

CPD 22 powered



The KS AUDIO **CPD 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 2000W peak power, the **CPD 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 **CPD 22** is a multipurpose active bi-amped system perfectly suited to all short and medium throw sound-reinforcement applications.

The **CPD 22** operates from 50 Hz to 19 kHz with a smooth tonal response free of secondary lobes over the entire frequency range. What makes the **CPD 22** incomparably unique is the HDSP™ transducer 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 membrane, 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.

The 2-way DSP controller amplifier built in at the rear works with very high efficiency and does not need a - often disturbing - cooling fan. The crossover and FIR filter stages are precisely matched to the loudspeakers, and limiters ensure safe operation.



HDSP™ High Definition Sound Projector



120° nearfield and 60° farfield coverage



Linear phase and frequency response



Optimized impuls-response



FIRTEC™ 2-channel bi-amp DSP



2000W of undistorted power



140dB peak SPL



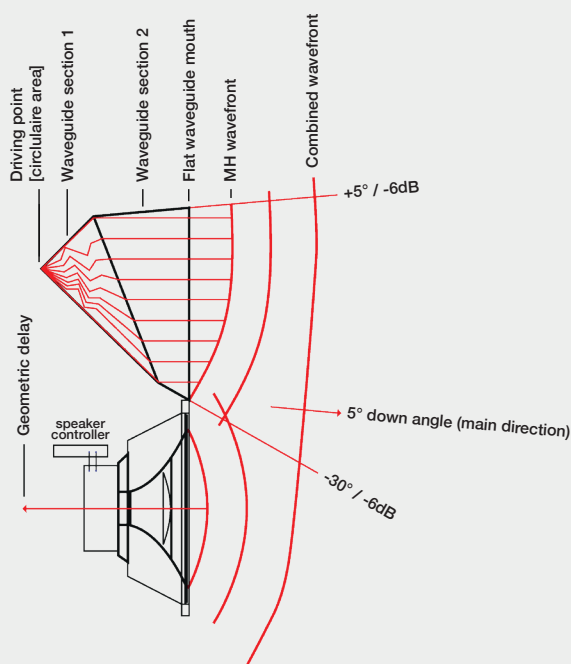
The XLR F+M inputs are automatically switched as balanced analogue inputs or digital AES inputs. With the DANTE™ option, digital audio signals can also be processed over the network. The front panel features a digital level control for individual adjustment to the location and a delay of up to 48ms for distributed sound reinforcement systems. There is also a LoCut switch for pure speech reproduction or when using additional subwoofers. In addition, left and right AES channels can be selected and even summed. Operation and presetting via Ethernet with the KS REMOTE software offers further possibilities.

The power supply unit of the **CPD 22** operates on all AC mains voltages from 110 to 240 V. The inrush current is electronically limited. The connection is made via PowerCon F+M connectors, which allow the power to be passed on, e.g. to the subwoofer.

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

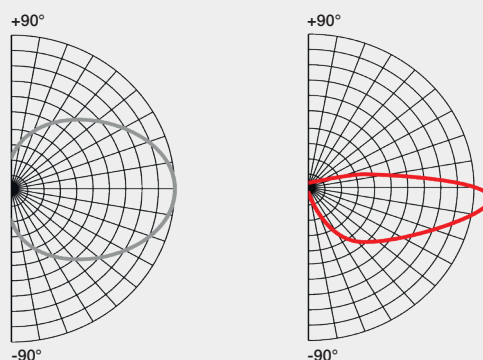


HDSP - High Definition Sound Projector is a unique development in the dispersion behaviour of a compact loudspeaker. Although the optical focus is on the waveguide of the tweeter unit, the dispersion behaviour of the entire loudspeaker is additionally optimised by electronic adjustments.

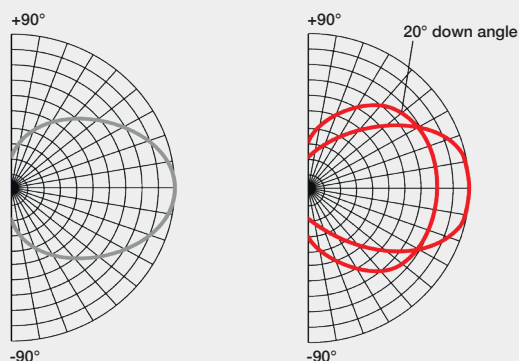
A good principle is easily explained: Figure A shows how the waveguide, Section 1, converts the energy of the driver into a cylindrical wavefront, as seen in line arrays. However, the HDSP™ waveguide does this more in the upper part than in the lower part, causing the wavefront to slope downwards.

The flatter wavefront in the upper part carries the sound further, so that the energy is transmitted there at a greater distance from

VERTICAL POLAR PATTERNS



HORIZONTAL POLAR PATTERNS



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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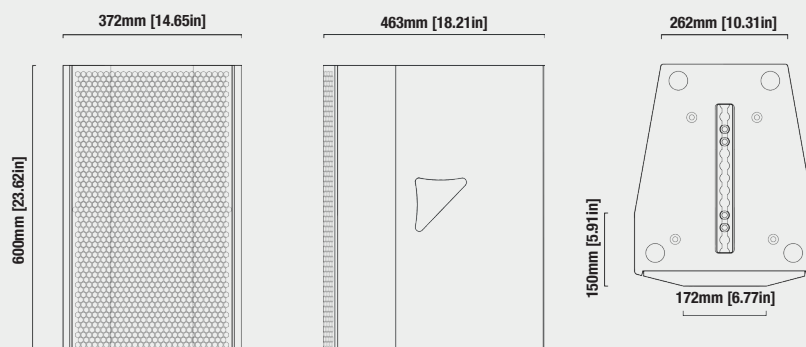
Furthermore, the CPD 22 is equipped as standard with:

- 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	55 - 19.000Hz $\pm$ 3dB
LOW CUT mode	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
Amplifier type	2 power stages, 1x PWM low-mid and 1x MOSFET mid-high
Power supply	SMPS (Switched Mode Power Supply) with power factor correction (PFC)
DSP	2-channel, 32-bit, floating point, 192kHz sampling frequency
Filter technology	IIR and FIR filters, delay adjustments, contour filter
Power input - output	powerCON 110-240V 50-60Hz
Signal input - output	XLR3-F and XLR3-M Analog/AES-EBU autoswitch RJ45 Ethernet 1G T Base for Dante™ and KS AUDIO REMOTE Control

DIMENSIONS AND WEIGHTS



30kg | 66lb