CE

1438

Seikaku Technical Group Ltd.
Offshore Chambers, P. O. Box 217 Apia, Samoa

Manufacturing plant
Dongguan Jingheng Electron Co. Ltd.
No.15, Shenle 1st Road, Hengli Town
Dongguan, Guang Dong, P.R. China

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1438-CPR-0696

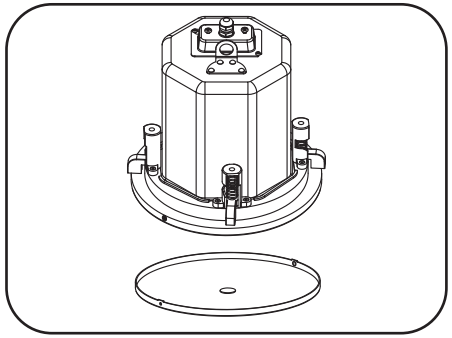
EN54-24: 2008
Loudspeaker for voice alarm systems for the detection and fire alarm systems for buildings

NCL-4
NCL-6
Type A
Technical information available in paragraphs 2~10 of this manual

NF05377-1.1

SHOW

CEILING LOUDSPEAKER INSTRUCTION MANUAL



NCL-4 (EN54-24)
NCL-6 (EN54-24)

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Thank you for purchasing SHOW CEILING Speaker
Please carefully follow the instructions in this manual to ensure long,trouble-free use of your equipment.

10. SPECIFICATIONS

Model No.	NCL-4	NCL-6
Standard	Certified to the European Standard EN 54-24:2008 Loudspeaker for voice alarm systems for fire detection and fire alarm system. Certification Cation NO.1438-CPR-0696	
Environmental Type	TYPE A (Indoor applications)	
Built-In speaker	one 4"(105mm)woofer speaker	one 6.5"(160.6mm)woofer speaker
	one piece 3/4"(19mm)tweeter speaker	one 3/4"(19mm)tweeter speaker
Rated Noise Power and Voltage	30W	60W
	(100V line and 70V line)	
Rated Impedance	100V line: 328Ω (30W), 656Ω (15W), 1.327kΩ (7.5W)	100V line: 164Ω (60W), 328Ω (30W), 656Ω (15W)
	70V line: 164Ω (30W), 328Ω (15W), 656Ω (7.5W), 1.327kΩ (3.7W),	70V line: 82Ω (60W), 164Ω (30W), 328Ω (15W), 656Ω (7.5W),
	BYPASS-16Ω	BYPASS-16Ω
Sensitivity	86dB(1W, 1m) (500Hz - 5 kHz, pink noise)	91dB(1W, 1m) (500Hz - 5 kHz, pink noise)
	74dB(1W, 4m) (100Hz - 10 kHz pink noise) according to EN54-24	78dB(1W, 4m) (100Hz - 10 kHz pink noise) according to EN54-24
	86dB (1W,1m) (100Hz - 10 kHz, pink noise) converted based on EN54-24	90dB (1W,1m) (100Hz - 10 kHz, pink noise) converted based on EN54-24
Frequency Response	100Hz - 20kHz	65Hz - 20kHz
Maximum Sound Pressure Level	87dB(30W, 4m) (100Hz - 10 kHz pink noise) according to EN54-24	94dB(60W, 4m) (100Hz - 10 kHz pink noise) according to EN54-24
	99dB (30W,1m) (100Hz - 10 kHz, pink noise) converted based on EN54-24	106dB (60W,1m) (100Hz - 10 kHz, pink noise) converted based on EN54-24
Coverage Angle(-6dB)	180° (500Hz), 170° (1 kHz), 165° (2 kHz), 105° (4 kHz)	180° (500Hz), 170° (1 kHz), 125° (2 kHz), 80° (4 kHz)
Weight	2.6KG	3.5KG
Dimensions(mm)	φ214*224mm	φ252*224mm
Speaker Component	4" paper cone speaker	6.5" paper cone speaker
Operating Temperature	-10°C to +55°C	-10°C to +55°C
Cable Connection	4Pin removable female screw temminal	
Finish	Enclosure: Cold rolled iron plate&ABS+PC,White Mesh speaker grill: Surface-treated steel plate, White paint Speaker Wall bracket: Surface-treated C-shaped bracket&tile support rails,white paint Screws and Stainless steel cable	Enclosure: Cold rolled iron plate&ABS+PC,White Mesh speaker grill: Surface-treated steel plate, white paint Speaker Wall bracket: Surface-treated C-shaped bracket&tile support rails,white paint Screws and Stainless steel cable

SHOW

INSTRUCTION MANUAL

1. SAFETY PRECAUTIONS

- Before installation or use, be sure to carefully read all the instructions in this section for correct and safe operation.
- Be sure to follow all the precautionary instructions in this section, which contain important warnings and/or cautions regarding safety.
- After reading, keep this manual handy for future reference.

Safety Symbol and Message Conventions
Safety symbols and messages described below are used in this manual to prevent bodily injury and property damage which could result from mishandling. Before operating your product, read this manual first and understand the safety symbols and messages so you are thoroughly aware of the potential safety hazards.

⚠ WARNING	Indicates a potentially hazardous situation which, if mishandled, could result in death or serious personal injury.
⚠ CAUTION	Indicates a potentially hazardous situation which, if mishandled, could result in moderate or minor personal injury, and/or property damage.

⚠ WARNING

- Use only the specified amplifier output voltage and impedance, as exceeding the specified limits could result in fire or other failures (high-impedance version).
- To avoid accidental air explosions, do not use the unit around gasoline, thinner or other combustibles.
- Install the unit only in a location that can structurally support the weight of the unit and the mounting bracket. Doing otherwise may result in the unit falling down and causing personal injury and/or property damage.
- Protect the unit from exposure in snowy areas, as the weight of snow build-up could cause the speaker to fall, resulting in personal injury.
- Do not use other methods than specified to mount the bracket. Extreme force is applied to the unit and the unit could fall off, possibly resulting in personal injuries.
- Tighten each nut and bolt securely. Ensure that the bracket has no loose joints after installation to prevent accidents that could result in personal injury.
- Avoid mounting the unit in locations exposed to constant vibration. The mounting bracket can be damaged by excessive vibration, potentially causing the speaker to fall, which could result in personal injury.

⚠ CAUTION

- To avoid electric shocks, be sure to switch off the amplifier power when connecting the speaker.
- Avoid installing the unit in humid or dusty locations, or in locations exposed to heaters, solvents, acid, alkali, smoke, steam or direct sunlight (except outdoor-use versions), as excessive exposure to these factors could result in speaker failure, fire or electric shock.
- Do not operate the unit for an extended period of time with the sound distorting. This is an indication of a malfunction, which in turn can cause heat to generate and result in a fire.
- Do not stand or sit on, nor hang down from the unit as this may cause it to fall down or drop, resulting in personal injury and/or property damage.

2. GENERAL DESCRIPTION

The innovative design and high quality materials of the NCL-4 and NCL-6 provide compact appearance and superior performance for ceiling speakers. They provide high-fidelity full-range sound over a wide range of coverage, and you can randomly select an output power of 70V or 100V via the tap selector on the panel as needed.

These speaker systems can be installed in a manner suitable for positioning and intended application.

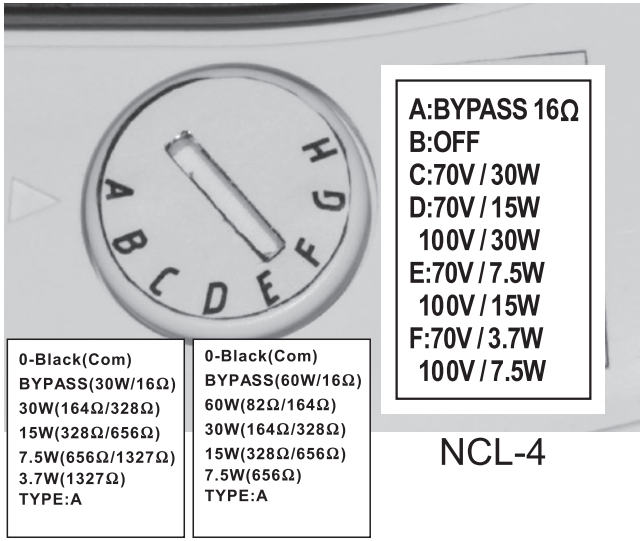
The speaker is certified to the European Standard EN 54 24:2008

3. FEATURES

- Wide directivity high-frequency horn.
- Fixed to the ceiling
- Rotary switch located in the panel provides impedance change.
- Certified to EN 54-24:2008

4. IMPEDANCE CHANGE

To change the impedance, please rotate the rotary switch on the speaker's panel to select the desired input power according to power label indicated near the rotary switch or the model label on the host.



(Figure 1A)

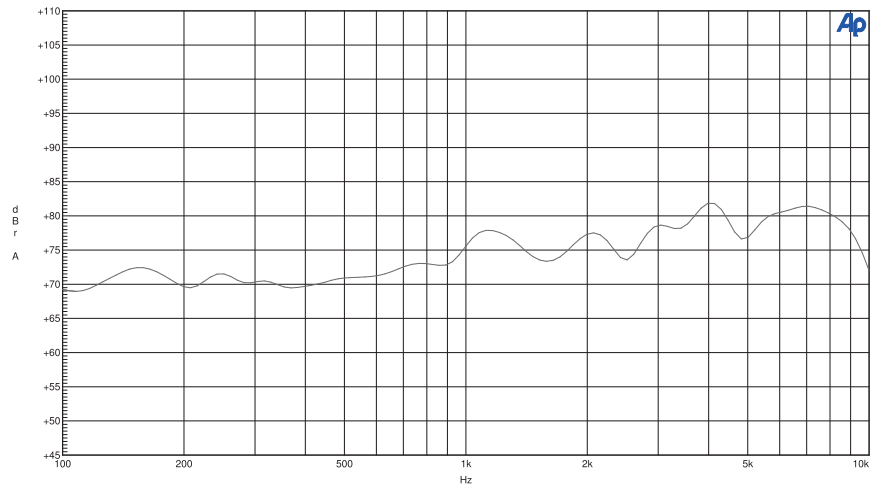
⚠ CAUTION

Never set this rotary switch to the"C"position when operating the speaker on 100V line.

Failure to this instruction could result in damage to the speaker or amplifier.

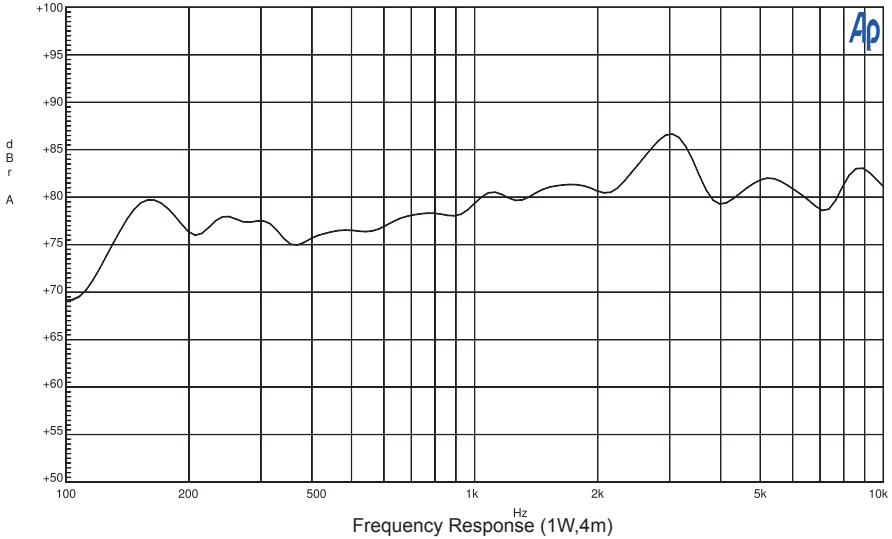
9. FREQUENCY RESPONSE

NCL-4 Frequency Response



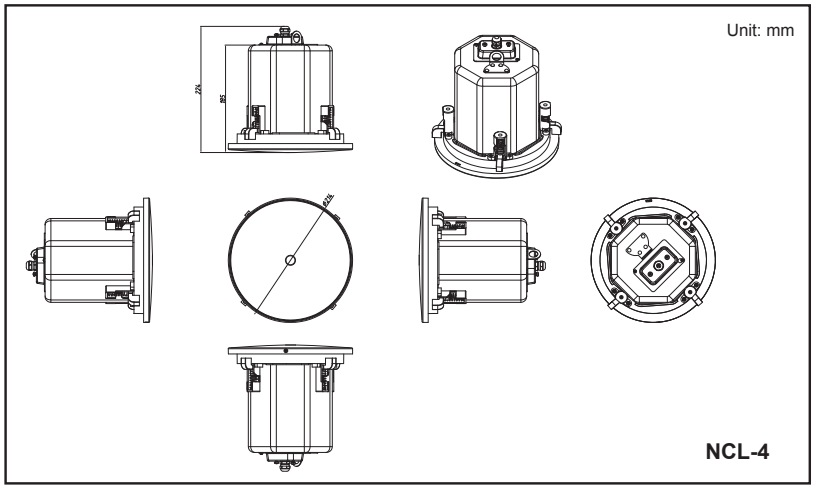
Frequency Response (1W,4m)

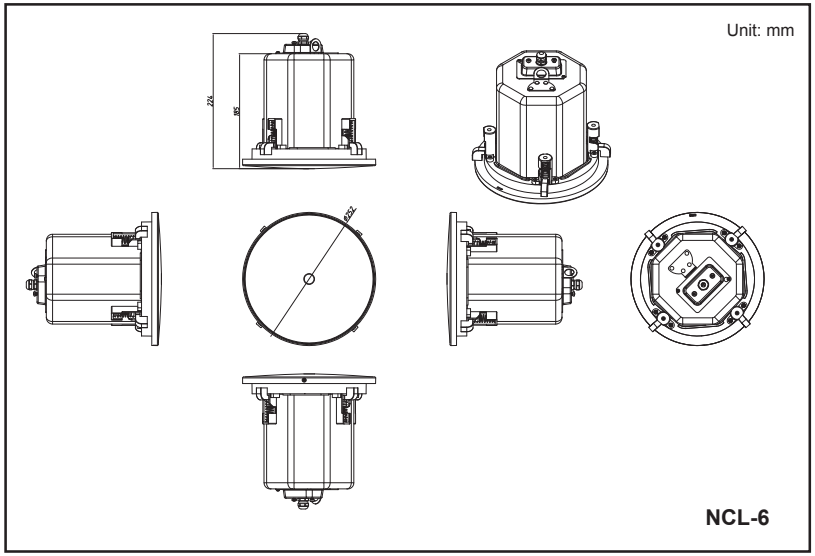
NCL-6 Frequency Response



Frequency Response (1W,4m)

8. DIMENSIONAL DIAGRAM





5. WIRING

Step 1:Pass the cable through the cable gland, and fix the cable gland to the cover when the cable length is appropriate.

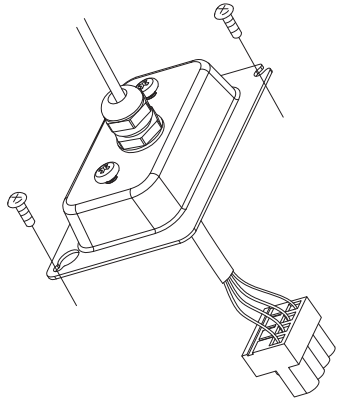
Step 2:According to the label which one near the Terminal Block, the other on the Terminal Block, use the 4P cable to connect the “1” and ”2” that stands for positive and connecting the “3”and”4”that stands for negative.

Step 3: Make sure the cable gland is tightened to fix the cover.

Notes: After tightening the screws, pull the cable in order to insure it is tightened.

As to the detailed specifications, you can be referred to the instruction on the loudspeaker itself and the following specifications of the product:

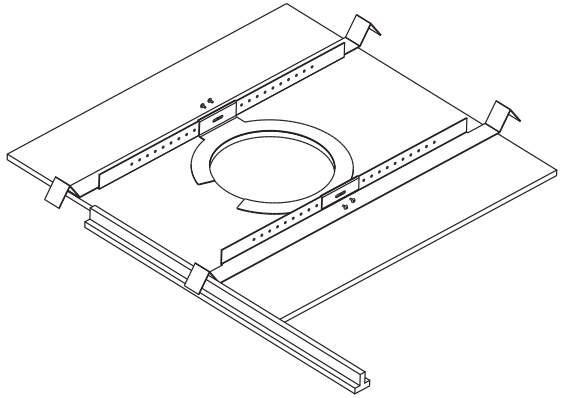
The connecting instruction for the product in use.



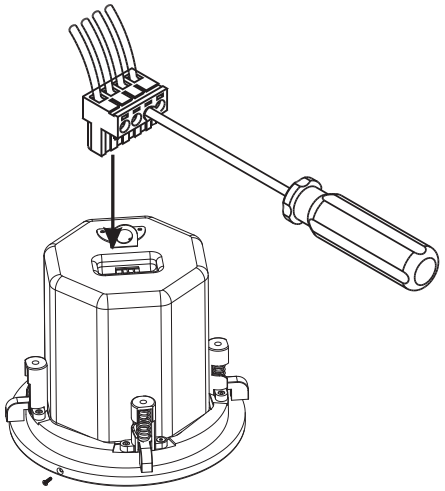
6. INSTALLATION PROCEDURES

Note: Commercial audio installation system must conform to local building laws. When install speaker on wall or ceiling, please consult a building constructor with a license or a professional engineer. The corporation won’t be responsible for the improper installation or damage because of not conforming to installation description.

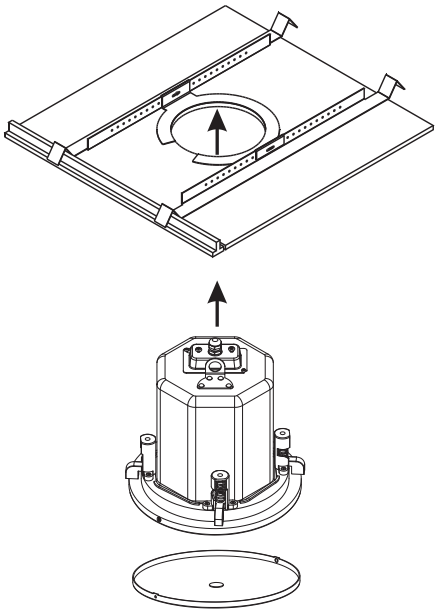
6.1 First, drill a round hole into the ceiling in accordance with the dimension of "C" bracket, then use the slid track to mount the "C" bracket on ceiling. The further details are as follows:



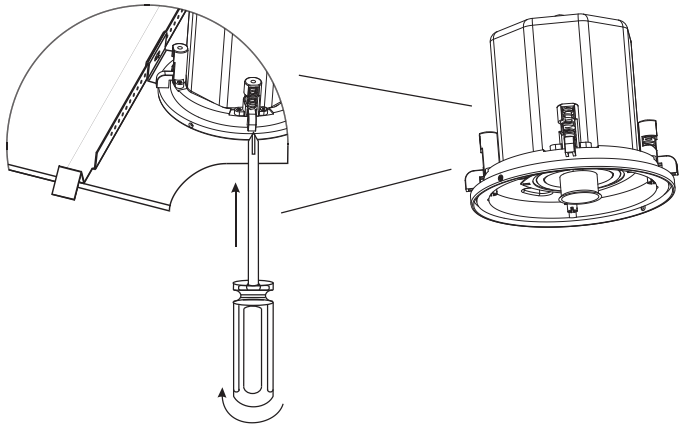
6.2 Please remove the removable locking input connector of NCL-4/NCL-6 and then finish the wiring work before installing your unit. The further details are as follows:



6.3 After the step1 and 2, lock the protective cover and put the unit into the ceiling round hole after inserting the input connector into the connecting socket of NCL-4/NCL-6.
The further details are as follows:



6.4 After the step 3, rotate the mounting tabs to lock the unit at the specified place.
The further details are as follows;



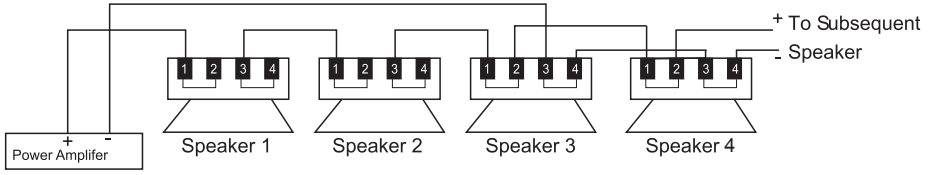
6.5 Then, you should select the required output power via the tap selector on panel.
Finally, install the perforated press-in grille for ending the installation.

7. CONNECTION DESCRIPTION

LEVEL DISTRIBUTION SYSTEM CONNECTION DESCRIPTION:

NCL series have built-in transformer of 70/100V, can connect many speakers to one channel, and only need one amplifier. The amplifier output terminal "com/-" stands for positive. The red speaker terminal stands for positive, black stands for negative. Please connect amplifier to speaker right, incorrect connection may cause damage to amplifier and speaker. Finally set your desired output power, See (Figure 1A)to connect the cable to the corresponding power to meet your needs., in this case, the total power of all the speakers can't exceed the nominal power of amplifier. One 320W amplifier channel can drive 5 speaker of 60W, i.e. 60 x 5=300<320W).For safety, the total power of all the speakers should be less than 3/4 nominal power of amplifier(One 320W amplifier channel can drive 4 speakers of 60W, i.e.60 x 4=240W<320W).

Series mode:



Parallel mode: