

# GLENSOUND ELECTRONICS LTD

*GDC-6432-dCU3*

*Digital Commentators Unit with 3 commentary positions*

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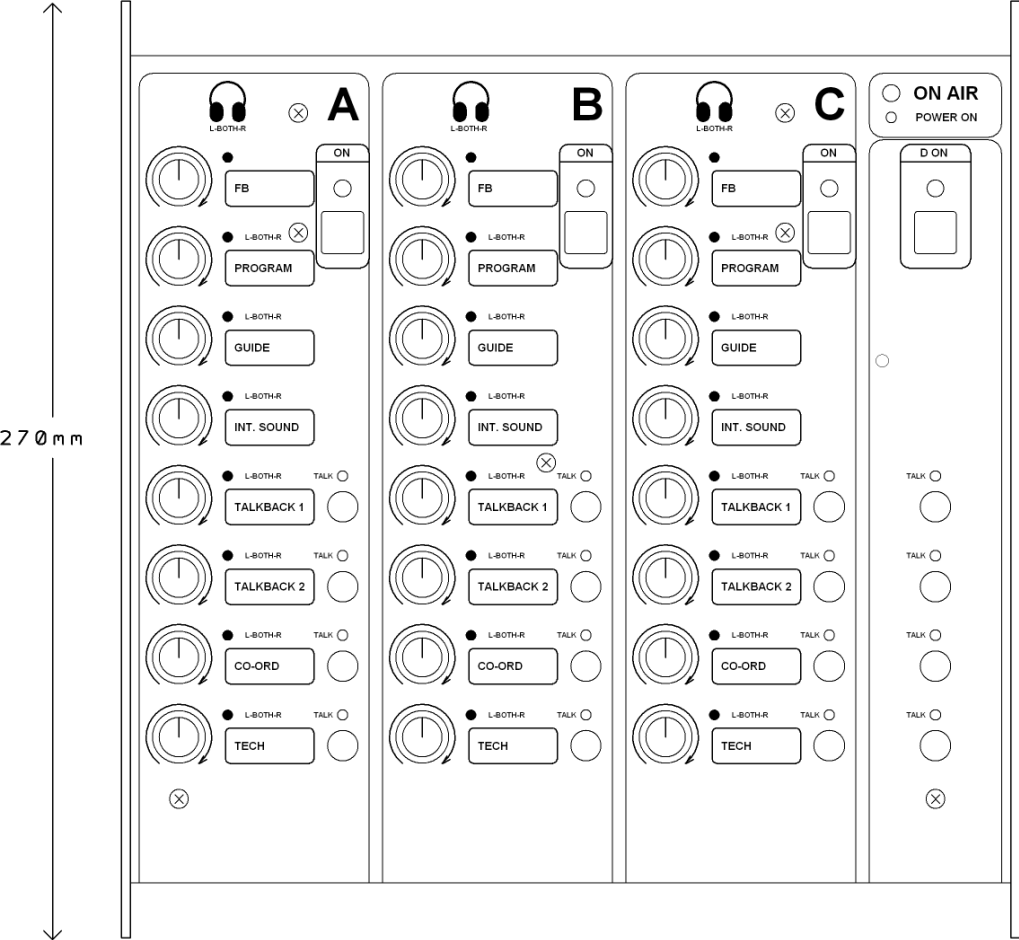
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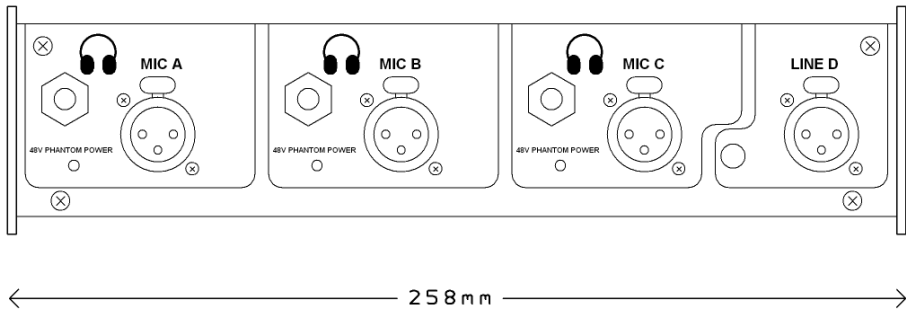


PANEL DRAWINGS

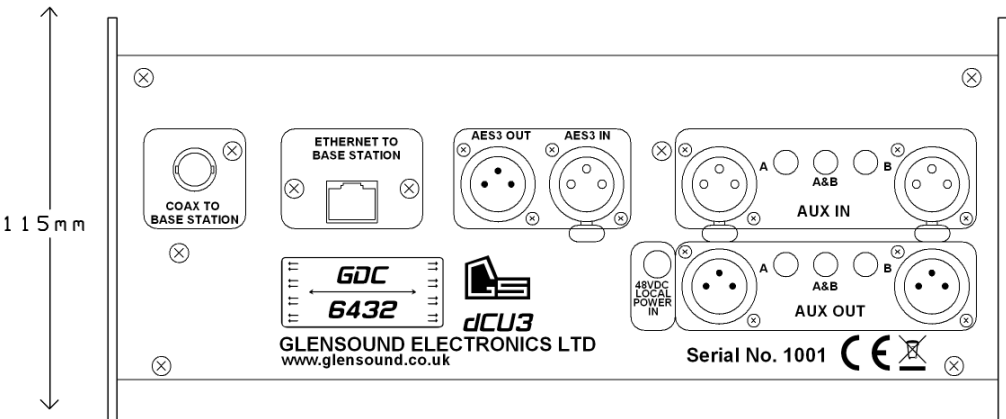
TOP VIEW



**FRONT VIEW**



**REAR VIEW**



## **PRINCIPLE OF OPERATION**

The GDC-6432 Glensound Digital Commentary System is a two-part system, consisting of a Commentary Control Unit (dCCU) and a Commentators Unit (dCU). This manual covers the dCU3, which is a version of Commentators Unit with three commentary positions. Refer to the main GDC-6432 manual for information about the dCCU unit, and the system as a whole.

### **AUDIO INPUTS**

The dCU3 has the following audio inputs:

- **3 x Microphone level commentary inputs**

Each input has the option of 48V phantom power. Depending on the configuration of the dCCU, the phantom power option may be fixed on, fixed off, or selectable via the key next to the connector.

The input gain and main Program mix level of each commentator are controlled by the dCCU.

- **Line level input**

A balanced professional line level input in place of a fourth commentator.

- **Two-channel Auxiliary (AUX) input**

This two-channel input is provided in the following forms:

- 2 x balanced professional line level XLR inputs (AUX IN A and AUX IN B)
- 2 x unbalanced consumer line level 3.5mm jack sockets (AUX IN A and AUX IN B)
- stereo unbalanced consumer line level 3.5mm jack socket (AUX IN A&B)

When a stereo jack plug is connected to either AUX IN A or AUX IN B, it will be summed to mono and mixed into that input. When a stereo jack plug is connected to AUX IN A&B, AUX IN will act as a stereo channel.

The destination of this input is determined by the configuration of the dCCU.

- **Two-channel AES3 digital input**

A 48kHz 24 bit AES3/EBU input. The destination of this input is determined by the configuration of the dCCU.

## **AUDIO OUTPUTS**

The dCU3 has the following audio outputs:

- **3 x Commentator headphone outputs**

The dCCU provides the dCU with a separate audio source for each ear of each headphone output.

- **Two-channel Auxiliary (AUX) output**

This two-channel output is provided in the following forms:

- 2 x balanced professional line level XLR outputs (AUX OUT A and AUX OUT B)
- 2 x unbalanced consumer line level 3.5mm jack sockets (AUX OUT A and AUX OUT B)
- stereo unbalanced consumer line level 3.5mm jack socket (AUX OUT A&B)

When a stereo jack plug is connected to either AUX OUT A or AUX OUT B, that mono output will be split onto both channels of the jack plug. When a stereo jack plug is connected to AUX OUT A&B, AUX OUT will act as a stereo channel.

The source of this output is determined by the configuration of the dCCU.

- **Two-channel AES3 digital output**

A 48kHz 24 bit AES3/EBU output. This output shares the same source as the AUX output.

## **PROGRAM & TALKBACK**

A Program ON key, and four Talkback keys are provided for all of the three commentary positions, as well as the line input. The exact function of these keys is dependant on the dCCU configuration, but typically the Program keys will allow the commentators (or Line input) to be mixed into a main Program mix, while the Talkback keys will allow the commentators (or Line input) to talk to four different destinations. The first two Talkbacks are labelled generically, while the last two are labelled as “CO-ORD” and “TECH”, respectively. Double-clicking one of the “TECH” Talkback keys will cause an audio alert to sound on the basestation.

The operation of the Program and Talkback keys is configurable in the dCCU. Each key may be set as momentary, latching, fixed on, or fixed off. Additionally, each key may be set to suppress or unlatch certain other keys when pressed.

Note that all Program and Talkback mixes are produced in the dCCU. No mixing takes place in the dCU.

## **HEADPHONE MIX & EAR SELECTION**

Each of the commentary positions has eight rotary controls that adjust the level of particular mixes in the commentator's headphones. Dependant on the dCCU configuration, each of these controls may be set to either “cut” mode or “dim” mode. In “cut” mode, the control can reduce the volume of its associated mix in the commentator's headphone down to silence. In “dim” mode, the control can only reduce it to a fixed minimum value. “Dim” mode should be used in situations where the commentator is required to always listen to a particular mix (a particular Talkback, for example).

The commentator can choose to listen to each of these mixes in the left ear, right ear, or both ears. This selection is made using the L-BOTH-R key next to each rotary control, which toggles between the three states. When the key is initially pressed, the state of the ears selection will be displayed at the top of the commentator channel using two LEDs. Green means that the ear is on, while red means that the ear is off. Subsequent presses will toggle the ears state.

Note that all headphone mixes are produced in the dCCU. No mixing takes place in the dCU.

## **DIGITAL LINK**

The Commentary Control Unit (dCCU) and the Commentators Unit (dCU) communicate via a digital link, which carries 8 channels of bi-directional 48kHz 24 bit digital audio, as well as internal control data.

The standard digital link is a 75 ohm coaxial link, which is always available. This link will function with a cable length of up to 400 meters (cable type dependant). Power (48V) is provided from the dCCU to the dCU using a technology similar to Power Over Ethernet (POE). This means that power will only be provided when a compatible dCU is detected, thus protecting any incorrectly connected device.

An Ethernet link may be fitted, which can be used as an alternative to the coaxial link. The data rate is fixed at “100 BASE-T”, and a full duplex connection is required. The dCCU is capable of supplying Power Over Ethernet (POE), and the dCU is capable of being powered by POE. Alternatively, the dCU can be locally powered. The link between the dCCU and dCU must exist on its own private LAN, which can be achieved using either a direct connection, or VLAN technology in a managed switch environment.

Copper Ethernet will operate with a cable length of up to 100 meters.

## **DIGITAL LINK – AUDIO SOURCES**

The following table lists the sources of each of the 8 channels that are sent through the digital link to the dCCU:

| <b>Digital Link channel</b> | <b>Audio Source</b>      |
|-----------------------------|--------------------------|
| 1                           | Commentator A microphone |
| 2                           | Commentator B microphone |
| 3                           | Commentator C microphone |
| 4                           | Line input               |
| 5                           | AUX A                    |
| 6                           | AUX B                    |
| 7                           | AES3 A                   |
| 8                           | AES3 B                   |

## **DIGITAL LINK – AUDIO DESTINATIONS**

The following table lists the destinations of each of the 8 channels that are received through the digital link from the dCCU:

| <b>Digital Link channel</b> | <b>Audio Destination</b>  |
|-----------------------------|---------------------------|
| 1                           | Commentator A – Left ear  |
| 2                           | Commentator A – Right ear |
| 3                           | Commentator B – Left ear  |
| 4                           | Commentator B – Right ear |
| 5                           | Commentator C – Left ear  |
| 6                           | Commentator C – Right ear |
| 7                           | AUX/AES3 A                |
| 8                           | AUX/AES3 B                |

## **POWER SUPPLY**

As stated previously, the dCU may be powered using Power Over Ethernet (POE) or similar technology, via the digital link. If this is not desired, the dCU can be powered locally using an external 48V DC supply.

## **WIRING INFORMATION**

### **Type**

### **Pin Configuration**

3-pin XLR Socket/Plug

Pin 1                   = Ground  
Pin 2                   = In Phase  
Pin 3                   = Mate

6.35mm Stereo Jack Socket

Tip                     = Left Ear  
Ring                  = Right Ear  
Sleeve                = Ground

3.5mm Stereo Jack Socket

Tip                     = A  
Ring                  = B  
Sleeve                = Ground

2.5mm DC Plug (48V)

Centre                = DC Positive  
Sleeve                = DC Negative

9-pin 'D' type DC Loops  
socket (if fitted)

| <b>Pin</b> | <b>DC Loop</b> |
|------------|----------------|
| 1          | DC Loop 1      |
| 2          | DC Loop 2      |
| 3          | DC Loop 3      |
| 4          | DC Loop 4      |
| 5          | NC             |
| 6          | GND            |
| 7          | GND            |
| 8          | GND            |
| 9          | GND            |