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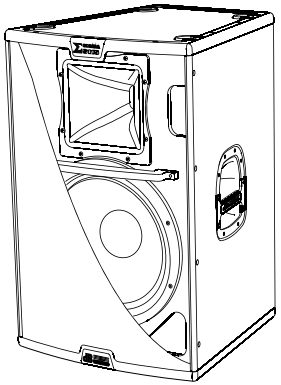
SIGMA series

PROFESSIONAL ACTIVE SPEAKER

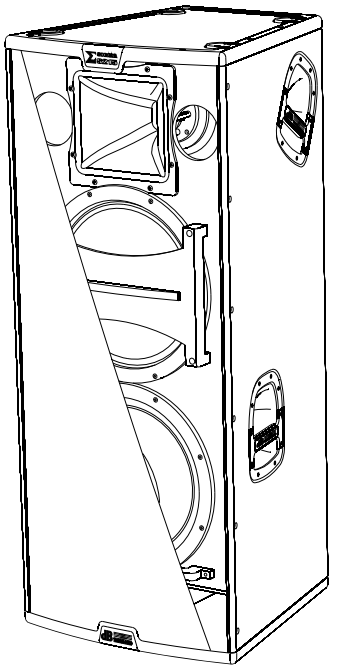
MANUALE D'USO - Sezione 1
USER MANUAL - Section 1
BEDIENUNGSANLEITUNG - Abschnitt 1
CARACTERISTIQUES TECHNIQUES - Section 1

digipro G2

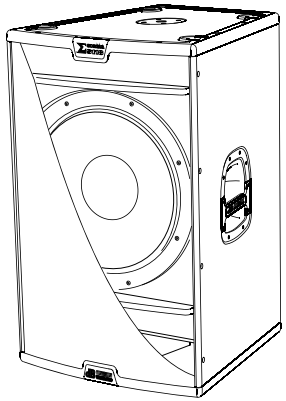
S115



S215



S118



CE

Made in China

COD. 420120199 rev.2

dB TECHNOLOGIES
THE SOUND OF EXPERIENCE

DATI TECNICI

	S115	S215	S118
Sistema	Attivo Biamplificato	Attivo Biamplificato	Attivo
Tipologia amplificatore	Classe D	Classe D	Classe D
Potenza erogata	1000W	1400W	1400W
Risposta in frequenza	55-19000Hz (+/-3dB) 46-20000Hz (-10dB)	49-19000Hz (+/-3dB) 42-20000Hz (-10dB)	42-100Hz (+/-3dB@100Hz Xover) 32-110Hz (-10dB@100Hz Xover)
Crossover	1100Hz - 24dB/oct	1100Hz - 24dB/oct	
SPL massimo	136 dB	139 dB	134 dB
Componenti	1x15" woofer - 3" VC 1x1,4" compression driver 2,84" VC	2x15" woofer - 3" VC 1x1,4" compression driver 2,84" VC	1x18" woofer - 4" VC ---
Dispersione	60°x40°	60°x40°	---
Tromba ruotabile	Si	Si	---
Sensibilità ingresso	-40dBu / -3dBu (MIC/LINE)	-40dBu / -3dBu (MIC/LINE)	-3dBu (LINE)
Impedenza ingresso	2K2ohm/ 20Kohm (MIC/LINE)	2K2ohm/ 20Kohm (MIC/LINE)	20Kohm (LINE)
Alimentazione	110-120V∿ 50-60Hz 3A 220-240V∿ 50-60Hz 1,5A	110-120V∿ 50-60Hz 4A 220-240V∿ 50-60Hz 2A	110-120V∿ 50-60Hz 4A 220-240V∿ 50-60Hz 2A
Corrente di accensione	21,6A	28,4A	29,2A
Forma diffusore	Trapezioidale	Trapezioidale	Trapezioidale
Colore diffusore	Nero	Nero	Nero
Dimensioni (WxHxD)	509x765x533mm	509x1215x533mm	509x815x533mm
Peso	33 Kg	50 Kg	38 Kg
Supporto piantana	36mm lato inferiore	----	M20 lato superiore
Maniglie	2 (1 per lato)	4 (2 per lato)	2 (1 per lato)

DESCRIPTION

The SIGMA series is an active speakers line, with digital multiamplification composed by two speakers and one subwoofer. Sigma S115, woofer 15" and 1,4" driver, Sigma S215, double woofer 15" and 1,4" driver, Sigma S118 subwoofer with 18" woofer.

SIGMA series speakers are realized with Hybrid Enclosure Technology (H.E.T.), developed in the dB Technologies labs. The box in fact is made in light multilayer wood, coated in PVC with protection frames on top and bottom in polypropylene.

The speakers of SIGMA series use digital amplifiers DIGIPRO® G2 of last generation, power supplies featuring switching SMPS (Switched-Mode Power Supplies) technology which can delivering 1000W and 1400w to satisfy each kind of application.

These highly efficient amplifiers provide high power with limited weight. Thanks to the low power dissipated, the cooling of the amplifier module does not require a fan.

The digital preamplifier with DSP (Digital Signal Processor) controls the audio crossover of the acoustic components, the frequency response, the limiter, and the acoustic phase alignment.

In the S115 and S215 speakers, a selector placed on commands panel, enables to select one of two different equalizations, "FLAT" and "BOOST", to guarantee high versatility for the different applications.

In the S118 subwoofer, selector placed on commands panel, enables to select between two acoustic crossover frequencies: "80Hz" and "100Hz".

SIGMA S115 - SIGMA S215

SIGMA S115

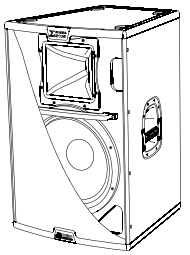
The S115 bi-amped active speaker is equipped with a DIGIPRO® G2 amplifier delivering 1000W.

S115 is a two-way speaker, with woofer 15" (voice coil 3") and compression driver 1,4" (voice coil 2.84") on a 60°x40° aluminium CD-horn.

The speaker's horizontal directivity is 60° by default factory setting.

The speaker is made of 15mm light multilayer wood, coated in PVC with protection frames on top and bottom in polypropylene; the two handles located on the sides of the speaker enabling easy transportation.

In the bottom of the box there is a standard pole mount cup (D36mm) made of aluminium and a retractable adjustable foot (in height) to inclinate the tilt angle up to a max. of 7°. This allows to direct the sound radiation without using additional supports.



SIGMA S215

The S215 bi-amped active speaker is equipped with a DIGIPRO® G2 amplifier delivering 1400W.

S215 is a quasi 3 way typology speaker, with two woofers 15" (voice coil 3") and compression driver 1,4" (voice coil 2.84") on a 60°x40° aluminium CD-horn.

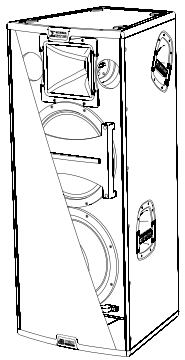
The speaker's horizontal directivity is 60° by default factory setting.

The phase plug attached to the front of the upper woofer avoids the vertical phase modulation which usually take place in this type of configuration and ensures a precise horizontal coverage of the medium frequencies.

The speaker is made of 15mm light multilayer wood, coated in PVC with protection frames on top and bottom in polypropylene; the four handles located on the sides of the speaker enabling easy transportation.

In the bottom of the box there is retractable adjustable foot (in height) to inclinate the tilt angle up to a max. of 7°.

This allows to direct the sound radiation without using additional supports.



COMMANDS AND FUNCTIONS (reference page 29)

1) **"BALANCED INPUT" CONNECTOR**
These balanced inputs can be used to connect balanced or unbalanced microphones or audio sources at line level (0dB) (eg. preamplifier, mixer, recorder, CD player, musical instrument, ...).

2) **"LINK" - "INPUT-LINK" CONNECTORS**
The balanced connector is connected in parallel with input (1) and can be used to send the audio signal to other amplified speakers, recorders or supplementary amplifiers.

3) **"LIMITER" INDICATOR LIGHT**
This indicator shows red to indicate that the internal limiter circuit has tripped.
This prevents amplifier distortion and protects the speakers against overloads.

4) **"SIGNAL" INDICATOR LIGHT**
This indicator shows green to indicate the presence of the audio signal (at a medium level of -20dB).

5) **"READY" INDICATOR LIGHT**
This indicator shows green to indicate the speaker normal operating conditions.

6) **"VOLUME" INPUT SENSITIVITY CONTROL**
This control adjusts the sensitivity of the signal amplifier input.
This control does not affect the "LINK" - "INPUT - LINK" output level.

7) **"EQ" SWITCH**
This two-way switch allows to choose between two different equalizzations.
The "FLAT" position allows linear response of the speaker, which is mainly suitable for the "live" application.
The "BOOST" position emphasizes low frequencies by limiting medium and favoring the recorded sound tracks reproduction.

8) **"INPUT SENS" SWITCH**
Position the switch in LINE to use a line level source (0 dB) or MIC to use a microphone.

9) **FUSE CARRIER "FUSE"**
Mains protection fuse housing. The fuse specifications are found in the data plate of the apparatus. In case of failure to replace it with one of the same type and value specified.

10) **"MAINS INPUT" POWER SOCKET**
To connecting the power cable provided and performs the function of mains switch.
The connector used for mains connection is a POWER CON® (blue) socket.
In the normal operating the led (READY) is steady turned on.

11) **"MAINS LINK" OUTPUT POWER SOCKET**
To linking the mains power. The output is connected in parallel with input (10) and can be used to power another active speaker.
The connector is a POWER CON® (grey) socket.

SIGMA S118

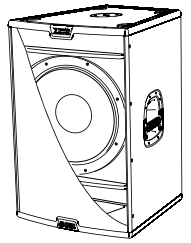
SIGMA S118

The subwoofer S118 is equipped with bi-amplifier DIGIPRO® G2 bridge connected, which delivering 1400W .

S115 is equipped with woofer 18", with aluminium basket and voice coil 4" (100mm).

The speaker is made of 15mm light multilayer wood, coated in PVC with protection frames on top and bottom in polypropylene; the two handles located on the sides of the speaker enabling easy transportation.

In the top of the box there is a metal pole mount cup (M20).



COMMANDS AND FUNCTIONS (reference page 30)

1) **"BALANCED MAIN INPUT" CONNECTOR**
These balanced inputs can be used to connect balanced or unbalanced microphones or audio sources at line level (0dB) (eg. preamplifier, mixer, recorder, CD player, musical instrument, ...).

2) **"BALANCED OUTPUT" CONNECTORS**
This connector is used to send the signal to another subwoofer or to an amplified loudspeaker.
From this connector it is possible to pick up the Full-Range or High Pass signal, operating the selector "XOVER"-"FULL RANGE" (8).

3) **"LIMITER" INDICATOR LIGHT**
This indicator shows red to indicate that the internal limiter circuit has tripped.
This prevents amplifier distortion and protects the speakers against overloads.

4) **"SIGNAL" INDICATOR LIGHT**
This indicator shows green to indicate the presence of the audio signal (at a medium level of -20dB).

5) **"READY" INDICATOR LIGHT**
This indicator shows green to indicate the speaker normal operating conditions.

6) **"SUBWOOFER VOLUME" INPUT SENSITIVITY CONTROL**
This control adjusts the sensitivity of the signal amplifier input.
This control does not affect the "BALANCED OUTPUT" output level.

7) **"X-OVER" SWITCH**
This switch enables to select the crossover frequency between subwoofer and loudspeaker connected to the "Balanced Output" (2). It is possible to select either 100Hz and 80Hz as cutoff frequency.

8) **"XOVER"-"FULL RANGE" SWITCH**
This switch enables to select the signal to be redirected to the "BALANCED OUTPUT".
The position "X-OVER" enables to send the input signal, cut at the crossover frequency selected by means of the selector (7) to an amplified loudspeaker.
The "FULL RANGE" position enables to send the same input signal to another subwoofer.

9) **FUSE CARRIER "FUSE"**
Mains protection fuse housing. The fuse specifications are found in the data plate of the apparatus. In case of failure to replace it with one of the same type and value specified.

10) **"MAINS INPUT" POWER SOCKET**
To connecting the power cable provided and performs the function of mains switch.
The connector used for mains connection is a POWER CON® (blue) socket.
In the normal operating the led (READY) is steady turned on.

11) **"MAINS LINK" OUTPUT POWER SOCKET**
To linking the mains power. The output is connected in parallel with input (10) and can be used to power another active speaker.
The connector is a POWER CON® (grey) socket.

SIGMA S115 - SIGMA S215 - SIGMA S118

CONNECTIONS

Connecting to the mains supply

Each active speaker features its own power cable. Connection is done by a Neutrik POWER CON® (blue) model which permits easy and fast connection to the speaker as well as being an excellent locking system.

The same connector serves as a switch to turn ON and OFF the active loudspeaker by turning the connector to the left (OFF) or right (ON).

The active speaker must be connected to a power supply able to deliver the maximum required power.

Main power supply linking

On the rear of the speaker, a Neutrik POWER CON® connector (grey) offers linking the mains power supply.

This socket links the power supply to another speaker, thereby reducing the direct connections to the mains. Maximum amplifier input power is shown on the amplifier panel. The maximum number of speakers connected together varies of max input power and of the maximum allowed current of the first power socket.

CHARACTERISTICS AND PROTECTION

Front Grille
The speakers's components in the box are protected 1,5mm metal steel grille covered by foam on backside.

Cooling
Thermal control is provided by the internal microprocessor which, by means of two sensors, controls the temperature of the amplifier and of the power supply, avoiding overheating by limiting the overall volume.

In case of overheating (> 80 degrees) the volume decreases proportionally to the temperature increase, making the change unnoticeable.

The correct volume and all the functions are automatically restored when standard operating temperatures are reached.

Switch on

The amplifiers are equipped with a microprocessor to control the DSP and the amplifier.

The correct switch on of the amplifier is ensured by an initialization procedure; during this test stage the LEDs ("LIMITER", "SIGNAL" AND "READY"), located on the amplifier module, remain off for approx. 2 sec.
At the end of the switch on procedure, on the amplifier module, the "READY" green LED only remains steadily on.

In case of severe failure of the speaker, on the amplifier module, the "LIMITER" red LED flashes. The speaker switches to "mute".

Failure indications and safeties

The microprocessor is able to signal three different kinds of failure by flashing the "LIMTER" red LED on the amplifier panel before the lighting up of the "READY" green LED. The three types of failure are:

1) **WARNING:** a non severe error or auto-ripristinate malfunction is detected and the performance of the speaker is not limited
2) **LIMITATION:** an error is detected and the performance of the speaker is limited (the sound level is reduced by 3dB).
   This does not affect the operation of the speaker since it continues to operate. However, it is necessary to call the service centre to solve the issue.
3) **FAILURE:** a severe malfunction is detected. The speaker switches to "mute".

Flashing	Indication
1 or 2	Warning
3 or 4	Limitation
from 5 to 8	Failure

In case of failure, the "READY" green LED remains off.

Perform the checks listed below:

- Check if the speaker is properly connected to the power supply.
- Make sure that the power supply is of correct voltage.
- Check that the amplifier is not overheated.
- Disconnect the speaker from the mains power supply, wait for a few minutes and connect it again.

If this error signaling remains active contact the authorized service center to resolve the problem.

ROTATING HORN

When used horizontally, the loudspeaker allow to maintain the same coverage angle by featuring a rotating horn.

The speakers are always supplied by the manufacturer with the horn positioned horizontal at 60°by default.

If you wish to change the coverage angle (FIG.A page 34):

- unscrew the fixing screws of the grille (eight screws- four for each side in S115 and S118, twelve screws - six for each side in S215)
- remove the front protective grille by slightly pressing on one side and taking the grille off the recessed slots
- unscrew the eight fixing screws of the horn
- rotate the horn in the desired position (the horn should never be removed from the driver!)
- tighten the fixing screws of the horn
- put the grille back in the recessed slots and tighten the screws of the grille.

LOUDSPEAKER INSTALLATION

WARNING
To prevent accidents, these units must be fixed/secured to the floor/walls in accordance with the installation instructions provided.

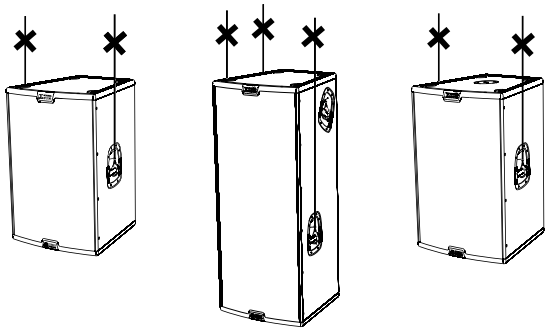
Before using the speakers, take care to install them in a stable and safe way, positioning them on flat, horizontal surfaces, so as to avoid the danger of tipping over and consequent damages to people, animals and goods.

If you use the loudspeakers outdoors avoid places that are exposed to bad weather.

The loudspeaker has the following mounting options:
- in support use (Fig. 1 page 35)
- ground stack (Fig. 1 page 35)
- on speaker stands Sigma S115 only (Fig.3 page 36).

For the allowed configurations, refer to figures 1, 2 and 3 (pag.35, 36).

WARNING
Never use the handles to hang the speaker!



WARNING
When you stack two or more speakers, they must be properly secured either to the floor or to a supporting structure by means of suitable devices (straps or ropes), using the handles for transport.

Take care to secure both handles of each speaker and verify the stability of the system at the end of the installation, before use.

Also make sure that the devices used for the securing of the speakers are suitable and appropriate for the purpose.

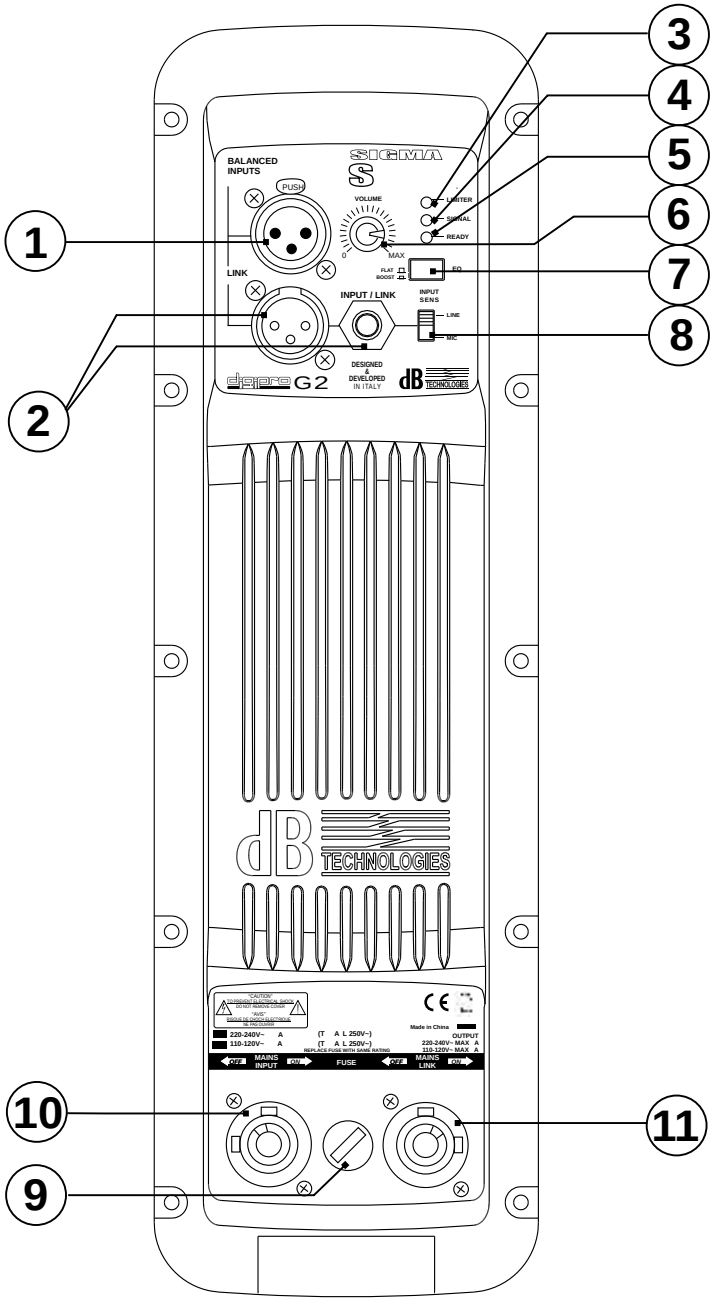
EMI CLASSIFICATION

According to the standards EN 55103 this equipment is designed and suitable to operate in E3 (or lower E2, E1) Electromagnetic environments.

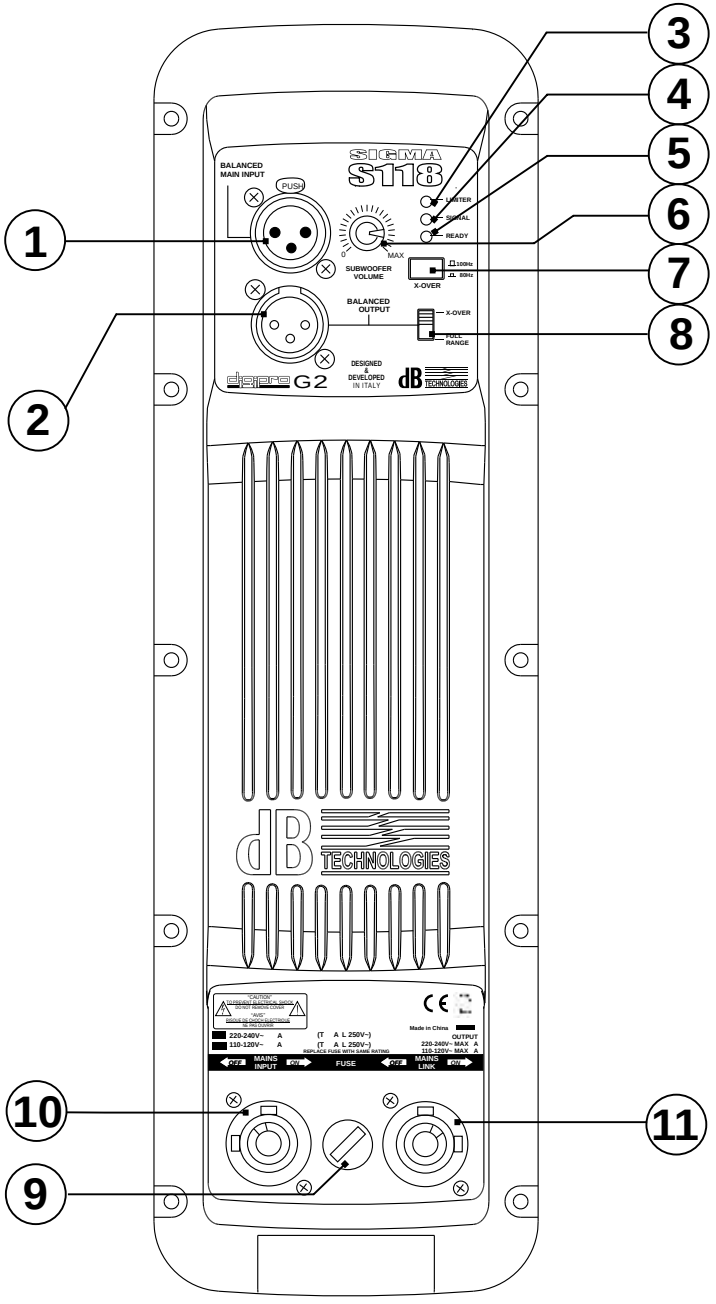
TECHNICAL SPECIFICATIONS

	S115	S215	S118
System	Active Bi-Amp	Active Bi-Amp	Active Bi-Amp
Type of amplifier	Class D	Class D	Class D
Power	1000W	1400W	1400W
Frequency response	55-19000Hz (+/-3dB) 46-20000Hz (-10dB)	49-19000Hz (+/-3dB) 42-20000Hz (-10dB)	42-100Hz (+/-3dB@100Hz Xover) 32-110Hz (+/-3dB@100Hz Xover)
Crossover	1100Hz - 24dB/oct	1100Hz - 24dB/oct	----
Sound pressure (max SPL)	133dB	139dB	134dB
Components	1x15" woofer - 3"VC 1x1,4" compression driver 2,84" VC	2x15" woofer - 3" VC 1x1,4" compression driver 2,84"VC	1x18" woofer - 4" VC --------
Dispersion	60°x40°	60°x40°	--------
Rotating horn	Yes	Yes	--------
Input sensitivity	-40dBu/-3dBu (MIC/LINE)	-40dBu/-3dBu (MIC/LINE)	-3dBu (LINE)
Impedance input	2K2ohm/ 20Kohm (MIC/LINE)	2K2ohm/ 20Kohm (MIC/LINE)	20Kohm (LINE)
Power supply	110-220V ~ 50-60Hz 3A 220-240V ~ 50-60Hz 1,5A	110-220V ~ 50-60Hz 4A 220-240V ~ 50-60Hz 2A	110-220V ~ 50-60Hz 4A 220-240V ~ 50-60Hz 2A
Inrush current	21,6A	28,4A	29,2A
Housing shape	Trapezoidal	Trapezoidal	Trapezoidal
Colour	Black	Black	Black
Dimension (WxHxD)	509x765x533mm	509x1215x533mm	509x815x533mm
Weight	33Kg	50Kg	38Kg
Pole mount cup	D36mm on bottom side	----------	M20 on top side
Handle	2 one per side	4 two per side	2 one per side

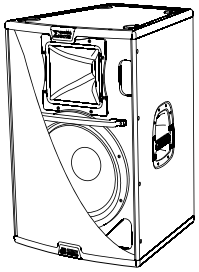
SIGMA S115 - SIGMA S215

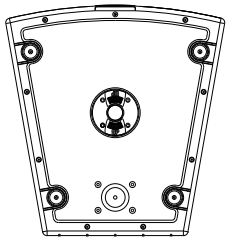


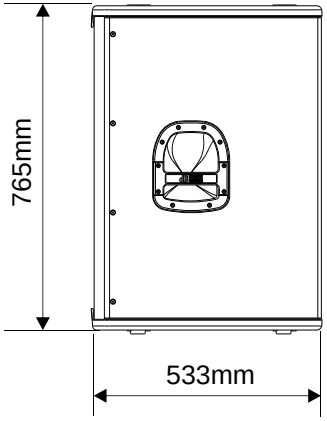
SIGMA S118

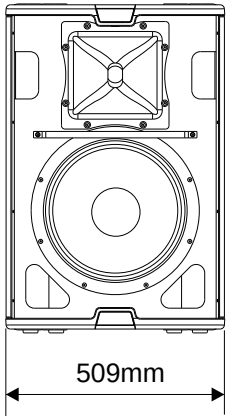


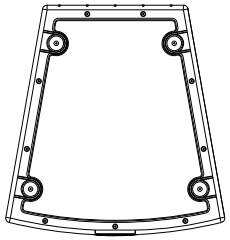
SIGMA S115



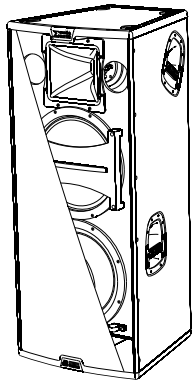


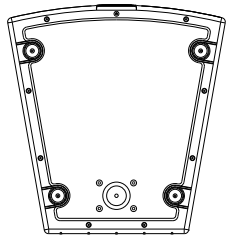


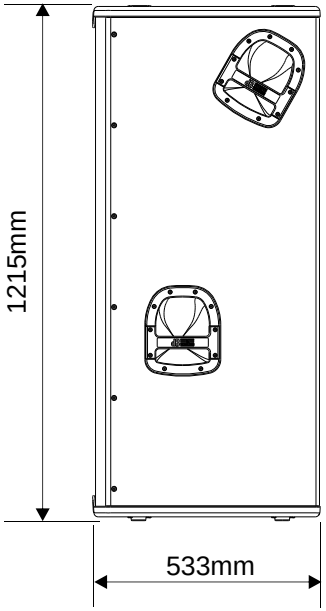


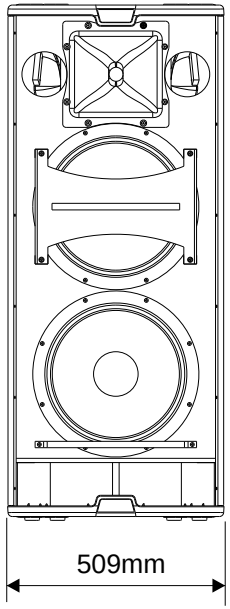


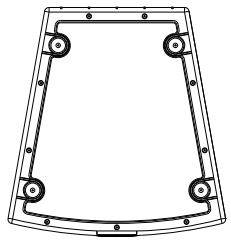
SIGMA S215



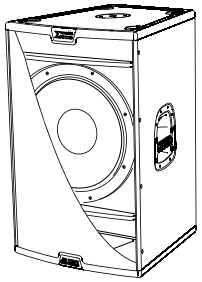




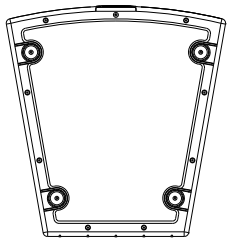


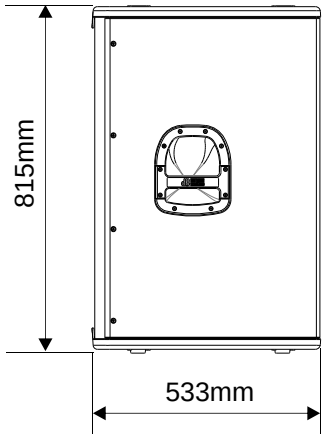


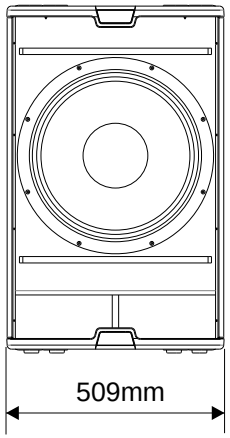
DIMENSIONI - DIMENSIONS
ABMESSUNGEN - DIMENSIONS

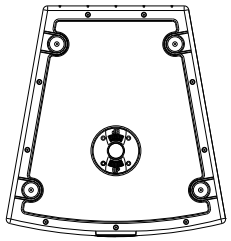


SIGMA S118

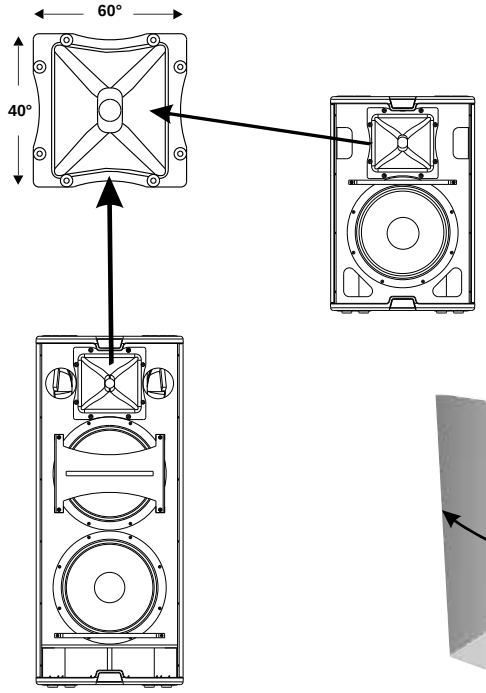


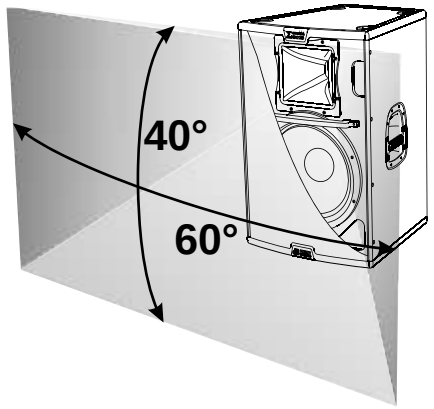






ANGOLO DI COPERTURA TROMBA / HORN ANGLE COVERED
HOCHTONHORN ABSTRAHLWINKEL / ANGLE DE COUVERTURE COTÊ





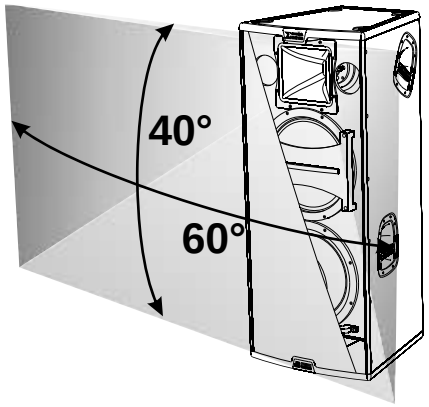


Fig. A

ISTRUZIONI DI SICUREZZA PER ACCESSORI
SAFETY INSTRUCTIONS FOR ACCESSORIES
ZUBEHÖR SICHERHEITSHINWEISE
INSTRUCTIONS DE SÉCURITÉ POUR LES ACCESSOIRES

Contattare dB Technologies per gli accessori da utilizzare a corredo.
Si declina ogni responsabilità da un utilizzo inappropriato degli accessori o di dispositivi aggiuntivi non idonei allo scopo.

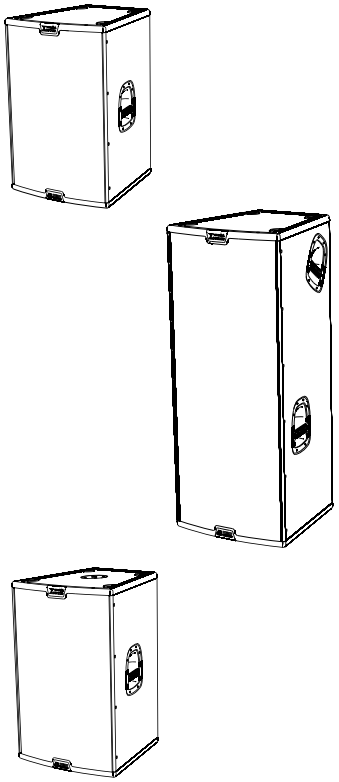
Contact dB Technologies for accessories to be used with speakers.
Will not accept any responsibilty when inappropriate accessories or not suitable additional devices are used.

Kontaktieren sie dBTechnologies für passendes Lautsprecherzubehör.
Falls unpassendes Zubehör verwendet wird, wird jegliche Haftung ausgeschlossen.

Contact dBTechnologies pour les accessoires à utiliser avec la machine.
N'accepterons pas toutes les responsabilités lorsque des accessoires inappropriés ou ne conviennent pas à des dispositifs supplémentaires sont utilisés.

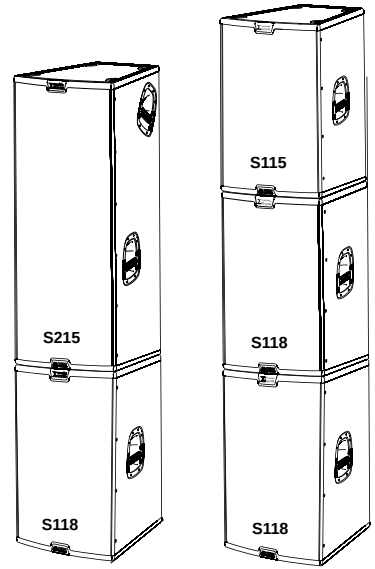
UTILIZZO IN APPOGGIO
SUPPORTED USE
ANWENDUNG
UTILISATION EN APPUI

Fig. 1



SOVRAPPOSTO
STACKED
überlagert
SUPERSPOSE

Fig. 2



SUPPORTO STAND (M20/D36M)
STAND SUPPORT (M20/D36M)
STANDARD-HOCHSTÄNDERFLANSCH (D36MM)
SUPPORT STANDARD (M20/D36M)

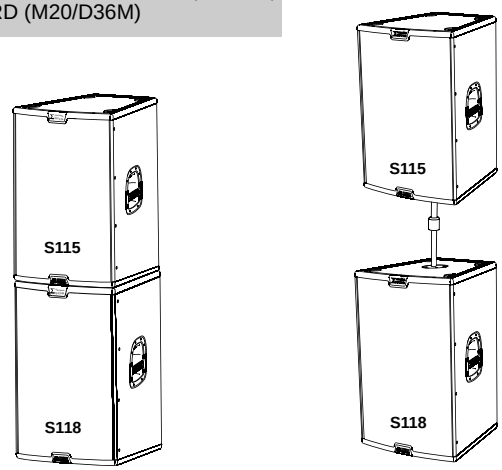
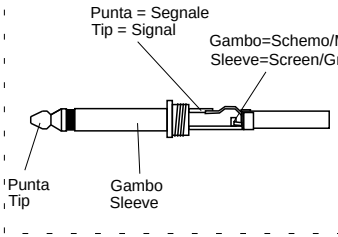


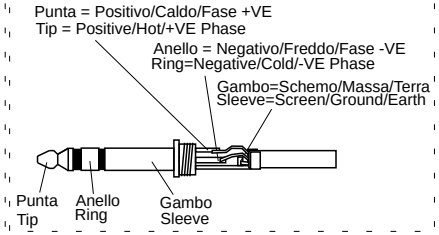
Fig. 3

COLLEGAMENTI - CONNECTIONS
ANSCHLÜSSE - BRANCHEMENTS

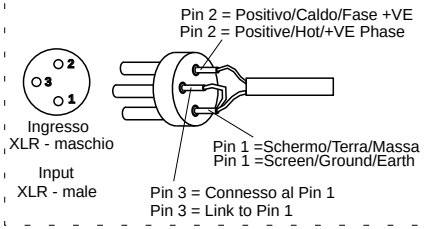
Funzionamento sbilanciato con connettore jack 1/4" (6,3mm)
Unbalanced use of stereo 1/4" jack plug



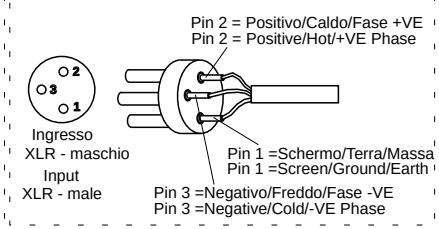
Funzionamento bilanciato con connettore jack 1/4" (6,3mm)
Balanced use of stereo 1/4" jack plug



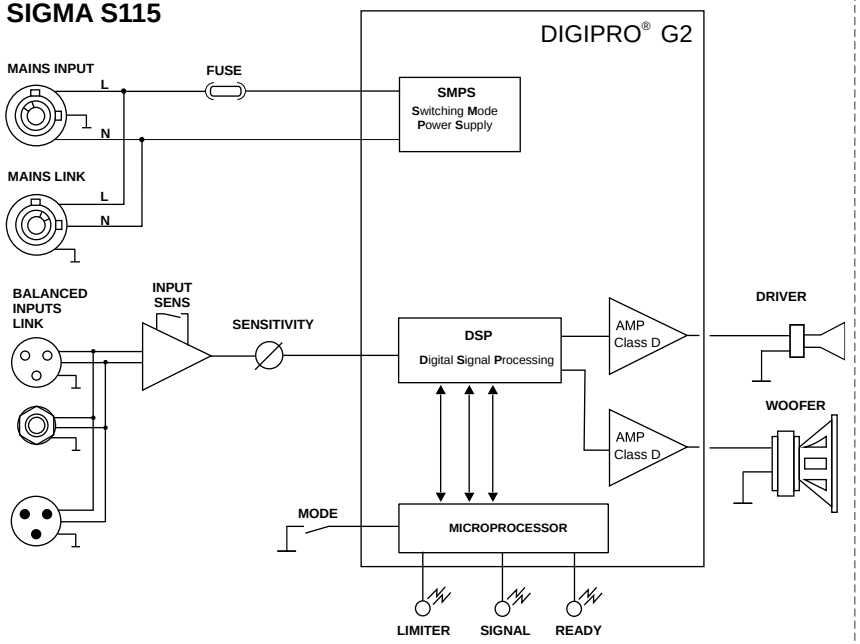
Funzionamento sbilanciato con connettore XLR
Unbalanced use with XLR connectors



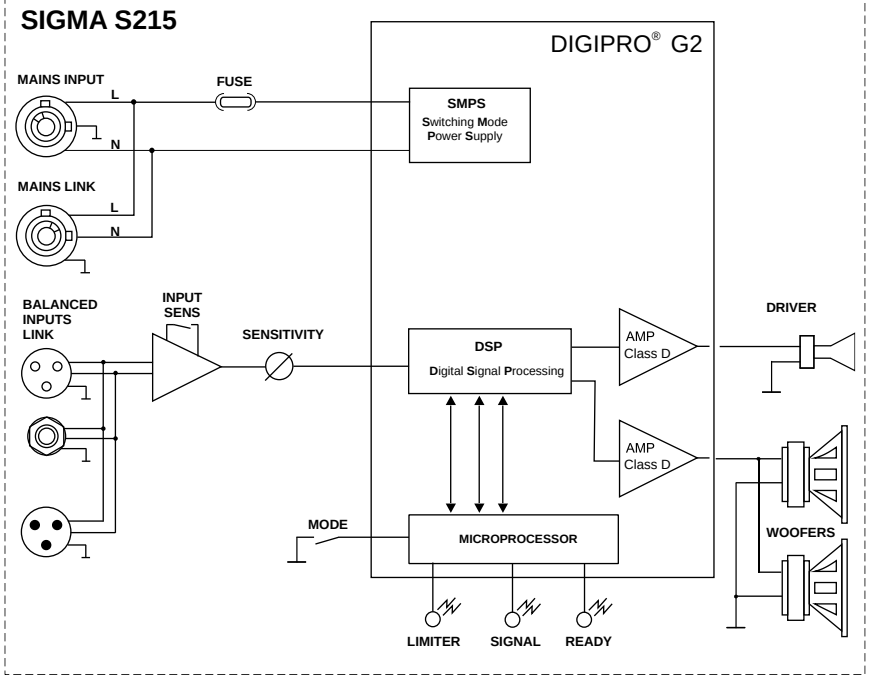
Funzionamento bilanciato con connettore XLR
Balanced use with XLR connectors



SIGMA S115



SIGMA S215



SIGMA S118