

ALLEN&HEATH

ALL RANGES

LARGEFORMAT
LIVESOUND**MIXERS**

SMALLFORMAT
LIVESOUND**MIXERS**

DJPRODUCTS

SOUNDMANAGEMENT
SYSTEMS

ALLEN&HEATH

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AP5909

Training courses for **IDR** system building are
available worldwide.

Check www.idrseries.com for details or email
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ALLEN&HEATH

SOUNDMANAGEMENT
SYSTEMS

ALLEN&HEATH SOUND MANAGEMENT

ALLEN&HEATH is trusted by hundreds of thousands of audio professionals to provide outstanding audio to venues around the world. For over 35 years, we've produced great mixers for recording, broadcast, live sound, installed systems and DJ's, and our hands-on experience is second to none in the industry.

We've always been at the forefront of audio engineering innovation: the first computer-controlled mixer on the market in 1984 (CMC); the first dual function live desk (**GL3**) in 1992; the first digital live sound console (**Icon**) in 1998; the first affordable VCA console for live sound (**ML5000**) in 1999 and first high-quality DJ mixers (**Xone**) for clubs and DJs in 2000. Our sound management products benefit from not only years of software and digital audio development, but also from years of crafting fine audio performance - to produce the best of both worlds!

We developed our first truly 'contractor' product in 1994, when the **GRI** zone mixer was introduced. It was welcomed as a high-audio-quality zoner, which not only offered a large number of inputs and outputs, but lots of user configuration options so that the installer or engineer could create exactly the system he wanted. This flexibility proved to be the key characteristic which drove the development of the **DR** series of DSP zone mixing systems in 1997 - the software offered the user a huge number of features and options for using the processing power of the unit to create the ideal setup. Into the 2000's, the **iDR** Series followed this lead and offered a vast array of control and processing options - whether over the internet, via networks or our proprietary **PL-Anet** system - and is now growing into many contractors' preferred system of choice for managing sound systems in venues the world over.

Now, **ALLEN&HEATH** has a solution for any audio installation, of whatever size or complexity:

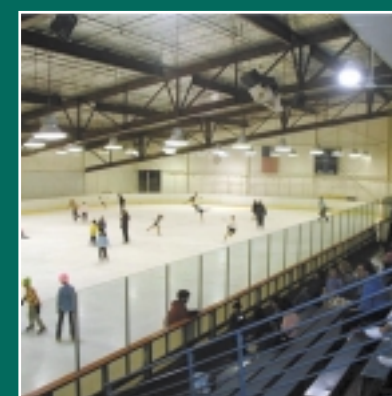
- ★ The **GRO5** offers 5 input, 4 output analogue zoning, flexible architecture and numerous configuration options for venue sound distribution.
- ★ **DR66** is a 6 in, 6 out DSP matrix mixing solution, which allows the installer to program a huge number of parameters of the system by software before installing hardware
- ★ **iDR** is a range of hardware units and remote controllers which offer multiple options for configuration and control of high quality live sound and fixed installations.

Since the early 1990's, **ALLEN&HEATH** products have been at the heart of venues' audio systems in auditoria, bars, conference centres, cruise ships, shopping malls, clubs, theatres, lecture theatres, theme parks, stadiums, houses of worship and a whole host of unlikely places such as search and rescue centres, funeral parlours and roller coaster rides!

What's your application?



ALLEN&HEATH SOUND MANAGEMENT SYSTEMS IN ACTION



Worldwide venues

using **A&H** Sound Management Products

Maritime Rescue Centre	Helsinki, Finland
Apeldorn Cultural Centre	Speyer, Germany
Natural History Museum	London, UK
European Parliament	Strasbourg, France
OneWorld Sports Bar	Sydney, Australia
Montsouris Hospital	France
Bristol Dental School	UK
Hempfield United Methodist Church	PA, USA
Rennes Ice Rink	France
Berjaya Times Square	Kuala Lumpur, Malaysia
Bloomberg Studios	London, UK
Lighthouse Evangelist Church	Singapore
Bogani Cafe	Oporto, Portugal
M15 Building	London, UK
The Terrace Hotel	Macherafelt, N.Ireland
Tours, Cathedral	France
Sports Café chain	UK
Drugstore Publicis	Paris, France
Barry's Douglas	Ireland
Speicherstadt No.10	Muenster, Germany
Fire & Ice Club	Ipswich, UK
Hornsby RSL	Sydney, Australia
Ministry of Sound	Taipei, Taiwan
Cock and Bull live music pub	Auckland, NZ
Intermarché Hypermarkets	France
Millennium Centre	Martin, Slovakia
Alton Towers	UK
BBC Outside Broadcast	UK
Lockheed Martin	USA
Aquadisiac Club	Singapore
Aruba Bar	UK
Tottenham Hotspur F.C. Ticket Office	UK
MLP Finance Group	Germany
Ferrari Store	Rome, Italy
Jockey Club	Hong Kong, China
Aberdeen University	Scotland
EDSA Shangri-La Hotel	Manila, Philippines



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.idrseries.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!

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. Scheduled 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.

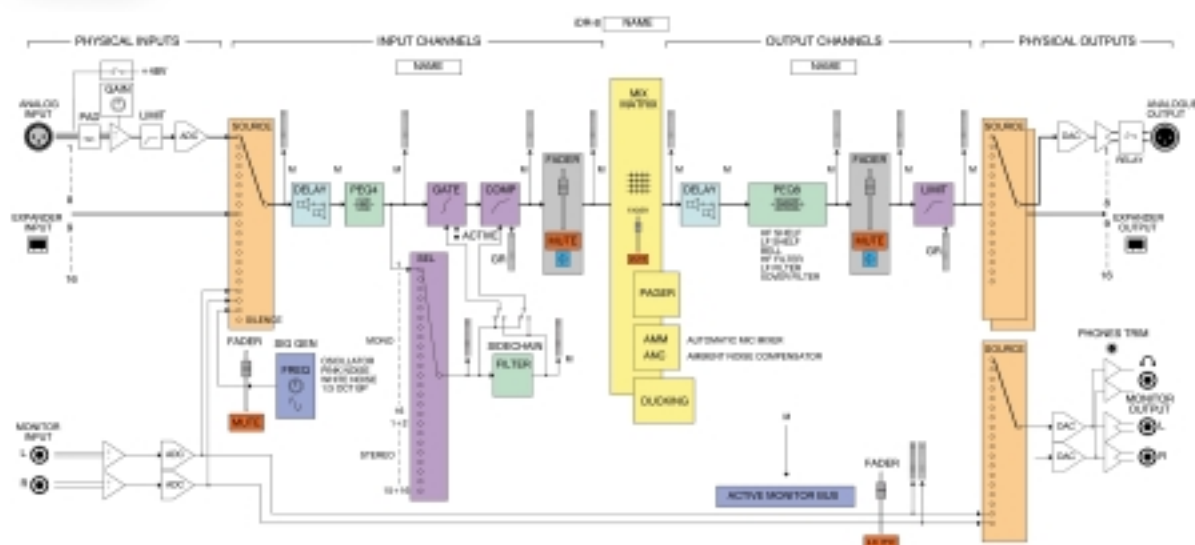
Adjustments are made in real time as there is no compiling to do, and our unique monitor buss allows you to listen to any point in the signal path. Copy and paste any DSP settings to quickly build up a design, save it as a configuration file, and use it as a template for other systems.

MIDI



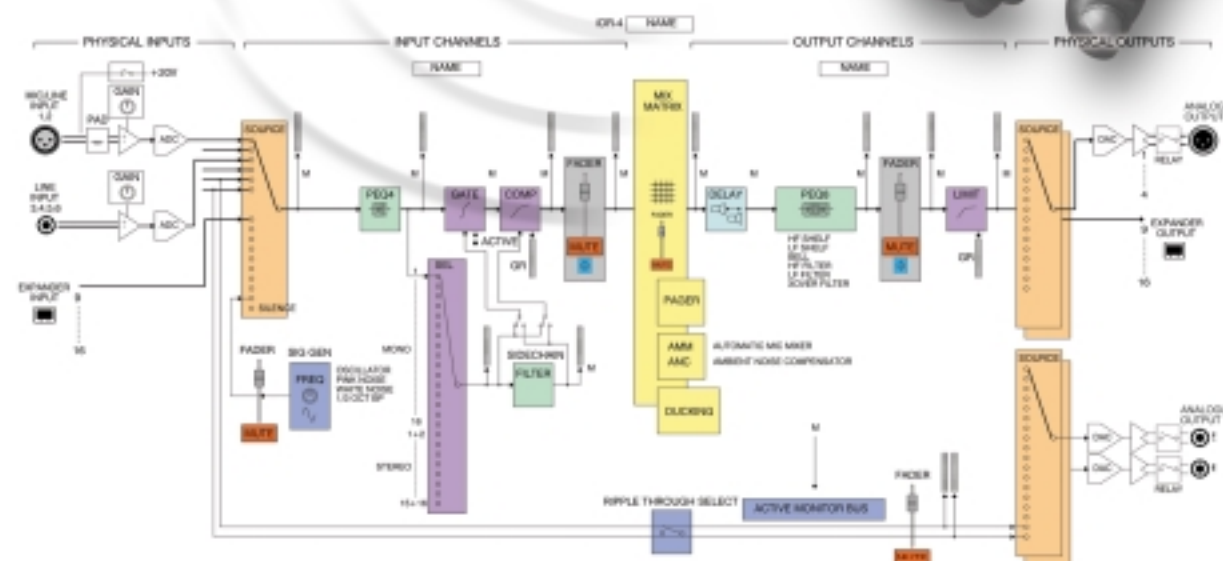
iDR-8 is equipped with MIDI in/out/thru and custom MIDI commands can be output as presets and recalled on the **iDR**. This allows other audio devices such as samplers and processors to be controlled from the main unit.

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.



Features of iDR-8

- ★ iDR DSP system - 16 processing channels (inputs and outputs)
- ★ 8 analogue mic/line inputs on XLR with 48V phantom power
- ★ 8 analogue line outputs on XLR
- ★ 2 line inputs on TRS jack
- ★ 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
- ★ Headphone monitor with mouse and ripple-through compatibility
- ★ MIDI in/out/through connections



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 compatibility

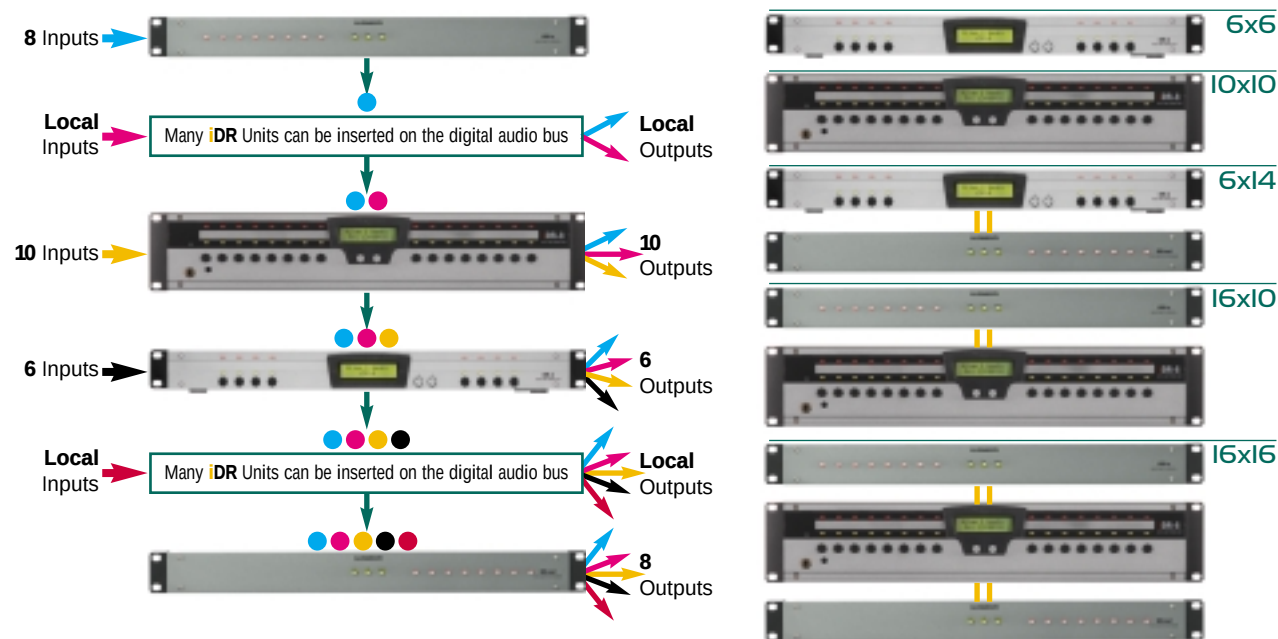
iDR-In & -Out EXPANDERS



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 			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 			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 			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 			For connecting iDR to a phoneline for remote connection, management and operation (PPP = Point to Point Protocol).
RS232 Front (iDR-8 only) 			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 			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

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)

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	< 2.3ms
XLR out with Processing	

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	Proprietary 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	Proprietary 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 iDR-8 : 32 user programmable, tri-colour iDR-4 : 16 user programmable, tri-colour iDR-8 only: Recessed Socket and Level Trim
LEDs	
Headphones	

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 iDR-8 : T1.6A 20mm iDR-4 : T1A 20mm
Internal Fuse	

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")

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 Type	Mating screw terminal plugs supplied
Operation	Opto-isolated via 2k2 ohm from +10V 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

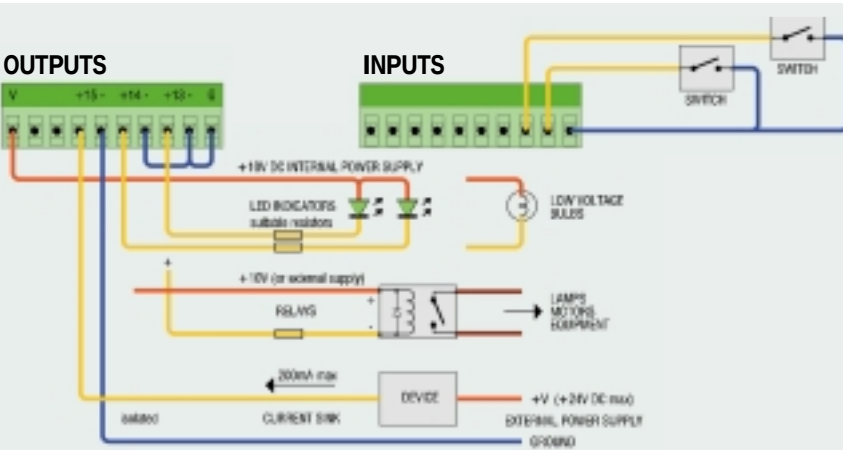
Mechanical specifications (in mm)

Removeable ears for desk or rack mount	Width	Height	Depth
iDR-switch			
Desktop	440mm (17.3")	48mm (1.9")	148mm (5.8")
Rack	486mm (19")	44mm (1.75")	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.



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-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)



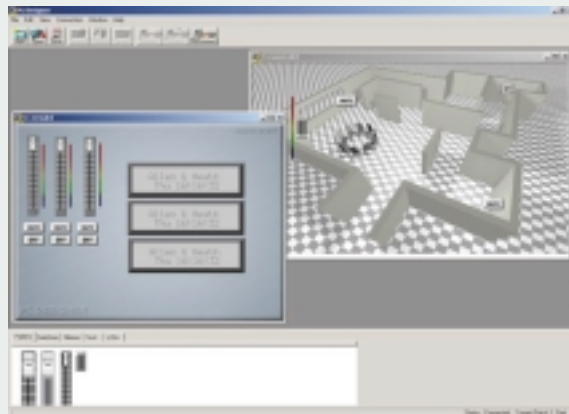
PL SOFTWARE



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 tailored 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.



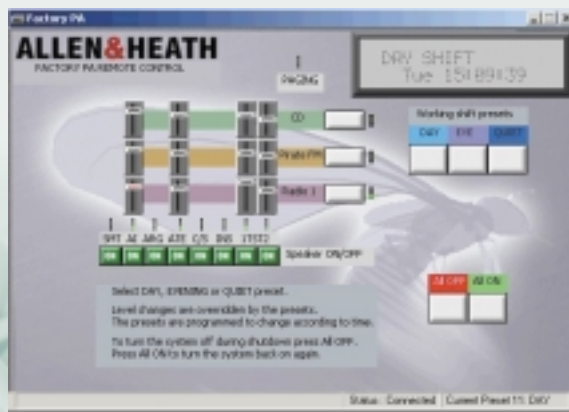
For example, the system architect could specify in **PL Designer** that: a venue manager could control source selects (e.g. CD, SAT-TV, DVD, etc), and levels of different zones on multiple floors using many **iDR** systems through one **PL Client** interface from the client's password-protected computer 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 .dtd 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.



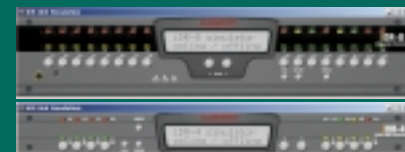
iDR SYSTEM MANAGER SPECIFICATIONS

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

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

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

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



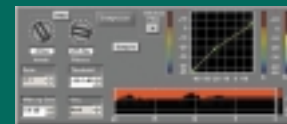
Sidechain Filter

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

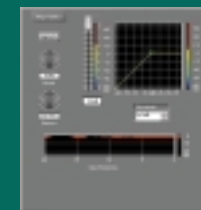
Input Input Meters selectable source, post-EQ, post-dynamics, post-fade
Output Output Meters selectable post matrix, pre-fade, post-fade, post-limiter
Metering Points Input Source, Delay, EQ, Sidechain, Gate, Compressor, Fader
Metering Points Outputs Delay, EQ, Fader, Limiter (can act as meters) green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

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



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 50dB, max rate dB per Second from 0.1 to 30dB
Controlled Gain Response Time I/P Source/Post-EQ/Post-Fade, O/P Post-Matrix/Pre-Fade/Post-Limiter, Channels 1-16
Program Gap Metering Point -62dB to -20dB
Program Gap Threshold 0s to 5s
Program Gap Time Level meters, Ambient Level
Display 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 Ducking 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

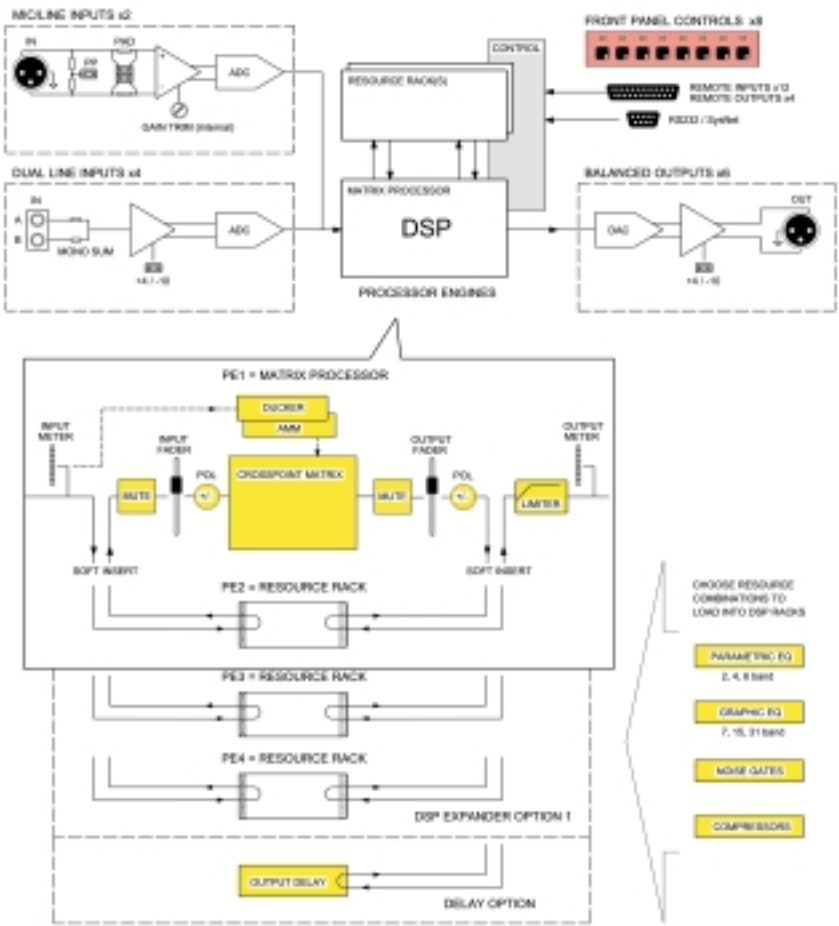
Source variable frequency sine wave, white noise, pink noise, band pass pink noise
Range (sine/band) 20Hz to 20 kHz
Controls Fader, Mute



The **DR66** is a Digital Signal Processing Matrix Mixer which can be used for a huge number of sound installation applications. Built around two Processing Engines supplied as standard, this compact 1U rack unit offers digital mixing with EQs, dynamics and automatic mic mixing, and provides routing for signals from the 6 analogue mic or line inputs to be fed to 6 matrix outputs on XLR connectors - a system which can be expanded with additional processing engines and delay options.

The **DR66** is simple to set up using **ALLEN&HEATH WinDR System Manager** software and can be controlled either by front panel keys on the unit standing alone, or by many other methods, such as wall plates, touchscreens and the front panel keys. Programmed presets can store parameters of several processing elements and the settings of input, crosspoint and output faders, which can then be recalled manually, or by the timed events processor. The **DR66** boasts rear connectors which allow input from a single 24V backup power supply.

The **DR66** is designed to provide low latency architecture in Digital Signal Processing mixing, and it's built to the same exacting standards as **ALLEN&HEATH** live sound desks. Bringing well-featured, high quality audio to every sort of sound installation, this audio zoner offers a low-cost DSP solution for installations such as hotels, conference centres, stadia, retail outlets, restaurants, houses of worship and pubs.



FEATURES

Digital Signal Processing

DR66 is supplied with two Digital Signal Processing Engines (PE's) as standard, and each has a different contribution to make towards the functionality of the unit. The first PE has a fixed configuration and powers the matrix processor, input and outputs, signal meters, crosspoint matrix, output protection limiters multiple priority ducker, AMM and 'soft' insert points for signal processing.

The second PE allows individual assignment of signal processing and allows the installer to load 'resource racks' of DSP with, for example, parametric EQ's, graphic EQ's, noise gates and compressors which may be applied to inputs and outputs. Further DSP may be added with extra 'DSPx' expander cards.

LCD Display

The LCD displays active patch number, name, day, time and other information. A real time clock is included for scheduled patch events.

Patches

Each **DR** unit can store up to 99 patches depending on the resources involved. Full patches [affecting all parameters] or partial patches [affecting selected parameters] can be edited using the PC then named and saved to the **DR**. Sets of programmed patches with channel names, scheduled events details and processor rack details can be saved in configuration files on PC for system recall.

Setup Keys

The **DR66** has five soft keys on the front panel which can be used to navigate and select available menu parameters.

SysNet

SysNet is the **ALLEN&HEATH** communication protocol used to control the **DR** unit from external third party remote controllers, such as AMX, Crestron or Audace. Patch recall, input and output levels, mutes and crosspoint levels can all be controlled from such devices via the RS232 port.

DR Gateway

This is an **ALLEN&HEATH** Windows™ software utility which allows the **DR66** to be controlled via an IP network. This lets the installer access the unit remotely using the **WinDR** System Manager software via a computer network, through an Ethernet port or dial-up connection. It runs on a host computer via RS232 and its Ethernet port to access the network.

Delay Option

The DSPd Delay Option provides up to 680mS of signal delay on each output channel.

iDR Switch

The **DR66** can be connected via **DR** Link on CAT5 cable to the **iDR-Switch**, a 24-in, 16-out switch controller (see page 11). The addition of the switch unit allows extensive use of wall plate and remote equipment control, and provides an additional 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, providing an extra 72 switch and 48 logic outputs and are programmed using the **WinDR** System Manager software.

External PSU Backup

Rear connectors provide input from a single 24V external battery

WinDR Software

WinDR is a Windows™ application which runs on PC or networked system. It is supplied with the **DR66** for the installer to configure the internal routing and signal processing for the installation. Three main windows are available:

- ★ Offline **DR** Unit simulation window, with front panel controls for remote functions and display options
- ★ Input and output channel windows, with show controls for each channel including faders, mute, polarity, naming and crosspoint levels
- ★ The resource toolbar which shows the available DSP in resource racks, which can be assigned by dragging onto channels.
- ★ **WinDR** can be investigated before real system setup by downloading it free from the **ALLEN&HEATH** website.

Internal Headroom	DR66	+12dB
Maximum Output Level	+16dBu	into 600 ohms
Frequency Response	20Hz to 20kHz	+/-1dB
Distortion	THD better than	0.004% @ 1kHz
Crosstalk	Interchannel	> -80dB at 1kHz
Noise	22Hz - 22kHz	
	Mic Ein	-128dB (150 ohms source)
	Line preamp at	0dB gain -90dBu
	Mix noise (all routed)	-80dBu
Panel Meters	2 colour	
	Red:	Peak -6dB dBFS
	Green:	Signal -42dB dBFS
Phantom Power	+18V, internal jumper links	
Power Requirements	Mains voltage set for local requirements	50/60Hz 25W max
Power Supply	Internal regulated hybrid Switch Mode/Linear	
Power Consumption	25VA Max	
AC power requirements	Factory wired for	100, 120, 220, 230V AC,
	50/60Hz mains input	
	Fuse	T315mA (220V - 240V AC)
		T630mA (100 - 120V AC)
DC Power Backup	External DC Power Supply Input	
	Nominal +24V DC (+/- 15%)	
	DR66	Fuse 2A (internal) 1 Amp max

Mechanical specifications - Dimensions in mm			
	Width	Height	Depth
Desktop	486 (19")	44 (1.7")	350 (14")
	Sizes do not include feet		
	Unpacked		Packed
Weight	6.5kg (14.3lb)		7kg (15.4lb)

ADC	20-bit Fs x 64
DAC	20-bit Fs x 128
Processing	2 x Motorola 56002 24-bit fixed point
Sampling Frequency	48kHz

Compatible with BS5839 installation requirements for Alarm systems, plus IEC65, EN60065, UL6500 and CSAE65/94 safety standards

PL-I



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



The **GR05** is an affordable yet high quality 'plug and play' analogue 1U rack solution for sound installations, mixing up to 2 mic and 3 stereo sources for up to 4 output zones. It presents a very simple interface for the operator, but has amazing installer configurable flexibility protected 'under the hood'. It provides tools such as level matching, metering, routing matrix, EQ, ducking, VCA remote control and expandability to satisfy the many demands of each installation.

The **GR05** is at home in small but high quality professional sound installations providing zoned background music and announcements, with sources such as microphones, CD, 2-track players, retail radio feeds, video sound, jukeboxes, etc. Venues where **GR05** can be found include bars, shops, sports centres, restaurants, public galleries and venue foyers.



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.

Outputs XLR

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.

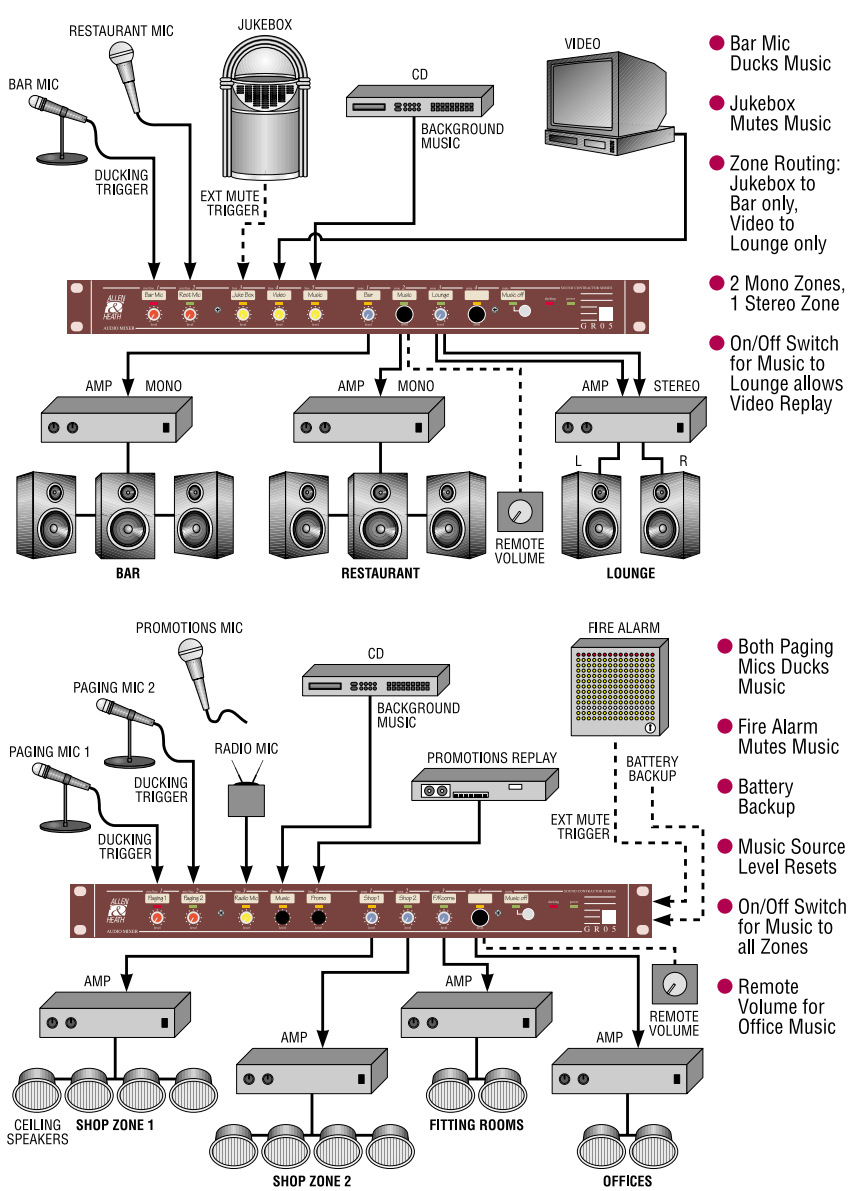
Other configurable functions include VCA control and outputs which can be assigned to front panel controls or alternatively, remote control operation. Zone muting is possible via a front panel switch and LED indicator.

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 assignment 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

Maximum output level	
Impedance balanced	+20dBu into 2k ohm

Frequency response	
20Hz to 30kHz	0/-1dB

Distortion - measured at +12dBu 1kHz Line in to Output	
	< 0.005%

Crosstalk measured at 1kHz	
Channel shutoff	< -90dB
Interchannel	< -80dB
Channel pan	< -75dB

Noise 22Hz - 22kHz referred to 150 ohm source	
Mic EIN	-128dB
Line preamp at 0dB gain	-91dBu
Mix noise (all routed)	< -86dB

Inputs + Output Meters	
3 colour LED	
Red:	Peak: on 5dB before clipping
Yellow:	0dB
Signal:	dynamic indication from -12dB

Internal headroom	
	+20dB

Routing	
Assignable 9 in,	4 (x2) Out

Crosspoint Matrix	
Output Levels Control	High performance VCA system
Routed Direct	Internal trimmer
	-10dBV to +4dBu
Routed via VCA	Front panel level control or
	External remote level control
	Switch operated zone mute
	option link
Ducking options	Internal Trimmer
	-10dBu to +4dBu

Ducking - Release fast or slow links	
Depth	-10dB, -20dB or Mute links
Internal & External Ducking circuits.	
	Internal Trigger from mic 1
	and mic 2 by option links.
	External Trigger from opto
	isolated input

EQ	
Mic Inputs	HF/MF Swept
	Peak/Dip, LF Shelf
Outputs	HF Shelf, LF Shelf

Power Supply	Internally regulated +/- 15V
---------------------	------------------------------

Mains Power Internal unit	
AC mains input	100 to 230V a.c.
	@ 47-63Hz
	Internally wired to
	country voltage
	18VA max
Power consumption	
Mains fuse rating	100-120V a.c. use
	T630mA 20mm
	220-240V a.c. use
	T315mA 20mm
DC Power Backup	External d.c. power
	supply or batteries
	+/-12V to 16V d.c.
	@ 300mA

Mechanical specifications - Dimensions in mm			
	Width	Height	Depth
Desktop	483 (19")	44 (1.7")	260 (10.2")
Weight	4kg (9lb)		