



audio DESIGN™

## C81 2-C820 [SPK-CCF848]

Complete K-coverage ESD™ (Equal Sound Dispersion)

Ceiling Speaker Family



THE INNOVATIVE, PATENT PENDING COMPLETE K-OVERAGE ESD™ CEILING SPEAKER IS THE ONLY SPEAKER IN THE INDUSTRY WITH BUILT-IN STEREO SEPARATION. CONSTRUCTED WITH A CENTRAL DRIVER AND FOUR PIVOTING TWEETERS IN A FIREPROOF ENCLOSURE, THE COMPLETE K-OVERAGE ESD™ PROVIDES UNMATCHED SOUND RESPONSE IN A SUSPENDED CEILING DEVICE FOR THE PROFESSIONAL AND EDUCATIONAL MARKETS. THE SPEAKERS ARE AVAILABLE IN STEREO OR MONO MODELS AND IN FULL TILE AND HALF TILE SIZE CONFIGURATIONS.

### FEATURES

- Wide 180° Range
- Smooth Frequency Response
- 40W RMS Power Rating
- Shallow 4-Inch Depth (approx. 100mm)
- 8-Inch Woofer - Paper or polypropylene cones
- 4 Pivoting 1" (25mm) Tweeters - Titanium or silk domes
- Accessories - Installation bracket, steel grill
- Stereo or Mono Models
- RoHS compliant

### PRO APPLICATIONS

- Conference Rooms & Boardrooms
- Hotel Lobbies
- Retail Stores
- Airports
- Large Office Buildings

### EDUCATIONAL APPLICATIONS

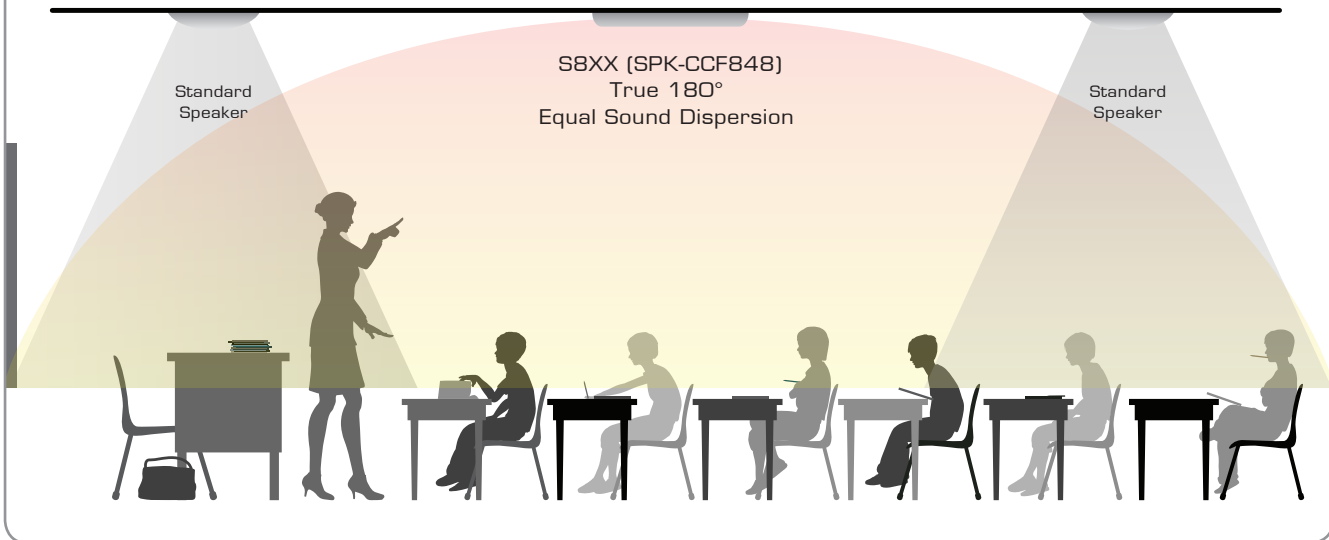
- University Lecture Halls
- Classrooms
- Presentation Venues



## The ESD™ Effect

Complete K-coverage ESD™ provides unmatched equal sound dispersion for ceiling speakers.

The patent pending design of a central driver with four pivoting tweeters in four corners generates a unique sound effect, heard equally from every spot and every angle in the room.



### MONO VERSION FAMILY

Model	Part Description	Size (cm)
C815 (SPK-CCF848-30-PRO)	Complete K-coverage ESD® Ceiling Speakers Half tile Mono	30X60
C813 (SPK-CCF848-60-PRO)	Complete K-coverage ESD® Ceiling Speakers Full tile Mono	60X60
C819 (SPK-CCF848-30-EDU)	Complete K-coverage ESD® Ceiling Speakers Half tile Mono	30X60
C817 (SPK-CCF848-60-EDU)	Complete K-coverage ESD® Ceiling Speakers Full tile Mono	60X60

### STEREO VERSION FAMILY

Model	Part Description	Size (cm)
C814 (SPK-CCF848-30-PRO/ST)	Complete K-coverage ESD® Ceiling Speakers Half tile Stereo	30X60
C812 (SPK-CCF848-60-PRO/ST)	Complete K-coverage ESD® Ceiling Speakers Full tile Stereo	60X60
C820 (SPK-CCF848-595-PRO/ST)	Complete K-coverage ESD® Ceiling Speakers Full tile Stereo	59.5X59.5
C818 (SPK-CCF848-30-EDU/ST)	Complete K-coverage ESD® Ceiling Speakers Half tile Stereo	30X60
C816 (SPK-CCF848-60-EDU/ST)	Complete K-coverage ESD® Ceiling Speakers Full tile Stereo	60X60

## ADVANTAGES

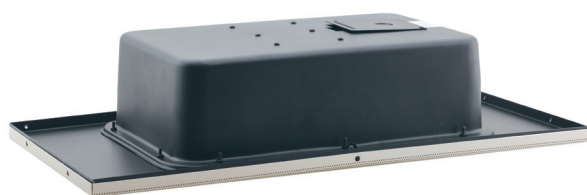
- An unmatched, true 180° Equal Sound Dispersion ceiling speaker
- Choice of models for the educational and professional markets
- Choice of stereo or mono versions in a single unit
- Choice of a bass port for a bass reflex effect
- Reduced number of speakers needed due to excellent ESD™
- Easy to install – full-tile or half-tile size of suspended ceilings– just set and drop in
- Fire-proof shallow enclosure
- Grill fits the look and feel of a standard suspended ceiling
- Kramer's ESD™ patent pending

## C812/C813/C814/C815/C820-PRO SERIES SPECIFICATIONS

INPUT POWER:	40W RMS; max. 80 W; continuous load: 40W (24hr)
NOMINAL SENSITIVITY:	87db SPL @1m
CROSSOVER FREQUENCY:	2kHz
MEAN SPL:	87dB +/- 1dB @1W-1m
FREQUENCY RANGE:	Nominal: 80Hz-20kHz; max: 60Hz-20kHz
SPEAKER TYPE:	Two-way bass reflex closed ceiling speaker.
WOOFER:	8" (203mm) polypropylene cone with rubber surround
TWEETER:	4 x 3/4" (19mm) silk dome pivoting tweeter
IMPEDANCE:	Woofer: 8Ω; tweeter: 6Ω
SENSITIVITY:	87dB SPL @1W, 1m
DIMENSIONS:	30cm x 60cm x 10cm (half tile), 60cm x 60cm x 10cm (full tile); 30cm x 59.5cm x 10cm (half tile), 59.5cm x 59.5cm x10cm (full tile).
WEIGHT:	6.3kg (13.9lbs) approx. (half tile); 6.5kg (14.3lbs) approx. (full tile).
SHIPPING WEIGHT:	7.8kg (17.2lbs) approx. (half tile); 8.0kg (17.6lbs) approx. (full tile).
ACCESSORIES:	Ceiling mounting bracket (supplied with half tile units only)

## C816/C817/C818/C819-EDU SERIES SPECIFICATIONS

INPUT POWER:	40W RMS; max. 80 W; continuous load: 40W (24hr)
NOMINAL SENSITIVITY:	90db SPL @1m
CROSSOVER FREQUENCY:	2kHz
MEAN SPL:	90dB +/- 1dB @1W-1m
FREQUENCY RANGE:	Nominal: 150Hz-20kHz; max: 100Hz-20kHz
SPEAKER TYPE:	Two-way bass reflex closed ceiling speaker
WOOFER:	8" (203mm) paper cone with rubber surround
TWEETER:	4 x 1" (25mm) titanium dome pivoting tweeter
IMPEDANCE:	Woofer: 8Ω; tweeter: 6Ω
SENSITIVITY:	90dB SPL @1W, 1m
DIMENSIONS:	30cm x 60cm x 10cm (half tile), 60cm x 60cm x 10cm (full tile); 30cm x 59.5cm x 10cm (half tile), 59.5cm x 59.5cm x10cm (full tile).
WEIGHT:	6.3kg (13.9lbs) approx. (half tile); 6.5kg (14.3lbs) approx. (full tile).
SHIPPING WEIGHT:	7.8kg (17.2lbs) approx. (half tile); 8.0kg (17.6lbs) approx. (full tile).
ACCESSORIES:	Ceiling mounting bracket (supplied with half tile units only)



Half Tile Size

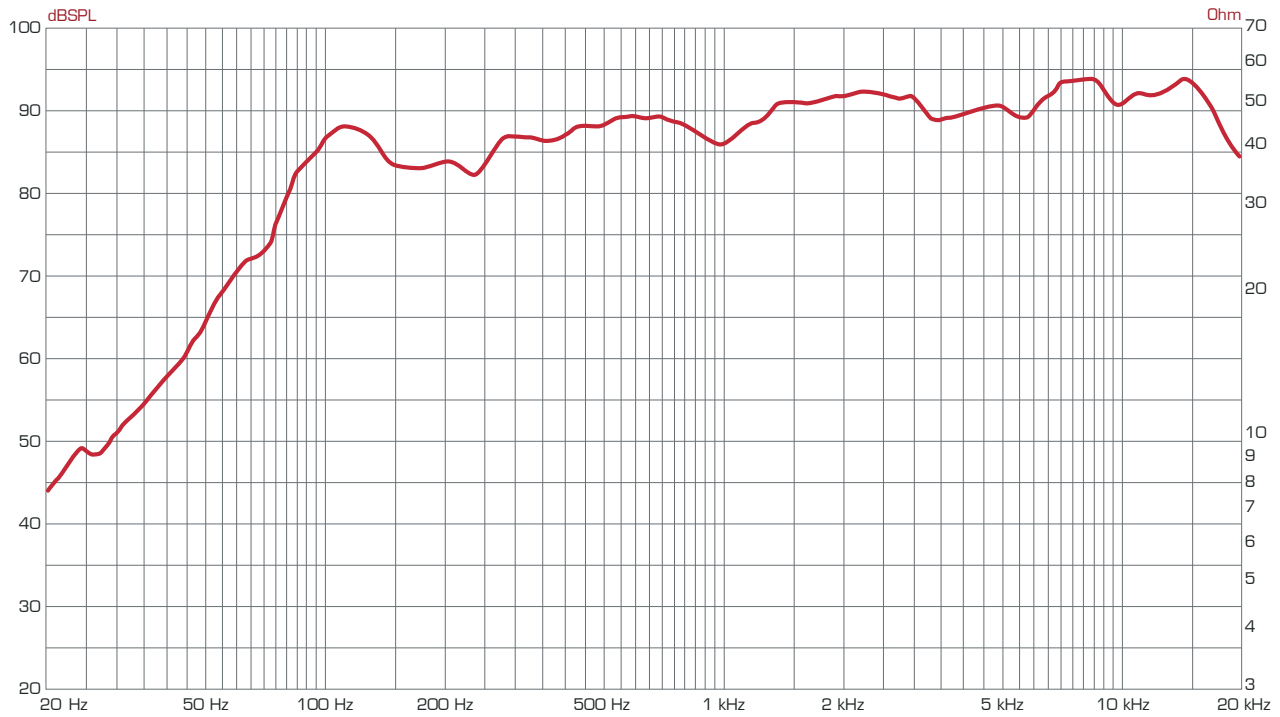


Full Tile Size

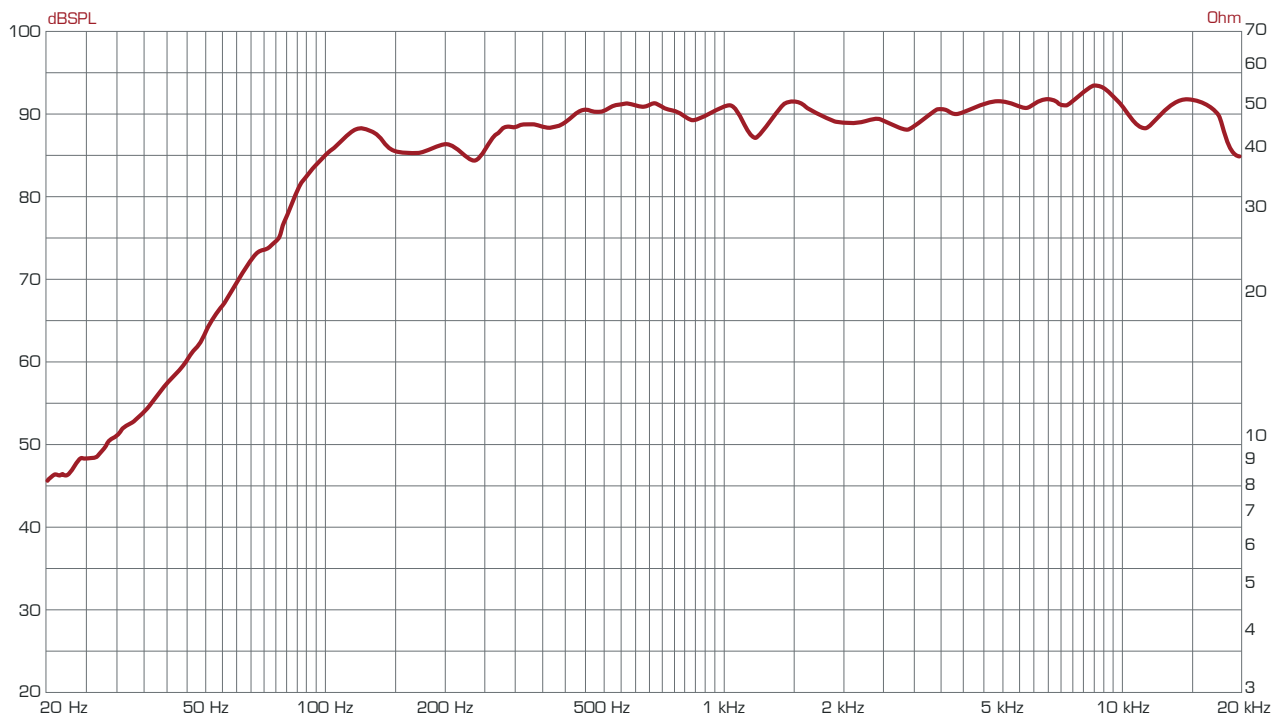


## SPL vs Frequency

### PRO Version



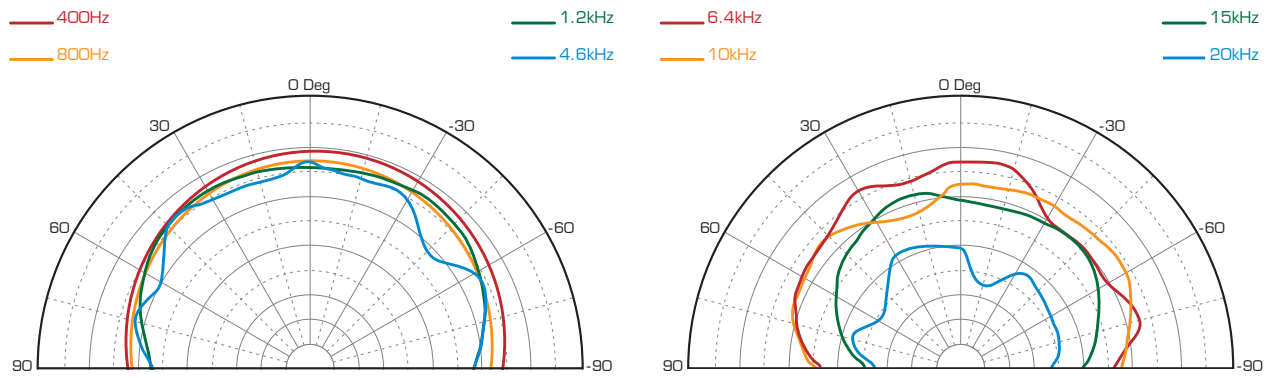
### EDU Version



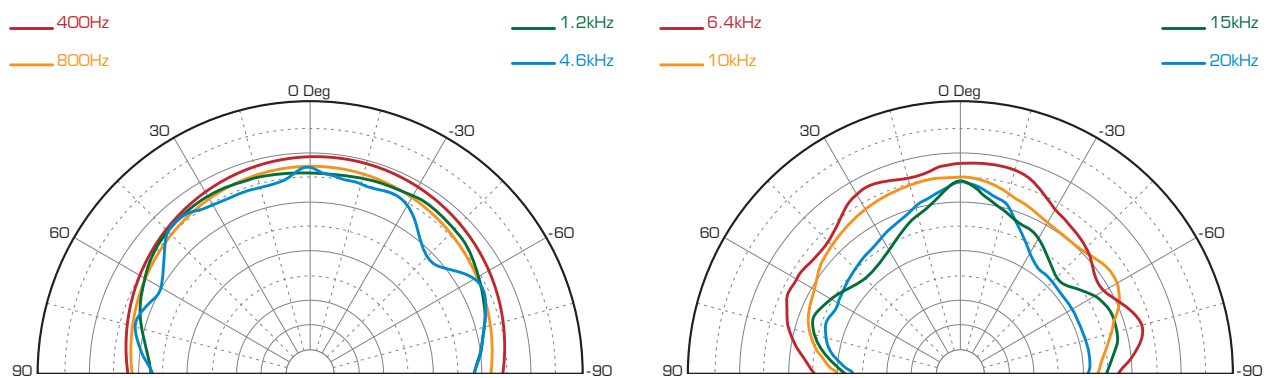


## Polar Graphs - 1/6 Octave Horizontal

### PRO Version



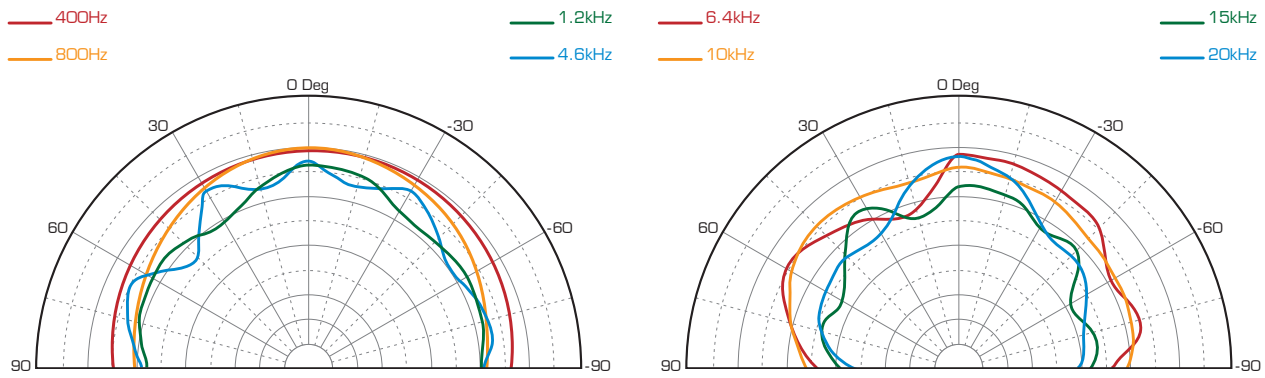
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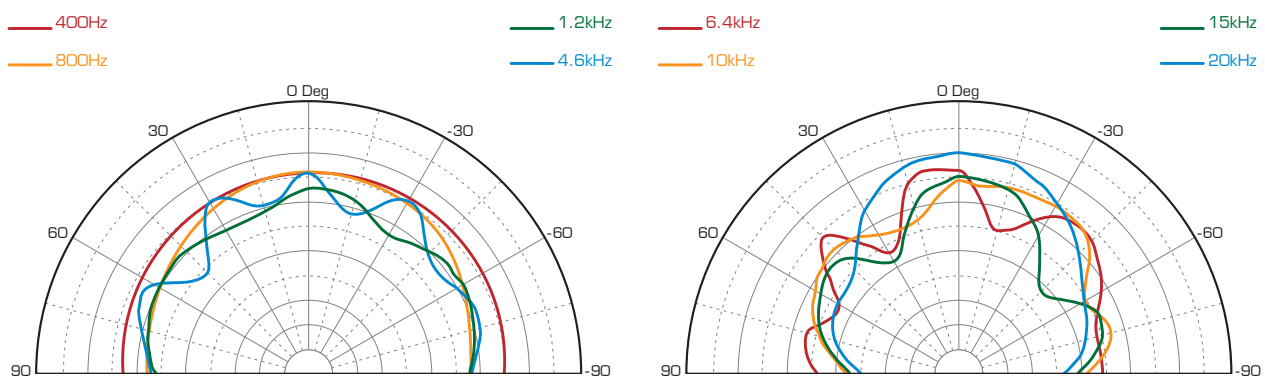


## Polar Graphs - 1/6 Octave Vertical

### PRO Version

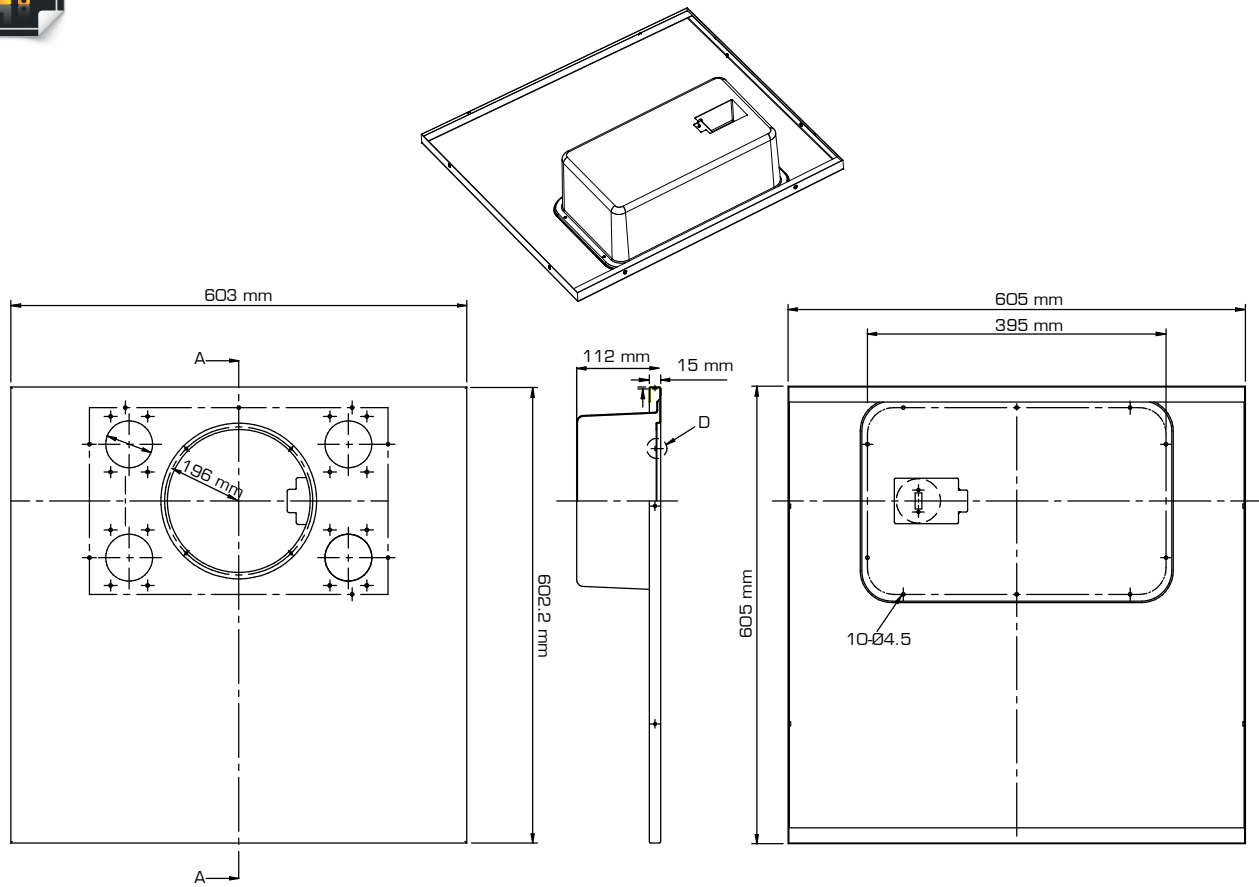


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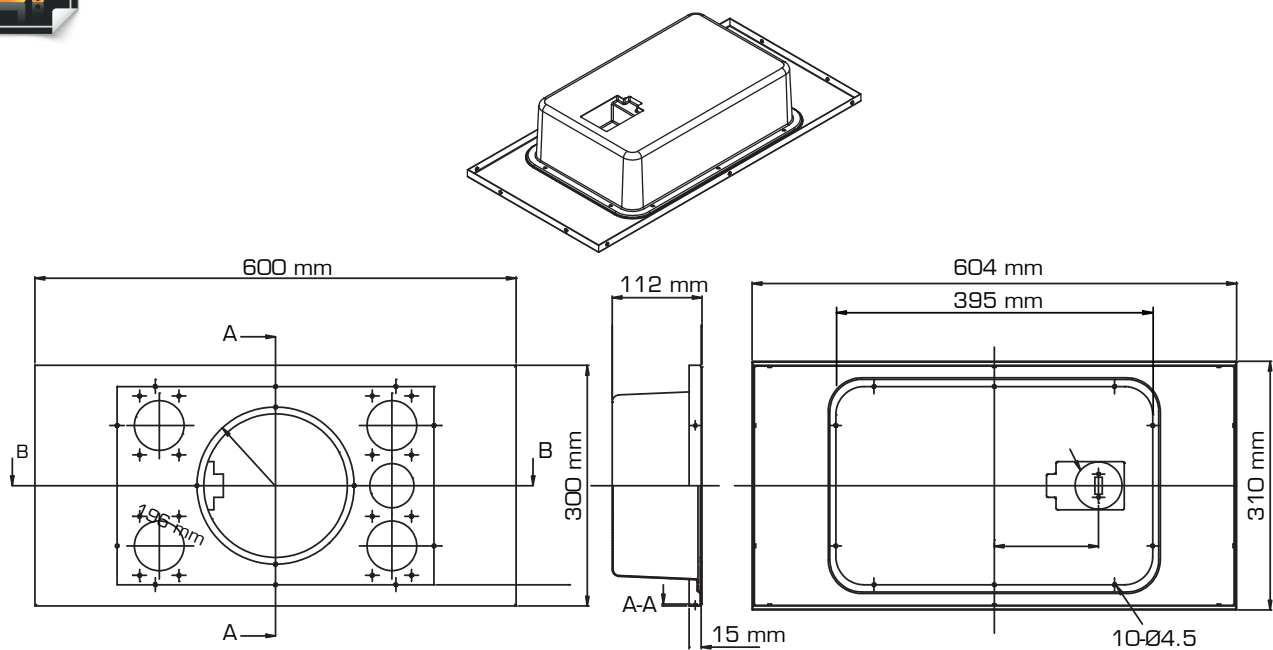




## Technical Drawing - Full Tile



## Technical Drawing - Half Tile





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**KRAMER ELECTRONICS, Ltd.**

3 Am VeOlam St.  
Jerusalem, Israel, 95463  
Tel: + 972 732650200  
Fax: + 972 2 653 5369  
E-mail: info@kramerel.com  
Web: www.kramerelectronics.com

**KRAMER ELECTRONICS USA, INC.  
HEADQUARTERS**

96 Route 173 West Suite 1  
Hampton, NJ 08827  
Tel: (908) 735 0018  
(888) 275 6311  
Fax: (908) 735 0515  
Tech Support after 6pm EST:  
(888) 275 6311  
E-mail: info@kramerus.com  
Web: www.kramermatrix.com

**SIERRA VIDEO HEADQUARTERS**

PO Box 2462  
Grass Valley, CA, 95945, USA  
Sales Outside the US  
Tel: (530) 478 1000  
Fax: (530) 478 1700  
Sales Inside the US  
Tel: (888) 275 6311  
Fax: (908) 735 0515  
Tech Support – Worldwide:  
Tel: (530) 478 1000  
After Hours: (530) 888 3195  
E-mail: info@sierravideo.com  
Online: www.sierravideo.com

**KRAMER ELECTRONICS EUROPE SA**

Rue du Roussart 2  
B-1410 Waterloo  
Belgium  
Tel: + 32 2 357 01 40  
Fax: + 32 2 357 01 49  
e-mail: info.kramee@skynet.be

**KRAMER ELECTRONICS UK, Ltd.**

2 Premus, Coldharbour Way,  
Aylesbury, Bucks. HP19 8AP  
Tel: + 44 1296 330011  
Fax: + 44 1296 330055  
E-mail: info@kramerelectronics.co.uk  
Web: www.kramerelectronics.co.uk

**KRAMER ELECTRONICS FRANCE S.A.R.L.**

Z.I de la Bonde - Parc de la Roseraie - Bat F  
15 rue du Buisson aux Fraises,  
91300 Massy  
Tel: + 33 (0)1 69 75 29 80  
Fax: + 33 (0)1 60 11 76 94  
E-mail: info@kramerfrance.com  
Web: www.kramerfrance.com

**KRAMER ELECTRONICS ITALIA S.R.L.**

Via Cesare Cantù, 25  
20092 Cinisello Balsamo (MI)  
Tel: + 39 02 66594771  
Fax: + 39 02 61296221  
E-mail: info@krameritalia.com  
Web: www.krameritalia.com

**KRAMER ELECTRONICS ESPAÑA S.L.**

C/ Sierra De Gata 9 Nave 4  
San Fernando De Henares  
28830 Madrid  
Tel: + 34 917478410  
Fax: + 34 917473409  
E-mail: info@kramerspain.com  
Web: www.kramerspain.com

**KRAMER GERMANY GMBH**

An Fürthenrode 59  
52511 Geilenkirchen  
Tel: + 49 (0) 2451 91161 0  
Fax: + 49 (0) 2451 91161 10  
E-mail: info@kramergermany.com  
Web: www.kramergermany.com

**KRAMER ELECTRONICS SWEDEN AB**

Energigatan 4,  
Kungsbacka 43437  
Tel: + 46 300 43 18 10  
Fax: + 46 300 43 17 19  
E-mail: info@kramersweden.com  
Web: www.kramersweden.com

**KRAMER ELECTRONICS POLSKA SP. Z O.O.**

ul. Okrzei 1 A  
03 -715 Warszawa, Poland  
Tel: + 48 22 333 80 31  
Fax: + 48 22 333 80 30  
E-mail: info@kramerpoland.com  
Web: www.kramerpoland.com

**KRAMER ELECTRONICS CANADA**

4450 Corporate Drive #5  
Burlington, Ontario, L7L 5R3  
Tel: 905-592-9739/866-726-9921  
Fax: 905-592-9762  
E-mail: info@kramercanada.ca  
Web: www.kramercanada.ca

**KRAMER ELECTRONICS MEXICO**

Felix Parra No. 171  
Col. San José Insurgentes  
C.P. 03900, México, D.F.  
Tel: + 52(55) 5523 0604  
+ 52(55) 5523 0629  
Fax: + 52(55) 5543 5945  
E-mail: glopez@kramermexico.com  
Web: www.kramermexico.com

**KRAMER LATIN AMERICA**

Tel: + 1 305 600 4726  
Tel: + 1 212 300 5188  
E-mail: info@kramerlatinamerica.com  
Web: www.kramerlatinamerica.com

**KRAMER DO BRASIL COMÉRCIO DE  
ELETRÔNICOS LTDA**

Av. Lacerda Franco, 1550, Cambuci  
São Paulo, SP, 01536-001, Brasil  
Tel: + 55 (11) 3926-9435  
E-mail: info@kramerbrazil.com  
Web: www.kramerbrazil.com

**KRAMER ELECTRONICS ARGENTINA**

Tel: + 54 (11) 4554 4621  
Cel: + 54 (911) 6398 7576  
Arg.: 011 15 6398 7576  
Nextel: 593\*476  
E-mail: info@kramerargentina.com  
Web: www.kramerargentina.com

**KRAMER ELECTRONICS COLOMBIA**

Tel.: + 57 (1) 355 2512  
Cel: + 57 (310) 245 8036  
E-mail: info@kramercolombia.com  
Web: www.kramercolombia.com

**KRAMER ASIA PACIFIC Pte, Ltd.**

69 Ubi Crescent,  
#03-06/07 CES Building  
Singapore 408561  
Tel: + 65 6274 4474  
Fax: + 65 6274 4414  
E-mail: kap@kramerasia.com  
Web: www.kramerasia.com

**KRAMER ELECTRONICS AUSTRALIA Pty, Ltd.**

Unit 3/1-5, Knobel Court  
Shailer Park, 4128, QLD  
Brisbane, Australia  
Tel: + 61 7 38 06 4290  
Fax: + 61 7 38 06 4295  
E-mail: sales@krameraustralia.com.au  
Web: www.krameraustralia.com.au

**KRAMER ELECTRONICS CHINA**

1204, Kuenyang International  
Business Plaza  
798 Zhaojiabang Road,  
Shanghai 200030, China  
Tel: + 86 21 64453139  
+ 86 21 64453136  
Fax: + 86 21 64455934  
E-mail: info@kramerchina.com  
Web: www.kramerchina.com

**KRAMER ELECTRONICS KOREA**

#201 HyeopSung Bldg  
309-148, Seongsu-dong 2Ga  
Seongdong-gu  
Seoul, Korea  
Tel: + 82 2 467 4747  
Fax: + 82 2 467 4750  
E-mail: info@kramerkorea.com  
Web: www.kramerkorea.com

**KRAMER ELECTRONICS INDIA PVT. LTD.**

Unit -102; Saleh Center  
18/9 Cunningham Road  
Bangalore-560052  
Karnataka, India  
Tel: + 91 80 4148 5388  
Fax: + 91 80 4148 5387  
Email: sales@kramerindia.com  
Web: www.kramerindia.com