

RF-5033PA
RF-5833H-PA
150 WATT HF/VHF
POWER AMPLIFIERS

*solid-state design,
modular construction, and
conservatively rated
components provide a
high level of reliability in a
“Jerk-and-Run” package*



The Harris 150-watt power amplifiers increase the output of their respective receiver-transmitters to 150 watts PEP/Average in the HF portion of the frequency range (1.6 to 29.99999 MHz) and 60 watts PEP/Average for the VHF portion (30 to 59.99999 MHz). The RF-5033PA Power Amplifier is used with the FALCON® AN/PRC-138 Receiver-Transmitter and the RF-5833H-PA is used with the FALCON® II RF-5800H-MP Receiver-Transmitter, as well as the AN/PRC-138.

The RF-5033/RF-5833H Power Amplifiers operate in applications that require medium-power, medium-range communications. These include mobile, boat, or base station installations for general-purpose HF-SSB and VHF-FM voice and data communications.

When used with an appropriate transceiver, the power amplifiers provide a radio system fully compatible with most existing HF and VHF radio systems. Continuous coverage is provided over the 1.6 to 60 MHz range; independent outputs are available for separate HF and VHF antenna configurations.

The power amplifier amplification section is a broadband design requiring no tuning or adjustment. When used with an automatic antenna tuner, such as the RF-382A Antenna Coupler, the output of the power amplifier is automatically matched to the specified antenna and requires no special operator procedures.

Built-in self-test features permit operators or maintenance personnel to check the R/T and associated power amplifier performance down to the module level. Fault conditions are displayed on the radio's front-panel display.

The output of the RF-5033PA and RF-5833H-PA Power Amplifiers is 150 watts PEP/Average HF, 60 watts PEP/Average VHF. Remote or front-panel control provides up to 12 dB power output adjustment.

The RF drive requirements for full 150 watts PEP/Average is 100 milliwatts from the associated receiver-transmitter.

The robust design and construction of these power amplifiers guarantee continuous high performance and reliability in the most severe environments.



Specifications for the RF-5033PA / RF-5833H-PA

General

Frequency Range	1.600000 to 59.99999 MHz
Modes of Operations	J3E (single sideband, upper or lower, suppressed carrier telephony) H3E (compatible AM single sideband plus full carrier telephony) F3E (FM Telephone) AIA, J2A, selectable (compatible CW)
RF Input/Output Impedance	50 ohm nominal, unbalanced
RF Output	50 ohm nominal load impedance unbalanced HF connector: Type N VHF connector: Type BNC
Power Input	+28.0 VDC nominal, @20 Amps., maximum per MIL-STD 1275
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%)
MTBF	Greater than 3000 hours
MTTR	Less than 15 minutes to the module level
Size	11.0W x 15.5D x 7.0H inches (27.9W x 39.4D x 17.8H cm)
Weight	33.0 lbs (15.0 kg)

Power Amplifier

Power Output	150 watts PEP/average into 50 ohm (1.6 MHz to 29.99999 MHz) 60 watts PEP/Average into 50 ohm (30.0 MHz to 59.99999)
RF Drive Requirements	Nominal 100 mW (+20 dBm)
Intermodulation Distortion	-25 dB from either tone of a two-tone envelope at 150 watts PEP
Harmonic Output	-45 dBc below 150 watt PEP

Classification

RF-5033PA	FALCON® (AN/PRC-138) 150 Watt Power Amplifier
RF-5833H-PA	FALCON® II (RF-5800H-MP and AN/PRC-138) 150 Watt Power Amplifier
RF-5833H-PA002	FALCON® II 150 Watt Power Amplifier with embedded Pre/postselector

Accessories

RF-5245	Pre/Postselector Option
RF-382A	Fast-Tune Antenna Coupler
RF-5073VSM	Vehicular Shock Mount
RF-5033PA/SSK	Spares Kit
RF-5051PS	Power Supply
SB-V16	16-foot HF Vehicular Antenna
RF-398-02	VHF Vehicular Antenna
10497-0360-01	Low Pass Filter Kit

Applications

RF-5200V-150A	FALCON® AN/PRC-138 Vehicular System
RF-5200B-150A	FALCON® AN/PRC-138 Base Station System
RF-5800H-V001	FALCON® II 150-Watt Vehicular Adapter
RF-5800H-V002	FALCON® II 150-Watt Vehicular with filtering collocation adapter
RF-5800H-B001	FALCON® II 150-Watt Base Station Adapter
RF-5800H-B002	FALCON® II 150-Watt Base Station with filtering collocation adapter



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Specifications are subject to change without notice.



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