

**HD**  
**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**<sub>LTE</sub>

**3G**<sub>UMTS</sub>

**2G**<sub>GSM</sub>

**Expedition**



HD  
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Key Points



Multiple Networks

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



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.



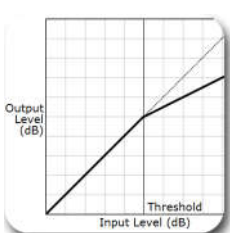
Powering Option

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



Auto Answer

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

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 Key Points

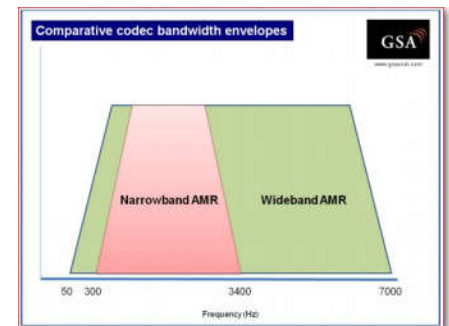
- ### GlenSound HD Voice - 7kHz Audio Bandwidth

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 broadcasters 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 300-400Hz)
- 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 300Hz) 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.



**Expedition  
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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.



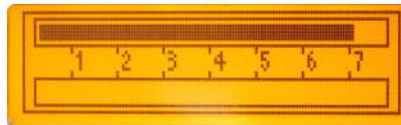
There are 3 sub menus within the **Headphone Mix Menu** that affect the audio mix into both headphones. 1)The mix of the 2 input channels can be routed to the headphones (sidetone) on/off, 2)Return caller audio automatic gain control on/off, 3) Return caller audio on/off.



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.



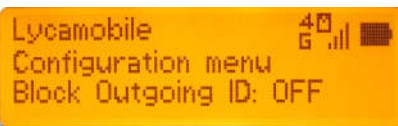
Touching either input gain control brings up a **twin PPM meter** on the screen to aid the setting of the input level.



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 set here.



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

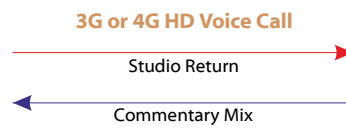
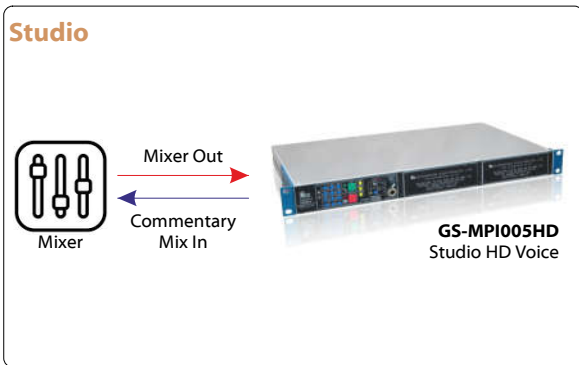




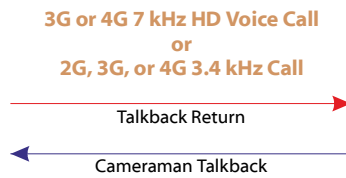
**HD VOICE**

**Expedition Example Applications**

**7kHz High Quality Sports Commentary**



**ENG Outside Broadcast**



**Live News Interview**





## Technical Specifications

### AVAILABLE VERSIONS

**EXPEDITION EU**  
**EXPEDITION US**

For European countries  
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  
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

**EXPEDITION US**

### 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**  
**NETWORK COMPATIBILITY**

HD Voice is AMR-WB (G722.2)  
Will operate on any mobile phone network, and any SIM card  
Will operate on compatible HD Voice networks

**HD VOICE COMPATIBILITY**

### AERIAL

**AERIAL CONNECTOR TYPE**  
**AERIAL TECHNOLOGY**  
**RF OUTPUT POWER**

2 x SMA  
Diversity  
2 Watts

### INPUT SPECIFICATIONS

**INPUT CONNECTORS**  
**LINE INPUT LINEUP LEVEL**  
**DYNAMIC MIC LINEUP LEVEL**  
**PHANTOM MIC LINEUP LEVEL**  
**LINE INPUT GAIN RANGE**  
**MIC INPUT GAIN RANGE**  
**HEADROOM @ MIC LINEUP**  
**COMPRESSOR**

2 x Neutrik balanced XLRs  
0dB  
-57dB  
-35dB  
-20dB to +14dB  
-16dB to +12dB  
35dB  
Glensound Referee System complex multipoint compressor/limiter

### OUTPUT SPECIFICATIONS

**LINE OUTPUT CONNECTOR**  
**OUTPUT LEVEL**  
**OUTPUT GAIN CONTROL**  
**MAX OUTPUT LEVEL (Line out with XLR)**  
**DISTORTION(+8 from line up at 1kHz)**

1 x Neutrik balanced XLR  
0dB  
-21dB to +10dB  
+13dBu  
Line 0.006%, Mic 0.03%, Mic+PH 0.03%

### HEADPHONE SPECIFICATIONS

**HEADPHONE SOCKETS**  
**HEADPHONE GAIN**  
**HEADPHONE CLIP**  
**FREQUENCY RESPONSE (± 1dB)**  
**NOISE (22Hz - 22kHz no weighting)**  
**HEADPHONE IMPEDANCE**

2 x 6.35mm jack socket  
60dB  
+14dB 600ohm  
20Hz - 16kHz  
-89dB  
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  
+10 to +15 VDC. 2.5mm barrel connector, centre +ve. 1 Amp

**EXTERNAL DC INPUT**

### NET PHYSICAL SPECIFICATIONS

**HEIGHT**  
**WIDTH**  
**LENGTH (Excluding Connectors)**  
**DISPLAY**  
**EXPEDITION WEIGHT**  
**EXPEDITION WEIGHT + ACCESSORIES**

47mm  
104mm excluding aerials  
135mm with aerials  
76mm  
Twin line, backlit dot matrix  
0.6kg  
2.0kg

### PACKED PHYSICAL SPECIFICATIONS

**HEIGHT**  
**WIDTH**  
**LENGTH**  
**WEIGHT**

120mm  
410mm  
620mm  
3.0kg

**ACCESSORIES INCLUDED**

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