

Australian Monitor ISP Amplifier Series

Introduction



ISP Series – Range Overview



IS2120P – 2 x 120W



IS2250P – 2 x 250W



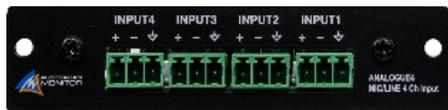
IS4120P – 4 x 120W



IS4250P – 4 x 250W



DM4x4 – Dante module



ANALOGUE4 – 4 Analogue input module

High Impedance Range Overview

ES Series

Cost Effective - Basic Features

- ES120P – 1 x 120W
- ES250P – 1 x 250W
- ES500P – 1 x 500W
- ES2120P – 2 x 120W
- ES480P – 4 x 80W



HS Series

Mid Range with miniDSP
PC Control Application

- HS120P – 1 x 120W
- HS250P – 1 x 250W
- HS2120P – 2 x 120W
- HS2250P – 2 x 250W
- HS4120P – 4 x 120W
- HS4250P – 4 x 250W



IS Series

Premium Range with Full DSP
ALMA Web Application

- IS2120P – 2 x 120W
- IS2250P – 2 x 250W
- IS4120P – 4 x 120W
- IS4250P – 4 x 250W



ISP Series – Range Overview

- New range for Australian monitor
 - IS2120P 2 x 120W, IS2250P 2 x 250W
 - IS4120P 4 x 120W, IS4250P 4 x 250W
- Includes full DSP
 - Volume control
 - Matrix Mixer, High/Low/All pass filters
 - 12 band parametric equaliser per channel including graphical editing
 - Compressor/Limiter
 - Delay up to 75m(220ms) per amplifier output
- Ethernet control
- 4 General Purpose Control Inputs/Outputs
- Automatic audio failover
- TCP/UDP 3rd party control
- ErP Low Power Standby <2W
- DM4x4 Expansion Module. Dante® Module with 4 inputs, 4 outputs
- Analogue4 Expansion Module. 4 analogue inputs



Network Control



Embedded UI



DSP Engine



ErP Standby <2W



Dante Enabled

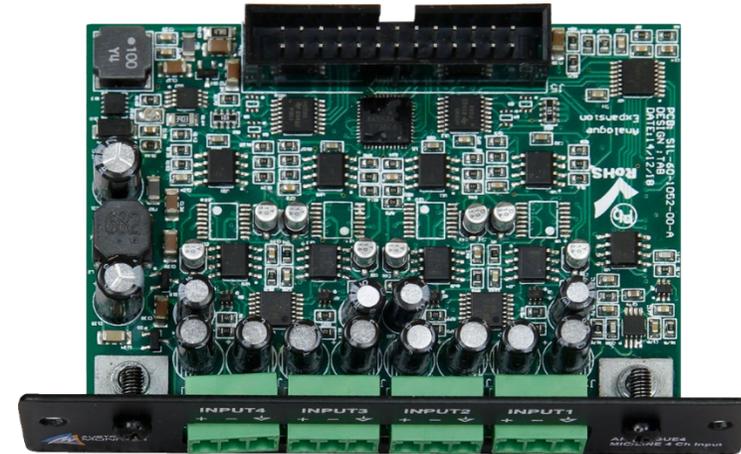
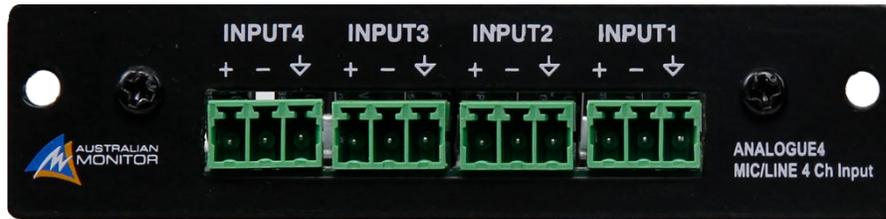


DM4x4 Dante Expansion Module



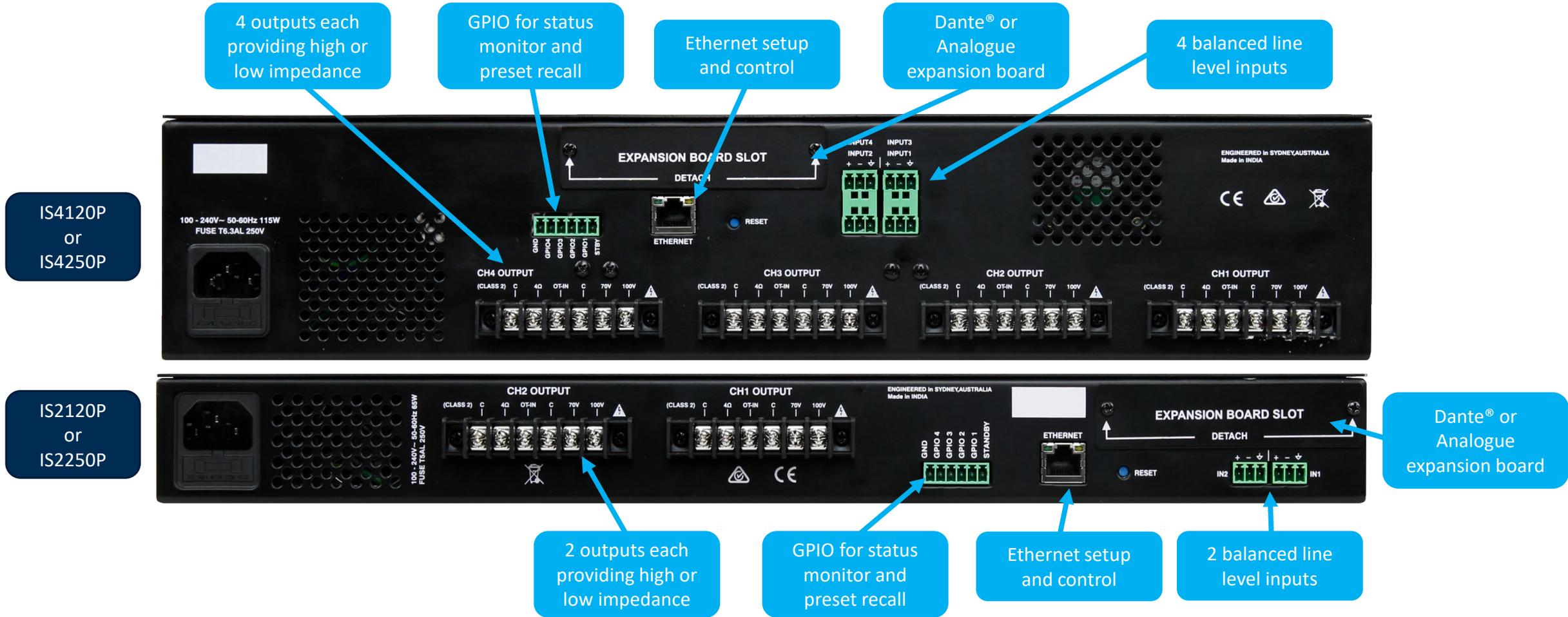
- Optional expansion module. Keeps the ISP cost as low as possible when not required
- Installed by removing the rear blanking plate and inserting a ribbon cable
- 4 Receive Channels
- 4 Transmit Channels
 - Loopback audio mixer outputs back on to the Dante network

ANALOGUE4 Optional Expansion Module

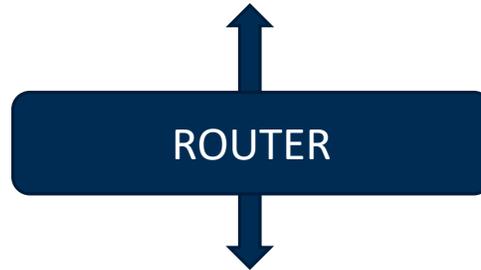


- Optional expansion module
- Installed by removing the rear blanking plate and inserting a ribbon cable
- 4 Line Level Inputs
- -15dB attenuation pad. Settable via ALMA software

ISP Range of Power Amplifiers



IS4250P + DM4x4



CONNECT CONFIGURE CONTROL

Win: <http://ausmonXXXXXX/>

OS X: <http://ausmonXXXXXX.local/>

ISP Series – Dante Setup

IS4250P



IS2250P



DM4x4 Module



DM4x4 Module



ISP Series – Dante Setup

IS2250P



IS4250P



DM4x4 Module

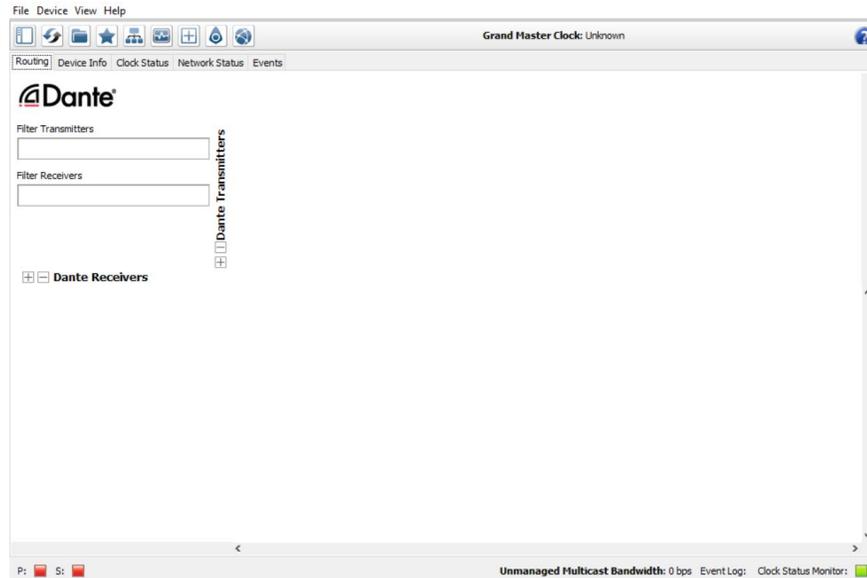


DM4x4 Module



Dante Controller

<https://www.audinate.com/products/software/dante-controller>



- Device discovery
- Configure the audio routing. Inputs to Outputs
- IP Assignment
- Dante Firmware Updates
- Dante status

PDF File **ALMA Interface Protocol Usage and Examples**

Excel File **ALMA-Interface-Protocol-Specification.xlsx**

	operation	section	group	param	sub	ssub	value	Carriage Return
Set input 1 volume of preset 1 to -20dB	set	preset1	in1	vol			-20.0	CR
	reply	preset1	in1	vol			-20.0	CR
Set output 1 volume to -40dB	set	active	out1	vol			-40	CR
	reply	active	out1	vol			-40	CR
Mute output 4	set	active	out4	mute			true	CR
	reply	active	out4	mute			true	CR



CONNECT CONFIGURE CONTROL



- The heart of the ISP range of power amplifiers
- ALMA allows you to;
 - **CONNECT** to the amplifier from any device or operating system
 - **CONFIGURE** your system using full DSP and matrixing
 - **CONTROL** the system using third party control and/or contact closure via the GPIO
- ALMA is embedded into the product requiring no software installation.
- Simply connect using any web browser application.

Access the demonstration software at www.ausmonitor.com/is4250p-demo



Username
Password

Sign in

Product Name : IS4250P
Serial Number : NSNU0000DPA00099

- 
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Simply connect using any web browser application.

Home Screen



Navigation bar



Current connected amplifier and expansion card (if present)

IS4250P-DM4X4-Demo

Standby Mode

Preset Action

Output1

In	Output 1	Out
0	0	0
-24	-24	-24
-48	-48	-48
-72	-72	-72
-96	-96	-96

0.0 dB

Mute

Mixer Setup

Status: OK

Output2

In	Output 2	Out
0	0	0
-24	-24	-24
-48	-48	-48
-72	-72	-72
-96	-96	-96

0.0 dB

Mute

Mixer Setup

Status: OK

Output3

In	Output 3	Out
0	0	0
-24	-24	-24
-48	-48	-48
-72	-72	-72
-96	-96	-96

0.0 dB

Mute

Mixer Setup

Status: OK

Output4

In	Output 4	Out
0	0	0
-24	-24	-24
-48	-48	-48
-72	-72	-72
-96	-96	-96

0.0 dB

Mute

Mixer Setup

Status: OK

Realtime status for each channel



User manual, link to website and information on connected amplifier

Home Screen



Channel Name - max 32 characters (no commas)

Real time level indication for output and assigned input mix

Adjust output level via slider, up/down arrows or direct dB entry

Open Mixer Setup window where I/O routing is setup

Output2

In	Output2	Out
0	-	- 0
-24	-	--24
-48	-	--48
-72	-	--72
-96	-	--96

-65.0 dB

Mute

Mixer Setup

Status: OK

Output control can also be access from the Audio and Mixer Setup block

Channel Mute. Button turns red and Status changes to Output Muted

Muted

Mixer Setup

Status: Output Muted

Home Screen



Home Screen and system status overview

Audio Screen with access to

- Input and Output naming
- DSP setup including
 - Matrix setup
 - Crossover and EQ
 - Compressor limiter
 - Delay
- High or low impedance mode per channel

Device Control Screen

- Configuration and preset reset
- Auto standby
- Channel failover configuration
- GPIO setup



Network Settings

- Setup
 - Host name
 - 3rd Party Control (TCP, UDP)
 - Set IPv4 (DHCP or fixed IP address)

Software

- Import and export configuration files
- Factory reset
- Update system file, firmware update

Accounts

- Manage up to 10 user accounts
- Assign system access levels

Audio Setup Screen

HOME

AUDIO

CONTROL

NETWORK

SOFTWARE

ACCOUNTS

Current user: admin
LOG OUT



Audio Setup

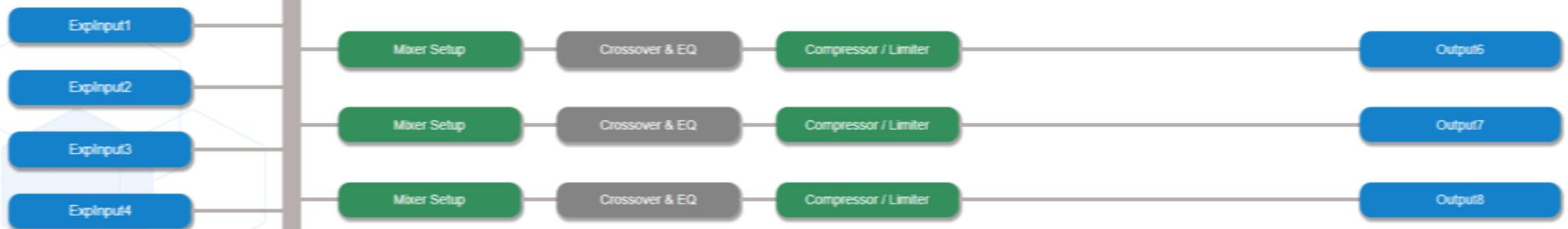
Copy Setup

Preset Action

Main Inputs



Expansion Inputs



Audio Setup Screen

HOME

AUDIO

CONTROL

NETWORK

SOFTWARE

ACCOUNTS

Current user: admin
LOG OUT



Copies setup block from individual or all outputs to one or all outputs

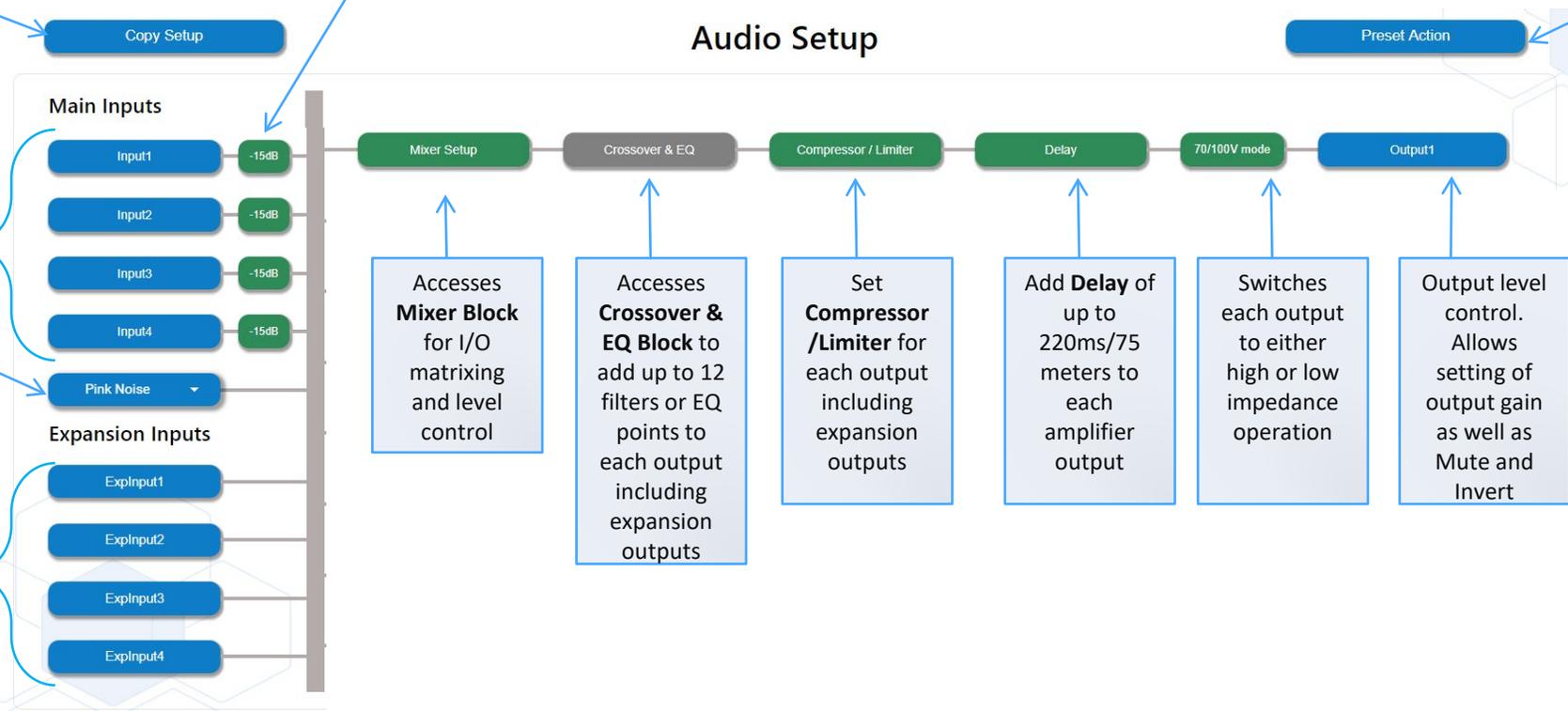
Add 15dB padding to each input

Recall and save up to 10 presets

Re-name Inputs

Tone Generator
• Pink noise
• 500Hz Sine
• 1kHz Sine
• 5kHz Sine
• 10kHz Sine

Optional inputs from DM4X4 or ANALOGUE4 card appear here. They can also be renamed as needed



Accesses **Mixer Block** for I/O matrixing and level control

Accesses **Crossover & EQ Block** to add up to 12 filters or EQ points to each output including expansion outputs

Set **Compressor / Limiter** for each output including expansion outputs

Add **Delay** of up to 220ms/75 meters to each amplifier output

Switches each output to either high or low impedance operation

Output level control. Allows setting of output gain as well as Mute and Invert

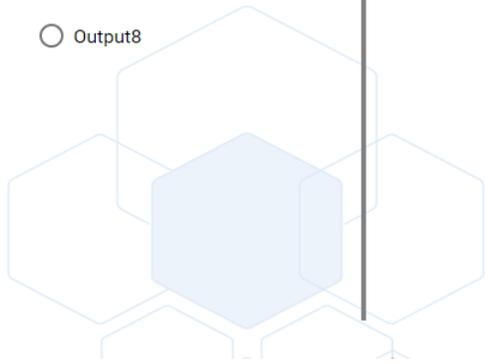
Mixer Setup



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Output

- Output1
- Output2
- Output3
- Output4
- Output5
- Output6
- Output7
- Output8



Input1	Input2	Input3	Input4	Pink Noise
In: [Level Meter] Input 1 Out: [Level Meter]	In: [Level Meter] Input 2 Out: [Level Meter]	In: [Level Meter] Input 3 Out: [Level Meter]	In: [Level Meter] Input 4 Out: [Level Meter]	In: [Level Meter] Input 5 Out: [Level Meter]
-96.0	-96.0	-96.0	-96.0	-96.0
Mute	Mute	Mute	Mute	Mute
Invert	Invert	Invert	Invert	Invert

ExpInput1	ExpInput2	ExpInput3	ExpInput4
In: [Level Meter] Input 6 Out: [Level Meter]	In: [Level Meter] Input 7 Out: [Level Meter]	In: [Level Meter] Input 8 Out: [Level Meter]	In: [Level Meter] Input 9 Out: [Level Meter]
-96.0	-96.0	-96.0	-96.0
Mute	Mute	Mute	Mute
Invert	Invert	Invert	Invert

Output1

In: [Level Meter] Output 1 Out: [Level Meter]

0 -24 -48 -72 -96

0.0

Mute

Invert

Mixer Setup



The screenshot shows the Mixer Setup interface with several numbered callouts:

- 1**: Points to the Output selection menu on the left, where Output1 is selected.
- 2**: Points to the level meters for Input1, Input2, and Input3.
- 3**: Points to the level meter for Output1.
- 4**: Points to the level meters for ExInput1, ExInput2, ExInput3, and ExInput4.

- I/O Matrixing is setup here along with input renaming
- Select which output **1** you wish to send input/s to. Note; expansion outs also shown
- Adjust input levels **2** for each input
 - This only affects the output selected so if no signal is to go to that output then simply mute the input
- Adjust output level as needed **3**
- Note that the expansion inputs and tone generator are also accessed here. **4**

Crossover and EQ



1. Select the output to apply filters to. Each Output can have a different configuration
2. Select filter type
3. Enable or disable filters
4. Set EQ filter type
5. Adjust parameters for each filter.
6. Use adjustment points or direct number entry

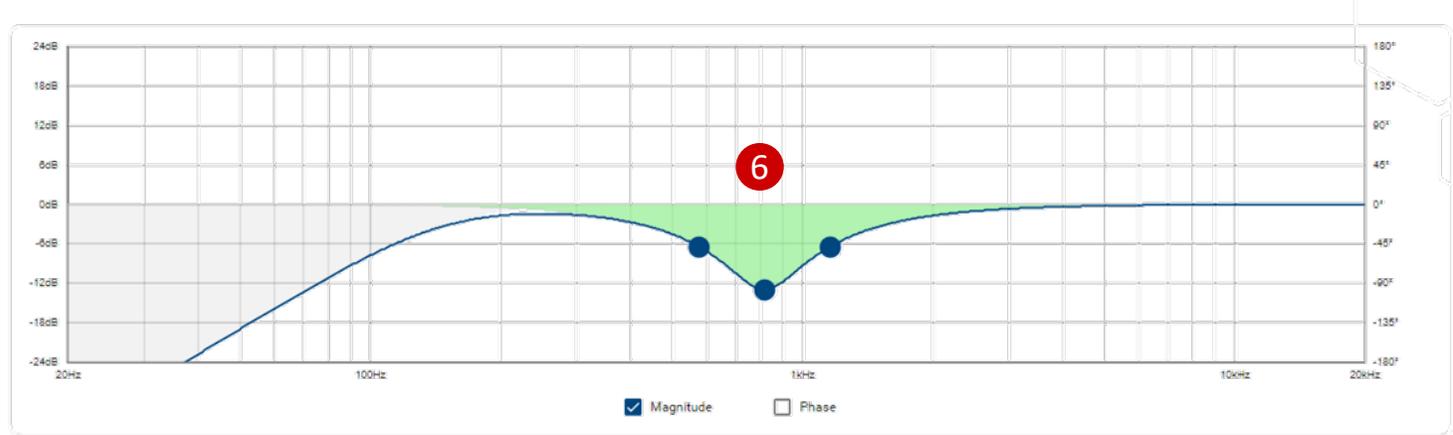
Crossover and EQ



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Output

- Output1 **1**
- Output2
- Output3
- Output4
- Output5
- Output6
- Output7
- Output8



2

High Pass 149 Hz (12 dB/oct)	All Pass 1000 Hz	Low Pass 782 Hz (12 dB/oct)
High Pass 602 Hz (12 dB/oct)	EQ 819 Hz (-13 dB/oct)	All Pass 273 Hz
All Pass 130 Hz	All Pass 383 Hz	All Pass 58 Hz
All Pass 153 Hz (0 dB/oct)	High Shelf 153 Hz (0 dB/oct)	Low Pass 860 Hz (12 dB/oct)
Low Pass 512 Hz (12 dB/oct)	All Pass 745 Hz	

4

EQ **5** **3** **Enabled**

7 **Disabled**

- Select the output to apply filters **1**
- 15 individual filters can be set
- The top line **2** are three fixed filters
- Underneath there are 12 filters that can be set to different types **4**
 - i. EQ
 - ii. High Pass
 - iii. Low Pass
 - iv. Notch
 - v. High Shelf
 - vi. Low Shelf
 - vii. All Pass
- Any of these filters can be individually enabled or disabled **3**
- For each filter enter the value for Frequency, Q and Gain here **5**
- Adjustment points on graph can also be used to change these parameters **6**
- When High or Low Pass filters are selected the filter type can also be set **7**

Compressor/Limiter



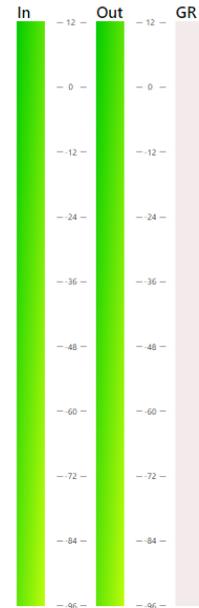
< Back

Output **1**

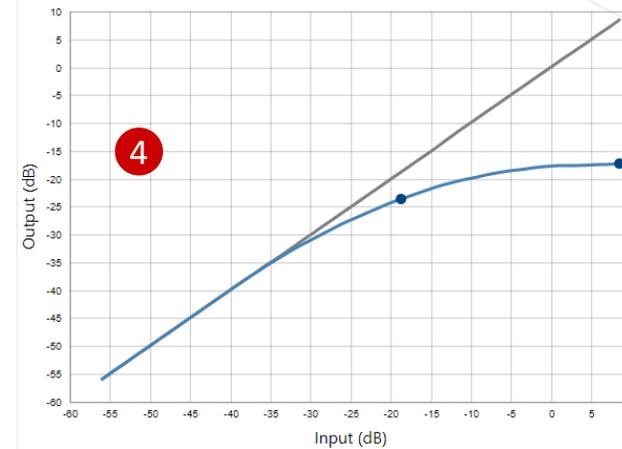
- Output1
- Output2
- Output3
- Output4
- Output5
- Output6
- Output7
- Output8

Enabled

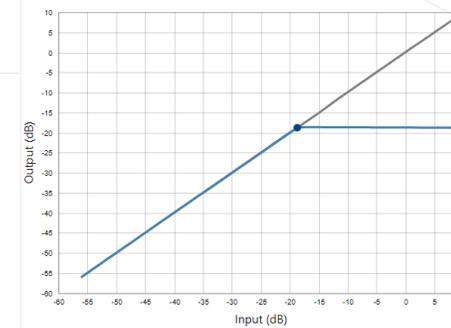
- Mode **Compressor** **2**
- Threshold dB
- Compression ratio : 1
- Knee width dB
- Makeup gain dB
- Attack time ms
- Hold time ms
- Release time ms



Compressor



Limiter



- Select the output **1** to apply either the Compressor or a Limiter
- Choose either a Compressor or Limiter filter **2**
 - Set desired parameters
 - Filter will not be active until status is changed to Enabled
- Check Input and Output levels and Gain Reduction (GR) **3**
- Graph shows current filter setting and allows Input and Output levels to be changed by dragging control points **4**



Output

- Output1
- Output2
- Output3
- Output4

Output Delay

Enabled

Feet	118.5
Meters	36.1

1  **2** 106 
(millisecond(s))

- Delay only affects amplified outputs.
- Either 2 or 4 channels depending on model of ISP amplifier
- Up to 220 milliseconds (ms) can be applied to each amplified output.
 - Maximum delay
 - 220 ms
 - 246 feet
 - 75 meters
- Either use the up and down arrows to change the delay in milliseconds, **1** or directly enter a value between 0 and 220 **2**
- Change status to Enabled to apply delay to selected Output channel

Preset Action

Audio Setup



- Select Preset Action from Audio Setup screen ①
- On the Preset Action pop-up window ②
 - Up to ten presets can be configured
 - Rename any preset ②
 - Recall a previously saved preset ③
 - Save current setup to a preset ④

Preset Action

Save or recall the current configuration into any preset.

②

Preset 1	③ Recall	④ Save
Preset 2	Recall	Save
Preset 3	Recall	Save
Preset 4	Recall	Save
Preset 5	Recall	Save
Preset 6	Recall	Save
Preset 7	Recall	Save
Preset 8	Recall	Save
Preset 9	Recall	Save
Preset 10	Recall	Save



Device Control

Default Audio Settings

Reset active configuration

Active

Reset all presets

Presets

Auto Standby

Autostandby

Enabled

Minutes

30

Wake-up Sensitivity (dB)

-50 -40 -30 -20

Expansion Wake up Sensitivity (dB)

-50 -40 -30 -20

Wake-up Inputs

Audio Channel Failovers

Configure

Control Feature

	Feature	Mode	Selection
GPIO 1	None	N/A	N/A
GPIO 2	None	N/A	N/A
GPIO 3	None	N/A	N/A
GPIO 4	None	N/A	N/A

- None
- VCA
- Mute Output
- Recall Preset
- Amp Fault Status
- Amp Temperature Warm

- All Outputs
- Output1
- Output2
- Output3
- Output4
- Output5

Default Audio Settings

Reset active configuration

Reset all presets

1

Active

Presets

Auto Standby

Autostandby

Minutes

Wake-up Sensitivity (dB)

Expansion Wake up Sensitivity (dB)

2

Enabled

3

-50 -40 -30 -20

4

Wake-up Inputs

1. Reset all Configurations and Presets to their default status. **1** This can't be rolled back so saving Config files is recommended.
2. Enables or disables Autostandby. **2** When Enabled the amplifier will go into standby mode after the set number of minutes. Note that either disabling this feature or setting a time greater than 30 minutes makes the unit non ErP compliant.
3. Set the sensitivity of the signal that can wake the amplifier from standby. **3** Set sensitivity separately for included and expansion inputs
 - I. The lower the setting the stronger the signal needs to be to wake the amplifier from standby.
4. Select which inputs are allowed to wake the amplifier from standby. **4**
5. The amplifier ships with energy saving mode enabled and will enter auto standby if it detects a period of inactivity less than (-40dBV) for 30 minutes.

Audio Channel Failovers

Configure

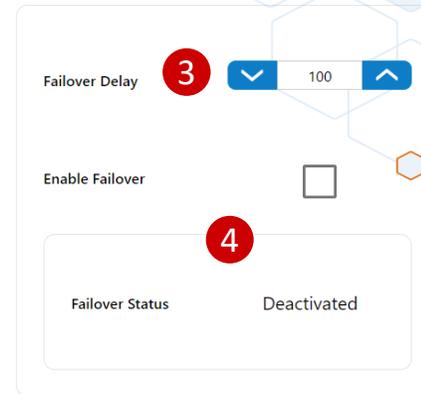
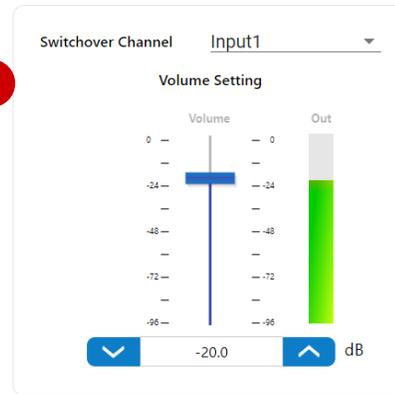
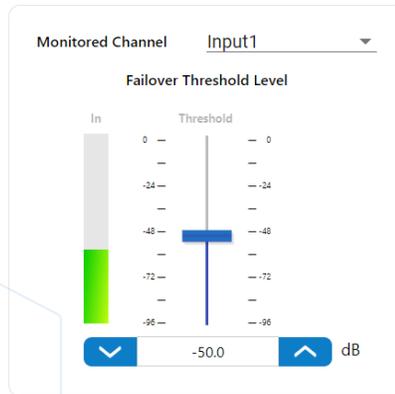
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1

Output

- Output1
- Output2
- Output3
- Output4

Audio Failover Configuration



1. Select which Output the Failover signal applies to. **1** Failover can be set separately for each amplified output
2. Set the Failover Threshold of the first monitored channel and which channel the amplifier switches to on a failure of the monitored channel. **2** The Failover Threshold sets how low the signal must drop to be considered a failure
3. Failover Delay determines how long the signal must be at the threshold set above to be considered a failure **3**
4. Select Enable Failover and the Failover Status will change to Activated. **4**

Control Feature

	Feature	Mode	Selection
GPIO 1	None	▼ N/A	▼ N/A
GPIO 2	None	▼ N/A	▼ N/A
GPIO 3	None	▼ N/A	▼ N/A
GPIO 4	None	▼ N/A	▼ N/A

Feature Options

- None
- VCA
- Mute Output
- Recall Preset
- Amp Fault Status
- Amp Temperature Warm
- Amp Temperature Hot
- Heartbeat

Mode Options

- Determined by Feature
- Active Low (pull-up enabled)
- Active High (pull-up enabled)
- Active Low (pull-up disabled)
- Active High (pull-up disabled)
- Pull-up enabled
- Pull-up disabled

Selection Options

- Select output GPIO applies to
- Both amplified and extension outputs can be monitored

- GPIO can be configured as
 - Output with open collector
 - Output with open collector 100k internal pullup
 - Input with 100k internal pullup
 - VCA input supporting 500k linear potentiometer

Host Name

The network host name is a user-friendly name to access the product instead of using an IP address. Simply enter the host name shown below into your web browser.

Format:

http://ausmonitor/ (Windows)

http://ausmonitor.local/ (MacOS X)

Note: Host name only supports up to 15 characters, not case-sensitive.

Update

3rd Party Control

Enabled



Port Number*

2626

2626

Save Configuration**

*Supported Port Numbers are from 1000 to 65534.

Note that changing these settings forces **system reboot.

IPv4 Properties

You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.

Obtain an IP Address automatically (DHCP Mode)

Use the following IP address:

IP Address • • •

Subnet Mask • • •

Default Gateway • • •

Update

1. Enter the host name to be used for network access. **1** Press Update.
2. The name entered is automatically to the correct format for either a Windows or MacOS system. **2**
3. If 3rd party control is being used specify the control protocol. **3**
4. Set the required port number and Save Configuration. **4** Note that this will force a system reboot to apply the port settings

Configuration

Export Amplifier Configurations **1**

Save Config

Import Amplifier Configurations **2**

Load Config

Factory Default **5**

Reset

Software Update

1. Download System File **3**

Download the latest Internet Series Amplifier System File from the Australian Monitor website or click on the button below.

Download

2. Load System File **4**

Your browser and amplifier will automatically reset.

Drop file here or click to upload. (.bin)

1. Exports current Amplifier Configuration file. **1** For security reasons this does not include account details.
2. Import an Amplifier Configuration file to the connected ISP amplifier. **2** This is an easy way to load identical setups into multiple amplifiers
3. Links to the Software Download page of australianmonitor.com.au where the latest Firmware can be downloaded to a PC. **3**
4. Upload a previously downloaded Firmware Update to the connected ISP amplifier **4**
5. Resets the connected ISP amplifier to the Factory Default status. **5** When this is done all loaded configurations are removed and accounts are set to the default Admin login.

Manage Accounts

2
Add a New Account

Delete Selected Account(s)

1

<input type="checkbox"/>	No.	Username	Active	3 Admin	4
<input type="checkbox"/>	1	admin	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Edit
<input type="checkbox"/>	2	user10	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Edit
<input type="checkbox"/>	3	user2	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Edit
<input type="checkbox"/>	4	user3	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Edit
<input type="checkbox"/>	5	user4	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Edit
<input type="checkbox"/>	6	user5	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Edit
<input type="checkbox"/>	7	user6	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Edit
<input type="checkbox"/>	8	user7	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Edit
<input type="checkbox"/>	9	user8	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Edit
<input type="checkbox"/>	10	user9	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Edit

1. Up to 10 User accounts can be setup **1** for each ISP amplifier
2. Add a new account **2** or edit an existing account
3. An account can be set to either Active or Admin privileges **3**
 - I. Active allows access to the Home screen only permitting the user to adjust output volume only
 - II. Admin allows a user full access to all system features
4. The edit button allows the name and password of each user account to be set or maintained as well as assigning privileges. **4**

www.australianmonitor.com.au

- Ceiling speaker spacing calculator
- SPL calculator
- Range Guide online and downloadable
- Application notes now online
- System builder
- Simplified searching within product groups
- Discontinued products

