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DATA SHEET 1024-0107-5



**GENELEC® 1024C  
MONITORING SYSTEM**



### 1024C APPLICATIONS

- RECORDING STUDIOS
- LARGE BROADCAST STUDIOS
- LARGE DRAMA AND MUSIC STUDIOS
- TELEVISION PRODUCTION STUDIOS
- POST PRODUCTION
- WORK STATIONS
- VIDEO AND FILM EDITING SUITES
- CD MASTERING

### GENERAL DESCRIPTION

#### SYSTEM

The GENELEC 1024C is a three-way free-standing monitor that includes drivers, amplifiers and active crossovers. The 1024C is designed as a standard reference monitor for large recording, broadcasting and music studios with equal application in work station, editing, and post production.

#### DRIVERS

The bass frequencies are reproduced by a 15" bass driver loaded with a 4.2 cubic feet (120 liters) vented enclosure. The bass driver has a very large magnet and high power handling capability. The -3 dB point is 32 Hz and the low frequency response extends to 22 Hz. The midrange frequencies are reproduced with a very carefully designed 5" cone driver specially designed for high SPL levels and very low distortion. The high frequency driver is a 1 1/8" soft dome tweeter loaded with a short horn. The enclosure is manufactured from specially laminated vibration absorbing boards and specially contoured to minimize acoustical diffraction from enclosure edges.

#### CROSSOVER

The active crossover network consists of three parallel bandpass filters. The crossover frequencies are 400 Hz and 3.8 kHz and acoustically the slopes are 24 dB/octave. Bass, midrange and treble controls with 1 dB steps are included in the crossover to change the balance between the drivers in different acoustic conditions. The low frequency roll-off control, which is effective at 32 Hz, has two steps at -4 dB or 0 dB. In addition, the bass band has a "Tilt" control which is active from 150 Hz down. A driver unit protection processor calculates the thermal load of midrange and tweeter drivers and limits the continuous power amplifier output to safe levels. The crossover network contains also an active balanced input stage and a volume control.

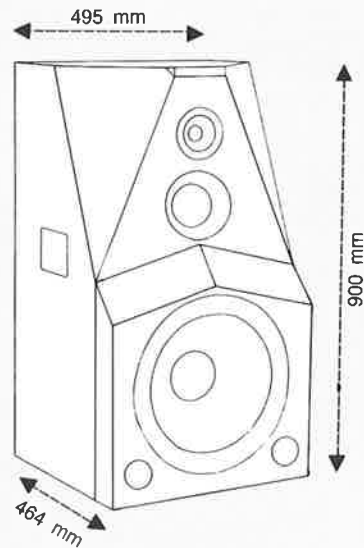
#### AMPLIFIERS

The bass, midrange and treble amplifiers produce 490, 250 and 250 watts, respectively, of peak power. The

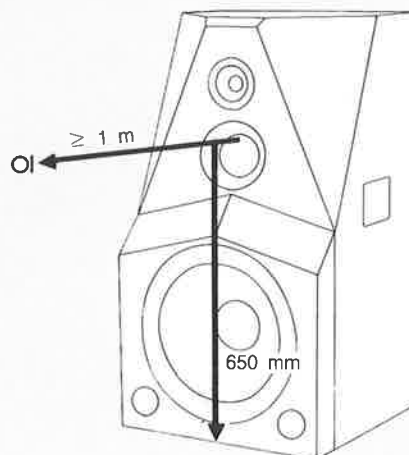
bass amplifier has a continuous output of 350 watts, the has 8 watts. The lower levels of continuous power protect the drivers, but the amplifiers are capable of driving the system to peak levels of 125 dB SPL or greater. THD and IM distortion are extremely low in all amplifiers.

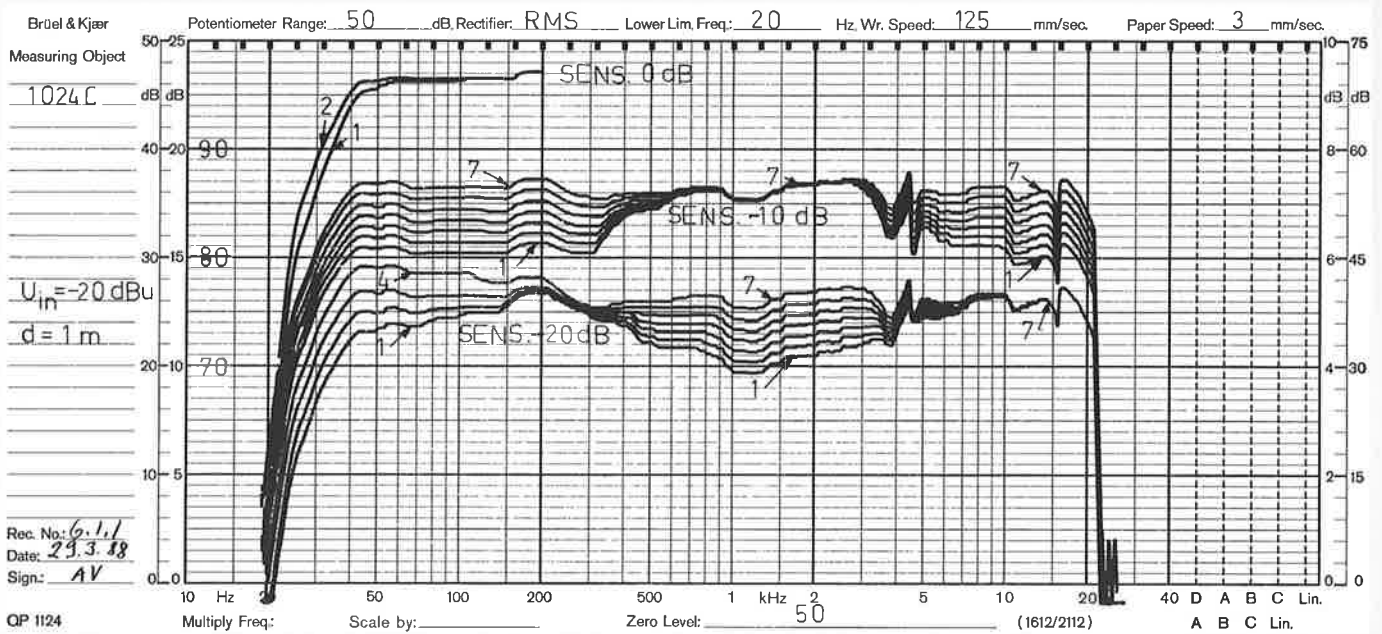
#### INTEGRATED CONSTRUCTION

Maintenance is straightforward and very easy due to rugged, but highly integrated simple construction. The amplifier chassis is mounted to into the enclosure with vibration absorbing quick release hinges. Power amplifier driver boards are plug-in units. A shortened version of the operating and service manuals is printed on the amplifiers's rear panel.



The system acoustical axis:





Effect of control settings measured in free field conditions.



Directional characteristics

## SYSTEM SPECIFICATIONS

Lower cut-off frequency, -3dB:  $\leq 32$  Hz

Upper cut-off frequency, -3dB:  $\geq 20$  kHz

Free field frequency response tolerance of system:  $\pm 3$  dB

Maximum continuous sine wave acoustic output @ 1 m on axis in a half space:  $\geq 116$  dB SPL

Maximum continuous RMS acoustic output in same conditions with IEC-weighted noise:  $\geq 116$  dB SPL

Maximum peak acoustic output per pair at engineers' site, speakers @ 2 m from the engineer, with music material:  $\geq 122$  dB

A -20 dBu signal input will produce 97 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 @ 1 m on axis:  $\leq 15$  dB (A weighted)

Harmonic distortion at 100 dB SPL at 1 m on axis: Freq.  $\leq 200$  Hz  $\leq 3$  %  
Freq.  $\geq 200$  Hz  $\leq 1$  %

Horizontal directivity: see graphs

Drivers: Bass 15" cone (385 mm)  
Mid 5" cone (120 mm)  
Treble 1 1/8" dome (28 mm)

Weight: 150 lb. (68 kg)

Dimensions Width 19 1/2" (495 mm)  
Height 35 1/2" (900 mm)  
Depth 18 1/4" (464 mm)

## AMPLIFIER SECTION

Bass amplifier output power at 4 ohm load:  
continuous 350 W  
momentary 490 W

Midrange amplifier output power at 8 ohm load:  
continuous 50 W  
momentary 250 W

Treble amplifier output power at 8 ohm load:  
continuous 8 W  
momentary 250 W

Mid and treble channel 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 104 dB  
midrange 100 dB  
treble 94 dB

Mains voltage: 100/110/220/240VAC

Voltage Operation Range:  $\pm 10$  %

Power consumption:  
idle 50 VA  
full output 700 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 +9 dBu to +19 dBu  
@ 0 dB attenuation from -1 dBu to +9 dBu

Subsonic filter: down 12 dB @ 10 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 a 4 dB step:  
from -4 dB to 0 dB @ 32 Hz

The 0 dB position is the "CAL" position (switch position number 2)

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.