

GENELEC®

A C T I V E M O N I T O R I N G

Genelec 1034BC
Tri-amplified Monitoring System

Data sheet



1034BC Tri-amplified Active Monitoring System



APPLICATIONS

- Video/Film Post Production
- DVD Mastering
- Project Studios

SYSTEM

The Genelec 1034BC is a dedicated center channel speaker for three channel (LCR) and Surround Sound systems. Its cabinet has been designed for optimum placement in the limited space above or below of a video monitor or screen. It can also be used in vertical orientation, on either side of a video monitor or screen.

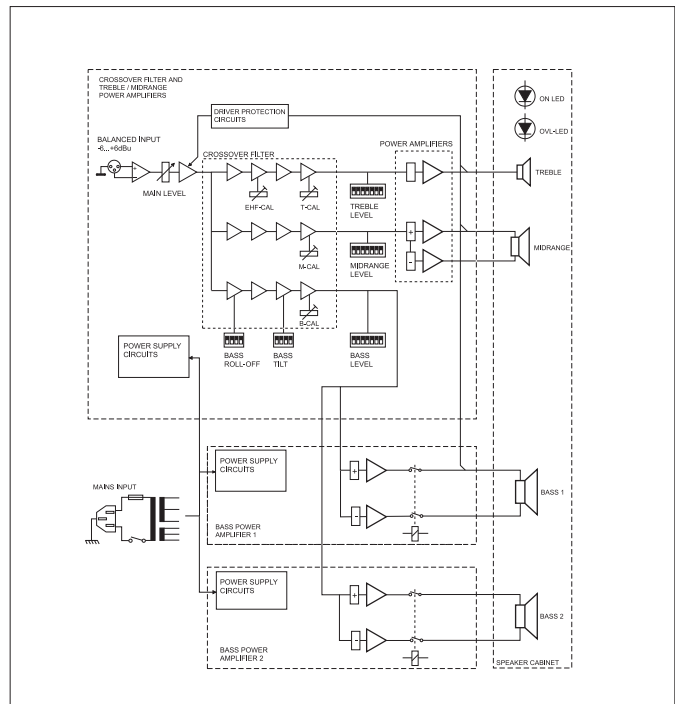
capable of driving a stereo system to peak output levels in excess of 125 dB SPL at 2 m with program signals. Versatile crossover controls allow for precise matching of the speaker system to different acoustic conditions. The system can be used both in vertical and horizontal orientations by simply rotating the DCW unit.

As its name suggests, the Genelec 1034BC is best suited for use as a center channel speaker with a pair of standard Genelec 1034B monitoring systems. The 1034BC employs the same mid, treble and bass drivers and Directivity Control Waveguide as a standard 1034B and the amplifier unit is also the same to ensure complete tonal compatibility.

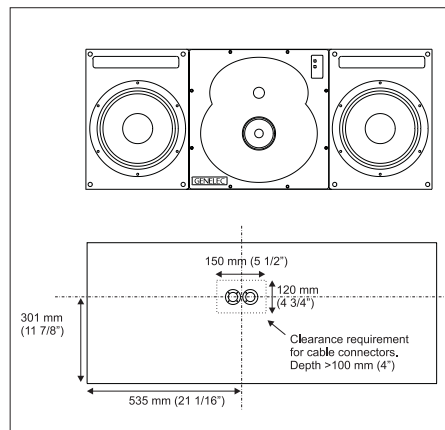
Genelec 1034BC is a three-way active monitoring system including magnetically shielded loudspeaker drivers, speaker enclosure, multiple power amplifiers and active, low signal level crossovers. The 1034BC is recommended to be flush mounted into the control room wall, but it can also be used as a free-standing monitor.

The separate amplifier unit is built into a rack mount chassis for easy fitting into a standard 19" 7U equipment rack. A 10 meter cable set to connect the amplifier and speaker is supplied with the system.

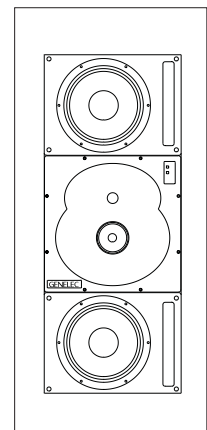
The unique Directivity Control Waveguide (DCW) Technology provides excellent stereo imaging and frequency balance even in difficult acoustic environments. The fast acting, low distortion amplifiers are



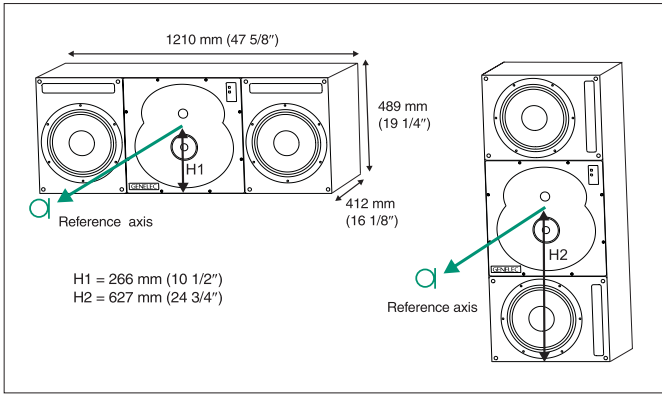
Block diagram showing active crossover filters, power amplifiers and driver units.



Horizontal mounting and rear view of the speaker



Vertical mounting



The reference axis lies between midrange and tweeter drivers.

AMPLIFIERS

The treble, midrange and bass amplifiers each produce 120 W, 350 W and 2 x 400 W respectively of short term power with very low THD and IM distortion. Special attention has been paid to electronic design to ensure the highest subjective sound quality currently possible. The system incorporates special overload protection circuitry for the drivers. Thermal protection is also included for the amplifiers.

DRIVERS

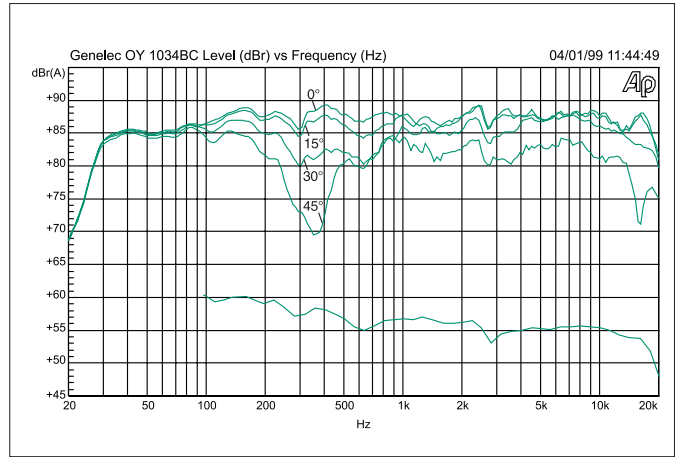
The bass frequencies are reproduced by two long throw 305 mm (12") bass drivers loaded with a 160 liter vented box. The -3dB point is 32 Hz and the low frequency response extends down to 28 Hz (-6 dB). The midrange frequencies are reproduced by a proprietary 130 mm (5") direct radiating cone driver loaded with a DCW. The high frequency driver is a 25 mm (1") metal dome also loaded by a DCW, with an upper -3dB point at 22 kHz.

The 1034BC is magnetically shielded in order to minimise interference with video monitors.

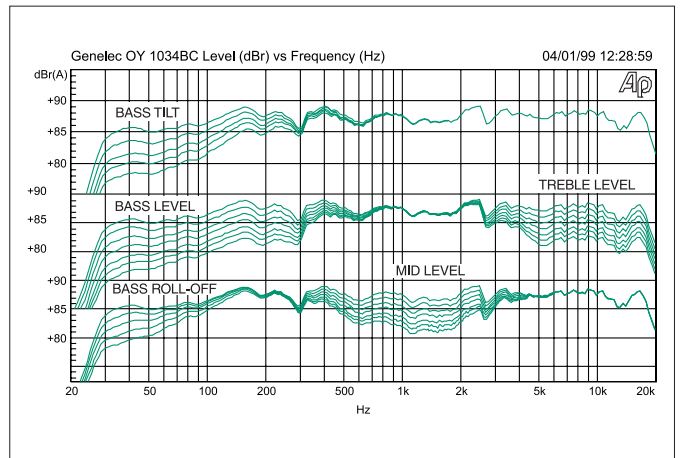
DCW TECHNOLOGY

The revolutionary Directivity Control Waveguide Technology is a means of vastly improving the performance of a direct radiating multiway loudspeaker in normal listening conditions.

The basic idea is to match the different drive units precisely, both in terms of frequency response and directivity. This will result in a smoother and virtually uncoloured off-axis response of the system. Also due to improved directivity control especially in the midrange and high frequencies, more direct sound and less early boundary reflections are received at the listening position. This gives a more accurate stereo imaging and makes the system less sensitive to differing control room acoustics than any conventional direct radiator design. The DCW Technology improves drive unit sensitivity from +2 to +6 dB thus increasing the system's maximum sound pressure level.



The curve group above shows the horizontal directivity characteristics of 1034BC in its vertical configuration measured at 1 m. The lower curve is a 1/6 octave power response measurement, derived from 144 individual directivity measurements.



The curves above show the effect of the 'bass', 'mid' and 'treble' level controls, and the 'bass tilt' and 'bass roll-off' controls on the free field response, measured at 2 m. Note that the free-field mid-range ripple is substantially reduced when the speaker is flush mounted as recommended.

Options

Opt-09 Grille Order Code 1034-409BC

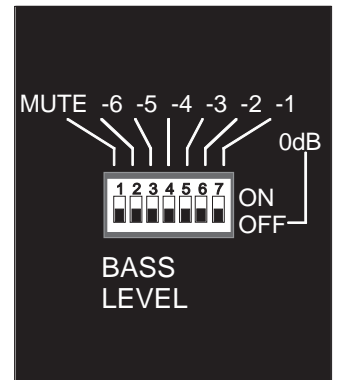
CROSSOVER FILTERS

The active crossover network consists of three parallel band pass filters, with crossover frequencies at 400 Hz and 3.2 kHz, and a common balanced input stage. All the filters are aligned for equal phase and group delay characteristics and are acoustically complementary. The filter slopes are 24 dB/octave.

To adjust the balance of the drivers to suit a particular acoustic environment, bass midrange and treble level controls are included, which adjust the output in 1 dB steps. In addition, low frequency 'roll-off' and 'tilt' controls are present, to allow further refinement of the system response.



The tweeter and the sealed midrange driver are mounted on a DCW to match their dispersion characteristics. The DCW can be rotated for vertical mounting (see previous page).



Calibrated crossover control switches. MUTE disconnects the channel for testing.

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1034BC SYSTEM SPECIFICATIONS

Lower cut-off frequency, -3 dB: ≤ 32 Hz
Upper cut-off frequency, -3 dB: ≥ 22 kHz

Free field frequency response
of system: 33 Hz - 20 kHz (± 2.5 dB)

Maximum short term sine wave
acoustic output on axis
in half space, averaged from
100 Hz to 3 kHz: @1m ≥ 123 dB SPL

Maximum long term RMS acoustic
output in same conditions with IEC-weighted
noise (limited by driver unit protection cir-
cuit): @1m ≥ 118 dB SPL

Maximum peak acoustic output
per pair @ 2m from the engineer
with music material: ≥ 125 dB SPL

Self generated noise level in
free field @ 1m on axis: ≤ 15 dBA

Harmonic distortion at 100 dB SPL @ 1m on
axis / freq: 50...100 Hz $< 1\%$
200...10kHz $< 0.5\%$

Drivers: Bass 2 x 305 mm (12") cone
Mid 130 mm (5") cone
Treble 25 mm (1") metal dome
All drivers are magnetically shielded

Speaker weight: 84 kg (185 lbs)
Amplifier weight: 30 kg (66 lbs)

Speaker dimensions (horizontal mounting):
Height 489 mm (19 1/4")
Width 1210 mm (47 5/8")
Depth 412 mm (16 1/8") *

Amplifier dimensions:
Height 310 mm (12 3/16") [7U]
Width 483 mm (19")
Depth 250 mm (9 13/16") *

* Without connecting cable. Cable connec-
tors require additional 100 mm (4") of space
behind the speaker and the amplifier.

AMPLIFIER SECTION

Bass amplifier output power with an 8 Ohm
load: Short term 2 x 400 W

Midrange amplifier output power with
an 8 Ohm load: 350 W

Treble amplifier output power with
an 8 Ohm load: 120 W

Long term output power is limited by driver
unit protection circuitry.

Slewrate : 80 V/ μ s

Amplifier system distortion at
nominal output:

THD	$\leq 0.05\%$
SMPTE-IM	$\leq 0.05\%$
CCIF-IM	$\leq 0.05\%$
DIM 100	$\leq 0.05\%$

Signal to Noise ratio, referred to full output:

Bass	≥ 100 dB
Midrange	≥ 100 dB
Treble	≥ 100 dB

Mains voltage: 100/200V or 115/230V

Voltage operating range at
230V setting: 207 - 244V (-10/+6%)
115V setting: 104 - 122V (-10/+6%)

Power consumption:
Idle 70 W
Full output 1000 W

CROSSOVER SECTION

Input connector: XLR female pin 1 gnd
pin 2 +
pin 3 -

Input impedance: 10 kOhm balanced

Input level for 100 dB SPL output @1m:
variable from +6 to -6 dBu

Input level for maximum short term output of
126 dB SPL @1m:
variable from +32 to +20 dBu

Subsonic filter below 27 Hz :
18 dB/octave

Ultrasonic filter above 22 kHz:
12 dB/octave

Crossover frequency:
Bass/Mid 400 Hz
Mid/Treble 3.2 kHz

Crossover acoustical slopes:
>24 dB/octave

Crossover level control operating range in 1
dB steps:

Bass	from 0 to -6 dB & MUTE
Mid	from 0 to -6 dB & MUTE
Treble	from 0 to -6 dB & MUTE

Bass roll-off control in 2 dB steps:
from 0 to -8 dB @ 32 Hz

Bass tilt control in 2 dB steps:
from 0 to -8 dB @ 50 Hz

The calibration position is with all tone con-
trols set to 'off' and input sensitivity control
to maximum.

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