A16.D16, A32 and D64

Network I/O

User Guide

Revision: 1.0

Solid State Logic

OXFORD • ENGLAND

Solid State Logic

OXFORD • ENGLAND

Visit SSL at:
www.solidstatelogic.com

© Solid State Logic

Document Revision History

FIRST VERSION	Revision 1.0	7th September 2018

Table of Contents

Introduction

Overview
A16.D16, A32 and D64 are 2U Dante I/O devices featuring high-density combinations of SuperAnalogue™, AES3 and GPIO connections. All analogue audio, AES audio and GPIO connectors are 25-pin D-type. These units can all be controlled remotely from SSL System T and SSL's Network I/O Controller app for PC.

A16.D16 is a 32-input and 32-output Dante I/O device featuring 4 SuperAnalogue mic/line inputs, 12 SuperAnalogue line inputs, 8 AES3 inputs, 16 SuperAnalogue line outputs, 8 AES3 outputs and 4 GPIO connections.

A32 is a 32-input and 32-output Dante I/O device featuring 32 SuperAnalogue line inputs and 32 SuperAnalogue line outputs.

D64 is a 64-input and 64-output Dante I/O device featuring 32 AES3 inputs and 32 AES3 outputs.

These units are ideally suited for bulk analogue and AES I/O connections from control or machine rooms, featuring a high-density combination of analogue and digital inputs and outputs, GPIO, redundant power and network connections.

Key Features
- Interface between control/machine room analogue/AES connections and IP audio networks using Dante and AES67
- Redundant PSUs and Dante network connections
- SSL SuperAnalogue technology[1]
- Device and parameter ownership assignment to avoid control conflicts
- Front facing Dante network connections
- Rear facing audio and GPIO connections
- Silent operation - no cooling fans

A16.D16 Front Panel
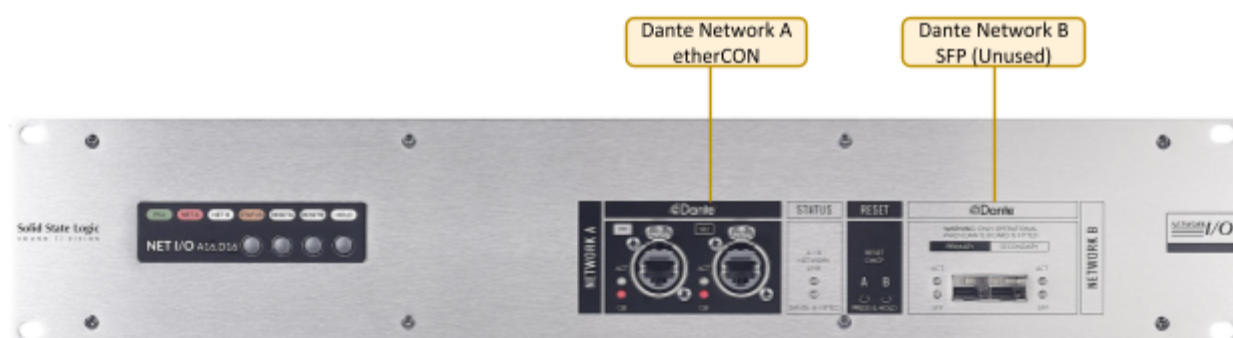
A16.D16 Rear Panel

---
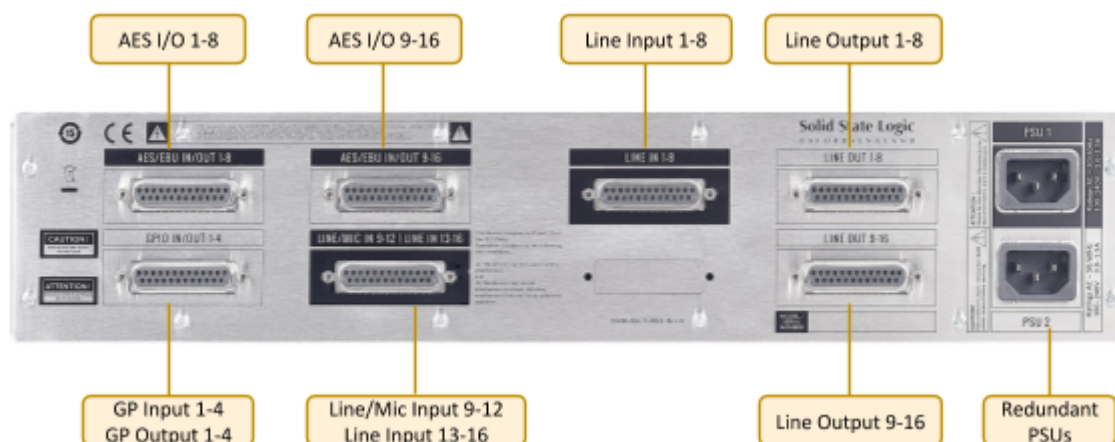
[1] *A16.D16 and A32 only*

A32 Front Panel

Dante Network A etherCON

Dante Network B SFP (Unused)

A32 Rear Panel

Line Input 1-8

Line Output 1-8

Line Input 9-16

Line Output 9-16

Line Input 17-24

Line Output 17-24

Line Input 25-32

Line Output 25-32

Redundant PSUs

D64 Front Panel

Dante Network A etherCON

Dante Network B SFP (Unused)

D64 Rear Panel

AES I/O 1-8

AES I/O 9-16

AES I/O 17-24

AES I/O 25-32

AES I/O 33-40

AES I/O 41-48

AES I/O 49-56

AES I/O 57-64

Redundant PSUs
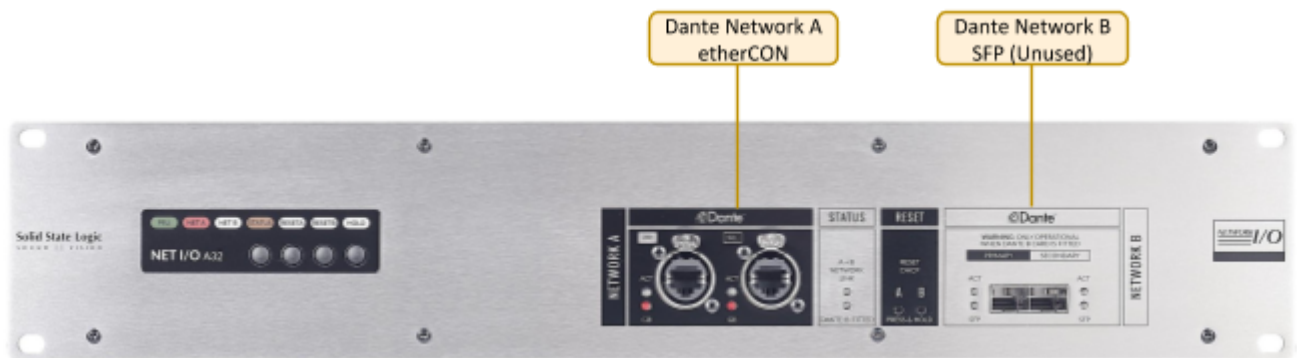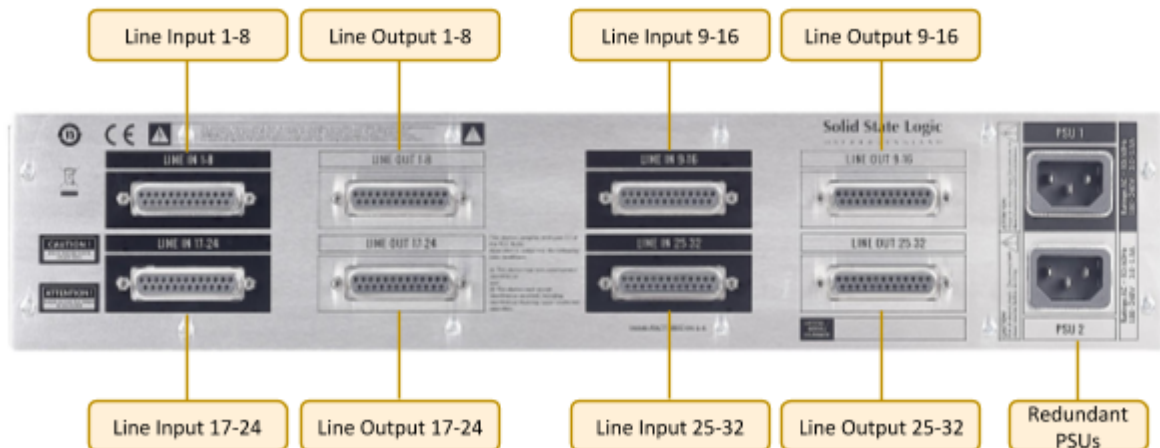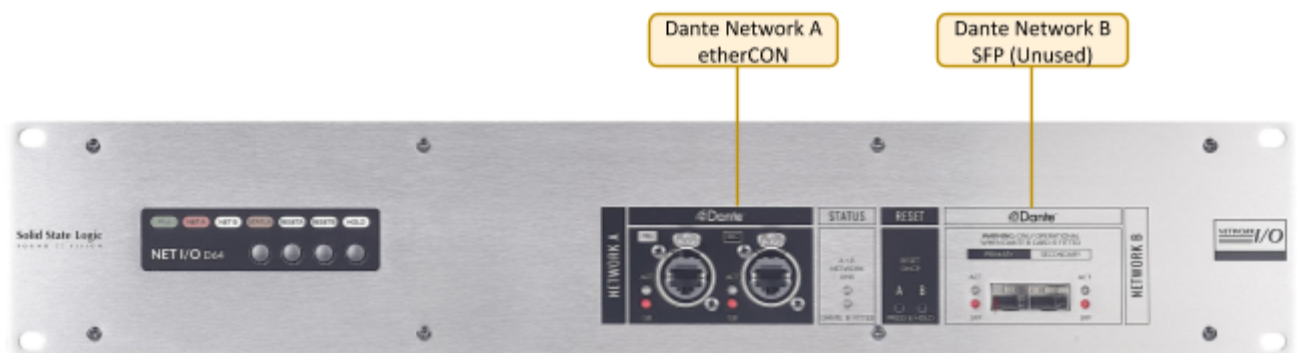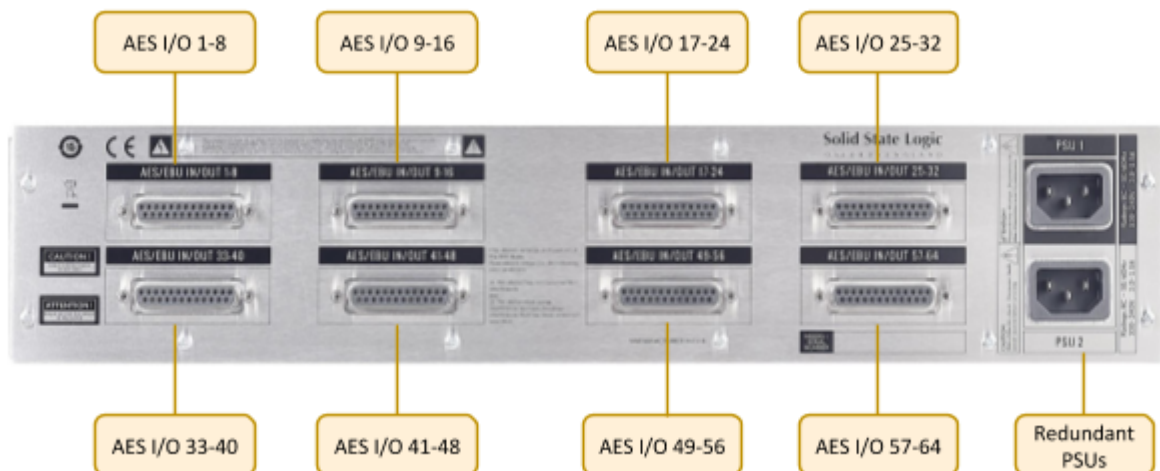
Status LEDs and User Buttons

Green - normal operation, both power supplies active

Red (solid) - primary power supply inactive

Red (flashing) - secondary power supply inactive

Off - normal operation

Orange - indicates a fault has occurred, refer to the setup information window

If **RESET A** is pressed for 6 seconds then the primary Dante network connection will reset to use DHCP - the **RESET A** LED will briefly light yellow then the unit must be rebooted

If **RESET A** and **HOLD** are pressed for 6 seconds this will perform a device reset - the **RESET A** LED will flash twice then the unit must be rebooted

PSU　　NET A　　NET B　　STATUS　　RESETA　　RESETB　　HOLD

NET I/O A16.D16

Green - Dante primary and secondary network connection active

Red (solid) - Dante primary network connection fault

Red (flashing) - Dante secondary network connection fault

Not used

Status and Reset

These reset buttons have the same functionality as the front-facing RESET A and RESET B user buttons.

If **RESET A** is held for 6 seconds then the primary Dante network connection will reset to use DHCP - the **RESET A** LED will briefly light yellow then the unit must be rebooted

If **RESET A** and **RESET B** are pressed for 6 seconds this will perform a device reset - once pressed the unit must be rebooted

STATUS LED functionality is currently not enabled

STATUS　　RESET

A + B NETWORK LINK

DANTE B SRC

RESET DHCP

A　　B

PRESS & HOLD

Device Reset

Performing a device reset will clear the SSL device settings. This includes ownership, input and GPIO states. This does not clear Dante Brooklyn card settings.

Brooklyn Reset

Resetting the Dante Brooklyn card to default settings is performed from Dante Controller. Under the 'Device Config' tab for a device select 'Clear Config'. This clears the device name, channel labels, IP address settings, sample rate, latency and existing audio routes. This does not clear SSL Ownership settings.

User and Control Bit Pass-Through (A16.D16 and D64 only)

To enable the pass-through of AES user and control bits the device must be set to **PCM 32 encoding** within Dante Controller. Changing the encoding setting is detailed in the Dante Controller section of this guide.

N.B. *When set to 32-bit encoding the audio remains 24-bit. The additional 8 bits are used to transport the user and control bits from the AES3 signals.*

Hardware Connections

Mains Power Connections

The A16.D16, A32 and D64 include redundant PSUs with IEC C14 inlets. Either supply can individually power the unit. Ideally these should be connected to separate power circuits to provide redundancy of incoming AC power.

Dante Connections
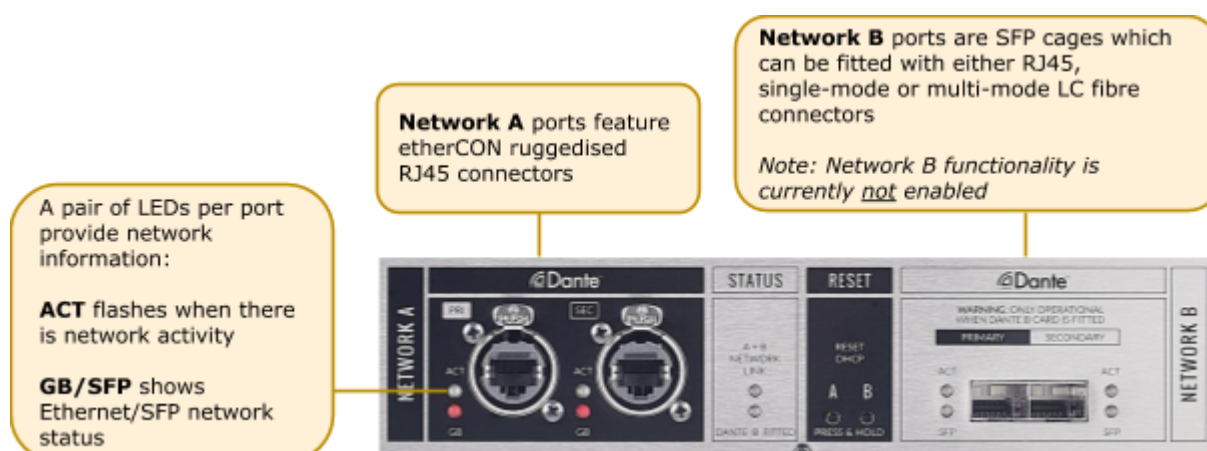
The A16.D16, A32 and D64 have two redundant sets of network connections. The Network B port connectivity is currently not enabled, this requires an additional Dante card which is currently not available.

Audio and GPIO Connections

All audio and GPIO connections are via 25-pin D-type connectors.

See *Appendix B* for pinout information.

SSL Network I/O Controller

Installing Network I/O Controller

When an A16.D16, A32 or D64 is used without an SSL console, configuration and control is achieved using the SSL Network I/O Controller PC application. This can be downloaded from the SSL website as part of the Network I/O Stagebox upgrade package or as a standalone installer.

Locate and run the Network I/O Controller installer and follow the on-screen prompts to install the application.

Network Configuration - PC

Once Network I/O Controller is installed, connect the Windows PC to the same subnet as the Network I/O. The SSL Network I/O Controller application uses the network adapters configured in Dante Controller for communication. Before starting Network I/O Controller first open Dante Controller and select the network adaptors connected to the Dante network. 'Use shared Dante interface' must be selected to ensure all applications using the Dante network use the correct adaptors. Subsequent changes to network settings may require Network I/O Controller to be restarted.
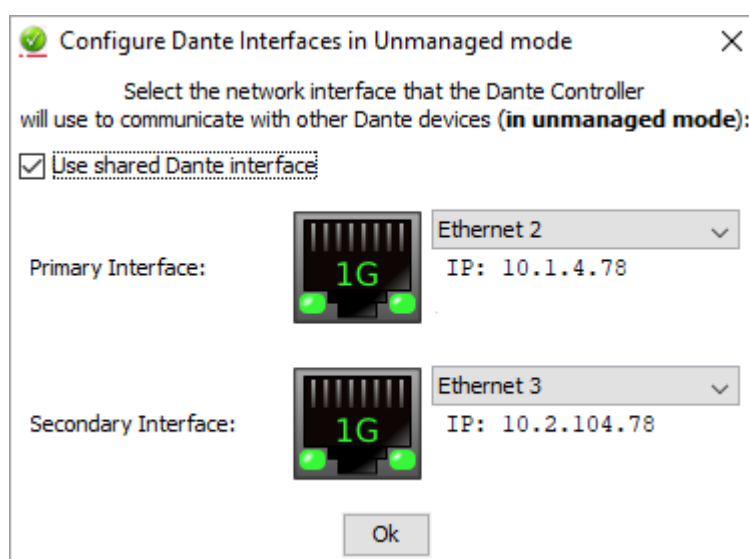
TCP/IP is used to communicate with the unit, so check Windows firewall settings if communications are not working.

Set the computer to 'Never Sleep' to maintain communication.

Network Configuration - Device

Unless shipped as part of a preconfigured system, Network I/O units are set to obtain an IP address automatically.

If the IP settings need to be changed to a fixed address – to match the network environment in which the unit is to be installed – this can be achieved using the Dante Controller application.

Remember that the computer's network adapter configuration will also need to be updated to match the Network I/O.

For additional information see the Dante Controller section.

The GUI

The application window is divided into six sections:

Input meters are shown for every analogue input. The **D64** is displayed as a narrow device with no input metering.

Network View shows each SSL device on the Dante network. Clicking a device brings its parameters into the **Detail View**. Large arrows on the far left and right scroll for more devices.

Detail View shows channel details for the selected device. Large arrows on the far left and right scroll for more channels.

Focus View shows an expanded view of the selected channel.

GPIO View shows the active status for each GPI and GPO.

Page Select selects the detail view to show inputs, outputs, or setup options for each device.

Navigation switches the in-focus channel and allows for fine gain adjustment. These arrows are also mapped to your physical PC keyboard.

Network View

Device Name is set by the Dante Controller application.

Selected device is highlighted with a cyan background.

A **Red Highlight** indicates a device that requires operator action:
- A flashing red background indicates a device with a clipping audio channel
- A solid red border highlights a device with an active Attention flag

If the device requiring attention is not already visible in the Network View window, then the appropriate large scroll arrow will show red to direct you to the appropriate device.

Att and **Mute** tallies show the status of these functions for every stagebox channel.

The **Level Meter** shows the real-time signal level for all analogue input channels. A red clipping indicator is also provided.

Greyed out devices marked **Offline** are 'known' to the network but uncontactable, typically switched off.

PSU Tallies show the status of PSUs 1 and 2 for each stagebox.

Inputs/Outputs

Select the Inputs, Outputs or AES I/O tab in the Page Select area to view I/O available on the network.

Analogue Inputs

This applies to the A16.D16 and A32 only.

Control Status shows whether the viewer has control of the input's parameters. Each individual channel has independent ownership.

Rel in cyan indicates that this input is under the control of the viewer. Press and hold to relinquish control.

Take indicates that this input is NOT under the control of the viewer. Press and hold to take control from the owner.

Own indicates that this input is not owned by any controller. Press and hold to take ownership of this input.

Show Gain toggles the fader into the focus view window. Gain can be controlled via mouse, keyboard, or numeric entry.

Channel Info shows all parameters of the channel at a glance.

Focus Window displays the available parameters for the selected channel.

Selected Channel is highlighted in cyan.

Level Meter shows the signal level for the selected channel. A red clipping indicator is also provided.

Fader allows for manual level control via the slider, keyboard arrow keys, or numeric entry by clicking the text Gain Value box.

Fader Level Bar is coloured red on microphone input channels and cyan on line level inputs.

Mute mutes the input or output channel. The mute state is stored in volatile memory on the unit and all channels will reset to unmuted if the unit is repowered.

Mic/Line Inputs (A16.D16 Only)

The following controls are available in the Focus window for A16.D16 inputs 9-12 only:

+48V toggles the mic preamp phantom power. Selecting Line input will turn off phantom power.

Pad toggles the -30 dB mic preamp pad.

Mic/Line toggles the appropriate input gain range and impedance for mic or line level sources.
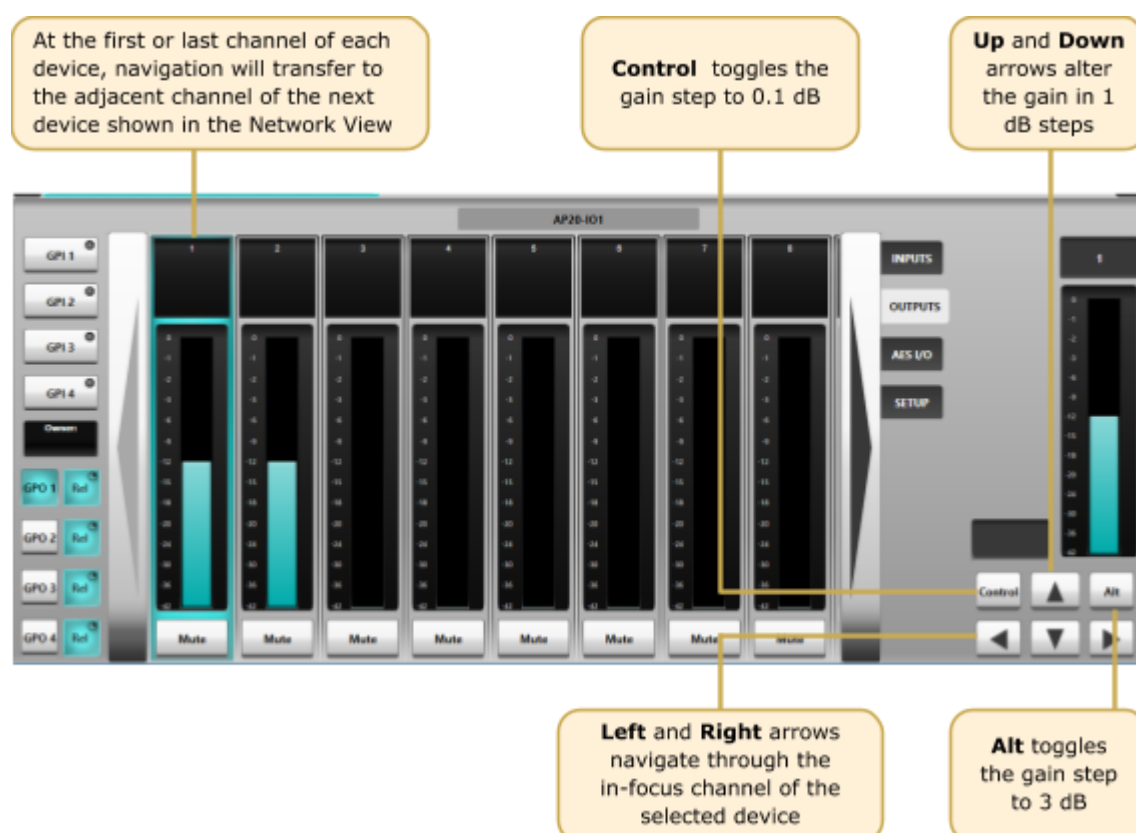
Mic inputs have a gain range of 74dB including the pad. The available range values are dependant on the operating level.

Line level inputs have no adjustable gain, they follow the operating level of the unit.

Analogue Outputs

This applies to the A16.D16 and A32 only.

At the first or last channel of each device, navigation will transfer to the adjacent channel of the next device shown in the Network View

Control toggles the gain step to 0.1 dB

Up and **Down** arrows alter the gain in 1 dB steps

Left and **Right** arrows navigate through the in-focus channel of the selected device

Alt toggles the gain step to 3 dB

The keys and combinations are mapped to the PC keyboard. For example, pressing ALT+UP on the keyboard will increase the gain by 3 dB.

AES I/O

This applies to the A16.D16 and D64 only.

Control Status shows whether the viewer has control of the input's parameters. Each individual channel has independent ownership.

Rel in cyan indicates that this input is under the control of the viewer. Press and hold to relinquish control.

Take indicates that this input is NOT under the control of the viewer. Press and hold to take control from the owner.

Own indicates that this input is not owned by any controller. Press and hold to take ownership of this input.

SRC In enables SRC for the in-focus input channels

Left and **Right** arrows navigate through the in-focus channels of the selected device
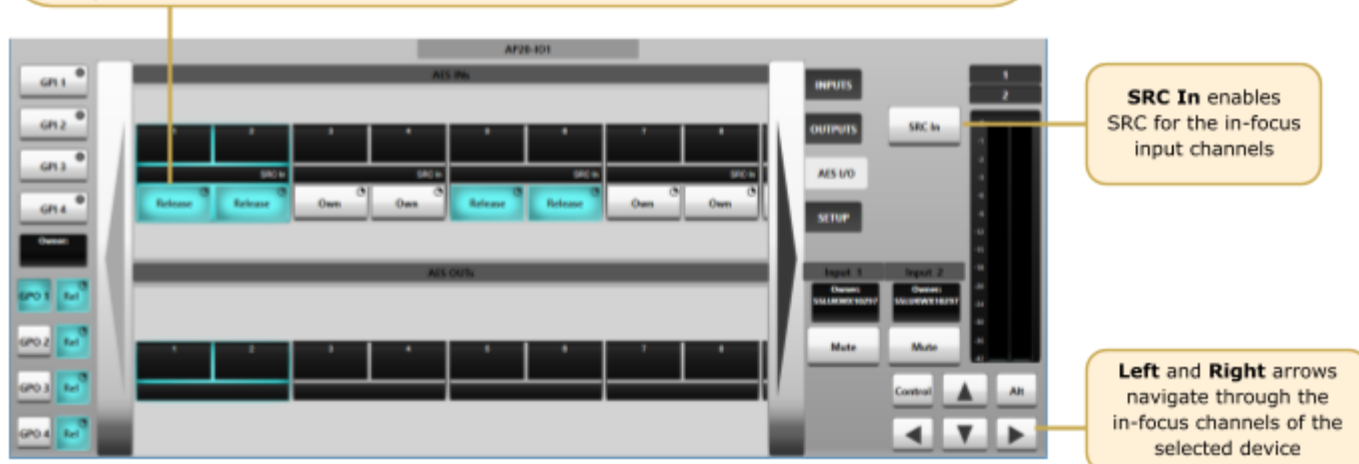
GPIO (A16.D16 Only)

The A16.D16 is equipped with 4 GP input and 4 GP output circuits. Inputs are opto-isolated voltage triggered and output closures are via DIL relay.

See Appendix B for connector pinout and contact ratings.
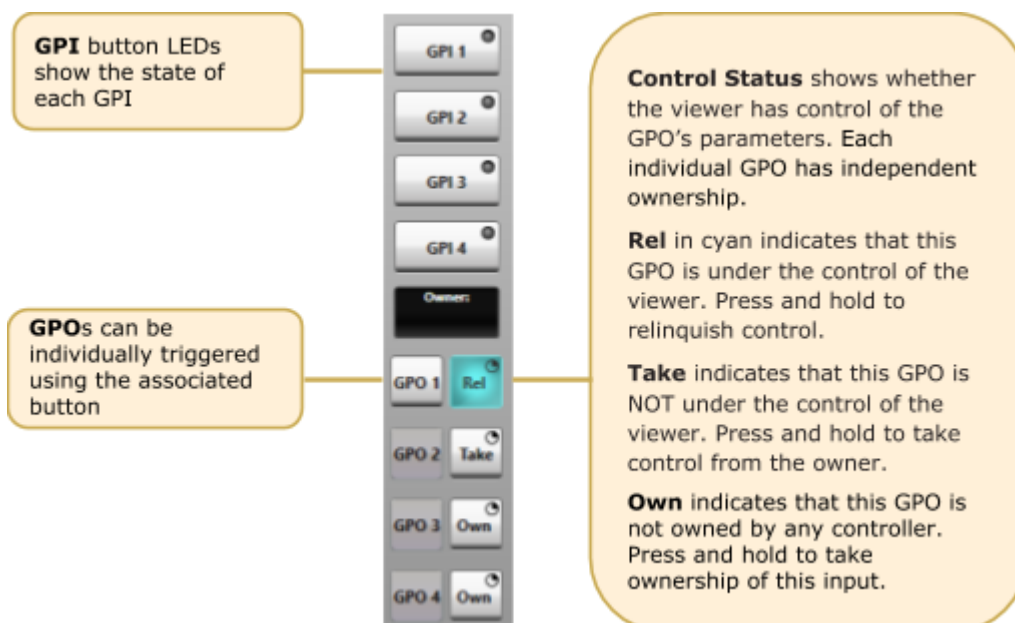
Setup

Press **Setup** in the *Page Select* area to display the system configuration information.

Stagebox Ownership and **Inputs Ownership** are detailed under Ownership.

Ownership

Ownership offers a level of protection to inputs: when an input is owned by a console the input parameters can only be modified by the device that owns it. This prevents control conflicts between networked consoles and control computers sharing resources. Parameters covered by ownership are:
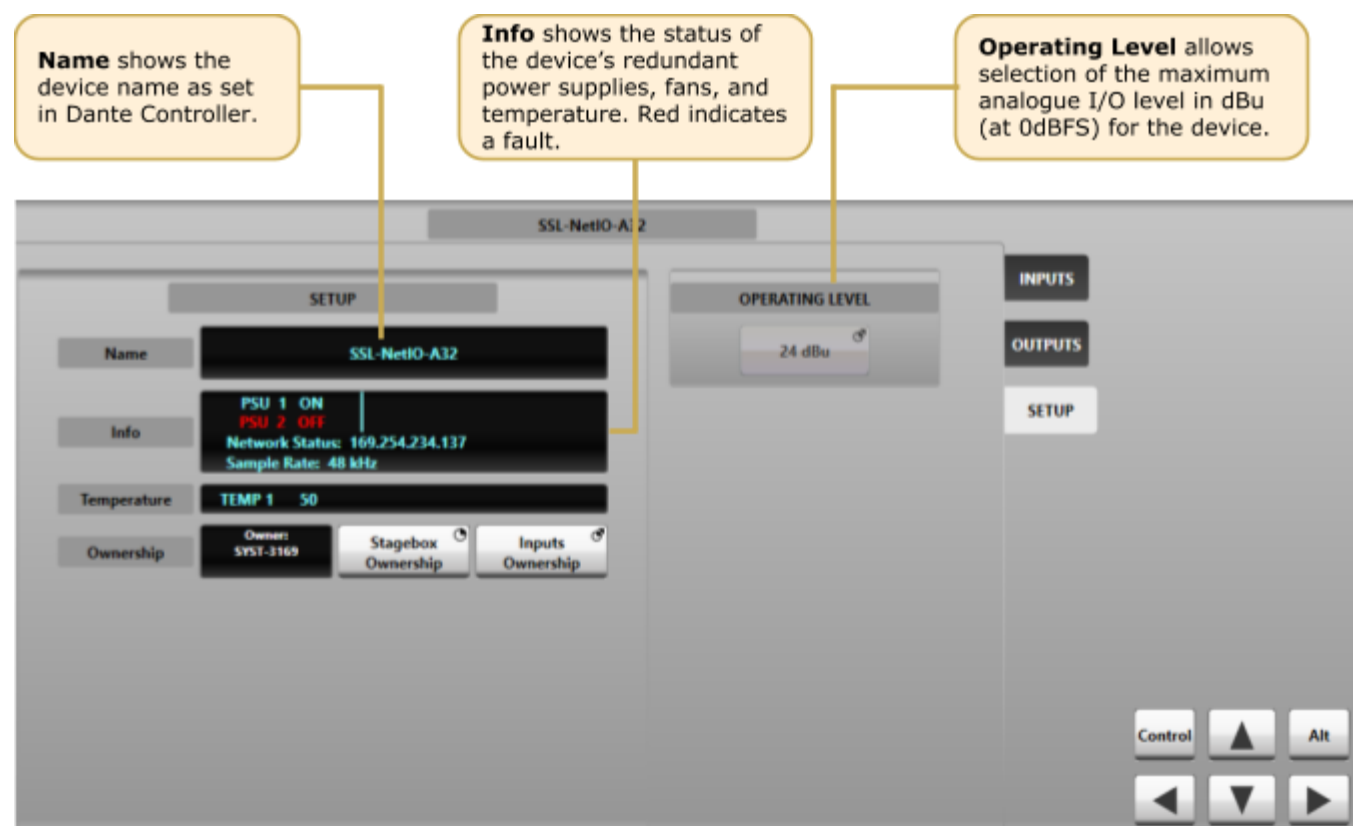
- Mic gain
- Mic/line switching
- Pad
- Input mute
- SRC

Note that multiple consoles can share the same input signal but only one device can control the input parameters. Altering the input settings will affect all consoles using the input.

Any System T console, SSL Live console or instance of the SSL Network I/O Controller PC application can control ownership. There are three levels of ownership:

- Stagebox ownership: control A16.D16/A32/D64 setup information only
- Input ownership: control input parameters only
- Input *x* ownership: control of input parameters on a per input basis

N.B. Ownership settings are stored on the A16.D16/A32/D64. The mute state is stored in volatile memory on the unit and all channels will reset to unmuted if the unit is repowered.

Stagebox and Input Ownership
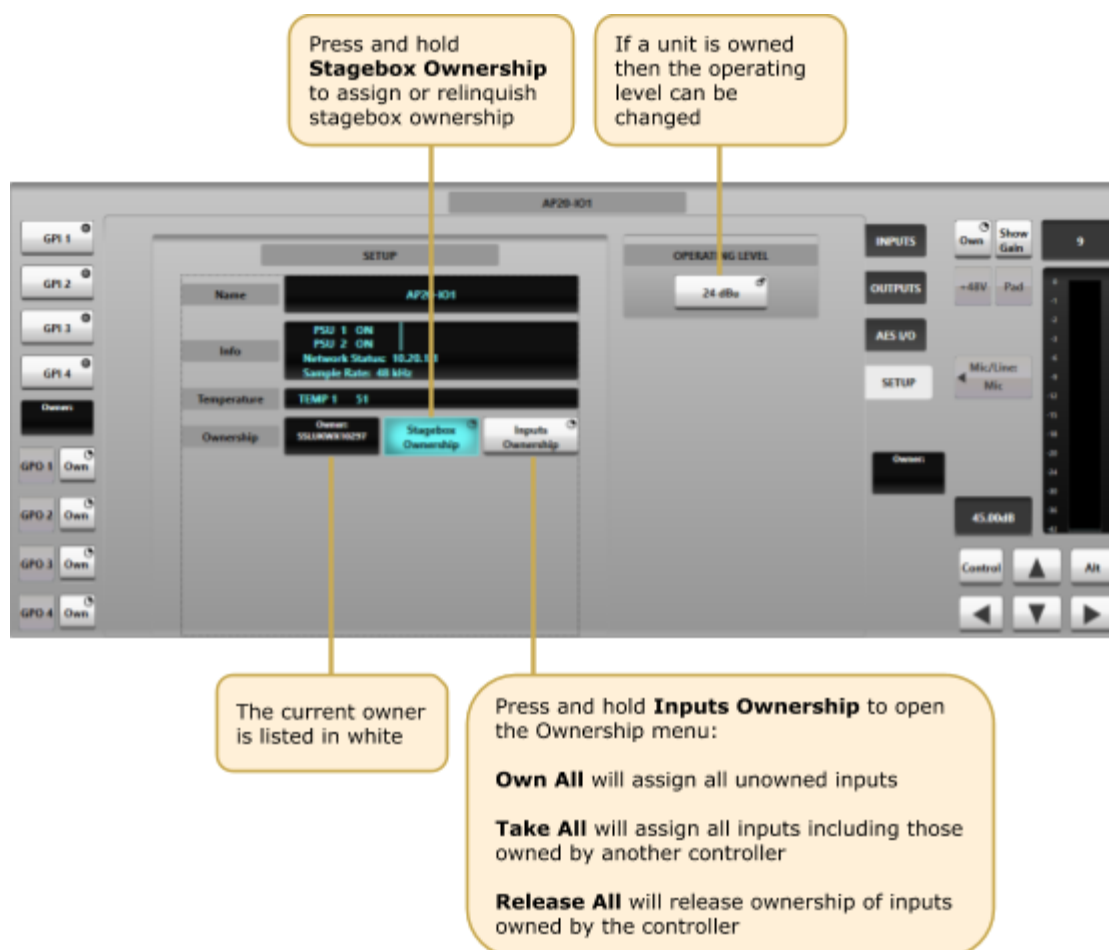
Individual Input Ownership

One of three options will be displayed when an input is selected on a device, depending on the current ownership state. These options are **Own**, **Take** and **Release**:
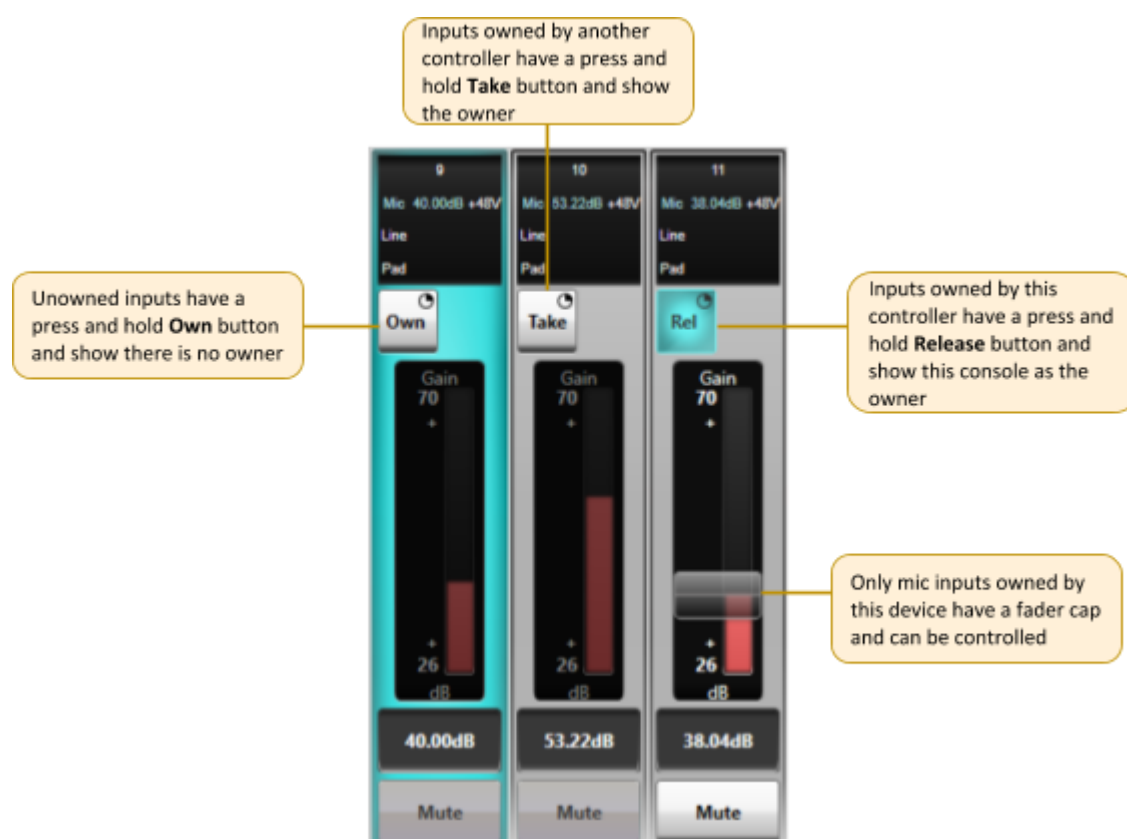
If an input is not owned and it is routed to an SSL console, the console will automatically take ownership. If an input is owned by a different controller then routing will not automatically take ownership, **Take** ownership will need to be performed if input control is required on this device. Ownership from Network I/O Controller is manually controlled.

Note that the audio route will still be made regardless of whether ownership is assigned.

GPO Ownership (A16.D16 Only)

The four A16.D16 GPO connections also have ownership status. The available ownership states are identical to those for inputs.
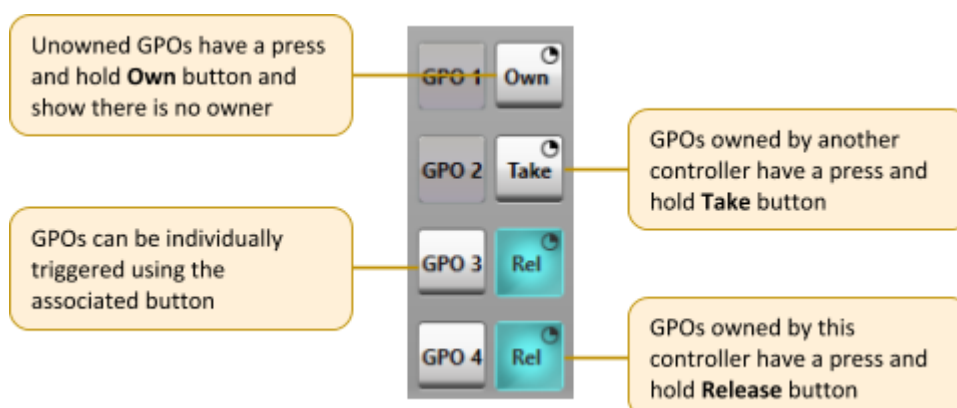
Dante Controller

Refer to Audinate's Dante Controller user guide for complete information on Dante Controller software. The information below details the basics required to get started.

Clock sync, device naming, AES67 configuration and network management are all done within Dante Controller.

Dante utilises the device name for routing. Each device must have a unique name – if a name is duplicated it will be appended with a number.

Network Config

Each device requires its own unique IP address. This may be automatically configured, provided by a DHCP server or assigned manually. The primary and secondary ports must not be connected to the same logical network. Ideally, separate switching hardware should be provided for primary and secondary networks. Creating VLANs on shared hardware is acceptable but does not provide the most robust redundancy.
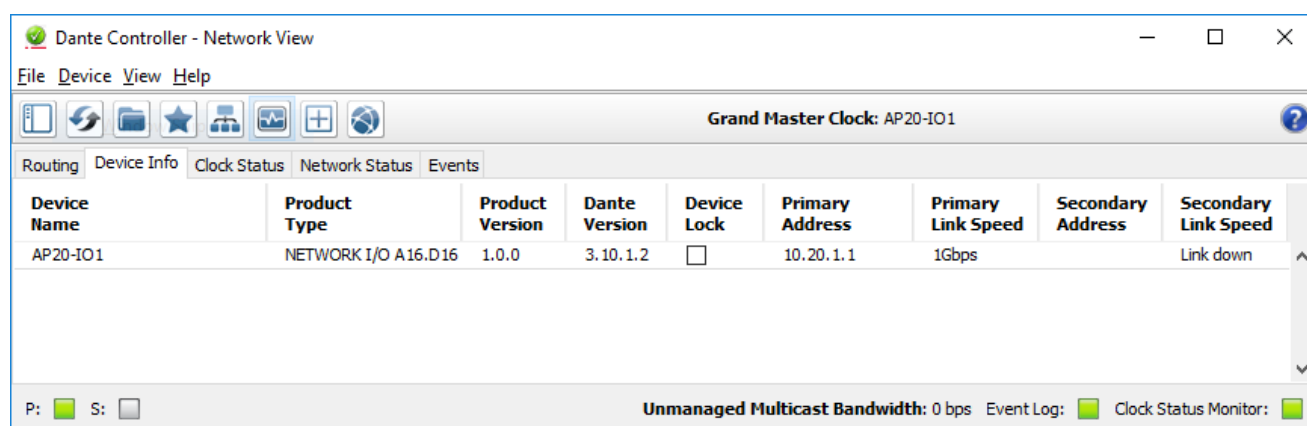
Device Info

The **Device Info** tab shows an overview of all devices on the Dante network including name, product type, software version, IP address, link speed and status.

Device > **Device View** provides configuration and diagnostics for each device including Tx and Rx subscription and signal status, software and firmware version information, network utilisation and real-time latency measurement, as well as configuration of device name, sample rate, bit depth, latency, IP address and AES67 parameters. The **Network Config** tab provides IP address configuration options.

The device will resolve to a link-local address if it is set to obtain an IP address automatically and no DHCP server is present. To access via link-local, set your computer to obtain an IP address automatically, directly connect to the device's primary port and wait for the link-local addresses to resolve. Link-local addresses for the Primary Dante interfaces obtain IP addresses in the 169.254.xxx.xxx range, secondary Dante interfaces obtain addresses in the 172.31.xxx.xxx range.

Linking/Unlinking Networks A and B

Network B functionality is not yet enabled. The Network Config tab within Dante Controller Device View allows for Networks A+B to be linked/unlinked, this currently has no functional effect on the unit.

User and Control Bit Pass-Through (A16.D16 and D64 only)

To enable the pass-through of AES user and control bits the device must be set to 32-bit encoding (**PCM 32**). This is set within the **Encoding** section of the **Device Config** tab.
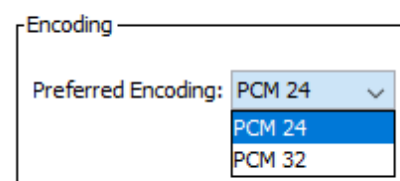
Appendices

Appendix A – Physical Specifications

Parameter	Value	Notes
Depth	460 mm (18.11")	
Height	88.5 mm (1.75")	2 RU
Width	438 mm (17.25") 482 mm (19")	Excluding rack ears Including rack ears
Weight	9.5 kg (21 lb)	
Power	< 100 W	
Boxed Size	538 x 538 x 228 mm (21.2 x 21.2 x 9.0")	
Boxed Weight	12.5 kg (27.6 lbs)	

Ventilation
Ventilation is from the side and top of the unit.
1RU of ventilation must be provided above each unit.

Appendix B - Connector Pin Outs

Analogue Inputs/Outputs		
Location:	Rear Panel	
Connector Type:	25-way D-type female	
Pin	**Description**	**Notes:**
1	Channel 8 (+ve)	Same circuit arrangement for Inputs and Outputs.
14	Channel 8 (–ve)	Circuits offset by 8 for each additional connector.
2	0V	
15	Channel 7 (+ve)	
3	Channel 7 (–ve)	
16	0V	
4	Channel 6 (+ve)	
17	Channel 6 (–ve)	
5	0V	
18	Channel 5 (+ve)	
6	Channel 5 (–ve)	
19	0V	
7	Channel 4 (+ve)	
20	Channel 4 (–ve)	
8	0V	
21	Channel 3 (+ve)	
9	Channel 3 (–ve)	
22	0V	
10	Channel 2 (+ve)	
23	Channel 2 (–ve)	
11	0V	
24	Channel 1 (+ve)	
12	Channel 1 (–ve)	
25	0V	
13	n/c	

Connectors Viewed From Wiring Side
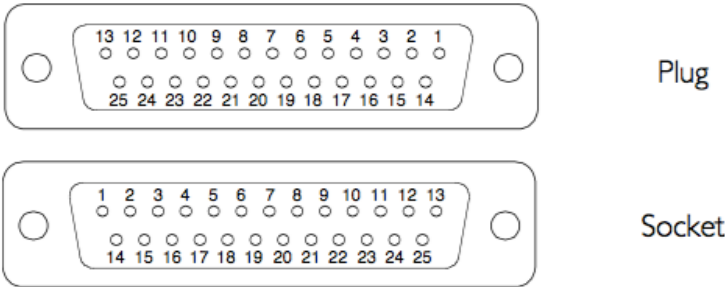
13 12 11 10 9 8 7 6 5 4 3 2 1
25 24 23 22 21 20 19 18 17 16 15 14   Plug

1 2 3 4 5 6 7 8 9 10 11 12 13
14 15 16 17 18 19 20 21 22 23 24 25   Socket

Dimensions: 55 x 15mm (approx.)
Cable Diameter: 8mm (typical)
Screwlock thread: 440-UNC

Pin		Description	Notes:
AES/EBU Inputs/Outputs			
Location:		Rear Panel	
Connector Type:		25-way D-type female	
1		Out channels 7/8 +	Outputs.
	14	Out channels 7/8 -	Circuits offset by 8 for each additional connector.
2		Ground	
	15	Out channels 5/6 +	
3		Out channels 5/6 -	
	16	Ground	
4		Out channels 3/4 +	
	17	Out channels 3/4 -	
5		Ground	
	18	Out channels 1/2 +	
6		Out channels 1/2 -	
	19	Ground	
7		In channels 7/8 +	Inputs.
	20	In channels 7/8 -	Circuits offset by 8 for each additional connector.
8		Ground	
	21	In channels 5/6 +	
9		In channels 5/6 -	
	22	Ground	
10		In channels 3/4 +	
	23	In channels 3/4 -	
11		Ground	
	24	In channels 1/2 +	
12		In channels 1/2 -	
	25	Ground	
13		n/c	

Connectors Viewed From Wiring Side
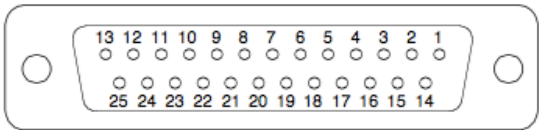
Plug

Socket

Dimensions: 55 x 15mm (approx.)
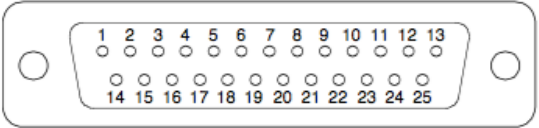Cable Diameter: 8mm (typical)
Screwlock thread: 440-UNC

GPIO (A16.D16 Only)

GP Outputs
All output switch closures are via DIL relay.

DO NOT use these outputs to directly switch capacitive or reactive loads; always use a separate external relay with suitable contact rating.

DIL Relay Ratings:
• 100V DC, 125V AC
• 100mA max.

GP Inputs
Inputs are triggered by applying an AC or DC voltage of between 4V and 24V. The current drawn is approximately 10mA. Minimum input pulse duration 50mS.
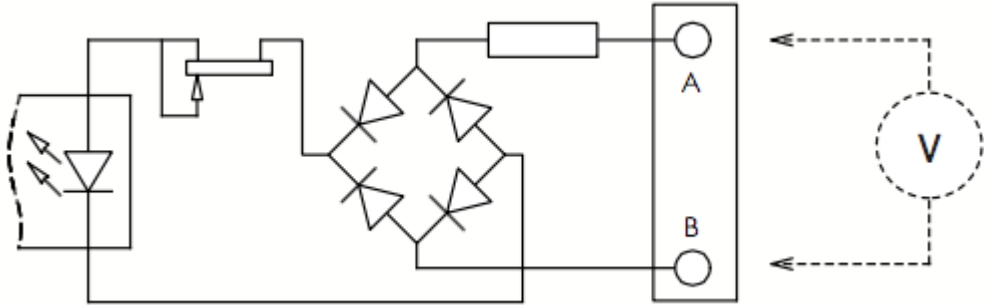
GP Inputs / Outputs			
Connector Type:		25-way D-type male	
Pin		**Description**	**Notes:**
1		Input 1A	See input requirements above
	14	Input 1B	
2		Input 2A	
	15	Input 2B	
3		Input 3A	
	16	Input 3B	
4		Input 4A	
	17	Input 4B	
5			
	18		
6			
	19		
7		+12V Output	0.5A max (both pins), Linked to pin 13
	20	Chassis	Reference for 12V output
8		Output 1A	See contact ratings above
	21	Output 1B	
9		Output 2A	
	22	Output 2B	
10		Output 3A	
	23	Output 3B	
11		Output 4A	
	24	Output 4B	
12			
	25		
13		+12V Output	As pin 7

Appendix C – Performance Specifications

Mic/Line Inputs		
Parameter	**Value**	**Notes**
Gain Range	+26 to +70 dB -4 to +30 dB -4 to +40 dB	Mic mode, 0 dBFS, 0.1 dB gain step size Line mode, 0 dBFS, 0.1 dB gain step size Mic mode with pad engaged
Maximum Input Level	+27.5 dBu	30 dB Pad inserted
Frequency Response	± 0.2 dB	Mic mode, 20 Hz – 20 kHz (@48kHz) Typically ± 0.1 dB
Equivalent Input Noise	< -123 dB	Mic mode, 70 dB gain, A-weighted filter, 22 kHz bandwidth. Typically -124 dB
Usable Dynamic Range	> 115 dB	Mic mode, 0 dBFS, A-weighted filter, 22 kHz bandwidth. Typically 116 dB.
Input Impedance	2.3 kΩ / 10 kΩ	Mic / Line. Selectable per channel
CMRR	> 70 dB > 90 dB	Mic mode, 20 Hz – 20 kHz, 0 dBu Mic mode, 1 kHz, 0 dBu
Crosstalk	> -75 dB > -90 dB	20 Hz – 20 kHz 1 kHz
THD+N	< 0.01 %	Mic mode, 20 Hz – 20 kHz, -1 dBFS, 22 kHz bandwidth.
Phantom Power (Mic Input)	+48 V ±4 V 10 mA	Selectable per channel
Pad (Mic Input)	30 dB	Selectable per channel
Operating Levels	+24, +22, +20, +18, +15 dBu	
Sample Rates	44.1, 48, 88.2 or 96 kHz	
Resolution	24 bit	

Measurement Parameters

Sample Rate:	96 kHz
Operating Level:	+24 dBu = 0 dBFS
Mic input termination:	150Ω
Mic Mode Gain:	26 dB (unless stated otherwise)
Reference frequency:	1 kHz (unless stated otherwise)

Line Inputs		
Parameter	**Value**	**Notes**
Maximum Input Level	+24 dBu	10 kΩ load
Frequency Response	± 0.1 dB	-1 dBFS, 20 Hz – 20 kHz
Usable Dynamic Range	> 116 dB	0 dBFS, A-weighted filter, 22 kHz bandwidth Typically >117 dB
THD+N	< 0.005 %	20 Hz – 20 kHz, -1 dBFS, 22 kHz bandwidth Typically < 0.004%
Sample Rates	44.1, 48, 88.2 or 96 kHz	
Resolution	24 bit	

Line Outputs		
Parameter	**Value**	**Notes**
Maximum Output Level	+24 dBu	600 Ω / 10 kΩ load
Output Impedance	< 50 Ω	
Frequency Response	± 0.3 dB	-1 dBFS, 20 Hz – 20 kHz
Usable Dynamic Range	> 116 dB	0 dBFS, A-weighted filter, 22 kHz bandwidth Typically >117 dB.
Crosstalk	< -90 dB < -105 dB	20 Hz – 20 kHz, 0 dBFS 1 kHz, 0 dBFS
THD+N	< 0.01 %	20 Hz – 20 kHz, -1 dBFS. 22 kHz bandwidth Typically < 0.004%
Output Symmetry	> 40 dB	20 Hz – 20 kHz Typically > 50 dB
Sample Rates	44.1, 48, 88.2 or 96 kHz	
Resolution	24 bit	

Measurement Parameters

Sample Rate:	96 kHz
Operating Level:	+24 dBu = 0 dBFS
Reference frequency:	1 kHz (unless stated otherwise)

Digital Inputs		
Parameter	**Value**	**Notes**
Input Impedance	110 Ω	Transformer coupled
Sample Rates	44.1, 48, 88.2 or 96 kHz	176 kHz or 192 kHz with sample rate converters enabled
Sample Rate converters	Yes	Selectable per AES channel pair
Resolution	24 bit	

Digital Outputs		
Parameter	**Value**	**Notes**
Output Impedance	110 Ω	Transformer coupled
Sample Rates	44.1, 48, 88.2 or 96 kHz	
Resolution	24 bit	

Appendix D – Safety Notices

General Safety

1. Please read and keep this document.

2. Adhere to all warnings and follow instructions.

3. This electrical equipment should not be used near water.

4. Cleaning should only be with dry cloths or products compatible with electrical devices – never when the unit is powered.

5. Keep the unit free of dust and use in a clean environment.

6. Do not use near any heat source or in direct sunlight.

7. Do not use near naked flames.

8. Do not place heavy objects on the unit.

9. Only use attachments/accessories recommended by the manufacturer.

10. Unplug the device during lightning storms or long periods of nonuse.

11. The unit can only be serviced by qualified personnel – Seek immediate service if:
    I.   The unit has been exposed to moisture
    II. The unit has been dropped
    III. The unit does not operate normally

12. Do NOT modify this unit – alterations may affect performance, safety and/or international compliance standards.

13. SSL does not accept liability for damage caused by maintenance, repair or modification by unauthorised personnel.

Installation Notes

1. When installing this apparatus either fix it into a standard 19" rack or place the apparatus on a secure level surface.

2. When this apparatus is rack mounted, fit all rack screws. Rack shelves are recommended for this apparatus.

3. Allow a 1U gap above and below this apparatus for cooling.

4. Do not obstruct any ventilation cut-outs or exhaust fans.

5. Ensure that no strain is placed on any cables connected to this apparatus. Ensure that all such cables are not placed where they can be stepped on, pulled or tripped over.

Power Safety

1. The unit is not supplied with a mains lead allowing you to use IEC distribution of mains cables of your choice. Any mains cable used must fulfill the following:
    I.   Refer to the ratings label on the rear of the unit and always use suitable mains cords.
    II. The unit should ALWAYS be earthed with the earth on both IEC sockets (when both are used).
    III. Please use a compliant 60320 C13 TYPE SOCKET. When connecting to supply outlets ensure that appropriate sized conductors and plugs are used to suit local electrical requirements.
    IV. Maximum cord length should be 4.5m (15').
    V.   The cord should bear the approval mark of the country in which it is to be used.

2. The appliance coupler is used as the disconnect device, ensure that it is connected to an unobstructed wall outlet.

3. The unit is designed for connection to single phase supplies only.

4. The clear markings regarding redundant power supplies detailed on the unit must be transferred into the installation to ensure both power sources are removed before qualified personnel service the unit.

GB   The apparatus shall be connected to mains socket outlets with a protective earthing connection

DEN Apparatets stikprop skal tilsluttes en stikkontakt med jord, som giver forbindelse til stikproppens jord

FIN Laite on liitettävä suojamaadoituskoskettimilla va rustettuumpistorasiaan

NOR Apparatet må tikoples jordet stikkontakt

SWE Apparaten skall anslutas till jordat uttag

ATTENTION! This equipment must be Earthed. Refer to manual for installation instructions.

CAUTION! Disconnect all power sources before removing any panel (s). No user-serviceable parts inside – to be serviced only by qualified personnel.

WARNING! Un-Earthed metal parts may be present inside enclosure. Check for hazardous voltages before touching.

For protection against risk of fire – replace only with same type / rating of fuse. Do not expose to rain or moisture.

For EU

The stagebox is CE compliant and fully conforms with the current protection requirements of the European community council directives on EMC and LVD. Note that any cables supplied with SSL equipment may be fitted with ferrite rings at each end. This is to comply with the current regulations and these ferrites should not be removed. Any modifications to this equipment may adversely affect the CE compliance of this product.

Environmental Declaration

The symbol shown here, which is on the product or its packaging, indicates that this product must not be disposed of with other waste. Instead, it is the user's responsibility to dispose of their waste using a designated collection point for recycling of waste electrical and electronic equipment. The separate collection and recycling of your waste equipment at the time of disposal will help to conserve natural resources and ensure that it is recycled in a manner that protects human health and the environment. For more information about where you can dispose of your waste equipment for recycling, please contact your local city office, your household waste disposal service or where you purchased the product.

RoHS Notice

Solid State Logic has conformed and this product has conformed to European Union's Directive 2011/65/EU on Restrictions of Hazardous Substances (RoHS) as well as the following sections of California law which refer to RoHS, namely sections 25214.10, 25214.10.2, and 58012, Health and Safety Code; Section 42475.2, Public Resources Code.

For USA

To the User:

1. Do not modify this unit! This product, when installed as indicated in the instructions contained in the installation manual, meets FCC requirements.
2. Important: This product satisfies FCC regulations when high quality shielded cables are used to connect with other equipment. Failure to use high quality shielded cables or to follow the installation instructions may cause magnetic interference with appliances such as radios and televisions and will void your FCC authorisation to use this product in the USA.
3. Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Electromagnetic Compatibility

EN55103-1:2009, EN55103-2:2009 Environments E1, E2, E3 and E4

Typical average initial half-cycle inrush current: 1.3 A. Typical peak inrush current: <5 A.

The audio input/output and network ports are screened-cable ports and any connections to them should be made using braid-screened cable and metal connector shells in order to provide a low impedance connection between the cable screen and the stagebox. All network connections should be of Cat5e standard or above.

Environmental

Temperature	Operating:	+5 to 30 deg. C	Storage:	-20 to 50 deg. C
Vibration	Operating:	< 0.2 G (5–200 Hz)	Non-operating:	< 0.4 G (5–200 Hz)
Shock	Operating:	< 3 G (11 ms max.)	Non-operating:	< 10 G (11 ms max.)