BARRETT COMMUNICATIONS

2075 High power 1 kW HF transmitter

- **All solid state**
- **Broadband 1.6 MHz to 30 MHz**
- **Instantaneous frequency changes**
- **90 to 250 VAC power supply**
- **Meets CCIR specifications**

The Barrett 1000 W HF SSB Transmitter is a compact rack mounted unit developed for base applications in large HF networks. The transmitter comes as a complete package with exciter, power supply, RF power amplifier, interconnect cables and all rack mount hardware. The exciter is a Barrett 2050 transceiver with a 500 channel capacity and all mode capability.

The RF power amplifier is a rugged solid state unit with a comprehensive LCD display that displays the amplifier operating parameters. No tuning adjustments are required and the amplifier's ALC system protects the unit from severe mismatches. The separate switch mode power supply operates over a range of voltages from 90 to 250 VAC and is fully protected against overloads.

The Barrett 2075 can be operated remotely with the Barrett 2076 Turnkey HF remote site control system.

General specifications

Frequency coverage	1.6 MHz to 30 MHz
Channel capacity	500
Modes	USB/LSB/AFSK
Power output	1000 W PEP
Duty cycle	100% at 1000 W PEP Voice 100% at 1000 W ARQ 100% at 1000 W FEC
Exciter	Barrett 2050 HF transceiver
Line input (to exciter)	600 ohm balanced

2075 Linear amplifier

Excitation power	50 to 80 Watts
ALC voltage (output)	0 to 10 V
Spurious radiation	Less than -50 dB (typical)
Third-order IMD	Less than -31 dB @ 1000 W PEP (typical)
Input impedance	50 ohm, unbalanced
Output impedance	50 ohm, unbalanced
Humidity	95% relative non-condensing
Dimensions	Width - 483 mm (standard 19" rack mount) Height - 175 mm (4RU) Depth - 600 mm (including cable bends)
Weight	23 kg

Receive specification*

Sensitivity	-120 dBm (0.224 uV) for 10 dB SINAD - USB/LSB/AFSK
Receive frequency range	250 kHz to 30 MHz (continuous)**
Frequency resolution	1 Hz tunable receiver

2075 Power supply

Output	+48 V DC at 50 A +12 V DC at 3.0 A -12 V DC at 0.5 A
Input	90 to 250 VAC
Dimensions	Width - 483 mm (standard 19" rack mount) Height - 175 mm (4RU) Depth - 600 mm (including cable bends)
Weight	15 kg

*when in transceiver configuration **reduced sensitivity 250 kHz to 500 kHz

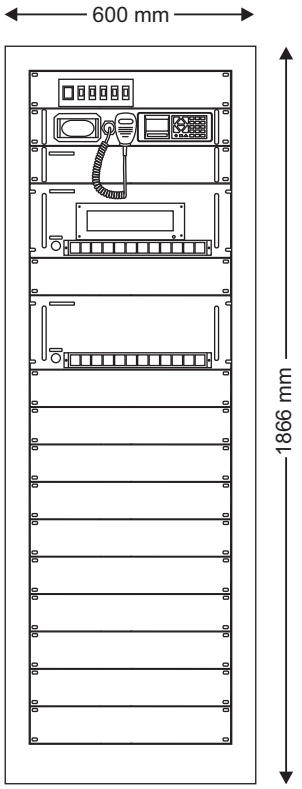
Specifications are typical. Equipment descriptions and specifications are subject to change without notice or obligation.

www.barrettcommunications.com.au

Typical 2075 System example

1. Barrett 2079 AC Distribution panel
2. Barrett 2050 HF transceiver exciter & 2022 Power supply
3. Barrett 2075 Interface
4. Barrett 2075 Linear amplifier
5. Barrett 2075 Power supply

The Barrett 2075 1000W P/N BC207500 is installed into a 39U rack unit weighing 138 kg with a depth of 700 mm. It ships as a complete unit including 19' rack mounting kits and blanking plates and all necessary cables and hardware ready for operation.



BARRETT COMMUNICATIONS

1 kW Automatic antenna tuner

- **Immersible to 1 m**
- **Opto-coupled interface**
- **Full HF frequency range**
- **ALE compatible**

The Barrett 1 kW automatic antenna tuner is designed to interface directly with Barrett Communications' 2075 HF transceivers.

The Barrett 1 kW ATU automatically matches the 50 ohm output of the transmitting system to a wide variety of end-fed unbalanced antennas such as whips and long wires. The tuner can provide tactical security by permitting remote location of the antenna up to 30 metres from the associated transmitter. A control interface specific to Barrett 2075 transceivers is resident inside the Barrett 1 kW ATU.

Upon initial tune, the antenna VSWR is monitored, and if it is outside a preset limit, the tuner will automatically initiate a tune cycle. Matching is accomplished and controlled by the intelligent tuning algorithm, which automatically arrives at the optimum tuner element setting for any specific antenna load impedance. The Barrett 1 kW ATU will tune almost any end-fed antenna within the specified frequency range provided an effective ground system is employed.

The Barrett 1 kW ATU is designed for continuous operation under severe environmental conditions. It is housed in a rugged, waterproof metal case that should be mounted as close as possible to the radiating part of the antenna. Optional shock mounts may be used to mount the tuner to any convenient surface in a vehicle, on a ship, or in a base station configuration.

In addition to the first-time automatic tuning mode, the Barrett 1 kW ATU has a built-in 100 channel memory that allows “silent tuning” and permits a retune mode whereby the tuning elements are automatically repositioned to a predetermined condition in less than 20 mS. This “retune” mode is utilised when the associated radio system is operating in an ALE mode.

General specifications

RF power input	1000 W, PEP or average
Duty cycle	All modes including data operation, within constraints of internal temperature (see temperature spec)
Frequency range	2 MHz to 30 MHz
Tuning range versus antenna type	5 metre whip: 3 MHz to 30 MHz 10 metre whip: 2.5 MHz to 30 MHz 25 to 50 metre long wires: 1.6 MHz to 30 MHz

Note: Effective tuning requires the installation of an efficient grounding system in conjunction with the antenna

RF tune power required	10 W
Tune time	3 to 5 S, first tune typical < 20 mS, memory tune
Input impedance	50 ohm
Input power requirements	28 V DC, 4 A peak, 1.8 A average
Tuning accuracy	1.5:1 VSWR typical
Memory channels	100
Temperature (operating)	-30° to +55°C (ambient inside case)

Note: This temperature can easily be exceeded if the case is exposed to direct sunlight. For FSK operation, it is important that the tuner is installed so that the case is not exposed to direct sunlight

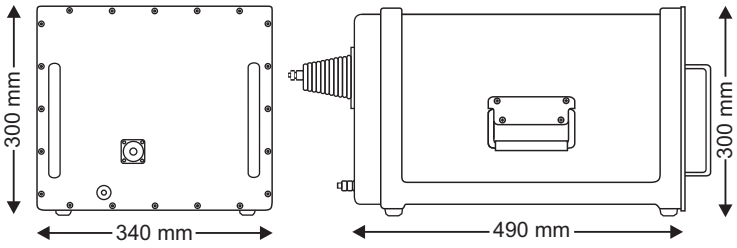
Shock, vibration	MIL-STD 810G (with shock mount)
Immersion	Waterproof; immersion to 1 metre
Humidity, fungus, sand & dust, salt, fog	MIL-STD 810G

Controls and indicators

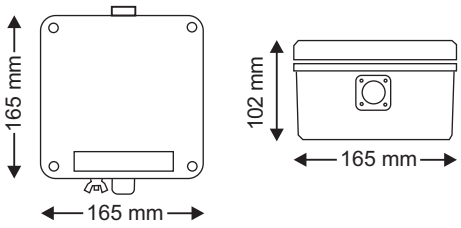
Connectors	RF input, control input, RF output, grounding lug
Control interface	Specific to Barrett Communications series of HF transceivers

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

1 kW Automatic antenna tuner BC207510 - 22 kg



1 kW Automatic antenna tuner interface BC207511 - 2.2 kg



Head Office:
Barrett Communications Pty Ltd
47 Discovery Drive, Bibra Lake,
WA, 6163 AUSTRALIA
Tel: +61 8 9434 1700
Fax: +61 8 9418 6757
Email: information@barrettcommunications.com.au

www.barrettcommunications.com.au

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