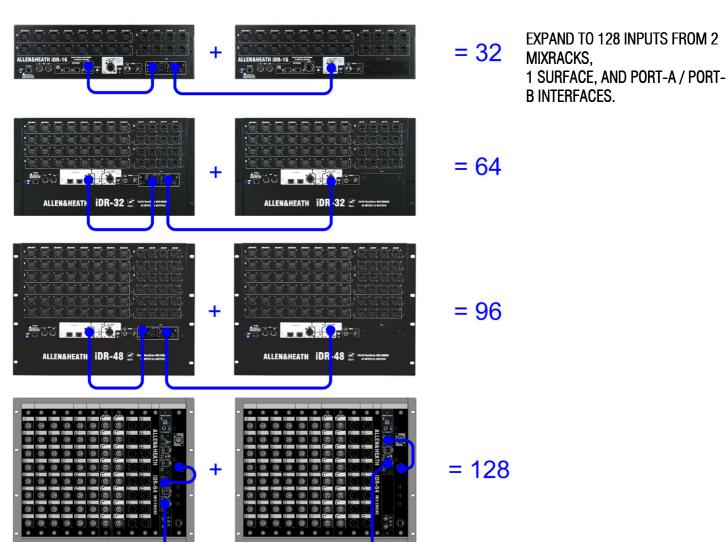## UNDERSTANDING 'DUAL-RACK' MODE

'Dual-Rack' is a special setup mode for two iDR MixRacks. It is to expand the number of input channels of an iLive system from 64 channels to 128, mixing to 32 mixes. Any two MixRacks from the iDR family can be combined in this way, the system can then run 'stand-alone, be controlled by Editor software on the network, PL remote controllers, and any iLive surface.

All parts of the system must be running V1.63 firmware or greater to setup 'Dual-Rack' mode.

= 32

EXPAND TO 128 INPUTS FROM 2 MIXRACKS, 1 SURFACE, AND PORT-A / PORT-B INTERFACES.

= 64

= 96

= 128

How does it work?

Each MixRack has its DSP processing, 64 inputs x 32 mixes.

The units must be given unique names and IP addressing, this normally involves changing at least one of the MixRacks before they are connected together on the network and setup using a utility on the iLive Surface Touch-Screen, or Editor software on a computer. The system is inspected for suitability (IP addressing, firmware versions, naming, digital I/O bridge compatibility), and then a 'Master' and 'Slave' status is created in the two MixRacks, The Master being the one which may be connected to an iLive Surface and will have its audio bridge for Surface I/O, PAFL & TB interconnection via port-A. The Master MixRack must also have a digital bridge for the 32 mixes from the Slave to the Master. This connection is between Port-B of the Master to Port-A of the Slave, any format of iLive interface option can be used (currently EtherSound, MADI, or ACE) but if the Slave MixRack is one of the fixed format types iDR-16, iDR-32, iDR-48, or iDR-64, then the link has to be ACE as port-A is fixed ACE in these units. The setup automatically configures the Slave MixRack to have the same mix bus architecture as the Master, and allocates these to appropriate channels of this Port-B~Port-A link. A large system of 128 input channels is created and these can be patched to physical inputs using the iLive Surface Touch-Screen or Editor interface. Channels 1-64 can select from the Master MixRack inputs, Surface inputs, FX, or Port-A & B free channels as sources. Channels 65 and up can select only from the Slave MixRack inputs. The Master MixRack 8 FX engines become the system FX, the FX on the Slave DSP are redundant. N.B. FX can only be inserted into input channels 1-64, Slave MixRack inputs cannot source the Master 8 FX engines as insert points.

Outputs on the Master MixRack and Surface can be assigned directly from the Outputs menu on the Touch-Screen / Editor, signals can be sent via the Master Port-B link to the Slave MixRack, and then patched as sources from the Port-A tab of the Slave MixRack Outputs GUI. This way the XLR outs of the Slave MixRack can provide alternative locations for system outputs if required. NB if the Slave MixRack is an iDR10 modular system with the CHK and MUTE LEDS, then these indicators would not function in this mode.
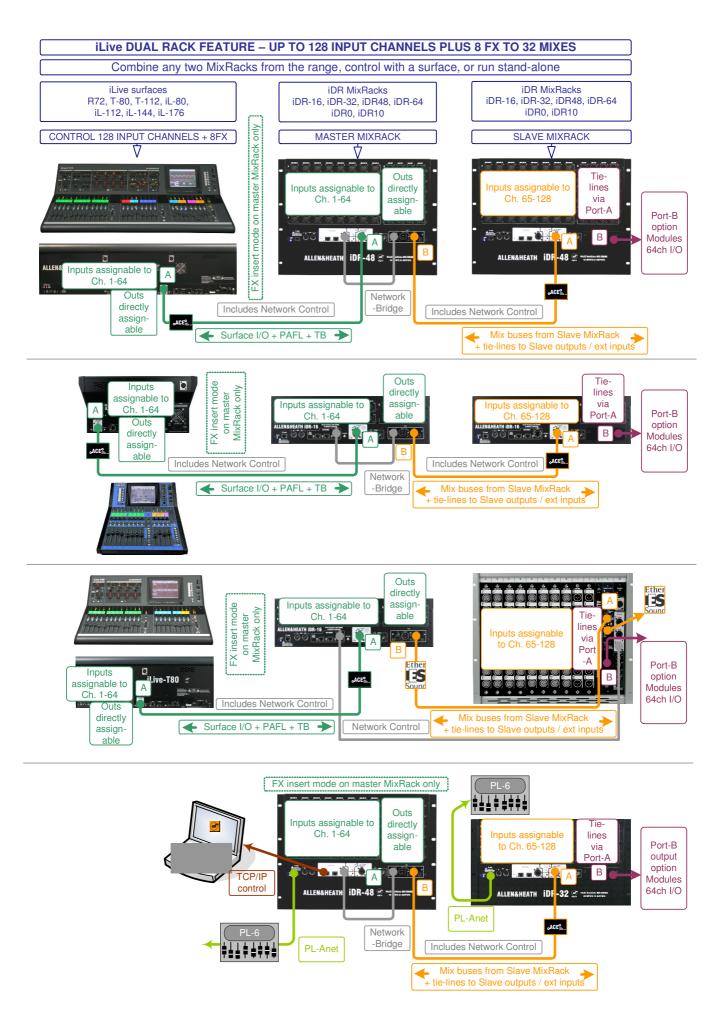
iLive DUAL RACK FEATURE – UP TO 128 INPUT CHANNELS PLUS 8 FX TO 32 MIXES

Combine any two MixRacks from the range, control with a surface, or run stand-alone

iLive surfaces
R72, T-80, T-112, iL-80,
iL-112, iL-144, iL-176

iDR MixRacks
iDR-16, iDR-32, iDR48, iDR-64
iDR0, iDR10

iDR MixRacks
iDR-16, iDR-32, iDR48, iDR-64
iDR0, iDR10

CONTROL 128 INPUT CHANNELS + 8FX

MASTER MIXRACK

SLAVE MIXRACK

FX insert mode on master MixRack only

Inputs assignable to Ch. 1-64

Outs directly assignable

Inputs assignable to Ch. 65-128

Tie-lines via Port-A

Port-B option Modules 64ch I/O

ALLEN&HEATH iDR-48

ALLEN&HEATH iDR-48

Inputs assignable to Ch. 1-64

Outs directly assign-able

A

B

A

B

Network-Bridge

Includes Network Control

Includes Network Control

◄ Surface I/O + PAFL + TB ►

◄ Mix buses from Slave MixRack + tie-lines to Slave outputs / ext inputs

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Inputs assignable to Ch. 1-64

Outs directly assign-able

FX insert mode on master MixRack only

Outs directly assignable

Inputs assignable to Ch. 1-64

Inputs assignable to Ch. 65-128

Tie-lines via Port-A

Port-B option Modules 64ch I/O

ALLEN&HEATH iDR-16

ALLEN&HEATH iDR-16

A

A

B

A

B

Includes Network Control

Includes Network Control

Network-Bridge

◄ Surface I/O + PAFL + TB ►

◄ Mix buses from Slave MixRack + tie-lines to Slave outputs / ext inputs

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FX insert mode on master MixRack only

Inputs assignable to Ch. 1-64

Outs directly assignable

EtherSound

Inputs assignable to Ch. 65-128

Tie-lines via Port-A

Port-B option Modules 64ch I/O

ALLEN&HEATH iDR-16

iLive-T80

Inputs assignable to Ch. 1-64

Outs directly assign-able

A

A

B

A

B

EtherSound

Includes Network Control

Network Control

◄ Surface I/O + PAFL + TB ►

◄ Mix buses from Slave MixRack + tie-lines to Slave outputs / ext inputs

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FX insert mode on master MixRack only

PL-6

Inputs assignable to Ch. 1-64

Outs directly assign-able

Inputs assignable to Ch. 65-128

Tie-lines via Port-A

Port-B output option Modules 64ch I/O

ALLEN&HEATH iDR-48

ALLEN&HEATH iDR-32

TCP/IP control

A

B

A

B

PL-Anet

PL-6

PL-Anet

Network-Bridge

Includes Network Control

◄ Mix buses from Slave MixRack + tie-lines to Slave outputs / ext inputs

Applications

1) Expand the input capacity of an iLive system; take two hard-working iDR MixRacks from your hire inventory and combine them to make a large channel count system for a festival PA system. Operate with a choice of mixing surfaces from 12 faders (72 channels strips) to 44 faders (176 channels strips).

2) Inputs needed in two locations e.g. stage-left and stage-right, simply connected by 1 cat5 cable (if using ACE link).

3) Break-out / in at console position; an iDR-16 MixRack could be located next to an iLive-T or R Surface to provide XLR mic inputs, XLR outputs to a drive rack and insert send and return points for external equipment. If the Master~Slave link is done using MADI or EtherSound (e.g. the Slave MixRack on stage is an iDR10 with 64 XLR Mic inputs). Then the 64-channel recording device can be located next to the Surface for convenience.

DUAL-RACK FAQ

Q: Which units from the iLive range can I use in Dual-Rack mode?
A: All MixRacks providing they are at firmware version 1.63 or greater and that the Port-B expansion slot on the MixRack designated to be the Master should have a compatible option interface fitted to connect with Port-A of the MixRack designated as the Slave.

Q: What format do I use for the audio bridge between the Master and Slave MixRacks?
A: Any of the iLive interface options can be used: If the Slave MixRack is a fixed format iDR then the link has to be ACE and signal routing is automatically configured. If a modular iDR is used, then the link could be EtherSound or MADI and additional signal routing possibilities would be available. Accordingly, routing options should be manually configured to ensure the 32 mix busses run from Slave to Master on lines 1-32.

Q: How far can the MixRacks be located apart from each other?
A: This depends on the format of the interconnect between Master Port-B and Slave Port-A (typically using EtherSound or ACE this could be -120m depending on cable type, M-MADI coax cables can be 150m). Bear in mind that the Slave MixRack needs to be on the same LAN as the Master MixRack (and Surface if present) so a direct cable connection should be no longer than 100m to an appropriate network socket.

Q: Can I have more than 128 input sockets in a Dual-Rack system?
A: Yes but at any one time (perhaps controlled by Scene Manager), the maximum physical inputs to each MixRack's input channels is 64. Of course additional input sockets can be assigned to be insert returns or bus external input, Talkback etc.

Q: Each MixRack DSP has 8 FX engines, can the Slave rack's FX be used in Dual-Rack mode?
A: Not at the current time. The Master MixRack's 8 FX become the system FX; all 128 inputs from both MixRacks can access the FX input send mix. However inserting FX on input channels can only be done with the Master MixRack channels 1-64.

Q: In Dual-Rack mode do I still have USB data?
A: Yes library items are compatible. Show files are saved with the data from both Master and Slave MixRack settings and can be recalled into another Dual-Rack iLive setup in future. If the file is recalled into a single MixRack system then only the settings from the Master of the Dual-Rack setup file will be used. If this is subsequently overwritten from a single MixRack system then the original Slave rack data will be lost.

Q: Is the Master and Slave status of the MixRacks retained if they are separated after a Dual-Rack setup?
A: Yes; the Master would prompt for a connection to the known Slave unit, if not available then it would work as a single iLive system. The Slave MixRack would remain in Slave status and should be connected to and 'de-selected' by another MixRack before it can go out as a single MixRack Master again.

Q: Can I use the outputs on the Slave MixRack?
A: Yes but you cannot assign to them directly from the touch-Screen or Editor OUTPUTS page of the Master: if you require signals to be outputted from the Slave rack XLRs (or Port-B interface such as M-MMO which has 56 channels across ADAT, iDR 8-bus, & Aviom formats), first assign the signals to Master port-A channels, from that tab on the OUTPUTS menu for the Master rack, then on the OUTPUTS tab for the Slave MixRack , assign the relevant Port-B channels (tie-lines) to the desired XLR or interface. NB if the Slave MixRack is a modular iLive with CHK and MUTE leds for each output, these indicators would not function in this mode.

Q: Can a Dual-Rack system be split digitally to another Dual-Rack system for example for FOH-Monitors applications?
A: Not at the current time. Limiting factor is the Port-A and Port-B interfaces which are 64 channels. 32 channels are used for Slave to Master mix bus transport. A limited split of any 64 of the available 128 channels could be achieved using the Slave Port-B option, so critical input channels plus a 'sub-mix' of other channels may be sent to another system. If the Dual-Rack buss link is done by MADI for example (modular iLive systems) then 32 additional channels from the Port-A transport could be sent to the other system, as M-MADI card have input streaming options. *[this setup is theoretical and has to be tested and proven by A&H]*

Q: Where can I find information on iLive, iLive-T and system setups such as 'Dual-Rack'?
A: iLive website = http://www.ilive-digital.com
         iLive-T website = http://www.ilive-digital.com/T
         Knowledgebase / Support = http://allen-heath.helpserve.com/