

**RF-5382H-CU001**  
**FAST TUNE AUTOMATIC**  
**ANTENNA COUPLER**



The RF-5382H coupler automatically matches the output of FALCON® II Series HF transceivers to a wide variety of whip, dipole, and long-wire antennas over the frequency range of 1.6 to 30 MHz. The antenna coupler tuning time from memory is less than 150 milliseconds and it operates at power levels from 20 to 150 watts.

The RF-5382H is compatible with advanced waveforms and network protocols that require very fast frequency change and functions reliably under the most severe environmental conditions in vehicular, transportable, shipboard, and fixed-station applications. The frequency selective discriminator allows precision tuning in the difficult co-site installations that are dictated by highly mobile tactical platforms.

The RF-5382H Antenna Coupler is designed for direct interface with FALCON® II HF systems and is fully compatible with the built-in MIL-STD-188-141B and STANAG-4538 Automatic Link Establishment (ALE) protocols.

The coupler requires a control cable and RF coax interface to connect to the associated transceiver. Separation can be up to 250 feet (76 m). A high voltage ceramic insulator provides the connection to untuned antennas while a selectable N-connector provides connection to fixed site broadband or resonant antennas. When used in a 20 watt system, the RF-5382H will automatically switch VHF signals to the 50 ohm N-connector.

All key operating parameters are continually monitored during operation to automatically maintain operation within safe limits and stay "on the air." If safe limits are exceeded, a coupler fault is reported to the transceiver and the coupler bypassed. Internal built-in test to the module level provides rapid diagnostic troubleshooting and repair.



**High Voltage Antenna Port**

**Rated RF Input  
Tuning Capability (1.6 to 30 MHz)**

Up to 150 Watts PEP and Average  
8 to 35 foot whips  
25 to 150 foot long wires  
40 to 100 foot dipoles (including RF-1912 and RF-1936)

**Tuning Accuracy  
Memory Tuning Time  
New Frequency Tuning Time  
Efficiency**

Automatically tunes to 50 ohms, within a VSWR of 2:1  
150 milliseconds  
2 seconds maximum  
Whips: 1.6 to 4 MHz: 15 to 85%; 4 to 30 MHz: 50 to 95%  
Long Wires and Dipoles: 1.6 to 30 MHz: 60 to 95%  
**Note:** Efficiency depends on frequency, antenna length, and ground plane

**50-Ohm Antenna Port**

**Rated RF Input  
Antennas  
VHF Operation**

Up to 150 Watts PEP and Average  
Broadband and dipole resonant fixed frequency antennas  
Automatically switches output to 50-ohm port (N-connector)

**Electrical**

**Channel Capability  
Collocation Rejection  
Protection Features**

500 channel memory  
Operates in collocated installations with 5% frequency separation  
Protection from high VSWR, high temperature, RF over-voltage and over-current,  
Lightning surge protection on all control lines and RF signal path  
Automatic and manually controlled transmit and receive bypass  
Fault isolation to module level

**Antenna Matching Bypass  
BIT**

**Installation**

**Primary Power Requirements  
Remote Capability  
Enclosure Design  
Weight  
Size**

16 to 40 VDC  
Up to 250 feet (75 m) separation between transceiver and coupler  
Submersible to 3 feet (0.9 m) of water, designed for exposed installations  
17.5 lbs (7.8 kg)  
9.3W x 14.7L x 6.8H inches (including projections)  
23.6W x 37.3L x 17.3H cm (including projections)

**Accessories Supplied  
Color**

Coupler mounting hardware, installation material, safety shield, and the Intermediate Maintenance manual  
CARC Green 383

**Environmental**

**Test Method  
Shock and Vibration  
Immersion  
Operating Temperature**

Per MIL-STD-810F  
Ground tactical (with RF-5384VM-01 Shock Mount)  
3 feet (0.9 m) of water  
-40°C to +70°C

**Accessories and Cables**

**Cables  
Shock Mounts  
Sun Shield  
Siting Kits  
Transit Case System**

Control: 12020-1460  
Coax: 10181-9824 for 100, 125, and 150 W systems; 10369-7211 for 20 W systems  
RF-5384VM-01 (tracked and wheeled vehicles)  
12020-1194-01  
RF-5351-AT Series  
RF-5382H-TM001

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