

HDTM
VOICE


GlenSound
Keeps Working



EXPEDITION

Expedition
Reporters Unit

The Expedition is a portable 2 channel, digital Broadcasters' Phone with 7kHz HD Voice audio. It is used for live news and sport reporting or talkback situations. HD Voice is available on compatible 4G LTE and 3G UMTS networks. Narrowband calls are also available on 2G GSM, 3G UMTS, and 4G LTE networks.

Key Points

**TWO USER
MOBILE
PHONE**

**7KHZ
HD VOICE**

**OPERATES
ON 3 MOBILE
NETWORKS**

4G_{LTE}

3G_{UMTS}

2G_{GSM}

Expedition



HD VOICE

**Expedition
Reporters Unit**

Key Points

**2G^{GSM}
3G^{UMTS}
4G^{LTE}**

Multiple Networks

A 2G GSM, 3G UMTS, and 4G LTE mobile phone with features specifically for broadcast.

HD VOICE

High Quality Audio

The HD Voice system allows 7kHz mobile calls on compatible mobile networks using 3G UMTS or 4G LTE networks (see page 3).



Two Inputs

There are independent, duplicated controls for both inputs. The illuminated on air button can be configured as latching, momentary or intelligent. There is a small gain control for setting input level.



Two Headphone Outputs

There are two x 6.35mm headphone sockets with a level adjust.



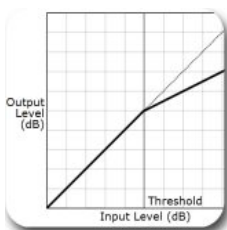
Powering Option

Battery power is available from 6 x AA batteries. There is also an external DC input from 10 - 15V.

AUTO ANSWER

Auto Answer

The Expedition can be set to answer incoming calls automatically.



Output Compressor

An output compressor prevents any peak in the audio being sent onto the HD Voice network. HD Voice is very sensitive to peaks and the output compressor improves the quality of the audio received at the remote end.



GlenSound 'Referee' Input Compressor

GlenSound's Referee compressor has been specially designed and updated over many years, specifically to cope with the excessive peaks often associated with excited sports commentators.

BACKGROUND NOISE SUPPRESSOR

Background Noise Suppressor

HD Voice features a background noise suppressor that greatly removes unwanted background noise.



Direct Line Output

A 3 pin XLR plug provides a clean output of the remote end of the call, with it's own adjustable level control. This makes the Expedition a portable digital hybrid for a mobile telephone.



Diversity Aerials

The Expedition has twin diversity aerials for improved reception and range when on the 4G LTE networks.



Included Accessories

Each Expedition comes with the following accessories as standard: hard plastic case, plug top power supply, shoulder strap, pair of small SMA aerials, pair of performance SMA aerials.



HD VOICE

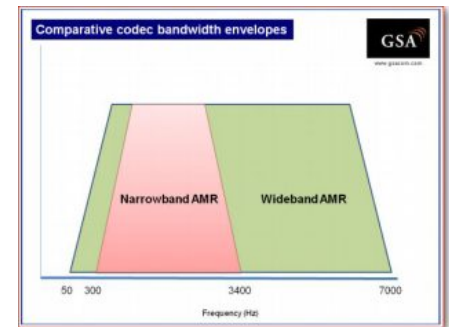
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HD Voice Key Points

- GlenSound HD Voice - 7kHz Audio Bandwidth**
 GlenSound HD Voice is an automatic feature available around the world on compatible mobile networks using 4G LTE or 3G UMTS. Connecting two GlenSound HD Voice broadcaster mobile phones in the same country, across a compatible 4G LTE or 3G UMTS network, will give a clear 7kHz of audio bandwidth.
- HD Voice Is AMR-WB (Adaptive Multi Rate Wide Band)**
 Also known as G.722.2. This is the algorithm more commonly known as HD Voice. It offers significant advantages for broadcasters:

 - Doubles voice bandwidth over 2G GSM to 50-7000Hz (2G narrow band speech codec is 300-3400Hz)
 - 12.65 kbit/s or higher coding bit-rates provide high quality wideband audio
 - Gives a better lower frequency response, down to 50Hz (2G is 300 Hz), for more natural sounding voices
- GlenSound HD Voice Does Not Require The Data Network**
 With HD Voice, The Expedition connects as a voice call, not a data call.

 - Bandwidth is consistent once connected. With data connections, bandwidth varies during a connection, but on a HD Voice call it does not. Once you are connected your call quality will remain consistent.
 - No extra call charges. As the network sees the connection as a voice call, there are no extra charges and no data usage as part of a data charging package.
 - The Expedition will still operate at 7 kHz HD Voice even in busy locations where there is little available data - HD Voice doesn't need data!
- Configurable To Operate On 2G GSM, 3G UMTS or 4G LTE**
 Calls can be locked to 2G, or 3G only with any calls made on HD Voice automatically dropping down to 2G when moving outside a 3G area without disconnecting the call. The Expedition also operates as a standard 2G mobile phone, and with advances in performance and noise reduction capabilities found on the Expedition, improvements in call quality can still be heard.
- Accommodates A Broader Range Of Audio Frequencies**
 GlenSound HD Voice can accommodate a wider range of audio frequencies thus improving the overall call quality. This will aid ultimate clarity in noisy environments with reduced background noise from the background noise suppressor.
- A Cost Effective Upgrade**
 GlenSound HD Voice is one of the most cost effective upgrades that can be made to improve audio quality using mobile phones. This makes the Expedition perfect as a remote live reporting or talkback tool.



EXPEDITION

Top Panel



At the bottom of the panel is the power switch. A clear screen gives all the system and number information and allows the extended configuration. Keypad, dial and hang up buttons are used for general phone operation.

Rear Panel



There are two x 3 pin XLR sockets for the inputs to the A and B channels. There are also two x 6.35mm jack sockets for headphone connections. The DC input is on the rear panel requiring an input of 10-15VDC.

Front Panel



There are independent, duplicated controls for both inputs. The illuminated on air button can be configured as latching, momentary or intelligent. There is a small gain control for setting input level with an LED light that indicates clipping. You can also set the input as mic, mic+48v, or line level. LEDs indicate power (flashing if battery is low), and network status. There is also a pot for setting the headphone volumes.

Right Panel



There is a 3 pin XLR plug that has an adjustable output level. This is the clean caller audio only. A mini USB socket is for future system updates.

Left Panel



On the left panel is the battery compartment and micro SIM card slot. Two thumb screws release the panel and reveal the battery holder which takes 6 x AA batteries. Lithium batteries are recommended for a long run time.



HD VOICE

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Display Screen Features



The **Main Screen** shows the network the Expedition is connected to, whether it is on 2G, 3G, or 4G, the signal strength on a 4 bar meter and the current battery level, or whether on external power. The small envelope icon indicates there is a text message to read. When there is an incoming call the main screen will show the caller ID.



There are 3 sub menus within the **Headphone Mix Menu** that affect the audio mix into both headphones. 1)The mix of the 2 input channels can be routed to the headphones (sidetone) on/off, 2)Return caller audio automatic gain control on/off, 3) Return caller audio on/off.



There are 3 sub menus within the **Line Out Mix Menu** that affect the audio mix going to the line out XLR. 1)The mix of the 2 input channels can be routed to line out on/off, 2)Return caller audio automatic gain control on/off, 3) Return caller audio on/off.



The first press of the menu key brings up the **10 number phonebook**. You can also access the call history.



Touching either input gain control brings up a **twin PPM meter** on the screen to aid the setting of the input level.



The **audible ringer** can be set on or off. The ring tone will always be heard in the headphones.



The Expedition can be set to **answer incoming calls automatically**, or be left in manual mode.



The Expedition's phone number can be blocked so that **no caller ID** is shown to the other end of the call.



Usually the network selection is automatic, but it can be set to lock on 2G only, or 3G only.



Each input switch can be set separately to operate as latching, momentary (PTT) or in an intelligent mode.



Some networks require text messages to register SIM cards. **Text messages** can be created from here.



This is the **SMS inbox** for reading any received messages.



DTMF tones are generated when the number buttons are pressed. The duration of these can be



There are 9 separate **ring tones** that can be selected here along with the ring volume.

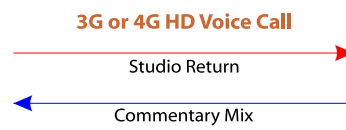
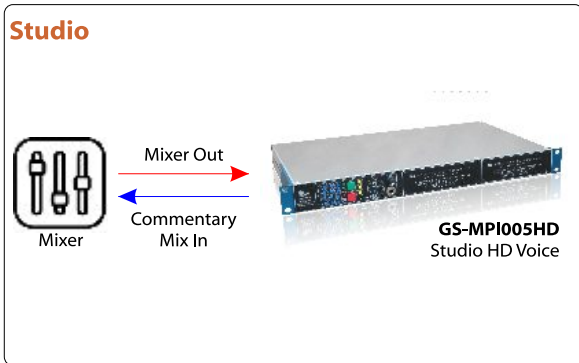




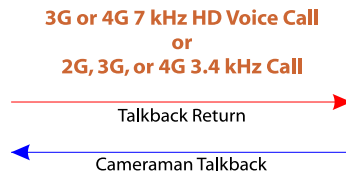
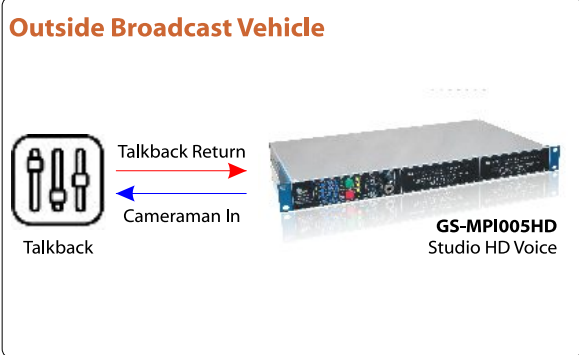
HD VOICE

Expedition Example Applications

7kHz High Quality Sports Commentary



ENG Outside Broadcast



Live News Interview





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Technical Specifications

AVAILABLE VERSIONS

EXPEDITION EU For European countries
EXPEDITION US For the rest of the world

NETWORK FREQUENCIES

EXPEDITION EU
 Penta Band LTE 800 / 900 / 1800 / 2100 / 2600MHz;
 FDD-Band (20,8,3,7,1);Tri Band UMTS (WCDMA):
 900 / 1800 / 2100 MHz; FDD-Band (8,3,1);
 Dual Band GSM/GPRS/EDGE: 900/1800 MHz
EXPEDITION US
 Quad Band LTE: 700 / 850 / AWS (1700/2100) / 1900 MHz;
 FDD-Band (17,5,4,2);Tri Band UMTS (WCDMA):
 850 / AWS (1700/2100) / 1900 MHz; FDD-Band (5,4,2)
 Quad Band GSM/GPRS/EDGE:
 850/900/1800/1900 MHz

NETWORK SPECIFICATIONS

2G AUDIO FREQUENCY RESPONSE Telephone networks provide 300Hz to 3.4 kHz audio bandwidth
3G/4G HD VOICE FREQUENCY RESPONSE HD Voice provides 50Hz to 7kHz audio bandwidth
ALGORITHM HD Voice is AMR-WB (G722.2)
NETWORK COMPATIBILITY Will operate on any mobile phone network, and any SIM card
HD VOICE COMPATIBILITY Will operate on compatible HD Voice networks

AERIAL

AERIAL CONNECTOR TYPE 2 x SMA
AERIAL TECHNOLOGY Diversity
RF OUTPUT POWER 2 Watts

INPUT SPECIFICATIONS

INPUT CONNECTORS 2 x Neutrik balanced XLRs
LINE INPUT LINEUP LEVEL 0dB
DYNAMIC MIC LINEUP LEVEL -57dB
PHANTOM MIC LINEUP LEVEL -35dB
LINE INPUT GAIN RANGE -20dB to +14dB
MIC INPUT GAIN RANGE -16dB to +12dB
HEADROOM @ MIC LINEUP COMPRESSOR 35dB
 Glensound Referee System complex multipoint compressor/limiter

OUTPUT SPECIFICATIONS

LINE OUTPUT CONNECTOR 1 x Neutrik balanced XLR
OUTPUT LEVEL 0dB
OUTPUT GAIN CONTROL -21dB to +10dB
MAX OUTPUT LEVEL (Line out with XLR) +13dBu
DISTORTION(+8 from line up at 1kHz) Line 0.006%, Mic 0.03%, Mic+PH 0.03%

HEADPHONE SPECIFICATIONS

HEADPHONE SOCKETS 2 x 6.35mm jack socket
HEADPHONE GAIN 60dB
HEADPHONE CLIP +14dB 600ohm
FREQUENCY RESPONSE (± 1dB) 20Hz - 16kHz
NOISE (22Hz - 22kHz no weighting) -89dB
HEADPHONE IMPEDANCE 100-1000 ohms

SIM CARD

SIM CARD TYPE Slot for Micro SIM under battery panel

POWER

BATTERIES 6 x AA cells. When 'low battery' LED flashes there is approx. 30 minutes remaining
EXTERNAL DC INPUT +10 to +15 VDC. 2.5mm barrel connector, centre +ve. 1 Amp

NET PHYSICAL SPECIFICATIONS

HEIGHT 47mm
WIDTH 104mm excluding aerials
 135mm with aerials
LENGTH (Excluding Connectors) 76mm
DISPLAY Twin line, backlit dot matrix
EXPEDITION WEIGHT 0.6kg
EXPEDITION WEIGHT + ACCESSORIES 2.0kg

PACKED PHYSICAL SPECIFICATIONS

HEIGHT 120mm
WIDTH 410mm
LENGTH 620mm
WEIGHT 3.0kg

ACCESSORIES INCLUDED

Switch mode power supply, IEC cable, hard plastic carrying case, 2 x small SMA aerials, 2 x performance SMA aerials.