

N SERIES

User Manual



Systems:

N 10	N 10A
N 12	N 12A
N 15	N 15A
N S15	N S15A
N S18	N S18A



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Contents

Contents	3
1. Safety instructions	4
2. System description	5
3.1. Specifications - Technical data	6
3.2. Specifications - Dimensions	8
4.1. System operation - Rigging	10
4.2. System operation - Passive speakers	11
4.3. System operation - Powered speakers	12
4.4. System operation - Cardioid array subwoofer setup ..	14
5. Standard contents	15
6. Accessories	15



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, radiators 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 sound pressure 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 AMPLIFIER 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.

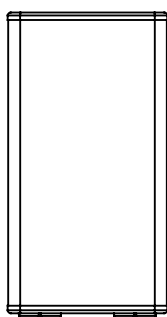
2. System description

The new generation of MAG Audio speakers is all neodymium N series. The sleek look, high performance, lightweight, and powerful rigging capabilities, are all in one package.

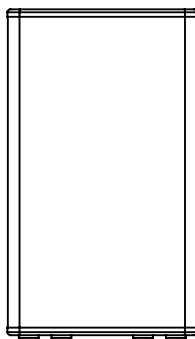
Carefully designed and optimized neodymium transducers and high frequency drivers, designed specifically for N series' demanding standards, are made for reduced cabinet sizes and weight, while providing unprecedented sound performance, in a very light and compact enclosures.

Equipped with easy-to-rig flying adapters, 10", 12" and 15" full-range speakers cover all imaginable compact speakers' applications, from small scale FOH to backline, from installation to PA. Reinforced with low profile, performance optimized 15" and 18" subwoofers, the N series offers ultimate, modern and versatile sound reinforcement solution.

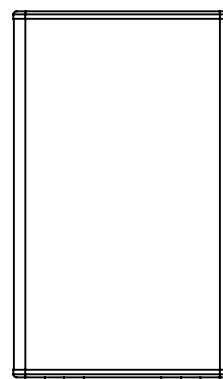
Powered versions, based on state-of-the-art high efficiency amplification modules, are made for even more control and tuning capabilities. With several independent equalization options, it is easy to set up N series rig for optimal sound in any environment. In addition, the networking adapters provide distant controlling and fine tune conveniences, and make it possible to create sophisticated sound reinforcement systems.



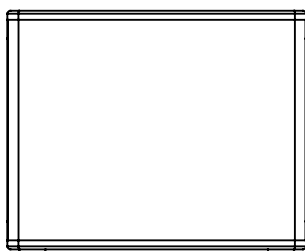
N 10 Part No. 0023500110
N 10-4 Part No. 0023500111
N 10A Part No. 0023500116



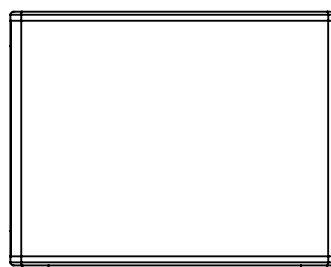
N 12 Part No. 0023500210
N 12-4 Part No. 0023500211
N 12A Part No. 0023500216



N 15 Part No. 0023500310
N 15-4 Part No. 0023500311
N 15A Part No. 0023500316



N S15 Part No. 0023500410
N S15-4 Part No. 0023500411
N S15A Part No. 0023500416



N S18 Part No. 0023500510
N S18-4 Part No. 0023500511
N S18A Part No. 0023500516



N S28 Part No. 0023500611
N S28A Part No. 0023500616



3.1. Specifications - Technical data



System	N 10	N 12	N 15
Type	Full-range passive speaker	Full-range passive speaker	Full-range passive speaker
Frequency response (-10dB)	65 – 18000 Hz	60 – 18000 Hz	55 – 18000 Hz
Max SPL (peak)	131 dB (calculated)	132 dB (calculated)	132,5 dB (calculated)
Sensitivity (1W/1m)	97 dB	98 dB	98,5 dB
LF Transducer	10"	12"	15"
HF Transducer	1,5"	1,5"	1,5"
Nominal coverage HxV	90° x 80°	90° x 80°	90° x 80°
Impedance	8 Ohm / 4 Ohm	8 Ohm / 4 Ohm	8 Ohm / 4 Ohm
Nominal power (1)	600 W	600 W	600 W
Program power	1200 W	1200 W	1200 W
Peak power	2400 W	2400 W	2400 W
Connectors	2x Neutrik Speakon	2x Neutrik Speakon	2x Neutrik Speakon
Dimensions (WxHxD)	319x610x336 mm	379x660x367 mm	436x740x423 mm
Net weight	19 kg	22 kg	26 kg
Shipping weight	22 kg	25 kg	29 kg
Mounting	4x FlyTrack flying points, pole mount adapter	4x FlyTrack flying points, pole mount adapter	4x FlyTrack flying points, pole mount adapter
Enclosure materials	Plywood; wear-resistant paint	Plywood; wear-resistant paint	Plywood; wear-resistant paint
Grill	Steel grill, polymer protective net	Steel grill, polymer protective net	Steel grill, polymer protective net

System	N S15	N S18	N S28
Type	Passive subwoofer	Passive subwoofer	Passive subwoofer
Frequency response (-10dB)	40 – 300 Hz	35 – 250 Hz	30-250 Hz
Max SPL (peak)	134 dB (calculated)	133 dB (calculated)	139,5 (calculated)
Sensitivity (1W/1m)	97 dB	96 dB	101,5 dB
LF Transducer	15"	18"	2x18"
Impedance	8 Ohm / 4 Ohm	8 Ohm / 4 Ohm	4 Ohm
Nominal power (1)	1200 W	1200 W	1600 W
Program power	2400 W	2400 W	3200 W
Peak power	4800 W	4800 W	6400 W
Connectors	2x Neutrik Speakon	2x Neutrik Speakon	2x Neutrik Speakon
Dimensions (WxHxD)	596x482x570 mm	656x512x604 mm	1096x560x642
Net weight	32 kg	40 kg	68,4 kg
Shipping weight	35 kg	43 kg	71,4 kg
Mounting	M20 distance pole adapter	M20 distance pole adapter	M20 distance pole adapter
Enclosure materials	Plywood; wear-resistant paint	Plywood; wear-resistant paint	Plywood; wear-resistant paint
Grill	Steel grill, acoustically transparent foam	Steel grill, acoustically transparent foam	Steel grill, acoustically transparent foam

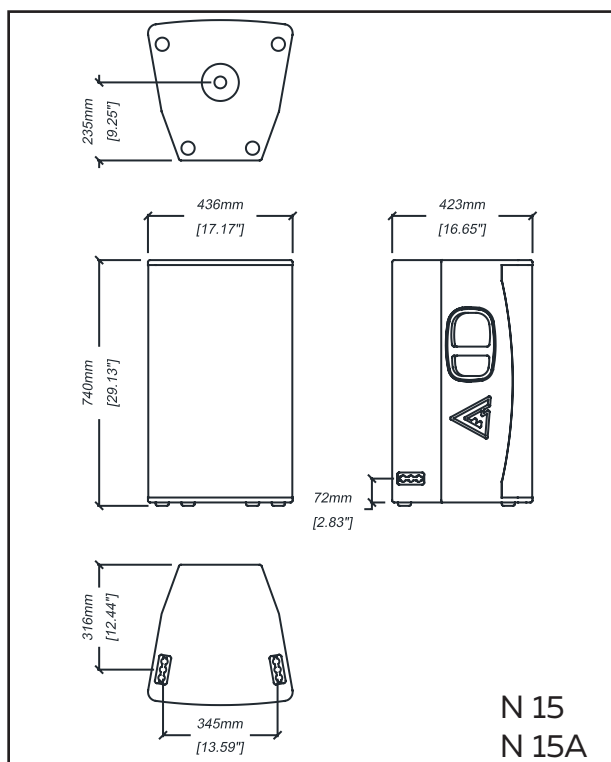
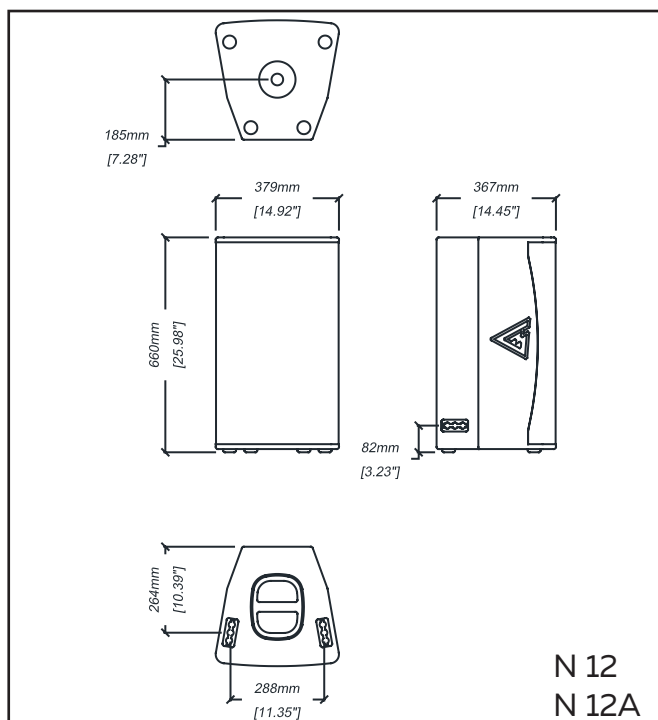
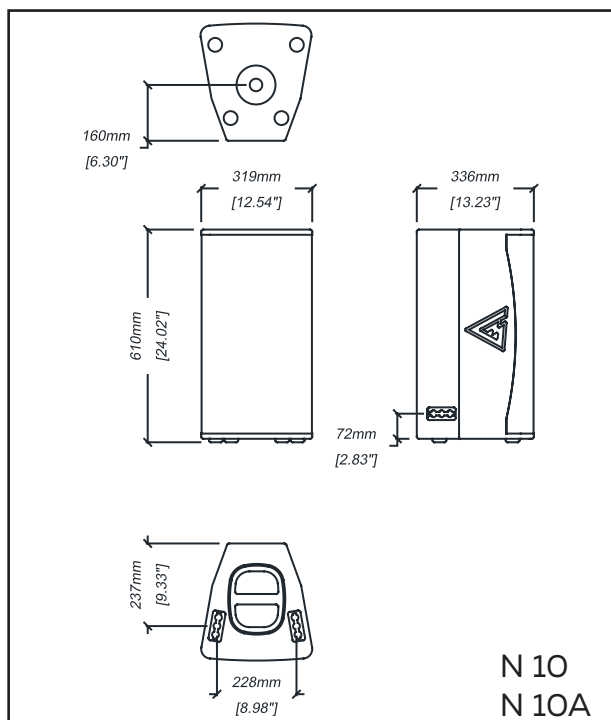
3.1. Specifications - Technical data

System	N 10A	N 12A	N 15A
Type	Full-range powered speaker	Full-range powered speaker	Full-range powered speaker
Frequency response (-10dB)	65 – 18000 Hz	60 – 18000 Hz	55 – 18000 Hz
Max SPL (peak)	131 dB (calculated)	132 dB (calculated)	132,5 dB (calculated)
LF Transducer	10"	12"	15"
HF Transducer	1,5"	1,5"	1,5"
Nominal coverage HxV	90° x 80°	90° x 80°	90° x 80°
Power	1200 W	1200 W	1200 W
Amplifier	Class D, Fan cooling	Class D, Fan cooling	Class D, Fan cooling
Input sensitivity	0 dBV	0 dBV	0 dBV
input impedance	18 kOhm (unbal), 36 kOhm (bal)	18 kOhm (unbal), 36 kOhm (bal)	18 kOhm (unbal), 36 kOhm (bal)
Connectors	2x XLR	2x XLR	2x XLR
Dimensions (WxHxD)	319x610x336 mm	379x660x377 mm	436x740x423 mm
Net weight	22 kg	25 kg	29 kg
Shipping weight	25 kg	28 kg	32 kg
Mounting	4x FlyTrack flying points, pole mount adapter	4x FlyTrack flying points, pole mount adapter	4x FlyTrack flying points, pole mount adapter
Enclosure materials	Plywood; wear-resistant paint	Plywood; wear-resistant paint	Plywood; wear-resistant paint
Grill	Steel grill, polymer protective net	Steel grill, polymer protective net	Steel grill, polymer protective net

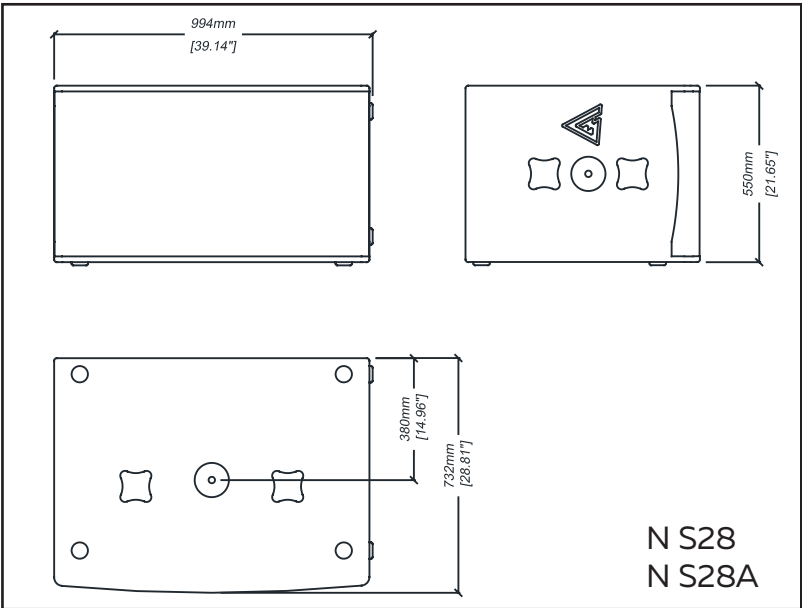
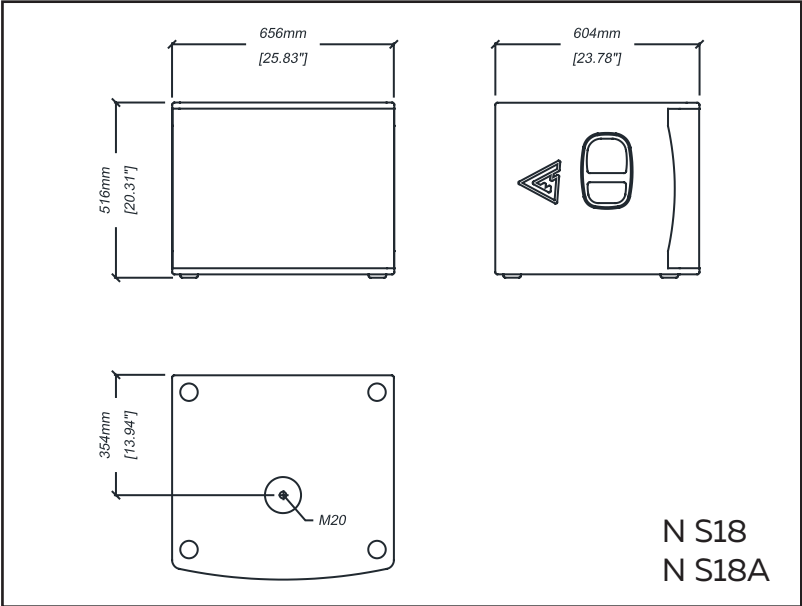
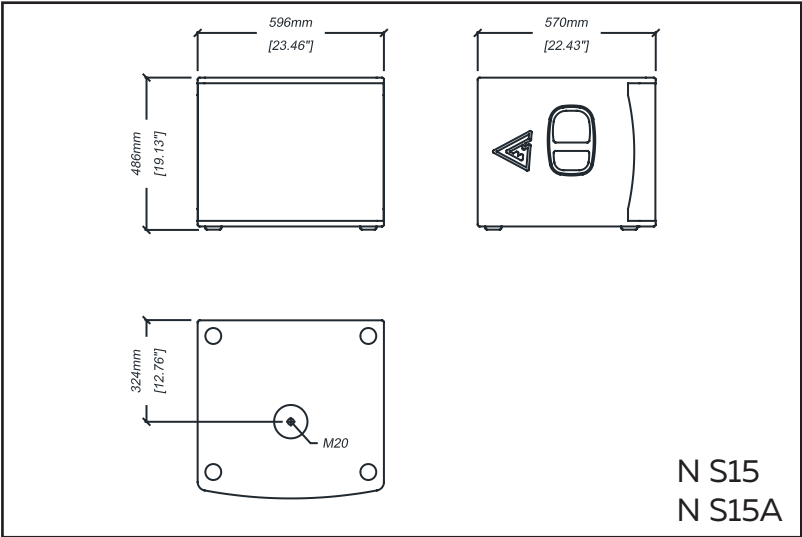
System	N S15A	N S18A	N S28A
Type	Powered subwoofer	Powered subwoofer	Powered subwoofer
Frequency response (-10dB)	40 – 300 Hz	35 – 250 Hz	30-250 Hz
Max SPL (peak)	134 dB (calculated)	133 dB (calculated)	139,5 dB (calculated)
LF Transducer	15"	18"	2x18"
Power	1400 W	1400 W	3000 W
Amplifier	Class D, Fan cooling	Class D, Fan cooling	Class D, Fan cooling
Input sensitivity	0 dBV	0 dBV	0 dBV
Input impedance	18 kOhm (unbal), 36 kOhm (bal)	18 kOhm (unbal), 36 kOhm (bal)	18 kOhm (unbal), 36 kOhm (bal)
Connectors	2x XLR	2x XLR	2x XLR
Dimensions (WxHxD)	596x482x570 mm	656x512x604 mm	1096x560x642
Net weight	35 kg	43 kg	71,4 kg
Shipping weight	38 kg	46 kg	74,4 kg
Mounting	M20 distance pole adapter	M20 distance pole adapter	M20 distance pole adapter
Enclosure materials	Plywood; wear-resistant paint	Plywood; wear-resistant paint	Plywood; wear-resistant paint
Grill	Steel grill, acoustically transparent foam	Steel grill, acoustically transparent foam	Steel grill, acoustically transparent foam



3.2. Specifications - Dimensions



3.2. Specifications - Dimensions



4.1. System operation - Rigging



N series systems are equipped with FlyTrack mounting adapters and pole mount adapters systems 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!

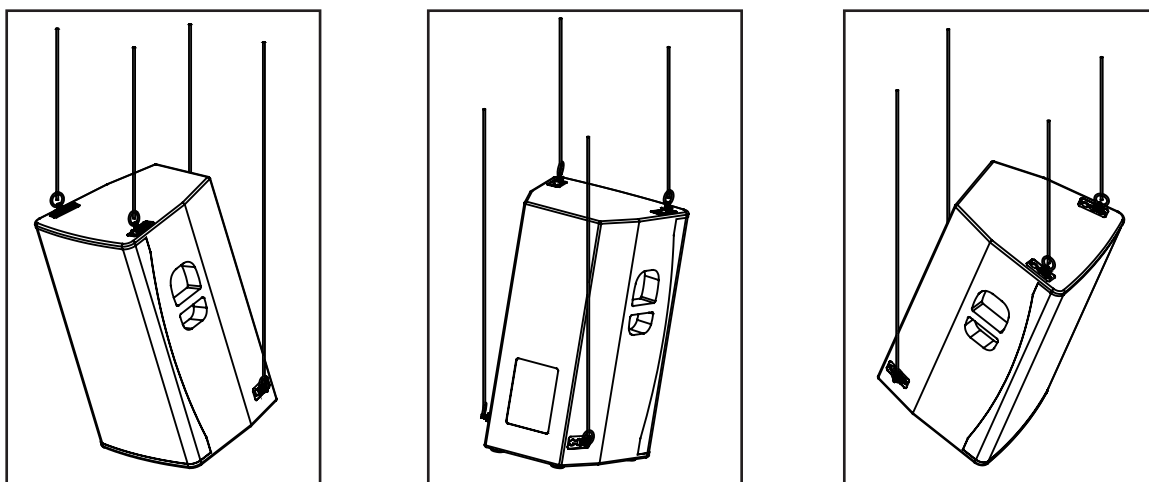
MAKE SURE THE SUPPORT STRUCTURE IS CAPABLE OF HOLDING THE APPLIED WEIGHT WHILE SUSPENDING THE SYSTEM!

N series systems flying via FlyTrack mounting adapters.

Required accessories:

VA-0017 (part No. 0209000019)

Fast rigging and dismantling of N series full-range speakers using integrated FlyTrack adapters.



N series pole mounting

Accessories:

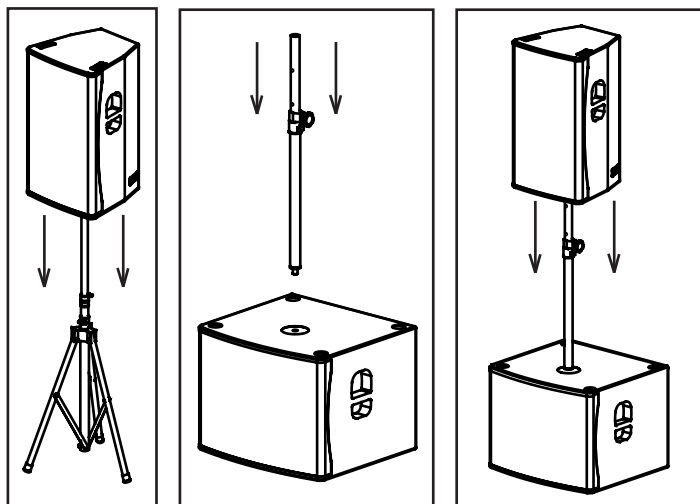
N-BOX-5 (part No. 0209000015)

N-BOX-4 (part No. 0209000016)

SAT-3T (part No. 0209000020)

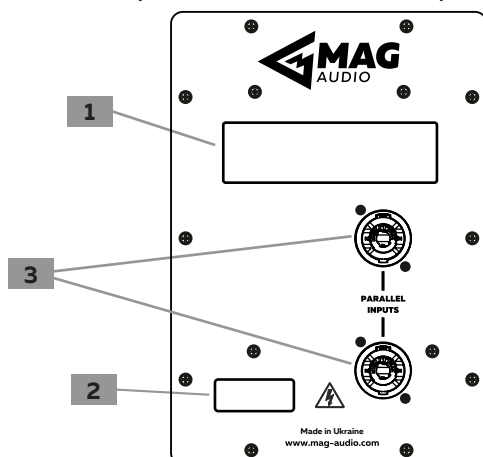
N series full range speakers are equipped with pole mount adapter, which allows them to be installed onto standard speaker stands.

N series subwoofers are equipped with distance pole adapters, which allow to install full-range systems onto subwoofers using standard pole stands.

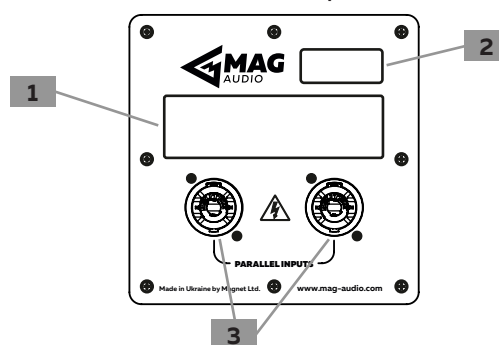


4.2. System operation – Passive speakers

N series passive full-range speaker's connection plate



N series passive subwoofer's connection plate



1. LABEL FIELD. Name of the system, along with its basic parameters is noted here.

2. SERIAL NUMBER FIELD. Sticker with the systems serial number is located here. NEVER REMOVE THE SERIAL FROM THE SYSTEM, AS IT IS

IMMEDIATE WARRANTY VOID.

3. PARALLEL INPUTS. The pair of parallel Neutrik® Speakon connectors. Use this connectors to connect power amplifier and to feed the signal to the parallel system (optional).

N series passive connections

Suggested accessories:

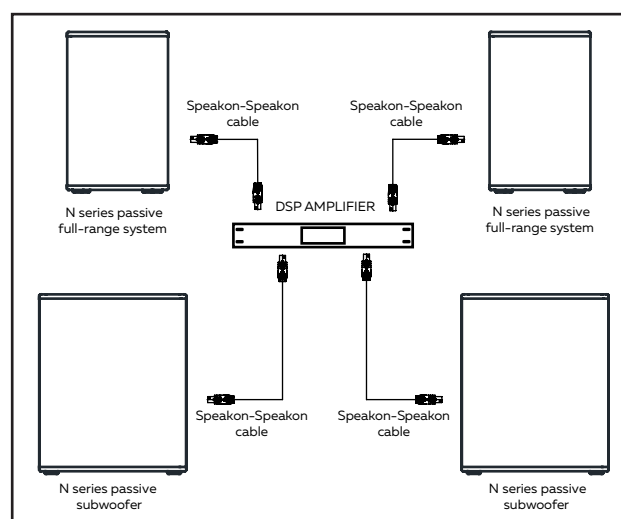
CN-0031 (part No. 0204000010)

CN-0032 (part No. 0204000011)

Use power amplifier with DSP or power amplifiers with external speaker processor with N series passive systems.

MAKE SURE TO USE HIGH PASS FILTER FOR ALL N SERIES SYSTEMS TO PREVENT EXCESSIVE CONE MOVEMENT, RESULTING IN TRANSDUCER DAMAGE OR FAST DETERIORATION.

Recommended HPF settings, suggested power amplifier ratings, and connection pins are found in table below:

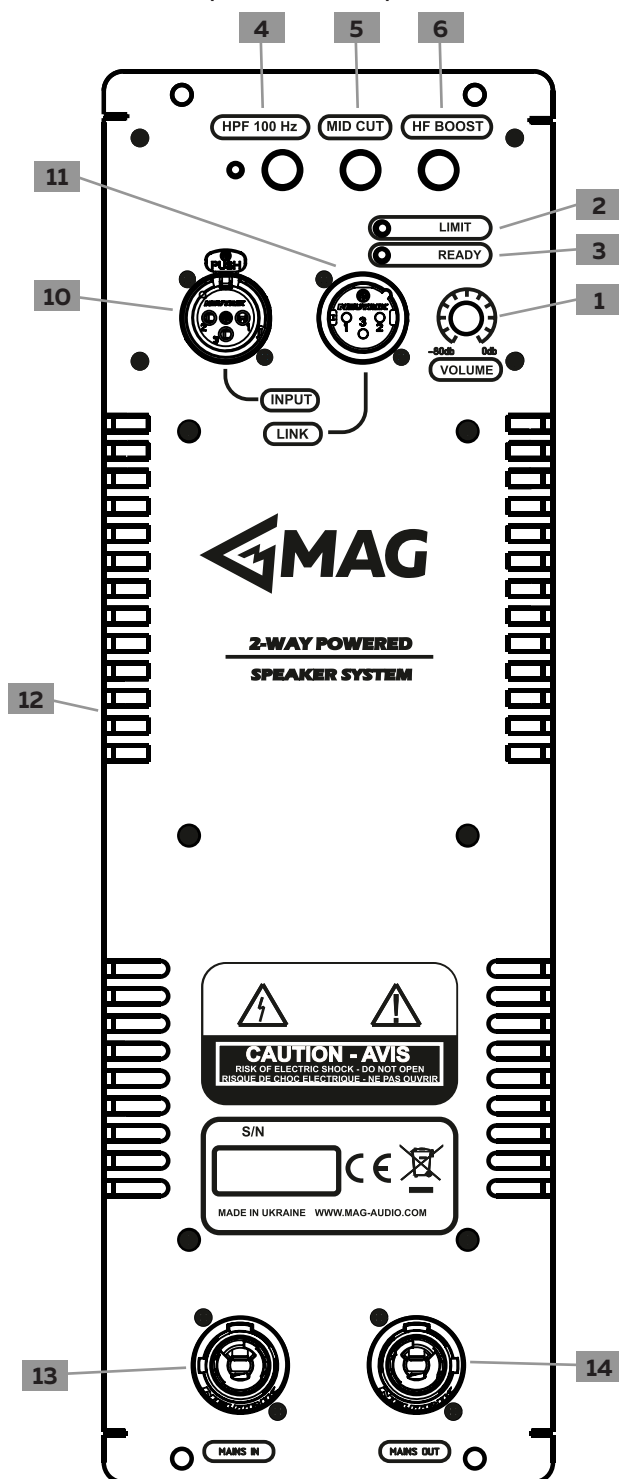


N series passive connection diagram

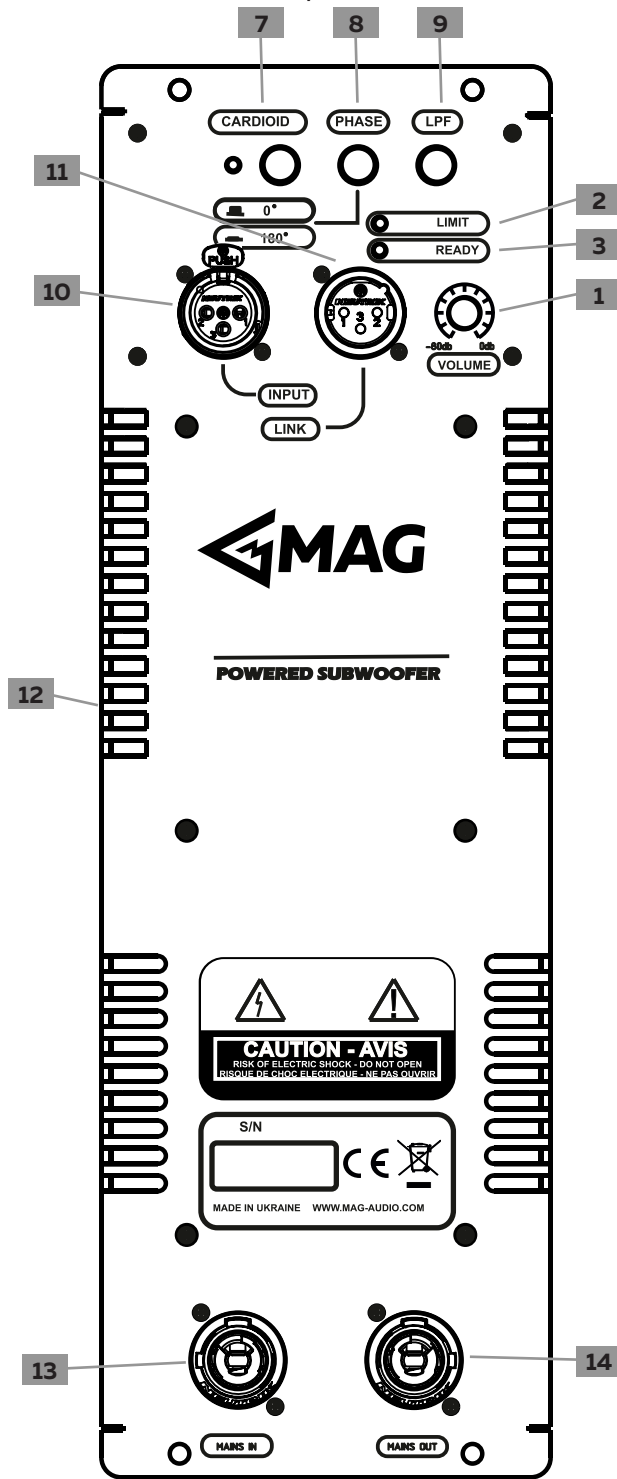
System	Amplifier power	Amplifier impedance	Connection pins	Recommended HPF
N 10	600 - 1200 W	8 Ohm	+1 -1	60 Hz or higher, 18 dB/oct min
N 10-4	600 - 1200 W	4 Ohm	+1 -1	60 Hz or higher, 18 dB/oct min
N 12	600 - 1200 W	8 Ohm	+1 -1	55 Hz or higher, 18 dB/oct min
N 12-4	600 - 1200 W	4 Ohm	+1 -1	55 Hz or higher, 18 dB/oct min
N 15	600 - 1200 W	8 Ohm	+1 -1	50 Hz or higher, 18 dB/oct min
N 15-4	600 - 1200 W	4 Ohm	+1 -1	50 Hz or higher, 18 dB/oct min
N S15	1200 - 2400 W	8 Ohm	+1 -1	35 Hz or higher, 18 dB/oct min
N S15-4	1200 - 2400 W	4 Ohm	+1 -1	35 Hz or higher, 18 dB/oct min
N S18	1200 - 2400 W	8 Ohm	+1 -1	30 Hz or higher, 18 dB/oct min
N S18-4	1200 - 2400 W	4 Ohm	+1 -1	30 Hz or higher, 18 dB/oct min
N S28	1600 - 3200 W	4 Ohm	+1 -1	28 Hz or higher, 18 dB/oct min

4.3. System operation - Powered speakers

N series powered full-range speaker's amplifier



N series powered subwoofer's amplifier



1. VOLUME KNOB. Used for adjusting the volume of the system. Remember to turn the volume down before connecting/disconnecting INPUT or LINK connectors.
2. LIMIT LED. Is lit when limiter is operational, indicating excessive signal through the system.
3. READY LED. Is lit when system is fully operational.
4. HPF 100 HPF BUTTON. Engages the 100 Hz high-pass filter.
5. MID CUT BUTTON. Engages the mid cut

contour.

6. HF BOOST BUTTON. Engages HF boost contour.
7. CARDIOID BUTTON AND LED. Used for cardioid LF arrays.
8. PHASE BUTTON. Switches the polarity of the subwoofer.
9. LPF BUTTON. Engages the low-pass filter.
10. INPUT CONNECTOR. Used for connecting the system to the signal source

(mixing console etc.)

11. LINK CONNECTOR. Used for linking additional compactible system to same signal source.
12. HEAT SINK. Do not close the ventilation openings on the heat sink, as it may cause the system to overheat and switch off by itself.
13. MAINS IN. Used for connecting mains supply to the system.
14. MAINS OUT. Used for feeding the mains supply to the additional system.

4.3. System operation - Powered speakers



Mains connection. N series powered 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!.

N series powered systems are equipped with PowerCon B mains power outlets for mains link to additional N series powered system.

N series systems nominal mains power specifications: AC 220V, 50/60 Hz.

Nominal voltage tolerance: 100 - 250 V.

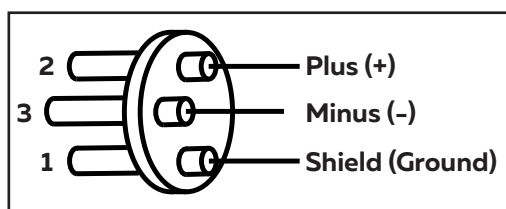
To power the system up, connect the mains cable to the system, then to the power outlet.

To completely power down the system, disconnect the mains cable from the power outlet.

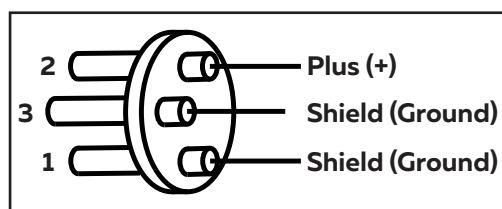
Signal connections. N series systems are equipped with XLR INPUT and XLR LINK connectors for signal connection.

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.



Balanced XLR Plug connections



Unbalanced XLR Plug connections

Amplifier controls. Use several available N series speaker system's amplifier controls to set up the entire system:

HPF 100 Hz (full-range system): Provides high-pass filter to seamlessly couple the full-range system with powered subwoofer.

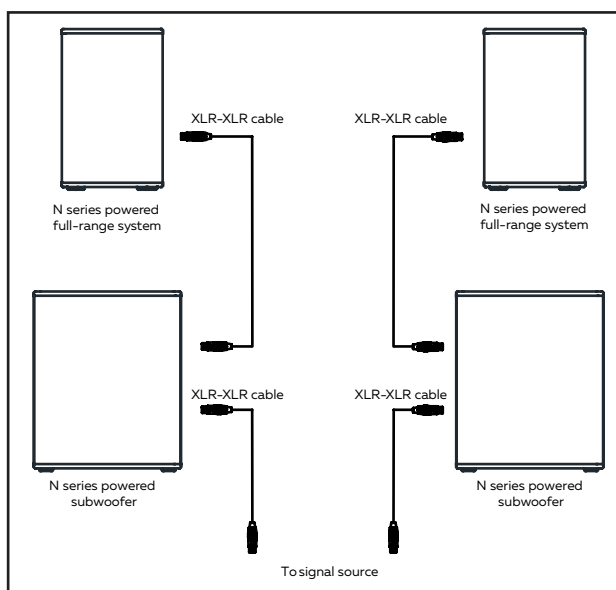
MID CUT (full-range system): Provides mid cut correction for cleaner and smoother sound.

HF BOOST (full-range system): Provides HF boost for far-field systems.

CARDIOID (subwoofers): Engages cardioid mode (see "4.4 System operation - cardioid array subwoofer setup" section, page 14, for details.).

PHASE (subwoofers): Switches the polarity of the subwoofer for better coupling with the full-range systems for different applications.

LPF (subwoofers): Provides low-pass filter to seamlessly couple the subwoofer with powered full-range system.



N series powered connection diagram

4.4. System operation - Cardioid array subwoofer setup

N series' powered subwoofers - N S15A and N S18A - allow to create low frequency cardioid arrays for controlled sound environment and listening comfort.

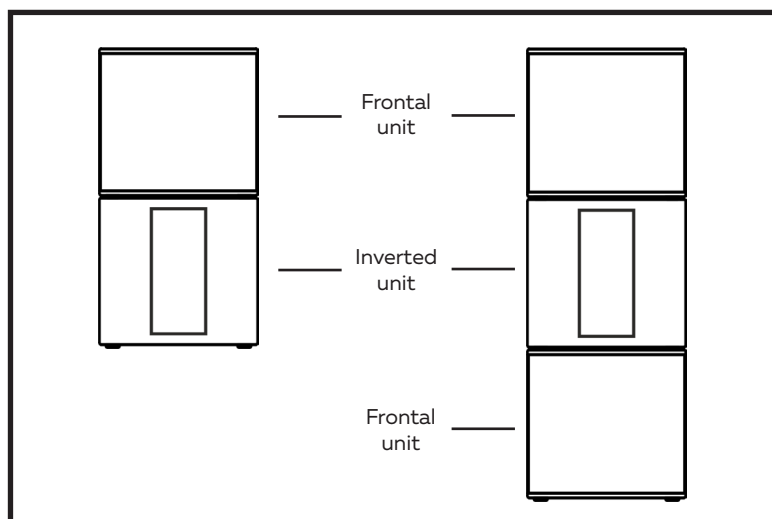
Use following guidelines to achieve best results with your N series powered subwoofer cardioid arrays:

Two unit cardioid array:

Instal subwoofers onto in a way that main subwoofer is facing the same way as the rest of the PA system, while the inverted subwoofer is rotated 180 degrees. Frontal panel of the main subwoofer and rear panel of the inverted one should be on the same plane.

For the frontal unit, put the VOLUME knob in "0 dB" position.

For the inverted unit, put the VOLUME knob in 12 o'clock position and activate the CARDIOID mode, indicated by a LED indicator.



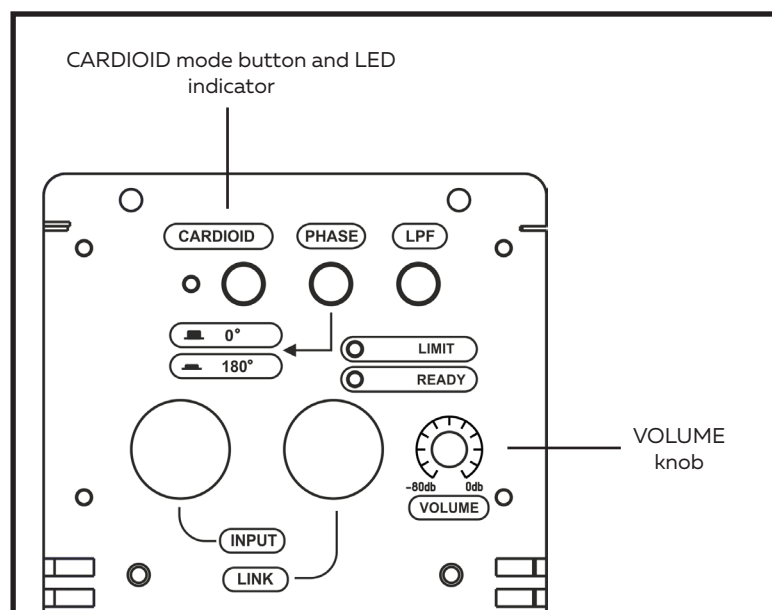
Two unit and three unit cardioid array

Three unit cardioid array:

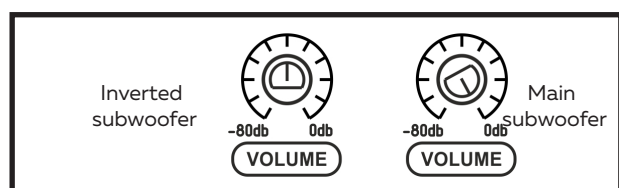
Instal subwoofers onto in a way that main subwoofers are facing the same way as the rest of the PA system, while the inverted subwoofer is rotated 180 degrees. Frontal panel of the main subwoofers and rear panel of the inverted one should be on the same plane. It is advised to locate inverted subwoofer between main subwoofers.

For the frontal units, put the VOLUME knob in "0 dB" position.

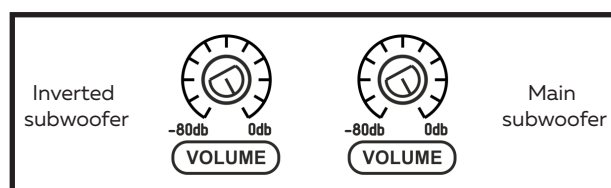
For the inverted unit, put the VOLUME knob in "0 dB" position and activate the CARDIOID mode, indicated by a LED indicator.



N series subwoofer's control panel



Two unit cardioid array volume knobs positions



Three unit cardioid array volume knobs positions

5. Standard contents

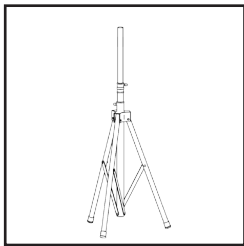
Please check complete complement of your N series system upon receiving the package.
Standard contents of N series systems:



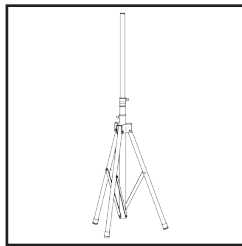
System	Supplied N series system	N series User Manual	CN-0010 PowerCon mains cable	Polyethylene bag	Carton Box
N 10	N 10 8 Ohm passive speaker system	+		+	+
N 10-4	N 10 4 Ohm passive speaker system	+		+	+
N 10A	N 10A powered speaker system	+	+	+	+
N 12	N 12 8 Ohm passive speaker system	+		+	+
N 12-4	N 12 4 Ohm passive speaker system	+		+	+
N 12A	N 12A powered speaker system	+	+	+	+
N 15	N 15 8 Ohm passive speaker system	+		+	+
N 15-4	N 15 4 Ohm passive speaker system	+		+	+
N 15A	N 15A powered speaker system	+	+	+	+
N S15	N S15 8 Ohm passive speaker system	+		+	+
N S15-4	N S15 4 Ohm passive speaker system	+		+	+
N S15A	N S15A powered speaker system	+	+	+	+
N S18	N S18 8 Ohm passive speaker system	+		+	+
N S18-4	N S18 4 Ohm passive speaker system	+		+	+
N S18A	N S18A powered speaker system	+	+	+	+
N S28	N S28 4 Ohm passive speaker system	+		+	+
N S28A	N S28A powered speaker system	+	+	+	+

6. Accessories

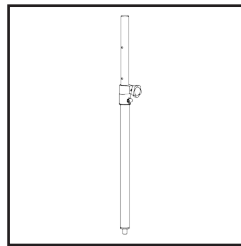
Various accessories are available for N series systems:



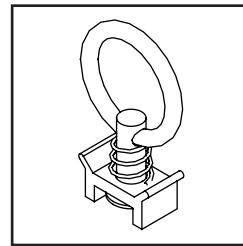
N-BOX-5 speaker stand
Part No. 0209000015



N-BOX-4 speaker stand
Part No. 0209000016



SAT-3T M20 Distance pole
Part No. 0209000020



VA-0017 FlyTrack single point stud
Part No. 0209000019



BOX-CB2 Bag for two speaker stands
Part No. 0209000017



N10-TB - N 10, N 10-4, N 10A transportation bag Part No. 0203500073
N12-TB - N 12, N 12-4, N 12A transportation bag Part No. 0203500075
N15-TB - N 15, N15-4, N 15A transportation bag Part No. 0203500077
NS15-TB - N S15, N S15-4, N S15A transportation bag Part No. 0203500079
NS18-TB - N S18, N S18-4, N S18A transportation bag Part No. 0203500081

MANUFACTURER'S WARRANTY



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; 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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