

INSTRUCTION MANUAL

VHF CONVERTER FRV-7700



YAESU MUSEN CO., LTD.

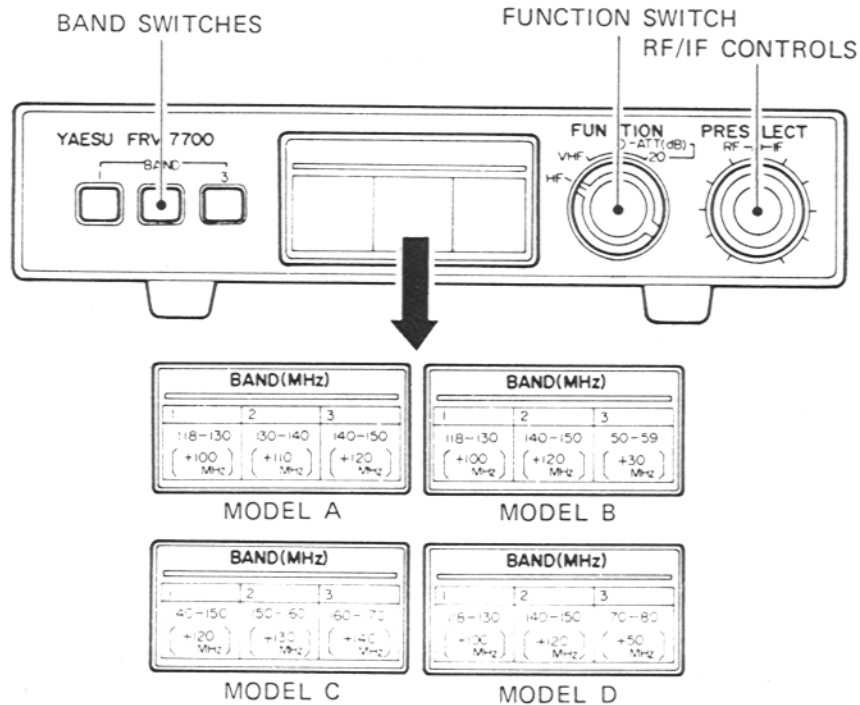
TOKYO JAPAN

FRV-7700 VHF FREQUENCY CONVERTER

The FRV-7700 is a high-performance crystal controlled VHF frequency converter, designed to match the FRG-7700 general coverage communications receiver. The three 10 MHz ranges on the VHF band are converted into 20 (18) – 30 MHz, allowing you to receive these frequencies with your FRG-7700.

The tunable high-Q resonators in both RF and IF sections eliminate most intermodulation and cross modulation problems, providing excellent receiver performance when working with weak signals.

FRONT PANEL SWITCHES AND CONTROLS



FRV-7700/FRG-7700 INTERCONNECTIONS

BAND Switches

These three switches select the desired coverage, shown on the front panel.

FUNCTION Switch

This switch activates the FRV-7700, and in the 10 or 20 dB ATT position, the receive signal is attenuated. When this switch is placed in the HF position, the FRV-7700 is switched off and the HF antenna is connected through the FRV-7700.

RF and IF Controls

These controls tune the RF and IF resonators exactly to your receive frequency, providing maximum sensitivity and rejection of unwanted signals. During operation, adjust these controls for a maximum S-meter reading on each frequency.

REAR PANEL CONNECTIONS

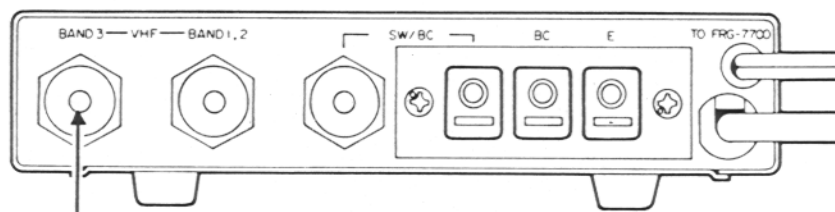
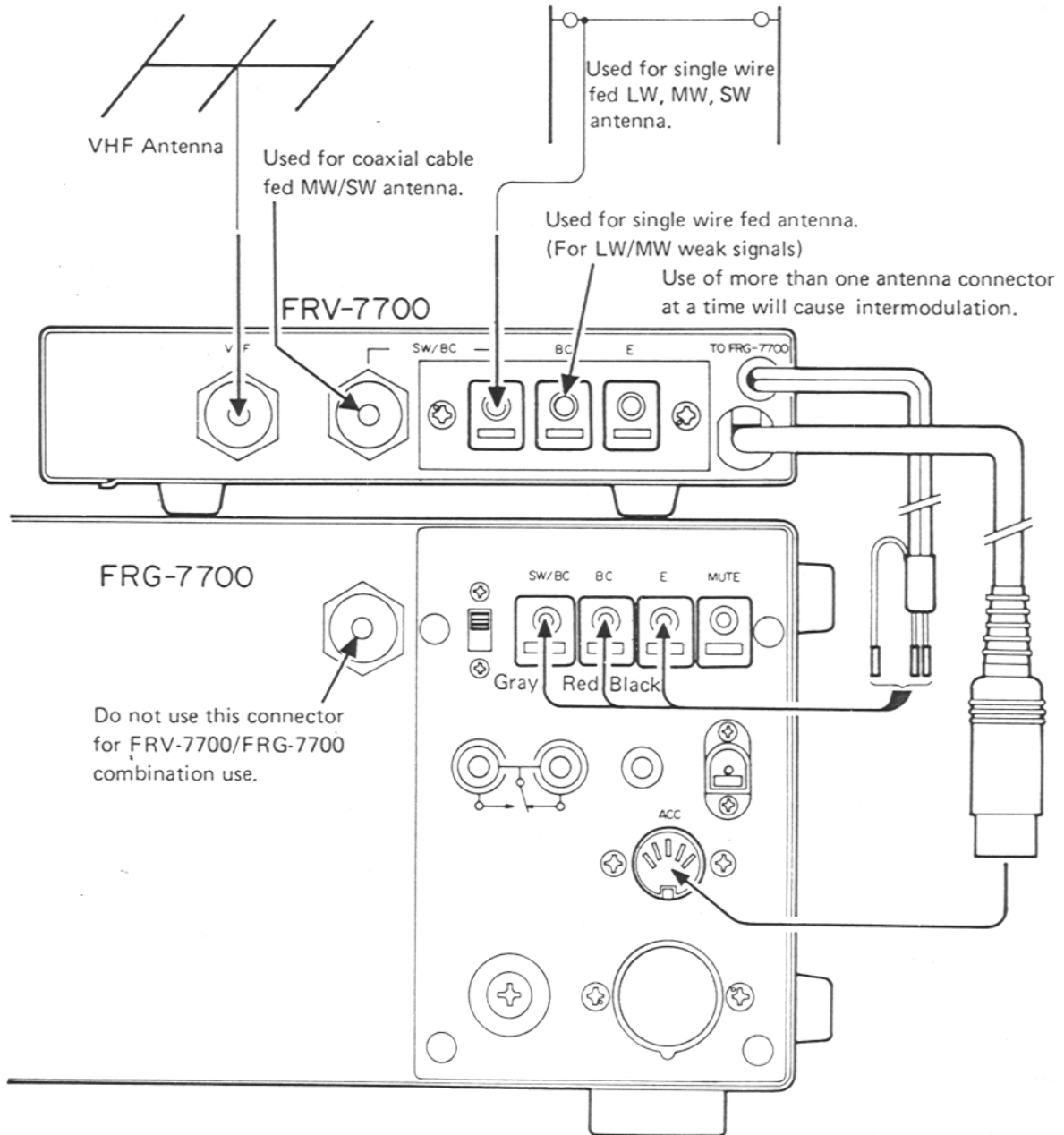
VHF

This jack accommodates the antenna for the VHF band.

SW/BC, BC, E

These terminals accommodate antennas for BC and

HF bands. When the FUNCTION switch is in the HF position, the signal from the antenna connected to these terminals is fed through the FRV-7700 to the FRG-7700. The antenna connection should be done in the same manner as that of the FRG-7700 (refer to the FRG-7700 Instruction Manual).

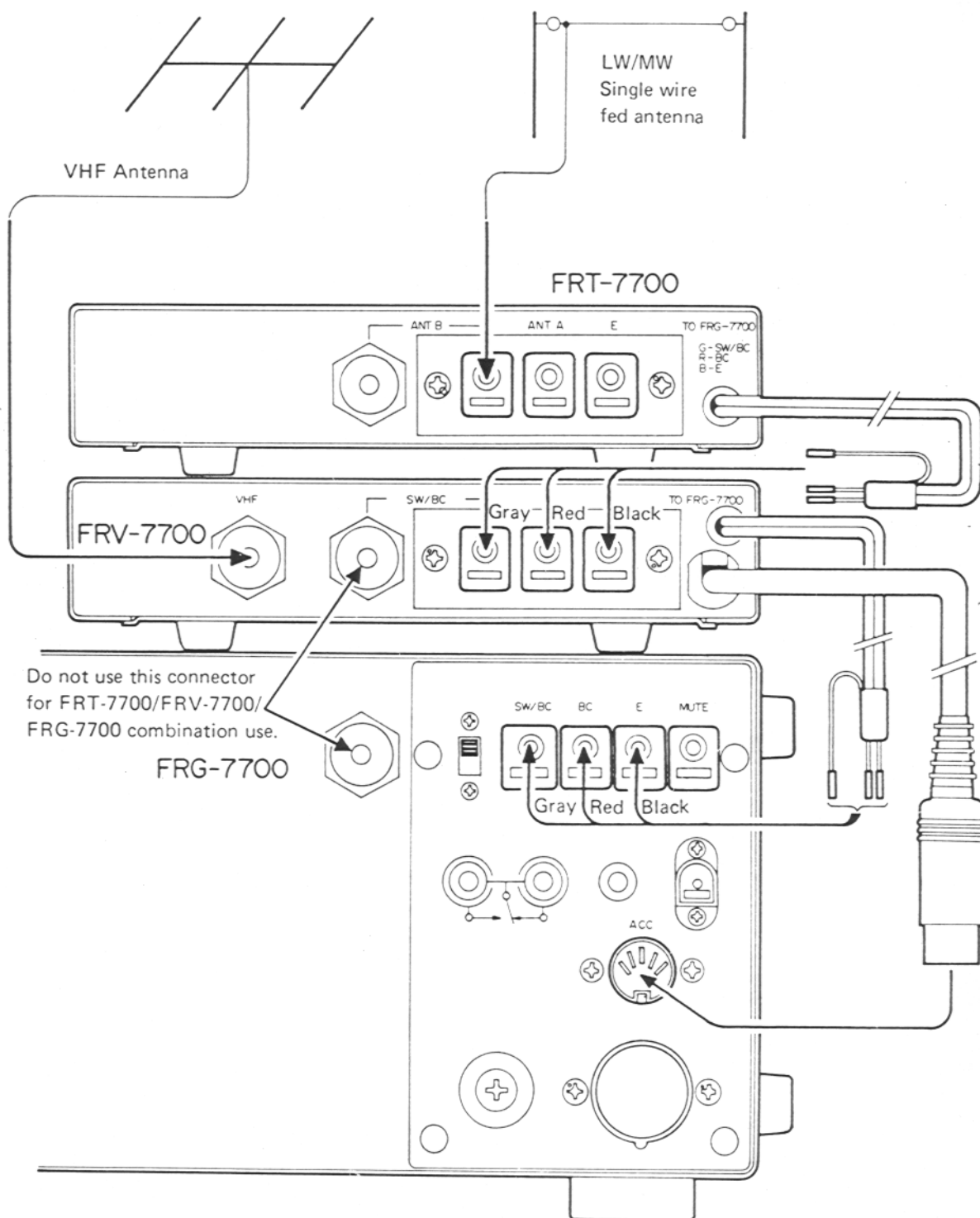


Models B and D only for BAND 3 operation.

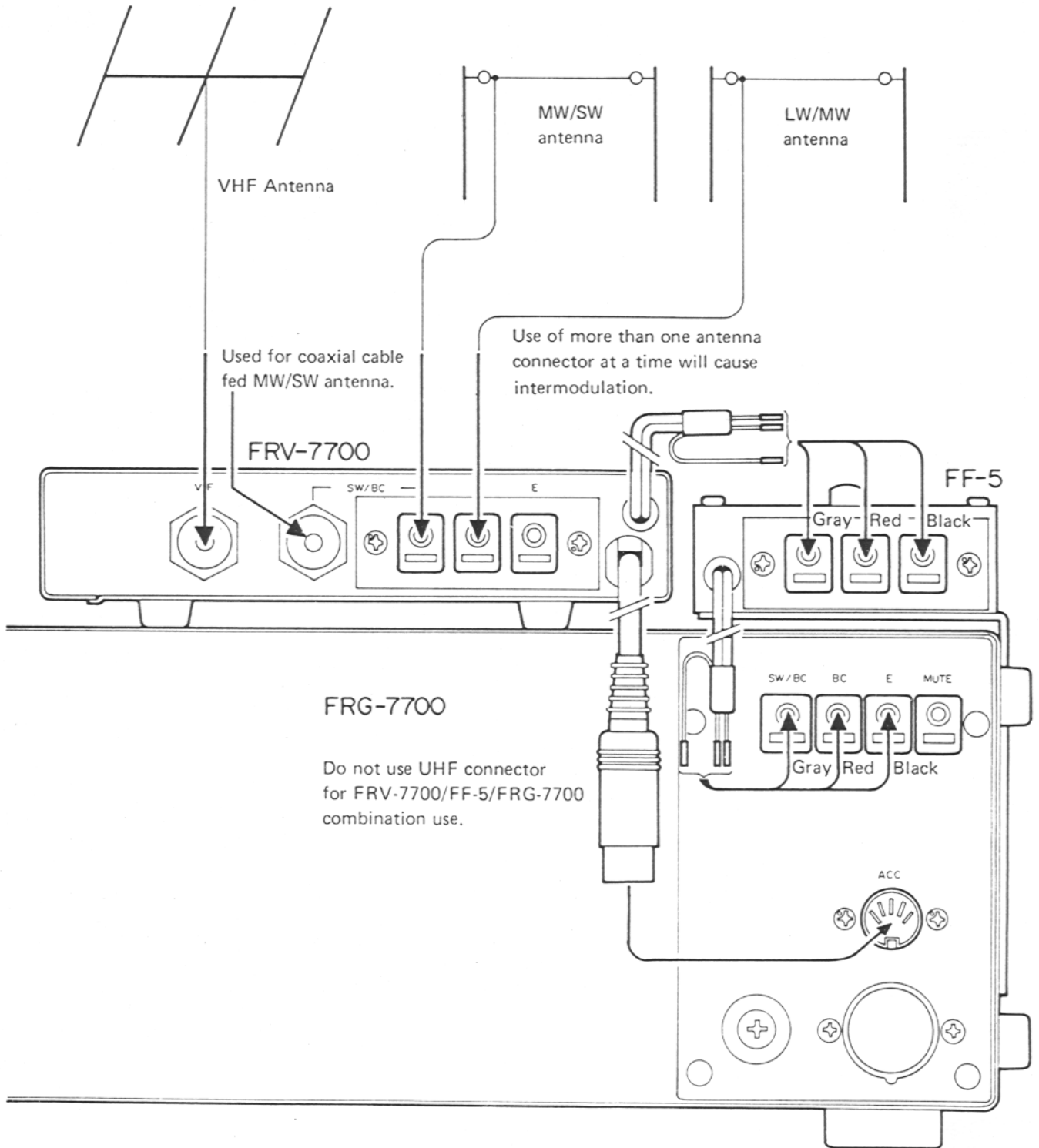
Connect the GRAY wire to the SW/BC terminal on the FRG-7700, the RED wire to the BC terminal and the BLACK wire to the E terminal.

Connect the DIN plug to the ACC jack on the FRG-7700 rear panel, which provides AGC voltage,

the source voltage of the FRV-7700. When the FRV-7700 is used with the FRG-7700, make no antenna connections to this jack, so as to avoid any signal feeding directly from this jack to the receiver.



FRT-7700/FRV-7700/FRG-7700 INTERCONNECTIONS



FRV-7700/FF-5/FRG-7700 INTERCONNECTIONS

OPERATION

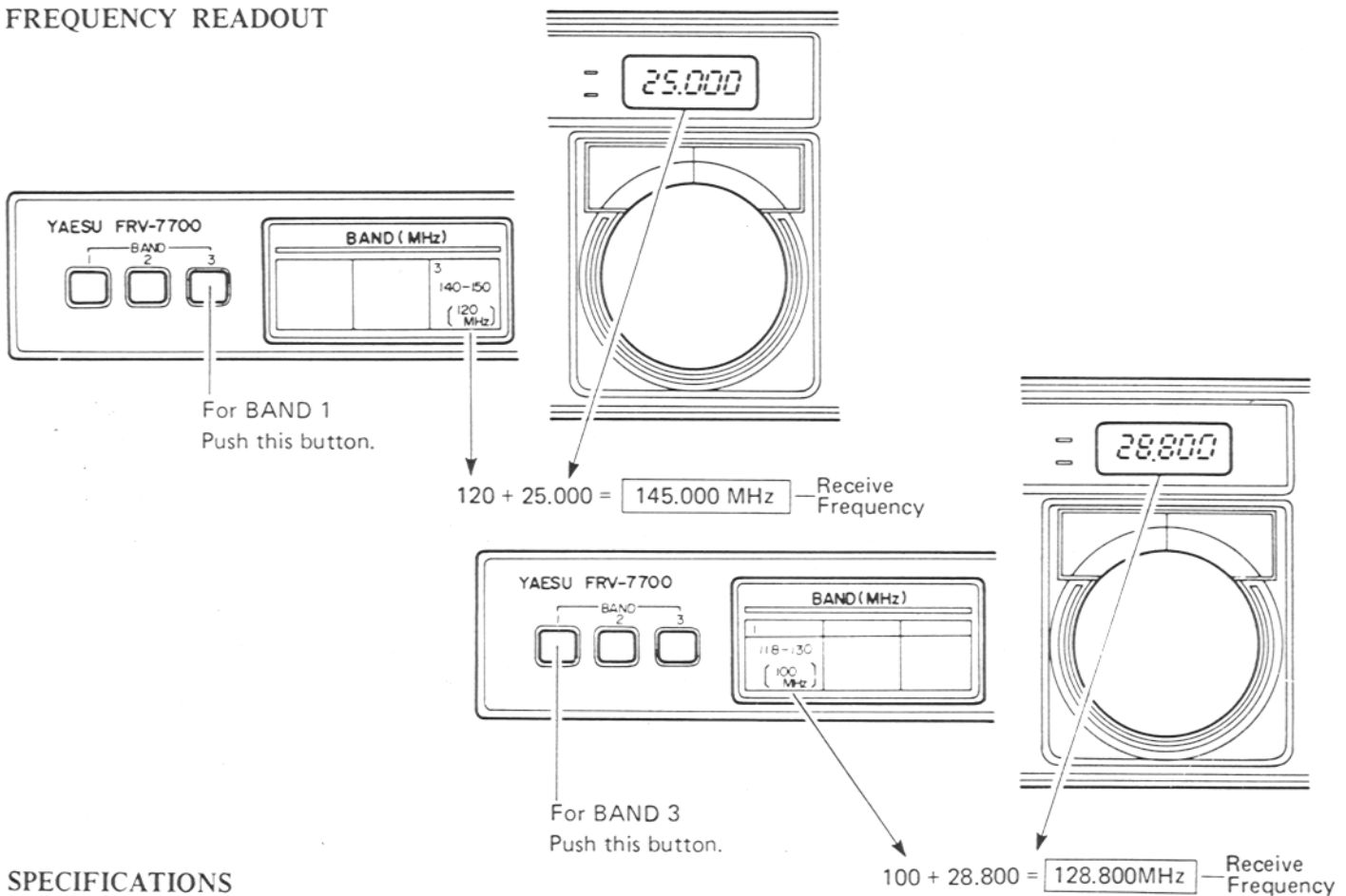
Set the FUNCTION switch to VHF, and the FRG-7700 BAND switch between 20 (18) – 30 MHz. Now turn the FRG-7700 POWER switch on.

Push the FRV-7700 BAND switch to your desired band. Now you are receiving the frequency shown on the FRG-7700 digital display plus the correction frequency, provided for each band, on the front panel of the FRV-7700.

Adjust the RF gain control for a maximum S-meter reading so maximum sensitivity is obtained.

When strong signals exist around your receive frequency causing cross modulation or inter-modulation, set the FUNCTION switch to either the 10 or 20 dB ATT position, whichever improves reception best.

FREQUENCY READOUT



SPECIFICATIONS

Frequency coverage:

- Model A – *118 – 130 MHz; 130 – 140 MHz;
140 – 150 MHz
- Model B – *118 – 130 MHz; 140 – 150 MHz;
50 – 59 MHz
- Model C – 140 – 150 MHz; 150 – 160 MHz;
160 – 170 MHz
- Model D – *118 – 130 MHz; 140 – 150 MHz;
70 – 80 MHz

IF (Output) Frequency:

- 20 (*18) – 30 MHz

Sensitivity: (measured w/FRG-7700)

- AM (M) – $2.5 \mu\text{V}$ for 10 dB S/N @ 1 kHz
30% MOD

- AM (N) – $2.0 \mu\text{V}$ for 10 dB S/N @ 1 kHz
30% MOD

- SSB/CW – $0.5 \mu\text{V}$ for 10 dB S/N

- FM – $0.5 \mu\text{V}$ for 10 dB S/N @ 3.5 kHz
DIV

Size:

32(H) x 167(W) x 170(D) mm

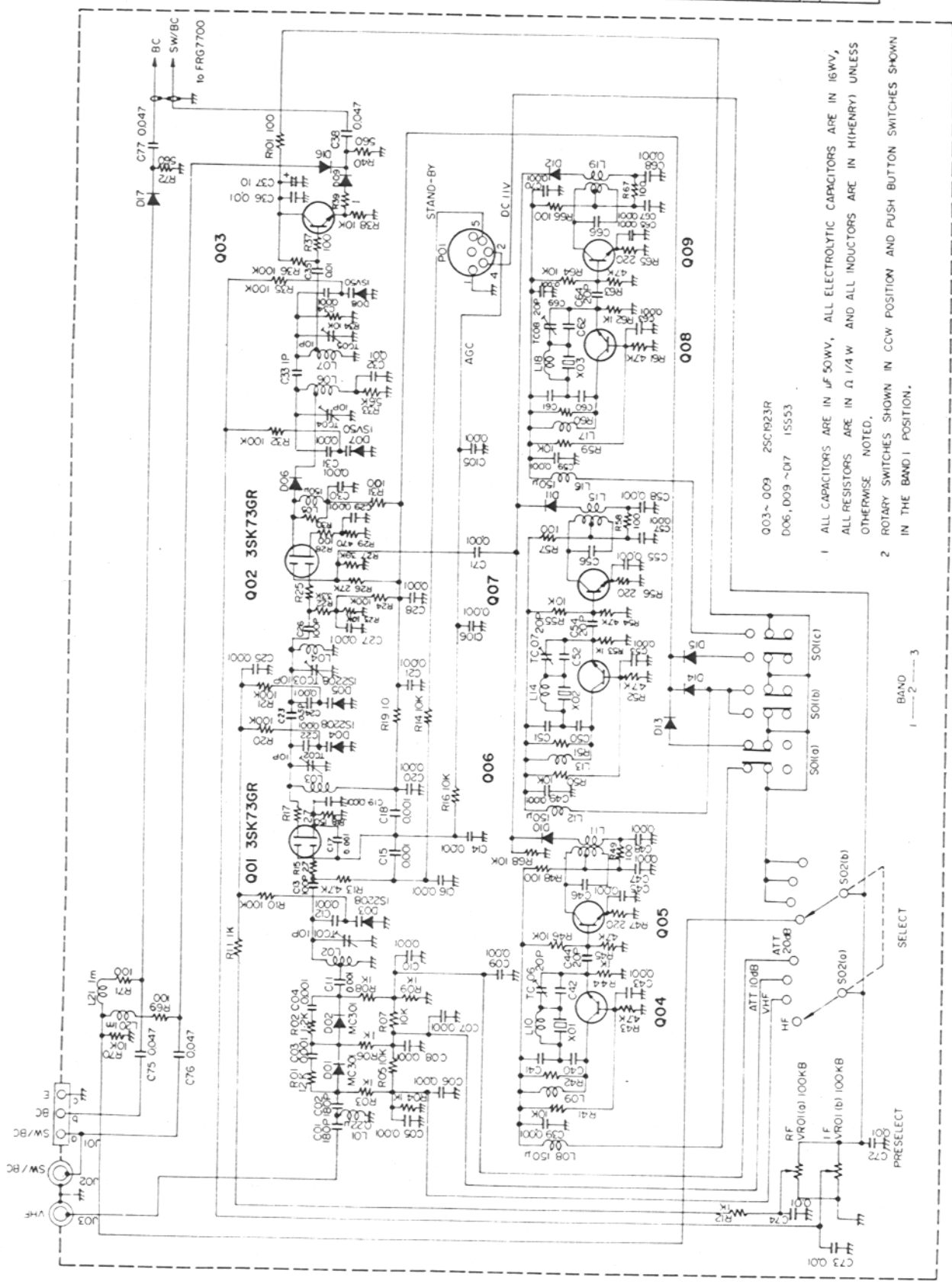
Weight:

Approximately 800 g.

Specifications subject to change without notice.

FRV-7700
CIRCUIT DIAGRAM

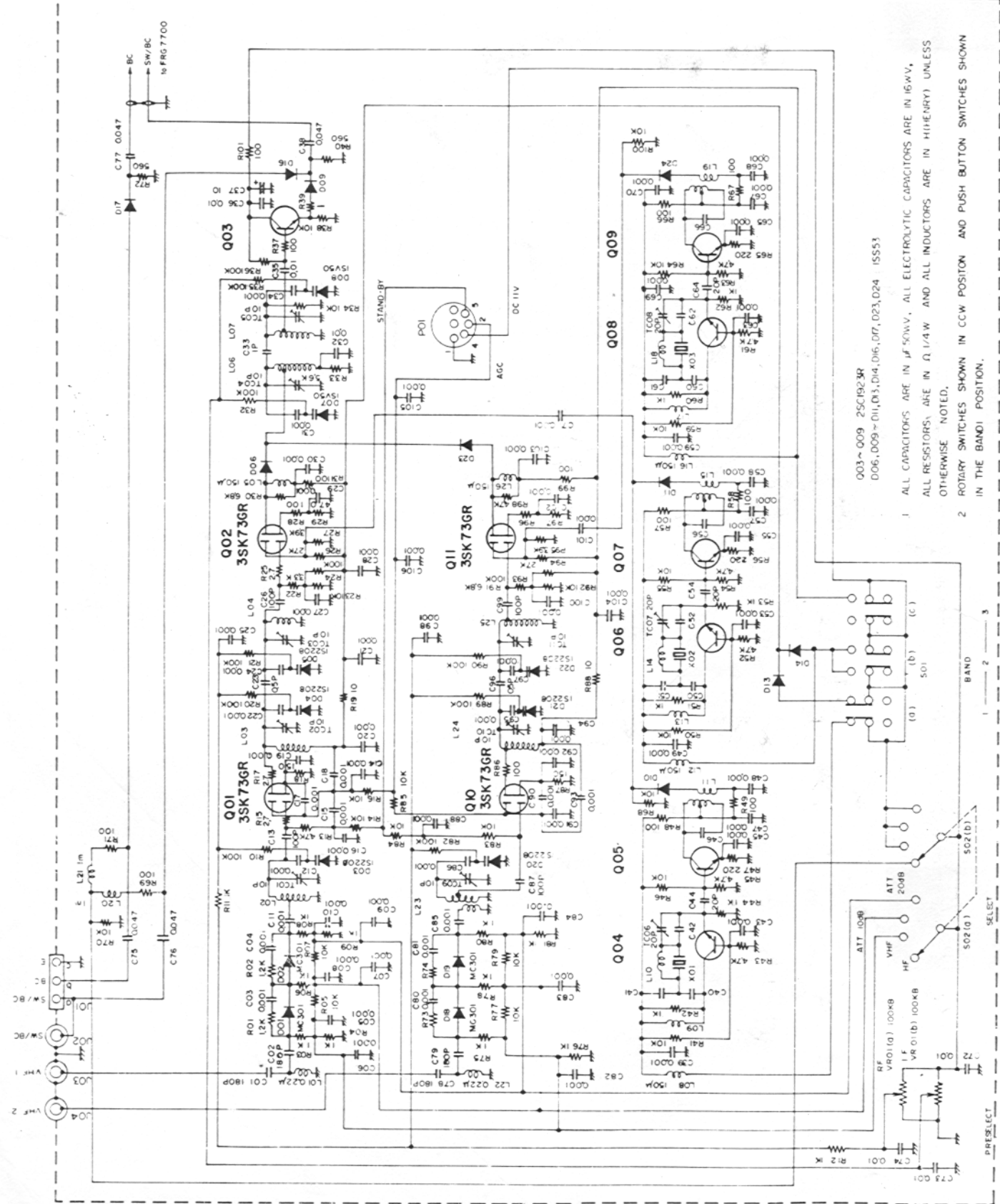
TYPE	A	C
X	X 01	100MHZ
	X 02	120MHZ
	X 03	140MHZ
R	R 25	10
	R 30	68 K
	R 42	1 K
	R 51	2.2 K
	R 51	1 K
	R 60	2.2 K
C	C 40	36P
	C 41	36P
	C 42	20P
	C 46	24P
	C 50	27P
	C 51	27P
	C 52	20P
	C 56	20P
	C 60	24P
	C 61	24P
	C 62	20P
C 66	16P	
L	L 10	0.33μ
	L 14	0.33μ
	L 18	0.33μ



Q03~Q09 25C1923R
D06, D09 ~017 1SS53

- 1 ALL CAPACITORS ARE IN μF 50WV, ALL ELECTROLYTIC CAPACITORS ARE IN 16WV, ALL RESISTORS ARE IN Ω 1/4W AND ALL INDUCTORS ARE IN MHENRY UNLESS OTHERWISE NOTED.
- 2 ROTARY SWITCHES SHOWN IN CCW POSITION AND PUSH BUTTON SWITCHES SHOWN IN THE BAND 1 POSITION.

BAND
1 --- 2 --- 3



TYPE	B	D
X'TAL		
X01	100MHZ	100MHZ
X02	120MHZ	120MHZ
X03	30MHZ	50MHZ
RESISTOR		
R73	220	330
R74	220	1K
R96	390	220
R97	180	330
CAPACITOR		
C40	36P	36P
C41	36P	36P
C42	20P	20P
C46	24P	24P
C50	24P	24P
C51	24P	24P
C52	20P	20P
C56	16P	16P
C60	75P	15P
C61	75P	15P
C62	20P	20P
C66	36P	12P
INDUCTOR		
L10	0.33 μ	0.33 μ
L14	0.33 μ	0.33 μ
L18	4.7 μ	1.8 μ

Q03 ~ Q09 25CR123R
 D06, D09 ~ D11, D13, D14, D16, D17, D23, D24 1SS553

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- ROTARY SWITCHES SHOWN IN CCW POSITION AND PUSH BUTTON SWITCHES SHOWN IN THE BAND1 POSITION.

FRV-7700
 CIRCUIT DIAGRAM