

# iLive Fixed Format Series



**ALLEN&HEATH**

Accessible Digital Mixing

# iLive Fixed Format Series

## Fixed Format iLive Series

The iLive Fixed Format Series is an evolution of the flagship iLive digital range, with all the performance and power of the original in a compact and affordable fixed format package.

Distributed audio digital mixing is now accessible to everyone, from rental companies to houses of worship, schools to theatres, stadia to media centres – without breaking the bank.

The Fixed Format iLive Series provides networked audio and control, various configuration possibilities, an intuitive instant access analogue-style user interface, and features the same great-sounding 64x32 RackExtra DSP mix engine as our highly successful modular iLive range.

3 Control Surfaces and 4 MixRacks use compact construction with non-modular classic format I/O, proprietary Audio and Control over Ethernet (ACE)<sup>™</sup> digital snake and the latest dual core DSP technology.

All fixed format iLives are fully compatible with the flagship modular iLive systems and can be mixed and matched in any combination of surface and rack. Together they provide a range of Control Surface and MixRack models, which use the same firmware and scene file formats, helping to make iLive accessible to engineers for any application.

Popular audio networking solutions, as well as a host of control and expansion options, are accessible via the card slot available on all the fixed format MixRacks.

iLive: digital mixing at its most flexible.





# Features

- Distributed system - Separate MixRack and Surface
- 4 MixRacks (16,32,48 or 64 mic)
- 3 Control Surfaces (12, 20 or 28 fader, 4 or 6 layers)
- TCP/IP network and PL-Anet control
- ACE™ Audio and Control over Ethernet link up to 120m\* single CAT5
- Systems from 16in/8out to 64in/32out physical sockets
- High grade 1dB step recallable mic/line preamps
- Local analogue and SPDIF I/O available at the surface
- 64x32 RackExtra DSP engine with 8 stereo FX slots emulating industry classics
- 64 input channels, up to 72 sources to the mix including FX returns
- Ability to link 2 MixRacks to expand up to 128 channels
- 3 Dynamics, PEQ, HPF and Delay on all 64 channels
- 2 Dynamics, PEQ, Delay and GEQ on all 32 mixes
- Fully configurable audio bus architecture
- 10 Main mix types including unique Sub mix mode
- Fully-assignable surface strip layout
- User definable channel names and colours
- Monitor capability with engineer's Wedge and IEM strips
- Input, output and insert soft patchbays
- Quick access, analogue style channel controls
- Touchscreen for graphical view and setup
- Channel or mix view of sends on faders or rotaries
- Quick copy, paste and reset of mixes and parameters
- Libraries, Scenes and Show memories with USB transfer
- Get started quickly with built-in Template Shows
- Password protectable user profiles
- Editor software for online or offline PC control
- Carry out independent tasks with laptop and Surface
- Compatible with Allen & Heath PL remote controllers
- MIDI interface at both the MixRack and Surface
- Plug-in card slot for popular audio network and interface options
- Compatible with components from the modular iLive range



Laptop running iLive Editor



\* Refer to Allen & Heath web site for recommended cable type and maximum length



# Pick a Mixer – iDR-16, 32, 48 and 64

iLive puts the audio and its processing right where it is needed, near to the sources on stage. The MixRack houses the mic preamps, sends, DSP and digital snake interface, which is controlled at the mix position.

## The Mix engine

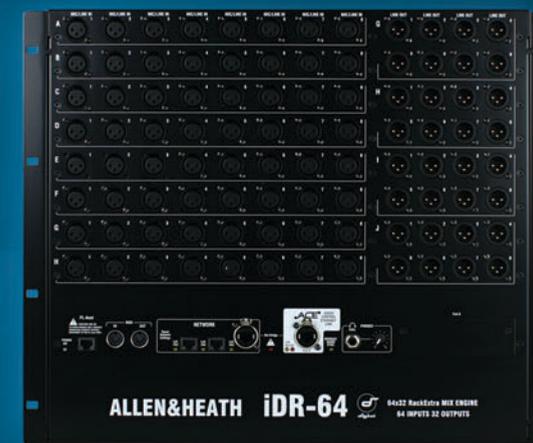
All MixRacks feature the 64x32 RackExtra DSP, providing full processing and mixing for 64 channels and 32 configurable mix buses as well as 8 stereo FX engines based on emulations of popular industry classics. Imagine the gear needed for an equivalent analogue system to provide 64 gates and de-essers, 96 compressors and limiters, 112 fully parametric EQs, 96 delays, 32 graphic EQs and 8 FX units!

## Mic inputs

The MixRacks differ only in the number of input and output sockets available. They range from iDR-16 providing 16 mic/line preamps and 8 XLR outputs, up to the iDR-64, which has 64 preamps and 32 outputs. Built-in patchbays enable the user to split, cross-patch and map channels and sends, requiring fewer sockets than equivalent fixed architecture consoles in many applications. A new high quality mic preamp with 80dB/1dB resolution gain range, exceptionally low latency and optimised audio signal path ensure the superb performance and sound quality for which iLive has become renowned. The dual rack function allows two MixRacks to be combined in a master slave configuration to increase the number of inputs to the mix to a maximum of 128!

## Networking and distributed control

The MixRack and surface are connected over a single CAT5 cable up to 120m long (depending on cable)\* using Allen & Heath's proprietary ACE™ digital snake - an affordable, point-to-point, multi-channel, bi-directional audio and control link. An option slot (Port B) allows a plug-in card to be added for more audio networking possibilities, such as digital mic splitting, rack linking, audio distribution and digital recording. The MixRack can also be controlled using a networked PC, laptop or touch tablet running iLive Editor software; MIDI; the Allen & Heath PL Series of remote controllers; and it is fully compatible with all iLive surface models available. For details of the fully modular iDR10 MixRack, please visit our website.



\* Refer to Allen & Heath website



# Pick a Surface - R72, T80 & T112

The iLive-T80, T112 and R72 surfaces all feature the same intuitive, instantly accessible analogue-style controls and switches, visually informative channel labelling and colour coding, comprehensive metering, graphical colour touchscreen, and logical layout allow the user to avoid fiddly menus and instinctively find controls. The jump from analogue to digital has never been so easy.

## The mix layout

Each bank of faders has either 4 or 6 layers providing 72, 80 or 112 control strips. These can be freely assigned as mono or stereo inputs, group, aux, main, matrix mix masters, DCA masters - and even engineers Wedge / IEM monitor - giving total freedom in the design of the surface layout.

## Local audio

The rear of the surface provides a host of connections for local sources, sends and inserted devices, so there is no need for a second I/O rack at mix position. For more options, check out the flagship iLive Control Surfaces on our website.

## Networking and control

The Surface connects to the MixRack using the ACE™ link, which combines control and remote audio over a single cable. A built-in network switch allows connection of other network devices using TCP/IP such as a laptop running iLive Editor software. MIDI and USB ports are also available.



# Additional control options

## iLive Editor Software

iLive Editor control software offers all of the key facilities of the iLive Surface, as well as the convenience of a high resolution display to see multiple information panels simultaneously. The Java-based program enables the user to easily configure show settings or make changes to existing shows online, or offline to save and upload later. TCP/IP connectivity makes live channel mixing and processing possible over CAT5 or WIFI, so different tasks can be managed in the Editor software and the iLive Surface simultaneously.



## Preamp Trim



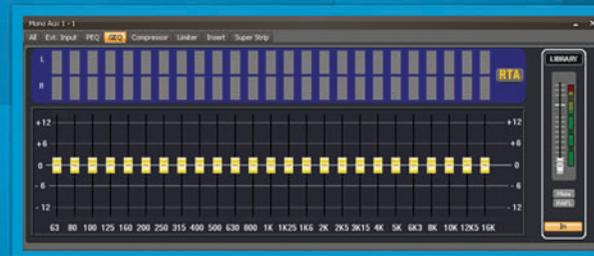
Every input has source patch bay with analogue front-end controls. Once set, switch to digital trim for independent split-system operation.

## Superstrip



All the channels processing controls and metering are in one strip just like the full size surface!

## GEQ/RTA



There is a 1/3 Octave graphic EQ on every mix, and AFL mode with Real-time Analyser display over the GEQ faders.

## PL Series Remote Controllers

Using Allen & Heath's range of PL remote controllers with an iLive system expands control possibilities. Connected to the Surface and MixRack via CAT5 cable and configured from the touchscreen, the 'plug 'n play' devices can control mixes, mutes, levels, scene recalls and selections.

**PL-6** Fader module / **PL-10** Rotary fader module



**PL-3/PL-4** Single wallplate module + **PL-5** Infra-red hand held remote controller



Other PL Series options include the **PL-8 Logic Control Panel**, **PL-9 PL-anet hub** and **PL-11 IR Receiver**.

Please visit our website for an up-to-date list of options.





# Applications

## FOH / Monitor system – Two engineers, two systems linked

Here, two systems are linked using a digital mic split to share the same preamps. This saves you the cost and weight of an analogue splitter and means you could use the smaller iDR-16 rack at FOH but still mix the full 48 mics plus the additional local inputs. Each is fully configurable to match its application so providing properly equipped dedicated FOH and monitor architecture and layouts. The split can be done using ACE or other formats, offering additional recording and system integration.



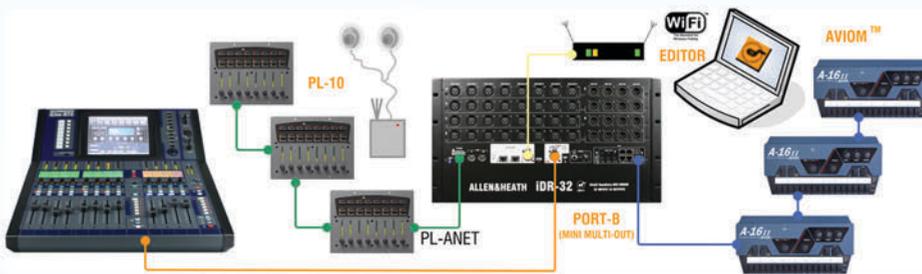
## Leave the surface at home – Run using iLive Editor software

For those situations where space is very tight or you need to mix discreetly, you can mix your show using just a laptop running iLive Editor software. Standard network technology provides the benefit of wireless and touch tablet operation giving you total freedom to tuck the rack away on stage and mix from anywhere in the room or on stage. Add a PL Series controller if you want to provide physical controls for certain key functions, for example important channels or DCA masters.



## FOH - Monitor System - Personal monitoring

A compact iLive surface with ACE™ Cat5 link to the MixRack plus optional independent control using the Editor program over a WiFi link. Musicians and technicians can use programmable PL remotes for custom remote control applications. Personal monitoring options such as Aviom or Hearbus are supported too.



## Dual-Rack mode – System expansion

A special mode in iLive allows you to Link Master port-B to Slave port-A to cascade the busses into 32 mixes. This setup utility provides up to 128 inputs in one system. Sources can be chosen from any two MixRacks, an iLive surface and the digital interface options, in addition to the 8 stereo FX returns.



# Mixing on iLive fixed format

Controlling a mix with the iLive-T or iLive-R couldn't be easier. Its logical layout and simplicity get the user up to speed and navigating the system in minutes. The SEL buttons are used to instantly access all the processing for each strip - whether input, output or FX - with no menus involved at all, while the MIX buttons provide access to the levels, sends, assignments and other mix parameters. Selecting the MIX button on an output strip will immediately bring up the contributions to that mix from the inputs on the faders (or encoders, if preferred), while selecting the MIX button on an input strip shows the send levels to each mix.

With these 2 quick select buttons, the whole system can be easily navigated under the pressure of a live performance.

## Processing Strip

iLive-T Surfaces feature the proven and popular 'Processing Strip' found on our flagship iLive system. It's a combination of dedicated functional controls for Gain and Preamp, HPF, Gate, Parametric EQ, Compressor and Limited/De-Esser, which can be applied to any DSP channel in the iLive system, with full metering within each processing block. In addition, every processor features a SEL button for parameter copy and reset, or for headphone monitoring of any point in the channel signal path including the side-chain filters. All processing is available on each DSP channel all the time so you can never run out of DSP power! On iLive-R, this processing is accessed via the on-board touchscreen.



## Graphic EQ

All 32 mix outputs have a 1/3 octave graphic EQ as well as the parametric EQ. The graphic can be set up on the touchscreen or viewed on the surface with the motorised channel faders controlling the bands, and the related frequency and dB cut or boost displayed on the LCD strip. There is even an RTA display on the meters above the frequency bands.





## Surface Mixing controls

Further controls on the iLive surface provide copy & paste of settings across strips, navigating between layers and scenes, and a selection of monitor and talkback options. To help identify channels, colour-definable 'Write-On Blocks' for channel naming are provided, where the background of the channel LCD can be set to suit the user's preferences.



## Touchscreen

The touchscreen is used to set up and manage iLive's system configuration and data, and also supports general operations with a graphical display of the signal processing. To get started quickly, a variety of 'Show' templates for different classic console set ups is available, or the user can build his preferences for the layout and set up of inputs, masters, DCA groups, routing, etc. from scratch.

## Scenes, Shows & Libraries

iLive can store all, or a selection of, parameters within the console as 'Scene' memories. These can be used, for example, to store bands' settings at sound check, make FX changes during songs, cue changes during a theatre production, or to store preferred layouts for different operators. Scenes are then archived with the current configuration and settings into a 'Show' file for future use. Personal processing and FX preferences can be named and stored as 'Libraries'. Show and Library memories are easily transported between systems or archived to computer using a USB key.

## iLive FX Rack

iLive has an array of built-in 'rack' FX emulations modelled on the best products available. These are represented graphically on the touchscreen, from where the FX parameters can be edited. With 9 DSP FX engines available, there are plenty of options for system FX, such as delay and reverb, as well as inserted FX such as chorus and double tracking. Each of the FX units has a 'back panel' where I/O routing is set up.



**SMR Reverb** - designed for live sound reverb processing, with emulations of industry standard units based on 4 complex models: Classic, Hall, Room and EMT.



**Symphonic Chorus** - the popular 80's chorus with vox and strings presets.



**MØØ Phaser** - classic 12 stage circuitry emulation, creating a rich textured phaser with lots of control parameters including manual sweep and split-phase rotary FX.



**Chorus** - emulates industry-standard chorus units with additional stereo field enhancement, providing FX from 'shimmer' to deep stereo pitch modulation.



**ADT Double Tracker** - creates short echo, classic double/quadruple tracking FX and 'slapback' tape delay loops.



**2-Tap delay** - a comprehensive delay processor providing separate L and R tap delay outputs with onscreen tap tempo for fast and simple set up.



**Electric Flange** - provides emulations of 'ambient' tape machine flanging from 'vintage' sounds to 'wild' untameable flange FX.



**Hypabass** - a sub-harmonic synthesis unit to generate infra and sub-bass spectrum from a weaker bass programme.



**Gated Verb** - contains the classic 80's emulation, plus 'panned' and 'powerbox' gated reverbs, the module also has a visual display of the gate time domain envelope.



**Dynamik FX Shaper** - All FX units feature DFX which can use the source to Duck or Gate the FX automatically. This provides dynamic control of the FX, for example to prevent reverb or echo swamping the signal during loud, busy passages.



# Audio interface options

Plug-in cards for further audio networking possibilities can be fitted in Port B of the MixRacks.



## Mini Multi-Out

Provides 3 optical ADAT outputs [24channels], an Aviom™ 16 channel output, and 2 iDR 8-buss outputs [compatible with HearBus]. A total of 56 outputs with independent patch-bay sourcing.



## ACE

The Allen & Heath proprietary ACE™ (Audio and Control over Ethernet) link offers a cost effective point-to-point connection up to 120m over a single CAT5 cable for 64 channels of low latency bi-directional audio plus network control. ACE™ is the primary iLive Surface to MixRack link and can also be fitted to Port B for digital mic splitting and system expansion.



## EtherSound

EtherSound is a popular low latency industry networking standard supporting 64 channels of bi-directional audio over a single CAT5 cable. A growing number of third party ES equipped devices are becoming available for remote audio distribution, PC recording, speaker controllers, amplifiers and more.



## MADI

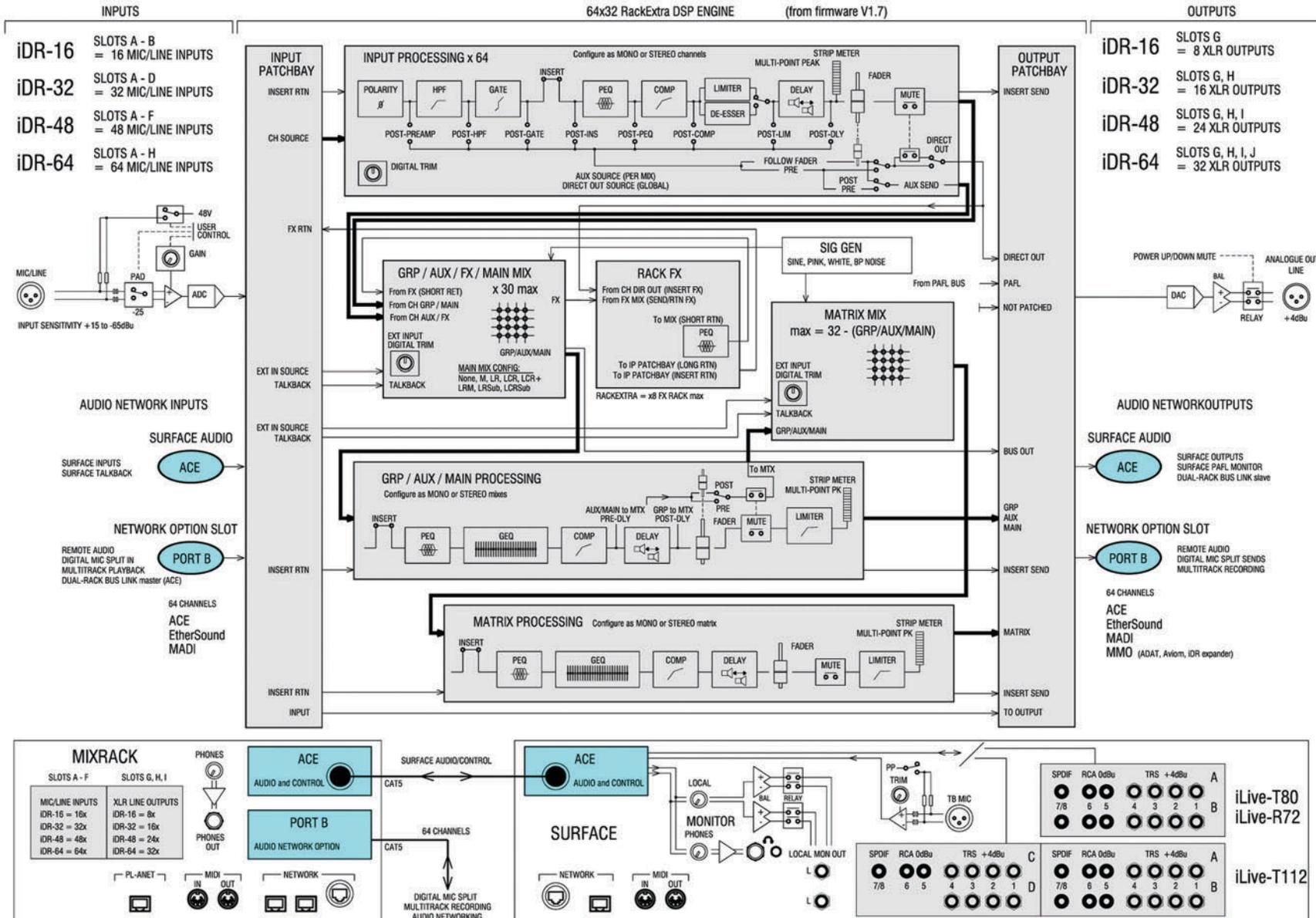
Dual port MADI card supports two streams of 64 channel bi-directional 24-bit 48kHz serial digital audio transmission using two 75 ohm coaxial cables per port. An additional AUX connector can be configured to mirror stream 1 outputs, pass thru stream 1 inputs, or as a word clock input or output.

\* See website for an up-to-date list of audio networking options.





# System Block Diagram



## Technical Specifications

<b>System</b>	Separate MixRack and Surface with control & audio over a single CAT5 ACE™ cable
Format	64x32 RackExtra DSP mix engine located in MixRack
DSP	Local audio to/from Surface - ACE™ up to 120m CAT5 (depending on cable)*
Audio Network Port A	Network option plug-in cards available - see website for details
Audio Network Port B	TCP/IP Ethernet (links to Surface via Port A ACE™), built-in switch
Control Network	At MixRack for A&H PL Series remote controllers and GPIO
PL-Anet	In/Out.Can tunnel between Surface and MixRack via network
MIDI	x2: Data transfer, archiving and firmware update, external touchscreen, keyboard
USB	For connecting an external monitor to the TouchScreen
VGA	Internal, 100-240V.AC, 47-63Hz, 160W max per unit
Mains Power	
<b>Architecture</b>	
Input Channels	64x with HPF, Insert, Gate, PEQ, Compressor, Limiter/De-esser, Delay
Output Mixes	32x with Ext-in, Insert, PEQ, 1/3 oct GEQ, Compressor, Limiter, Delay
Mix Types	Any combination of Groups, Auxes, Internal FX, Mains, Matrix (mono or stereo)
Main Mix Types	Mono, LR, LCR, LCRplus, LRSub, LCRSub, LRM, LCRM, None (monitors)
Mono / Stereo	Channels and Mixes may be configured as mono or stereo
Patchbays	Virtual patching of: Inputs, Inserts, FX, Mix Ext in, Outputs, Port B audio channel I/O
Inserts	Inserts assignable on all inputs and mixes, patch to any sockets
FX Engines	8x internal stereo 'RackExtra' FX racks, each capable of DSP emulations of industry classics
FX Patching	Inserted or Send/Return loop. Mono or stereo sends, stereo returns
FX Returns	8x extra 'short' stereo return paths (PEQ) or use IP channels (full processing)
Max Sources to Mix (Single-Rack)	72x (64 IP channels and 8x stereo internal FX returns)
Max Sources to Mix (Dual-Rack)	136x (128 IP channels and 8x stereo internal FX returns)
DCAs	16x can be used as DCA or Mute groups
Other processing	64x Gates, 96x Compressors, 96x Limiters, 112x PEQ, 32x GEQ
<b>Performance</b>	
Digital processing	48kHz sampling, up to 48-bit processing
System Latency	Analogue IN to Analogue OUT (MixRack) <1.6ms, ACE link is 100us (0.1ms) per hop
ADC	24-bit multi-bit delta sigma, 108 dB dynamic range
DAC	24-bit multi-bit delta sigma, 117 dB dynamic range
Frequency Response	20-20kHz ±0/-0.5dB
THD+Noise (analog in to out)	THD+N (22Hz-22kHz) -96dB (0.0015%) relative to signal, (-81dBu absolute) Mic Pre Amp at 0dB gain. Input source 12dBu, 1kHz. THD+N (22Hz-22kHz) -96dB (0.0015%) relative to signal, (-81dBu absolute) Mic Pre Amp at 35dB gain. Input source -23dBu, 1kHz.
Residual Output Noise	-94dBu typical
<b>Audio Inputs and Outputs</b>	
XLR Mic/Line Inputs	Recallable, Balanced, -15 to +65dBu, 1dB resolution, 25dB pad, +48V
Preamp Performance	>4kΩ, +32dBu max input, Noise EIN (150Ω) -127dB
TRS Jack Line Inputs	+/-24dB trim, >6kΩ, +4dBu nominal, +22dBu max
RCA Phono Line Inputs	+/-24dB trim, >10kΩ, 0dBu nominal, +18dBu max
XLR Line Outputs	Balanced, Relay protected, <75Ω, +4dBu nominal, +22dBu max
TRS Jack Line Outputs	Balanced, Relay protected, <75Ω, +4dBu nominal, +22dBu max
RCA Phono Line Outputs	Unbalanced, Relay protected, <75Ω, 0dBu nominal, +18dBu max
RCA Phono Digital	2 ch SPDIF I/O. Input upto 96kHz sampling rate. Output at 48kHz sampling rate
<b>Audio Connections</b>	
iDR-16 MixRack	16x XLR mic/line in, 8x XLR line out
iDR-32 MixRack	32x XLR mic/line in, 16x XLR line out
iDR-48 MixRack	48x XLR mic/line in, 24x XLR line out
iDR-64 MixRack	64x XLR mic/line in, 32x XLR line out
iLive-R72 Surface	Inputs 8x [4xTRS, 2xRCA, 1xSPDIF]. Outputs 8x [4xTRS, 2xRCA, 1xSPDIF]
iLive-T80 Surface	Inputs 8x [4xTRS, 2xRCA, 1xSPDIF]. Outputs 8x [4xTRS, 2xRCA, 1xSPDIF]
iLive-T112 Surface	Inputs 16x [8xTRS, 4xRCA, 2xSPDIF]. Outputs 12x [8xTRS, 2xRCA, 1xSPDIF]
Local Monitor	TRS L and R available at the Surface
Headphones	MixRack: 1/4" jack. Surface: 1/4" jack and minijack
<b>Control</b>	
iLive-R72 Surface	12x faders, 2 banks (8,4), 6 layers = 72 control strips
iLive-T80 Surface	20x faders, 2 banks (12,8), 4 layers = 80 control strips
iLive-T112 Surface	28x faders, 3 banks (12,8,8), 4 layers = 112 control strips
Strip Assign	Assign any strip as Input, FX, Mix master, DCA, engineer's Wedge/IEM
TouchScreen	800x600 backlit, colour, touch with on-screen keyboard, data encoder
Processing Strip	Instant access to processing, illuminated encoders, meters, PFL access
Soft Keys	8x user assignable
Faders	100mm motorised, GEQ fader flip mode
Meters	3 colour, 12 LED meter on every strip, PAFL, proc block and TouchScreen
Edit Functions	Copy, Paste, Reset of processing and mix parameters
Monitor Functions	PFL/AFL selectable, PAFL tools, Local/Phones outputs, Dual Wedge/IEM
Talkback	TB mic with phantom power, assignable to any mix, patching, Latch function
Additional Surface Functions	Freeze in Layers, Alt View, Screen and LED dimmer
Other control	MIDI, A&H PL Series remote controllers
iLive Editor software for laptop	Java based application for offline / tour bus setup and online / interactive control of an iLive system Available for Windows XP / Vista / 7, Mac OS X 10.5 / 10.6 and Linux Ubuntu 10.04 platforms Connects online over a wired or wireless TCP/IP network
<b>Memories</b>	
Libraries	Name and store processing, FX, channel parameters and PL device settings
Scenes	250x Store all or selected parameters, editable tree structure, Recall Safes
Shows	Stores current settings, preferences, all Scenes, Libraries
User Profiles	Administrator and up to 7 Guest users, Permissions, Password protectable
USB	Transfer and archive Shows and Libraries, USB Show Scene filter
<b>Weights and Dimensions</b>	
iDR-16 MixRack	3U rack, 482mm (19") x 132mm (5.2") x 250mm (10"), 9kg (19.8lbs)
iDR-32 MixRack	6U rack, 482mm (19") x 265mm (10.4") x 250mm (10"), 12kg (26.4lbs)
iDR-48 MixRack	8U rack, 482mm (19") x 353mm (14") x 250mm (10"), 16kg (35.2lbs)
iDR-64 MixRack	9U rack, 482mm (19") x 397mm (15.6") x 250mm (10"), 17.5kg (38.5lbs)
iLive-R72 - With Sidetrims	475mm (18.7") x 235mm (9.3") x 540mm (21.2"), 12kg (26.5lbs)
iLive-T80	770mm (30.2") x 280mm (11") x 640mm (25"), 20kg (44lbs)
iLive-T112	1090mm (42.6") x 280mm (11") x 640mm (25"), 27kg (59.4lbs)
<b>Operating Temperature Range</b>	
	5deg - 35deg Celsius 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, is not advisable.

\* Refer to cable information on Allen & Heath website