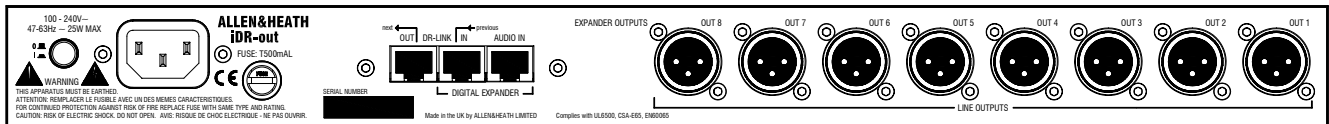
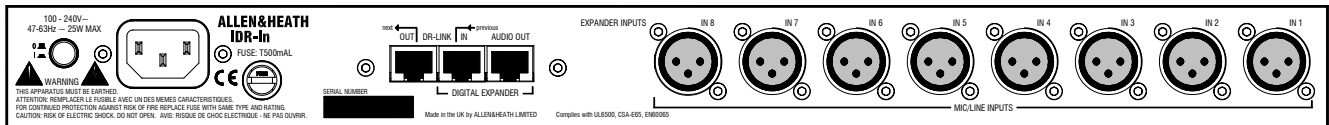


ALLEN&HEATH

iDR-in/out EXPANDER

AP4774

User Guide



iDR-in and **iDR-out** are add-on audio expander units for the Allen & Heath **iDR-4** and **iDR-8** audio mix processors. They provide additional analogue audio inputs and outputs to add to those on the main unit. The **iDR-in** has 8 mic/line inputs, the **iDR-out** has 8 line outputs. One or both may be connected to the **iDR**. Only one of each may be added to the **iDR** system bringing it up to a maximum 16x16 audio matrix. These units do not have any processing built in. They simply convert between analogue and digital audio to work with an 8 channel wide digital bus which feeds the main unit via a CAT5 STP cable. The **iDR-in** features high grade mic/line preamps with PC configured gain, pad and phantom power switching, and a built-in soft clip limiter. The **iDR-out** provides electronically balanced differential outputs. The processing is available on the main **iDR-4** or **iDR-8** unit which features the full 16x16 DSP matrix. Both units have 8 front panel LEDs in addition to the 3 status indicators. These are 3-colour soft LEDs which can be assigned as audio meters, mute indicators or patch related indicators. They are programmed in the usual way using the **iDR** System Manager software. Control of the expanders is via the DR-Link port using a CAT5 STP cable. This means that two CAT5 cables are required to interconnect an expander to the main unit. Maximum distance between the units is 250 metres. Local mains power is required.



This product complies with the European Electromagnetic Compatibility directives 89/336/EEC & 92/31/EEC and the European Low Voltage Directives 73/23/EEC & 93/68/EEC.

NOTE: Do not remove the cover of the unit. There are no user serviceable parts inside. Any changes or modifications to the equipment not approved by Allen & Heath could void the compliance of the equipment and therefore the users authority to operate it.

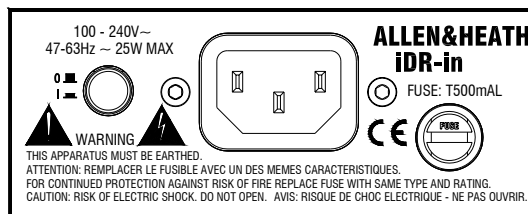
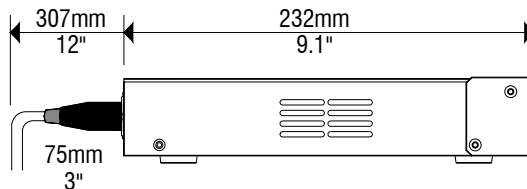
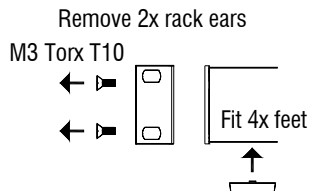
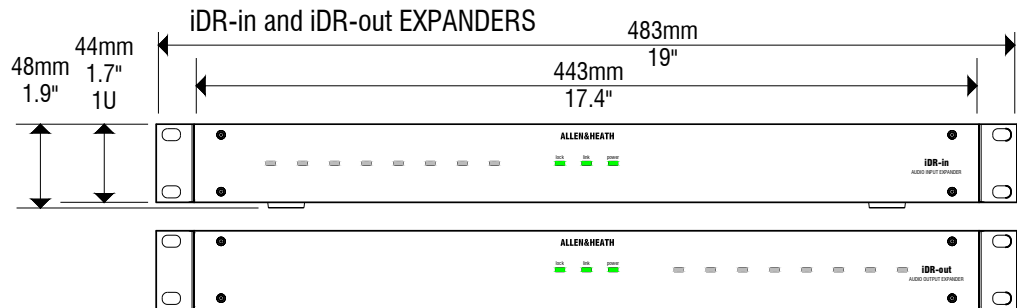
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Whilst we believe the information in this guide to be reliable we do not assume responsibility for inaccuracies. We also reserve the right to make changes in the interest of further product development.

The **iDR-in** and **iDR-out** expanders can be rack mounted or free standing. There are no user controls on the front panel, only the status and assignable LEDs. Allow a minimum of 75mm clearance behind the unit for the connectors and cables. Ensure adequate ventilation to the side of and behind the unit.

It is shipped with its rack ears fitted and its feet removed ready to be mounted in a standard 19" equipment rack. 1U rack space is required. For desk mount operation remove the two rack ears using a Torx (star head) T10 screwdriver. Fit the four plastic feet provided by pressing them into the underside.



Make sure you have read the Important Safety Instructions printed earlier. Also check that your local mains supply is compatible with that printed on the rear panel of the unit. Ensure that the correct mains lead with moulded plug and IEC connector has been supplied. For your own safety and optimum performance make sure the system is correctly grounded.

To avoid any unexpected audible clicks or thumps always turn connected power amplifiers down or off before switching the iDR or any other signal equipment on or off.



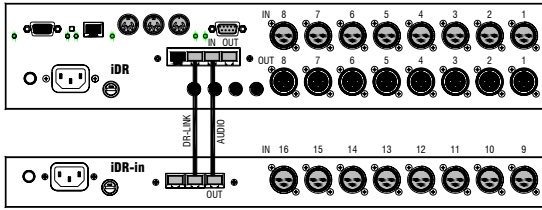
Turning the expander on or off First make sure the unit is correctly plugged up and connected to the **iDR-4(8)**. This is described below. Turn the unit on by pressing the rear panel power ON/OFF switch. The power LED lights up. The link LED lights if the DR-Link connection is established with the **iDR-4(8)**. The lock LED lights once the link is established and audio is correctly communicated with the **iDR-4(8)**. The iDR System Manager detects the presence of the expander.

If one or more of the LEDs do not light then check that the cables are correctly fitted and the **iDR-4(8)** is functioning normally.

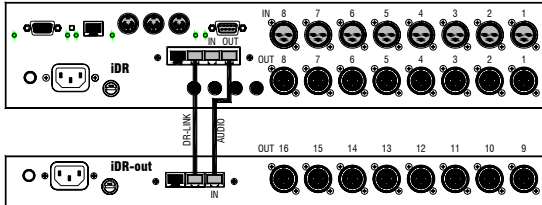
Checking for expanders You can use the front panel **iDR-4(8)** Setup menus to check if any expanders are connected and recognised. This is useful when the expanders are located far away from the main unit. With the face plate removed access menu *8 Diagnostics and scroll to Audio Exp. Refer to the **iDR-4** user guide AP5230 or **iDR-8** user guide AP4530 for further details.

***8 Diagnostics
Audio Exp:In/Out**

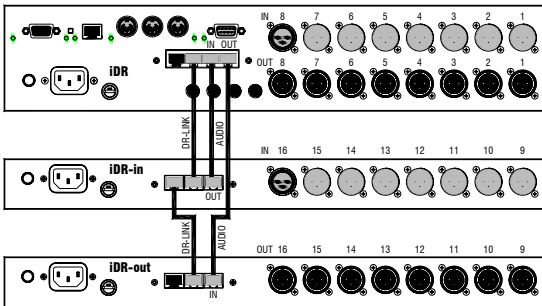
CONNECTING THE INPUT EXPANDER



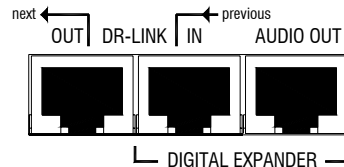
CONNECTING THE OUTPUT EXPANDER



CONNECTING BOTH EXPANDERS

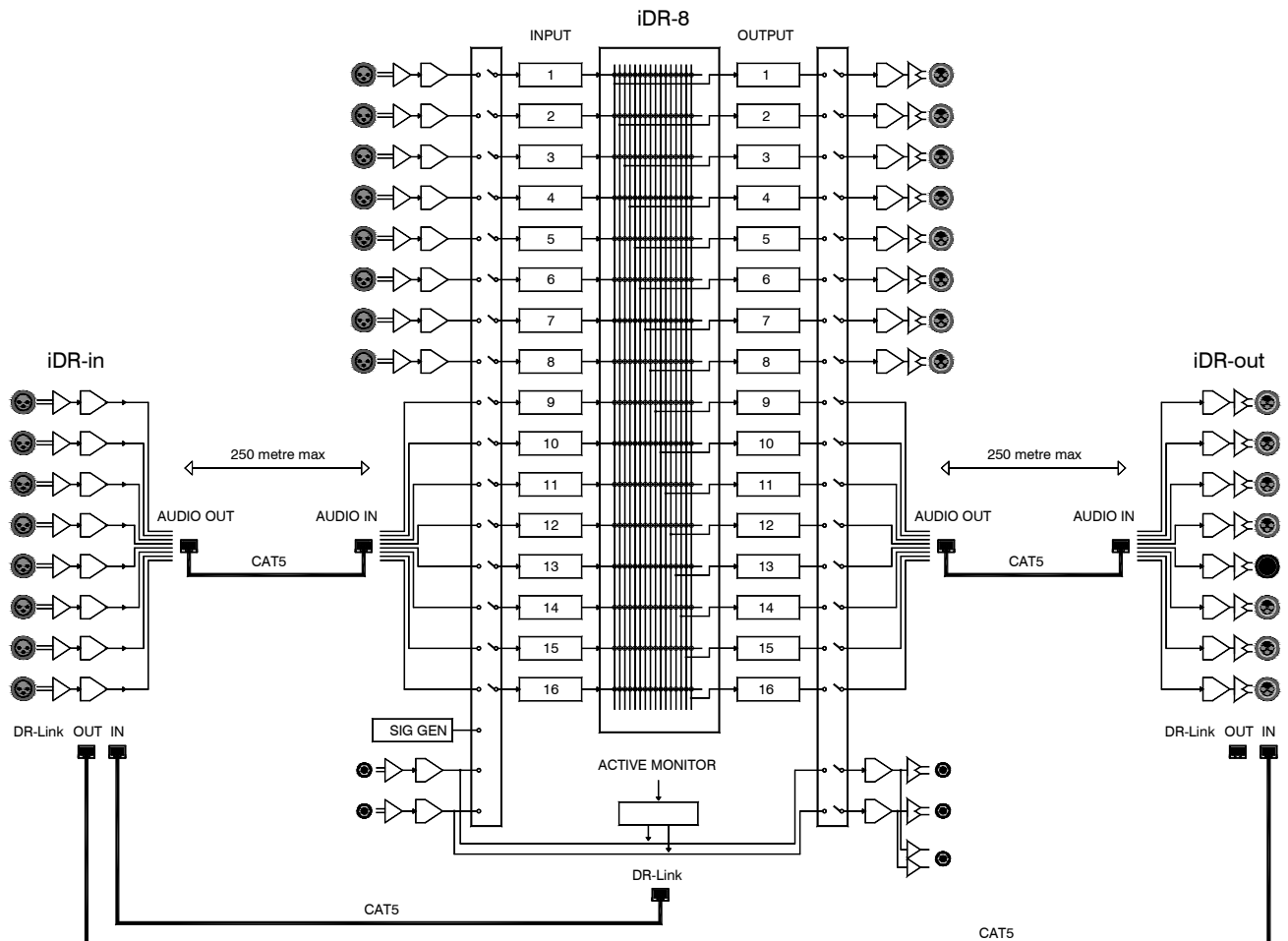


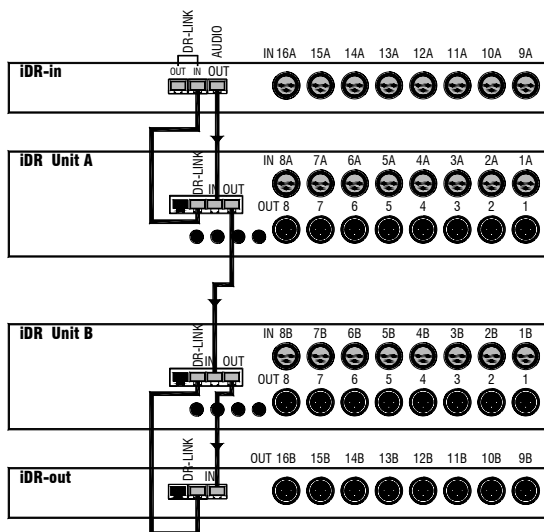
Connecting to the iDR-4(8) You can connect either or both expanders according to the requirements of your application. The **iDR-in** AUDIO OUT connects to the **iDR-4(8)** AUDIO IN. The **iDR-out** AUDIO IN connects to the **iDR-4(8)** AUDIO OUT. Ensure that the expander DR-Link IN connects to DR-Link on the **iDR-4(8)** it is associated with. If both expanders are used with the same **iDR-4(8)** then daisy chain from DR-Link OUT on one to DR-Link IN on the other. DR-Link can also be daisy chained from or to **iDR-switch** units if you are using them as well.



Fully expanded iDR-4(8) The diagram below shows the **iDR-8** with both the input and output expanders fitted. Note the connection of DR-Link which is daisy chained from one unit to the next. If an **iDR-switch** unit is also fitted then daisy chain DR-Link from the last expander to the switch box. Make sure you plug into the correct DR-Link socket.

Use CAT5 STP cable. A pair of standard 2 metre cables is provided with each expander. Maximum cable length is 250 metres. This means that the expander units can be used for remote audio over CAT5 cable.





Expanded multiple iDR system This diagram shows an iDR system with two **iDR-8** units and both expanders fitted. A system could also be created with **iDR-4** units or a mix of **iDR-4** and **iDR-8** units. DR-Link is only required to connect to the expanders, not between the main units. Make sure you connect DR-Link to the **iDR** associated with each expander. Make sure you plug into the correct DR-Link socket. In this case do not daisy chain DR-Link from one expander to the other.

Use CAT5 STP cable. Maximum cable length is 250 metres. Maximum audio matrix is 16x16. The audio link cable carries 8 channels. This can provide a distributed system with 8 common channels and 8 local channels at each unit.

Mic/Line Inputs x8

Female 3pin XLR
Electronically balanced, pin 2 hot
Impedance 2k (pad out), >10k ohm (pad in)
Sensitivity -50dBu to +5dBu
Gain range -15 to +50dB in 3dB steps
Pad -20dB
Sensitivity (pad out) -50 to -5dBu
Sensitivity (pad in) -30 to +15dBu
Maximum input level +33dBu
Pre converter soft limiter -4dBFS, switchable
Phantom power +48V DC switched

Line Outputs x8

Male 3pin XLR
Electronically balanced, pin 2 hot
Impedance <75 ohms
Maximum output +18dBu

Expander Input / Output Port

RJ45 connector
Proprietary 8 channel digital audio
Connects to **iDR-4** or **iDR-8** main unit
CAT5 STP cable up to 250 metres (825 feet)

Converters

24bit resolution
A/D dynamic range 109dB A-weighted
106dB unweighted
D/A dynamic range 115dB A-weighted
112dB unweighted

DR-Link Port

Serial control of iDR expander units
Proprietary Allen & Heath control protocol
RJ45 connector
IN and OUT ports provided to allow daisy chaining through multiple units
CAT5 STP cable up to 300 metres (1000 feet)

Performance

Frequency response 20Hz-20kHz +0/-0.5dB
Crosstalk <-80dB @ 1kHz, 0dB gain
THD+noise <0.01% @ 1kHz, 0dBu
Residual output noise <-93dBu
Input to output noise @ 0dB gain <-87dBu
Input to output noise @ 50dB gain <-73dBu
Latency <2.4ms expander XLR to/from **iDR** XLR
This is <0.084ms additional to **iDR**

Status LEDs

Power –mains power on
Link – iDR-Link control communicating
Lock –audio communicating

Soft LEDs

Assignable by the installer
iDR-in 8x front panel
iDR-out 8x front panel
3-colour – green, yellow, red, off
Function 3-colour signal meters
Mute on/off
Static patch related

Power Supply

Universal mains input switched mode design
IEC 3pin
Country dependent mains lead supplied
Rear panel power on/off switch
AC mains input 100-240V AC 50/60Hz
25VA max
Fuse T500mA 20mm

Mechanical

1U rack	483 x 232 x 44mm 19" x 9.1" x 1.7"
Desk	443 x 232 x 48mm 17.4" x 9.1" x 1.9"
Weight	3.5kg, 7.7lbs

