

EXPLORER Push-To-Talk

Beyond Line-Of-Sight Push-To-Talk Communication

COBHAM

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The most important thing we build is trust



A complete Push-To-Talk solution with a vehicular EXPLORER 325 BGAN terminal and a 4G modem (optional)

Beyond Line-Of-Sight Communication

EXPLORER Push-To-Talk (PTT) is a rugged voice and communication system. It is a cost effective, IP based voice and data communication system designed to extend or replace VHF/UHF based trunk radio systems widely used in the field service, search and rescue, utility, mining and Oil & Gas sectors. The system extends classical Push-To-Talk capabilities to hybrid data networks such as terrestrial cellular networks where available supplemented by the Inmarsat BGAN satellite network where no terrestrial network coverage is present. With no user intervention required the system automatically routes voice and data traffic via the least expensive network available.

EXPLORER PTT turns traditional satellite communication, cellular networks and the internet into a closed managed Wide Area Network with beyond line-of-sight communication.

VHF replacement

The EXPLORER PTT solution solves many of the built-in challenges of a VHF system:

- The use of BGAN and already existing cellular networks extends the coverage area.
- Improved voice quality with IP based digital voice quality compared to the analogue VHF voice quality.
- No expensive infrastructure and lower maintenance costs.
- High quality voice and an on-the-move internet connection.

The look and feel is exactly like a VHF system - only a few buttons and easy push to transmit communication. A car installation includes a vehicular BGAN terminal and a Push-To-Talk terminal with a Control Speaker Microphone. Up to two USB modems (optional) can be connected to the base station supporting two independent cellular networks. The all important built-in least cost routing functionality enables automatic switching between the available networks:

- Uses cellular networks as default.
- If one of the cellular networks is congested or unavailable the system will automatically switch to the other cellular network.
- If limited or no cellular coverage the system will switch to the Inmarsat BGAN satellite network.

Server infrastructure

The heart of the system is the Push-To-Talk server infrastructure. A server setup initially consists of two standard 19" rack servers that can be placed anywhere connected to the public internet:

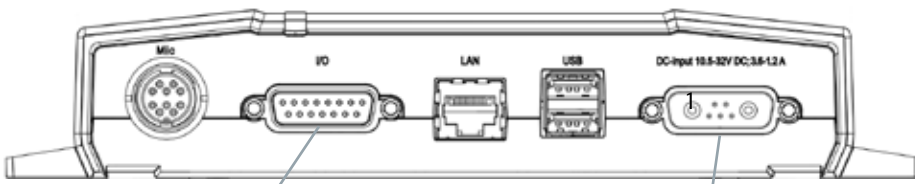
- The PTT server is handling all switching between the mobile units, the call groups and the dispatchers.
- The transcoding server handles the voice transcoding and compression.

EXPLORER Push-To-Talk

Beyond Line-Of-Sight Push-To-Talk Communication



- A ruggedized and easy to use digital Push-To-Talk communication solution.
- Designed to cost effectively expand or replace VHF/UHF-based trunk radio systems.
- Built-in support for VHF/UHF mobile base stations to ensure over-the-horizon radio communication.
- Voice-over-IP technologies optimized for use under difficult satellite or terrestrial link conditions.
- Automatic voice and data least cost routing between terrestrial (2G/3G/LTE) and satellite (BGAN) networks.
- Beyond Line-Of-Sight communication - Global coverage.



15 PIN D-SUB Input/Output		
1	Line In +	600 Ohm input
2	Line Out +	600 Ohm output
3	+12 VDC output	Fused, max. 100 mA
4	Input 1	PTT, active low
5	Input 2	General purpose digital input
6	Audio+	Amplified audio output 4-16 Ohm (1 W)
7	Output 1	PTT, push/pull 12 V
8	Output 2	Open drain
9	Service port (out)	UART, RS-232 levels
10	Service port (in)	UART, RS-232 levels
11	GND	Ground
12	Audio-	Amplified audio output
13	GND	Ground
14	Line Out -	Ground
15	Line In -	Ground

Power connector (DC input)	
A1	DC+
A2	DC-
1	Ignition
2	Common. Connected to pin 4 or pin 5.
3	General purpose open drain output. Max. 300 mA.
4	Connected to pin 2 when the PTT unit is on.
5	Connected to pin 2 when the PTT unit is off.

Specifications

Dimensions (H / W / D):

EXPLORER 3647 PTT: (Terminal)	41 / 231 / 278 mm 1.6 / 9.1 / 10.9 inches
EXPLORER 6205 CSM: (Control Speaker Microphone)	173 / 70 / 52 mm 6.8 / 2.8 / 2 inches

Weight:

EXPLORER 3647 PTT:	1 kg / 2 lbs
EXPLORER 6205 CSM:	320 g / 0.7 lbs

Services:

Push-To-Talk Voice:	Group call, Dispatch call
IP Service:	Least cost routing of IP Data

Approvals:

CE, GMPCS, FCC

Environmental conditions

Temperature:

Operational:	-15° to +55°
Storage:	-40° to +80°

Ingress Protection:

EXPLORER 3647 PTT: IP31
EXPLORER 6205 CSM: IPX6

Power

Power supply:

EXPLORER 3647 PTT:	Nominal 12-24 VDC Operating 10.5-32 VDC
EXPLORER 6205 CSM:	Powered by the terminal

Power consumption:

38W

Interfaces

1 x LAN interface:

Connector type:	RJ-45
Data rate:	10/100 Mbps

1 x I/O interface:

Connector type: 15 pin D-SUB containing: Loudspeaker output, Audio in, Audio out, PTT in, PTT out, serial port, 4-wire E&M interface.

2 x USB:

Connector type: USB host for Cellular Modems

1 x Microphone:

Connector type: 12 pin connector for the EXPLORER 6205 Control Speaker Microphone

User Interface:

Handset (CSM): Power On/Off, PTT button, 4 control buttons, 40x30mm Display, Jog wheel selector, Dimmer (display backlight)



For further information please contact:

Cobham SATCOM
Lundtoftegaardsvej 93 D
DK-2800 Kgs. Lyngby
Denmark
www.cobham.com
Tel: +45 3955 8800
Fax: +45 3955 8888