



HF and VHF Rapid Field Deployment Systems



RFDS PRC-2090 HF

Barrett Communications has developed the Rapid Field Deployment System (RFDS), which provides an easily deployable, simple to operate and very flexible HF or VHF communications system mounted in a single transit case. It is an ideal solution where there is a requirement to establish a communications system rapidly upon arrival in an austere environment.

Barrett has an extensive background in providing both tactical and commercial communications using HF and VHF solutions as appropriate, supplying a broad range of customers in more than

150 countries for more than 15 years. In providing large numbers of HF and VHF tactical systems Barrett has satisfied the communications requirements of numerous military, para-military, government and security users as well as authorities engaged in peacekeeping operations.

Barrett also has considerable experience in integrating communications systems into vehicles or base stations, which can be technically demanding. Discussions with and feedback from a number of clients and customers revealed that there was a need for the sort of capability provided by these facilities without the associated integration challenges, and one that provided greater flexibility. Following this conclusion Barrett developed the RFDS in about three months after the idea was conceived in mid-2014.

The RFDS provides a complete turn-key communications system in a single easily transportable case, including radios, power, cabling, lighting and external connections. It is designed to be simple to set up and to operate: "All you have to do is connect it to an antenna, switch it on and it works" said Cameron Berg, Barrett Marketing Manager. It is centred on radios from the family of Barrett transceivers which are field proven in over 150 countries, on every continent and in all environments.

There are two variants of the RFDS, individually providing either an HF or a VHF capability. The HF version is based on the PRC-2090 Tactical HF radio system, which has a frequency range of 1.6 MHz to 30 MHz, a peak envelope power (PEP) of 125W and which provides a range of different transmission modes. It includes optional Automatic Link Establishment (ALE), frequency hopping and encryption plus Barret's 2023 internal HF modem which in conjunction with the 2020 data system enables the transmission of email, fax and data over HF.

The VHF variant is based on the PRC-2080 Tactical VHF radio system, which has a frequency range of 30.2 MHz to 87.775 MHz in 25 kHz steps, giving a total of over 2300 channels. It has 50W output power and a number of frequency hopping and encryption options.



For those Barrett customers who already possess the relevant radios, Barrett can supply the RFDS without the transceivers so that their existing equipment can be used. If the radio form factors are identical it may also be possible to use communications equipment from other manufacturers, although this would necessitate changes to connectors within the case.

Apart from the radios, both variants offer the same capabilities, contained in an anti-vibration 6U 19 inch rack ruggedised case measuring 402 x 583 x 870 mm and weighing about 48kgs. Tactical lighting is provided.

In addition to the radio there is a Barrett 2063 HF-VHF Crossgate, which provides interoperability between HF and VHF networks without operator involvement. This enables, for example, an RFDS PRC-2080 and an RFDS PRC-2090 to be linked together to produce a comprehensive communications system, providing a local tactical VHF network and a long-range reachback HF network with a data capability.

The RFDS can work with a variety of different antennas, depending on the circumstances and all antenna connections are on the front panel for ease of accessibility and speed of connection. The PRC-2080 can be used with a ground mounted or elevated broadband VHF antenna.

Options for the PRC-2090 include several from the Barrett range. The 2019 automatic tuning mobile whip incorporates a wideband amplifier that is activated in receive mode to enable channel scanning while its self-contained characteristics make it easy to install. The 2017 automatic tuning horizontal dipole, which only has an 8m span but gives a performance comparable with much longer antennas, is ideal for use in situations where space is at a premium. As it can be mounted only 6m from the ground it is easy to install.

The power supply arrangements are particularly comprehensive with a number of options and facilities. An integrated 33Ah sealed GEL lead acid battery provides the power for immediate use, enabling the “switch on and operate” capability which sets the system apart from its competitors. For extended use the RFDS can be connected to another external DC power source, such as a vehicle battery or solar panels, to an external generator, or to mains AC.

Charging and maintenance of the on board battery is achieved via a battery charger which is also integrated into the assembly. This not only charges the onboard battery but also has a soft disconnect which enables the system to be used to charge additional batteries as well. All aspects of the charging system are controlled from the RFDS front panel, which provides battery and power level indicators. The panel also includes the connections to external



RFDS PRC-2080 VHF



sources to make these as accessible as possible, as well as a DC power outlet which can be used to power external devices such as a laptop or phone.

The RFDS is very simple to operate, particularly for operators already trained in using Barrett radios, which are themselves designed to be as easy as possible to use. Berg estimates that 10-15 minutes instruction is sufficient to enable an operator to use the equipment, including the power management, particularly as instructions for the latter are written on the front panel. There are some slightly more demanding aspects, such as switching data modes or using the Crossgate, but a trained operator can easily understand how to do this. "As long as you know how to switch it on you can't get it wrong" says Berg.

The RFDS can be used in a range of situations in addition to being operated in a static location. It will fit easily into a utility vehicle and even into a large saloon car, and with the addition of a suitable vehicle antenna can be used as a mobile station. It can be installed on board ship, again with a suitable broadband marine antenna. If an appropriate dipole antenna is fitted it can be installed in a transport aircraft or helicopter.

About Barrett Communications:

Barrett Communications is the specialist designer and manufacturer of commercial and tactical HF and VHF radio communication systems. The Company's global distribution and customer support network in over 65 countries allows it to provide both OTS and turnkey network solutions to meet their client's exact requirements.

Since 1976 Barrett Communications has provided HF communications solutions for military, government, security and peace keeping organisations around the world.

Additional information about Barrett Communications is available at

www.barrettcommunications.com.au