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DATA SHEET 1034-0107-1



**GENELEC® 1034A
CONTROL ROOM MONITOR**

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1034A APPLICATIONS

MAIN MONITOR FOR MEDIUM SIZE CONTROL ROOMS

GENERAL DESCRIPTION

The GENELEC 1034A is designed for neutral audio reproduction at very high SPL in large control rooms. The integrated system consists of two 10.6 cubic foot speaker enclosures and a 19" rack mounted electronics system consisting of crossovers, three dual channel power amplifiers and a dual channel Audio Processing Unit. The system is designed for flush mounting in the control room wall, but it can also be used as a free standing speaker with the built-in radiation space control (bass tilt).

DRIVERS

The low frequency system utilises two long-throw 12" woofers in a dual chamber configuration. The -3dB point is 35 Hz and the low frequency response extends to 24 Hz. The critical midrange frequencies are reproduced with a high sensitivity direct radiating driver with a Directivity Control Waveguide. The high frequency driver is a 1" compression driver. The tweeter has a frequency response extending to 22 kHz (-3 dB). The midrange and treble driver panel can be rotated 90 degrees for horizontal or vertical mounting.

AUDIO PROCESSING UNIT

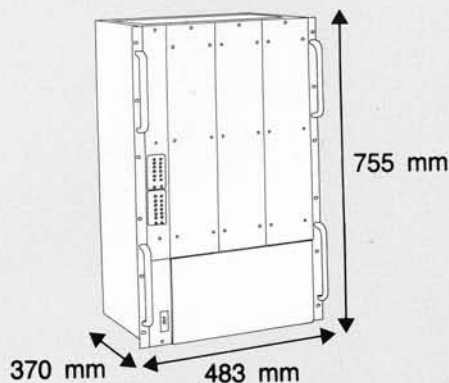
The APU is a plug-in module and its main functional blocks are: Crossover Network, Diagnostics / Starting Sequencer and the Driver Unit Protection Processor (DPP). The active crossover network consists of three parallel band pass filters with a common symmetric input stage. All the active crossover filters are aligned for equal phase and group delay transfer characteristics across the crossover regions. The crossover frequencies are 400 Hz and 3.5 kHz. The filters are acoustically complementary and the slopes are 24 dB/octave. Bass, midrange and treble controls with 1 dB steps are included to adjust the balance between the drivers in different acoustic conditions. The low frequency roll-off control which is effective at 35 Hz has four 2 dB steps to allow more refined equalization for different loudspeaker locations. In addition, the bass band has a four position "Tilt" control that is active from 150 Hz down.

The self diagnostics / starting sequencer controls the operating status of the 1034A during the start-up and during normal operation. The system status is displayed on the APU front panel. For the operator, the summary of the real time condition of the APU is also shown on the loudspeaker enclosure status display. The DPP continuously monitors the safe operation area of the tweeter and midrange drivers. When safe limits are

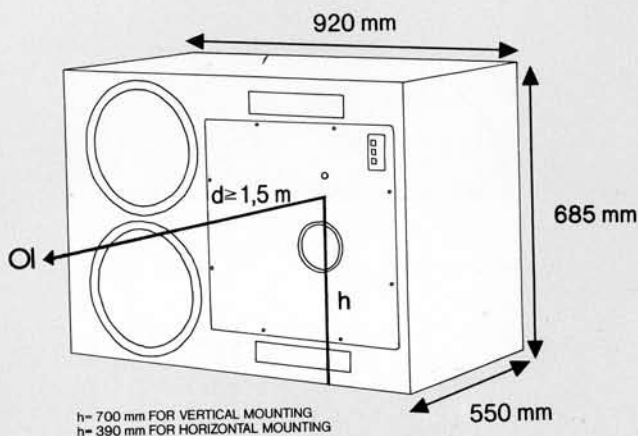
exceeded the DPP gives a warning to the user. If the overload continues, the gain of the entire channel is reduced to a safe level so the perceived balance does not change.

AMPLIFIERS

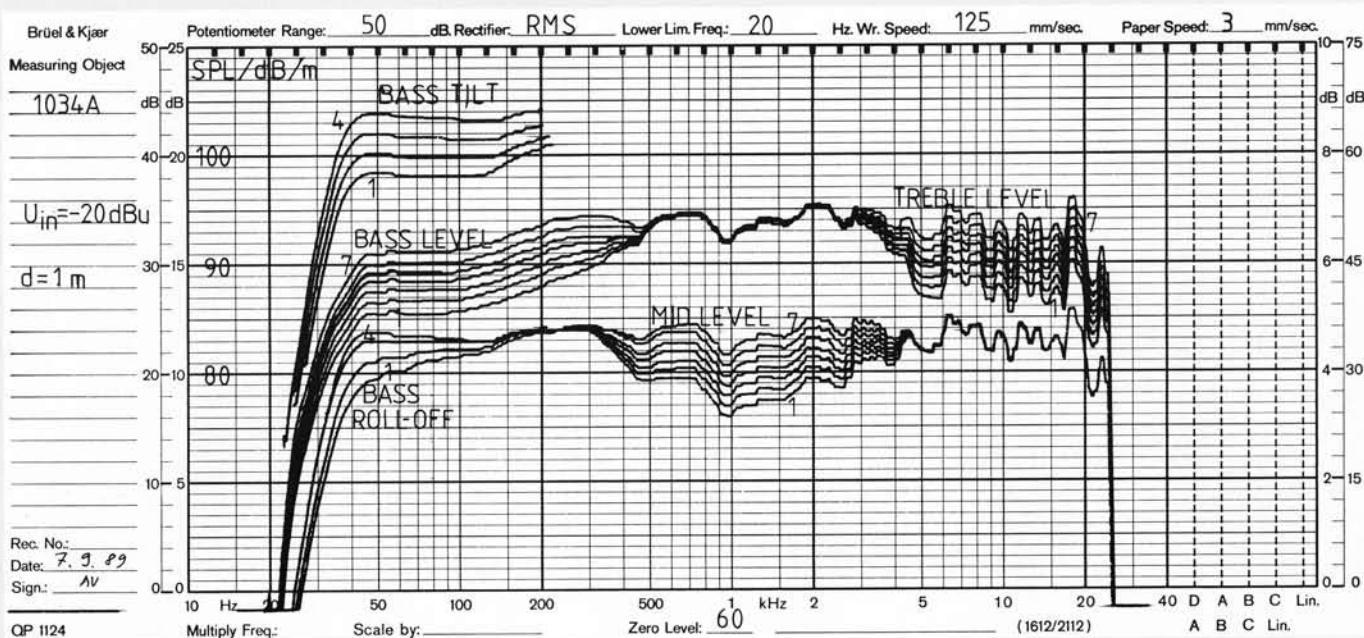
The bass, midrange, and treble amplifiers produce 2 x 600, 2 x 300 and 2 x 300 watts, respectively, of peak power. The bass amplifier has a continuous output of 300 watts, midrange amplifier has 50 watts and the treble amplifier has 13 watts per channel. All amplifier continuous power levels are constantly monitored by the DPP. The system is capable of peak acoustic levels of 130 dB SPL or greater.



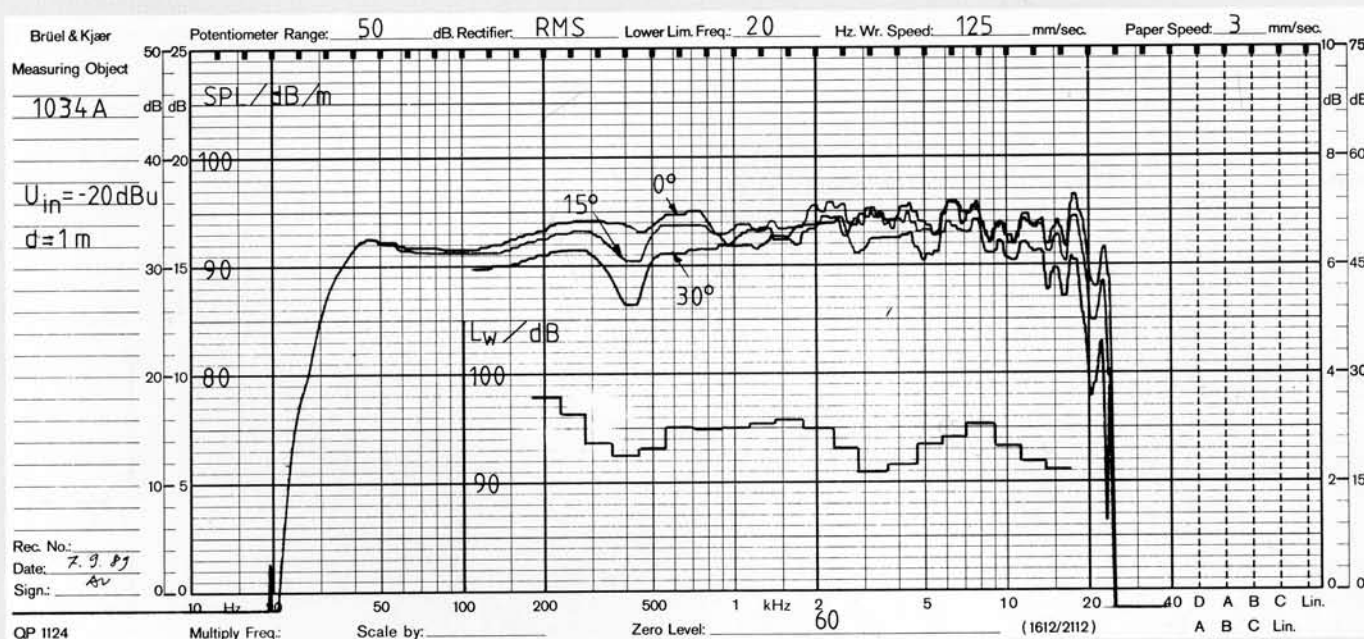
The system acoustical axis:



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Effect of control measured in free field settings.



Directional characteristics



SYSTEM SPECIFICATIONS

Lower cut-off frequency, -3dB: ≤ 35 Hz

Upper cut-off frequency, -3dB: ≥ 22 kHz

Free field frequency response tolerance of system: ± 3 dB

Maximum sine wave acoustic output @ 1 m on axis in a half space:
continuous (thermally limited) ≥ 120 dB SPL
short-term (200ms, amplifier output voltage limited) ≥ 125 dB SPL
Maximum continuous RMS acoustic output in same conditions with IEC-weighted noise: ≥ 121 dB SPL
Maximum peak acoustic output per pair at engineers' site, speakers @ 2 m from the engineer, with music material: ≥ 130 dB

A -20 dBu signal input will produce 107 dB SPL in free field @ 1 m on axis with all controls set at the "CAL" position. The "CAL" position is the 0 dB position of all tone controls and the maximum sensitivity position of the input level control. See specification in the Crossover Section.

Self generated noise level in free field @ 2 m on axis: ≤ 20 dB (A weighted)

Harmonic distortion at 100 dB SPL at 1 m on axis:
Freq. ≤ 200 Hz $\leq 1\%$
200 Hz $\leq 1\%$
Freq. < 4 kHz $\leq 1\%$
Freq. ≥ 4 kHz $\leq 2\%$

Horizontal directivity: see graphs

Drivers: Bass 2 x 12" cone (300 mm)
Mid 5" cone (120 mm)
Treble 1" throat compression driver

Weight: Speaker 249 lb. (113 kg)
Amplifier 156 lb. (71 kg)

Speaker dimensions:
Width 36 1/4" (920 mm)
Height 27" (685 mm)
Depth 21 5/8" (550 mm)

Amplifier dimensions:
Width 19" (483 mm)
Height 29 3/4" (755 mm)
Depth 14 9/16" (370 mm)

AMPLIFIER SECTION

Bass amplifier output power at 4 ohm load:
continuous 2 x 300 W
momentary 2 x 600 W

Mid amplifier output power at 8 ohm load:
continuous 2 x 50 W
momentary 2 x 300 W

Treble amplifier output power at 8 ohm load:
continuous 2 x 13 W
momentary 2 x 300 W

Continuous output power is limited by the driver unit protection processor.

Slew rate 100 V/us

Amplifier system distortion at nominal output: THD $\leq 0.05\%$
SMPTE-IM $\leq 0.1\%$
CCIF-IM $\leq 0.1\%$
DIM100 $\leq 0.1\%$

Signal to Noise ratio, from shorted system input to channel output, referred to full

output: bass 101 dB
midrange 105 dB
treble 106 dB

Mains voltage: 100/110/220/240VAC

Voltage Operation Range $\pm 5\%$

Power consumption:
idle 150 VA
full output 3500 VA

CROSSOVER SECTION

Input connector: XLR female pin 2 +
pin 3 -

Input impedance: 10 k balanced

Continuously variable input level for maximum output:
@ 10 dB attenuation from +8 to +18 dBu
@ 0 dB attenuation from -2 to +8 dBu

Subsonic filter: down 12 dB @ 18 Hz
re 100 Hz level

Ultrasonic filter: down 12 dB @ 50 kHz
re 10 kHz level

Crossover frequency:
bass/midrange 400 Hz
midrange/treble 3.5 kHz

Tone control operation range in 1 dB steps:
bass from 0 dB to -6 dB
midrange from 0 dB to -6 dB
treble from 0 dB to -6 dB

The 0 dB position is the "CAL" position (switch position number 7)

Bass roll-off filter in 2 dB steps:
from -6 dB to 0 dB @ 35 Hz

The 0 dB position is the "CAL" position (switch position number 3)

Bass tilt control in 2 dB steps:
from 0 dB to -6 dB @ 50 Hz

The 0 dB position is the "CAL" position (switch position number 4)

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All data subject to change without prior notice.