

ALLEN & HEATH



iDR10

iLive System DSP MixRack

USER GUIDE

Publication AP6525

Limited Two Year Warranty

This product has been manufactured in the UK by ALLEN & HEATH and is warranted to be free from defects in materials or workmanship for a period of two years 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 ALLEN & HEATH or its authorised agent as soon as possible for repair under warranty subject to the following conditions:

Conditions Of Warranty

1. The equipment has been installed and operated in accordance with the instructions in this User Guide
2. 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.
3. Any necessary adjustment, alteration or repair has been carried out by ALLEN & HEATH or its authorised agent.
4. The defective unit is to be returned carriage prepaid to ALLEN & HEATH or its authorised agent with proof of purchase.
5. Units returned should be packed to avoid transit damage.

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

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

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

iDR10 User Guide AP6525 Issue 1.

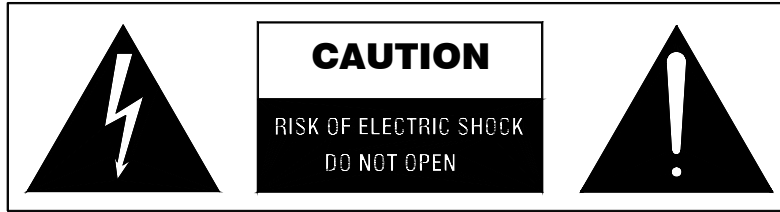
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ALLEN&HEATH

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

WARNINGS - Read the following before proceeding :



ATTENTION: RISQUE DE CHOC ELECTRIQUE – NE PAS OUVRIR

- Read instructions:** Retain these safety and operating instructions for future reference. Adhere to all warnings printed here and on the equipment. Follow the operating instructions printed in this User Guide.
- Do not remove covers:** Operate the equipment with its covers correctly fitted. Refer any service work on the equipment to competent technical personnel only.
- Power sources:** Connect the equipment to a mains power supply only of the type described in this User Guide and marked on the rear panel. Use only the power cord with sealed mains plug appropriate for your local mains supply as provided with the equipment. If the provided plug does not fit into your outlet consult your service agent for assistance.
- Power cord routing:** Route the power cord so that it is not likely to be walked on, stretched or pinched by items placed upon or against it.
- Grounding:** Do not defeat the grounding and polarisation means of the power cord plug. Do not remove or tamper with the ground connection in the power cord.



WARNING: This equipment must be earthed.

- Water and moisture:** To reduce the risk of fire or electric shock do not expose the equipment to rain or moisture or use it in damp or wet conditions. Do not place containers of liquid on it which might spill into any openings.
- Ventilation:** Do not obstruct the ventilation slots or position the equipment where the air flow required for ventilation is impeded. If the equipment is to be operated in a flightcase ensure that it is constructed to allow adequate ventilation.
- Heat and vibration:** Do not locate the equipment in a place subject to excessive heat or direct sunlight as this could be a fire hazard. Locate the equipment away from any devices which produce heat or cause excessive vibration.
- Servicing:** Switch off the equipment and unplug the power cord immediately if it is exposed to moisture, spilled liquid, objects fallen into the openings, the power cord or plug become damaged, during lightening storms, or if smoke, odour or noise is noticed. Refer servicing to qualified technical personnel only.
- Installation:** Install the equipment in accordance with the instructions printed in this User Guide. Use the equipment connections for their intended purpose only.



Important Mains plug wiring instructions.

The unit is supplied with a moulded mains plug fitted to the AC mains power lead. Follow the instructions below if the mains plug has to be replaced.

The wires in the mains lead are coloured in accordance with the following code:

TERMINAL		WIRE COLOUR	
		European	USA/Canada
L	LIVE	BROWN	BLACK
N	NEUTRAL	BLUE	WHITE
E	EARTH GND	GREEN & YELLOW	GREEN

The wire which is coloured Green and Yellow must be connected to the terminal in the plug which is marked with the letter E or with the Earth symbol. **This appliance must be earthed.**

The wire which is coloured Blue must be connected to the terminal in the plug which is marked with the letter N.

The wire which is coloured Brown must be connected to the terminal in the plug which is marked with the letter L.

Ensure that these colour codes are followed carefully in the event of the plug being changed.

Precautions

- 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 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 unit while power is applied.

Introduction

This is the user guide for the Allen & Heath **iDR10** 'MixRack'. We recommend that you read this fully before starting. Included is information on installing, connecting and operating the unit. Whilst we believe the information in this guide to be reliable we do not assume responsibility for inaccuracies. We also reserve the right to make changes in the interest of further product development.

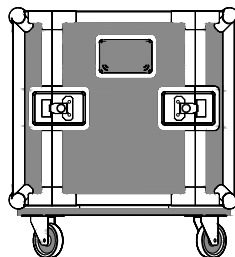
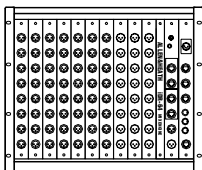
We are able to offer further product support through our worldwide network of approved dealers and service agents. You can also access our Web site (www.allen-heath.com) for information on our company and its pedigree, our full product range and our design philosophy. To help us provide the most efficient service please keep a record of your unit serial number, and date and place of purchase to be quoted in any communication regarding this product. The serial number is located on the rear panel.

For further information on using the iLive system please refer to:

iLive System Reference guide	AP6526
iLive Getting Started Guide	AP7260
Allen & Heath Resource CD	AP4742
Allen & Heath web site	www.allen-heath.com
Firmware Release Notes	Downloadable from web site
Help file within system firmware	

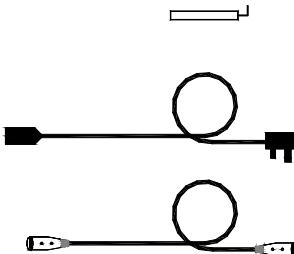
Check the packing contents

Retain the product packing should you need to ship the product in future. You should find the following components:



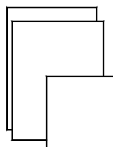
1x **iDR10** MixRack. Depending on the order configuration, the MixRack is either shipped in a carton or a touring grade, shock mounted flightcase.

1x **MODULE EXTRACTOR TOOL AA6869**. This is fitted in clips at the rear of the flightcase or packed in the carton.



1x **IEC MAINS LEAD** with moulded plug. Check that the plug is suitable for connection to your local mains supply. **iDR10/n** where n = mains voltage 120 (USA), 220 (EU), 240 (UK)

1x **CAT5 CABLE** 1.8m RJ45 EtherCon connections. Part number **AH7001**. Connects the **iDR10** to the iLive Surface or another MixRack. Note that the second cable required is shipped with the iLive Surface.



DOCUMENTATION including the User Guide **AP6525**, Safety Sheet **AP3345**, Registration Card **AP3594**, and sticker **AP4943**.

Welcome to the iDR10 MixRack

The **iDR10** is the heart of the iLive mixing system. It is called the '**MixRack**' as it houses the iDR-64 DSP mix engine, the CPU module which manages and allows remote control of the mix functions, and the RAB (remote audio) module which provides up to two audio networking interfaces (currently both EtherSound). It is the mixer itself, configurable and controllable via Ethernet using an iLive Surface or PC. It is called the **iDR10** because it includes 10 additional slot positions to fit the required combination of audio input and output modules. This means the MixRack may be positioned on stage near its sources and controlled remotely from up to 100 metres away using a control surface connected via a CAT5 cable. Local audio required at the mix position can be transported to and from the MixRack via a second CAT5 cable, therefore doing away with the need for a bulky traditional copper multicore snake. Audio may be further distributed around the venue using the EtherSound audio networks. Systems may be linked for split FOH/Monitor/Recording applications using EtherSound as a digital mic splitter.

The **iDR10** features a **64 input x 32 mix bus architecture** with full processing on all input and mix channels. You do not need to allocate or share processing. The iDR-64 'Rack Extra' module provides enough DSP for all the channel processing to be available all the time, together with 8 stereo internal effects devices. Input processing includes high-pass filter, noise gate, parametric EQ, compressor, limiter/de-esser and delay. Mix processing includes both parametric and graphic EQ, compressor, limiter and delay. The module is called 'RackExtra' because it includes a virtual 8 slot rack which can be loaded with up to 8 additional processors from a library of many emulations of high quality effects devices. The effects can add an extra 8 'short returns' complete with parametric EQ bringing the total number of sources feeding the mix to 72.

The user has a **choice of input and output modules** to fit into the 10 available MixRack card slots. The same module types may be loaded into the 4 slots available at the rear of the iLive surface. Unused slots may have blanking plates fitted. Each module handles 8 signals, either inputs or outputs. These modules may be fitted anywhere within the available MixRack and Surface card slots. Choices currently available include analogue mic/line inputs, XLR line out, and digital inputs and outputs with a variety of optional formats including SPDIF, optical, AES, ADAT and more.

The **iDR10** does away with the need for cumbersome outboard processing and I/O racks letting you configure a full spec mix system in a compact footprint comprising just the MixRack and Surface. If, however, you wish to insert favourite outboard devices you can do this by configuring any number of channel and mix inserts patched to sockets anywhere in the system. **Virtual patchbays** are provided too letting you map any input source to any channel, and any output signal to any socket.

The **RAB module** provides a local headphones output, the networked audio options and digital clock source if synchronisation with external devices is required. Up to 2 EtherSound network card options may be fitted to transport audio to and from locations remote from the MixRack. ESA replaces the traditional analogue multicore providing audio at the surface and distributed to other EtherSound equipped break in/out boxes. ESB provides a digital mic splitter for FOH/Monitor systems, multitrack recording and system expansion.

The **CPU module** allows TCP/IP over Ethernet control from network devices such as the iLive Surface or PC running iLive application software. A 3-port switcher is built in for control from multiple devices accessing the same network, for example both a Surface and a laptop. The module also allows control via MIDI and PL-Anet for the Allen & Heath PL Series remote controllers.

The **iDR10** is well equipped for the stage environment with a lamp socket for low lighting conditions, LED status indicators for phantom power, mute and PAFL active, ideal for helping the stage tech find the right socket. The MixRack may be shipped in a touring grade, shock mounted flight case, and be configured to include two internal universal voltage power supply modules, one for redundant supply backup. Full protection and thermal management is provided.

Sound quality has been one of the key objectives behind the design of the iLive system. The architectural design and choice of components ensure a high performance, very low latency system. DSP algorithms developed by Allen & Heath over many years have been tailored for the demands of live sound. The **iDR10** uses a top of the range preamp design and features very high headroom throughout the signal path to cope with the busiest and most dynamic live mix.

Please take the time to read through the rest of this guide before starting. Also refer to the iLive System Reference Guide which has more information of configuring and using the iLive system.

iDR10 MixRack

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

REMOTE AUDIO module
With system clock, headphones and remote audio distribution. Fit up to 2 audio network option cards. EtherSound interface is available here.

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



Audio modules
10 slots available.
Slots A to J

System modules
Slots K, L, M

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.

Ethernet switch
3x network ports.

ESA
EtherSound digital snake. Surface and break out/in audio.

ESB
EtherSound digital mic split, system expansion, record.

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

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 help 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.

Installation

Free standing

The **iDR10** can be operated as a freestanding unit for shelf or floor operation. Ensure adequate air flow around the unit. It must not be covered in any way. Always stand the unit on a firm flat surface away from any soft furnishings or carpet.

Rack mounting

The **iDR10** is designed as a 19 inch rack mount unit and will occupy 9U of rack space. Ensure natural convection of airflow around the unit by allowing good ventilation below, in front of and behind the unit. Rack equipment known to produce a significant amount of heat should not be mounted directly below the unit. Forced convection by means of a rack mounted fan-tray may be desirable in situations where space is restricted and the ambient air temperature is high.

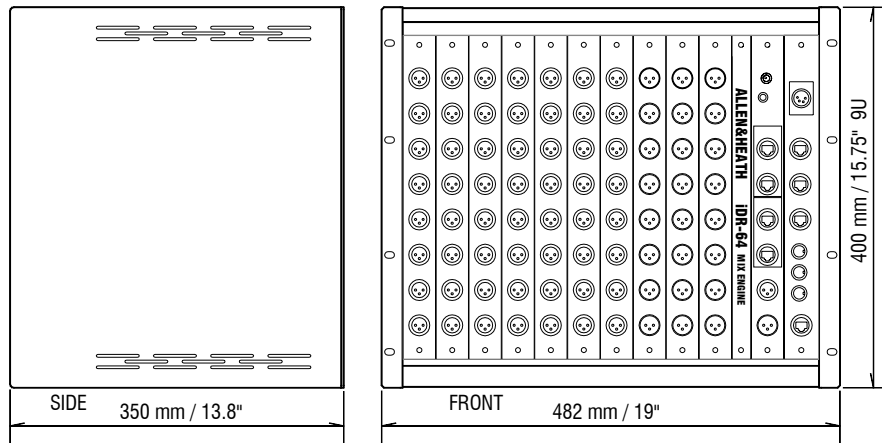
Flight casing

The **iDR10** may be ordered with a suitable touring grade flight case. If you have a case made we recommend that you use only a professional grade specification with shock mounted internal rack frame. Ensure adequate ventilation in front of and behind the unit when it is powered. Make sure the wheel locks are engaged when the unit is stationary.

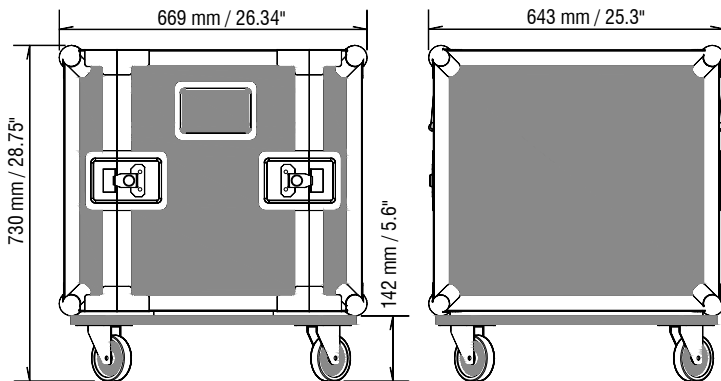
Cables

Make sure the cables are not stretched in any way and are routed to avoid becoming kinked or damaged. Allow enough service loop for access and removal of the unit. Ensure all connectors are fully plugged in and locked.

Dimensions and weights



MIXRACK WEIGHT = 26kg / 57lb



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

▲ Do not obstruct the ventilation slots. Ensure adequate air flow around the iDR10.

▲ Ensure proper grounding. Do not remove the IEC mains cord earth (ground) connection.

Connecting the system

The **iDR10** requires two main system connections, both using CAT5 cables. **NETWORK** connects a remote controller such as the iLive Surface or a laptop. **ESA** connects audio to and from external locations such as the Surface and EtherSound equipped break in/out boxes. The optional **ESB** port 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 (part number **AH7000**) if the Surface is located remote from the MixRack. 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.

Ethernet (control network) cable

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.

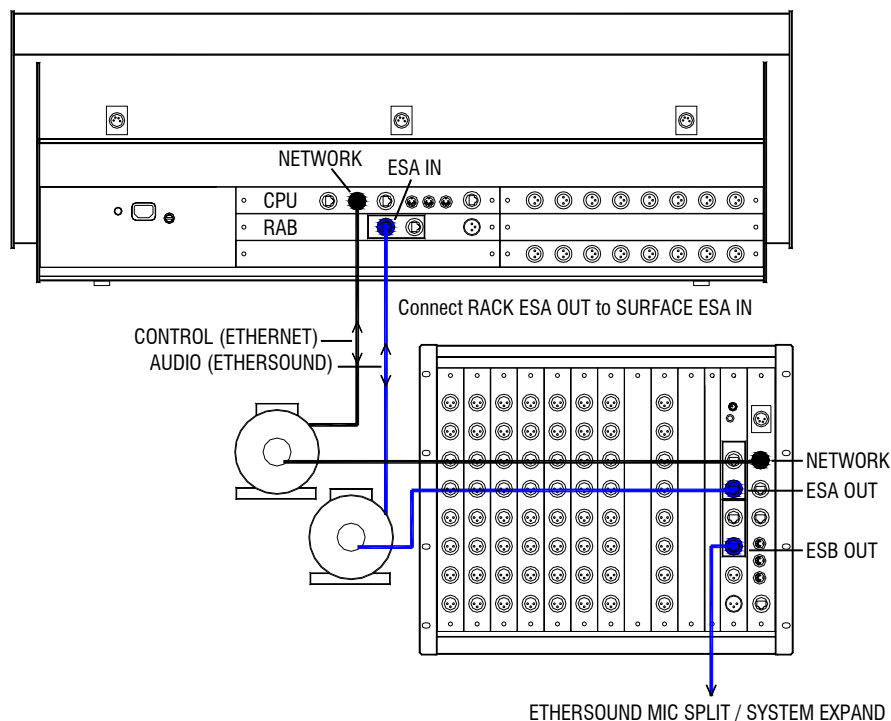
Note: Plug only one CAT5 cable to connect between the MixRack and Surface. You may plug this into any one of the three network ports available. Do not connect a second cable for redundancy. Third party systems are available to extend the connection or provide dual redundancy.

EtherSound (audio network) cable

Plug the MixRack **ESA OUT** to the Surface **ESA 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 **ESA 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 **ESB** network refer to the panel descriptions and application diagrams 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.

Note: The EtherSound standard is maintained and licensed by Digigram who recommend that only the cable types and network components tested and approved for EtherSound are used. This is most important to ensure reliability when using longer cable lengths approaching the 100 metre (330 feet) maximum. For further information on compatibility please refer to the EtherSound web site: www.ethersound.com/technology/compatibility.php.



Power up the system



Connect mains power

An IEC mains power cord with moulded plug suitable for your territory is provided for each power supply module fitted to the **iDR10**. Refer to your Allen & Heath agent if the incorrect type has been provided. The **iDR10** 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 **iDR10** and printed on the power unit panel.

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 toggle mains power on or off.

Booting up the system

Note: Always **turn the MixRack on first, then the iLive Surface**. Powering the Surface up first may result in failure to connect or loss of EtherSound audio at the surface. Power off the surface before turning off the MixRack.

1. Connect mains power.
2. Plug in the Control and Audio CAT5 cables.
3. Switch on the MixRack power.
4. Then switch on the Surface power.

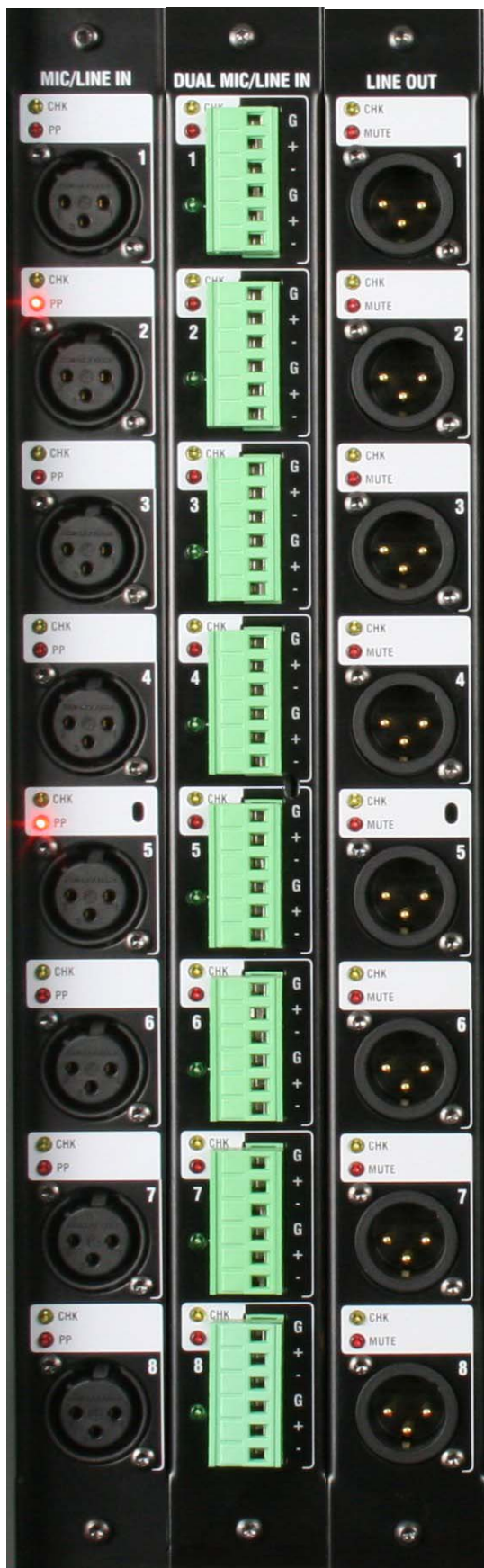
While searching for the network connection between the MixRack and Surface after power up, the NETWORK Lnk/Act indicator flashes at a slow rate for a few seconds. Once connection is successfully made the indicator flashes at a steady fast rate. The ES RX and TX indicators should flash at a steady fast 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 iLive system remembers its last settings on power up.

Note: For firmware versions up to 1.2 it is necessary to reboot the surface if the network connection has become lost or its cable disconnected. To reboot the surface switch its mains power off then on.

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 whether the preamp is the main channel source, insert return or mix external input for the channel being PAFL'd. For example, four 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.

Analogue 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/

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/

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

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 - System



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 more recent 'RackExtra' version includes additional DSP to handle up to 8 internal stereo effects 'racks'. Older systems with 2 effects may be upgraded to this version by swapping out the iDR-64 DSP module.

Note: The DSP is in the MixRack not the Surface. Audio in the Surface is converted to digital and transported via EtherSound 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** or **iDR0** rack which houses this module.

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

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 **iDR10** 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 EtherSound network ESB then set it to 'ESB'. If it is being synchronized to an external DARS source then set it to 'DARS'.

ESA and ESB audio network options - The **iDR10** may 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 ESA 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 Surface using analogue connections.

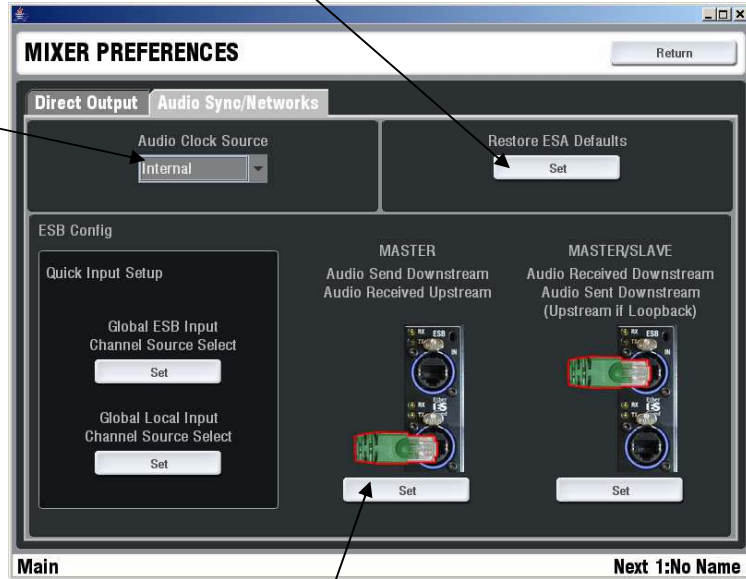
Module options - System

Restore the factory default mapping of ESA if it has been previously changed for other EtherSound applications using an external PC running the Auvitrans ES Monitor or similar software. This automatically reboots the iLive system, reconfiguring (restoring) the current I/O setting assignments.

Set the system audio clock source to Internal, ESB or DARS sync input.

Note: Refer to the iLive System Reference Guide for more information on EtherSound and how to configure it.

Refer to the diagrams later in this guide for applications using EtherSound



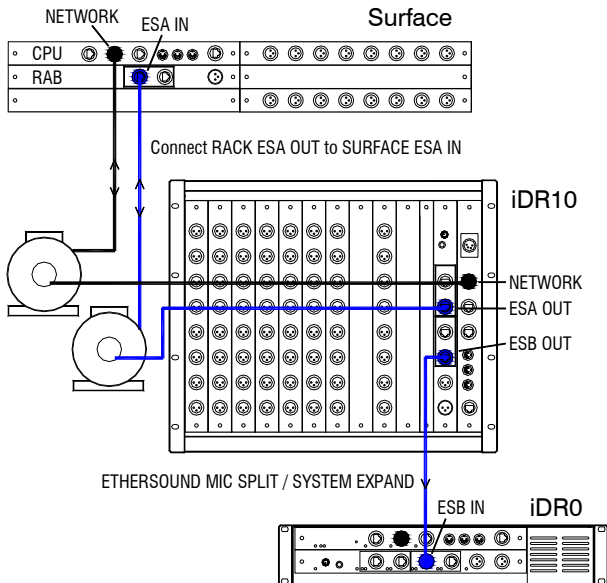
Setting the ESB Configuration (Surface TouchScreen MIXRACK / Mixer Pref / Audio Sync)
 This screen lets you configure the iDR10 to be the ESB master or slave. If you are using ESB to provide audio to another system then set it as MASTER. If you are receiving the channel audio from another system then set it as MASTER/SLAVE.

ES IN and OUT - Plug a single CAT5 cable to connect audio between EtherSound equipped devices. Plug into the OUT socket on whichever device is the audio clock master or is in the chain nearest to it. Plug into the IN socket on the slave device. For example, plug iDR10 ESA OUT to Surface ESA IN.

Correct EtherSound data traffic is indicated by the steady flashing of both the RX and TX LEDs. If neither or just one is flashing then check for correct connection or a cable fault. The ES connection is made as soon as the cable is plugged in.

Note: Only one cable is required to connect the audio to and from the remote device. Connect OUT on the master device to IN on the slave device. This refers to the clock master, not audio direction. Do not connect OUT to IN and IN to OUT using two cables.

DARS IN and OUT - This lets you synchronize the iDR10 audio clock to an external device, or synchronize the external device to the iDR10 audio clock using the AES Digital Audio Reference System.



Module options - 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 iDR10, for example an iLive Surface and a laptop running the iLive application 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.

Note: When using firmware versions up to V1.2, disconnection of the network cable or loss of network connection requires a Surface reboot.

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 10 seconds while the rack boots. Default settings are:

IP address 192.168.1.1
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. For more information refer to the iLive Reference Guide and firmware version release notes.

PL-Anet - Proprietary RS485 based control port for connecting Allen & Heath PL Series remote controllers such as wall plates, GPIO and fader/encoder panels. For more information refer to the iLive Reference Guide, PL Series guides and firmware release notes.

Using the iDR10

There are several ways the **iDR10** can be used within an iLive system. It is one of many component options that may be configured to satisfy a host of demanding audio mixing applications. We recommend that you visit the Allen & Heath web site for information on the full range of iLive components available. You can also download additional application drawings which illustrate the versatility of iLive in satisfying many basic and advanced applications.

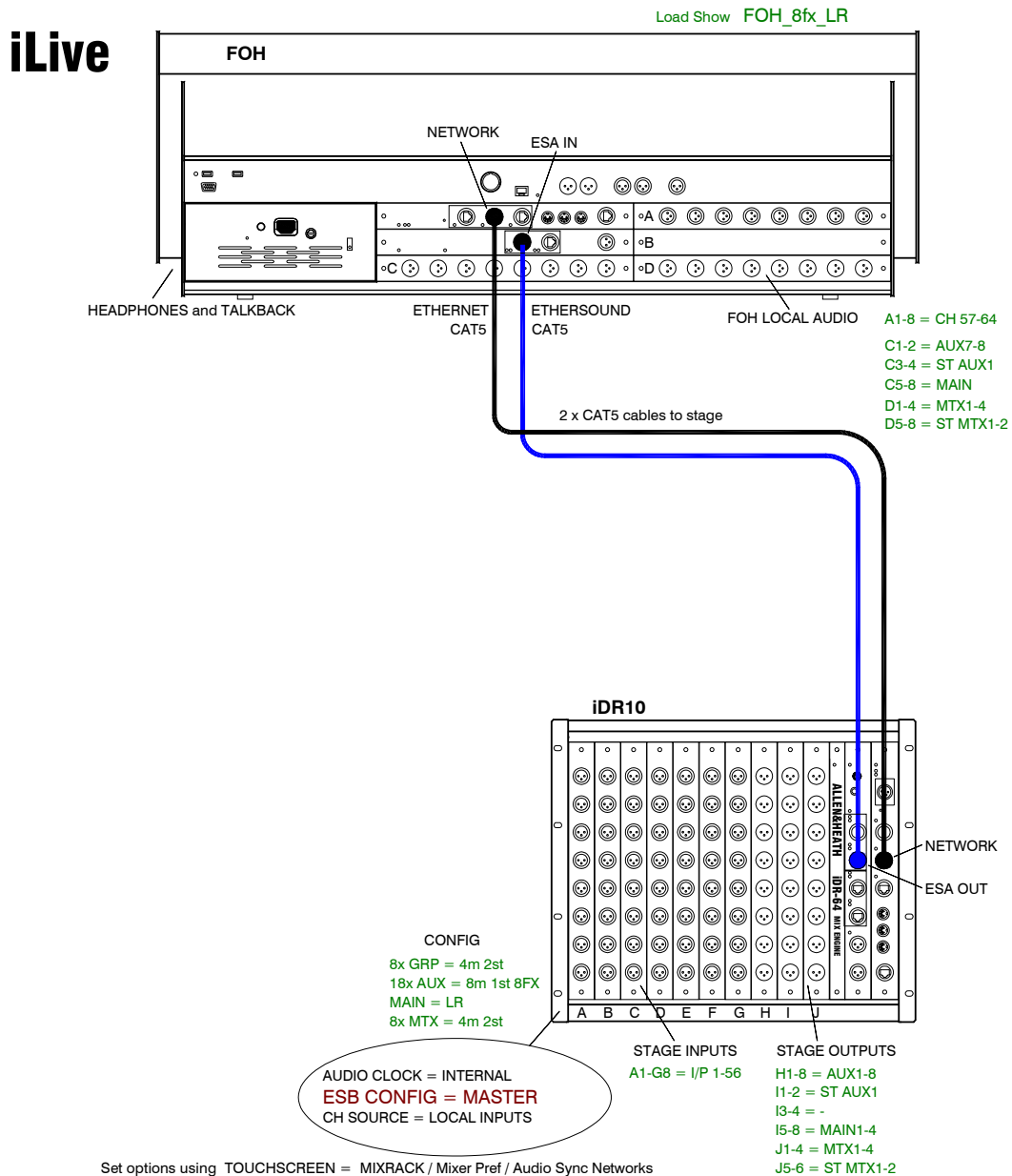
Refer also to the **iLive** Getting Started Guide AP7260 and the iLive System Reference Guide AP6526. Further information on the latest features is available in the Release Notes which come with each firmware release. Check our web site to download the latest version of iLive firmware.

The following pages illustrate some of the **iDR10** applications. They are based on preconfigured 'template' Show memories which can be recalled from the Surface UTILITY / Configuration / Show Manager screen. They give you a good starting point by configuring a recognisable classic architecture and surface layout. You can edit these and name and store your customised configurations as User Shows.

APPLICATION EXAMPLE - STANDARD SINGLE RACK SYSTEM

1

64 inputs, 32 mixes, 8 effects.

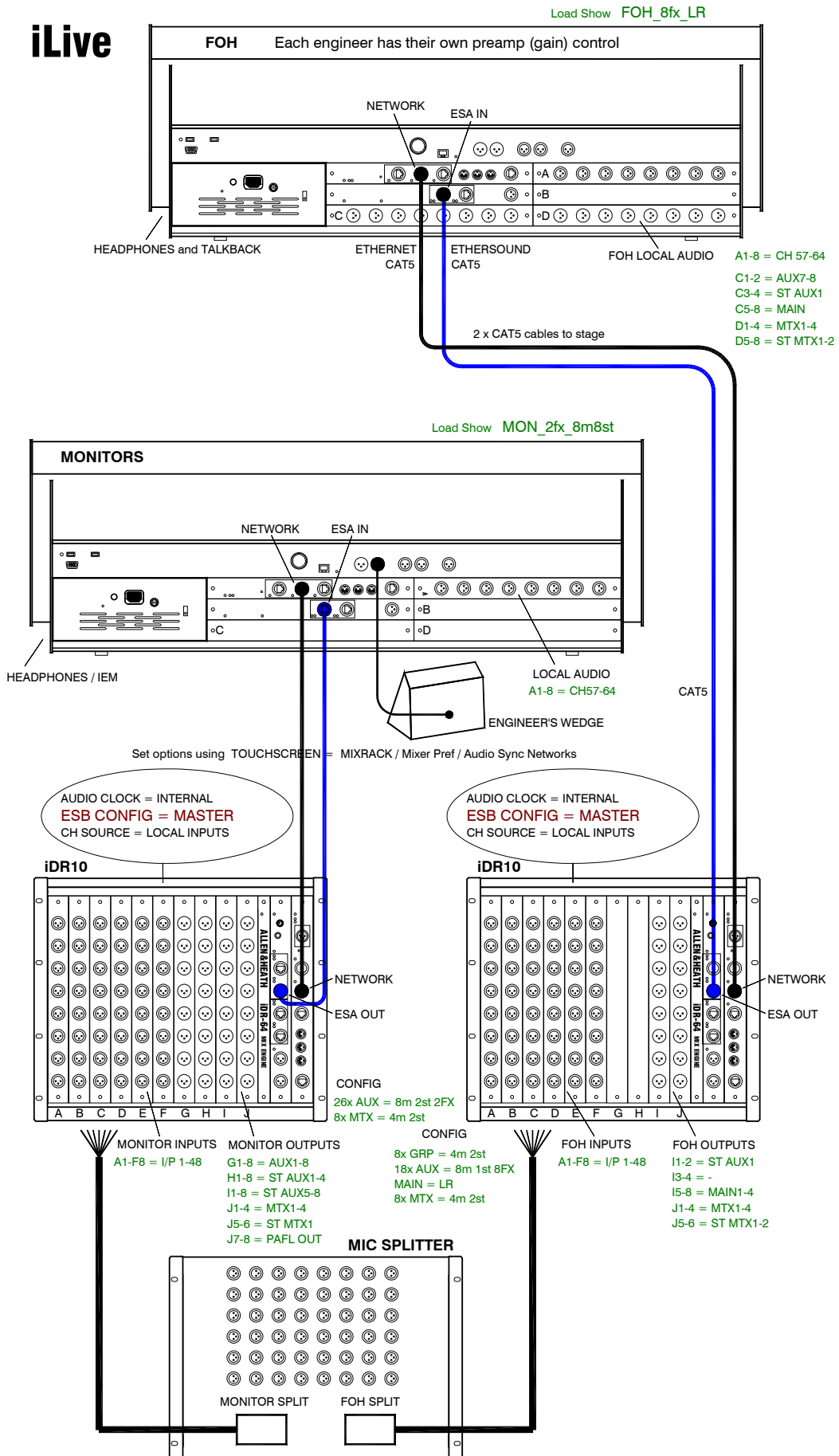


APPLICATION EXAMPLE - FOH / MONITOR (Analogue mic splitter)

2

56 inputs FOH, 48 way split. Each engineer has gain control.

iLive

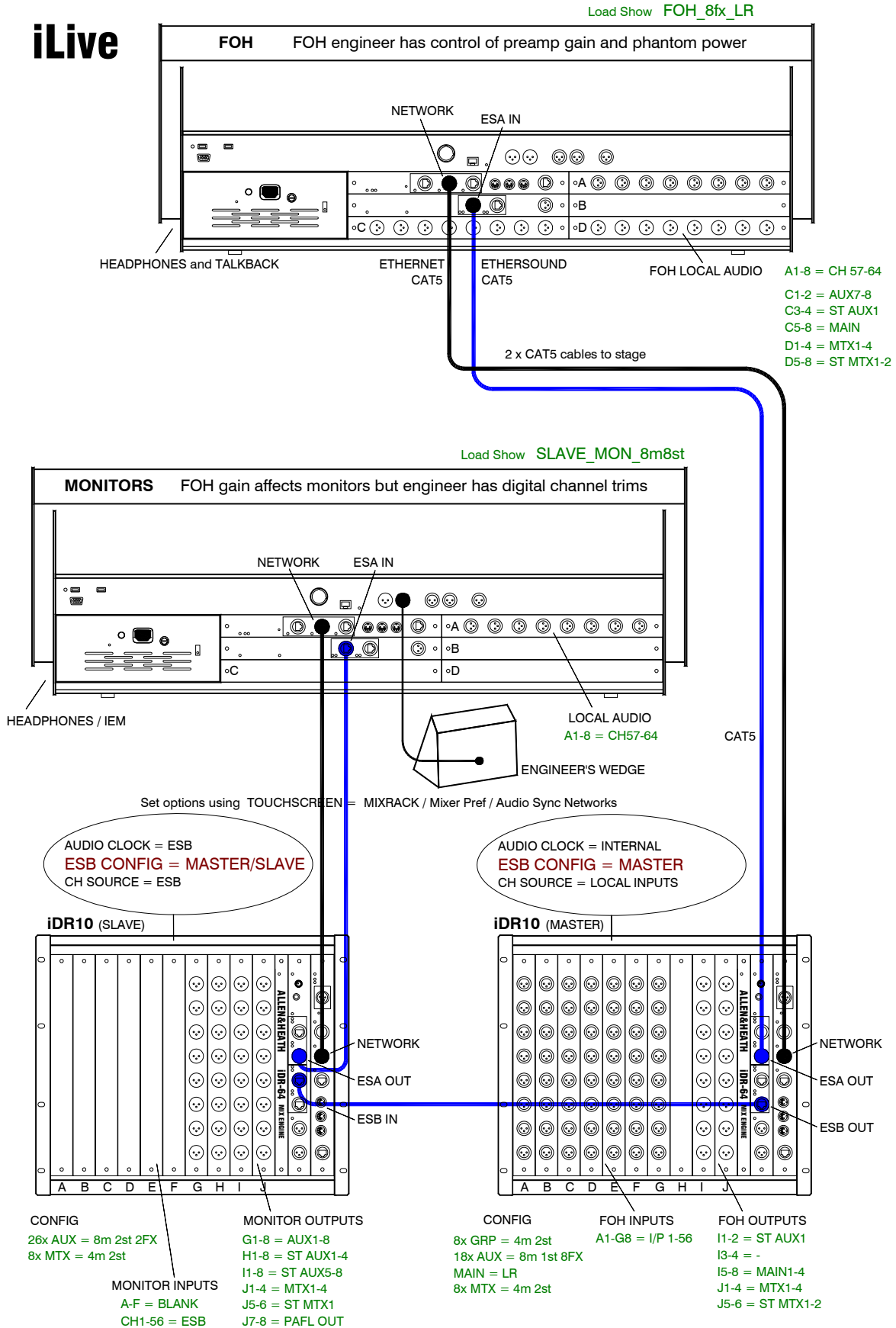


APPLICATION EXAMPLE - FOH / MONITOR (Digital mic splitter)

3

56 inputs FOH, 48 way split. One engineer has gain control affecting both.

iLive



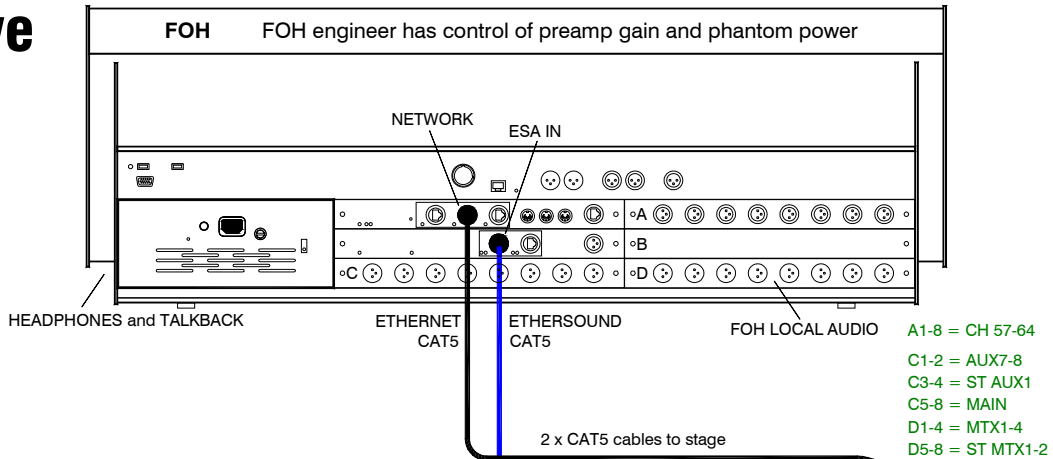
APPLICATION EXAMPLE - FOH / MONITOR (Digital mic splitter. No ESA at Monitor)

4

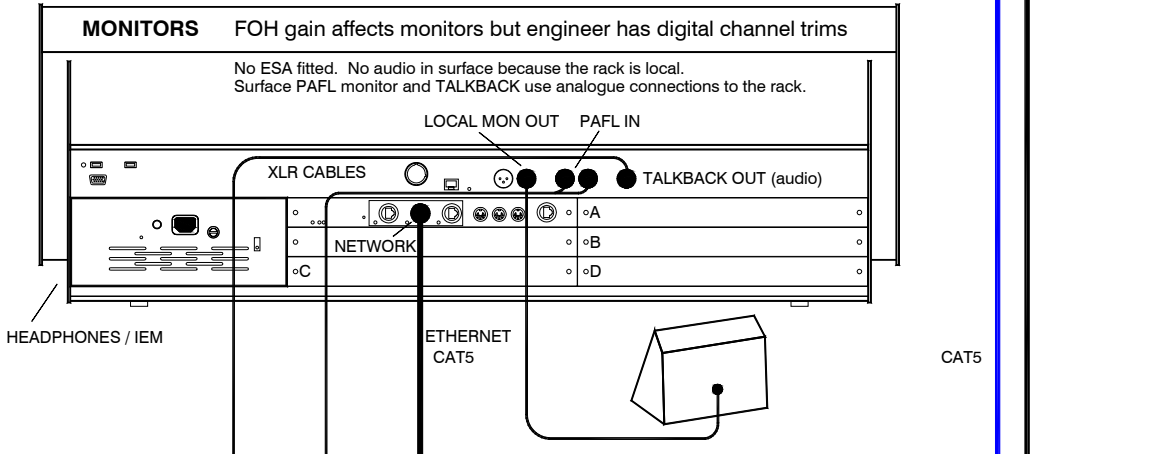
48 inputs FOH, 40 way split. One engineer has gain control affecting both.

iLive

Load Show FOH_8fx_LR

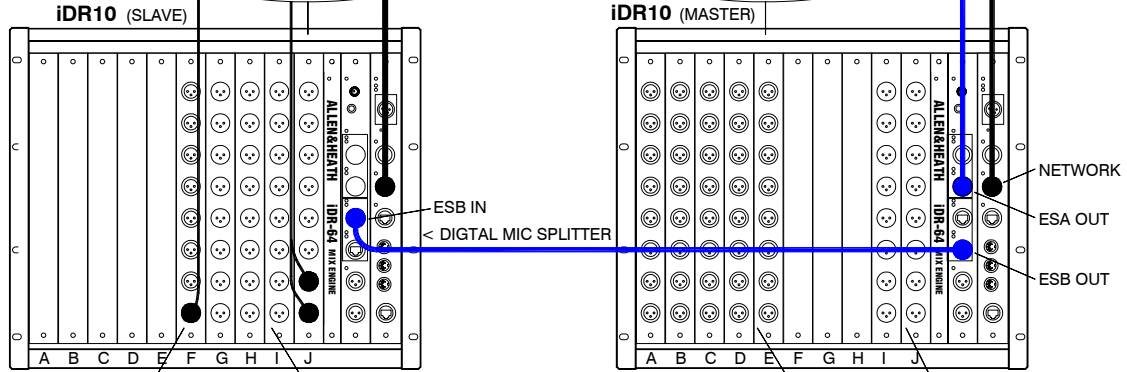


Load Show SLAVE_MON_8m8st



AUDIO CLOCK = ESB
ESB CONFIG = MASTER/SLAVE
 CH SOURCE = ESB

AUDIO CLOCK = INTERNAL
ESB CONFIG = MASTER
 CH SOURCE = LOCAL INPUTS



LOCAL INPUTS
 F1-F8 = I/P 41-48
 TB uses INPUT 48

MONITOR SENDS
 G1-8 = AUX1-8
 H1-8 = ST AUX1-4
 I1-8 = ST AUX5-8
 J1-4 = MTX1-4
 J5-6 = ST MTX1
 J7-8 = PAFL OUT

CONFIG
 8x GRP = 4m 2st
 18x AUX = 8m 1st 8FX
 MAIN = LR
 8x MTX = 4m 2st

FOH INPUTS
 A1-E8 = I/P 1-40

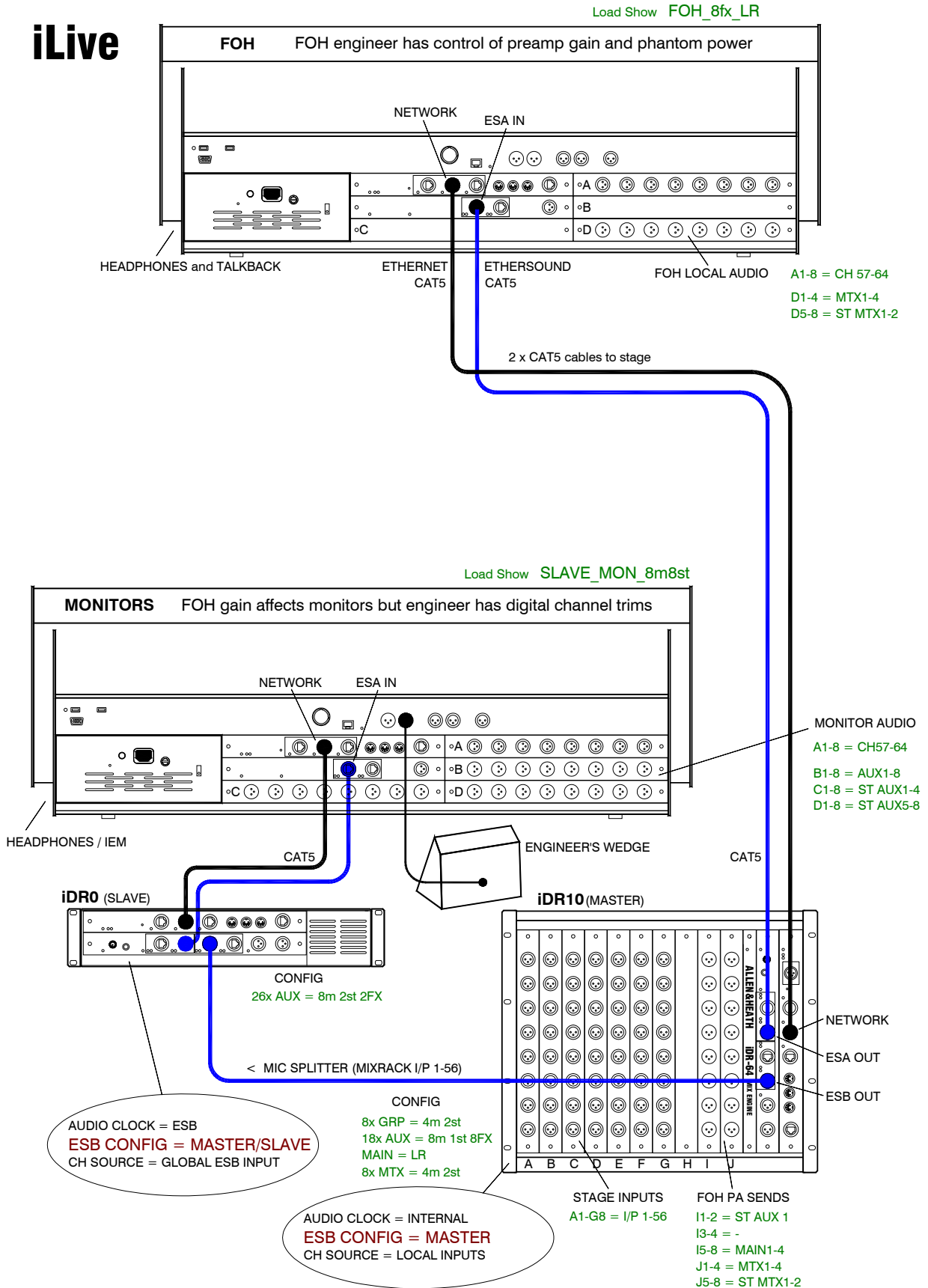
FOH OUTPUTS
 I1-2 = ST AUX1
 I3-4 = -
 I5-8 = MAIN1-4
 J1-4 = MTX1-4
 J5-6 = ST MTX1-2

APPLICATION EXAMPLE - FOH / MONITOR (iDR0 at Monitors)

6

64 inputs FOH, 56 way split. FOH engineer has gain control.

iLive



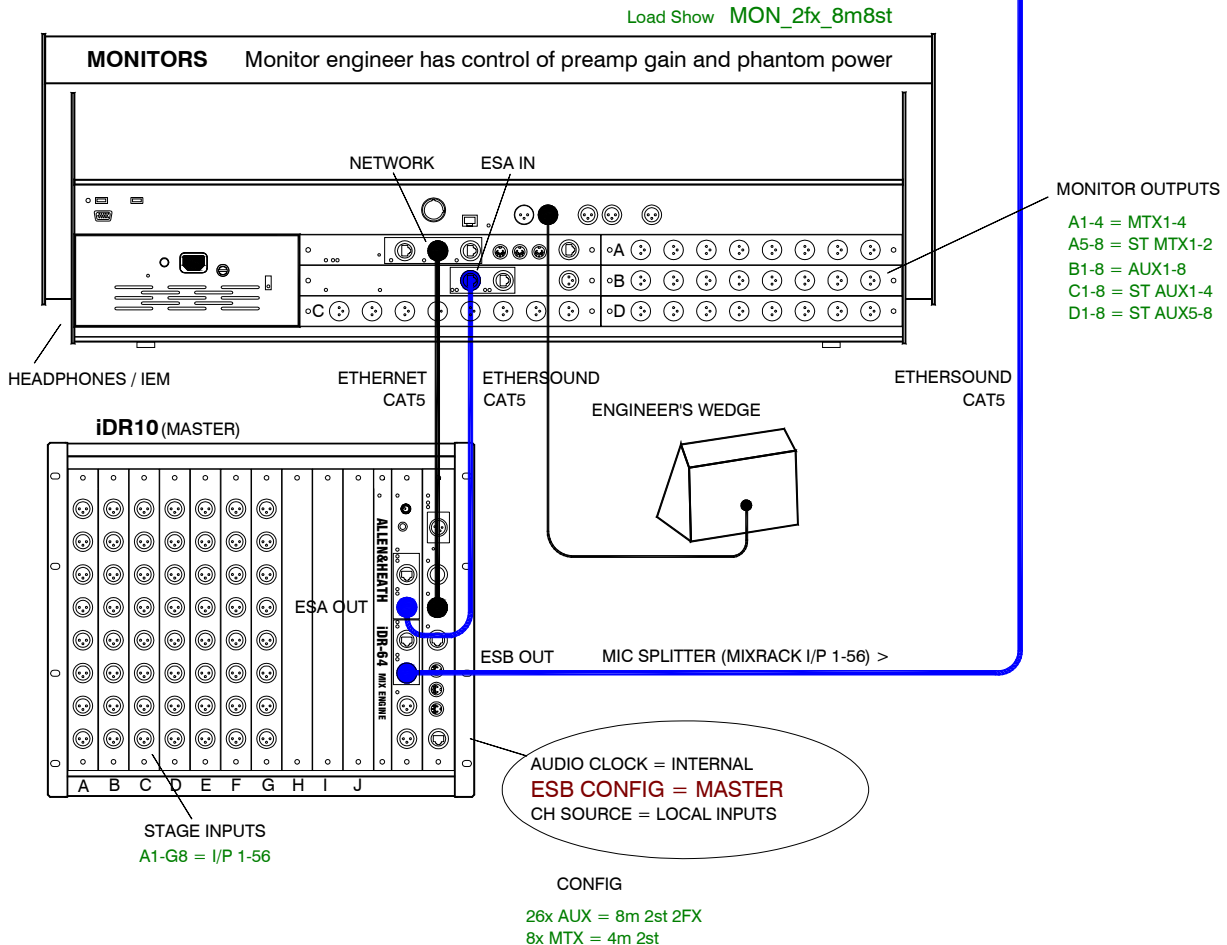
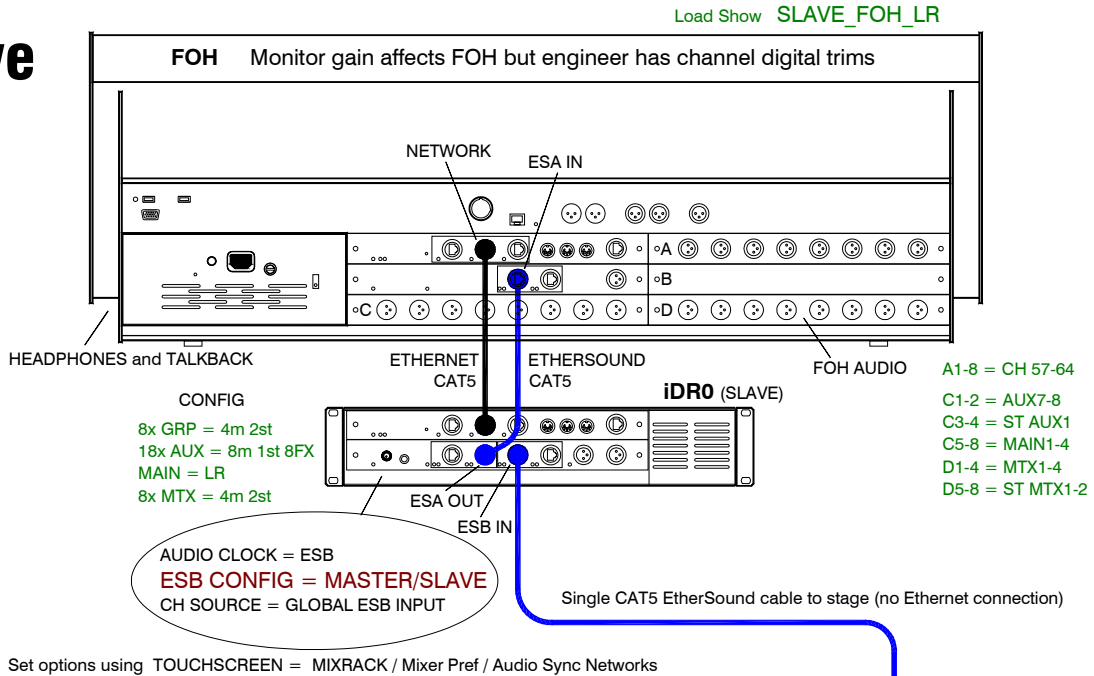
Set options using TOUCHSCREEN = MIXRACK / Mixer Pref / Audio Sync Networks

APPLICATION EXAMPLE - FOH / MONITOR (iDR0 at FOH)

7

64 inputs FOH, 56 way split. Monitor engineer has gain control.

iLive



APPLICATION EXAMPLE - FOH / MONITOR (iDR0 at FOH, No ESA on Monitor)

8

56 inputs FOH, 48 way split. No ESA on monitor system. Monitor engineer has gain control.

iLive

