

4-2. AUX-7 AUXILIARY PROGRAM BOARD

The AUX-7 Auxiliary Program Board is an accessory which allows the programming of up to eight 500 kHz ranges and/or eight fixed channels. These channels are selected by the front panel AUX PROGRAM switch, which applies 5 volts to pins 1-8 of the board for channel selection. All eight channels are identical in operation, so the following discussion for channel 1 can be applied to any channel.

Channel 1 is selected by applying 5 volts to pin 1 of the AUX-7 via the front panel AUX PROGRAM switch. This voltage is applied to pin 1 of the channel range module and to the anode of CR101 through R101. R101 sets the current through CR101, while R101 and C101 form an rf decoupling network. The current through CR101 effectively grounds one end of C102 and C103, thus enabling the channel 1 crystal (if installed).

The RTM-7 and RRM-7 range modules are diode arrays arranged in such a manner that pin 1 is connected to the anode of all diodes. The cathodes of the diodes are connected to module pins 2 through 14. Thus, when 5 volts is applied to pin 1,

approximately 4.3 volts will appear at all other pins of the module which have not been removed during range programming. In this manner, BCD data is supplied to the Digital Control Module for band and range control. Band information is present on AUX7 pins 9 through 12, and range information is found on pins 15 through 22.

When the TR-7 is placed in the FIXED mode, 10 volts is applied to pin 25 of the AUX-7. This voltage is applied through L101 (for rf decoupling) to the anode of CR109 thus enabling the fixed oscillator output, pin 24. At the same time, 10 volts is supplied to Q101, the fixed crystal oscillator stage, and Q102, the fixed output buffer stage, allowing these stages to operate. The output of the buffer (Q102) is routed through an attenuator consisting of R115, R116, and R117 to the anode of CR109, from which it is connected through the switching network on the parent board to the translator module in place of the PTO signal.

The only alignment required in the AUX-7 is the setting of C103, C106, C109, C112, C115, C118, C121, and C124, which are provided to set the eight fixed channel crystals exactly on frequency.

NOTES:

AUX-7 AUXILIARY PROGRAM BOARD

REF DES	DESCRIPTION	PART NO.
C101	Capacitor, Disc, .01 μ F + 80%, 25 V	3161500
C102	Capacitor, Disc, 27 pF \pm 5%, NPO	3160650
C103	Capacitor, Variable, 5-20 pF	3205375
C104	Capacitor, Disc, .01 μ F + 80%, 25 V	3161500
C105	Capacitor, Disc, 27 pF \pm 5%, NPO	3160650
C106	Capacitor, Variable, 5-20 pF	3205375
C107	Capacitor, Disc, .01 μ F + 80%, 25 V	3161500
C108	Capacitor, Disc, 27 pF \pm 5%, NPO	3160650
C109	Capacitor, Variable, 5-20 pF	3205375
C110	Capacitor, Disc, .01 μ F + 80%, 25 V	3161500
C111	Capacitor, Disc, 27 pF \pm 5%, NPO	3160650
C112	Capacitor, Variable, 5-20 pF	3205375
C113	Capacitor, Disc, .01 μ F + 80%, 25 V	3161500
C114	Capacitor, Disc, 27 pF \pm 5%, NPO	3160650
C115	Capacitor, Variable, 5-20 pF	3205375
C116	Capacitor, Disc, .01 μ F + 80%, 25 V	3161500
C117	Capacitor, Disc, 27 pF \pm 5%, NPO	3160650
C118	Capacitor, Variable, 5-20 pF	3205375
C119	Capacitor, Disc, .01 μ F + 80%, 25 V	3161500
C120	Capacitor, Disc, 27 pF \pm 5%, NPO	3160650
C121	Capacitor, Variable, 5-20 pF	3205375
C122	Capacitor, Disc, .01 μ F + 80%, 25 V	3161500
C123	Capacitor, Disc, 27 pF \pm 5%, NPO	3160650
C124	Capacitor, Variable, 5-20 pF	3205375
C125	Capacitor, Mica, 500 pF \pm 10%, DM-15	3170420
C126	Capacitor, Mica, 210 pF \pm 5%, DM-15	3170230
C127	Capacitor, Disc, .01 μ F + 80%, 25 V	3161500
C128	Capacitor, Disc, .01 μ F + 80%, 25 V	3161500
C129	Capacitor, Disc, .01 μ F + 80%, 25 V	3161500
C130	Capacitor, Disc, .01 μ F + 80%, 25 V	3161500
C131	Capacitor, Disc, 100 pF \pm 10%, X5F	3161070
C132	Capacitor, Tantalum, .22 μ F \pm 10%, 35 V	3183100
CR101	Diode, 1N4148	3020090
CR102	Diode, 1N4148	3020090
CR103	Diode, 1N4148	3020090
CR104	Diode, 1N4148	3020090
CR105	Diode, 1N4148	3020090
CR106	Diode, 1N4148	3020090
CR107	Diode, 1N4148	3020090
CR108	Diode, 1N4148	3020090
CR109	Diode, MPN3404	3020265
L101	Choke, 270 μ H, MUD271	3520590
Q101	Transistor, 2N3563	3030060
Q102	Transistor, 2N3563	3030060
R101	Resistor, Carbon Film, 1.0 K Ω \pm 5%, 1/4 W	3220160
R102	Resistor, Carbon Film, 1.0 K Ω \pm 5%, 1/4 W	3220160
R103	Resistor, Carbon Film, 1.0 K Ω \pm 5%, 1/4 W	3220160
R104	Resistor, Carbon Film, 1.0 K Ω \pm 5%, 1/4 W	3220160
R105	Resistor, Carbon Film, 1.0 K Ω \pm 5%, 1/4 W	3220160
R106	Resistor, Carbon Film, 1.0 K Ω \pm 5%, 1/4 W	3220160
R107	Resistor, Carbon Film, 1.0 K Ω \pm 5%, 1/4 W	3220160
R108	Resistor, Carbon Film, 1.0 K Ω \pm 5%, 1/4 W	3220160

REF DES	DESCRIPTION	PART NO.
R109	Resistor, Carbon Film, 18 K Ω \pm 5%, 1/4 W	3220255
R110	Resistor, Carbon Film, 47 K Ω \pm 5%, 1/4 W	3220285
R111	Resistor, Carbon Film, 1.0 K Ω \pm 5%, 1/4 W	3220160
R112	Resistor, Carbon Film, 2.7 K Ω \pm 5%, 1/4 W	3220195
R113	Resistor, Carbon Film, 2.7 K Ω \pm 5%, 1/4 W	3220195
R114	Resistor, Carbon Film, 180 Ω \pm 5%, 1/4 W	3220070
R115	Resistor, Carbon Film, 100 Ω \pm 5%, 1/4 W	3220055
R116	Resistor, Carbon Film, 10 Ω \pm 5%, 1/4 W	3220005
R117	Resistor, Carbon Film, 100 Ω \pm 5%, 1/4 W	3220055
R118	Resistor, Carbon Film, 100 K Ω \pm 5%, 1/4 W	3220315
	Socket, Crystal	3282020
	Socket, I.C.	3282104

NOTES:

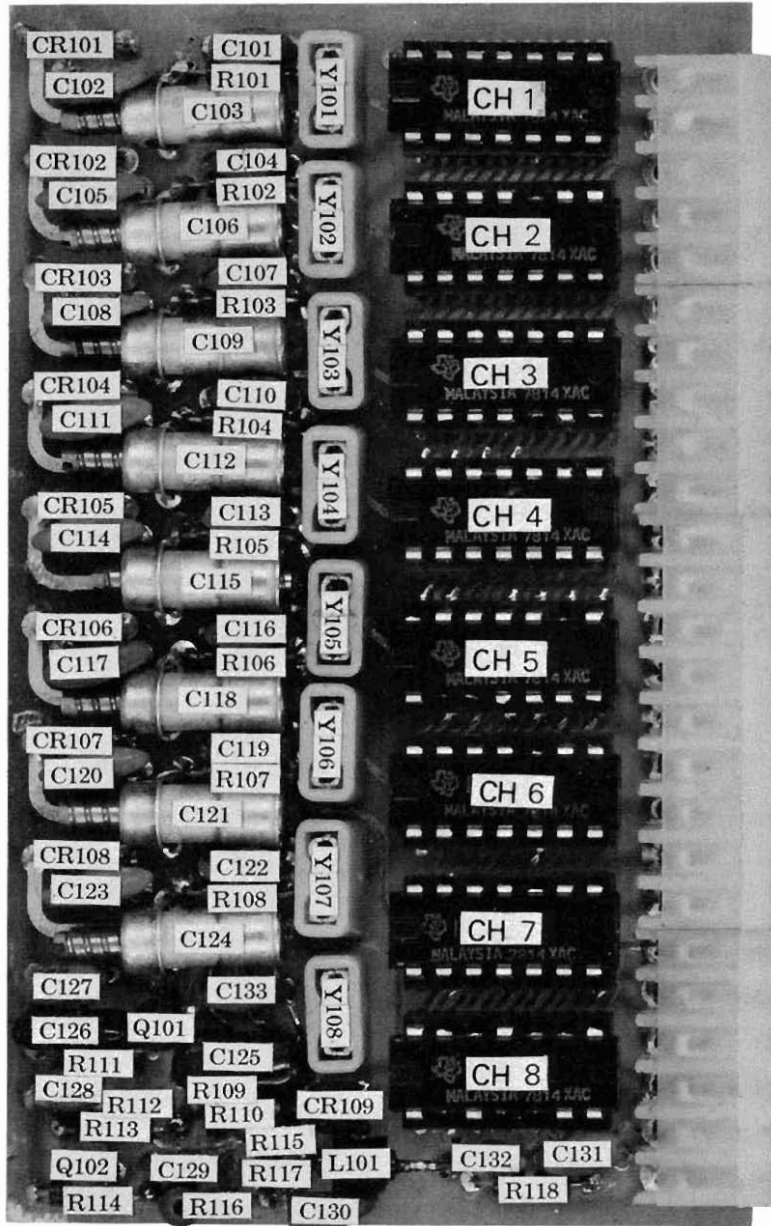
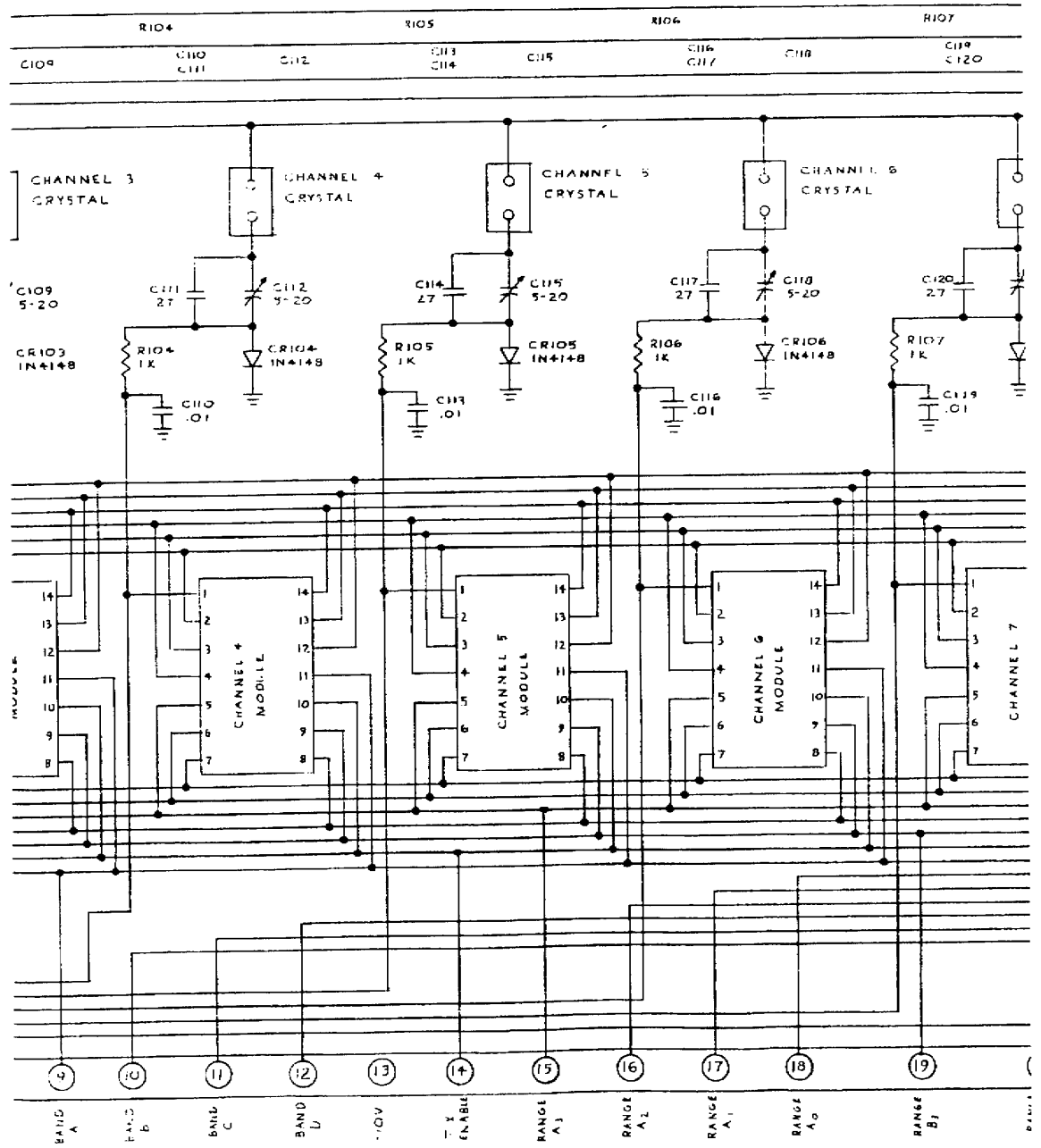


Fig. 4-4 AUX7 Board Pictorial



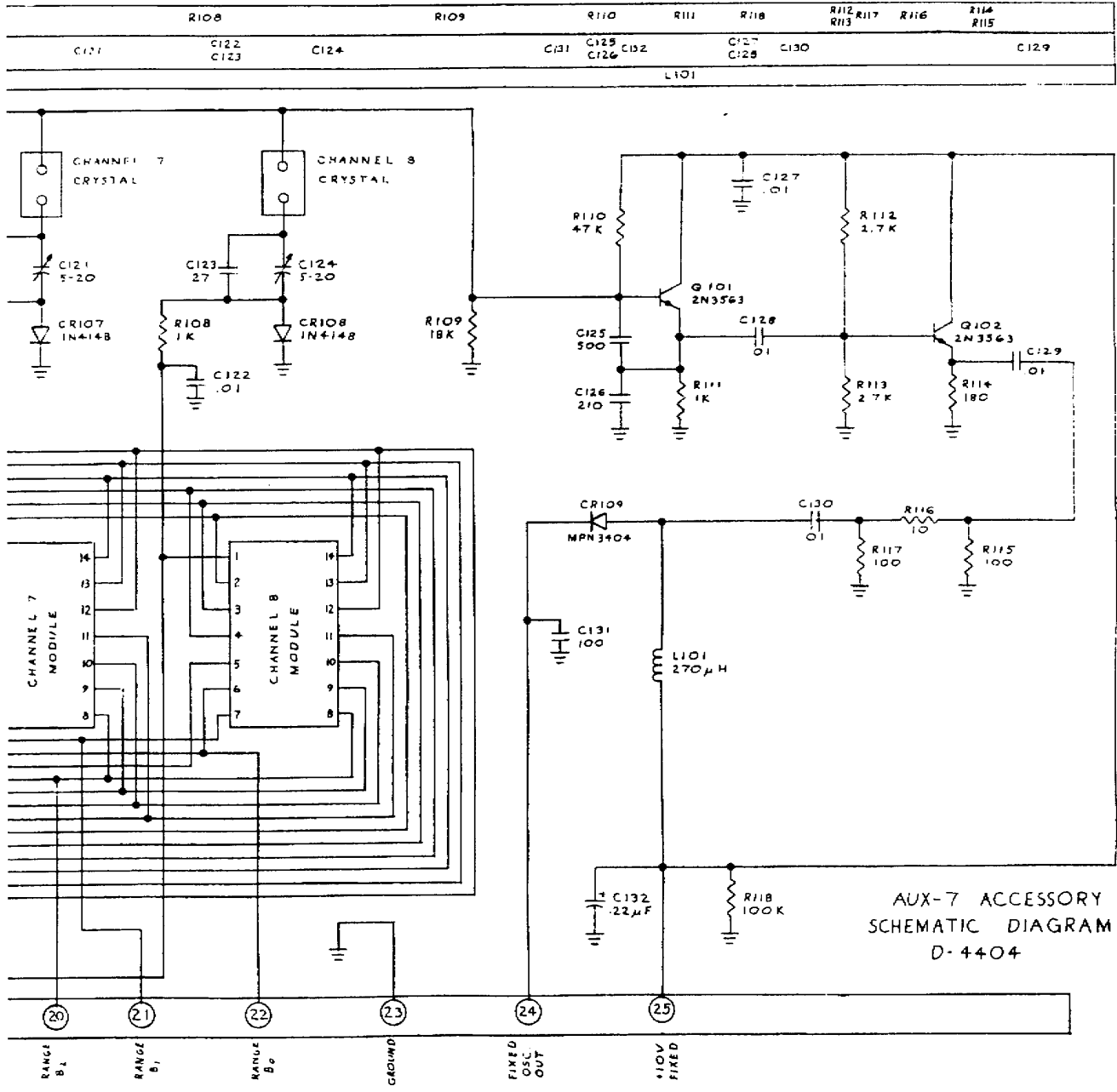


Fig. 4-5 AUX7 Board Schematic

