

# HF Power Amplifiers 500 W & 1 kW HF Codan 3061 and 3062

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CODAN HF Power Amplifiers are reliable, affordable and designed for use with our CODAN NGT HF transceivers. The CODAN 3061 and 3062 provide 500W PEP and 1000W PEP output power respectively, and are suitable for voice and data operation.

### Features

#### **CODAN NGT HF Transceiver interface**

CODAN NGT HF transceivers provide users with a simple interface to control and operate the HF Power Amplifiers. Fault conditions are automatically detected and reported to the user via the CODAN NGT interface. The CODAN HF amplifiers automatically switch to stand-by mode when they are not being used, or when the attached CODAN NGT HF transceiver is powered off.

#### **Continuous mode operation**

The CODAN HF amplifiers are rated for 100% continuous operation in all modes for either voice or data applications.

#### **High efficiency**

Advanced switched mode power supplies are used in the final amplifier output stage to maximise efficiency of the amplifiers and reduce heat. This is achieved by varying the supply voltage on the RF transistors depending upon the current load and modulation.

#### **Protection and backup**

HF Power Amplifiers are fully protected against all load conditions and excessive heat sink temperatures. They are capable of operating with loads of VSWR of up to 3:1 with reduced output power. When excessive VSWR or over temperature occurs, the amplifiers switch to by-pass mode to prevent permanent damage. In by-pass mode, the full output power of the attached CODAN NGT HF transceiver is available as a backup to



keep the station operational and on-air.

### Antenna tuner interface

The CODAN HF amplifiers provide an interface to control an external antenna tuner or coupler. The attached NGT HF transceiver automatically performs a tune when a new transmit frequency is chosen.

Tuning operates on low power, then the high power output engages after the tune is completed.

### Front panel indicators

The front panel indicators provide a comprehensive display of fault conditions including internal fault, VSWR and over temperature. An LED bar graph is provided to display either the PEP output power or supply current status.

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### Amplifier cooling

The HF amplifiers have extensive heat sinks with fan forced airflow cooling. For increased reliability and durability, the fans are thermostatically controlled and operate on two speeds depending on the heat sink temperature.

### Rack mounting

Both CODAN HF amplifiers and associated power supply units are designed for use in 19" rack mount configurations and are 5RU high. Front air exhausts allow the amplifiers to be easily installed in virtually any type of 19" rack.

### Technical specifications

RF power output	
Type 3061 Type 3062	500 W PEP $\pm$ 1 dB, 300 W average 1 kW PEP $\pm$ 1 dB, 600W average
Frequency range	1.6 to 30 MHz
Input/output impedance	50 $\Omega$
Operating temperature	-10 to +60°C
Duty cycle	100%: normal speech over full temperature range

	100%: all modes up to maximum ambient of 45°C
Power supply	100–240 V AC ±10%, 50/60 Hz single phase
Power consumption	
Type 3061 Type 3062	800 VA (two-tone), 900 VA maximum 1.6 kVA (two-tone), 1.8 kVA maximum
Protection	Safe under all load conditions Bypass to 125W PEP from transceiver in the event of excess VSWR, excess heatsink temperature & internal fault conditions
Spurious and harmonic emissions	Better than 60 dB below PEP
Intermodulation distortion	Better than 32 dB below PEP
Cooling	Fan forced front panel exhaust Thermostatically controlled dual speed
Size	Amplifier (5RU 19" rack): 22.2 x 48.3 x 41.0 cm (H x W x D) Power supply (5RU 19" rack): 22.2 x 48.3 x 41.0 cm (H x W x D)
Weight	
Type 3061 Type 3062	Amplifier: 15.4 kg, Power supply: 6.7 kg Amplifier: 23.6 kg, Power supply: 10.0 kg

## HF Amplifier - HF Transceiver