



CH1-1000 Ceiling-Hugger

duction qualities of the loudspeaker. Additionally, the time coherent high frequency tweeter controls all frequencies over 2500 Hz. While the mid range uses the ceiling structure for a coupler and a mechanism to manage frequency behavior; the high frequencies' waves are coupled and controlled by a deflection fin that has been incorporated in the cabinet. Both of these deflection surfaces (ceiling and fin) are geometrically coordinated with the angle in which the coaxial mid - hi device is mounted in the baffle of the cabinetry. Uniquely positioned, the low frequency device fires straight down but because the frequency range is below 250 Hz the device functions strategically as a woofer producing it's broad wave bands, while guarding against any potential feedback issues. The final result of this highly innovative and successfully engineered system is the provision to achieve exceptional pattern control and broad dispersion of all frequency ranges to the intended audience. This unique system, with it's handsomely styled "stealth" cabinet, has as an additional benefit a very simple installation procedure. The unit is highly adaptable and easily installed in all low ceiling (heights 8'-14') environments . And because one device can easily control a area 50' wide by 60' long it has the capability to conservatively replace 20 to 25 ceiling speakers. The "hugger" with it's great pattern control, excellent behavioral characteristics through all relevant frequencies; unique styling; and simplistic installation capabilities is a solution "ready to happen".

WARNING!!!! RIGGING AND FLYING OF THE CH1-1000 SHOULD BE DONE BY PERSONS FAMILIAR WITH STANDARD RIGGING PRACTICES. IF YOU ARE NOT FAMILIAR WITH THESE PRACTICES PLEASE CONSULT THE FACTORY, YOUR DEALER, THE LOCAL STAGE HANDS UNION OR A RIGGING SUPPLY COMPANY IN YOUR AREA.

General

The CH1-1000 ("Ceiling Hugger") is the newest and most technologically advance addition to the OAP Contractor Series of loudspeakers and is designed specifically for use in "low ceiling" applications. This "sleek" packaged - high output loudspeaker system performs best in situations where the audio system designer needs to provide for: "point source" directivity; full range capability that must include both speech and music; exceptional system clarity and fidelity; architectural styling (where the loudspeaker needs to blend / if not disappear into the ceiling); and simplicity of installation.

The dispersion pattern of the CH1-1000 is an incredible 170° x 45°, with the most intense energy at 15 degrees down. The 9 dB contour is a hemisphere, which is an excellent system benefit, that provides the extremes of the room with some very useful energy. The target room for this product does require a very broad pattern; therefore, a 90° x 40° or even a 120° x 40° high frequency horn pattern would not be sufficient. The CH1-1000 is a great solution for a room where the low ceiling and venue budget would not permit the contractor to build a cluster.

The 45° pattern in the vertical is an incredibly important outcome of the "Ceiling Hugger's" design and is supported with accurate EASE measurements. The development methodology deployed to create this dispersion pattern utilizes a horn loaded tweeter embedded in a 6 1/2" cone. Additionally, our designer altered the output pattern of the entire device using array and wave guide technology. The fin, which is positioned across the upper portion of the tweeter, is a wave guide device that actually serves two purposes. First it eliminates the ceiling reflection from the tweeter; and secondly, it creates a useful half-space boundary from frequencies above 4 kHz. This makes the tweeter actually act as two tweeters stacked, collapsing the radiation pattern down from the natural conical cone it would produce. In the critical region of 2kHz, the crossover between the HF and MF helps maintain this vertical collapse. Additionally, the bottom panel overhang and the foam also interact with these frequencies in a very positive way.

In the mid range frequencies, we use the array properties between the 12" and the 6 1/2" to continue to maintain the vertical collapse. In this situation the ceiling provides the same virtual array effect that the fin gives to the system's HF. Thus, the mid/hi unit also acts as a stacked pair in much of it's frequency bands, without the usual comb filtering problems that a traditional stack would have. The CH1-1000 finally does become a hemisphere radiator in the very low frequencies (below 200 Hz). "The CH1-1000 "Ceiling Hugger" is not all about the drivers. It is a complex combination of drivers, enclosure, fin, foam, and electronics."

Specific to the overall development of this speaker system is the powerful three-way crossover network incorporated in the system's design, and the exceptional attention given to wave pattern control and behavior via the cabinet's architecture. The low frequency 12" cast frame transducer is network managed to 220 Hz. The mid range 6 1/2" cone device functions perfectly in the frequency range, assisted via the network card, from 220 Hz to 2500 Hz and provides for the exceptional speech repro-

WARRANTY: The OAP CH1-1000 loudspeaker is guaranteed against failure due to workmanship and materials for a period of five (5) years from date of purchase and is limited to original purchaser. If such failure does occur, unit will be replaced or repaired (at the discretion of OAP Audio) without charge for labor and materials. Unit must be delivered to OAP Audio or one of our authorized service facilities prepaid. In warranty items will be returned prepaid. Items not covered by warranty includes finish or appearance items, or failure due to operation under other than specified conditions. This warranty also does not include any incidental or consequential damages. Repair by other than OAP Audio or an authorized service facility will void this guarantee.

CH1-1000 Specifications

Impedance	8 ohm
Frequency Response	60 Hz. to 17KHz.
Power Handling	500 W Continuous Program Power
Sensitivity	86 dB (1 watt/1 meter)
Mid/Hi Device	6.5" (TIME-COHERENT) coax (1" soft dome tweeter 120° conical dispersion)
Dimensions	25 7/8" wide x 25" deep x 9 1/2" high
Weight	65 lbs.
Color	black, white, or unfinished sides (black, white, pumice and wheat cloth available)
Cabinet Architecture	3/4" cabinet grade plywood w/ fabric grill

(NOTE: TIME-COHERENT = THE CONE OF THE WOOFER ACTS AS A HORN LOADING DEVICE FOR THE TWEETER; WHILE THE CHASSIS OF THE DOME UNIT REPRESENTS THE THROAT OF THIS HORN. COINCIDENTLY, THE TWO DRIVE UNITS HAVE IDENTICAL ACOUSTIC CENTERS, AND THEIR DIRECTIVITIES IN THE CROSSOVER FREQUENCY REGION ARE IDENTICAL)

Low Freq. Device	cast frame 12" woofer (3" voice coil)
Passive Crossover Points	220 Hz and 2500 Hz (bi-amp option available)

NOTE: As a research and development corporation, OAP AUDIO reserves the right to change specifications to improve performance.

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