

# HS212(T)MK2

## User & Installation Manual





# Introduction

## Full range horn speaker 12"

The HS2xx series are 2-way horn loaded loudspeakers which are specifically engineered to provide a long-throw, full-range sound projection in a wide variety of in- and outdoor applications.

The HS212MK2 is the 12" model of the HS2xx family consisting of a 12" high output woofer and a neodymium compression driver with 1.8" voice coil. The compression driver is equipped with an overload protection and is fitted with a 40° x 40° coverage horn which is coaxially constructed as one entity with the loudspeaker's enclosure.

Thanks to the selection of complementary high-quality components which are carefully matched, the HS212MK2 delivers a wide range, smooth frequency response with a high efficiency. This ensures an extraordinary clarity of speech and extended frequency response for music with an RMS power of 350 Watt, up to a maximum power of 700 Watt. The frequency range (-10 dB) starts from 65 Hz up to 20 kHz and the sensitivity (1W / 1m) reaches 95 dB, while a maximum continuous sound pressure level of 125 dB can be achieved.

The enclosure is constructed out of multi-layer glass composite material with a durable scratch resistant EPDM coating. The aluminium front grill is lined with an acoustical transparent and water eliminating backing.

Two different models are available for low impedance use (HS212MK2) and 100V use (HS212TMK2). The HS212MK2 is fitted with two heavy-duty SpeakON connectors with waterproof gaskets which ensures a reliable connection with easy link-through to other speakers. The HS212TMK2 is fitted with a waterproof connection box containing a multi-tapping barrier terminal block enabling the selection of different line transformer power tapings while providing easy link-through to other speakers. This makes the speakers suitable for outdoor use.

An optional mounting bracket provides a complete solution for installation of the system.

# Precautions

## READ FOLLOWING INSTRUCTIONS FOR YOUR OWN SAFETY

- ALWAYS KEEP THESE INSTRUCTIONS FOR FUTURE REFERENCE. NEVER THROW THEM AWAY
- ALWAYS HANDLE THIS UNIT WITH CARE
- HEED ALL WARNINGS AND FOLLOW ALL INSTRUCTIONS
- DO NOT INSTALL THIS UNIT NEAR ANY HEAT SOURCES SUCH AS RADIATORS OR OTHER APPARATUS THAT PRODUCE HEAT
- ONLY USE ATTACHMENTS & ACCESSORIES SPECIFIED BY THE MANUFACTURER.
- ONLY INSTALL THE SPEAKER IN LOCATIONS THAT CAN STRUCTURALLY SUPPORT THE WEIGHT OF THE SPEAKER. IGNORING THIS CAN BRING THE SPEAKER DOWN.
- DO NOT USE ANY OTHER METHOD THAN SPECIFIED TO MOUNT THE SPEAKER. IF EXTREME FORCE IS APPLIED TO THE SPEAKER, IT COULD FALL DOWN
- ATTACH A SAFETY WIRE TO THE SPEAKER WHEN IT IS MOUNTED HIGH UP. ONLY USE INDUSTRY–ACCEPTED RIGGING TOOLS AND METHODS
- CAREFULLY CHECK THE UNIT’S CONDITION AFTER UNPACKING. IF THERE IS ANY DAMAGE TO THE CARTON BOX OR THE UNIT ITSELF, INFORM YOUR VENDOR IMMEDIATELY.
- ALWAYS FOLLOW THE LOCAL REGULATIONS AND REQUIREMENTS REGARDING INSTALLATION, SUSPENSION AND CONNECTION OF THIS LOUDSPEAKER. EVEN WHEN OTHERWISE SPECIFIED IN THIS DOCUMENT.
- THE INSTALLATION OF THIS LOUDSPEAKER SHALL BE DONE BY QUALIFIED PERSONNEL ONLY.

## CAUTION

- USE CABLES OF THE RIGHT GAUGE TO CONNECT THE LOUDSPEAKER
- USE CABLES WITH CLEAR COLOUR CODING INDICATING THE POLARITY AND MAINTAIN THE SAME POLARITY THROUGHOUT THE WHOLE SYSTEM.
- ONLY USE THE CORRECT AMPLIFIER OUTPUT VOLTAGE AND IMPEDANCE. EXCEEDING THESE LIMITS COULD CAUSE FIRE OR OTHER FAILURES.  
**AVOID EXPLOSIONS:** DO NOT USE THE SPEAKER AROUND GASOLINE, THINNER OR OTHER COMBUSTIBLES
- AVOID ELECTRIC SHOCKS: SWITCH OFF THE AMPLIFIER WHEN CONNECTING THE LOUDSPEAKER
- DO NOT USE THE LOUDSPEAKER FOR AN EXTENDED PERIOD OF TIME AT DISTORTED SOUND. THIS COULD CAUSE PERMANENT DAMAGE.



### CAUTION – SERVICING

This product contains no user serviceable parts. Refer all servicing to qualified service personnel. Do not perform any servicing (unless you are qualified to do so.)



### EC DECLARATION OF CONFORMITY

This product conforms to all the essential requirements and further relevant specifications described in following directives: 2014/30/EU (EMC) and 2014/35/EU (LVD)



### WASTE ELECTRICAL AND ELECTRONIC EQUIPMENT (WEEE)

The WEEE marking indicates that this product should not be disposed with regular household waste at the end of its product life. This regulation is created to protect both the environment and human health.

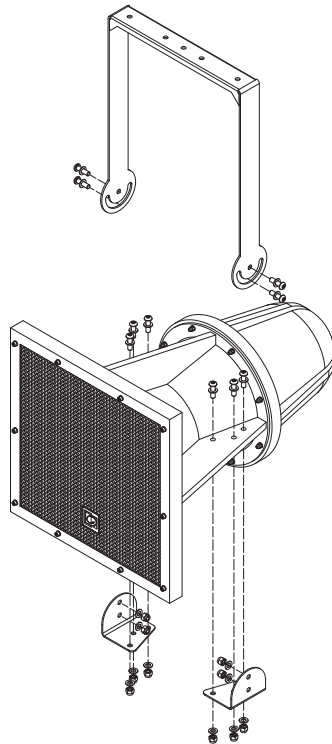
This product is developed and manufactured with high quality materials and components which can be recycled and/or reused. Please dispose this product to your local collection point or recycling centre for electrical and electronic waste. This will make to sure that it will be recycled on an environmentally friendly manner, and will help to protect the environment in which we all live.

# Installing the HS212(T)MK2

## Mounting

An optionally available U-shaped mounting bracket (MBK212Z) allows safe and secure installation for the HS212(T)MK2 speakers. It is recommended to use this mounting bracket for installation of the loudspeakers. If the application requires any other specific mounting method which is not possible using this accessory, make sure the used installation method is sufficient strong and the surface where to the speaker is installed can support the speakers weight. Always make sure the speaker is secured through an additional drop safety.

The below drawing shows an explode view how to assemble the mounting bracket to the speaker.



The mounting bracket includes all parts as listed below. Make sure all these parts are included with the delivery to ensure a safe and secure mounting of the loudspeaker.

- 1 x U-shaped metal bracket
- 1 x Left side L-shaped mounting ear
- 1 x Right side L-shaped mounting ear
- 1 x 75 cm steel drop safety wire with U-shackle
- 10 x M10x35 mm bolts with nuts + washer

Follow below steps for correct assembly method of the mounting bracket:

1) Mount both (left & right side) L-shaped mounting ears using the pre-drilled holes in the speakers' enclosure. Make sure the loudspeaker is positioned in the correct direction (logo on the grill pointed to the bottom side) with the mounting ears on the bottom side of the speakers' enclosure holding the weight of the speaker (as shown in the explode drawing). Fixation of these mounting ears is done using 6 x M10x35 mm bolts (three on each side).

2) Fix the U-shaped metal bracket to the mounting position on the supporting structure (ceiling or wall). The fasteners for fixation to the supporting structure are not included and shall be chosen according to the surface. (wooden, concrete, brick, ...). The fixation shall be done by inserting fasteners through the base of the U-bracket and tightening. Verify whether the fixation is sufficient strong once assembled before going to step 3.

3) Fix the speaker to the metal U-bracket by inserting two bolts through the center hole of the U-bracket circular part and the L-shaped mounting ears. Tighten the bolts to guarantee the speaker is fixed to the bracket.

4) Point the speaker into the desired direction, and insert two additional bolts through the half circular groove. Once the perfect directional placement has been made, tighten all the bolts for securing. Make sure the speaker has a minimum down-tilting angle of 5° to avoid water and humidity flowing in, making it comply to the specified ingress protection standards.

5) Attach the included drop safety steel wire to one of the provided mounting holes on the speaker and fix the other side of the drop safety to any point which can structurally support the weight of the speaker.

# Connecting

## Connection of low impedance version (HS212MK2):

The connection of the low impedance version (HS212MK2) is made using SpeakON connectors. Two connectors are provided on the bottom side of the speakers' enclosure.

The used models are 4-pin types, where to the signal coming from the amplifier shall be applied on the +1 and -1 terminals. The second connector can be used for linking the signal coming from the amplifier to additional loudspeakers, resulting in a parallel network.

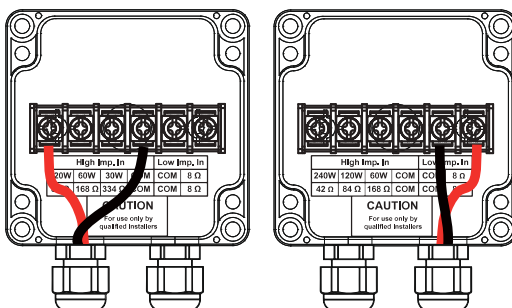
## Connection of 100V version (HS212TMK2):

The connection of the 100V (HS212TMK2) version is made in a waterproof connection box fitted with a barrier terminal block. The speaker can be connected in low impedance (8 Ohm) or high impedance (100V) systems with different power taps for 240W, 120W and 60W. The suitable connection method can be chosen through connecting the corresponding terminals.

The waterproof connection box shall be opened through releasing the four screws of the cover. Inside this connection box, a 6-pin barrier terminal block connector is located.

The four terminals on the left side are used for connection of the 100V line transformer power taps with power ratings of 240W, 120W and 60W. The wires coming from the amplifier shall be connected between the 'COM' terminal and the desired power rating.

The two terminals on the right side are used for connecting the loudspeaker in low impedance mode. The wires coming from the amplifier shall be connected between the 'COM' terminal and 8 Ohm terminal.



Above image indicates an example for both a 100V (left side) and low impedance (right side) connection example.



Once the connection has been made to the required power taps, the cable gland should be tightened to avoid any moisture entering the waterproof connection box. Then the cover of the waterproof connection box shall be re-assembled using the four screws.

**Mind the polarity markings when wiring the loudspeaker cables.**

# Additional Information

## Technical specifications

	HS212MK2	HS212TMK2
Max Power	700 Watt	700 Watt
RMS Power	350 Watt	350 Watt
Nominal impedance	8 Ohm	8 Ohm
Line Transformer Taps	n/a	240 Watt / 42 Ohm 120 Watt / 83 Ohm 60 Watt / 167 Ohm
Sensitivity (1W/1m)	95 dB	95 dB
Sound Pressure (Max W/1m) @ 8 Ohm	125 dB	125 dB
Sound Pressure (Max W/1m) @ 100 V	n/a	118 dB
Frequency Response ( $\pm 3$ dB)	80 Hz – 18 kHz	80 Hz – 18 kHz
Drivers	1.8" HF compression driver 12" MF / LF Woofer	1.8" HF compression driver 12" MF / LF Woofer
Connectors	2 x heavy-duty SpeakON NLT4MP-BAG (linkthrough)	Barrier terminal block in waterproof connection box
Mounting bracket	Optional (MBK212Z)	Optional (MBK212Z)
Construction	Multi-layer glass composite with textured EPDM coating	Multi-layer glass composite with textured EPDM coating
Front finish	Power coated aluminum grill with lining	Power coated aluminum grill with lining
IP rating (Ingress Protection)	IP54	IP65
Horizontal dispersion	40°	40°
Vertical dispersion	40°	40°
Colour	Black (RAL9005)	Black (RAL9005)
Dimensions (W x H x D)	508 x 508 x 732 mm	508 x 508 x 732 mm
Weight	30.8 Kg	34.5 Kg
Packaging	Carton box	Carton box
Shipping weight & Volume	34.7 Kg – 0.28 Cbm	39 Kg – 0.28 Cbm



