



# Welcome

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Thank you for investing in the Allen & Heath **iLive** digital mixing system. To get the most from your iLive we recommend you read the whole of this guide. To get started quickly refer to the Getting Started guides that come with the iLive Surface and MixRack, and then to this guide for further reference.

This guide describes the iLive system components including the many Surface and MixRack models, PL Series controllers and network card options available. For information on operating iLive please refer to Part 2.

Before starting please note:

## Safety Instructions

Read the Important Safety Instructions printed on the sheet supplied with the equipment. For your own safety and that of the operator, technical crew and performers, follow all instructions and heed all warnings printed on the sheet and on the equipment panels.

## System operating firmware

The feature set of the iLive is determined by the firmware (operating software) that runs it. Firmware is updated regularly as new features are added and improvements made, and is available for download from the Allen & Heath web site. This guide relates to **Version 1.7 firmware**. Some of the details shown in this guide may differ from those in the current release of firmware. Refer to the web site for the latest version and read the Release Notes that come with each version of firmware for further details.

**Note:** Make sure all your iLive MixRacks and Surfaces are running the same version of firmware, and that the Editor software running on your laptop is compatible.

## Further information

For further information, refer to the **User Guides** associated with each system component, the **Getting Started Guides** AP7445 and AP7141, the **HELP MANUAL** available from the iLive Surface TouchScreen and within the Editor software, and the **Allen & Heath web site**.

## **IMPORTANT- Please read carefully**

By using this Allen & Heath product and the software within it, you agree to be bound by the terms of the relevant **End User Licence Agreement (EULA)**, a copy of which can be found on the Allen & Heath website in the product's pages. You agree to be bound by the terms of the EULA by installing, copying, or otherwise using the software.



The iLive range of products complies with the European Electromagnetic Compatibility directives 89/336/EEC & 92/31/EEC and the European Low Voltage Directives 73/23/EEC & 93/68/EEC.

Any changes or modifications to the equipment not approved by Allen & Heath could void the compliance of the product and therefore the users authority to operate it.

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# **ALLEN&HEATH**

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<http://www.allen-heath.com>

## Precautions

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- Damage :** To prevent damage to the equipment cosmetics, avoid placing heavy objects on the unit, scratching the surface with sharp objects, or subjecting the unit to rough handling and vibration.
- Environment :** Protect from excessive dirt, dust, heat and vibration when operating and storing. Avoid tobacco ash, smoke, drinks spillage, and exposure to dust, rain and moisture. If the equipment becomes wet, switch off and remove power immediately. Allow to dry out thoroughly before using again.
- Cleaning :** Avoid the use of chemicals, abrasives or solvents. The equipment is best cleaned with a soft brush and dry lint-free cloth. If the ventilation grilles become blocked with dust use a vacuum cleaner to suck the dirt out. Do not remove the cover to clean the unit.
- Transporting :** The equipment should be transported in the original packing or purpose built flightcase to protect it from damage during transit.
- Cables:** Plan the location of the equipment so that the connecting cables are not fully extended. Full extension of the cables can stress the equipment and cables and may result in undesired performance. Ensure that the cables are located such that they cannot be stood on or tripped over.
- Modules:** Do not remove the modules from the equipment while power is applied.

**Avoid using the equipment in extreme heat and direct sunlight.** iLive-T and iLive-R Surfaces feature a composite front panel, to which exposure to temperatures above 50°C, with ambient temperature of 35°C, may cause temporary change in appearance. Continued exposure to temperatures above 50°C may cause permanent damage to the composite panel.

**Allow time for the system to reach normal working temperature** at the venue before operation if it has been stored in sub zero temperatures. Computer and touch screen technology can be affected by extreme cold. Recommended operating temperature for iLive is 5 to 35 degrees Celsius.

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# Introduction to the iLive system

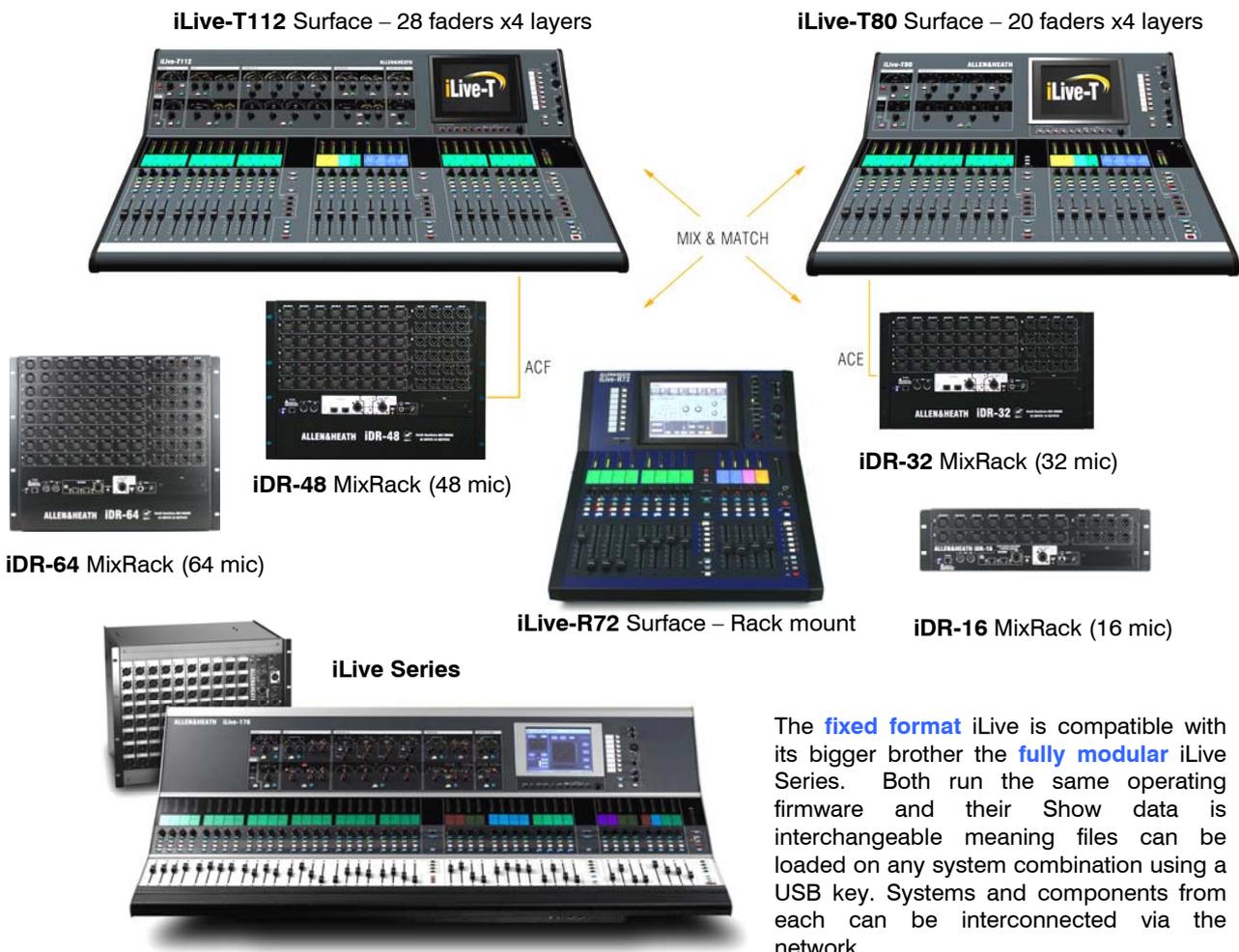
The modular iLive and the fixed format iLive-T and R Series provide a 'mix and match' system for live sound mixing. Allowing distributed control and audio over CAT5 cable, iLive is well suited to demanding live sound applications such as FOH/Monitor mixing, live recording and multi-function installed venue sound. It is uniquely flexible with choice of components, a fully configurable bus architecture and assignable user interface for easy configuration to match each application.

The standard iLive offers a fully modular construction and feature set suitable for the top end application, and is available with a touring grade flightcase. The T and R Series offer an affordable fixed format solution for the more budget conscious application. All feature separate MixRack and control Surface with CAT5 digital link. The hardware, firmware and user data is compatible between the two systems.

The MixRack is the heart of the system with choice of modular or fixed I/O, 64 channel x 32 bus DSP processing and network interfacing in a 19" rack frame. It has plenty of DSP power. All the processing is available all the time including graphic EQ on all mix outputs, 3 dynamics processors per channel and 8 fully assignable FX racks. Six versions of MixRack are available including modular, fixed format and a compact MiniRack without audio I/O for digital split systems.

The Surface is a 'controller' that allows remote control of the MixRack and other components in the system. It has audio I/O built in for local audio signals to connect with the MixRack via CAT5 cable using EtherSound or the Allen & Heath ACE™ link. The purpose designed user interface gives you instant access to all your live mixing functions with plenty of faders, single button access analogue style channel processing control as well as an intuitive touch screen. iLive provides no fewer than 7 different versions of Surface giving you a choice of number of faders and price point to match your application.

iLive offers a host of control possibilities including the Surface, networked or wireless laptops or touch tablets running iLive Editor software, PL Series remote controllers, an iPhone application, MIDI and more. You can even leave your Surface at home and run the show with just a laptop connected to the MixRack. iLive marries a new generation of digital mixing with the speed of operation and sound quality expected of the best analogue consoles.



## Modular iLive system components



**iDR10 MixRack** The MixRack is the heart of the digital audio processing system. It houses the DSP mix engine together with control and audio networking interfaces. The 64 input x 32 bus architecture is fully configurable for mono/stereo and type of mix. It is known as the iDR10 because it has 10 card slots for fitting any combination of input and output modules.



**iDR0 MiniRack** The MiniRack is similar to the iDR10 MixRack except it does not have any card slots for input or output modules. Instead it gets its audio via the EtherSound network. It can be used as the slave mix engine in an FOH/Monitor system with digital mic split, or as a compact mixer with an iLive modular Surface using the audio I/O in the back of the Surface.



**iLive Surface** There are 4 sizes of modular control surface available with up to 44 faders. These are arranged in banks with 4 layers each. The modular surface has a 4 slot card frame built in to load up to 4x 8 channel input or output modules for local I/O.



**iPS10 Backup PSU** Rack mounted external power supply to provide redundant backup for the iLive modular Surface or iDR0 MiniRack.

**CAT5 Cables** iLive is shipped with short CAT5 cables with locking Neutrik connectors to connect the rack and surface. An optional 80m (262') drum of armoured CAT5 cable is available from Allen & Heath. Two cables are required if the system uses EtherSound as the digital audio connection. One drum is required if it uses the Allen & Heath ACE™ connection.



**iLive Flightcases** iLive modular systems can be ordered with touring grade flightcases. These have wheels with brakes. The MixRack case uses rubber shock mounts to protect the rack and has front and rear covers. The surface case is a three part design. The surface may be operated while in its base.



**LEDlamp** 4-pin XLR gooseneck LED lamp with built-in dimmer. Each modular Surface has 3 lamp sockets except the iLive-80 which has 2.



**PL Series Remotes** iLive is designed to work with the Allen & Heath PL Series remote controllers. Several different models are available. Each control and indicator can be programmed from the Surface or using the Editor software.

**iLive System Manager** PC and MAC software for using a PC, laptop or touch tablet to control the iLive system or edit its settings off line. TCP/IP Ethernet connection allows wired or wireless control with or without a Surface connected.

# iDR10 Modular MixRack

**DSP 'RackExtra' module**  
The DSP mix engine, the heart of the iLive mixing system. 64x32 mix architecture plus 8x internal effects.

**REMOTE AUDIO module**  
With system clock, headphones and remote audio distribution. Fit up to 2 audio network option cards (RAB2 version).

**CPU module**  
Manages the MixRack system and allows remote control via Ethernet, MIDI and PL-Anet. Also provides a lamp socket.



**CHK indicators**  
Follow PAFL selection

**PP indicators**  
Detect phantom power voltage on XLR sockets.

**MUTE indicators**  
Display output mute status.

**Audio modules**  
10 slots available. Slots A to J

**System modules**  
Slots K, L, M

**Ethernet switch**  
3x network ports.

**Port A**  
Surface and break out/in audio.

**Port B**  
Digital mic split, system expansion, record.

**PL-Anet**  
Connect to Allen & Heath PL-Series remote controllers.

**MIC/LINE IN module**  
8x mic preamps with remote gain control.

**LINE OUT module**  
8x balanced line out sockets.

**DUAL MIC/LINE IN module**  
Connect 16x inputs on screw terminal plugs. 8x mic preamps each with remote selection of A and B inputs.

**MULTI DIGITAL OUT module**  
16x outputs in digital format. ADAT, Aviom, Hearback, iDR Expander. Uses 2 slots.

**DIGITAL OUT module**  
4x pairs of digital outputs simultaneously available AES, SPDIF or OPTO.

**DIGITAL IN module**  
4x pairs of digital inputs selectable either AES, SPDIF or OPTO.

**Note:** You can choose any combination of input, output and blank modules to load into the 10 available slots. The format above shows all the options available at the time of print and is not representative of a typical user setup. The photo below shows a popular configuration with 48 mic inputs and 24 line outputs loaded. Further inputs and outputs would typically be available at the rear of the surface.



**FLIGHT CASE**  
Touring grade case on wheels. Shock mounted rack. Front and rear covers.

**Module extractor tool**  
To pull out modules if you need to reconfigure the module format.

**Note:** Do not remove or plug in modules while power is applied. The iLive system is not 'hot pluggable'.



**POWER SUPPLY module**  
Universal mains input. One required. Fit second as redundant supply backup.

# iLive Modular Surface

## Lamp connectors

Accept standard 12V console lamps. We recommend using the Allen & Heath dimmable LEDlamp.

## Backup PSU input

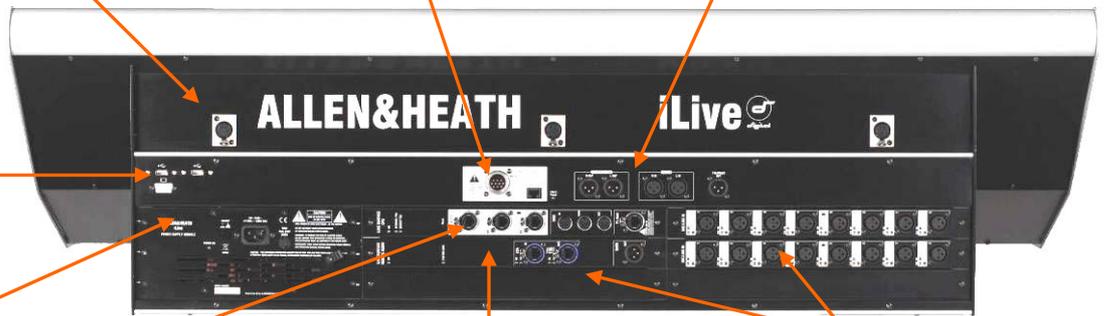
For connection to the Allen & Heath iPS10 redundant backup power supply. DC and temperature sense

## Audio connections

XLR sockets for surface Talkback mic output, PAFL input and local monitor output. Provides an analogue alternative for connection to the MixRack when a digital audio network option is not fitted.

## USB and VGA

Two USB ports available in addition to the two under the armrest at the front. Option to connect a monitor screen to the VGA output to duplicate the TouchScreen display.



## Internal power supply

Universal mains voltage power module with IEC mains connector and power on/off switch. P-clip for securing mains cable.

## CPU module

Manages the Surface system and provides remote control via Ethernet, MIDI and PL-Anet. The built-in Ethernet switch allows connection of several devices to the network, for example Surface and a laptop.

## REMOTE AUDIO module

Provides the digital audio network interface to transport the Surface audio to/from the MixRack and other devices. Not required if audio modules are not fitted and analogue connections are used for Surface headphones and talkback.

## Audio module options

4x card slots A, B, C and D to fit optional audio input and output modules. The REMOTE AUDIO module is required if audio modules are fitted. Choose from the same module types available for the MixRack.

## Channel processing block

Analogue style layout with dedicated rotary controls, switches and meters for the channel/mix preamp, HPF, gate, PEQ, compressor and limiter/de-esser. The controls are accessed using the strip SEL keys. Select the input channel, mix master or FX return.

## TouchScreen

Used for status display, system setup and memory management. Also provides an alternative graphical view of the channel processing. The screen may be tilted and dimmed.

## Soft keys

8x user assignable keys which can be programmed to a number of functions such as tap tempo, mute groups, mix select etc.

## Control strip

- Meter
- Status LCD
- Encoder
- SEL key
- PAFL
- Mute
- MIX key
- Fader
- Configure as**
- Input channel
- FX return
- FX send
- Group
- Aux
- Main mix
- Matrix
- DCA master
- PAFL master



## Talkback

Talk mic input and assignment.

## Engineer's monitor

Headphones and local monitor.

## Solo-in-place

PAFL controls

## Scene keys

Fader Banks

Copy, Paste, Reset

Freeze, Alt view, GEQ toggle

Headphones, USB

Layer A,B,C,D select per bank

Assign, Pre/Post, Rotary shift For current selected MIX

## iLive-80

20 faders (80 strips)



## iLive-112

28 faders (112 strips)



## iLive-144

36 faders (144 strips)



## iLive-176

44 faders (176 strips)



# Fixed format system components



The **MixRack** is the heart of the digital audio processing system, housing the **64x32 DSP mix engine** together with control and audio networking interfaces. The DSP can be configured for mono/stereo and type of mix (group, aux, mains, matrix). The system provides full dynamics, EQ and delay processing for all inputs and masters, 8 built-in 'RackExtra' effects and 16 DCA groups. The 8FX returns add to the 64 channels providing up to 72 sources to the mix. All racks provide the full 64x32 DSP processing and differ only in the number of Mic/Line inputs and XLR line outputs available. The Port B option allows digital mic splitting and system expansion from a choice of audio networking cards.

**IDR-64** Biggest rack: 64 Mic/Line inputs 9U  
32 XLR line outputs

**IDR-48** Standard rack: 48 Mic/Line inputs 8U  
24 XLR line outputs

**IDR-32** Mid sized rack: 32 Mic/Line inputs 6U  
16 XLR line outputs

**IDR-16** Smallest rack: 16 Mic/Line inputs 3U  
8 XLR line outputs

The **Surface** is simply a **network controller** for the MixRack. It has a built-in interface for local audio which is transported to and from the MixRack via the ACE connection along with the Ethernet control. Each bank of faders has 4 or 6 layers providing a total of 72, 80 or 112 control strips depending on Surface size. These strips are freely assignable as inputs, mix masters or DCAs in any combination. The Surfaces offer the same control, the difference being a reduced rotary control section for the smaller models. All processing is available using the TouchScreen.



**iLive-T112** Biggest surface:  
28 faders, 4 layers = 112 strips  
16 local line in = 8 TRS, 4 RCA, 2 SPDIF  
14 local out = 8 TRS, 2 RCA, 1 SPDIF, Monitor

**iLive-T80** Mid sized surface:  
20 faders, 4 layers = 80 strips  
8 local line in = 4 TRS, 2 RCA, 1 SPDIF  
10 local out = 4 TRS, 2 RCA, 1 SPDIF, Monitor

**iLive-R72** Smallest surface:  
12 faders, 6 layers = 72 strips  
8 local line in = 4 TRS, 2 RCA, 1 SPDIF  
10 local out = 4 TRS, 2 RCA, 1 SPDIF, Monitor

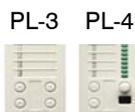
**PL Series controllers** A range of remote controllers is available with assignable switches, LEDs, encoders and faders. A PL-8 4in/4out GPIO controller is also available. These connect to the MixRack via the PL-Anet serial port using CAT5 cable and can be configured using the Surface or laptop. The PL-9 hub is allows star point instead of daisy chain connection. More information on the PL Series is available on the Allen & Heath web site.



PL-10



PL-6



PL-3 PL-4

PL-5



PL-9 Hub



# iLive Fixed Format MixRack

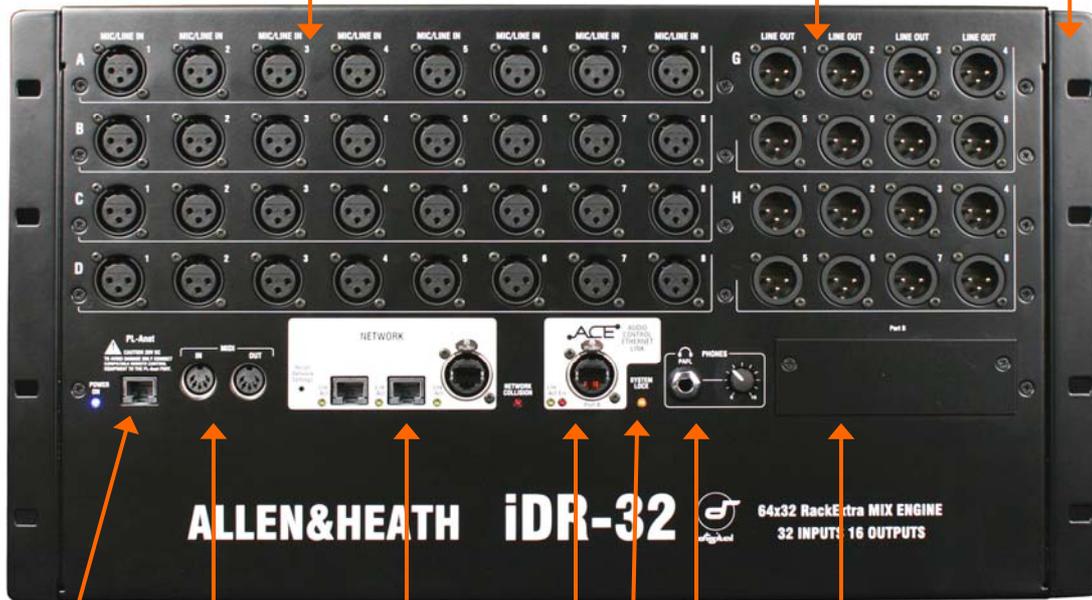
**Mic/Line inputs** High performance, recallable analogue preamps for balanced or unbalanced microphone and line level signals. Gain, Pad and 48V are digitally controlled within the preamp. Digital Trim and Polarity is available within the DSP channel.

Inputs are identified by Slot (card position) and Socket (number), for example **A1** or **C8**. Any input can be patched to any DSP channel using the **PREAMP** screen.

**Line outputs** Line level, balanced XLR outputs. Nominal level +4dBu with +22dBu maximum providing +18dB headroom.

iLive signals can be patched to any output socket using the **OUTPUTS** screen. The outputs are relay protected to prevent power on or off thumps.

**Rack Ears** Fit into a 19" rack or flightcase.



**MIDI IN and OUT sockets.** MIDI is tunnelled via ACE™ or Network to the MIDI port at the Surface. For more information about MIDI refer to the iLive MIDI Specification.

**PL-Anet** RS485 connection for Allen & Heath PL Series remote controllers. Several may be daisy chained together or routed individually via the PL-9 PL-Anet hub. PL controls can be assigned using the **SURFACE SETUP** screen or Editor software.



PL-9 hub

**Port B audio network option slot** Fit one of the option cards available for system expansion, digital mic splitting and distributed audio networking. Capable of bi-directional 64 channels, 48kHz sampling rate. Current options include ACE™, EtherSound, MADI, MMO. Refer to the A&H web site for more on available options.

**PHONES** 1/4" stereo socket and level control for the built-in headphone amplifier. The output follows the PAFL selection.

**SYSTEM LOCK** indicates MixRack digital audio sync lock.

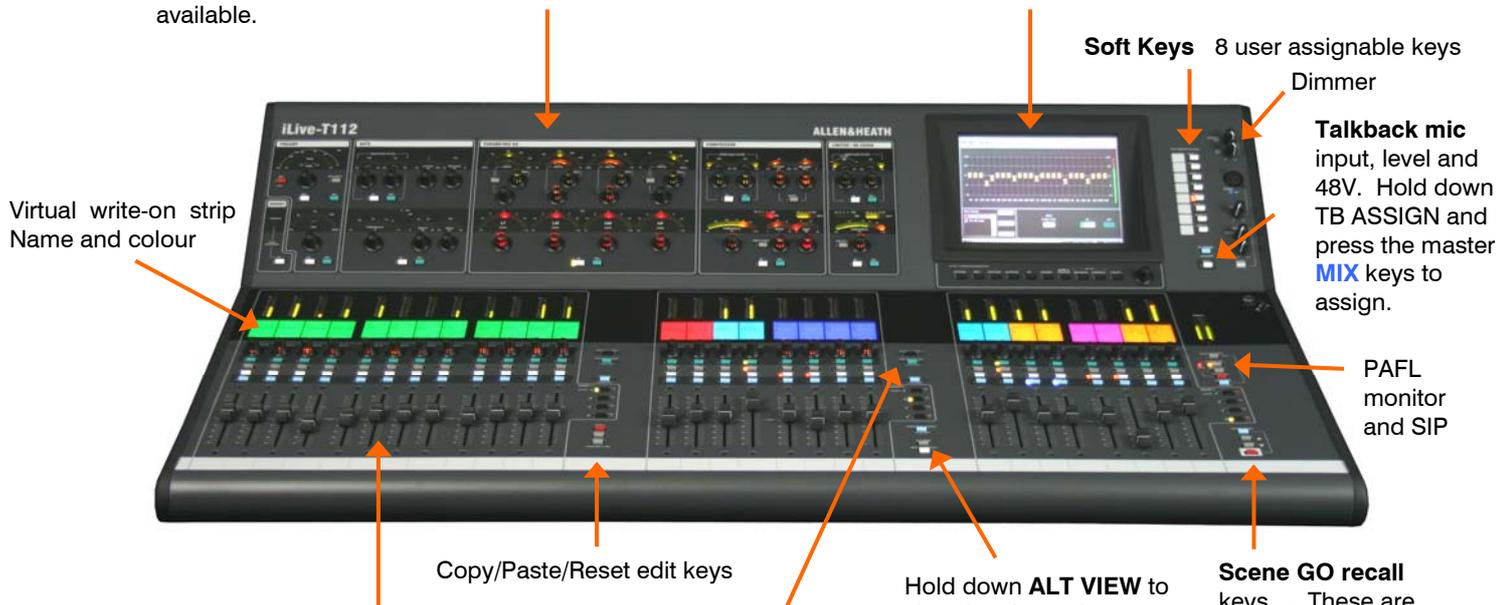
**ACE™ MixRack to Surface link** Also used when linking a Slave MixRack to a Master in Dual-Rack expansion mode. A single CAT5 cable links audio and control. You do not need a separate Network cable because control is bridged over the ACE™ cable between MixRack and Surface.

**Network** Built-in 3 port switch. Connect one or more laptops running iLive Editor, a wireless router, other iLive systems or external network, or link control to a Surface not equipped with ACE™. All devices on the network must have compatible TCP/IP addresses. A recessed switch lets you reset the network settings to factory default.

# iLive T Series Surface

**Channel Processing Strip** Analogue style control section with dedicated rotary controls, switches and meters for the channel or mix preamp, HPF, gate, PEQ, compressor and limiter/de-esser. Press the strip **SEL** key to access the processing of the channel or master assigned to it. The controls illuminate when they are available.

**TouchScreen** For status display, system setup and memory management. To see an alternative graphical view of the processing for the channel or master currently selected make sure none of the keys below the screen is selected.



**Fader Banks** Independent groups of fader strips with 4 layers each. Provides control of the Input channel, FX return, Mix master or DCA assigned to it.

**SEL** opens the channel processing for the selected strip.

**MIX** presents the sends for the selected strip on faders (or encoders) and assignments and pre/post settings in the strip LCD windows.

ASSIGN and PRE/POST access keys for the selected mix.

While a MIX is active:

Hold down **ASSIGN** and press strip **MIX** keys to toggle the assignments on or off.

Hold down **PRE/POST** and press strip **SEL** keys to toggle pre or post fade.

Hold down **ROTARY SHIFT** to access the second encoder function if it has one.

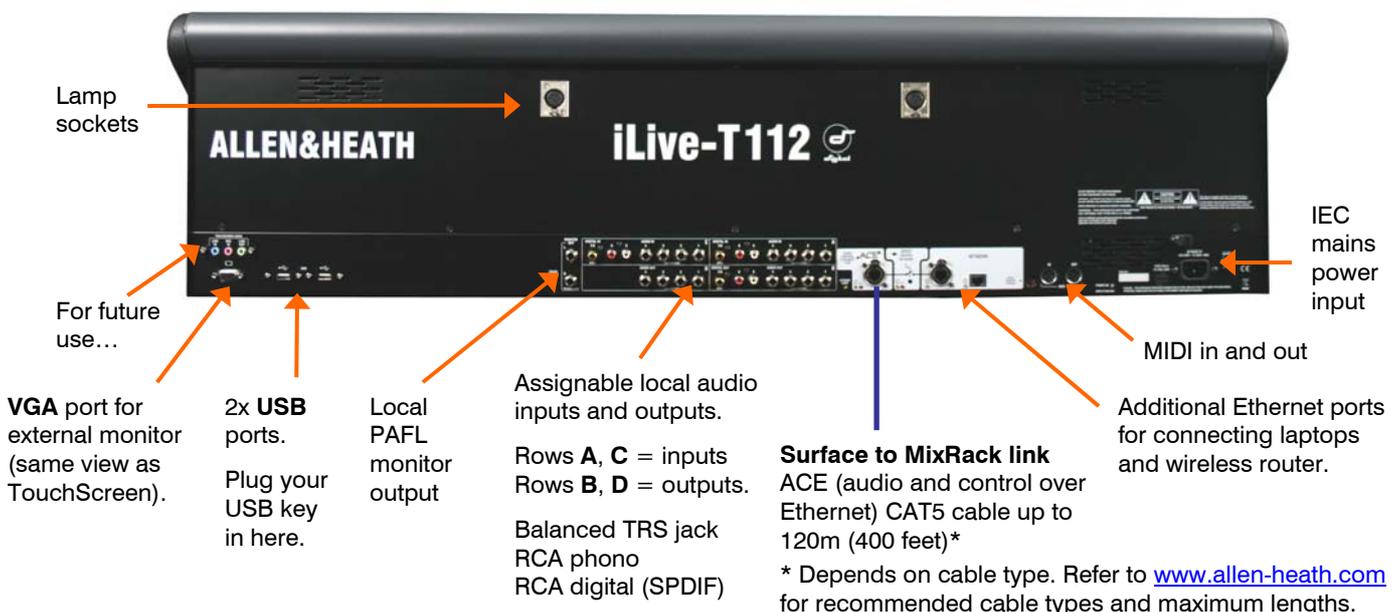
Hold down **ALT VIEW** to view the channel or socket numbers in place of the name in the LCD windows.

**GEQ FADER FLIP** to present the GEQ across the faders.

**FREEZE IN LAYERS** to keep a channel visible across all layers. Hold down and press strip **MIX** keys.

**Scene GO recall** keys. . These are disabled by default. Use the **SURFACE Preferences** option to enable.

**SCENE SAFES** to prevent selected channels being overwritten by the memories. Hold down SAFES and press **MIX** keys to toggle on or off.



# iLive R72 Surface

**Soft Keys** 8 user assignable keys

**Channel Processing Select** Press this key to access the processing for the selected channel using the TouchScreen. Controls for the preamp, EQ, dynamics, delay and insert setup are presented. Use the touch controls and screen rotary to adjust the parameters.

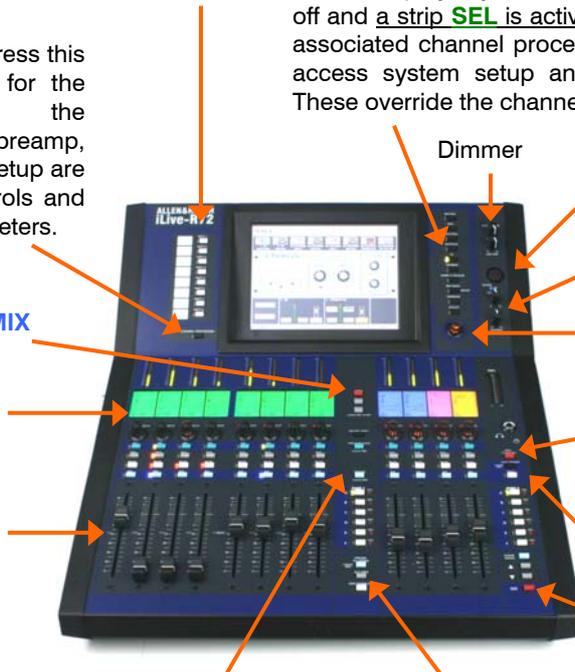
**Copy/Paste/Reset edit keys**  
Hold down then press a **SEL** or **MIX** key to copy or reset parameters.

**Virtual write-on strip** Name, colour and mix status

**Fader Banks** Two independent groups of fader strips with 6 layers each. Provides control of the Input channel, FX return, Mix master or DCA assigned to it.

**SEL** opens the channel processing for the selected strip in the TouchScreen.

**MIX** presents the sends for the selected strip on faders (or encoders) and assignments and pre/post settings in the strip LCD windows.



**TouchScreen keys** When these keys are off the screen displays system status. When these keys are off and a strip **SEL** is active the screen presents the associated channel processing. Use these keys to access system setup and memory management. These override the channel processing view.

Dimmer

**Talkback Mic** Input and level trim. Recessed switch to select 48V phantom power.

**Headphones** level control

TouchScreen rotary control. Illuminates orange when it is active.

**CLEAR ALL PAFL** Press once to clear any active Input PAFL. Press again to clear Output PAFL. Input PAFL overrides Output PAFL.

**Talkback** Hold down TB ASSIGN and press master **MIX** keys to assign.

ASSIGN and PRE/POST access keys for the selected mix.

While a MIX is active:

Hold down **ASSIGN** and press strip **MIX** keys to toggle the assignments on or off. To assign all use the master **MIX** key.

Hold down **PRE/POST** and press strip **SEL** keys to toggle pre or post fade. To assign all use the master **SEL** key.

Hold down **ROTARY SHIFT** to access the second encoder function if it has one.

Hold down **ALT VIEW** to view the channel or socket numbers instead of name in the LCDs. You can choose to access GAIN using the strip rotaries while the key is pressed.

**GEQ FADER FLIP** to present the GEQ across the faders.

**FREEZE IN LAYERS** to keep a channel visible across all layers. Hold down and press strip **MIX** keys.

**Scene GO recall** keys. These are disabled by default. Use the SURFACE Preferences option to enable.

**SCENE SAFES** to prevent selected channels being overwritten by the memories. Hold down SAFES and press **MIX** keys to toggle on or off.

**VGA** port for external monitor (same view as TouchScreen).

For future use...

2x **USB** ports. Plug your USB key in here.

**Surface to MixRack link**  
ACE (audio and control over Ethernet) CAT5 cable up to 120m (400 feet)  
\*Refer to [www.allen-heath.com](http://www.allen-heath.com) for recommended cable types and maximum lengths.

Additional Ethernet ports for connecting laptops and wireless router.



Lamp socket

IEC mains power input. Plastic clip to secure power cable.

Local PAFL monitor output

MIDI in and out

System hard reset jumpers

Assignable local audio inputs and outputs.

Row **A** = inputs. Row **B** = outputs.

Balanced TRS jack line level  
RCA phono line level  
RCA digital (SPDIF)

## Connecting the modular iLive MixRack and Surface

The **iLive** has two main system connections between the Surface and MixRack, both using CAT5 cables. **NETWORK** is the control interface to the MixRack. **Port A** primarily connects audio to and from the Surface and other EtherSound equipped break in/out devices. The optional **Port B** can be used to connect audio between systems such as FOH/Monitor, broadcast or recording. iLive systems are shipped with 1.8 metre UTP CAT5 cables fitted with EtherCon locking connectors as standard. Allen & Heath can supply an 80 meter drum of approved cable if the Surface is located remote from the MixRack. Up to two of these are required to connect control and audio between the MixRack and the Surface. One is required to connect audio between the MixRack and another remote rack. iLive communicates control parameters over a TCP/IP network and the components of the system are network devices that require correctly setting up, please see the section on **Network Settings**.

**Note:** It is recommend that only good quality cable types and network components are used. See the Allen & Heath website for approved cable types.

## Using EtherSound

This requires 2x CAT5 cables, one for AUDIO, the other for CONTROL.

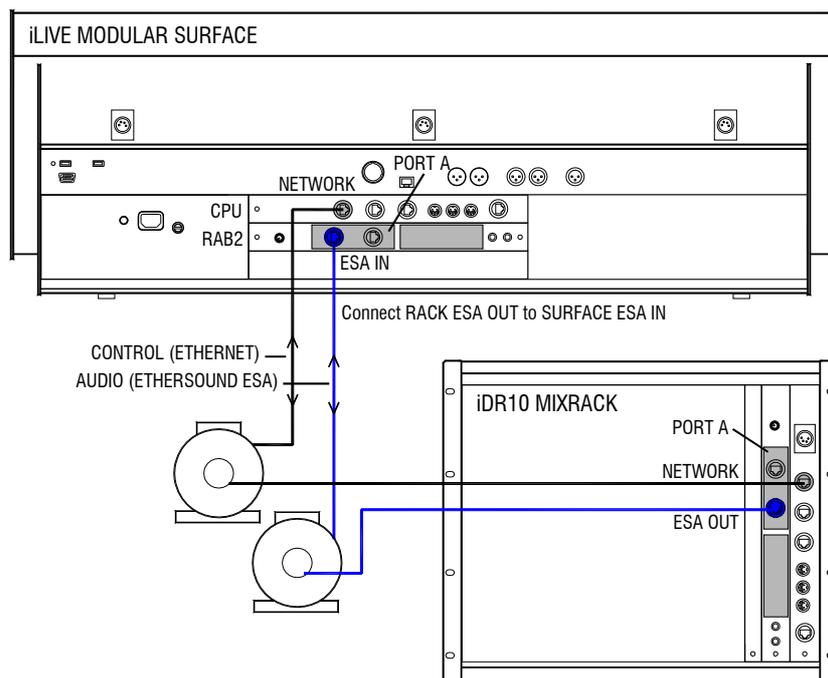
**CONTROL** A 3 port Ethernet switch is built into the CPU module allowing connection of more than one control device, for example a Surface and a laptop. Cables up to 100 metres (330 feet) may be used. Plug the CAT5 cable into any **NETWORK** port. Standard Ethernet hardware may be used to extend or route this connection if required. For Network details on IP address setup and configuration see later sections.

**Note:** Plug only one CAT5 cable to connect the **NETWORK** between the MixRack and Surface. Plug this into any one of the three network ports available. Do not connect a second cable for redundancy. Third party systems are available to extend the connection or provide dual redundancy.

**AUDIO** Plug the MixRack **Port A ES OUT** to the Surface **Port A ES IN** to connect the PAFL, talkback and rear panel input/output signals (ES channels 1 to 32) to and from the Surface. Plug the Surface Port A ES OUT to external break in/out device ES IN to route signals to and from further locations if required (ES channels 33 to 62). For information on using the optional Port B network refer to information later in this user guide.

**Note:** Connect only one EtherSound cable between two devices. Do not connect both IN to OUT and OUT to IN. The terminology 'IN' and 'OUT' refers to the clock master and not direction of audio. Each EtherSound cable carries 64 channels of audio in both directions. It is recommend that only the cable types and network components tested and approved for EtherSound are used.

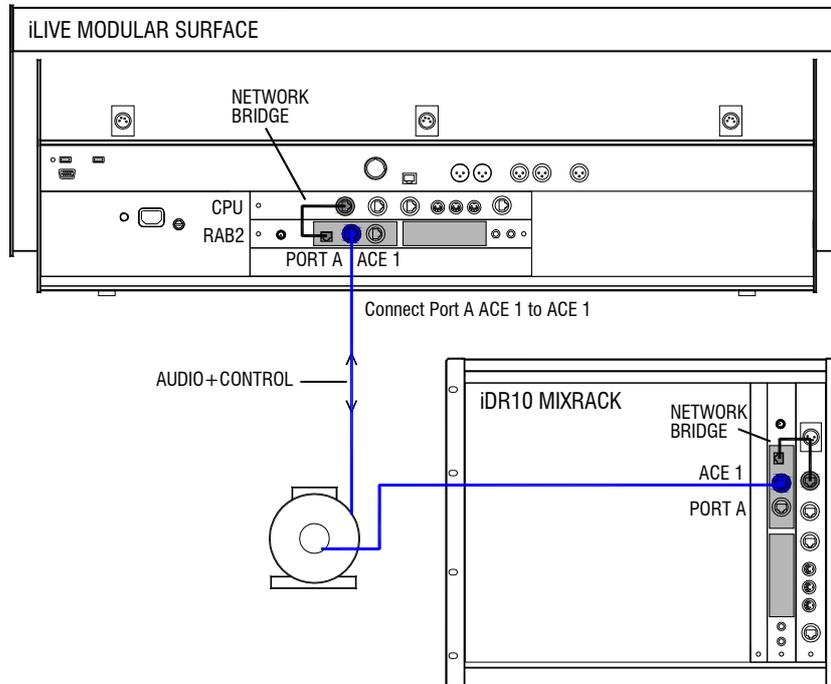
[www.ethersound.com/technology/compatibility.php](http://www.ethersound.com/technology/compatibility.php).



## Using ACE™

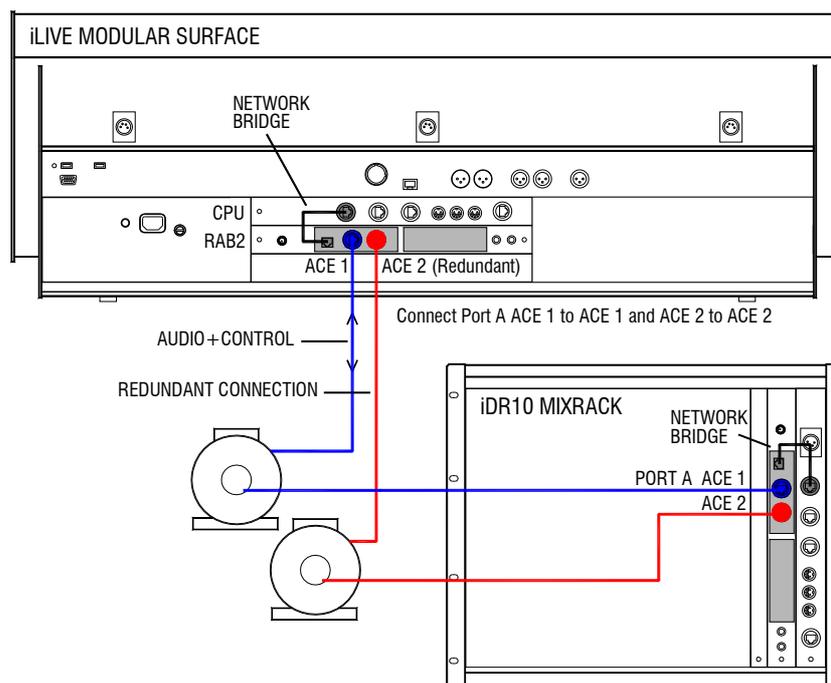
This requires a single CAT5 cable which transports AUDIO and CONTROL over the same cable.

Plug MixRack **Port A ACE 1** to the Surface **Port A ACE 1** to connect the PAFL, talkback and rear panel input/output signals (channels 1 to 32) to and from the Surface. For information on using the optional network modules refer to information later in this user guide.



**Redundant ACE connection** The modular iLive Port A Surface to MixRack link supports dual redundancy. Two cables may be connected, one as a backup for continued operation should the other become disconnected or damaged.

Set the **Redundant Link** option to **ON** using the Surface **MIXRACK Setup / Mixer Pref / Port A/B Setup** screen.



An IEC mains power cord with moulded plug suitable for your territory is provided for each power supply module within the system. The **iLive** system uses universal voltage power supplies that accept world wide mains sources from 100 to 240V.AC 47 to 63Hz. Make sure the IEC plugs are pressed fully into their panel sockets and the cables are clipped into the retaining clips to protect them from accidental disconnection.

**Note:** To ensure operator safety, connect only to an approved and properly grounded mains source. Do not remove the ground connection in the mains cord.

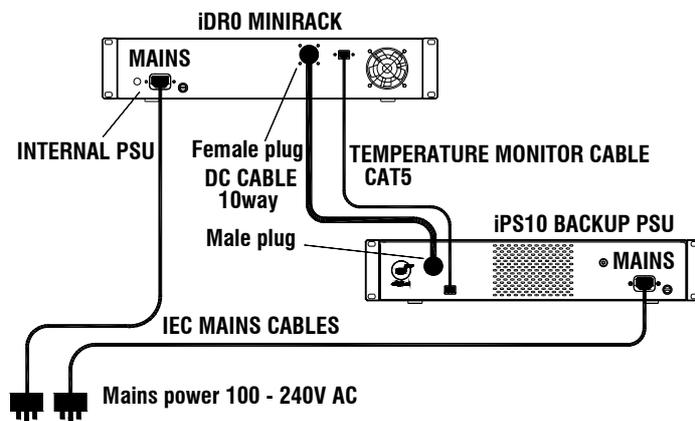
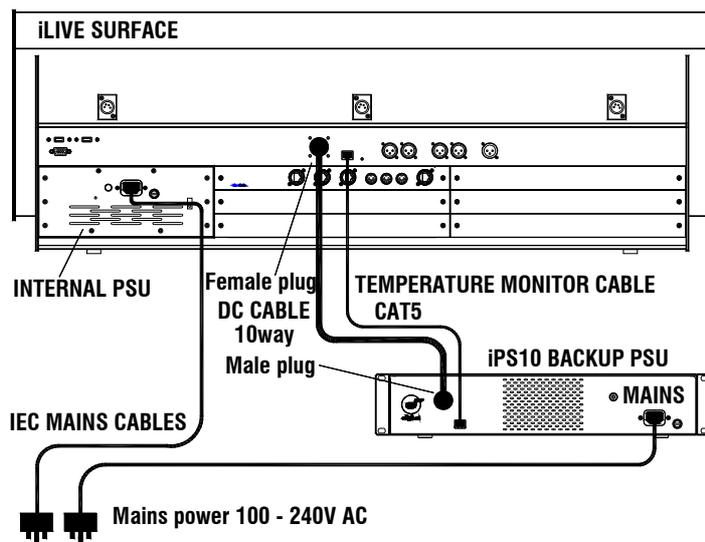
**Note:** Read and understand the warnings in the safety sheet supplied with the equipment and printed on the power unit panels.

**Note:** It is good practice to connect both the MixRack and the Surface to the same mains power ring or feed, and to use a UPS (uninterruptible power supply) as a backup in critical applications where there is any risk of mains or generator power being interrupted.

**MAINS FUSE** - In the event of a fuse failure replace only with the correct type and rating as indicated on the rear panel. If the replacement fuse fails again, switch off and refer to your Allen & Heath service agent.

**ON/OFF switch** - Press to switch mains power on or off. Blue status LED indicators light on the power supplies and modules to indicate that power is present and correct.

**iPS10 backup power supply** - The optional **iPS10** rack mounted power supply unit may be connected to the Surface, **iDR0** MixRack or any of the fixed format MixRacks as a redundant backup if required. The **iDR10** MixRack already has provision for a second backup supply module.



# Connecting the fixed format MixRack and Surface

The Control Surface



If the system fails to connect:  
Check cables,  
Go to **Network Connections**  
and **Change MixRack**  
Read the **Help Manual**.

## Connect Surface to MixRack

Plug a CAT5 cable up to 120m \* (400 feet) between the Surface and MixRack **ACE** ports.

An 80m drum of suitable cable is available from Allen & Heath (part number AH7000).

**Note:** You only need one connection between the Surface and MixRack. The control network data is transported with the audio via the single cable ACE link. You do not need a second cable for the network link.

**Note \*:** Maximum cable length depends on cable type. Refer to [www.allen-heath.com](http://www.allen-heath.com) for information on recommended cables.

## Network settings

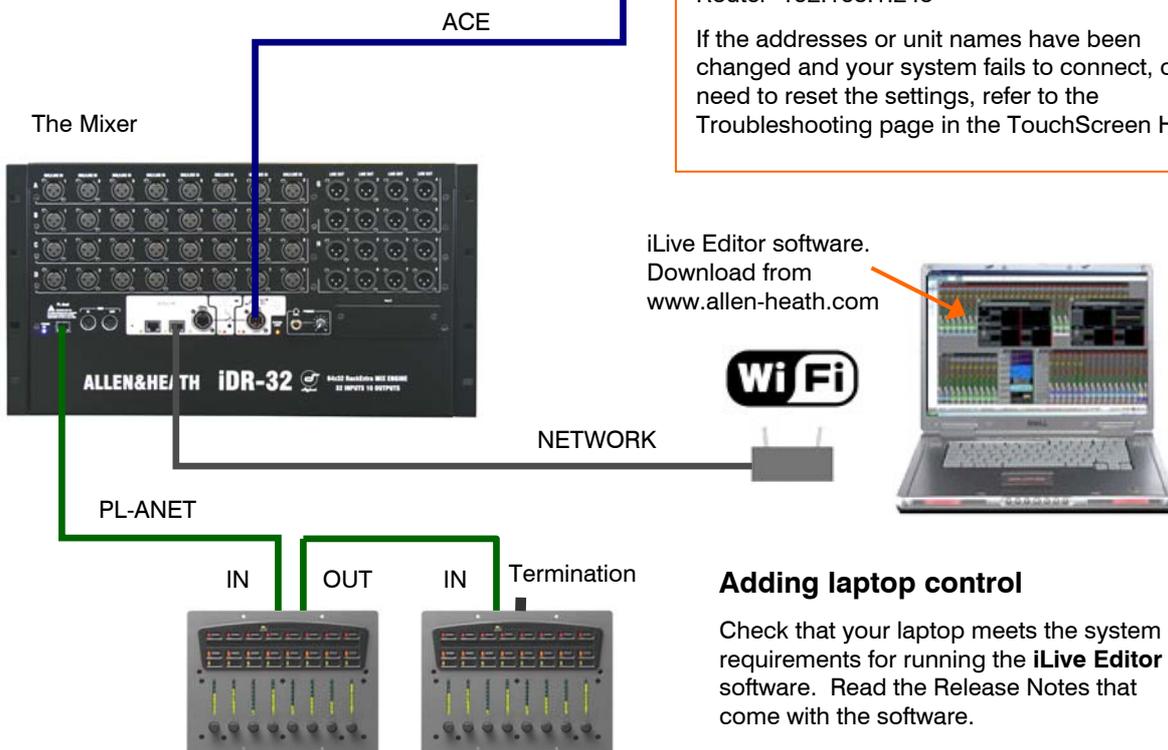
iLive communicates over a TCP/IP network. There are 3 main components – the MixRack, Surface and TouchScreen (built into the surface). These and any other network devices such as a wireless router and laptop need compatible network addresses. Factory defaults are:

MixRack 192.168.1.1 Sub mask 255.255.255.0  
Surface 192.168.1.2  
TouchScreen 192.168.1.3

If you use static IP addressing for your laptop we recommend you set:

Laptop 192.168.1.10 Sub mask 255.255.255.0  
Router 192.168.1.245

If the addresses or unit names have been changed and your system fails to connect, or you need to reset the settings, refer to the Troubleshooting page in the TouchScreen HELP.



## Adding PL Series controllers

Use CAT5 cable to connect the MixRack PL-Anet port to the PL device IN socket. Daisy chain OUT to the next unit, or use a PL-9 hub for star connection. Make sure the termination provided is plugged into OUT of the last device in the chain.

**Note:** Once connected, the PL controls need to be configured. Settings can be saved as library items.

## Adding laptop control

Check that your laptop meets the system requirements for running the **iLive Editor** software. Read the Release Notes that come with the software.

Make sure the laptop and wireless router have network addresses compatible with the iLive system.

Plug your laptop or wireless router network connection into any one of the NETWORK ports at the Surface or MixRack.

Start the **iLive Editor** program and connect online.

# Turning on the system

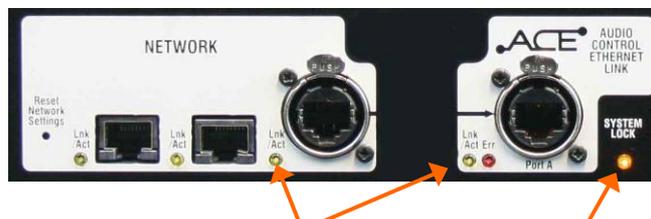
## Turning on the system

The iLive system remembers its last settings on power up.

1. First, plug in the mains and CAT5 cables.
2. Next, switch on the MixRack power.
3. Then switch on the Surface power.

While searching for the network connection between the MixRack and Surface after power up, the NETWORK Lnk/Act indicators flash at a slow rate for a few seconds. Once connection is successfully made the indicators flash at a steady fast rate. If the EtherSound option is fitted, their RX and TX indicators should flash at a steady fast rate soon after boot up.

The MixRack and Surface audio outputs are isolated from the connected equipment during boot up using protection relays to prevent power up thumps. The connector MUTE indicators light while the outputs are isolated. After around 15 seconds the relays switch in and audio is presented to the outputs with the settings as they were the last time the system was powered down.



The yellow Lnk/Act LEDs for connected sockets flash at a steady rate once the link is established.

If one or more pulse at a slow rate or the red Err LED remains lit then check that the cables are correctly plugged in and are not faulty.

At the **MixRack**: Indicates that the audio is sync locked to the selected clock source.

At the **Surface**: Indicates that the surface audio is sync locked to the MixRack.

## Boot up time

**MixRack** It takes around 15 seconds for the DSP to start passing audio with the same settings current at last power down.

**Surface** In just over 1 minute the strip LCD displays turn on and the Surface is ready to take control of the mix. If a password is required for log in then surface operation is not available until after the TouchScreen has finished booting.

**TouchScreen** It takes a little longer for the TouchScreen to complete its boot up process during which time you will see its BIOS load the LINUX operating system and then the iLive application. In around 2 minutes the screen is ready and the system fully booted.

**Note:** If your system fails to connect please refer the section on Network Settings.

## Turning off the system

To shut down the system, first power down the TouchScreen using the button in the **UTILITY / Configuration** screen. Then switch off both units at their respective power switches. The system shuts down safely after the current settings have been stored to a battery backed memory.

**Note:** **Make sure you archive your settings regularly to reduce the risk of losing or overwriting your data.** If power is lost while moving data to or from a USB memory stick on the console, there is a possibility that your files may become corrupted. It is good practice to use a UPS (uninterruptible power supply) for mains backup

## Surface Audio connections



### T Series Surface audio connections

While the **iLive** surfaces feature a built-in modular audio card frame, the lower cost **T Series** presents a fixed format audio interface for input and output connections. This matches the typical requirement for audio local to the surface.



### iLive surface

4 slots for audio modules. 8 inputs or outputs per card. Up to 32 connections. Capable of mic, line or digital signals.

**Port A** - Surface to MixRack audio link. Choose option.

**Port B** - Option for recording.

### iLive-T112 Surface

Fixed 16 in, 12 out

**Local monitor output** Headphones and Talkback on front of Surface

**16 local inputs** = 8 balanced line TRS jack, 4 RCA phono, 2 stereo Spdif digital

**12 local outputs** = 8 balanced line TRS jack, 2 RCA phono, 1 Spdif digital

**Audio link** = Port A Surface to MixRack link - ACE



### iLive-T80 and R72 Surface

Fixed 8 in, 8 out

**Local monitor output** Headphones and Talkback on front of Surface

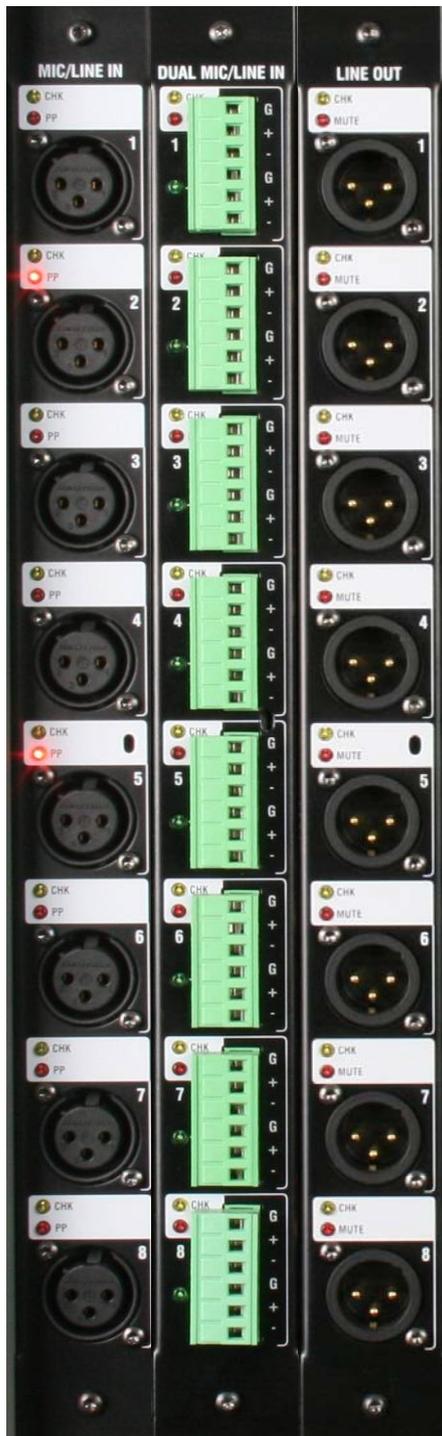
**8 local inputs** = 4 balanced line TRS jack, 2 RCA phono, 1 stereo Spdif digital

**8 local outputs** = 4 balanced line TRS jack, 2 RCA phono, 1 Spdif digital

**Audio link** = Port A Surface to MixRack link - ACE



## iLive Module options – Analogue inputs and outputs



### MIC/LINE Input [part M-MICIN-A](#)

This is the main audio input module for the iLive system. It provides 8x high performance analogue input preamps for microphone and line level signals. The front end gain, pad and phantom power are remote controlled via the network connection from the Surface or PC. The settings may be recalled as part of the iLive system memories.

**CHK** Yellow indicator follows the PAFL function. It lights when the channel it is associated with is currently being PAFL'd at the surface or PC. This provides a quick way to identify which sockets are mapped to the channels, for example when the FOH engineer wants to indicate to the stage tech which connection to check.

**Note:** CHK will light when the preamp is the main channel source, insert return or mix external input for the channel being PAFL'd. For example, 4 may be lit if you PAFL a stereo input channel which has an insert assigned.

**PP** Lights when phantom power voltage is detected at the XLR input socket. This will light whether the voltage is sourced internally from within the MixRack, or externally via the cable plugged in.

**INPUT XLR** Balanced audio input with wide gain range accepting signals from -65dBu to +30dBu. Gain is remote controlled and has a 1dB resolution and range of 80dB including 25dB pad. The preamps feed the iLive mix engine through 24bit, low noise, low latency converters. The preamp gain is automatically set for +4dBu or -10dBV operating level if assigned as an insert.

### DUAL MIC/LINE Input [part M-DUALIN-A](#)

An 8 channel input module to connect up to 16 microphone or line level signals. As described above but with remote controlled selection between two inputs A or B per channel. Connection is via screw terminal Phoenix plugs (supplied), ideal for installed applications or where external stage boxes are used. The green indicator lights when the B input is selected.

### LINE Output [part M-LINEOUT-A](#)

8x Balanced line level outputs operating at +4dBu and with +22dBu maximum output. Any signal whether a mix output, direct output, insert send or MixRack input may be assigned to any socket.

**CHK** Lights when the socket is associated with a channel currently being PAFL'd, whether an output or insert send.

**MUTE** A red LED lights when the output is muted.

**Note:** The line outputs are relay switched to protect speaker systems from power on/off thumps.

## Module options – Digital inputs and outputs



### DIGITAL INPUT [part M-DIGIN-A](#)

This module provides 8 digital inputs arranged as four pairs. Each offers a choice of digital format - AES, SPDIF or optical (TOSLINK). For each pair, one format is chosen and used at a time. The selection is made using the iLive Surface or PC application channel SEL function. One of 3 yellow LED indicators lights to show which input format is selected.

Blanking plugs are provided for unused optical sockets to prevent interference and dust contamination.

**CHK** Yellow indicator follows the PAFL function. It lights when one or both channels of the input are associated with the channel currently being PAFL'd at the surface or PC. This provides a quick way to identify which sockets are mapped to the channels, for example when you want to quickly find which sockets to plug your digital playback device into.

**Note:** CHK will light whether the input is the main channel source, insert return or mix external input for the channel or mix being PAFL'd. For example, three may be lit if you PAFL a stereo input channel which has an insert assigned.

### DIGITAL OUTPUT [part M-DIGOUT-A](#)

Provides 8 digital outputs arranged as four pairs. Each offers 3 digital output formats – AES, SPDIF and optical (TOSLINK). All three formats are available at the same time. For example, you could record the same material via SPDIF and also AES to two different recording devices at the same time.

Blanking plugs are provided to prevent dust contamination and light spill from unused optical sockets.

**CHK** Yellow indicator follows the PAFL function. It lights when one or both channels of the output are associated with the channel currently being PAFL'd at the surface or PC. This provides a quick way to identify which sockets are mapped to the channels, for example when you want to quickly find which sockets to feed your digital recording device.

**Note:** CHK will light whether the socket is the main mix output or an insert send. For example, three may be lit if you PAFL a stereo mix which has an insert assigned.

**MUTE** A red LED lights when an output is muted.

## Module options – Digital outputs



### DIGITAL MULTI OUT [part M-MULTI-OUT-A](#)

This module provides 16 outputs and therefore uses two slots at the MixRack or Surface. Use the iLive OUTPUTS patch bay to map any signal to any output socket. The module presents these outputs simultaneously to a variety of different multi-channel digital formats:

**ADAT** There are two ADAT optical light pipe outputs, each carrying 8 audio channels. Use these to connect to ADAT equipped devices such as multitrack recorders.

**Note:** One module allows up to 16 tracks of recording. Fit two for 24 or 32 tracks. Note that you can fit only one MULTI OUT module to the iLive Surface in slots A and B. This provides up to 16 tracks at the surface. For multitrack recording up to 64 tracks consider using a PC fitted with the optional Digigram LX6464ES EtherSound PCI card interfaced to the MixRack via the ESB option. For more information see [www.digigram.com/products/](http://www.digigram.com/products/)

**iDR Expander** Two 8 channel proprietary iDR expander ports are provided. Connect these to Allen & Heath iDR output expander units (part of the iDR installation range) for remote analogue balanced XLR line outputs up to 300 metres (900 feet) away using two CAT5 cables per unit. The DR-LINK cables carry the control to these units.

**AVIOM** An Aviom compatible interface is provided to feed the 16 channels of an Aviom personal monitor mixing system, popular with many live mixing installations such as houses of worship. Connect OUT to the Aviom system using a CAT5 cable. IN allows expansion to add another 16 external signals to the feed. Signals may be configured for mono or stereo operation within the iLive operating system. For more information about the Aviom system see web site [www.aviom.com/](http://www.aviom.com/)

**HearBus OUT** The module also supports the Hear Technologies Hear Back personal monitoring system which distributes up to 8 signals using a single CAT5 cable. For more information see web site [www.heartechnologies.com/hb/hearbackintro.htm](http://www.heartechnologies.com/hb/hearbackintro.htm)

**CHK** Yellow indicator follows the PAFL function. It lights when the signal associated with the output is currently being PAFL'd at the surface or PC. This provides a quick way to check the socket patching, for example to identify which signals are feeding each channel of a personal monitoring system.

**MUTE** A red LED lights when the output is muted.

## Module options – MixRack system



### CPU module

Provides the control interface to the MixRack. This module is identified as the 'iDR RACK CPU'. It is not interchangeable with the iLive Surface CPU module.

**Power ON** Blue LEDs display the power supply status. One or two power supply modules may be fitted to the MixRack. The second provides dual supply redundancy.

**12V LAMP** Plug in a standard 4-pin XLR gooseneck console lamp to illuminate the rack while plugging up in a dark environment. We recommend you use the Allen & Heath LEDlamp with long life white LED bulbs and built-in dimmer.

**NETWORK** A 3 port Ethernet switch is built in. This lets you connect several network devices to the MixRack, for example an iLive Surface and a laptop running the iLive Editor software. The yellow Lnk/Act indicators flash to indicate network data activity.

**Note:** Do not connect more than one network cable between two devices. Attempting to connect a second cable as a 'redundant backup' will result in loss of control.

**Reset** A recessed switch lets you reset the network address and settings to factory default. This is useful if you are using a MixRack and a Surface with unknown network addresses or which had different addresses previously set. Resetting each networked device (MixRack, Surface and TouchScreen) will ensure the devices connect correctly. To reset the settings, press and hold the switch in using a pointed object while powering up the rack. Keep the switch pressed for at least 15 seconds while the rack boots. Default settings are:

IP address	192.168.1.1 (MixRack)
	192.168.1.2 (Surface)
Subnet mask	255.255.255.0
Gateway	192.168.1.254

**MIDI IN, THRU and OUT** - Standard MIDI interface for external system control using MIDI messages.

**PL-Anet** - Proprietary RS485 based control port for connecting Allen & Heath PL Series remote controllers such as wall plates, GPIO and fader/encoder panels.

## Module options – MixRack system

These 3 modules make up the ‘brains’ of the iLive mix system. They process the audio, control the system and handle digital audio distribution to and from the Surface and other equipment.

### iDR-64 RackExtra DSP

This is the DSP mix engine, the ‘brains’ of the iLive system. The DSP (Digital Signal Processing) handles the audio signal processing such as EQ, dynamics, delays and mixing. The ‘RackExtra’ version includes additional DSP to handle up to 8 internal stereo effects ‘racks’.

**Note:** The DSP is in the MixRack not the Surface. Audio in the Surface is converted to digital and transported via audio network Port A to the MixRack where it is processed by the iDR-64 RackExtra module. The surface cannot be used as a stand alone mixer without the iDR10, iDR0, iDR-32 or iDR-48 MixRack which houses this module.

### REMOTE AUDIO (RAB) part M-RAB-B, C or D

**Note:** This is the original RAB module fitted to early modular iLive systems. It has been superseded by the newer RAB 2 module (see next page).

Handles the audio clock, headphones signal and interface for up to two digital audio networks.

**HEADPHONES** A built-in headphones amplifier with volume control and ¼” output socket lets you listen to the signal currently selected using the PAFL function. This is the same signal presented to the Surface headphones / local monitor system.

**SYSTEM LOCK** The yellow LED lights to indicate digital audio sync lock. If it is not lit check that the correct system Audio Clock Source is selected.

**Setting audio clock source** (Surface TouchScreen **MIXRACK / Mixer Pref / Audio Sync**) If the MixRack is part of a single rack system, or the master in a linked FOH/Monitor system then set the Clock Source to ‘Internal’. If it is the slave getting its channel preamp sources via the Port B network then set it to MixRack Remote B. If it is being synchronized to an external DARS source then set it to ‘DARS’.

**Port A (ESA) and Port B (ESB) audio network options** - Only EtherSound was available as an internal option for the RAB1 module. The iDR10 could be ordered with none, one or both EtherSound option cards fitted:

Part M-RAB-B	1x ES (ESA)
Part M-RAB-C	no ES
Part M-RAB-D	2x ES (ESA and ESB)

Use Port A to transport audio to and from the iLive Surface and/or other EtherSound equipped devices such as break out / break in boxes and speaker controllers. Use ESB to transport audio between iDR racks and other EtherSound equipped devices such as the Digigram LX6464 PCI multitrack recording card.

**Note:** With no ES option fitted you can still connect the PAFL monitor and talkback signals to the iLive modular Surface using analogue connections.



# Module options – the RAB2 module



Option cards ordered separately

The **REMOTE AUDIO 2 (RAB2)** module is the latest version of the digital audio networking module available for the **iDR10** and **iDR0** MixRacks and **iLive-80**, **iLive-112**, **iLive-144**, and **iLive-176** Surfaces. The module manages the system audio clocks and also provides multi-channel digital audio networking and interface capability. It features front panel slots to allow easy installation of up to two option cards offering a choice of many popular audio networking and interfacing standards.

iLive MixRacks and Surfaces fitted with the newer **RAB2** module are compatible with systems fitted with the original **REMOTE AUDIO** module. Users with early systems can benefit from the new card options available by replacing their Remote Audio modules with **RAB2** modules.

## M-ETH-M ES card kit

Up to two EtherSound AVD cards and connector pcbs can be fitted inside the RAB module.



ESA  
ESB



or



## REMOTE AUDIO (original) module

This is the original version shipped with earlier iLive systems. It could be ordered with none, one or two EtherSound network options installed. It does not support any other audio networking standard. It used the **Auvitran AVD** EtherSound card fitted internally. An ES card kit is available for users of part loaded modules who wish to add ESA or ESB EtherSound capability.

A different version of this module is fitted to the MixRack and Surface. These are identified as 'iDR RACK REMOTE AUDIO' and 'iLIVE SURFACE REMOTE AUDIO'.

## REMOTE AUDIO 2 (RAB2) module

part M-RAB2

This is the more recent module fitted to iLive systems. It is available as an upgrade for users of early systems. The module is shipped with blank plates fitted to its two option slots. The card options are ordered separately.

Unlike the original module, the same version is fitted to both the MixRack and the Surface.

**Port A** The top slot provides a multi-channel bi-directional digital audio link to transport audio between the MixRack and Surface, and for further signal distribution around the venue if required. EtherSound, ACE or MADI can be used for this link.

**Note** Make sure the same type of card is fitted in Port A at both the MixRack and the Surface.

**Note** Users upgrading from the early version RAB module can re-use their original **Auvitran AVD** EtherSound cards in RAB2 using the **M-ES-V1-BASE** carrier frame.

**Port B** The lower slot provides a second digital network option for system expansion, digital mic splitting, recording feed and further signal distribution. It can handle up to 64 channels of bi-directional audio depending on which card option is fitted.

**Audio Clock Sync** BNC connectors let you synchronize the iLive audio clock to an external device, or synchronize the external device to the iLive.

See next section for option cards available



**Note** For firmware **V1.7** the only option supported in Surface Port B is the **MMO** module (ADAT, iDR link).

# Module options – Surface system



## iLive Surface system modules

These are the modules required to manage the **iLive** modular Surface and handle the control and digital audio interface ports.

Internal power supply

Connection for optional **iPS10** backup power supply



### iLive Surface CPU module (always fitted)

This is the controller module for the **iLive** Surface. It houses the NETWORK and other interfaces used to control the MixRack.

The **iLive** MixRack and Surface use different versions of CPU module. They are identified by the name printed at the top of the panel.

### iLive Surface Remote Audio module

This module provides the digital audio port needed to interface audio to and from the MixRack and to network to other devices if required. The audio from modules fitted to the rear of the Surface, headphones and talkback can be linked to the MixRack using a single cable.

The Surface Remote Audio module is only needed if the digital audio link or network is required. If not required, for example if the MixRack is positioned near the Surface or an analogue snake is used, then a blanking plate can be fitted instead.

- Port A = Audio link to/from the Surface
- Port B = Limited function at firmware release V1.5 (recording)

The range of options available was extended with the addition of the RAB2 module. The two versions are:

**Surface Remote Audio RAB** module - This is the **older** version which supports only the EtherSound network option and does not include Port B.

The MixRack and Surface use different versions of the early RAB module. They are identified by the name printed at the top of the panel.

**M-RAB-A** Surface RAB module with 1 ES card fitted (Port A).



EtherSound (ES)      Surface link

Fit your choice of audio networking card option to Port A to transport audio to and from the Surface.

**Remote Audio 2 RAB2** module - This is the **newer** version which supports a variety of additional digital audio and networking card options from firmware version V1.5 onwards.

The MixRack and Surface can use the same version of the new RAB2 module. Firmware V1.5 provides limited functionality for the Port B option at the Surface.

**M-RAB2** MixRack or Surface RAB2 module with no options fitted. The option cards are ordered separately.



A

Only MMO option for firmware **V1.7**



ADAT recording

# Module options – Digital audio networking cards



These are 'mini' module options available to interface with popular multi-channel digital audio and networking standards. They may be fitted to:

**iDR10** and **iDR0 RAB2** module Port A and Port B.

**iDR-64, iDR-48, iDR-32** and **iDR-16** Port B

**iLive-80, 112, 144, 176 RAB2** Port A, only MMO in Port B.

They may not be fitted to the **R72, T80** or **T112** Surfaces.



## ACE - Point to point

- 64 in, 64 out
- Surface Port A link
- MixRack Port B link
- Can transport control and audio over a single CAT5 cable
- Redundant capable
- 120m max



**M-ACE ACE** is the Allen & Heath 64 channel bi-directional audio and control point-to-point link (does not provide audio networking). The BRIDGE port enables an external control Network connection to be tunnelled over the same CAT5 cable as the audio. The second ACE port can provide a redundant backup using a second cable.

The **iDR-32** and **iDR-48** always uses ACE as the Surface to MixRack (Port A) link. Fitting ACE to Port B can provide 64 channel signal splitting between MixRacks. This module can also be fitted to the **iLive** and **iDR10** Port A as a single cable point-to-point alternative to the separate Network and ES cables currently used. To connect to **T Series** components ACE should be fitted to the **iLive**.

The Surface to MixRack audio link must always be fitted to Port A. Do not Connect Port A to Port B or vice versa.

## ES - Networking

- 64 in, 64 out
- Surface Port A link
- MixRack Port B link
- 64 track recording
- 100m max (dependent on cable type)



**M-ES-V2 EtherSound**. This uses the more recent and smaller AVDM circuit card to provide a 64 channel bi-directional audio network compatible with equipment fitted with EtherSound (including the earlier **iLive RAB** version). It can be used in the **RAB2** module on **iLive** and **iDR10**, or to equip the **iDR-32** and **iDR-48** with EtherSound digital audio networking.

**M-ES-V1-BASE EtherSound**. This provides a cost effective upgrade to RAB2 for **iLive** users who already have older RAB modules with ES cards fitted in existing **iLive** systems. The older AVD ES card may be fitted to this carrier to make it useable in RAB2 or the **iDR-32** and **iDR-48**.



## MMO - Digital outputs

- Mixrack Port B
- RAB2 Port B
- 24 track recording
- 16 channel monitoring
- Link to iDR



**M-MMO Mini Multi Out** provides several popular multi-channel digital output formats in a single module. Typical application is for recording, connection to personal monitoring systems, and routing to a speaker processor.

**ADAT** – Three 8-channel optical outputs allow up to 24 track recording.

**Aviom** – 16 channel personal monitoring

**iDR expander** – Connect up to two iDR 8 channel output expanders (iDR-out analogue or iDR-Dout digital AES, Spdif, Toslink). Can provide a digital link into the iDR-8 or iDR-4 digital audio processor. This output is also compatible with the **Hearbus** 8 channel personal monitoring interface.

Firmware version **1.7** provides full MMO functionality in the MixRack Port B slot and limited capability fitted to RAB2 Port B in the **iLive** surface.



Older ES AVD card

## MADI - Networking

- 64 in, 64 out, thru
- Surface Port A link
- MixRack Port B link
- 64 track recording
- Redundant capable
- 300m max



**M-MADI MADI**. Dual port 64 channel bi-directional MADI audio interface. It is usual for this to be used for system expansion or recording from the MixRack Port B, but it could be used in the **iLive** Port A for the Surface link so providing additional channels at the Surface for recording via MADI.

# ACE card instructions

Part number **M-ACE-A**



**Note** For firmware **V1.7** this option is not supported in the iLive Surface RAB2 module Port B. The only option supported in Surface Port B is the **MMO** module (ADAT, iDR link).

**M-ACE** is one of several plug-in card options that may be fitted to the iLive Series. It can provide a multi channel digital audio and network control link between two MixRacks or between a MixRack and Surface using a single CAT5 cable. **ACE** offers an alternative to EtherSound and other networking standards providing a digital audio snake for situations where point-to-point rather than distributed network connection is required.

**ACE™** (Audio and Control over Ethernet) is a proprietary Allen & Heath system for transporting control and audio between MixRacks or between MixRack and Surface using standard RJ45 connectors and CAT5e Ethernet cable. It allows very low latency point-to-point connection of up to 64 audio channels in both directions. It can transport network control (TCP/IP Ethernet) over the same connection meaning that just one cable may be used to link devices. Cable length is up to 120m (400') depending on cable type .

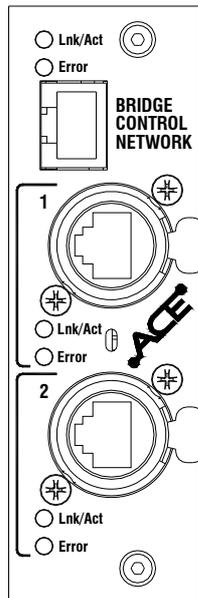
**Lnk/Act** Yellow indicator flashes steadily to indicate that the network is linked and active. It lights solid if the port is connected to a second cable available as a redundant link.

**Error** Red indicator lights when a connection or data error is detected. It is normal for it to light briefly when the cable is plugged or unplugged.

**BRIDGE CONTROL NETWORK** Lets you link to a NETWORK port so that the Ethernet control can be transported over the same cable. A short network link cable is provided with the kit. If you do not need the network connection between the devices then leave this unplugged. If you use the bridge make sure there is no additional NETWORK cable connection between the devices.

**ACE Port 1** Use a CAT5 cable to connect to the **ACE** port on the other device.

**ACE Port 2** A second port is available for optional redundant backup connection using a second cable. There is no interruption to the audio when switching between main and redundant connection.



## Fitting to iDR-32 and iDR-48

These MixRacks and the T Series surfaces already have one ACE port built in for linking audio and control to/from a connected Surface. The **M-ACE** card option may be fitted to Port B to add a second **ACE** connection for linking audio between MixRacks.

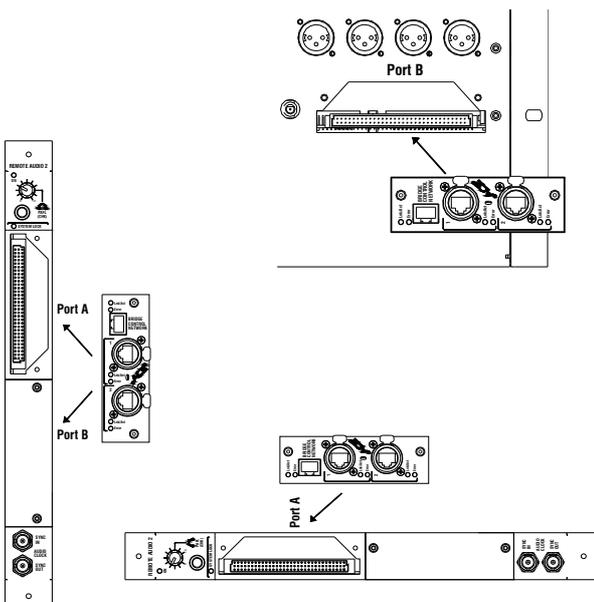
Make sure the MixRack is switched off. Remove the 2 screws securing the blank panel over Port B. Slide the **M-ACE** card into the slot and press it firmly into the mating connector. Secure the card in place using the 2 screws.

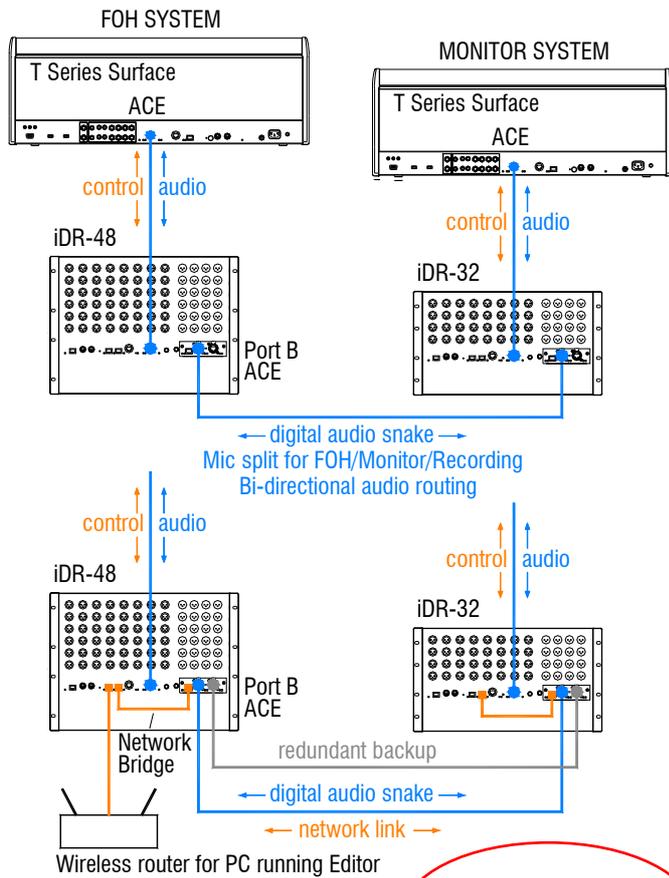
## Fitting to iDR10 and iLive Surfaces

The option card can be fitted into the Port A (MixRack or Surface) or Port B (MixRack only) slot in the Remote Audio 2 (RAB2) module. Systems fitted with the older Remote Audio module can be upgraded with the new RAB2 module.

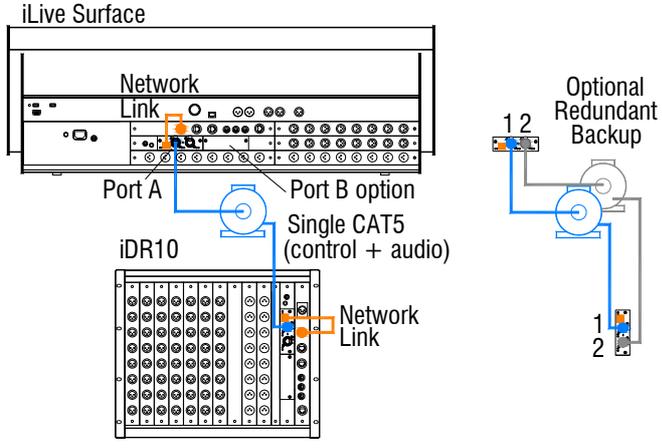
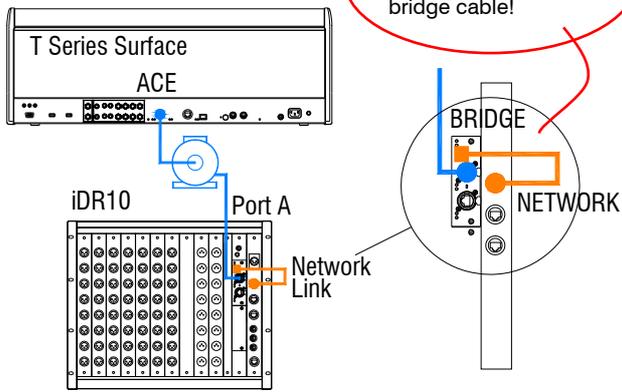
**Note** The option port is not available on the T and R Series surfaces.

Make sure the System is switched off. Remove the 2 screws securing the blank panel over the port slot . Slide the **M-ACE** card into the slot and press it firmly into the mating connector. Secure the card in place using the 2 screws.





Remember to plug in the NETWORK bridge cable!



## Linking MixRacks

**Link audio between two systems** Use a single CAT5 cable to link up to 64 channels of audio in both directions between two systems. For example, create a digital mic splitter for a FOH/Monitor system or to another system for broadcast or recording. Signals such as talkback and inter-system communications can also be transported in either direction. Use the OUTPUTS screen Port B patchbay at either end to choose the signals to send via the link.

**Bridge Network control over the same cable** Use the short cables to link one of the NETWORK ports to the ACE Bridge socket at both ends. Use this if you want to put both systems on to the same TCP/IP network, for example for one laptop to access either system using two sessions of Editor.

**Tunnel another TCP/IP network through ACE** You can use the Bridge socket to transport a non-related 3<sup>rd</sup> party TCP/IP network such as a lighting or amplifier system controller. Make sure their IP addresses do not conflict with those of the iLive systems.

**Redundant backup cable** Use the second ACE port if you want to run a second CAT5 cable as a backup. Audio switches seamlessly between the two in the event of one cable becoming damaged or disconnected.

## Surface to MixRack link

ACE can be used to provide a simple, single cable point-to-point link between the Surface and MixRack transporting both the audio and control. The iDR-32, iDR-48 and T Series surfaces already have Port A ACE built in for this purpose. The iDR10 MixRack and standard iLive Surfaces can have the **M-ACE** option fitted to Port A to provide the single cable rack to surface link instead of the two cable network and EtherSound (or other networking standard) link.

**Note** To use the **M-ACE** option with the iDR10 and iLive surfaces make sure they have the **RAB2** Remote Audio 2 module fitted. Systems fitted with the earlier Remote Audio module may be upgraded to RAB2.

To combine the audio and network connection over the same CAT5 cable make sure you link one of the NETWORK ports to the ACE BRIDGE socket. Do this using the short CAT5 cable provided wherever the **M-ACE** card is fitted.

The iDR-64, 48, 32, 16 and fixed format Surfaces bridge the network to ACE internally for their built-in ACE port.

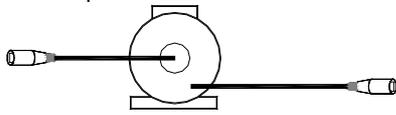
**Redundant backup cable** Use the second ACE port if you want to run a second CAT5 cable as a backup between MixRack and Surface.

## Cable and connectors

A&H part **AH7001** Standard 1.8m



A&H part **AH7000** 80m drum



ACE is compatible with CAT5e T568A and T568B twisted pair cable standards. For on the road reliability and protection choose a heavy duty touring grade cable type.

Maximum length = 120m (400 feet) depending on cable type. Most good quality CAT5 cables should work reliably to around 40m (130 feet). We do not guarantee that all cable types will work reliably at longer lengths.

Two cable types we have tested to 120m and recommend are:

Neutrik EtherFlex SFTP CAT5e ([www.neutrik.com](http://www.neutrik.com))  
Belden Cat Snake 1305a ([www.belden.com](http://www.belden.com))

A tour grade connector combination we recommend is the Neutrik Ethercon (XLR type locking shell) with Hirose RJ45 TM21P-88P (21) ([www.hiroseconnectors.com](http://www.hiroseconnectors.com))

## Patching signals to/from Port B

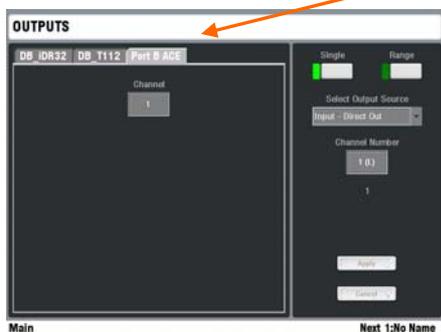
iLive recognises the type of the option cards fitted. Details are displayed on the Surface TouchScreen Status page.

**Status** Connection status is indicated. A green dot = no errors detected. Orange dot = 1x error, Red dot = more than 1x error during the last 3 minutes. A green tick = A TCP/IP network bridged to connect via the ACE cable has been detected. A red cross indicates errors associated with the bridge connection.

**Patching signals to Port B** Use the TouchScreen or Editor OUTPUTS screen Port B tab. You can assign one or a range of signals to the 64 ACE channels by choosing selections from the drop down menu. For a digital mic split it is typical to choose MixRack Inputs (the signal immediately after the preamp). Remember to touch Apply after making changes.

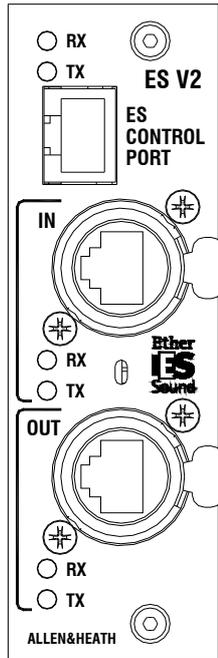
**Patching signals from Port B to the iLive** Source selections in several places within the iLive system are made using drop down menus. These include selection from the 64 ACE channels if the ACE card has been fitted to Port B. For example, you can patch ACE channels as sources to the mono or stereo IP channels, Mix Ext Inputs, Talkback or Ext Source to PAFL..

The input and output patching including Port B is archived within the Show memories and can be stored in the Scenes 'Patchbay' item.



# EtherSound card instructions – ES V2 complete

Part number **M-ES-V2-A**



**M-ES-V2** is one of several plug-in card options that may be fitted to the iLive Series. It houses the **Auvitran AVDM** card to provide a multi channel digital audio network that can link iLive MixRacks and Surfaces, transport and split signals between systems and distribute audio around a venue using CAT5 cables.

**Note 1** To fit to the iDR10 and iLive Surfaces, the Remote Audio 2 (**RAB2**) module is required. Systems fitted with the earlier Remote Audio modules may be upgraded by replacing them with RAB2.

**Note 2** **M-ES-V2** is compatible with **EtherSound** built into the earlier iLive system Remote Audio modules. The older **Auvitran AVD** cards can be reused in the newer Remote Audio 2 (**RAB2**) modules by fitting them to a carrier frame kit, part number **M-ES-V1-BASE**. The AVD cards can not be used in the iDR-64, 48, 32 or 16 Port B slot.

**EtherSound** is an industry standard, low latency digital audio networking system using off-the-shelf Ethernet components and invented by **Digigram**. It transports 64 channels of bi-directional audio over CAT5 cable. To find out more about setting up and using EtherSound refer to the Digigram and EtherSound web sites.

**Cables** CAT5E cable up to 100m (330') may be used depending on cable type. Refer to the Digigram web site for approved cable types and their maximum tested lengths. We recommend you use tour grade cable fitted with locking RJ45 connectors. Allen & Heath can supply an 80m drum of **Neutrik EtherFlex** cable fitted with EtherCon connectors, part number **AH7000**.

**RX/TX** Both flash to indicate that the network is linked and active.

**ES CONTROL PORT** Use this port to connect a laptop running the **Auvitran EtherSound Monitor** application. This lets you check and set up the network routing and parameters. For standard operation with iLive it is not usually necessary to access these settings.

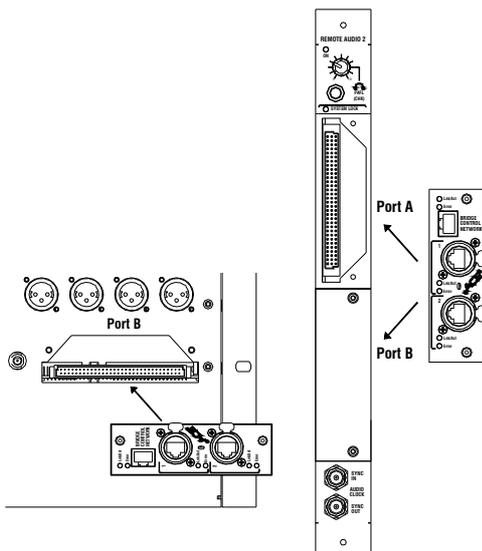
**IN and OUT** A single cable connects EtherSound between two devices. Connect **OUT** of the master device to **IN** of the slave device. Do not connect two cables. IN and OUT relates to clock master, not audio in and out. The single cable carries both input and output signals (64 channels each way).

## Fitting the card

Make sure the system is switched off. Remove the 2 screws securing the blank panel over Port A (MixRack or Surface) or Port B (MixRack only). Slide the **M-ES-V2** card into the slot and press it firmly into the mating connector. Secure the card in place using the 2 screws. Power the system up. The card is recognised by the system and its status displayed on the Surface screen Status page.

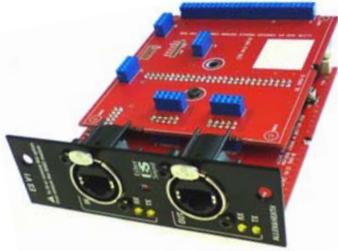
**Assigning the audio** Use the Surface or Editor **OUTPUTS** page to assign sources and destinations for the EtherSound channels.

**Note** For firmware **V1.7** this option is not supported in the iLive Surface RAB2 module Port B. The only option supported in this location is the **MMO** module (ADAT, IDR link).



# EtherSound card instructions – ES V1 base

Part number **M-ES-V1-BASE-A**



**M-ES-V1-BASE** is a carrier frame that lets you re-use the original **Auvitran AVD** EtherSound card option from the earlier **Remote Audio (RAB)** module when upgrading to the more recent **Remote Audio 2 (RAB2)** module.

The **RAB2** module is available as an upgrade for existing users who want to benefit from the wide range of audio interface options now available for iLive. While the new **M-ES-V2** EtherSound module option using the smaller **Auvitran AVDM** card is available for RAB2, the original card can be fitted using this carrier kit so providing a lower cost upgrade for users wishing to continue with EtherSound as the Port A Surface to MixRack link or to re-use the card for audio expansion in Port B (MixRack only).

**Note** For firmware **V1.7** this option is not supported in the iLive Surface RAB2 module Port B. The only option supported in Surface Port B is the **MMO** module (ADAT, iDR link).

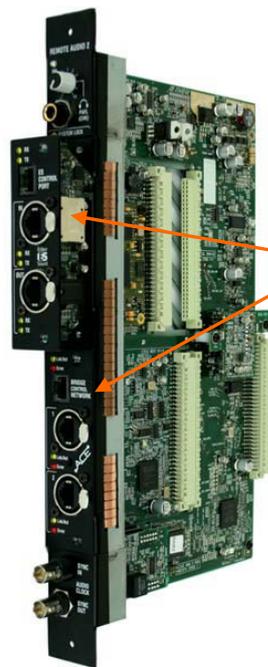
The original **M-ETH-M** card and the more recent **M-ES2** option are compatible with each other and the EtherSound network standard.

**Note** This carrier kit option is available only for use with the **RAB2** module. It is not compatible with the iDR-64, 48, 32 or 16 Port B.

## RAB module

This is the original audio network module fitted to the modular iDR10 MixRack and standard iLive Surfaces. Up to two **Auvitran AVD** card options could be fitted internally to provide the ESA and ESB EtherSound interface ports.

**M-ETH-M** ES card kit

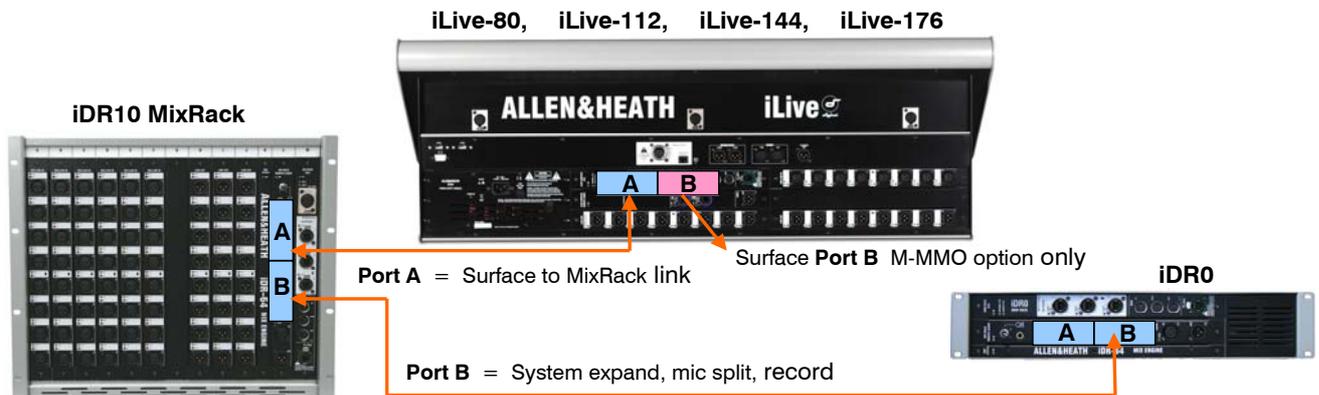


## RAB2 module

This is the more recent audio network module fitted to the iDR10 MixRack and standard iLive Surfaces. Provides slots to fit up to two from a range of audio networking and digital interface option cards.

Option cards available:

- M-ES-V1-BASE** Carrier for earlier AVD card
- M-ES-V2** ES using newer AVDM card
- M-ACE** Dual port ACE link
- M-MMO** ADAT, Aviom, iDR ports
- M-MADI** 64 channel dual port MADI



## Installing ES-V1 in RAB2



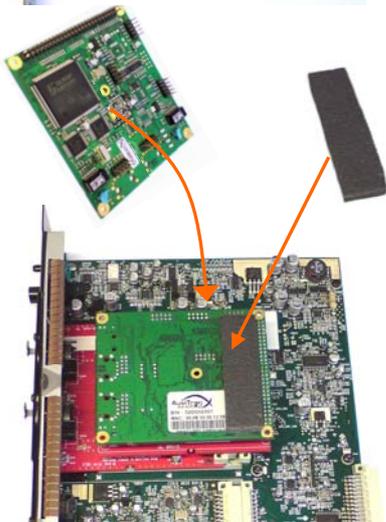
### Step 1 Fit the carrier frame into the RAB2 module

Remove the RAB2 module from the MixRack or Surface.

Unscrew and remove the option slot blanking plate. Use Port A (the top option slot) if you want to use EtherSound as the Surface to MixRack link. Use Port B (the lower option slot) for system expansion, digital mic splitting and signal distribution.

**Note** Make sure the EtherSound card is not fitted to the carrier at this stage. The module will not fit through the panel opening with the AVD card fitted.

Slide the **M-ES-V1-BASE** frame into the option slot and push in firmly to locate its connector. Screw the module in place.



### Step 2 Fit the EtherSound card

Unplug the **Auvitran AVD** EtherSound card from the original Remote Audio module (if fitted).

With the frame now fitted to the RAB2 module as described above, invert and plug the EtherSound card on to the carrier card. Be careful to locate the connector pins correctly and to ensure the card is fully seated.

### Step 3 Fit the protective foam strip

A piece of self adhesive foam strip is provided with the kit. Attach this to the EtherSound card as shown in the diagram. This protects the circuit connections from touching adjacent module components.

## Assigning the audio



Use the Surface or Editor **OUTPUTS** page to assign sources and destinations for the EtherSound channels. EtherSound modules **M-ES-V1** and **M-ES-V2** are fully compatible and are assigned in the same way.

To find out more about setting up and using EtherSound refer to the [Digigram](#) and [EtherSound](#) web sites.

# MMO card instructions

Part number **M-MMO-A**



The **Mini Multi Out** (MMO) module is one of several plug-in card options that may be fitted to **Port B** in the iLive system. It provides three formats of multi-channel digital output simultaneously available for recording, personal monitoring and signal distribution.

**Note:** The **MMO** module is supported from iLive firmware **V1.5** onwards. Please refer to [www.allen-heath.com](http://www.allen-heath.com) for the latest version.

**ADAT** 3x 8-channel optical ADAT output ports for up to 24 track recording or signal interfacing using the popular ADAT standard.

**iDR / Hearbus** 2x 8-channel RJ45 ports suitable for connection to the Allen & Heath **iDR Series** rack mounted digital mix processors and output expanders. Up to two expanders or iDR units may be connected to transport up to 16 signals. These connections are also compatible with the Hearbus personal monitoring distribution hub.

**Note** Connect to the Hearbus distribution hub. Do not connect directly to a Hearbus mixer or 'Extreme Expander'.

**iDR Output A** and **Output B** each have two connections, AUDIO and DR-LINK. DR-LINK provides meter and status data and is only needed when connecting to the **iDR-out** (analogue) or **iDR-Dout** (AES, Spdif, Toslink) expanders. To connect to an **iDR-8** or **iDR-4** mix processor or to a **Hearbus hub** use the AUDIO port only.

Use CAT5 cables up to 250m (825') long.



**Aviom™** Plug a CAT5 cable into this port to transport 16 signals to the Aviom personal monitoring system.

## Fitting to the iDR-64, 48, 32 and 16

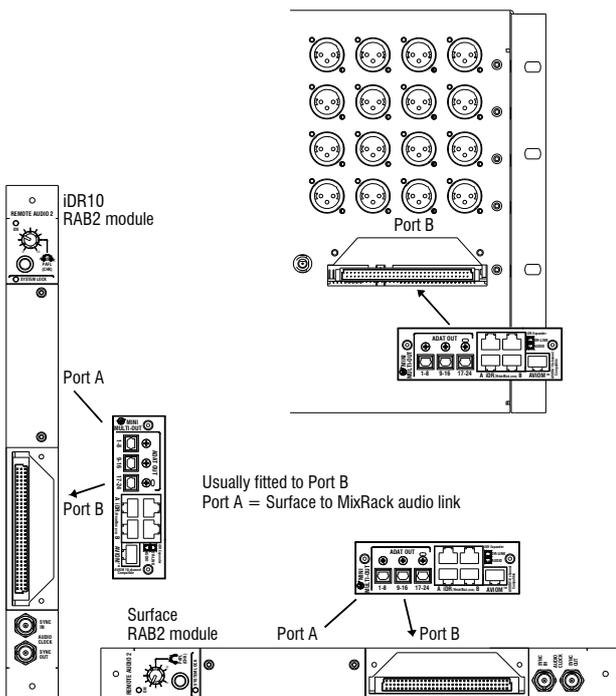
The **M-MMO** card option may be fitted to the Port B slot in the fixed format MixRacks. Make sure the MixRack is switched off. Remove the 2 screws securing the blank panel over Port B. Slide the **M-MMO** card into the slot and press it firmly into the mating connector. Secure the card in place using the 2 screws.

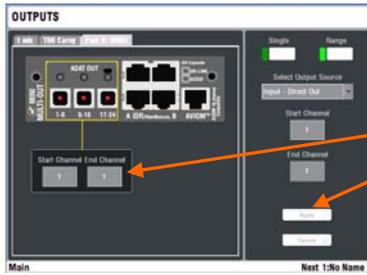
## Fitting to iDR10 and iLive Surfaces

The option card can be fitted into the Port A or Port B slot in the Remote Audio 2 (RAB2) module. It is usual to fit the option to **Port B** as Port A is typically used for the Surface to MixRack audio link.

Systems fitted with the older Remote Audio module can be upgraded with the new RAB2 module. The option port is not available on the T or R Series Surfaces.

Make sure the System is switched off. Remove the 2 screws securing the blank panel over the port slot. Slide the **M-ACE** card into the slot and press it firmly into the mating connector. Secure the card in place using the 2 screws.





## Patching signals to MixRack Port B

iLive recognises the type of option card fitted to Port B of the MixRack. Use the TouchScreen or Editor **OUTPUTS** screen Port B tab. You can assign one or a range of signals to the different outputs by touching the output you want to assign and choosing selections from the drop down menu. Touch Apply to confirm the selection.

The input and output patching including Port B is archived within the Show memories and can be stored in the Scenes 'Patchbay' item.

**Note** For firmware **V1.7** the **M-MMO** card is the only option supported in the iLive Surface RAB2 module Port B.

## Patching signals to Surface Port B

**Port B** at the iLive Surface can be used to provide outputs for **recording** and further signal distribution.

This applies only to the modular iLive Surfaces with the **RAB2** module fitted. The T and R Series Surfaces do not include Port B.

**Port A** is used to link local audio at the Surface to and from the MixRack. It carries 64 signals in both directions. Link channels 1-32 and 63/64 are reserved for the local audio card slots and PAFL monitor, while link channels 33-62 are available for further signal distribution from **Port B** at the Surface, for example recording.

**Surface Port B and firmware version V1.7.** It is possible to fit the **M-MMO** option and assign its outputs, but note the following:

The **Status** screen does not recognise the Port B option even if one is fitted.

Use the TouchScreen or Editor **OUTPUTS** screen ACE Link or ESA tab to assign signals to the **M-MMO** option fitted in Port B. Use CH33 and higher. These are permanently mapped to the **M-MMO** output sockets according to the table below.

You can assign one or a range of signals to the different outputs by touching the output you want to assign and choosing selections from the drop down menu. Touch Apply to confirm the selection.



## M-MMO in Surface Port B

Default assignment for firmware **V1.7**

ADAT	ADAT	ADAT	AVIOM
1 = 33	9 = 41	17 = 49	1 = 57
2 = 34	10 = 42	18 = 50	2 = 58
3 = 35	11 = 43	19 = 51	3 = 59
4 = 36	12 = 44	20 = 52	4 = 60
5 = 37	13 = 45	21 = 53	5 = 61
6 = 38	14 = 46	22 = 54	6 = 62
7 = 39	15 = 47	23 = 55	7 = PAFL L
8 = 40	16 = 48	24 = 56	8 = PAFL R

Labels: ADAT, ADAT, ADAT, AVIOM, Not used, Not used.

# MADI card instructions

Part number **M-MADI-A**



**M-MADI** is one of several plug-in card options that may be fitted to the iLive Series. It provides a multi channel digital audio network that can distribute signals between iLive and 3<sup>rd</sup> party MADI equipment. **MADI** offers an addition or alternative to EtherSound and other networking standards available for the iLive system.



**MADI** (Multichannel Audio Digital Interface) is an industry standard multiple channel audio interface documented by the Audio Engineering Society as AES10. The **M-MADI** option supports 64 channels of **48kHz** serial digital audio transmission over 75 ohm coaxial cable to a maximum cable length of up to 150 meters (500 feet) depending on equipment connected and cable type used.

Two MADI ports are provided. These are referred to as **LINK 1** and **LINK 2**. Each has two BNC connectors, one for audio input, the other for audio output. To connect audio in both directions two cables must be used. iLive sources may be assigned from either input port in blocks of 8. Outputs patched to MADI appear at both port outputs. **LINK 2** may be used as a second MADI port or configured for redundant cable connection. One redundant cable is required for each direction connected. The audio within the MADI card can be synchronised to either **LINK 1** or **LINK 2** or to the word clock. The iLive can be synchronised to this audio by setting its sync to Remote Port B.

**Lnk/Act** Yellow indicator flashes steadily to indicate that the network is linked and active. It lights solid if the port is connected to a second cable available as a redundant link.

**Error** Red indicator lights when a connection or data error is detected. It is normal for it to light briefly when the cable is plugged or unplugged.

**AUX** An additional BNC connection can be configured in one of four different ways – to mirror the outputs appearing on the **LINK 1** OUT socket, to duplicate audio from the **LINK 1** IN socket so passing it thru to other equipment, or to use it as a word clock input or clock output.

## Fitting to iDR-64, iDR-48, iDR-32 or iDR-16

The **M-MADI** card option may be fitted to Port B in the MixRack. First make sure the MixRack is switched off. Remove the 2 screws securing the blank panel over Port B. Slide the **M-MADI** card into the slot and press it firmly into the mating connector. Secure the card in place using the 2 screws.

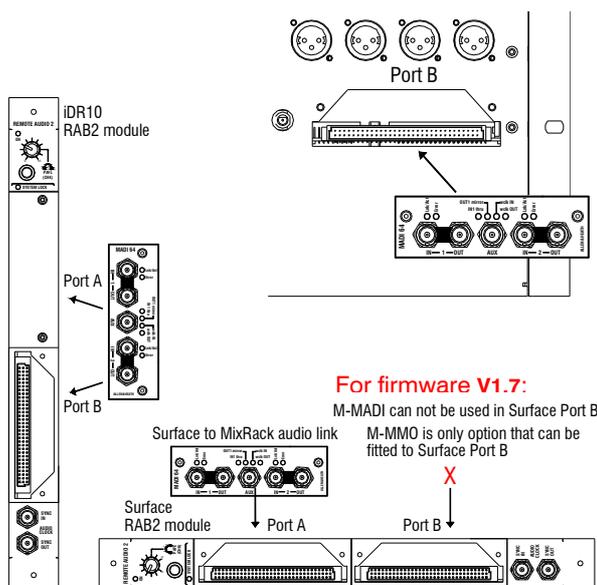
## Fitting to iDR10 and iLive Surfaces

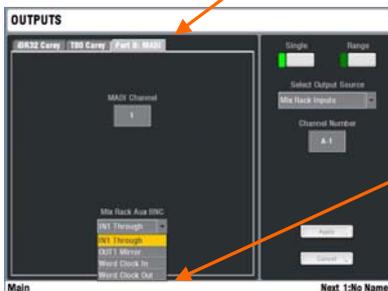
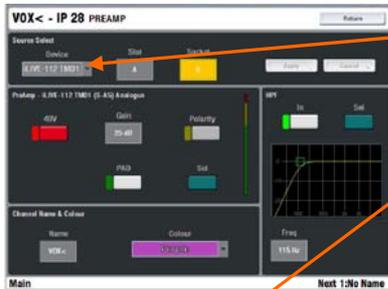
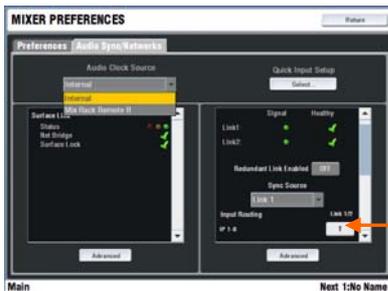
The option card can be fitted into the Port A (MixRack or Surface) or Port B (MixRack only) slot in the Remote Audio 2 (RAB2) module. Systems fitted with the older Remote Audio module can be upgraded with the new RAB2 module.

**Note** The option port is not available on T or R Series surfaces.

**Note** Up to and including firmware **version V1.7** the **M-MADI** card may not be fitted in the Surface Port B. The only option currently supported in Surface Port B is the **M-MMO** (Mini Multi Out) card.

First make sure the System is switched off. Remove the 2 screws securing the blank panel over the port slot. Slide the **M-MADI** card into the slot and press it firmly into the mating connector. Secure the card in place using the 2 screws.





## MADI Operating modes

**Dual Link mode** The card supports two separate MADI BNC links letting you connect to two separate devices simultaneously. Make sure the **MIXER SETUP / Mixer Pref** screen Redundant Link Option is set to 'Off'.

**Sources** to the iLive channels can be patched from either **LINK 1** or **LINK 2** MADI stream in blocks of 8. First, use the **MIXER SETUP / Mixer Pref** screen to set up which MADI link is made available as a selectable source to the blocks of 8 iLive channels. Next, select MADI as the source to individual or a range of channels using their **PREAMP** screens or the **MIXER SETUP / Mixer Pref / Quick Source Setup** screen.

**Outputs** to the MADI links are patched using the **OUTPUTS** screen. Select the source from the drop down menu. The same outputs are broadcast on both MADI **LINK 1** and **LINK 2**.

**Redundant mode** Set the **MIXER SETUP / Mixer Pref** screen Redundant Link Option to 'On'. This configures **LINK 1** and **LINK 2** as a redundant pair. Audio and clock will continue without interruption if one of the cables fails or is unplugged.

**AUX modes** A 5<sup>th</sup> BNC socket supports 4 modes, greatly increasing system flexibility. Set the mode using the **MIXER SETUP / Mixer Pref** screen.

**OUT 1 mirror** - Duplicates the output stream appearing at the MADI **LINK 1** output. Useful for splitting signals to multiple devices, for example, mic splitter and recording.

**IN 1 thru** - Duplicates the input stream appearing at the MADI **LINK 1** input. Allows daisy chaining of signals to an unlimited number of devices. The signal is fully reclocked and buffered for optimal reliability, and will automatically switch to **LINK 2** if **1** fails in redundant mode.

**WordClock IN** - Provides a word clock input to sync the system from an external ( 48kHz ) source. Use the **MIXER SETUP / Mixer Pref** screen to choose which MADI socket to sync off, then set Remote Port B as the iLive sync source.

**WordClock OUT** - Provides a standard 48kHz word clock output to allow other systems to sync from the iLive system, useful when connecting to 3<sup>rd</sup> party devices which may not be able to sync from the MADI stream.

**Cables** Two 75 ohm coaxial cables with BNC connectors are required for each link, one for each direction of audio. The MADI standard supports up to 50 meters (165 feet). However, the **M-MADI** card features an equalizing receiver circuit, originally designed for HD video, allowing greatly increased sensitivity and noise rejection. Because of this, connecting two A&H MADI cards together allows cable runs in excess of 150m (3 times the standard) depending on cable type. All inputs, including word clock, are AC-coupled, to avoid potential ground loop problems.

Allen & Heath have tested and recommend Belden 1505A 75 ohm coaxial cable for use with MADI. Other cable that meets the same specification as this cable may be used too. For more information on cables please refer to the Allen & Heath web site:

[www.ilive-digital.com/cables.html](http://www.ilive-digital.com/cables.html)

## Specification

**MADI inputs x2** High sensitivity, equalising receivers. Auto detects 56 or 64 channels. 24-bit. AC coupled.

**MADI outputs x3** Standards compliant, low jitter transmitters. 64 channels, 24-bit.

**Word clock input** High sensitivity (>200mV pp) with 75 ohm termination. AC coupled.

**Word clock output** 5V pp through 75 ohm termination. AC coupled.

**Status indicators** AUX modes, Per MADI input = Link/Activity (yellow), Stream Error (red)

**Sync sources** MADI input LINK 1, LINK 2, AUX word clock.

**Audio clock sync range** 48kHz +/- 100ppm

**Cables** 75 ohm coaxial, BNC connectors. Max:

# iDR-8, iDR-4 and PL Series remote controllers



## iDR Mix Processors

The **iLive** integrates easily with the Allen & Heath **iDR-8** or **iDR-4** rack mounted mix processor via the **M-MULTIOUT** or **M-MMO** modules. This provides the convenience of a single CAT5 cable up to 250m long to transport 8 signals from the **iLive**. The **iDR** mixers are ideal for installed sound system and speaker management.

## iDR Expanders

These are 1U rack mounted 8 channel output expanders. Up to two may be connected to the **iLive** system using the **M-MULTIOUT** or **M-MMO** modules. CAT5 5 cables can be up to 250m long providing remote audio capability.

**iDR-out** 8 balanced XLR analogue line outputs.

**iDR-Dout** 8 digital outputs arranged as 4 pairs. AES, Spdif and Toslink optical simultaneously available.

For more information please refer to the **iDR** and **PL Series** user guides and information on our web site.



## PL Series remote controllers

These remote controllers are compatible with both the **iDR** installation product range and the **iLive** system. They interface via the Allen & Heath RS485 based PL-Anet port using CAT5 cable. Multiple PL devices may be daisy chained together. Their controls are fully programmable from the Surface TouchScreen or Editor application.

**PL-6** 8 faders, 16 switches, 24 tri-colour led indicators.

**PL-10** 8 rotary encoders, 16 switches, 24 tri-colour led indicators. The encoders have led bars to show their current position.

**PL-3** Wall plate with 4 switches and 4 tri-colour led indicators.

**PL-4** Wall plate with 2 switches, 4 tri-colour leds, a rotary control with position indicator, and an IR (infra-red) detector.

**PL-5** Hand held IR remote for use with the **PL-4** or **PL-11** wall plates.

**PL-11** Wall plate with single IR (infra red) detector.

**PL-8** 4 contact closure in, 4 logic out GPIO controller.

**PL-9** Rack mounted 7 way PL-Anet hub for connecting multiple PL devices in a star rather than daisy chain configuration. Individual branches may connect to single devices or daisy chain to several.

## Other components available

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### EDITOR



### iLive Editor software

The Editor application runs on a PC or MAC computer to control the **iLive** system via Ethernet. Editor is compatible with both the **iLive** and the **T Series** and can be downloaded free of charge from the Allen & Heath web site. Download either the PC or MAC version.

The version number of Editor and the firmware running in the **iLive** must be compatible. Editor should always be updated when the system firmware is updated.

Editor may be run offline, connected to a system with MixRack and Surface, or connected to just a MixRack when a Surface is not required.

### LEDlamp

18" long gooseneck lamp with 4-pin XLR connector. Features bright, wide dispersion 4 led lamp array with built-in thumbwheel dimmer.

Depending on Surface size up to three lamps may be used. The **iDR10** MixRack also has provision for a lamp.



### 80m CAT5 cable drum [AH7000](#)

80 meters (264 feet) tour grade Neutrik EtherFlex cable terminated with EtherCon RJ45 connections. Approved by Digigram for operation with EtherSound to 80 meters.



**iPS10** - **iLive** backup power supply. Optional 2U rack mounted power supply to provide redundant backup for the **iLive** Surface or **iDR0** MixRack. Supplied with DC and status cables.

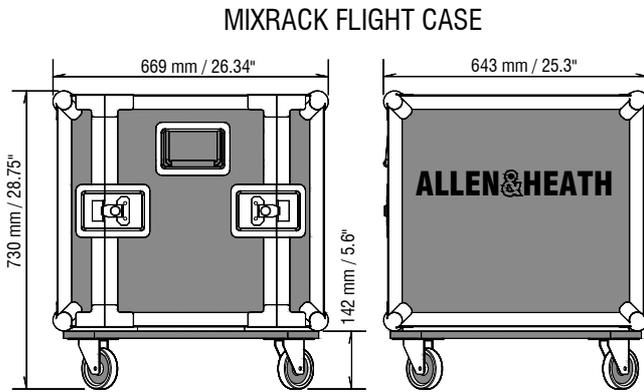
### [AN7139](#) **iLive-80** Surface flight case

### [AN6329](#) **iDR10** MixRack flight case

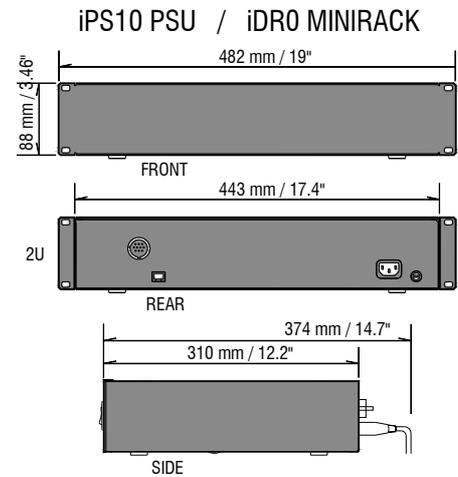


**Flight cases** - The **iLive-112 144** and **176** systems are shipped with touring grade flight cases as standard. The smallest **iLive-80** may be ordered with or without the flightcase. Cases are not available from the factory for the **T Series** surfaces.

# Modular iLive dimensions and weights

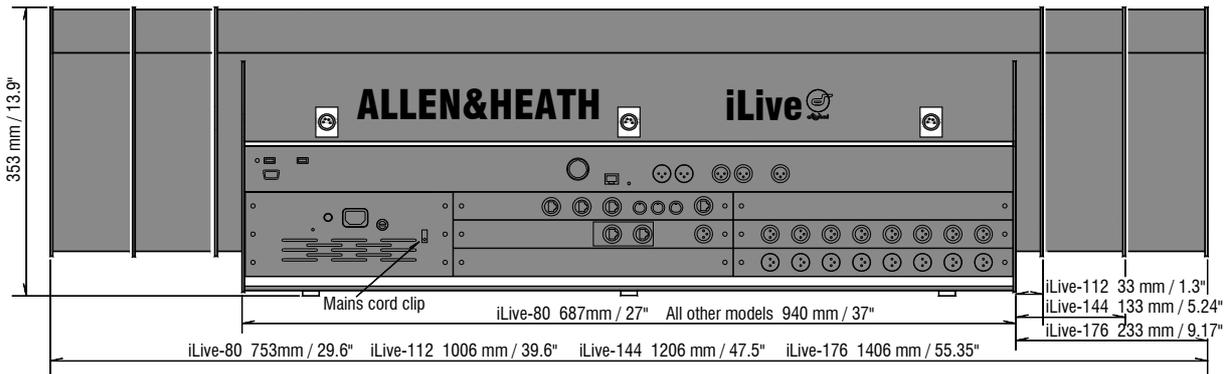


MIXRACK IN FLIGHTCASE = 68kg / 150lb  
 MIXRACK IN CARTON = 27kg / 60lb

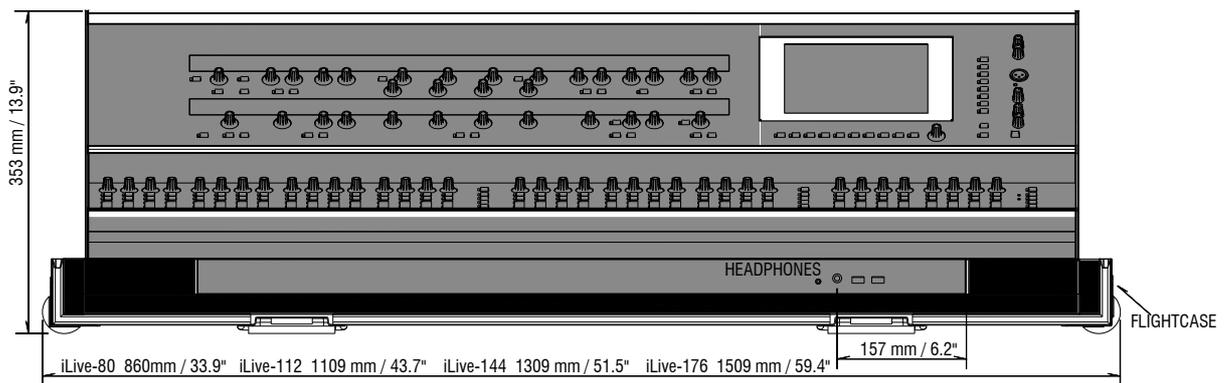


iPS10 = 7kg / 15lb    iPS10 IN CARTON = 8.5kg / 19lb  
 iDR0 = 7.3kg / 16lb    iDR0 IN CARTON = 9.3kg / 21lb

## iLIVE SURFACE

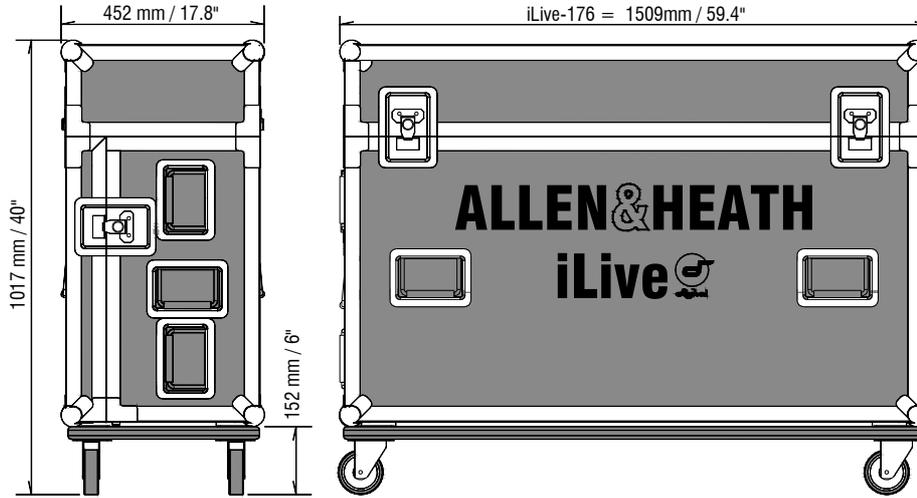


SURFACE WEIGHT = iLive-80 34kg / 75lb    iLive-112 43kg / 95lb    iLive-144 48kg / 106lb    iLive-176 54kg / 119lb



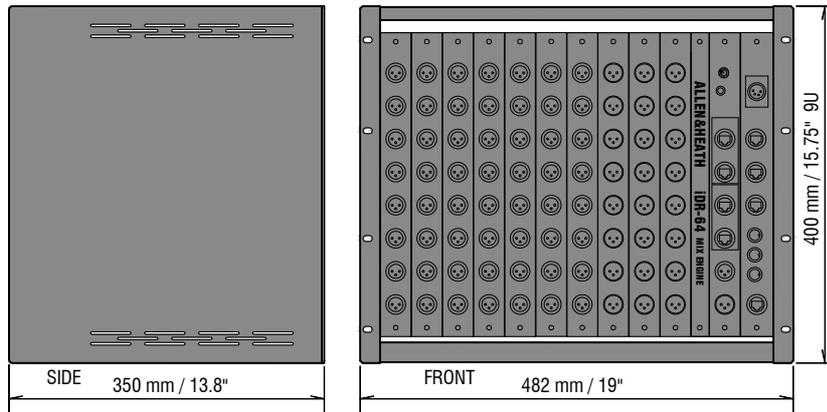
## SURFACE FLIGHT CASE

iLive-80 = 860mm / 33.9"  
 iLive-112 = 1109mm / 43.7"  
 iLive-144 = 1309mm / 51.5"  
 iLive-176 = 1509mm / 59.4"

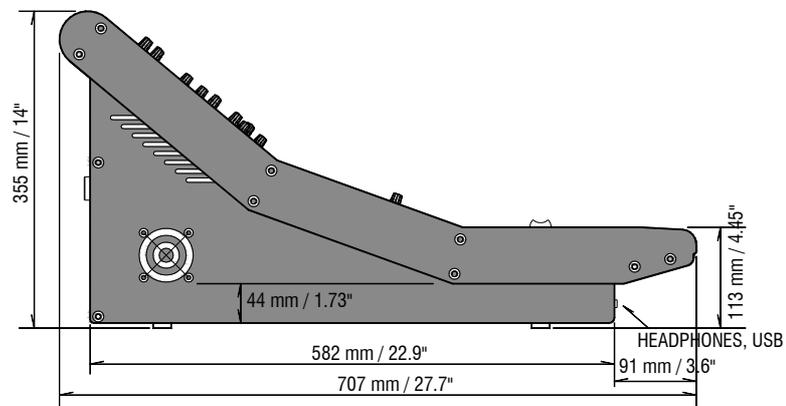


SURFACE IN FLIGHTCASE = iLive-112 98kg / 216lb iLive-144 114kg / 251lb iLive-176 124kg / 273lb  
 SURFACE IN CARTON = iLive-80 39kg / 86lb

## iDR10 MIXRACK



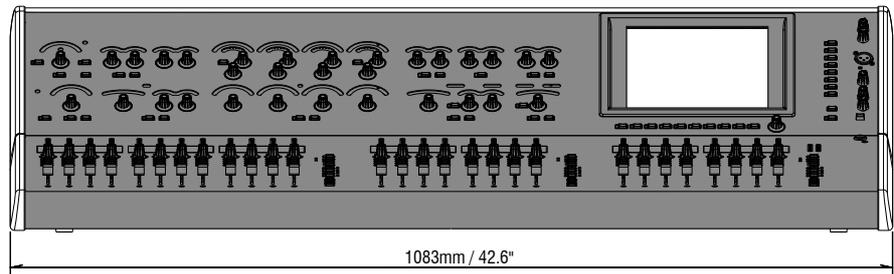
MIXRACK WEIGHT = 26kg / 57lb



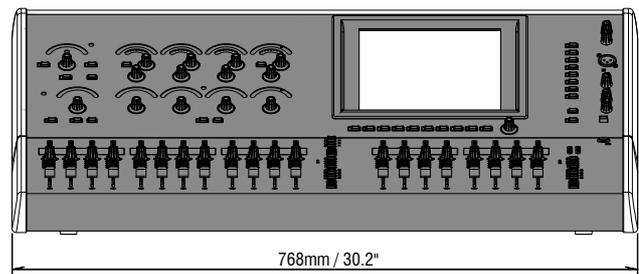
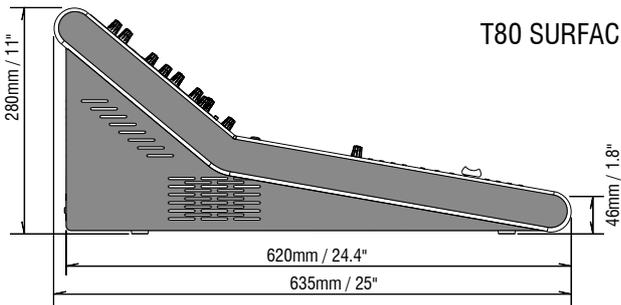
# Fixed format iLive dimensions and weights

## T112 SURFACE

T112 WEIGHT = 27kg / 59.4lbs  
 T80 WEIGHT = 20kg / 44lbs

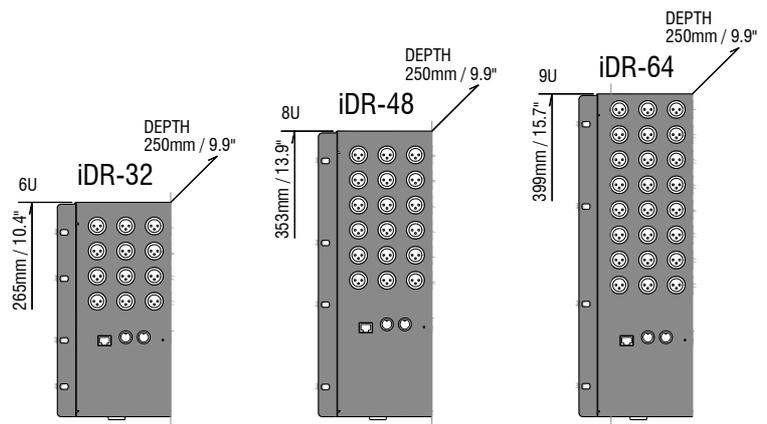
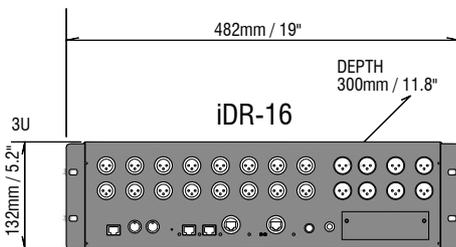


## T80 SURFACE



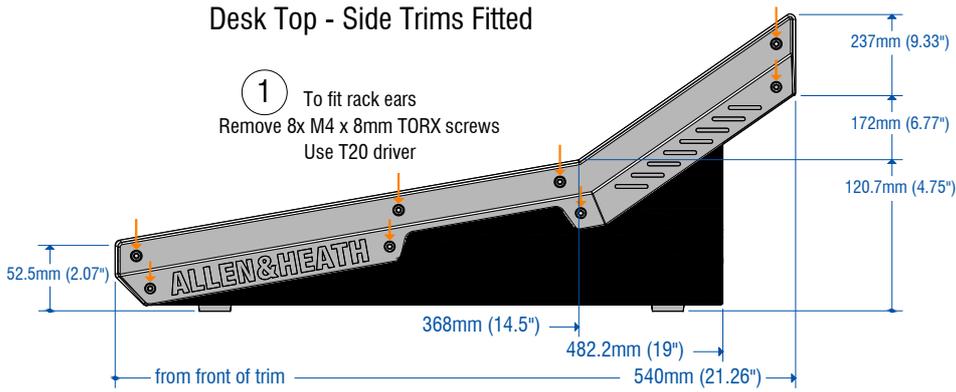
## MIXRACKS

iDR-16 WEIGHT = 7.5kg / 16.5lbs  
 iDR-32 WEIGHT = 11.5kg / 25.3lbs  
 iDR-48 WEIGHT = 14.5kg / 31.9lbs  
 iDR-64 WEIGHT = 17.5kg / 38.5lbs



# iLive-R72 rack ear fitting instructions

## Desk Top - Side Trims Fitted



The iLive-R72 Surface can be configured for desk top, flight case, 19" rack or furniture installation. The plastic side trims can be removed and replaced with the metal rack ears provided. A minimum 12U rack space is needed. More may be needed depending on connector access requirements.

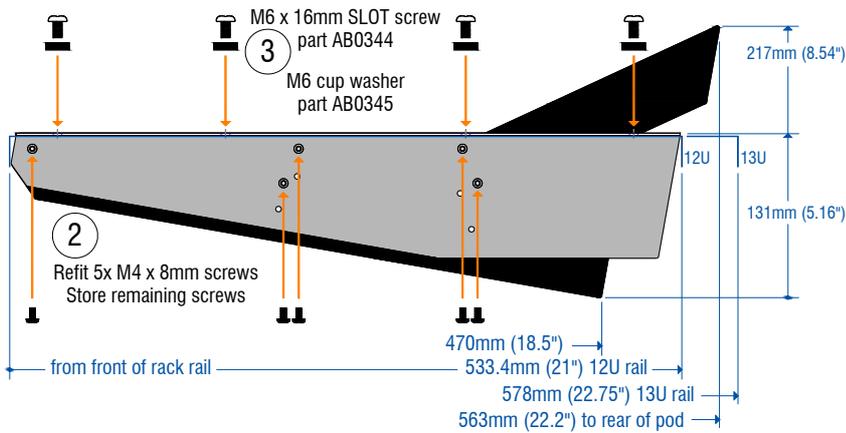
Two rack ear positions are available – either flush with the control panel or angled at 16 degrees for a lower profile fit.

When rack mounting ensure adequate ventilation and space for the connectors, cables and lamp fitting at the rear.

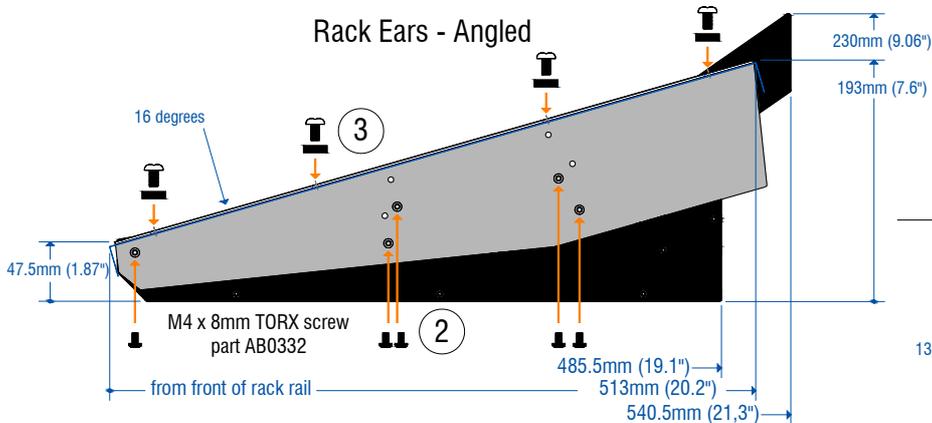
**Note** – Due to the height of the TouchScreen a rack case with a deep lid is required. Many standard off-the-shelf equipment cases are not intended for consoles such as the iLive. However, most flight case manufacturers can provide custom cases to suit different mixer models.

One suitable design is the **Gator G-Tour-SLMX12** 12U slant top road case shown above. For further information refer to [www.gatorcases.com](http://www.gatorcases.com)

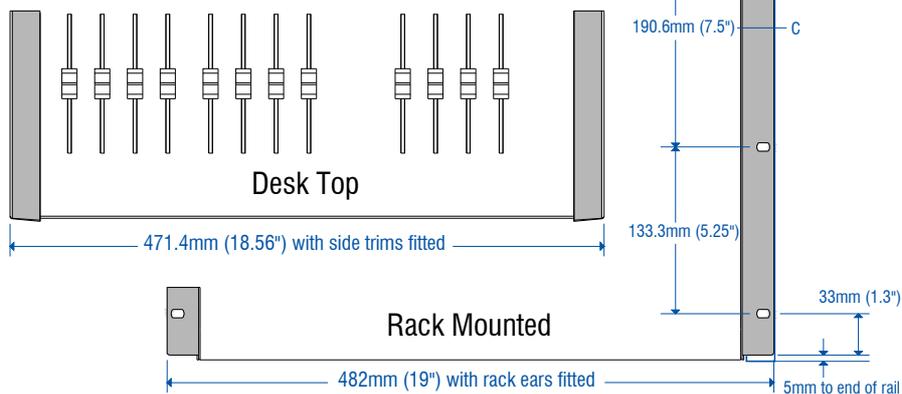
## Rack Ears - Flush Mounted



## Rack Ears - Angled



## Dimensions



## **Limited One Year Manufacturer's Warranty**

This product is warranted to be free from defects in materials or workmanship for period of one year from the date of purchase by the original owner.

To ensure a high level of performance and reliability for which this equipment has been designed and manufactured, read this User Guide before operating.

In the event of a failure, notify and return the defective unit to the place of purchase. If this is not possible then please contact the authorised ALLEN & HEATH distributor or agent in your country as soon as possible for repair under warranty subject to the following conditions.

### **Conditions Of Warranty**

The equipment has been installed and operated in accordance with the instructions in this User Guide.

The equipment has not been subject to misuse either intended or accidental, neglect, or alteration other than as described in the User Guide or Service Manual, or approved by ALLEN & HEATH.

Any necessary adjustment, alteration or repair has been carried out by an authorised ALLEN & HEATH distributor or agent.

This warranty does not cover fader wear and tear.

The defective unit is to be returned carriage prepaid to the place of purchase, an authorised ALLEN & HEATH distributor or agent with proof of purchase. Please discuss this with the distributor or the agent before shipping.

If the unit is to be repaired in a different country to that of its purchase the repair may take longer than normal, whilst the warranty is confirmed and parts are sourced.

Units returned should be packed to avoid transit damage.

In certain territories the terms may vary. Check with your ALLEN & HEATH distributor or agent for any additional warranty which may apply.

If further assistance is required please contact Allen & Heath Ltd.