISTOR FXD  | ERD-25UJ123T      | 1/4W 12K OHM  | 5RDAA01592 |           |  |
| R21        | RESISTOR FXD  | ERD-25UJ103T      | 10K OHM 1/4W  | 5RDAA01547 |           |  |
| R22        | RESISTOR FXD  | ERD-25UJ222T      | 2.2K OHM 1/4W | 5RDAA01548 |           |  |
| R23        | RESISTOR FXD  | ERD-25UJ154T      | 1/4W 150K     | 5RDAA01807 |           |  |
| R24        | RESISTOR FXD  | ERD-25UJ103T      | 10K OHM 1/4W  | 5RDAA01547 |           |  |
| RV1        | RESISTOR VAR  | EVN-D1AA00B14     | 10K OHM       | 5RVAB00324 |           |  |
| RV2        | RESISTOR VAR  | EVN-D1AA00B24     | 20K           | 5RVAB00372 |           |  |
| RV3        | RESISTOR VAR  | EVN-D1AA00B24     | 20K           | 5RVAB00372 |           |  |
| TP         | TEST TERMINAL | PCN6-PEA          |               | 5JDA000364 |           |  |
| TR1        | TRANSISTOR    | 2SC1815-Y         |               | 5TCAF00219 |           |  |
| TR2        | TRANSISTOR    | 2SC1815-Y         |               | 5TCAF00219 |           |  |
| X1         | CRYSTAL       | AT-51 4.194304MHZ |               | 5XHAA00896 |           |  |

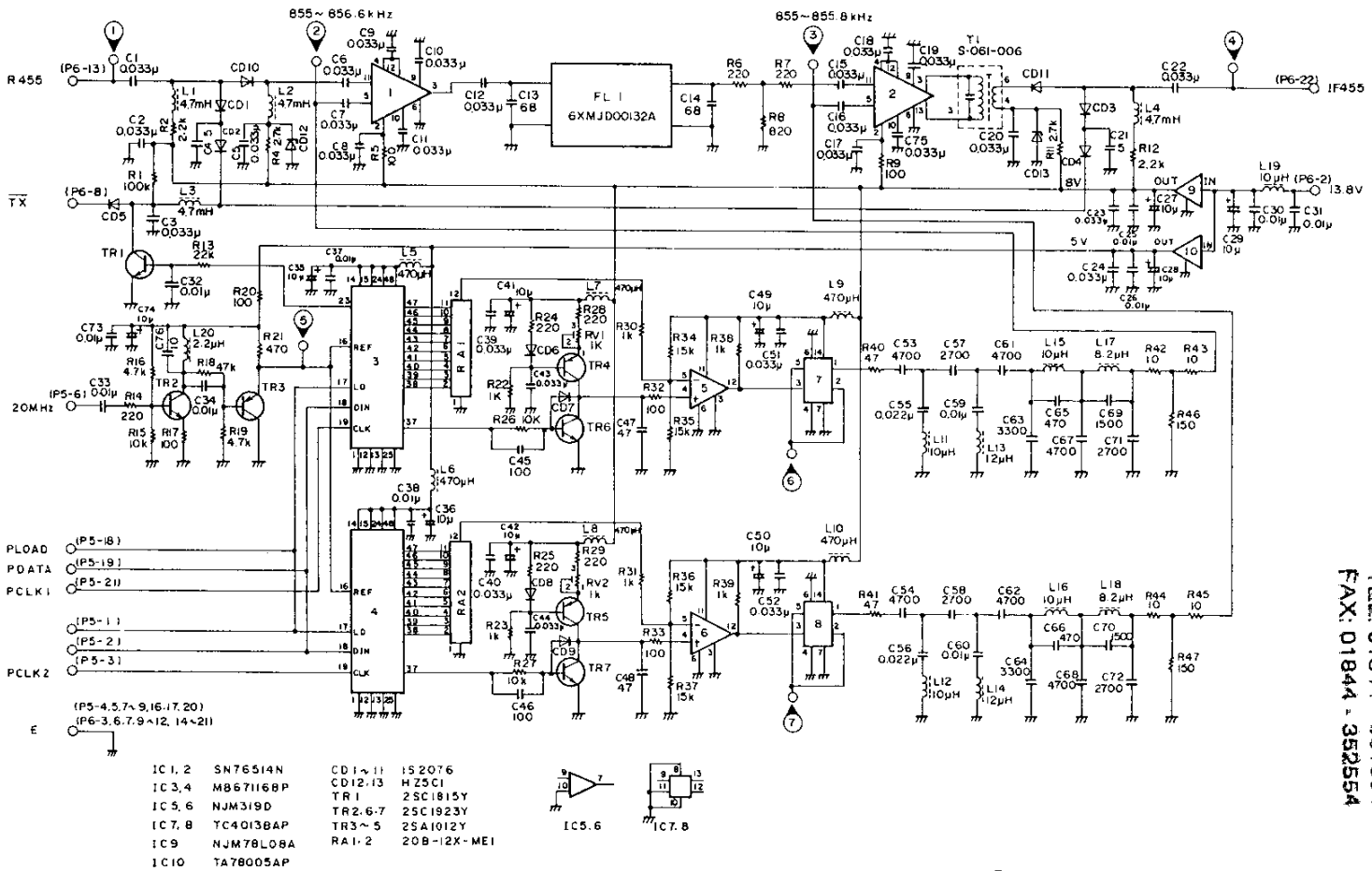


Figure 6.13.1 BWC UNIT CFL-243 Circuit Diagram

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CONTACT:

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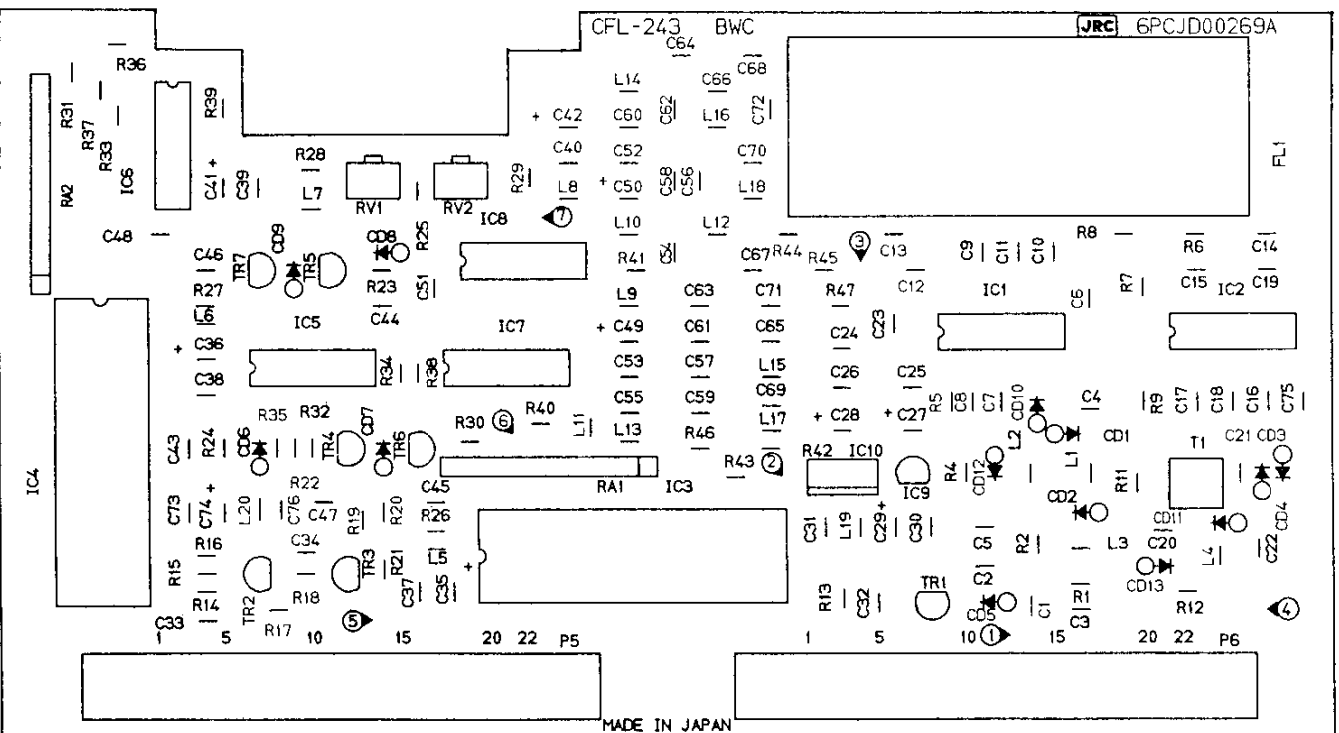


Figure 6.13.2 BWC UNIT CFL-243 Component Layout

## PARTS LIST

| PARTS LIST |            |         |                   |            |
|------------|------------|---------|-------------------|------------|
| BWC        |            | TITLE   |                   | SHEET NO.  |
|            |            | CFL-243 |                   | 1          |
| PARTS NO   | PARTS NAME | TYPE    | DESCRIPTION       | CODE       |
| C1         | CAP,FXD    | PLSTC   | ECQ-V1H333JZ3     | 5CRAA00804 |
| C2         | CAP,FXD    | PLSTC   | ECQ-V1H333JZ3     | 5CRAA00804 |
| C3         | CAP,FXD    | PLSTC   | ECQ-V1H333JZ3     | 5CRAA00804 |
| C4         | CAP,FXD    | CER     | DD104-979CH050C50 | 5CAAA02688 |
| C5         | CAP,FXD    | PLSTC   | ECQ-V1H333JZ3     | 5CRAA00804 |
| C6         | CAP,FXD    | PLSTC   | ECQ-V1H333JZ3     | 5CRAA00804 |
| C7         | CAP,FXD    | PLSTC   | ECQ-V1H333JZ3     | 5CRAA00804 |
| C8         | CAP,FXD    | PLSTC   | ECQ-V1H333JZ3     | 5CRAA00804 |
| C9         | CAP,FXD    | PLSTC   | ECQ-V1H333JZ3     | 5CRAA00804 |
| C10        | CAP,FXD    | PLSTC   | ECQ-V1H333JZ3     | 5CRAA00804 |
| C11        | CAP,FXD    | PLSTC   | ECQ-V1H333JZ3     | 5CRAA00804 |
| C12        | CAP,FXD    | PLSTC   | ECQ-V1H333JZ3     | 5CRAA00804 |
| C13        | CAP,FXD    | CER     | DD107-979CH680J50 | 5CAAA02599 |
| C14        | CAP,FXD    | CER     | DD107-979CH680J50 | 5CAAA02599 |
| C15        | CAP,FXD    | PLSTC   | ECQ-V1H333JZ3     | 5CRAA00804 |
| C16        | CAP,FXD    | PLSTC   | ECQ-V1H333JZ3     | 5CRAA00804 |
| C17        | CAP,FXD    | PLSTC   | ECQ-V1H333JZ3     | 5CRAA00804 |
| C18        | CAP,FXD    | PLSTC   | ECQ-V1H333JZ3     | 5CRAA00804 |
| C19        | CAP,FXD    | PLSTC   | ECQ-V1H333JZ3     | 5CRAA00804 |
| C20        | CAP,FXD    | PLSTC   | ECQ-V1H333JZ3     | 5CRAA00804 |
| C21        | CAP,FXD    | CER     | DD104-979CH050C50 | 5CAAA02688 |
| C22        | CAP,FXD    | PLSTC   | ECQ-V1H333JZ3     | 5CRAA00804 |
| C23        | CAP,FXD    | PLSTC   | ECQ-V1H333JZ3     | 5CRAA00804 |
| C24        | CAP,FXD    | PLSTC   | ECQ-V1H333JZ3     | 5CRAA00804 |
| C25        | CAP,FXD    | CER     | DD806-979F103250  | 5CAAA02929 |
| C26        | CAP,FXD    | CER     | DD806-979F103250  | 5CAAA02929 |
| C27        | CAP,FXD    | ELCTLT  | ECE-A1EU100B      | 5CEAA01864 |
| C28        | CAP,FXD    | ELCTLT  | ECE-A1EU100B      | 5CEAA01864 |
| C29        | CAP,FXD    | ELCTLT  | ECE-A1EU100B      | 5CEAA01864 |
| C30        | CAP,FXD    | CER     | DD806-979F103250  | 5CAAA02929 |
| C31        | CAP,FXD    | CER     | DD806-979F103250  | 5CAAA02929 |
| C32        | CAP,FXD    | CER     | DD806-979F103250  | 5CAAA02929 |
| C33        | CAP,FXD    | CER     | DD806-979F103250  | 5CAAA02929 |
| C34        | CAP,FXD    | CER     | DD806-979F103250  | 5CAAA02929 |
| C35        | CAP,FXD    | ELCTLT  | ECE-A1EU100B      | 5CEAA01864 |

## PARTS LIST

| PARTS LIST |            |         |                             |            |
|------------|------------|---------|-----------------------------|------------|
| BWC        |            | TITLE   |                             | SHEET NO.  |
|            |            | CFL-243 |                             | 2          |
| PARTS NO   | PARTS NAME | TYPE    | DESCRIPTION                 | CODE       |
| C36        | CAP,FXD    | ELCTLT  | ECE-A1EU100B                | 5CEAA01864 |
| C37        | CAP,FXD    | CER     | DD806-979F103250            | 5CAAA02929 |
| C38        | CAP,FXD    | CER     | DD806-979F103250            | 5CAAA02929 |
| C39        | CAP,FXD    | PLSTC   | ECQ-V1H333JZ3               | 5CRAA00804 |
| C40        | CAP,FXD    | PLSTC   | ECQ-V1H333JZ3               | 5CRAA00804 |
| C41        | CAP,FXD    | ELCTLT  | ECE-A1EU100B                | 5CEAA01864 |
| C42        | CAP,FXD    | ELCTLT  | ECE-A1EU100B                | 5CEAA01864 |
| C43        | CAP,FXD    | PLSTC   | ECQ-V1H333JZ3               | 5CRAA00804 |
| C44        | CAP,FXD    | PLSTC   | ECQ-V1H333JZ3               | 5CRAA00804 |
| C45        | CAP,FXD    | CER     | DD107-979CH101J50 100PF,50V | 5CAAA02783 |
| C46        | CAP,FXD    | CER     | DD107-979CH101J50 100PF,50V | 5CAAA02783 |
| C47        | CAP,FXD    | CER     | DD106-979CH470J50           | 5CAAA02754 |
| C48        | CAP,FXD    | CER     | DD106-979CH470J50           | 5CAAA02754 |
| C49        | CAP,FXD    | ELCTLT  | ECE-A1EU100B                | 5CEAA01864 |
| C50        | CAP,FXD    | ELCTLT  | ECE-A1EU100B                | 5CEAA01864 |
| C51        | CAP,FXD    | PLSTC   | ECQ-V1H333JZ3               | 5CRAA00804 |
| C52        | CAP,FXD    | PLSTC   | ECQ-V1H333JZ3               | 5CRAA00804 |
| C53        | CAP,FXD    | PLSTC   | ECQ-B1H472JZ3               | 5CRAA00833 |
| C54        | CAP,FXD    | PLSTC   | ECQ-B1H472JZ3               | 5CRAA00833 |
| C55        | CAP,FXD    | PLSTC   | ECQ-B1H223JZ3               | 5CRAA00834 |
| C56        | CAP,FXD    | PLSTC   | ECQ-B1H223JZ3               | 5CRAA00834 |
| C57        | CAP,FXD    | PLSTC   | ECQ-B1H272JZ3               | 5CRAA00835 |
| C58        | CAP,FXD    | PLSTC   | ECQ-B1H272JZ3               | 5CRAA00835 |
| C59        | CAP,FXD    | PLSTC   | ECQ-B1H103JZ3               | 5CRAA00587 |
| C60        | CAP,FXD    | PLSTC   | ECQ-B1H103JZ3               | 5CRAA00587 |
| C61        | CAP,FXD    | PLSTC   | ECQ-B1H472JZ3               | 5CRAA00833 |
| C62        | CAP,FXD    | PLSTC   | ECQ-B1H472JZ3               | 5CRAA00833 |
| C63        | CAP,FXD    | PLSTC   | ECQ-B1H332JZ3 3300PF 50V    | 5CRAA00586 |
| C64        | CAP,FXD    | PLSTC   | ECQ-B1H332JZ3 3300PF 50V    | 5CRAA00586 |
| C65        | CAP,FXD    | CER     | DD109-979SL471J50           | 5CAAA02755 |
| C66        | CAP,FXD    | CER     | DD109-979SL471J50           | 5CAAA02755 |
| C67        | CAP,FXD    | PLSTC   | ECQ-B1H472JZ3               | 5CRAA00833 |
| C68        | CAP,FXD    | PLSTC   | ECQ-B1H472JZ3               | 5CRAA00833 |
| C69        | CAP,FXD    | PLSTC   | ECQ-B1H152JZ3               | 5CRAA00727 |
| C70        | CAP,FXD    | PLSTC   | ECQ-B1H152JZ3               | 5CRAA00727 |

| PARTS LIST |            |        |                      |            | SHEET NO.<br>3 |
|------------|------------|--------|----------------------|------------|----------------|
| BWC        |            |        | TITLE<br>CFL-243     |            |                |
| PARTS NO   | PARTS NAME | TYPE   | DESCRIPTION          | CODE       |                |
| C71        | CAP,FXD    | PLSTC  | ECQ-B1H272J23        | 5CRAA00835 |                |
| C72        | CAP,FXD    | PLSTC  | ECQ-B1H272J23        | 5CRAA00835 |                |
| C73        | CAP,FXD    | CER    | DD806-979F103Z50     | 5CAAA02929 |                |
| C74        | CAP,FXD    | ELCTLT | ECE-A1EU100B         | 5CEAA01864 |                |
| C75        | CAP,FXD    | PLSTC  | ECQ-V1H333J23        | 5CRAA00804 |                |
| C76        | CAP,FXD    | CER    | DD104-979CH100D50    | 5CAAA02689 |                |
| CD1        | DIODE      |        | 1S2076RE             | 5TXAE00588 |                |
| CD2        | DIODE      |        | 1S2076RE             | 5TXAE00588 |                |
| CD3        | DIODE      |        | 1S2076RE             | 5TXAE00588 |                |
| CD4        | DIODE      |        | 1S2076RE             | 5TXAE00588 |                |
| CD5        | DIODE      |        | 1S2076RE             | 5TXAE00588 |                |
| CD6        | DIODE      |        | 1S2076RE             | 5TXAE00588 |                |
| CD7        | DIODE      |        | 1S2076RE             | 5TXAE00588 |                |
| CD8        | DIODE      |        | 1S2076RE             | 5TXAE00588 |                |
| CD9        | DIODE      |        | 1S2076RE             | 5TXAE00588 |                |
| CD10       | DIODE      |        | 1S2076RE             | 5TXAE00588 |                |
| CD11       | DIODE      |        | 1S2076RE             | 5TXAE00588 |                |
| CD12       | DIODE      |        | HZ5C1                | 5TXAE00130 |                |
| CD13       | DIODE      |        | HZ5C1                | 5TXAE00130 |                |
| FL1        | CRYSTAL    | CKT    | H-6XMJD00132A        | 6XMJD00132 |                |
| IC1        | IC         |        | SN76514N             | 5DDAL00251 |                |
| IC2        | IC         |        | SN76514N             | 5DDAL00251 |                |
| IC3        | IC         |        | H-6DDJD00018 MB67116 | 6DDJD00018 |                |
| IC4        | IC         |        | H-6DDJD00018 MB67116 | 6DDJD00018 |                |
| IC5        | IC         |        | NJM319D              | 5DAAN00206 |                |
| IC6        | IC         |        | NJM319D              | 5DAAN00206 |                |
| IC7        | IC         |        | TC40138AP            | 5DDAE00817 |                |
| IC8        | IC         |        | TC40138AP            | 5DDAE00817 |                |
| IC9        | IC         |        | NJM78L08A            | 5DAAN00079 |                |
| IC10       | IC         |        | TA78005AP            | 5DAAD00082 |                |
| L1         | COIL       |        | FL-7H472J            | 5LCAA00023 |                |
| L2         | COIL       |        | FL-7H472J            | 5LCAA00023 |                |
| L3         | COIL       |        | FL-7H472J            | 5LCAA00023 |                |
| L4         | COIL       |        | FL-7H472J            | 5LCAA00023 |                |
| L5         | COIL       |        | LAL03VB471K          | 5LCAA00270 |                |

| PARTS LIST |              |                 |               |            | SHEET NO<br>4 |
|------------|--------------|-----------------|---------------|------------|---------------|
| BWC        |              | TITLE           |               |            |               |
|            |              | CFL-243         |               |            |               |
| PARTS NO   | PARTS NAME   | TYPE            | DESCRIPTION   | CODE       |               |
| L6         | COIL         | LAL03VB471K     | 470UH         | 5LCAA00270 |               |
| L7         | COIL         | LAL03VB471K     | 470UH         | 5LCAA00270 |               |
| L8         | COIL         | LAL03VB471K     | 470UH         | 5LCAA00270 |               |
| L9         | COIL         | LAL03VB471K     | 470UH         | 5LCAA00270 |               |
| L10        | COIL         | LAL03VB471K     | 470UH         | 5LCAA00270 |               |
| L11        | COIL         | LAL03VB100K     | 10UH          | 5LCAA00273 |               |
| L12        | COIL         | LAL03VB100K     | 10UH          | 5LCAA00273 |               |
| L13        | COIL         | LAL03VB120K     |               | 5LCAA00386 |               |
| L14        | COIL         | LAL03VB120K     |               | 5LCAA00386 |               |
| L15        | COIL         | LAL03VB100K     | 10UH          | 5LCAA00273 |               |
| L16        | COIL         | LAL03VB100K     | 10UH          | 5LCAA00273 |               |
| L17        | COIL         | LAL03VB8R2K     |               | 5LCAA00335 |               |
| L18        | COIL         | LAL03VB8R2K     |               | 5LCAA00335 |               |
| L19        | COIL         | LAL03VB100K     | 10UH          | 5LCAA00273 |               |
| L20        | COIL         | LAL03VB2R2M     | 2.2UH         | 5LCAA00278 |               |
| P5         | CONNECTOR    | EC1C-22P-2.5DSA | 22P           | 5JWBS00070 |               |
| P6         | CONNECTOR    | EC1C-22P-2.5DSA | 22P           | 5JWBS00070 |               |
| PC1        | PCB          | H-6PCJD00269A   |               | 6PCJD00269 |               |
| R1         | RESISTOR FXD | ERD-25UJ104T    | 100K OHM 1/4W | 5RDAA01623 |               |
| R2         | RESISTOR FXD | ERD-25UJ222T    | 2.2K OHM 1/4W | 5RDAA01548 |               |
| R4         | RESISTOR FXD | ERD-25UJ272T    | 2.7K OHM 1/4W | 5RDAA01546 |               |
| R5         | RESISTOR FXD | ERD-25UJ101T    | 1/4W 100 OHM  | 5RDAA01599 |               |
| R6         | RESISTOR FXD | ERD-25UJ221T    | 220 OHM 1/4   | 5RDAA01543 |               |
| R7         | RESISTOR FXD | ERD-25UJ221T    | 220 OHM 1/4   | 5RDAA01543 |               |
| R8         | RESISTOR FXD | ERD-25UJ821T    | 820 OHM 1/4W  | 5RDAA01604 |               |
| R9         | RESISTOR FXD | ERD-25UJ101T    | 1/4W 100 OHM  | 5RDAA01599 |               |
| R11        | RESISTOR FXD | ERD-25UJ272T    | 2.7K OHM 1/4W | 5RDAA01546 |               |
| R12        | RESISTOR FXD | ERD-25UJ222T    | 2.2K OHM 1/4W | 5RDAA01548 |               |
| R13        | RESISTOR FXD | ERD-25UJ223T    | 22K OHM 1/4W  | 5RDAA01545 |               |
| R14        | RESISTOR FXD | ERD-25UJ221T    | 220 OHM 1/4   | 5RDAA01543 |               |
| R15        | RESISTOR FXD | ERD-25UJ103T    | 10K OHM 1/4W  | 5RDAA01547 |               |
| R16        | RESISTOR FXD | ERD-25UJ472T    | 4.7K OHM 1/4W | 5RDAA01549 |               |
| R17        | RESISTOR FXD | ERD-25UJ101T    | 1/4W 100 OHM  | 5RDAA01599 |               |
| R18        | RESISTOR FXD | ERD-25UJ473T    | 1/4W 47K OHM  | 5RDAA01618 |               |
| R19        | RESISTOR FXD | ERD-25UJ472T    | 4.7K OHM 1/4W | 5RDAA01549 |               |

| PARTS LIST |               |               |              |            |           |
|------------|---------------|---------------|--------------|------------|-----------|
|            |               | BWC           | TITLE        |            | SHEET NO. |
|            |               |               | CFL-243      |            | 5         |
| PARTS NO   | PARTS NAME    | TYPE          | DESCRIPTION  | CODE       |           |
| R20        | RESISTOR FXD  | ERD-25UJ101T  | 1/4W 100 OHM | SRDAA01599 |           |
| R21        | RESISTOR FXD  | ERD-25UJ471T  | 470 OHM 1/4W | SRDAA01541 |           |
| R22        | RESISTOR FXD  | ERD-25UJ102T  | 1K OHM 1/4   | SRDAA01542 |           |
| R23        | RESISTOR FXD  | ERD-25UJ102T  | 1K OHM 1/4   | SRDAA01542 |           |
| R24        | RESISTOR FXD  | ERD-25UJ221T  | 220 OHM 1/4  | SRDAA01543 |           |
| R25        | RESISTOR FXD  | ERD-25UJ221T  | 220 OHM 1/4  | SRDAA01543 |           |
| R26        | RESISTOR FXD  | ERD-25UJ103T  | 10K OHM 1/4W | SRDAA01547 |           |
| R27        | RESISTOR FXD  | ERD-25UJ103T  | 10K OHM 1/4W | SRDAA01547 |           |
| R28        | RESISTOR FXD  | ERD-25UJ221T  | 220 OHM 1/4  | SRDAA01543 |           |
| R29        | RESISTOR FXD  | ERD-25UJ221T  | 220 OHM 1/4  | SRDAA01543 |           |
| R30        | RESISTOR FXD  | ERD-25UJ102T  | 1K OHM 1/4   | SRDAA01542 |           |
| R31        | RESISTOR FXD  | ERD-25UJ102T  | 1K OHM 1/4   | SRDAA01542 |           |
| R32        | RESISTOR FXD  | ERD-25UJ101T  | 1/4W 100 OHM | SRDAA01599 |           |
| R33        | RESISTOR FXD  | ERD-25UJ101T  | 1/4W 100 OHM | SRDAA01599 |           |
| R34        | RESISTOR FXD  | ERD-25UJ153T  | 1/4W 15K OHM | SRDAA01594 |           |
| R35        | RESISTOR FXD  | ERD-25UJ153T  | 1/4W 15K OHM | SRDAA01594 |           |
| R36        | RESISTOR FXD  | ERD-25UJ153T  | 1/4W 15K OHM | SRDAA01594 |           |
| R37        | RESISTOR FXD  | ERD-25UJ153T  | 1/4W 15K OHM | SRDAA01594 |           |
| R38        | RESISTOR FXD  | ERD-25UJ102T  | 1K OHM 1/4   | SRDAA01542 |           |
| R39        | RESISTOR FXD  | ERD-25UJ102T  | 1K OHM 1/4   | SRDAA01542 |           |
| R40        | RESISTOR FXD  | ERD25UJ470T   |              | SRDAA01551 |           |
| R41        | RESISTOR FXD  | ERD25UJ470T   |              | SRDAA01551 |           |
| R42        | RESISTOR FXD  | ERD-25UJ100T  | 1/4W 10 OHM  | SRDAA01576 |           |
| R43        | RESISTOR FXD  | ERD-25UJ100T  | 1/4W 10 OHM  | SRDAA01576 |           |
| R44        | RESISTOR FXD  | ERD-25UJ100T  | 1/4W 10 OHM  | SRDAA01576 |           |
| R45        | RESISTOR FXD  | ERD-25UJ100T  | 1/4W 10 OHM  | SRDAA01576 |           |
| R46        | RESISTOR FXD  | ERD-25UJ151T  | 150 OHM 1/4W | SRDAA01601 |           |
| R47        | RESISTOR FXD  | ERD-25UJ151T  | 150 OHM 1/4W | SRDAA01601 |           |
| RA1        | RESISTOR FXD  | 20B-12X-ME1   |              | SREAD00716 |           |
| RA2        | RESISTOR FXD  | 20B-12X-ME1   |              | SREAD00716 |           |
| RV1        | RESISTOR VAR  | EVN-D1AA00B13 | 1K OHM       | SRVA800313 |           |
| RV2        | RESISTOR VAR  | EVN-D1AA00B13 | 1K OHM       | SRVA800313 |           |
| T1         | RF XFMR       | S-061-006     |              | SLJAA00006 |           |
| TP1        | TEST TERMINAL | PCN6-PEA      |              | SJDA000364 |           |
| TP2        | TEST TERMINAL | PCN6-PEA      |              | SJDA000364 |           |

| PARTS LIST |               |           |             |            |           |
|------------|---------------|-----------|-------------|------------|-----------|
|            |               | BWC       | TITLE       |            | SHEET NO. |
|            |               |           | CFL-243     |            | 6         |
| PARTS NO   | PARTS NAME    | TYPE      | DESCRIPTION | CODE       |           |
| TP3        | TEST TERMINAL | PCN6-PEA  |             | SJDA000364 |           |
| TP4        | TEST TERMINAL | PCN6-PEA  |             | SJDA000364 |           |
| TP5        | TEST TERMINAL | PCN6-PEA  |             | SJDA000364 |           |
| TP6        | TEST TERMINAL | PCN6-PEA  |             | SJDA000364 |           |
| TP7        | TEST TERMINAL | PCN6-PEA  |             | SJDA000364 |           |
| TR1        | TRANSISTOR    | 2SC1815-Y |             | STCAF00219 |           |
| TR2        | TRANSISTOR    | 2SC1923Y  |             | STCAF00386 |           |
| TR3        | TRANSISTOR    | 2SA1015-Y |             | STAAG00070 |           |
| TR4        | TRANSISTOR    | 2SA1015-Y |             | STAAG00070 |           |
| TR5        | TRANSISTOR    | 2SA1015-Y |             | STAAG00070 |           |
| TR6        | TRANSISTOR    | 2SC1923Y  |             | STCAF00386 |           |
| TR7        | TRANSISTOR    | 2SC1923Y  |             | STCAF00386 |           |

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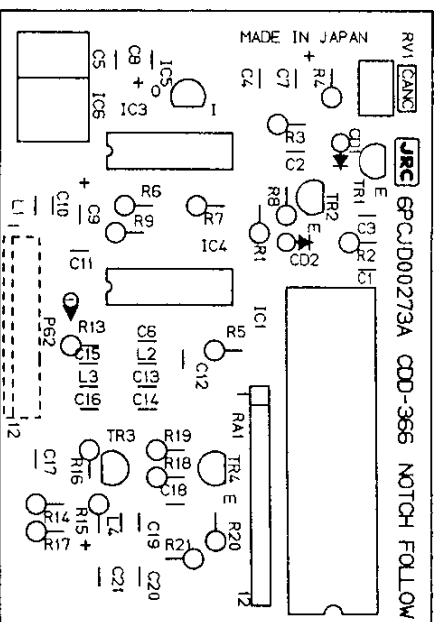
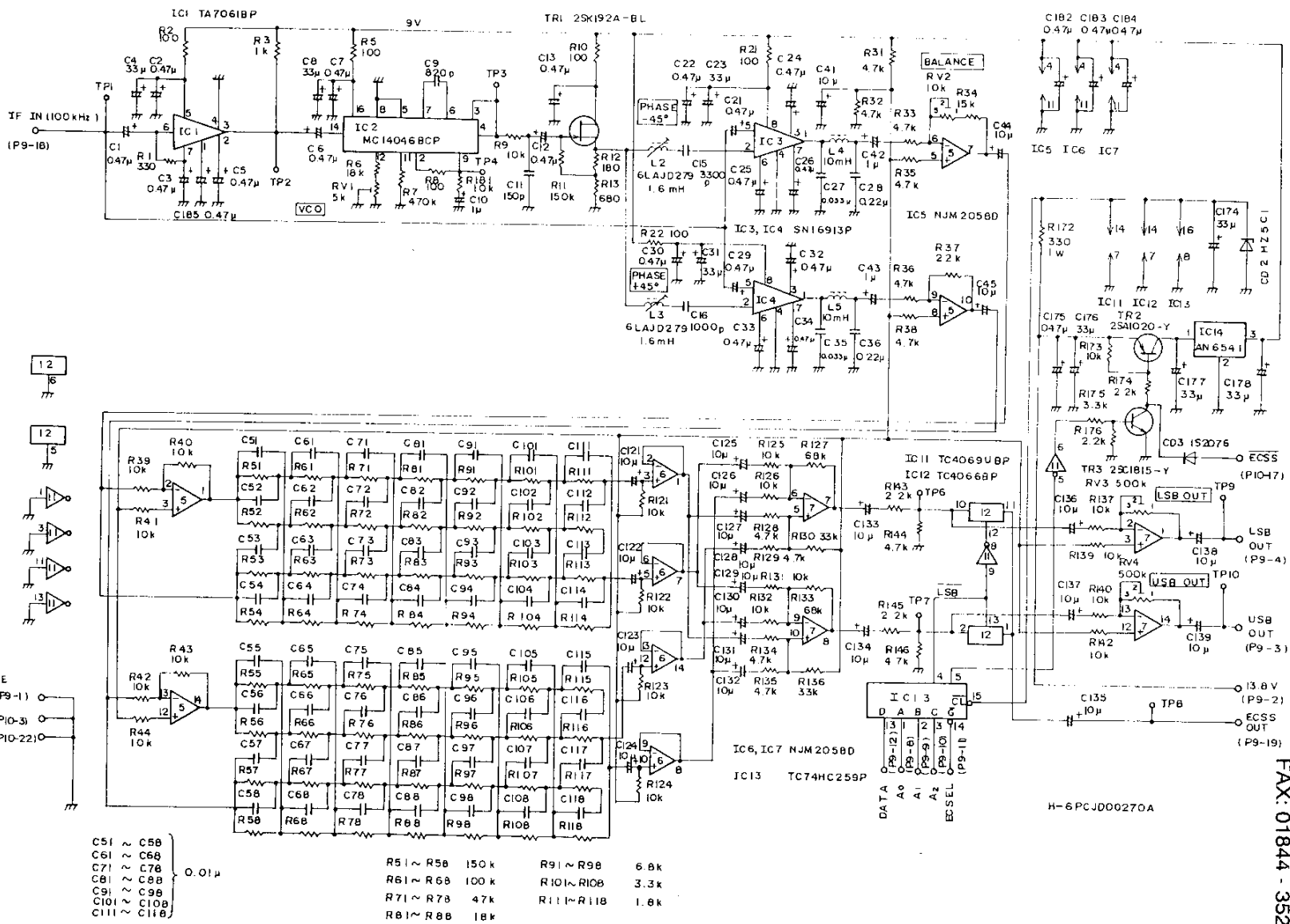


Figure 6.14.2 NOTCH FOLLOW UNIT CDD-366 Component Layout

| PARTS LIST   |            |        |                            |                         | SHEET NO.<br>1 |
|--------------|------------|--------|----------------------------|-------------------------|----------------|
| NOTCH FOLLOW |            |        | TITLE<br>CDD-366           |                         |                |
| PARTS NO     | PARTS NAME | TYPE   | DESCRIPTION                | CODE                    |                |
| C1           | CAP,FXD    | PLSTC  | ECQ-V1H333JZ3              | 5CRAA00804              |                |
| C2           | CAP,FXD    | CER    | DD107-979CH101J50          | 100PF,50V<br>5CAAA02783 |                |
| C3           | CAP,FXD    | CER    | DD106-979CH470J50          | 5CAAA02754              |                |
| C4           | CAP,FXD    | PLSTC  | ECQ-V1H333JZ3              | 5CRAA00804              |                |
| C5           | CAP,FXD    | PLSTC  | ECQ-V1H333JZ3              | 5CRAA00804              |                |
| C6           | CAP,FXD    | PLSTC  | ECQ-V1H333JZ3              | 5CRAA00804              |                |
| C7           | CAP,FXD    | ELCTLT | ECE-A1EU470B               | 25V 47UF<br>5CEAA01816  |                |
| C8           | CAP,FXD    | ELCTLT | ECE-A1EU470B               | 25V 47UF<br>5CEAA01816  |                |
| C9           | CAP,FXD    | ELCTLT | ECE-A1EU470B               | 25V 47UF<br>5CEAA01816  |                |
| C10          | CAP,FXD    | CER    | DD806-979F103Z50           | 5CAAA02929              |                |
| C11          | CAP,FXD    | CER    | DD806-979F103Z50           | 5CAAA02929              |                |
| C12          | CAP,FXD    | PLSTC  | ECQ-B1H152JZ3              | 5CRAA00727              |                |
| C13          | CAP,FXD    | CER    | DD106-979SL151J50          | 5CAAA02991              |                |
| C14          | CAP,FXD    | PLSTC  | ECQ-B1H152JZ3              | 5CRAA00727              |                |
| C15          | CAP,FXD    | CER    | DD108-979SL391J50          | 5CAAA03040              |                |
| C16          | CAP,FXD    | PLSTC  | ECQ-B1H122JZ3              | 5CRAA00903              |                |
| C17          | CAP,FXD    | CER    | DD806-979F103Z50           | 5CAAA02929              |                |
| C18          | CAP,FXD    | CER    | DD806-979F103Z50           | 5CAAA02929              |                |
| C19          | CAP,FXD    | CER    | DD104-979CH100D50          | 5CAAA02689              |                |
| C20          | CAP,FXD    | CER    | DD806-979F103Z50           | 5CAAA02929              |                |
| C21          | CAP,FXD    | ELCTLT | ECE-A1EU100B               | 5CEAA01864              |                |
| CD1          | DIODE      |        | 1S2076RE                   | 5TXAE00588              |                |
| CD2          | DIODE      |        | 1S2076RE                   | 5TXAE00588              |                |
| IC1          | IC         |        | H-6DDJD00018 MB67116<br>8P | 6DDJD00018              |                |
| IC3          | IC         |        | NJM319D                    | 5DAANO0206              |                |
| IC4          | IC         |        | TC4013BAP                  | 5DDAE00817              |                |
| IC5          | IC         |        | NJM78L08A                  | 8V 100MA<br>5DAANO0079  |                |
| IC6          | IC         |        | TA78005AP                  | 5DAAD00082              |                |
| L1           | COIL       |        | LAL03VB471K                | 470UH<br>5LCAA00270     |                |
| L2           | COIL       |        | LAL03VB151K                | 5LCAA00460              |                |
| L3           | COIL       |        | LAL03VB121K                | 5LCAA00440              |                |
| L4           | COIL       |        | LAL03VB2R2M                | 2.2UH<br>5LCAA00278     |                |
| P62          | CONNECTOR  |        | XK2B-1241                  | 5JBAR00023              |                |
| PC1          | PCB        |        | H-6PCJD00273A              | 6PCJD00273              |                |

| PARTS LIST   |               |           |               |                  |            | SHEET NO.<br>2 |
|--------------|---------------|-----------|---------------|------------------|------------|----------------|
| NOTCH FOLLOW |               |           |               | TITLE<br>CDD-366 |            |                |
| PARTS NO     | PARTS NAME    | TYPE      |               | DESCRIPTION      | CODE       |                |
| R1           | RESISTOR      | FXD       | ERD-25UJ221T  | 220 OHM 1/4      | 5RDAA01543 |                |
| R2           | RESISTOR      | FXD       | ERD-25UJ102T  | 1K OHM 1/4       | 5RDAA01542 |                |
| R3           | RESISTOR      | FXD       | ERD-25UJ103T  | 10K OHM 1/4W     | 5RDAA01547 |                |
| R4           | RESISTOR      | FXD       | ERD-25UJ222T  | 2.2K OHM 1/4W    | 5RDAA01548 |                |
| R5           | RESISTOR      | FXD       | ERD-25UJ123T  | 1/4W 12K OHM     | 5RDAA01592 |                |
| R6           | RESISTOR      | FXD       | ERD-25UJ153T  | 1/4W 15K OHM     | 5RDAA01594 |                |
| R7           | RESISTOR      | FXD       | ERD-25UJ153T  | 1/4W 15K OHM     | 5RDAA01594 |                |
| R8           | RESISTOR      | FXD       | ERD-25UJ101T  | 1/4W 100 OHM     | 5RDAA01599 |                |
| R9           | RESISTOR      | FXD       | ERD-25UJ472T  | 4.7K OHM 1/4W    | 5RDAA01549 |                |
| R13          | RESISTOR      | FXD       | ERD-25UJ102T  | 1K OHM 1/4       | 5RDAA01542 |                |
| R14          | RESISTOR      | FXD       | ERD-25UJ221T  | 220 OHM 1/4      | 5RDAA01543 |                |
| R15          | RESISTOR      | FXD       | ERD-25UJ472T  | 4.7K OHM 1/4W    | 5RDAA01549 |                |
| R16          | RESISTOR      | FXD       | ERD-25UJ101T  | 1/4W 100 OHM     | 5RDAA01599 |                |
| R17          | RESISTOR      | FXD       | ERD-25UJ103T  | 10K OHM 1/4W     | 5RDAA01547 |                |
| R18          | RESISTOR      | FXD       | ERD-25UJ473T  | 1/4W 47K OHM     | 5RDAA01618 |                |
| R19          | RESISTOR      | FXD       | ERD-25UJ472T  | 4.7K OHM 1/4W    | 5RDAA01549 |                |
| R20          | RESISTOR      | FXD       | ERD-25UJ471T  | 470 OHM 1/4W     | 5RDAA01541 |                |
| R21          | RESISTOR      | FXD       | ERD-25UJ101T  | 1/4W 100 OHM     | 5RDAA01599 |                |
| RA1          | RESISTOR      | FXD       | 20B-12X-ME1   |                  | 5READ00716 |                |
| RV1          | RESISTOR      | VAR       | EVN-D1AA00B13 | 1K OHM           | 5RVAB00313 |                |
| TP1          | TEST TERMINAL | PCN6-PEA  |               |                  | 5JDAA00364 |                |
| TR1          | TRANSISTOR    | 2SA1015-Y |               |                  | 5TAAG00070 |                |
| TR2          | TRANSISTOR    | 2SC1923Y  |               |                  | 5TCAF00386 |                |
| TR3          | TRANSISTOR    | 2SC1923Y  |               |                  | 5TCAF00386 |                |
| TR4          | TRANSISTOR    | 2SA1015-Y |               |                  | 5TAAG00070 |                |

Figure 6.15.1 ECSS UNIT CMF-78 Circuit Diagram



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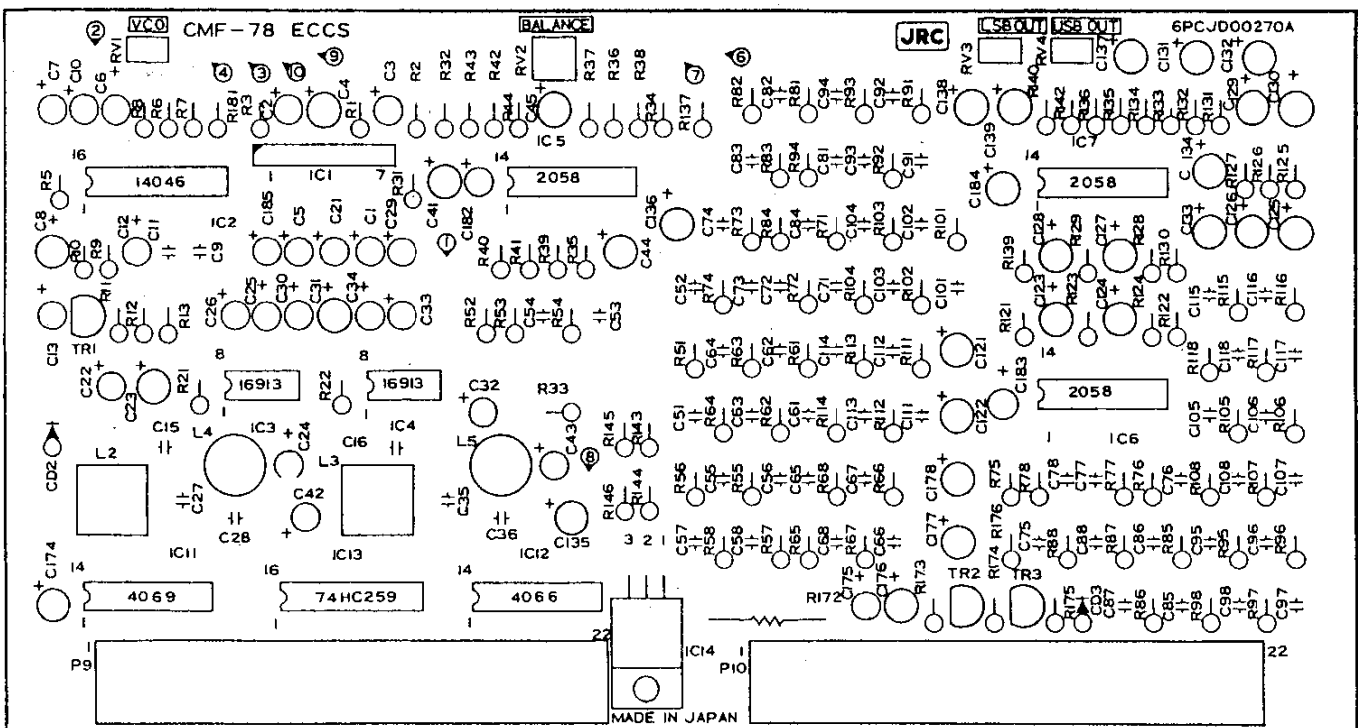


Figure 6.15.2 ECSS UNIT CMF-78 Component Layout

| PARTS LIST |                |                   |             |            |
|------------|----------------|-------------------|-------------|------------|
| ECSS       |                | TITLE             |             | SHEET NO.  |
|            |                | CMF-78            |             | 1          |
| PARTS NO   | PARTS NAME     | TYPE              | DESCRIPTION | CODE       |
| C1         | CAP,FXD TANTAL | 202L3502 474KB    |             | 5CSAC01065 |
| C2         | CAP,FXD TANTAL | 202L3502 474KB    |             | 5CSAC01065 |
| C3         | CAP,FXD TANTAL | 202L3502 474KB    |             | 5CSAC01065 |
| C4         | CAP,FXD ELCTLT | ECE-A1EU330B      |             | 5CEAA01822 |
| C5         | CAP,FXD TANTAL | 202L3502 474KB    |             | 5CSAC01065 |
| C6         | CAP,FXD TANTAL | 202L3502 474KB    |             | 5CSAC01065 |
| C7         | CAP,FXD TANTAL | 202L3502 474KB    |             | 5CSAC01065 |
| C8         | CAP,FXD ELCTLT | ECE-A1EU330B      |             | 5CEAA01822 |
| C9         | CAP,FXD CER    | DD110-979CH821J50 |             | 5CAAA03145 |
| C10        | CAP,FXD TANTAL | 202L3502 105KB    | 35V 1UF     | 5CSAC00982 |
| C11        | CAP,FXD CER    | DD106-979CH151J50 | 150P        | 5CAAA02702 |
| C12        | CAP,FXD TANTAL | 202L3502 474MB    | 35V 0.47UF  | 5CSAC01283 |
| C13        | CAP,FXD TANTAL | 202L3502 474KB    |             | 5CSAC01065 |
| C15        | CAP,FXD PLSTC  | ECQ-B1H332KZ3     | 50V 0.0033U | 5CRAA00815 |
| C16        | CAP,FXD PLSTC  | ECQ-B1H102KZ3     | 50V 1000P   | 5CRAA00811 |
| C21        | CAP,FXD TANTAL | 202L3502 474KB    |             | 5CSAC01065 |
| C22        | CAP,FXD TANTAL | 202L3502 474KB    |             | 5CSAC01065 |
| C23        | CAP,FXD ELCTLT | ECE-A1EU330B      |             | 5CEAA01822 |
| C24        | CAP,FXD TANTAL | 202L3502 474KB    |             | 5CSAC01065 |
| C25        | CAP,FXD TANTAL | 202L3502 474KB    |             | 5CSAC01065 |
| C26        | CAP,FXD TANTAL | 202L3502 474KB    |             | 5CSAC01065 |
| C27        | CAP,FXD PLSTC  | ECQ-V1H333KZ3     |             | 5CRAA00948 |
| C28        | CAP,FXD PLSTC  | ECQ-V1H224KZ3     |             | 5CRAA00949 |
| C29        | CAP,FXD TANTAL | 202L3502 474KB    |             | 5CSAC01065 |
| C30        | CAP,FXD TANTAL | 202L3502 474KB    |             | 5CSAC01065 |
| C31        | CAP,FXD ELCTLT | ECE-A1EU330B      |             | 5CEAA01822 |
| C32        | CAP,FXD TANTAL | 202L3502 474KB    |             | 5CSAC01065 |
| C33        | CAP,FXD TANTAL | 202L3502 474KB    |             | 5CSAC01065 |
| C34        | CAP,FXD TANTAL | 202L3502 474KB    |             | 5CSAC01065 |
| C35        | CAP,FXD PLSTC  | ECQ-V1H333KZ3     |             | 5CRAA00948 |
| C36        | CAP,FXD PLSTC  | ECQ-V1H224KZ3     |             | 5CRAA00949 |
| C41        | CAP,FXD ELCTLT | ECE-A1EU100B      |             | 5CEAA01864 |
| C42        | CAP,FXD TANTAL | 202L3502 105KB    | 35V 1UF     | 5CSAC00982 |
| C43        | CAP,FXD TANTAL | 202L3502 105KB    | 35V 1UF     | 5CSAC00982 |
| C44        | CAP,FXD ELCTLT | ECE-A1EU100B      |             | 5CEAA01864 |

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| PARTS LIST |                |               |             |            |
|------------|----------------|---------------|-------------|------------|
| ECSS       |                | TITLE         |             | SHEET NO.  |
|            |                | CMF-78        |             | 2          |
| PARTS NO   | PARTS NAME     | TYPE          | DESCRIPTION | CODE       |
| C45        | CAP,FXD ELCTLT | ECE-A1EU100B  |             | 5CEAA01864 |
| C51        | CAP,FXD PLSTC  | ECQ-B1H103KZ3 | 0.01UF 50V  | 5CRAA00771 |
| C52        | CAP,FXD PLSTC  | ECQ-B1H103KZ3 | 0.01UF 50V  | 5CRAA00771 |
| C53        | CAP,FXD PLSTC  | ECQ-B1H103KZ3 | 0.01UF 50V  | 5CRAA00771 |
| C54        | CAP,FXD PLSTC  | ECQ-B1H103KZ3 | 0.01UF 50V  | 5CRAA00771 |
| C55        | CAP,FXD PLSTC  | ECQ-B1H103KZ3 | 0.01UF 50V  | 5CRAA00771 |
| C56        | CAP,FXD PLSTC  | ECQ-B1H103KZ3 | 0.01UF 50V  | 5CRAA00771 |
| C57        | CAP,FXD PLSTC  | ECQ-B1H103KZ3 | 0.01UF 50V  | 5CRAA00771 |
| C58        | CAP,FXD PLSTC  | ECQ-B1H103KZ3 | 0.01UF 50V  | 5CRAA00771 |
| C61        | CAP,FXD PLSTC  | ECQ-B1H103KZ3 | 0.01UF 50V  | 5CRAA00771 |
| C62        | CAP,FXD PLSTC  | ECQ-B1H103KZ3 | 0.01UF 50V  | 5CRAA00771 |
| C63        | CAP,FXD PLSTC  | ECQ-B1H103KZ3 | 0.01UF 50V  | 5CRAA00771 |
| C64        | CAP,FXD PLSTC  | ECQ-B1H103KZ3 | 0.01UF 50V  | 5CRAA00771 |
| C65        | CAP,FXD PLSTC  | ECQ-B1H103KZ3 | 0.01UF 50V  | 5CRAA00771 |
| C66        | CAP,FXD PLSTC  | ECQ-B1H103KZ3 | 0.01UF 50V  | 5CRAA00771 |
| C67        | CAP,FXD PLSTC  | ECQ-B1H103KZ3 | 0.01UF 50V  | 5CRAA00771 |
| C68        | CAP,FXD PLSTC  | ECQ-B1H103KZ3 | 0.01UF 50V  | 5CRAA00771 |
| C71        | CAP,FXD PLSTC  | ECQ-B1H103KZ3 | 0.01UF 50V  | 5CRAA00771 |
| C72        | CAP,FXD PLSTC  | ECQ-B1H103KZ3 | 0.01UF 50V  | 5CRAA00771 |
| C73        | CAP,FXD PLSTC  | ECQ-B1H103KZ3 | 0.01UF 50V  | 5CRAA00771 |
| C74        | CAP,FXD PLSTC  | ECQ-B1H103KZ3 | 0.01UF 50V  | 5CRAA00771 |
| C75        | CAP,FXD PLSTC  | ECQ-B1H103KZ3 | 0.01UF 50V  | 5CRAA00771 |
| C76        | CAP,FXD PLSTC  | ECQ-B1H103KZ3 | 0.01UF 50V  | 5CRAA00771 |
| C77        | CAP,FXD PLSTC  | ECQ-B1H103KZ3 | 0.01UF 50V  | 5CRAA00771 |
| C78        | CAP,FXD PLSTC  | ECQ-B1H103KZ3 | 0.01UF 50V  | 5CRAA00771 |
| C81        | CAP,FXD PLSTC  | ECQ-B1H103KZ3 | 0.01UF 50V  | 5CRAA00771 |
| C82        | CAP,FXD PLSTC  | ECQ-B1H103KZ3 | 0.01UF 50V  | 5CRAA00771 |
| C83        | CAP,FXD PLSTC  | ECQ-B1H103KZ3 | 0.01UF 50V  | 5CRAA00771 |
| C84        | CAP,FXD PLSTC  | ECQ-B1H103KZ3 | 0.01UF 50V  | 5CRAA00771 |
| C85        | CAP,FXD PLSTC  | ECQ-B1H103KZ3 | 0.01UF 50V  | 5CRAA00771 |
| C86        | CAP,FXD PLSTC  | ECQ-B1H103KZ3 | 0.01UF 50V  | 5CRAA00771 |
| C87        | CAP,FXD PLSTC  | ECQ-B1H103KZ3 | 0.01UF 50V  | 5CRAA00771 |
| C88        | CAP,FXD PLSTC  | ECQ-B1H103KZ3 | 0.01UF 50V  | 5CRAA00771 |
| C91        | CAP,FXD PLSTC  | ECQ-B1H103KZ3 | 0.01UF 50V  | 5CRAA00771 |
| C92        | CAP,FXD PLSTC  | ECQ-B1H103KZ3 | 0.01UF 50V  | 5CRAA00771 |

| PARTS LIST |            |        |               |            |            |
|------------|------------|--------|---------------|------------|------------|
|            |            | ECSS   | TITLE         | CMF-78     | SHEET NO.  |
|            |            |        |               |            | 3          |
| PARTS NO   | PARTS NAME | TYPE   | DESCRIPTION   | CODE       |            |
| C93        | CAP,FXD    | PLSTC  | ECQ-B1H103KZ3 | 0.01UF 50V | 5CRAA00771 |
| C94        | CAP,FXD    | PLSTC  | ECQ-B1H103KZ3 | 0.01UF 50V | 5CRAA00771 |
| C95        | CAP,FXD    | PLSTC  | ECQ-B1H103KZ3 | 0.01UF 50V | 5CRAA00771 |
| C96        | CAP,FXD    | PLSTC  | ECQ-B1H103KZ3 | 0.01UF 50V | 5CRAA00771 |
| C97        | CAP,FXD    | PLSTC  | ECQ-B1H103KZ3 | 0.01UF 50V | 5CRAA00771 |
| C98        | CAP,FXD    | PLSTC  | ECQ-B1H103KZ3 | 0.01UF 50V | 5CRAA00771 |
| C101       | CAP,FXD    | PLSTC  | ECQ-B1H103KZ3 | 0.01UF 50V | 5CRAA00771 |
| C102       | CAP,FXD    | PLSTC  | ECQ-B1H103KZ3 | 0.01UF 50V | 5CRAA00771 |
| C103       | CAP,FXD    | PLSTC  | ECQ-B1H103KZ3 | 0.01UF 50V | 5CRAA00771 |
| C104       | CAP,FXD    | PLSTC  | ECQ-B1H103KZ3 | 0.01UF 50V | 5CRAA00771 |
| C105       | CAP,FXD    | PLSTC  | ECQ-B1H103KZ3 | 0.01UF 50V | 5CRAA00771 |
| C106       | CAP,FXD    | PLSTC  | ECQ-B1H103KZ3 | 0.01UF 50V | 5CRAA00771 |
| C107       | CAP,FXD    | PLSTC  | ECQ-B1H103KZ3 | 0.01UF 50V | 5CRAA00771 |
| C108       | CAP,FXD    | PLSTC  | ECQ-B1H103KZ3 | 0.01UF 50V | 5CRAA00771 |
| C111       | CAP,FXD    | PLSTC  | ECQ-B1H103KZ3 | 0.01UF 50V | 5CRAA00771 |
| C112       | CAP,FXD    | PLSTC  | ECQ-B1H103KZ3 | 0.01UF 50V | 5CRAA00771 |
| C113       | CAP,FXD    | PLSTC  | ECQ-B1H103KZ3 | 0.01UF 50V | 5CRAA00771 |
| C114       | CAP,FXD    | PLSTC  | ECQ-B1H103KZ3 | 0.01UF 50V | 5CRAA00771 |
| C115       | CAP,FXD    | PLSTC  | ECQ-B1H103KZ3 | 0.01UF 50V | 5CRAA00771 |
| C116       | CAP,FXD    | PLSTC  | ECQ-B1H103KZ3 | 0.01UF 50V | 5CRAA00771 |
| C117       | CAP,FXD    | PLSTC  | ECQ-B1H103KZ3 | 0.01UF 50V | 5CRAA00771 |
| C118       | CAP,FXD    | PLSTC  | ECQ-B1H103KZ3 | 0.01UF 50V | 5CRAA00771 |
| C121       | CAP,FXD    | ELCTLT | ECE-A1EU100B  |            | 5CEAA01864 |
| C122       | CAP,FXD    | ELCTLT | ECE-A1EU100B  |            | 5CEAA01864 |
| C123       | CAP,FXD    | ELCTLT | ECE-A1EU100B  |            | 5CEAA01864 |
| C124       | CAP,FXD    | ELCTLT | ECE-A1EU100B  |            | 5CEAA01864 |
| C125       | CAP,FXD    | ELCTLT | ECE-A1EU100B  |            | 5CEAA01864 |
| C126       | CAP,FXD    | ELCTLT | ECE-A1EU100B  |            | 5CEAA01864 |
| C127       | CAP,FXD    | ELCTLT | ECE-A1EU100B  |            | 5CEAA01864 |
| C128       | CAP,FXD    | ELCTLT | ECE-A1EU100B  |            | 5CEAA01864 |
| C129       | CAP,FXD    | ELCTLT | ECE-A1EU100B  |            | 5CEAA01864 |
| C130       | CAP,FXD    | ELCTLT | ECE-A1EU100B  |            | 5CEAA01864 |
| C131       | CAP,FXD    | ELCTLT | ECE-A1EU100B  |            | 5CEAA01864 |
| C132       | CAP,FXD    | ELCTLT | ECE-A1EU100B  |            | 5CEAA01864 |
| C133       | CAP,FXD    | ELCTLT | ECE-A1EU100B  |            | 5CEAA01864 |

| PARTS LIST |            |        |                 |            |            |
|------------|------------|--------|-----------------|------------|------------|
|            |            | ECSS   | TITLE           | CMF-78     | SHEET NO.  |
|            |            |        |                 |            | 4          |
| PARTS NO   | PARTS NAME | TYPE   | DESCRIPTION     | CODE       |            |
| C134       | CAP,FXD    | ELCTLT | ECE-A1EU100B    |            | 5CEAA01864 |
| C135       | CAP,FXD    | ELCTLT | ECE-A1EU100B    |            | 5CEAA01864 |
| C136       | CAP,FXD    | ELCTLT | ECE-A1EU100B    |            | 5CEAA01864 |
| C137       | CAP,FXD    | ELCTLT | ECE-A1EU100B    |            | 5CEAA01864 |
| C138       | CAP,FXD    | ELCTLT | ECE-A1EU100B    |            | 5CEAA01864 |
| C139       | CAP,FXD    | ELCTLT | ECE-A1EU100B    |            | 5CEAA01864 |
| C174       | CAP,FXD    | ELCTLT | ECE-A1EU330B    |            | 5CEAA01822 |
| C175       | CAP,FXD    | TANTAL | 202L3502 474KB  |            | 5CSAC01065 |
| C176       | CAP,FXD    | ELCTLT | ECE-A1EU330B    |            | 5CEAA01822 |
| C177       | CAP,FXD    | ELCTLT | ECE-A1EU330B    |            | 5CEAA01822 |
| C178       | CAP,FXD    | ELCTLT | ECE-A1EU330B    |            | 5CEAA01822 |
| C182       | CAP,FXD    | TANTAL | 202L3502 474MB  | 35V 0.47UF | 5CSAC01283 |
| C183       | CAP,FXD    | TANTAL | 202L3502 474MB  | 35V 0.47UF | 5CSAC01283 |
| C184       | CAP,FXD    | TANTAL | 202L3502 474MB  | 35V 0.47UF | 5CSAC01283 |
| C185       | CAP,FXD    | TANTAL | 202L3502 474MB  | 35V 0.47UF | 5CSAC01283 |
| CD2        | DIODE      |        | HZ5C1RE         | 1/2W 5V    | 5TXAE00568 |
| CD3        | DIODE      |        | 1S2076RE        |            | 5TXAE00588 |
| IC1        | IC         |        | TA7061BP        |            | 5DAAD00536 |
| IC2        | IC         |        | MC14046BCP      |            | 5DDAS00038 |
| IC3        | IC         |        | SN16913P        |            | 5DDAL00301 |
| IC4        | IC         |        | SN16913P        |            | 5DDAL00301 |
| IC5        | IC         |        | NJM2058D        |            | 5DAAN00240 |
| IC6        | IC         |        | NJM2058D        |            | 5DAAN00240 |
| IC7        | IC         |        | NJM2058D        |            | 5DAAN00240 |
| IC11       | IC         |        | TC4069UBP       | MOS        | 5DDAE00045 |
| IC12       | IC         |        | TC4066BP        |            | 5DDAE00078 |
| IC13       | IC         |        | TC74HC259P      |            | 5DDAE00609 |
| IC14       | IC         |        | AN6541          |            | 5DAAR00021 |
| L2         | COIL       |        | H-6LAJD00279    | 1.6MH      | 6LAJD00279 |
| L3         | COIL       |        | H-6LAJD00279    | 1.6MH      | 6LAJD00279 |
| L4         | COIL       |        | FL-9H103J       | 10MH       | 5LCAA00028 |
| L5         | COIL       |        | FL-9H103J       | 10MH       | 5LCAA00028 |
| P9         | CONNECTOR  |        | EC1C-22P-2.5DSA | 22P        | 5JWBS00070 |
| P10        | CONNECTOR  |        | EC1C-22P-2.5DSA | 22P        | 5JWBS00070 |
| PC1        | PCB        |        | H-6PCJD00270A   |            | 6PCJD00270 |

## PARTS LIST

|          |            | ECSS |              | TITLE |               | CMF-78 |            | SHEET NO. 5 |  |
|----------|------------|------|--------------|-------|---------------|--------|------------|-------------|--|
| PARTS NO | PARTS NAME |      | TYPE         |       | DESCRIPTION   |        | CODE       |             |  |
| R1       | RESISTOR   | FXD  | ERD-25UJ331T |       | 1/4W 330 OHM  |        | SRDAA01480 |             |  |
| R2       | RESISTOR   | FXD  | ERD-25UJ101T |       | 1/4W 100 OHM  |        | SRDAA01599 |             |  |
| R3       | RESISTOR   | FXD  | ERD-25UJ102T |       | 1K OHM 1/4    |        | SRDAA01542 |             |  |
| R5       | RESISTOR   | FXD  | ERD-25UJ101T |       | 1/4W 100 OHM  |        | SRDAA01599 |             |  |
| R6       | RESISTOR   | FXD  | ERD-25UJ183T |       | 18K OHM 1/4W  |        | SRDAA01605 |             |  |
| R7       | RESISTOR   | FXD  | ERD-25UJ474T |       | 1/4W 470K OHM |        | SRDAA01634 |             |  |
| R8       | RESISTOR   | FXD  | ERD-25UJ104T |       | 100K OHM 1/4W |        | SRDAA01623 |             |  |
| R9       | RESISTOR   | FXD  | ERD-25UJ103T |       | 10K OHM 1/4W  |        | SRDAA01547 |             |  |
| R10      | RESISTOR   | FXD  | ERD-25UJ101T |       | 1/4W 100 OHM  |        | SRDAA01599 |             |  |
| R11      | RESISTOR   | FXD  | ERD-25UJ154T |       | 1/4W 150K     |        | SRDAA01807 |             |  |
| R12      | RESISTOR   | FXD  | ERD-25UJ181T |       | 180 OHM       |        | SRDAA01628 |             |  |
| R13      | RESISTOR   | FXD  | ERD-25UJ681T |       | 1/4W 680 OHM  |        | SRDAA01627 |             |  |
| R21      | RESISTOR   | FXD  | ERD-25UJ101T |       | 1/4W 100 OHM  |        | SRDAA01599 |             |  |
| R22      | RESISTOR   | FXD  | ERD-25UJ101T |       | 1/4W 100 OHM  |        | SRDAA01599 |             |  |
| R31      | RESISTOR   | FXD  | ERD-25UJ472T |       | 4.7K OHM 1/4W |        | SRDAA01549 |             |  |
| R32      | RESISTOR   | FXD  | ERD-25UJ472T |       | 4.7K OHM 1/4W |        | SRDAA01549 |             |  |
| R33      | RESISTOR   | FXD  | ERD-25UJ472T |       | 4.7K OHM 1/4W |        | SRDAA01549 |             |  |
| R34      | RESISTOR   | FXD  | ERD-25UJ153T |       | 1/4W 15K OHM  |        | SRDAA01594 |             |  |
| R35      | RESISTOR   | FXD  | ERD-25UJ472T |       | 4.7K OHM 1/4W |        | SRDAA01549 |             |  |
| R36      | RESISTOR   | FXD  | ERD-25UJ472T |       | 4.7K OHM 1/4W |        | SRDAA01549 |             |  |
| R37      | RESISTOR   | FXD  | ERD-25UJ223T |       | 22K OHM 1/4W  |        | SRDAA01545 |             |  |
| R38      | RESISTOR   | FXD  | ERD-25UJ472T |       | 4.7K OHM 1/4W |        | SRDAA01549 |             |  |
| R39      | RESISTOR   | FXD  | ERD-25UJ103T |       | 10K OHM 1/4W  |        | SRDAA01547 |             |  |
| R40      | RESISTOR   | FXD  | ERD-25UJ103T |       | 10K OHM 1/4W  |        | SRDAA01547 |             |  |
| R41      | RESISTOR   | FXD  | ERD-25UJ103T |       | 10K OHM 1/4W  |        | SRDAA01547 |             |  |
| R42      | RESISTOR   | FXD  | ERD-25UJ103T |       | 10K OHM 1/4W  |        | SRDAA01547 |             |  |
| R43      | RESISTOR   | FXD  | ERD-25UJ103T |       | 10K OHM 1/4W  |        | SRDAA01547 |             |  |
| R44      | RESISTOR   | FXD  | ERD-25UJ103T |       | 10K OHM 1/4W  |        | SRDAA01547 |             |  |
| R51      | RESISTOR   | FXD  | ERD-25UJ154T |       | 1/4W 150K     |        | SRDAA01807 |             |  |
| R52      | RESISTOR   | FXD  | ERD-25UJ154T |       | 1/4W 150K     |        | SRDAA01807 |             |  |
| R53      | RESISTOR   | FXD  | ERD-25UJ154T |       | 1/4W 150K     |        | SRDAA01807 |             |  |
| R54      | RESISTOR   | FXD  | ERD-25UJ154T |       | 1/4W 150K     |        | SRDAA01807 |             |  |
| R55      | RESISTOR   | FXD  | ERD-25UJ154T |       | 1/4W 150K     |        | SRDAA01807 |             |  |
| R56      | RESISTOR   | FXD  | ERD-25UJ154T |       | 1/4W 150K     |        | SRDAA01807 |             |  |
| R57      | RESISTOR   | FXD  | ERD-25UJ154T |       | 1/4W 150K     |        | SRDAA01807 |             |  |

## PARTS LIST

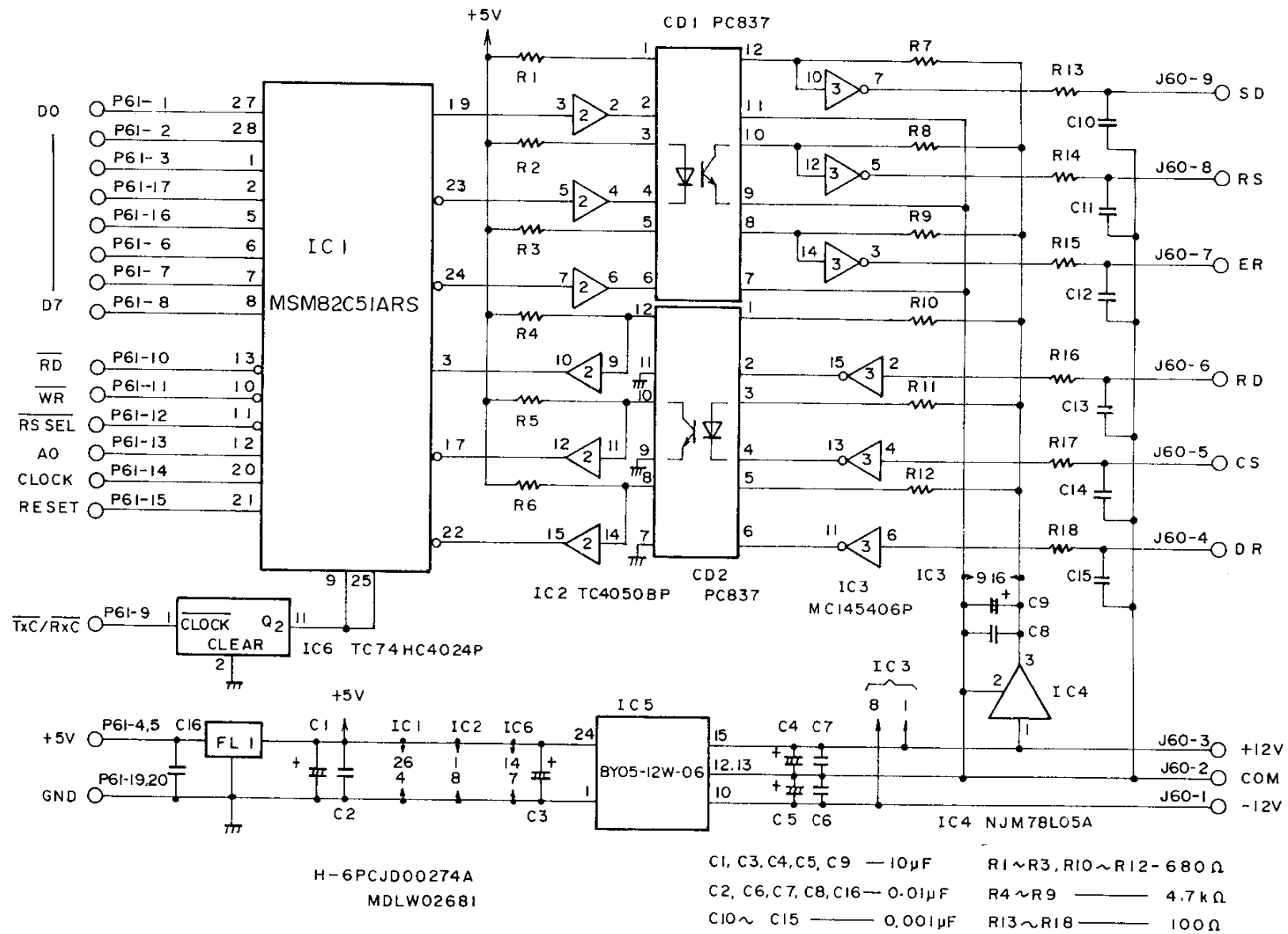
|          |            | ECSS |              | TITLE         |  | CMF-78     |  | SHEET NO. 6 |  |
|----------|------------|------|--------------|---------------|--|------------|--|-------------|--|
| PARTS NO | PARTS NAME | TYPE |              | DESCRIPTION   |  | CODE       |  |             |  |
| R58      | RESISTOR   | FXD  | ERD-25UJ154T | 1/4W 150K     |  | SRDAA01807 |  |             |  |
| R61      | RESISTOR   | FXD  | ERD-25UJ104T | 100K OHM 1/4W |  | SRDAA01623 |  |             |  |
| R62      | RESISTOR   | FXD  | ERD-25UJ104T | 100K OHM 1/4W |  | SRDAA01623 |  |             |  |
| R63      | RESISTOR   | FXD  | ERD-25UJ104T | 100K OHM 1/4W |  | SRDAA01623 |  |             |  |
| R64      | RESISTOR   | FXD  | ERD-25UJ104T | 100K OHM 1/4W |  | SRDAA01623 |  |             |  |
| R65      | RESISTOR   | FXD  | ERD-25UJ104T | 100K OHM 1/4W |  | SRDAA01623 |  |             |  |
| R66      | RESISTOR   | FXD  | ERD-25UJ104T | 100K OHM 1/4W |  | SRDAA01623 |  |             |  |
| R67      | RESISTOR   | FXD  | ERD-25UJ104T | 100K OHM 1/4W |  | SRDAA01623 |  |             |  |
| R68      | RESISTOR   | FXD  | ERD-25UJ104T | 100K OHM 1/4W |  | SRDAA01623 |  |             |  |
| R71      | RESISTOR   | FXD  | ERD-25UJ473T | 1/4W 47K OHM  |  | SRDAA01618 |  |             |  |
| R72      | RESISTOR   | FXD  | ERD-25UJ473T | 1/4W 47K OHM  |  | SRDAA01618 |  |             |  |
| R73      | RESISTOR   | FXD  | ERD-25UJ473T | 1/4W 47K OHM  |  | SRDAA01618 |  |             |  |
| R74      | RESISTOR   | FXD  | ERD-25UJ473T | 1/4W 47K OHM  |  | SRDAA01618 |  |             |  |
| R75      | RESISTOR   | FXD  | ERD-25UJ473T | 1/4W 47K OHM  |  | SRDAA01618 |  |             |  |
| R76      | RESISTOR   | FXD  | ERD-25UJ473T | 1/4W 47K OHM  |  | SRDAA01618 |  |             |  |
| R77      | RESISTOR   | FXD  | ERD-25UJ473T | 1/4W 47K OHM  |  | SRDAA01618 |  |             |  |
| R78      | RESISTOR   | FXD  | ERD-25UJ473T | 1/4W 47K OHM  |  | SRDAA01618 |  |             |  |
| R81      | RESISTOR   | FXD  | ERD-25UJ183T | 18K OHM 1/4W  |  | SRDAA01605 |  |             |  |
| R82      | RESISTOR   | FXD  | ERD-25UJ183T | 18K OHM 1/4W  |  | SRDAA01605 |  |             |  |
| R83      | RESISTOR   | FXD  | ERD-25UJ183T | 18K OHM 1/4W  |  | SRDAA01605 |  |             |  |
| R84      | RESISTOR   | FXD  | ERD-25UJ183T | 18K OHM 1/4W  |  | SRDAA01605 |  |             |  |
| R85      | RESISTOR   | FXD  | ERD-25UJ183T | 18K OHM 1/4W  |  | SRDAA01605 |  |             |  |
| R86      | RESISTOR   | FXD  | ERD-25UJ183T | 18K OHM 1/4W  |  | SRDAA01605 |  |             |  |
| R87      | RESISTOR   | FXD  | ERD-25UJ183T | 18K OHM 1/4W  |  | SRDAA01605 |  |             |  |
| R88      | RESISTOR   | FXD  | ERD-25UJ183T | 18K OHM 1/4W  |  | SRDAA01605 |  |             |  |
| R91      | RESISTOR   | FXD  | ERD-25UJ682T |               |  | SRDAA01713 |  |             |  |
| R92      | RESISTOR   | FXD  | ERD-25UJ682T |               |  | SRDAA01713 |  |             |  |
| R93      | RESISTOR   | FXD  | ERD-25UJ682T |               |  | SRDAA01713 |  |             |  |
| R94      | RESISTOR   | FXD  | ERD-25UJ682T |               |  | SRDAA01713 |  |             |  |
| R95      | RESISTOR   | FXD  | ERD-25UJ682T |               |  | SRDAA01713 |  |             |  |
| R96      | RESISTOR   | FXD  | ERD-25UJ682T |               |  | SRDAA01713 |  |             |  |
| R97      | RESISTOR   | FXD  | ERD-25UJ682T |               |  | SRDAA01713 |  |             |  |
| R98      | RESISTOR   | FXD  | ERD-25UJ682T |               |  | SRDAA01713 |  |             |  |
| R101     | RESISTOR   | FXD  | ERD-25UJ332T | 3.3K OHM 1/4W |  | SRDAA01544 |  |             |  |
| R102     | RESISTOR   | FXD  | ERD-25UJ332T | 3.3K OHM 1/4W |  | SRDAA01544 |  |             |  |

| PARTS LIST |              |              |               |            | SHEET NO.<br>7 |
|------------|--------------|--------------|---------------|------------|----------------|
| ECSS       |              | TITLE        |               | CMF-78     |                |
| PARTS NO   | PARTS NAME   | TYPE         | DESCRIPTION   | CODE       |                |
| R103       | RESISTOR FXD | ERD-25UJ332T | 3.3K OHM 1/4W | SRDAA01544 |                |
| R104       | RESISTOR FXD | ERD-25UJ332T | 3.3K OHM 1/4W | SRDAA01544 |                |
| R105       | RESISTOR FXD | ERD-25UJ332T | 3.3K OHM 1/4W | SRDAA01544 |                |
| R106       | RESISTOR FXD | ERD-25UJ332T | 3.3K OHM 1/4W | SRDAA01544 |                |
| R107       | RESISTOR FXD | ERD-25UJ332T | 3.3K OHM 1/4W | SRDAA01544 |                |
| R108       | RESISTOR FXD | ERD-25UJ332T | 3.3K OHM 1/4W | SRDAA01544 |                |
| R111       | RESISTOR FXD | ERD-25UJ182T | 1/4W 1.8K OHM | SRDAA01617 |                |
| R112       | RESISTOR FXD | ERD-25UJ182T | 1/4W 1.8K OHM | SRDAA01617 |                |
| R113       | RESISTOR FXD | ERD-25UJ182T | 1/4W 1.8K OHM | SRDAA01617 |                |
| R114       | RESISTOR FXD | ERD-25UJ182T | 1/4W 1.8K OHM | SRDAA01617 |                |
| R115       | RESISTOR FXD | ERD-25UJ182T | 1/4W 1.8K OHM | SRDAA01617 |                |
| R116       | RESISTOR FXD | ERD-25UJ182T | 1/4W 1.8K OHM | SRDAA01617 |                |
| R117       | RESISTOR FXD | ERD-25UJ182T | 1/4W 1.8K OHM | SRDAA01617 |                |
| R118       | RESISTOR FXD | ERD-25UJ182T | 1/4W 1.8K OHM | SRDAA01617 |                |
| R121       | RESISTOR FXD | ERD-25UJ103T | 10K OHM 1/4W  | SRDAA01547 |                |
| R122       | RESISTOR FXD | ERD-25UJ103T | 10K OHM 1/4W  | SRDAA01547 |                |
| R123       | RESISTOR FXD | ERD-25UJ103T | 10K OHM 1/4W  | SRDAA01547 |                |
| R124       | RESISTOR FXD | ERD-25UJ103T | 10K OHM 1/4W  | SRDAA01547 |                |
| R125       | RESISTOR FXD | ERD-25UJ103T | 10K OHM 1/4W  | SRDAA01547 |                |
| R126       | RESISTOR FXD | ERD-25UJ103T | 10K OHM 1/4W  | SRDAA01547 |                |
| R127       | RESISTOR FXD | ERD-25UJ683T | 68K OHM 1/4W  | SRDAA01705 |                |
| R128       | RESISTOR FXD | ERD-25UJ472T | 4.7K OHM 1/4W | SRDAA01549 |                |
| R129       | RESISTOR FXD | ERD-25UJ472T | 4.7K OHM 1/4W | SRDAA01549 |                |
| R130       | RESISTOR FXD | ERD-25UJ333T | 1/4W 33K OHM  | SRDAA01591 |                |
| R131       | RESISTOR FXD | ERD-25UJ103T | 10K OHM 1/4W  | SRDAA01547 |                |
| R132       | RESISTOR FXD | ERD-25UJ103T | 10K OHM 1/4W  | SRDAA01547 |                |
| R133       | RESISTOR FXD | ERD-25UJ683T | 68K OHM 1/4W  | SRDAA01705 |                |
| R134       | RESISTOR FXD | ERD-25UJ472T | 4.7K OHM 1/4W | SRDAA01549 |                |
| R135       | RESISTOR FXD | ERD-25UJ472T | 4.7K OHM 1/4W | SRDAA01549 |                |
| R136       | RESISTOR FXD | ERD-25UJ333T | 1/4W 33K OHM  | SRDAA01591 |                |
| R137       | RESISTOR FXD | ERD-25UJ103T | 10K OHM 1/4W  | SRDAA01547 |                |
| R139       | RESISTOR FXD | ERD-25UJ103T | 10K OHM 1/4W  | SRDAA01547 |                |
| R140       | RESISTOR FXD | ERD-25UJ103T | 10K OHM 1/4W  | SRDAA01547 |                |
| R142       | RESISTOR FXD | ERD-25UJ103T | 10K OHM 1/4W  | SRDAA01547 |                |
| R143       | RESISTOR FXD | ERD-25UJ222T | 2.2K OHM 1/4W | SRDAA01548 |                |

| PARTS LIST |               |                |               |            | SHEET NO.<br>8 |
|------------|---------------|----------------|---------------|------------|----------------|
| ECSS       |               | TITLE          |               | CMF-78     |                |
| PARTS NO   | PARTS NAME    | TYPE           | DESCRIPTION   | CODE       |                |
| R144       | RESISTOR FXD  | ERD-25UJ472T   | 4.7K OHM 1/4W | SRDAA01549 |                |
| R145       | RESISTOR FXD  | ERD-25UJ222T   | 2.2K OHM 1/4W | SRDAA01548 |                |
| R146       | RESISTOR FXD  | ERD-25UJ472T   | 4.7K OHM 1/4W | SRDAA01549 |                |
| R172       | RESISTOR FXD  | ERG-1ANJ331    | 330 OHM 1W    | 5REAG00031 |                |
| R173       | RESISTOR FXD  | ERD-25UJ103T   | 10K OHM 1/4W  | SRDAA01547 |                |
| R174       | RESISTOR FXD  | ERD-25UJ222T   | 2.2K OHM 1/4W | SRDAA01548 |                |
| R175       | RESISTOR FXD  | ERD-25UJ332T   | 3.3K OHM 1/4W | SRDAA01544 |                |
| R176       | RESISTOR FXD  | ERD-25UJ222T   | 2.2K OHM 1/4W | SRDAA01548 |                |
| R181       | RESISTOR FXD  | ERD-25UJ103T   | 10K OHM 1/4W  | SRDAA01547 |                |
| RV1        | RESISTOR VAR  | EVN-D1AA00B53  |               | SRVAB00325 |                |
| RV2        | RESISTOR VAR  | EVN-D4AA00B-14 | 10K OHM       | SRVAB00279 |                |
| RV3        | RESISTOR VAR  | EVN-D1AA00B55  | 50K           | SRVAB00389 |                |
| RV4        | RESISTOR VAR  | EVN-D1AA00B55  | 50K           | SRVAB00389 |                |
| TP1        | TEST TERMINAL | PCN6-PEA       |               | 5JDAA00364 |                |
| TP2        | TEST TERMINAL | PCN6-PEA       |               | 5JDAA00364 |                |
| TP3        | TEST TERMINAL | PCN6-PEA       |               | 5JDAA00364 |                |
| TP4        | TEST TERMINAL | PCN6-PEA       |               | 5JDAA00364 |                |
| TP6        | TEST TERMINAL | PCN6-PEA       |               | 5JDAA00364 |                |
| TP7        | TEST TERMINAL | PCN6-PEA       |               | 5JDAA00364 |                |
| TP8        | TEST TERMINAL | PCN6-PEA       |               | 5JDAA00364 |                |
| TP9        | TEST TERMINAL | PCN6-PEA       |               | 5JDAA00364 |                |
| TP10       | TEST TERMINAL | PCN6-PEA       |               | 5JDAA00364 |                |
| TR1        | TRANSISTOR    | 2SK192A-BL     |               | 5TKAA00080 |                |
| TR2        | TRANSISTOR    | 2SA1020-Y      |               | 5TAAG00093 |                |
| TR3        | TRANSISTOR    | 2SC1815-Y      |               | 5TCAF00219 |                |

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Figure 6.16.1 RS-232C INTERFACE UNIT CMH-741 Circuit Diagram



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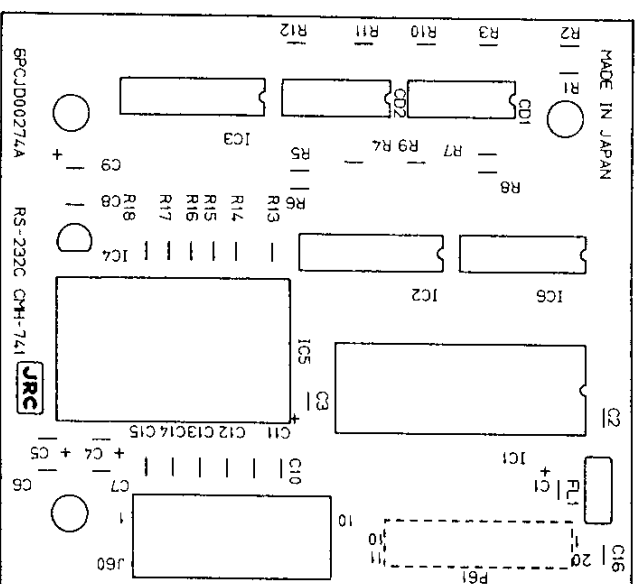


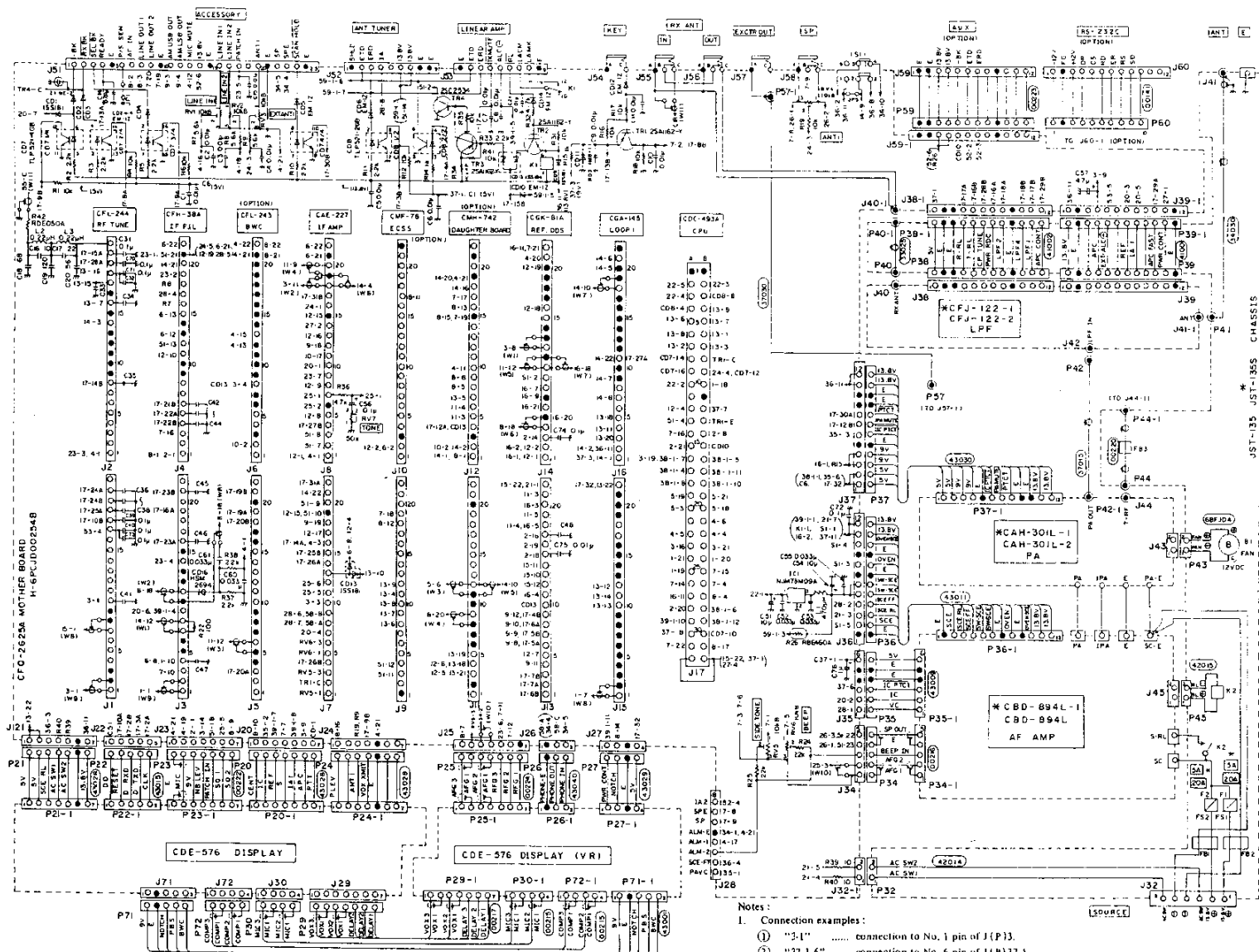
Figure 6.16.2 RS-232C INTERFACE UNIT CMH-741 Component Layout

| PARTS LIST |                |                  |               |            |
|------------|----------------|------------------|---------------|------------|
| RS-232C    |                | TITLE            |               | SHEET NO.  |
|            |                | CMH-741          |               | 1          |
| PARTS NO   | PARTS NAME     | TYPE             | DESCRIPTION   | CODE       |
| C1         | CAP,FXD ELCTLT | ECE-A1EU100B     |               | SCCAA01864 |
| C2         | CAP,FXD CER    | DD806-979F103Z50 |               | SCCAA02929 |
| C3         | CAP,FXD ELCTLT | ECE-A1EU100B     |               | SCCAA01864 |
| C4         | CAP,FXD ELCTLT | ECE-A1EU100B     |               | SCCAA01864 |
| C5         | CAP,FXD ELCTLT | ECE-A1EU100B     |               | SCCAA01864 |
| C6         | CAP,FXD CER    | DD806-979F103Z50 |               | SCCAA02929 |
| C7         | CAP,FXD CER    | DD806-979F103Z50 |               | SCCAA02929 |
| C8         | CAP,FXD CER    | DD806-979F103Z50 |               | SCCAA02929 |
| C9         | CAP,FXD ELCTLT | ECE-A1EU100B     |               | SCCAA01864 |
| C10        | CAP,FXD CER    | DD104-979B102K50 | 1000PF 50V    | SCBAB02031 |
| C11        | CAP,FXD CER    | DD104-979B102K50 | 1000PF 50V    | SCBAB02031 |
| C12        | CAP,FXD CER    | DD104-979B102K50 | 1000PF 50V    | SCBAB02031 |
| C13        | CAP,FXD CER    | DD104-979B102K50 | 1000PF 50V    | SCBAB02031 |
| C14        | CAP,FXD CER    | DD104-979B102K50 | 1000PF 50V    | SCBAB02031 |
| C15        | CAP,FXD CER    | DD104-979B102K50 | 1000PF 50V    | SCBAB02031 |
| C16        | CAP,FXD CER    | DD806-979F103Z50 |               | SCCAA02929 |
| CD1        | PHOTO COUPLER  | PC-837           |               | 5TZAHO0050 |
| CD2        | PHOTO COUPLER  | PC-837           |               | 5TZAHO0050 |
| FL1        | FILTER         | DS310-55B222M    | 100V 0.0022UF | 5NXAA00002 |
| IC1        | IC             | MSM82C51ARS      |               | 5DDAG00110 |
| IC2        | IC             | TC4050BP         | MOS           | 5DDAE00073 |
| IC3        | IC             | MC145406P        |               | 5DAAJ00329 |
| IC4        | IC             | NJM78L05A        | 5V 100MA      | 5DAAN00046 |
| IC5        | CONVERTER      | BY05-12W-06      |               | 5ECBF00004 |
| IC6        | IC             | TC74HC4024P      |               | 5DDAE00658 |
| J60        | CONNECTOR      | 67Q95-010        | 10P           | 5JWFS00011 |
| J61        | SPASER         | KGLS-10S         |               | 5ZJEB00003 |
| J62        | SPASER         | KGLS-10S         |               | 5ZJEB00003 |
| J63        | SPASER         | KGLS-10S         |               | 5ZJEB00003 |
| KC1        | CONNECTOR      | H-6ZCJ000141     |               | 6ZCJ000141 |
| P61        | CONNECTOR      | HKP-20M2         |               | 5JJAA00109 |
| PC1        | PCB            | H-6PCJD00274A    |               | 6PCJD00274 |
| R1         | RESISTOR FXD   | ERD-25UJ681T     | 1/4W 680 OHM  | SRDAA01627 |
| R2         | RESISTOR FXD   | ERD-25UJ681T     | 1/4W 680 OHM  | SRDAA01627 |

| PARTS LIST |              |              |               |            |
|------------|--------------|--------------|---------------|------------|
| RS-232C    |              | TITLE        |               | SHEET NO.  |
|            |              | CMH-741      |               | 2          |
| PARTS NO   | PARTS NAME   | TYPE         | DESCRIPTION   | CODE       |
| R3         | RESISTOR FXD | ERD-25UJ681T | 1/4W 680 OHM  | SRDAA01627 |
| R4         | RESISTOR FXD | ERD-25UJ472T | 4.7K OHM 1/4W | SRDAA01549 |
| R5         | RESISTOR FXD | ERD-25UJ472T | 4.7K OHM 1/4W | SRDAA01549 |
| R6         | RESISTOR FXD | ERD-25UJ472T | 4.7K OHM 1/4W | SRDAA01549 |
| R7         | RESISTOR FXD | ERD-25UJ472T | 4.7K OHM 1/4W | SRDAA01549 |
| R8         | RESISTOR FXD | ERD-25UJ472T | 4.7K OHM 1/4W | SRDAA01549 |
| R9         | RESISTOR FXD | ERD-25UJ472T | 4.7K OHM 1/4W | SRDAA01549 |
| R10        | RESISTOR FXD | ERD-25UJ681T | 1/4W 680 OHM  | SRDAA01627 |
| R11        | RESISTOR FXD | ERD-25UJ681T | 1/4W 680 OHM  | SRDAA01627 |
| R12        | RESISTOR FXD | ERD-25UJ681T | 1/4W 680 OHM  | SRDAA01627 |
| R13        | RESISTOR FXD | ERD-25UJ101T | 1/4W 100 OHM  | SRDAA01599 |
| R14        | RESISTOR FXD | ERD-25UJ101T | 1/4W 100 OHM  | SRDAA01599 |
| R15        | RESISTOR FXD | ERD-25UJ101T | 1/4W 100 OHM  | SRDAA01599 |
| R16        | RESISTOR FXD | ERD-25UJ101T | 1/4W 100 OHM  | SRDAA01599 |
| R17        | RESISTOR FXD | ERD-25UJ101T | 1/4W 100 OHM  | SRDAA01599 |
| R18        | RESISTOR FXD | ERD-25UJ101T | 1/4W 100 OHM  | SRDAA01599 |

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Figure 6.17.1 MOTHER BOARD CFQ-2625A Circuit Diagram  
CHASSIS JST-135 Circuit Diagram



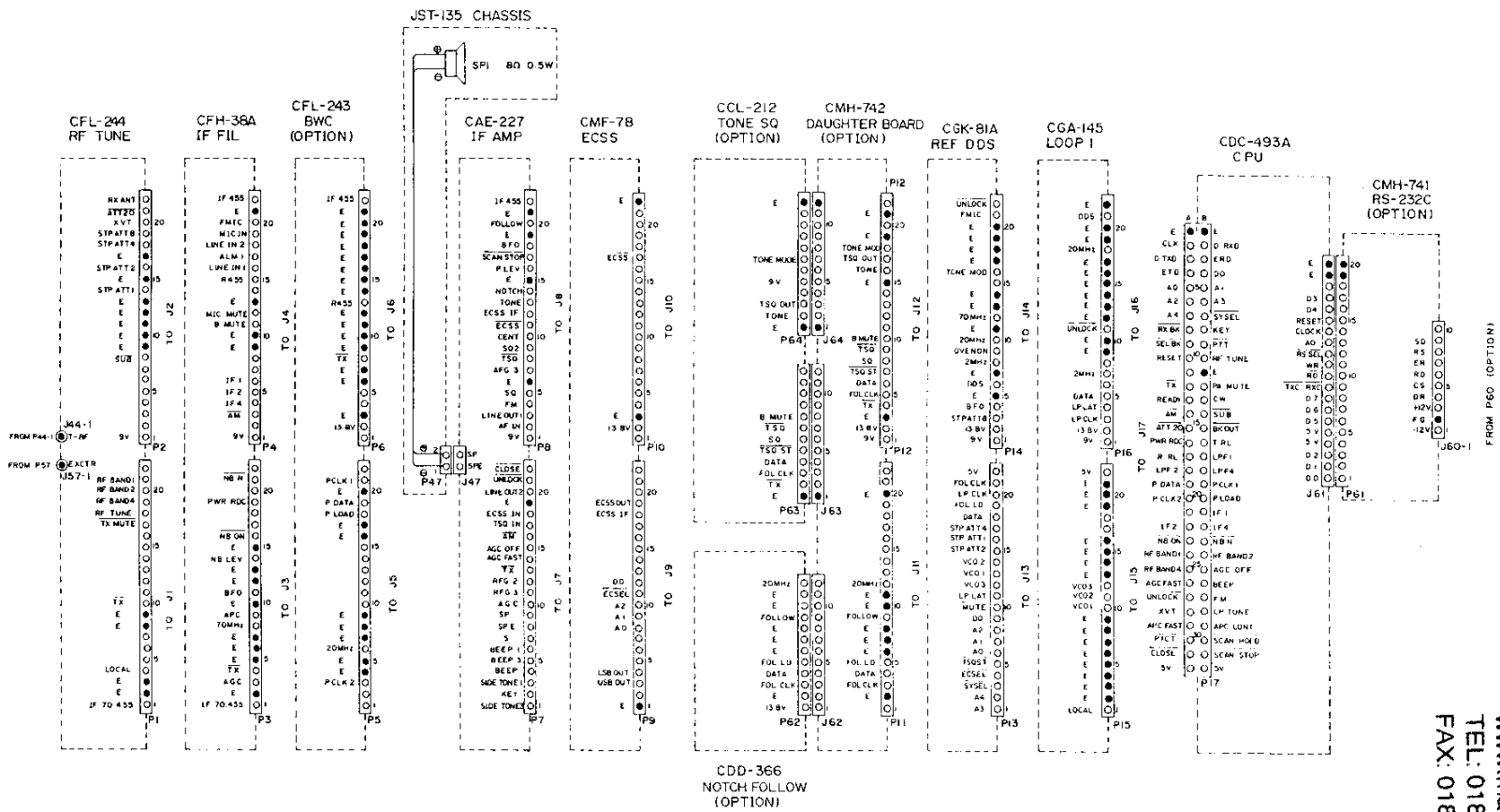
Notes:

1. Connection examples:

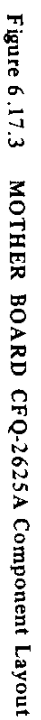
- (1) "3-1" ..... connection to No. 1 pin of J(P)3.
- (2) "37-1-6" ..... connection to No. 6 pin of J(P)37-1.
- (3) "87" ..... connection to R7.
- (4) "K1-12" ..... connection to No. 12 pin of K1.

2. Capacitance value not specified is 1000PF.

**Figure 6.17.2 Signal Nomenclature of Units**



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| PARTS LIST   |                |                     |               |             |             |
|--------------|----------------|---------------------|---------------|-------------|-------------|
| MOTHER BOARD |                |                     | TITLE         | CFQ-2625A   | SHEET NO. 1 |
| PARTS NO     | PARTS NAME     | TYPE                | DESCRIPTION   | CODE        |             |
| C4           | CAP,FXD CER    | C3216B1H103K-E-TP   | 0.01U         | 5CAAD01597  |             |
| C51          | CAP,FXD ELCTLT | ECE-A1EU100B        |               | 5CEAA01864  |             |
| C52          | CAP,FXD CER    | C3216X7R1H333K-E-TP | 50V 0.033U    | 5CAAD01357  |             |
| C53          | CAP,FXD CER    | C3216X7R1H333K-E-TP | 50V 0.033U    | 5CAAD01357  |             |
| C54          | CAP,FXD ELCTLT | ECE-A1EU100B        |               | 5CEAA01864  |             |
| C55          | CAP,FXD CER    | C3216X7R1H333K-E-TP | 50V 0.033U    | 5CAAD01357  |             |
| CD10         | DIODE          | EM1Z                | 200V 1A       | 5TXAN00061  |             |
| IC1          | IC             | NJM78M09A           |               | 5DAAN00034  |             |
| IC12-1       | SILICON SHEET  | TC-30A (T0-220)     |               | 5ZZK000002  |             |
| J5           | CONNECTOR      | PCN6-22S-2.5DS      |               | 5JDAAD00082 |             |
| J6           | CONNECTOR      | PCN6-22S-2.5DS      |               | 5JDAAD00082 |             |
| J9           | CONNECTOR      | PCN6-22S-2.5DS      |               | 5JDAAD00082 |             |
| J10          | CONNECTOR      | PCN6-22S-2.5DS      |               | 5JDAAD00082 |             |
| J11          | CONNECTOR      | PCN6-22S-2.5DS      |               | 5JDAAD00082 |             |
| J12          | CONNECTOR      | PCN6-22S-2.5DS      |               | 5JDAAD00082 |             |
| J24          | CONNECTOR      | IL-S-7P-S2T2-EF     |               | 5JWAD00083  |             |
| J27          | CONNECTOR      | IL-S-4P-S2T2-EF     | 4PIN          | 5JWAD00183  |             |
| J32-1        | CONNECTOR      | IL-S-2P-S2T2-EF     |               | 5JWAD00121  |             |
| J58          | JACK           | SQ-3099 #01         |               | 5JJAL00043  |             |
| J59-1        | CONNECTOR      | IL-S-12P-S2T2-EF    |               | 5JWAD00156  |             |
| JP5          | RESISTOR FXD   | ERJ-8GEYDR00V       | 0 OHM         | 5REAG01775  |             |
| L1           | COIL           | FL-9H471J           |               | 5LCAA00089  |             |
| R9           | RESISTOR FXD   | ERJ-8GEYJ562V       | 1/8W 5.6K OHM | 5REAG01747  |             |
| R19          | RESISTOR FXD   | ERJ-8GEYJ103V       | 1/8W 10K OHM  | 5REAG01750  |             |
| R39          | RESISTOR FXD   | ERJ-8GEYJ100V       | 1/8W 10 OHM   | 5REAG01714  |             |
| R40          | RESISTOR FXD   | ERJ-8GEYJ100V       | 1/8W 10 OHM   | 5REAG01714  |             |
| RV3          | RESISTOR VAR   | EVN-D4AA00B-14      | 10K OHM       | 5RVAB00279  |             |
| RV4          | RESISTOR VAR   | EVN-D4AA00B-14      | 10K OHM       | 5RVAB00279  |             |
| U1           | MOTHERBOARD    | CFQ-2625            |               | CFQ-2625    |             |

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| PARTS LIST   |             |                     |             |            |             |
|--------------|-------------|---------------------|-------------|------------|-------------|
| MOTHER BOARD |             |                     | TITLE       | CFQ-2625A  | SHEET NO. 2 |
| PARTS NO     | PARTS NAME  | TYPE                | DESCRIPTION | CODE       |             |
| C1           | CAP,FXD CER | C3216JB1H103K-E-TP  | 0.01UF      | 5CAAD00789 |             |
| C2           | CAP,FXD CER | C3216JB1H103K-E-TP  | 0.01UF      | 5CAAD00789 |             |
| C3           | CAP,FXD CER | C3216JB1H103K-E-TP  | 0.01UF      | 5CAAD00789 |             |
| C5           | CAP,FXD CER | C3216JB1H103K-E-TP  | 0.01UF      | 5CAAD00789 |             |
| C6           | CAP,FXD CER | C3216JB1H103K-E-TP  | 0.01UF      | 5CAAD00789 |             |
| C7           | CAP,FXD CER | C3216JB1H103K-E-TP  | 0.01UF      | 5CAAD00789 |             |
| C8           | CAP,FXD CER | C3216JB1H103K-E-TP  | 0.01UF      | 5CAAD00789 |             |
| C9           | CAP,FXD CER | C3216JB1H103K-E-TP  | 0.01UF      | 5CAAD00789 |             |
| C10          | CAP,FXD CER | C3216JB1H103K-E-TP  | 0.01UF      | 5CAAD00789 |             |
| C11          | CAP,FXD CER | C3216JB1H103K-E-TP  | 0.01UF      | 5CAAD00789 |             |
| C14          | CAP,FXD CER | C3216JB1H103K-E-TP  | 0.01UF      | 5CAAD00789 |             |
| C15          | CAP,FXD CER | C3216JB1H103K-E-TP  | 0.01UF      | 5CAAD00789 |             |
| C16          | CAP,FXD CER | C3216CH1H100D-E-TP  |             | 5CAAD00862 |             |
| C17          | CAP,FXD CER | C3216CH1H220J-E-TP  | 22PF        | 5CAAD00869 |             |
| C18          | CAP,FXD CER | C3216CH1H680J-E-TP  | 68PF        | 5CAAD00929 |             |
| C19          | CAP,FXD CER | C3216CH1H121J-E-TP  | 120PF       | 5CAAD00931 |             |
| C20          | CAP,FXD CER | C3216CH1H560J-E-TP  |             | 5CAAD00863 |             |
| C21          | CAP,FXD CER | C3216B1H103K-E-TP   | 0.01U       | 5CAAD01597 |             |
| C31          | CAP,FXD CER | C3216X7R1E104K-E-TP | 0.1UF       | 5CAAD01237 |             |
| C32          | CAP,FXD CER | C3216B1H102K-E-TP   | 50V 1000PF  | 5CAAD01073 |             |
| C33          | CAP,FXD CER | C3216B1H102K-E-TP   | 50V 1000PF  | 5CAAD01073 |             |
| C34          | CAP,FXD CER | C3216B1H102K-E-TP   | 50V 1000PF  | 5CAAD01073 |             |
| C35          | CAP,FXD CER | C3216B1H102K-E-TP   | 50V 1000PF  | 5CAAD01073 |             |
| C36          | CAP,FXD CER | C3216B1H102K-E-TP   | 50V 1000PF  | 5CAAD01073 |             |
| C37          | CAP,FXD CER | C3216B1H102K-E-TP   | 50V 1000PF  | 5CAAD01073 |             |
| C38          | CAP,FXD CER | C3216B1H102K-E-TP   | 50V 1000PF  | 5CAAD01073 |             |
| C39          | CAP,FXD CER | C3216X7R1E104K-E-TP | 0.1UF       | 5CAAD01237 |             |
| C40          | CAP,FXD CER | C3216X7R1E104K-E-TP | 0.1UF       | 5CAAD01237 |             |
| C41          | CAP,FXD CER | C3216B1H102K-E-TP   | 50V 1000PF  | 5CAAD01073 |             |
| C42          | CAP,FXD CER | C3216B1H102K-E-TP   | 50V 1000PF  | 5CAAD01073 |             |
| C43          | CAP,FXD CER | C3216B1H102K-E-TP   | 50V 1000PF  | 5CAAD01073 |             |
| C44          | CAP,FXD CER | C3216B1H102K-E-TP   | 50V 1000PF  | 5CAAD01073 |             |
| C45          | CAP,FXD CER | C3216B1H102K-E-TP   | 50V 1000PF  | 5CAAD01073 |             |
| C46          | CAP,FXD CER | C3216B1H102K-E-TP   | 50V 1000PF  | 5CAAD01073 |             |
| C47          | CAP,FXD CER | C3216B1H102K-E-TP   | 50V 1000PF  | 5CAAD01073 |             |

| PARTS LIST |                |                     |             |             |  |
|------------|----------------|---------------------|-------------|-------------|--|
|            |                | TITLE               |             | SHEET NO.   |  |
|            |                | MOTHER BOARD        |             | CFQ-2625A   |  |
|            |                |                     |             | 3           |  |
| PARTS NO   | PARTS NAME     | TYPE                | DESCRIPTION | CODE        |  |
| C48        | CAP,FXD CER    | C3216B1H102K-E-TP   | 50V 1000PF  | 5CAAD01073  |  |
| C56        | CAP,FXD TANTAL | 202L3502 104KB      |             | 5CSAC01068  |  |
| C57        | CAP,FXD TANTAL | 202L3502475KB       | 4.7UF 35V   | 5CSAC00989  |  |
| C60        | CAP,FXD CER    | C3216X7R1H333K-E-TP | 50V 0.033U  | 5CAAD01357  |  |
| C61        | CAP,FXD CER    | C3216X7R1H333K-E-TP | 50V 0.033U  | 5CAAD01357  |  |
| C70        | CAP,FXD CER    | C3216X7R1E104K-E-TP | 0.1UF       | 5CAAD01237  |  |
| C71        | CAP,FXD CER    | C3216X7R1E104K-E-TP | 0.1UF       | 5CAAD01237  |  |
| C72        | CAP,FXD CER    | C3216X7R1E104K-E-TP | 0.1UF       | 5CAAD01237  |  |
| C73        | CAP,FXD CER    | C3216X7R1E104K-E-TP | 0.1UF       | 5CAAD01237  |  |
| C74        | CAP,FXD CER    | C3216X7R1E104K-E-TP | 0.1UF       | 5CAAD01237  |  |
| C75        | CAP,FXD CER    | C3216JB1H103K-E-TP  | 0.01UF      | 5CAAD00789  |  |
| C76        | CAP,FXD TANTAL | 202L3502 105KB      | 35V 1UF     | 5CSAC00982  |  |
| CD1        | DIODE          | 1SS181 TE85L        |             | 5TXAD00356  |  |
| CD2        | DIODE          | EM12                | 200V 1A     | 5TXAN00061  |  |
| CD3        | DIODE          | EM12                | 200V 1A     | 5TXAN00061  |  |
| CD4        | DIODE          | EM12                | 200V 1A     | 5TXAN00061  |  |
| CD5        | DIODE          | EM12                | 200V 1A     | 5TXAN00061  |  |
| CD6        | DIODE          | EM12                | 200V 1A     | 5TXAN00061  |  |
| CD7        | PHOTO COUPLER  | TLP521-4-GB         |             | 5TZAD00213  |  |
| CD8        | PHOTOCOUP-LER  | TLP521-2-GB         |             | 5TZAD00234  |  |
| CD9        | DIODE          | 1SS181 TE85L        |             | 5TXAD00356  |  |
| CD11       | DIODE          | RD5.1MB1-T1         |             | 5TXAA00515  |  |
| CD12       | DIODE          | EM12                | 200V 1A     | 5TXAN00061  |  |
| CD13       | DIODE          | 1SS181 TE85L        |             | 5TXAD00356  |  |
| CD14       | DIODE          | EM12                | 200V 1A     | 5TXAN00061  |  |
| CD15       | DIODE          | 1SS184 TE85L        |             | 5TXAD00290  |  |
| CD16       | DIODE          | HSM26941LC          |             | 5TXAE00627  |  |
| J1         | CONNECTOR      | PCN6-22S-2.5DS      |             | 5JDAAD00082 |  |
| J2         | CONNECTOR      | PCN6-22S-2.5DS      |             | 5JDAAD00082 |  |
| J3         | CONNECTOR      | PCN6-22S-2.5DS      |             | 5JDAAD00082 |  |
| J4         | CONNECTOR      | PCN6-22S-2.5DS      |             | 5JDAAD00082 |  |
| J7         | CONNECTOR      | PCN6-22S-2.5DS      |             | 5JDAAD00082 |  |
| J8         | CONNECTOR      | PCN6-22S-2.5DS      |             | 5JDAAD00082 |  |
| J13        | CONNECTOR      | PCN6-22S-2.5DS      |             | 5JDAAD00082 |  |
| J14        | CONNECTOR      | PCN6-22S-2.5DS      |             | 5JDAAD00082 |  |

| PARTS LIST |              |                   |               |             |  |
|------------|--------------|-------------------|---------------|-------------|--|
|            |              | TITLE             |               | SHEET NO.   |  |
|            |              | MOTHER BOARD      |               | CFQ-2625A   |  |
|            |              |                   |               | 4           |  |
| PARTS NO   | PARTS NAME   | TYPE              | DESCRIPTION   | CODE        |  |
| J15        | CONNECTOR    | PCN6-22S-2.5DS    |               | 5JDAAD00082 |  |
| J16        | CONNECTOR    | PCN6-22S-2.5DS    |               | 5JDAAD00082 |  |
| J17        | CONNECTOR    | ME03-L64S-D4T2-A1 |               | 5JBAF00458  |  |
| J20        | CONNECTOR    | IL-S-7P-S2T2-EF   |               | 5JWAD00083  |  |
| J21        | CONNECTOR    | IL-S-7P-S2T2-EF   |               | 5JWAD00083  |  |
| J22        | CONNECTOR    | IL-S-5P-S2T2-EF   |               | 5JWAD00141  |  |
| J23        | CONNECTOR    | IL-S-7P-S2T2-EF   |               | 5JWAD00083  |  |
| J25        | CONNECTOR    | IL-S-7P-S2T2-EF   |               | 5JWAD00083  |  |
| J26        | CONNECTOR    | IL-S-3P-S2T2-EF   |               | 5JWAD00234  |  |
| J34        | CONNECTOR    | IL-S-5P-S2T2-EF   |               | 5JWAD00141  |  |
| J35        | CONNECTOR    | IL-S-6P-S2T2-EF   |               | 5JWAD00142  |  |
| J36        | CONNECTOR    | IL-S-12P-S2T2-EF  |               | 5JWAD00156  |  |
| J37        | CONNECTOR    | IL-S-12P-S2T2-EF  |               | 5JWAD00156  |  |
| J38-1      | CONNECTOR    | IL-S-12P-S2T2-EF  |               | 5JWAD00156  |  |
| J39-1      | CONNECTOR    | IL-S-12P-S2T2-EF  |               | 5JWAD00156  |  |
| J40-1      | CONNECTOR    | IMP-J01X-V2       |               | 5JDAX00009  |  |
| J51        | CONNECTOR    | XM3B-2532-112     | 25P           | 5JWCF00013  |  |
| J52        | CONNECTOR    | XM3B-0932-112     | 9P            | 5JWCF00014  |  |
| J53        | CONNECTOR    | XM3B-0932-112     | 9P            | 5JWCF00014  |  |
| J54        | CONNECTOR    | 1806J045          |               | 5JJBLO0004  |  |
| J55        | JACK         | SQ-3099 #01       |               | 5JJAL00043  |  |
| J56        | JACK         | SQ-3099 #01       |               | 5JJAL00043  |  |
| J57        | JACK         | SQ-3099 #01       |               | 5JJAL00043  |  |
| K1         | RELAY        | G6E-184P          | DC12V         | 5KLBMO0006  |  |
| L2         | COIL         | LAL03VBR22M       | 0.22UH        | 5LCAA00280  |  |
| L3         | COIL         | LAL03VBR22M       | 0.22UH        | 5LCAA00280  |  |
| P57        | CONNECTOR    | H-6ZCJD37030      | L=300         | 6ZCJD37030  |  |
| P57-1      |              |                   | *             | 6ZZAB10000  |  |
| PC1        | PCB          | H-6PCJD00254B     |               | 6PCJD00254  |  |
| R1         | RESISTOR FXD | ERJ-8GEYJ103V     | 1/8W 10K OHM  | 5REAG01750  |  |
| R2         | RESISTOR FXD | ERJ-8GEYJ222V     | 1/8W 2.2K OHM | 5REAG01742  |  |
| R3         | RESISTOR FXD | ERJ-8GEYJ222V     | 1/8W 2.2K OHM | 5REAG01742  |  |
| R4         | RESISTOR FXD | ERJ-8GEYJ103V     | 1/8W 10K OHM  | 5REAG01750  |  |
| R5         | RESISTOR FXD | ERJ-8GEYJ222V     | 1/8W 2.2K OHM | 5REAG01742  |  |
| R6         | RESISTOR FXD | ERJ-8GEYJ103V     | 1/8W 10K OHM  | 5REAG01750  |  |

## PARTS LIST

|          |            | MOTHER BOARD |                 | TITLE         | SHEET NO.  |
|----------|------------|--------------|-----------------|---------------|------------|
|          |            |              |                 | CFQ-2625A     | 5          |
| PARTS NO | PARTS NAME | TYPE         | DESCRIPTION     | CODE          |            |
| R7       | RESISTOR   | FXD          | ERJ-8GEYJ562V   | 1/8W 5.6K OHM | SREAG01747 |
| R8       | RESISTOR   | FXD          | ERJ-8GEYJ562V   | 1/8W 5.6K OHM | SREAG01747 |
| R10      | RESISTOR   | FXD          | ERJ-8GEYJ222V   | 1/8W 2.2K OHM | SREAG01742 |
| R11      | RESISTOR   | FXD          | ERJ-8GEYJ222V   | 1/8W 2.2K OHM | SREAG01742 |
| R12      | RESISTOR   | FXD          | ERJ-8GEYJ103V   | 1/8W 10K OHM  | SREAG01750 |
| R14      | RESISTOR   | FXD          | ERJ-8GEYJ102V   | 1/8W 1K OHM   | SREAG01738 |
| R15      | RESISTOR   | FXD          | ERJ-8GEYJ102V   | 1/8W 1K OHM   | SREAG01738 |
| R16      | RESISTOR   | FXD          | ERJ-8GEYJ103V   | 1/8W 10K OHM  | SREAG01750 |
| R17      | RESISTOR   | FXD          | ERJ-8GEYJ103V   | 1/8W 10K OHM  | SREAG01750 |
| R18      | RESISTOR   | FXD          | ERJ-8GEYJ103V   | 1/8W 10K OHM  | SREAG01750 |
| R22      | RESISTOR   | FXD          | ERJ-8GEYJ101V   | 1/8W 100 OHM  | SREAG01726 |
| R24      | RESISTOR   | FXD          | ERJ-8GEYJ223V   | 1/8W 22K OHM  | SREAG01754 |
| R25      | RESISTOR   | FXD          | ERJ-8GEYJ223V   | 1/8W 22K OHM  | SREAG01754 |
| R26      | RESISTOR   |              | RBE460A         |               | SRZCP00001 |
| R31      | RESISTOR   | FXD          | ERJ-8GEYJ103V   | 1/8W 10K OHM  | SREAG01750 |
| R32      | RESISTOR   | FXD          | ERJ-8GEYJ472V   | 1/8W 4.7K OHM | SREAG01746 |
| R33      | RESISTOR   | FXD          | ERJ-8GEYJ222V   | 1/8W 2.2K OHM | SREAG01742 |
| R34-1    | RESISTOR   | FXD          | ERJ-8GEYJ102V   | 1/8W 1K OHM   | SREAG01738 |
| R34-2    | RESISTOR   | FXD          | ERJ-8GEYJ102V   | 1/8W 1K OHM   | SREAG01738 |
| R34-3    | RESISTOR   | FXD          | ERJ-8GEYJ102V   | 1/8W 1K OHM   | SREAG01738 |
| R34-4    | RESISTOR   | FXD          | ERJ-8GEYJ102V   | 1/8W 1K OHM   | SREAG01738 |
| R35      | RESISTOR   | FXD          | ERJ-8GEYJ103V   | 1/8W 10K OHM  | SREAG01750 |
| R36      | RESISTOR   | FXD          | ERJ-8GEYJ472V   | 1/8W 4.7K OHM | SREAG01746 |
| R37      | RESISTOR   | FXD          | ERJ-8GEYJ222V   | 1/8W 2.2K OHM | SREAG01742 |
| R38      | RESISTOR   | FXD          | ERJ-8GEYJ222V   | 1/8W 2.2K OHM | SREAG01742 |
| R41      | RESISTOR   | FXD          | ERJ-8GEYJ103V   | 1/8W 10K OHM  | SREAG01750 |
| R42      |            |              | RDE050A         |               | SSZCX00004 |
| RV1      | RESISTOR   | VAR          | EVN-D4AA00B-14  | 10K OHM       | SRVAB00279 |
| RV2      | RESISTOR   | VAR          | EVN-D4AA00B-14  | 10K OHM       | SRVAB00279 |
| RV5      | RESISTOR   | VAR          | EVN-D4AA00B-14  | 10K OHM       | SRVAB00279 |
| RV6      | RESISTOR   | VAR          | EVN-D4AA00B-14  | 10K OHM       | SRVAB00279 |
| RV7      | RESISTOR   | VAR          | EVN-D4AA00B54   |               | SRVAB00317 |
| TR1      | TRANSISTOR |              | ZSA1162-Y TE85L |               | STAAG00182 |
| TR2      | TRANSISTOR |              | ZSA1162-Y TE85L |               | STAAG00182 |
| TR3      | TRANSISTOR |              | ZSA1162-Y TE85L |               | STAAG00182 |

## PARTS LIST

|          |               | MOTHER BOARD |                 | TITLE     | SHEET NO.  |
|----------|---------------|--------------|-----------------|-----------|------------|
|          |               |              |                 | CFQ-2625A | 6          |
| PARTS NO | PARTS NAME    | TYPE         | DESCRIPTION     | CODE      |            |
| TR4      | TRANSISTOR    |              | 2SC2534         |           | 5TCAF00329 |
| TR42-2   | SILICON SHEET |              | TC-30A (T0-220) |           | 5ZZK800002 |
| TRZ4Z-1  | BUSHING       |              | YC-40B          |           | 5ZZDY00005 |
| Z1       | NEON TUBE     |              | NE-38           |           | 5WNAC00019 |

| PARTS LIST |             |              |             |            |
|------------|-------------|--------------|-------------|------------|
| CHASSIS    |             |              | TITLE       | SHEET NO.  |
|            |             |              | JST-1355    | 1          |
| PARTS NO   | PARTS NAME  | TYPE         | DESCRIPTION | CODE       |
| B1         | FAN         | H-6BFJD00004 | DC12V       | 6BFJD00004 |
| F1         | FUSE        | 7127-3010 5A |             | 5ZFEX00003 |
| F2         | FUSE        | 7127-3010 5A |             | 5ZFEX00003 |
| FB1        | CORE        | RIB 10X20X15 | 3A          | 5MBAK00001 |
| FB2        | CORE        | RIB 10X20X15 | 3A          | 5MBAK00001 |
| FB3        |             |              | *           | 6ZZAB10000 |
| FS1        | FUSE HOLDER | H0448        |             | 5ZJUZ00001 |
| FS2        | FUSE HOLDER | H0448        |             | 5ZJUZ00001 |
| J32        | CONNECTOR   | 1-480705-0   |             | 5JWAH00300 |
| J32Z-1     | CONTACT     | 350547-3     |             | 5JWAH00262 |
| J32Z-2     | CONTACT     | 350690-3     |             | 5JWAH00333 |
| J41        | CONNECTOR   | FM-203       |             | 5JJB00003  |
| K2         | RELAY       | VF-12HN      | DC12V       | 5KLAC00110 |
| P32        | CONNECTOR   | H-6ZCJD42014 | L=100       | 6ZCJD42014 |
| P38        | CONNECTOR   | H-6ZCJD41002 | L=400       | 6ZCJD41002 |
| P38-1      |             |              | *           | 6ZZAB10000 |
| P39        | CONNECTOR   | H-6ZCJD41001 | L=330       | 6ZCJD41001 |
| P39-1      |             |              | *           | 6ZZAB10000 |
| P40        | COAX CABLE  | H-6ZCJD33025 | L=250       | 6ZCJD33025 |
| P40-1      |             |              | *           | 6ZZAB10000 |
| P41        | CONNECTOR   | H-6ZCJD34030 | L=300       | 6ZCJD34030 |
| P43        |             |              | *           | 6ZZAB10000 |
| P44        | CONNECTOR   | H-6ZCJD00220 |             | 6ZCJD00220 |
| P44-1      |             |              | *           | 6ZZAB10000 |
| P45        | CONNECTOR   | H-6ZCJD42015 | L=150       | 6ZCJD42015 |
| P47        | CONNECTOR   | H-6ZCJD00100 |             | 6ZCJD00100 |
| SP1        | SPEAKER     | 77F51-1      |             | 5USAC00028 |

| PARTS LIST |             |               |             |            |
|------------|-------------|---------------|-------------|------------|
| CHASSIS    |             |               | TITLE       | SHEET NO.  |
|            |             |               | JST-135     | 1          |
| PARTS NO   | PARTS NAME  | TYPE          | DESCRIPTION | CODE       |
| B1         | FAN         | H-6BFJD00004  | DC12V       | 6BFJD00004 |
| F1         | FUSE        | 7127-3013 20A |             | 5ZFEX00002 |
| F2         | FUSE        | 7127-3013 20A |             | 5ZFEX00002 |
| FB1        | CORE        | RIB 10X20X15  | 3A          | 5MBAK00001 |
| FB2        | CORE        | RIB 10X20X15  | 3A          | 5MBAK00001 |
| FB3        |             |               | *           | 6ZZAB10000 |
| FS1        | FUSE HOLDER | H0448         |             | 5ZJUZ00001 |
| FS2        | FUSE HOLDER | H0448         |             | 5ZJUZ00001 |
| J32        | CONNECTOR   | 1-480705-0    |             | 5JWAH00300 |
| J32Z-1     | CONTACT     | 350547-3      |             | 5JWAH00262 |
| J32Z-2     | CONTACT     | 350690-3      |             | 5JWAH00333 |
| J41        | CONNECTOR   | FM-203        |             | 5JJB00003  |
| K2         | RELAY       | VF-12HN       | DC12V       | 5KLAC00110 |
| P32        | CONNECTOR   | H-6ZCJD42014  | L=100       | 6ZCJD42014 |
| P38        | CONNECTOR   | H-6ZCJD41002  | L=400       | 6ZCJD41002 |
| P38-1      |             |               | *           | 6ZZAB10000 |
| P39        | CONNECTOR   | H-6ZCJD41001  | L=330       | 6ZCJD41001 |
| P39-1      |             |               | *           | 6ZZAB10000 |
| P40        | COAX CABLE  | H-6ZCJD33025  | L=250       | 6ZCJD33025 |
| P40-1      |             |               | *           | 6ZZAB10000 |
| P41        | CONNECTOR   | H-6ZCJD34030  | L=300       | 6ZCJD34030 |
| P43        |             |               | *           | 6ZZAB10000 |
| P44        | CONNECTOR   | H-6ZCJD00220  |             | 6ZCJD00220 |
| P44-1      |             |               | *           | 6ZZAB10000 |
| P45        | CONNECTOR   | H-6ZCJD42015  | L=150       | 6ZCJD42015 |
| P47        | CONNECTOR   | H-6ZCJD00100  |             | 6ZCJD00100 |
| SP1        | SPEAKER     | 77F51-1       |             | 5USAC00028 |

## PARTS LIST

|          |                | TITLE        |             | SHEET NO.  |
|----------|----------------|--------------|-------------|------------|
|          |                | ACCESSORY    |             | 1          |
| PARTS NO | PARTS NAME     | TYPE         | DESCRIPTION | CODE       |
| ACC-1    | FUSE           | 7127-3010 5A |             | 5ZFEX00003 |
| ACC-2    | CONNECTOR      | XM2A-2501    | 25P         | 5JJCJ00010 |
| ACC-3    | CONNECTOR HOOD | XM2S-2501    | 25P         | 5JJCJ00013 |
| ACC-5    | PLUG           | S-H3001      |             | 5JWAV00001 |

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## PARTS LIST

|          |                | TITLE         |             | SHEET NO.  |
|----------|----------------|---------------|-------------|------------|
|          |                | ACCESSORY     |             | 1          |
| PARTS NO | PARTS NAME     | TYPE          | DESCRIPTION | CODE       |
| ACC-1    | FUSE           | 7127-3013 20A |             | 5ZFEX00002 |
| ACC-2    | CONNECTOR      | XM2A-2501     | 25P         | 5JJCJ00010 |
| ACC-3    | CONNECTOR HOOD | XM2S-2501     | 25P         | 5JJCJ00013 |
| ACC-5    | PLUG           | S-H3001       |             | 5JWAV00001 |

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