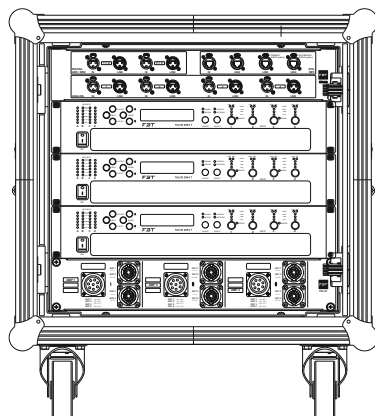
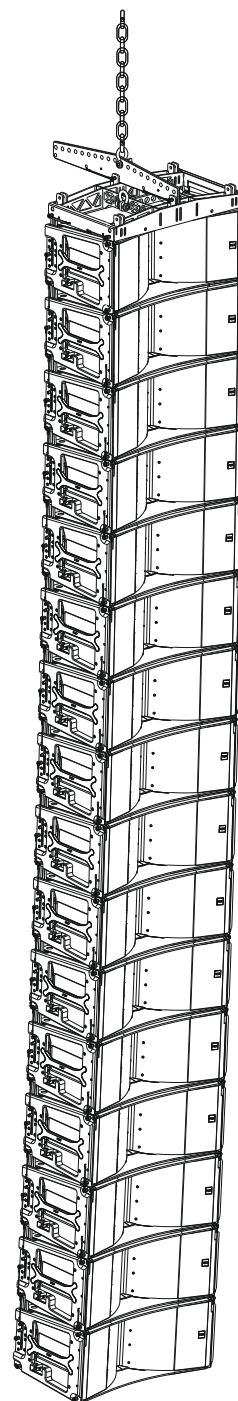
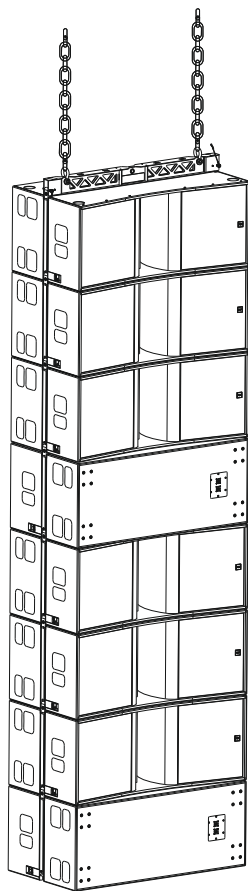


FBT

MYRA

PASSIVE SYSTEM PRESET & CONFIGURATIONS



FBT elettronica SpA

Via Paolo Soprani 1 - Zona Ind.le Squartabue - 62019 RECANATI - ITALY
Tel. 071 750591 - Fax. 071 7505920 - email: info@fbt.it - www.fbt.it

CODE: 46357

SAFETY WARNINGS	1
SAFETY INSTRUCTIONS	2
THE INSTALLATION ENVIRONMENTS	3
INFORMATIONS	
• General	4
• DANTE	4
• INFINITO	4
SYSTEM ELEMENTS	
• MYRACK	5
• MYRA 214L	5
• MYRA 218S	5
ACCESSORIES	
• MYRA 214L	6
• MYRA 218S	6
DIMENSIONS	
• MYRACK	7
• MYRA 218S	7
• MYRA 124L	7
• SD 16 - PS 12 - PB 32	8
MYRACK	
• Handling	9
• Cooling	9
• Placement	9
MYRACK ELEMENTS	
• Description	10
• PB 32 Power Distribution	11
EU version	12
US version	13
• Cables & Connections	14
• PS 12 Power Speaker Distribution	15/16
• SD 16 Signal Distribution	17/18
• TALOS 20K4 T Amplifier	19
• Managed Switch	20
CARDIOID SUBWOOFER CONFIGURATIONS	21
ARRAY SIZE COMPENSATION	22
SMALL SYSTEM CONFIGURATION	23
MEDIUM SYSTEM CONFIGURATION	24
LARGE SYSTEM CONFIGURATION	25
TECHNICAL SPECIFICATIONS	26 / 27

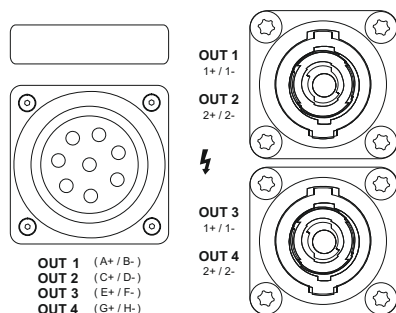
All information hereafter detailed applies to the FBT MYRACK Touring rack, designated in this section as the product. The MYRACK product includes the following components: a 12U cabinet, three TALOS 20K4 T amplified controllers and four distribution panels (SD16, Management switch, PB32, PS12).

Electrical hazards can be fatal. It is important to follow the same systematic approach used for other health and safety issues when dealing with electrical safety. It is imperative to know how to work safely with or within the vicinity of electricity because electrical current can be fatal.

Be safe when working with electricity:

- Make it a habit to inspect tools, power cords and electrical fittings for damage or wear and tear prior to use. Any damaged or faulty equipment should be immediately replaced. When necessary, you should always tape the cord to the wall or the floor. Check for nails and staples as these can damage cords, causing fire and shock related hazards.
- Cords that are used must be rated for the amperage or wattage that you are using. If you notice that the outlet is unusually hot, this is a sign that the wiring conditions are unsafe. Unplug any devices connected to these outlets and refrain from using them until they have been checked by a qualified person.

On the PS12 panel the lightning flashes symbols next to the 4-point SpeakOn and 8-point CA-COM connectors indicate that the product can deliver high output voltages that are potentially life threatening. Connections between the product and a speaker should always be done with an all ready-made lead. When the amplified controller is operating, never attempt to touch any exposed speaker wire without disconnecting the connector first.



ATTENTION
RISQUE DE CHOC ELECTRIQUE
NE PAS ENLEVER



NE PAS EXPOSER A LA
PLUIE NI A L'HUMIDITE



CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN



DO NOT EXPOSE TO
RAIN OR MOISTURE

WARNING
RISK OF HAZARDOUS ENERGY
SEE OPERATING MANUAL



FBT Elettronica SpA is not responsible for any rigging equipment and accessory that is not manufactured by FBT.

IMPORTANT:

A sample of this product has been tested and complies with the limits for the EMC (European Electro Magnetic Compatibility) directive. These limits are designed to provide reasonable protection against harmful interference from electrical equipment. However, there is no guarantee that interference will not occur in a particular installation.

VOLTAGE:

- Do not use the product if any power cord is broken or frayed. Protect any power cord from being walked upon or pinched, particularly at the plugs and the points where the power cords exit from the apparatus.
- Only connect the product to an appropriate three-phase AC circuit and outlet. Consult an electrician if the output voltage of the local AC mains is not known. Any electric device must be approved for the local voltage & current rating. The specific electrical safety regulations of the country of use must be strictly applied. Warranty will not cover damages caused by a mains wiring error.
- The product may only be connected to mains power supply tied to earth. If the local outlet is obsolete, consult an electrician. MYRACK is fitted with grounding- type sockets. Do not defeat the earth connections between the sockets and the product chassis.
- During lightning storms, disconnect the product from mains. Switching the amplified controllers off does not disconnect them from mains. Therefore, disconnecting can only be achieved by removing the MYRACK three-phase male plug from mains.
- Before connecting the product to other equipment, turn the power off and unplug all of the equipment from the supply source. Failure to do so may cause an electric shock and serious personal injury. Read the user manual of the other equipment carefully and follow the manufacturer instructions. Do not connect any amplified controller output to the output of another amplifier or to other voltage source (such as battery, mains source or power supply), regardless of whether the product is turned on or off.
- To prevent fire or shock hazard, do not expose the product to rain or moisture. Do not use the product near water. Do not operate the product while wet.
- Never push objects of any kind into the product through openings as they may touch dangerous voltage points or short out parts that could result in fire or electric shock. Never spill liquid of any kind on the product.
- Do not attempt to service any product component as removing covers may expose to dangerous voltage or other hazards. All service and repair work must be carried out by an FBT authorized dealer. The use of unauthorized replacement parts may result in injury and/or damage through fire, electric shock or other electricity-related hazards.

CAUTION:

- Do not operate the product near any heat source, such as radiators or other devices.
- Unplug the product from the mains power supply before cleaning. Do not use liquid or aerosol cleaners. Use only dry cloth when cleaning any electrical component.
- Servicing is required when the product has been damaged in any way such as:
 - Any power supply cord or socket is damaged
 - Liquid has been spilled or an object has fallen into any electrical component
 - The product has been exposed to rain or moisture
 - The product was dropped or the housing is damaged
 - The product does not operate normally
- Do not place the product on an unstable cart, stand, tripod, bracket or table. The product may fall and be seriously damaged, and may cause serious human injury. Mounting of the product should follow the manufacturer instructions and should use the mounting accessories recommended by the manufacturer.

WARNING:

- The product is very powerful and can be potentially dangerous to both loudspeakers and humans alike.
- All system components must be inspected before use in order to detect any possible defect. Any part showing any sign of defect must immediately be put aside and withdrawn from use to be inspected by qualified service personnel.
- Installation of an assembly should only be carried out by qualified personnel that are familiar with the rigging techniques and safety recommendations outlined in this manual. Any part showing any sign of defect must immediately be put aside and withdrawn from use to be inspected by qualified service personnel.
- During installation of an assembly, personnel should wear protective headgear and footwear at all times. Under no circumstances personnel should climb on the assembly.
- FBT is not responsible for any rigging equipment and accessory that is not manufactured by FBT. It is the user's responsibility to ensure that the Working Load Limit (WLL) of all additional hardware rigging accessories is greater than the total weight of the rack assembly in use.
- Do not ground stack an assembly on uneven ground or platform. If the assembly is ground stacked on a structure, platform or stage, always check that this last can support the total weight of the system.

THE INSTALLATION ENVIRONMENT

To examine hardware systems and precautionary measures to ensure that the connections to the loudspeakers are made in a safe and secure manner. What remains is to properly hang the system in the installation environment.

- Never attach or suspend loads to/from a wall or ceiling surface. Always make a secure attachment to structural members.
- Be absolutely certain of the structural integrity of any member that is to be used to support external loads- hidden structures can have hidden weaknesses.
- Do not rely upon nails or wooden threads to support overhead loads- nails, wood screws, lag screws and lag screw eyes are untrustworthy.
- Never assume anything. Owner or third-party supplied suspension points may be inadequate for the intended use.
- Recognize your limitations. Seek help from competent outside sources- architects, structural engineers or rigging specialists- when uncertain or in doubt.
- Safety first. Public safety demands that those responsible for placing equipment in potentially hazardous locations do so with full knowledge and use of appropriate precautions and safety measures.

HANGING A SYSTEM

The first step in hanging a sound system is to obtain qualified advice about the load bearing capacity of the structure.

- Do not overload any piece of equipment.
- Sling the material to be lifted properly. Do not allow slings to be placed against sharp objects or rough or cutting surfaces.
- Always align lifting equipment over the center of gravity to enable a straight vertical lift. Never attach a hoist or lifting line to the load at an angle.
- Always use properly- installed load rated hardware and fittings. Double check all connections before lifting.
- Carefully inspect all lifting equipment everything in the rigging chain before making a lift. Replace any worn or defective equipment.
- Never lift or support overhead loads from an open hook. Always use safety hooks, latches or other devices when material is being hoisted overhead.

CONCLUSION

Safe sound system rigging is the application of known and simple engineering principles along with a healthy dose of common-sense and know-how to a relatively uncomplicated set of problems. There are no viable shortcuts in rigging equipment, tools and techniques, the potential losses resulting from property damage and personal injury following the failure of second-rate hardware or faulty rigging practices can be staggering.

GENERAL INFORMATION

MYRA PASSIVE SYSTEM PRESET & CONFIGURATIONS manual

Version 1.1 - 05/2023 (initial version)

Keep this document in a safe place so that it is available for future reference.

When reselling this product hand over this document to the new owner.

This manual does not include all of the details of design, production, or variations of the equipment; nor does it cover every possible situation which may arise during installation, operation or maintenance.

The informations provided in this manual was deemed accurate as of the publication date.

FBT Elettronica SpA - 62019 Recanati (Italy)

www.fbt.it - info@fbt.it

This product complies with both the LVD (electrical safety) 73/23/EEC and EMC electromagnetic compatibility 89/336/EEC directives issued by the commission of the European community.

Compliance with these directives implies conformity with the following European standards:

- 98/37/EC Machinery directive
- 72/23/EC Low voltage directive
- 89/336/EC Electromagnetic compatibility directive
- EN ISO 12100-1: 2004 Safety of machinery
- EN 60065 Safety requirements for audio, video and similar electronic apparatus
- EN 55103-1 Electromagnetic interference (emission)
- EN 55103-2 Electromagnetic susceptibility (immunity)
- Conforme alle norme armonizzate: CEI EN 61439-1 / CEI EN 61439-3



STATEMENT 340 - CLASS A WARNING FOR EN55032

This is a Class A product. In a domestic environment this product may cause radio interference; in which case the user may be required to take adequate measures.

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.

Dante is a network audio protocol developed by Audinate

For detailed information about Dante, refer to the Audinate Corporation website. <http://www.audinate.com/>

N.B. DANTE protocol support on MYRACK is optional.

INFINITO is the software platform that permits users to control and monitor the new generation of FBT network interface equipped products (active speakers, amplifiers, DSP processors, etc.) remotely. Based on standard Ethernet infrastructure with TCP/IP protocol and compliant with the AES70 standard promoted by the OCA ALLIANCE, the software may be used to control up to 100 devices on the same network.

INFINITO may be used to monitor the operating parameters of the various devices (voltage sensors, VU-meters, status of the transducers) in real time, provide system information (warning and failures), while also enabling the user to control the main acoustic parameters of the devices (mute, volume, delays, EQ, etc.).

Developed with a touch-oriented interface, it is compatible with every type of platform (Desktop, Notebook, Tablet) based on the more recent versions of the Windows operating systems and equipped with an Ethernet network interface.

For more information on INFINITO, visit the FBT website. <http://www.fbt.it>



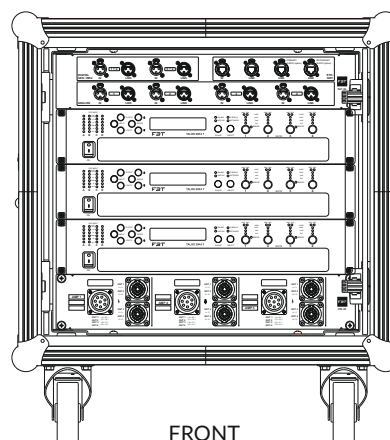
MYRACK

The MYRACK is designed as a system rack providing mains power distribution and connector interface for 3 x TALOS 20K4 T amplifiers.

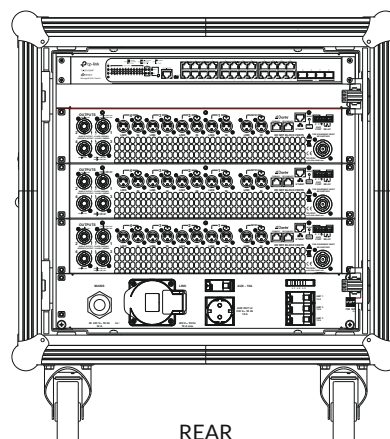
For this purpose, the Touring Rack is equipped with a mains power distribution device and a loudspeaker connector panel.

Also incorporated is an I/O panel which serves as a connector interface for both analog and digital audio signals as well as four network Neutrik Ethercon connectors for Ethernet remote capabilities.

A Managed Switch with 24 RJ45 ports that provides wire-speed performance is included.

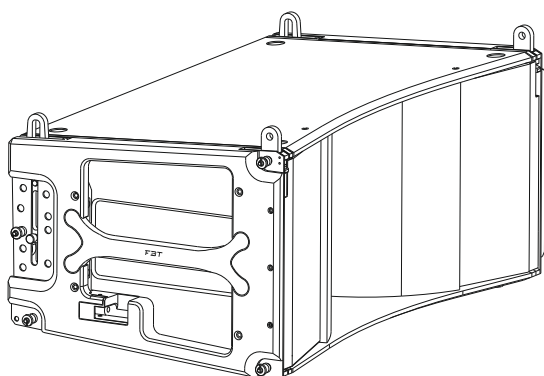


FRONT

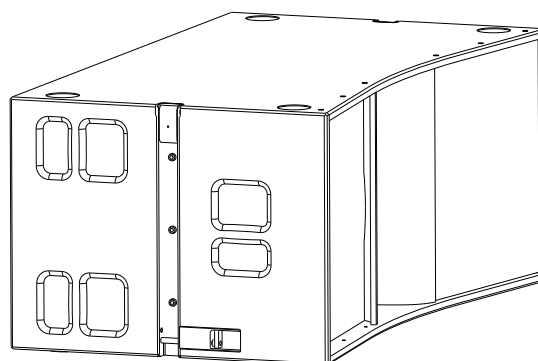


REAR

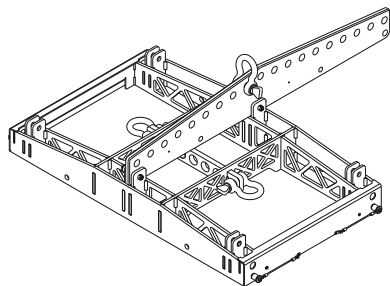
MYRA 214L



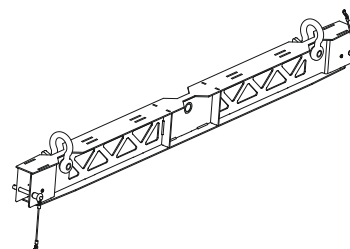
MYRA 218S



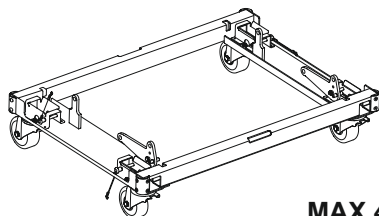
Accessories for MYRA 214L and MYRA 218S loudspeakers



CODE:	43890	MODEL:	MR-F 214
USE:	MYRA 214L	DESCRIPTION:	ARRAY FRAME
WEIGHT:	71.65lb / 32.5kg	COLOR:	BLACK

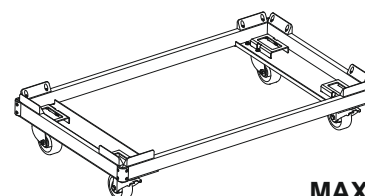


CODE:	43902	MODEL:	MR F 218
USE:	MYRA 218S	DESCRIPTION:	FLYING BAR
WEIGHT:	22.04 lb / 10 kg	COLOR:	BLACK



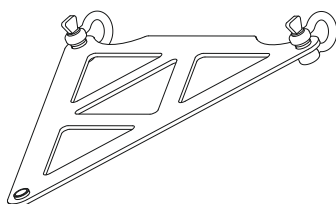
MAX 4 BOX

CODE:	43888	MODEL:	MR T 214
USE:	MYRA 214L	DESCRIPTION:	TROLLEY
WEIGHT:	85.98 lb / 39 kg	COLOR:	BLACK

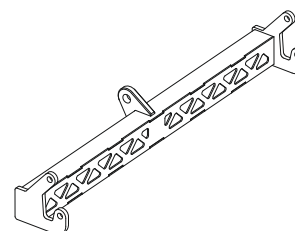


MAX 2 BOX

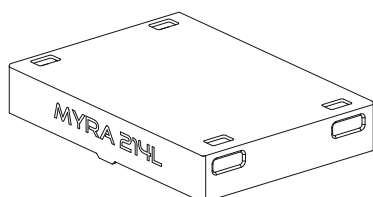
CODE:	43891	MODEL:	MR T 218
USE:	MYRA 218S	DESCRIPTION:	TROLLEY
WEIGHT:	79.36 lb / 36 kg	COLOR:	BLACK



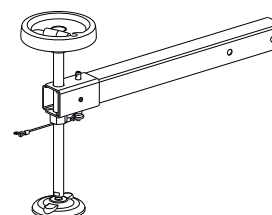
CODE:	44227	MODEL:	MR FJ 214
USE:	MYRA 214L	DESCRIPTION:	AIMING PLATE
WEIGHT:	18.73 lb / 8.5 kg	COLOR:	BLACK



CODE:	44228	MODEL:	MR J 214
USE:	MYRA 214L	DESCRIPTION:	SUSPENSION BAR
WEIGHT:	14.33 lb / 6.5 kg	COLOR:	BLACK

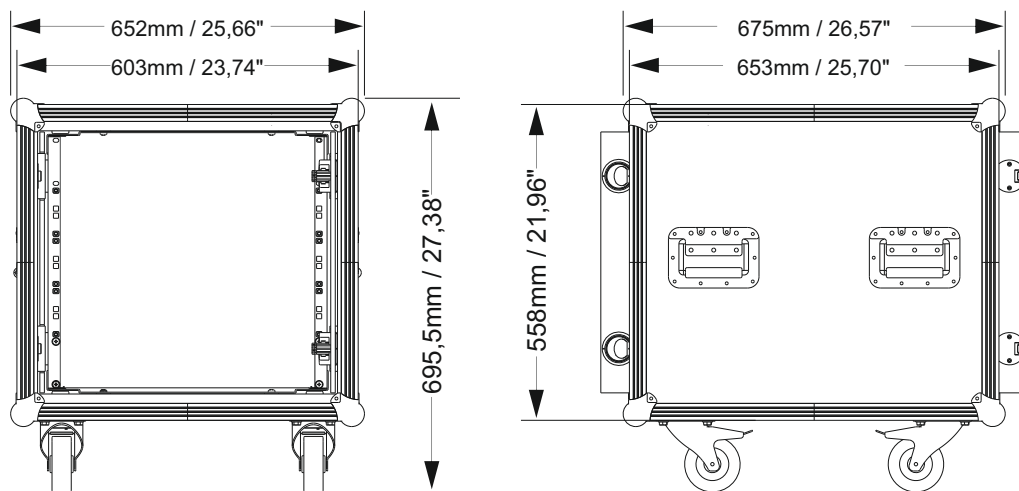


CODE:		MODEL:	MR CT 214
USE:	MYRA 214L	DESCRIPTION:	TOP COVER
WEIGHT:		COLOR:	BLACK

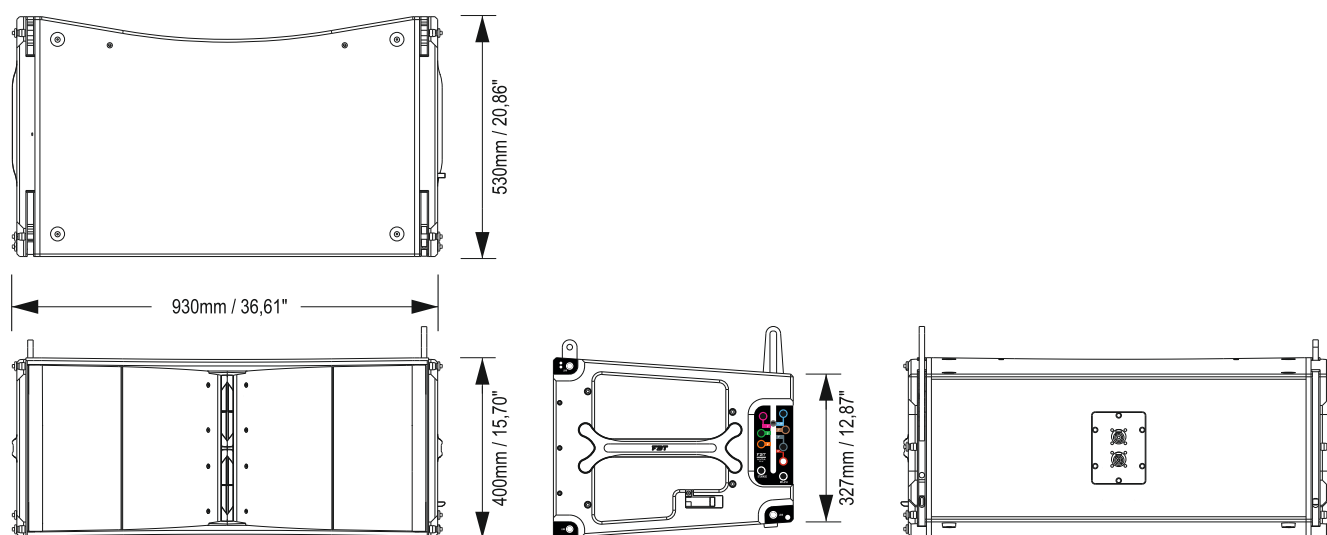


CODE:		MODEL:	MR P 214
USE:	MYRA 214L	DESCRIPTION:	OUTRIGGER
WEIGHT:		COLOR:	BLACK

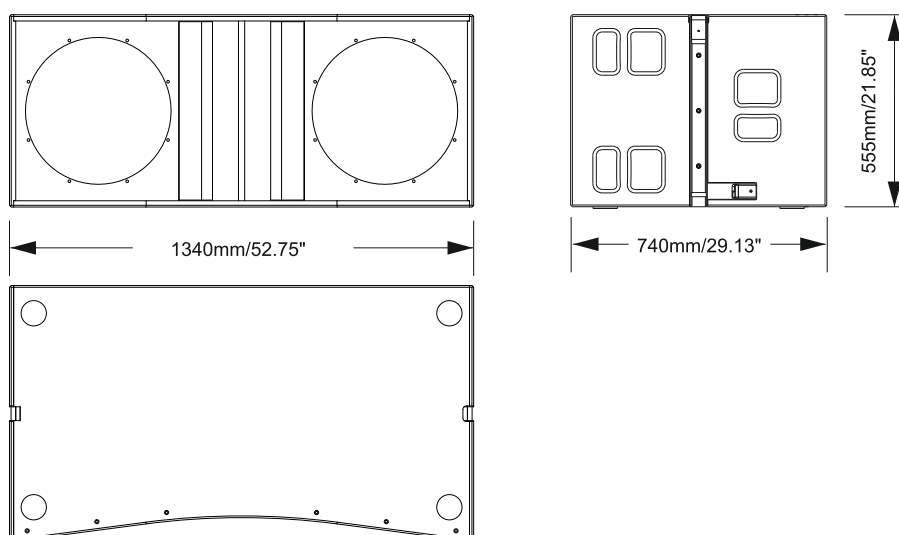
MYRACK



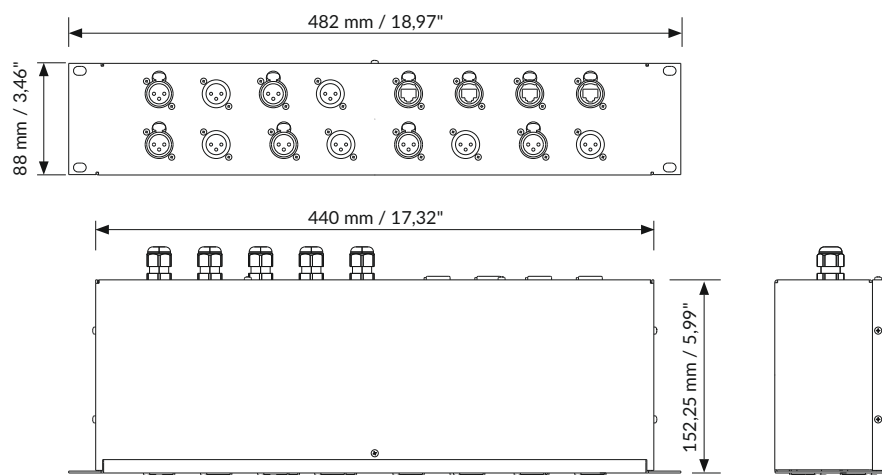
MYRA214L



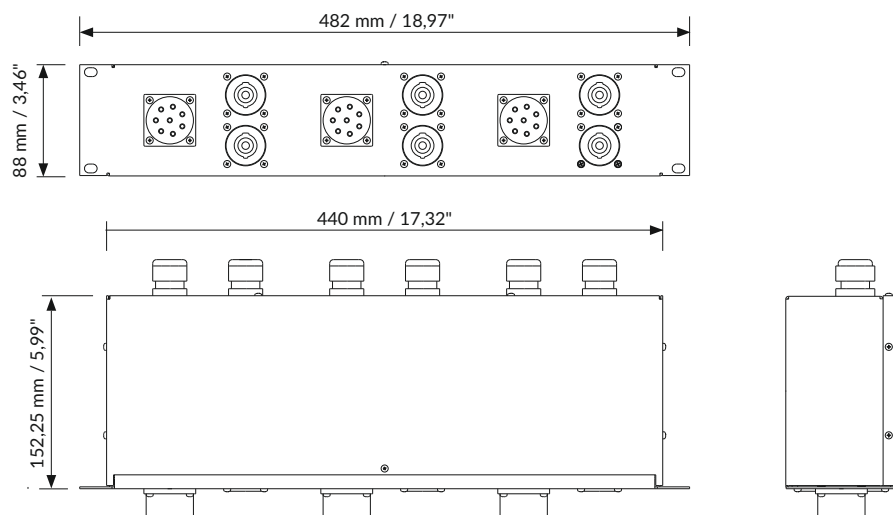
MYRA 218S



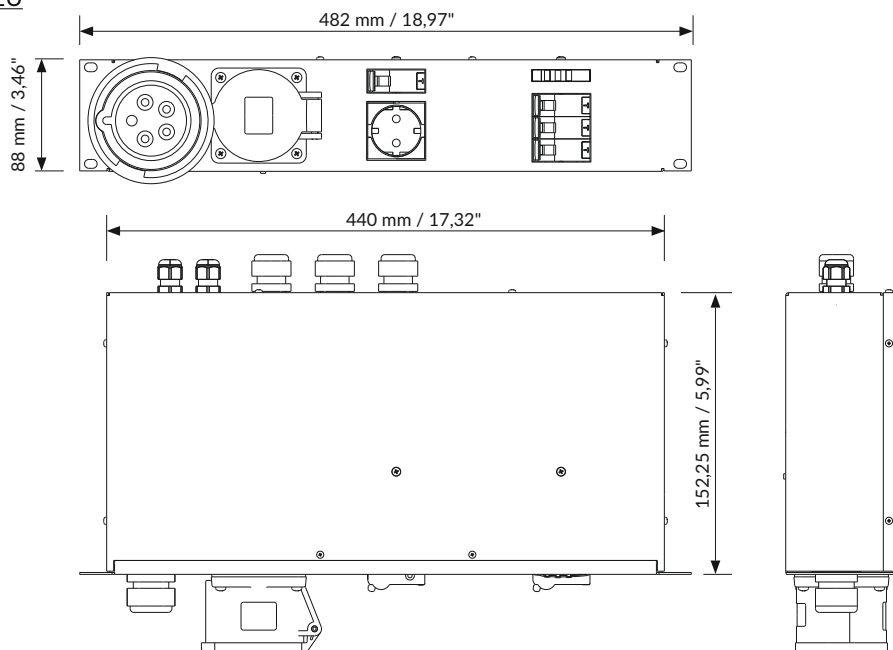
SD 16



PS 12



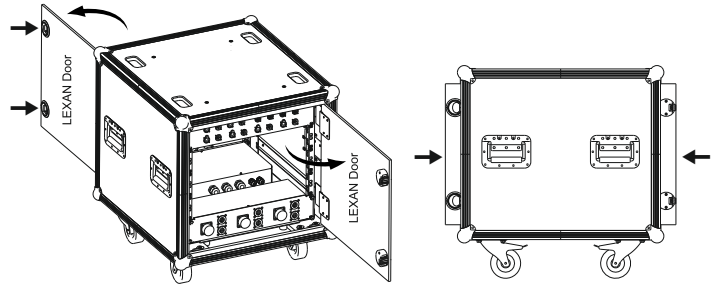
PB 32 EU



HANDLING

The MYRACK is equipped with two sliding doors allowing quick and easy access to the front and rear panels of the devices.

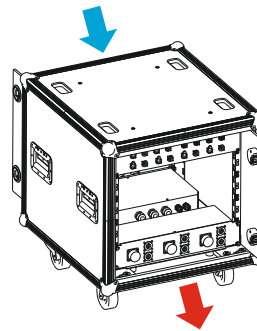
- Unlock the door lock mechanism
- Open the door
- Push the door into its park position



COOLING

Make sure to provide sufficient space of 0.5 m (1.6 ft) at the front and rear of the touring rack to ensure adequate cooling airflow.

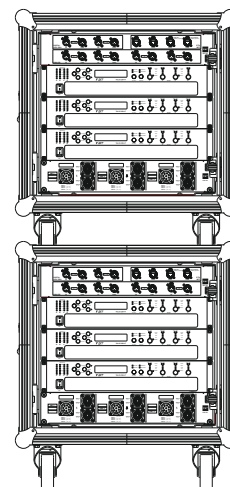
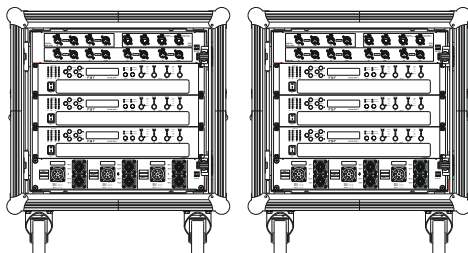
Make sure both the front and rear doors are opened and pushed into their park positions to provide sufficient cooling.



PLACEMENT

MYRACK Touring racks can be stacked or positioned side by side.

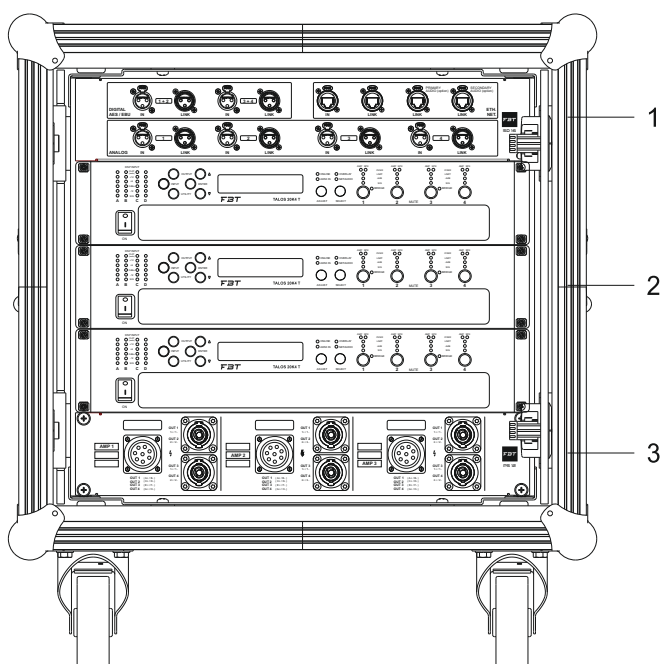
Do not stack more than two MYRACK.



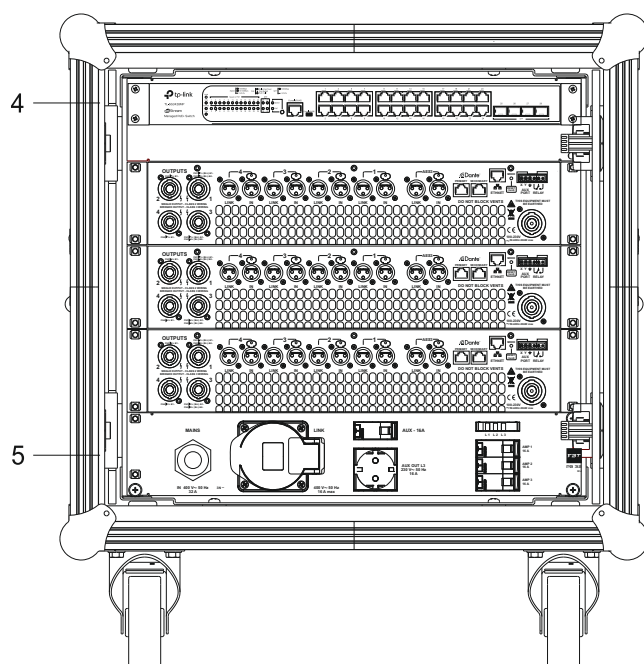
Two stacked MYRACK
(maximum configuration)

Pos.	Qty.	Description
1	1	SD 16: Audio and network distribution panel
2	3	TALOS 20K4 T: Advanced system amplifier
3	1	PS 12: Speaker power distribution panel
4	1	24-Port managed Ethernet switch
5	1	PB 32: Mains power distribution panel

FRONT

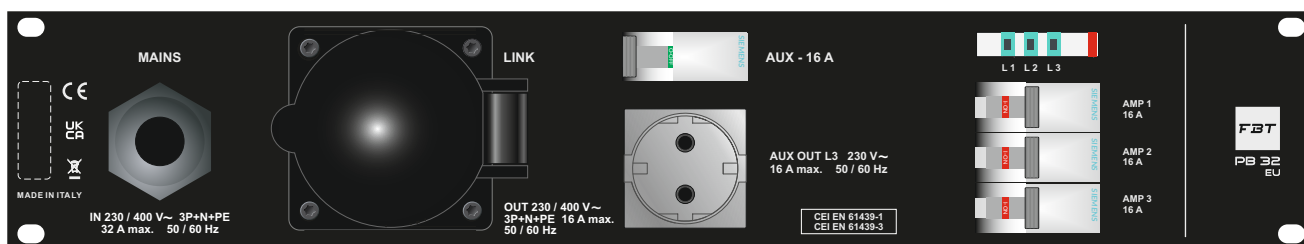


REAR



PB 32 EU POWER DISTRIBUTION

EU VERSION



- The PB 32 EU Mains power distribution featuring a 32A three phase circuit : one IN plug and one LINK OUT outlet to power a secondary rack. One "Shuko" AC outlet is available to power auxiliary accessories. All circuits are protected by discrete circuit breakers an three LED help monitor phase presence.

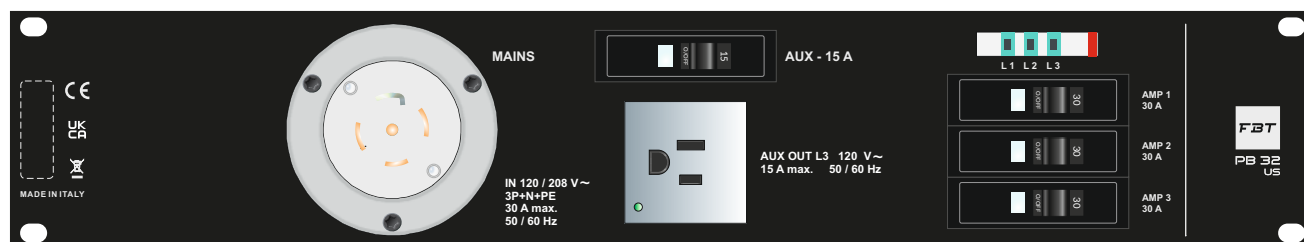


The Mains power distributor is a protective Class 1 unit. A missing earth (ground) contact may cause dangerous voltages in the housing and controls and may lead to electric shock.

- Connect the unit to mains power supplies with protective earth only.
- If there is any sign of obvious damage to the power cord and/or CEE mains connector, do not use the unit and replace it before further use.
- Do not connect or disconnect the CEE mains connector under load or live.
- Please ensure the mains connector is accessible at any time to disconnect the rack assembly in case of malfunction or danger.
- The PB 32 mains power distributor must not be used for any other purpose or outside the system rack.

PB 32 US POWER DISTRIBUTION

US VERSION



- The PB 32 US Mains power distribution featuring a 30A IN three phase circuit and an auxiliary circuit protected by the AUX 15 A circuit breaker. All circuits are protected by discrete circuit breakers an three LED help monitor phase presence.

CONNECTING MYRACK TO AC MAINS

EU VERSION

The MYRACK connects to 230 V ($\pm 10\%$) 32 A three-phase AC mains using the male IN cable plug (P17 - 32 A - 3P+N+E).

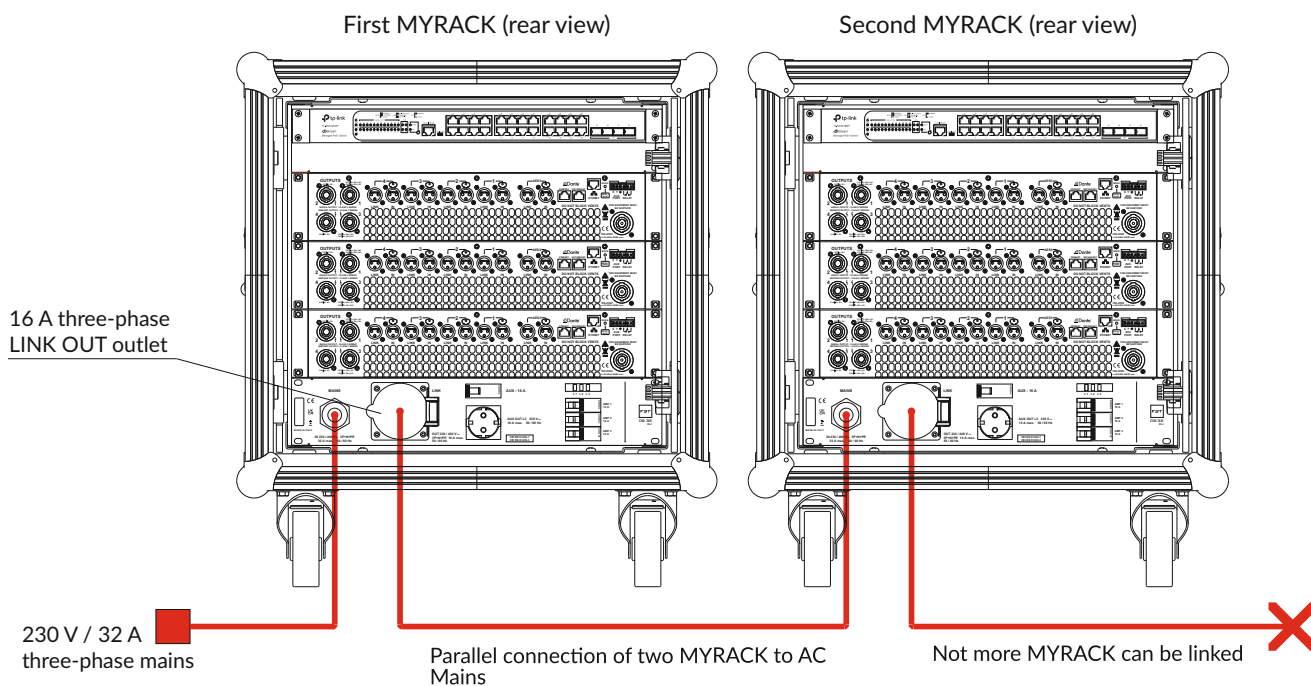


The MYRACK only connects to three-phase AC mains rated 230 V ($\pm 10\%$) / 32 A, 50 - 60 Hz. Contact a local FBT distributor for countries in which this standard does not apply.

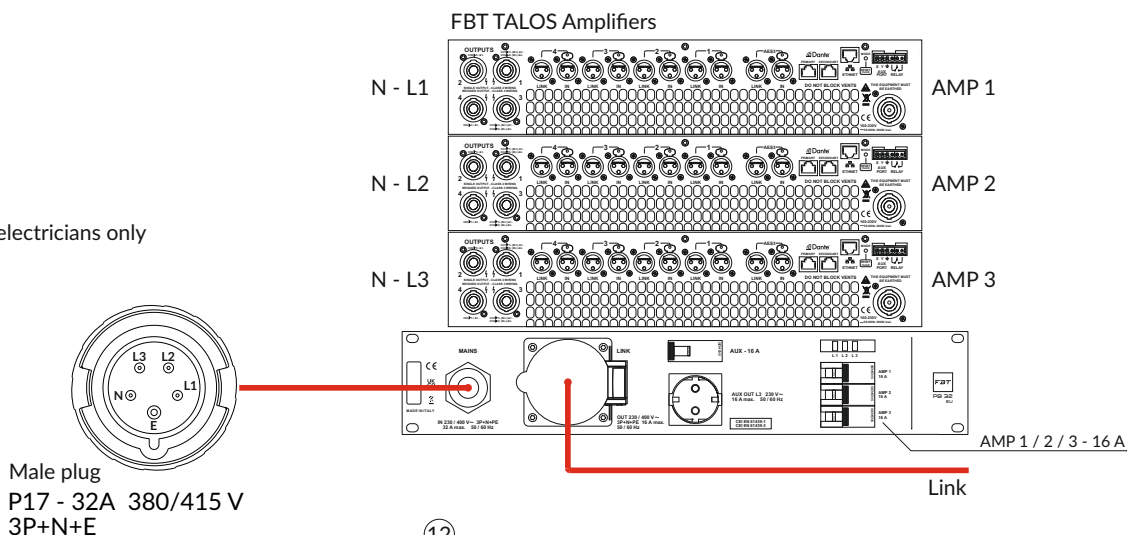
A second MYRACK can be plugged in the female LINK outlet of the first MYRACK to be powered in parallel.



Powering **two MYRACK in parallel** is only possible in the 230 V ($\pm 10\%$) countries. In this case a maximum of two MYRACK can be powered in parallel by one AC mains outlet. For any other mains ratings, **a maximum of one MYRACK** can be connected per AC mains outlet.



DANGER: Installation by electricians only



CONNECTING MYRACK TO AC MAINS

US VERSION

A 120 V version of the MYRACK touring rack is also available for use in the USA and countries using the same electric standards. It features the same characteristics as the European version except for the power panel, which is referenced as the PB 32 US.

The PB 32 US connects to 120 V / 30 A three-phase AC mains.



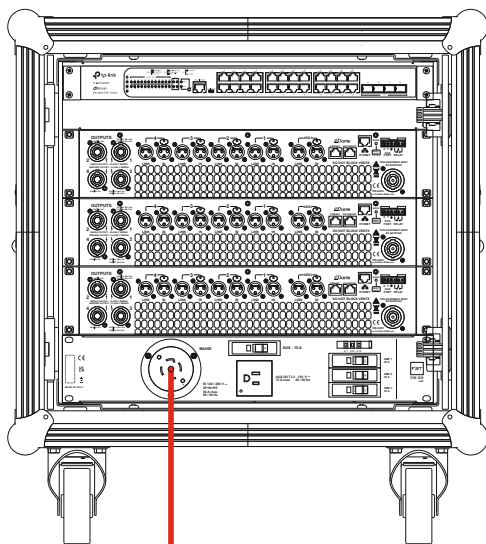
VOLTAGE

The PB 32 US only connects to three-phase AC mains rated 120 V / 30 A, 50/60 Hz. Contact a local FBT distributor for countries in which this standard does not apply.



CAUTION

A maximum of one MYRACK can be connected per AC mains outlet.



120 V / 30 A
three-phase mains

Choose input wire & connectors

FBT recommends using pre-built or professionally wired, balanced line (two conductor plus shield), 22-24 gauge cables with 3-pin XLR connectors. Unbalanced line may also be used but may result in noise over long cable runs.

Fig.1 / Fig.2 show connector pin assignments for balanced analog wiring or AES/EBU digital wiring. (The use of standard analog cable with AES/EBU will result in diminished performance). For best results, 110 Ohm shielded twisted-pair cable for AES/EBU signals is highly recommended.

As the AES/EBU input is essentially a balanced input, the XLR pinout is standard.

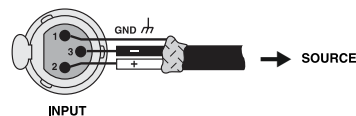


Figure 1
Balanced Analog Input Connector Wiring or

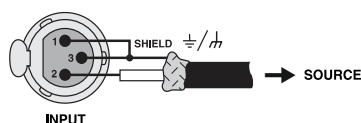


Figure 2
AES/EBU Digital Connector Wiring

Choose output wire & connectors

FBT recommends using pre-built or professionally wired, high quality, two/four or eight conductor, heavy gauge speaker wire and connectors. Use Class 2 output wiring. You may use a 4 or 8 pole Speakon connector. To prevent the possibility of short circuits, wrap or otherwise insulate exposed loudspeaker cable connectors.

CAUTION - SHOCK HAZARD: Potentially lethal voltages exist at the output connectors when the amplifier is turned on and is passing a signal.

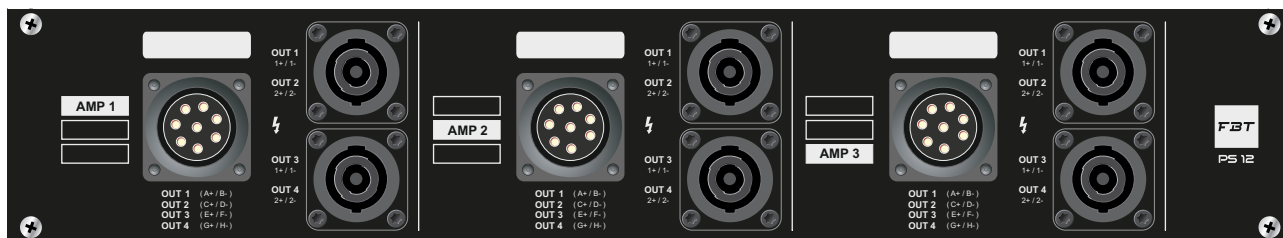
All Speakon cables leading from the rack and speaker link cables must be 4-wire.

The use of Speakon cables is recommended for connecting the amplifiers for a SUB / TOP configuration (example: two channels for MYRA 218S and two channels for 2 x MYRA 214L linked); thus you get an optimal distribution in the power supply and maximum performance from the amplifier.

In case of use of CA-COM cables it is preferable to dedicate the entire amplifier to TOP or SUB, with a slight drop in performance in terms of dynamics.

Cable gauge		Recommended maximum length		
section (mmq)	AWG	SINGLE MYRA 214L	2 x LINKED MYRA 214L	MYRA 218S
2,5	13	20 m / 65,61 ft	10 m / 32,80 ft	15 m / 49,21 ft
4	11	35 m / 114,82 ft	18 m / 59,05 ft	25 m / 82,02 ft
6	9	50 m / 164,04 ft	25 m / 82,02 ft	35 m / 114,82 ft

PS 12 POWER SPEAKER DISTRIBUTION



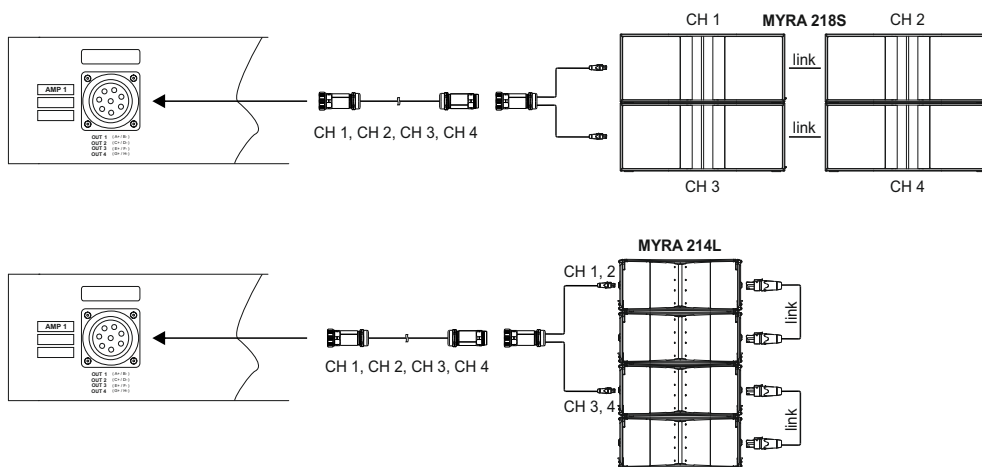
The PS12 panel is equipped with 6 Speakon sockets each of which feeds 2 channels. All Speakon cables, both rack and link, must be four wires.

CA-COM cables feed 4 channels, so they are one for each amplifier. Towards the speakers it is necessary to use a CA-COM / 2 Speakon multicord.

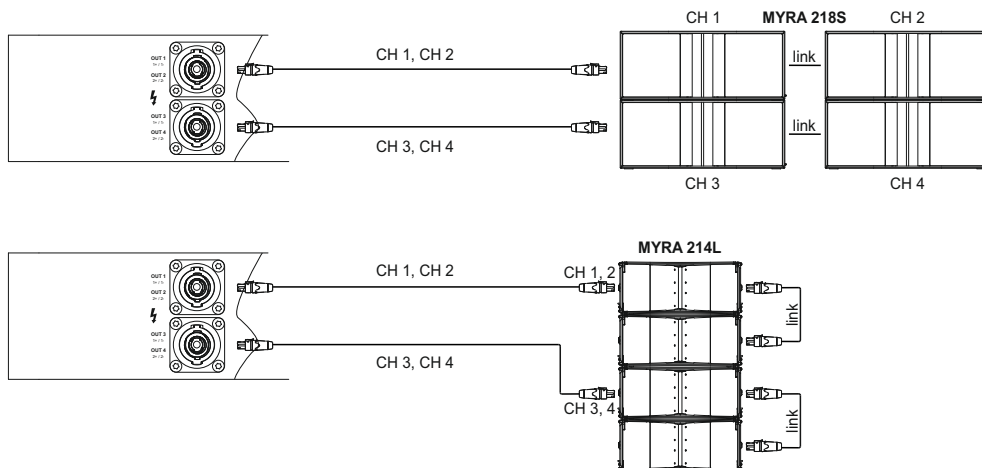
The CA-COM Speaker extension cables typically feature a male connector at one end, and a female connector at the other end, with locking rings on both terminations to allow the connection to panel mount devices without locking rings. Such configuration prevents the possibility of joining multiple cables and make longer extensions.

CA-COM Speaker adapter permits the connection of more extension cords together.

Connection example via CA COM - Speakon connector



Connection example via Speakon - Speakon connector

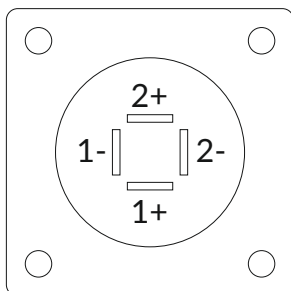


PS 12 POWER SPEAKER DISTRIBUTION

2 Channel outputs - NL4

1+ / 1- = OUT 1

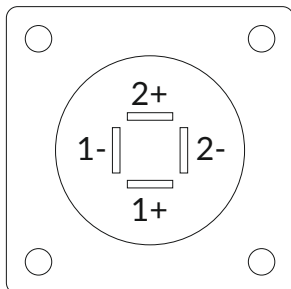
2+ / 2- = OUT 2



2 Channel outputs - NL4

1+ / 1- = OUT 3

2+ / 2- = OUT 4



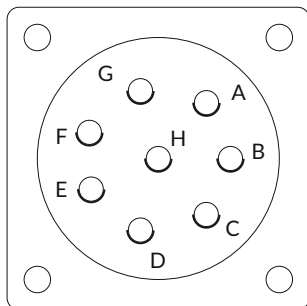
4 Channel outputs - CA-COM

A+ / B- = OUT 1

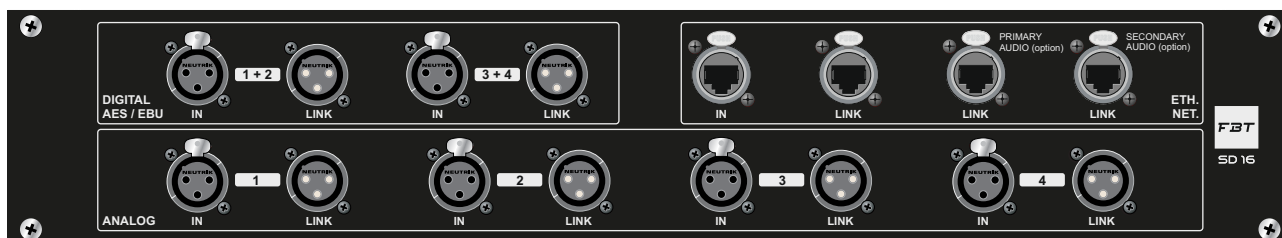
C+ / D- = OUT 2

E+ / F- = OUT 3

G+ / H- = OUT 4



SD 16 SIGNAL DISTRIBUTION



- SD 16 is a 2U distribution panel for network, analog and digital signals.

DIGITAL AES / EBU: Is a standard format for digital audio, used to interface different devices with each other. SD 16 features 4 channels AES3 that can be routed freely to amplifiers just connecting the correspond XLR to AES input and AES output to distribute to other amplifiers.

N.B. Each amplifier is equipped with two AES/EBU input channels, while 4 are provided in the connections panel of the rack. Normally the rack is wired with channels 1 and 2 connected in the three amplifiers, while channels 3 and 4 are not connected. If you also want to use channels 3 and 4, connect the XLR inputs 3+4 to the AES/EBU input of the amplifier and if necessary "link" the amplifiers together.

As AES/EBU certified cables provide smaller attenuation/lenght ratio, it is highly recommended to use them in installations requiring long cable runs or high sampling frequency signals.

ANALOG: It can distribute up to 4 analog audio signals to the three amplified through the XLR connectors.

ETHERNET: The panel also features 4 Ethercon I/O sockets for network remote control. 4 Ethercon sockets of the SD16 panel are connected to 4 ports of the managed switch inside the MYRACK for a quick and safe distribution of the network if only the control network is used. In case of use of the control network + DANTE, it is necessary to distribute the signal of the latter from the RJ45 ports of the switch to the amplifiers.

External analog audio cabling

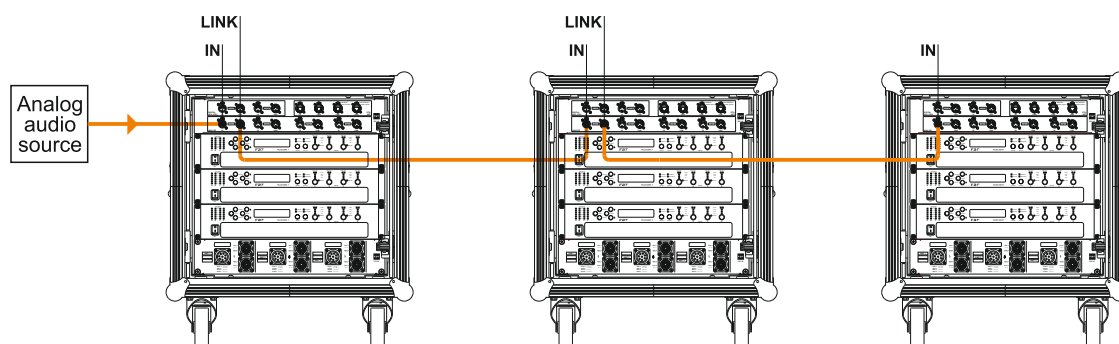
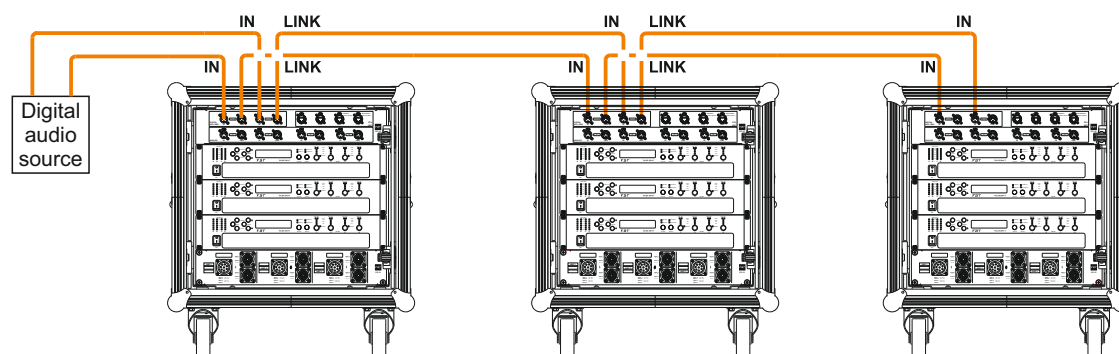


Fig. 1

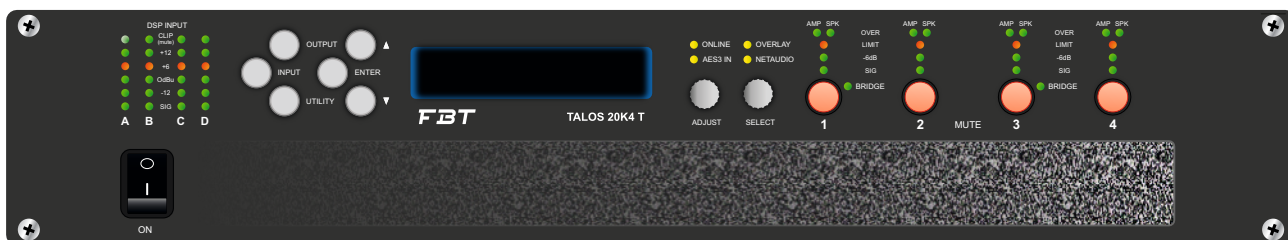
The cascade connection of several MYRACKs causes losses in the analog signal, these increase in proportion to the number of MYRACKs installed. In the example of figure 1 the input impedance will be approximately 1/3 of the impedance of the amp (in this case 6.5k Ohm).

External digital audio cabling

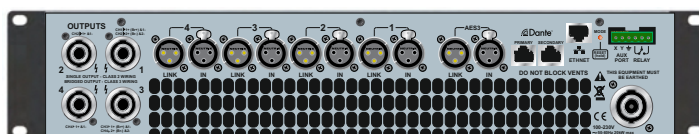


With digital audio, routing of the signals is achieved in a convenient and flexible manner through external cabling, by using the patch panel on the front of the SD16.

TALOS 20K4 T AMPLIFIERS

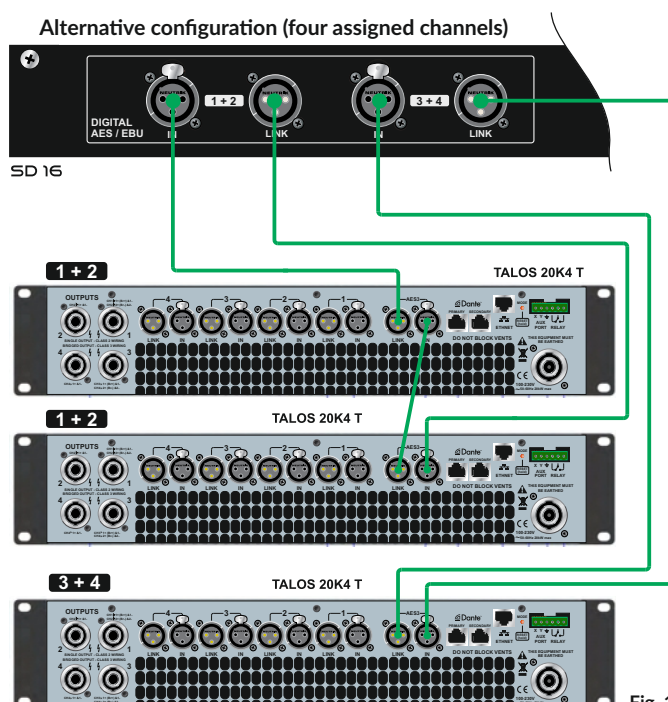
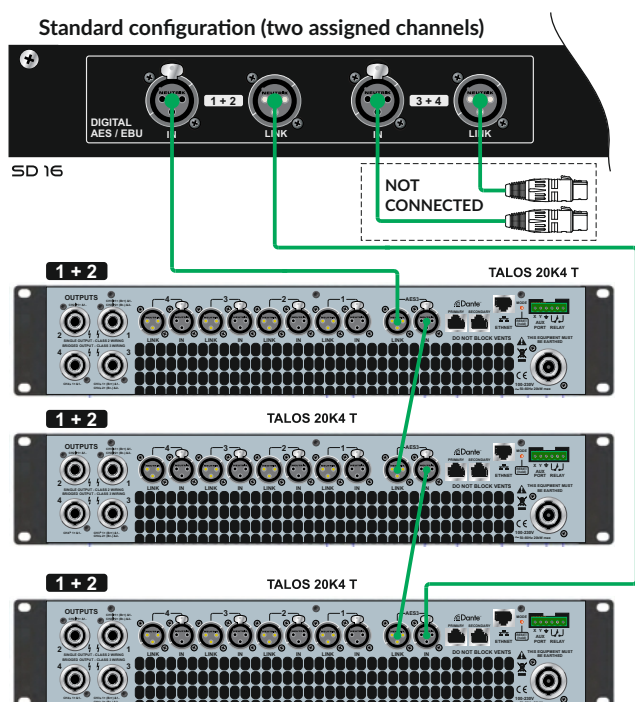


- Four channels of sonically Class D amplification
- Very high power density packs four channels and 20kW into just 2U of rack space
- External Breaker Protection (EBP) limits the current draw to prevent breakers opening
- High speed Ethernet communications supporting DHCP, static-IP and auto-IP, direct connection to a computer without the need for a router or a switch
- Innovative Component Presets to allow individual outputs to be used for selected drivers of a loudspeaker system
- DANTE audio networking (optional card)
 - Dante Virtual Soundcard is a simple, easy-to-use software application that connects a computer's audio applications to the DANTE network. It is a virtual sound card that creates a DANTE audio interface using the existing Ethernet port with no additional hardware required. Using the Dante Virtual Soundcard, a computer can be easily integrated into the network as a Digital Audio Workstation for multitrack recording and playback, as a playback device for consumer audio applications, or as an audio interface. The TALOS amplifier features Dante Virtual Soundcard slots for 4 input channels from the DANTE Network.

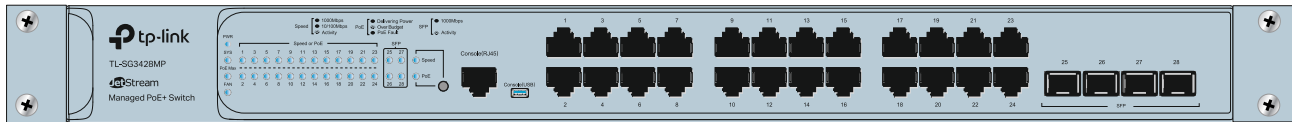


- AES 3 connectors for inputting digital audio signals
 - The TALOS amplifier only has two AES 3 input channels, while 4 are arranged on the SD 16 rack panel. Configuring the system as shown in the example in fig1, it will be possible to assign the 4 channels to the TALOS amplifier.
- Speakon TM outputs for loudspeaker connection
- XLR inputs balanced for audio connections
- Mains voltage 100V to 230V, 50/60Hz

For more details refer to the appropriate manual.



MANAGED SWITCH



- 24-port switch designed for the distribution of Ethernet signals. 4 switch ports are connected to the 4 Neutrik Ethercon sockets of the SD16 panel for a quick and safe distribution of the network. Additional RJ45 ports of the switch can be used to connect DANTE optional card of TALOS amplifiers and to distribute control network + redundant DANTE signal for maximum flexibility.
- 384 W PoE Budget: 24× 802.3at/af-compliant PoE+ ports with a total power supply of 384 W*.
- Full Gigabit Ports: 24× gigabit PoE+ ports and 4× gigabit SFP Slots provide high-speed connections.
- Integrated into Omada SDN: Zero-Touch Provisioning (ZTP)**, Centralized Cloud Management, and Intelligent Monitoring.
- Centralized Management: Cloud access and Omada app for ultra convenience and easy management.
- Static Routing: Helps route internal traffic for more efficient use of network resources.
- Robust Security Strategies: IP-MAC-Port Binding, ACL, Port Security, DoS Defend, Storm control, DHCP Snooping, 802.1X, Radius Authentication, and more.
- Optimize Voice and Video Applications: L2/L3/L4 QoS and IGMP snooping.
- Standalone Management: Web, CLI (Console Port, Telnet, SSH), SNMP, RMON, and Dual Image bring powerful management capabilities.

For more details refer to the "TP-LINK model TL-SG3428MP" manual.

Cardioid configurations are useful to cancel low frequencies from the stage and consequently to improve critical microphone recordings.

The cardioid configuration enables a cardioid distribution of the SPL from subwoofers, reducing rear sound pressure.

It is perfect when the energy of low frequencies has to be attenuated, for example on the stage or in areas where it should be avoided due to noise pollution.

For this purpose, a rear sub shall be employed every two front subs. The majority of the energy generated by the rear sub is used to cancel the energy of the other two front subs, so that the maximum overall SPL of the 3 subs in the front area is equal to +1dB approximately compared to a non cardioid configuration with two front subs only.

Obviously, this configuration is valid also with a front sub and a rear sub.

Subs position is very important in order to obtain the best possible rear attenuation.

If the array is stacked directly on the ground, which reflects low frequencies, symmetry is also achieved by rotating the lowest cabinet in the column (Fig.1)

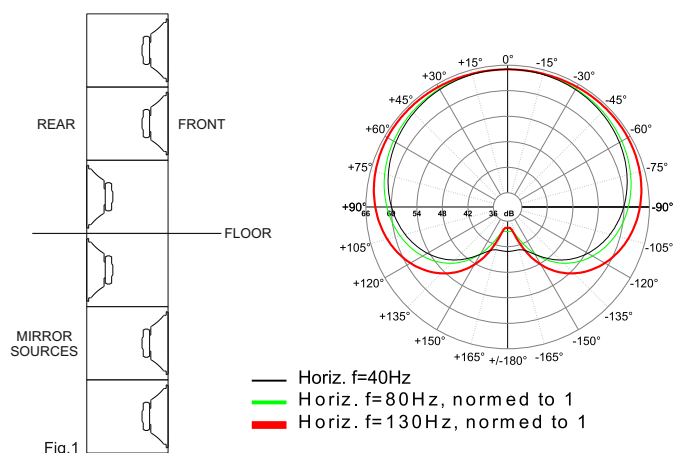
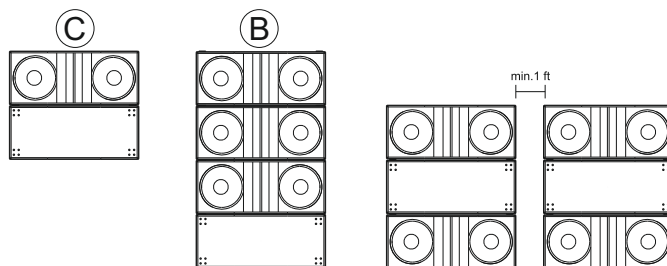


Fig.1

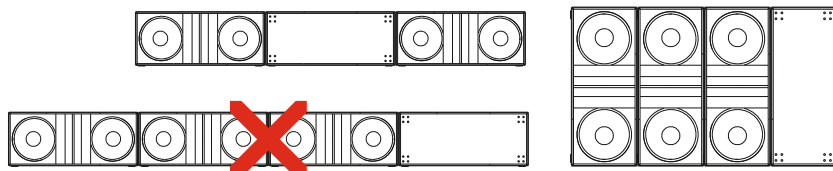
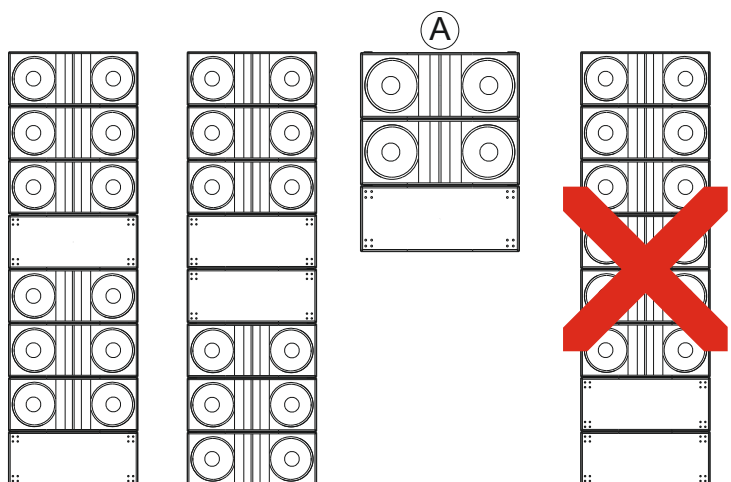
SOME POSSIBLE CONFIGURATIONS



Choose the Preset "cardio" for the reversed sub.

This is optimized for "A" configuration but anyway is also possible for "B" configuration, just by adjusting the volume of the reversed sub, to obtain the desired rear rejection of SPL.

If 1 to 1 config is used "C" the volume of the reversed sub must be lowered.



Physical law dictate that any line source array provides a wave propagation mode yielding at -3db SPL decrease for doubling of distance in the HF frequency domain and -6dB in the LF domain; the frequency of transition depends on the size of the line source. The frequency response of a line array is determined by the array size (number of boxes), array curvature and the listening distance: **LF range is enhanced as the array size (number of enclosure) decrease, distance from the array decrease or curvature (inter-enclosure angle) increase.**

FBT factory preset actually were designed to create an appropriate tonal balance for an array size of 8 x MYRA 214L.

Since the number of presets that can be created by a manufacturer is not infinite, use adjustment of certain DSP parameters is necessary to create the desired tonal balance for a given array and application, we'll call it "Array Size Compensation" for convenience.

Using just some second order IIR filters, is generally possible to smoothly adjust the frequency response of a line source array and compensate for different array geometries and conditions of use. In particular, two shelving filters in a frequency range between 50Hz and 500Hz, 6dB to 9dB slope can be used to correct LF/MF build up created by an array that is longer than the standard preset, or to give more LF energy if the array is shorter. Generally the level adjustment of the shelving EQ is +6dB each halving of the array size, or -6dB each doubling of size.

LF adjustment should be applied to all xcabinets within the array

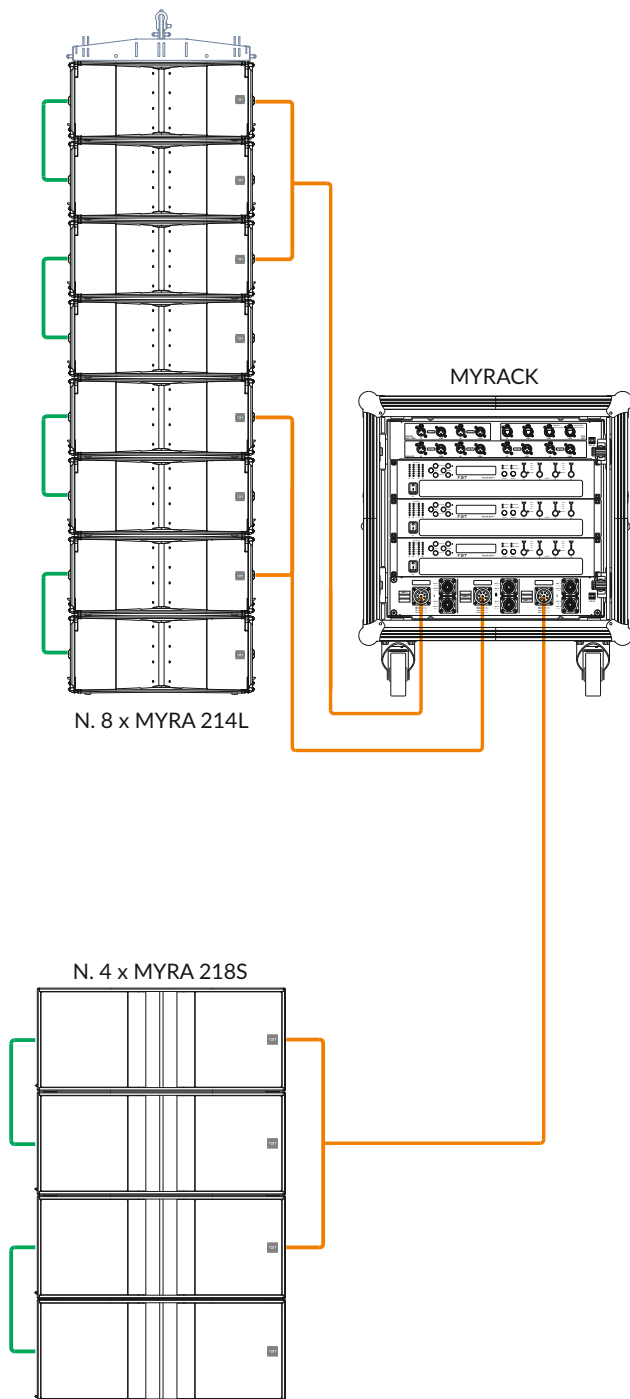
Further filters can be used for **Atmospheric Absorption Compensation** and **HF Throw Distance Compensation**: the first intended to compensate for atmospheric conditions due to large variations in temperature and humidity that can have an impact on the overall HF energy, must be applied globally on the entire array. The second is intended to correct for distance offsets between audience and different sections of an array reducing HF energy close to the array and increase HF energy to areas further away where air absorption has a bigger impact. Unlike others EQ, HF throw distance compensation require different level to each section of the array. To do this just divide the array in the desired sections (generally three are sufficient) and assign amplifier channel associated with each section to one group.

VERY IMPORTANT: except for HF Throw distance compensation, always apply the EQ settings to all enclosures of a same array to avoid poor acoustic results; for that, check that the corresponding amplifier channels are part of the Group for which the current settings apply.

Example of EQ for array size compensation (LF shelving) and for Atmospheric Absorption Compensation (HF shelving).

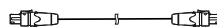


The MYRACK working principle is entirely modular, so that the engineer can physically assemble and interconnect multiple elements to fit numerous applications. The MYRACK configuration based on a multiple of 3 TALOS 20K4 T yields the maximum flexibility and power resources.

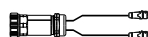


KIT LIST

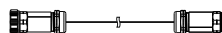
- N. 8 x MYRA 214L Full range variable curvature 3-way line
- N. 4 x MYRA 218S Dual 18" subwoofer modules
- N. 1 x MR-F214 Array frame
- N. 2 x MR-T214 Chariot for 8 MYRA 214L
- N. 2 x MR-T218 Chariot for transport of 4 MYRA 218S
- N. 1 x MYRACK Touring rack 10U
- N. 6 x Loudspeaker cables 4 poles with Neutrik speakon connectors



- N. 3 x Adapter CA-COM to Neutrik Speakon

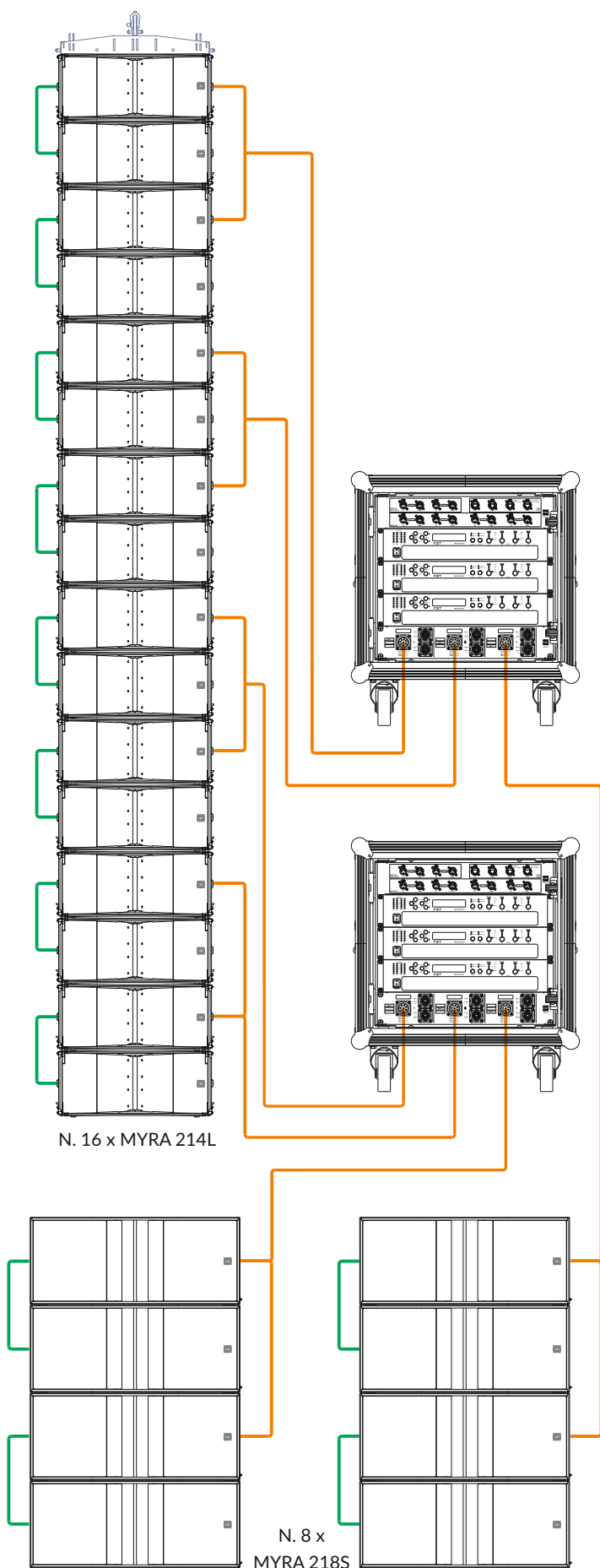


- N. 3 x Speaker cable CA-COM male - female



OPTIONAL

- MR-FJ214 Aiming plates
- MR-J214 Suspension bars
- MR-P214 Extension feet for MYRA 214L chariot
- MR-CT214 Top cover for MYRA 214L

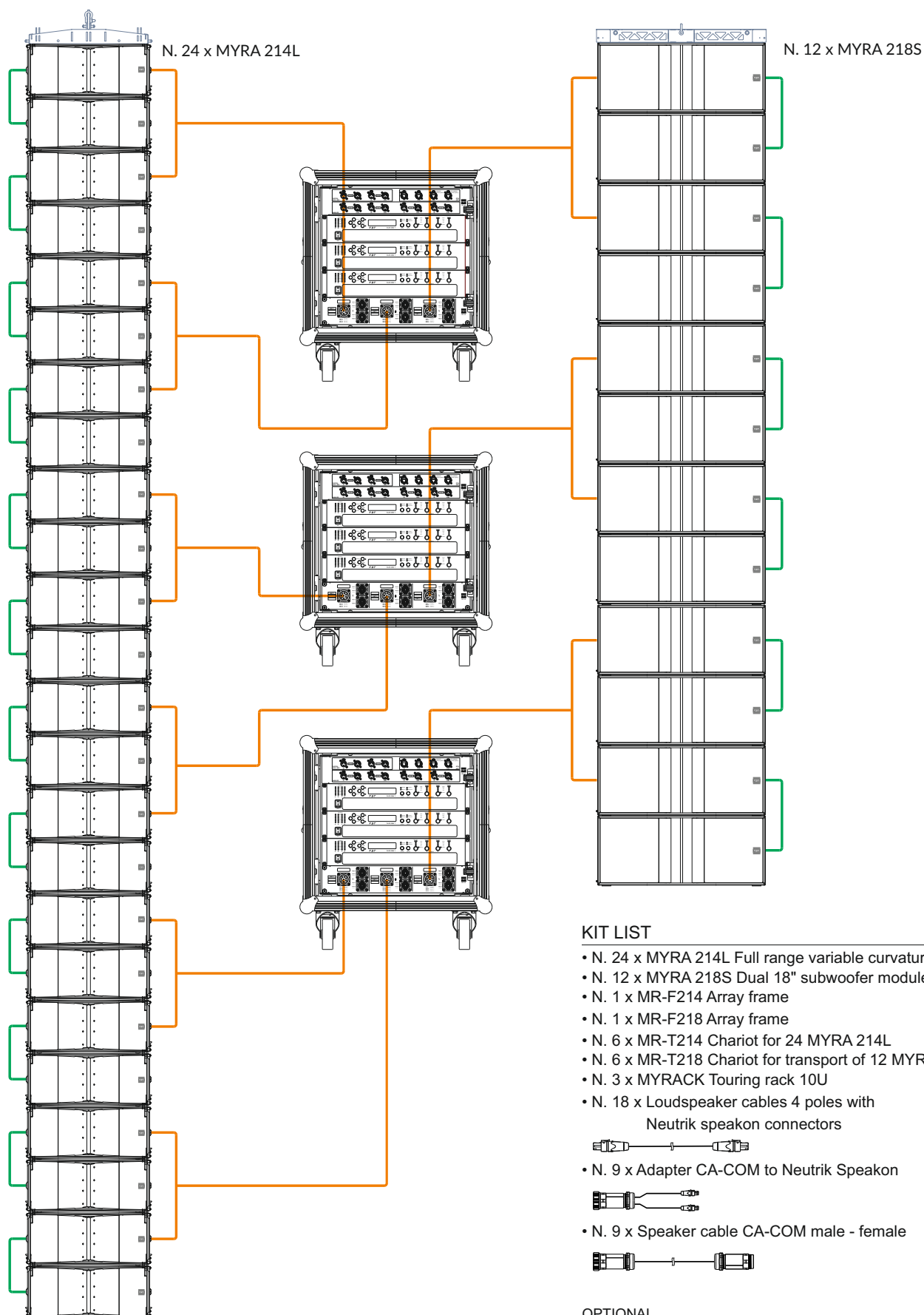


KIT LIST

- N. 16 x MYRA 214L Full range variable curvature 3-way line
- N. 8 x MYRA 218S Dual 18" subwoofer modules
- N. 1 x MR-F214 Array frame
- N. 4 x MR-T214 Chariot for 16 MYRA 214L
- N. 4 x MR-T218 Chariot for transport of 8 MYRA 218S
- N. 2 x MYRACK Touring rack 10U
- N. 12 x Loudspeaker cables 4 poles with Neutrik speakon connectors
- N. 6 x Adapter CA-COM to Neutrik Speakon
- N. 6 x Speaker cable CA-COM male - female

OPTIONAL

- MR-FJ214 Aiming plates
- MR-J214 Suspension bars
- MR-P214 Extension feet for MYRA 214L chariot
- MR-CT214 Top cover for MYRA 214L



KIT LIST

- N. 24 x MYRA 214L Full range variable curvature 3-way line
- N. 12 x MYRA 218S Dual 18" subwoofer modules
- N. 1 x MR-F214 Array frame
- N. 1 x MR-F218 Array frame
- N. 6 x MR-T214 Chariot for 24 MYRA 214L
- N. 6 x MR-T218 Chariot for transport of 12 MYRA 218S
- N. 3 x MYRACK Touring rack 10U
- N. 18 x Loudspeaker cables 4 poles with Neutrik speakon connectors
- N. 9 x Adapter CA-COM to Neutrik Speakon
- N. 9 x Speaker cable CA-COM male - female

OPTIONAL

- MR-FJ214 Aiming plates
- MR-J214 Suspension bars
- MR-P214 Extension feet for MYRA 214L chariot
- MR-CT214 Top cover for MYRA 214L

Reference: TALOS 20K4 T amplified controller

GENERAL

Number of channels	Four
Total power output	20,000/10,000/6,000 Watts RMS (M20, M10, M06)
Input types	Analog, AES3 (Dante as model option)
Control, monitoring & alarm	Ethernet, configurable function Volt-free relay and contact closure port
Energy saving modes	Standby and deep sleep, both with auto-sleep timers
System sleep and wakeup	Front panel switch, network command, contact closure and audio detection
Max ambient temperature (full power, no audio limiting)	40degC (105degF)

AUDIO

Amplifier topology	Proprietary 5th generation FBT ClassD
Amplifier modulation scheme	Low feedback, multiple loop, with feedforward error correction
Dynamic range (analog input to speaker output)	>113dBA typ
Dynamic range (AES3 or Dante input to output)	>114dBA typ
Frequency response	+/- 0.5dB, 5Hz to 20kHz, 4 Ohms -2.5dB, <3Hz to >30kHz, 4 Ohms
Total harmonic distortion, THD	<0.05% typ, 1kHz, AES17, 4 Ohms
Inter-channel crosstalk (worst combination of channels)	better than -85dBr at 1kHz better than -75dBr at 10kHz
Maximum analog input level	+20dBu
Analog input sensitivity range for full output	0dBu to +20dBu, continuously adjustable
Analog input	20k Ohm, electronically balanced
Analog link	Directly connected to the analog input
Analog ground scheme	AES48 standard compliant
AES3 input	Transformer isolated with active cable equalisation for extended range
AES3 link	Active signal regeneration with automatic direct bypass to the AES3 input if the unit is unpowered
AES3 supported sampling rates	24kHz to 192kHz (auto locking)

DIGITAL PROCESSING

Resolution	40 bit, using proprietary LMD (Linea-Micro-Detail) algorithms
Sample rate	96kHz throughout
Special functionality:	
Class leading limiter suite	See the 'speaker protection systems' section
Hardman crossover filters	Better out of band rejection than Linkwitz-Riley (Unique to Linea)
LIR crossover filters	Linear Phase without the compromises of FIR filters (Unique to Linea)
FIR Shelving EQ filters	For linear phase filtering
Overlays	Twelve additional independent overlays of EQ, Delay and Gain

POWER OUTPUT

Power specification	RMS output power per channel, all channels driven with continuous program material and a nominal ambient temperature of 40degC / 105degF
Crest Factor of 4 (12dB), 2-Ohm nominal load	5,000W
Crest Factor of 2.8 (9dB), 4-Ohm nominal load	3,000W
Crest Factor of 2 (6dB), 8-Ohm nominal load	1,500W
Bridged, per channel pair, 4 Ohm load	10,000W
25V line (CV) operation, Crest Factor 4 (12dB)	1250W
70V line (CV) operation, Crest Factor 4 (12dB)	3500W
100V line (CV) operation, Crest Factor 4 (12dB)	5,000W

POWER SUPPLY

Topology (main power supply)	3rd generation Series Resonant.
Topology (auxiliary and standby supplies)	Low quiescent Eco-Flyback
Internally stored energy	>600 Joules
Mains input voltage range (automatically configured)	85V to 240V
Mains input frequency range	47Hz to 63Hz
Mains inrush current (max for <10ms)	6A at 115V, 12A at 230V

MONITORING AND LOGGING

Supply current logged vs time	Number of power cycles counted
Supply voltage logged vs time	Number of mains brownout events counted
Thermal Capacity logged vs time	Fan speeds continuously monitored
Each driver current logged vs time	Fan underspeed events counted
Each driver impedance logged vs time	Various protection mute events counted
Protection limiting for each output logged vs time	Driver Impedance continuously monitored

PHYSICAL

Cooling	Variable speed fans
Airflow	Front to back
Air filtration	Washable media, changeable without the use of tools
Analog IN and LINK connectors	Genuine Neutrik XLR
AES3 IN and LINK connectors	Genuine Neutrik XLR
Audio output connector	Genuine Neutrik Speakon
Mains input connector	Genuine Neutrik 32A Powercon
Dante Primary and Secondary	Shielded RJ45
Relay output & contact closure inputs	Phoenix pluggable terminal block
Front panel display (backlit)	Graphical, high contrast, daylight visible.
Front panel encoders	Two, indented, velocity sensitive
Front panel push buttons	Large, tactile, illuminated
LED indicators	Bright, easily differentiated. Enclosure Standard 19" 2U (88mm) with handles and optional rear support system
Depth (behind rack ears)	12.5kg (27.5
Net Weight	12.5kg (27.5 pounds)



This symbol indicates that when the end-user wishes to discard this product, it must be sent to separate collection facilities for recovery and recycling. By separating this product from other household-type waste, the volume of waste sent to incinerators or land-fills will be reduced and natural resources will thus be conserved.

The Waste Electrical and Electronic Equipment (WEEE Directive) aims to minimise the impact of electrical and electronic goods on the environment. FBT Elettronica SpA comply with the Directive 2012/19/EC n. 49 of the European Parliament on waste electrical and electronic equipment in order to reduce the amount of WEEE that is being disposed of in land-fill site.

All of our products are marked with the WEEE symbol; this indicates that this product must NOT be disposed of with other waste. Instead it is the user's responsibility to dispose of their waste electrical and electronic equipment by handing it over to an approved reprocessor, or by returning it to FBT dealer for reprocessing. For more information about where you can send your waste equipment for recycling, please contact one of your local distributors.

Product features, specifications and appearance are subject to change without prior notice.

FBT Elettronica SpA reserves the right to make changes or improvements in design or manufacturing without any obligation to change or improve previously manufactured products.
