D.A.S.

User's Manual

SOUND FORCE

SF-20ALT / SF-20ART / SF-1521A

Antes de utilizar el equipo, lea la sección "Precauciones de seguridad" de este manual. Conserve este manual para futuras consultas.

Before operating the device, please read the "Safety precautions" section of this manual. Retain this manual for future reference.

CONTENTS

Precauciones de Seguridad
Safety Precautions

El signo de exclamación dentro de un triángulo indica la existencia de importantes instrucciones de operación y mantenimiento en la documentación que acompaña al producto.
Conserve y lea todas estas instrucciones. Siga las advertencias.
ATENCIÓN: Es un producto clase A, por lo que en entornos domésticos puede causar radio-interferencias, en cuyo caso el usuario tendrá que tomar las medidas oportunas.
De acuerdo con EN55103-2, usar el equipo sólo en entornos E1, E2, E3 ó E4.

The exclamation point inside an equilateral triangle is intended to alert the users to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product. Heed all warnings. Follow all instructions. Keep these instructions.
WARNING: This is a class A product. In a domestic environment this product may cause radio interferences in which case the user may be required to take adequate measures.
Use this product only in E1, E2, E3 or E4 environments according to EN55103-2.

No desconecte la tierra en el conector de alimentación pues es peligroso e ilegal. Equipo de Clase I. El producto debe ser conectado a un enchufe con toma de tierra. Sólo use este equipo con el cable de red de alimentación adecuado para su país.

Do not remove mains connector ground, it is dangerous and illegal. Class I device. The product must be connected to a mains socket outlet with protective earth connection. Only use this equipment with an appropriate mains cord for your country.

El signo del rayo con la punta de flecha, alerta contra la presencia de voltajes peligrosos no aislados. Para reducir el riesgo de choque eléctrico, no retire la cubierta.

The lightning and arrowhead symbol warns about the presence of uninsulated dangerous voltage. To reduce the risk of electric shock, do not remove the cover.

No instale el aparato cerca de ninguna fuente de calor como radiadores, estufas u otros aparatos que produzcan calor. Debe instalarse siempre sin bloquear la libre circulación de aire por las aletas del radiador.

Do not install near any heat sources such as radiators, heat registers, stoves or other apparatus that produce heat.
The circulation of air through the heatsink must not be blocked.

No exponga este equipo a la lluvia o humedad sin el protector de lluvia recomendado. No exponga el equipo a salpicaduras sin el protector de lluvia recomendado, ni coloque sobre él objetos que contengan líquidos, tales como vasos y botellas.

Do not expose this device to rain or moisture without the rain protector supplied. Do not place any objects containing liquids, such as bottles or glasses, on the top of the unit. Do not splash liquids on the unit without the rain protector supplied.

Este símbolo indica que el presente producto no puede ser tratado como residuo doméstico normal, sino que debe entregarse en el correspondiente punto de recogida de equipos eléctricos y electrónicos.

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

Equipo diseñado para funcionar entre 15ºC y 45ºC con una humedad relativa máxima del 95%, con un rango de ±10% de la tensión nominal de alimentación indicada en la etiqueta trasera (según IEC 60065). Si debe sustituir el fusible preste atención al tipo y rango.

Working temperature ranges from 15ºC to 45ºC with a relative humidity of 95%, with ±10% of the rated main voltage value indicated on the rear label (according to IEC 60065). If the fuse needs to be replaced, please pay attention to correct type and ratings.

El cableado exterior conectado al equipo requiere de su instalación por una persona instruida o el uso de cables flexibles ya preparados.

The outer wiring connected to the device requires installation by an instructed person or the use of a flexible cable already prepared.

Si el aparato es conectado permanentemente, la instalación eléctrica del edificio debe incorporar un interruptor multipolar con separación de contacto de al menos 3mm en cada polo.

If the apparatus is connected permanently, the electrical system of the building must incorporate a multipolar switch with a separation of contact of at least 3mm in each pole.

Para desconectar el dispositivo debe usar el enchufe. Desconecte este aparato durante tormentas eléctricas, terremotos o cuando no se vaya a emplear durante largos periodos.

To disconnect the device, you should use the mains plug. Unplug this apparatus during lightning storms, earthquakes or when unused for long periods of time.

No emplace altavoces en proximidad a equipos sensibles a campos magnéticos, tales como monitores de televisión o material magnético de almacenamiento de datos.

Do not place loudspeakers in proximity to devices sensitive to magnetic fields such as television monitors or data storage magnetic material.

No emplace el producto sobre un carro, base, tripode, soporte o mesa inestables. El dispositivo puede caer, causando serias heridas y dañándose gravemente.

Do not place the product on an unstable cart, stand, tripod, bracket or table. The device may fall, causing serious injury, and serious damage to the device itself.

El colgado del equipo sólo debe realizarse utilizando los herrajes de colgado recomendados y por personal cualificado. No cuelgue la caja de las asas y respete los valores máximos de carga dados en el manual.

The appliance should be flown only from the rigging points and by qualified personnel. Do not suspend the box from the handles and respect the maximium load values given in the manual.

No existen partes ajustables por el usuario en el interior de este equipo. Cualquier operación de mantenimiento o reparación debe ser realizada por personal cualificado. Es necesario el servicio técnico cuando el equipo se haya dañado de alguna forma, como que haya caído líquido o algún objeto en el interior del aparato, haya sido expuesto a lluvia o humedad, no funcione correctamente, haya recibido un golpe o su cable de red esté dañado.

No user serviceable parts inside. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally or has been dropped.

Limpie con un paño seco. No use limpiadores con disolventes.

Clean only with a dry cloth. Do not use any solvent based cleaners.

GARANTÍA

Todos nuestros productos están garantizados por un periodo de 24 meses desde la fecha de compra.

Las garantías sólo serán válidas si son por un defecto de fabricación y en ningún caso por un uso incorrecto del producto.

Las reparaciones en garantía pueden ser realizadas, exclusivamente, por el fabricante o el servicio de asistencia técnica autorizado.

Otros cargos como portes y seguros, son a cargo del comprador en todos los casos.

Para solicitar reparación en garantía es imprescindible que el producto no haya sido previamente manipulado e incluir una fotocopia de la factura de compra.

WARRANTY

All our products are warrantied against any manufacturing defect for a period of 2 years from date of purchase.

The warranty excludes damage from incorrect use of the product.

All warranty repairs must be exclusively undertaken by the factory or any of its authorised service centers.

To claim a warranty repair, do not open or intend to repair the product.

Return the damaged unit, at shippers risk and freight prepaid, to the nearest service center with a copy of the purchase invoice.

DECLARACIÓN DE CONFORMIDAD
DECLARATION OF CONFORMITY

DAS Audio Group, S.L.
C/ Islas Baleares, 24 - 46988 - Pol. Fuente del Jarro - Valencia. España (Spain).

Declara que *SF-20ALT, SF-20ART, SF-1521A*:
Declares that *SF-20ALT, SF-20ART, SF-1521A*:

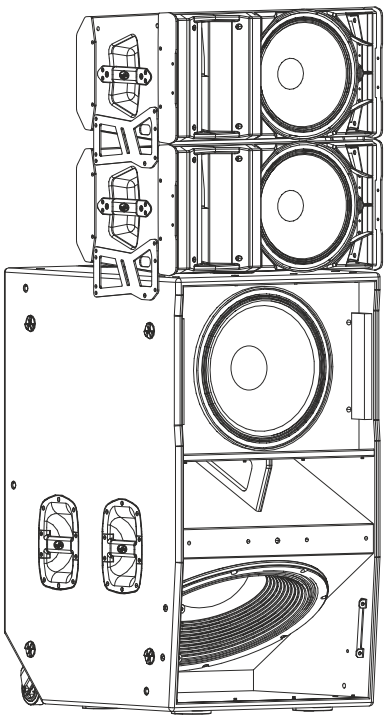
Cumple con los objetivos esenciales de las Directivas:
Abide by essential objectives relating Directives:

● De Baja Tensión / Low Voltage	2014/35/UE
● EMC	2014/30/UE
RoHS	2011/65/UE
● RAEE (WEEE)	2012/19/UE

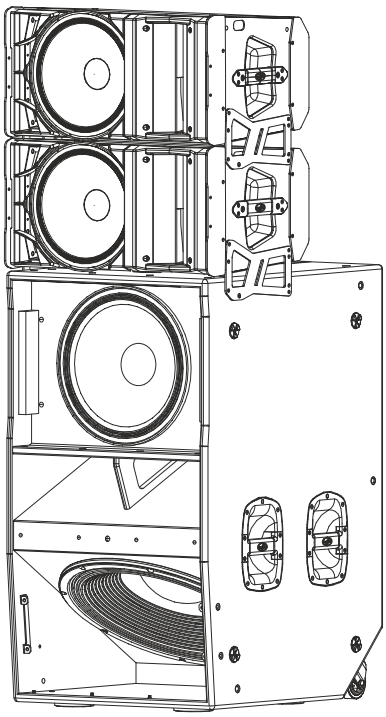
Y es conforme a las siguientes Normas Armonizadas Europeas:
In accordance with Harmonized European Norms:

- EN 60065:2014.- Audio, video and similar electronic apparatus. Safety requirements.
- EN 55032:2012.- Electromagnetic compatibility of multimedia equipment. Emission requirements.
- EN 55103-2:2009.- Electromagnetic compatibility. Product family standard for audio, video, audio-visual and entertainment lighting control apparatus for professional use. Part 2:Immunity.
- EN 50581:2012.- Technical documentation for the assessment of electrical and electronic products with respect to the restriction of hazardous substances.

INTRODUCTION



Left SF-Monitor



Right SF-Monitor

SF-Monitor

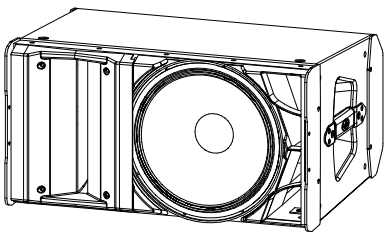
The new *SF-Monitor* is a powered DJ monitor system designed by **DAS** for discerning DJ´s world-wide. The impressive *SF-Monitor* comprises two parts, the *SF-20ALT* (left version), or *SF-20ART* (right version), powered mid-high unit and the *SF-1521A*, an innovative two-way low frequency system. Specially designed stacking hardware allows the *SF-20ALT*, or *SF-20ART*, to be mounted on the *SF-1521A* subwoofer and angled at the DJ´s preference. Both the *SF-20A (LT/RT)* and the *SF-1521A* are *DASnet*™ capable, allowing for remote monitoring and control of the systems.

The *SF-Monitor* is a true plug-and-play system. The audio signal can be sent to the *SF-1521A* directly from the DJ mixer and then looped to the *SF-20A (LT/RT)* thanks to the system presets located on the *SF-20A (LT/RT)* and *SF-1521A* which align the two units without the need of an external DSP.

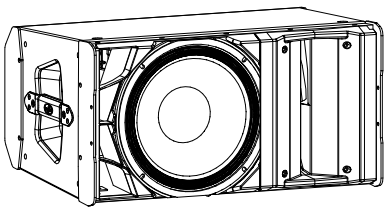
Features

SF-20ALT / SF-20ART

– *DASnet*™ remote monitoring and control capable
– *12AN4* loudspeaker
– *M-75N* compression driver
– Custom colors available
– Companion subwoofer system *SF-1521A*
– *JP-20* hardware included.



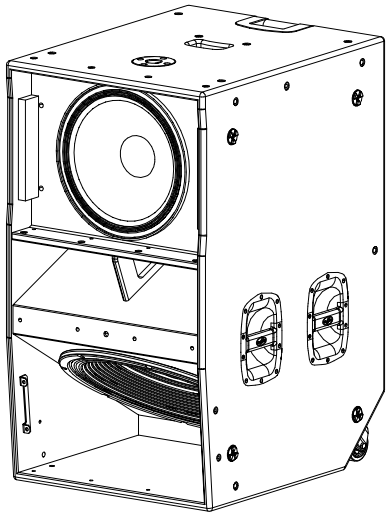
SF-20ALT



SF-20ART

The *SF-20AL*T is left version, while the *SF-20ART* is right version, of the mid-high unit which is part of the *SF-Monitor* system. The powered *SF-20A (LT/RT)* can also be used individually to provide additional reach in areas not covered by the main *Sound Force* system. The mid range incorporates the optimized *12AN4* neodymium loudspeaker providing high output and reliability. High frequency response relies on a compression driver-waveguide assembly which employs the *M-75N* neodymium compression driver. Two aluminum assemblies attached to the front of the cabinet comprise the high frequency waveguide and the carrier for the 12" woofer. The rear of the *SF-20A (LT/RT)* is dominated by an aluminum heat sink housing the powerful Class D amplifier and related electronics.

A new stacking system allows the *SF-20A (LT/RT)* to be mounted on the *SF-1521A* companion subwoofer and angled at the DJ´s preference.



SF-1521A

– ***15GNR*** mid-bass speaker
– ***21UXN4*** low frequency speaker
– ***DASnet™*** remote monitoring and control capable
– Companion mid-high system ***SF-20A (LT/RT)***

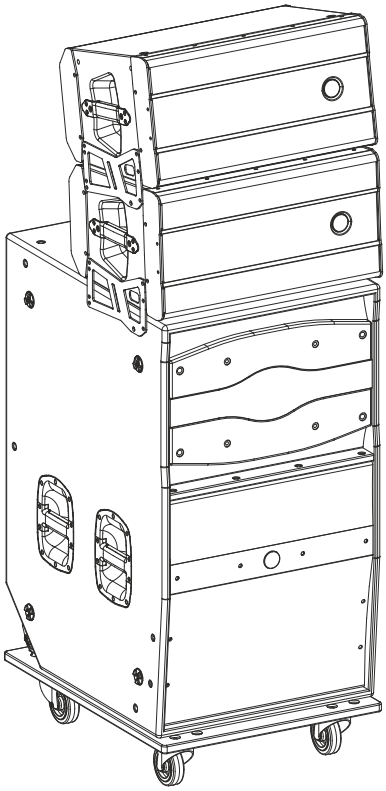
The ***SF-1521A*** is a unique, powered hybrid subwoofer system which is part of the ***SF-Monitor*** system. It combines the hard-hitting and defined performance of a 15" loudspeaker with the deep, air-moving power of a 21". The ***SF-1521A*** employs the ***15GNR*** loudspeaker for mid-bass reproduction up to 200 Hz. The extreme low end of the system´s frequency range is handled by a single ***21UXN4*** loudspeaker ideal for demanding dance club applications. A Class D two channel amplifier developing 1700 $W_{continuos}$ per channel provides the power. The ***SF-1521A*** can also be deployed for impressive low frequency reproduction in support systems.

Note:

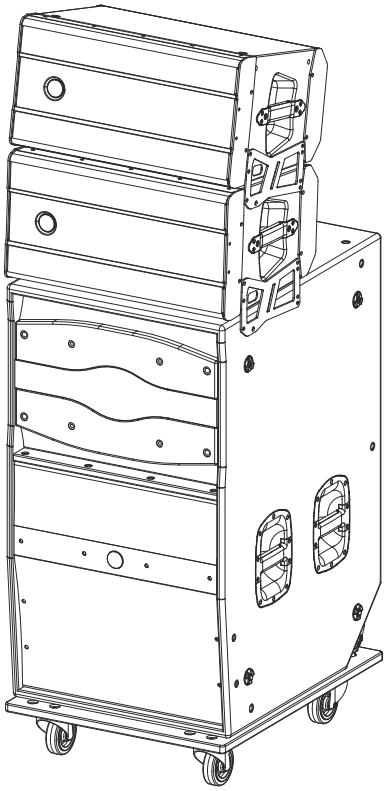
It's allowed stacking up to 2 units on a ***SF-1521A***, but the ***SF-20A (LT / RT)*** presets allow to work up to 4 units.

PL-SFMS

The ***PL-SFMS*** is an accessory dolly, it allows to move easy the system (see images below), so when units are transported on the platform, precaution must be taken to avoid tipping, and prevent injuries.

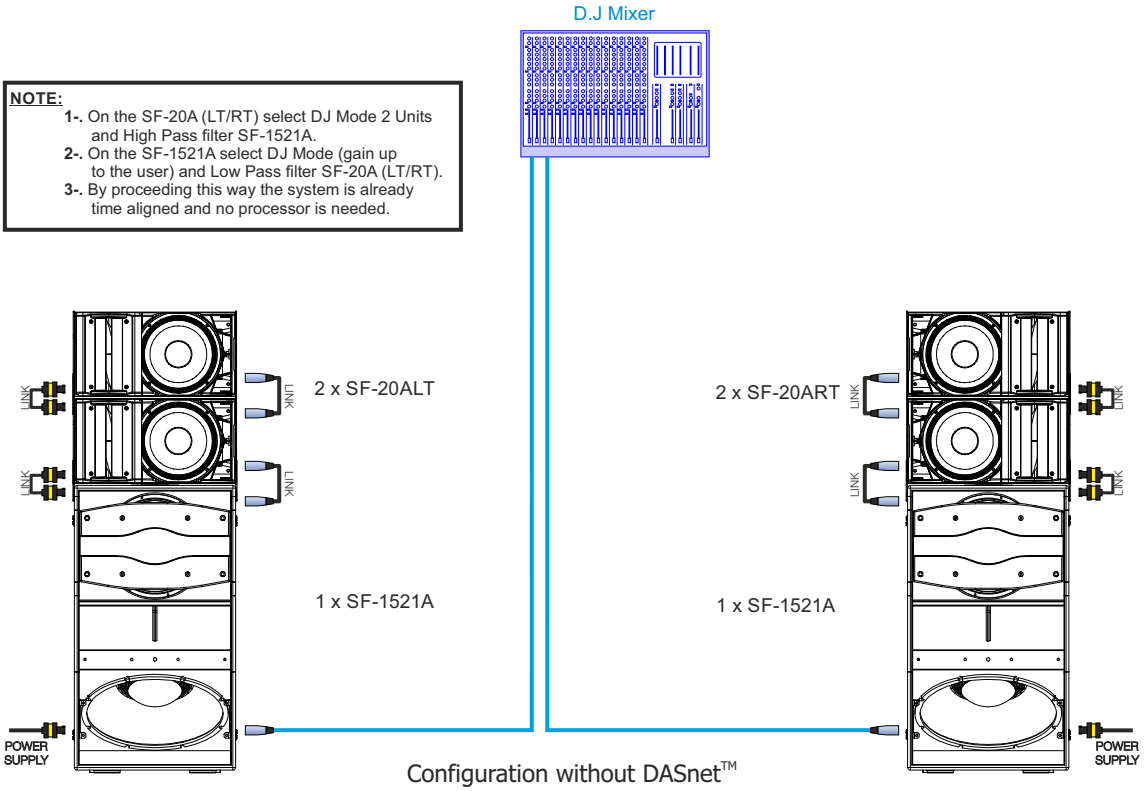


Left SF-Monitor + PL-SFMS

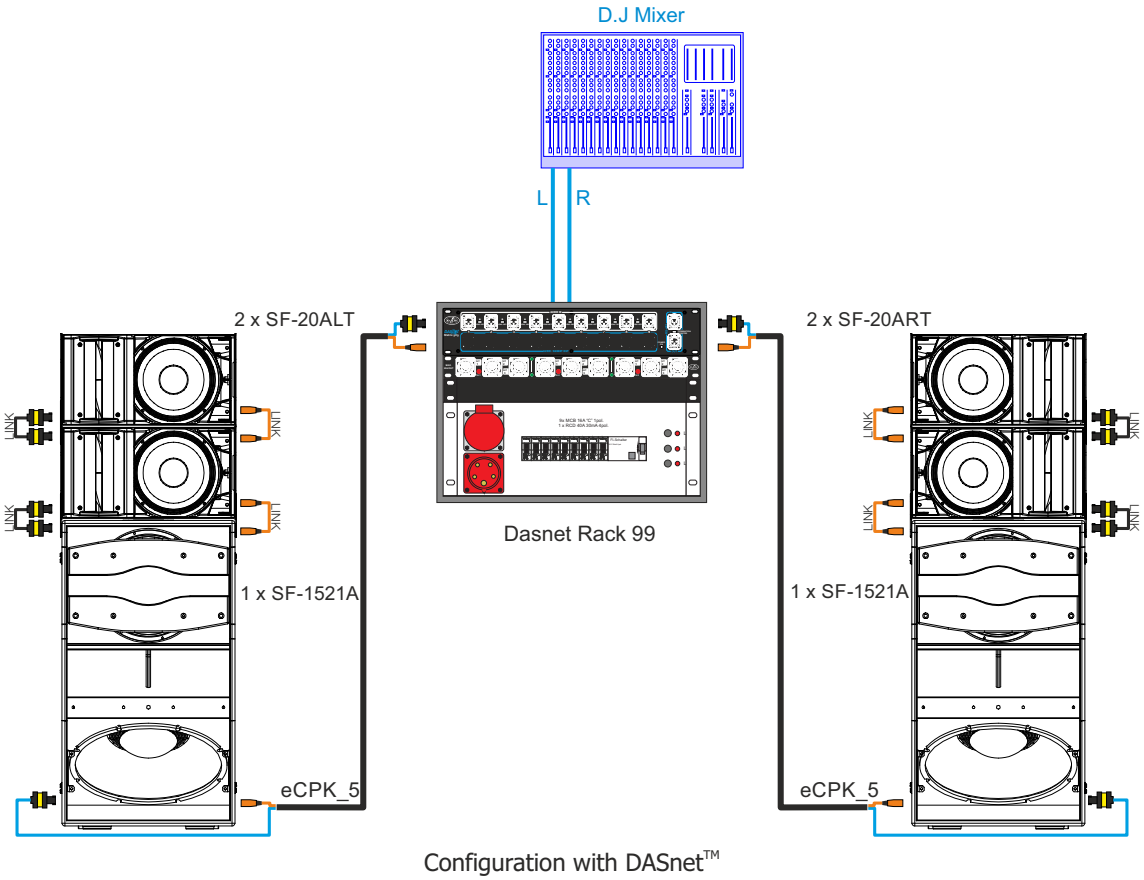


Right SF-Monitor + PL-SFMS

CONFIGURATIONS



Configuration without DASnet™



Configuration with DASnet™

SPECIFICATIONS

Model	*SF-1521A*	*SF-20ALT / SF-20ART*
Nominal LF Power Amplifier	2 x 3400 W_{peak} – 2 x 1700 $W_{continuous}$	800 W (Class D)
Nominal HF Power Amplifier	---	400 W (Class D)
Input Type	Balanced Differential Line	Balanced Differential Line
Input Impedance	Line: 20 kohms	Line: 20 kohms
Sensitivity	Line: 4.9 V (+16 dBu)	Line: 4.9 V (+16dBu)
Frequency Range (-10 dB)	28 Hz -200 Hz	60 Hz -20 kHz
Horizontal Coverage (-6dB)	---	90º Nominal
Vertical Coverage	---	Splay Dependent
Rated Maximum Peak SPL at 1 m (1)	141 dB	136 dB
Transducers / Replacement Parts	LF1: 1 x 21UXN4 / GM-21UXN4 LF2: 1 x 15GNR / GM-15G	LF: 1 x 12AN4 / GM-12AN4 HF: 1 x M-75N / GM-M75N
Enclosure Geometry	Rectangular	Trapezoidal 3,5º
Enclosure Material	Birch Plywood	Birch Plywood
Color : Cabinet (2)	Black / ISO-flex paint	Black / ISO-flex paint
Color : Parts (2)	Red paint	Red paint
Rigging System Splay Angles	---	Integrated in box design
Connectors	Audio INPUT: Female XLR Aduio LOOP THRU: Male XLR Audio + Data INPUT: EtherCon Audio + Data LOOP THRU: EtherCon AC INPUT: PowerCon TRUE1 NAC3FX AC OUTPUT: PowerCon TRUE1 NAC3MX	Audio INPUT: Female XLR Aduio LOOP THRU: Male XLR Audio + Data INPUT: EtherCon Audio + Data LOOP THRU: EtherCon AC INPUT: PowerCon TRUE1 NAC3FX AC OUTPUT: PowerCon TRUE1 NAC3MX
AC Power Requirements (3)	8A, 115 V, 50 Hz/60 Hz 4A, 230 V, 50 Hz/60 Hz	3.6A, 115 V, 50 Hz/60 Hz 1.8A, 230 V, 50 Hz/60 Hz
Dimensions (H x W x D)	106 x 61 x 75.3 cm (41.7 x 24 x 29.6 in)	31 x 61 x 43 cm (12.2 x 24 x 16.9 in)
Weight	102 kg (224 lb)	28 kg (61.5 lb)
Accessories	PL-SFMS TRD-6	

Notes: (1) Maximum calculated Peak SPL based on sensitivity and RMS power handling.

(2) Custom color schemes.

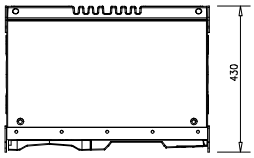
(3) Measured data, providing one third of nominal power with Pink Noise input signal.

DAS Audio Group, S.L. continuously strives to enhance its products through investigation and development. All specifications are subject to change without prior notice.

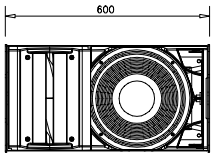
LINE DRAWINGS

ALL DIMENSIONS IN MILLIMETERS

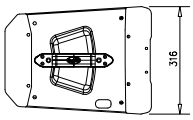
SF-20ALT



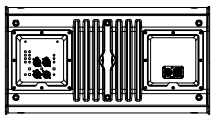
Bottom view



Front view

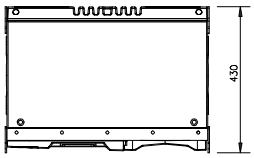


Left view

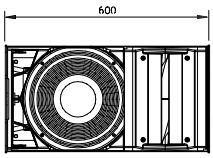


Rear view

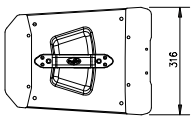
SF-20ART



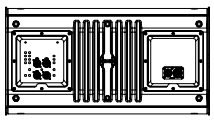
Bottom view



Front view

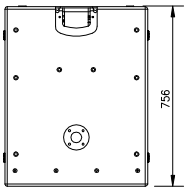


Left view

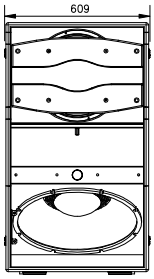


Rear view

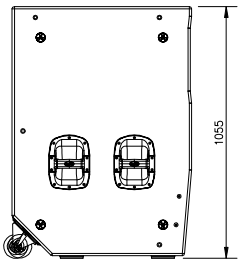
SF-1521A



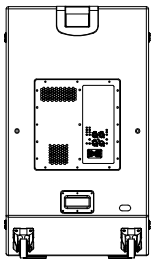
Bottom view



Front view

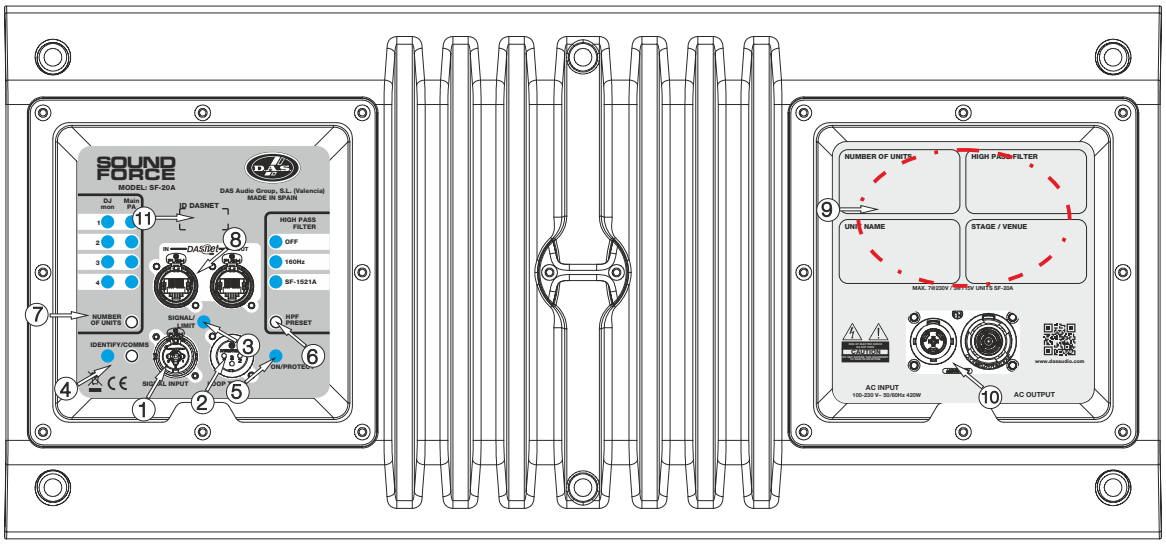


Left view

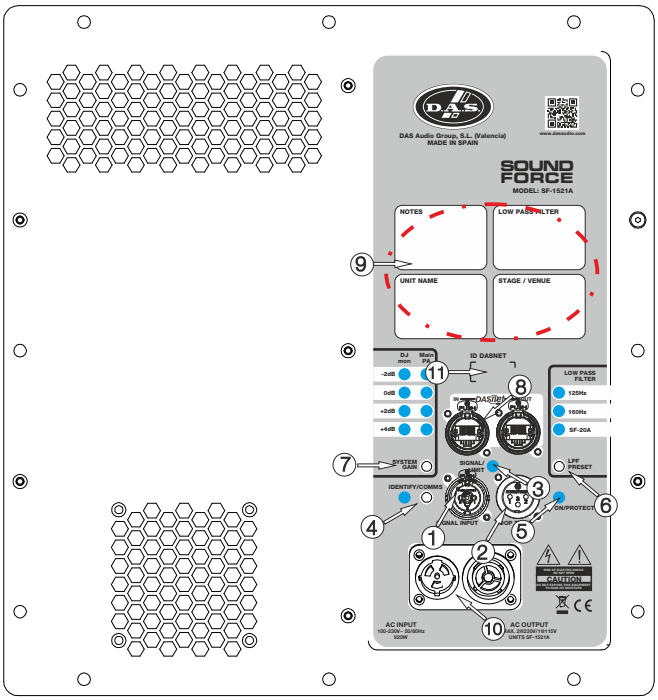


Rear view

DESCRIPTION OF AMPLIFIERS



SF-20A (LT/RT)



SF-1521A

1) SIGNAL INPUT :

XLR type input signal connectors. As the LOOP THRU connector, they are balanced with the following pin assignments:

1=GND (Ground).
2=(+) Non inverted input.
3=(-) Inverted input.

2) LOOP THRU :

XLR type output signal connector for connecting several units together and sending them all the same input signal.

3) SIGNAL / LIMIT :

Two color LED which indicates that there is signal presence if it shines green or indicates amplifier saturation and the amplifier limiter is activated, if it shines red.

4) IDENTIFY / COMMS :

Orange LED that shines flashing when we push IDENTIFY (to identify the unit) or blink faster if there is communication with ***DASnet***™.

5) ON / PROTECT :

Two color LED indicates that the unit is ON if it shines green and protection if it shines red.

6) HPF PRESET *[SF-20A (LT/RT)]*:
This push button allows the "HIGH PASS FILTER" selection. The LED shining indicates the selected value: **OFF** (60 Hz), **160 Hz** or **SF-1521A** (200 Hz).

6) LPF PRESET *[SF-1521A]*:
This push button allows the "HIGH PASS FILTER" selection. The LED shining indicates the selected value: **125 Hz**, **160 Hz** or **SF-20A** (200 Hz).

7) NUMBER OF UNITS *[SF-20A (LT/RT)]*:
This push button allows the selection of number of units from 1 to 4 units, according to the operating modes: MAIN PA or DJ MONITOR. The LED shining indicates the selected value.

7) SYSTEM GAIN *[SF-1521A]*:
This push button allows the preset selection for the system gain from -2dB to +4dB, in 2dB steps, according to the operating modes: MAIN PA or DJ MONITOR. The LED shining indicates the selected value.

8) IN/OUT :
Neutrik EtherCon connectors for audio+data input/output with *DASnet™*. With the output connector we can interconnect several units.

9) Zone for user notes.

10) AC INPUT/OUTPUT:
Neutrik PowerCon TRUE1 mains connectors. **Only use this equipment with an appropriate mains cord.** For connecting several units, please, see the maximum value on the label.

11) ID DASNET :
Label with identification number for *DASnet™*.

ON / OFF

A sound system should be switched on sequentially. Switch on the self-powered units last in your sound system (switch on the subwoofer before the mid-high system). Switch on the sound sources such as CD players or turntables, then the mixer, then the processors, and finally the self-powered unit. If you have several units, it is recommended that you switch them on sequentially one at a time.

Follow the inverse order when switching off, turning self-powered units off before any other element in the sound system.

Disconnect the device by removing the mains connector from the mains socket. The mains connector and mains socket must always be freely accessible and never covered or blocked in any way.

The models use a power cable equipped with a Neutrik PowerCon TRUE1 connector. Power can be daisy chained via the TRUE1 output connector (see details on product label).

IMPORTANT: Do not disconnect the unit while in use.

Ensure that the device is disconnected from the mains by observing that the ON LED is turned off. Please note that the ON LED can stay on for several seconds after the mains power has been disconnected.

Overload indicator

This device has a SIGNAL/LIMIT indicator. The red light indicates the signal is excessive.

The indicator should not be lit continuously. This distorts the signal (quickly fatiguing your ears) and may damage the speakers.

Equalisation

The unit does not need extreme settings of equalisation to produce quality sound. Avoid high levels of gain on the equalisers. Gain values above +3 dB on a console's EQ are not recommended.

Overheating

This equipment does not normally overheat during normal conditions of use. When overheating occurs, the unit protects itself. You should then find out why and if necessary contact an authorised dealer for technical assistance.

Normally it is enough just to let the unit cool down after you have corrected the problem so that the system functions properly again.

Low mains voltage

If mains voltage falls below the shutdown voltage for the unit, it will stop playing. When acceptable levels are regained, the unit will switch back on automatically.

The unit recognises the value of mains automatically. The unit works from 80V to 260V (both rms).

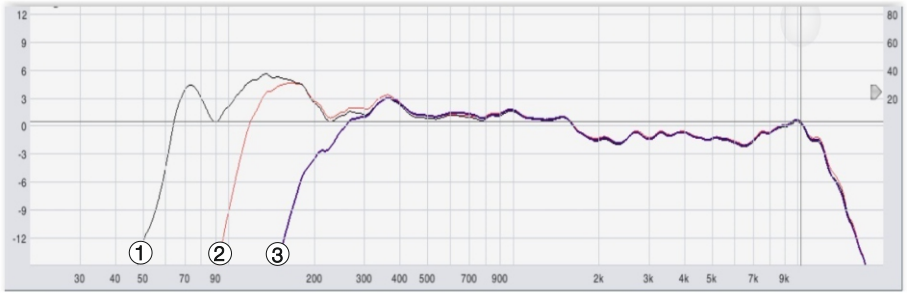
Presets

Although some parameters such as number of units, gain, LPF and HPF can be selected by acting on the switches of the amplifiers, it is more comfortable and more complete, to make the changes of the presets by *DASnet*™, as we can observe in some examples below.

High Pass Filters (HPF)

This type of filter is implemented in the ***SF-20A (LT/RT)***. There are three available settings: OFF (cutoff at 60 Hz), cutoff at 160 Hz and filter suitable for combined with ***SF-1521A*** (cutoff at 200 Hz). In the curves below, you can appreciate the difference.

View of *DASnet*™

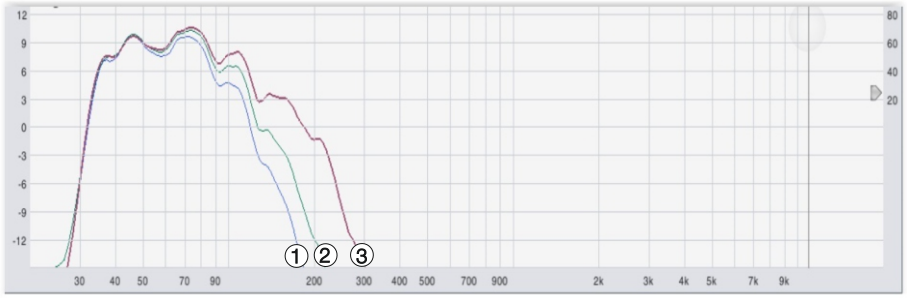


Frequency response curves
(1) - OFF (60Hz)
(2) - 160Hz
(3) - SF-1521A (200Hz)

Low Pass Filters (LPF)

This type of filter is implemented in the ***SF-1521A***. There are three available settings: cutoff at 125 Hz, cutoff at 160 Hz and filter suitable for combined with ***SF-20A (LT/RT)*** (cutoff at 200 Hz). In the curves below, you can appreciate the difference.

View of *DASnet*™



Frequency response curves
(1) - 125Hz
(2) - 160Hz
(3) - SF-20A (200Hz)

Number of units and system gain

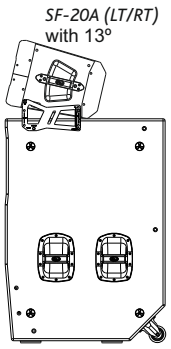
Below, we can see the preset values for these parameters, as we can see them on *DASnet™*.

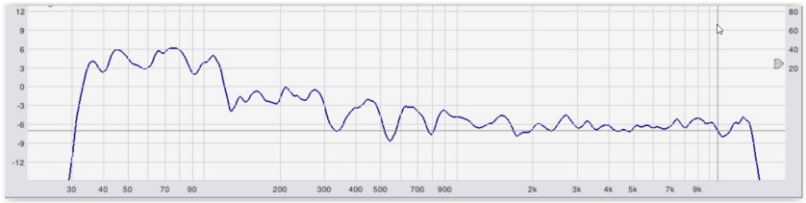
Presets as shown on *DASnet™*

Examples and recommended presets

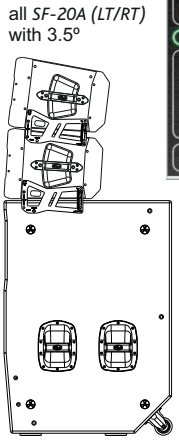
Then, we will see two examples to help us understand their combinations, with curves and as we will view them on *DASnet™*.

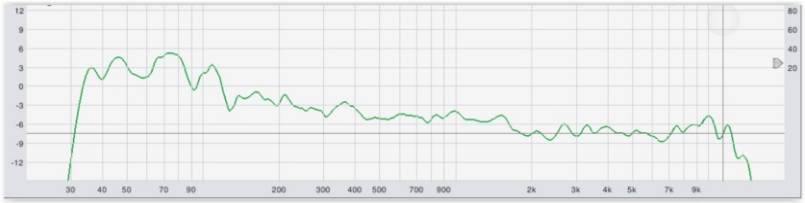
Example: 1x *SF-20A (LT/RT)* (1u DJ mode) + 1x *SF-1521A* (-2dB DJ mode)





Example: 2x *SF-20A (LT/RT)* (2u PA mode ; gain -6dB on *DASnet™*) + 1x *SF-1521A* (-2dB DJ mode)





Troubleshooting

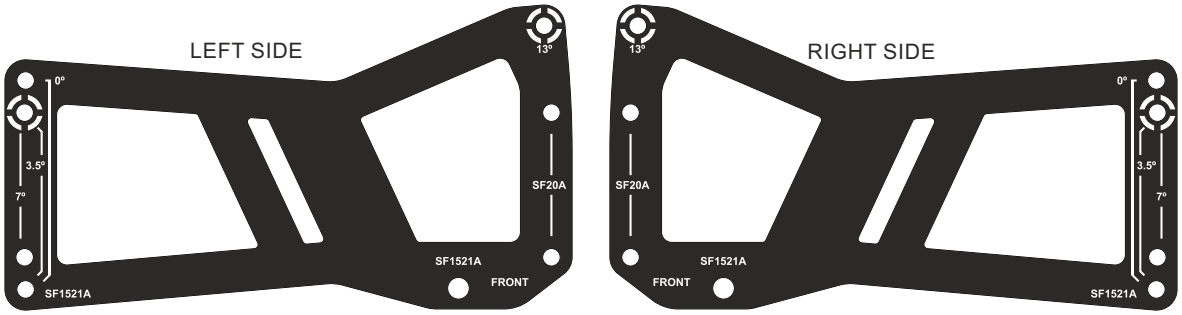
PROBLEM	CAUSE	SOLUTION
No sound from the unit. The SIGNAL LED does not light up.	1 – The signal source is sending no signal. 2 – Defective cable.	1 – Check that the mixer or sound source is sending signal to the UNIT. 2 – Check that the cable from the sound source to the UNIT is connected correctly. Replace the cable if defective.
Full power cannot be obtained. The LIMIT LED never lights up.	1 - The signal source does not have a hot enough output. 2 - If the connections are correct, It might be overheating	1 - If using a mixer, use the balanced output if available. Use a professional mixer with a hotter output. 2 - Try to cool the unit turning down the master of the mixer.
Sound is distorted. The LIMIT LED is not on, or only lights up occasionally.	1 - The mixer or signal source is distorting.	1 - Turn mixer channel gains down. Check that none of your signal sources are distorting.
Sound is distorted and very loud and LIMIT LED lights up.	1 - The system is overloaded and has reached maximum power.	1 - Turn down the mixer's output.
Hum or buzz when a mixer is connected to the unit.	1.– The console probably has un-balanced outputs. You may be using an incorrect un-balanced to balanced cable. 2.– The mixer and the powered speaker are not plugged into the same mains outlet. 3.– The audio signal cable is too long or too close to an AC cable. 4 - DASnet ecP_xx cable is defective. 5 - Error in DASnet Patch panel 485 net connection.	1.– Read the appendix of this manual to make a correct un-balanced to balanced cable. 2.– Connect the mixer and the unit to the same mains outlet. 3.– Use a cable that is as short as possible and/or move the audio signal cable away from the mains cables. 4 - Check that there aren´t pins crossed in CAT7 cable. Possible short between audio par and DASnet signal. 5 - Make sure that Audio INPUT is not connected in DASnet INPUT and vice versa.
Hum or buzz when using lighting controls in the same building.	1.– The audio signal cable is too long or too close to the lighting cable. 2.– In a sound system with three-phase AC, the lighting equipment and the UNIT are connected to the same phase.	1.– Move the audio signal cable away from lighting cables. Try to find out at what point the noise is leaking into the system. 2.– Connect the sound system to a different phase than the lights. You may need the help of an electrician.
The ON LED does not light up when the mains connector is connected and the unit is switched to ON.	1.– Bad or loose AC connection to the UNIT or the mains outlet. 2 – Faulty AC cable. 3 - Internal fuse blown	1.– Check your connections. 2.– Check the cables, connectors and AC power with a suitable mains tester. 3 - Replace the fuse for another of the same size and type.

INSTALLATION AND ACCESSORIES

In this section we will see how to stack the ***SF-20A (LT / RT)*** on the ***SF-1521A***. In addition, with the help of two metal plates, ***JP-20***, included in each ***SF-20A (LT / RT)***, we will see how to angle the ***SF-20A (LT / RT)*** according to the desired coverage, with examples .

Moreover, the accessory ***PL-SFMS*** allows us to safety move the ***SF-Monitor*** system.

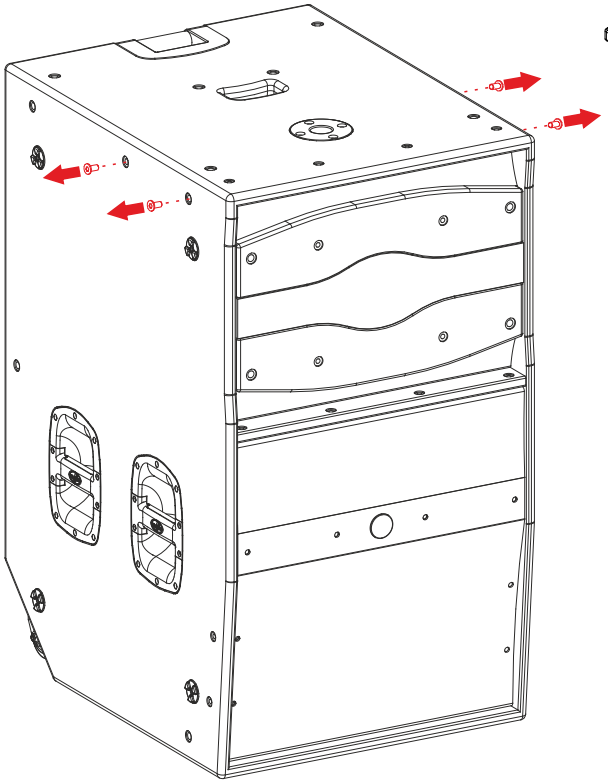
In the following images we see that the sides of ***JP-20***. Silkscreen's indications help us for the correct assembly and to assign the angles of the boxes.



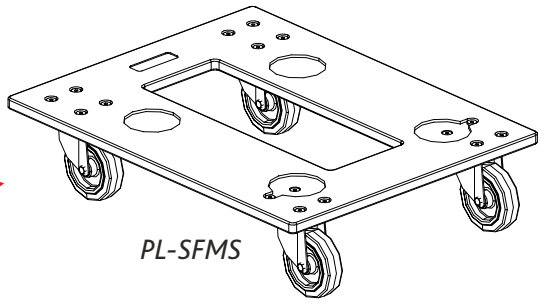
JP-20

First, we take the ***SF-1521A***, and if you then want to move the system, we put it on the ***PL-SFMS*** as shown below.

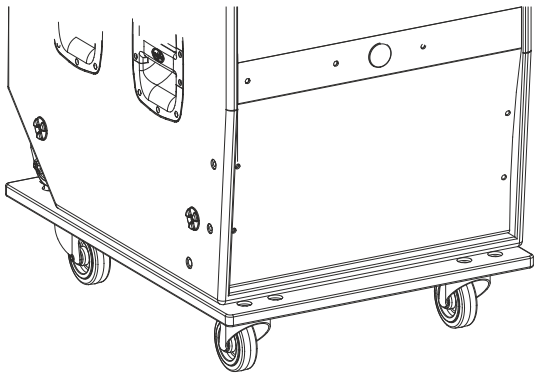
Now, with or without ***PL-SFMS***, we will remove the screws indicated so you can mount the ***JP-20***.



SF-1521A



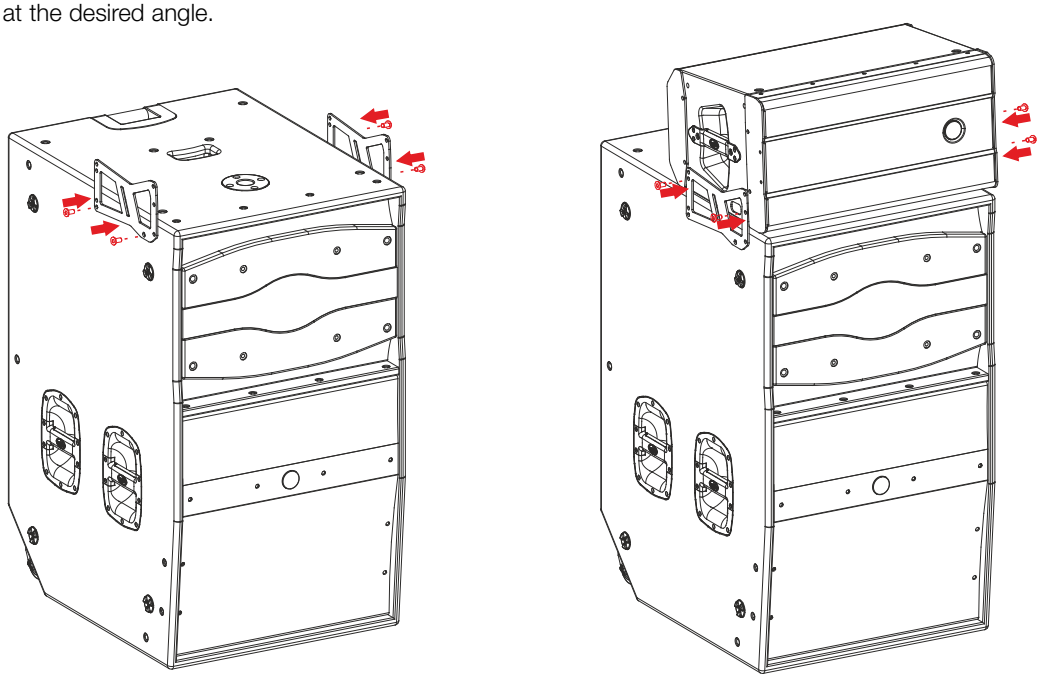
PL-SFMS



SF-1521A on *PL-SFMS*

Now, we will screw each ***JP-20*** on the corresponding side, considering the angle assigned to the box, but do not tighten completely. Allowing you to place easily the ***SF-20A (LT/RT)*** on ***SF-1521A***.

Once the ***SF-20A (LT/RT)*** is located above of ***SF-1521A***, you should tighten the screws into the appropriate holes at the desired angle.

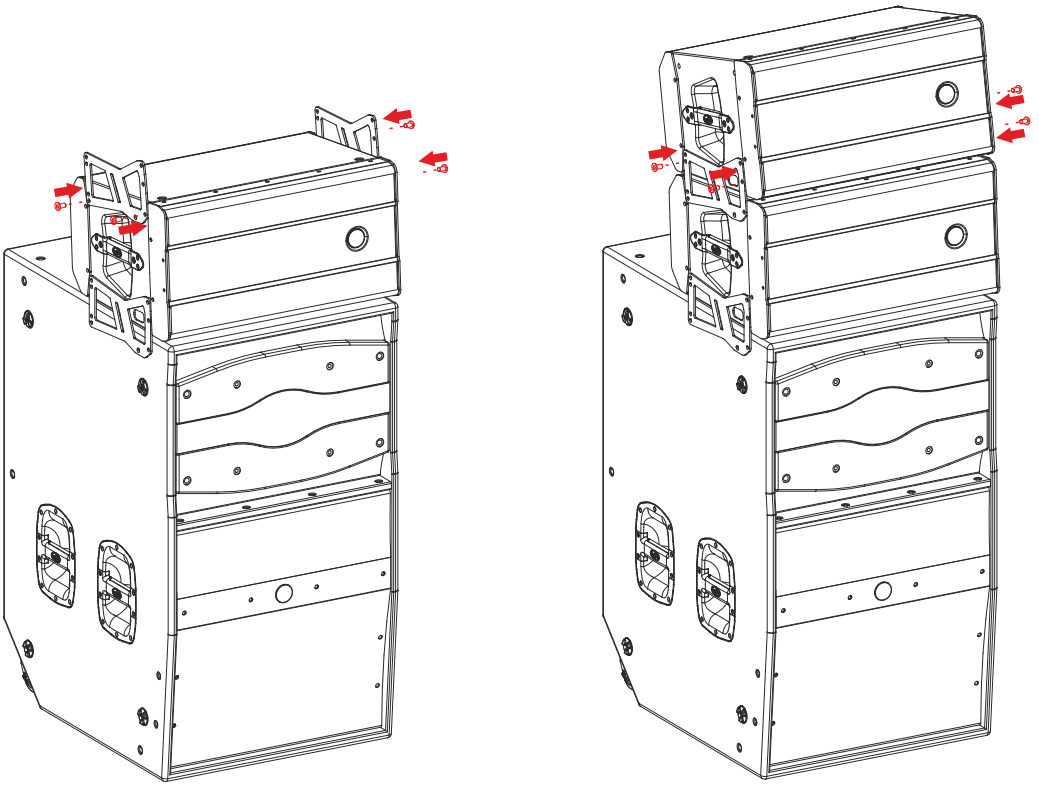


If the system has only a ***SF-20A (LT/RT)***, then the system is already mounted.

But, to stack a second ***SF-20A (LT/RT)*** on top, first you proceed to remove the screws from the ***SF-20A (LT/RT)*** to mount another ***JP-20***.

As in the previous case, each ***JP-20*** piece should be screwed in its corresponding side considering the angle assigned to the box without fully tightening, to place easily the upper ***SF-20A (LT/RT)***.

Once the ***SF-20A (LT/RT)*** is located above, tighten the screws into the appropriate holes at the desired angle.



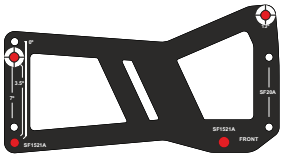
So, the ***SF-Monitor*** system (left or right) is mounted, according the angles to the desired coverage.

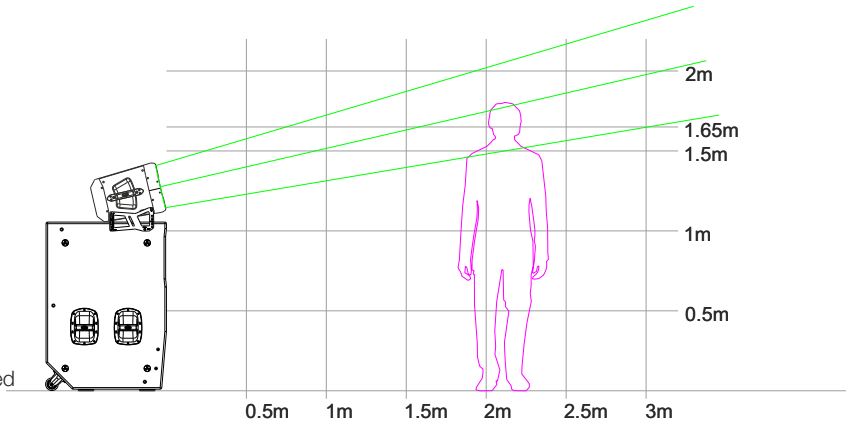
Let's look at some examples of these coverages for the system ***SF-Monitor*** (right or left), according to the selected angles.

If we had only one ***SF-20A (LT/RT)***, we would have the following coverage for the recommended angle: 13º.

Note: The red dots in the ***JP-20*** indicate the proper position for the screws in each case.

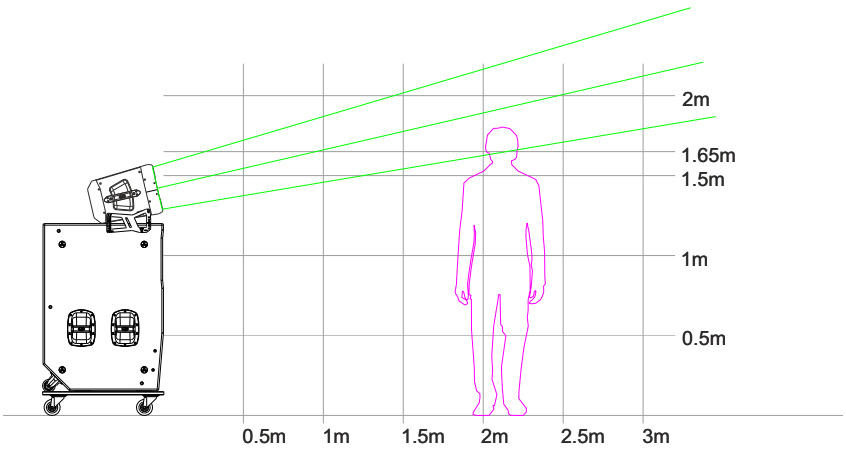
ANG. 13º
(recommended)





Ground stacked

ANG. 13º
(recommended)



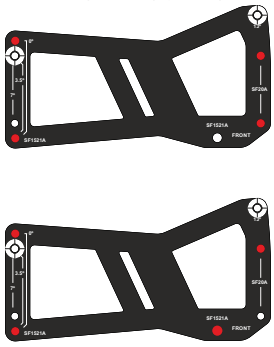
On a ***PL-SFMS***

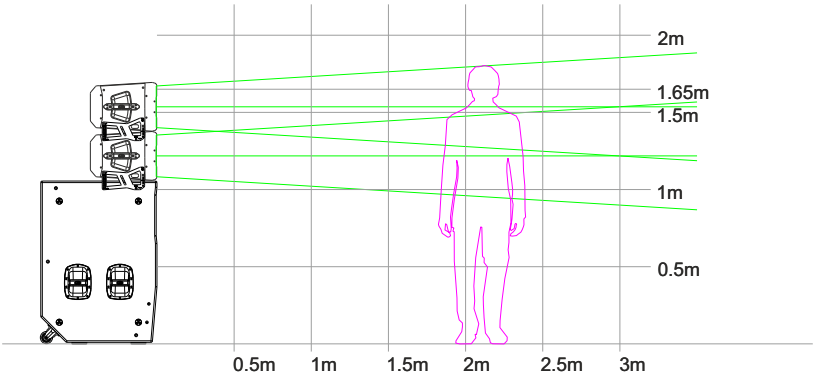
As can be seen, our coverage varies if the system is mounted on platform.

Therefore, below we distinguish these two options in the examples for the case of having two ***SF-20A (LT/RT)*** in our system, indicating the position of the screws as before in the images of the ***JP-20***.

Ground stacked

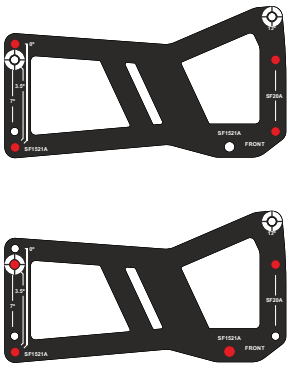
ANG. 0º (upper) y 0º (lower)

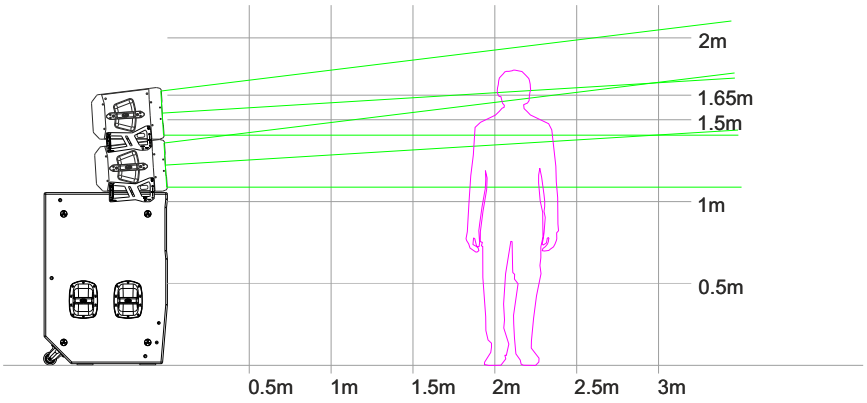




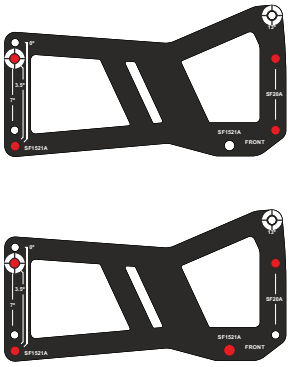
Ground stacked (cont'd)

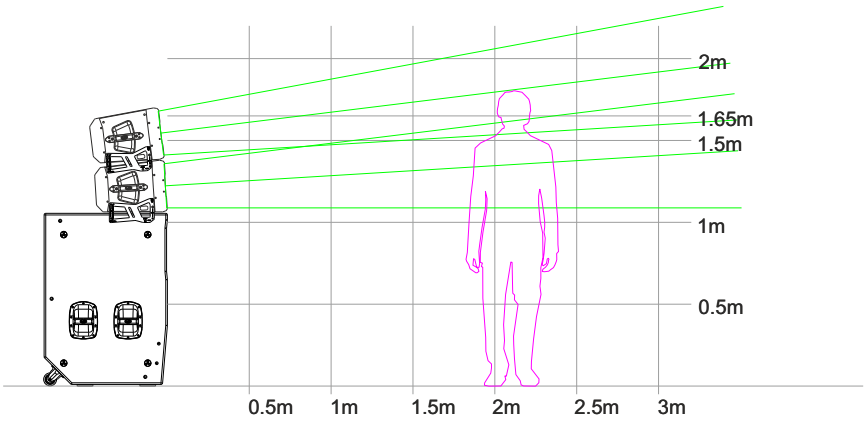
ANG. 3.5º (lower) y 0º (upper)



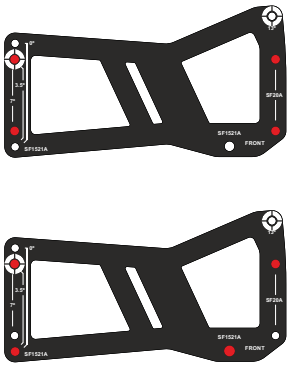


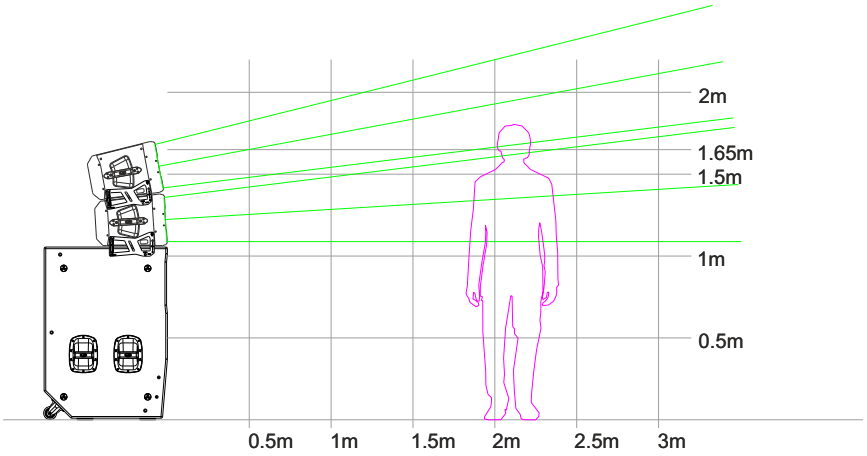
ANG. 3.5º (upper) y 3.5º (lower)
(recommended)





ANG. 3.5º (lower) y 7º (upper)



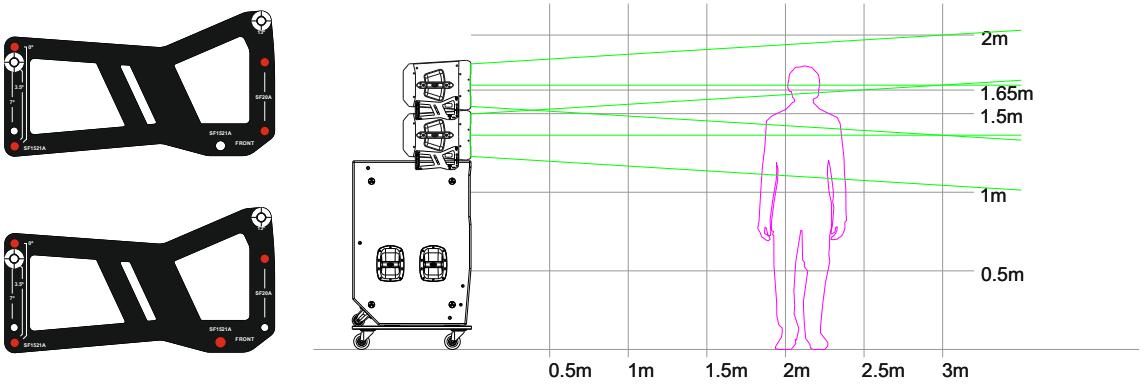


We recommend using 3.5º for two ***SF-20A (LT/RT)*** in this system configuration.

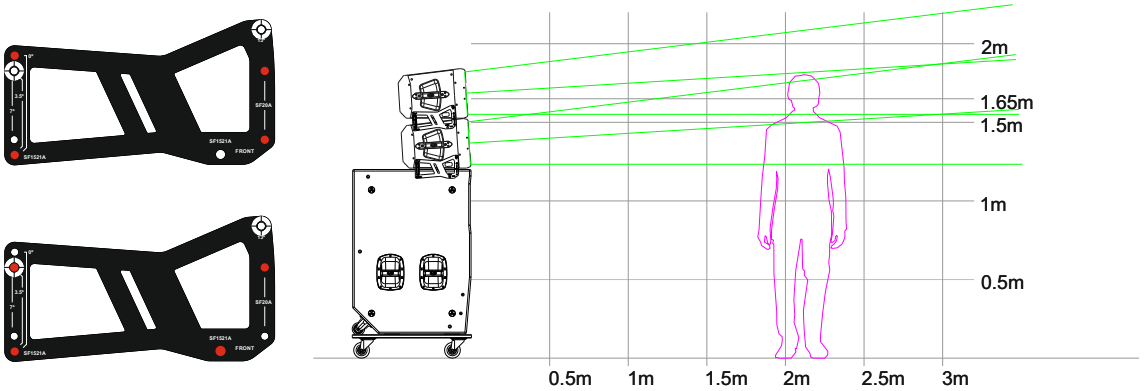
Now we will see examples for systems on platform.

On a *PL-SFMS*

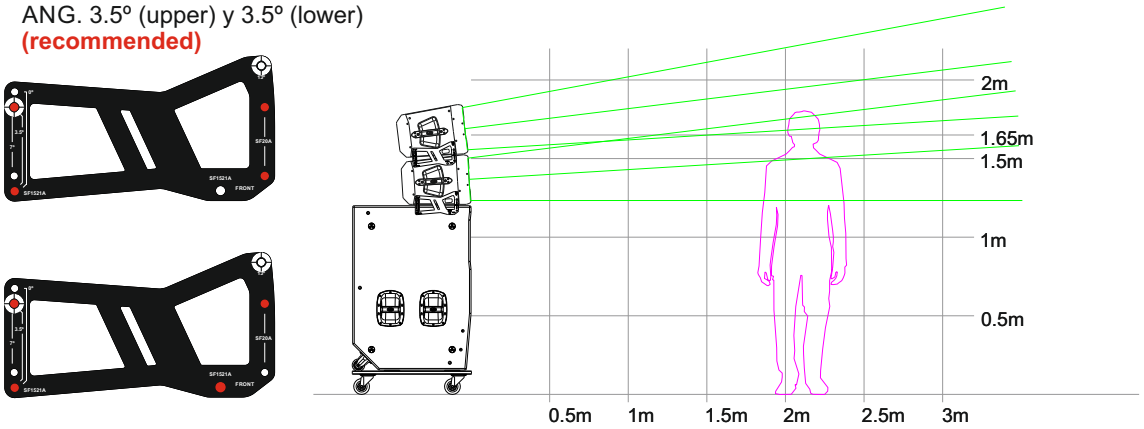
ANG. 0º (lower) y 0º (upper)



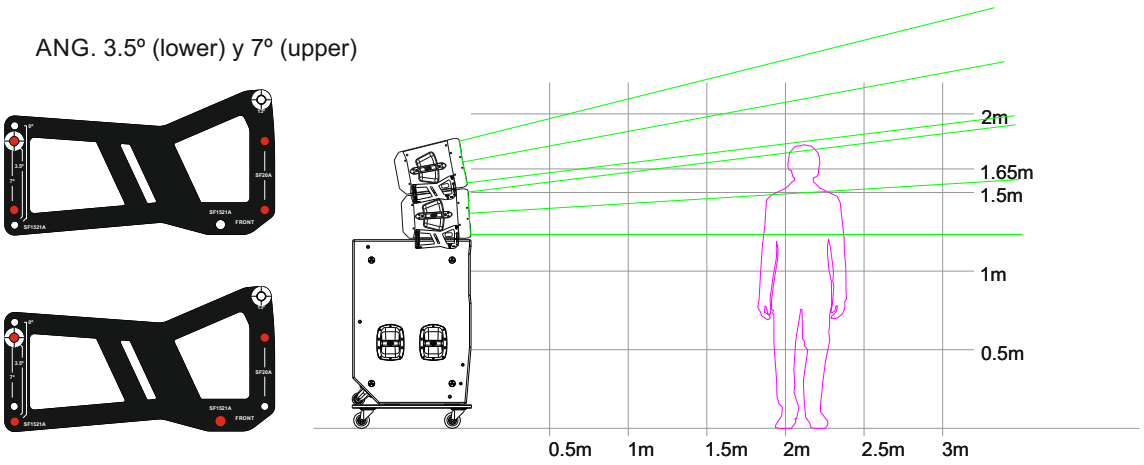
ANG. 3.5º (lower) y 0º (upper)



ANG. 3.5º (upper) y 3.5º (lower)
(recommended)



ANG. 3.5º (lower) y 7º (upper)



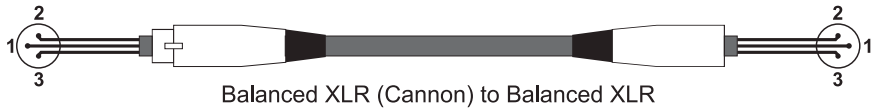
ANNEX I : Line connections: unbalanced and balanced

There are two basic ways to transport an audio signal with microphone or line level:

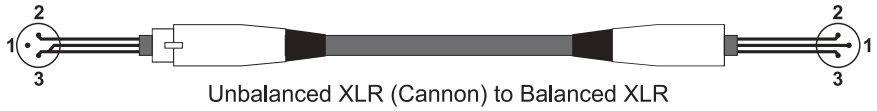
Unbalanced line: Utilising a two conductor cable, it transports the signal as the voltage between them. Electromagnetic interference can get added to the signal as undesired noise. Connectors that carry unbalanced signals have two pins, such as RCA (Phono) and ¼" (6.35mm, often referred to as jack) mono. 3 pin connector such as XLR (Cannon) may also carry unbalanced signals if one of the pins is unused.

Balanced line: Utilising a three conductor cable, one of them acts as a shield against electromagnetic noise and is the ground conductor. The other two have the same voltage with respect to the ground conductor but with opposite signs. The noise that cannot be rejected by the shield affects both signal conductors in the same way. At the device's input the two signals get summed with opposite sign, so that noise is cancelled out while the programme signal doubles in level. Most professional audio devices use balanced inputs and outputs. Connectors that can carry balanced signal have three pins, such as XLR (Cannon) and ¼" (6.35mm) stereo.

The graphs that follow show the recommended connection with different types of connectors to balanced processor or amplifier inputs. The connectors on the left-hand side come from a signal source, and the ones on the right hand side go to the inputs of the processor or amplifier. Note that on the unbalanced connectors on the left-hand side, two terminals are joined inside the connector. If hum occurs with balanced to balanced connections, try disconnecting the sleeve (ground) on the input connector. Note that the illustrations show what should be connected to what, but that pin locations on an actual XLR connector are different. Also, pin 2 hot is assumed on XLR connectors.



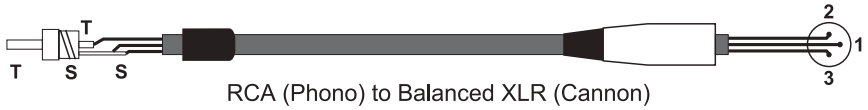
Balanced XLR (Cannon) to Balanced XLR



Unbalanced XLR (Cannon) to Balanced XLR

Balanced 1/4" (*Jack*) to Balanced XLR (Cannon)

Unbalanced 1/4" Jack to Balanced XLR (Cannon)



RCA (Phono) to Balanced XLR (Cannon)

Balanced 1/4" (*Jack*) to Balanced 1/4" (*Jack*)

Unbalanced 1/4" (*Jack*) to Balanced 1/4" (*Jack*)

RCA (Phono) to Balanced 1/4" (*Jack*)

ANNEX II : DASnet cables

With each system, **cabling and patch panels are provided**. It is very important to use the system with the intended cables to prevent electromagnetic interferences between the analog audio signal, the DASnet data and the power. Be sure to check the specifications provided by the cable manufacturer. It is also especially important when installing connectors yourself, to note that when termination is not accurate, a cable will be unable to achieve its maximum performance and could have interferences.

There are 4 different types of cables.

- The main feeds which include power and a STP, CAT7 cable. These cables are named **eCP_xx** (xx refers to cable leng

- The links between cabinets (aero40A/Convert15A/LX-218CAnet), which are STP CAT7 cables. Cable code **eC_09**

- Power Links between cabinets.Cable code **Plink1_09**

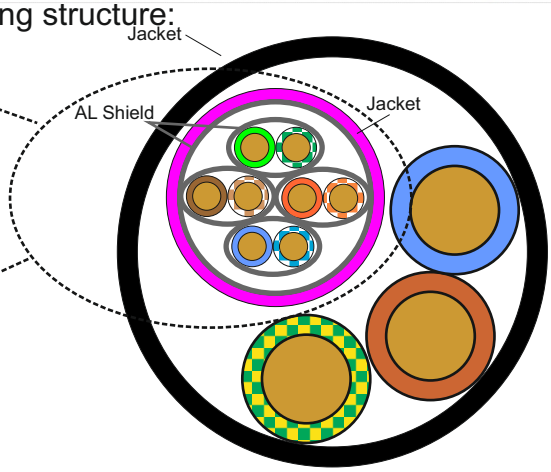
- Links for RoadNet series. Power+STP CAT7. eCPk 1/eCPk 5

Important

The main feed cable eCP_xx has the following structure:

STP CAT 7 cable with Aluminium Shield for each individual pair and a main aluminium Shield.
The main Shield has to be soldered to the etherCon housing.

The eC_09 cable is a CAT5e cable with global Aluminium Shield.



ecP_xx: Power cable 3x2.5mm^2 + CAT7 4x (2 x 0.14mm^2)

The pin out of the EtherCon to XLR is the following on the eCP cables:

	etherCon	XLR
1	Orange-White	Audio+ 2
2	Orange	Audio- 3
3	Green-White	Audio Earth 1
4	Blue	
5	Blue-White	
6	Green	Data Earth 1
7	Brown-White	Data- (A) 3
8	Brown	Data+ (B) 2

www.dasaudio.com

UM_SF_06_EN

DAS Audio Group, S.L.
C/. Islas Baleares, 24
46988 Fuente del Jarro
Valencia, SPAIN
Tel. +34 96 134 0860

DAS Audio of America, INC.
6900 NW 52th Street
Miami, FL. 33166 - U.S.A.
TOLL FREE: 1 888 DAS 4 USA

DAS Audio Asia PTE. LTD.
3 Temasek Avenue, Centennial
Tower #34-36
Singapore 039190
Tel. +65 6549 7760

DAS do Brasil LTDA.
Rua Dos Andradas, 382 SL
Santa Efigênia, São Paulo
Brasil. CEP: 01208-000
Tel. +551133330764