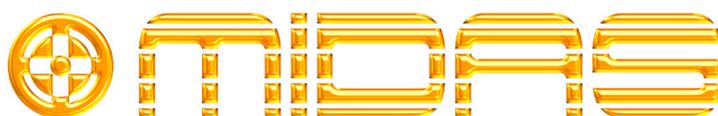




# DL150 Series Fixed-Format I/O Unit

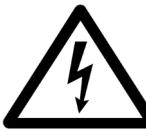
## User Manual



## EN Important Instructions



Terminals marked with this symbol carry electrical current of sufficient magnitude to constitute risk of electric shock. Use only high-quality commercially-available speaker cables with ¼" TS plugs pre-installed. All other installation or modification should be performed only by qualified personnel.



This symbol, wherever it appears, alerts you to the presence of uninsulated dangerous voltage inside the enclosure - voltage that may be sufficient to constitute a risk of shock.



This symbol, wherever it appears, alerts you to important operating and maintenance instructions in the accompanying literature. Please read the manual.



**Caution**  
To reduce the risk of electric shock, do not remove the top cover (or the rear section). No user serviceable parts inside. Refer servicing to qualified personnel.



**Caution**  
To reduce the risk of fire or electric shock, do not expose this appliance to rain and moisture. The apparatus shall not be exposed to dripping or splashing liquids and no objects filled with liquids, such as vases, shall be placed on the apparatus.



**Caution**  
These service instructions are for use by qualified service personnel only. To reduce the risk of electric shock do not perform any servicing other than that contained in the operation instructions. Repairs have to be performed by qualified service personnel.

- 1 Read these instructions.
- 2 Keep these instructions.
- 3 Heed all warnings.
- 4 Follow all instructions.
- 5 Do not use this apparatus near water.
- 6 Clean only with dry cloth.
- 7 Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
- 8 Do not install near any heat sources

such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.

**9** Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding-type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.

**10** Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.

**11** Use only attachments/accessories specified by the manufacturer.



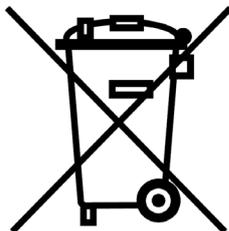
**12** Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.

**13** Unplug this apparatus during lightning storms or when unused for long periods of time.

**14** Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

**15** The apparatus shall be connected to a MAINS socket outlet with a protective earthing connection.

**16** Where the MAINS plug or an appliance coupler is used as the disconnect device, the disconnect device shall remain readily operable.



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Trident Chambers, Wickhams Cay, P.O. Box 146, Road Town, Tortola, British Virgin Islands

### Limited warranty

#### § 1 Warranty

**1** This limited warranty is valid only if you purchased the product from a MUSIC Group authorized dealer in the country of purchase. A list of authorized dealers can be found on MUSIC Group's website [www.music-group.com](http://www.music-group.com), or you can contact the MUSIC Group office closest to you.

**2** MUSIC Group\* warrants the mechanical and electronic components of this product to be free of defects in material and workmanship if used under normal operating conditions for a period of three (3) years from the original date of purchase (see the Limited Warranty terms in § 4 below), unless a longer minimum warranty period is mandated by applicable local laws. If the product shows any defects within the specified warranty period and that defect is not excluded under § 4, MUSIC Group shall, at its discretion, either replace or repair the product using suitable new or reconditioned product or parts. In case MUSIC Group decides to replace the entire product, this limited warranty shall apply to the replacement product for the remaining initial warranty period, i.e., three (3) years (or otherwise applicable minimum warranty period) from the date of purchase of the original product.

**3** Upon validation of the warranty claim, the repaired or replacement product will be returned to the user freight prepaid by MUSIC Group.

**4** Warranty claims other than those indicated above are expressly excluded.

PLEASE RETAIN YOUR SALES RECEIPT. IT IS YOUR PROOF OF PURCHASE COVERING YOUR LIMITED WARRANTY. THIS LIMITED WARRANTY IS VOID WITHOUT SUCH PROOF OF PURCHASE.

#### § 2 Online registration

Please do remember to register your

new MIDAS equipment right after your purchase at [www.midasconsoles.com](http://www.midasconsoles.com) and kindly read the terms and conditions of our limited warranty carefully. Registering your purchase and equipment with us helps us process your repair claims quicker and more efficiently. Thank you for your cooperation!

### § 3 Return materials authorization

1 To obtain warranty service, please contact the retailer from whom the equipment was purchased. Should your MUSIC Group dealer not be located in your vicinity, you may contact the MUSIC Group distributor for your country listed at [www.midasconsoles.com](http://www.midasconsoles.com). If your country is not listed please contact the "United Kingdom (MIDAS/ KT main office)" located under "Service - Service/Repairs" on the [www.midasconsoles.com](http://www.midasconsoles.com) website. Alternatively, please submit the online warranty return form found under "Service - Warranty Registration" on [www.midasconsoles.com](http://www.midasconsoles.com) BEFORE returning the product. All enquires must be accompanied by the description of the problem and the serial number of the product. The warranty eligibility will be verified from the original sales receipt.

2 Subsequently, the product must be returned in its original shipping carton, together with the return authorization number to the address indicated by MUSIC Group.

3 Shipments without freight prepaid will not be accepted.

### § 4 Warranty Exclusions

1 This limited warranty does not cover consumable parts including, but not limited to, fuses and batteries. Where applicable, MUSIC Group warrants the valves or meters contained in the product to be free from defects in material and workmanship for a period of ninety (90) days from date of purchase.

2 This limited warranty does not cover the product if it has been electronically or mechanically modified in any way. If the product needs to be modified or adapted in order to comply with applicable technical or safety standards on a national or local level, in any country which is not the country for which the product was originally developed and manufactured, this modification/adaptation shall not be considered a defect in materials or workmanship. This limited warranty does not cover any such modification/adaptation, regardless of whether it was carried out properly or not. Under the terms of this limited warranty, MUSIC Group shall not be held responsible for any cost resulting from such a modification/ adaptation.

3 This limited warranty covers only the product hardware. It does not cover technical assistance for hardware or

software usage and it does not cover any software products whether or not contained in the product. Any such software is provided "AS IS" unless expressly provided for in any enclosed software limited warranty.

4 This limited warranty is invalid if the factory applied serial number has been altered or removed from the product.

5 Free inspections and maintenance/ repair work are expressly excluded from this limited warranty, in particular, if caused by improper handling of the product by the user. This also applies to defects caused by normal wear and tear, in particular, of faders, crossfaders, potentiometers, keys/buttons, guitar strings, illuminants and similar parts.

6 Damage/defects caused by the following conditions are not covered by this limited warranty:

- Improper handling, neglect or failure to operate the unit in compliance with the instructions given in MIDAS user or service manuals;
- Connection or operation of the unit in any way that does not comply with the technical or safety regulations applicable in the country where the product is used;
- Damage/defects caused by acts of God/ Nature (accident, fire, flood, etc.) or any other condition that is beyond the control of MUSIC Group.

7 Any repair or opening of the unit carried out by unauthorised personnel (user included) will void the limited warranty.

8 If an inspection of the product by MUSIC Group shows that the defect in question is not covered by the limited warranty, the inspection costs are payable by the customer.

9 Products which do not meet the terms of this limited warranty will be repaired exclusively at the buyer's expense. MUSIC Group or its authorized service centre will inform the buyer of any such circumstance. If the buyer fails to submit a written repair order within 6 weeks after notification, MUSIC Group will return the unit C.O.D. with a separate invoice for freight and packing. Such costs will also be invoiced separately when the buyer has sent in a written repair order.

10 Authorized MUSIC Group dealers do not sell new products directly in online auctions. Purchases made through an online auction are on a "buyer beware" basis. Online auction confirmations or sales receipts are not accepted for warranty verification and MUSIC Group will not repair or replace any product purchased through an online auction.

### § 5 Warranty transferability

This limited warranty is extended exclusively to the original buyer (customer of authorized retail dealer) and is not transferable to anyone who may subsequently purchase

this product. No other person (retail dealer, etc.) shall be entitled to give any warranty promise on behalf of MUSIC Group.

### § 6 Claim for damage

Subject only to the operation of mandatory applicable local laws, MUSIC Group shall have no liability to the buyer under this warranty for any consequential or indirect loss or damage of any kind. In no event shall the liability of MUSIC Group under this limited warranty exceed the invoiced value of the product.

### § 7 Limitation of liability

This limited warranty is the complete and exclusive warranty between you and MUSIC Group. It supersedes all other written or oral communications related to this product. MUSIC Group provides no other warranties for this product.

### § 8 Other warranty rights and national law

1 This limited warranty does not exclude or limit the buyer's statutory rights as a consumer in any way.

2 The limited warranty regulations mentioned herein are applicable unless they constitute an infringement of applicable mandatory local laws.

3 This warranty does not detract from the seller's obligations in regard to any lack of conformity of the product and any hidden defect.

### § 9 Amendment

Warranty service conditions are subject to change without notice. For the latest warranty terms and conditions and additional information regarding MUSIC Group's limited warranty, please see complete details online at [www.midasconsoles.com](http://www.midasconsoles.com)

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\* MUSIC Group Macao Commercial Offshore Limited of Rue de Pequim No. 202-A, Macau Finance Centre 9/J, Macau, including all MUSIC Group companies

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MUSIC Group Research UK Limited  
ATTN: Linux Programs CD for MIDAS™/KLARK TEKNIK™  
Walter Nash Road,  
Kidderminster.  
Worcestershire.  
DY11 7HJ.  
England.

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# MIDAS DL150 Series



The DL150 Series - front panels

## 1. Introduction

### Welcome!

Thank you for purchasing one of the DL150 Series Audio System I/O units.

The MIDAS DL150 Series Audio System I/O units are housed in a rugged 19" 2U rack-mount chassis with cosmetic trim, suitable for use and storage in a road flight case.

All user interface controls and feedback are located on the front panel. User interface controls are laid out for ease of operation with consideration for the amount of user feedback required. All switches are high quality momentary type with integral blue LED illumination and printed switch caps.

All primary connectors are on the rear of the unit. All inputs and outputs are on balanced XLR connectors. All analogue audio inputs and outputs are tolerant of 48V connection and short circuit protected. The DL150 series only use Neutrik XLR connections.

The DL150 series I/O units are mixed technology products combining analogue and digital circuitry. These are combined on the input and output cards using multi-layer horizontal PCBs. Extreme care has been taken when planning and executing the PCB layout to maintain good grounding and analogue/digital separation.

The DL150 series units use proven technology from the D251 I/O unit from the current MIDAS range. The analogue input and output cards are identical, the AES3 digital card is similar to the one used in the PRO2 surface and the CPU card is a modified version of the one used in the DL251.

The user interface software is based on the same menu system currently used on the DL451 and has provision for all of the functions these units can perform.

Equipped with 24 channels of MIDAS premium mic-pre amplifiers with 2.5dB ultra precise gain steps the DL150 Series are the ideal partner to the PRO1 and PRO2 digital consoles, significantly increasing mixable mic inputs.

User interface controls and feedback are accessed via an intuitively laid out front panel. The controls and LED indicators provide ease of use and instant at a glance feedback. All primary connections use high quality balanced XLR connectors.

### Integration Within The MIDAS Product Range

Styled to match existing MIDAS console livery, MIDAS high performance I/O has never been easier or more cost effective.

### Features

- 96 kHz sample rate operation
- Dual AES50 Neutrik etherCON network ports with LED status indicators
- All settings programmable from either the front panel controls or console
- Remote operation up to 100 m via CAT5 /5e cable
- PSU status indicator LEDs and configuration LCD display on front panel
- Rugged 2U rackmount chassis for durability in portable applications
- Auto-ranging universal switch-mode power supply

## Individual Specifications

### DL151

- 24 award-winning MIDAS analogue mic preamps with switchable +48 V phantom power

### DL152

- 24 active-balanced low impedance line-level outputs

### DL153

- 16 award-winning MIDAS analogue mic preamps with switchable +48 V phantom power
- 8 active-balanced low impedance line-level outputs

### DL154

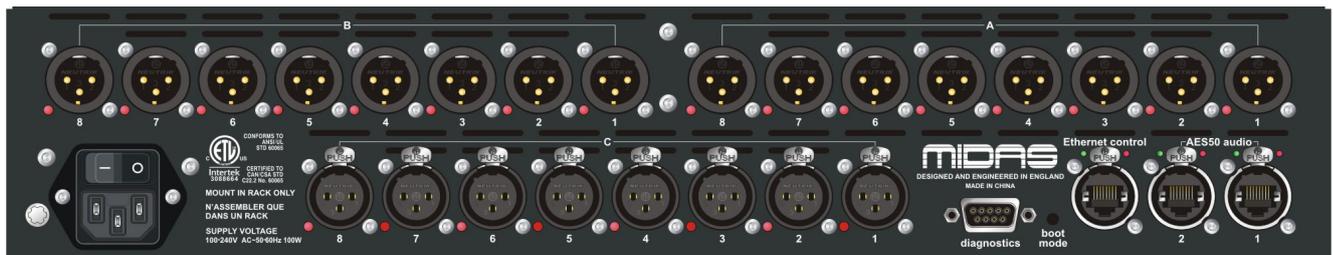
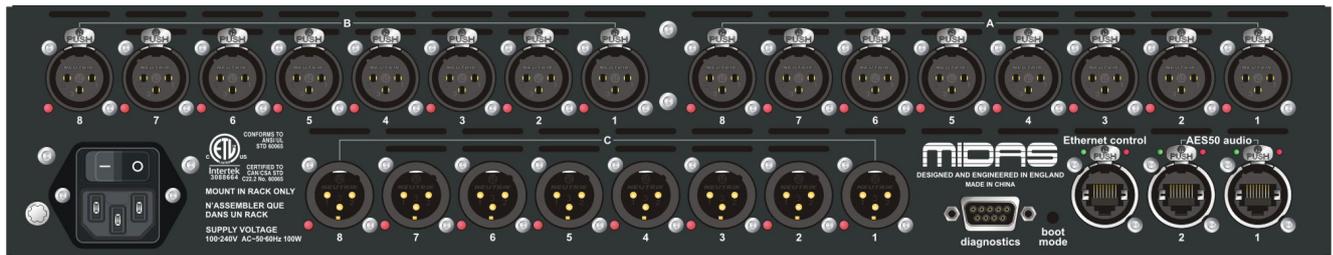
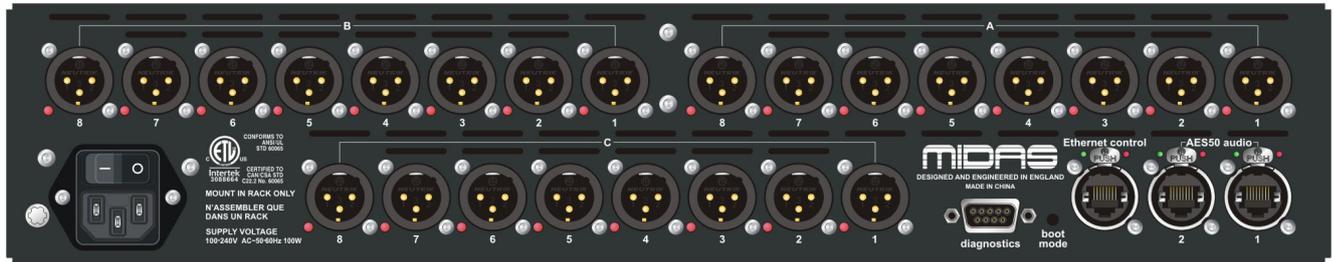
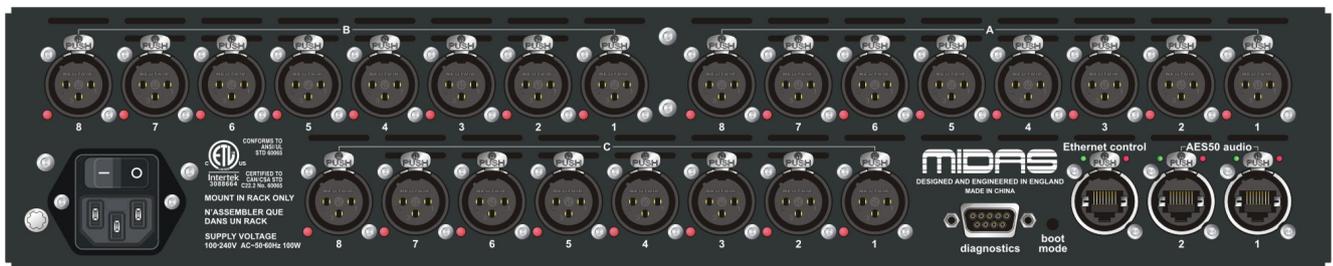
- 16 active-balanced low impedance line-level outputs
- 8 award-winning MIDAS analogue mic preamps with switchable +48 V phantom power

### DL155

- 8 award-winning MIDAS analogue mic preamps with switchable +48 V phantom power
- 8 active-balanced low-impedance line level outputs
- 8 AES3 (AES/EBU) digital inputs and 8 AES3 outputs on XLRf/XLRm

## About this manual

This is the operation manual for the DL150 Series Audio System I/O units. It is intended to help get your unit installed and in operation as quickly as possible by giving you unpacking, installation, connection, setting up and operating instructions. To help familiarise you with the DL150 Series, there is a description of the front and rear panels, along with easy-to-follow user instructions.



The DL150 Series - rear panels. Showing from top to bottom, DL151, DL152, DL153, DL154, DL155

## 2. Getting Started



This section shows you how to unpack, install, connect up, switch on and configure the DL150 Series I/O unit.

**This equipment is supplied by a mains voltage that can cause electric shock injury.**

Before installing, setting up or operating this equipment, make sure that you have read and fully understand all of this section and the "Important safety instructions" at the front of this manual. Refer to additional safety information on the top cover of the unit.

### Unpacking

Carefully unpack your DL150 Series I/O unit. Then, inspect the DL150 Series I/O unit carefully for any signs of damage that may have occurred during transit and notify the courier immediately if you discover any.

Check the contents of your DL150 Series I/O unit equipment package. If there are any parts missing, incorrect or faulty, please contact your local distributor or MIDAS at the address at the front of this manual.

Please retain the original packing in case you should need to return the equipment to the manufacturer or supplier, or transport or ship the unit later.

## Installation

Before installing and operating this equipment, make sure it is correctly connected to the protective earth conductor of the mains voltage supply socket outlet through each mains lead.

Ideally a cool area is preferred, away from power distribution equipment or other potential sources of interference.

Do not install the equipment in places of poor ventilation.

Do not install this equipment in a location subjected to excessive heat, dust or mechanical vibration. Allow for adequate ventilation around the equipment, making sure that its fans and vents are not obstructed. Whenever possible, keep the equipment out of direct sunlight.

Mount in rack only.

## Power

The internal power supplies are of the switch mode type that automatically senses the incoming mains voltage and will work where the nominal voltage is in the range 100VAC to 240VAC.

The correct leads for connection in the area to which the unit was shipped are supplied with the unit. The equipment should only be plugged into the mains outlets using the supplied leads.

Make sure the plug fitted on the supplied mains cable is securely fitted to the mains IEC connector on the unit. When fitting or removing a plug, always hold the plug itself and never use the cable, as this may damage it. Never insert or remove an electric plug with wet hands.

## Handling the equipment

When lifting or moving the equipment, always take its size and weight into consideration.

Completely isolate the equipment electrically and disconnect all cables from the equipment before moving it.

Do not insert your fingers or hands in any gaps or openings on the equipment, for example, vents.

## Electric fields

In accordance with Part 15 of the FCC Rules & Regulations, "... changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment."

Should this product be used in an electromagnetic field that is amplitude modulated by an audio frequency signal (20Hz to 20kHz), the signal to noise ratio may be degraded. Degradation of up to 60dB at a frequency corresponding to the modulation signal may be experienced under extreme conditions (3V/m, 90% modulation).

## Connecting up

The DL150 Series uses the following leads and connectors:

### Primary Analogue Inputs:

Mic/Line Inputs - Balanced XLR connectors - 10K load

### Primary Analogue Outputs:

Main Outputs - Balanced XLR connectors - 50R Source

### Primary Digital Inputs:

XLR connectors - 110R

### AES50 Connections:

Neutrik Ethercons with status indication

### Ethernet Control Connection:

Neutrik Ethercon with status indication

### Diagnostics Connection:

9W Female 'D' type connector

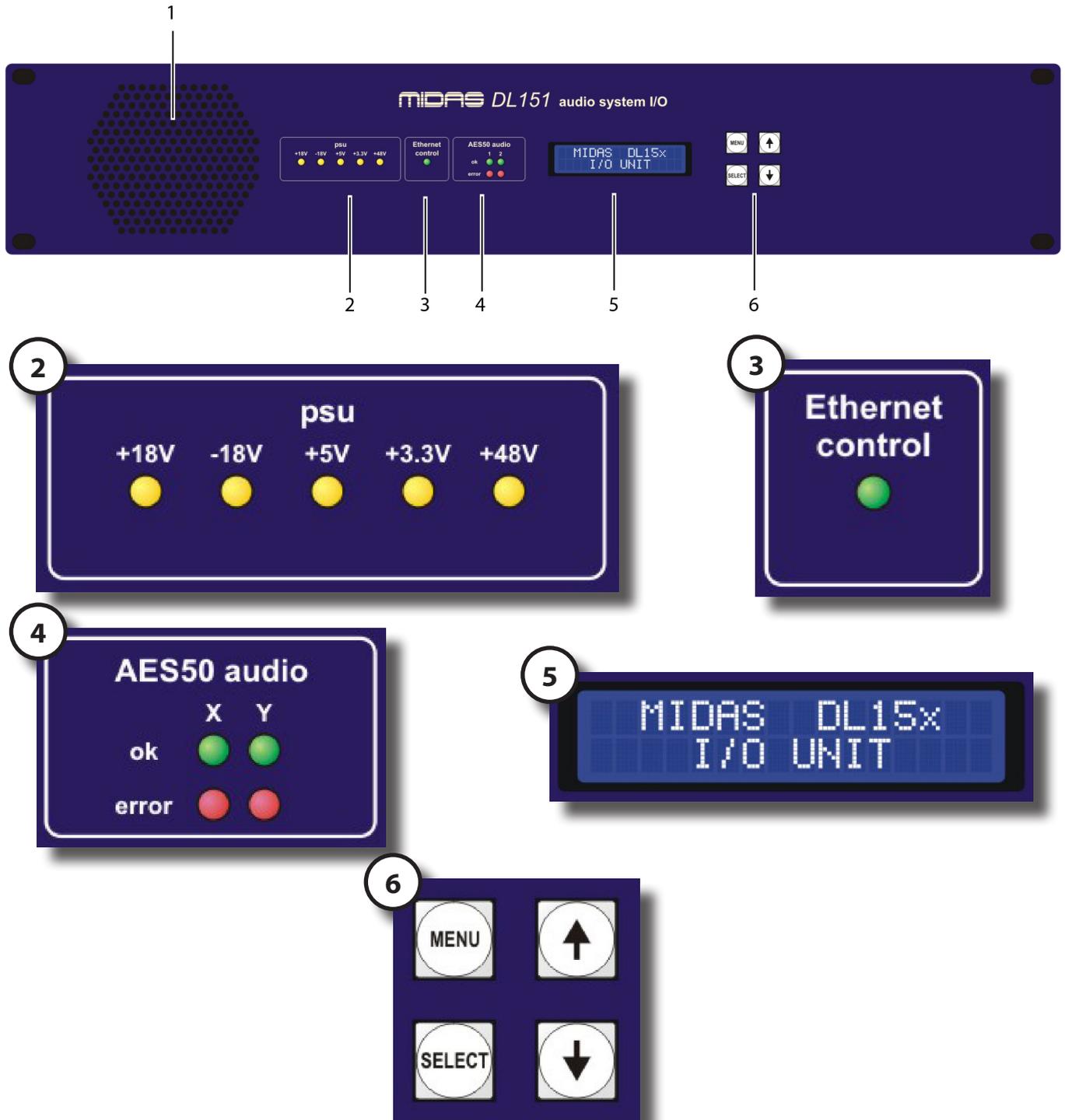
### Power Connections:

IEC mains inlet - 100-240V AC~50-60Hz

For further information about the connectors used in conjunction with the DL150 Series, see Section 5. Connectors.

## 3. Front Panel

The front panels of the DL150 Series units are all similar and are described here, with the DL151 being used for illustration purposes. The individual components are shown in more detail below.



**1 Ventilation Grill - DO NOT OBSTRUCT**

**2 PSU Status Indication** - Power supply status LEDs for each power rail. An LED will illuminate when its respective voltage rail is active.

**3 Ethernet Control Status** - Green status LED for the Ethernet control port. The single green LED has three states of illumination: *flashing* = active; *on* = connected; and *off* = not connected.

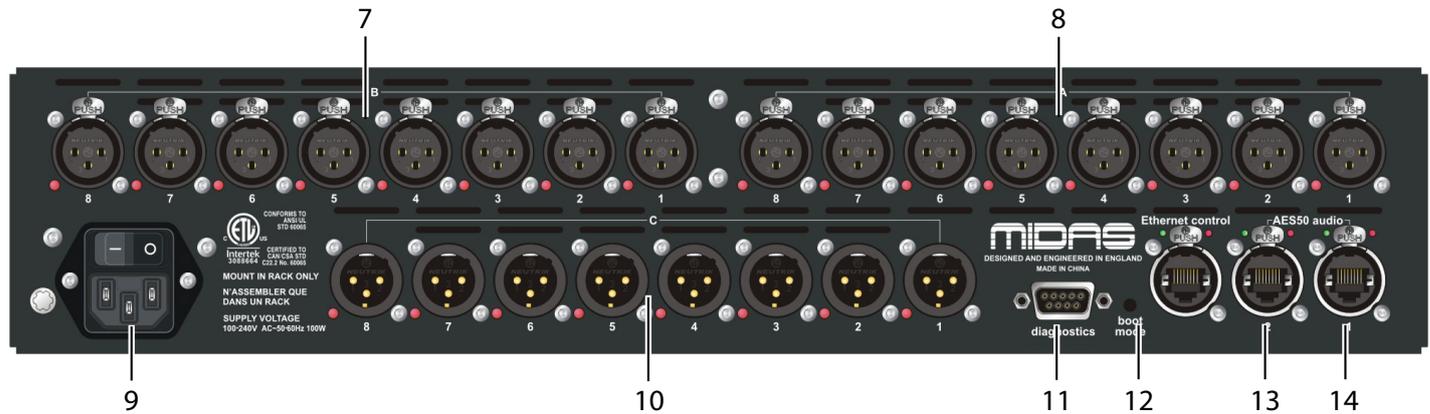
**4 AES50 Status Indication** - This panel shows the health status of the communications of the AES50 connections. If the green ok LED is illuminated, communication is good. However, if the red error LED is illuminated, there is a problem on that connection.

**5 LCD Display** - 2 x 16 character blue backlit liquid crystal display.

**6 Configuration Control** - 'Menu', 'Select', 'Up' and 'Down' buttons for configuring menu items.

## 4. Rear Panel

The rear panels of the DL150 Series units are also similar and are described here, with the DL153 being used for illustration purposes.



- 7 **I/O Card 'B'** - 8-channel I/O card position.
- 8 **I/O Card 'A'** - 8-channel I/O card position.
- 9 **Mains Power Inlet** - IEC inlet with integral mains switch.
- 10 **I/O Card 'C'** - 8-channel I/O card position.
- 11 **Diagnostics port** - 9W 'D' connector for diagnostics use. **This is not an operator function and is only to be used by service personnel.**
- 12 **Activate Boot Mode** - the boot mode switch selects between normal operation and a service personnel-only configuration boot mode. **This is not an operator function and is only to be used by service personnel.**
- 13 **Ethernet Control Port** - 1 x rugged Neutrik 'Ethercon' connector with integral status LEDs.
- 14 **AES50 Ports** - 2 x rugged Neutrik 'Ethercon' connectors with integral status LEDs.

For the I/O cards above (7, 8 & 10) each of the DL150 Series will have a different configuration, as shown below:

### DL151

- 24 female XLR chassis connectors, which provide inputs for mic/line equipment. Each socket has a red LED that illuminates when +48V phantom power is on for that input.

### DL152

- 24 male XLR chassis connectors, which provide outputs for line equipment. Each socket has a red LED that illuminates when mute is on for that output.

### DL153

- 16 female XLR chassis connectors, which provide inputs for mic/line equipment. Each socket has a red LED that illuminates when +48V phantom power is on for that input.
- 8 male XLR chassis connectors, which provide outputs for line equipment. Each socket has a red LED that illuminates when mute is on for that output.

### DL154

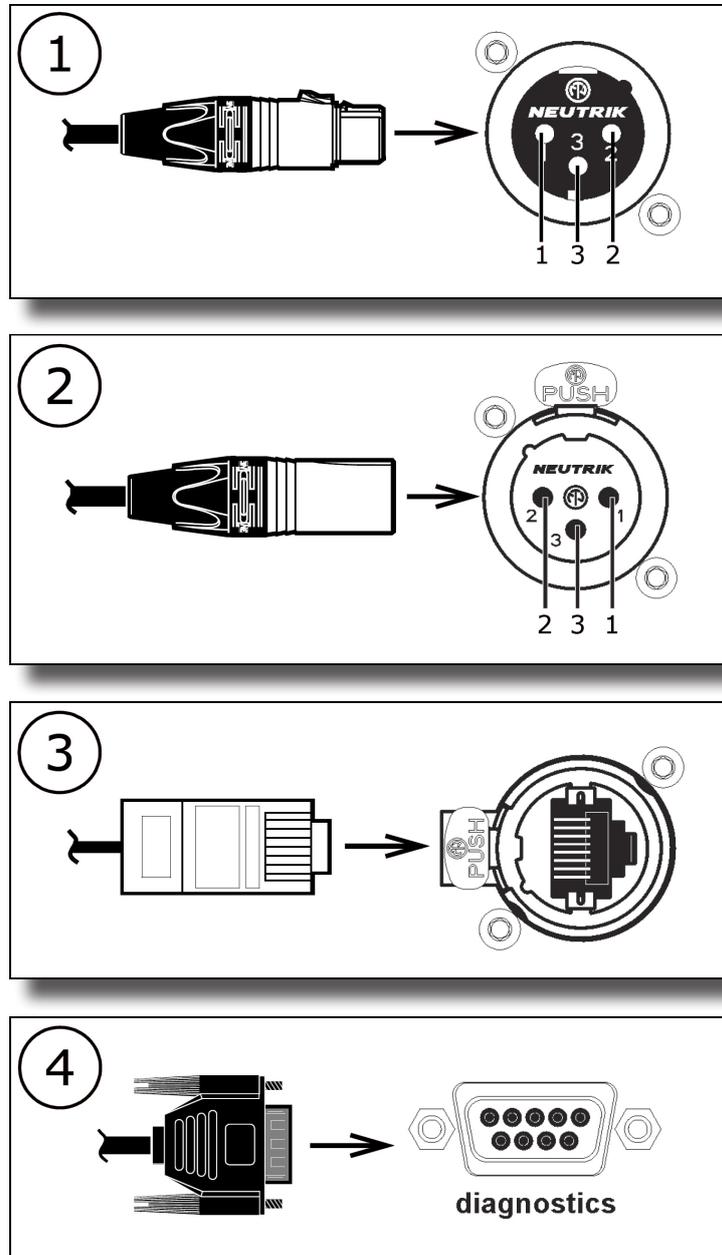
- 16 male XLR chassis connectors, which provide outputs for line equipment. Each socket has a red LED that illuminates when mute is on for that output.
- 8 female XLR chassis connectors, which provide inputs for mic/line equipment. Each socket has a red LED that illuminates when +48V phantom power is on for that input.

### DL155

- 8 male XLR chassis connectors, which provide outputs for line equipment. Each socket has a red LED that illuminates when mute is on for that output.
- 8 female XLR chassis connectors, which provide inputs for mic/line equipment. Each socket has a red LED that illuminates when +48V phantom power is on for that input.
- 8 AES3 (AES/EBU) digital inputs and 8 AES3 outputs on XLRf/XLRm.

## 5. Connectors

To ensure the correct and reliable operation of the equipment, only high quality balanced, screened, twisted pair audio cable should be used. XLR connector shells should be of metal construction so that they provide a screen when connected to the console/snake and, where appropriate, they should have Pin 1 connected to the cable screen.



- 1 **Line output audio connector.** Female XLR plug and male XLR chassis connector with the following pinouts: 1 = ground; 2 = hot; and 3 = cold.
- 2 **Mic/line input audio connector.** Male XLR plug and female XLR chassis connector with the following pinouts: 1 = ground; 2 = hot; and 3 = cold.
- 3 **Ethernet socket.** RJ45 plug and EtherCon® socket.
- 4 **Diagnostics.** 9-way, D-type plug and socket.

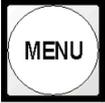
# 6. Operation

## Programming Mode

This chapter describes the programming mode of the DL150 Series Fixed-Format I/O Unit.

### Menu navigation

The four programming buttons in the control panel have the following functions.

<i>Navigation buttons</i>	<i>Usage</i>
	Moves up a menu level. Exits programming mode, depending on the current menu level.
	Moves down a menu level or selects the current option.
	Scrolls through the current level of menus/options.
	Scrolls through the current level of menus/options in the opposite direction to the up arrow button.

The menu flowchart (see “Menu flowchart (options 1 to 4)” on page 15) gives an overview of all the menus and their options, and shows you how to navigate your way around them. In the diagram the menus are shown on the left, and each subsequent lower level is to the right. Also, non-flashing options are the ones currently selected.

### To enter/exit programming mode

To enter programming mode, press the **MENU** button and hold down for approximately two seconds; the default display will change to the “Main menu” display for the first option (see display **A** on page 15).

To exit programming mode from any menu display screen, press **MENU** repeatedly until you reach the default screen. The unit will exit programming mode automatically after about 20 seconds of inactivity if none of the programming buttons are pressed within that time.

### To select a menu

In programming mode, scroll to the menu you want by using the up/down arrow buttons, then press **SELECT**.

### Menus

The four menus in programming mode are as follows:

1. **AES clock** — for selecting the method for synchronising the AES50 (see “1 AES clock menu” below).
2. **Set ID** — for setting up the unit’s network ID (see “2 Set ID menu” below).
3. **CBMA Version** — for viewing the unit’s CBMA version number.
4. **Software Vers.** — for viewing the unit’s software version number.

In programming mode the four programming buttons in the control panel are used to navigate and select options from a number of menus (see “Menu flowchart” on page 15), which let you set up the unit and view information.

## 1 AES clock menu

This menu lets you set up the clock source of the DL150 Series Fixed-Format I/O Unit as internal or external, for AES synchronisation.

### To set up the unit's clock source

1. In programming mode, select menu 1 (see "To select a menu" on page 13). The current clock source is shown on the bottom line of the display, for example, "Internal clock".

```
AES clock select
Internal clock
```

2. Use the down arrow to select the AES clock source you want, for example, "External clock". The bottom line will flash to show that this option is not currently selected.

```
AES clock select
External clock
```

3. Press **SELECT**. The bottom line will stop flashing to show that this option has been selected.

4. Press **MENU**.

```
Main menu
1 AES clock
```

## 2 Set ID menu

This menu lets you set up the network ID of the DL150 Series Fixed-Format I/O Unit, which can be any number from 1 to 18.

### To set up the ID of the unit

1. In programming mode, select menu 2 (see "To select a menu" on page 13). The current ID is shown on the bottom line of the display, for example, "1".

```
Select ID
1
```

2. Use the down arrow to go to the ID you want, for example, "7". The ID will flash to indicate that it is not currently selected. If you don't want to change the ID number, go to the "Unchanged" option, which is between "1" and "18".

```
Select ID
7
```

3. Press **SELECT**.

```
Trying ID
7
```



```
Saving new ID
7
```



```
Main menu
2 Set ID
```

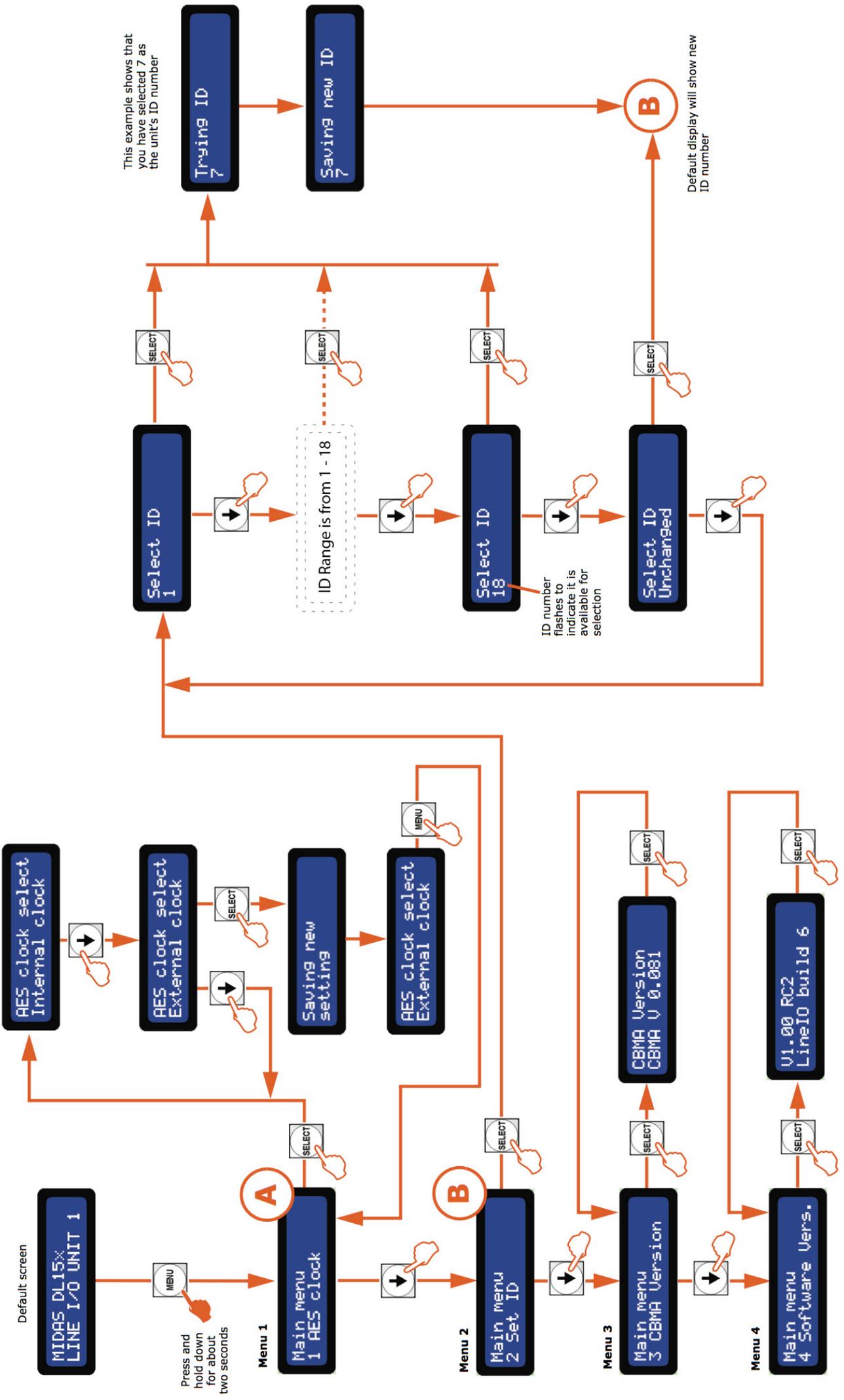
4. Press **MENU**.

```
Main menu
1 AES clock
```

5. To exit programming mode, press **MENU**. The default display will now show the newly configured ID number at the end of the bottom line.

```
MIDAS DL15x
LINE I/O UNIT 7
```

# Menu flowchart



# 7. Technical Specifications

This section contains the technical specifications for the DL150 Series Audio System I/O units.

Due to our policy of continual improvement, MIDAS reserves the right to alter the function or specification at any time without notice.

External Connections		
Primary Analogue Inputs	Mic / Line inputs - balanced XLR connectors - 10k $\Omega$ load	
Primary Analogue Outputs	Main Outputs - balanced XLR connectors - 50 $\Omega$ source	
Primary Digital Inputs	XLR connectors - 110R	
AES50 Connections	Neutrik Ethercon with status indication	
Diagnostic Connection	9W female 'D'-type connector	
Power Connections	IEC mains inlet - 100-240V AC~50-60Hz $\pm$ 10%	
Audio Electronic Specifications		
Maximum Input Level	Mic/Line (at unity gain)	+21dBu
	Mic/Line (at -2.5dB gain)	+24dBu
CMRR at 1kHz (typical)	Mic (at unity gain)	> 60dB
	Mic (at 40dB gain)	> 90 dB
Noise	Mic EIN at 40dB gain	-126dBu
	Output noise at unity gain	-86dBu
Frequency Response	(20Hz - 20kHz), relative to 1kHz	$\pm$ 0.5dB
Distortion at 1kHz	Input to output (0dB)	< 0.01%
Crosstalk at 1kHz	Channel to channel	< -90 dB
Maximum Output Level	Line outputs (into 600R)	+21dBu
Dynamic Range at 1kHz	22Hz - 22kHz (at unity gain)	> 107dB unweighted (20Hz - 20kHz)
Power Requirements		
Voltage	100V AC to 240V AC $\pm$ 10%	
Frequency	50Hz to 60Hz	
Consumption	<150W	
Physical		
Height	Approx 88.1mm (2U)	
Width	Approx 482.6mm (19.0")	
Depth	Approx 380mm (15.0")	
Net Weight	Approx 5kg	
Shipping Weight	Approx 6kg	
Operating temperature range	+5°C to 45°C	
Storage temperature range	-20°C to +60°C	

# 8. Service Information

This section gives you servicing information for your unit.

If you are in any doubt or have queries about any of the procedures in this section, contact MIDAS Technical Support. Contact details can be found at the front of this manual.

## Routine maintenance

To help keep your unit in good working order and to make sure it gives you optimum performance, we recommend that you adhere to the following maintenance schedules.

Action	Monthly	Yearly
Clean the unit (see "Cleaning the unit" below).	Yes	-
Check all controls, such as pushbuttons, for freedom of operation.	Yes	-
Check the functionality of all controls and indicators, such as LEDs.	Yes	-
Check the functionality of the equipment.	Yes	-
Clean the internal fans (see "Cleaning the internal fans" below).	-	Yes

## Cleaning the unit



**Switch off the unit and electrically isolate it from the mains before cleaning.**

Clean the unit using a dry, lint-free cloth. Don't use harsh abrasives or solvents.

## Cleaning the internal fans



**This procedure must be carried out by a fully qualified service engineer.**

The unit's internal fans need to be cleaned regularly to remove the build up of dust, dirt, etc. We recommend that they are cleaned at least once a year, provided the unit has been operated under normal conditions. However, if the operating conditions are more adverse or extreme, for example, if the unit is operated in the vicinity of smoke machines, new carpets, etc., this frequency should be increased accordingly.

## Equipment disposal

When this equipment has come to the end of its useful life, its disposal may come under the DIRECTIVE 2002/96/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 27 January 2003 on waste electrical and electronic equipment (WEEE).

Hazardous substances in WEEE contaminate water, soil and air and ultimately put at risk our environment and health. The directive aims to minimize the impacts of WEEE on the environment during their life times and when they become waste.

The WEEE directive addresses the disposal of products when they have reached the end of their life and contributes to the reduction of wasteful consumption of natural resources. This will help to reduce pollution, and protect the environment and ourselves.



If this equipment carries a 'crossed-out wheeled bin' (shown left), please do not dispose of WEEE as unsorted municipal waste but collect and dispose of in accordance with local WEEE legislation. The horizontal bar underneath indicates that the product was placed on the EU market after 13th August 2005.

For WEEE disposal, see our website at [www.midasconsoles.com](http://www.midasconsoles.com) for information.

# Other important information

## EN Important information

**1. Register online.** Please register your new MIDAS equipment right after you purchase it by visiting [www.midasconsoles.com](http://www.midasconsoles.com). Registering your purchase using our simple online form helps us to process your repair claims more quickly and efficiently. Also, read the terms and conditions of our warranty, if applicable.

**2. Malfunction.** Should your MUSIC Group Authorized Reseller not be located in your vicinity, you may contact the MUSIC Group Authorized Fulfiller for your country at [www.midasconsoles.com](http://www.midasconsoles.com). If your country is not listed please contact the "United Kingdom (MIDAS/KT main office)" located under "Service Service/ Repairs" on the [www.midasconsoles.com](http://www.midasconsoles.com) website. Alternatively, please submit the online warranty return form found under "Service Warranty Registration" on [www.midasconsoles.com](http://www.midasconsoles.com) BEFORE returning the product. All enquires must be accompanied by the description of the problem and the serial number of the product. The warranty eligibility will be verified from the original sales receipt.

**3. Power Connections.** Before plugging the unit into a power socket, please make sure you are using the correct mains voltage for your particular model. Faulty fuses must be replaced with fuses of the same type and rating without exception.

# FEDERAL COMMUNICATIONS COMMISSION COMPLIANCE INFORMATION



**MUSIC Group Research UK Limited**

**DL150 Series**

Responsible Party Name: **MUSIC Group Research  
UK Limited**

Address: **Klark Industrial Park,  
Walter Nash Road,  
Kidderminster. Worcestershire.  
DY11 7HJ. England.**

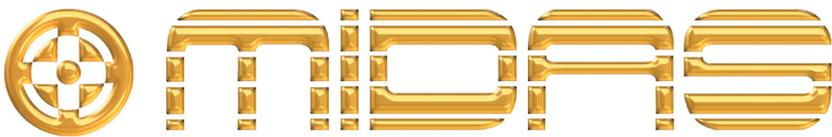
Phone/Fax No.: **Phone: +44 1562 741515  
Fax: +44 1562 745371**

**DL150 Series** complies with the FCC rules as mentioned in the following paragraph:

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

### **Important information:**

Changes or modifications to the equipment not expressly approved by MUSIC Group can void the user's authority to use the equipment.



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