

**RF-654  
SERIES  
HF RECEIVER  
MULTICOUPLER**

*used with a variety of  
antenna systems that require  
multiple outputs*

The RF-654 Series HF Multicoupler is a versatile receive system multicoupler. The amplifier provides high linearity and a low noise figure in the frequency range of 2 to 30 MHz. The amplifier can be configured to provide +10 dB of gain or unity gain, depending on system requirements.

The RF-654 is used with a variety of antenna systems where multiple outputs are required. Dual level protective circuitry maintains linear operation and prevents damage to circuitry from excessive input signal levels.

Indicators for Input Overload and Amplifier Bypass status are on the front panel. A switch allows the operator to select "Lo Gain" (amplifier bypass) mode to provide a trade-off between system noise figure and system linearity.

The RF-654 Series comes in two versions. The RF-654-08 provides 10 dB overall gain and eight outputs. It is used with small aperture antennas such as the RF-1955 and RF-1956. The RF-654-18 provides 0 dB overall gain and eight outputs. It is used as a general performance receive system multicoupler.



**General**

- **Frequency Range**  
2 MHz to 30 MHz (Consult the factory for extended frequency operation at frequencies below 2 MHz or above 30 MHz.)
- **Input VSWR**  
≤2 (50 ohms nominal)
- **Input Protection**  
Automatic or manual amplifier bypass (low gain)  
Automatic input disconnect (input overload)  
EMP and transient protection
- **Dimensions**  
3.5H x 19.0W x 20.0D inches  
(8.9H x 48.3W x 50.8D cm)
- **Weight**  
15 lb. (6.8 kg) -10 to 55°C

**10 dB Overall Gain Mode (RF-654-08)**

- **Outputs**  
8
- **Gain**  
10.0 dB ± 0.5 dB
- **Output**  
1 dB compression Point ≥ +30 dBm
- **Noise Figure**  
≤3.5 dB @ 2 MHz  
≤5.5 dB @ 30 MHz
- **Output 3rd Order Intercept Point**  
≥ 50 dB @ 2 MHz  
≥ 42 dB @ 30 MHz
- **Port to Port Isolation**  
≥ 30 dB
- **Power Requirements**  
100/120/200/240 VAC ± 10%, 50/60 Hz  
65 Watts (High Gain, 0 dB)  
5 Watts (Low Gain, -9.5dB)

**0 dB Overall Gain Mode (RF-654-18)**

- **Outputs**  
8
- **Gain**  
0.5 dB ± 0.5 dB
- **Output**  
1 dB compression Point ≥ +30 dBm
- **Noise Figure**  
≤5.0 dB @ 2 MHz  
≤6.0 dB @ 30 MHz
- **Output 3rd Order Intercept Point**  
≥52 dB @ 2 MHz  
≥ 45 dB @ 30 MHz
- **Port to Port Isolation**  
≥ 30 dB
- **Power Requirements**  
100/120/200/240 VAC ± 10%, 50/60 Hz  
40 Watts (High Gain, 0 dB)  
5 Watts (Low Gain, -9.5dB)

**Optional Accessories**

RF-598-02 Rack Mount for the RF-674,  
Slides permit access to multicoupler

**Features**

- 2 to 30 MHz operation
- High linearity amplifier section
- Low noise figure
- Selectable amplifier gain
- Internal HF bandpass filter
- EMP protection and transient suppression circuitry
- Front panel amplifier bypass control (manual)
- Automatic amplifier bypass on detection of high input level
- Automatic input disconnect on detection of input overload
- Dual option power off mode: Input disconnect or passive splitter

Specifications are subject to change without notice.

