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iDR SERIES WHAT IS IT?

The **iDR** is a **16 x 16 matrix mixer** with an extensive array of audio management tools designed to reduce the need for additional devices to be specified for an installation, or carried in the hire inventory. Pedigree **ALLEN&HEATH** preamps, 24bit converters and fixed DSP architecture ensure that concert-quality low-latency sound is delivered efficiently to where it is needed.

Anyone with a basic knowledge of traditional console and outboard equipment will be able to design a distributed audio system on their PC using the 'mixer' based **iDR** System Manager software - download it free from www.**idr**series.com.

iDR comes loaded with flexible DSP tools, essential in sound system configuration and installation. Input & output delays, 4- and 8-band parametric EQ, automatic microphone mixing, frequency conscious dynamics, look-ahead limiter, ambient noise compensator, crossfader and much more are available at your fingertips without having to worry about running out of DSP. Its system of presets allow for full recall of the whole system or individual parameters at the touch of a button.

After programming, the **iDR** unit operates as a stand-alone system controller, with a host of remote control devices available for day-to-day operation. The **PL** Series complements the powerful features of **iDR** and comprises wall plates, infra-red hand-held or desk mount controllers connecting to the main unit using CAT5 cable over the RS485-based proprietary **PL-Anet** bus, while all the major third party devices may also be used to control **iDR**.

For complex systems, the **iDR** system can be driven in real time by a PC via an Ethernet port, allowing the **iDR** to be used in hire/live audio situations such as matrix distribution in theatres, or clean feed system for an outside broadcast. Why not connect a WiFi card to your laptop, connect to the internet, set up your system and save your settings on the move? Stay in control from anywhere in the world!

iDR SERIES WHY IS IT SO USEFUL?

Network control

The main **iDR** units can be easily controlled and programmed with an Ethernet connection to a PC [or MAC running OSX & PC simulator]. All **iDR** units on a network can be 'seen', by more than one computer, with optional password protection so that operators can be observed by a technician running **iDR** System Manager software - or PL Client software - anywhere on the network or World Wide Web. **iDR** can even output a log of its activities to an email address!

Proprietary TCP/IP devices such as 'WiFi', can be used for cost effective and practical uses; for example, a 'wireless laptop', can be used to commission or update the sound system from exactly where the technician needs to monitor it.

Preset System

iDR provides a system of up to 250 presets for total recall of system settings. A preset can contain the settings for all system devices, e.g. a default preset to set the entire system on power-up, or individual devices can be selected for exclusive change in a preset, e.g. a single EQ or fader gain level. A recall crossfader is provided to fade between different preset levels. Sheduled preset recalls are available, timed from the **iDR** internal clock. Preset recalls can be triggered from **ALLEN&HEATH** equipment (**PL** controllers other **iDR**'s or **iDR**-Switch) or via the serial, MIDI and Telnet ports using third party equipment.

PL-Anet

The **PL** Series is the perfect interface between the **iDR** and the operators on site, providing simple, non-technical switch, indicator display, fader, IR and encoder control options. Furthermore, as the requirements grow at an installation, the control system can too.

PL remotes can simply daisy chain or use the '**PL-Anet**' hub for star wiring applications, and all cabling is CAT5. You as the designer can customize these 'plug-n-play' remotes to do exactly what the customer needs. Each **PL** has its own simulator in **iDR** System Manager software, so you can design and demo the system offline as it will appear when the hardware is in place.

Automatic Level Management

iDR is equipped with several powerful modules to manage a distributed sound system, so an operator or technician doesn't always need to be present. For instance:

- Microphones in a conference situation can be controlled by any one of the four on-board **AMM**'s, so that as more open microphones join in, the gain of the sum is reduced to prevent feedback occurring.
- A comprehensive **Ducking** system is provided with adjustable priorities.
- Ambient Noise Compensator (**ANC**) enables the output level in a zone to be automatically managed in relation to the signal level of the changing background noise level
- **Level Sensing** provides a logic or soft LED output when a pre-set signal threshold is reached, which triggers indicators and other hardware to respond; this allows operations such as camera following.
- 2 independent **paging** systems are provided, with paging to selectable outputs. Paging switches and indicators can be triggered via **A&H** controllers; alternatively, custom paging panels can be created and interfaced with the system.

Expandability

As the system requirements grow, additional **iDR** units or expanders can be added to suit the budget and application. **iDR-8** and **iDR-4** have 8-buss digital expansion ports (RJ45) to allow units to be daisy-chained together, or to add an **iDR-In** or **iDR-Out** 8-channel expander.

The CAT5 cables allow the units to be placed at distances up to 250m apart, allowing, for example, the **iDR-In** to provide 8 XLR mic/line inputs in a function room on a different floor to the control room containing the main **iDR** unit, or, similarly, the **iDR-Out** could be configured as a four-way-stereo XLR output to an amp rack located at the side of a theatre stage.

Furthermore, the 8-buss link can be used to distribute signals around a complex network where **iDR** units communicate via TCP/IP - here, interbox paging and routing is possible.

Audio Quality

Low latency [2.23ms from input to output] and a fixed DSP architecture ensures that the **iDR** system will distribute coherent audio no matter how many modules of DSP are used in the system.

Mic preamp gain is controlled in analogue under software control so levels can be optimised in real time if needed. **iDR-8** has a hardware limiter before the A-D converter so that the contractor can have confidence in the signal integrity, even if input levels exceed what was expected.

Signal Processing

The **iDR-4** & **iDR-8** signal processing architectures provide 16 channels of input processing and 16 channels of output processing, centred around the 16x16 mix matrix. Using the DSP patchbays, the user can configure these channels to either analogue inputs/outputs or to channels on the digital audio expansion port.

Because of the fixed architecture, you do not need to assign DSP into the signal path, or worry about having enough DSP available to do the job. In **iDR**, we have given you the tools you need such as noise gates, compressors, delays, parametric EQ and look-ahead limiters, to start working with live audio straight away.

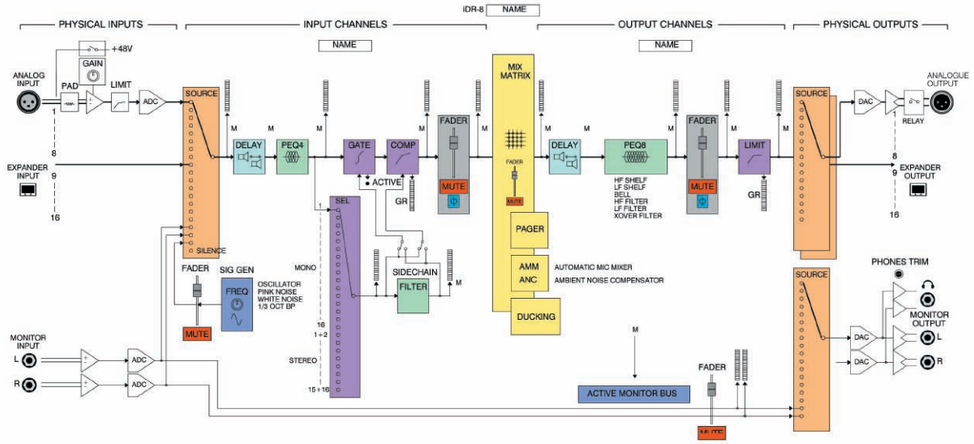
Adjustments are made in real time as there is no compiling to do, and our unique monitor buss allows you to listen to any point in the signal path. Copy and paste any DSP settings to quickly build up a design, save it as a configuration file, and use it as a template for other systems.

MIDI

iDR-8 is equipped with MIDI in/out/thru and custom MIDI commands can be output as presets and recalled on the **iDR**. This allows other audio devices such as samplers and processors to be controlled from the main unit.

For example, dynamic MIDI control from faders, rotary controls and keys in the **iDR** system could interface with a DMX controller, so that basic lighting control can be programmed into **iDR** and run from the **PL** series remote controllers.

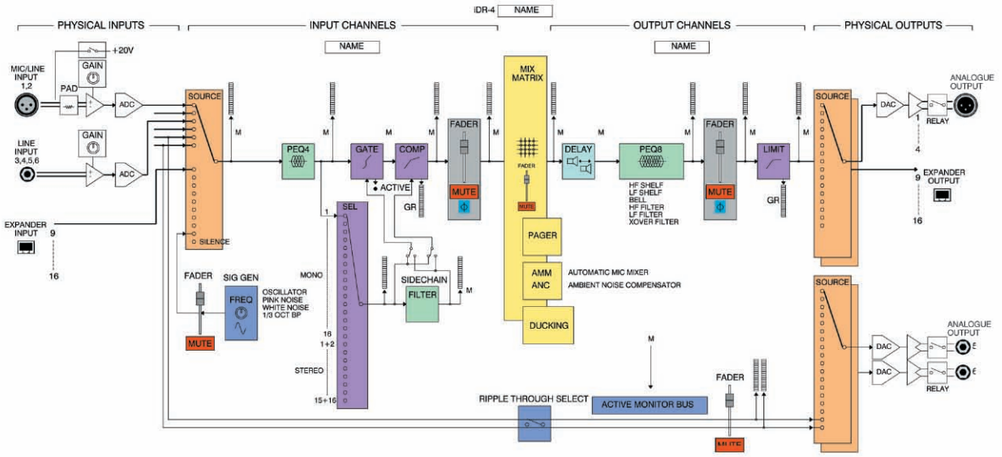
iDR-8



Features of iDR-8

- **iDR** DSP system - 16 processing channels (inputs and outputs)
- 8 analogue mic/line inputs on XLR3 with 48V phantom power
- 8 analogue line outputs on XLR3
- 2 line inputs on TRS jack
- 2 line outputs on TRS jack
- Digital audio expansion ports (8 channels in, 8 channels out)
- Hot Plug'n'Play **PL** Series Remote controllers
- High Quality Audio Signal Path and DSP processing
- Headphone monitor with mouse and ripple-through capability
- MIDI In/Out/Thru connections

iDR-4



Features of iDR-4

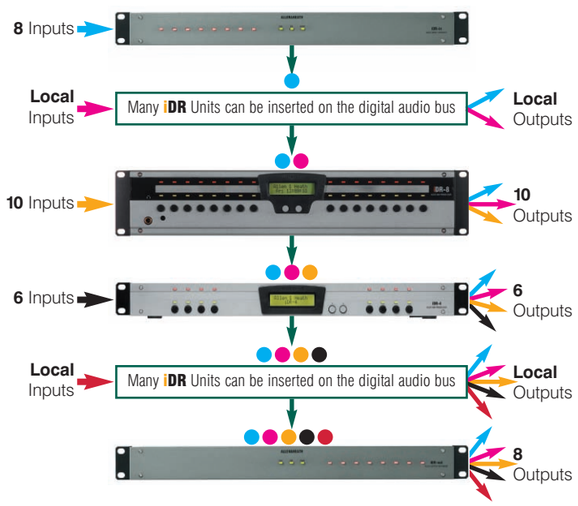
- **iDR** DSP system - 16 processing channels (inputs and outputs)
- 2 analogue mic/line inputs on XLR with 20V phantom power
- 4 analogue line inputs on TRS jack
- 4 line outputs on XLR
- 2 line outputs on TRS jack
- Digital audio expansion port (8 channels in, 8 channels out)
- Hot Plug'n'Play **PL** Series Remote controllers
- High quality audio signal path and DSP processing
- Monitor with mouse and ripple-through capability

iDR -In & -Out EXPANDERS

iDR-8 and **iDR**-4 can happily manage many complete systems with their existing input/output architecture standing alone. However, for larger systems, **iDR**-In and **iDR**-Out audio expander units are available, providing an additional 8 mic/line inputs on XLR and 8 line outputs (also on XLR) respectively. One or both expanders may be connected to a single **iDR** main unit.

These audio expanders convert the analogue audio to an 8 channel wide digital bus which feeds the main **iDR** unit, which can be up to 250 metres away, via CAT5 STP cable. **iDR**-In features high grade mic/line preamps with PC configured gain, pad and phantom power switching via **DR-Link**, and a built-in soft clip, while **iDR**-Out provides electronically balanced differential outputs. 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 presets related indicators and are programmed in the usual way using the **iDR** System Manager software.

Example Combinations:



iDR CONTROL

A glance at the **iDR** back panel reveals the scope of **iDR**'s control capabilities. **iDR** can communicate with many forms of equipment utilising industry standard communication protocols. For example, **iDR**-switch units, **iDR**-in and **iDR**-out expanders, third party controllers, **PL** Series 'intelligent' wall plates, MIDI show controllers, PCs, networks and modems. Up to 4 communications ports can be used at once - network and **DR-link** ports are always available, with two more selected from RS232, Sys-Net, MIDI and **PL-Anet**. Rear panel LEDs clearly indicate active ports for rapid communication status checking.

COMMUNICATIONS PORTS - iDR System

permanent protocols	connections	protocol type	uses
Network RJ45 CAT5			Network control and communication between computers, connection of **iDR** System Manager, **PL-Designer** and **PL-Client**. Connection to the internet for remote management and control purposes
DR-Link RJ45 CAT5			Links the **iDR**-In and **iDR**-Out audio expanders and **iDR**-Switch to the **iDR** units for logic control.
2 of 4 protocols selectable from software			
Sys-Net SYSNET			For third party controllers such as: AMX, Crestron, Cue, Audace and many more. Touch screens, Infr-red devices etc can be utilised with **iDR**.
RS232 RS232 or RS232		iDR System Manager	For connecting **iDR** to a phoneline for remote connection, management and operation (PPP = Point to Point Protocol).
RS232 Front (**iDR**-8 only) RS232 or RS232		iDR System Manager	Used to update the system code in the unit
MIDI (**iDR**-8 only)			For Remote Control using standard MIDI interfacing equipment. Custom remote controllers, show control, MIDI conversion equipment (e.g. MIDI to DMX) to control external equipment (e.g. lighting)
PL-Anet RJ45 CAT5			**PL-Anet** is an RS485-based protocol incorporating 20V phantom powering for the **ALLEN&HEATH** self detecting and self powered **PL Range** of remote controllers.

iDR System Technical Specifications for iDR-8 & iDR-4

Audio Specifications

Performance

Frequency Response	20Hz to 20kHz +0/- 0.5dB
Inter-channel Crosstalk	<-80dB @ 1kHz, 0dB gain
THD + noise	<0.01% @ 1kHz, 0dBu
Residual output noise	<93dBu (22Hz to 22kHz)
Input to Output noise	<87dBu @ 0dB (22Hz to 22kHz)

XLR Mic/Line Inputs

iDR-8 - number	8 (expandable to 16)
iDR-4 - number	2 (expandable to 10)
Connections	Female XLR 3 Pin
Type	Electronically Balanced, pin2+
Impedance (pad out)	2k ohm
Impedance (pad in)	>10k ohm
Gain	Control in 3dB steps, 20dB pad
Sensitivity (pad out)	-50 to -5dBu
Sensitivity (pad in)	-30 to +15dBu
Max Input	+33dBu
Limiter	Pre-ADC opto - 6dBFS, switchable
Phantom Power	+48V switched (iDR-8) +20V switched (iDR-4)

TRS Jack Line Inputs

iDR-8 - number	2
iDR-4 - number	4
Connections	TRS Jack (balanced/stereo Jack)
Type	Electronically balanced, tip+
Impedance	>30k ohm
Sensitivity	0dBu
Max Input	+18dBu

XLR Line Outputs

iDR-8 - number	8 (expandable to 16)
iDR-4 - number	4 (expandable to 12)
Connections	Male XLR 3 Pin
Type	Electronically balanced, pin2+
Impedance	<75 ohm
Max Output	+18dBu

TRS Jack Line Outputs

Quantity	2
Connections	TRS Jack (balanced/stereo Jack)
Type	Electronically balanced, tip+
Impedance	<75ohm
Max Output	+18dBu

Headphone Output (iDR-8 only)

Connections	TRS Jack, Tip L Ring R
Type	1/4" Stereo Jack
Impedance	For Headphones >30ohms
Control	Front Panel Trim Control

DSP

DSP	2x Motorola
Processing	56bit mix accumulator
Sampling Rate	48kHz
Audio matrix (48kHz)	16 x 16 channel processing
Latency XLR in to XLR out with Processing	<2.3ms

A/D Converters

Resolution	24bit
Dynamic Range	109dB A-weighted, 106dB unweighted

D/A Converters

Resolution	24bit
Dynamic range	115dB A-weighted, 112dB unweighted

Expander Input Port

Application	adding remote inputs (**iDR-in**) and linking **iDR** units on 8 channel digital bus
Connection	RJ45
Protocol	Propietary 8 Channel Digital Audio
Cable	CAT5 STP upto 250m (825 feet)

Expander Output Port

Application	adding remote Outputs (**iDR-out**) and linking **iDR** units on 8 channel digital bus
Connection	RJ45
Protocol	Propietary 8 Channel Digital Audio
Cable	CAT5 STP upto 250m (825 feet)

Technical Specifications

Front Panel (face plate fitted)

Display Type	2 x 16 Character Backlit LCD
Display content	Day/Time, unit name, user defined text, Menu/operating control data
Keys	iDR-8: 16 user programmable, 2 scroll iDR-4: 8 user programmable, 2 scroll
LEDs	iDR-8: 32 user programmable, tri-colour iDR-4: 16 user programmable, tri-colour
Headphones	iDR-8 only: Recessed Socket and Level Trim

Front Panel (face plate removed)

Menu Keys	Menu item select using: scroll, esc, enter
Menu Items	Preset Recall, Monitor Select, date/time, unit name, network, diagnostics
Status LEDs	iDR-8 only: Slave, Ext. Sync Lock, 96kHz
RS232 Connector	iDR-8 only: 9 pin D Connector - Mirrors Port A protocol setting, front/rear selection switch
Code Update	Updates **iDR** operating system code
Label Strip	Behind widow user label/markup strip

Power Supply

Type	Universal Input Switched Mode
Connector	IEC 3pin
Power Lead Supplied	Country Dependent
Power Switch	Rear panel mains on/off
AC mains input	100-240V AC 50/60Hz
Power Consumption (Max)	iDR-8: 80VA iDR-4: 75VA
Internal Fuse	iDR-8: T1.6A 20mm iDR-4: T1A 20mm

Dimensions

	iDR-8	iDR-4
Desktop		
Width	440mm (17")	440mm (17")
Height	92mm (3.5")	48mm (2")
Depth	350mm (14")	350mm (14")
Rackmount	(2U)	(1U)
Width	486mm (19")	486mm (19")
Height	88mm (3.5") = 2U	44mm (2") = 1U
Depth	350mm (14")	350mm (14")
Max depth with connectors		
Depth	430mm (17")	430mm (17")

Control & Communications

Control Ports

offering the following combinations

PORT A	PORT B
RS232	Sys-Net
RS232	MIDI (iDR-8 only)
RS232	PL-Anet
RS232	Custom Serial
Sys-Net	PL-Anet
Sys-Net	MIDI (iDR-8 only)
MIDI (iDR-8 only)	PL-Anet
Custom Serial	MIDI (iDR-8 only)
Custom Serial	PL-Anet

RS232

Port Select	Front panel switch to select either front or rear RS232 connector
Front Panel Connector	9pin D Female
Rear Panel Connector	(Modem) 9 Pin D male
Baud	115200, 8N1
Cable Length	<3 Metres (10feet)

Network (TCP/IP)

Application	**iDR** System Manager, **PL Designer/Client**, Telnet
Connection	RJ45 Ethernet MDI/X Switch For Hub or Direct connection
Settings	DHCP, IP address, Net mask, Gateway
PPP Setup	Host IP, client IP, user name, password
Cable	CAT5 UTP up to 100metres (330 feet)

MIDI (iDR-8 only)

Application	Remote Parameter Control via MIDI sequencer/Interfaces, Show Automation
Connection	Opto isolated MIDI IN, OUT, THRU 5 pin DIN
Protocol	Note on/off, program change, NRPN, Custom Strings

Sys-Net

Application	Remote Parameter Control, Third Party Controllers (e.g. AMX)
Connection	RS232 9pin D Female
Protocol	**ALLEN&HEATH** Sys-Net, Custom Serial Strings
Baud Rate	Custom settings available
Cable	<3 Metres (10 feet)

PL-Anet

Applications	Network for **ALLEN&HEATH PL** Series intelligent remote controllers
Connection	RJ45
Protocol	Proprietary **ALLEN&HEATH** - RS485 with +20VDC Phantom Power
Cable	CAT5 STP (Refer to REN table lengths)

DR-Link

Application	**iDR**-Switch and **iDR** audio expander logic control
Connection	RJ45
Protocol	Proprietary **ALLEN&HEATH**
Cable	CAT5 STP up to 250 metres (825 feet)

iDR-Switch

iDR-switch extends the capability of the **iDR**-8 and **iDR**-4 by enabling custom wall plate and remote equipment control. It provides 24 switch closure inputs and 16 logic control outputs which can be custom wired by the installer to suit the application. Up to 3 units can be networked, so providing an **iDR** unit with 72 switch and 48 logic outputs. The controls are easily programmed using the System Manager software.

Control Functions

When a switch contact closure status is ACTION ON (Pressed) or ACTION OFF (released) various parameters can be controlled within the **iDR** system:

- Levels [Up/Down]
  (Input, Output, Crosspoint, Monitor)
- Group Levels [Up/Down]
  (Input, Output, Crosspoint)
- Mutes [Toggle/On/Off]
  (Input, Output, Crosspoint, Monitor)
- Preset Recall
  [offers all associated functions]
- Monitor Select [Inputs/Outputs]
- MIDI Strings - **iDR**-8 only
  *(a custom MIDI string is sent from the **iDR** Unit)*

Operating Modes

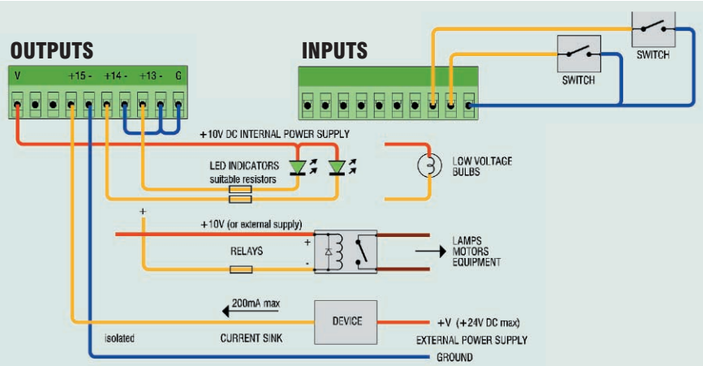
- Latched Action
- Press Action
- Release Action

Software

iDR System Manager has a simulation of **iDR**-Switch units connected to the **iDR** unit (maximum of 3 per unit). The Switch can be setup online or offline and has the ability to show Logic outputs as green LEDs. Setting up the contact closures and logic outputs is done in the Soft Keys and Soft LEDs setup windows. Many external devices can be integrated into a system using the **iDR**-Switch units and custom paging panels and remote triggering can be realised.

A range of different modes of operation for each switch closure and logic output can be achieved. Many systems can be integrated with the **iDR**-Switch, e.g. -

- Fire Alarm Interface
- Theme Park Triggering
- Room Dividing
- Custom Paging Panels
- Custom Switches for Level control
- External Equipment interfacing (e.g. Start/Stop for a motor unit utilising a suitable relay interface)



Technical Specifications

Front Panel

Status LEDs	Link, power

Switch Inputs x 24

Connector	3x 10pin Phoenix, 8 switches per connector
Plug	Mating screw terminal plugs supplied
Type	Opto-isolated via 2k2 ohm from +10V
Operation	Switch closure to connect pin to ground (5mA)
Cable	1k ohm max resistance

Logic Outputs x 16

Connector	4x 10pin Phoenix, 4 outputs per connector
Plug	Mating screw terminal plugs supplied

Logic Outputs x 16 (continued)

Type	Opto-isolated open collector
Terminals	Floating collector (+) and emitter (-) pins
Internal DC source	+10V, 500mA total max. External DC source. Up to +24V 200mA sink per output max

DR-Link

Application	Logic control from iDR-4/8
Connection	RJ45 x2 (in, out to next unit)
Protocol	Proprietary Allen & Heath
Cable	CAT5 STP up to 250 metres (700 feet)

Power Supply

Type	Universal input switched mode
Connector	IEC 3pin
Power lead supplied	Country dependent
AC mains input	100-240V AC 50/60Hz
Power consumption	15VA max
Fuse	T500mA 20mm
Power switch	Rear panel mains on/off

Mechanical specifications (in mm)

Removeable ears for desk or rack mount

iDR-switch	Width	Height	Depth
Desktop	440mm (17.3")	48mm (1.9")	148mm (5.8")
Rack	486mm (19")	44mm (1.75")(1U)	148mm (5.8")
Unpacked weight	3.5kg, 7.7lb		
Packed weight	4kg, 9lb		

PL-2

The **PL-2** is a purpose-built custom interface for **iDR**-Switch available from **A&H** for those who do not wish to make their own custom panels.

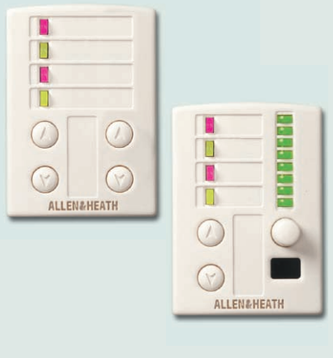
The wallplate has 4 user-programmable switches and 4 tricolour programmable LEDs providing many local control options such as multiple source selection for output zones.

PL-Series

The **PL** series is the perfect interface between the **iDR** and the operators on site who don't need to understand the sound system - just control it. As the requirements grow at an installation, the control system can too! Start off with just the controls and display on the **iDR** unit then add wall mounted plates and hand-held remotes wherever they are needed using our CAT5 **PL-Anet** cabling system. **PL** remotes can simply daisy chain or use the **PL-Anet** hub for star wiring applications. LEDs in the system can be tri-colour status indicators [to indicate selected sources, or mutes] or they can become meters for any point in the signal flow. The LCD windows can easily be programmed to relay text information about the state of the system. You, as the designer, can customise these plug and play remotes to do exactly what the customer has been looking for. Each **PL** has its own simulator in **iDR** system manager software so you can design and demo the system offline as it will appear when the hardware is in place.

PL-3 & PL-4

PL-3 and **PL-4** wall plates have 4 or 2 programmable switches and 4 programmable tri-colour LEDs and are ideal for local operator control of the **iDR**-based audio system. They may be used, for example, for source selection for an output zone, or local volume control. The **PL-4** has, in addition, a rotary control with LED ladder and a built-in infra-red receiver - it can be operated at a distance using the **PL-5** handheld remote controller, allowing the operator to quickly and conveniently adjust the system from anywhere in the room. The control options can be different to those set on the **PL-4**.



PL-5

Examples of use: multiple source selection for an output zone. Local volume level, home cinema & AV system control (projector / lighting / amplifier control), and tamper-proof control.

PL-6

The **PL-6** is ideal as a remote mix controller - e.g. as a simple operator-controlled fader panel in an installed sound system, or as a personal musician's on-stage mix controller with in-ear monitors. It has 8 faders, 24 tri-colour LEDs and 16 soft switches which are all programmable via **iDR** System Manager. Other examples for use include as a basic lighting controller via MIDI/DMX, and the unit can be wall-mounted or flange-mounted into a table or wall.

PL-Anet

PL-7

PL-7 is a stand-alone or surface mounted LCD panel, which enables remote display of status information and text messages which can be stored in the recallable memory settings. The **PL-7** can be embedded with **PL-3** or **PL-4** wall plates, allowing programmable control from a single unit. It can also be used for remote alarm/supervisor display.

PL-8

PL-8 is a 4 input, 4 output logic control panel mounted on a wall plate which can be connected to **PL-Anet**. It is designed to interface external systems such as alarm systems, juke boxes, room dividers, fader starts and lights at a convenient location.

PL-9

PL-9 is a 1U rack or desk mount hub which provides up to 7 individual connections to chains of **PL** devices, offering 'star wiring', simplifying wiring and eliminating the need for complex daisy-chaining. This also provides the benefit of longer cable runs and allows easier 'plug and play' of devices such as the **PL-6** and **PL-10**, and allows a larger number of **PL** controllers to be connected to a single **iDR** unit.

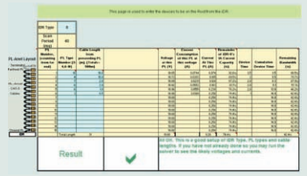
As the **PL-9** is the 'end of chain' on a **PL-Anet** branch, it offers greater flexibility by allowing **PL** wallplates to be plugged in and out easily – for example, a **PL-6** could just be plugged into a **PL-9** onstage, allowing local performer control, then removed after the event.

PL-10

The **PL-10** is similar to the **PL-6** - i.e. is a compact mixer interface, but has 8 rotary encoders, with LED ladder displays instead of faders, making it possible to mix live events within the **iDR** system. It's ideal for creating and controlling an output mix of cross-point groups. The **PL-10** can be assigned to read and adjust different mixes, as the LED bars indicate the levels managed by the **iDR** unit. The unit can be hand-held, or flange-mounted into a table or wall. As the **PL-10** has encoders rather than faders, it can respond to changes in levels made from other controllers.

PL-Calculator

PL-Calculator is an Excel-based program which enables the installer to verify that a planned system with specified **PL** devices and inter-connect distances over **PL-Anet** conforms to the system specification. The program is bundled together with the **iDR** System Manager software.



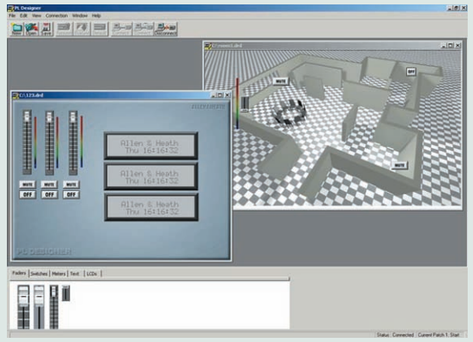
PL-Anet Specification

Application	Network for **ALLEN&HEATH** intelligent remote controllers
Connection	RJ45, RS485 with +20V DC phantom power - terminator supplied
Protocol	Proprietary **ALLEN&HEATH**
Cable	CAT5 STP (Length table available from **ALLEN&HEATH**)

PL SOFTWARE

PL Designer and Client for Windows™

As well as being controlled by **iDR** System Manager, **iDR** systems can be controlled via a PC using '**PL Client**', an interface which can be designed in '**PL Designer**'.



PL Designer is used to create a custom interface which is opened using **PL Client**. The system architect can create a custom wall plate in **PL Designer**, providing system control taliored to the user's requirements. **PL Designer** lets the architect create a control layout from a selection of control types, such as switches, faders, mutes and meters, and positioned over a bitmap background. The architect can map functions from the **iDR** units into the **Designer** interface. The resulting **PL Client** panel, designed and customised according to the client's preference, can be installed on the client's PC. The result is the creation of customised, virtual wall plates. The PC can then be directly or network connected to the **iDR** for system control.

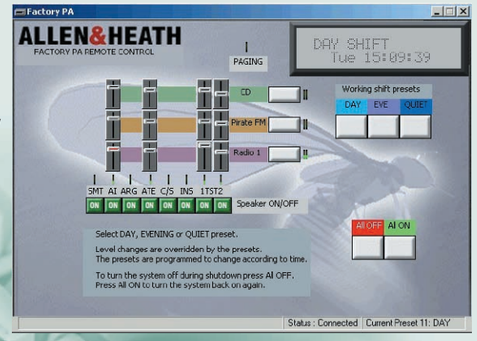
For example, the system architect could specify in **PL Designer** that: a venue manager could control source selects (e.g. CD, SAT-TV, DVD, etc), and levels of different zones on multiple floors using many **iDR** systems through one **PL Client** interface from the client's password-protected computer system. Further levels of access may also be added: for example, assistant managers of the venue may be provided with restricted access offering the ability for level control of their designated area only.

PL Client

PL Client, created with **PL Designer**, a tool within **iDR** System Manager, is the end user software, containing only the control elements in a .drd file with the design devices removed for tamperproof operation.

The **PL Client** software is demo-ware and time limited to 10 days. After that a key is required to run the software which is available from www.**idrseries**.com/pl_client.asp

For more information on setting up and configuring **PL Designer**/**Client** view the online documentation and help file contained in the **iDR** system manager software.



iDR SYSTEM MANAGER SPECIFICATIONS

Operating System

iDR Unit Software, Internal	Update using TCP/IP via system manager, RS232 via Hyperterminal

System Configuration

iDR System Manager software	PC compatible running online or offline session. Includes all **iDR** and **PL** unit simulators for complete setup and test

Virtual Controllers

PL-Designer	for installer configured GUI
PL-Client	for restricted operator control

Source Patchbay System

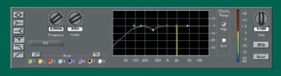
Selectable physical source for each input and output channel
Eliminates the need for a physical patchbay and signal splitters

Delay

Input (x16) (**iDR**-8 only)	
Time	0 to 340ms per channel
Units	ms, metres, feet
Temperature	Global Adjust Coefficient for -20 to +40 degrees C
Output (x16)	
Time	0 to 340ms per channel
Units	ms, metres, feet
Temperature	Global Adjust Coefficient for -20 to +40 degrees C

PEQ

Input (x16)	
PEQ Type	4 band fully parametric
Band Type	HF shelf, LF shelf, Bell, HPF, LPF, notch
Range	+/-15dB cut/boost, +/-12dB makeup gain
Width, Q variable	0.5 to 6, constant Q on/off (notch width 10Hz to 100Hz)
Display	frequency response curve, meter
Controls	in/out, reset



Output (x16)	
PEQ Type	8 band fully parametric including crossover filter type
Band Type	HF shelf, LF shelf, Bell, HPF, LPF, notch, crossover filters
Range	+/-15dB cut/boost, +/-12dB makeup gain
Crossover filter	upto 24dB/oct, Butterworth, Linkwitz-Riley, first order
Width, Q variable	0.5 to 6, constant Q on/off (notch width 10Hz to 100Hz)
Display	frequency response curve, meter
Controls	in/out, reset

Gate (x16)

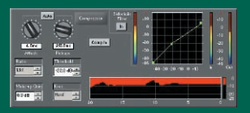
Threshold	-72 to +18dBu
Depth	0 to -80dB
Attack	20_s to 300ms
Hold	50ms to 5s
Release	50ms to 1s
Display	Level response curve, gate active, in, out, sidechain meters
Controls	Gate in/out, sidechain in/out

Sidechain Filter (x16)

Source	Switch into either compressor and/or gate
EQ	1 Band, type and parameter control as PEQ

Compressor (x16)

Threshold	-48 to +18dBu
Ratio	Variable 1:1 to 1:infinite
Knee	Hard, Soft
Makeup Gain	0 to +18dB
Attack	300_s to 300ms, auto mode
Release	100ms to 2s, auto mode
Auto Modes	Live, Music AGC, Vocal, Speech
Display	Response curve, gain reduction, in/out/sidechain meters
Controls	Compressor in/out, Sidechain in/out, auto on/off



Level Control

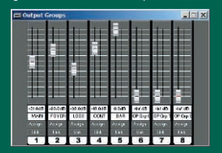
Input channels, output channels, monitor bus, signal generator

Linear fader range	Off to +5dB in 51 steps
Controls	Level, Mute, polarity reverse

Fader Grouping

Channel Faders can be assigned to be master faders (DCA)

Fader Range	Off to 0dB in 51 Steps
Number of Input Fader Groups	8
Number of Output Fader Groups	8
Number of Crosspoint Fader Groups	16
Group naming	up to 8 characters



Stereo Linking

Adjacent channels can be linked for stereo operation
Presents single channel strip
Processing Linked
Matrix routing Linked
Stereo Metering

Metering

Input	Input Meters selectable source, post-EQ, post-dynamics, post-fade
Output	Output Meters selectable post matrix, pre-fade, post-fade, post-limiter
Metering Points Input	Source, Delay. EQ, Sidechain, Gate, Compressor, Fader
Metering Points Outputs	Delay, EQ, Fader, Limiter
Assignable LEDs	(can act as meters) green from 24dBu, yellow from 0dBu, red from +14dBu (4dB below clipping)
Metering	Extensive on-screen display for all signal points in the signal path
Meter styling	Select 1 of 4 meter bar display types

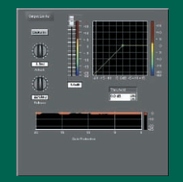
Mix Matrix

Input / Output channel crosspoint (X/P) matrix

Switch/gain matrix	
Matrix size	16 x 16
Fader range	-38 to 0dB (-inf shutoff)
Controls	set, clear, mute, individual, row, column, all
Matrix Groups	16 freely assignable groups

Output Limiter (x16)

Threshold	-20 to +18dBu
Attack	40us to 400ms
Release	50ms to 1s
Display	level response curve, gain reduction, in, out, meters, time versus reduction histogram
Controls	in/out, fader



AMM (x4)

Automatic Mic Mixing	NOM and ambient level
Ambient Level Sensing	average of all selected mics
Mic open threshold	4 to 20dB above ambient level
Hold time	0 to 5 seconds
NOM Attenuation	1 to 6dB

ANC (x4)

Ambient Noise Compensator	automatic controlled gain element in step with changes in background noise levels
Ambient Level Metering Point	I/P Source/Post-EQ/Post-Fade, O/P Post-Matrix/Pre-Fade/Post-Limiter, Channels 1-16
Ambient Level Gain Differential	-18dB to +40dB
Controlled Gain Element	selects fader for control, I/P O/P, I/P Group, O/P Group, Routing Gain, stereo operation
Controlled Gain Operating Range	min -59 to 5dB, max
Controlled Gain Response Time	rate dB per Second from 0.1 to 30dB
Program Gap Metering Point	I/P Source/Post-EQ/Post-Fade, O/P Post-Matrix/Pre-Fade/Post-Limiter, Channels 1-16
Program Gap Threshold	-62dB to -20dB
Program Gap Time	0s to 5s
Display	Level meters, Ambient Level Sampling Active LED
Controls	Enable On/Off

Ducking

Type	16 channel multi priority selectable
Priorities	1 (max) to 16 (min)
Threshold	-48 to +18dBu
Depth	0 to -60dB
Release	1 to 100dB/s
Controls	Ducker Enable On/Off

Pager (x2)

Type	2 independent configurable pagers
Paging	Activated from Front Panel, **PL-Anet**, MIDI, Sys-Net, **iDR**-Switch, networked **iDR**
Zone Select	Activated from Front Panel, **PL-Anet**, MIDI, Sys-Net, **iDR**-Switch, networked **iDR**
Indicators	Front Panel, **PL-Anet**, MIDI, Sys-Net, **iDR**-Switch, networked **iDR**
Ducker Depth	0 to -40dB
Controls	page mic select, zone select, latching, press to talk, auto cancel

Audio Monitor

Ripple through stereo audio monitor

Source Select	I/P 1-16 source, Delay, EQ, Sidechain, Gate, Compressor, Fader O/P 1-16 Delay, EQ, Fader, Limiter. Channel Outputs 1-16 (routed via output patchbay) Follows Mouse / Active Window

Signal Generator

Source variable frequency	sine wave, white noise, pink noise, band pass pink noise
Range (sine/band)	20Hz to 20 kHz
Controls	Fader, Mute

GR Series

GR Series are analogue zone mixers for installation applications such as paging and background music systems in restaurants, retail outlets, leisure centres, clubs, theatres and offices. Designed to allow masses of flexibility and functionality at an affordable price, both models feature analogue inputs and outputs, plenty of routing options and a huge number of installer-set parameters, so that the system may be tailored for each installation task. Both units may be set up using front panel controls, and further control options are available using either jumper links or hidden front panel switches so that day-to-day operator controls are kept to a safe minimum. In a world of ever more complex software-based systems, the GR Series keeps it simple and keeps the system sounding perfect.

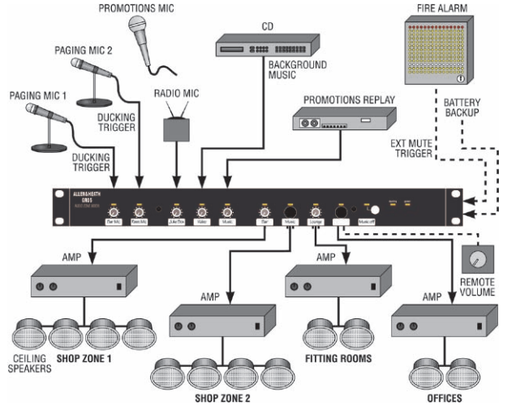
GR05

The **GR05** is a 5-input, 4-output analogue zone mixer for sound installations requiring 2 mic and 3 stereo line to up to 4 mono or 2 stereo zones. Internal jumpers allow custom configuration protected for day-to-day operation by non-technical staff. Zone volume may be remotely controlled.

GR2

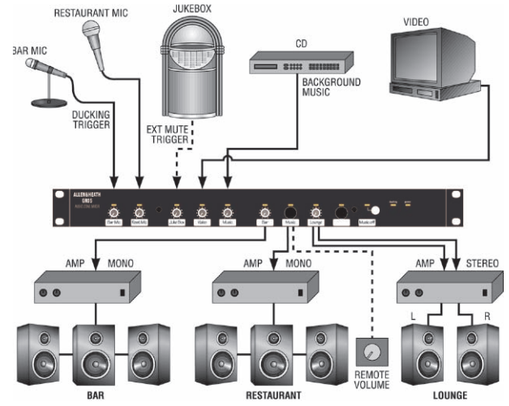
The **GR2** is a 9-input, 4-output analogue zone mixer for sound installations requiring 6 mic/3 stereo line or 4 mic/4 stereo line to 1 stereo/1 mono zone and aux output. All settings are custom configurable from the front panel and are protected b a cover plate for day-to-day operation. Zone source selection, volume and more may be remotely controlled.

GR05 Applications



Retail

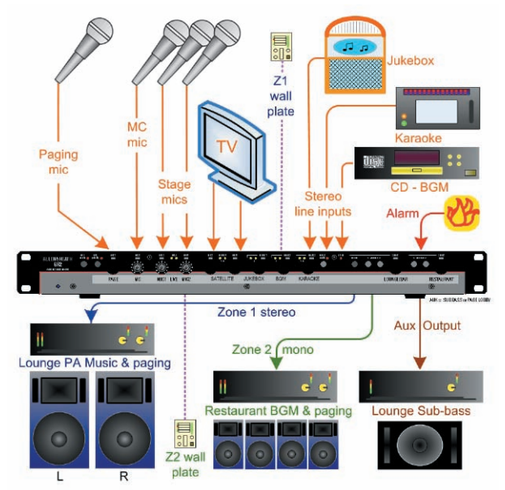
- 4 department zones
- 2 page mics duck music
- Roving mic for promotions
- BGM and pre-recorded sources
- Fire alarm interface
- Remote level control



Bar/Restaurant

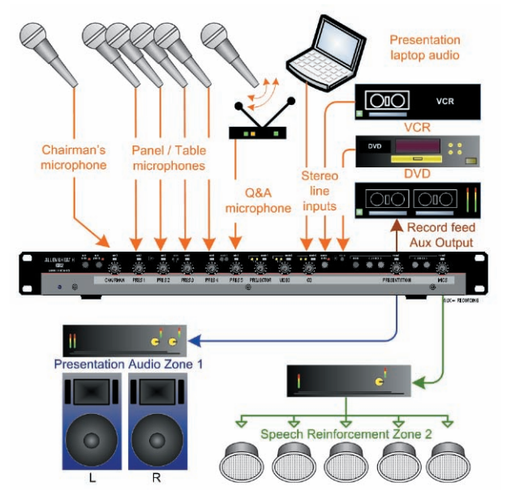
- 1 stereo, 2 mono zones
- 2 page mics duck music
- 3 stereo music sources
- Assignable routing to zones
- Jukebox mut BGM
- Mute music switch

GR2 Applications



Entertainment Area

- Stereo and mono zones
- Filtered sub bass feed
- Page either zone
- 4 mics, page, karaoke, quiz
- 4 music sources with select
- Jukebox priority override

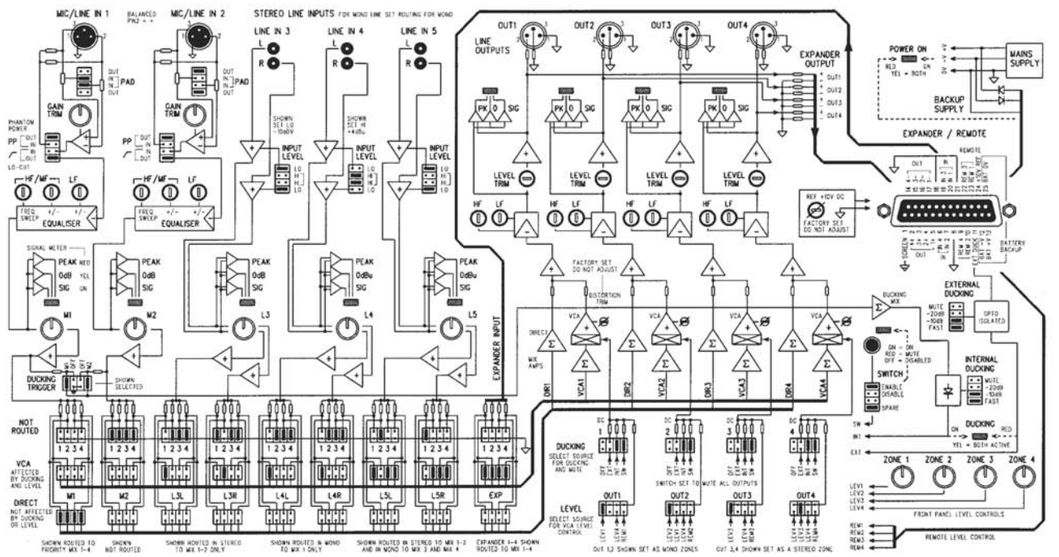


Conference

- Stereo presentation audio
- Mono speech reinforcement
- Aux output for recording
- 6 mics, 3 presentation sources
- Expander input for more mics
- Chairman priority override

GR05

The **GR05** is a 5-input, 4-output analogue zone mixer for sound installations requiring 2 mic and 3 stereo line to up to 4 mono or 2 stereo zones. Internal jumpers allow custom configuration protected for day-to-day operation by non-technical staff. Zone volume may be remotely controlled.



FEATURES

2 Microphone Inputs

The **GR05** is furnished with 2 balanced mic inputs on XLR, both of which have rear panel gain controls. Removal of the top panel allows access to internal jumper links, providing a 30dB attenuator pad, +15V phantom power and a high pass filter at 200Hz. Internal trimmers also provide 2-band EQ, hi-mid frequency with sweep and LF shelving. The front panel has 3-colour LED meters, and level controls for all routed outputs.

Stereo Inputs

3 RCA sockets are provided for stereo inputs, and internal jumper links allow access to -10dBV to +4dBu level matching. 3-colour LED meters and level controls are also provided for the stereo inputs on the front panel.

XLR Outputs

4 XLR connectors are provided for the outputs, which are internally configured by the jumper links for -10dBV to +4dBu. The outputs can be grouped and front panel level controls can be disabled using the internal. Internal trimmers also provide shelving EQ for HF and LF.

Other configurable functions include VCA control and outputs which can be assigned to front panel controls or alternatively, remote control operation. Zone muting is possible via a front panel switch and LED indicator.

Routing Matrix

All inputs can be routed to any combination of outputs direct, or via VCA control, so that the direct path is not affected by output level controls and ducking. Matrix assigment is achieved using internal jumper links.

Remote Control

VCA path remote control can be configured by the installer on internal jumpers. The expander option (using another **GR05** acting as slave to the main unit and connected by a 25-pin D connector) includes a remote DC input for each of the 4 outputs.

Ducking

The **GR05** allows ducking and muting of channels, and is configured either internally on jumpers or externally via an opto-isolated input for external trigger.

A status LED on the front panel is provided.

Expander / Remote

Additional mic & line inputs can be provided via another 'slave' **GR05** using the 25-pin D-type female connector.

Lock Out System

Input controls are always active; output levels controls may be disabled. All level controls may be set in 3 ways: 1) Knob fitted for operator control 2) knob removed for screwdriver preset 3) hole plugs (provided) fitted to lock out control.

PSU

Internal mains voltage PSU. DC backup input is provided. Status indicator.

Technical Specifications

0dBu = 0.775 Volts rms, +4dBu = 1.23V rms, 0dBV = 1 Volt rms, -10dBV = 316mV rms

MIC/LINE input

Balanced XLR, pin2 hot	Pad out = >2k ohm, -58 to -22dBu
	Pad in = >10k ohm, -28 to +8dBu
Phantom power	+15V DC

STEREO input

Dual RCA phono	>10k ohm, -10dBV or +4dBu

ZONE output

Z balanced XLR, pin2 hot	<75 ohm, -10dBV to +4dBu trimmer

EXPANDER input

25-pin D female, unbalanced >10k ohm, 0dBu

EXPANDER output

25-pin D female, Z balanced	<75 ohm, as set for zone out

Mic EQ

LF +/-12dB 70Hz shelf, M/HF peak/dip +/-14dB @ 300Hz to 6kHz

Output EQ

LF +/-12dB 70Hz shelf, HF +/-14dB 9kHz shelf

Maximum output

+20dBu into 2k ohm

Internal headroom

+20dB

Freq response

20Hz to 50kHz +/-1dB

THD+noise

<0.005% @ 1kHz +12dBu

Crosstalk

Better than -90dB shutoff, -80dB interchannel

Noise

Mic EIN	-128dB referred to 150 ohm source
Line preamp	-91dBu
Mix noise all routed	<-86dBu

Remote level

Output VCA 0V = off, +10V DC = max

Remote DC reference +10V DC 5mA max

Ducking

Internal signal detect from mic 1 and/or 2

External trigger opto-isolated, switch to 0V

Selectable depth -10dB, -20dB, mute, speed fast, slow

Routing

Assignable 9x4x2 crosspoint matrix

OFF, DIRECT or VCA paths to each output

Signal meters

3-colour LED for each input and output

Green	signal (-12dB)
Yellow	0dB
Red	peak (+15dB)

Power supply

100 to 230V 47-63Hz AC, internally wired for country voltage 18VA max

DC backup +/-12V to 16V DC, 300mA

Mechanical specifications - Dimensions in mm

	Width	Height	Depth
Desktop	483 (19")	44/49 (1.75")(1U)	260 (10.3")
Weight	4kg (9lb)		

GR2

The **GR2** is a new 1U rack or desk mount 9-input, 4-output, analogue zone mixer for demanding but budget-conscious installations requiring sound for live entertainment, paging, background music, conferences, presentations and a diverse range of modern architectural applications. The **GR2** offers the installer a host of front panel preset switches and trimmers to meet each special requirement. After installation, the settings are protected by a cover plate and unused controls may be blanked off to keep things simple for non-technical operators. There is a combination of XLR/RCA and screw terminal connectors for pre-wired or plug-and-play installation and extensive remote control capability using standard Cat5 cable.

FEATURES

6 Mic/Line Inputs with EQ

Balanced inputs are provided on terminal blocks for convenient pre-wiring, with Mic 1 duplicated on XLR for quick plug-and-play. Each input has selectable +15V phantom power, protected mic/line pads and gain trimmers. There is a mic priority function for chairman or MC override, and a mic mute. The mic also has dedicated EQ with swept HPF, swept MF and shelving HF. An expander input allows more mics to be added to the mix.

3 (or 4) Stereo Music Inputs

Music channels are provided on RCA inputs with protected -10/+4 level settings. Mic/line 5/6 can be configured as a stereo input providing a 4 mic, 4 stereo line system. Inputs may be configured one at a time, or all together

Paging & Music Priority Override

GR2 offers a dedicated paging channel with tailored EQ for speech intelligibility. The source can be configured from Mic 1 and/or an external input or alarm message and the zone program is ducked when a page signal is detected. Music 1 may be configured as a priority input for jukebox and pre-recorded message override.

Mono & Stereo Zone Outputs

Outputs are available on both RCA and terminal blocks for pre-wiring or plug-and-play operation. Stereo Zone 1 may be configured for music only or music + mics, and mono Zone 2 can be configured for mics, music or music + mics. VCAs are provided for ducking, alarm override and remote level control. Zone 1 features a 2-band EQ and a mono switch.

Mono Aux Output

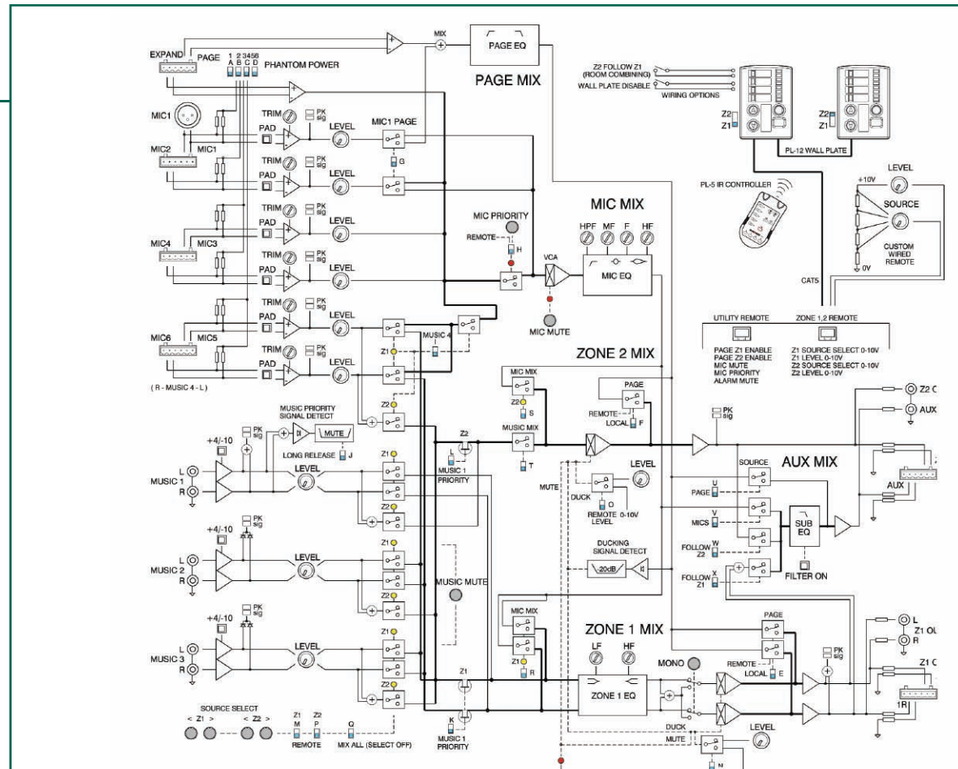
A versatile output for additional zone, mic expander, paging distribution, sub bass and more is provided on RCA and terminal block connectors. It is configurable as page out, mic mix, follow Zone 1 or Zone 2, and has a switchable 100Hz LPF for sub-bass feed.

Remote Control

The **GR2** uses standard RJ45 CAT5 cable for installation. 'Zone remote' allows remote level and source selection for both zones over a single cable. A 10V DC control input is provided for custom wired switches or potentiometer, third party interface or the **ALLEN&HEATH PL-12** wall plate. The **PL-5** hand-held IR controller is available for use with the **PL-12**. 'Utility remote' allows remote mic priority and mute switching, page selection and alarm override.

Configuration Protection

All settings are configured from the front panel. Preset dip switches are letter coded, and trimmers recessed for screwdriver access. A cover plate protects the settings and provides space for fitting a custom label. Any of the rotary knobs may be removed and hole plugs fitted as required.



PL Remote Controllers

PL-12 Wall Plate

Part of the **ALLEN&HEATH PL Series**, this intelligent wall plate provides remote level and source selection for the **GR2**. Two may be connected using a single CAT5 cable, one configured to Zone 1, the other to Zone 2. Additional custom wiring options are provided for Zone 2 follow Zone 1 room combiner switching and a wall plate disable function.

PL-5 IR Controller

This hand-held controller works with the **PL-12** IR sensor to duplicate the wall plate controls and add further functions including source mute and presets for favourite level and source selection settings.

Technical Specifications

0dBu = 0.775 Volts rms, +4dBu = 1.23V rms, 0dBV = 1 Volt rms, -10dBV = 316mV rms

MIC/LINE input

Balanced XLR (1), terminals	Pad out = >2k ohm, -60 to -20dBu Pad in = >10k ohm, -30 to +10dBu
Phantom power	+15V DC

STEREO input

Dual RCA phono	>10k ohm, -10dBV or +4dBu

ZONE output

RCA, Z balanced terminals	<75 ohm, 0dBu, +20dBu max

EXPANDER input

Balanced terminals	>10k ohm, 0dBu

PAGE input

Balanced terminals	>10k ohm, 0dBu

Mic EQ

HPF 20-400Hz,
MF peak/dip +/-12dB @ 200Hz to 5kHz,
HF +/-12dB 10kHz shelf

Zone 1 EQ

LF +/-12dB 80Hz shelf,
HF +/-14dB 10kHz shelf

Page EQ

HPF 150Hz, LPF 8kHz

Remote control

Level 0V = off +10V DC = max
Source select 1=2V, 2=4V, 3=6V, 4=8V

Ducking

Signal detect threshold	-20dB

Music priority

Signal detect threshold	-20dB
Release	short = 2 sec, long = 12 sec

Signal meters

2-colour LED	signal = -14dBu, peak = +14dBu

Power supply

100 to 230V 47-63Hz AC, universal mains input
25VA max

Mechanical specifications - Dimensions in mm

1U rack or desk mount (removable rack ears)

	Width	Height	Depth
Desktop	482mm (19")	44/49mm (1.75")	235mm (9.3")
Weight	3.6kg (8 lb)		