The Barrett 4075 high power HF Transmitter is a compact rack mounted communications solution developed for base station applications in large HF networks. It can be supplied in 1kW and 500 W versions. The transmitter comes as a complete package with an exciter, power supply, power amplifier, interconnecting cables and all required rack mount hardware.

The 4075 linear amplifier is designed and engineered for modern communications which are heavily data orientated, requiring the equipment to work at high duty cycles for extended periods of time. The unique liquid cooled design increases cooling efficiency resulting in less system deterioration due to overheating in the power stages, extending overall equipment service life.

The compact rack mounted amplifier, together with its power supply occupies just 5U of cabinet space.

The Barrett 4075 amplifier natively supports the Barrett 4050 Transceiver/Exciter which when coupled requires no further tuning or adjustment. A flexible I/O interface and analogue ALC feedback provide the transceiver/exciter full control over final output power. Intelligent electronic controls protect the 4075 from input and output overload while providing a sophisticated early warning and a diagnostic interface for system monitoring and event logging. Customisable auxiliary ports are also available for enhanced system control.

The 4075 system is field re-programmable via USB allowing the end user to update system software. An on-board micro SD card provides enhanced flexibility for display customisation and event logging.

The Barrett ISO9001 Quality Assurance Program ensures consistent performance and the highest reliability.
4075 HIGH POWER HF TRANSMITTER

General Specifications

Frequency coverage 1.6MHz to 30MHz
Frequency stability ±0.5 ppm (±0.1 ppm optional)
-30°C to +60°C (4050 Transceiver/Exciter)
Channel capacity 1000 with 4050 HF Transceiver
Modes J3E (USB, LSB) - H2B (AM) - J2A (CW) - CF (Custom Filter) - ISB (data option)
Power output 1000W PEP or 500W PEP
Duty cycle 100%, Continuous PEP, CW
Exciter 4050 HF SDR transceiver

4075 Linear Amplifier Specifications

Power Output CW 1kW or 500W ± 1.5 dB
Power Gain +25 dB
Harmonics & Spurious Less than -55 dB
ALC Voltage (output) 0 ~ 10V
Filter Type 7 Band LPF
Dimensions 178H x 482W x 480D mm excluding handles and I/O connectors
Power Requirements 50V dc @ 60A, 24V dc @ 2.5 A max
Rack Height 5RU, 19” Rack mount (Amplifier and 50V power supply only)
Weight 35 kg (77 lbs)
Cooling Liquid cooled, Water, Propylene Glycol mixture
Temperature -20°C to +65°C operational, -40°C to +85°C storage
Humidity 95% relative, non condensing
Altitude 3000 m above sea level (not airborne), 9000m transportation
Input overdrive protection +6 dBm max
Output VSWR protection 3:1 nominal all magnitude and phases
Thermal Overload protection 85°C
Fault Log System events and error reporting
Standards Designed to meet or exceed:
- FCC/IC/ETS
- CE
- Australia/New Zealand AS/NZS 4770 2000 and AS/NZS 4582:1999

Specifications are typical. Equipment descriptions and specifications are subject to change without notice or obligation.

Typical 4075 High power 1 kW HF transmitter example

1. Barrett 4050 SDR HF transceiver exciter
2. Barrett 4022 24V Power supply
3. Barrett 4075 48V Power supply
4. Barrett 4075 Linear amplifier

The Barrett 4075 High power 1kW and 500W systems are available in 20RU and 39RU 19” racks with a depth of 700 mm. The 4075 500W HF transmitter is also available in a rugged transportable 9RU 19” rack mount case. The packages ship as a complete unit including rack mounting kits, blanking plates and all necessary cables and hardware ready for operation. For full package details, including part numbers please download the systems catalogue from our website.

www.barrettcommunications.com.au