

# 12CX / 12CXT60

## Compression Coaxial Loudspeaker



### Features

- 1" Exit compression high frequency driver coupled to a specially designed conical wave-guide horn provides exceptional output & accurate high frequency reproduction
- High efficiency cone woofer is optimally matched with a specially designed crossover to insure even transition between components.
- 90 Degree conical dispersion (@ 2 kHz)
- Available with factory installed, 60W, 70.7/100V transformer (CX12T60)
- Perfectly suited for use with Atlas Sound "Q" Series enclosures

### Applications

The 12CX is optimized for high-ceiling applications such as arenas, convention centers, gymnasiums and auditoriums. The extreme high efficiency and higher "Q" of the 12CX, with its powerful 12" speaker and 1" exit compression driver, provides the increased available SPL often required in these high ceiling applications. In 70.7V/100V systems, this high efficiency can also result in lower tap settings, which can conserve amplifier power.

### General Description

Model 12CX is a 250 watt loudspeaker that combines a 12" diameter, low frequency transducer and a 1" exit, true compression driver. The unit features a curvilinear, treated-paper cone for lower harmonic distortion, and a built-in crossover network for proper frequency transition between the two reproducers. Both the low frequency reproducer and the HF driver feature permanently aligned voice coils to assure distortion free performance. The copper voice coils have Kapton® formers. Model 12CX operates within a frequency response range of 45 Hz -18 kHz ( $\pm 10$ dB) with a sensitivity of 95.5dB and a dispersion angle of 90°. The loudspeaker meets functional and aesthetic application requirements by mounting a wide variety of round and square Atlas Sound baffles and enclosures. For applications requiring extended low-end performance, Atlas Sound offers a selection of 3, 4, and 6 cu. ft. enclosures. In general, loudspeaker performance is significantly enhanced by larger back box size.

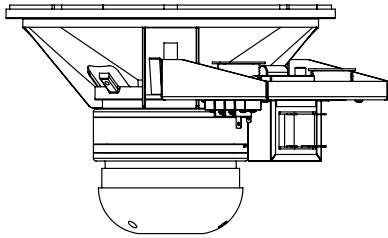
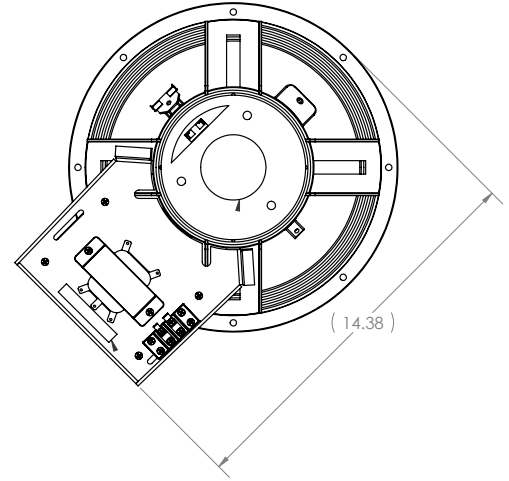
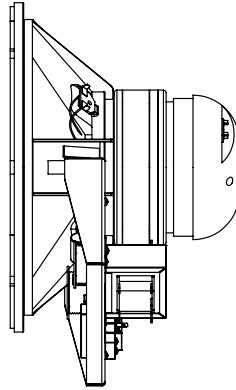
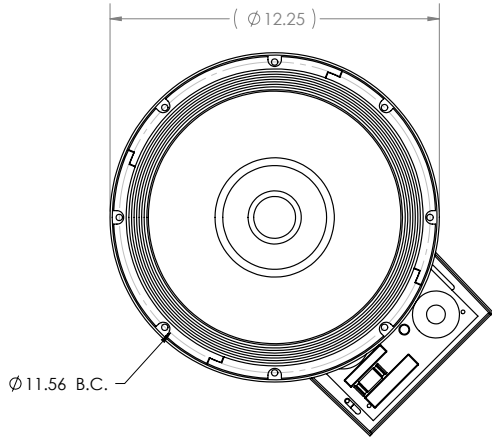
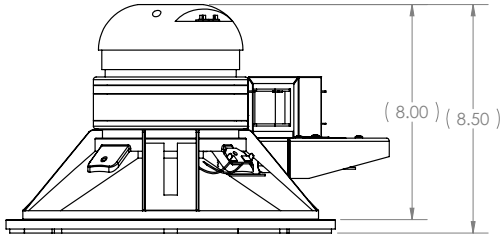
Model 12CXT60 identically matches the performance specifications of the 12CX with the addition of a factory installed, high efficiency, 60W, 70.7/100V step down line transformer. Wattage taps are provided at 7.5, 15, 30 and 60 Watts (@70.7V) Both models are designed to work optimally in any Atlas Sound "Q" series high volume enclosure (Q4612, Q4712, Q4812), allowing for a complete high output solution

| System                          |  |
|---------------------------------|--|
| Type                            | Two way, full range, coaxial compression ceiling loudspeaker |
| Operation Mode                  | Non-powered passive  |
| Operating Range (-10db)         | 45 Hz - 18 kHz   |
| Frequency Response (+/- 3dB)    | 65 Hz - 15 kHz ( $\pm 3$ dB)                                 |
| Coverage:                       | 90° conical (2kHz)   |
| Max Input Ratings (8 ohm)       | 250W continuous  |
| Transformer Taps - 70V          | 60W, 30W, 15W, 7.5W (12CXT60 Only)                           |
| Input Sensitivity at 1W/1m      | 95.5 dBSPL (Average from 500Hz to 2.5kHz)                    |
| Max SPL at 1m                   | 117dB (70V @ 60W); 123dB (8 $\Omega$ @ 250W)                 |
| Recommended Power Amplification | 250W at 8 $\Omega$   |
| Transducers                     |  |
| LF transducer qty and size      | 1 x 12-inch  |
| LF voice coil size              | 2.5 inch (63.5mm)  |
| MF transducer qty and size      | N/A  |
| MF voice coil size              | N/A  |
| HF transducer qty and size      | 1 x 1-inch exit compression driver                           |
| Nominal Impedance               | 8 $\Omega$   |
| Crossover Frequency             | 1800 Hz  |
| Enclosure                       |  |
| Color                           | Black  |
| Enclosure Material              | N/A  |
| Grille Material                 | N/A  |
| Baffle Material                 | N/A  |
| Mount Material                  |  |
| Input Connection                | Barrier terminal   |
| Safety Agency Ratings           | N/A  |
| Ingress Protection              | N/A  |
| Environmental Testing           | N/A  |
| Cutout Diameter                 | 11.625" (295mm) Bolt Circle                                  |
| Logo                            | N/A  |
| Product Dimensions (HxWxD)      | 12.25" (311.15mm) x 8" (203mm) x 14.38" (365.25mm)           |
| Shipping Dimensions (HxWxD)     | 15" (381mm) x 10" (254mm) x 16" (406.4mm)                    |
| Net Weight - lbs                | 24 lbs (10.91 kg) 12CXT60; 21 lbs (9.55 kg) 12CX             |
| Shipping Weight - lbs           | 27 lbs (12.27 kg) 12CXT60; 24 lbs. (10.91 kg) 12CX           |
| Warranty Coverage               |  |
| Warranty Period                 | 5 Years  |

**NOTES:**

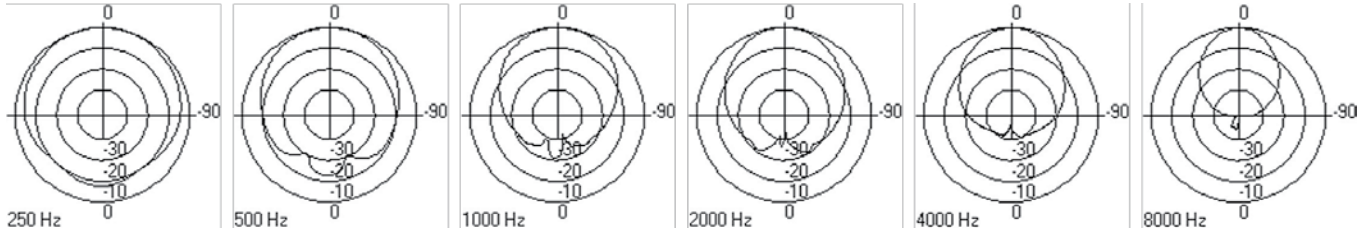
1. Sensitivity: Half space pink noise measurement at 6 ft (1.8 m) at 20% power; extrapolated to 1 meter and an input of 2.83 volts RMS.
2. Watts: All wattage figures are calculated using the rated nominal impedance.
3. Frequency response and sensitivity are half-space measurements.

**DIMENSIONAL DRAWINGS**

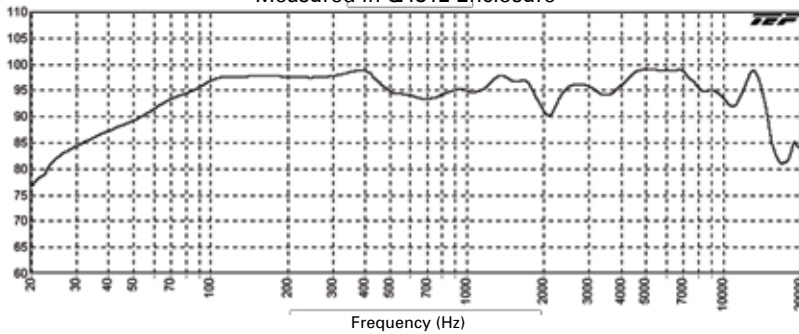


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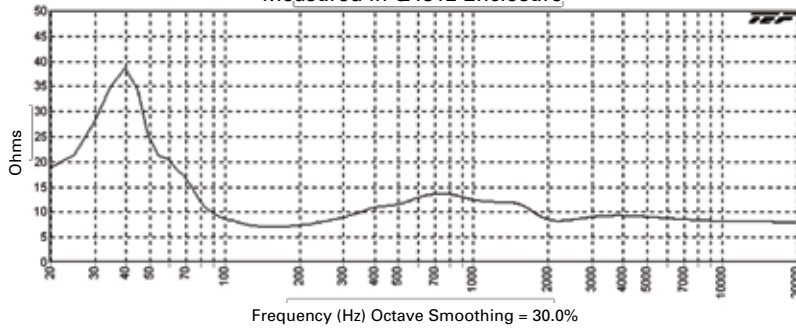
### 12CX Polars (Normalized to Zero on Axis) (-6dB)



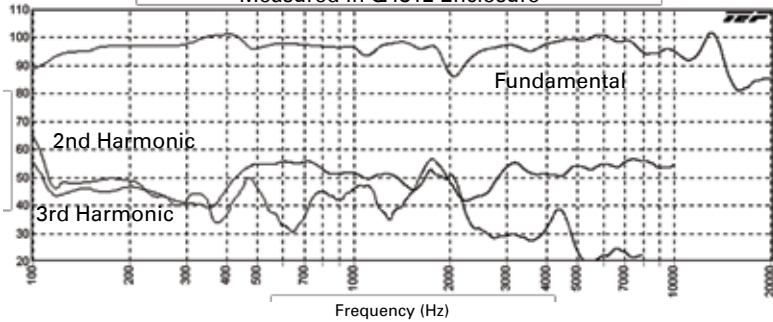
**12CX Frequency Response**  
Measured in Q4812 Enclosure



**12CX Impedance**  
Measured in Q4812 Enclosure



**12CX Harmonic Distortion**  
Measured in Q4812 Enclosure



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## Architect and Engineer Specifications

### 12CX

Frequency response range shall be 58 Hz to 15 kHz,  $\pm 3$ dB. Sensitivity shall be 99dB at 1 watt, 1 meter. Voice coil impedance shall be 8 ohms (nominal). Low frequency voice coil diameter shall be 2.5" (63.5mm). The maximum depth of the loudspeaker shall not exceed 8" (203mm). The low frequency reproducer cone shall be a full 12" (305mm) in diameter and the high frequency reproducer diaphragm shall be 2.5" (65mm) in diameter. The woofer shall have a 70 oz. (1984g) ceramic magnet. The tweeter shall have a 20 oz. (567g) ceramic magnet. The two reproducer sections shall be coupled through a built-in crossover network. The crossover frequency shall be at 1800 Hz. Conical dispersion shall be 90 degrees at 2kHz. Unit shall be Atlas Sound 12" dia. loudspeaker Model 12CX.

### 12CXT60

All other specifications are identical to the 12CX. Transformer primary voltage shall be 70.7V or 100V with a frequency response range of 65Hz to 15kHz ( $\pm 3$ dB) and power taps at 7.5, 15, 30 & 60 watts. Insertion loss shall not exceed 1dB.