

INTEGRAL- MA1002 | 1502 | 2004 | 3004
USER MANUAL





Before using the device, read the “Safety Precautions” section of this manual. Keep this manual for future reference.

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Safety precautions

Keep these instructions. Read these instructions.

Heed all warnings. Follow all instructions.



The exclamation point within an equilateral triangle is intended to alert the user of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

WARNING: Apparatus with CLASS I construction shall be connected to a MAINS socket outlet with a protective earthing connection.



The lightning flash with arrowhead symbol within an equilateral triangle is intended to alert the user to the presence of uninsulated "dangerous voltage". To reduce the risk of electric shock do not remove the cover. No user serviceable parts inside.

WARNING: To prevent injury, this apparatus must be securely attached to the rack in accordance with the installation instructions.

The connected outer wiring to these terminals requires of its installation by an instructed person and the use of a flexible cable already prepared.

Do not expose this device to rain or moisture. Do not use this apparatus near water (for example, swimming pools and fountains). Do not place any objects containing liquids, such as bottles or glasses, on the top of the unit. Do not splash liquids on the unit. IP-20 equipment. Clean only with a dry cloth. Do not use any solvent based cleaners.

Do not install near any heat sources such as radiators, stoves or other apparatus that produce heat. Do not block any ventilation openings, install in accordance with the manufacturer's instructions.

The cooling fans push cool air through one side and blow hot air out of the other side of the unit through the ventilating grilles. Do not block the sides of the amplifier (i.e. in a rack with grilles). Allow an air flow gap of 5cm or more on the sides. IF THE AIR IS NOT ALLOWED TO CIRCULATE, OVERHEATING WILL OCCUR.

Take care when mounting other equipment in the same rack. Working temperature ranges from 15°C to 45°C with a maximum relative humidity of 75%.

Unplug this apparatus during lightning storms, earthquakes or when unused for long periods of time.

Take into account that the nominal AC voltage is the value shown in the equipment $\pm 10\%$ (according to IEC 60065:2001).

Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles and the point where they exit from the apparatus.

Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as if the power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

The mains circuit breaker shall remain readily accessible.

To completely disconnect this equipment from the AC mains, disconnect the power cord from the mains circuit breaker.

This unit is fitted with a 3-wire power cord. For safety reasons, THE EARTH LEAD SHOULD NOT BE DISCONNECTED UNDER ANY CIRCUMSTANCES.

Where the amplifier is mounted in a rack and permanently connected to the mains, then the rack should be installed with a readily accessible connector or an ALL POLE circuit breaker with 3mm breaking distances.

The mains switch on the amplifiers only switches one pole of the mains supply, therefore for units with a detachable cord to be fully disconnected from the mains, the mains disconnect device (ie mains plug or mains coupler) should remain readily operable. For units with a fixed mains lead the external all pole circuit breaker with 3mm breaking distances is the disconnect device and therefore the installation of the amplifier shall be carried out in accordance with all the applicable installation rules.

Only use attachments/accessories specified by the manufacturer. Use only with the cart, tripod, bracket or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from a tip over.

This symbol on the product indicates that this product should not be treated as household waste. Instead it shall be handed over to the applicable collection point for the recycling of electrical and electronic equipment.



Declaration of conformity

DAS Audio Group, S.L.

C/ Islas Baleares, 24 - 46988

Pol. Fuente del Jarro - Valencia. Spain

declares, under its responsibility, that the product with the brand DAS AUDIO, models:

- » INTEGRAL-MA1002- GTIN:13: 8436596503601
- » INTEGRAL-MA1502 - GTIN-13: 8436596503595
- » INTEGRAL-MA2004 – GTIN-13: 8436596503588
- » INTEGRAL-MA3004 – GTIN-13: 8436596503496

It complies with the following European Union legislation:

- » DIRECTIVE 2014/35/EU (LVD)
- » DIRECTIVE 2014/30/EU (EMC)
- » DIRECTIVE 2011/65/EU (RoHS) & legislation amending RoHS directive
- » DIRECTIVE 2012/19/EU (WEEE)
- » REGULATION (EC) n.1907/2006 (REACH)
- » DIRECTIVE 2009/125/EC (Ecodesign)
- » REGULATION (EU) 2017/1369(Energy Labelling)
- » REGULATION (EU) 2025/40 (PPWR)

in accordance with the following Harmonized Standards:

- » EN 62368-1:2020 + A11:2020: Audio/video, information and communication technology equipment - Part 1: Safety requirements
- » EN 55032:2015 + A11:2020 + A1:2020: Electromagnetic compatibility of multimedia equipment. Emission requirements.
- » E 55035:2017 + A11:2020: Electromagnetic compatibility of multimedia equipment. Immunity requirements.
- » EN IEC 63000:2018: Technical documentation for the assessment of electrical and electronic products with respect to the restriction of hazardous substances.

Warranty

All DAS AUDIO products are covered against defects in materials and workmanship for a period of two years from the original date of purchase.

Eligible products may qualify for a free three-year warranty extension, providing a total warranty period of five years from the original date of purchase. To obtain the extension, the product must be registered on the DAS AUDIO website within the initial two-year warranty period and must comply with the applicable warranty terms and conditions.

The warranty does not cover damage caused by misuse, improper installation, incorrect operation, unauthorised modifications or repairs, accidents, negligence, normal wear and tear, or operation outside the product specifications.

Warranty repairs must be carried out exclusively by DAS AUDIO or by an authorised DAS AUDIO service centre. Do not open, modify or attempt to repair the product, as this may invalidate the warranty.

To submit a warranty claim, contact your nearest authorised DAS AUDIO service centre. The product must be returned with proof of purchase showing the original purchase date. Unless otherwise agreed, shipping costs and responsibility for the safe transport of the product to the service centre shall be borne by the sender.

Full warranty conditions, eligibility requirements and information about the extended warranty are available in the Support section of our website: www.dasaudio.com

Product description

The INTEGRAL-MA1002, MA1502, MA2004 and MA3004 models are part of the DAS Audio Integral Series, comprising a family of 2U rack-mount matrix amplifiers designed for permanent installation applications.

Model designation follows a clear channel-based convention: models ending in “2” are dual-channel amplifiers, while models ending in “4” are four-channel amplifiers.

All models integrate a powerful DSP engine, 4 analog inputs, and 4x4 DANTE digital audio networking, enabling flexible and scalable system configurations.

Control, configuration, and monitoring are managed via ALMA™ software or ALMAweb over IP networks, as well as through third-party systems using OSC (Open Sound Control). DANTE audio channels can be processed internally and routed back into the network when required. The amplifiers support both low impedance and high impedance (70V/100V) systems, ensuring compatibility with a wide range of installation scenarios. The units incorporate a full matrix architecture with advanced routing and priority management capabilities, allowing them to operate as a central control element within the system. Internal memory supports more than 100 global presets and over 200 output channel presets, including optimized configurations for DAS Audio systems. Each output channel can be configured independently, enabling tailored system setups across multiple zones or loudspeaker models.

Local operation is available via a 1.54” OLED display with rotary control, providing intuitive access to essential parameters such as input and output levels, preset recall, mute, source selection, link management functions, and priority settings. Signal level monitoring is also available directly from the front panel.

For external integration, the INTEGRAL-MA series includes a GPIO (General Purpose Input/Output) interface with 3.3V logic level, ground connection, and eight configurable pins via ALMA™, facilitating control from external devices.

Two of the analog inputs can be configured as microphone inputs with 12V phantom power. The units also integrate an Ethernet switch for daisy-chain network connections, eliminating the need for external switches. In addition, Wi-Fi and Bluetooth connectivity enable direct wireless operation via ALMAweb.

Product description

FRONT PANEL



- A) LEDS
- B) OLED DISPLAY DE 1.54"
- C) NAVIGATION BUTTONS

Product description

FRONT PANEL

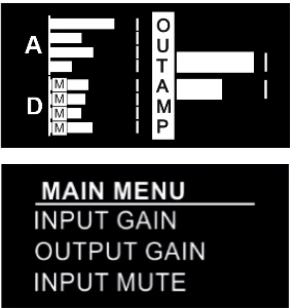
A) LEDS

- » PROTECT: When red it will indicate the unit has entered in protect mode due to thermal or other cause. It will blink in red when an ouput channel signal level reaches the limiter threshold.
- » SIGNAL/LIMIT: Green when audio signal is detected on whatever the output audio channels. It will lit in red when the limiter’s threshold of any output audio channel is reached.
- » COMMS: It will lit in orange when connected to a PC or mobile device and being controlled via ALMA or OSC.
- » ON: When the unit is connected and switched on the led will be in green color.

B) OLED DISPLAY DE 1.54"

The level of all input and output audio channels can be monitored with the display. “A” stands for analog audio input channels; “D” stands for digital Dante input channels. “M” indicates channel muted.

By the use of the display and the navigation buttons different menus will appear to configure the unit in a fast and intuitive way. Press “ENTER” to access the main menu:



C) NAVIGATION BUTTONS

There exist four navigation buttons, Back, Enter, Up and Down. With these buttons the end user can easily have access to different configuration menus.

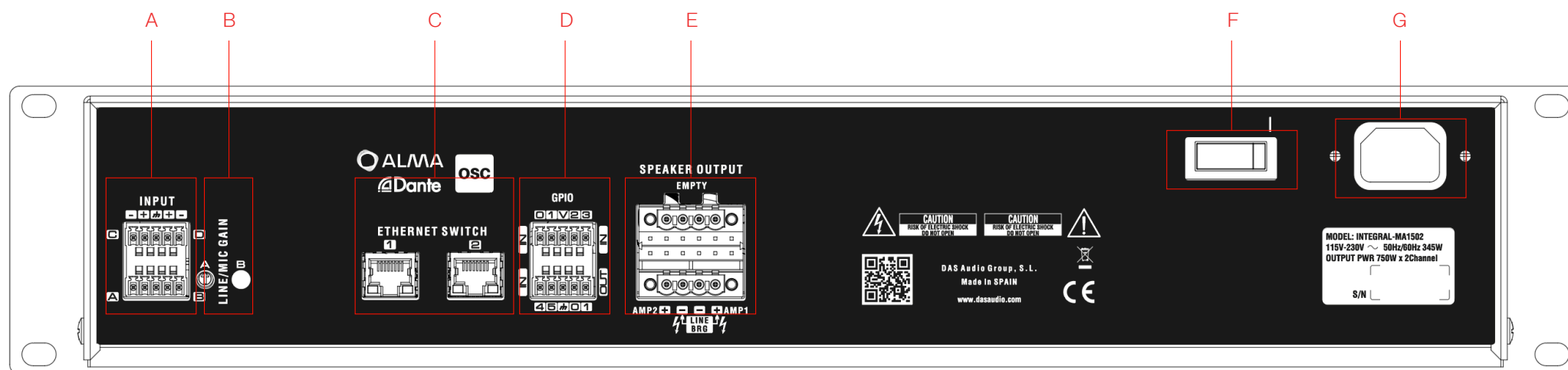
With the Back button the Display of the unit can be switched Off.

With the Down button the user access rapidly to IP address of the unit, the ID number and the current active preset. Next page when pressing Down will display information relative to BT Audio and ALMAWeb status:



Product description

REAR PANEL (2CH MODELS)



- A) BALANCED ANALOG INPUTS (IN)
- B) GAIN CONTROLS FOR MIC INPUTS (A AND B)
- C) RJ45 CONNECTORS
- D) GPIO CONNECTORS
- E) SPEAKER OUTPUTS
- F) ON / OFF SWITCH
- G) MAINS (IEC TYPE). CABLE PROVIDED WITH THE UNIT

Product description

REAR PANEL (2CH MODELS)

A) BALANCED ANALOG INPUTS (IN)

There exist four input channels, IN A, IN B, IN C, IN D; each pair uses a 5pin, 3.5mm pitch Terminal Block type connector (Included with the unit). Channels A and B can be destined to connect Microphones. Phantom power available on Inputs A and B. Phantom activated thru front display in the Options Menu or via ALMA.

B) GAIN CONTROLS FOR MIC INPUTS (A AND B)

Only to be used when having a microphone connected to IN A and / or IN B.

C) RJ45 CONNECTORS

There exist two RJ45 connectors with an internal ethernet switch to allow daisy chain connections between units. CAT5e minimum quality admitted.

RJ45 ports to be used:

- » Network connections to control the units via ALMA or OSC.
- » Sending or receiving DANTE digital audio.

D) GPIO CONNECTORS

The INTEGRAL-MA matrix amplifiers incorporate interaction via GPIOs for fast and ease control and monitoring. On the rear panel, there exist two 5 pin, 3.5mm pitch, terminal block type connectors providing access to:

- » 6x GPI
- » 2x GPO
- » 1x 3V3
- » 1x GND

E) SPEAKER OUTPUTS

5.08mm, 4 pin, Terminal Block connector (Included with the unit). Two Amplifier channels (processed): AMP-1, AMP-2. USE BOTTOM Connector; Upper (Empty) not operational in the 2CH models. AMP-1 + AMP-2 can be bridged for 100V/70V line operation.

F) ON / OFF SWITCH

G) MAINS (IEC TYPE). CABLE PROVIDED WITH THE UNIT.

The INTEGRAL-MA1002 and MA1502 incorporate a power factor corrected universal power supply, allowing operation with mains input voltages from 100 V AC to 240 V AC, 50/60 Hz.

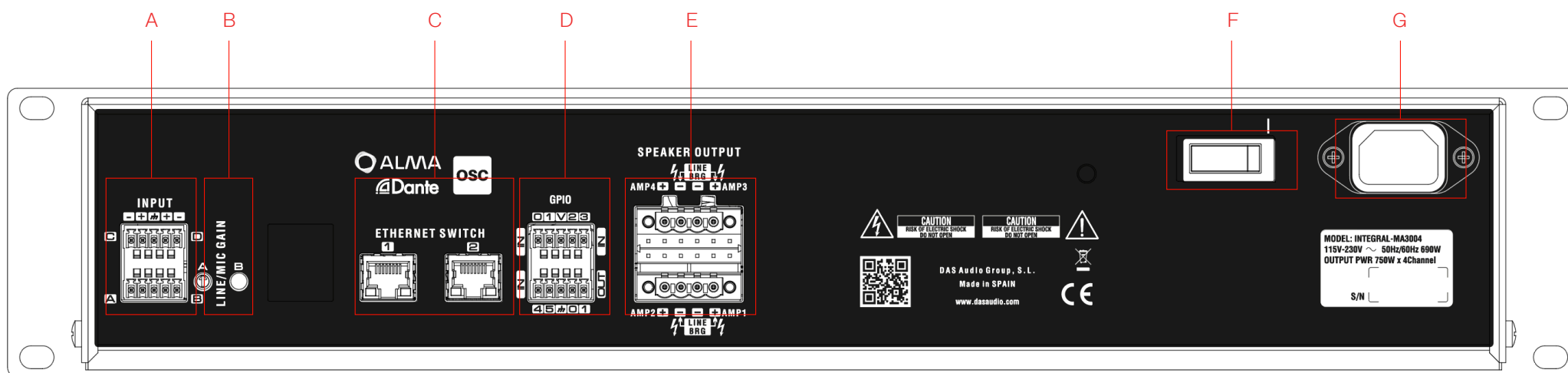
Use only the mains cable supplied with the unit.

The unit is equipped with a rear panel power switch. Press the switch to turn the unit on or off.

Before powering on the unit, ensure that all signal, control and output connections are correctly made.

Product description

REAR PANEL (4CH MODELS)



- A) BALANCED ANALOG INPUTS (IN)
- B) GAIN CONTROLS FOR MIC INPUTS (A AND B)
- C) RJ45 CONNECTORS
- D) GPIO CONNECTORS
- E) SPEAKER OUTPUTS
- F) ON / OFF SWITCH
- G) MAINS (IEC TYPE). CABLE PROVIDED WITH THE UNIT

Product description

REAR PANEL (4CH MODELS)

A) BALANCED ANALOG INPUTS (IN)

There exist four input channels, IN A, IN B, IN C, IN D; each pair uses a 5pin, 3.5mm pitch Terminal Block type connector (Included with the unit). Channels A and B can be destinated to connect Microphones. Phantom power available on Inputs A and B. Phantom activated thru front display in the Options Menu or via ALMA.

B) GAIN CONTROLS FOR MIC INPUTS (A AND B)

Only to be used when having a microphone connected to IN A and / or IN B.

C) RJ45 CONNECTORS

There exist two RJ45 connectors with an internal ethernet switch to allow daisy chain connections between units. CAT5e minimum quality admitted.

RJ45 ports to be used:

- » Network connections to control the units via ALMA or OSC.
- » Sending or receiving DANTE digital audio.

D) GPIO CONNECTORS

The INTEGRAL-MA matrix amplifiers incorporate interaction via GPIOs for fast and ease control and monitoring. On the rear panel, there exist two 5 pin, 3.5mm pitch, terminal block type connectors providing access to:

- » 6x GPI
- » 2x GPO
- » 1x 3V3
- » 1x GND

E) SPEAKER OUTPUTS

5.08mm, 4 pin, Terminal Block connector (Included with the unit). Two Amplifier channels (processed): AMP-1, AMP-2. BOTTOM Connector. Two Amplifier channels (processed): AMP-3, AMP-4. UPPER Connector. AMP-1 + AMP-2 // AMP-3 + AMP-4 can be bridged for 100V/70V line operation.

F) ON / OFF SWITCH

G) MAINS (IEC TYPE). CABLE PROVIDED WITH THE UNIT.

The INTEGRAL-MA1002 and MA1502 incorporate a power factor corrected universal power supply, allowing operation with mains input voltages from 100 V AC to 240 V AC, 50/60 Hz.

Use only the mains cable supplied with the unit.

The unit is equipped with a rear panel power switch. Press the switch to turn the unit on or off.

Before powering on the unit, ensure that all signal, control and output connections are correctly made.

Bridge mode operation

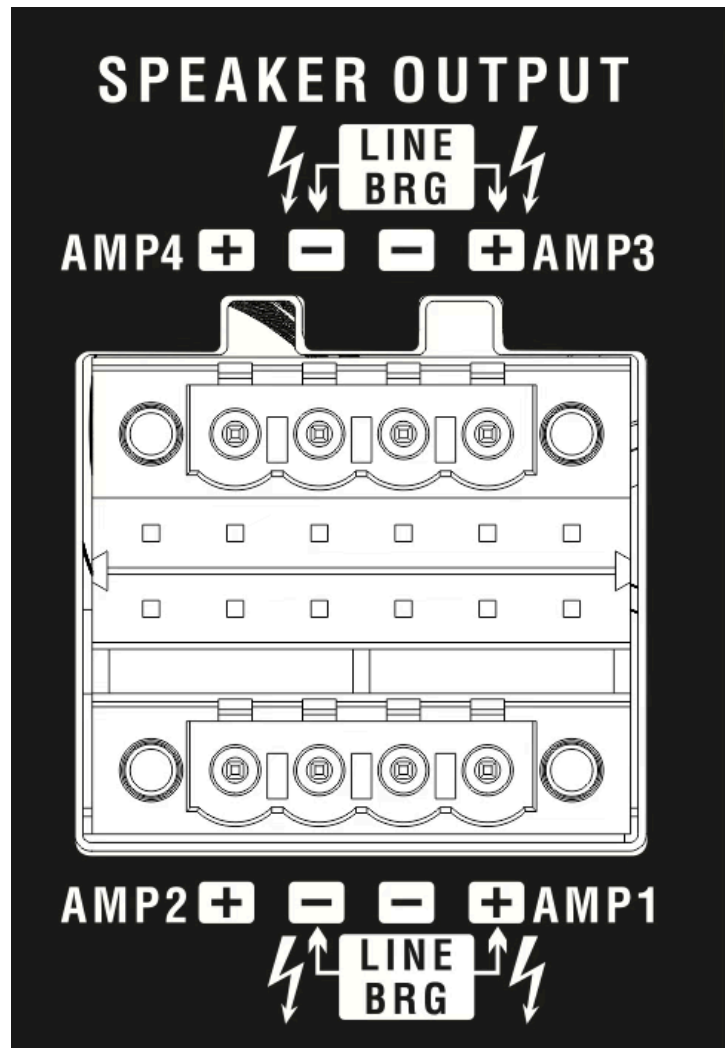
The INTEGRAL-MA1002, 1502, 2004 and 3004 matrix amplifiers support bridge mode operation, enabling higher output voltage for 70 V / 100 V line systems intended for high-impedance applications (Audio Systems with included Transformer).

Bridge mode is configured per channel pair as follows:

- » 2-channel models (MA1002, MA1502): Bridge operation is available between AMP-1 and AMP-2. The load must be connected using the positive terminal of AMP-1 (+) and the negative terminal of AMP-2 (-).
- » 4-channel models (MA2004, MA3004): Bridge operation is available for both channel pairs:
 - » AMP-1 and AMP-2
 - » AMP-3 and AMP-4

In both cases, the load is connected to the positive terminal of the first channel (+) and the negative terminal of the paired channel (-).

Bridge mode can be enabled via ALMA™ software, ALMA Web, or directly from the unit's front panel display. The minimum load impedance in bridge mode is 4 ohms.



Cable loss 100V/70V

For high quality installations with maximum 10% (1dB) cable losses, these are the maximum distances:

100V	Total Power of the line	Max. Distance (m / ft)
1.5mm2	1000W	50 / 164
AWG16	1500W	35 / 115
2mm2	1000W	70 / 230
AWG14	1500W	48 / 157
2.5mm2	1000W	90 / 295
AWG13-14	1500W	60 / 197
3.3mm2	1000W	117 / 384
AWG12	1500W	80 / 262

For 70V lines, divide the distances on the table by 2. For instance, for 1000W and 2mm2 cable the maximum distance would be 70m / 2 = 35meters.

Cable loss 2/4/8ohm

For high quality installations with maximum 10% (1dB) cable losses, these are the maximum distances:

	Max. Distance (m / ft)		
	8ohm	4ohm	2ohm
AWG16 o 1.5mm2	40 / 131	20 / 65.6	10 / 33
AWG14 o 2mm2	56 / 184	28 / 92	14 / 46
AWG13-14 o 2.5mm2	68 / 223	34 / 112	17 / 56
AWG12 o 3.3mm2	92 / 302	46 / 151	23 / 75

Auto IP

The INTEGRAL-MA1002, MA1502, MA2004 and MA3004 matrix amplifiers feature network control and monitoring via ALMA™ software over Ethernet.

By default, the units are configured in DHCP mode, allowing automatic IP address assignment when connected to a network with a DHCP server.

In the absence of a DHCP server, the amplifiers automatically enable AUTO IP mode and assign themselves an IP address within the 169.254.xxx.xxx range. This ensures direct device-to-device communication without requiring additional network infrastructure.

This functionality simplifies system setup and allows operation in standalone installations without the need for external routers or DHCP servers.

Standby mode

The INTEGRAL MA1002, MA1502, MA2004 and MA3004 amplifiers incorporate an energy-saving standby mode, which can be enabled from the unit's front panel display. When enabled, the standby timeout can be configured to 1, 5, 15, 30 or 60 minutes. If no input signal is detected on any channel during the selected period, the unit automatically enters standby mode.

The unit will automatically resume normal operation when signal presence is detected on any input channel.

Note: This function is intended for installations with intermittent audio usage, such as background music or paging systems, reducing power consumption when no signal is present.

Important: In systems with very low signal levels or high threshold settings, the unit may enter standby mode unintentionally. Ensure that input signal levels are sufficient to maintain normal operation when required.

GPIO control

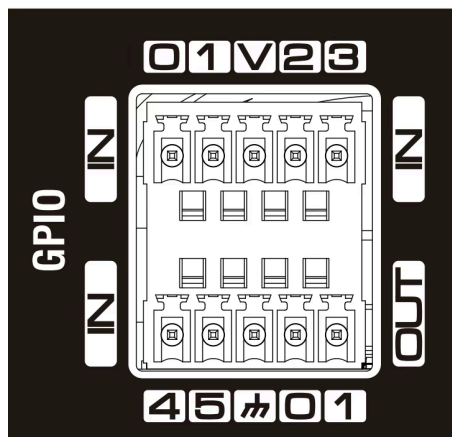
The INTEGRAL-M26X/M26D/M48D processors incorporate interaction via GPIOs for fast and ease control and monitoring. On the rear panel, there is a 10-pin Phoenix type connector that provides access to:

- » 6x GPI
- » 2x GPO
- » 1x 3V3
- » 1x GND

The pin-out diagram is as follows:

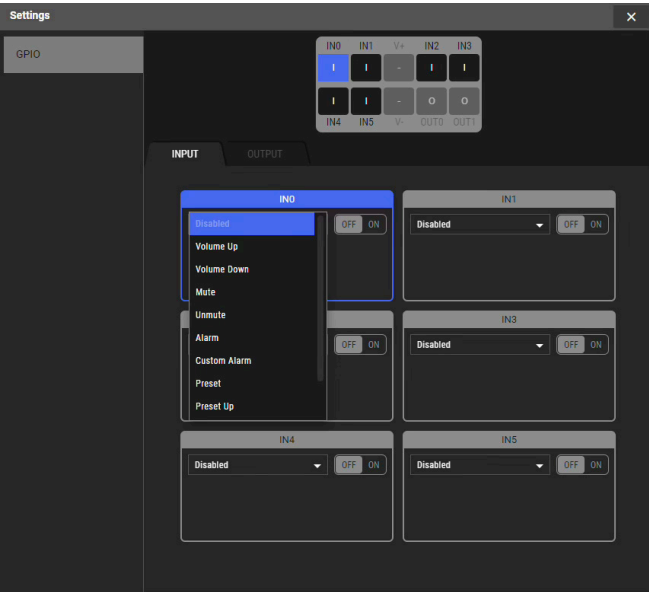


The configuration of the GPI is done via ALMA software by the use of OSC messages. This are the two Phoenix Type rear panel GPIO connectors for the above shown pin-out:



GPI operating modes

The 6 input GPI pins can trigger different actions depending on the operating mode selected by the user on ALMA. These are the possible actions that can be selected.



Disabled: The GPIO is disabled.

Volume Up/Down: The GPI allows you to decrease or increase the gain of any of the processor's output channels. It can be also a group of channels. The increment / decrement dB steps can vary from 1dB to 6dB. In the image below, GPI number 0 has been set to increase the level +5dB on outputs 1, 2, and 3 simultaneously:



Mute: The GPI allows muting of the channels selected.



Unmute: The GPIO allows unmuteing of the muted channels selected.



Alarm: This GPI configuration mutes all outputs of the M26X/M26D system when a falling edge is detected on the input GPI.



Custom Alarm: This GPI configuration allows a more complex alarm system. The user can route an specific Input Signal to any output(s). To do this, simply select the input channel 1 or 2, and route the output(s) that are going to reproduce it. The rest of the system's inputs and outputs will be muted when a falling edge is detected.

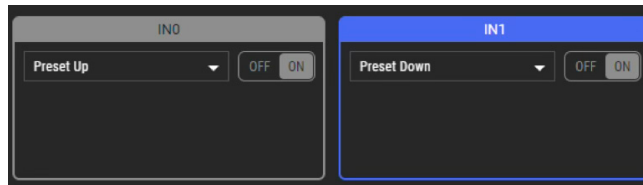


In the above image Input Signal from Input channel 2 has been routed to all the outputs. The Input Signal could an specific alarm message and signal injected from Input 1 would be overwrite.

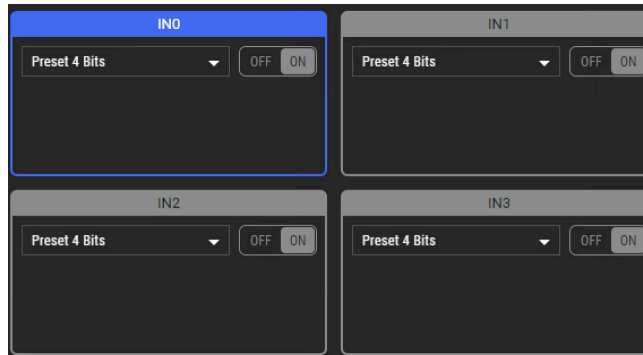
Preset: When the GPI is configured in preset mode, a GLOBAL preset selected in the configuration is recalled after detecting a falling edge in the signal.



Preset Up/Down: With these two GPI configurations, a GLOBAL preset (belonging to the bank of presets stored in the unit) can be selected by navigating thru the existing list with two buttons; one GPI Preset Up and one GPI Preset Down.



Preset 4 Bit: With this configuration, the first 4 GPIs (IN 0,1,2,3) are used to recall different presets from slots 1 to 16.



GPO Configuration Modes

The GPO pins can provide information about the processor's status. The following operating modes have been implemented:

Disabled: The GPIO is disabled.

Signal Present: The output GPO switches to 'O' when there is a signal in any of the output channels.



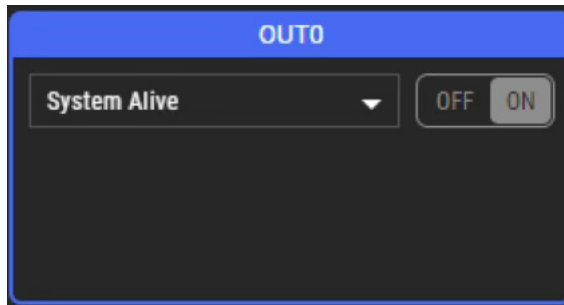
Signal Limit: The output GPO switches to 'O' when any of the output channel limiters is active.



IP Assigned: The GPO switches when the device receives an IP configuration from a DHCP server or when it is in static configuration.



System Alive: The output GPO switches its signal every 500ms. This configuration is useful to indicate to other devices that the M26X system is operational.



Mute Status: With this GPO configuration, the pin will mark OV when any output channel has an active mute.



Electrical Characteristics

	GPI	GPO
Voltage range	3.3 - 5V	3.3 - 5V
	Input impedance: 1Mega ohm	Max Current output: 7mA

Product specifications

INTEGRAL	MA1002	MA1502	MA2004	MA3004
OUTPUT POWER RATINGS				
Amplifier Channels	2	2	4	4
Power 8 Ω , Both Ch. Driven	2 x 250 W	2 x 400 W	4 x 250 W	4 x 400 W
Power 8 Ω Bridged	1 x 1000 W	1 x 1500 W	2 x 1000 W	2 x 1500 W
Power 4 Ω , Both Ch. Driven	2 x 500 W	2 x 750 W	4 x 500 W	4 x 750 W
Power 4 Ω Bridged	1 x 1000 W	1 x 1500 W	2 x 1000 W	2 x 1500 W
Power 2 Ω	2 x 500 W	2 x 750 W	4 x 500 W	4 x 750 W
Power 100 V	1 x 1000 W	1 x 1500 W	2 x 1000 W	2 x 1500 W
Power 70 V	1 x 1000 W	1 x 1200 W	2 x 1000 W	2 x 1200 W
ELECTRONICS AND AUDIO				
Amplifier Output Circuitry	Class D	Class D	Class D	Class D
Frequency Response	20 Hz – 30 kHz (+0 / –0.5 dB)	20 Hz – 30 kHz (+0 / –0.5 dB)	20 Hz – 30 kHz (+0 / –0.5 dB)	20 Hz – 30 kHz (+0 / –0.5 dB)
Input Sensitivity	+20 dBu	+20 dBu	+20 dBu	+20 dBu
Max Input Level	+22 dBu	+22 dBu	+22 dBu	+22 dBu
Voltage Gain	15.5 dB	17.5 dB	15.5 dB	17.5 dB
Controls	Power On/Off Navigation knobs	Power On/Off Navigation knobs	Power On/Off Navigation knobs	Power On/Off Navigation knobs

INTEGRAL	MA1002	MA1502	MA2004	MA3004
Display	OLED 1.54"	OLED 1.54"	OLED 1.54"	OLED 1.54"
Cooling	Side-Right-to-Left	Side-Right-to-Left	Side-Right-to-Left	Side-Right-to-Left
Amplifier Protections	Short Circuit, DC Output, Temp, Over/Under Voltage	Short Circuit, DC Output, Temp, Over/Under Voltage	Short Circuit, DC Output, Temp, Over/Under Voltage	Short Circuit, DC Output, Temp, Over/Under Voltage
LED Indicators	On, Comms Signal, Protect	On, Comms Signal, Protect	On, Comms Signal, Protect	On, Comms Signal, Protect
Sampling Rate	48 kHz	48 kHz	48 kHz	48 kHz
CONNECTORS				
Analog Audio Input	2 x 3.5 mm Terminal Block	2 x 3.5 mm Terminal Block	2 x 3.5 mm Terminal Block	2 x 3.5 mm Terminal Block
DANTE Digital In/Out	2 x RJ45 Fast Ethernet	2 x RJ45 Fast Ethernet	2 x RJ45 Fast Ethernet	2 x RJ45 Fast Ethernet
Speaker Output	Terminal Block	Terminal Block	Terminal Block	Terminal Block
POWER				
AC Input Connector	IEC	IEC	IEC	IEC
Power Supply	Universal Mains Switch Mode	Universal Mains Switch Mode	Universal Mains Switch Mode	Universal Mains Switch Mode
Operating Range	90 – 250 VAC	90 – 250 VAC	90 – 250 VAC	90 – 250 VAC
Current Draw 230 V / 115 V	1.5 A / 3.0 A	1.5 A / 3.0 A	3.0 A / 6.0 A	3.0 A / 6.0 A
DSP				
Analog Input Channels	4	4	4	4
Analog Output Channels	2	2	4	4
DANTE Input Channels	4	4	4	4
DANTE Output Channels	4	4	4	4

INTEGRAL	MA1002	MA1502	MA2004	MA3004
AD / DA Converters	24 Bit @ 48 kHz 118 dBA	24 Bit @ 48 kHz 118 dBA	24 Bit @ 48 kHz 118 dBA	24 Bit @ 48 kHz 118 dBA
Internal Precision	32 Bit / 64 Bit Double Precision	32 Bit / 64 Bit Double Precision	32 Bit / 64 Bit Double Precision	32 Bit / 64 Bit Double Precision
Latency	1 ms	1 ms	1 ms	1 ms
Delay	50 ms/input 120 ms/output	50 ms/input 120 ms/output	50 ms/input 120 ms/output	50 ms/input 120 ms/output
Equalizer	Bell, Lo/Hi-Shelving, HOS	Bell, Lo/Hi-Shelving, HOS	Bell, Lo/Hi-Shelving, HOS	Bell, Lo/Hi-Shelving, HOS
Crossover	Linkwitz-Riley Butterworth, Bessel	Linkwitz-Riley Butterworth, Bessel	Linkwitz-Riley Butterworth, Bessel	Linkwitz-Riley Butterworth, Bessel
High and Low Pass Filters	Up to 48 dB/oct	Up to 48 dB/oct	Up to 48 dB/oct	Up to 48 dB/oct
Limiters	RMS, Peak	RMS, Peak	RMS, Peak	RMS, Peak
Load Monitoring	Yes	Yes	Yes	Yes
DIMENSIONS AND WEIGHT				
Dimensions (H x W x D)	88 x 483 x 208 mm 3.5 x 19.0 x 8.2 in	88 x 483 x 208 mm 3.5 x 19.0 x 8.2 in	88 x 483 x 208 mm 3.5 x 19.0 x 8.2 in	88 x 483 x 208 mm 3.5 x 19.0 x 8.2 in
Net Weight	3.8 kg (8.4 lb)	4.1 kg (9.0 lb)	4.7 kg (10.4 lb)	5.2 kg (11.5 lb)
SHIPPING				
Carton Dimensions (H x W x D)	170 x 525 x 315 mm 6.7 x 20.7 x 12.4 in	170 x 525 x 315 mm 6.7 x 20.7 x 12.4 in	170 x 525 x 315 mm 6.7 x 20.7 x 12.4 in	170 x 530 x 315 mm 6.7 x 20.9 x 12.4 in
Shipping Weight	4.6 kg (10.2 lb)	4.2 kg (10.8 lb)	5.5 kg (12.1 lb)	6.0 kg (13.2 lb)



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