

OUTLINE.
TTM and ISA
Series Multi
Purpose
Platform
Amplifier



OUTLINE TTM and ISA Series Multi Purpose Platform Amplifier User Guide

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OUTLINE TTM and ISA Series Multi Purpose Platform Amplifier



Specifications

- Series: TTM & ISA
- Max Number of Linked Speakers: Varies per model
- Application: Full Range, High Pass, PA
- Manufacturer EQ: Yes

FAQs

Q: Can I use different loudspeaker models together with these presets?

A: Yes, the preset structure is designed to accommodate different loudspeaker models of varying sizes within the TTM & ISA series.

Q: Do I need sophisticated measurement tools to adjust the delay?

A: While sophisticated tools can be beneficial, you can achieve a good level of system tuning by measuring the signal path difference between sources to determine the required delay.

Introduction

TTM and ISA series offer a loudspeaker preset library available on the ArmoniaPlus Marketplace. "TTM and ISA series offer a speaker preset library available on ArmoniaPlus Marketplace. The speaker presets can be loaded connecting the amplifiers to a PC running ArmoniaPlus through a fast ethernet connection. Even though on the TTM series it is also possible to load the speaker presets directly using the touch screen, we strongly recommend that you use ArmoniaPlus to select the perfect configuration of presets.

ArmoniaPlus is the default configuring interface that allows system setting and customization of TTM and ISA amplifiers. It is available for download for free from the Armonia website, where a startup guide and in-depth tutorials are also provided:

<https://armonia.powersoft.it/> Each loudspeaker model has one or more presets, and the aim of this guide is to provide help on how to use them, as well as to have an overview so you can choose the one that best suits your application needs. The following data is given:

- N° of ways indicates the number of ways for the relative preset, as well as the number of required channels;
- Type of ways is a ways description that defines the section of the channel:
 - LF – low frequencies,

- MF – mid frequencies,
- HF – high frequencies,
- MH – mid-high frequencies,
- BS – bass frequencies,
- PA – passive speaker,

Preset Layout

Here's a little explanation of the preset layout, with delay, gain, and equalization configurations. Please note that the multi-way speaker presets already

Delay

Almost all the systems are pre-aligned and phase compliant: it means that from the largest system down to the smallest one, the majority of Outline products feature the same phase curve slope, except for all the discontinued products or those dedicated to special applications. In fact, by positioning the enclosures with the front grilles one above the other, they will be perfectly aligned over time even using different applications (for example FR and HP). To align two enclosures, it is sufficient to measure the difference in a signal path between the sources to find the RE–rear subwoofer for cardioid configuration.

The application defines the preset contour or the use the preset is designed for:

- FR – full range – maximum frequency extension of the loudspeaker,
- HP – high pass – high pass version of the loudspeaker,
- SUB – subwoofer – subwoofer application of the loudspeaker,
- INFRA – infra application of the subwoofer,
- Rear Cardio – rear subwoofer in cardioid configuration (the number 2+1 or similar means how many subwoofers must be front-oriented vs how many of them must be rear-oriented)
- BASS – bass application of the loudspeaker.
- A maximum number of linked speakers shows the maximum number of loudspeakers that it is possible to link for each amp and per channel. Exceeding the maximum number of elements per channel or amp can result in damage to the amplifier and the speakers.
- Manufacturer EQ is a set of equalizations aimed at compensating known behaviors (like loudspeaker coupling, air loss, etc.). This guide indicates whether the preset model has the MEQs and which are the available options. Please, refer to the relative section here below for more details.
- Electronic HPF/LPF, electronic preset cut-off frequency: high pass filters are given for top loudspeakers and low pass filters for the subwoofers. These data could be different from the acoustic frequency cut-off. include all required output channels, which are linked together ensuring that the speaker is driven correctly. delay must be added to obtain the perfect audio signal sum. So even if you do not have any sophisticated measurement system, you can actually achieve a good level of system tuning. In any case, we strongly suggest that you use measurement software so you can verify the predicted acoustic coverage and compensate for any non-simulated ambiance behavior.

Gain

- Furthermore, the preset structure is designed to use different loudspeaker models of different sizes together

(again, from the largest system down to the smallest one),

Manufacturer EQ

MEQ are a set of equalizations designed to compensate the frequency response of the loudspeakers depending on the mechanical configuration or a specific application. There are three categories (A, B, C) available:

- Category A: selectable amount of boxes that make up the whole array to compensate for loudspeaker coupling, providing the right contour for the system. The Ai 41 and Ai 81 loudspeakers offer two options
 - reaching their limiters at the same input level with default Gain settings.
 - related to as a 'Single Speaker' or as a 'Stereo Set' use;
- Category B: selectable distance to be covered to compensate for the air absorption. A-series offers two distinct options for different configurations, such as 'Wall Mounted' or 'Free Standing';
- Category C: special application of the loudspeakers.

Arena

Model	Ways		Appli cation	Max number of li nked spekers per channel (per amp)			Manufacturer EQ						Elec tron ic H PF	Elec tron ic L PF	Phas e co mplia nt
	N °	Typ e		TT M12 K4	TT M8 K4	ISA 4D3 2	C at. A	Dec.	C at. B	Dec.	C at. C	Dec.			
Arena 215 CX Bi-Amp	2	LF MH	Full Rang e	2 (4)	2 (4)	–	N		N		N		35 Hz		Y
Arena 215 CX Bi-Amp	2	LF MH	High Pass	2 (4)	2 (4)	–	N		N		N		110 Hz		Y
Arena 215 CX Mono A mp	1	PA	Full Rang e	1 (4)	1 (4)	–	N		N		N		35 Hz		Y
Arena 215 CX Mono A mp	1	PA	High Pass	1 (4)	1 (4)	–	N		N		N		110 Hz		Y

A-series

Model	Ways		Appli cation	Max number of li nked speakers p er channel (per a mp)			Manufacturer EQ						Elec tronic H PF	Elec tronic LP F	Phas e co mplia nt
	N °	Typ e		TT M12 K4	TT M8 K4	ISA 4D3 2	C at. A	Dec.	C at. B	Dec.	C at. C	Dec.			
AS6	1	SB	Sub	4 (1 6)	4 (1 6)	3 (1 2)	N		Y*	free-st anding , wall- mount ed	N			100 Hz	Y
AS6	1	SB	Sub High	4 (1 6)	4 (1 6)	3 (1 2)	N		Y*	free-st anding , wall- mount ed	N			259 Hz	Y
Ai41	1	PA	High Pass	4 (1 6)	4 (1 6)	4 (1 6)	Y*	single speak er, ste reo set	Y*	free-st anding , wall- mount ed	N		245 Hz		Y
Ai81	1	PA	High Pass	8 (3 2)	8 (3 2)	8 (3 2)	Y*	single speak er, ste reo set	Y*	free-st anding , wall- mount ed	N		245 Hz		Y
Charlie 4	1	PA	Full Rang e	8 (3 2)	8 (3 2)	6 (2 4)	N		N		N		115 Hz		Y
Charlie 4	1	PA	High Pass	8 (3 2)	8 (3 2)	6 (2 4)	N		N		N		115 Hz		Y

Butterfly

Model	Ways		Appli cation	Max number of li nked spekers per channel (per amp)			Manufacturer EQ						Elec tron ic H PF	Elec troni c LP F	Phas e co mplia nt
	N °	Typ e		TT M12 K4	TT M8 K4	ISA 4D3 2	C at. A	Dec.	C at. B	Dec.	C at. C	Dec.			
Butterfly	2	LF HF	High Pass	2 (4)	1 (2)	–	N		N		N		110 Hz		Y
Butterfly C DL 1815	2	SB RE	Sub	2 (4)	1 (2)	–	N		N		N			110 Hz	Y

Doppia 2

Model	Ways		Appli cation	Max number of li nked spekers per channel (per amp)			Manufacturer EQ						Elec tron ic H PF	Elec tron ic L PF	Phas e co mplia nt
	N °	Typ e		TT M12 K4	TT M8 K4	ISA 4D3 2	C at. A	Dec.	C at. B	Dec.	C at. C	Dec.			
Doppia 2 A 5040	3	LF MF HF	Full Rang e	2 (2)	2 (2)	1 (1)	N		N		N		40 Hz		Only with DOP PIA 2 serie s
Doppia 2 A 5040	3	LF MF HF	High Pass	2 (2)	2 (2)	1 (1)	N		N		N		80 Hz		Only with DOP PIA 2 serie s
Doppia 2 A 9075	3	LF MF HF	Full Rang e	2 (2)	2 (2)	1 (1)	N		N		N		40 Hz		Only with DOP PIA 2 serie s

Doppia 2 A 9075	3	LF MF HF	High Pass	2 (2)	2 (2)	1 (1)	N		N		N		80 Hz		Only with DOP PIA 2 series
Doppia 2 P 5040	2	LF MH	Full Range	2 (4)	2 (4)	1 (2)	N		N		N		40 Hz		Only with DOP PIA 2 series
Doppia 2 P 5040	2	LF MH	High Pass	2 (4)	2 (4)	1 (2)	N		N		N		80 Hz		Only with DOP PIA 2 series
Doppia 2 P 9075	2	LF MH	Full Range	2 (4)	2 (4)	1 (2)	N		N		N		40 Hz		Only with DOP PIA 2 series
Doppia 2 P 9075	2	LF MH	High Pass	2 (4)	2 (4)	1 (2)	N		N		N		80 Hz		Only with DOP PIA 2 series

DVS

Model	Ways		Appli cation	Max number of li nked spekers per channel (per amp)			Manufacturer EQ						Elec tron ic H PF	Elec tron ic L PF	Phas e co mplia nt
	N °	Typ e		TT M12 K4	TT M8 K4	ISA 4D3 2	C at. A	Desc.	C at. B	Desc.	C at. C	Desc.			
DVS 12	1	PA	Full Rang e	2 (8)	2 (8)	1 (4)	N		N		N		40 Hz		Only with DVS serie s
DVS 12	1	PA	High Pass	2 (8)	2 (8)	1 (4)	N		N		N		90 Hz		Only with DVS serie s
DVS 15	1	PA	Full Rang e	2 (8)	2 (8)	1 (4)	N		N		N		40 Hz		Only with DVS serie s
DVS 15	1	PA	High Pass	2 (8)	2 (8)	1 (4)	N		N		N		80 Hz		Only with DVS serie s

Eidos

Model	Ways		Appli cation	Max number of li nked spekers per channel (per amp)			Manufacturer EQ						Elec tron ic H PF	Elec tron ic L PF	Phas e co mplia nt
	N °	Typ e		TT M12 K4	TT M8 K4	ISA 4D3 2	C at. A	Desc.	C at. B	Desc.	C at. C	Desc.			
Eidos 10	1	PA	Full Rang e	4 (1 6)	4 (1 6)	2 (8)	N		N		N		60 Hz		Only with EIDO S ser ies
Eidos 10	1	PA	High Pass	4 (1 6)	4 (1 6)	2 (8)	N		N		N		100 Hz		Only with EIDO S ser ies

Eidos 12	1	PA	Full Range	3 (12)	3 (12)	2 (6)	N		N		N		50 Hz		Only with EIDOS series
Eidos 12	1	PA	High Pass	3 (12)	3 (12)	2 (6)	N		N		N		100 Hz		Only with EIDOS series
Eidos 15	1	PA	Full Range	2 (8)	2 (8)	2 (5)	N		N		N		40 Hz		Only with EIDOS series
Eidos 15	1	PA	High Pass	2 (8)	2 (8)	2 (5)	N		N		N		100 Hz		Only with EIDOS series
Eidos 265	1	PA	Full Range	2 (8)	2 (8)	2 (4)	Y	02 to 04 boxes, 05 to 08 boxes, 09 to 12 boxes, single box	Y	05 to 10 m, 10 to 20 m, 20 to 30 m, 30 to 40 m, 40 m and more	N		65 Hz		Y

Eidos

Model	Ways		Appli cation	Max number of li nked spekers per channel (per amp)			Manufacturer EQ						Elec tron ic H PF	Elec tron ic L PF	Phas e co mplia nt
	N °	Typ e		TT M12 K4	TT M8 K4	ISA 4D3 2	C at. A	Desc.	C at. B	Desc.	C at. C	Desc.			
Eidos 265	1	PA	High Pass	2 (8)	2 (8)	2 (4)	Y	02 to 04 box es, 05 to 08 box es, 09 to 12 box es, sin gle bo x	Y	05 to 10 m, 10 to 20 m, 20 to 30 m, 30 to 40 m, 40 m and m ore	N		100 Hz		Y
Eidos 6.5	1	PA	Full Rang e	4 (1 6)	4 (1 6)	3 (8)	N		N		N		53 Hz		Only with EIDO S ser ies
Eidos 6.5	1	PA	High Pass	4 (1 6)	4 (1 6)	3 (8)	N		N		N		100 Hz		Only with t he EI DOS serie s
Eidos X123 W	1	PA	Full Rang e	2 (8)	2 (8)	2 (4)	N		N		N		40 Hz		Only with t he EI DOS serie s
Eidos X123 W	1	PA	High Pass	2 (8)	2 (8)	2 (4)	N		N		N		100 Hz		Only with t he EI DOS serie s

GTO

Model	Ways		Appli cation	Max number of li nked speakers p er channel (per a mp)			Manufacturer EQ						Elec tron ic H PF	Elec tron ic L PF	Phas e co mplia nt
	N °	Typ e		TT M12 K4	TT M8 K4	ISA 4D3 2	C at. A	Dec.	C at. B	Dec.	C at. C	Dec.			
C12	4	MF HF L1 L2	Full Rang e	2 (2)	—	—	Y	03 box es, 06 box es, 09 box es, 12 box es, 15 box es, 18 box es, 21 box es, 24 box es	Y	05 to 15 m, 15 to 30 m, 30 to 45 m, 45 to 60 m, 60 m and m ore	N		45 Hz	Y	
C12	4	MF HF L1 L2	High Pass	2 (2)	—	—	Y	03 box es, 06 box es, 09 box es, 12 box es, 15 box es, 18 box es, 21 box es, 24 box es	Y	05 to 15 m, 15 to 30 m, 30 to 45 m, 45 to 60 m, 60 m and m ore	N		50 Hz	Y	

Model	Ways		Appli cation	Max number of li nked spekers per channel (per amp)			Manufacturer EQ						Elec tron ic H PF	Elec tron ic L PF	Phas e co mplia nt
	N °	Typ e		TT M12 K4	TT M8 K4	ISA 4D3 2	C at. A	Dec.	C at. B	Dec.	C at. C	Dec.			
GTO	4	MF HF L1 L2	Full Rang e	2 (2)	—	—	Y	03 box es, 06 box es, 09 box es, 12 box es, 15 box es, 18 box es, 21 box es, 24 box es	Y	05 to 15 m, 15 to 30 m, 30 to 45 m, 45 to 60 m, 60 m and m ore	N		60 Hz		Y
GTO	4	MF HF L1 L2	High Pass	2 (2)	—	—	Y	03 box es, 06 box es, 09 box es, 12 box es, 15 box es, 18 box es, 21 box es, 24 box es	Y	05 to 15 m, 15 to 30 m, 30 to 45 m, 45 to 60 m, 60 m and m ore	N		60 Hz		Y
GTO Low	2	L1 L2	Full Rang e	2 (4)	—	—	N		N		N		60 Hz		Y

GTO Low	2	L1 L2	High Pass	2 (4)	–	–	N		N		N		60 Hz		Y
GTO-DF	2	MF HF	Full Range	1 (2)	–	–	N		N		N		120 Hz		Y
GTO-DF	2	MF HF	High Pass	1 (2)	–	–	N		N		N		120 Hz		Y
LIPF 082	2	LF HF	Full Range	3 (6)	–	–	N		N		N		120 Hz		Y
LIPF 082	2	LF HF	High Pass	3 (6)	–	–	N		N		N		160 Hz		Y

Hard 212

Model	Ways		Appli cation	Max number of li nked spekers per channel (per amp)			Manufacturer EQ						Elec tron ic H PF	Elec tron ic L PF	Phas e co mpla nt
	N °	Typ e		TT M12 K4	TT M8 K4	ISA 4D3 2	C at. A	Desc.	C at. B	Desc.	C at. C	Desc.			
Hard 212	2	LF HF	Full Rang e	2 (4)	2 (4)	–	N		N		N		65 Hz		N
Hard 212	2	LF HF	High Pass	2 (4)	2 (4)	–	N		N		N		100 Hz		N

Ki

Model	Ways		Appli cation	Max number of li nked speakers p er channel (per a mp)			Manufacturer EQ						Elec tron ic H PF	Elec tron ic L PF	Phas e co mplia nt
	N °	Typ e		TT M12 K4	TT M8 K4	ISA 4D3 2	C at. A	Dec.	C at. B	Dec.	C at. C	Dec.			
Ki10	1	PA	Full Rang e	4 (1 6)	4 (1 6)	1 (4)	N		N		Y	standa rd, kar aoke	50 Hz		Y
Ki10	1	PA	High Pass	4 (1 6)	4 (1 6)	1 (4)	N		N		Y	standa rd, karaok e	120 Hz		Y
Ki12	1	PA	Full Rang e	3 (1 2)	3 (1 2)	1 (4)	N		N		Y	standa rd, kar aoke	50 Hz		Y
Ki12	1	PA	High Pass	3 (1 2)	3 (1 2)	1 (4)	N		N		Y	standa rd, karaok e	120 Hz		Y

Mantas

Model	Ways		Appli cation	Max number of li nked speakers p er channel (per a mp)			Manufacturer EQ						Elec tron ic H PF	Elec tron ic L PF	Phas e co mplia nt
	N °	Typ e		TT M12 K4	TT M8 K4	ISA 4D3 2	C at. A	Dec.	C at. B	Dec.	C at. C	Dec.			
Mantas	2	LF HF	High Pass	3 (6)	2 (4)	–	N		N		N		100 Hz		Y

Mantas 28

Model	Ways		Appli cation	Max number of li nked spekers per channel (per amp)			Manufacturer EQ						Elec tron ic H PF	Elec tron ic L PF	Phas e co mplia nt
	N °	Typ e		TT M12 K4	TT M8 K4	ISA 4D3 2	C at. A	Dec.	C at. B	Dec.	C at. C	Dec.			
Mantas 28	2	LF HF	Full Rang e	3 (6)	2 (4)	–	Y	01 bo x, 02 boxes, 03 boxes, 04 boxes, 06 box es, 08 box es, 10 box es, 12 box es, 16 box es, 20 box es, 24 box es	Y	05 to 1 5 m, 15 to 2 5 m, 25 to 3 5 m, 35 to 4 5 m, 45 to 5 5 m, 5 5 m an d more , front fil l	N		100 Hz		Y

Model	Ways		Appli cation	Max number of li nked spekers per channel (per amp)			Manufacturer EQ						Elec tron ic H PF	Elec tron ic L PF	Phas e co mplia nt
	N °	Typ e		TT M12 K4	TT M8 K4	ISA 4D3 2	C at. A	Desc.	C at. B	Desc.	C at. C	Desc.			
Mantas 28	2	LF HF	High Pass	3 (6)	2 (4)	–	Y	01 bo x, 02 boxes, 03 boxes, 04 boxes, 06 box es, 08 box es, 10 box es, 12 box es, 16 box es, 20 box es, 24 box es	Y	05 to 1 5 m, 15 to 2 5 m, 25 to 3 5 m, 35 to 4 5 m, 45 to 5 5 m, 5 5 m an d more , front fil l	N		100 Hz		Y

Monaco

Model	Ways		Appli cation	Max number of li nked spekers per channel (per amp)			Manufacturer EQ						Elec tron ic H PF	Elec tron ic L PF	Phas e co mplia nt
	N °	Typ e		TT M12 K4	TT M8 K4	ISA 4D3 2	C at. A	Dec.	C at. B	Dec.	C at. C	Dec.			
Monaco 21 5CX Bi-Am p	2	LF MH	Full Rang e	2 (4)	2 (4)	–	N		N		N		35 Hz		Y
Monaco 21 5CX Bi-Am p	2	LF MH	High Pass	2 (4)	2 (4)	–	N		N		N		110 Hz		Y
Monaco 21 5CX Mono Amp	1	PA	Full Rang e	1 (4)	1 (4)	–	N		N		N		35 Hz		Y
Monaco 21 5CX Mono Amp	1	PA	High Pass	1 (4)	1 (4)	–	N		N		N		110 Hz		Y

Movie

Model	Ways		Appli cation	Max number of li nked spekers per channel (per amp)			Manufacturer EQ						Elec tron ic H PF	Elec troni c LP F	Phas e co mplia nt
	N °	Typ e		TT M12 K4	TT M8 K4	ISA 4D3 2	C at. A	Dec.	C at. B	Dec.	C at. C	Dec.			
MV1CX	1	PA	Full Rang e	2 (8)	2 (8)	1 (3)	N		N		N		52 Hz		Only with t he M OVIE serie s
MV2CX	1	PA	Full Rang e	1 (4)	1 (4)	1 (2)	N		N		N		28 Hz		Only with t he M OVIE serie s
MVB215	1	BS	Bass	1 (4)	1 (4)	1 (2)	N		N		N			320 Hz	Only with t he M OVIE serie s

	MV1 CX	1	PA	Full Ran ge	2 (8)	2 (8)	1 (3)	N		N		N		52 Hz		Onl y w ith the M OV IE ser ies
	MV2 CX	1	PA	Full Ran ge	1 (4)	1 (4)	1 (2)	N		N		N		28 Hz		Onl y w ith the M OV IE ser ies
	MVB 215	1	BS	Bass	1 (4)	1 (4)	1 (2)	N		N		N			320 Hz	Onl y w ith the M OV IE ser ies
	MVB 215	2	BS BS	Bass 2 Ch .	3 (6)	2 (4)	2 (2)	N		N		N			320 Hz	Onl y w ith the M OV IE ser ies
	MVF X101	1	PA	Full Ran ge	4 (16)	4 (16)	2 (8)	N		N		N		45 Hz		Onl y w ith M OV IE ser ies
	MVH 102	1	MH	Full Ran ge	3 (12)	2 (8)	1 (4)	N		N		N		350 Hz		Onl y w ith the M OV IE ser ies

	MVS 118	1	SB	Sub	2 (8)	2 (8)	1 (4)	N		N		N			150 Hz	Only with the MOVIE series
	MVS 218	1	SB	Sub	1 (4)	1 (4)	1 (2)	N		N		N			150 Hz	Only with the MOVIE series
	MVS 218	2	SB SB	Sub 2 Ch	3 (6)	2 (4)	2 (2)	N		N		N			150 Hz	Only with the MOVIE series
M o d e l	Ways		Appl i c a t i o n	Max number of link ed speakers per ch annel (per amp)			Manufacturer EQ						Ele c t r o n i c H P F	Ele c t r o n i c L P F	P h a s e c o m p l i a n t	
	N°	T y p e		TTM 12K4	TTM 8K4	ISA4 D32	Cat. A	Dec.	Cat. B	Dec.	Cat. C	Dec.				
Scala 100-30	2	LF HF	Full Range	1 (2)	1 (2)	–	Y	01 boxes, 02 boxes, 03 boxes, 04 boxes, 05 boxes, 06 boxes	Y	05 to 15 m , 15 to 25 m , 25 to 40 m , 40 to 60 m	Y	standard , FIFA compliant	75 Hz	Y		

Scala 10-30	2	LF HF	High Pass	1 (2)	1 (2)	–	Y	01 box, 02 boxes, 03 boxes, 04 boxes, 05 boxes, 06 boxes	Y	05 to 15 m , 15 to 25 m , 25 to 40 m , 40 to 60 m	Y	standard, FIFA compliant	120 Hz	Y	
Scala 90	2	LF HF	Horizontal Array FR	3 (6)	2 (4)	–	Y	2 to 3 boxes, 4 to 6 boxes, single box	N		N		70 Hz	Y	
Scala 90	2	LF HF	Horizontal Array HP	3 (6)	2 (4)	–	Y	2 to 3 boxes, 4 to 6 boxes, single box	N		N		100 Hz	Y	

Scala

Model	Ways		Appli- cation	Max number of li nked speakers p er channel (per a mp)			Manufacturer EQ						Elec- tron ic H PF	Elec- tron ic L PF	Phas e co mplia nt
	N °	Type		TT M12 K4	TT M8 K4	ISA 4D3 2	C at. A	Dec.	C at. B	Dec.	C at. C	Dec.			
Scala 90	2	LF HF	Verti- cal A rray FR	3 (6)	2 (4)	–	Y	2 to 3 boxes, 4 to 6 boxes, single box	Y	05 to 2 0 m, 20 to 4 0 m, 40 to 6 0 m	N		70 Hz		Y
Scala 90	2	LF HF	Verti- cal A rray HP	3 (6)	2 (4)	–	Y	2 to 3 boxes, 4 to 6 boxes, single box	Y	05 to 2 0 m, 20 to 4 0 m, 40 to 6 0 m	N		100 Hz		Y

SM

Model	Ways		Appli- cation	Max number of li nked spekers per channel (per amp)			Manufacturer EQ						Elec- tron ic H PF	Elec- tron ic L PF	Phas e co mplia nt
	N °	Type		TT M12 K4	TT M8 K4	ISA 4D3 2	C at. A	Dec.	C at. B	Dec.	C at. C	Dec.			
SM 112	2	LF HF	Moni- tor	2 (4)	2 (4)	–	N		N		N		70 Hz		Only with t he S M se- ries
SM 115	2	LF HF	Moni- tor	2 (4)	2 (4)	–	N		N		N		50 Hz		Only with t he S M se- ries
SM 212	2	LF HF	Moni- tor	2 (4)	2 (4)	–	N		N		N		45 Hz		Only with t he S M se- ries

Spectra 2

Model	Ways		Appli cation	Max number of li nked speakers p er channel (per a mp)			Manufacturer EQ						Elec tron ic H PF	Elec tron ic L PF	Phas e co mplia nt
	N °	Typ e		TT M12 K4	TT M8 K4	ISA 4D3 2	C at. A	Dec.	C at. B	Dec.	C at. C	Dec.			
Spectra 2 9 075	2	MF HF	Full Rang e	2 (4)	2 (4)	–	N		N		N		40 Hz		N
Spectra 2 9 075	2	MF HF	High Pass	2 (4)	2 (4)	–	N		N		N		80 Hz		N

Stadia

Model	Ways		Appli cation	Max number of li nked spekers per channel (per amp)			Manufacturer EQ						Elec tron ic H PF	Elec tron ic L PF	Phas e co mplia nt
	N °	Typ e		TT M12 K4	TT M8 K4	ISA 4D3 2	C at. A	Dec.	C at. B	Dec.	C at. C	Dec.			
Stadia 100 -10	2	LF HF	High Pass	1 (2)	–	–	Y	01 bo x, 02 boxes, 03 boxes, 04 boxes, 05 boxes, 06 boxes	Y	05 to 1 5 m, 15 to 2 5 m, 25 to 3 5 m, 35 to 4 5 m, 45 to 5 5 m, 5 5 m an d more	N		100 Hz		N

Stadia 100-20	2	LF HF	High Pass	1 (2)	–	–	Y	01 box, 02 boxes, 03 boxes, 04 boxes, 05 boxes, 06 boxes	Y	05 to 15 m, 15 to 25 m, 25 to 35 m, 35 to 45 m, 45 to 55 m, 55 m and more	N		100 Hz		N
Stadia 100-30	2	LF HF	High Pass	1 (2)	–	–	Y	01 box, 02 boxes, 03 boxes, 04 boxes, 05 boxes, 06 boxes	Y	05 to 15 m, 15 to 25 m, 25 to 35 m, 35 to 45 m, 45 to 55 m, 55 m and more	N		100 Hz		N
Stadia 28	2	LF HF	Horizontal Array FR	3 (6)	2 (4)	–	Y	2 to 3 boxes, 4 to 6 boxes, single box	N		N		70 Hz		Y
Stadia 28	2	LF HF	Horizontal Array HP	3 (6)	2 (4)	–	Y	2 to 3 boxes, 4 to 6 boxes, single box	N		N		100 Hz		Y

Stadia 28	2	LF HF	Vertical Array FR	3 (6)	2 (4)	–	Y	2 to 3 boxes, 4 to 6 boxes, single box	Y	05 to 20 m, 20 to 40 m, 40 to 60 m	N		70 Hz		Y
Stadia 28	2	LF HF	Vertical Array HP	3 (6)	2 (4)	–	Y	2 to 3 boxes, 4 to 6 boxes, single box	Y	05 to 20 m, 20 to 40 m, 40 to 60 m	N		100 Hz		Y

SUBS

Model	Ways		Application	Max number of linked speakers per channel (per amp)			Manufacturer EQ						Electronic HPF	Electronic LPF	Phase compliant
	No.	Type		TT M12 K4	TT M8 K4	ISA 4D3 2	Cat. A	Dec.	Cat. B	Dec.	Cat. C	Dec.			
DBS 18-2	1	SB	Sub	1 (2)	–	–	N		N		N			70 Hz	Y
DBS 18-2	1	RE	Rear Card io 2+1	1 (2)	–	–	N		N		N			70 Hz	Y
DBS 18-2	1	RE	Rear Card io 3+1	1 (2)	–	–	N		N		N			70 Hz	Y
DBS 18-2	2	SB SB	Sub 2 Ch.	2 (2)	–	–	N		N		N			70 Hz	Y
DBS 18-2	2	RE RE	Rear Card io 2+1 2 Ch.	2 (2)	–	–	N		N		N			70 Hz	Y

DBS 18-2	2	RE RE	Rear Card io 3+1 2 Ch .	2 (2)	–	–	N		N		N			70 Hz	Y
DBS 18-2	1	SB	Infra	1 (2)	–	–	N		N		N			50 Hz	Y
DBS 18-2	2	SB SB	Infra 2 Ch .	2 (2)	–	–	N		N		N			50 Hz	Y
DVS 115	1	SB	Sub	2 (4)	2 (4)	–	N		N		N			100 Hz	Only with t he D VS s eries
DVS 115	1	SB	Infra	2 (4)	2 (4)	–	N		N		N			80 Hz	Only with t he D VS s eries
DVS 118	1	SB	Sub	1 (4)	1 (4)	–	N		N		N			100 Hz	Only with t he D VS s eries
DVS 118	1	SB	Infra	1 (4)	1 (4)	–	N		N		N			80 Hz	Only with t he D VS s eries
Eidos 108S	1	SB	Sub	3 (1 2)	3 (1 2)	1 (4)	N		N		N			100 Hz	Only with t he EI DOS serie s
Eidos 108S	1	SB	Sub High	3 (1 2)	3 (1 2)	1 (4)	N		N		N			160 Hz	Only with t he EI DOS serie s
Eidos 215S	1	SB	Sub	1 (2)	–	–	N		N		N			100 Hz	Only with t he EI DOS serie s

Eidos 215S	1	SB	Infra	1 (2)	–	–	N		N		N			60 Hz	Only with the EIDOS series
Eidos 218S	1	SB	Sub LR24	1 (2)	–	–	N		N		N			100 Hz	Only with the EIDOS series
Eidos 218S	1	SB	Sub LR36	1 (2)	–	–	N		N		N			100 Hz	Only with the EIDOS series
Flysub 15	1	SB	Sub	2 (8)	2 (8)	–	N		N		N			100 Hz	Y

SUBS

Model	Ways		Application	Max number of linked speakers per channel (per amp)			Manufacturer EQ						Electronic HPF	Electronic LPF	Phase compliant
	N°	Type		TT M12 K4	TT M8 K4	ISA 4D3 2	Cat. A	Dec.	Cat. B	Dec.	Cat. C	Dec.			
GTO Sub	1	SB	Sub	1 (2)	–	–	N		N		N			70 Hz	Y
GTO Sub	1	RE	Rear Card io 2+1	1 (2)	–	–	N		N		N			70 Hz	Y
GTO Sub	1	RE	Rear Card io 3+1	1 (2)	–	–	N		N		N			70 Hz	Y
GTO Sub	2	SB SB	Sub 2 Ch.	2 (2)	–	–	N		N		N			70 Hz	Y

GTO Sub	2	RE RE	Rear Card io 2+1 2 Ch .	2 (2)	–	–	N		N		N			70 Hz	Y
GTO Sub	2	RE RE	Rear Card io 3+1 2 Ch .	2 (2)	–	–	N		N		N			70 Hz	Y
GTO Sub	1	SB	Infra	1 (2)	–	–	N		N		N			50 Hz	Y
GTO Sub	2	SB SB	Infra 2 Ch .	2 (2)	–	–	N		N		N			50 Hz	Y
ST Sub 21 5	1	SB	Sub	1 (4)	1 (4)	–	N		N		N			90 Hz	Y
ST Sub 21 5	1	RE	Rear Card io 2+1	1 (4)	1 (4)	–	N		N		N			90 Hz	Y
ST Sub 21 5	2	SB SB	Sub 2 Ch .	2 (4)	2 (4)	–	N		N		N			90 Hz	Y
ST Sub 21 5	2	RE RE	Rear Card io 2+1 2 Ch .	2 (4)	2 (4)	–	N		N		N			90 Hz	Y
ST Sub 21 5	1	SB	Infra	1 (4)	1 (4)	–	N		N		N			65 Hz	Y
ST Sub 21 5	2	SB SB	Infra 2 Ch .	2 (4)	2 (4)	–	N		N		N			65 Hz	Y
Sub 110	1	SB	Sub	3 (1 2)	3 (1 2)	1 (4)	N		N		N			100 Hz	Y
Sub 110	1	SB	Sub High	3 (1 2)	3 (1 2)	1 (4)	N		N		N			120 Hz	Y
Sub 118	1	SB	Sub	1 (4)	1 (4)	–	N		N		N			100 Hz	Y

Sub 118	1	RE	Rear Card io 1+1	1 (4)	1 (4)	–	N		N		N			100 Hz	Y
Sub 118	1	RE	Rear Card io 2+1	1 (4)	1 (4)	–	N		N		N			100 Hz	Y
Sub 118	1	SB	Infra	1 (4)	1 (4)	–	N		N		N			80 Hz	Y

SUBS

Model	Ways		Appli catio n	Max number of li nked spekers per channel (per amp)			Manufacturer EQ						Elec tron ic H PF	Elec troni c LP F	Phas e co mplia nt
	N °	Typ e		TT M12 K4	TT M8 K4	ISA 4D3 2	C at. A	Dec.	C at. B	Dec.	C at. C	Dec.			
Sub 215	1	SB	Sub	1 (2)	–	–	N		N		N			90 Hz	Y
Sub 215	1	RE	Rear Card io 2+1	1 (2)	–	–	N		N		N			90 Hz	Y
Sub 215	2	SB SB	Sub 2 Ch .	1 (2)	1 (1)	–	N		N		N			90 Hz	Y
Sub 215	2	RE RE	Rear Card io 2+1 2 Ch .	1 (2)	1 (1)	–	N		N		N			90 Hz	Y
Sub 215	1	SB	Infra	1 (2)	–	–	N		N		N			65 Hz	Y
Sub 215	2	SB SB	Infra 2 Ch .	1 (2)	1 (1)	–	N		N		N			65 Hz	Y
Sub 218	1	SB	Sub	1 (2)	–	–	N		N		N			100 Hz	Y

Sub 218	1	RE	Rear Card io 2+1	1 (2)	–	–	N		N		N			100 Hz	Y
Sub 218	2	SB SB	Sub 2 Ch .	1 (2)	1 (1)	–	N		N		N			100 Hz	Y
Sub 218	2	RE RE	Rear Card io 2+1 2 Ch .	1 (2)	1 (1)	–	N		N		N			100 Hz	Y
Sub 218	1	SB	Infra	1 (2)	–	–	N		N		N			65 Hz	Y
Sub 218	2	SB SB	Infra 2 Ch .	1 (2)	1 (1)	–	N		N		N			65 Hz	Y

Superfly

Model	Ways		Appli cation	Max number of li nked spekers per channel (per amp)			Manufacturer EQ						Elec tron ic H PF	Elec tron ic L PF	Phas e co mplia nt
	N °	Typ e		TT M12 K4	TT M8 K4	ISA 4D3 2	C at. A	Dec.	C at. B	Dec.	C at. C	Dec.			
Superfly	4	MF HF L1 L2	Full Rang e	3 (3)	–	–	Y	04 box es, 06 box es, 08 box es, 10 box es, 12 box es, 16 box es	Y	05 to 15 m, 15 to 25 m, 25 to 35 m, 35 to 45 m, 45 to 55 m, 55 m and m ore	N		50 Hz		Y
Superfly	4	MF HF L1 L2	High Pass	3 (3)	–	–	Y	04 box es, 06 box es, 08 box es, 10 box es, 12 box es, 16 box es	Y	05 to 15 m, 15 to 25 m, 25 to 35 m, 35 to 45 m, 45 to 55 m, 55 m and m ore	N		100 Hz		Y

Tripla

Model	Ways		Appli cation	Max number of li nked spekers per channel (per amp)			Manufacturer EQ						Elec tron ic H PF	Elec tron ic L PF	Phas e co mplia nt
	N °	Type		TT M12 K4	TT M8 K4	ISA 4D3 2	C at. A	Dec.	C at. B	Dec.	C at. C	Dec.			
Tripla 2 5040	3	LF MF HF	Full Rang e	1 (1)	1 (1)	–	N		N		N		35 Hz		Only with TRIP LA serie s
Tripla 2 5040	3	LF MF HF	High Pass	1 (1)	1 (1)	–	N		N		N		80 Hz		Only with TRIP LA serie s
Tripla 2 9075	3	LF MF HF	Full Rang e	1 (1)	1 (1)	–	N		N		N		35 Hz		Only with TRIP LA serie s
Tripla 2 9075	3	LF MF HF	High Pass	1 (1)	1 (1)	–	N		N		N		80 Hz		Only with TRIP LA serie s

Model	Ways		Appli cation	Max number of li nked spekers per channel (per amp)			Manufacturer EQ						Elec tron ic H PF	Elec tron ic L PF	Phas e co mplia nt
	N °	Typ e		TT M12 K4	TT M8 K4	ISA 4D3 2	C at. A	Dec.	C at. B	Dec.	C at. C	Dec.			
Vegas 24	1	PA	High Pass	6 (2 4)	6 (2 4)	2 (8)	N		N		N		100 Hz		Y
Vegas 4	1	PA	Full Rang e	8 (3 2)	8 (3 2)	6 (2 4)	N		N		N		115 Hz		Y
Vegas 4	1	PA	High Pass	8 (3 2)	8 (3 2)	6 (2 4)	N		N		N		115 Hz		Y
Vegas 6.5	1	PA	Full Rang e	4 (1 6)	4 (1 6)	2 (8)	N		N		N		50 Hz		Y
Vegas 6.5	1	PA	High Pass	4 (1 6)	4 (1 6)	2 (8)	N		N		N		125 Hz		Y
Vegas 8CX	1	PA	Full Rang e	4 (1 6)	4 (1 6)	1 (4)	N		N		Y	standa rd, sta ge mo nitor	50 Hz		Y
Vegas 8CX	1	PA	High Pass	4 (1 6)	4 (1 6)	1 (4)	N		N		Y	standa rd, sta ge mo nitor	128 Hz		Y

Vegas

Model	Ways		Appli cation	Max number of li nked speakers p er channel (per a mp)			Manufacturer EQ						Elec tron ic H PF	Elec tron ic L PF	Phas e co mplia nt
	N °	Typ e		TT M12 K4	TT M8 K4	ISA 4D3 2	C at. A	Dec.	C at. B	Dec.	C at. C	Dec.			
Tripla 2 5040	3	LF MF HF	Full Rang e	1 (1)	1 (1)	–	N		N		N		35 Hz		Only with TRIP LA serie s

Triple 2 5040	3	LF MF HF	High Pass	1 (1)	1 (1)	–	N		N		N		80 Hz		Only with TRIP LA serie s
Tripla 2 9075	3	LF MF HF	Full Rang e	1 (1)	1 (1)	–	N		N		N		35 Hz		Only with TRIP LA serie s
Triple 2 9075	3	LF MF HF	High Pass	1 (1)	1 (1)	–	N		N		N		80 Hz		Only with TRIP LA serie s
Model	Ways		Appli cation	Max number of li nked spekers per channel (per amp)			Manufacturer EQ						Elec tron ic H PF	Elec tron ic L PF	Phas e co mplia nt
	N °	Typ e		TT M12 K4	TT M8 K4	ISA 4D3 2	C at. A	Dec.	C at. B	Dec.	C at. C	Dec.			
Vegas 10	1	PA	Full Rang e	4 (1 6)	4 (1 6)	1 (4)	N		N		N		60 Hz		Y
Vegas 10	1	PA	High Pass	4 (1 6)	4 (1 6)	1 (4)	N		N		N		105 Hz		Y
Vegas 12	1	PA	Full Rang e	3 (1 2)	3 (1 2)	1 (4)	N		N		N		50 Hz		Y
Vegas 12	1	PA	High Pass	3 (1 2)	3 (1 2)	1 (4)	N		N		N		120 Hz		Y
Vegas 12C X	1	PA	Full Rang e	2 (8)	2 (8)	1 (4)	N		N		Y	standa rd, sta ge mo nitor	40 Hz		Y
Vegas 12C X	1	PA	High Pass	2 (8)	2 (8)	1 (4)	N		N		Y	standa rd, sta ge mo nitor	40 Hz		Y

Vegas 15	1	PA	Full Range	2 (8)	2 (8)	1 (4)	N		N		N		40 Hz		Y
Vegas 15	1	PA	High Pass	2 (8)	2 (8)	1 (4)	N		N		N		110 Hz		Y
Vegas 15C X	1	PA	Full Range	2 (8)	2 (8)	1 (3)	N		N		Y	standard, stage monitor	50 Hz		Y
Vegas 15C X	1	PA	High Pass	2 (8)	2 (8)	1 (3)	N		N		Y	standard, stage monitor	120 Hz		Y

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Documents / Resources

	OUTLINE TTM and ISA Series Multi Purpose Platform Amplifier [pdf] User Guide TTM and ISA Series, TTM and ISA Series Multi Purpose Platform Amplifier, Multi Purpose Platform Amplifier, Purpose Platform Amplifier, Platform Amplifier, Amplifier
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References

- [User Manual](#)

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