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).

FRV-7700

Used for single wire fed LW, MW, SW antenna.

Used for single wire fed antenna. (For LW/MW weak signals)
Use of more than one antenna connector at a time will cause intermodulation.

FRG-7700

Do not use this connector for FRV-7700/FRG-7700 combination use.

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.
VHF Antenna

Used for coaxial cable fed MW/SW antenna.

MW/SW antenna

Use of more than one antenna connector at a time will cause intermodulation.

LW/MW antenna

FRG-7700

Do not use UHF connector for FRV-7700/FF-5/FRG-7700 combination use.

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 μV for 10 dB S/N @ 1 kHz 30% MOD
- AM (N) – 2.0 μV for 10 dB S/N @ 1 kHz 30% MOD
- SSB/CW – 0.5 μV for 10 dB S/N
- FM – 0.5 μV 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.
1) ALL CAPACITORS ARE IN uF 50uV, ALL ELECTROLYTIC CAPACITORS ARE IN mF 50uV, ALL RESISTORS ARE IN kΩ 1% AND ALL INDUCTORS ARE IN MH UNLESS OTHERWISE NOTED.
2) ROTARY SWITCHES SHOWN IN Ccw POSITION AND PUSH BUTTON SWITCHES SHOWN IN THE BAND 1 POSITION.
1. ALL CAPACITORS ARE IN UF/SVH, ALL ELECTROLYTIC CAPACITORS ARE IN MF/V, ALL RESISTORS ARE IN OHM, AND ALL INDUCTORS ARE IN HENRY UNLESS OTHERWISE NOTED.

2. ROTARY SWITCHES SHOWN IN CCW POSITION AND PUSH BUTTON SWITCHES SHOWN IN THE BAND 1 POSITION.

CIRCUIT DIAGRAM

FRV-7700