

ICF-PRO70/PRO80

SONY[®] SERVICE MANUAL

US Model
Canadian Model
AEP Model
UK Model
E Model
Australian Model
ICF-PRO80
AEP Model
E Model
ICF-PRO70

SUPPLEMENT-1

File this supplement with the service manual.

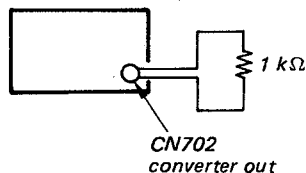
Subject: 1. Converter Frequency Adjustment is added.
2. Parts No. of C713 on converter main board are added.
3. French model is added in ICF-PRO80.

1. Converter Frequency Adjustment (ICF-PRO80 only)

Note: Frequency converter
FRQ-80: Except French model
FRQ-81: French model only

Procedure:

frequency converter
(FRQ-80 or FRQ-81)

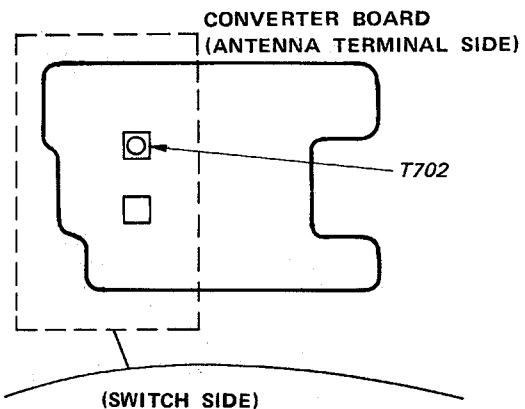


- 1) Connect a frequency counter to the point (A) (output of the OSC frequency).
- 2) Terminate between signal line to ground of CN702 by 1 kΩ. (Refer to figure.)
- 3) Apply dc 3 V from battery terminal of frequency converter.
- 4) Adjust T702 so that the frequency is as shown below. If not, change the capacity of C713 and adjust again.

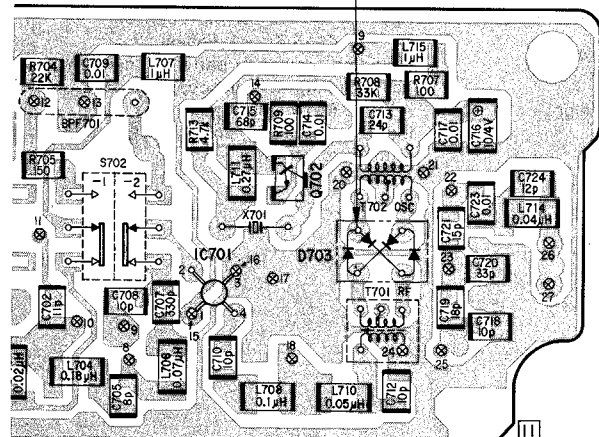
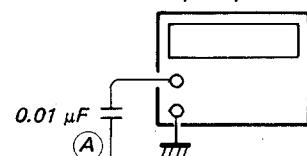
Frequency converter	Adjustment frequency
FRQ-80	115 MHz ± 0.5 kHz
FRQ-81	100 MHz ± 0.5 kHz

OSC frequency	C713
high	22pF
↕	24pF
low	27pF

Adjustment Location:



frequency counter



2. There are three types of capacitors as C713 in frequency converter of ICF-PRO80 because it is a capacitor for adjustment.

Ref. No.	Part No.	Description				
C713	1-163-101-00	CERAMIC CHIP	22pF	5%	50V	
C713	1-163-102-00	CERAMIC CHIP	24pF	5%	50V	
C713	1-163-103-00	CERAMIC CHIP	27pF	5%	50V	

3. French model of ICF-PRO80 is the same as AEP model of ICF-PRO80 except for the following portions.

- Model Number Label
- Frequency Converter
- Instruction Manual, Individual Carton

SPECIFICATIONS (ICF-PRO80 French model only)

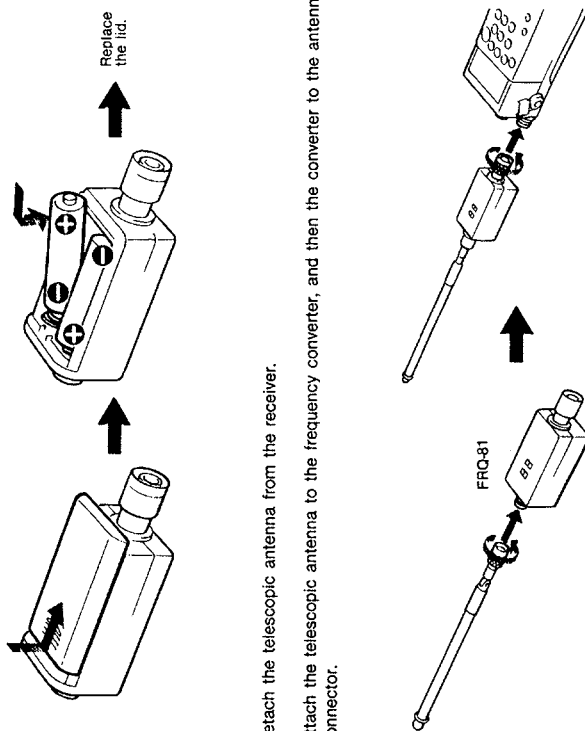
Circuit system	LW/MW/SW/VHF: Dual conversion superheterodyne FM: Superheterodyne	FRQ-81 frequency converter Shift frequency 100 MHz Attenuator 0 dB/ -30 dB
Frequency coverage	150 kHz - 108 MHz (without using the FRQ-81 frequency converter) 100.15 - 208 MHz (using the FRQ-81)	Power requirements 3 V DC, two size AA (R6) batteries Battery life Approx. 80 hours using Sony SUM-3(NS) batteries
Antennas	SW/VHF/FM: Telescopic antenna LW/MW: Built-in ferrite bar antenna External antenna connector: TNC connector	Dimensions Approx. 40 × 98 × 31 mm (w/h/d) (1 ⁵ / ₈ × 3 ⁷ / ₈ × 1 ¹ / ₄ inches) including projecting parts and controls
Speaker	7 × 3.5 cm	Weight Approx. 120 g (4.2 oz) including batteries
Power output	400 mW (at 10% harmonic distortion)	Accessories supplied Telescopic antenna (1) Earphone (1) Shoulder strap (1) Carrying case (1) Antenna holder (1) Antenna plug adaptor (BNC ↔ TNC) (1) FRQ-81 frequency converter (1) Wave Handbook (1)
Output jack	Earphone jack (minijack) (1) 8 ohm Recording output jack (minijack) (1) Output level 0.775 mV (-60 dB) Output impedance 1 kilohm	Design and specifications subject to change without notice.
Power requirements	6 V DC (for radio/computer backup) Four size AA (R6) batteries or BP-23 rechargeable battery pack (optional) DC IN 6 V jack accepts: AC-D4 AC power adaptor (optional) for use on 100, 120, 220 or 240 V AC depending on the model type of the AC-D4 available in your country DCC-127A or DCC-120 car battery cord (optional) for use with 12 V car battery DCC-240 car battery cord (optional) for use with 24 V car battery EBP-6 battery case (optional) using four size C (R14) batteries	
Battery life	Approx. 10 hours using Sony SUM-3(NS) batteries	
Dimensions	Approx. 90 × 182 × 50 mm (w/h/d) (3 ⁵ / ₈ × 7 ¹ / ₄ × 2 inches) including projecting parts and controls, not including the telescopic antenna	
Weight	Approx. 650 g (1 lb 7 oz) including batteries, shoulder strap and telescopic antenna	

TO CONVERT THE FREQUENCY COVERAGE (ICF-PRO80 French model only)

The supplied FRQ-81 frequency converter shifts the frequency coverage of the receiver by 100 MHz, i.e. to 100.15-208 MHz, to allow reception of air band, PSB (Public Service Band) and TV VHF channels, etc.

INSTALLATION OF THE FREQUENCY CONVERTER

- 1 Insert the two optional size AA (R16) batteries into the converter.
- 2 Detach the telescopic antenna from the receiver.
- 3 Attach the telescopic antenna to the frequency converter, and then the converter to the antenna connector.

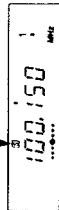


Battery life
Approximately 80 hours of converter operation can be expected with the Sony SUM-3(NS) batteries. When the POWER indicator on the converter becomes dim, replace both batteries.

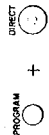
Note
When the converter is not used for a long period of time, remove the batteries to avoid damage caused by battery leakage and corrosion.

TO SHIFT THE FREQUENCY DISPLAY

- 1 Remove the battery case from the battery compartment of the receiver.
- 2 Set FREQ.DISPLAY inside the battery compartment to SHIFT.
- 3 Replace the battery case.
- 4 Depress POWER.
The [S] (shift) indicator and a frequency shifted by 100 MHz will appear in the window.
Shift indicator



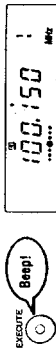
- 5 Keeping PROGRAM pressed, press DIRECT.
The [S] indicator will blink.



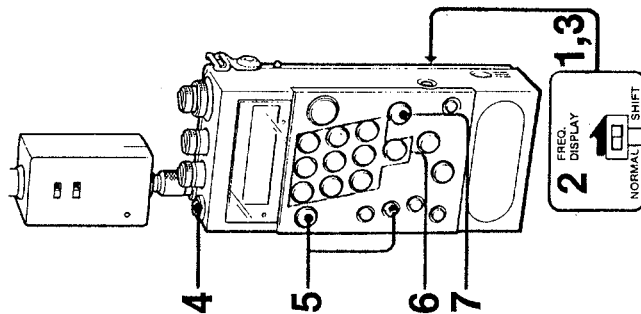
- 6 While the [S] indicator is blinking, input the frequency to be shifted by the converter, 100 MHz, with the number buttons.



- 7 Press EXECUTE.



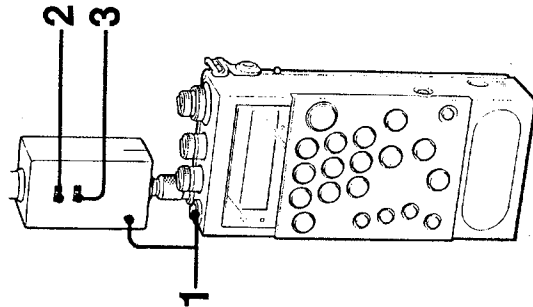
Now the frequencies 100.150-208.000 MHz can be displayed to match the received station frequencies.





To check the shifted frequency
Keeping FUNCTION pressed, press KEY/MEMORY PROTECT. While the buttons are pressed, the shifted frequency is displayed in the window.

TO CONVERT THE FREQUENCY COVERAGE

TUNING



- Depress **POWER** on the receiver. The converter will be turned on automatically and the **POWER** indicator on the converter will light.
- Set the **ATTENUATOR** selector on the converter to 0 dB. 
- Set the **FILTER** selector on the converter according to the frequency of the station to be tuned in.
100.15-174 MHz: for 100.15-174 MHz reception (air band, PSB, etc.)
174-208 MHz: for 174-208 MHz reception (TV channels, etc.) 
- Tune in the desired station with any of the tuning methods on pages 16-28. If necessary, select the appropriate detection mode. See "To select the detection mode" on page 35.

After listening, press to turn off **POWER**.

Special notes on tuning in the shifted frequency coverage

Direct tuning

With the converter installed, always input 6 digits of the frequency for direct tuning. Righthand 000 cannot be omitted.

Memory tuning and memory scan tuning

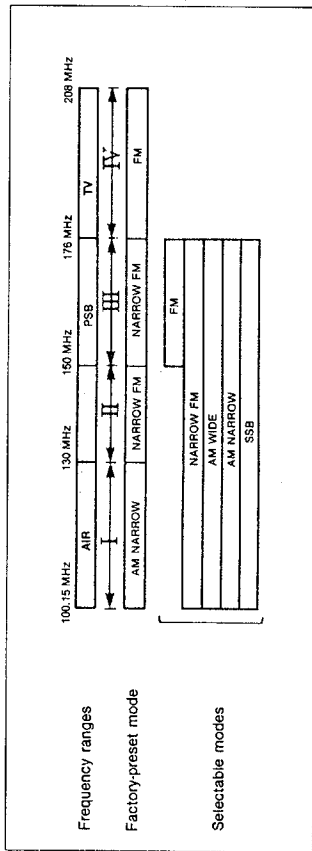
Store the stations in the 100.15-174 MHz range and those in the 174-208 MHz range on separate memory pages. If they are stored in a mixed manner on one page, memory scanning may not be carried out correctly because the **FILTER** selector cannot be switched during scanning.

Program memory scan tuning

Do not program the stations in the 100.15-174 MHz range and those in the 174-208 MHz range in a mixed manner. Otherwise, program memory scan tuning may not be carried out correctly because the **FILTER** selector cannot be switched during scanning.

To select the detection mode

The selectable detection modes in the 100.15-208 MHz range are as follows:



- When tuning in airband, PSB and TV stations, set to the following detection modes.

Air band (118-136 MHz) → AM NARROW
PSB (146-174 MHz) → NARROW FM
TV (174-208 MHz) → FM

- For other types of broadcasts and radio communications, set to the appropriate detection mode.

Notice

When using the supplied converter, reception of the signals around 200 MHz may be difficult because of internal spurious signals generated by the built-in oscillators.

- To resume the original frequency coverage of the receiver

Detach the converter from the antenna connector and replace the telescopic antenna. Set **FREQ. DISPLAY** inside the battery compartment to **NORMAL**.

For improved reception


If the received sound is distorted or noisy due to interference from an adjacent station, set **ATTENUATOR** on the converter to -30 dB.

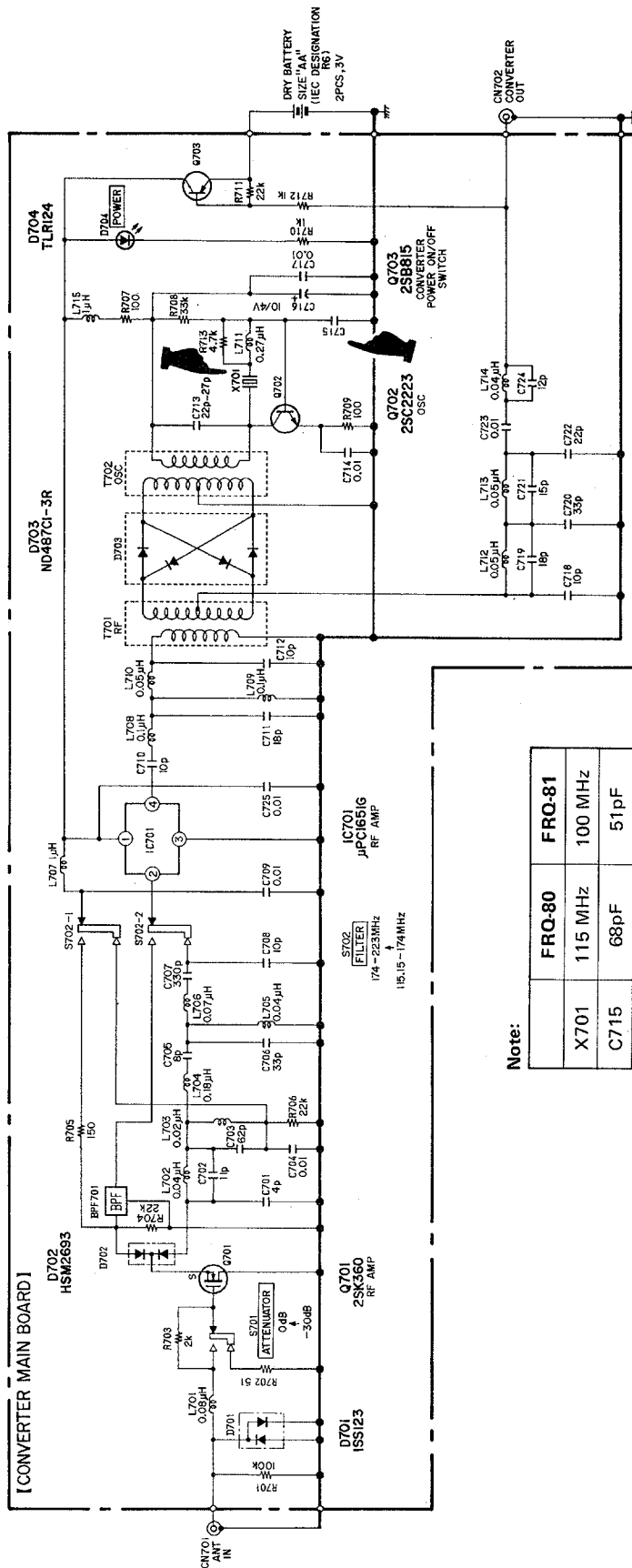
Tuning intervals in the 100.15-208 MHz range

Frequency coverage	Interval
100.150-100.528 MHz	3 kHz
100.531-101.602 MHz	9 kHz*
101.605-149.995 MHz	5 kHz
150.000-175.995 MHz	5 kHz**
176-208 MHz	50 kHz

* The tuning interval can be changed to 10 kHz. See page 14.
** When the detection mode is FM, the interval of this range will be 50 kHz.

CONVERTER BOARD SCHEMATIC DIAGRAM (ONLY FOR ICF-PRO80)

 : different portion



- Only the following parts are different from that of AEP model.

				AEP model		French model	
<u>Page</u>	<u>No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Part No.</u>	<u>Description</u>		
33	35	*3-898-202-01	LABEL, MODEL NUMBER (U)	*3-897-860-01	LABEL, MODEL NUMBER (AE)		
35	101	3-898-234-01	LID, BATTERY CASE	3-898-234-21	LID, BATTERY CASE		
35	109	3-898-241-01	COVER (A)	3-898-241-21	COVER (A)		
35, 36	918	A-3665-026-A	MOUNTED PCB, CONVERTER	A-3665-031-A	MOUNTED PCB CONVERTER		
38	C715	1-163-113-00	CERAMIC CHIP 68pF 5% 50V	1-163-110-00	CERAMIC CHIP 51pF 5% 50V		
43	X701	1-567-871-11	VIBRATOR, CRYSTAL (115MHz)	1-577-211-11	VIBRATOR, CRYSTAL (100MHz)		
43		3-898-210-01	CARTON, INDIVIDUAL	*3-893-786-01	CARTON, INDIVIDUAL		
43		3-990-095-11	MANUAL, INSTRUCTION (ENGLISH/FRENCH/SPANISH)	3-786-591-11	MANUAL, INSTRUCTION (ENGLISH/FRENCH/SPANISH)		
43		3-990-095-41	MANUAL, INSTRUCTION (GERMAN/DUTCH/SWEDISH)	_____			

ICF-PRO70/PRO80

SONY SERVICE MANUAL

SUPPLEMENT-2

File this supplement with the Service Manual.

Subject : Frequency converter supplied with
ICF-PRO80 has been supplied for
assembly.

US Model
Canadian Model
AEP Model
UK Model
E Model
Australian Model
ICF-PRO80
AEP Model
E Model
ICF-PRO70

Destination	Part No.	description
Except French model	A-3614-013-A	Frequency Converter Ass'y (FRQ-80)
French model	A-3614-016-A	Frequency Converter Ass'y (FRQ-81)