

RF-5030PA-20E
RF-5830H-PA
20 WATT HF/VHF POWER
AMPLIFIER/COUPLER



*provides 20 watt
amplification and
automatic tuning in a
compact package that
can be collocated
near the antenna*

The RF-5030PA-20E Power Amplifier/Coupler operates with the FALCON® Series RF-5022E and AN/PRC-138 Transceivers while the RF-5830H-PA is compatible with the FALCON® II RF-5800H-MP transceivers as well as the RF-5022R/T(E) and AN/PRC-138 Transceivers.

The RF-5030PA/RF-5830H-PA operates in applications requiring low-power, short-range (100's of miles) communications. Applications include mobile, boat, or base station installations for general-purpose voice and data communications.

The Harris 20 watt Power Amplifier/Coupler increases the output of the transceivers to 20 watts PEP/SSB, 10 watts FM. Automatic tuning is provided to a variety of whip, dipole, and long-wire antennas over the frequency range of 1.6 to 60 MHz. Operation of the unit, including system tuning, is fully automatic, eliminating any need for operator control or intervention.

The power amplifier section of the RF-5030PA/RF-5830H-PA is a broadband design requiring no tuning or adjustment. The antenna coupler section automatically matches the output of the power amplifier to the antenna and requires no special operator procedures.

The FALCON and FALCON II Series Transceivers are designed with built-in, self-test features to permit operators or maintenance personnel to fully check PA/coupler system performance. Fault conditions are displayed on the radio's front-panel display.

Power output of the power amplifier is 20 watts PEP/Average for HF-SSB operation and 10 watts for VHF/FM operation.

The nominal RF drive requirement for rated output power is 100 milliwatts.

The robust design and construction of the RF-5030PA/RF-5830H-PA Power Amplifier/Coupler provides high performance and reliability in the most severe environments.



Specifications for the RF-5030PA-20E/RF-5830H-PA

General

Frequency Range	1.60000 to 59.99999 MHz*
Modes of Operation	J3E (single sideband, upper or lower, suppressed carrier telephony); H3E (compatible AM single sideband plus full carrier telephony); J2A MCW (single sideband suppressed carrier keyed tone). F2B (FSK) F3E (FM) 39 Tone QDPSK
RF Input/Output Impedance	50 ohms nominal, unbalanced
Power Input	+24 Vdc (per MIL-STD-1275) @ 4.0 Amps., maximum
Operational Temperature Range	-40°C to +70°C
Shock/Vibration	MIL-STD-810E.
leakage	MIL-STD-810E (1 meter depth)
Humidity	MIL-STD-810E (0 to 95%)
Size	5.75W x 8.13D x 3.45H inches (14.6W x 20.6D x 8.8H cm)
Weight	5.5 lb (2.5 kg)

Power Amplifier

	(When used with FALCON or FALCON II Series Transceivers)
Power Output	20 watts PEP/average SSB into 50 ohms, 1.6 to 30 MHz 10 watts average FM, into 50 ohms, 20 to 60 MHz (AN/PRC-138 and FALCON II only).
RF Drive Requirements	Nominal 100 mW (+20 dBm)

Antenna Tuner

	(When used with FALCON and FALCON II Series Transceivers)
Antenna Tuning Capability	Standard 8-, 10-, and 16-foot whips: 1.6 – 59.9999 MHz AS-2259/GR (RF-1936): 3.5 to 10 MHz 50 ohms: 1.6 – 59.9999 MHz
Tuning Time	Learn Tune: < 2 seconds Memory Tune: < 10 milliseconds

Classification

RF-5030PA-20E	RF-5022R/T(E) and AN/PRC-138 20 watt Power Amplifier/Coupler
RF-5830H-PA001	FALCON II (RF-5800H-MP) 20-watt Power Amplifier/Coupler

Accessories

SB-V16	16 ft Whip Antenna Series
RF-1936	NVIS Antenna Series
RF-1912	Dipole Antenna Series
RF-5030PA-E/SSK	Sites Spare Kit
RF-5830H-SK001	FALCON II Site Spares Kit

Applications

RF-5000V-20E	RF-5022R/T(E) 20-watt Vehicular System
RF-5800H-V005	FALCON II 20-watt Vehicular System

* The RF-5030PA-20E may be internally jumper-wired for HF only (1.6 – 29.9999 MHz) operation compatible with the RF-5022R/T(E) Transceiver.

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Specifications are subject to change without notice.



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