



# Install Sound



## IL 12.1

A two-way, fullrange cabinet geared for high-quality voice and music reinforcement in theaters, pubs, sports arenas and multipurpose halls, clubs, etc., the IL 12.1 may be deployed as a fullrange or mid-/high-range cabinet in combination with the HK AUDIO® subwoofers IL 115 Sub, IL 118 Sub or IL 218 Sub.

It is the first-choice enclosure for assertive, clear speech and music reinforcement for short- to medium-throw applications.  
Passive crossover on board.

The IL 12.1 a two-way, fullrange speaker cabinet driven by an internal passive crossover. It is loaded with a direct-radiating 12" cone speaker in a bass reflex housing and a 1" high-frequency driver with a pivoting 60° x 40° CD horn. This speaker array delivers the low-frequency response it takes to render speech and background music accurately, even without an additional subwoofer. HK AUDIO® IL 115 Sub, IL 118 Sub, and IL 218 Sub subwoofers come highly

recommended for applications requiring enhanced low-frequency response.

Next to natural-sounding, musical response and high-resolution audio, the IL 12.1 delivers excellent speech intelligibility. It is ideally suited for short- to medium-throw sound reinforcement applications. The IL 12.1 may be operated with or without a controller.

However, for the greatest operating safety, best performance and most convenient handling, we recommend using the HK AUDIO® Digital Field Controller (DFC).

## Architectural specifications

The professional two-way, full-range cabinet shall incorporate one 12" bass/mid-range speaker and one 1" high-frequency driver. The system response shall be optimized for both public address and the reproduction of music. The bass/mid-range speaker shall be mounted in a trapezoidal enclosure constructed of 16 mm-thick MDF and painted with either black or white acrylic. The high-frequency driver shall be coupled to a constant-directivity horn capable of being rotated to yield a dispersion pattern of either 60° x 40° or 40° x 60°. An alternative constant-directivity horn capable of being rotated to yield a dispersion pattern of either 90° x 60° / 60° x 90° shall be made available as an option. These components shall be protected by an impact-resistant steel grille backed with glued-on acoustic foam.

The cabinet shall include two flush-mounted M10 threaded bushings each on the rear, left and right side panels, as well as three flush-mounted M10 threaded bushings each on the front and base, for the attachment of mounting accessories.

The enclosure's internal electronics shall include a passive crossover having a crossover frequency of 2 kHz and a slope of 12 dB per octave, and phase and frequency response correction.

The frequency response shall extend from 83 Hz to 19 kHz (+/- 3 dB). The axial sensitivity shall measure 104 dB @ 1W/1m under half-space conditions. The maximum sound pressure level shall be 131 dB at 10% THD under half-space conditions. The cabinet shall have a nominal power-handling capacity of 300 watts RMS and an impedance of 8 ohms.

There shall be two types of input connectors: one Neutrik NL 4 Speakon® connector, and one pair of binding posts. The exterior dimensions shall be 42 cm wide x 59 cm tall x 41 cm deep, and the unit shall weigh 22 kg (48.4 lbs.)

The following accessories shall be available: 100 V transformer, high-frequency 90° x 60° horn conversion kit, wall-mount bracket, M10 eyebolt.

The cabinet shall be the HK AUDIO model **IL 12.1**.

- black: G 181243
- white: G 181253

## Enclosure design and mechanical appointments

The IL 12.1's housing is made of 16-mm MDF coated with acrylic enamel. Cabinets ship in the standard colors black or white. The housing is trapezoidal, angled specifically to facilitate setup, installation and alignment. Covering its front baffle is an impact-resistant steel grille backed with laminated acoustic foam rubber.

The IL 12.1 weighs 22 kg. It is 42 cm wide, 59 cm high and 41 cm deep. Located on the housing's panels are a

total of twelve countersunk M10 threaded bits. These accept optional fittings enabling the cabinet to be mounted in various ways and configured in clusters.

Connectors are located on a countersunk panel on the back of the IL 12.1. This panel offers a four-pin Speakon® port. The IL 12.1's pin assignments are pin 1+ / pin 1-.

The IL 12.1 is also equipped with binding posts enabling direct connection of speaker

cords lacking plugs. The red binding post is wired in parallel to the Speakon® connector's 1+ pin; the black binding post to the 1- pin.

## Electrical and acoustical data

The IL 12.1 features a 12" conical chassis speaker and a 1" B&C high-frequency driver. The two drivers are configured in a twin axial array and addressed by an internal passive crossover. The crossover frequency is 2 kHz at a slope of 12 dB per octave. The IL 12.1's nominal power handling capacity is 300 watts RMS at 8 ohms impedance. It delivers 104 dB (1W/ 1m) SPL, measured under half-space conditions. Maximum SPL measured under the same conditions at a distance of one meter is 131 dB at 10% THD.

The IL 12.1's high-frequency horn's horizontal radiation angle is 60°; its vertical radiation angle is 40°.

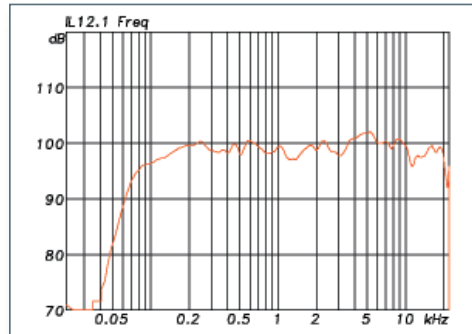
A horn radiating at a 90° horizontal angle and a 40° vertical angle is optionally available for the IL 12.1.

The two horns' housings are identical for installation purposes. On demand, the factory-installed 60°x 40° may readily be replaced by an optionally available 90°x 40° horn without having to adjust the cabinets' crossovers. Courtesy of their housings' foursquare design, both CD horns may be rotated 90°.

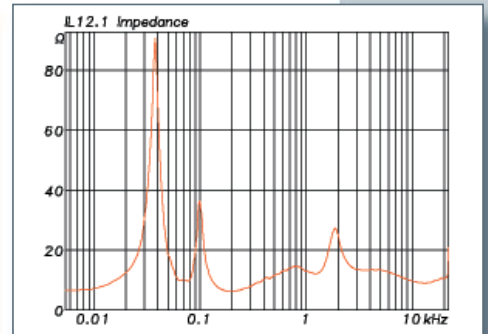
Thus the IL 12.1 can be modified to radiate at four different angles: 60°x 40° / 40°x 60° or 90°x 60° / 60°x 90°. The cabinet's directivity is 8.40 dB; the Q factor is 9.68 (averaged from 100 Hz to 10 kHz).

The IL 12.1's frequency response ranges from 67 Hz to 20 kHz. Consequently, the IL 12.1 is able to provide audio reinforcement for speech and music without requiring an additional subwoofer.

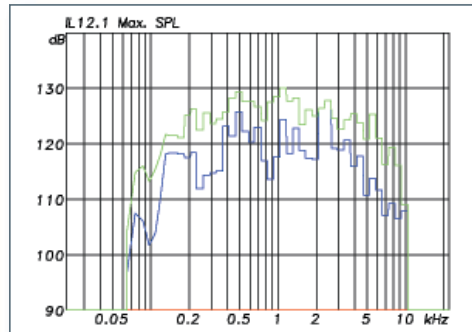
# Measurement charts



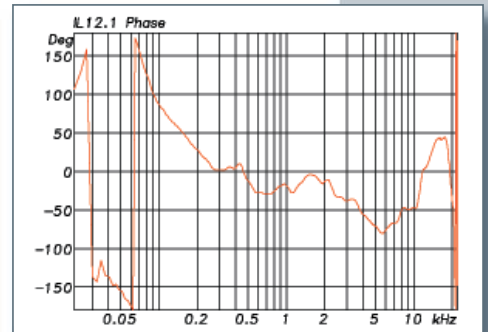
Frequency Response



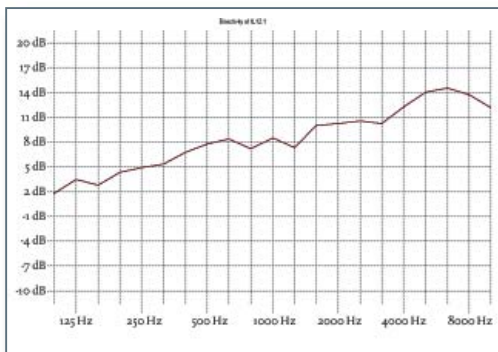
Impedance



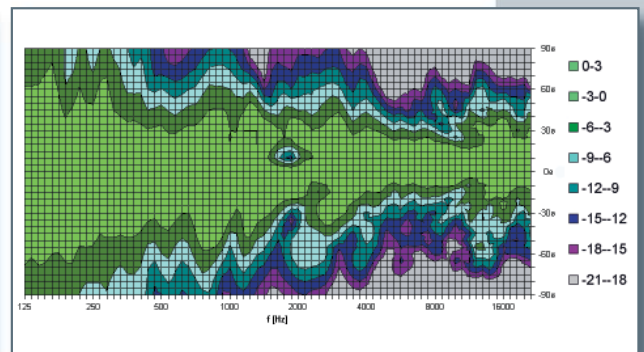
Max. SPL



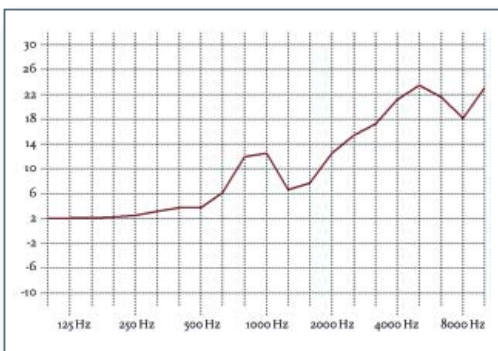
Phase Response



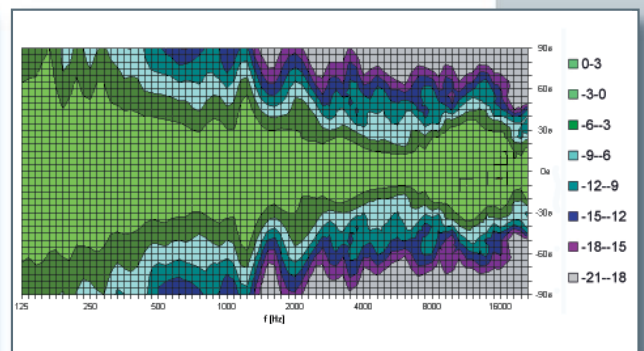
Directivity



Directivity vertical 2D

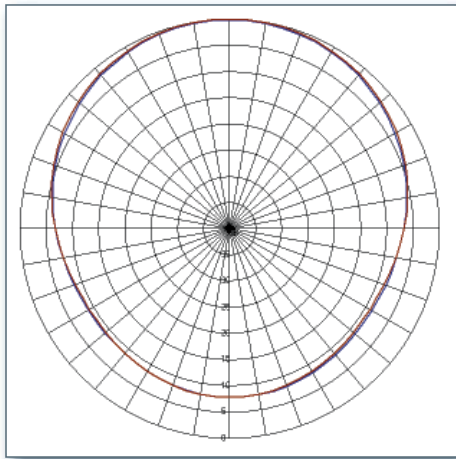


Q-Factor

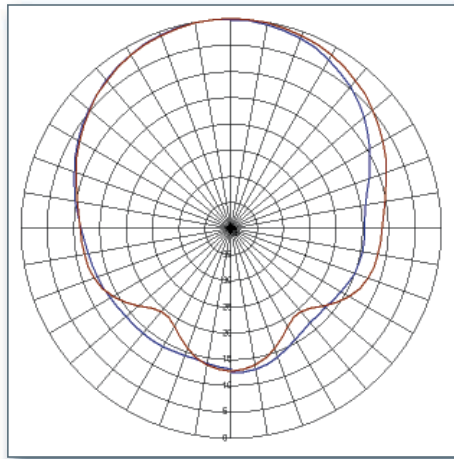


Directivity horizontal 2D

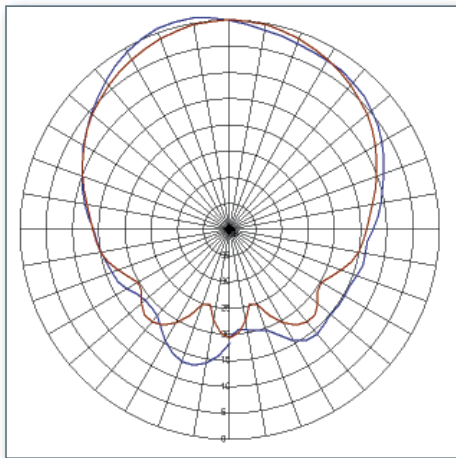
## Polar diagrams



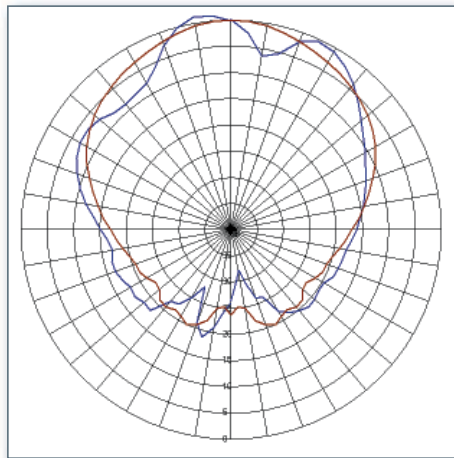
250 Hz



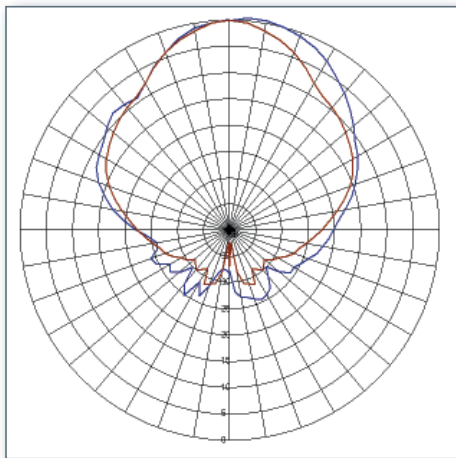
500 Hz



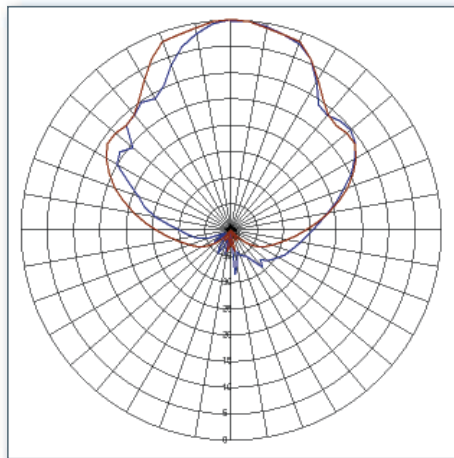
1000 Hz



2000 Hz

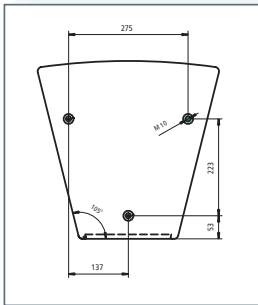
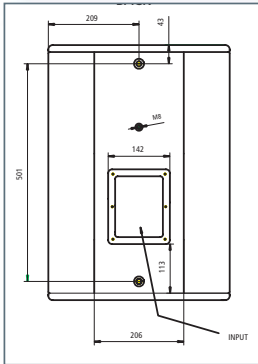
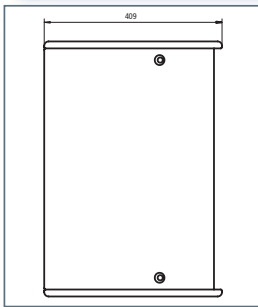
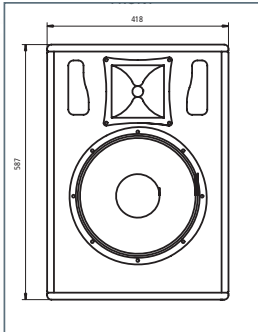


4000 Hz



8000 Hz

— = horizontal  
— = vertical



## Technical specifications

### Loudspeakers

Power handling nominal (RMS):	300 W
Power handling (program):	600 W
Power handling (peak, 10 ms)	1200 W
Impedance:	8 ohms
Frequency response ( $\pm 3$ dB):	83 Hz to 19 kHz
Frequency response (-10 dB):	67 Hz to 20 kHz
Axial sensitivity (1W/1m, half-space):	104 dB
Maximum SPL (3 % THD, half-space):	125 dB
Maximum SPL (10% THD, half-space):	131 dB
Maximum SPL (calculated at peak):	135 dB
Speaker:	12"
high-frequency driver:	1" B&C
Corner frequency, passive crossover:	2 kHz / 12 dB per octave
Horizontal dispersion (-6 dB):	60 (90) degrees
Vertical dispersion (-6 dB):	40 (60) degrees
Directivity:	8.40 dB
Q factor:	9.68

### Connectors

Ports:	1 Speakon® NL4, 1 set of binding posts
Pin assignments:	Speakon: 1+ / 1-

### Housing

Material:	16 mm MDF
Coating:	black or white acrylic enamel
Front cover:	impact-resistant protective steel grille
Fittings:	12 M10 threaded bits for attaching mounting accessories
Weight:	22 kg / 48.5 lbs.
Dimensions (W x H x D):	42 cm x 59 cm x 41 cm 16 4/8" x 23 2/8" x 16 1/8"

### Accessories

- HK AUDIO® TR 200: 100V Transformer with three power taps: 200 W, 100 W, 50 W
- HK AUDIO® Conversion Kit Horn 90° x 60°
- HK AUDIO® MB 5 Wall-Mount
- HK AUDIO® EB 10 M10 Ringbolt

### Service items

- 12" speaker
- 1" driver
- 1" diaphragm



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