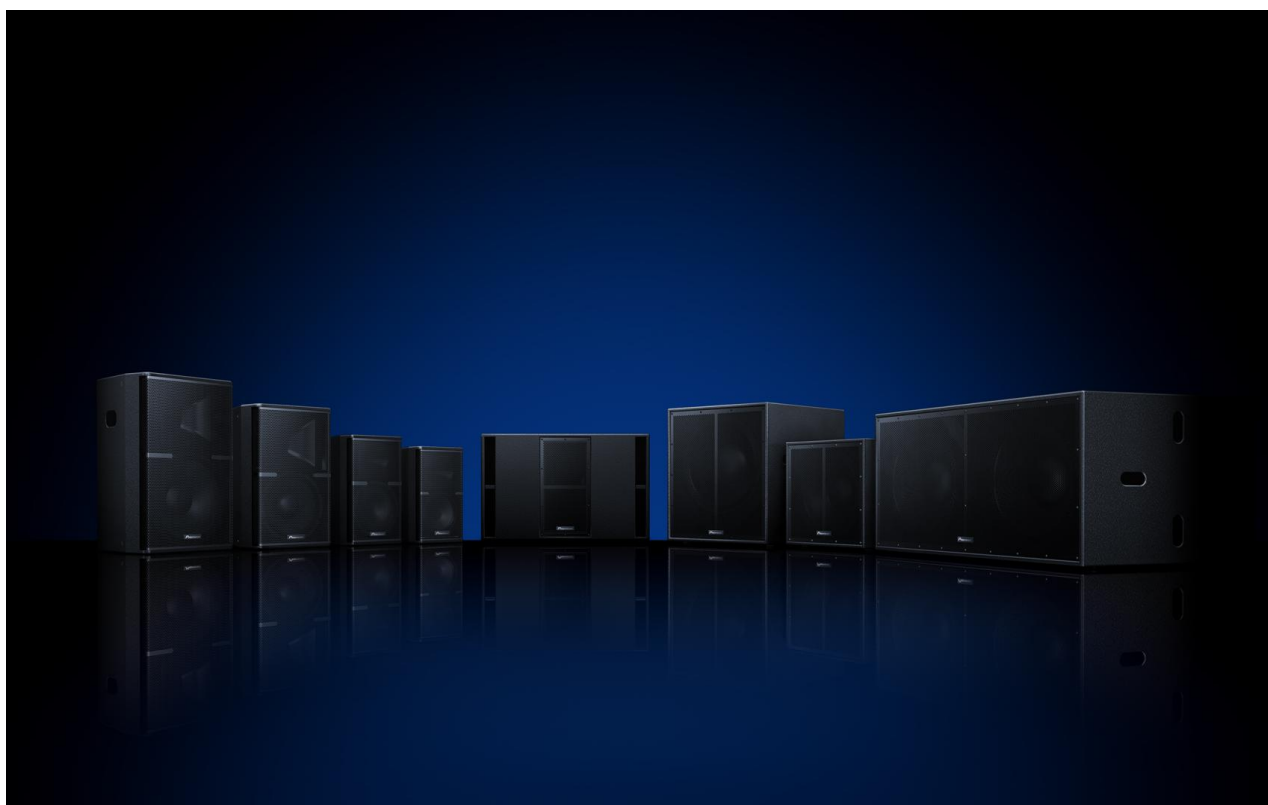




Loudspeaker XY Series Installation manual



<http://pioneerproaudio.com/>

XY-81	8-inch two-way loudspeaker
XY-101	10-inch two-way loudspeaker
XY-122	12-inch two-way loudspeaker
XY-152	15-inch two-way loudspeaker
XY-115S	15-inch bass reflex Subwoofer
XY-118S	18-inch bass reflex Subwoofer
XY-215S	Dual 15-inch quasi-bandpass subwoofer
XY-218S	Dual 18-inch bass reflex Subwoofer

Version 2.2 October 2014

©2014 PIONEER CORPORATION

All right reserved

Contents

1 Introduction

- 1.1 Before you start**
- 1.2 Installation guidelines**
- 1.3 System set-up**

2 Accessories

3 Rigging And Caster Setting

3.1 Before Setting

- 3.1.1 Guide for safe use
- 3.1.2 Horn rotation
- 3.1.3 Logo badge replacement

3.2 Procedures

- 3.2.1 Vertical Flying Cradle
- 3.2.2 Horizontal Flying Cradle
- 3.2.3 Variable Angle Bracket
- 3.2.4 Dual Enclosure Flying Plate Set(*Dual + Variable)
- 3.2.5 Suspension of enclosure using the eye bolt
- 3.2.6 Wall Mount Bracket
- 3.2.7 Caster

4 System Configuration

- 4.1 Connections**
- 4.2 System setting**

5 Drive unit replacement

5.1 Two-way loudspeaker

- 5.1.1 XY-81/101
- 5.1.2 XY-122/152

5.2 Subwoofer

- 5.2.1 XY-115S/118S/218S
- 5.2.2 XY-215S

6 Specifications

- 6.1 Spec sheet**
- 6.2 drawing**

1 Introduction

WARNING

- This loudspeaker must be installed by a qualified technician as it involves such tasks as selecting a location for installation, drilling holes in walls/ceiling and wiring. Have the installer carefully follow the installation instructions.
- Certain technical skills are required to install the loudspeaker. Please have the product installed by a professional.
- Pioneer is not responsible for any loss or damage that results from improper installation, insufficient strength of installation materials, misuse, modification or natural disasters.

1.1 Before you start

- Make sure to use amplifiers with rated load impedances that match the speaker impedance for the amplifiers connected to each loudspeaker.
- Furthermore, any devices or objects easily affected by magnetism (floppy disks, magnetic cards, magnetic tape etc.) should be kept well away from the speakers.

In order to prevent damage to the loudspeaker resulting from input overload, please observe the following precautions:

- If you supply amplification power to the loudspeaker excessively, the speaker could be damaged and overheating could cause a hazard.
- Only connect, turn ON or OFF the audio system or any one part (such as DJ player and Mixer) when the power to the amplifier is turned off. If any operations are performed while the amplifier is turned on, there is the possibility of damaging the treble frequency speaker unit.
- When using a graphic equaliser to emphasise loud sounds in the high-frequency range, do not use excessive amplifier volume.
- Do not try to force a low-powered amplifier to produce high sound levels as the amplifier's harmonic distortion will be increased, and you may damage the speaker.

CAUTION: installation

- Ensure that the floor or stage surface can withstand the weight of the system.
- The installation technician must follow professional installation techniques to protect the loudspeaker against falling.
- When installing the speakers, make sure that the wall/ceiling is strong enough to support the speakers.
- Improper installation of the speakers could cause them to fall and cause damage or injuries to persons nearby.
- Do not attempt to stack devices together for use other than specified systems. Such devices may become unstable and tip over or fall, leading to injury. Make sure to secure each device in place using the pole mount, ratchet straps or other hardware to prevent them from tipping over or falling when stacking devices together. Pioneer shall accept no liability for damage or injury caused by accidents resulting from Pioneer products tipping over or falling due to them being insufficiently secured.
- Switch off and unplug your power amplifier and consult the instructions when connecting up components. Make sure you use the correct connecting cables.
- Keep magnetic objects such as screwdrivers or steel parts away from the tweeter and woofer speakers. Since the speakers use strong magnets, the objects may be attracted, causing injury or damaging the diaphragm.
- Do not install the loudspeaker in areas exposed to direct sunlight or near heating appliances. Such conditions may result in shrinkage of the wood materials and finish, leading to deformation of the enclosure, discolouration, or damage to the speakers. Conditions considered unpleasant by humans are detrimental to speakers as well. Providing a comfortable environment for the speakers will assist them in demonstrating their best performance. Please maintain the usage environment as follows:

Temperature:	15 °C to 25 °C (59 °F to 77 °F)
Relative Humidity:	35 % to 65 % (winter) 40 % to 70 % (summer)
- Do not store speakers at temperatures outside of the rated temperature range as doing so may cause the speaker to drop in performance or become damaged.

Storage temperature range:	-20 °C to +55 °C (-4 °F to +131 °F)
----------------------------	-------------------------------------
- Do not use the product in locations subject to extreme fluctuations in temperature. Doing so could cause the product to malfunction.
- When using room air-conditioners or stoves to rapidly cool or heat room spaces, take precautions to avoid excessive dehumidification.
- Avoid placing the speaker near areas such as windows, as outside air can cause condensation to occur within the speaker.
- This loudspeaker is designed for indoor use only. To avoid electric shock hazard, do not place them outside, or in an overly humid area.

1 Introduction

CAUTION: in use

- Do not use the speaker to output distorted sound for long periods of times. This can result in a fire hazard.
- Please also remember that vibrations from subwoofer systems can shake other loudspeakers out of place, which may present a toppling hazard.
- Do not attempt to use the product with the XY Series grille detached as doing so could result in damage to the product. Consult a qualified professional for assistance with removing the grille for maintenance purposes.

For Europe



If you want to dispose of this product, do not mix it with general household waste. There is a separate collection system for used electronic products in accordance with legislation that requires proper treatment, recovery and recycling.

Private households in the member states of the EU, in Switzerland and Norway may return their used electronic products free of charge to designated collection facilities or to a retailer (if you purchase a similar new one).

For countries not mentioned above, please contact your local authorities for the correct method of disposal.

By doing so you will ensure that your disposed product undergoes the necessary treatment, recovery and recycling and thus prevent potential negative effects on the environment and human health.

For U.S.A.

WARNING :

This product contains chemicals known to the State of California and other governmental entities to cause cancer and birth defects or other reproductive harm.

Wash hands after handling.

The Safety of Your Ears is in Your Hands

Get the most out of your equipment by playing it at a safe level – a level that lets the sound come through clearly without annoying blaring or distortion and, most importantly, without affecting your sensitive hearing. Sound can be deceiving. Over time, your hearing “comfort level” adapts to higher volumes of sound, so what sounds “normal” can actually be loud and harmful to your hearing. Guard against this by setting your equipment at a safe level BEFORE your hearing adapts.

ESTABLISH A SAFE LEVEL:

- Set your volume control at a low setting.
- Slowly increase the sound until you can hear it comfortably and clearly, without distortion.
- Once you have established a comfortable sound level, set the dial and leave it there.

BE SURE TO OBSERVE THE FOLLOWING GUIDELINES:

- Do not turn up the volume so high that you can't hear what's around you.
- Use caution or temporarily discontinue use in potentially hazardous situations.
- Do not use headphones while operating a motorised vehicle; the use of headphones may create a traffic hazard and is illegal in many areas.

About trademarks and registered trademarks

- Pioneer is a registered trademark of PIONEER CORPORATION.
- SpeakON is a registered trademark of Neutrik.

The names of companies and products mentioned herein are the trademarks of their respective owners.

1 Introduction

1.2 Installation guidelines

WARNING

- Ensure that the floor or stage surface in question can withstand the weight of the system. Consult a qualified professional for advice if the strength of the surface is unknown.
- After installation, you must confirm that the speakers are safely installed. You must also periodically check them to make sure that they are still safe.
- Wherever possible, avoid high stacks and use ratchet straps to secure loudspeakers together. Please also remember that vibrations from subwoofer systems can shake other loudspeakers out of place, which may present a toppling hazard. The use of ratchet straps and non-slip material is recommended to prevent this.
- When this product is placed in an elevated place such as on a shelf or stage, a speaker may be moved by vibrations and fall to the floor, causing an injury or accident. Take measures to prevent a speaker from sliding off a shelf or a stage, etc.

Full-range loudspeakers

The XY-81, XY-101, XY-122 and XY-152 come with pre-inserted mounting screws. These screws can be taken out and used to attach either special mounting hardware designed for the product or commercially available mounting hardware.

Make sure to attach a wire for preventing falling parts and equipment of adequate strength using screw holes not used by mounting hardware.

WARNING

- When attaching the speakers to the wall or ceiling, you should first confirm that the wall or ceiling being used is strong enough to support their weight. If you are unsure then consult a specialist. If the speakers should fall then it could lead to serious injury, and is potentially very dangerous.
- Check to make sure that any mounting hardware used is enough to support the system, whether using special hardware designed for the system or commercially available hardware. Make sure to read the Introduction section in this manual and the instruction manual for the mounting hardware thoroughly before proceeding. Take every precaution to prevent the product and associated parts from falling as they could cause serious injury if they fell onto a person.
- Use screws suitable for ceiling material and screw mounting parts in solid locations.
- Make sure to use mounting hardware of sufficient strength to secure the speaker in place when using non-designated hardware. The speaker could fall, causing accidents, if not properly secured.
- The fall prevention wire must be attached to a suitably strong location. The strength of the location to which the wire is attached being insufficient can lead to the speakers falling or cause accidents. The fall prevention wire and screw to attach the fall prevention wire to the ceiling or wall are not supplied with the speakers, so please purchase them separately.

Subwoofers

A pole mount can be attached to the XY-115S, XY-118S and XY-215S. The pole mount can be attached by inserting and screwing it into the holes.

WARNING

- Check to make sure that any mounting hardware used is enough to support the system, when using commercially available hardware. Make sure to read the Introduction section in this manual and the instruction manual for the mounting hardware thoroughly before proceeding. Be careful not to place any devices or other equipment on top of the system as such devices could fall, causing severe injury.
- Make sure to install the system in a stable location if using a pole for mounting.
- Make sure to use mounting hardware of sufficient strength to secure the speaker in place. The speaker could fall, causing accidents, if not properly secured.

1 Introduction

1.3 System set-up

WARNING

- Loudspeaker systems are potentially dangerous objects if used incorrectly. Please ensure that you read this section fully, and contact your local dealer should you be in any doubt over correct operation procedures.
- Professional loudspeaker systems are capable of producing damage-inducing sound pressure levels, and hence care should be taken when setting your system up, particularly when it comes to loudspeaker placement within a venue. Damage to the ear can result from levels above 90 dB under prolonged exposure.

Stand mounting

The XY-81, XY-101, XY-122 and XY-152 can be mounted from a loudspeaker stand using the integral polemount adapter for a standard 35 mm (1.4 in.) loudspeaker stand.

When mounting in this way, please consider the following:

- Ensure your stand height is locked off and the tripod legs are positioned so as to be stable.
- Check the weight loading of your stands before attempting to mount the loudspeaker.
- Do not stack a second loudspeaker on top of the stand-mounted one.
- Ensure cables are run so as to leave enough slack to enable neat wiring, and thus reduce the risk of the speaker being pulled over. Loose cables should be covered or taped down wherever possible to reduce trip hazards.
- When using poles on top of subwoofer systems, please observe similar precautions.

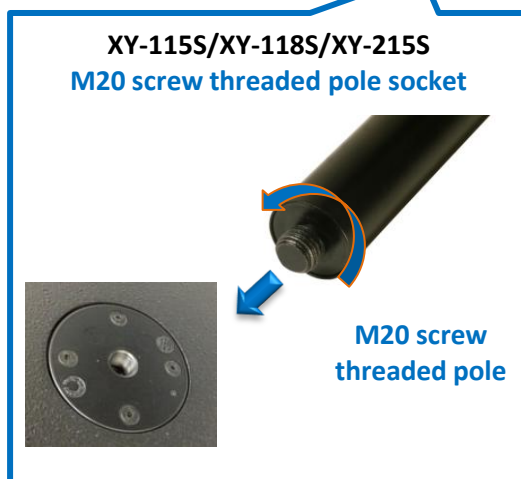
Pole-mounted full-range loudspeakers from the XY-115S, XY-118S and XY-215S

The XY-115S, XY-118S and XY-215S can support other loudspeakers using an M20 threaded pole adapter. When mounting in this way, please consider the following:

- Ensure the M20 pole is screwed in tightly, your stand height is locked off and the system is stable.
- Do not stack a second loudspeaker on top of the stand-mounted one.
- Ensure cables are run so as to leave enough slack to enable neat wiring, and thus reduce the risk of the speaker being pulled over. Loose cables should be covered or taped down wherever possible to reduce trip hazards.

Note: When you want to combine the XY-81, XY-101, XY-122 or XY-152 enclosure with the XY-115S, XY-118S or XY-215S enclosure, ensure you use a commercially-available pole, where one of the edge is M20 threaded and the other is 35mm diameter as shown below.

XY-115S/XY-118S XY-215S



XY-81/XY-101
XY-122/XY-152



2 Accessories

WARNING

- The overhead suspension of loudspeakers is a very serious issue with potentially lethal consequences should anything go wrong.
Rigging should only be carried out by experienced personnel following safe working practice.
Should you be in any doubt whatsoever, please contact the retailer or dealer from which you purchased this product.
- When utilising any suspension method, a **secondary safety feature must be used**. For any suspension method, fit an eyebolt to any of the rigging points.
A safety steel can then be attached to this and connected to your safety point.

Hardware standby

The following hardware is provided with the XY series products so that commercially-available poles, brackets and other items can be attached.

(see Table 2-1 and 2-2 "Hardware standby")

- Caution**
- Check to make sure that any commercially available mounting hardware used is enough to support the weight of the speaker system.
 - If you use any commercially available eyebolt, ensure it is the same size as in the list below and have enough strength to withstand the weight of the loudspeaker.
 - M10 x 30mm, P=1.5, Safe Working Load limits: 1.47[kN] (150[kg]) and more
 - M8 x 15mm, P=1.25, Safe Working Load limits: 0.785[kN] (80[kg]) and more
 - Please follow an instruction manual for a commercially available product for installation and safety measures.

Accessories List

All the supplied accessories for XY series are listed in the following "Accessories List".

(see Table 2-1 and 2-2 "Accessories List")

Please ensure that you read "Section 1: Introduction" and "Section 3.1 - 3.2" fully, and have the product installed by a professional.

Have the installer carefully follow the installation instructions.

2 Accessories

Table 2-1 Two-way loudspeaker

		XY-81	XY-101	XY-122	XY-152
Hardware standby	Wall Mount Bracket	4 × M6 threaded points	<-	4 × M8 threaded points	<-
	Eyebolts	M8(*2)	<-	M10 (*3)	<-
	Speaker Pole	35 mm polemount socket	<-	<-	<-
	Tripod Stand	35 mm polemount socket	<-	<-	<-
Accessories List	Vertical Flying Cradle (*1)	CP-XY8VC1	CP-XY10VC1	CP-XY12VC1	CP-XY15VC1
	Horizontal Flying Cradle (*1)	CP-XY8HC1	CP-XY10HC1	CP-XY12HC1	CP-XY15HC1
	Variable Angle Bracket (*1)	-	-	CP-XY12AB1	CP-XY15AB1
	Dual Enclosure Flying Plate Set (*1)	-	-	CP-XY12DF1	CP-XY15DF1
	Caster set	-	-	-	-
Setting procedure		Refer to Section 3.2.1 - 2 Section 3.2.5 -6		Refer to Section 3.2.1 - 6	

*1 Eye bolts to be used as secondary safety feature are not included with the products. When you use any commercially available eyebolts, please use the eyebolts meeting the following size and specification.

*2 M8 x 15mm, P=1.25, Safe Working Load limits: 0.785[kN] (80[kg]) and more

*3 M10 x 30mm, P=1.5, Safe Working Load limits: 1.47[kN] (150[kg]) and more

Table 2-2 Subwoofer

		XY115S	XY118S	XY-215S	XY-218S
Hardware standby	Speaker Pole	M20 polemount socket	<-	2 x M20 polemount sockets (top, right side)	-
Accessories List	Caster set	-	CP-XYCS1	<-	<-
Setting procedure		Refer to Section 3.2.7			

2 Accessories

White socket cover seal for the white models

Applicable models:

- XY-81-W : 1 piece of white seal is shipped with XY-81-W.
- XY-101-W : 1 piece of white seal is shipped with XY-101-W.
- XY-122-W : 1 piece of white seal is shipped with XY-122-W.
- XY-152-W : 1 piece of white seal is shipped with XY-152-W.
- XY-115S-W : 1 piece of white seal is shipped with XY-115S-W.
- XY-118S-W : 1 piece of white seal is shipped with XY-118S-W.
- XY-215S-W : 2 pieces of white seals are shipped with XY-215S-W.

NOTE: White plastic seals to cover the black pole socket is included in the above models.

A white seal can be attached to an unused black pole socket as you like.

Please follow the instructions below.

Part List

Item	Part Name	Service Part No.	Note
A	Pole cover	08A501	Service Part Qty is 1piece.

Procedure

- (1) White seal (A) is included inside of the packing box. (Fig.2-1)
- (2) Carefully remove the tip of the cover of the double-face tape on the white label(A), then peel it off.
- (3) Place the white seal (A) to fully cover the top of the pole socket. (Fig.2-2)

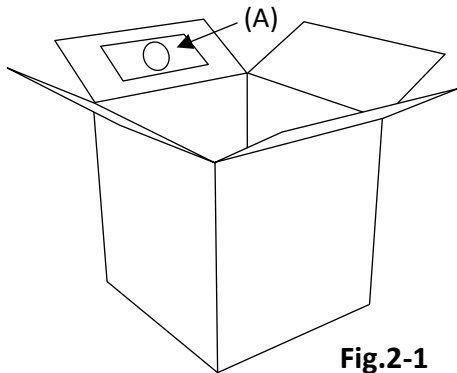


Fig.2-1

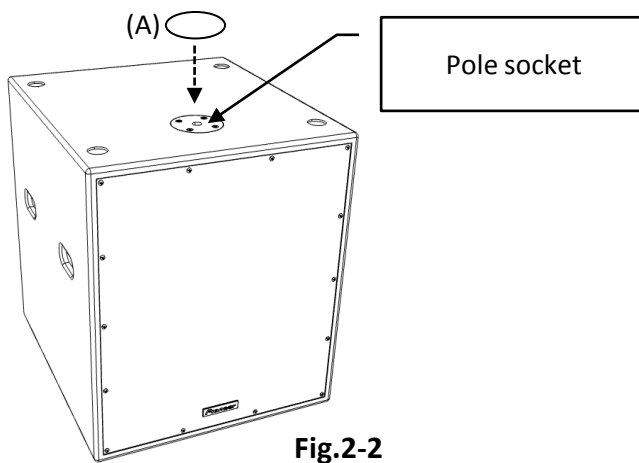


Fig.2-2

*XY-118S-W is shown in the illustration.

3 Rigging And Caster Setting

3.1 Before Setting

3.1.1 Guide for safe use

Improper installation of the speakers could cause them to fall and cause damage or injuries to persons nearby. Please check the following conditions of all the loudspeakers in this series always before they are rigged.

WARNING:

INTENDED USAGE

Do not use any other method than the one prescribed in this manual.

The XY Series rigging components must only be used in conjunction with the XY Series loudspeakers.

SAFETY CAUTIONS

Ensure and check all the speaker riggings are sufficiently secure to be used before using them. Damaged components must be withdrawn from use immediately. Ensure the supplied bolts are used to fix the rigging accessories instead of the pre-inserted screws.

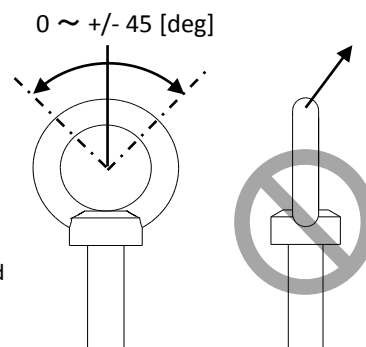
EYEBOLT STRENGTH

When you use any commercially-available eyebolts, please use the eyebolts meeting the following size and specification:

XY-81/101: M8 x 15mm, P=1.25, Safe Working Load limits: 0.785[kN] (80[kg]) and more.

XY-122/152: M10 x 30mm, P=1.5, Safe Working Load limits: 1.47[kN] (150[kg]) and more.

The safe working load limits of an eyebolt are different depending on an inclined angle of the wire attached to the eyebolt. If the suspension angle of the wire attached to the eyebolt is inclined (not vertical) and correctly oriented in the plane of pull, be sure to read the catalogue of the eye bolt for details of the safe working load limits depending on the inclined angle. It is generally recommended that an angle of the wire attached to the eye bolt correctly oriented in the plane of pull be 45 degrees at maximum. Do not suspend the eye bolts as shown here.



THE SECONDARY SAFETY FEATURE

The secondary safety feature must be used to prevent the speaker from falling. Eye bolts to be used as secondary safety feature are not included with the products. When you use any commercially-available eyebolts, the above-listed safe working load limits and other specifications should be met.

Ensure a wire or a chain to be used as secondary safety feature is securely **suspended vertically from the ceiling or wall.**

If such a wire or a chain is suspended from the inclined ceiling or wall, or it is horizontally suspended, the wire or the chain would not be effective to prevent an accidental fall.

An appropriate length of wire or chain should be used as second safety feature. It is generally recommended that the fall prevention wire be 100 mm longer than the main suspension wire/chain/tool.

If the wire or the chain is too long, it would not be effective enough to prevent an accidental fall.

3 Rigging And Caster Setting

CAUTION:

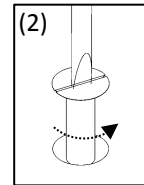
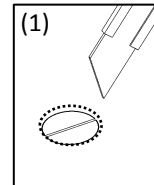
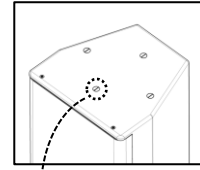
PREPARING THE CABINET

Pre-inserted M10 and M8 screws are mounted in the top, bottom, rear, left and right side of the loudspeaker enclosure. These screws are painted in the cabinet color.

Follow the steps below to ensure the cabinet paint is not peeled off during unscrewing.

(1) Make a small slit around the pre-inserted screws using an appropriate cutting knife.

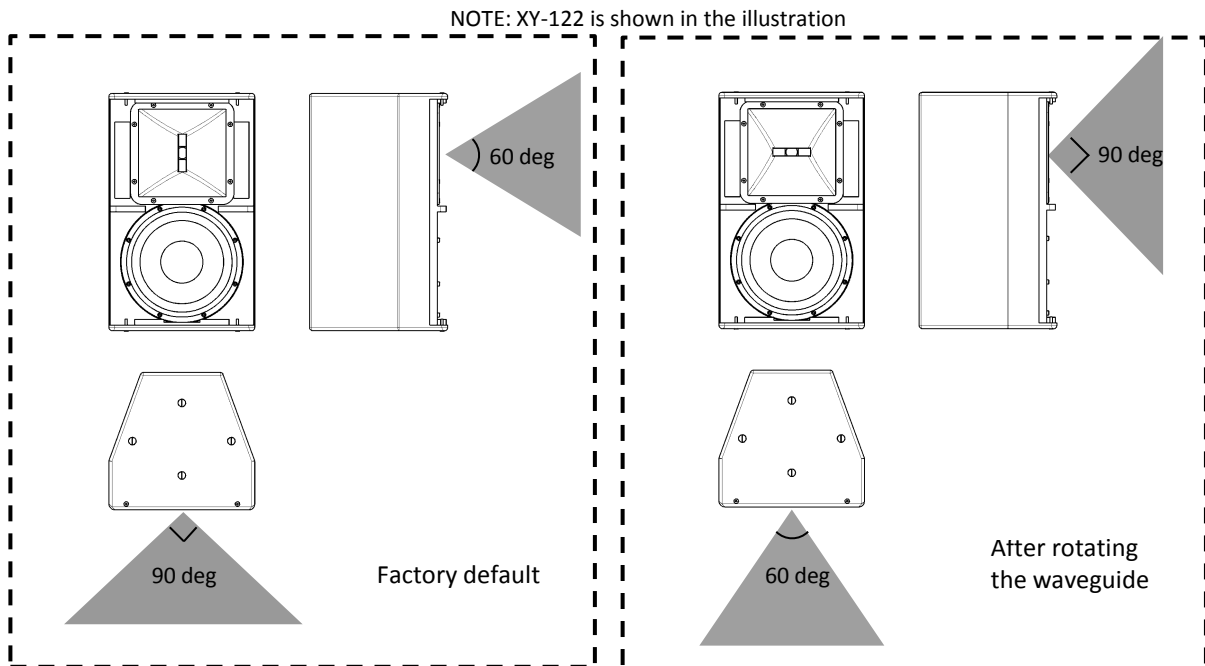
(2) Carefully remove the screws using a screwdriver, and ensure the cabinet coating is not peeled off.



3 Rigging And Caster Setting

3.1.2 Horn rotation

HF dispersion orientation on XY-81/101/122/152 can be changed by rotating the HF waveguide 90 degrees. (Fig.3-1-3-A)



Required tools

XY-81/101

• 3mm hex key



• 4mm hex key



XY-122/152

• 4mm hex key



Procedure

- (1) Using a hex key, unscrew the bolts which fasten the grille to the both top and bottom of the enclosure.
4 bolts from XY-81/101/122 and 6 bolts from XY-152 are needed to be removed from each enclosure.
- (2) Gently remove the grille from the front of the enclosure. (Fig.3-1-2-A)
- (3) Using a hex key, remove the bolts holding the HF waveguide in place. (Fig.3-1-2-B)
4 bolts from XY-81/101 and 8 bolts from XY-122/152 are needed to be removed from each enclosure.

NOTE: XY-122 is shown in the illustration.

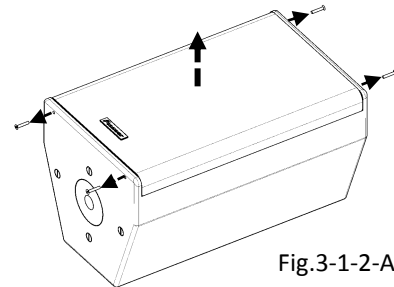


Fig.3-1-2-A

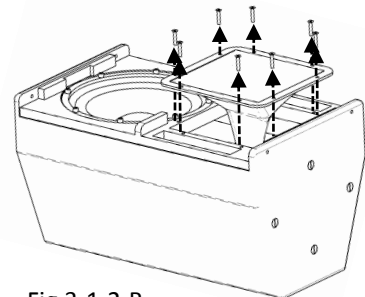


Fig.3-1-2-B

3 Rigging And Caster Setting

- (4) Lift the waveguide up and rotate it 90 degrees to change the dispersion orientation depending on the orientation of the enclosure. When the HF waveguide is rotated back to the original orientation, ensure it is rotated in the reverse direction when it was first rotated. (Fig.3-1-2-C)
- (5) Reinstall the bolts and retighten. Avoid over tightening as this may crack the waveguide.
- (6) Reinstall the grille by gently placing it in place over the front of the loudspeaker.
- (7) Reinstall the bolts to secure it in place.

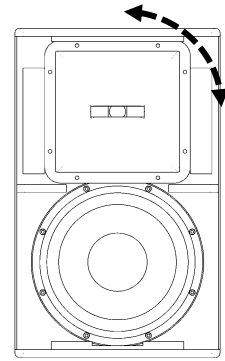


Fig.3-1-2-C

3 Rigging And Caster Setting

3.1.3 Logo badge replacement

The location of Logo badge attached to the grilles on XY-81/101/122/152 can be changed.

Required tools

XY-81 / XY-101

- Phillips head screwdriver
- 3mm hex key



XY-122 / XY-152

- Phillips head screwdriver
- 4mm hex key



Procedure

- (1) Using a hex key, unscrew the bolts which fasten the grille to the both top and bottom of the enclosure.

4 bolts from XY-81/101/122 and 6 bolts from XY-152 are needed to be removed from the each enclosure.
- (2) Gently remove the grille from the front of the enclosure. (Fig.3-1-3-A)
- (3) Unscrew the screw on the rear side of the Logo badge and remove the Flat washer and the Spacer. (Fig.3-1-3-B)
- (4) Relocate the Logo badge to the desired position on the grille. The Logo badge can be rotated 90 degrees depending on the orientation of the enclosure. (Fig.3-1-3-C)
- (5) Reinstall the grille by gently placing it in place over the front of the loudspeaker. (Fig.3-1-3-D)
- (6) Reinstall the bolts to secure it in place. (Fig.3-1-3-E)

NOTE: XY-122 is shown in the illustration

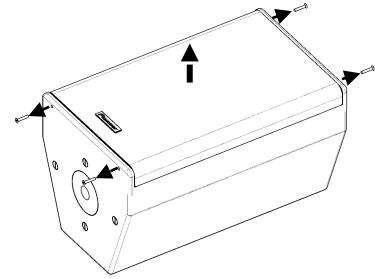


Fig.3-1-3-A

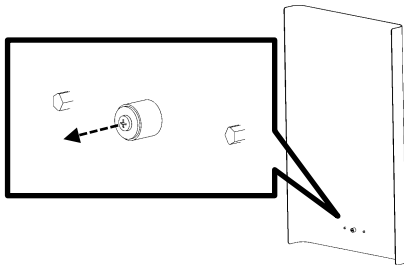


Fig.3-1-3-B

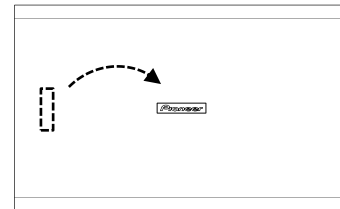


Fig.3-1-3-C

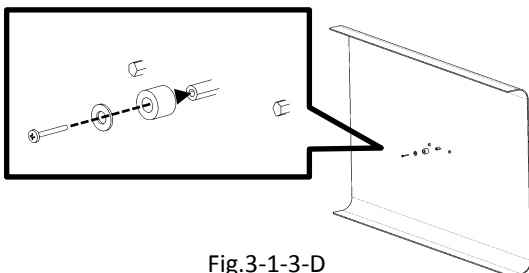


Fig.3-1-3-D

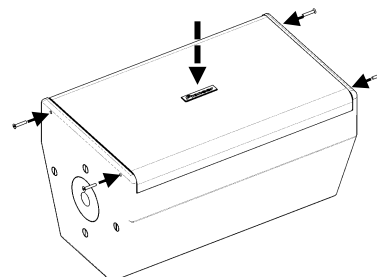


Fig.3-1-3-E

3 Rigging And Caster Setting

CAUTION:

XY-81/101 Location where the Logo badge should be attached:

The Logo badge can be attached to only the limited locations on the grille.
Please see the Fig.3-1-3-F, G, H, I. If the Logo badge is attached to other locations than the specified ones, the speaker could be damaged. Ensure the Logo badge is attached to the specified area.

XY-81

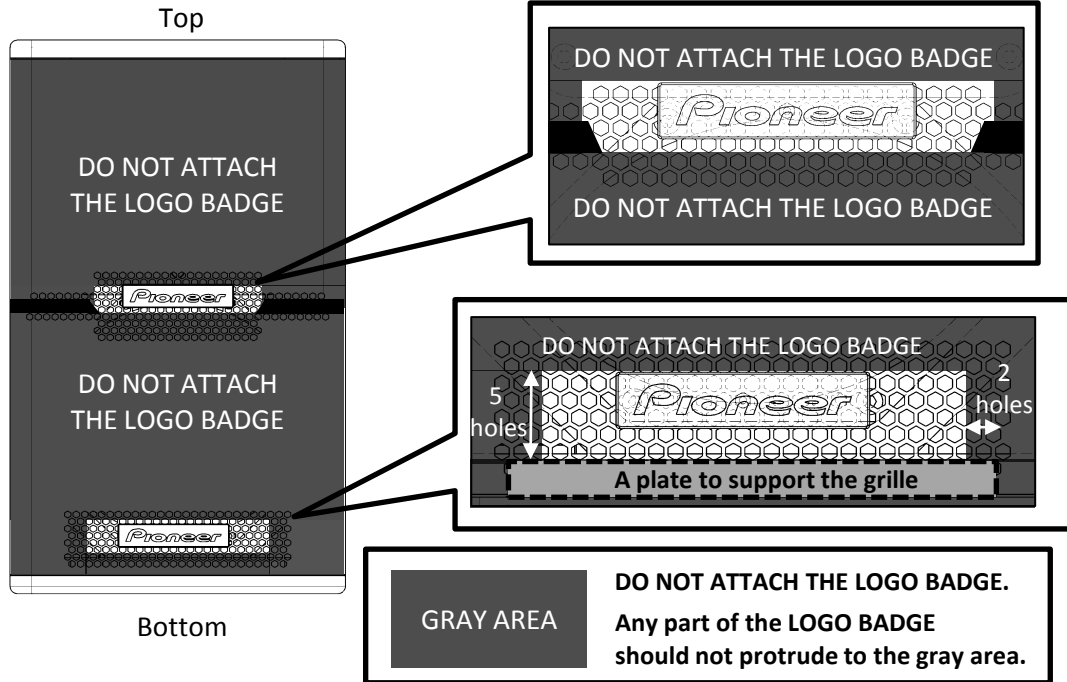


Fig.3-1-3-F For vertical installation (XY-81)

3 Rigging And Caster Setting

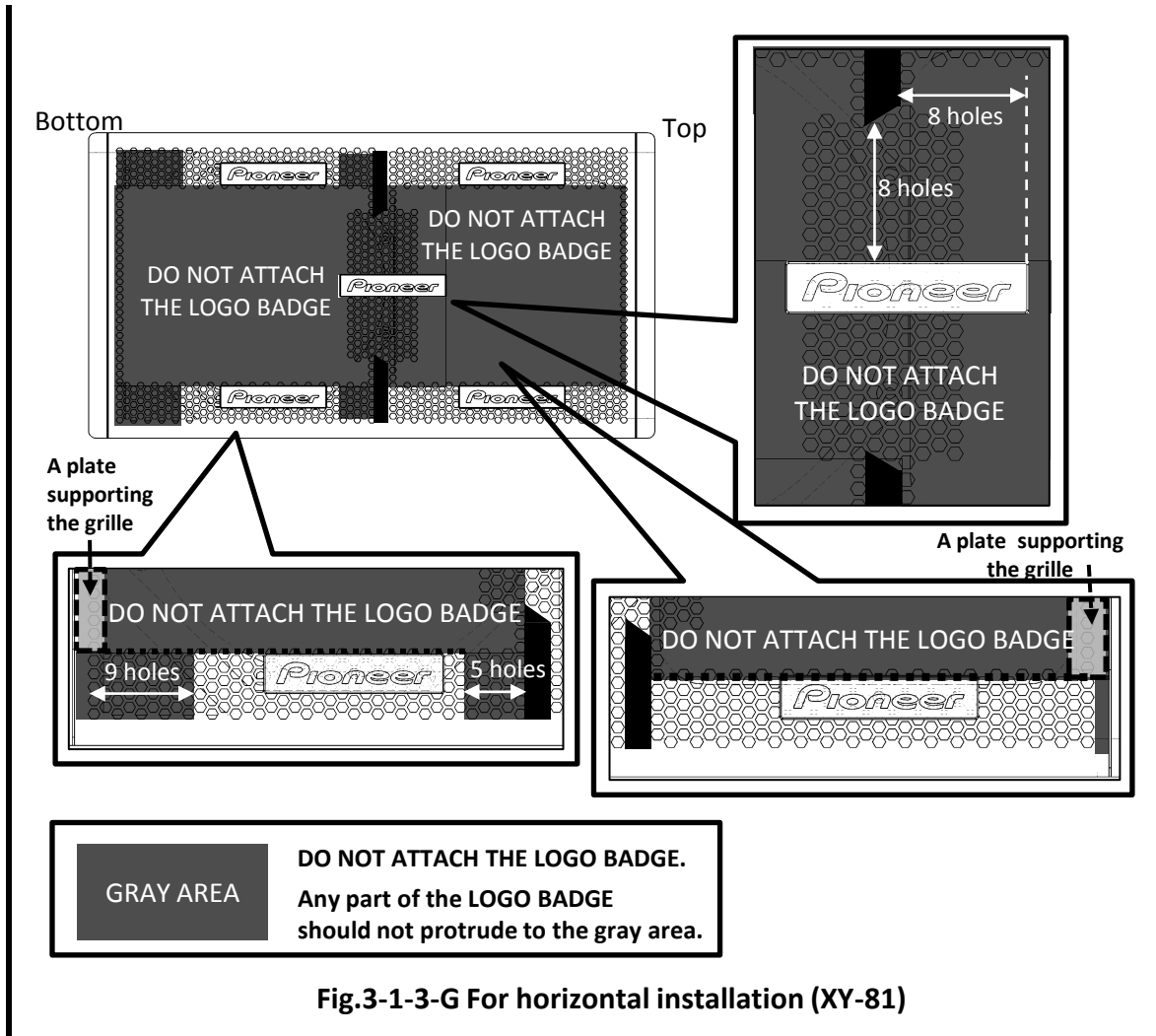


Fig.3-1-3-G For horizontal installation (XY-81)

3 Rigging And Caster Setting

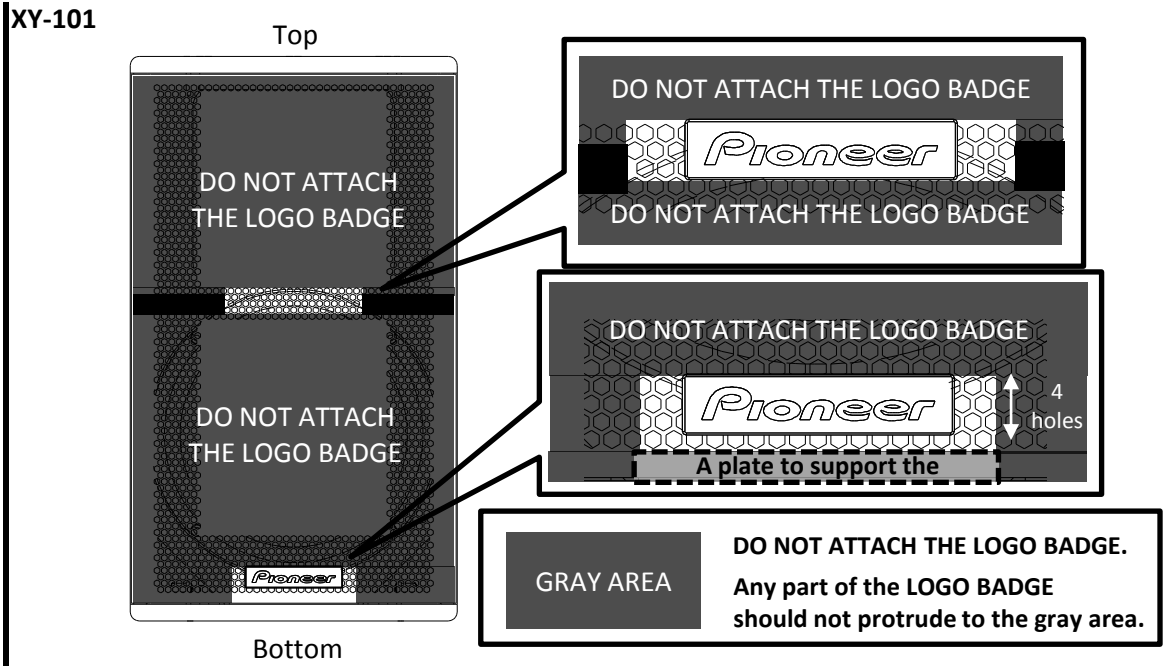


Fig.3-1-3-H For vertical installation (XY-101)

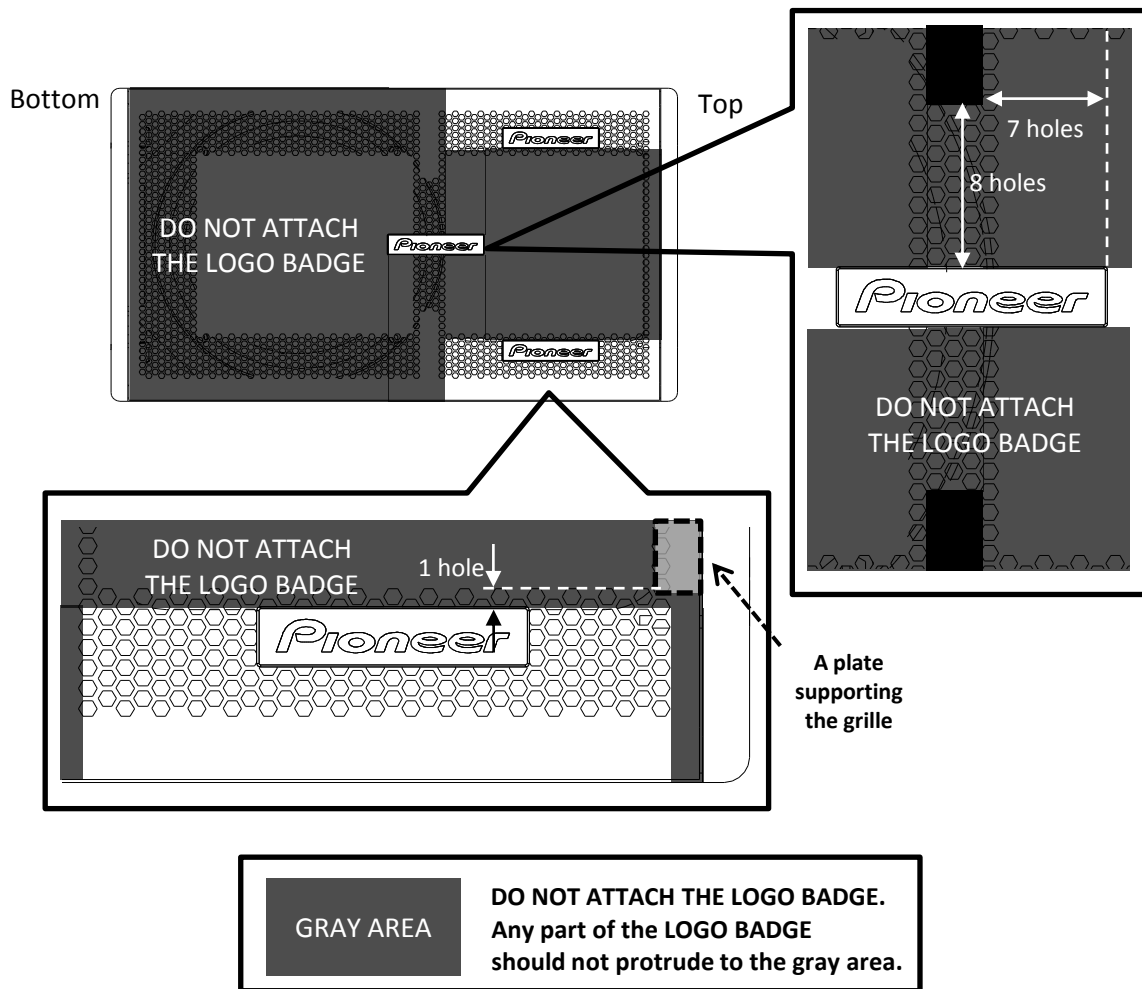


Fig.3-1-3-I For horizontal installation (XY-101)

3 Rigging And Caster Setting

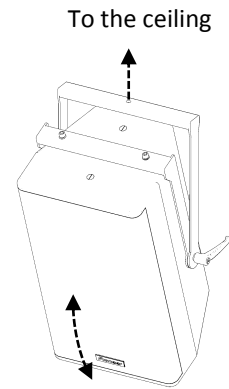
3.2 Procedures

3.2.1 Vertical Flying Cradle

When using the Vertical Flying Cradle, suspension of the XY-81/101/122/152 enclosure vertically from the ceiling as shown in the right figure is available. Speaker models compatible with respective Vertical Flying Cradles are shown in the table below.

Table.3-2-1-A: Models compatible with respective Vertical Flying Cradles

No.	Use model
CP-XY8VC1	XY-81
CP-XY10VC1	XY-101
CP-XY12VC1	XY-122
CP-XY15VC1	XY-152

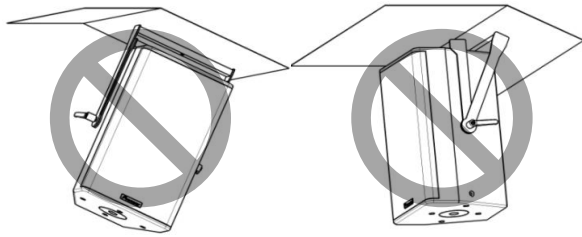


NOTE: XY-122 is shown in the illustration.

WARNING:

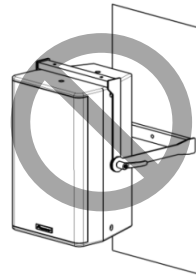
Vertical Flying Cradle is not supposed to be used in the following situations, which may cause an injury or accident.

For all the models, the following situations are quite dangerous.

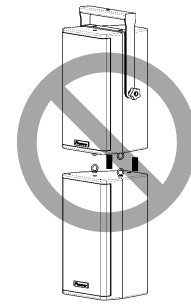


The outer yoke of the cradle is not vertical to the ceiling

The enclosure is not horizontal to the ceiling

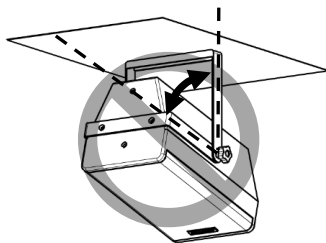


Suspending from the wall



Suspending multiple enclosures

Only for the following model:
CP-XY8VC1/XY10VC1/XY15VC1



Inclining over 75 deg (XY-81/101), 45 deg (XY-152)

3 Rigging And Caster Setting

Part list (CP-XY8VC1)

Item	Part Name	Qty	Service Part No.	Note
A	Vertical Flying Cradle	1	-	
	Outer Yoke	1	-	
	Inner Yoke	1	-	
	Neoprene Washer	2	05B010	40mm x 2mm
	Flat Washer	2	06D009	M8
	Spring Washer	2	06D011	M8
	Knob	2	05A101	M8
B	M8 countersunk bolt	3	06G019	M8 x 30mm (P=1.25) 5mm hex socket head

Required tools

• Screwdriver



• 5mm hex key

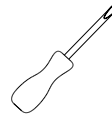


Part list (CP-XY10VC1)

Item	Part Name	Qty	Service Part No.	Note
A	Vertical Flying Cradle	1	-	
	Outer Yoke	1	-	
	Inner Yoke	1	-	
	Neoprene Washer	2	05B010	40mm x 2mm
	Flat Washer	2	06D009	M8
	Spring Washer	2	06D011	M8
	Knob	2	05A101	M8
B	M8 socket head bolt	3	06G055	M8 x 45mm (P=1.25), 6mm hex socket head
C	Spring Washer	3	06D011	M8
D	Flat washer	3	06D009	M8

Required tools

• Screwdriver



• 6mm hex key

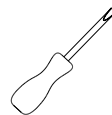


Part list (CP-XY12VC1)

Item	Part Name	Qty	Service Part No.	Note
A	Vertical Flying Cradle	1	-	
	Outer Yoke	1	-	
	Inner Yoke	1	-	
	Neoprene Washer	2	05B011	60mm x 2mm
	Flat Washer	2	06D014	M10
	Spring Washer	2	06D015	M10
	Lever	2	05A103	M10
B	M10 socket head bolt	3	06G052	M10 x 70mm (P=1.5), 8mm hex socket head
C	Spring Washer	3	06D015	M10
D	Flat washer	3	06D014	M10

Required tools

• Screwdriver



• 8mm hex key

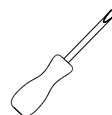


Part list (CP-XY15VC1)

Item	Part Name	Qty	Service Part No.	Note
A	Vertical Flying Cradle	1	-	
	Outer Yoke	1	-	
	Inner Yoke	1	-	
	Neoprene Washer	2	05B011	60mm x 2mm
	Flat Washer	2	06D014	M10
	Spring Washer	2	06D015	M10
	Lever	2	05A103	M10
B	M10 socket head bolt	3	06G052	M10 x 70mm (P=1.5), 8mm hex socket head
C	Spring Washer	5	06D015	M10
D	Flat washer	5	06D014	M10
E	M10 socket head bolt	3	06G053	M10 x 30mm (P=1.5), 8mm hex socket head
F	Load Plate	1	-	

Required tools

• Screwdriver



• 8mm hex key



3 Rigging And Caster Setting

Procedure (CP-XY8VC1/XY10VC1/XY12VC1/XY15VC1)

- (1) Remove the pre-inserted mounting screws from the top of enclosure. The number of screws to be removed from XY-81/101/122 is 2 (The location is shown in Fig.3-2-1-A) and from XY-152 is 4.

Only XY-152

NOTE: In addition, Using the supplied two M10 socket head bolts(E), align the mounting holes in the load plate(F) with the mounting point on the top of the enclosure. Tighten the bolts over 15N·m torque. (Fig.3-2-1-B)

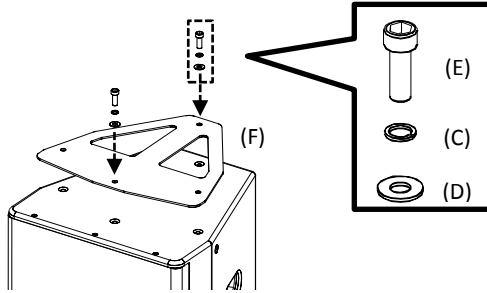


Fig.3-2-1-B

- (2) Using the supplied two bolts(B), align the mounting holes in the inner yoke of the Vertical Flying Cradle(A) with the mounting points on the top of the enclosure. The installation method depends on the model you use. Please follow the steps below for further details when installing such a model. (Fig.3-2-1-C)

XY-81:

Using the supplied two M8 countersunk bolts(B), align the mounting holes in the inner yoke of the Vertical Flying Cradle(A) with the mounting points on the top of the enclosure. Tighten the bolts over 7N·m torque.

XY-101/122/152:

Using the two socket head bolts(B), align the mounting holes in the inner yoke of the Vertical Flying Cradle(A) with the mounting points on the top of the enclosure. (Fig.3-2-1-C)

WARNING: The Vertical Flying Cradles should be installed to the XY-122/152 enclosure in a specific orientation. Please see Fig.3-2-1-D to install the Vertical Flying Cradle to the enclosure in the correct orientation.

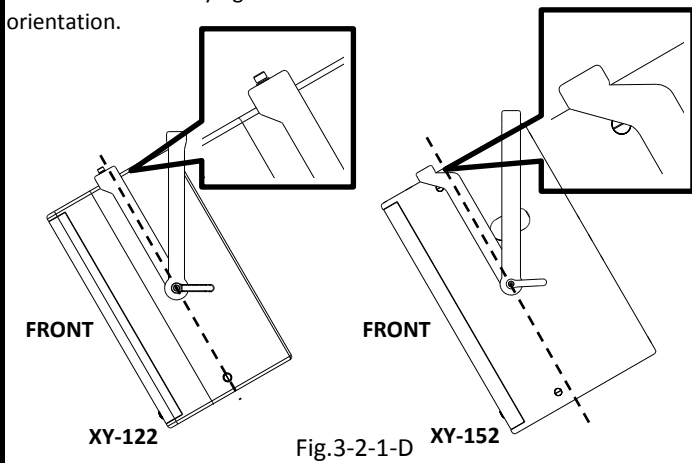


Fig.3-2-1-D

NOTE: XY-122 is shown in the illustrations below.

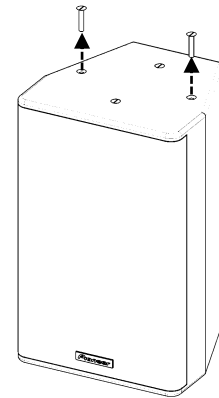


Fig.3-2-1-A

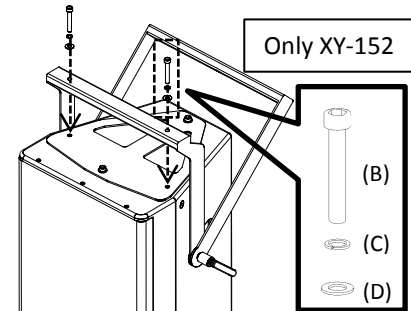
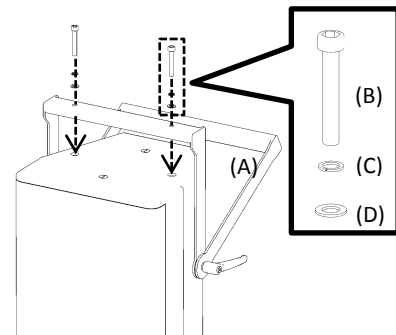


Fig.3-2-1-C

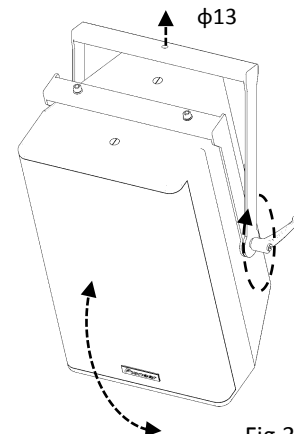


Fig.3-2-1-E

Ensure that both the Flat Washer(D) and the Spring Washer(C) are used - the Flat Washer(D) should be in contact with the cradle. Tighten the bolts over 15N·m torque (Only XY-101: 7N·m torque). (Fig.3-2-1-C)

3 Rigging And Caster Setting

(3) Once the desired angle of the loudspeaker is set, tighten the knobs/levers on the cradle to lock the position in place. (Fig.3-2-1-E)

(4) The hole on the outer yoke of the Vertical Flying Cradle (A) can be used to install the speaker to the ceiling. (Fig.3-2-1-E)

(5) Remove the pre-inserted mounting screw on following point of the enclosure.

XY-81/101/122:

the front part or rear part of the top point on the enclosure

XY-152:

the upper rear part on the enclosure

(6) Ensure the commercially-available eyebolt is secured to the mounting point to suspend it with wire as a secondary safety feature. (Fig.3-2-1-F)

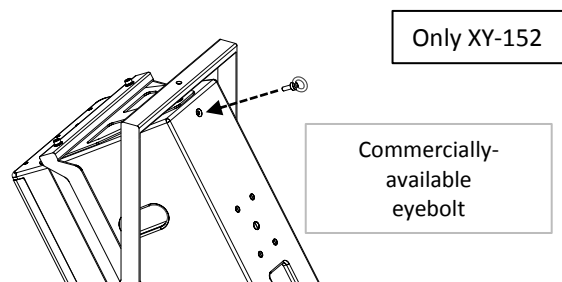
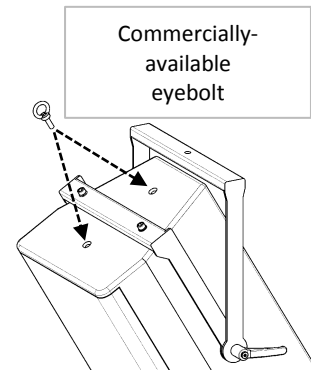


Fig.3-2-1-F

3 Rigging And Caster Setting

3.2.2 Horizontal Flying Cradle

When using the Horizontal Flying Cradle, suspension of the XY-81/101/122/152 enclosure horizontally from the ceiling or the wall as shown in the right figure is available. The orientation of the enclosure can be changed at any angle.

Several holes on both sides of the outer yoke of the cradle are used to change the length of the outer yoke so that the distance between the enclosure and the cradle can be adjusted. The factory default sets the distance between the enclosure and the cradle at the nearest position. If you want to connect a speaker cable and incline the enclosure, please select a different hole on the outer yoke to enlarge the distance.

Speaker models compatible with respective Horizontal Flying Cradles are shown in the table below.

Table.3-2-2-A: Models compatible with respective Horizontal Flying Cradles

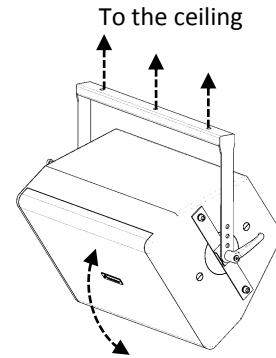
No.	Use model
CP-XY8HC1	XY-81
CP-XY10HC1	XY-101
CP-XY12HC1	XY-122
CP-XY15HC1	XY-152

Table.3-2-2-B: Installation to the ceiling and wall

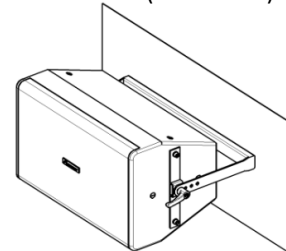
Part number	Install to the ceiling	Install to the wall	
		Vertical	Horizontal
CP-XY8HC1	Available	Available	Available
CP-XY10HC1	Available	Available	Available
CP-XY12HC1	Available	Installation prohibited	Available
CP-XY15HC1	Available	Installation prohibited	Available

Note: The dispersion orientation when placing the XY-81/101/122/152 enclosure horizontally will be changed from the orientation when placing it vertically. Rotate the horn inside of the enclosure to reverse the dispersion orientation to the original orientation when it is placed vertically. Also, the location and the orientation of the logo badge can be changed. (See "3.1.2 Horn rotation" and "3.1.3 Logo badge replacement")

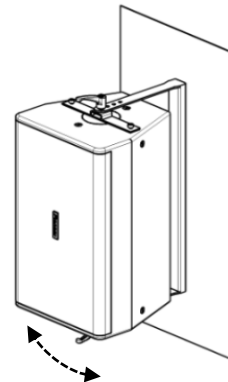
NOTE: XY-122 is shown in the illustration



To the wall (Horizontal)



To the wall (Vertical)

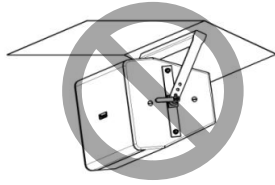


3 Rigging And Caster Setting

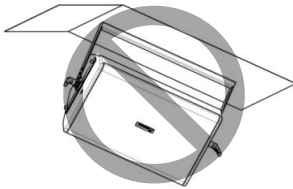
WARNING:

Horizontal Flying Cradle is not supposed to be used in the following situations, which may cause an injury or accident.

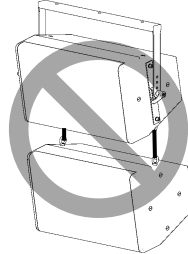
For ALL the models, the following situations are quite dangerous.



The outer yoke of the cradle is not vertical to the ceiling



The enclosure is not horizontal to the ceiling



Suspending Multiple enclosures

Only for the following models:
CP-XY12HC1/XY15HC1



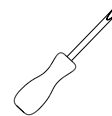
The outer yoke of the cradle is not horizontal to the wall

Part list (CP-XY8HC1/CP-XY10HC1)

Item	Part Name	Qty	Service Part No.	Note
A	Horizontal Flying Cradle	1	-	
	Main Yoke	1	-	
	Mounting Plate	2	-	
	Neoprene Washer	2	05B010	40mm x 2mm
	Flat Washer	2	06D009	M8
	Spring Washer	2	06D011	M8
	Knob	2	05A101	M8
B	M8 socket head bolt	5	06G046	M8 x 30mm (P=1.25), 6mm hex socket head

Required tools

- screwdriver



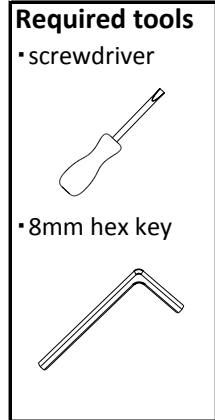
- 6mm hex key



3 Rigging And Caster Setting

Part list (CP-XY12HC1/CP-XY15HC1)

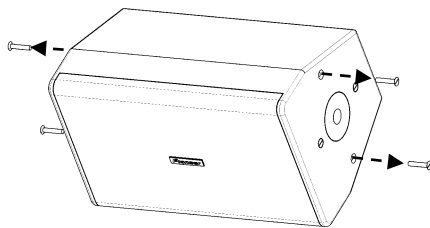
Item	Part Name	Qty	Service Part No.	Note
A	Horizontal Flying Cradle	1	-	
	Main Yoke	1	-	
	Mounting Plate	2	-	
	Neoprene Washer	2	05B010	40mm x 2mm
	Flat Washer	2	06D014	M10
	Spring Washer	2	06D015	M10
	Lever	2	05A103	M10
B	M10 socket head bolt	5	06G053	M10 x 40mm (P=1.5), 8mm hex socket head
C	Spring Washer	5	06D015	M10
D	Flat washer	5	06D014	M10



Procedure

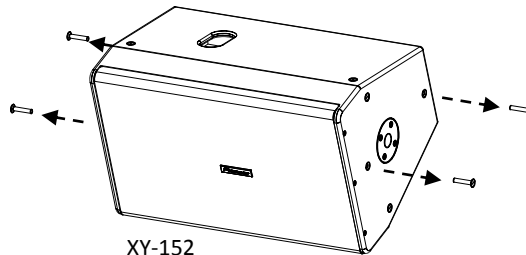
Note: The yoke length can be changed by unscrewing the lever and choosing mounting holes in the both plate ends of the Horizontal Flying Cradle.

- (1) Remove the four pre-inserted mounting screws on the top and the bottom of XY-81/101/122/152. (XY-81/101/122: Fig.3-2-2-A), (XY-152: Fig.3-2-2-B)



XY-122/101/122

Fig.3-2-2-A



XY-152

Fig.3-2-2-B

- (2) Using the supplied 4 bolts(B), align the mounting holes in the end mounts of the plate of the horizontal Flying Cradle(A) with the mounting points on the top and the bottom of the enclosure. The installation method depends on the model you use. Please follow the steps below for further details when installing such a model.

XY-81/101:

Using the supplied M8 countersunk bolts(B), align the mounting holes in the end mounts of the plate of the Horizontal Flying Cradle(A) with the mounting points on the top and the bottom of the enclosure.

Tighten the bolts over 7N·m torque. (Fig.3-2-2-C)

XY-122:

Using the supplied M10 hex socket head bolts(B), align the mounting holes in the end mounts of the plate of the Horizontal Flying Cradle(A) with the mounting points on the top and the bottom of the enclosure. Ensure that both Spring Washer(C) and Flat washer(D) are used - the Flat Washer(D) should be in contact with the cradle. Tighten the bolts over 15N·m torque. (Fig.3-2-2-C)

NOTE: XY-122 is shown in the illustration.

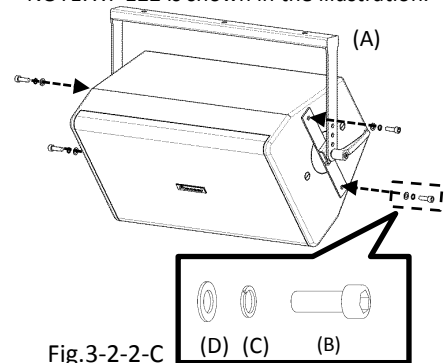


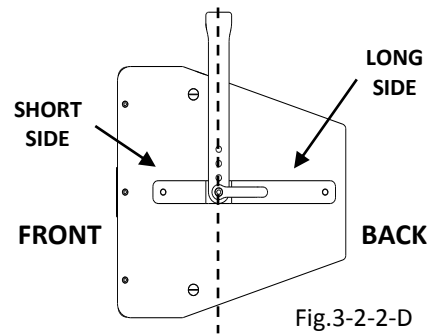
Fig.3-2-2-C

3 Rigging And Caster Setting

XY-152:

Using the supplied M10 hex socket head bolts(B), align the mounting holes in the end mounts of the plate of the Horizontal Flying Cradle(A) with the mounting points on the top and the bottom of the enclosure.

WARNING: The mounting plate of Horizontal Flying Cradle should be installed to the XY-152 enclosure in a specific orientation. Please see Fig.3-2-2-D to install the Horizontal Flying Cradle in the correct orientation.



Ensure that both Spring Washer(C) and Flat washer(D) are used - the Flat Washer(D) should be in contact with the cradle. Tighten the bolts over 15N·m torque. (Fig.3-2-2-C)

- (3) Once the desired angle of the loudspeaker is set, tighten the knobs/levers on the cradle to lock the position in place. (Fig.3-2-2-E)
- (4) The holes on the top of the horizontal Flying Cradle(A) can be used to install the speaker to the ceiling or the wall in the horizontal position. (Fig.3-2-2-E)
- (5) Remove the two mounting screws pre-inserted in the holes on the rear side of enclosure.
- (6) Ensure the two commercially-available eyebolts are secured to the rear points on the enclosure to suspend it with wire as a secondary safety feature. (Fig.3-2-2-F)

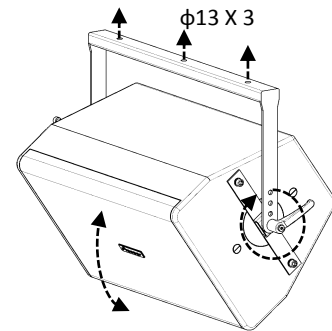


Fig.3-2-2-E

NOTE: XY-122 is shown in the illustration.

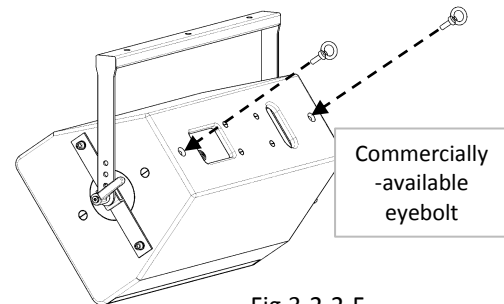


Fig.3-2-2-F

NOTE: XY-122 is shown in the illustration

3 Rigging And Caster Setting

3.2.3 Variable Angle Bracket

When using the Variable Angle Bracket, suspension of the enclosure vertically from the ceiling as shown in the right figure is available. It is easier to change the inclined angle of Variable Angle Bracket than that of Vertical Flying Cradle. Speaker models compatible with respective Variable Angle Brackets and the range of inclined angle when a Variable Angle Bracket is used to suspend the speaker from the ceiling is shown in the table below:

NOTE: XY-122 is shown in the illustration.

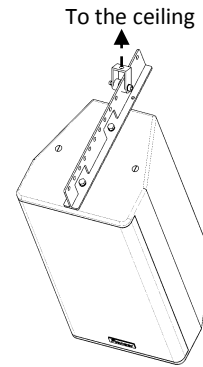


Table.3-2-3-A: Models compatible with each Variable Angle Bracket and the range of inclined angle

No.	Use model	The range of inclined angle
CP-XY12AB1	XY-122	17 degree (front) ~ -43 degree (back)
CP-XY15AB1	XY-152	22 degree (front) ~ -32 degree (back)

Note: Variable Angle Bracket can be used together with Dual Enclosure Flying Plate Set.

Table.3-2-3-B: Mounting point of CP-XY12AB1 and inclined angle of the speaker

The mounting point	1	2	3	4	5	6	7	8	9	10	11	12	13
Angle [°]	17	13	10	7	3	-2	-7	-13	-19	-25	-31	-37	-43

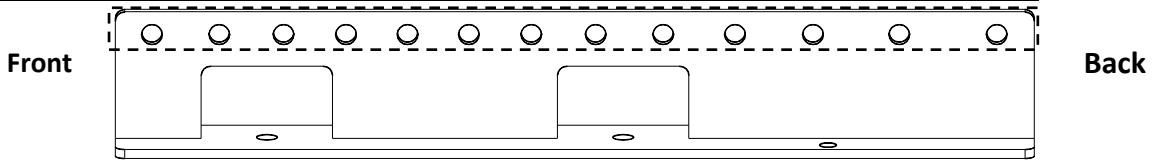
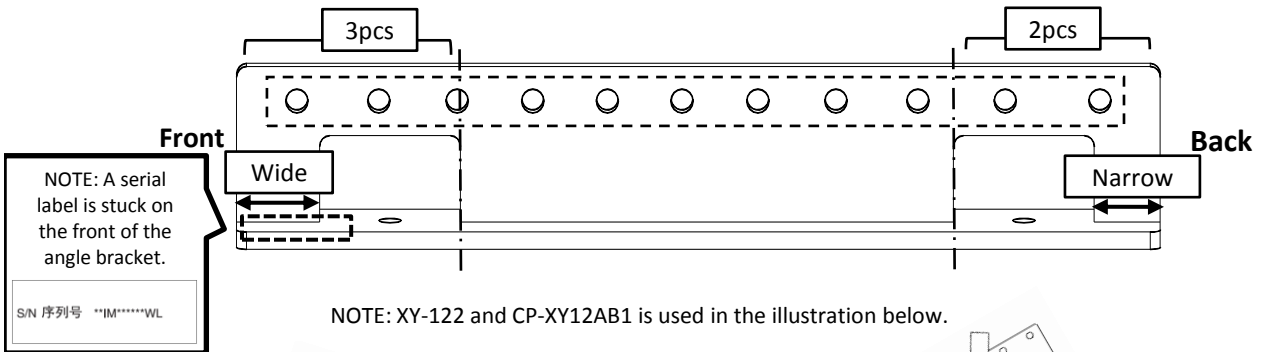


Table.3-2-3-C: Mounting point of CP-XY15AB1 and inclined angle of the speaker

The mounting point	1	2	3	4	5	6	7	8	9	10	11
Angle [°]	22	16	11	4	0	-5	-11	-16	-22	-27	-32



NOTE: XY-122 and CP-XY12AB1 is used in the illustration below.

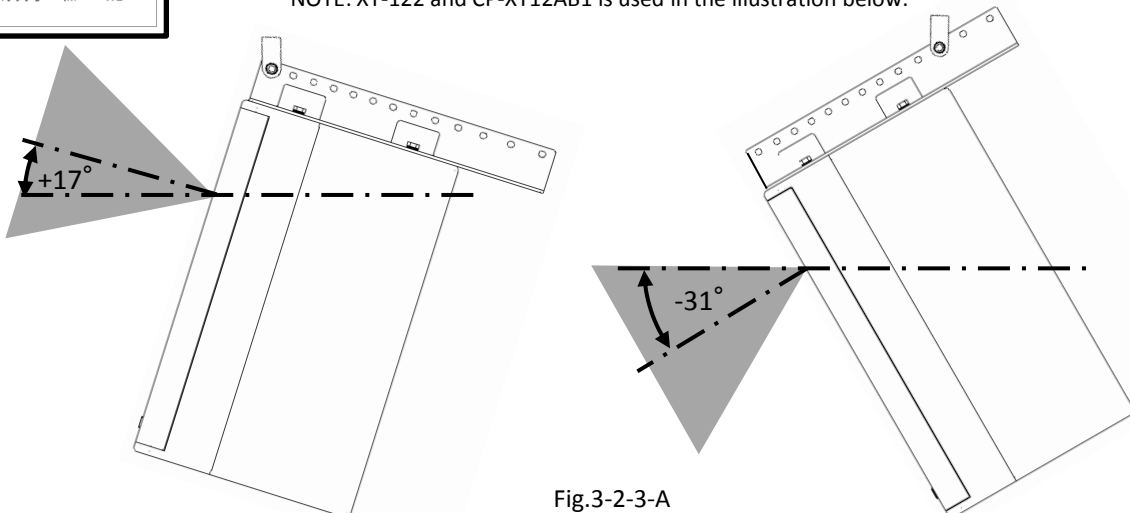
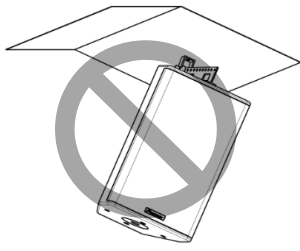


Fig.3-2-3-A

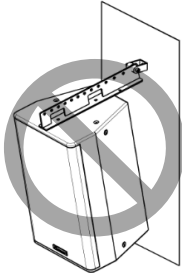
3 Rigging And Caster Setting

WARNING:

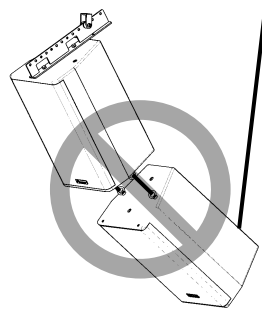
Variable Angle Bracket is not supposed to be used in the following situations, which may cause an injury or accident.



Not suspending vertically



Suspending from the wall



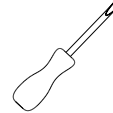
Suspending Multiple enclosures

Part list (CP-XY12AB1/CP-XY15AB1)

Item	Part Name	Qty	Service Part No.	Note
A	Variable Angle Bracket	1	-	
B	Hook-clamp	1	-	
C	M10 socket head bolt	2	06G052	M10 x 70mm (P=1.5), 8mm hex socket head
D	M10 hex head bolt	3	06C007	M10 x 40mm (P=1.5), 16mm hex head
E	Spring washer for (D)	3	06D015	M10
F	Flat washer	5	06D014	M10
G	Nut	2	06E012	M10 16mm width across flat

Required tools

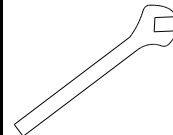
•Screwdriver



•8mm hex key



•16mm hex spanner



3 Rigging And Caster Setting

Procedure

- (1) Remove the two pre-inserted mounting screws on the top of enclosure. (Fig.3-2-3-B)
- (2) Using the supplied M10 hex head bolts(D), align the mounting holes in the Variable angle bracket(A) with the mounting points on the top of the enclosure.

NOTE: XY-122 is shown in the illustration.

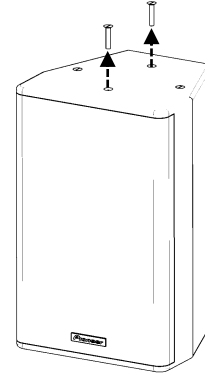
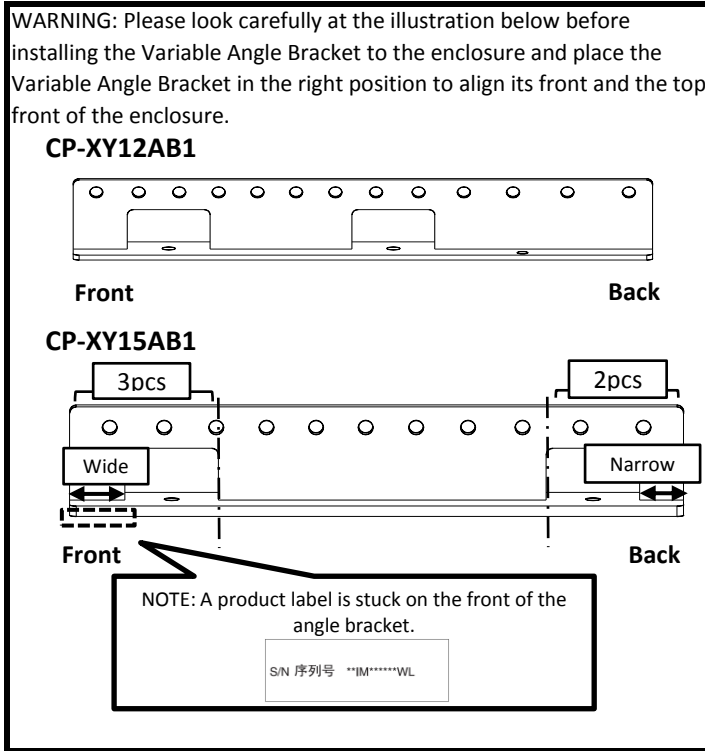


Fig.3-2-3-B



Ensure that both the Spring washers(E) and Flat washers(F) are used - the Flat washer(F) should be in contact with the bracket. Tighten the bolts over 15N·m torque. (Fig.3-2-3-C)

- (3) Using the socket head bolt(C) and the Nut(G), attach the hook-clamp(B) to the mounting point. Moving the pickup point to the rear of the enclosure will add down-tilt, and moving to the front of the enclosure will apply up-tilt. Ensure that two Flat Washers (F) are used between the Hook-clamp(B) and M10 socket head bolt(C) as well as the nut(G) and the hook-clamp(B). (Fig.3-2-3-D)

Note: For larger down-tilt angles, position the pivot on the last hole and use the point on the rear or underside as a pull-back.

- (4) The hole ($\phi 13$) on the hook-clamp(B) can be used to install the speaker to the ceiling. (Fig.3-2-3-D)

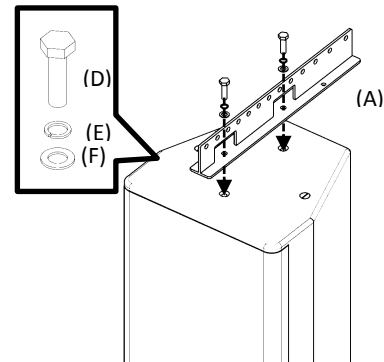


Fig.3-2-3-C

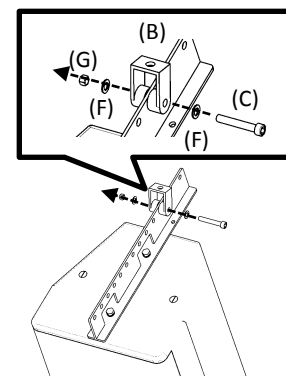


Fig.3-2-3-D

3 Rigging And Caster Setting

- (5) Remove the pre-inserted M10 mounting screw on the either right or left mounting point on the top of the XY-122/152 enclosure.
- (6) Ensure the commercially-available eyebolt are secured to either right or left mounting point on the top of the enclosure to suspend it with wire as a secondary safety feature. (Fig.3-2-3-E)

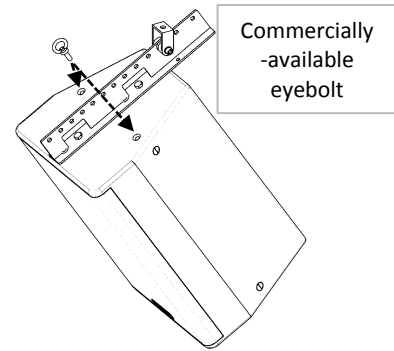


Fig.3-2-3-E

3 Rigging And Caster Setting

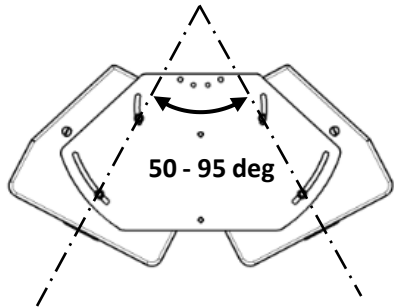
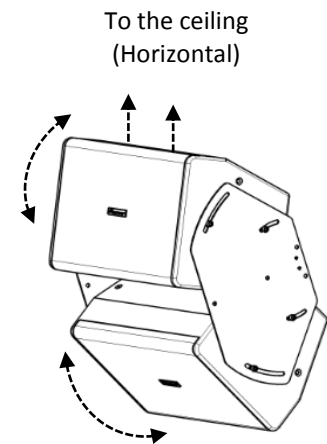
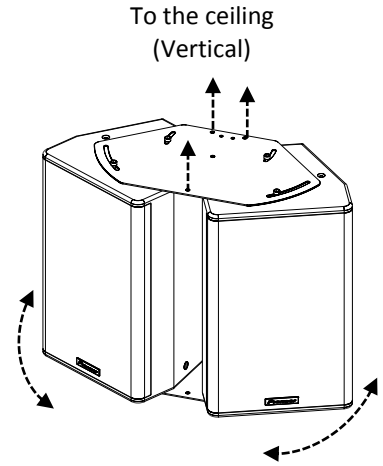
3.2.4 Dual Enclosure Flying Plate Set

When using the Dual Enclosure Flying Plate Set, two enclosures can be stably combined side by side and vertically or horizontally suspended from the ceiling as shown in the figure below. Speaker models compatible with respective Dual Enclosure Flying Plate Set and the minimum and maximum angle between the 2 enclosures using the Dual Enclosure Flying Plate Set are shown below:

Table.3-2-4-A: Models compatible with Dual Enclosure Flying Plate Set and inclined angle between the 2 enclosures

No.	Use model	The range of inclined angle
CP-XY12DF1	XY-122	50 degree (min.) ~ 95 degree (max.)
CP-XY15DF1	XY-152	

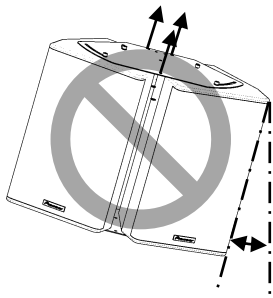
Note: Dual Enclosure Flying Plate Set can be used together with Variable Angle Bracket.



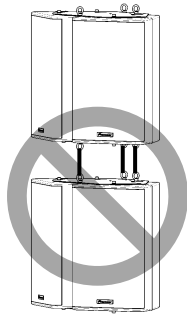
NOTE: XY-122 is shown in the illustration.

WARNING:

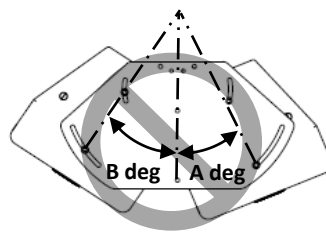
Dual Enclosure Flying Plate Set is not supposed to be used in the following situations, which may cause an injury or accident.



Not suspending vertically



Suspending Over 2 enclosures



A deg ≠ B deg

Unsymmetry placement

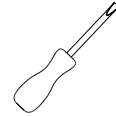
3 Rigging And Caster Setting

Part list (CP-XY12DF1/CP-XY15DF1)

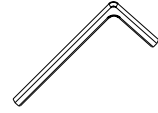
Item	Part Name	Qty	Service Part No.	Note
A	Dual Enclosure Flying Plate	2	-	
B	M10 socket head bolt	9	06G053	M10 x 40mm (P=1.5), 8mm hex socket head
C	Spring washer	9	06D015	M10
D	Flat washer	13	06D014	M10
E	Nut	3	06E012	M10 16mm width across flat
F	M8 socket head bolt (Only CP-XY12DF1)	3	06G046	M8 x 30mm(P=1.25), 6mm hex socket head
G	M8 flat washer (Only CP-XY12DF1)	5	06D009	M8
H	M8 nut (Only CP-XY12DF1)	3	06E010	M8 13mm width across flat

Required tools

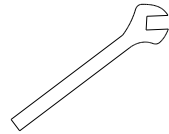
• Screwdriver



• 8mm hex key



• 16mm hex spanner



Procedure

- (1) Remove the eight pre-inserted mounting screws on the top and the bottom of 2 units of XY-122/152. (Fig.3-2-4-A)
- (2) Using the supplied M10 socket head bolts(B), tentatively align the mounting holes on the Dual enclosure flying plate(A) with the mounting points of the top and the bottom of the enclosure. Ensure that both the Spring washer(C) and Flat washer(D) are used in between the Dual enclosure flying plate(A) and the M10 socket head bolt(B). Tighten the bolts over 15N·m torque. (Fig.3-2-4-B)

NOTE: XY-122 is shown in the illustration.

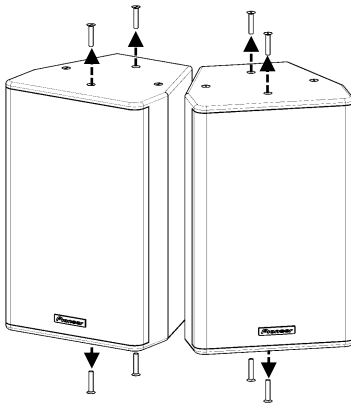


Fig.3-2-4-A

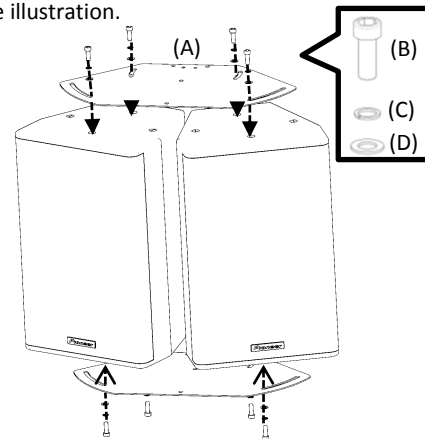


Fig.3-2-4-B

3 Rigging And Caster Setting

Vertical installation

- (1) Once the desired angles of the two XY-122/152 are set, fully tighten all the M10 socket head bolts(B) on both the top and the bottom of the enclosure to lock the position in place. The three M10 holes on the top of the Dual enclosure flying plate can be used to install the speaker to the ceiling as shown in the figure. (Fig.3-2-4-C)

Note:

- The angle between the two enclosures can be adjusted as shown in Table.3-2-4-A
- If you lengthen the front side wire among the ones suspending the enclosure, the enclosure will be inclined downward. The Inclined angle is shown below.
28 deg(XY-122) and 30 deg(XY-152) when the angle between the two enclosures is at 50 deg (minimum degrees) and
19 deg (XY-122) and 23 deg(XY-152) when the angle between them is at 95 deg (maximum degrees). (Fig.3-2-4-D)

NOTE: XY-122 is shown in the illustration.

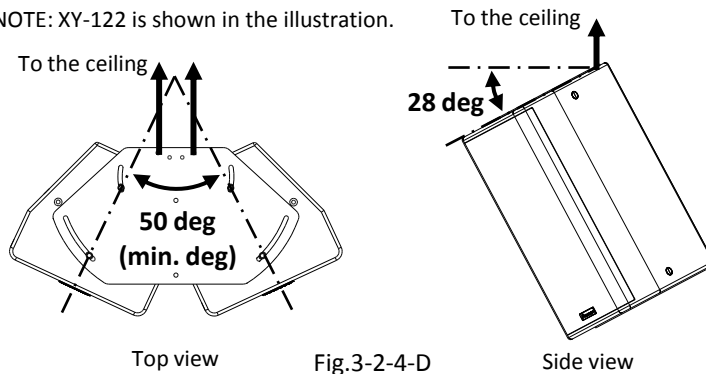


Fig.3-2-4-D

- (2) Remove the two mounting screws pre-inserted M10 on both edges of the top of the XY-122/152 enclosure.
- (3) Ensure the two commercially-available M10 eyebolts are secured to the mounting points on both edges of the top of the XY-122/152 enclosures to suspend it with wire as a secondary safety feature. (Fig.3-2-4-E)

Note:

- Eyebolts to be used as secondary safety feature cannot be mounted if the angle between the 2 enclosures is below minimum degrees. Since eyebolts should be mounted to the enclosure as secondary safety feature, the angle between the 2 enclosures should be between minimum degrees and maximum degrees in order to mount the eyebolts.

Horizontal installation

- (1) Once the desired angles of the two XY-122/152 are set, fully tighten all the M10 socket head bolts(B) on both the top and the bottom of the enclosure to lock the position in place. (Fig.3-2-4-C)

Note: The angle between the two enclosures can be adjusted as shown in Table.3-2-4-A

- (2) Remove the two mounting screws pre-inserted in the M10 holes on the side of the XY-122/152 enclosure. (Fig.3-2-4-F)
- (3) The XY-122/152 enclosure can be suspended from the ceiling when using two commercially-available M10 eyebolts as shown in the figure below. (Fig.3-2-4-G)

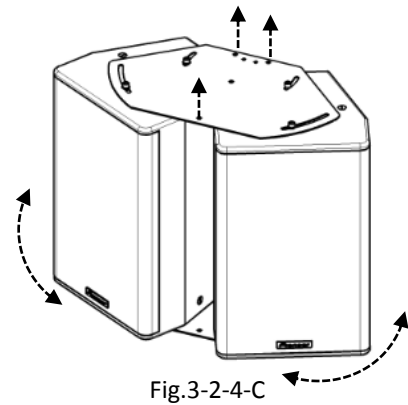


Fig.3-2-4-C

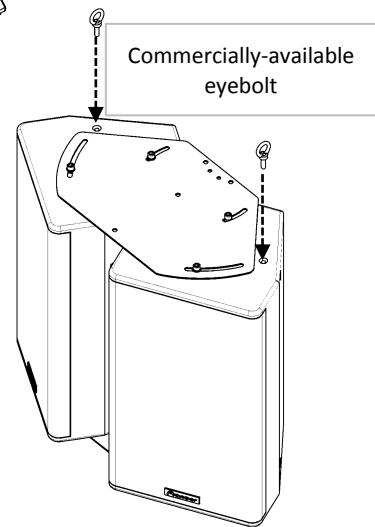


Fig.3-2-4-E

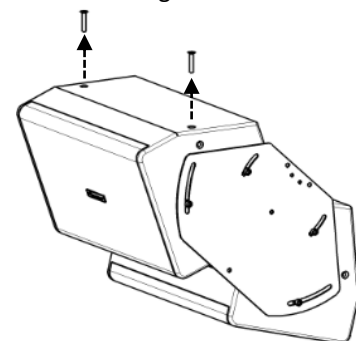


Fig.3-2-4-F

3 Rigging And Caster Setting

- (4) Remove the four pre-inserted M10 mounting screws on the rear side of XY-122/152 enclosure.
- (5) Ensure the four commercially-available M10 eyebolts are secured to the mounting points on the rear side of the XY-122/152 enclosures to suspend it with wire as a secondary safety feature. (Fig.3-2-4-H)

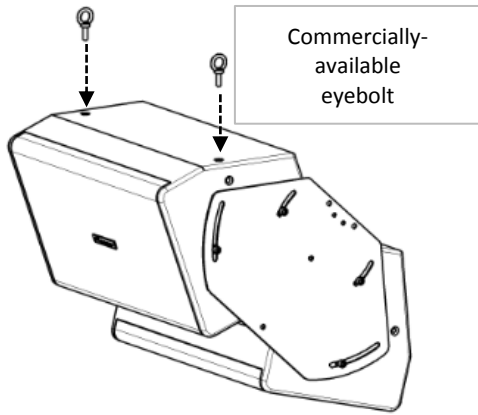


Fig.3-2-4-G

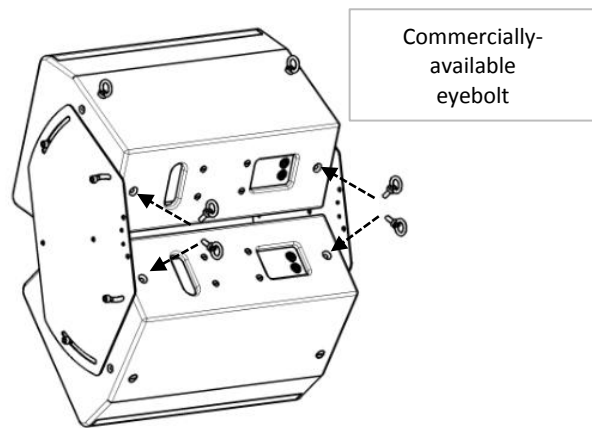
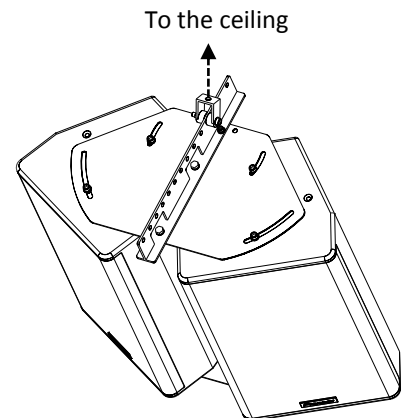


Fig.3-2-4-H

Combination of Dual Enclosure Flying Plate Set and Variable Angle Bracket

When using the Variable Angle Bracket together with Dual Enclosure Flying Plate, the 2 enclosures of XY-122/152 stably suspended from the ceiling can be inclined forward and backward. The angle between the 2 enclosures can be ranged from 50 degree to 95 degree.

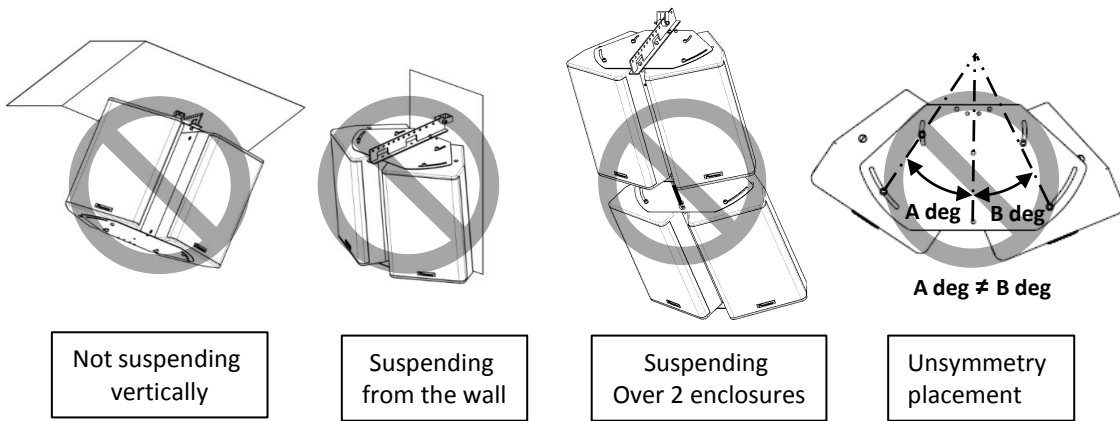
NOTE: All the parts for a combination of Dual Enclosure Flying Plate Set and Variable Angle Bracket should be compatible with respective speakers, XY-122 and XY-152.



NOTE: XY-122 is shown in the illustration.

WARNING:

The Variable Angle Bracket and the Dual Enclosure Flying Plate Set are not supposed to be used in the following situations, which may cause an injury or accident.



Not suspending vertically

Suspending from the wall

Suspending Over 2 enclosures

Unsymmetry placement

3 Rigging And Caster Setting

Part list

Dual Enclosure Flying Plate Set (CP-XY12DF1/CP-XY15DF1)

Item	Part Name	Qty	Service Part No.	Note
A	Dual Enclosure Flying Plate	2	-	
B	M10 socket head bolt	9	06G053	M10 x 40mm (P=1.5), 8mm hex socket head
C	Spring washer	9	06D015	M10
D	Flat washer	13	06D014	M10
E	Nut	3	06E012	M10
F	M8 socket head bolt (Only CP-XY12DF1)	3	06G046	M8 x 30mm(P=1.25), 6mm hex socket head
G	M8 flat washer (Only CP-XY12DF1)	5	06D009	M8
H	M8 nut (Only CP-XY12DF1)	3	06E010	M8 13mm width across flat

Variable Angle Bracket for (CP-XY12AB1/CP-XY15AB1)

Item	Part Name	Qty	Service Part No.	Note
I	Variable Angle Bracket	1	-	
J	Hook-clamp	1	-	
K	M10 socket head bolt	2	06G052	M10 x 70mm (P=1.5), 8mm hex socket head
L	M10 hex head bolt	3	05C007	M10 x 40mm (P=1.5), 16mm hex head
M	Spring washer for (L)	3	06D015	M10
N	Flat washer	5	06D014	M10
O	Nut	2	06E012	M10

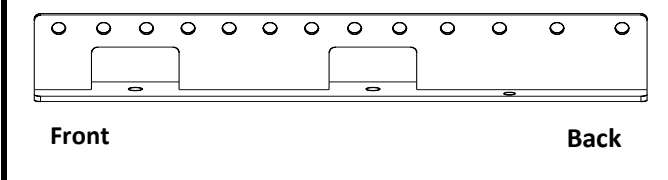
Procedure

- Using the supplied bolts, align the mounting holes of the Dual Enclosure Flying Plate to the holes of the Variable Angle Bracket. The installation method depends on each model. Please follow the steps below for further details when installing each model.

XY-122:

Using the supplied M10 hex head bolts(L), M8 socket head bolts(F) and the Nuts(E, H) align the two M10 holes in the center and the two M8 holes in the rear of the Dual enclosure flying plate(A) with the mounting points of the Variable angle bracket(I).

WARNING: Please look carefully at illustration below before installing the Variable Angle Bracket to the plate and place the Variable Angle Bracket in the right position to align its front and the top front of the plate.



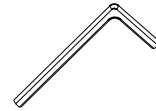
Ensure that each four Flat Washers(D, G) are used between the Variable angle bracket(I) and the bolts(L, F) as well as the nuts(E, H) and the Dual enclosure flying plate(A). Tighten the bolts over 15N·m torque (only bolt(F): 7N·m torque). (Fig.3-2-4-I)

Required tools

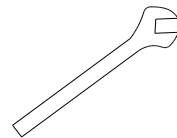
- Screwdriver



- 8mm hex key



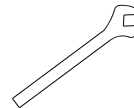
- 16mm hex spanner



- 6mm hex key
(Only CP-XY12DF1)



- 13mm hex spanner
(Only CP-XY12DF1)



NOTE: XY-122 is shown in the illustration.

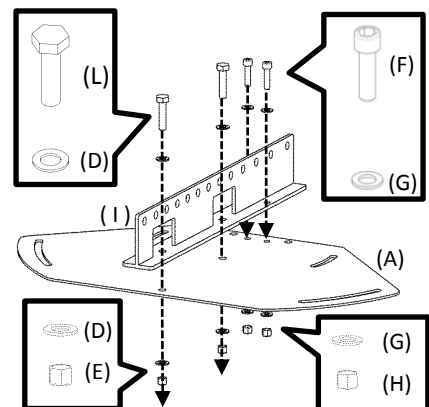
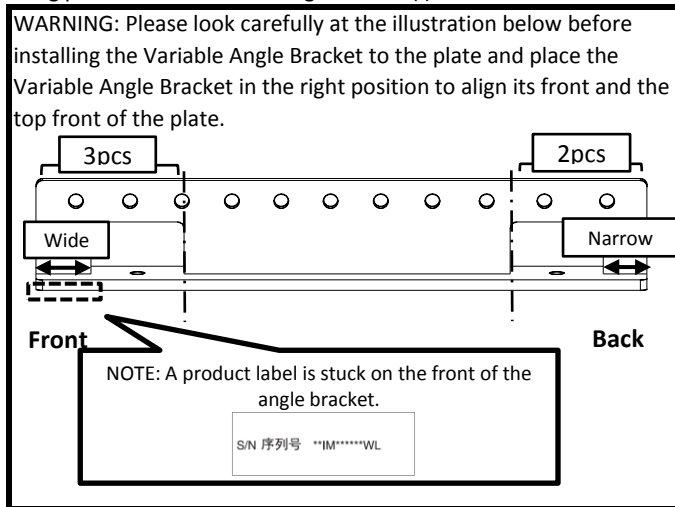


Fig.3-2-4-I

3 Rigging And Caster Setting

XY-152:

Using the supplied M10 hex head bolts(L) and the Nuts(E) align the two M10 holes in the center of the Dual enclosure flying plate(A) with the mounting points of the Variable angle bracket(I).



Ensure that four Flat Washers(D) are used between the Variable angle bracket(I) and the bolts(L) as well as the nuts(E) and the Dual enclosure flying plate(A). Tighten the bolts over 15N·m torque. (Fig.3-2-4-I)

- (2) Remove the eight pre-inserted mounting screws on the top and the bottom of the two XY-122/152 enclosures. (Fig.3-2-4-J)
- (3) Using the supplied M10 socket head bolts(B), tentatively align the mounting holes on the Dual enclosure flying plate(A) with the mounting points of both the top and the bottom of the enclosure. Tighten the bolts over 15N·m torque. Ensure that the Dual enclosure flying plate, where the Variable angle bracket is attached in the above (1), is attached to the top of XY-122/152. (Fig.3-2-4-K)
- (4) Remove the two mounting screws pre-inserted M10 on both edges of the top of the XY-122/152 enclosure.
- (5) Once the desired angles of the two XY-122/152 are set, fully tighten all the M10 socket head bolts to lock the position in place.

Note:

- The angle between the two enclosures can be adjusted shown in Table.3-2-4-A

- (6) Using the supplied M10 socket head bolt(K) and Nuts(O) , attach a hook-clamp to the mounting point. Moving the pickup point to the rear of the enclosure will add down-tilt, and moving to the front of the enclosure will apply up-tilt. Ensure that two Flat washers(N) are used between the Hook-clamp(J) and M10 socket head bolt(K) as well as the nut(O) and the hook-clamp(J). (Fig.3-2-4-L)

The hole (Φ13) on the Hook-clamp(J) can be used to install the speaker to the ceiling. (Fig.3-2-4-L)

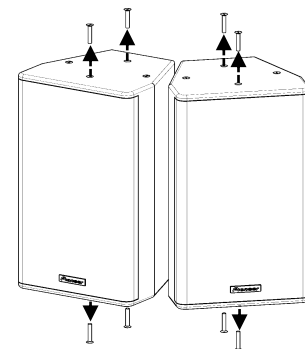


Fig.3-2-4-J

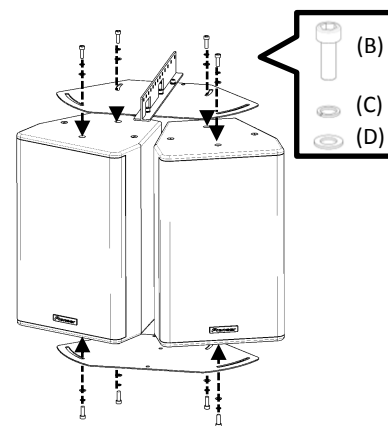


Fig.3-2-4-K

3 Rigging And Caster Setting

Note:

- When the hook clamp is mounted in the very rear mounting point, the inclined angle of the both enclosures is shown below. 36 deg(XY-122) and 29 deg(XY-152) when the angle between the two enclosures is at 50 deg (minimum degrees) and 29 deg(XY-122) and 22 deg(XY-152) when the angle between them is at 95 deg (maximum degrees).

- (7) Ensure the two commercially-available eyebolts are secured to the mounting points on both edges of the top of the XY-122/152 enclosures to suspend it with wire as a secondary safety feature. (Fig.3-2-4-M)

Note:

- Eyebolts to be used as secondary safety feature cannot be mounted if the angle between the 2 enclosures is below minimum degrees. Since eyebolts should be mounted to the enclosure as secondary safety feature, the angle between the 2 enclosures should be between minimum degrees and maximum degrees in order to mount the eyebolts.

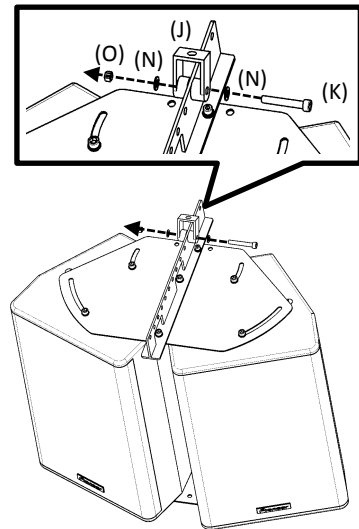


Fig.3-2-4-L

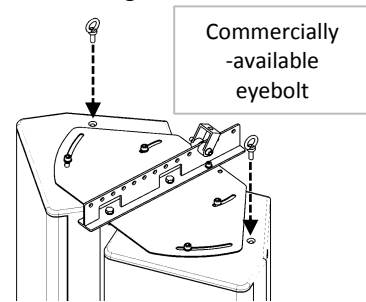


Fig.3-2-4-M

3 Rigging And Caster Setting

3.2.5 Suspension of the enclosure using the eyebolt

The XY-81/101/122/152 enclosure has the mounting points where commercially-available eyebolts can be mounted. Using the commercially-available eyebolts, a XY-81/101/122/152 enclosure or a combination of them can be vertically or horizontally suspended.

If eyebolts are secured to the rear side of the XY-81/101/122/152 enclosure for suspension, the enclosure can be inclined downward. The locations and number of mounting points of each model are listed in the Table.3-2-5-A.

Note: If the recommended mounting points are used for horizontal suspension of the XY-101/122 enclosure, the enclosure is slightly inclined downward from the beginning. The inclined angle for each speaker are as follows:

XY-101: 17 degree

XY-122: 10 degree

If a larger angle of incline than the above is applied, ensure that the mounting points in the rear side of the enclosure is used.

NOTE: XY-122 is shown in the illustration.

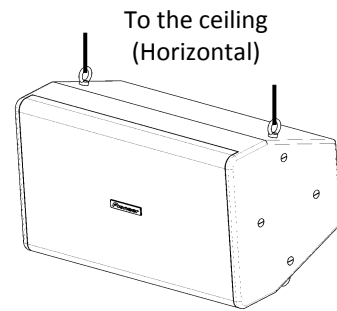
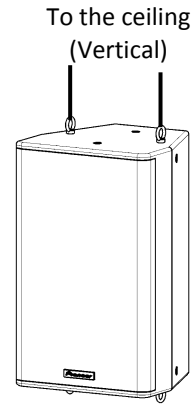
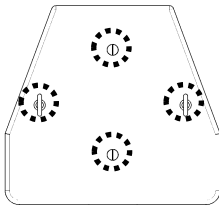


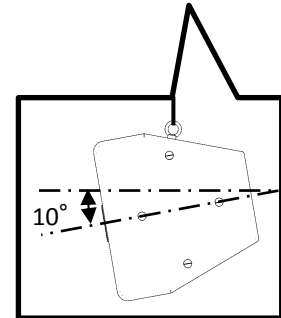
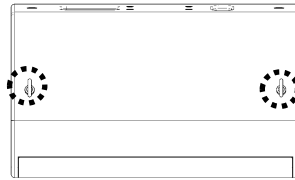
Table.3-2-5-A: Locations and number of mounting points of each model

Model	Location		
	Top/Bottom	Left/Right	Rear
XY-81	4 on each side	N/A	1
XY-101	4 on each side	2 on each side	3
XY-122	4 on each side	2 on each side	2
XY-152	4 on each side	2 on each side	3

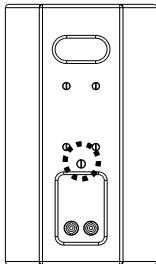
Top/Bottom
XY-81/101/122/152



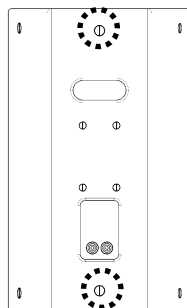
Left/Right
XY-101/122/152



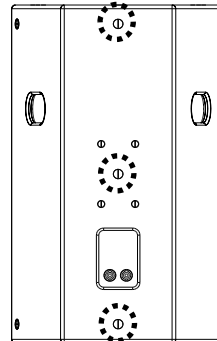
Rear
XY-81



XY-122



XY-101/152



3 Rigging And Caster Setting

WARNING:

Limits of combining multiple speakers

- Be sure to meet the conditions and requirements shown in the Table.3-2-5-B.

Table.3-2-5-B: Limits and requirements of combining multiple speakers using eyebolts

Model	Max. No. of Enclosures	Min. No. of Suspension Lines	Max. working load limit/mounting point
XY-81 XY-101 XY-122 XY-152	Three, either vertical or horizontal	Two, either vertical or horizontal	60 kg

Eyebolt is not supposed to be used in the following situations, which may cause an injury or accident.

For all the models, the following situations are quite dangerous.

The diagrams illustrate the following prohibited suspension methods:

- Over 120 kg:** A speaker enclosure with two suspension lines and a weight limit of 120 kg is shown with a prohibition sign.
- Suspending Over 3 Enclosures:** Three enclosures are stacked vertically and suspended together, marked with a prohibition sign.
- Suspended by 1 line of wire/chain/tool:** A single enclosure is suspended by only one line, marked with a prohibition sign.
- Not suspending vertically:** An enclosure is suspended at an angle rather than vertically, marked with a prohibition sign.
- Using M8 holes for wall mount bracket:** A speaker enclosure is shown with M8 holes being used for a wall mount bracket, marked with a prohibition sign.
- Suspending horizontally using eyebolts on both top and bottom of the enclosure:** An enclosure is suspended horizontally by eyebolts on both the top and bottom, marked with a prohibition sign.

3 Rigging And Caster Setting

3.2.6 Wall Mount Bracket

The holes for commercially-available wall mount brackets are provided on the rear of the XY-81/101/122/152.

Note: Pioneer does not sell wall mount brackets. Please ensure that the commercially-available wall mount bracket is compatible with the sizes shown in Table 3-2-6-A

Table 3-2-6-A: Size of the hole and the area for a wall mount bracket to be attached.

Model	Mounting point	Area for a wall mount bracket to be attached (W mm x H mm)
XY-81	M6 X 4	50.8 mm x 108 mm
XY-101		
XY-122	M8 X 4	70 mm x 127 mm
XY-152		

Procedure

- (1) Remove the four mounting screws pre-inserted in the holes on the rear of the enclosure. (Fig.3-2-6-A)
- (2) Using bolts included with a commercially-available wall mount bracket, align the mounting holes on the wall mount bracket with the mounting points on the XY-81/101/122/152. Tighten the bolts over the following torque.
XY-81/101: 4.9N·m torque.
XY-122/152: 7N·m torque
- (3) Use the bolts included with the commercially-available wall mount bracket to attach the bracket to the wall.
- (4) Ensure the commercially-available eyebolt is secured to the rear part of the top point on the XY-81/101/122/152 safety feature.

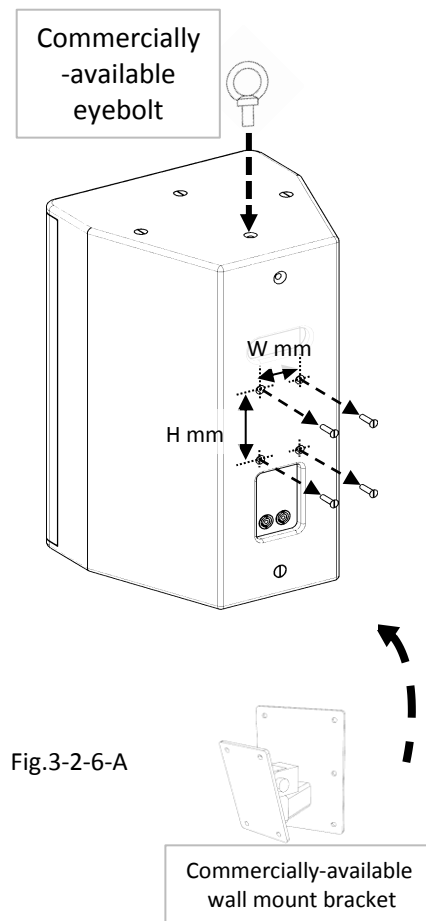
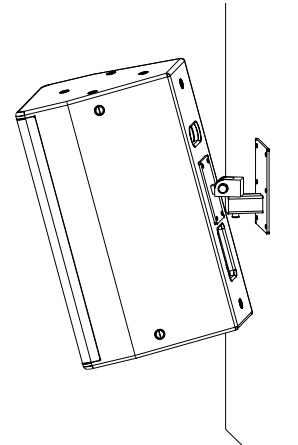


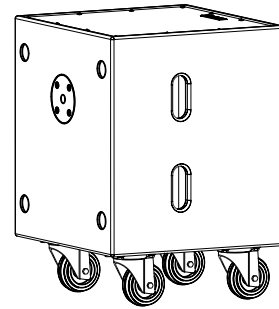
Fig.3-2-6-A

3 Rigging And Caster Setting

3.2.7 Caster

The mounting points for casters to help moving the loudspeakers are on the rear side of XY-118S/215S/218S.

NOTE: XY-118S is shown in the illustration.

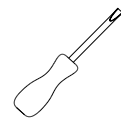


Part list (CP-XYCS1)

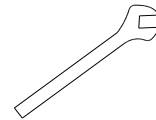
Item	Part Name	Qty	Service Part No.	Note
A	Caster	4	-	
B	M8 hex head bolt	17	06C005	M8 x 30mm (P=1.25) 13mm hex head
C	Spring washer	17	06D011	M8
D	Flat Washer	17	06D009	M8

Required tools

• Screwdriver



• 13mm hex spanner



Procedure

- (1) Unscrew the sixteen pre-inserted mounting screws on the rear of XY-118S/215S/218S. (Fig.3-2-7-A)
- (2) Using the four supplied M8 Hex head bolts(B), align the mounting points on the rear of the enclosure and the four holes on each Caster (A). Ensure that both Spring washer(C) and Flat washer(D) are used - the Flat washer(C) should be in contact with the Caster(A). Tighten the bolts over 7N·m torque. (Fig.3-2-7-B)
- (3) Turn the XY-118S/215S/218S enclosure with its grille up to roll on the casters. (Fig.3-2-7-C)

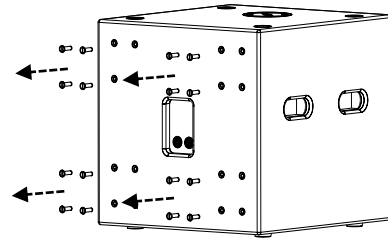


Fig.3-2-7-A

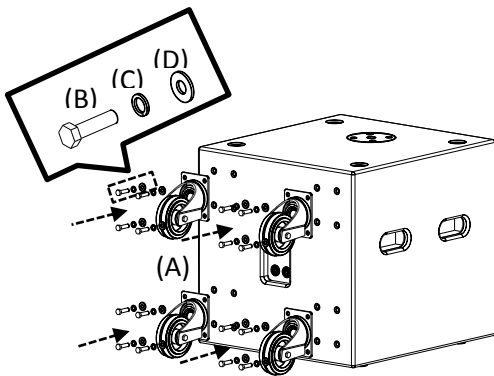


Fig.3-2-7-B

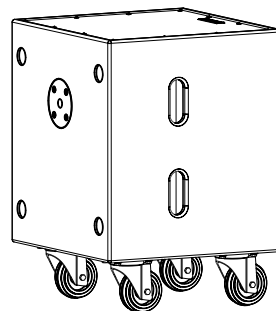


Fig.3-2-7-C

4 System Configuration

Loudspeaker connections

WARNING: Ensure that cables compatible with both the specifications of the Power Amplifier and Speaker are used.
Using wrong pinouts may cause damage to the speakers or occur accidents.

The XY Series are supplied as standard with Neutrik SpeakON™ NL4 connectors, wired pin 1+/1-.

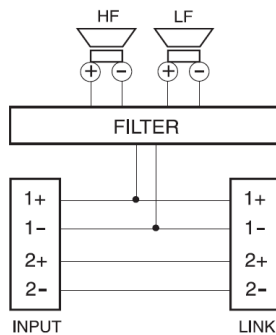
It is recommended that the resistance of your cable be less than one tenth of the nominal system impedance.

Given below are the recommended maximum cable lengths for different cross-sections and impedances.

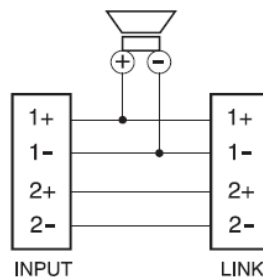
Conductor Cross Sectional Area	Maximum Recommended Cable Length		
	4 Ω	8 Ω	16 Ω
1.0mm ²	11m	22m	44m
1.5mm ²	17m	34m	68m
2.0mm ²	22m	44m	88m
2.5mm ²	29m	58m	116m
4.0mm ²	44m	88m	176m
6.0mm ²	66m	132m	264m

Pins 2+/2- on the Neutrik SpeakON™ connectors are wired together to allow link-through with 4-core cables.

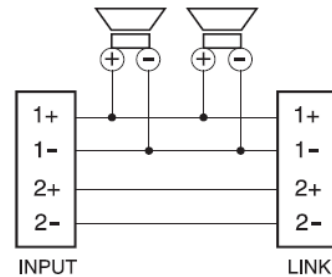
XY-81/101/122/152



XY-115S/118S



XY-215S/218S

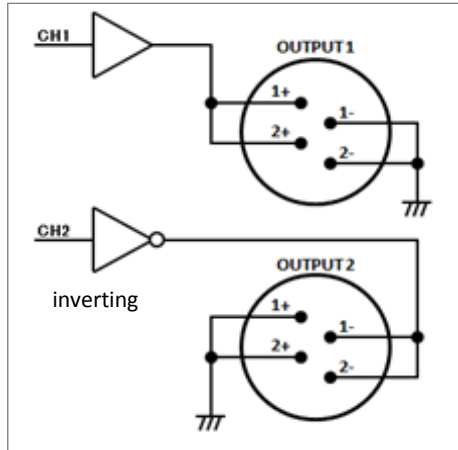


4 System Configuration

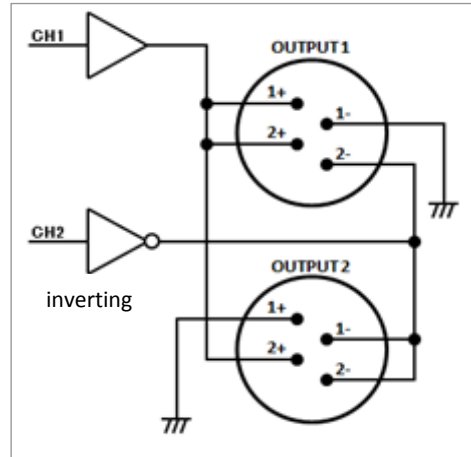
CAUTION

K-Series and M-Series have different pinouts for the Neutrik SpeaKON™ connectors(NL4) for Power Amplifier.

K-Series

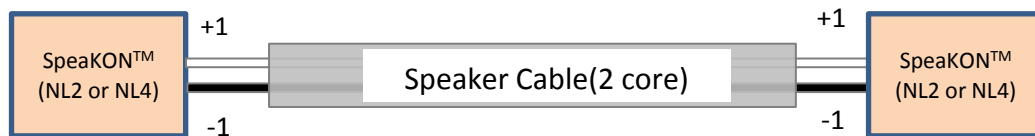


M-Series



Cable specification

An example of the cable connecting XY Series products and amplifiers of K-Series or M-Series is shown below.



4 System Configuration

4.1 Connections

Power Amplifier Recommendations

In order to deliver best audio quality, amplifiers made by Powersoft is recommended to be used with the XY series loudspeakers.

Please refer to the table below for the combination of amplifiers with respective loudspeakers.

Table 4-1-1 Two-way loudspeaker

		Speaker				
		model	XY-81	XY-101	XY-122	XY-152
		Impedance	8Ω	8Ω	8Ω	8Ω
	Power Handling	RMS	350W	400W	400W	650W
		Program	700W	800W	800W	1300W
Amplifier	Recommended		K2DSP	K2DSP	K3DSP	K3DSP
	Minimum		M20DHDSP	M30DHDSP	M30DHDSP	M30DHDSP

Table 4-1-2 Subwoofer

		Speaker				
		model	XY-115S	XY-118S	XY-215S	XY-218S
		Impedance	8Ω	8Ω	4Ω	4Ω
	Power Handling	RMS	700W	1000W	800W	1600W
		Program	1400W	2000W	1600W	3200W
Amplifier	Recommended		K3DSP	K10DSP	K3DSP	K10DSP
	Minimum			K3DSP	K2DSP	K6DSP

Table 4-1-3 Specification of Power Amplifier

		model	Impedance	Rated Power
Amplifier	K-Series	K10DSP	2Ω	6000W x 2ch
			4Ω	4000W x 2ch
			8Ω	2000W x 2ch
		K6DSP	2Ω	3600W x 2ch
			4Ω	2500W x 2ch
			8Ω	1300W x 2ch
		K3DSP	2Ω	2800W x 2ch
			4Ω	2600W x 2ch
			8Ω	1400W x 2ch
		K2DSP	2Ω	2400W x 2ch
			4Ω	1950W x 2ch
			8Ω	1000W x 2ch
	M-Series	M30DHDSP	4Ω	1500W x 2ch
			8Ω	900W x 2ch
M20DHDSP		4Ω	1200W x 2ch	
		8Ω	600W x 2ch	

4 System Configuration

4.2 System setting

Preset

Please see the [Armonia User Guide] of Powersoft for details of how to set and use the Preset and the Amplifier.

URL: <http://www.powersoft-audio.com/en/>
<http://www.powersoft-audio.com/en/products/software.html>

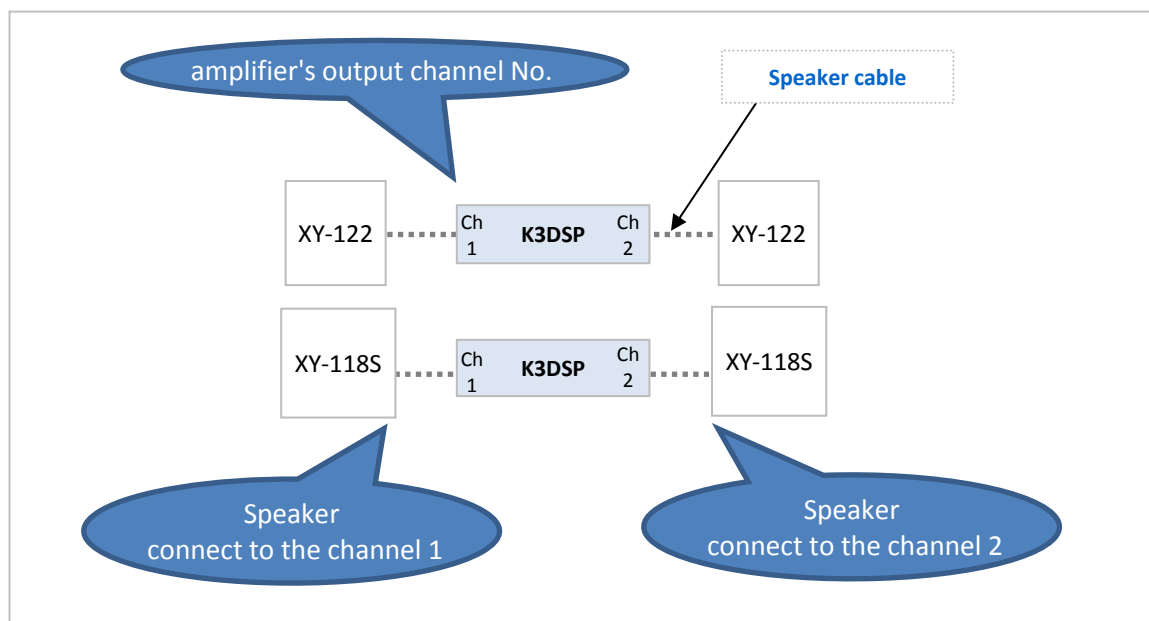
Please see the Pioneer website for the details of Presets and the specifications of the setting values.

URL: <http://pioneerproaudio.com/en/resources.html>

- NOTES:
- The audio quality may vary depending on the environment and the location where the loudspeakers are placed even though the presets are made optimal for universal use. Check the sound quality and readjust the DSP, as needed, depending on the location where a loudspeaker is installed.
 - The combination of a Fullrange speaker and a Subwoofer presets are used for the polemount installation. If other installation methods are used, change the settings of Delay and EQ, etc. (except the combination with XY-218S)
 - The preset for Fullrange speaker and XY-218S is assumed to be used when they are installed as follows:
A loudspeaker stand is used when the fullrange speaker is installed.
XY-218S is stacked on the floor between the 2 Fullrange speakers.
 - The specifications of presets are subject to change without notice.

Connection chart

The details of the Fig 4-2-A to Fig 4-2-M are described in the figure below.



4 System Configuration

XY-81(Stereo) with XY-115S(MonoMix)

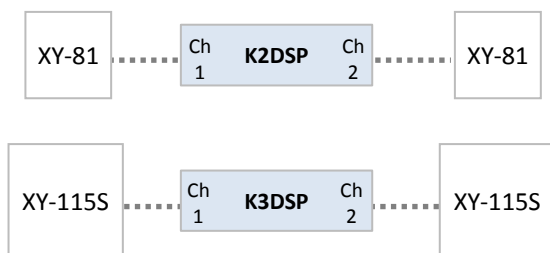


Fig.4-2-A

Preset name	Description	Recommended Amp Model	Connected Speaker	
			CH1	CH2
KDSP_XY-81_for_XY-115S_V1.0	Mid/High frequency output from both channels 1 & 2 of the amplifier to drive XY-81 combined with XY-115S	K2DSP	CH1	XY-81
			CH2	XY-81
KDSP_XY-115S_for_XY-81_V1.0	Mono mixed Subwoofer output from both channels 1 & 2 of the amplifier to drive XY-115S combined with XY-81	K3DSP	CH1	XY-115S
			CH2	XY-115S

XY-81(Stereo) with XY-118S(MonoMix)

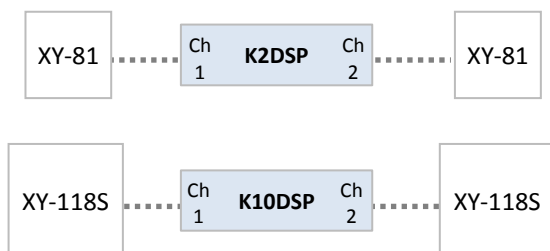


Fig.4-2-B

Preset name	Description	Recommended Amp Model	Connected Speaker	
			CH1	CH2
KDSP_XY-81_for_XY-118S_V1.0	Mid/High frequency output from both channels 1 & 2 of the amplifier to drive XY-81 combined with XY-118S	K2DSP	CH1	XY-81
			CH2	XY-81
KDSP_XY-118S_for_XY-81_V1.1	Mono mixed Subwoofer output from both channels 1 & 2 of the amplifier to drive XY-118S combined with XY-81	K10DSP	CH1	XY-118S
			CH2	XY-118S

4 System Configuration

XY-81(Stereo) with XY-215S(MonoMix)

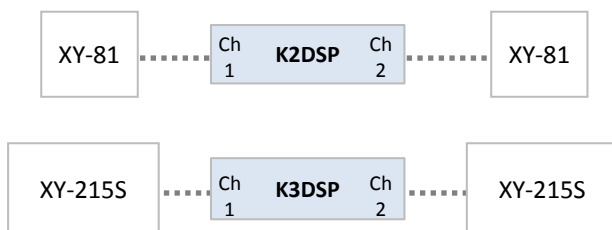


Fig.4-2-C

Preset name	Description	Recommended Amp Model	Connected Speaker	
KDSP_XY-81_for_XY-215S_V1.0	Mid/High frequency output from both channels 1 & 2 of the amplifier to drive XY-81 combined with XY-215S	K2DSP	CH1	XY-81
			CH2	XY-81
KDSP_XY-215S_for_XY-81_V1.0	Mono mixed Subwoofer output from both channels 1 & 2 of the amplifier to drive XY-215S combined with XY-81	K3DSP	CH1	XY-215S
			CH2	XY-215S

XY-101(Stereo) with XY-115S(MonoMix)

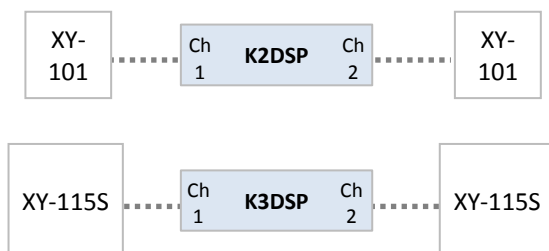


Fig.4-2-D

Preset name	Description	Recommended Amp Model	Connected Speaker	
KDSP_XY-101_for_XY-115S_V1.0	Mid/High frequency output from both channels 1 & 2 of the amplifier to drive XY-101 combined with XY-115S	K2DSP	CH1	XY-101
			CH2	XY-101
KDSP_XY-115S_for_XY-101_V1.0	Mono mixed Subwoofer output from both channels 1 & 2 of the amplifier to drive XY-115S combined with XY-101	K3DSP	CH1	XY-115S
			CH2	XY-115S

4 System Configuration

XY-101(Stereo) with XY-118S(MonoMix)

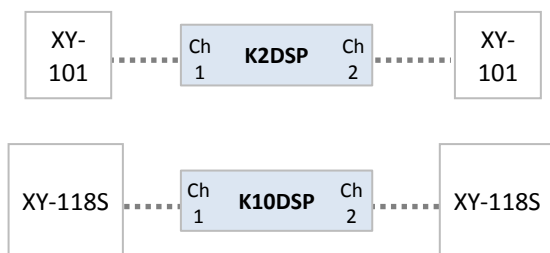


Fig.4-2-E

Preset name	Description	Recommended Amp Model	Connected Speaker	
			CH1	CH2
KDSP_XY-101_for_XY-118S_V1.0	Mid/High frequency output from both channels 1 & 2 of the amplifier to drive XY-101 combined with XY-118S	K2DSP	CH1	XY-101
			CH2	XY-101
KDSP_XY-118S_for_XY-101_V1.1	Mono mixed Subwoofer output from both channels 1 & 2 of the amplifier to drive XY-118S combined with XY-101	K10DSP	CH1	XY-118S
			CH2	XY-118S

XY-101(Stereo) with XY-215S(MonoMix)

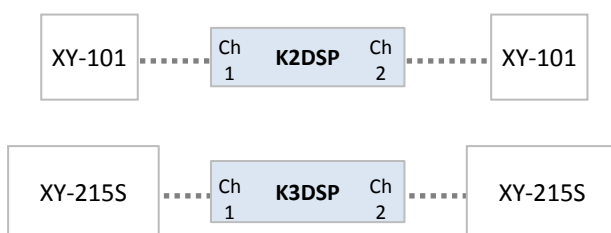


Fig.4-2-F

Preset name	Description	Recommended Amp Model	Connected Speaker	
			CH1	CH2
KDSP_XY-101_for_XY-215S_V1.0	Mid/High frequency output from both channels 1 & 2 of the amplifier to drive XY-101 combined with XY-215S	K2DSP	CH1	XY-101
			CH2	XY-101
KDSP_XY-215S_for_XY-101_V1.0	Mono mixed Subwoofer output from both channels 1 & 2 of the amplifier to drive XY-215S combined with XY-101	K3DSP	CH1	XY-215S
			CH2	XY-215S

4 System Configuration

XY-122(Stereo) with XY-115S(MonoMix)

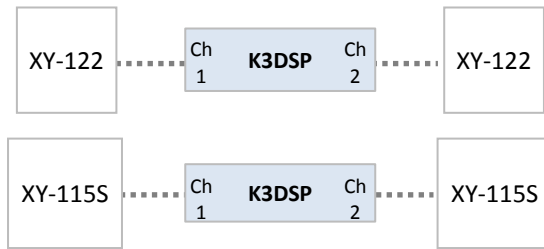


Fig.4-2-G

Preset name	Description	Recommended Amp Model	Connected Speaker	
			CH1	CH2
KDSP_XY-122_for_XY-115S_V1.0	Mid/High frequency output from both channels 1 & 2 of the amplifier to drive XY-122 combined with XY-115S	K3DSP	CH1	XY-122
			CH2	XY-122
KDSP_XY-115S_for_XY-122_V1.0	Mono mixed Subwoofer output from both channels 1 & 2 of the amplifier to drive XY-115S combined with XY-122	K3DSP	CH1	XY-115S
			CH2	XY-115S

XY-122(Stereo) with XY-118S(MonoMix)

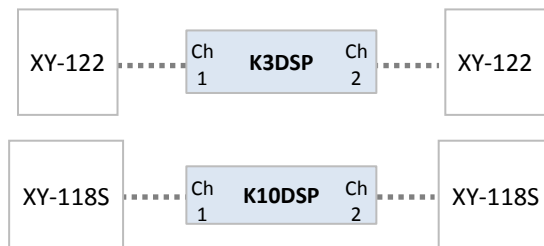


Fig.4-2-H

Preset name	Description	Recommended Amp Model	Connected Speaker	
			CH1	CH2
KDSP_XY-122_for_XY-118S_V1.0	Mid/High frequency output from both channels 1 & 2 of the amplifier to drive XY-122 combined with XY-118S	K3DSP	CH1	XY-122
			CH2	XY-122
KDSP_XY-118S_for_XY-122_V1.1	Mono mixed Subwoofer output from both channels 1 & 2 of the amplifier to drive XY-118S combined with XY-122	K10DSP	CH1	XY-118S
			CH2	XY-118S

4 System Configuration

XY-122(Stereo) with XY-215S(MonoMix)

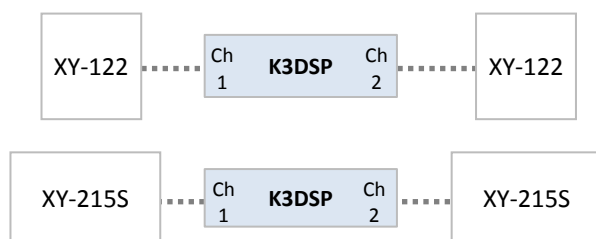


Fig.4-2-I

Preset name	Description	Recommended Amp Model	Connected Speaker	
KDSP_XY-122_for_XY-215S_V1.0	Mid/High frequency output from both channels 1 & 2 of the amplifier to drive XY-122 combined with XY-215S	K3DSP	CH1	XY-122
			CH2	XY-122
KDSP_XY-215S_for_XY-122_V1.0	Mono mixed Subwoofer output from both channels 1 & 2 of the amplifier to drive XY-215S combined with XY-122	K3DSP	CH1	XY-215S
			CH2	XY-215S

XY-122(Stereo) with XY-218S(MonoMix)

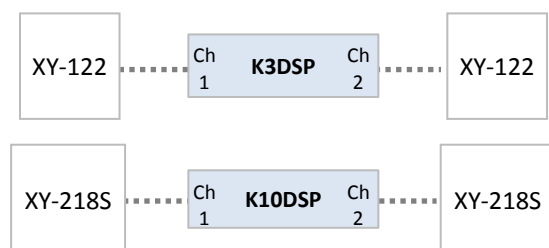


Fig.4-2-J

Preset name	Description	Recommended Amp Model	Connected Speaker	
KDSP_XY-122_for_XY-218S_V1.0	Mid/High frequency output from both channels 1 & 2 of the amplifier to drive XY-122 combined with XY-218S	K3DSP	CH1	XY-122
			CH2	XY-122
KDSP_XY-218S_for_XY-122_V1.1	Mono mixed Subwoofer output from both channels 1 & 2 of the amplifier to drive XY-218S combined with XY-122	K10DSP	CH1	XY-218S
			CH2	XY-218S

4 System Configuration

XY-152(Stereo) with XY-118S(MonoMix)

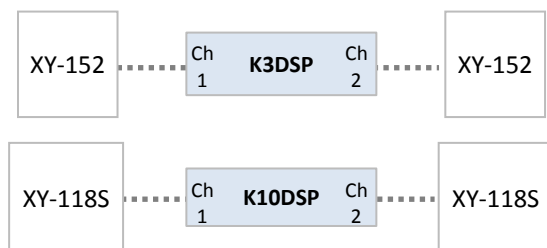


Fig.4-2-K

Preset name	Description	Recommended Amp Model	Connected Speaker	
			CH1	CH2
KDSP_XY-152_for_XY-118S_V1.0	Mid/High frequency output from both channels 1 & 2 of the amplifier to drive XY-152 combined with XY-118S	K3DSP	CH1	XY-152
			CH2	XY-152
KDSP_XY-118S_for_XY-152_V1.1	Mono mixed Subwoofer output from both channels 1 & 2 of the amplifier to drive XY-118S combined with XY-152	K10DSP	CH1	XY-118S
			CH2	XY-118S

XY-152(Stereo) with XY-215S(MonoMix)

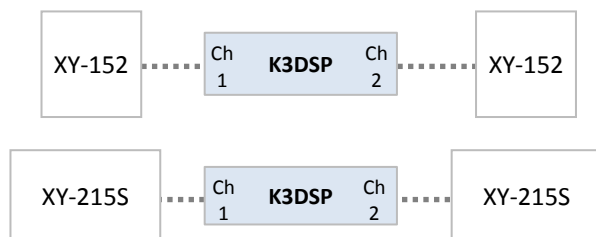


Fig.4-2-L

Preset name	Description	Recommended Amp Model	Connected Speaker	
			CH1	CH2
KDSP_XY-152_for_XY-215S_V1.0	Mid/High frequency output from both channels 1 & 2 of the amplifier to drive XY-152 combined with XY-215S	K3DSP	CH1	XY-152
			CH2	XY-152
KDSP_XY-215S_for_XY-152_V1.0	Mono mixed Subwoofer output from both channels 1 & 2 of the amplifier to drive XY-215S combined with XY-152	K3DSP	CH1	XY-215S
			CH2	XY-215S

4 System Configuration

XY-152(Stereo) with XY-218S(MonoMix)

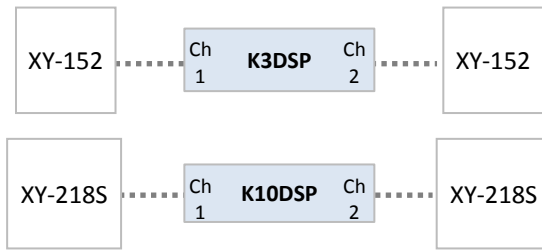


Fig.4-2-M

Preset name	Description	Recommended Amp Model	Connected Speaker	
			CH1	CH2
KDSP_XY-152_for_XY-218S_V1.0	Mid/High frequency output from both channels 1 & 2 of the amplifier to drive XY-152 combined with XY-218S	K3DSP	CH1	XY-152
			CH2	XY-152
KDSP_XY-218S_for_XY-152_V1.1	Mono mixed Subwoofer output from both channels 1 & 2 of the amplifier to drive XY-218S combined with XY-152	K10DSP	CH1	XY-218S
			CH2	XY-218S

4 System Configuration

Table 4-2-1 XYseries preset-files list for KDSP amplifier(Two-way loudspeaker)

Preset name	Description	Recommended Amp Model	Connected Speaker		Connection chart
			CH1	CH2	
KDSP_XY-81_V1.0	Full range output from both channels 1 & 2 of the amplifier to drive XY-81.	K2DSP	CH1	XY-81	-
			CH2	XY-81	
KDSP_XY-81_for_XY-115S_V1.0	Mid/High frequency output from both channels 1 & 2 of the amplifier to drive XY-81 combined with XY-115S.	K2DSP	CH1	XY-81	Fig.4-2-A
			CH2	XY-81	
KDSP_XY-81_for_XY-118S_V1.0	Mid/High frequency output from both channels 1 & 2 of the amplifier to drive XY-81 combined with XY-118S.	K2DSP	CH1	XY-81	Fig.4-2-B
			CH2	XY-81	
KDSP_XY-81_for_XY-215S_V1.0	Mid/High frequency output from both channels 1 & 2 of the amplifier to drive XY-81 combined with XY-215S.	K2DSP	CH1	XY-81	Fig.4-2-C
			CH2	XY-81	
KDSP_XY-101_V1.0	Full range output from both channels 1 & 2 of the amplifier to drive XY-101.	K2DSP	CH1	XY-101	-
			CH2	XY-101	
KDSP_XY-101_for_XY-115S_V1.0	Mid/High frequency output from both channels 1 & 2 of the amplifier to drive XY-101 combined with XY-115S.	K2DSP	CH1	XY-101	Fig.4-2-D
			CH2	XY-101	
KDSP_XY-101_for_XY-118S_V1.0	Mid/High frequency output from both channels 1 & 2 of the amplifier to drive XY-101 combined with XY-118S.	K2DSP	CH1	XY-101	Fig.4-2-E
			CH2	XY-101	
KDSP_XY-101_for_XY-215S_V1.0	Mid/High frequency output from both channels 1 & 2 of the amplifier to drive XY-101 combined with XY-215S.	K2DSP	CH1	XY-101	Fig.4-2-F
			CH2	XY-101	
KDSP_XY-122_V1.0	Full range output from both channels 1 & 2 of the amplifier to drive XY-122.	K3DSP	CH1	XY-122	-
			CH2	XY-122	
KDSP_XY-122_for_XY-115S_V1.0	Mid/High frequency output from both channels 1 & 2 of the amplifier to drive XY-122 combined with XY-115S.	K3DSP	CH1	XY-122	Fig.4-2-G
			CH2	XY-122	
KDSP_XY-122_for_XY-118S_V1.0	Mid/High frequency output from both channels 1 & 2 of the amplifier to drive XY-122 combined with XY-118S.	K3DSP	CH1	XY-122	Fig.4-2-H
			CH2	XY-122	
KDSP_XY-122_for_XY-215S_V1.0	Mid/High frequency output from both channels 1 & 2 of the amplifier to drive XY-122 combined with XY-215S.	K3DSP	CH1	XY-122	Fig.4-2-I
			CH2	XY-122	
KDSP_XY-122_for_XY-218S_V1.0	Mid/High frequency output from both channels 1 & 2 of the amplifier to drive XY-122 combined with XY-218S.	K3DSP	CH1	XY-122	Fig.4-2-J
			CH2	XY-122	
KDSP_XY-152_V1.0	Full range output from both channels 1 & 2 of the amplifier to drive XY-152.	K3DSP	CH1	XY-152	-
			CH2	XY-152	
KDSP_XY-152_for_XY-118S_V1.0	Mid/High frequency output from both channels 1 & 2 of the amplifier to drive XY-152 combined with XY-118S.	K3DSP	CH1	XY-152	Fig.4-2-K
			CH2	XY-152	
KDSP_XY-152_for_XY-215S_V1.0	Mid/High frequency output from both channels 1 & 2 of the amplifier to drive XY-152 combined with XY-215S.	K3DSP	CH1	XY-152	Fig.4-2-L
			CH2	XY-152	
KDSP_XY-152_for_XY-218S_V1.0	Mid/High frequency output from both channels 1 & 2 of the amplifier to drive XY-152 combined with XY-218S.	K3DSP	CH1	XY-152	Fig.4-2-M
			CH2	XY-152	

***The specifications of presets are subject to change without notice.**

4 System Configuration

Table 4-2-2 XYseries preset-files list for KDSP amplifier(Subwoofer)

Preset name	Description	Recommended Amp Model	Connected Speaker		Connection chart
			CH1	CH2	
KDSP_XY-115S_V1.0	Mono mixed Subwoofer output from both channels 1 & 2 of the amplifier to drive XY-115S.	K3DSP	CH1	XY-115S	-
			CH2	XY-115S	
KDSP_XY-115S_for_XY-81_V1.0	Mono mixed Subwoofer output from both channels 1 & 2 of the amplifier to drive XY-115S combined with XY-81.	K3DSP	CH1	XY-115S	Fig.4-2-A
			CH2	XY-115S	
KDSP_XY-115S_for_XY-101_V1.0	Mono mixed Subwoofer output from both channels 1 & 2 of the amplifier to drive XY-115S combined with XY-101.	K3DSP	CH1	XY-115S	Fig.4-2-D
			CH2	XY-115S	
KDSP_XY-115S_for_XY-122_V1.0	Mono mixed Subwoofer output from both channels 1 & 2 of the amplifier to drive XY-115S combined with XY-122.	K3DSP	CH1	XY-115S	Fig.4-2-G
			CH2	XY-115S	
KDSP_XY-118S_V1.1	Mono mixed Subwoofer output from both channels 1 & 2 of the amplifier to drive XY-118S.	K10DSP	CH1	XY-118S	-
			CH2	XY-118S	
KDSP_XY-118S_for_XY-81_V1.1	Mono mixed Subwoofer output from both channels 1 & 2 of the amplifier to drive XY-118S combined with XY-81.	K10DSP	CH1	XY-118S	Fig.4-2-B
			CH2	XY-118S	
KDSP_XY-118S_for_XY-101_V1.1	Mono mixed Subwoofer output from both channels 1 & 2 of the amplifier to drive XY-118S combined with XY-101.	K10DSP	CH1	XY-118S	Fig.4-2-E
			CH2	XY-118S	
KDSP_XY-118S_for_XY-122_V1.1	Mono mixed Subwoofer output from both channels 1 & 2 of the amplifier to drive XY-118S combined with XY-122.	K10DSP	CH1	XY-118S	Fig.4-2-H
			CH2	XY-118S	
KDSP_XY-118S_for_XY-152_V1.1	Mono mixed Subwoofer output from both channels 1 & 2 of the amplifier to drive XY-118S combined with XY-152.	K10DSP	CH1	XY-118S	Fig.4-2-K
			CH2	XY-118S	
KDSP_XY-215S_V1.0	Mono mixed Subwoofer output from both channels 1 & 2 of the amplifier to drive XY-215S.	K3DSP	CH1	XY-215S	-
			CH2	XY-215S	
KDSP_XY-215S_for_XY-81_V1.0	Mono mixed Subwoofer output from both channels 1 & 2 of the amplifier to drive XY-215S combined with XY-81.	K3DSP	CH1	XY-215S	Fig.4-2-C
			CH2	XY-215S	
KDSP_XY-215S_for_XY-101_V1.0	Mono mixed Subwoofer output from both channels 1 & 2 of the amplifier to drive XY-215S combined with XY-101.	K3DSP	CH1	XY-215S	Fig.4-2-F
			CH2	XY-215S	
KDSP_XY-215S_for_XY-122_V1.0	Mono mixed Subwoofer output from both channels 1 & 2 of the amplifier to drive XY-215S combined with XY-122.	K3DSP	CH1	XY-215S	Fig.4-2-I
			CH2	XY-215S	
KDSP_XY-215S_for_XY-152_V1.0	Mono mixed Subwoofer output from both channels 1 & 2 of the amplifier to drive XY-215S combined with XY-152.	K3DSP	CH1	XY-215S	Fig.4-2-L
			CH2	XY-215S	
KDSP_XY-218S_V1.1	Mono mixed Subwoofer output from both channels 1 & 2 of the amplifier to drive XY-218S.	K10DSP	CH1	XY-218S	-
			CH2	XY-218S	
KDSP_XY-218S_for_XY-122_V1.1	Mono mixed Subwoofer output from both channels 1 & 2 of the amplifier to drive XY-218S combined with XY-122.	K10DSP	CH1	XY-218S	Fig.4-2-J
			CH2	XY-218S	
KDSP_XY-218S_for_XY-152_V1.1	Mono mixed Subwoofer output from both channels 1 & 2 of the amplifier to drive XY-218S combined with XY-152.	K10DSP	CH1	XY-218S	Fig.4-2-M
			CH2	XY-218S	

***The specifications of presets are subject to change without notice.**

4 System Configuration

Table 4-2-2 XYseries preset-files list for MHDSP amplifier

Preset name	Description	Recommended Amp Model	Connected Speaker		Connection chart
			CH1	CH2	
MHDSP_XY-81_V1.0	Full range output from both channels 1 & 2 of the amplifier to drive XY-81.	-	CH1	XY-81	-
			CH2	XY-81	
MHDSP_XY-81_for_XY-115S_V1.0	Mid/High frequency output from both channels 1 & 2 of the amplifier to drive XY-81 combined with XY-115S.	-	CH1	XY-81	-
			CH2	XY-81	
MHDSP_XY-81_for_XY-118S_V1.0	Mid/High frequency output from both channels 1 & 2 of the amplifier to drive XY-81 combined with XY-118S.	-	CH1	XY-81	-
			CH2	XY-81	
MHDSP_XY-81_for_XY-215S_V1.0	Mid/High frequency output from both channels 1 & 2 of the amplifier to drive XY-81 combined with XY-215S.	-	CH1	XY-81	-
			CH2	XY-81	
MHDSP_XY-101_V1.0	Full range output from both channels 1 & 2 of the amplifier to drive XY-101.	-	CH1	XY-101	-
			CH2	XY-101	
MHDSP_XY-101_for_XY-115S_V1.0	Mid/High frequency output from both channels 1 & 2 of the amplifier to drive XY-101 combined with XY-115S.	-	CH1	XY-101	-
			CH2	XY-101	
MHDSP_XY-101_for_XY-118S_V1.0	Mid/High frequency output from both channels 1 & 2 of the amplifier to drive XY-101 combined with XY-118S.	-	CH1	XY-101	-
			CH2	XY-101	
MHDSP_XY-101_for_XY-215S_V1.0	Mid/High frequency output from both channels 1 & 2 of the amplifier to drive XY-101 combined with XY-215S.	-	CH1	XY-101	-
			CH2	XY-101	
MHDSP_XY-122_V1.0	Full range output from both channels 1 & 2 of the amplifier to drive XY-122.	-	CH1	XY-122	-
			CH2	XY-122	
MHDSP_XY-122_for_XY-115S_V1.0	Mid/High frequency output from both channels 1 & 2 of the amplifier to drive XY-122 combined with XY-115S.	-	CH1	XY-122	-
			CH2	XY-122	
MHDSP_XY-122_for_XY-118S_V1.0	Mid/High frequency output from both channels 1 & 2 of the amplifier to drive XY-122 combined with XY-118S.	-	CH1	XY-122	-
			CH2	XY-122	
MHDSP_XY-122_for_XY-215S_V1.0	Mid/High frequency output from both channels 1 & 2 of the amplifier to drive XY-122 combined with XY-215S.	-	CH1	XY-122	-
			CH2	XY-122	
MHDSP_XY-122_for_XY-218S_V1.0	Mid/High frequency output from both channels 1 & 2 of the amplifier to drive XY-122 combined with XY-218S.	-	CH1	XY-122	-
			CH2	XY-122	
MHDSP_XY-152_V1.0	Full range output from both channels 1 & 2 of the amplifier to drive XY-152.	-	CH1	XY-152	-
			CH2	XY-152	
MHDSP_XY-152_for_XY-118S_V1.0	Mid/High frequency output from both channels 1 & 2 of the amplifier to drive XY-152 combined with XY-118S.	-	CH1	XY-152	-
			CH2	XY-152	
MHDSP_XY-152_for_XY-215S_V1.0	Mid/High frequency output from both channels 1 & 2 of the amplifier to drive XY-152 combined with XY-215S.	-	CH1	XY-152	-
			CH2	XY-152	
MHDSP_XY-152_for_XY-218S_V1.0	Mid/High frequency output from both channels 1 & 2 of the amplifier to drive XY-152 combined with XY-218S.	-	CH1	XY-152	-
			CH2	XY-152	

***The specifications of presets are subject to change without notice.**

4 System Configuration

Ground stacking

- CAUTION**
- Ensure that the floor or stage surface can withstand the weight of the system.
 - Do not carry out the stack with more than of specifications shown below.
 - Use ratchet straps to secure loudspeakers together.
 - Please also remember that vibrations from subwoofer systems can shake other loudspeakers out of place, which may present a toppling hazard.
 - The use of ratchet straps and non-slip material is recommended to prevent this.

	Maximum loadable mass	Maximum stacking capacity
XY-81	No Stacking	No Stacking
XY-101	No Stacking	No Stacking
XY-122	No Stacking	No Stacking
XY-152	No Stacking	No Stacking
XY-115S	60kg	1pc of XY-115S and 1pc XY-122(or XY-101/81)
XY-118S	90kg	1pc of XY-118S and 1pc XY-152(or XY-122/101/81)
XY-215S	100kg	1pc of XY-215S and 1pc XY-152(or XY-122/101/81)
XY-218S	160kg	1pc of XY-218S and 3pcs XY-152(or XY-122/101/81)

5 Drive unit replacement

5.1 Two-way loudspeaker

Guide for safe replacement of the drive units

Improper installation of the driver unit could cause them to fall and cause damage or injuries to persons nearby. Please check the following conditions of all the loudspeakers in the XY series always before the drive units are replaced.

WARNING:

Intended usage

Do not attempt to use this driver with components other than the specified loudspeaker.

Safety cautions

Certain technical skills and experiences are required to install the driver to the loudspeaker. Please have the driver installed by qualified professionals.

Ensure that the loudspeaker is placed on a stable place like on a floor. Do not replace the drivers when it is stacked on other loudspeakers or it is hung from the ceiling.

Be sure to use and tighten the pre-inserted bolts to the driver installed to the loudspeaker when you install this driver to the loudspeaker enclosure.

After installation, you must confirm that the bolts and screws used for the enclosures and the grilles of this product are tightened enough. Periodical inspections are also required to make sure they are still tightened enough.

Ensure that the LF driver is installed in accordance with the Installation Manual. Otherwise, your fingers might be caught and get injured during the installation process.

CAUTION:

Cautions for audio quality

Inappropriate installation could affect the sound quality.

Storage temperature range

Do not store speakers at temperatures outside of the rated temperature range as doing so may cause the speaker to drop in performance or become damaged.

Storage temperature range: $-20\text{ }^{\circ}\text{C}$ to $+55\text{ }^{\circ}\text{C}$ ($-4\text{ }^{\circ}\text{F}$ to $+131\text{ }^{\circ}\text{F}$)

Do not use the product in locations subject to extreme fluctuations in temperature. Drastic fluctuation of the temperature and long storage in the cold temperature might cause small cracks in the magnet of the drive unit. The performance, reliability and safety for use of this product may not be affected even if the above issue occurs.

5.1.1 XY-81/101

Part list

Grille

XY-81

Item	Part Name	Qty	Service Part No.	Note
	Grille	1	04X901	
Grille	M4 socket head bolt	4	06G016	M4 x 20mm (P=0.7) 3mm hex socket head

Required tools
• 3mm hex key



5 Drive unit replacement

XY-101

Item	Part Name	Qty	Service Part No.	Note
	Grille	1	04X907	
Grille	M4 socket head bolt	4	06G016	M4 x 20mm (P=0.7) 3mm hex socket head

Required tools
• 3mm hex key



HF drive unit

XY-81

Item	Part Name	Qty	Service Part No.	Note
	HF drive unit	1	PT-XY81CD1	
	M6 socket head bolt	2	06G023	M6 x 20mm (P=1.0) 5mm hex socket head for drive unit
HF	M5 socket head bolt	4	06G001	M5 x 30mm (P=0.8) 4mm hex socket head for HF waveguide
	Flat washer	4	06D003	M5 for waveguide
	Spring washer	4	06D005	M5 for waveguide

Required tools
• 4mm hex key



• 5mm hex key



• Elastomeric adhesive

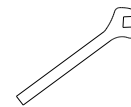
XY-101

Item	Part Name	Qty	Service Part No.	Note
	HF drive unit	1	PT-XY81CD1	
	Stud bolt set for HF		06C009	Include the following items.
	M6 Stud bolt	2	-	
	Nut	2	-	M6, 10mm width across flat
HF	Flat washer	2	-	M6
	Spring washer	2	-	M6
	M5 socket head bolt	4	06G001	M5 x 30mm (P=0.8) 4mm hex socket head for HF waveguide
	Flat washer	4	06D003	M5 for waveguide
	Spring washer	4	06D005	M5 for waveguide

Required tools
• 4mm hex key



• 10mm spanner



LF drive unit

XY-81

Item	Part Name	Qty	Service Part No.	Note
	LF drive unit	1	PT-XY81LF1	
LF	M5 socket head bolt	8	06G001	M5 x 30mm (P=0.8) 4mm hex socket head
	Flat washer	8	06D003	M5
	Spring washer	8	06D005	M5

Required tools
• 4mm hex key



XY-101

Item	Part Name	Qty	Service Part No.	Note
	LF drive unit	1	PT-XY101LF1	
LF	M5 socket head bolt	4	06G001	M5 x 30mm (P=0.8) 4mm hex socket head
	Flat washer	4	06D003	M5
	Spring washer	4	06D005	M5

Required tools
• 4mm hex key



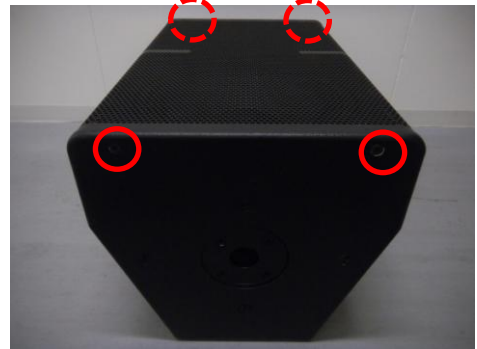
5 Drive unit replacement

Procedure (XY-81/101)

Removing and reinstalling the grille.

- (1) Remove the four socket head bolts from the grille.
- (2) Remove the grille from the enclosure.
- (3) Reverse the above steps when placing the grille back to the enclosure. The grille should be placed back in the same orientation before it was removed.

NOTE: XY-81 is used in the pictures.



Replacement of HF drive unit

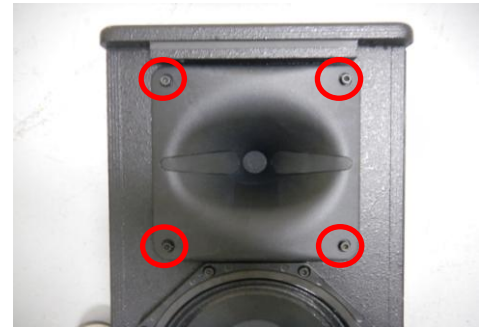
HF waveguide/HF driver unit installed in XY-81 and XY-101 are the same, so almost the same procedures should be taken to replace

- (1) Remove the four socket head bolts from the HF waveguide.
- (2) Lift the waveguide up and remove the cables from the HF drive unit.
- (3) **XY-81:** Remove the two packing from the inside of the horn. Insert an hex key into the two slits appearing after the packing was removed and remove the two socket head bolts from the HF drive
- XY-101:** Remove the two nuts from the HF drive unit with a 10mm Spanner.
- (4) Replace the HF drive unit with a new one and tighten the socket head bolts or nuts.

Only XY-81

NOTE: Ensure that the packings are firmly attached to the slits using elastomeric adhesive, otherwise sound quality may be deteriorated.

- (5) Connect the cables to the two terminals.
Red Terminal (+) : White cable
Black Terminal (-) : Yellow cable
- (6) Install the HF waveguide to the enclosure.
- (7) Tighten the four socket head bolts on the HF waveguide.
Make sure to place the HF waveguide in the same orientation as before replacing the drive unit.

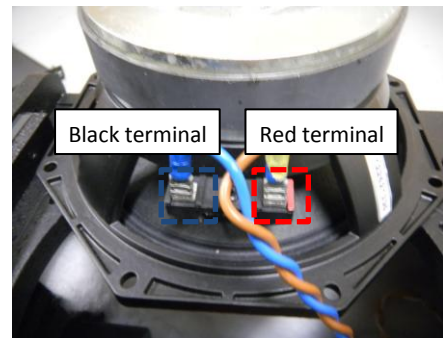
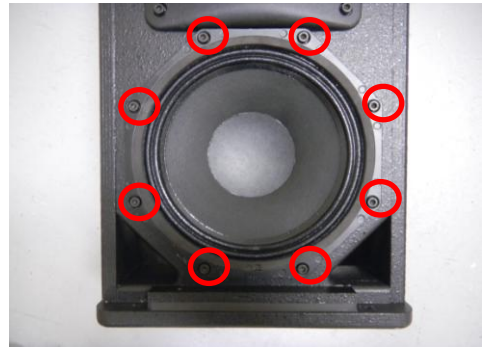


5 Drive unit replacement

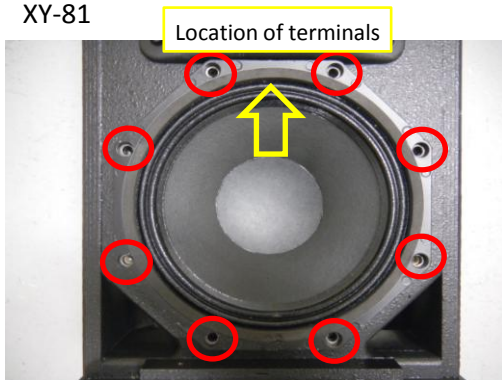
Replacement of LF drive unit

LF driver units installed in XY-81 and XY-101 are different, but almost the same procedures can be used to replace both LF drive units.

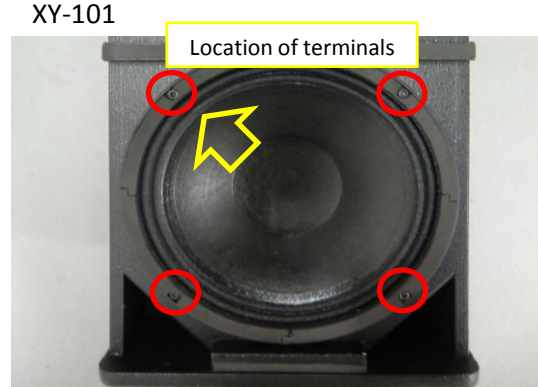
- (1) Remove the socket head bolts from the LF drive unit.
The number of socket head bolts to be removed from XY-81 is 8 and from XY-101 is 4.
- (2) Lift the LF drive unit up and remove the cables from the LF drive unit.
- (3) Replace the LF drive unit with a new one.
- (4) Connect the cables to the two terminals.
Red Terminal (+) : Brown cable
Black Terminal (-) : Blue cable
- (5) Reinstall the LF drive unit to the enclosure.
Ensure that the terminals of the drive unit are placed as shown below.
CAUTION: The locations of the terminals on XY-81 and XY-101 are different. Please see the locations of each drive unit in the figures below when installing the LF drive unit.
- (6) Tighten the socket head bolts on the LF drive unit.
- (7) Tighten the countersunk bolts to ensure a solid fit to the grille.



XY-81

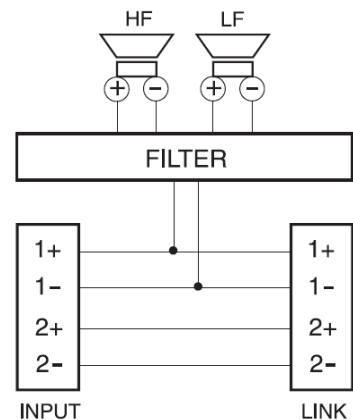


XY-101



Additional information (XY-81/101)

For the connection information, please refer to following circuit diagram.



5 Drive unit replacement

5.1.2 XY-122/152

Part list

Grille

XY-122

Item	Part Name	Qty	Service Part No.	Note
	Grille	1	04X902	
Grille	M6 countersunk bolt	4	06G020	M6 x 30mm (P=1.0), 4mm hex socket head, for grille

Required tools

- 4mm hex key



XY-152

Item	Part Name	Qty	Service Part No.	Note
	Grille	1	04X908	
Grille	M6 countersunk bolt	6	06G020	M6 x 30mm (P=1.0), 4mm hex socket head, for grille

Required tools

- 4mm hex key



HF drive unit (XY-122/152)

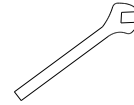
Item	Part Name	Qty	Service Part No.	Note
	HF drive unit	1	PT-XY122CD1	Include the following items.
	M6 Stud bolt	4	-	
	Nut	4	-	M6, 10mm width across flat
HF	Flat washer	4	-	M6
	Spring washer	4	-	M6
	M6 countersunk bolt	8	06G036	M6 x 40mm (P=1.0), 4mm hex socket head for HF waveguide

Required tools

- 4mm hex key



- 10mm spanner



LF drive unit

XY-122

Item	Part Name	Qty	Service Part No.	Note
	LF drive unit	1	PT-XY122LF1	
LF	M6 socket head bolt	8	06G003	M6 x 40mm (P=1.0), 5mm hex socket head
	Spring washer	8	06D0075	M6

Required tools

- 5mm hex key



XY-152

Item	Part Name	Qty	Service Part No.	Note
	LF drive unit	1	PT-XY152LF1	
LF	M6 socket head bolt	8	06G003	M6 x 40mm (P=1.0), 5mm hex socket head
	Spring washer	8	06D0075	M6

Required tools

- 5mm hex key

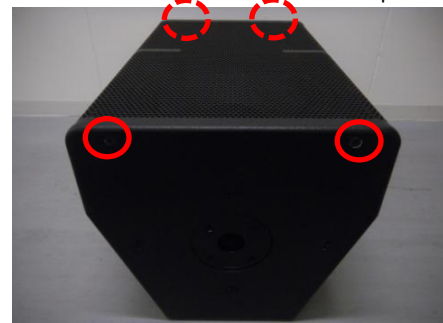


Procedure (XY-122/152)

Removing and reinstalling the grille.

- (1) Remove the countersunk bolts from the grille.
The number of countersunk bolts to be removed from XY-122 is 4 and from XY-152 is 6.
- (2) Remove the grille from the enclosure.
- (3) Reverse the above steps when placing the grille back to the enclosure. The grille should be placed back in the same orientation before it was removed.

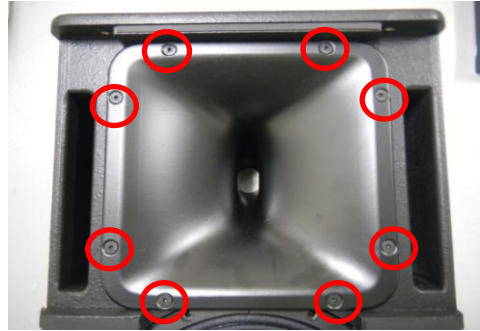
NOTE: XY-122 is used in the pictures.



5 Drive unit replacement

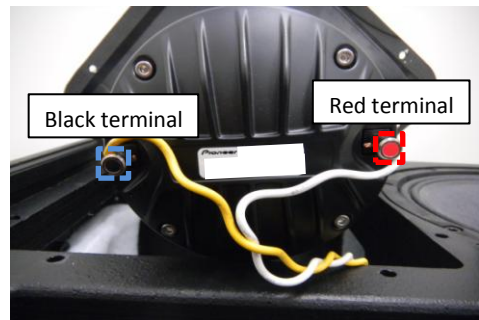
HF waveguide/HF driver unit installed in XY-122 and XY-152 are the same, so the same procedures should be taken to replace them.

- (1) Remove eight countersunk bolts from the HF waveguide.
- (2) Lift the waveguide up and remove the cables from the HF drive unit.
- (3) Remove the four nuts from the HF drive unit with a 10mm Spanner.
- (4) Replace the HF drive unit with a new one and tighten the four nuts with the Spanner.



Replacement of HF drive unit

- (5) Connect the cables to the two terminals.
Red Terminal (+) : White cable
Black Terminal (-) : Yellow cable
- (6) Tighten eight countersunk bolts of the HF waveguide.
Make sure to place the HF waveguide in the same orientation as before replacing the drive unit.

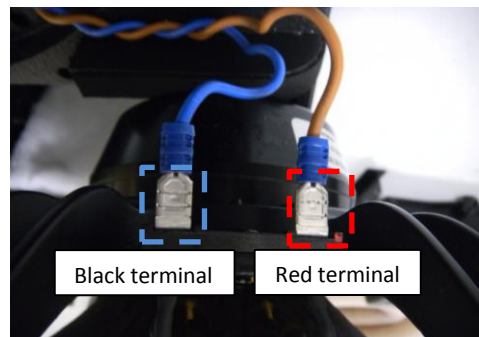
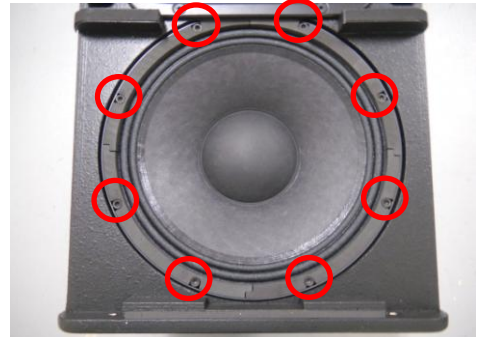


Replacement of LF drive unit

LF driver units installed in XY-122 and XY-152 are different, but almost the same procedures can be used to replace both LF drive units.

CAUTION: Before replacing the LF drive unit on XY-122, remove the HF waveguide from the enclosure. (See "5.1.2 Replacement of HF drive unit")

- (1) Remove the eight socket head bolts from the LF drive unit.
- (2) Lift the LF drive unit up and remove the cables from the LF drive unit.
- (3) Replace the LF drive unit with a new one.
- (4) Connect the cables to the two terminals.
Red Terminal (+) : Brown cable
Black Terminal (-) : Blue cable

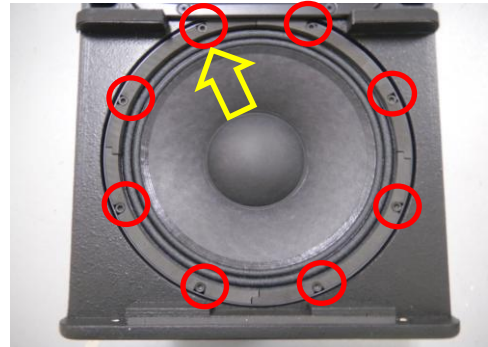


5 Drive unit replacement

- (5) Tighten the eight socket head bolts on the LF drive unit.
Ensure that the terminals of the drive unit are placed as shown below.
- (6) Tighten the countersunk bolts to ensure a solid fit to the grille.

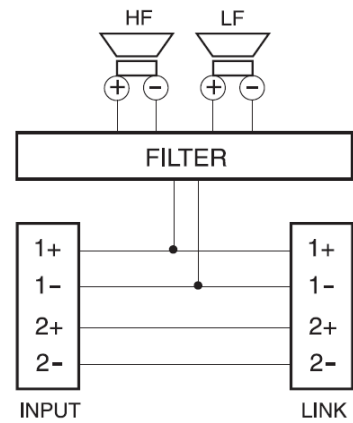
NOTE: XY-122 is used in the pictures.

Location of terminals



Additional information (XY-122/152)

For the connection information, please refer to following circuit diagram.



5 Drive unit replacement

5.2 Subwoofer

5.2.1 XY-115S/118S/218S

Part list

Grille

XY-115S

Item	Part Name	Qty	Service Part No.	Note
Grille	Grille	1	04X909	For XY-115S
	Screw	12	06F002	for grille, XY-115S

Required tools

- Phillips head screwdriver



XY-118S

Item	Part Name	Qty	Service Part No.	Note
Grille	Grille	1	04X904	For XY-118S
	Screw	14	06F002	for grille, XY-118S

Required tools

- Phillips head screwdriver



XY-218S

Item	Part Name	Qty	Service Part No.	Note
Grille	Grille	1	04X910	For XY-218S
	Screw	24	06F002	for grille, XY-218S

Required tools

- Phillips head screwdriver



LF drive unit

XY-115S

Item	Part Name	Qty	Service Part No.	Note
	Drive unit	1	PT-XY115SL1	
LF	M6 socket head bolt	8	06G003	M6 x 40mm (P=1.0), 5mm hex socket head
	Spring washer	8	06D0075	M6

Required tools

- 5mm hex key



XY-118S

Item	Part Name	Qty	Service Part No.	Note
	Drive unit	1	PT-XY118SL1	
LF	M6 socket head bolt	8	06G003	M6 x 40mm (P=1.0), 5mm hex socket head
	Spring washer	8	06D0075	M6

Required tools

- 5mm hex key



XY-218S

Item	Part Name	Qty	Service Part No.	Note
	Drive unit	2	PT-XY118SL1	
LF	M6 socket head bolt	16	06G003	M6 x 40mm (P=1.0), 5mm hex socket head
	Spring washer	16	06D0075	M6

Required tools

- 5mm hex key



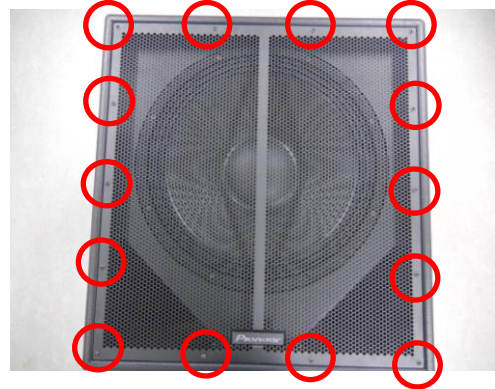
5 Drive unit replacement

Procedure (XY-115S/118S/218S)

Removing and reinstalling the grille.

- (1) Remove the screws from the grille.
- (2) 12 pieces of screws for XY-115S, 14 pieces of screws for XY-118S and 24 pieces of screws for XY-218S are required to be removed.
- (3) Remove the grille from the enclosure.
- (4) Reverse the above steps when placing the grille back to the enclosure. The grille should be placed back in the same orientation before it was removed.

NOTE: XY-118S is used in the pictures.

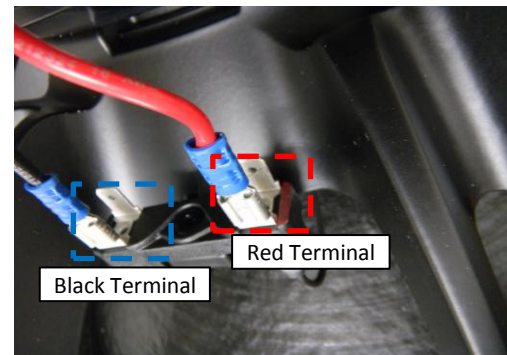
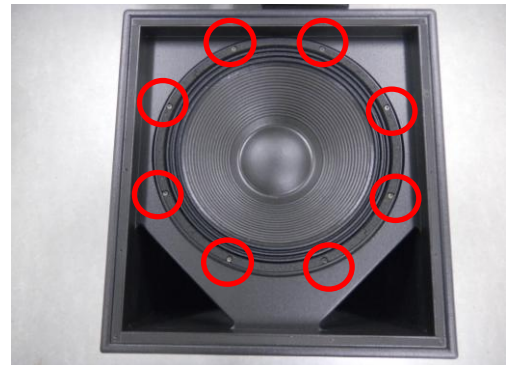


Replacement of LF drive unit

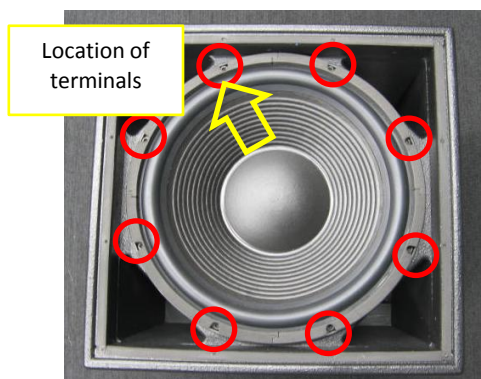
LF driver units installed in XY-115S and XY-118S are different, but almost the same procedures can be used to replace both LF drive units.

XY-218S has 2 LF drive units side by side. Please follow the steps below to replace one or both of the LF drive unit(s) you want to replace.

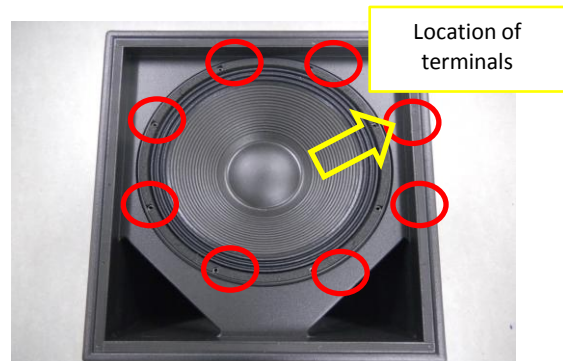
- (1) Remove the eight socket head bolts from the LF drive unit.
- (2) Lift the LF drive unit up and remove the cables from the LF drive unit.
- (3) Replace the LF drive unit with a new one.
- (4) Connect the cables to the two terminals.
Red Terminal (+) : Red cable
Black Terminal (-) : Black cable
- (5) Ensure that the terminals of the drive unit are placed as shown below.
CAUTION: The locations of the terminals on XY-115S, 118S and XY-218S are different. Please see the locations of each drive unit in the figures below when installing the LF drive unit.
- (6) Install the LF drive unit to the enclosure.
- (7) Tighten the socket head bolts on the LF drive unit.
- (8) Tighten the countersunk bolts to ensure a solid fit to the grille.



XY-115S



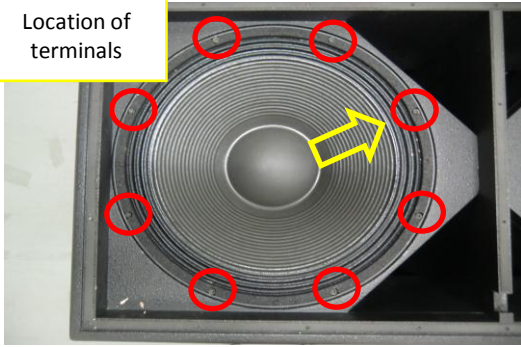
XY-118S



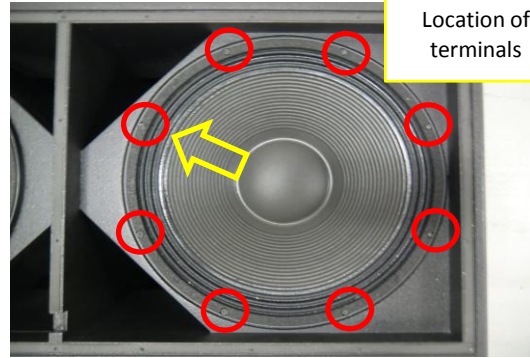
5 Drive unit replacement

XY-218S

Location of terminals



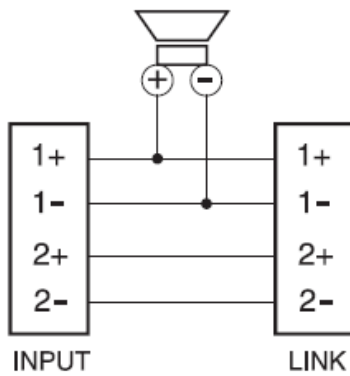
Location of terminals



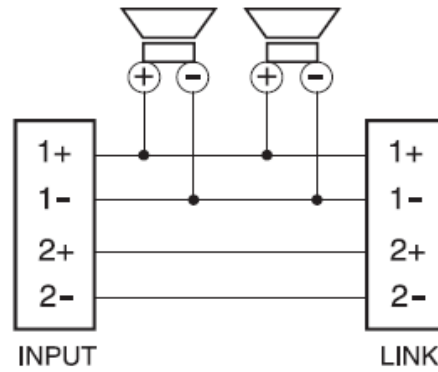
Additional information (XY-115S/118S/218S)

For the connection information, please refer to following circuit diagram.

XY-115S/118S



XY-218S



5 Drive unit replacement

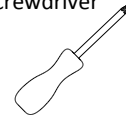
5.2.2 XY-215S

Part list

Item	Part Name	Qty	Service Part No.	Note
	Drive unit	2	PT-XY215SL1	
LF	M6 socket head bolt	16	06G003	M6 x 40mm (P=1.0) 5mm hex socket head
	Spring washer	16	06D0075	M6
Grille	Grille	1	04X903	
	Screw	10	06F002	for grille

Required tools

- Phillips head screwdriver



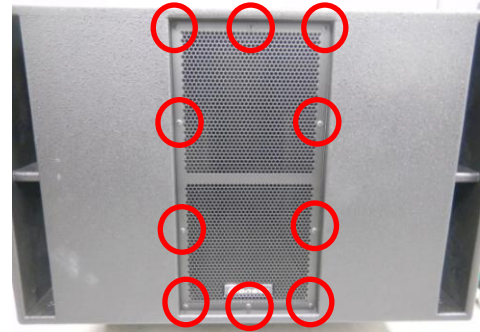
- 5mm hex key



Procedure (XY-215S)

Removing and reinstalling the grille.

- (1) Remove the ten screws from the grille.
- (2) Remove the grille from the enclosure.
- (3) Reverse the above steps when placing the grille back to the enclosure. The grille should be placed back in the same orientation before it was removed.

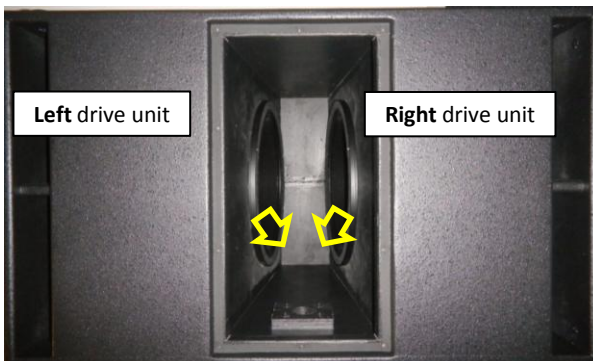
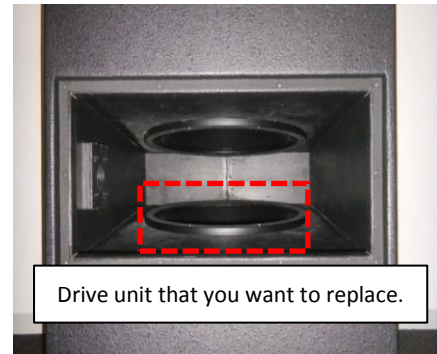


Replacement of LF drive unit

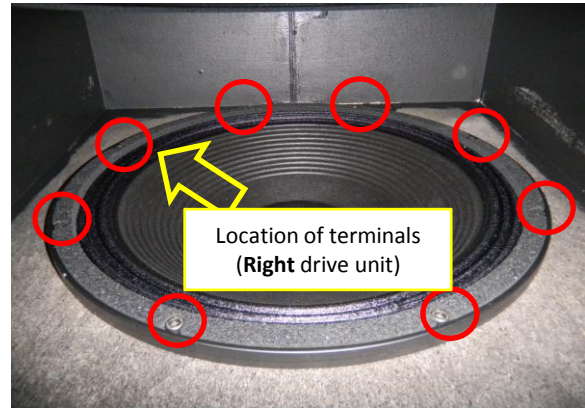
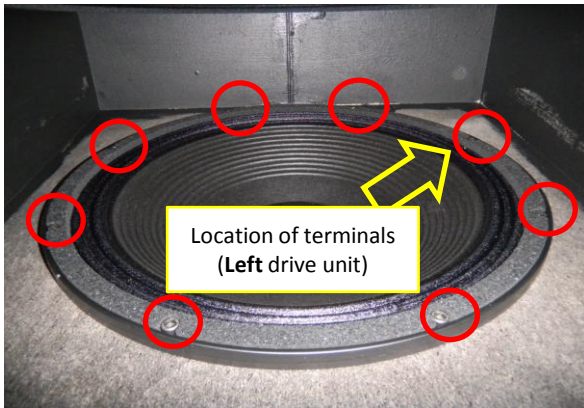
- (1) Turn the speaker enclosure 90 degrees so that the drive unit to be replaced will face upward.
- (2) Remove the eight socket head bolts from the drive unit.
- (3) Lift the LF drive unit up, and remove the cables from the LF drive unit.
- (4) Replace the LF drive unit with a new one.
- (5) Connect the cables to the two terminals.

Red Terminal (+) : Red cable
Black Terminal (-) : Black cable

- (6) Ensure that the terminals of the drive unit are placed as shown below.
- (7) Reinstall the LF drive unit to the enclosure.
- (8) Tighten the socket head bolts on the LF drive unit.
- (9) Tighten the countersunk bolts to ensure a solid fit to the grille.

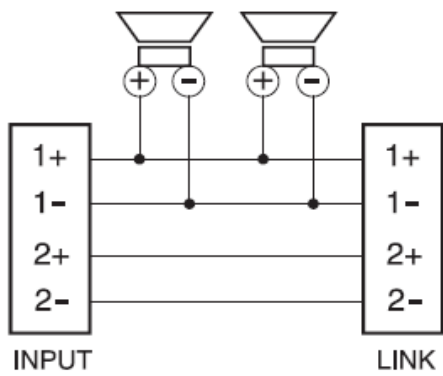


5 Drive unit replacement



Additional information (XY-215S)

For the connection information, please refer to following circuit diagram.



6 Specifications

6.1 Spec sheet

Product Name	XY-81 XY-81-W	XY-101 XY-101-W	XY-122 XY-122-W	XY-152 XY-152-W
Enclosure Type	Two-way passive, reflex-loaded	Two-way passive, reflex-loaded	Two-way passive, reflex-loaded	Two-way passive, reflex-loaded
Frequency Response	75 Hz to 20 kHz	70 Hz to 20 kHz	70 Hz to 20 kHz	50 Hz to 20 kHz
Sensitivity (1w/1m)	91 dB	94 dB	101 dB	98 dB
Nominal Impedance	8 Ω	8 Ω	8 Ω	8 Ω
Power Handling	350 W RMS, 700 W Program	400 W RMS, 800 W Program	400 W RMS, 800 W Program	650 W RMS, 1300 W Program
Maximum SPL	116 dB cont., 122 dB peak	120 dB cont., 126 dB peak	127 dB cont., 133 dB peak	126 dB cont., 132 dB peak
Dispersion	90 °H x 60 °V, Rotatable	90 °H x 60 °V, Rotatable	90 °H x 60 °V, Rotatable	90 °H x 60 °V, Rotatable
Driver Configuration	8 inch (200 mm) LF cone driver, 1 inch (25 mm) exit neodymium HF compression driver	10 inch (250 mm) neodymium LF cone driver, 1 inch (25 mm) exit neodymium HF compression driver	12 inch (320 mm) neodymium LF cone driver, 1.4 inch (36 mm) exit neodymium HF compression driver	15 inch (380 mm) neodymium LF cone driver, 1.4 inch (36 mm) exit neodymium HF compression driver
Crossover	Asymmetric internal passive crossover	Asymmetric internal passive crossover	Asymmetric internal passive crossover	Asymmetric internal passive crossover
Connector	2 x Neutrik SpeakON™ NL4MD-V	2 x Neutrik SpeakON™ NL4MD-V	2 x Neutrik SpeakON™ NL4MD-V	2 x Neutrik SpeakON™ NL4MD-V
Dimensions (WxHxD)	262 mm x 462 mm x 255 mm (10.3 inch x 18.2 inch x 10 inch)	292 mm x 508 mm x 280 mm (11.5 inch x 20 inch x 11 inch)	380 mm x 622 mm x 360 mm (15 inch x 24.5 inch x 14.2 inch)	440 mm x 715 mm x 444 mm (17.3 inch x 28.1 inch x 17.5 inch)
Weight	12 kg (26.5 lb)	14 kg (30.9 lb)	23 kg (50.7 lb)	29 kg (63.9 lb)
Rigging and Hardware	8 x M8 threaded mounting points (4 top/4 bottom), 1 x M8 threaded mounting points on rear, 4 x M6 threaded points on rear (for wall mount bracket), 1 x flush handle on rear, 1 x 35 mm polemount socket	8 x M8 threaded mounting points (4 top/4 bottom), 3 x M8 threaded mounting points on rear, 4 x M8 threaded mounting points on side (2 left/2 right), 4 x M6 threaded points on rear (for wall mount bracket), 1 x flush handle on rear, 1 x 35 mm polemount socket	8 x M10 threaded mounting points (4 top/4 bottom), 2 x M10 threaded mounting points on rear, 4 x M10 threaded mounting points on side (2 left/2 right), 4 x M8 threaded points on rear (for wall mount bracket), 1 x flush handle on rear, 1 x 35 mm polemount socket	8 x M10 threaded mounting points (4 top/4 bottom), 3 x M10 threaded mounting points on rear, 4 x M10 threaded mounting points on side (2 left/2 right), 4 x M8 threaded points on rear (for wall mount bracket), 2 x flush handles (1 left/1 right), 1 x 35 mm polemount socket
Grill	Hex punched steel	Hex punched steel	Hex punched steel	Hex punched steel
Enclosure	15 mm (0.6 inch) birch plywood	15 mm (0.6 inch) birch plywood	15 mm (0.6 inch) birch plywood	15 mm (0.6 inch) birch plywood
Finish	Impact-resistant, Black semi-matt textured	Impact-resistant, Black semi-matt textured	Impact-resistant, Black semi-matt textured	Impact-resistant, Black semi-matt textured
Suggested Power Amplifier	Recommended : K2DSP Minimum : M20DHDSP	Recommended : K2DSP Minimum : M30DHDSP	Recommended : K3DSP Minimum : M30DHDSP	Recommended : K3DSP Minimum : M30DHDSP
Accessories	polemount socket cover (-W model only)	polemount socket cover (-W model only)	polemount socket cover (-W model only)	polemount socket cover (-W model only)

The specifications and design of this product are subject to change without notice.

6 Specifications

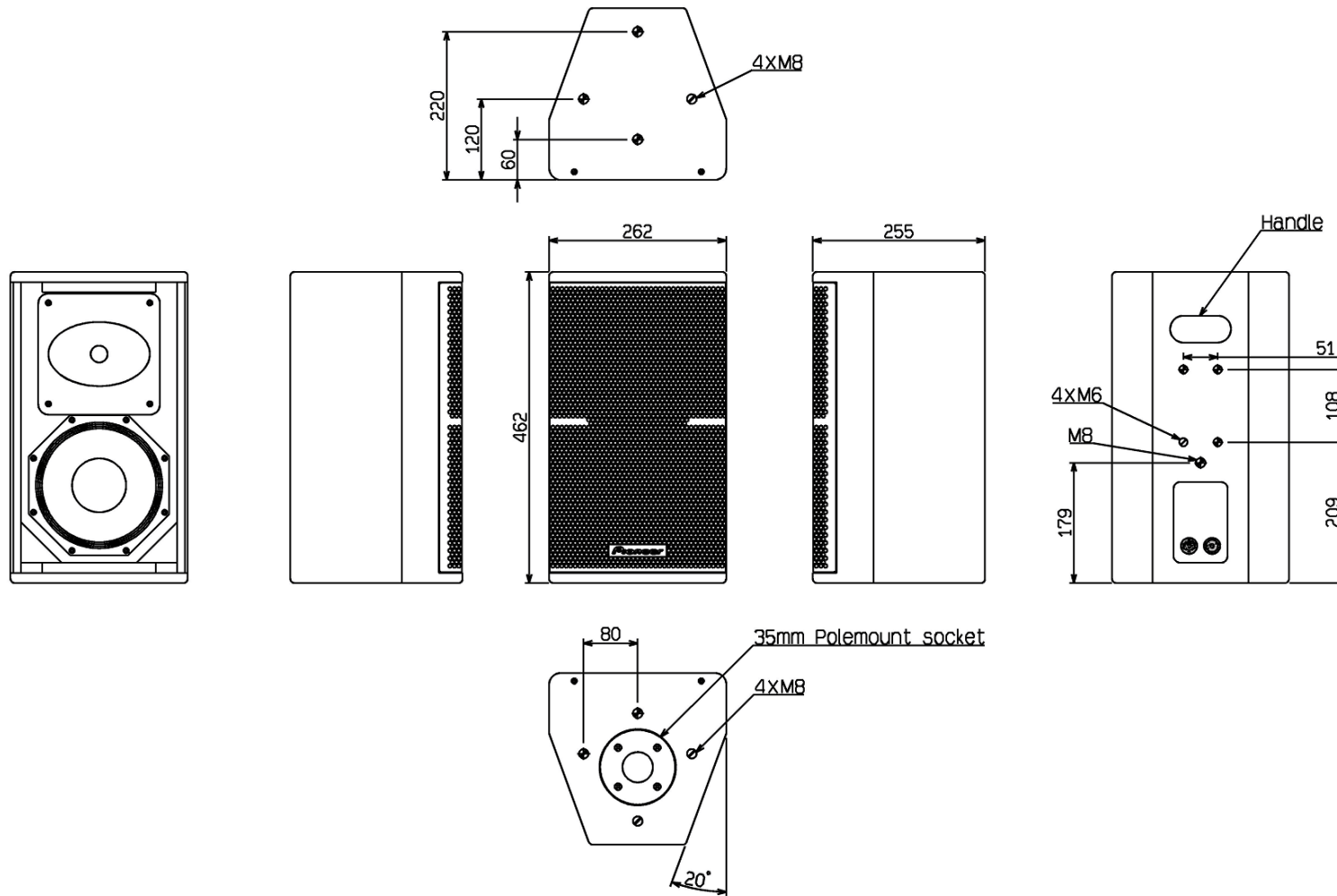
6.1 Spec sheet

Product Name	XY-115S XY-115S-W	XY-118S XY-118S-W	XY-215S XY-215S-W	XY-218S XY-218S-W
Enclosure Type	Single driver, reflex-loaded subwoofer	Single driver, reflex-loaded subwoofer	Dual driver, quasi-bandpass subwoofer	Dual driver, reflex-loaded subwoofer
Frequency Response	45 Hz to 150 Hz	35 Hz to 150 Hz	42 Hz to 160 Hz	32 Hz to 150 Hz
Sensitivity (1w/1m)	96 dB (half space)	97 dB (half space)	102 dB (half space)	102 dB (half space)
Nominal Impedance	8 Ω	8 Ω	4 Ω	4 Ω
Power Handling	700 W RMS, 1400 W Program	1000 W RMS, 2000 W Program	800 W RMS, 1600 W Program	1600 W RMS, 3200 W Program
Maximum SPL	124 dB cont., 130 dB peak (half space)	127 dB cont., 133 dB peak (half space)	131 dB cont., 137 dB peak (half space)	134 dB cont., 140 dB peak (half space)
Dispersion	—	—	—	—
Driver Configuration	15 inch (380 mm) neodymium LF cone driver	18 inch (460 mm) LF cone driver	2 × 15 inch (380 mm) LF cone drivers	2 × 18 inch (460 mm) LF cone drivers
Crossover	—	—	—	—
Connector	2 × Neutrik SpeakON™ NL4MD-V	2 × Neutrik SpeakON™ NL4MD-V	2 × Neutrik SpeakON™ NL4	2 × Neutrik SpeakON™ NL4
Dimensions (WxHxD)	472 mm × 466 mm × 510 mm (18.6 inch × 18.3 inch × 20.1 inch)	590 mm × 643 mm × 650 mm (23.2 inch × 25.3 inch × 25.6 inch)	831 mm × 526 mm × 700 mm (32.7 inch × 20.7 inch × 27.6 inch)	1164 mm × 558 mm × 745 mm (45.8 inch × 22 inch × 29.3 inch)
Weight	30 kg (66.1 lb)	52 kg (114.7 lb)	71 kg (156.6 lb)	93 kg (205 lb)
Rigging and Hardware	2 × flush handles (1 left/1 right), 1 × M20 polemount socket for mid/high enclosures, 4 × rubber feet (bottom) and 4 × mating recesses (top)	4 × flush handles (2 left/2 right), 1 × M20 polemount socket for mid/high enclosures, 4 × rubber feet (bottom) and 4 × mating recesses (top), 16 × M8 holes with pre-inserted bolts for 4 × castors on rear	4 × flush handles, 2 × M20 polemount sockets for mid/high enclosures, 8 × rubber feet (bottom and left) and 4 × mating recesses (top), 16 × M8 holes with pre-inserted bolts for 4 × castors on rear	8 × flush handles (4 left/4 right), 8 × rubber feet (bottom and left) and 4 × mating recesses (top), 16 × M8 holes with pre-inserted bolts for 4 × castors on rear
Grill	Hex punched steel	Hex punched steel	Hex punched steel	Hex punched steel
Enclosure	15 mm (0.6 inch) birch plywood	18 mm (0.7 inch) birch plywood	18 mm (0.7 inch) birch plywood	18 mm (0.7 inch) birch plywood
Finish	Impact-resistant, Black semi-matt textured	Impact-resistant, Black semi-matt textured	Impact-resistant, Black semi-matt textured	Impact-resistant, Black semi-matt textured
Suggested Power Amplifier	Recommended : K3DSP	Recommended : K10DSP Minimum : K3DSP	Recommended : K3DSP Minimum : K2DSP	Recommended : K10DSP Minimum : K6DSP
Accessories	polemount socket cover (-W model only)	polemount socket cover (-W model only)	2 x polemount socket cover (-W model only)	—

The specifications and design of this product are subject to change without notice.

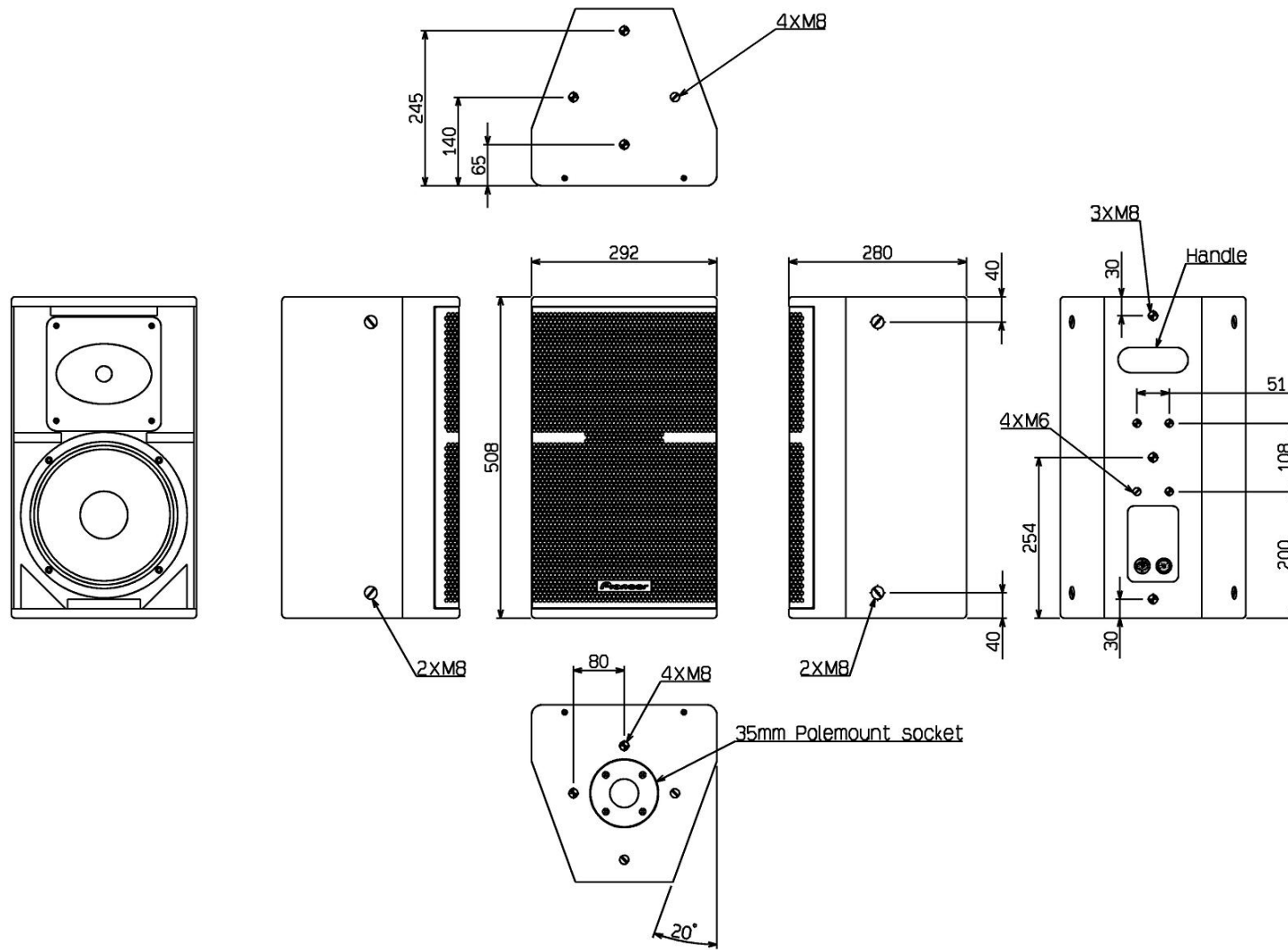
6 Specifications

6.2 Drawing



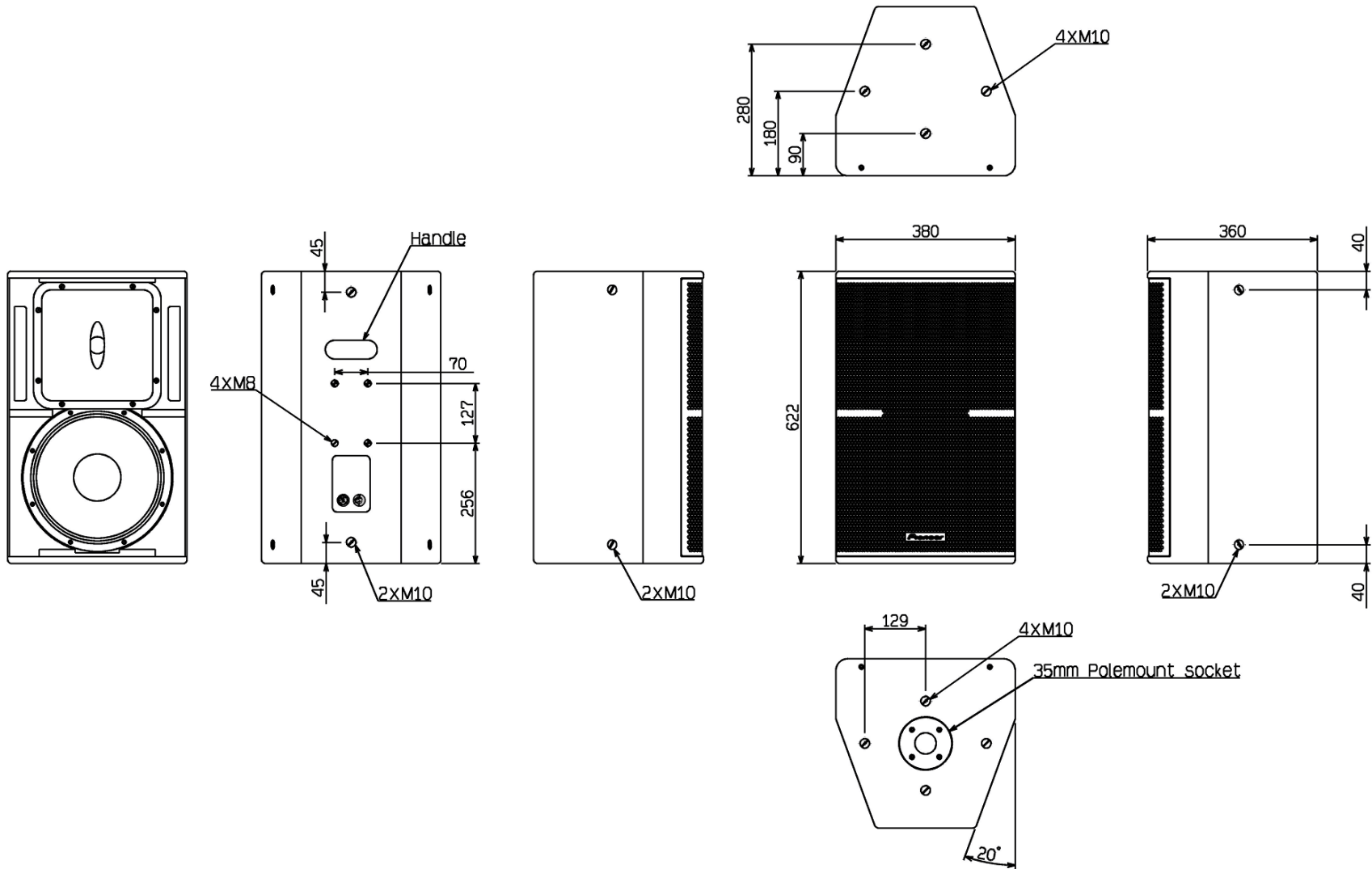
6 Specifications

6.2 Drawing



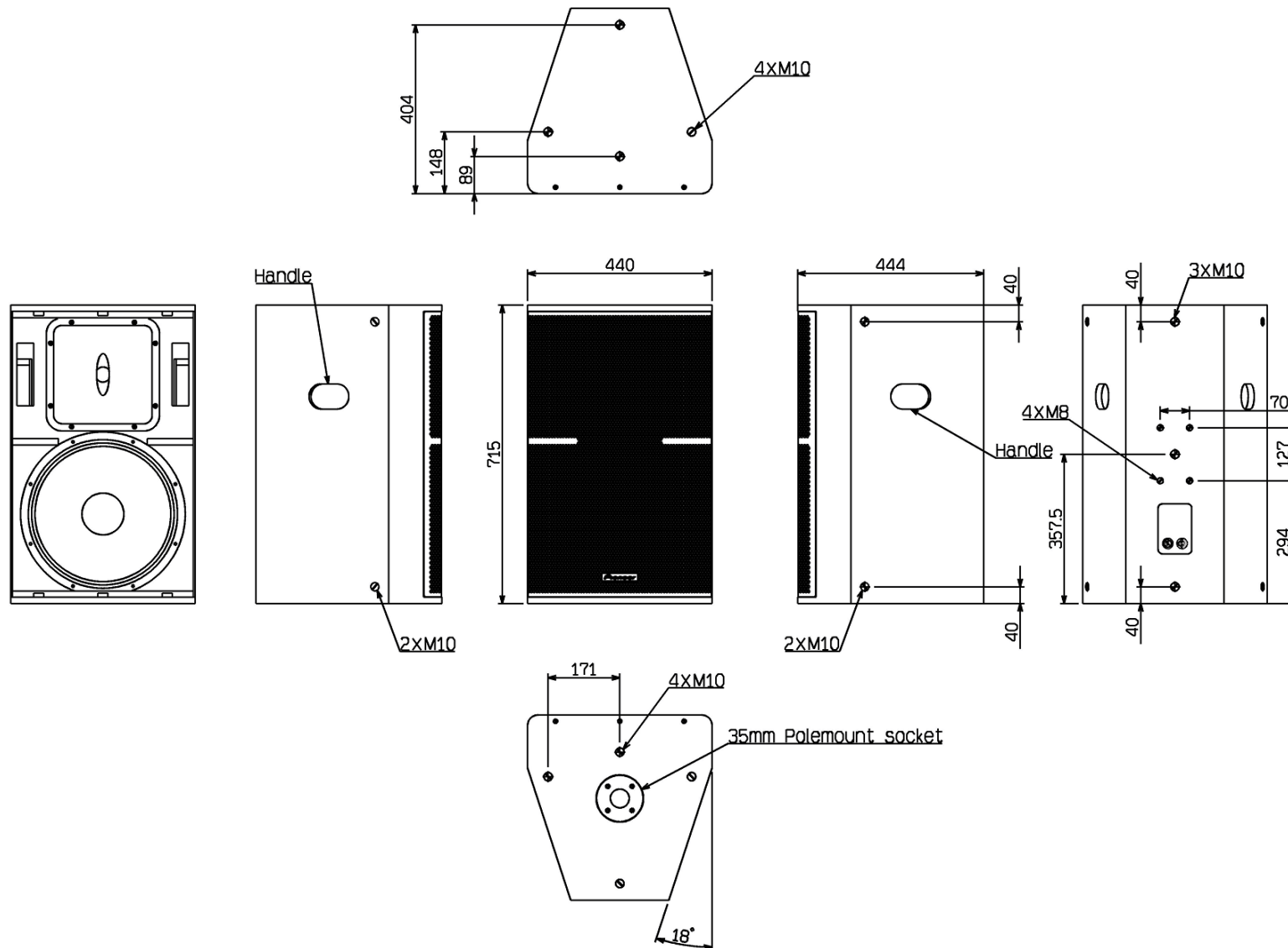
6 Specifications

6.2 Drawing



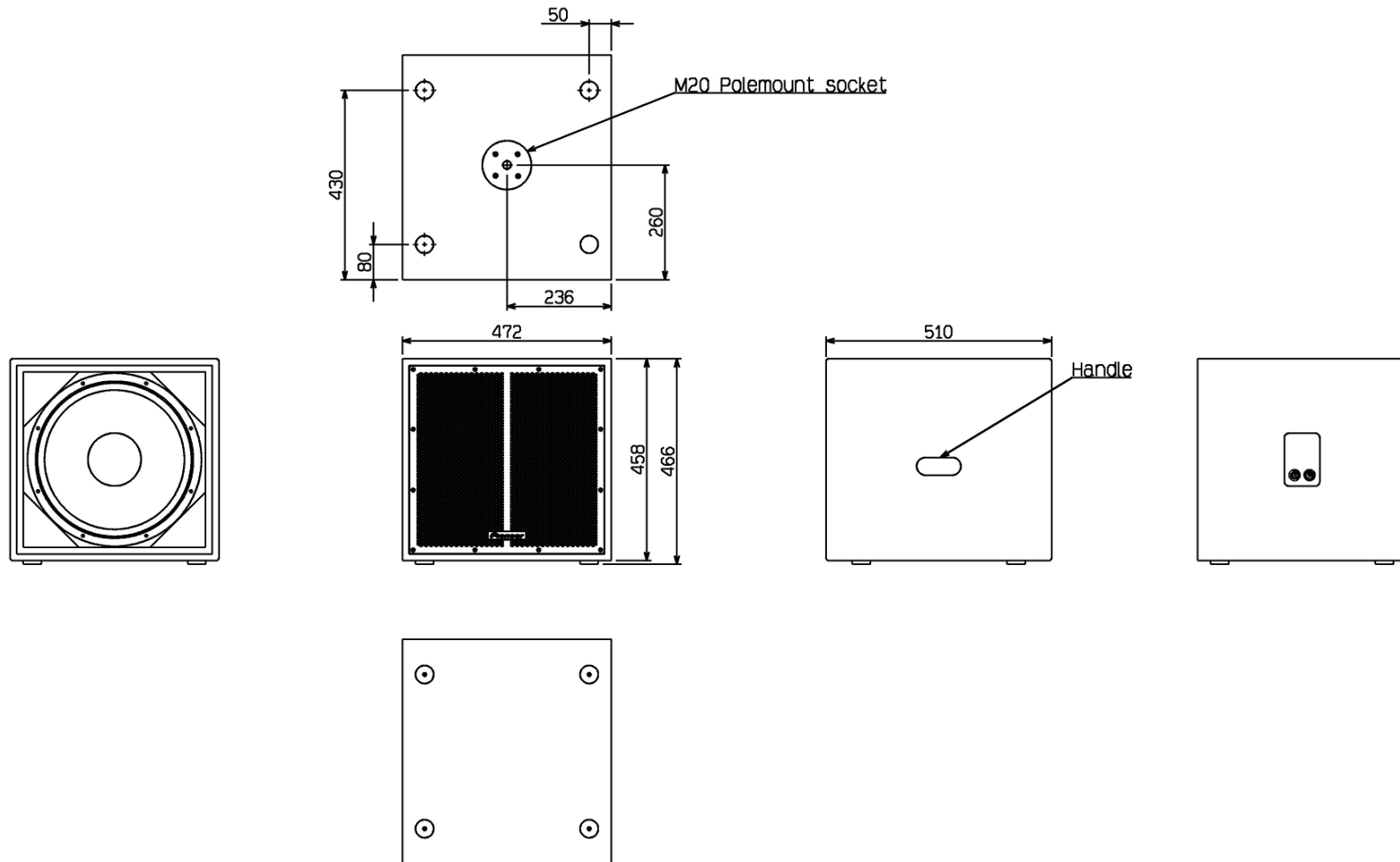
6 Specifications

6.2 Drawing



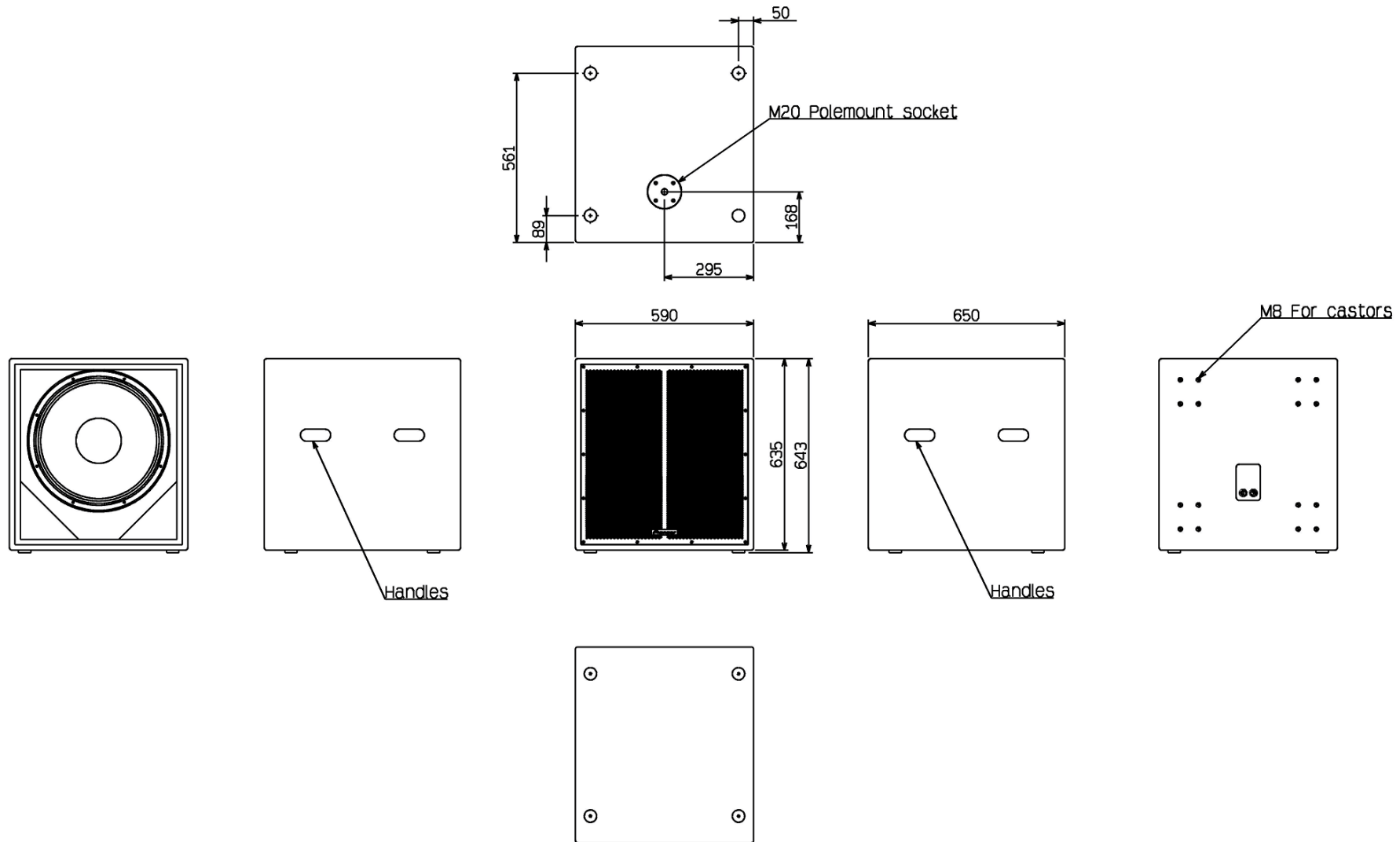
6 Specifications

6.2 Drawing



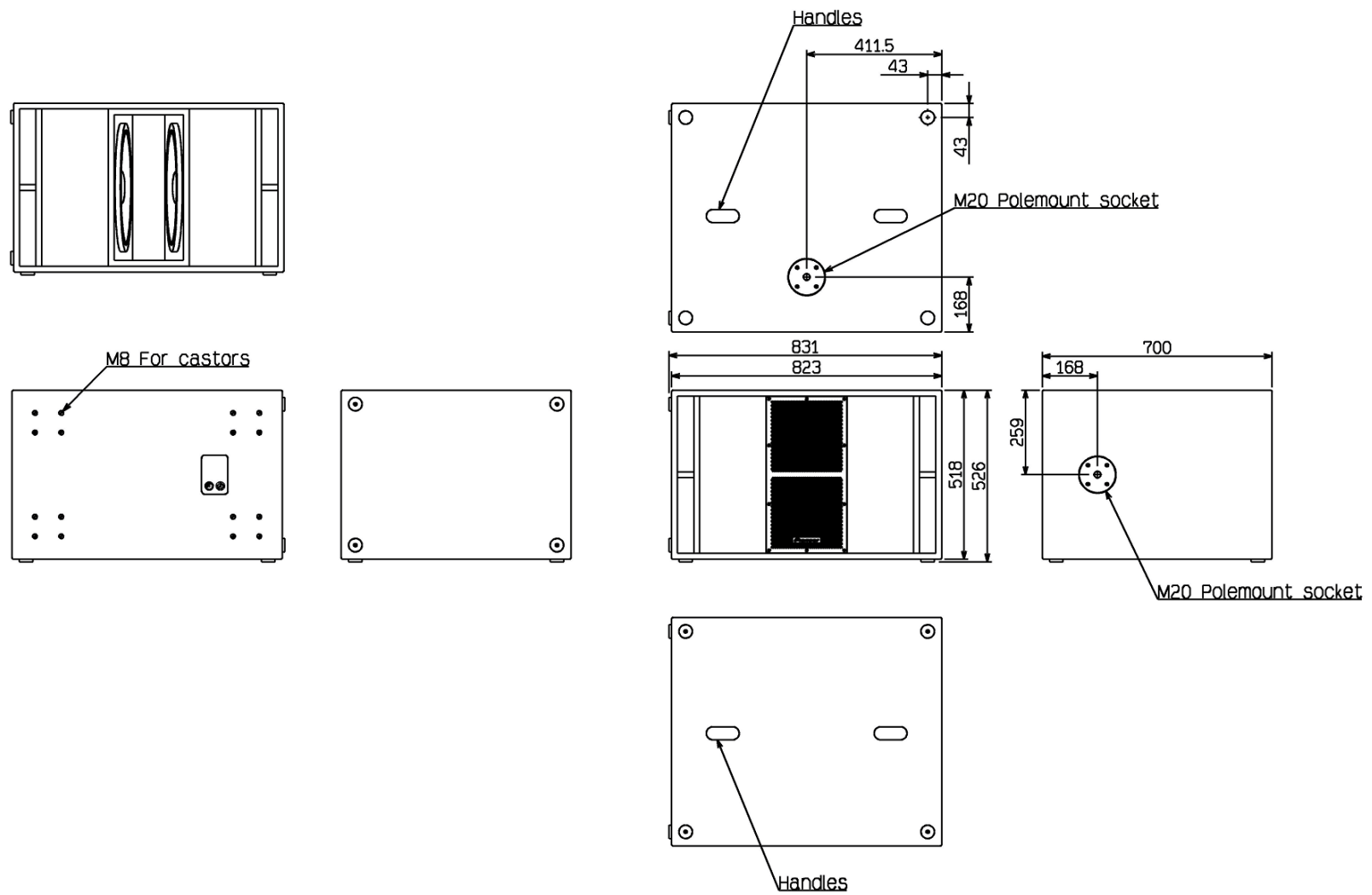
6 Specifications

6.2 Drawing



6 Specifications

6.2 Drawing



6 Specifications

6.2 Drawing

