



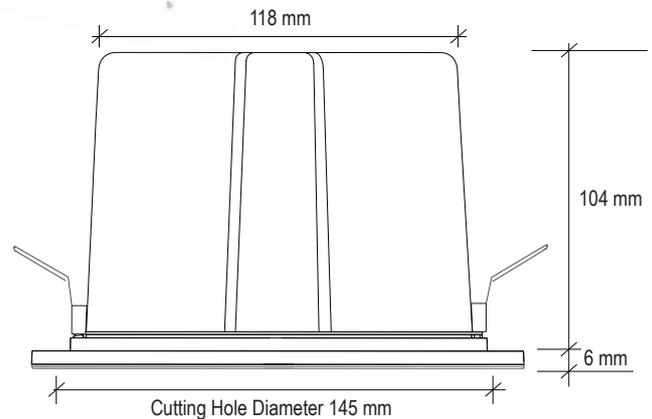
Introduction

Amperes CS510 is a general purpose and cost effective ceiling speaker with nominal power rating of 6W 100V line. Quality of material used and the finishing as well as optimum sound reproduction make it suitable for various purpose of installation including BGM and messaging.

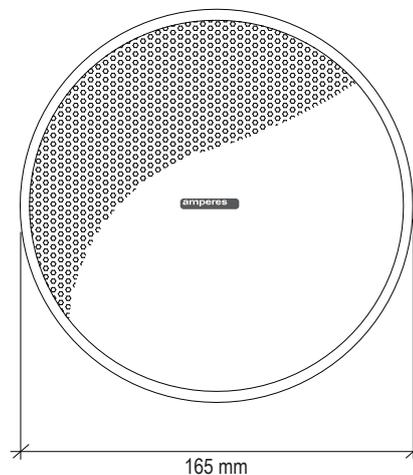
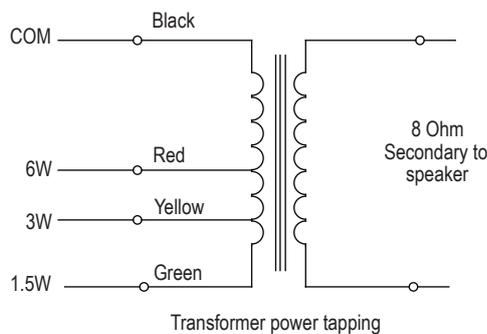
Among the outstanding features is its slim edge design which provide outstanding blending to the installed environment. The installation mechanism makes the unit easy for installation due to its stainless steel spring clip

CS510 is most suitable for speech (essentially EVAC messages) and soft background music playback (BGM) in areas such as :

- Hotel corridors / lobbies
- Offices
- Shopping centres for general paging and pipe in music
- Public areas



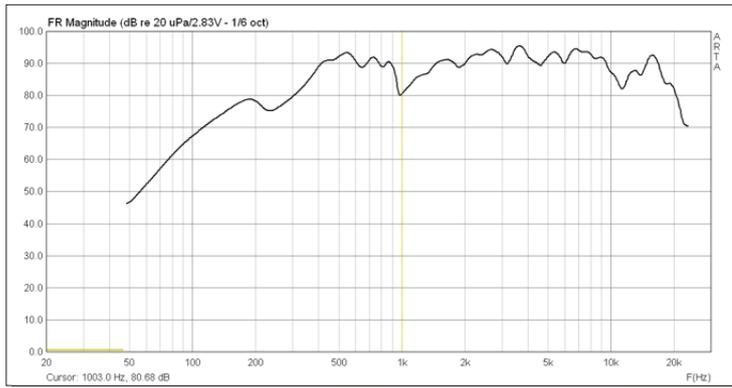
Circuit Diagram



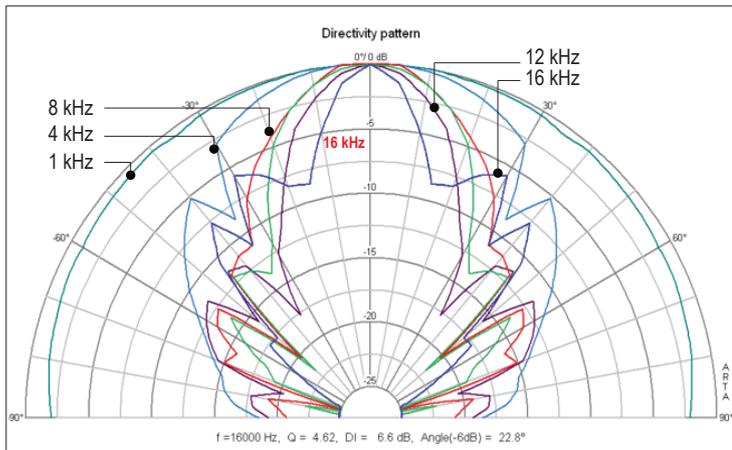
Safety Standards: EN55013 EN55020
EN61000



Frequency Response Chart



Polar Chart



SPL - Distance Chart

TAP	1 Mtr	2	3	4	5
1W	92	89	82.5	80	78
1.5W	93.8	87.8	84.3	81.8	79.8
3W	96.8	93.8	87.3	84.8	82.8
6W	99.8	96.8	90.3	87.8	85.8

The above chart shows the co-relation of SPL and distance from speaker based on the characteristics of CS510 at 1 kHz, 1W.

The maximum value is based on 6W power input to the speaker at 6W transformer tapping whereas the nominal value is based on 1W power input to the 6W transformer tapping.

Different frequencies may have different dB values at the hearing point.

Note:
ABS fire retardant material: TOYOLAC 884 X01

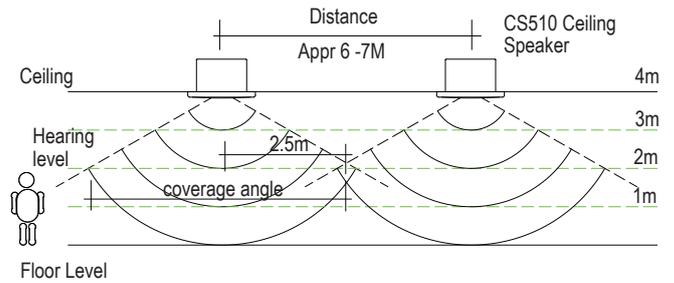
Design Assistance

Factors affecting the reception sound quality are :

- Environmental noise level or background noise
- Ceiling height
- Areas's acoustic factor (eg. reverberation time)
- Coverage area

In order to hear properly, the sound source from the speaker must be at least 6 dB above the background noise.

If the background noise is around 70 dB, the listener should hear about 76 dB at around 1.5 to 2 m above floor level.



If the power input to CS510 is 3W, the SPL (1kHz) at 2m from speaker shall be approximately 92 dB. With music source, the average SPL shall be 3 dB below; thereby the hearing shall be around 89 dB, which is rather comfortable in shopping mall.

The coverage area can be estimated, ie. approximately 7 m diameter or 38 sq m. The distance between the speakers can be ascertained by dividing the mall area to the coverage area of each speaker.

Please take note that SPL value does not necessarily mean good sound quality. STIPA value of 0.45 and above is required for a good listening experience.

Technical Specifications

Speaker	
Power rating	6W 100V line (Max 10W)
Diameter	5" (125 mm)
Cone type	Dual Cone
Impedance	8 Ohm
Freq response @ 1kHz +/-3 dB	150 - 19 kHz
SP L @ 1W / m (+/-3dB) 1 kHz	92 dB
THD (@ 1kHz)	< 2%
Dispersion angle (+/_ 6 dB)	180 ° (1 kHz) 130 ° (4 kHz)

Matching Transformer	
Tapping (100V line input)	1.5 / 3 / 6W 100V line
Primary impedance	6.7 K / 3.3 K / 1.67 K Ohm
Secondary impedance	8 Ohm

Physical Dimensions	
Grille / enclosure	Metal / ABS enclosure
Surface treatment	Power epoxy coated
% air perforation	60%
Cutting hole dimension	145 mm
Overall size (dia x height)	165 x 110 (mm)
Weight	780 gms
Colour	White (standard)

Packing Information	
Carton box dimensions	690 L x 350 W x 400 D mm
Weight	19.60 kg
Packing quantity	24 uts