C 22 HDSP™

HDSP BI-AMP

The KS AUDIO **C 22** is the compact, high power and low distortion 2-way system with the best audio performance, phase linearity and sound pressure on the market. The FIR filtered 2" throat driver is unsurpassed in sound neutrality and low distortion, yet also extremely powerful.

With over 2000W peak power, the **C 22** always has enough power reserve to amplify the most dynamic music and that also for a larger audience.

Both the bass loudspeaker and the driver for the MH frequencies contain powerful 4" voice coils and are particularly robust. The 4" Driver diaphragm is made of an aluminum alloy.

The **C 22** is a multipurpose active bi-amped system perfectly suited to all short and medium throw sound-reinforcement applications.

The **C 22** operates from 55 Hz to 19 kHz with a smooth tonal response free of secondary lobes over the entire frequency range. What makes the **C 22** incomparably unique is the HDSP™ driver-waveguide-arrangement which has two major advantages over loudspeakers with Constant Directivity horns. Firstly, the horizontal dispersion angle varies depending on the vertical angle, and secondly, the major part of the sound energy is tilt downward in a varies curved wavefront towards the audience, and not towards the walls or the ceiling.

Several acoustic principles were combined in order to achieve this. The energy of the high-frequency driver is formed in a waveguide with varying path lengths to a vertically curved line, which is then radiated into a horn with a width of 120° in the lower part and 60° in the upper part.

In the cross-over frequency range to the low-mid frequency transducer, the sound signal is electronically delayed and phase corrected in such a way that the main inclined dispersion axis is sustained over a wide frequency range. Likewise, the crossover frequency is selected in a way that the bundling resulting from the diameter of the membrane is equivalent to that of the mid-high frequency horn.

Maximum sound pressure is achieved when the **C 22** is driven by a TA 4D - with F MOD or D MOD DSP card - which is in bi-amp mode. The 4-channel amplifier becomes a 2-channel amplifier with a bass range of 1000Wrms into 4 ohms.

- *HDSP™ High Definition Sound Projector* √
- *120° nearfield and 60° farfield coverage* √
- *Lineair phase and frequency response* √
- *Optimized impuls-response* √
- *Easy2fly AeroQuip fittings* √
- *2000W power handling* √
- *140dB peak SPL* √

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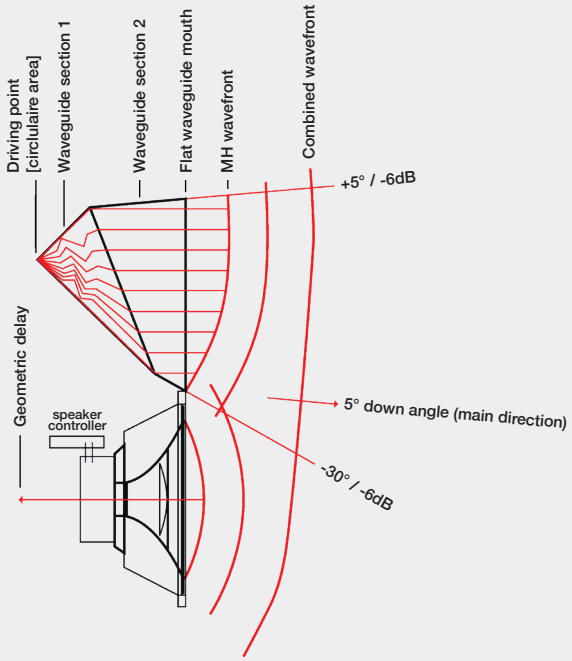
Up to six **C 22**s can be connected to a TA 4D in two channels.

More cost-effective is a CA 4D - with F MOD or D MOD DSP card - which is operated in bi-amp mode.
The output in the bass range is then 700 Wrms into 4 ohms and in the treble range 350 Wrms into 4 ohms. It is recommended to connect a maximum of two **C 22**s in two channels.

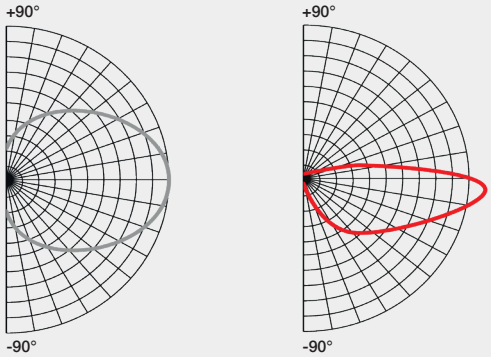
As with all KS AUDIO systems, the cabinet construction is made of birch plywood and has an extremely robust anthracite-coloured PU coating. On request, the surface can be painted in any RAL colour.

HDSP™

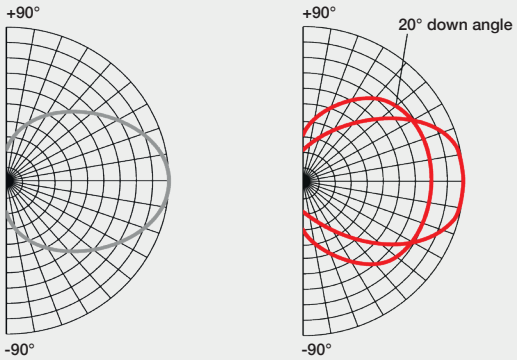
Figure A



VERTICAL POLAR PATTERNS



HORIZONTAL POLAR PATTERNS



HDSP - High Definition Sound Projector is a unique development in the dispersion behaviour of a compact loudspeaker. Although the optical focus is on the waveguide of the tweeter unit, the dispersion behaviour of the entire loudspeaker is additionally optimised by electronic adjustments.

A good principle is easily explained: Figure A shows how the waveguide, Section 1, converts the energy of the driver into a cylindrical wavefront, as seen in line arrays. However, the HDSP™ waveguide does this more in the upper part than in the lower part, causing the wavefront to slope downwards.

The flatter wavefront in the upper part carries the sound further, so that the energy is transmitted there at a greater distance from the loudspeaker remains higher. On the other hand, the more curved wavefront at the bottom of the waveguide ensures that the energy is lower directly in front of the speaker. This effect is amplified by the difference in horizontal dispersion.

The horizontal dispersion is determined in section 2 of the waveguide. Here the waveguide is deeper and narrower in the upper part, resulting in a narrower radiation of 60°. The waveguide opens up towards the bottom, resulting in a wider dispersion of 120°.

The 12" woofer is frequency-adjusted so that it forms one unit with the HF driver/waveguide. This results in a very even dispersion over the entire frequency range of the loudspeaker.

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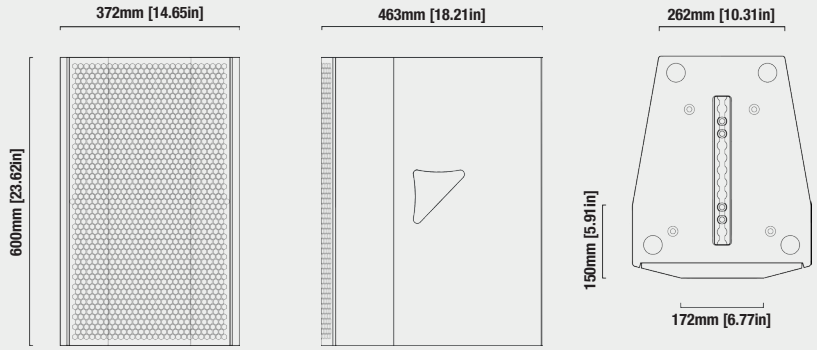
Furthermore, the **C 22** is equipped as standard with:

- Steel protection grille with acoustic foam - also available without on request
- 35mm stand flange
- AeroQuip fittings
- Integrated recessed handles
- M 10 Threads
- Stacking feet

SPECIFICATIONS

Frequency response F MOD / D MOD low cut modes	55 - 19.000Hz ±3dB OFF / 70 / 100 / 120Hz
Max. SPL - 1m. free field	140dB
Nominal horizontal dispersion	120° nearfield down to 60° into the farfield
Nominal vertical dispersion	35° with 5° down-angle
Transducers	LF: one 12" ND cone 4" voice-coil HF: one 4" aluminium alloy diaphragm 2" throat compression driver
Acoustic Principle	LF: bass-reflex HF: HDSP™ High Definition Sound Projector
Power handling AES RMS / peak	LF: 1000W / 2000W HF: 140W / 280W
Cross-over	Active
Nominal impedance	LF: 8 Ω HF: 8 Ω
Connectors	Two speakON NL4

DIMENSIONS AND WEIGHTS



27kg | 59lb