

RF-5382H-CU001
FAST TUNE AUTOMATIC
ANTENNA COUPLER



The RF-5382 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 up to 150 watts.

The RF-5382 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-5382 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 antenna.

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

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

40 to 100 foot dipoles (including RF-1912 and RF-1936)
Automatically tunes to 50 ohms to within a VSWR of 2:1
150 milliseconds
1 second 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**

Up to 150 Watts PEP and Average
Broadband and dipole resonant fixed frequency antennas

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

**Antenna Matching Bypass
BIT**

Automatic and manually controlled transmit and receive bypass
Fault isolation to module level

Installation

Primary Power Requirements

16 to 32 VDC

Remote Capability

Up to 250 foot separation between transceiver and coupler

Enclosure Design

Submersible to 3 feet (0.9 m) of water, designed for exposed installations

Weight

17.5 lbs (7.8 kg)

Size

9.25W x 14.65L x 6.74H inches (including projections)
23.5W x 37.2L x 17.1H cm (including projections)

Accessories Supplied

Coupler mounting hardware, installation material, and the
Intermediate Maintenance manual

Color

CARC green (383)

Environmental

Vibration

DEF-STAN-00-35: Test M1, Tracked Vehicles, Level 1

Shock

DEF-STAN-00-35: Test M3, using +50 gn, 11 msec pulse

Temperature

MIL-STD-810E: Method 501.3, Procedures I and II (storage and operation at +70°C);
Method 502.3, Procedures I and II (storage at -51°C and operation at -40°C)

Humidity

MIL-STD-810E: Method 507.3, Procedure I 15 cycles

Altitude

MIL-STD-810E: Method 500.3, Procedure I (storage to 15,000 feet)

Salt Fog

MIL-STD-810E: Method 509.3, Procedure I

Dust

MIL-STD-810E: Method 510.3, Procedures I, II

Rain

MIL-STD-810E: Method 506.3, Procedure I (driving rain)

Leakage

MIL-STD-810E: Method 512.3, Procedure I (immersion)

Cables

Control: 12020-1460

Coax: 10181-9824

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