



CPL280

Line array speaker system



Operating
Manual

CPL™ 280 Line array speaker system

Crest audio® CPL280 line array speaker system consists of two 8" neodymium magnet woofers and a 1.4" neodymium magnet compression driver with a highly flexible rigging system. Designed to provide modular coverage of small to medium venues and intended for use with the companion CPL118S sub, the CPL280 offers extreme versatility and high performance.

The adjustable rigging system provides for a classic straight line array configuration, or a number of different angling options, providing easy aiming of the system. Angles between the array modules is adjustable from 0° (straight), to 10° in 1° increments. Total maximum angle between two cabinets is 10°.

Quick release pins are supplied with the rigging hardware to couple the CPL280 modules together and set the angles between them for quick and easy field adjustments or re-configurations of a line array.

FEATURES:

- 2-way Bi-Amp Line Source Array System
- 2x8" neodymium magnet woofers
- 310W continuous, 620 watt program, 1240 watt peak power handling
- 60° H by 10° V coverage pattern (per one cabinet)
- Easy aiming angle adjustment rigging system
- Angle adjustable in 1 degree increments from 0 to 10 degrees, total angle between adjacent cabinets
- Inputs are two Neutrik® Speakon® 4-pin jacks in parallel
- 15mm birch plywood construction

SPECIFICATIONS

Frequency response, 1meter on-axis, swept-sine in anechoic environment:

100Hz to 16.5kHz (±6dB, with processing)

Usable Low Frequency limit, -10 dB point: 85 Hz

Power handling:

Low Frequency Section: 200W continuous, 400W program, 800W peak

High Frequency Section: 110W continuous, 220W program, 440W peak

Sound pressure level, 1watt, 1meter in anechoic environment:

Low Frequency Section: 94dB

High Frequency Section: 111dB

Maximum sound pressure level (1meter)*:

Low Frequency Section: 117dB SPL continuous, 120dB SPL program, 123dB SPL peak

High Frequency Section: 131dB SPL continuous, 134dB SPL program, 137dB SPL peak

*Note: This spec is for one module at 1 meter, a line array of 6 units has much higher output at distance due to line source effect where SPL falls off at 3 dB per distance doubling rather than 6 dB

Nominal Radiation Angle measured at -6dB point of polar response:

60 degrees Horizontal by 10 degrees Vertical

(One module only, straight line array of more than 1 module narrows vertical dispersion accordingly)

Transducer complement:

Low Frequency Section: 2x8 in. neodymium magnet woofers, NWo8 neodymium 2" VC

High Frequency Section: 1x1.4in. Compression Tweeters, HF75NP1-16 neodymium 3" VC

Box Tuning Frequency (Sealed): LowFrequency Section: 73 Hz

Impedance (Z):

Low Frequency: Nominal: 16 Ohms, Minimum: 11.9 Ohms

High Frequency: Nominal: 16 Ohms, Minimum: 11.1 Ohms

Input Connections:

2x Neutrik® 4-pin Speakon® Jack

Low Frequency: PIN 1+ = LF+, PIN 1- = LF-

High Frequency: PIN 2+ = HF+, PIN 2- = HF-

Enclosure Materials & finish:

15mm birch plywood finished in black painted finish, perforated steel grille finished in black powder coat paint.

Dimensions (H x W x D):

251 mm x 616 mm x 408 mm

9.88" x 24.25" x 16.063"

Net Weight:

23.8kg(52.5lbs)

Compression Tweeter Warnings and Cautions

Warning! Do not feed a full-range signal to the tweeters in the CPL280 ! This could damage the tweeters!

It is recommended that for set-up or testing purposes, a high frequency sweep starting or ending no lower than 300 Hz be used to verify that the tweeters are connected to the high frequency output of the crossover/processor. If the wiring has been swapped, and the signal is mistakenly fed to the woofers, output will fall off significantly above 5 kHz. Always double-check and test your wiring before applying any music signals to the system! The compression tweeters are connected to the Neutrik® Speakon® pins 2+ and 2-, as per industry standards.

NOTE: Before you fly the array, be sure to inspect the rigging and flying hardware to insure that it is mechanically sound and has not been damaged, there should be no significant distortion of the shape of the coupling brackets, cabinet brackets, Halo or fly bar, and the hardware should be checked for tightness.



This CREST AUDIO loudspeaker should be suspended overhead only in accordance with the procedures and limitations specified in the User's Manual and possible manual update notices. This system should be suspended with certified rigging hardware by an authorized rigging professional and in compliance with local, provincial or national suspension ordinances. **ALWAYS USE PROPER GRADE HARDWARE.**



CAUTION: Before attempting to suspend this speaker, consult with a certified structural engineer. Speaker can fall from improper suspension, resulting in serious injury and property damage. Use only the correct mating hardware. All associated rigging is the responsibility of others. Maximum enclosure angle 30 degrees. Failure to follow proper rigging specifications listed in the manual may result in injury or death.

Whenever possible, in addition to the nominal primary mounting method, use a suitable safety chain or wire rope attached to one of the other groups of fly points, and firmly attached to a suitable structural member as indicated by a certified structural engineer. **CAUTION: ALWAYS USE SAFETY CHAIN OR WIRE ROPE.**



IF ANY OF THE RIGGING, OR THE HALO OR FLY BAR HAS BEEN DAMAGED OR DISTORTED, DO NOT USE, AND DO NOT FLY THE ARRAY UNTIL THEY CAN BE REPLACED OR REPAIRED!

DO NOT USE THE PIVOT BAR OR ANGLE SLIDER BRACKET AS HANDLES TO TRANSPORT THE CABINETS!



DO NOT TRANSPORT THE CABINETS IN ARRAY CONFIGURATION COUPLED TOGETHER, EXCEPT WITH THE RECOMMENDED TRANSPORT CART AND IN THE STIPULATED MANNER FOR THAT CART. TRANSPORT IN SUCH AN UNAPPROVED MANNER VOIDS THE WARRANTY, AND THE SYSTEM WOULD BE CONSIDERED UNSAFE TO BE FLOWN AFTER SUCH AN UNAPPROVED TRANSPORT EVENT.

Use only the correct mating hardware. All associated rigging is the responsibility of others.

Correct use and seating of the Quick Release Push Lock Pins Used with all CPL™ rigging hardware.

DO NOT OVER TORQUE HARDWARE.

When using the Quick Release Positive Lock Pins, when the Quick Release Push Lock Pins are inserted, they should be fully seated, so that the black shoulder near the end of the pin has been placed flush with the side of the bracket, or as far in as the pin hole cavity will allow it to be inserted.

You will have to fully depress the center push-button to do this.

You should not be able to pull these pins out unless the center push-button is fully depressed.

INSPECT RIGGING ANNUALLY.

Hanging CPL™280 Cabinets to another CPL™280 Cabinets

1. Take out the first speaker, remove the quick release locking pins on the rear side of the top and slide the front sling upward. Don't fix the locking pin, see Fig.1 and 1a.



Figure1

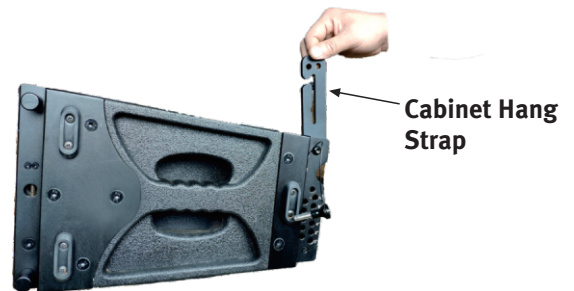


Figure1a

2. After removing the cabinet hang strap, insert the locking pin into the positioning point.
3. Take out the second speaker, pull out the front locking pin, and eject the front cabinet hang strap, see Fig. 2 .



Figure2

4. Adding the second Cabinet.
The second speaker is stacked on the first speaker, and the first speaker front lock pin is pulled out; the second speaker is aligned with the front hanger of the first speaker, and the lock pin is released from the connector. Bounce into the fixed position, see Fig.3 and 3a.



Figure3

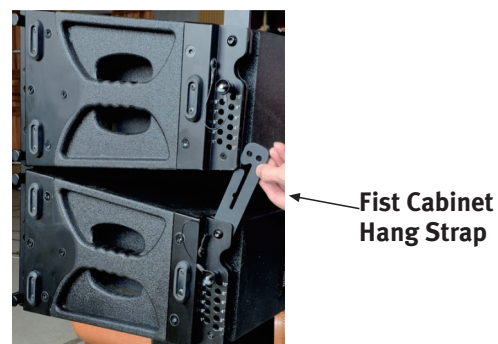


Figure3a

5. Lift the rear of the second speaker and place the rear cabinet hang strap of the first speaker into the positioning slot of the second speaker, see Fig.3a.
6. According to the design suspension angle, the insertion lock pin is fixed, see Fig.4.

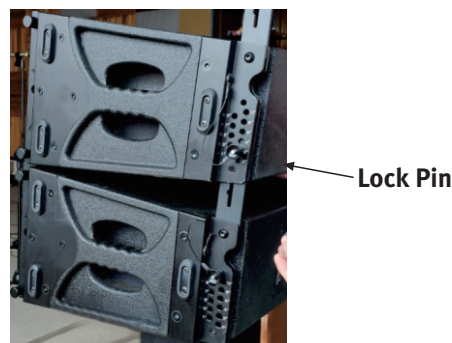


Figure4

Hanging CPL™280 Cabinets to CPL™118S Cabinets and CPL118S halo

1. Take an CPL118S and slide up the cabinet hang strap at the back of the cabinet, see Fig.1.

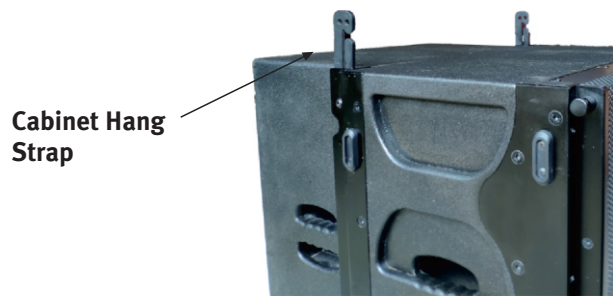


Figure1

2. Take the CPL280 halo, take out the front halo ear, pull out the lock pin in front of the CPL118S cabinet, and put the halo on the CPL118S cabinet. After the halo ear is aligned with the cabinet, loosen the lock pin and fix it, see Fig.2 and 2a.



Figure2



Cabinet Hang Strap

Figure2a

3. CPL118S rear cabinet strap is aligned with halo and fixed with lock pin after mounting hole, see Fig.3.



Figure3

4. Pull out the front locking pin under the CPL118S cabinet, pop out the cabinet strap, and then take out the rear locking pin under the cabinet, see Fig.4 and 4a.



Figure4



Figure4a

5. Use the hoist to lift the CPL118S cabinet that has been assembled on the halo to the appropriate height. Then lift the CPL280 with the assembled flying hardware to the bottom of the CPL118S cabinet. Pull the locking pins on both sides of the CPL280 cabinet to align the CPL118S cabinet to ensure the front end of the CPL118S cabinet. The cabinet hang strap on both sides are assembled with the front hardware of the CPL280 cabinet, and then the lock pins are loosened. see Fig.5 .



Figure5



Figure5a



Figure5b

6. Install the cabinet hang strap on both sides of the rear end of the CPL280 cabinet into the top CPL118S hanger, and insert the lock pin according to the designed angle. see Fig.5a and 5b.

Processor setting:

CPL280 processor settings

HF

GAIN: -4dB

Delay: 0.156ms

Filter: LK-24dB/oct@1290Hz

Polarity: Inverse

EQ

1: PEQ	2890Hz	G=-6dB	Q=3.6
2: PEQ	4390Hz	G=-2dB	Q=2.7
3: PEQ	13000Hz	G=+3.0dB	Q=3.0

LF

GAIN:: 0dB

Delay: 0.229ms

Filter: LK-24dB/oct@99.2Hz

LK-24dB/oct@2000Hz

Polarity: Normal

EQ

1: PEQ	739.7Hz	G=-4dB	Q=3.0
2: PEQ	890.9Hz	G=+4dB	Q=4.0
3: PEQ	2580Hz	G=-5dB	Q=3.0

CPL118S processor settings

GAIN: +3dB

Delay: 0ms

Filter: Lk-24dB/oct@40.3Hz

Lk-24dB/oct@111.4Hz

Polarity: Normal

INFORMATION ON THE FLYING HARDWARE FOR THE CPL280 Halo (Available Separately)



CAUTION ! Before attempting to suspend any CPL™280 Rigging Hardware with or without speakers hung from it, consult a certified structural engineer. The Halo/Fly Bar and/or speaker array can fall from improper suspension, resulting in serious injury and property damage. Use only the correct mating hardware. All associated rigging is the responsibility of others.

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Whenever possible, in addition to the nominal primary mounting method, use a suitable safety chain or wire rope attached to one of the other groups of fly points, and firmly attached to a suitable structural member as indicated by a certified structural engineer. **CAUTION: ALWAYS USE SAFETY CHAIN OR WIRE ROPE.**

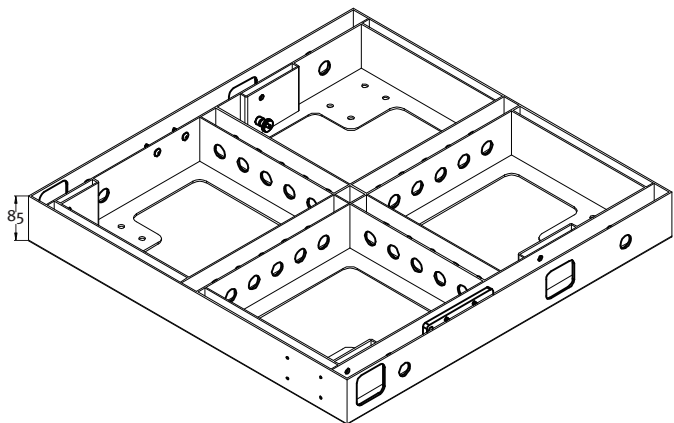
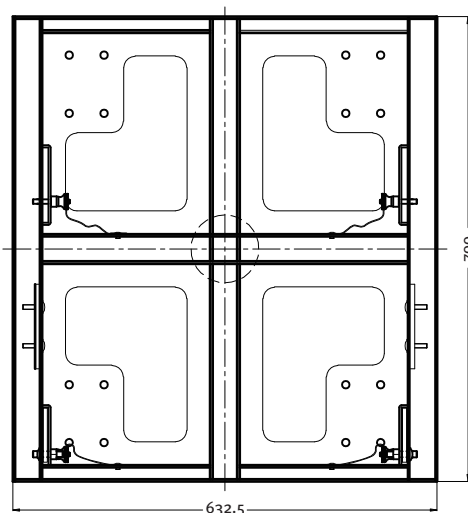
Connects the CPL118S Sub speakers and CPL280 to the overhead rigging.
4x 8mm quick locking pins are provided on the halo to suspend the CPL118S Sub speakers.

Specifications:

Halo Only Dimensions H x W x D:

3.34" x 24.9" x 27.55" (85mm x 632.5mm x 700mm)

Weight: 50.7lbs./23kg



Material: The whole halo is made of 3mm iron plate welded, the shape is in the shape of a field, and the middle of halo is hollow.

Finish: Entire Halo is flat black powder coated paint finish.

Working Load Limit: 300 kg / 661 lbs. for Ultimate Strength Design Factor of 10:1
(This meets PLASA North America criteria and typically exceeds local USA safety requirements.)

Working Load Limit: 250kg / 551 lbs. for Ultimate Strength Design Factor of 12:1
(This is in compliance with the European Union mandated Safety Factor)

Maximum Number of CPL™280 passive cabinets: 10

Maximum Number of CPL™118S Sub cabinets: 5
(Note: CPL118S Sub cabinets do NOT articulate or angle, they must be hung at a zero degree angle.)

Can fly up to 5 CPL118S Subs, or 10 CPL280.

Maximum Combined Number of CPL™ 280 and CPL™ 118S Sub cabinets:

MIX OF SUBS VERSUS 2-Ways

Subs	2-Ways
0	10
1	8
2	6
3	3
4	1
5	0

NOTES:

The ultimate strength for the CPL™ 280 loudspeaker system rigging hardware was determined utilizing calibrated and certified pull tests.

More complete information on the Crest audio® CPL280 Rigging System and the Halo can be found in the unit's Owner's manual, or by contacting Crest audio.®

Design and specifications subject to change without notice.



CAUTIONS

WARNING !

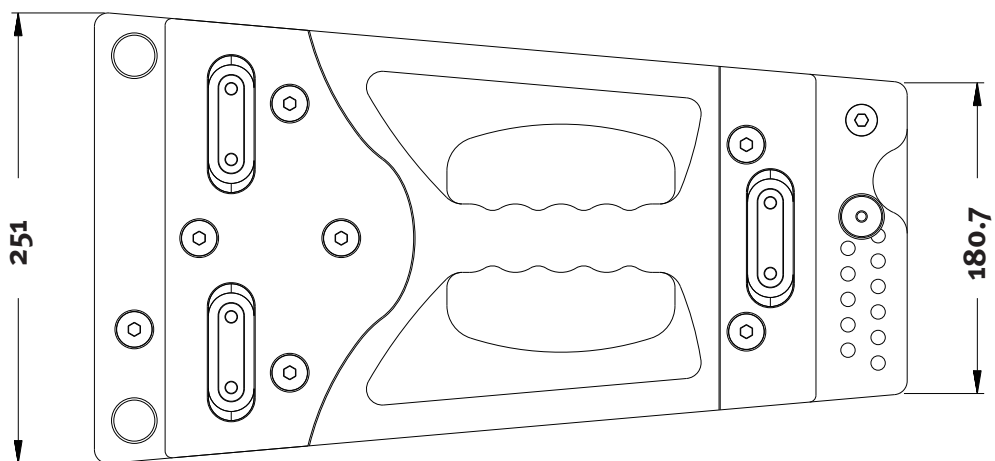
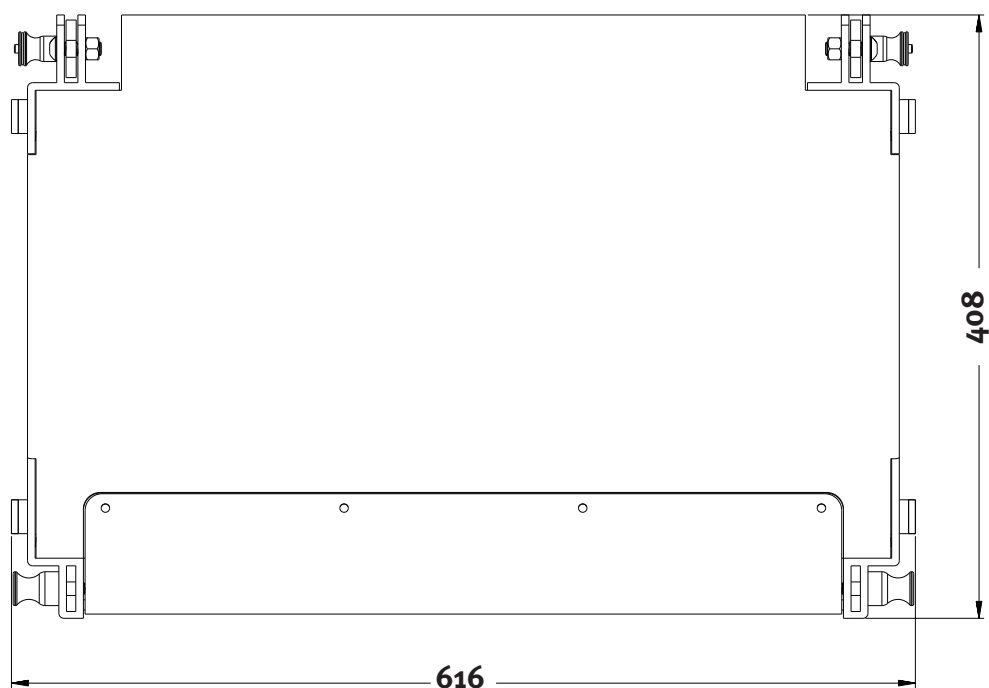
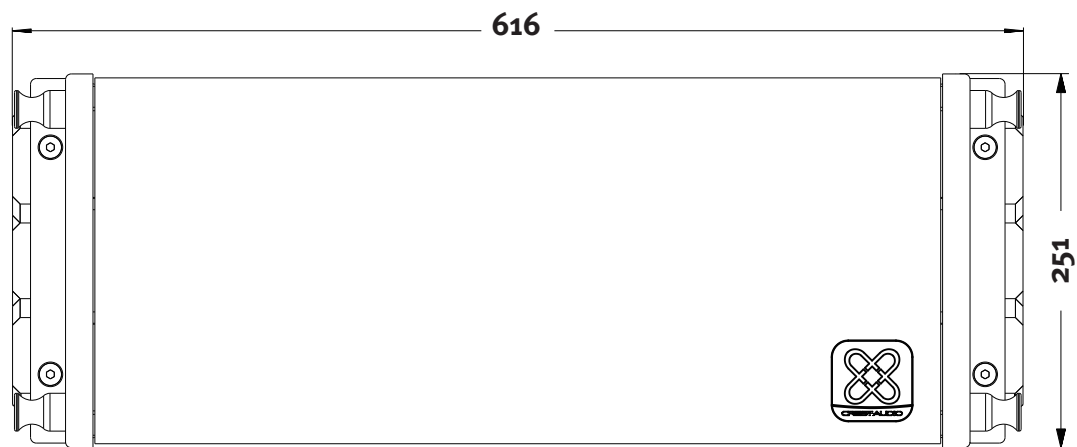
IMPORTANT INFORMATION FOR STRUCTURAL ENGINEER AND RIGGING PERSONNEL.

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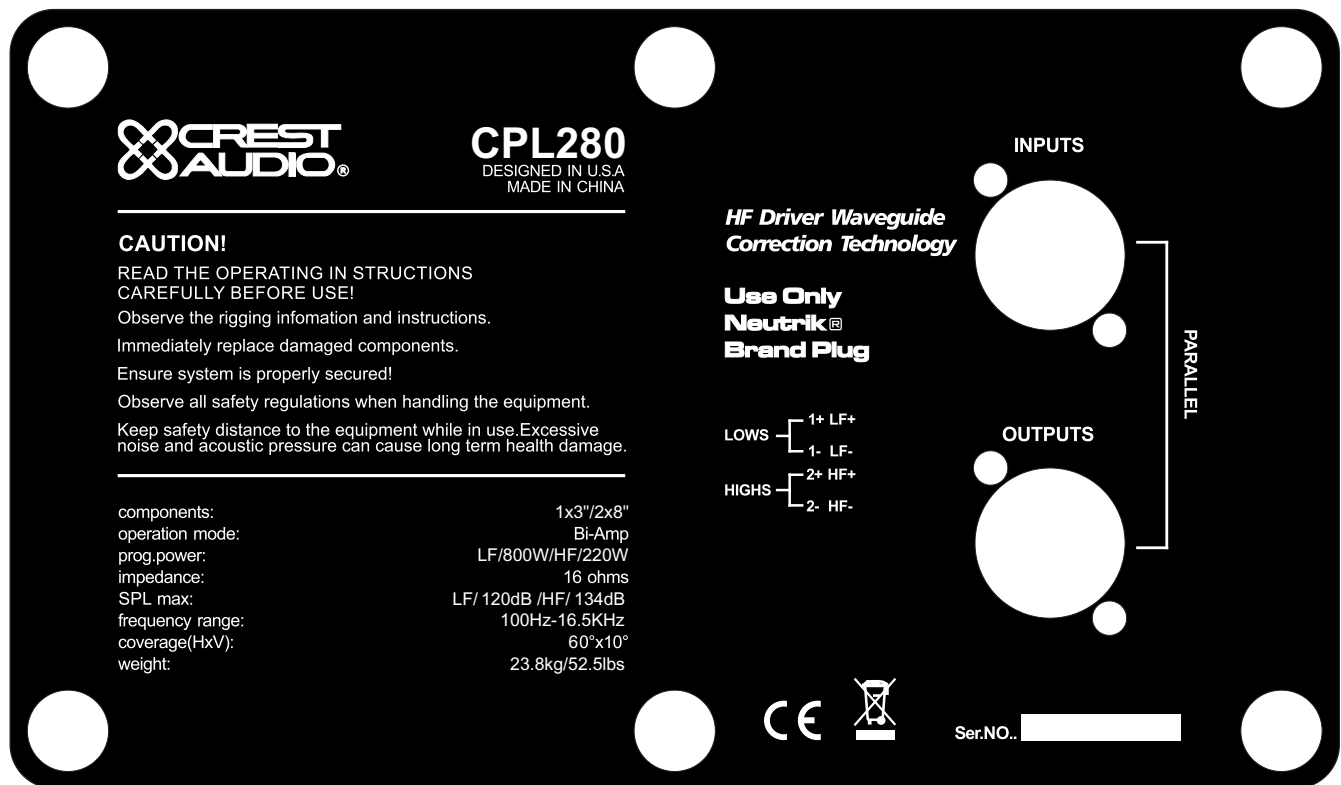
CAUTIONS:

**IF ANY OF THE BRACKETS, RAILS, CABINET STRAPS, THE FLY BAR HAS BEEN DAMAGED OR DISTORTED, DO NOT USE, AND DO NOT FLY THE ARRAY UNTIL THEY CAN BE REPLACED OR REPAIRED!
DO NOT USE THE HANGING STRAP OF THE CABINET TO MOVE THE CABINET!**

Dimensions:
Unit:mm



Input Cup





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Warranty registration and information for U.S. customers available online at
www.peaveycommercialaudio.com/warranty
or use the QR tag below



Features and specifications subject to change without notice.

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Logo referenced in Directive 2002/96/EC Annex IV
(OJ(L)37/38, 13.02.03 and defined in EN 50419: 2005
The bar is the symbol for marking of new waste and
is applied only to equipment manufactured after
13 August 2005

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