FLY ARRAY

User Manual

Systems:

Fly 6
Fly Sub 12
Fly Sub 15
Fly Sub 18

Contents

1. Safety instructions

1. Read these instructions carefully.

2. Keep these instructions.

3. Heed all warnings.

4. Follow all instructions.

5. Do not use this system near water.

6. Clean only with dry cloth.

7. Do not block any ventilation openings. Failure to do so may cause fast overheating and force system to switch itself off.

8. Do not use the system near heat sources such as stoves, radiatiors or other equipment that produces massive heat.

9. Do not use the system near open fire sources.

10. Connect the system only to the electric network with grounding.

11. Protect the power cord from being walked on, pinched, or otherwise damaged.

12. Use only accessories specified by the manufacturer.

13. Use only the cart, stand, tripod or bracket specified by the manufacturer, or sold with the unit. When a cart is used, use caution when moving the cart with unit to avoid injury from tip-over.

14. Unplug this system during lightning storms or when unused for long periods of time.

15. Refer all servicing to qualified service personnel. Servicing is required when the system has been damaged in any way, such as power supply cord or plug is damaged, liquid has been spilled or objects have fallen into the unit, the unit has been exposed to rain or moisture, does not operate normally, or has been dropped.

16. To completely disconnect this system from AC mains, disconnect the power supply cord from the AC receptacle.

17. WARNING - TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS SYSTEM UNIT TO RAIN OR MOISTURE.

18. The main plug of the power supply cord shall remain readily operable.

19. This system is capable of delivering a significant soundpressure levels. To avoid permanent or temporary hearing damage, prolonged exposure to sound pressure levels exceeding 90 dB should be limited

THIS SYSTEM CONTAINS POTENTIALLY LETHAL VOLTAGES. TO PREVENT ELECTRIC SHOCK OR HAZARD, DO NOT REMOVE APLIFIER MODULE OR ITS PARTS. NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

MOUNTING AND SUSPENSION OF THIS SYSTEM MUST BE PERFORMED ONLY BY QUALIFIED TRAINED PERSONNEL FOLLOWING APPLICABLE SAFETY RULES. DO NOT ALLOW MOUNTING OR SUSPENSION OF THIS UNIT IF MOUNTING OR SUSPENSION HARDWARE IS BROKEN, BENT, PARTS ARE MISSING OR IS OTHERWISE DAMAGED.

2. System description

Fly line array system is a reliable solution for small and mid-sized venues, concert halls, restaurants, clubs and small discos, where size and power are top priorities.

Fly line array comes with lots of rigging accessories, so it can be installed in large variety of ways: as a ground stack, flying stack, or pole mounted system.

Additionaly, Fly line array is fully integrated with Powersoft® amplifiers, extending its functionality and convenience.

Fly 6 is a line array module with fixed vertical curvature (20°). Closed enclosure with four 6" mid-range transducers and two 1,75" VC HF drivers is complete with integrated flying/stacking system and pole mount adapter.

Fly Sub 12 is a convenient low frequency supplement for Fly 6 system, capable of being flown or ground stacked.
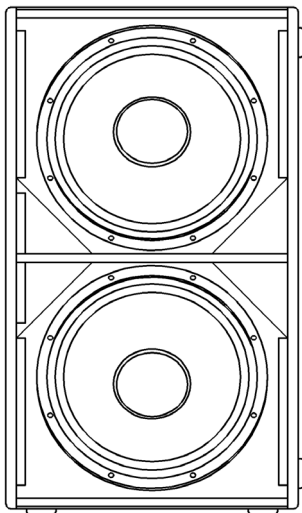
Fly Sub 15 and Fly Sub 18 are low-end supports for the entire system. They are packed with two high excursion 15-inch or 18-inch cone drivers and equipped with pole mount adapters for Fly 6.
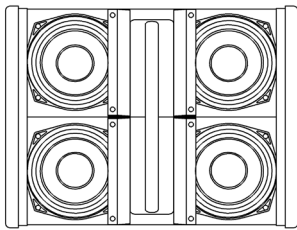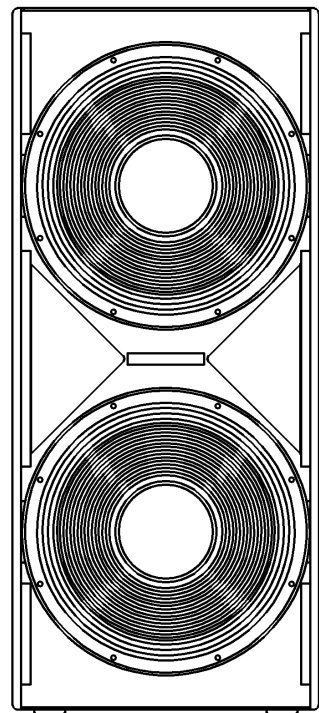

Fly 6
Part No. 0022800516
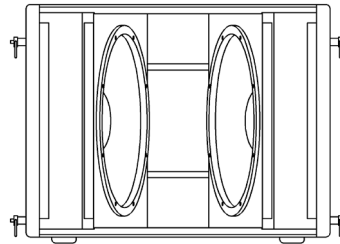
Fly Sub 12
Part No. 0022800616
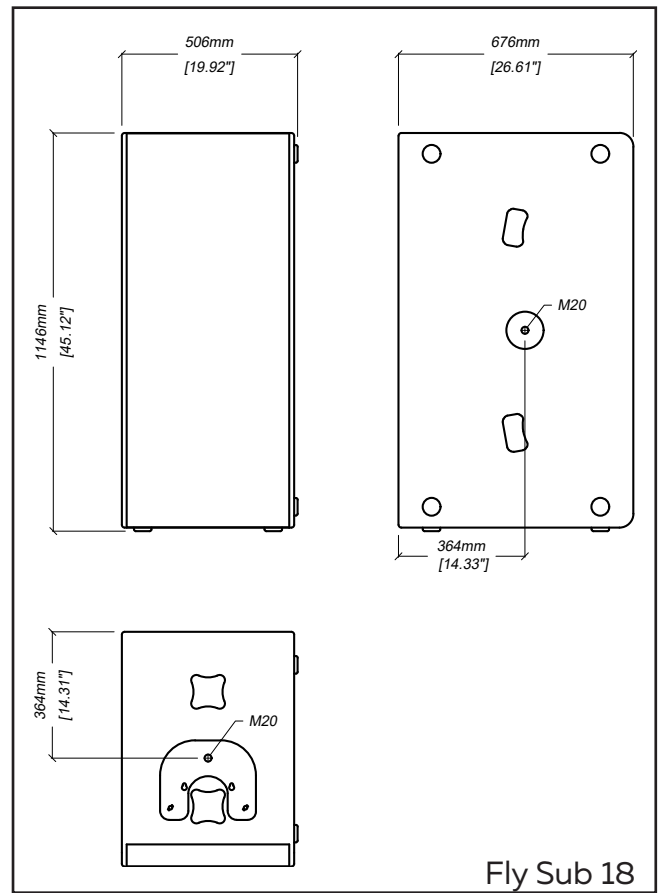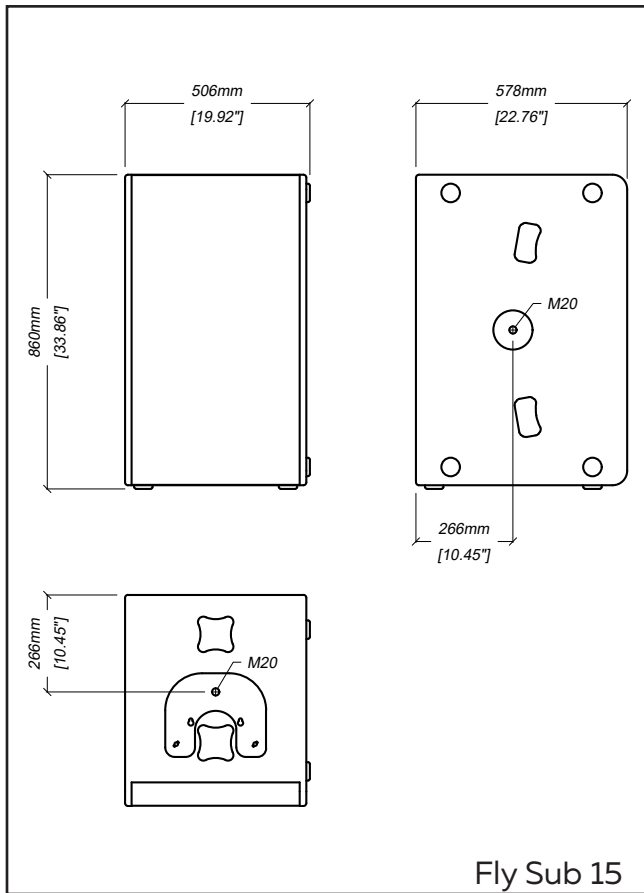

Fly Sub 15
Part No. 0022800716

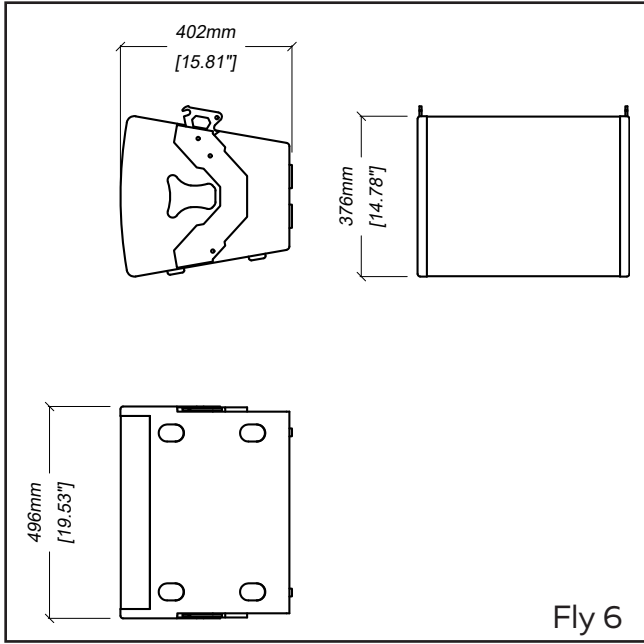**Fly Sub 18**
Part No. 0022800816

3.1. Specifications – Technical data

System	Fly 6	Fly Sub 12	Fly Sub 15	Fly Sub 18
Type	Powered fixed array module	Powered array sub-woofer	Powered array sub-woofer	Powered array sub-woofer
Frequency response (-10dB)	100 – 19000 Hz	60 – 220 Hz	45 – 200 Hz	27 – 150 Hz
Max SPL (peak)	131,5 dB (calculated)	133 dB (calculated)	136 dB (calculated)	138 dB (calculated)
LF Transducer	4x6"	2x 12"	2x 15"	2x 18"
HF Transducer	2x 1"	-		
Nominal coverage HxV	100° x 15°	-		
Power	1050 W	1400 W	2000 W	2000 W
Amplifier	Class D Powersoft®, fan cooling	Class D Powersoft®, fan cooling	Class D Powersoft®, fan cooling	Class D Powersoft®, fan cooling
Max input current	4A	5A	10A	10A
Input sensitivity	+4 dBV	+4 dBV	+4 dBV	+4 dBV
Input impedance	10 kOhm (bal.)	10 kOhm (bal.)	10 kOhm (bal.)	10 kOhm (bal.)
Settings	4 switchable presets	4 switchable presets	4 switchable presets	4 switchable presets
Connectors	XLR in + XLR out	XLR in + XLR out	XLR in + XLR out	XLR in + XLR out
Dimensions (WxHxD)	496x376x402 mm	496x390x694 mm	506x860x578 mm	506x1146x676 mm
Net weight	24 kg	36 kg	59 kg	79 kg
Shipping weight	27 kg	39 kg	63 kg	84 kg
Mounting	Integrated flying hardware	Integrated flying hardware	Two M20 distance pole adapters, Fly array U-bracket adapter	Two M20 distance pole adapter, Fly array U-bracket adapter
Enclosure materials	Plywood; wear-resistant paint	Plywood; wear-resistant paint	Plywood; wear-resistant paint	Plywood; wear-resistant paint
Grill	Steel grill, polymere protective net	Steel grill	Steel grill	Steel grill
Color	Black	Black	Black	Black

3.2. Specifications – Dimensions

402mm
[15.81"]

376mm
[14.78"]

496mm
[19.53"]

Fly 6

694mm
[27.32"]

390mm
[15.35"]

496mm
[19.53"]

Fly Sub 12

506mm
[19.92"]

578mm
[22.76"]

860mm
[33.86"]

M20

266mm
[10.45"]

266mm
[10.45"]

M20

Fly Sub 15

506mm
[19.92"]

676mm
[26.61"]

1146mm
[45.12"]

M20

364mm
[14.33"]

364mm
[14.31"]

M20

Fly Sub 18
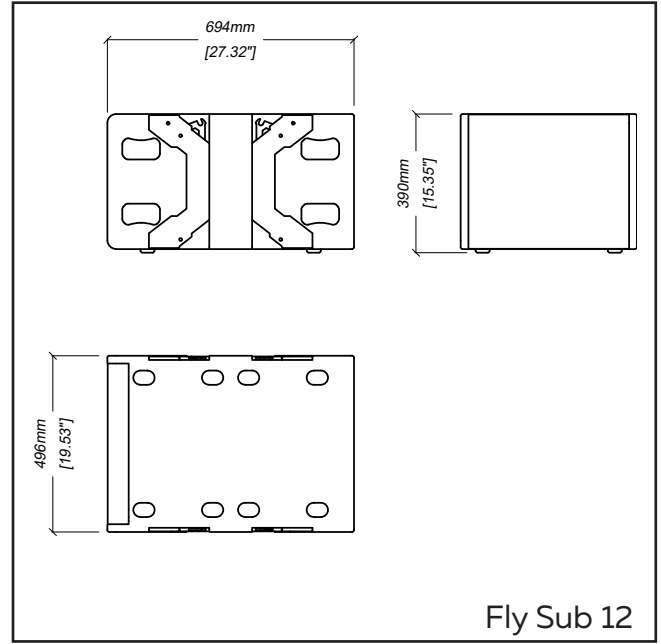
4.1. System operation – Rigging

Fly Array systems are equipped with integrated rigging system for versatile applications.

Rigging must be performed only by trained personnel following the established safety rules.

MAXIMUM WEIGHT RESTRICTIONS MUST BE FOLLOWED AT ALL TIMES!

MAKE SURE THE SUPPORT STRUCTURE IS CAPABLE OF HOLDING THE APPLIED WEIGHT WHILE SUSPENDING THE SYSTEM!

Fly 6 system flying via flying adapter

Required accessories:
*FL-01 (part No. 0200101101) – 1 pcs*
FL-02 (part No. 0200101102) – 1 pcs
VA-0010 (part No. 0209000001) – 2 pcs

– Align FL-02 flying adapter with rests of FL-01 bracket.
– Insert two VA-0010 Quick lock pins into the sockets to fix the assembly.
– Release two locking pins on the Fly 6 integrated hardware.
– Insert the FL-01 + FL-02 assembly to find supports on the Fly 6 hardware supports.
– Insert two locking pins to secure the connection.

MAXIMUM OF THREE FLY 6 SYSTEMS ARE ALLOWED FOR SUSPENSION WITH FL-02 ADAPTER.

Standard 5/8" shackle may be used to suspend the entire system.
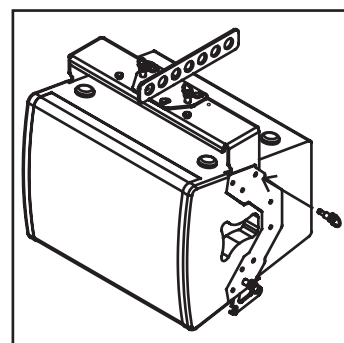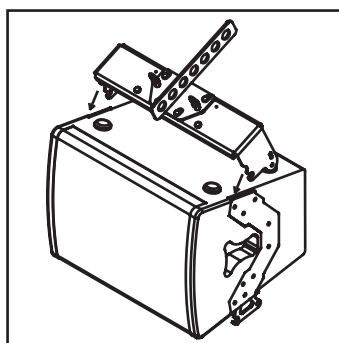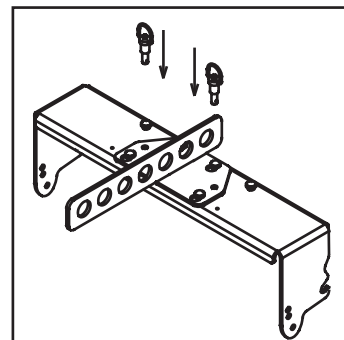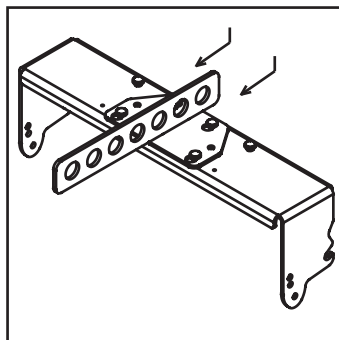
Attaching two Fly 6 systems

– On the upper Fly 6 system release quick lock pins, pull the integrated link down, and secure it with the quick lock pin.
– Position the lower Fly 6 cabinet so its integrated link finds support in the upper cabinet's hardware.
– Secure connection with a quick lock pins
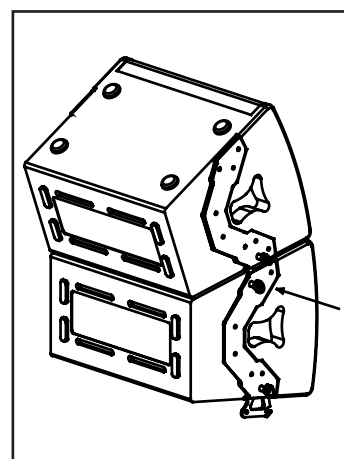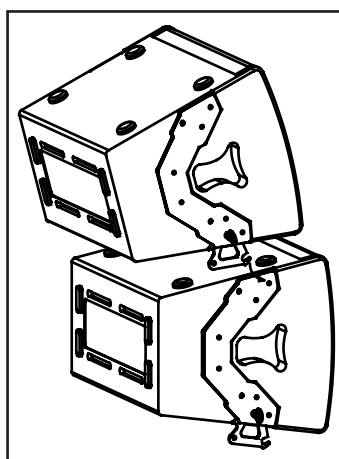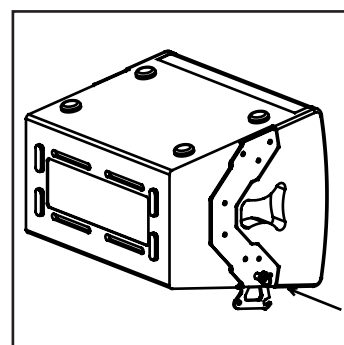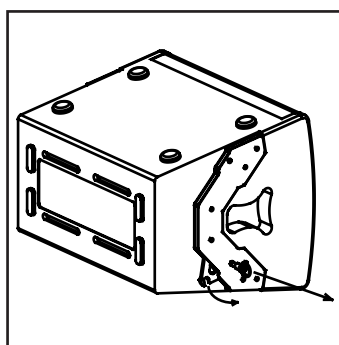
4.1. System operation – Rigging

Fly 6 flying angle reference

|	Flying socket number						
	1	2	3	4	5	6	7
1 cabinet	+ 21°	+ 12,5°	+ 2,5°	– 7,5°	– 16°	– 24°	– 29°
2 cabinets	+ 20,5°	+ 14°	+ 8°	+ 2°	– 4°	– 9,5°	– 15°
3 cabinets	+ 24,5°	+ 19,5°	+ 14°	+ 9 °	+ 4°	– 0,5°	– 4,5°

Single, two or three Fly 6 cabinets are capable to be flown via FL–01 and FL–02 accessories. Table above states the angle between horizontal plane and vertical axis of the top–most cabinet. Positive angle means cabinets are "looking up", negative angle means cabinets are "looking down".
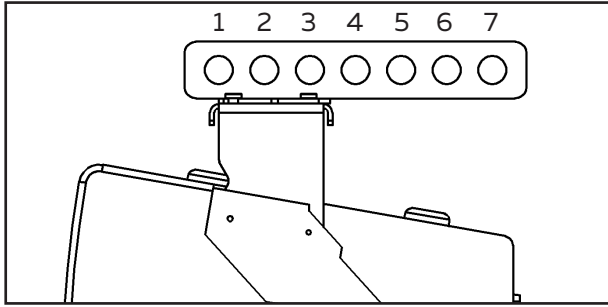
Fly 6 with FL–01 and FL–02
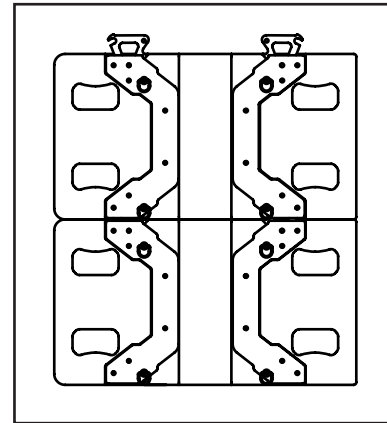flying socket number reference
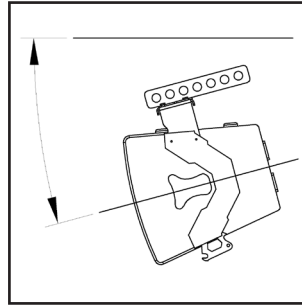
" – " angle
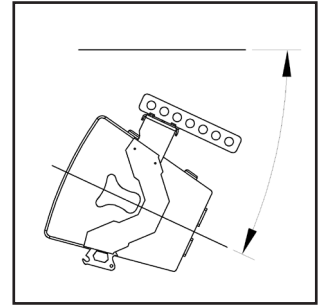
" + " angle

Attaching two Fly Sub 12s

– On the lower Fly Sub 12 system release quick lock pins, pull the integrated link up, and secure it with the quick lock pins.
– Position the lower Fly Sub 12 system so its integrated link finds support in the upper cabinet's hardware.
– Secure connection with a quick lock pins.

Refer to the instruction on the system's hardware for more detailed walkthrough

Attaching Fly 6 to Sub 12

– On the lower Fly 6 system release quick lock pins, pull the integrated link up, and secure it with the quick lock pins.
– Position the lower Fly 6 system so its integrated link finds support in the upper cabinet's hardware.
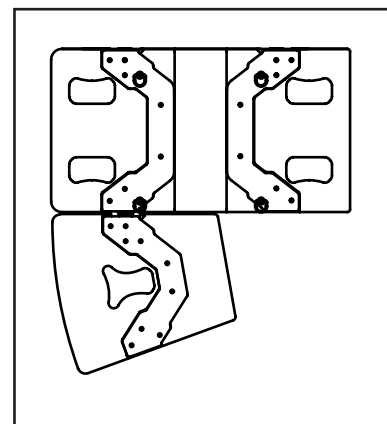– Secure connection with a quick lock pins.

Refer to the instruction on the system's hardware for more detailed walkthrough

4.1. System operation – Rigging

Fly Sub 12 system flying via flying adapter

Required accessories:
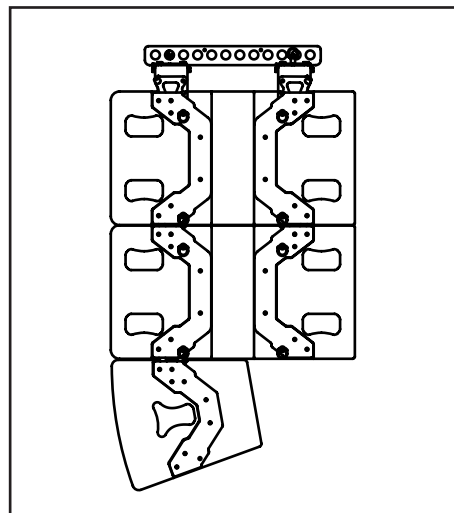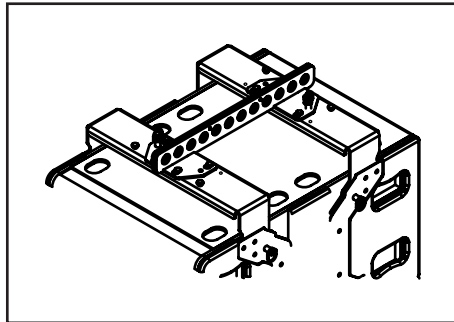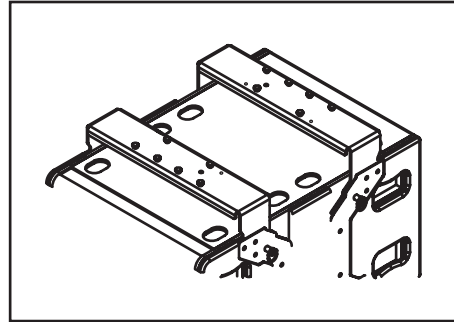*FL-01 (part No. 0200101101) – 2 pcs*
FL-04 (part No. 0200101102) – 1 pcs
VA-0010 (part No. 0209000001) – 4 pcs

– Release quick locking pins on the top of the Fly Sub 12.
– Insert two FL-01 flying brackets into the supports of the Fly Sub 12 hardware.
– Insert two VA-0010 quick lock pins into the sockets to fix the assembly.
– Align the FL-04 flying adapter with sockets of the FL-01 flying brackets.
– Insert four VA-0010 quick lock pins to secure the connection.

MAXIMUM OF THREE FLY SUB 12 SYSTEMS ARE ALLOWED FOR SUSPENSION WITH FL-04 ADAPTER.

Standard 5/8" shackles may be used to suspend the entire system.

4.1. System operation – Rigging

Fly array stacked via pole mount adapter

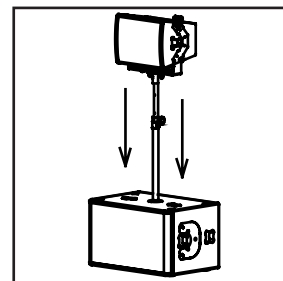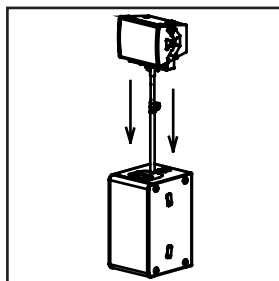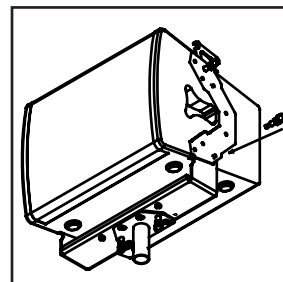*Required accessories:*
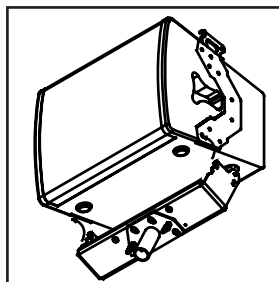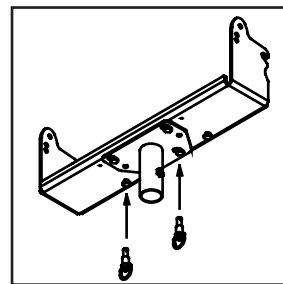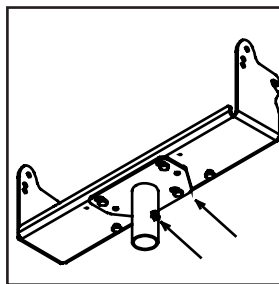*FL–01 (part No. 0200101101) – 1 pcs*
FL–03 (part No. 0200101103) – 1 pcs
SAT–3T (part No. 0209000020) – 1 pcs
VA–0010 (part No. 0209000001) – 2 pcs

– Align FL–03 flying adapter with rests of FL–01 bracket.
– Insert two VA–0010 Quick lock pins into the sockets to fix the assembly.
– Release two locking pins on the Fly 6 integrated hardware.
– Insert the FL–01 + FL–03 assembly to find supports on the Fly 6 hardware supports.
– Insert two locking pins to secure the connection.
– Mount securely the SAT–3T distance pole into the M20 socket of the Fly Sub 15 or Fly Sub 18 subwoofer.
– Mount the Fly 6 + FL–01 + FL–03 assembly onto the SAT–3T distance pole.

MAXIMUM OF TWO FLY 6 SYTEMS ARE ALLOWED FOR POLE MOUNTING.

Fly array ground stacked

Required accessories:
FL–01 (part No. 0200101101) – 1 pcs
VA–0010 (part No. 0209000001) – 2 pcs

– Align FL–01 flying adapter with rests of Fly Sub 15 or Fly Sub 18 hardware.
– Insert two VA–0010 Quick lock pins into the sockets to fix the assembly.
– Release two locking pins on the Fly 6 integrated hardware.
– Insert the Fly 6 into mounted FL–01 flying adapter until it finds its supports.
– Insert two locking pins to secure the connection.

MAXIMUM OF TWO FLY 6 SYSTEMS ARE ALLOWED FOR GROUND STACKING.
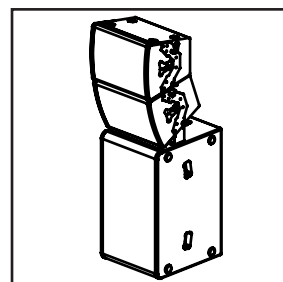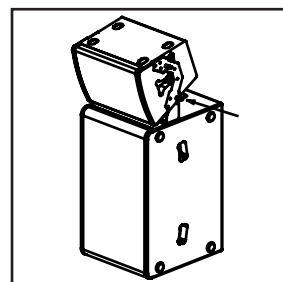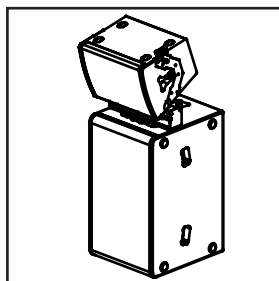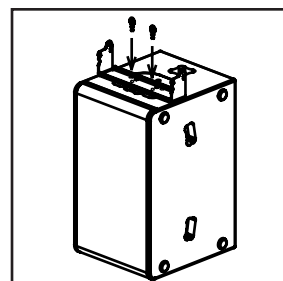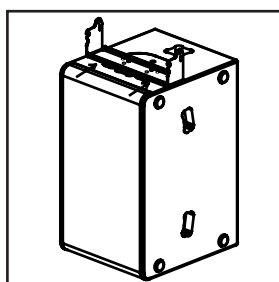
4.2. System operation – amplifiers

Fly 6 and Fly Sub 12 built-in power amplifier:

Fly Sub 15 and Fly Sub 18 built-in power amplifier:
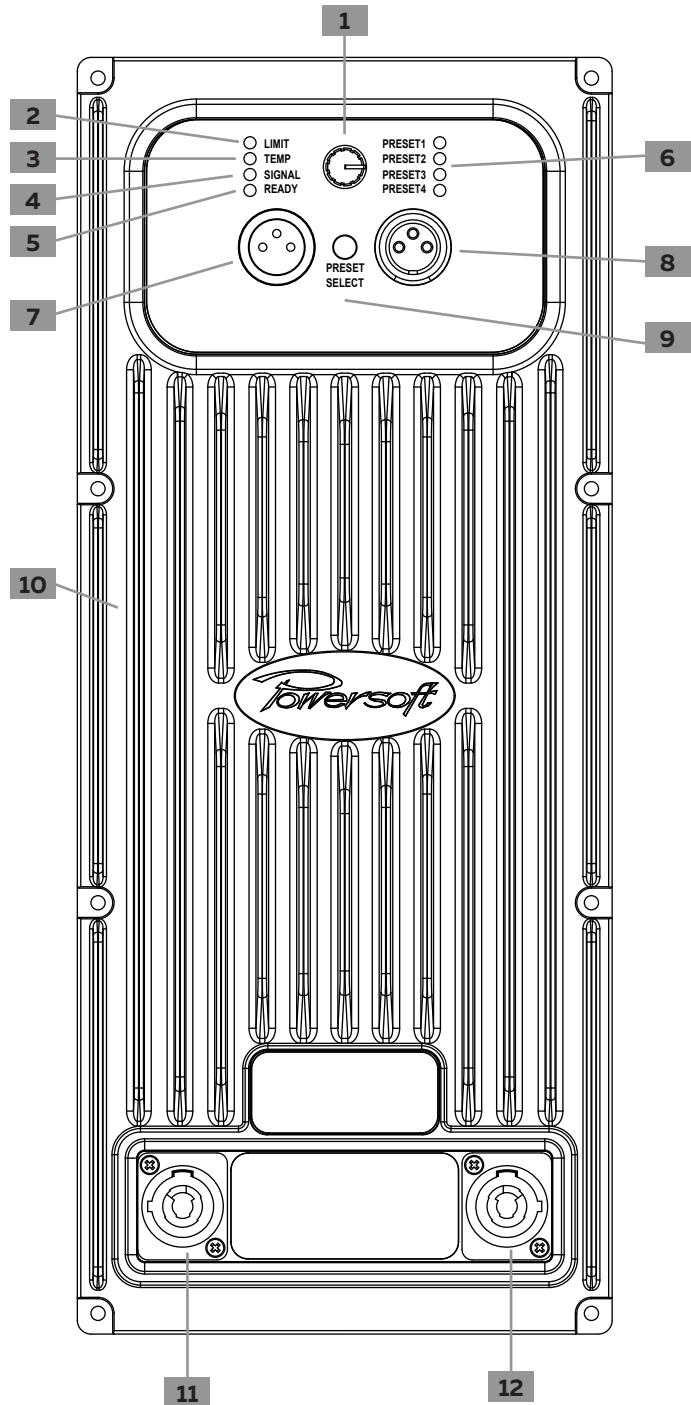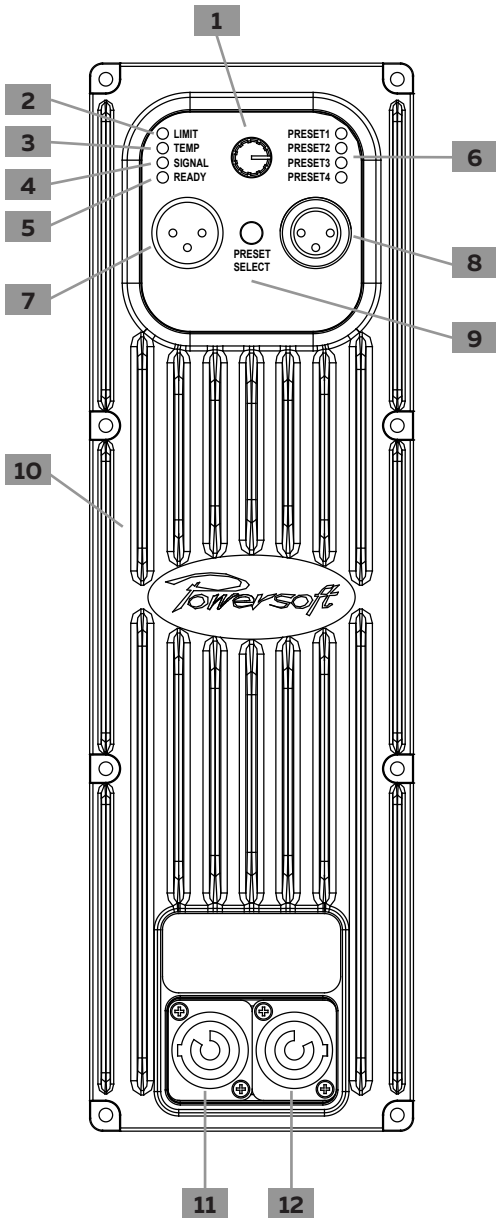
1. VOLUME KNOB. Used for adjusting the volume of the system. Remember to turn the volume dowm before connecting/disconnecting INPUT or LINK connectors.

2. LIMIT LED. Is lit when limiter is operational, indicating excessive signal through the system.

3. TEMP LED. Is lit when tempreture protection is in place, indicating overheating.

4. SINGAL LED. Is lit when signal is present on the INPUT connector.

5. READY LED. Is lit when system is fully operational.

6. PRESET LEDS. Indicate the currently selected system preset. For preset description, refer to the "4.4 System Operation - Configurations" section of this manual, page 13.

7. LINK CONNECTOR. Used for linking additional compactible system to same signal source.

8. INPUT CONNECTOR. Used for connecting the system to the signal source (mixing console etc.)

9. PRESET SELECT BUTTON. Used for switching currently selected system preset.

10. HEAT SINK. Large heat sink for effective heat dissipation.

11. PowerCon A CONNECTOR. Used for connecting mains supply to the system.

12. PowerCon B CONNECTOR. Used for feeding the mains supply to the additional system.

4.3. System operation – Connections and setup

Mains connection. Fly Array systems are supplied with CN-0010 PowerCon-E/F CEE 7/7 mains cable (part number 0204000003). Use only original or supplied by manufacturer mains cables!. Fly Array systems are equipped with PowerCon B mains power outlets for mains link to additional Fly system. For linking several Fly 6 full-range systems CN-0011 PowerCon link cable may be used. (Part number 0204000004, not supplied with the system).
Fly Array systems nominal mains power specifications: AC 220V, 50/60 Hz.
Nominal voltage tolerance: 100 - 250 V.

To power the system up, connect the mains cable to the system, then to the power outlet.
To completely power down the system, disconnect the mains cable from the power outlet.

Maximum number of Fly Array systems for power linking.
Do not exceed the number of power linked system listed below:

Fly 6 - no more than 5 pcs.
Fly Sub 12 - no more than 4 pcs.
Fly Sub 15 - no more than 2 pcs.
Fly Sub 18 - no more than 2 pcs.

Signal connections. Fly Array systems are equipped with XLR INPUT an XLR LINK connectors for signal connection.
Use of balanced XLR connector cables is recommended. In case when balanced XLR connections are not available, unbalanced XLR connection is acceptable.
For linking the additional system to the same signal bus LINK connector may be used.
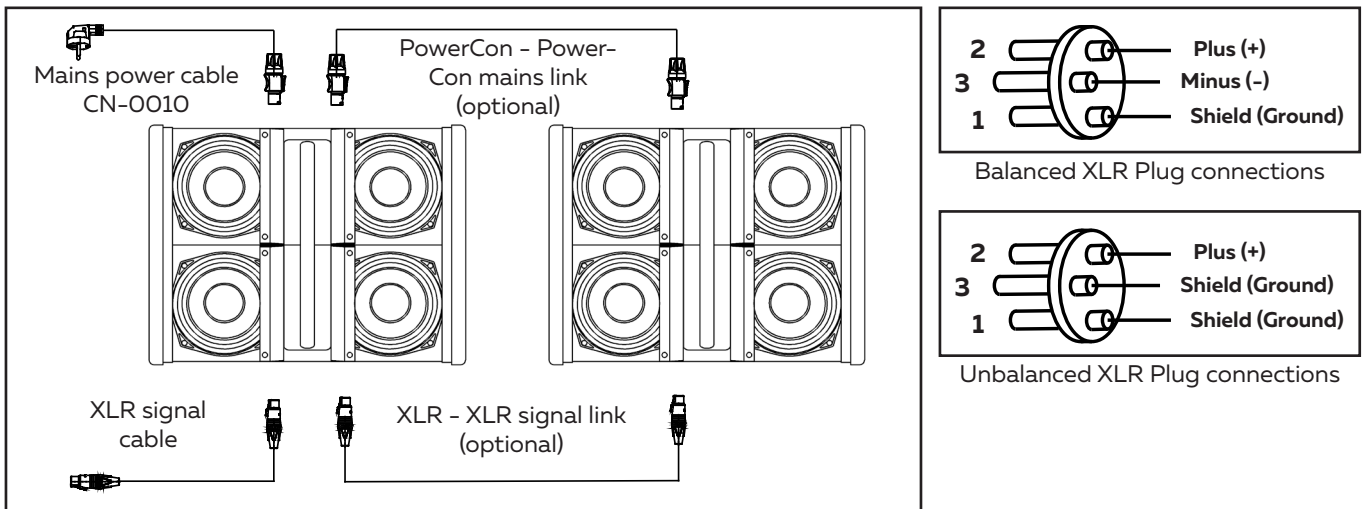
Fly Array systems connection

Fly Array systems power linking

4.4. System operation – Configurations

Fly Array systems are series of versatile speaker suitable for different applications and task scopes.

Fly Array systems presets. Fly array system's amplifiers are storing several presets for different applications.

Fly Array systems presets descriptions:

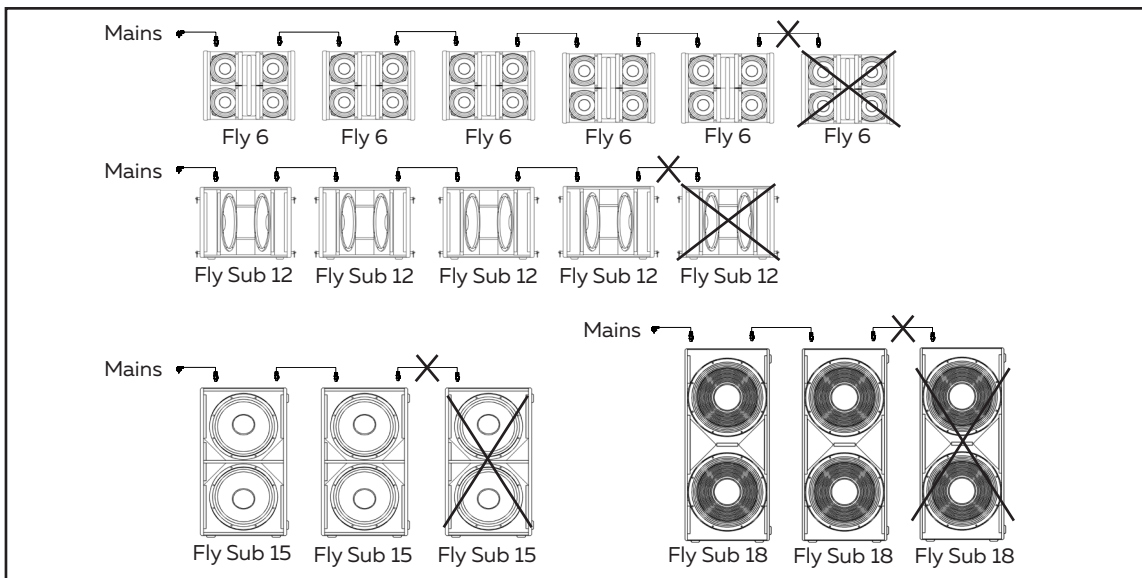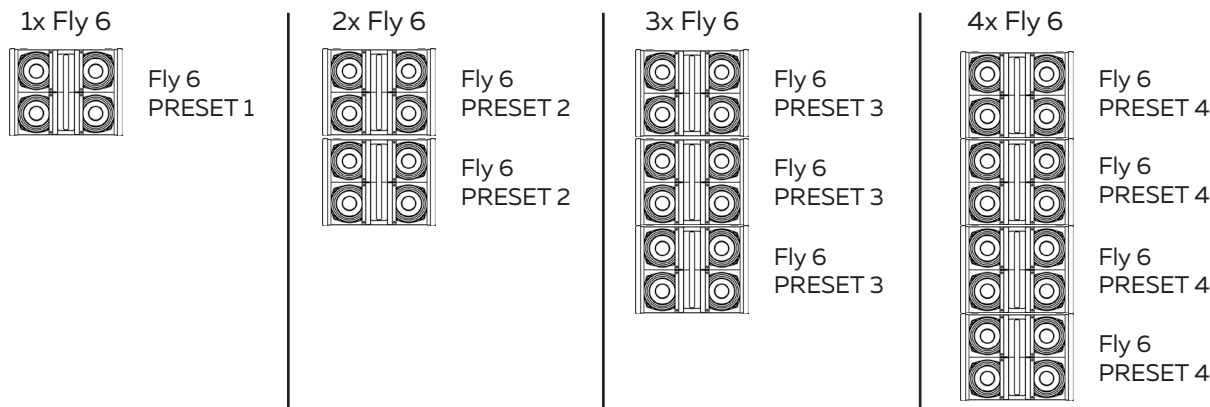| System	Fly 6	Fly Sub 12	Fly Sub 15	Fly Sub 18
PRESET 1	For use of single cabinet	3-way system, normal cabinet	3-way system, frontal cabinet	3-way system, frontal cabinet
PRESET 2	For two cabinets stack	3-way system, inverted cabinet (cardioid stack)	3-way system, inverted cabinet (cardioid stack)	3-way system, inverted cabinet (cardioid stack)
PRESET 3	For three cabinets stack	4-way system, normal cabinet	4-way system, frontal cabinet	4-way system, frontal cabinet
PRESET 4	For four cabinets stack	4-way system, inverted cabinet (cardioid stack)	4-way system, inverted cabinet (cardioid stack)	4-way system, inverted cabinet (cardioid stack)

Fly 6 configurations. Fly 6 full-range speaker systems should be set up differently while using different number of units in stack. For this purpose, different presets on all speaker in the stack should be used:


1x Fly 6 — Fly 6 PRESET 1

2x Fly 6 — Fly 6 PRESET 2 / Fly 6 PRESET 2

3x Fly 6 — Fly 6 PRESET 3 / Fly 6 PRESET 3 / Fly 6 PRESET 3

4x Fly 6 — Fly 6 PRESET 4 / Fly 6 PRESET 4 / Fly 6 PRESET 4 / Fly 6 PRESET 4

Fly Sub 12, Fly Sub 15 and Fly Sub 18 cardioid usage. Fly Array subwoofer systems are capable to be united into the cardioid low frequency arrays. For this purpose, the inverted subwoofer system must be installed backwards, and corresponding preset must be used (PRESET 2 for 3 way system, PRESET 4 for 4 way system).

Two unit and three unit cardioid subwoofer arrays. Cardioid arrays using two or three Fly Array subwoofers are available. For different number of subwoofers, different settings should be used for best results.

For two unit subwoofer array, put the frontal subwoofer's Volume Knob in +6dB position, and put the inverted subwoofer's Volume Knob in 0dB position

For three unit subwoofer array, put the Volume Knobs of all subwoofers in +6dB position.
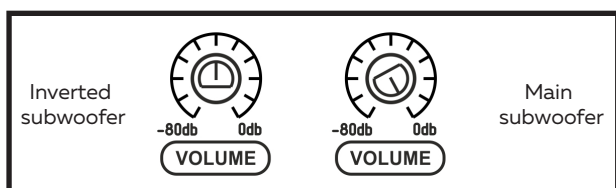
Two unit cardioid array volume knobs positions
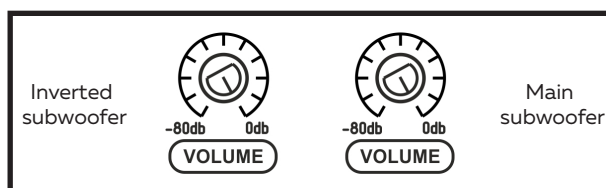
Three unit cardioid array volume knobs positions

4.4. System operation – Configurations

Fly Sub 12 configurations. Fly Sub 12 is low frequency supplement for Fly Array system and is used primarily for 4-way systems or situations where ground stacked subwoofers are not an option.

Fly Sub 12 preset usage reference:

3-way system

Fly Sub 12 PRESET 1

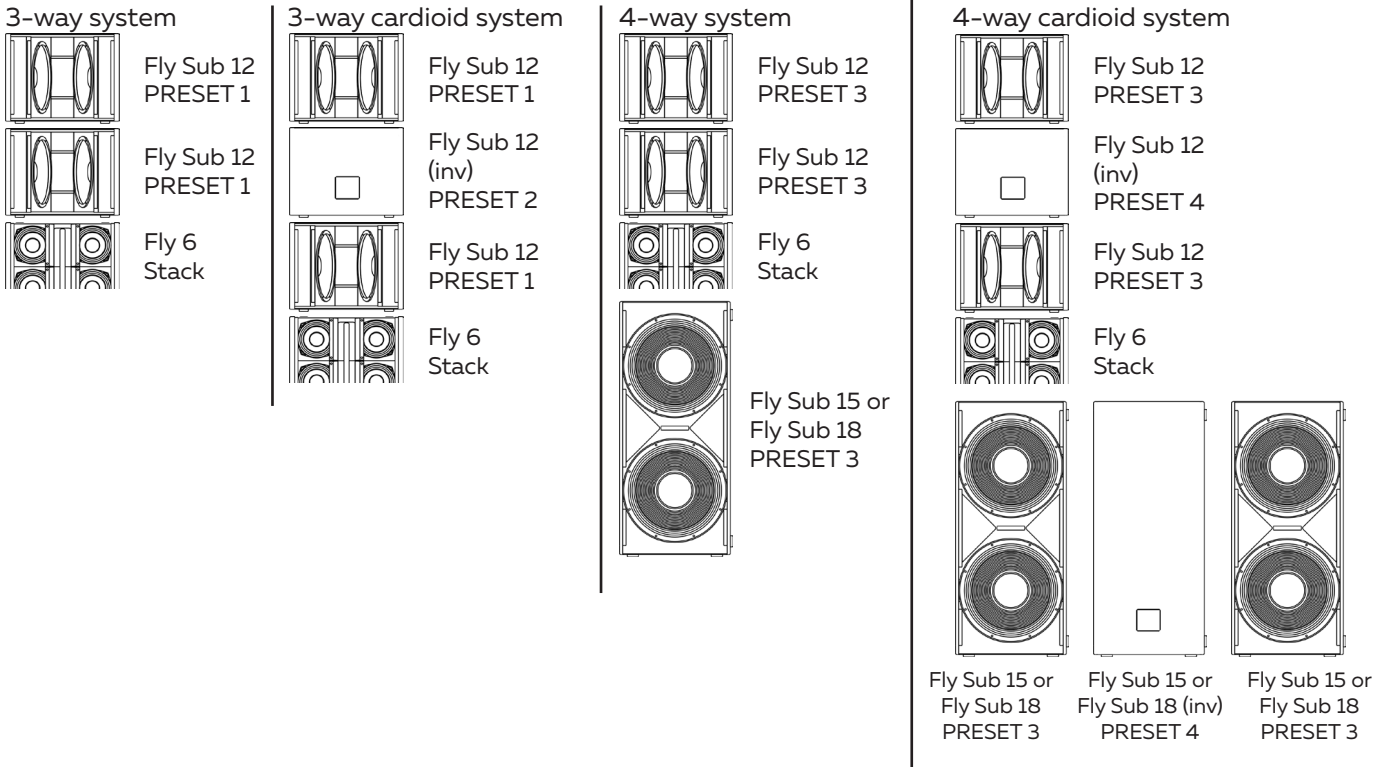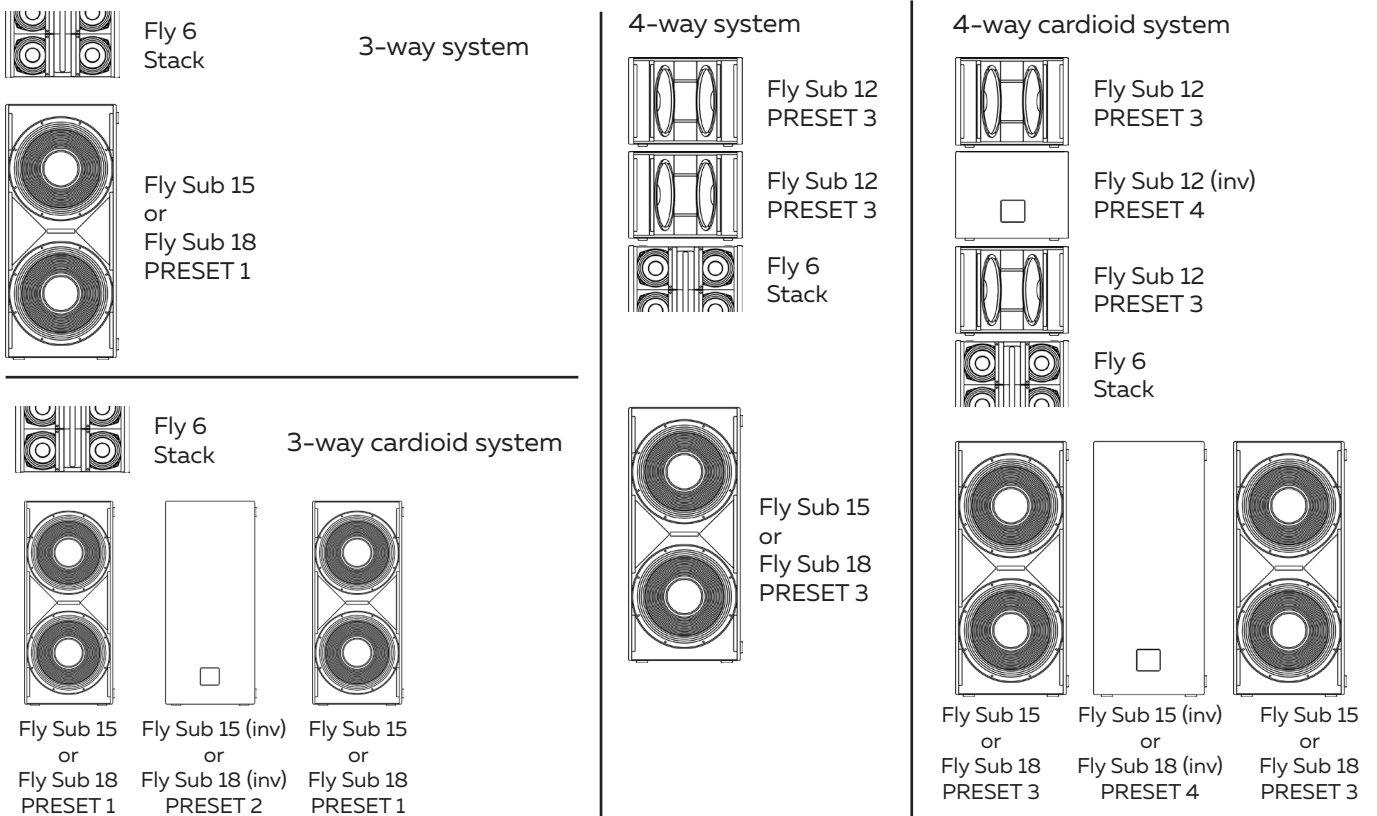Fly Sub 12 PRESET 1

Fly 6 Stack

3-way cardioid system

Fly Sub 12 PRESET 1

Fly Sub 12 (inv) PRESET 2

Fly Sub 12 PRESET 1

Fly 6 Stack

4-way system

Fly Sub 12 PRESET 3

Fly Sub 12 PRESET 3

Fly 6 Stack

Fly Sub 15 or Fly Sub 18 PRESET 3

4-way cardioid system

Fly Sub 12 PRESET 3

Fly Sub 12 (inv) PRESET 4

Fly Sub 12 PRESET 3

Fly 6 Stack

Fly Sub 15 or Fly Sub 18 PRESET 3

Fly Sub 15 or Fly Sub 18 (inv) PRESET 4

Fly Sub 15 or Fly Sub 18 PRESET 3

Fly Sub 15 and Fly Sub 18 configurations. Fly Sub 15 and Fly Sub 18 are main low-frequency reinforcement systems for Fly Array. They are capable to be used in 3- or 4-way set, and be assembled into cardioid arrays.

Fly Sub 15 and Fly Sub 18 preset usage referance:

3-way system

Fly 6 Stack

Fly Sub 15 or Fly Sub 18 PRESET 1

3-way cardioid system

Fly 6 Stack

Fly Sub 15 or Fly Sub 18 PRESET 1

Fly Sub 15 (inv) or Fly Sub 18 (inv) PRESET 2

Fly Sub 15 or Fly Sub 18 PRESET 1

4-way system

Fly Sub 12 PRESET 3

Fly Sub 12 PRESET 3

Fly 6 Stack

Fly Sub 15 or Fly Sub 18 PRESET 3

4-way cardioid system

Fly Sub 12 PRESET 3

Fly Sub 12 (inv) PRESET 4

Fly Sub 12 PRESET 3

Fly 6 Stack

Fly Sub 15 or Fly Sub 18 PRESET 3

Fly Sub 15 (inv) or Fly Sub 18 (inv) PRESET 4

Fly Sub 15 or Fly Sub 18 PRESET 3

5. Standard contents

Please check complete complement of your Fly Array system upor receiving the package.

Standard contents of Fly Array systems:

| System	Fly 6	Fly Sub 12	Fly Sub 15	Fly Sub 18
	1 pcs – Fly 6 – powered fixed array module	1 pcs – Fly Sub 12 – powered array subwoofer	1 pcs – Fly Sub 15 – powered array subwoofer	1 pcs – Fly Sub 18 – powered array subwoofer
	4 pcs – VA–0010 quick lock pin	8 pcs – VA–0010 quick lock pin	1 pcs – CN–0010 – PowerCon mains cable	1 pcs – CN–0010 – PowerCon mains cable
	1 pcs – CN–0010 – PowerCon mains cable	1 pcs – CN–0010 – PowerCon mains cable	1 pcs – Fly Array User Manual	1 pcs – Fly Array User Manual
	1 pcs – Fly Array User Manual	1 pcs – Fly Array User Manual	1 pcs – Polyethylene bag	1 pcs – Polyethylene bag
	1 pcs – Polyethylene bag	1 pcs – Polyethylene bag	1 pcs – Carton Box	1 pcs – Carton Box
	1 pcs – Carton Box	1 pcs – Carton Box		

6. Accessories

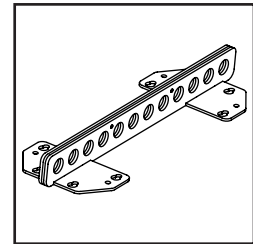Various accessories are available for Fly Array systems:
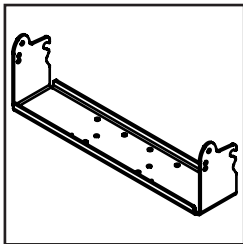
FL-01 flying bracket
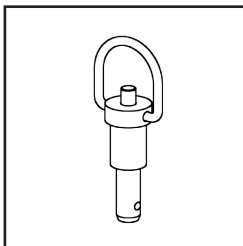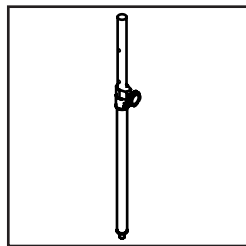Part No. 0200101101
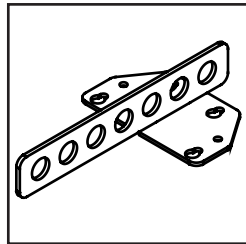
FL-02 flying adapter
Part No. 0200101102
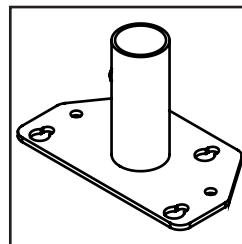
FL-03 pole flying adapter
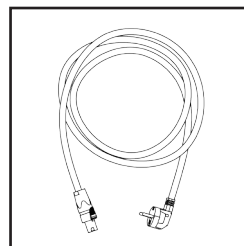Part No. 0200101103

FL-04 flying adapter
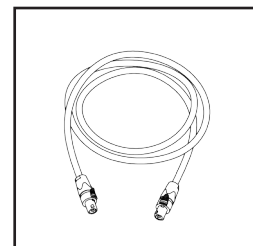Part No. 0200101800

VA-0010 quick lock pin
Part No. 0209000001

SAT-3T distance pole
Part No. 0209000020

CN-0010 PowerCon mains cable
Part No. 0204000003

CN-0011 PowerCon mains link
Part No. 0204000004

Fly6-TB – Fly 6 transportation bag Part No. 0203500090
FlySub12-TB – Fly Sub 12 transportation bag Part No. 0203500001
FlySub15-TB – Fly Sub 15 transportation bag Part No. 0203500002
FlySub18-TB – Fly Sub 18 transportation bag Part No. 0203500003

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1. By this warranty MAG Audio grants that all equipment manufactured under the MAG Audio trademark is free from defects in material, components and factory workmanship under the normal use and maintenance for the time as specified below.

2. All warranty repairs and maintenance of MAG Audio products shall be carried out at MAG Audio production sites or by MAG Audio authorized personnel at no cost for the product purchaser.

3. Warranty period for all the MAG Audio products is 36 months from the date of purchase.

4. Warranty repairs or maintenance will be performed only if a) MAG Audio product was purchased from an official MAG Audio distributor / dealer and b) warranty card with specified serial number, production date, realization date, vendor's signature and stamp is presented.

5. Warranty shall not cover following: damage caused by accident, misuse or failure to follow exploitation rules stated in technical manual; intentional damage; repairs performed by non-authorized personnel; mechanical damage caused by shipping accidents and normal tear and wear.

6. Warranty shall not be applicable to any product with defaced, removed, or modified serial number.

7. If your MAG Audio product needs repairs or maintenance, contact your official MAG Audio distributor / dealer. Please do not ship your MAG Audio product without prior authorization.

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