

GENELEC

DATA SHEET  
1025—0107—2

## 1025A CONTROL ROOM MONITOR



- basic tool for music monitoring
- $\pm 2$  dB from 28 Hz to 20 kHz
- 122 dB SPL per pair in a normally damped 100 cu.m. control room
- four power amplifiers, 1000 Watts
- active filters and symmetric input
- full protection logic
- reliable
- no cooling fans

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## DESCRIPTION

The GENELEC 1025A control room monitor has been designed for neutral reproduction at very high sound pressure levels in a large control room. The integrated system consists of a 450 litre speaker enclosure and a 19" rack mounted three channel power amplifier/active crossover 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 in 4  $\pi$  position.

The active crossover network consists of three parallel band pass filters, equal delay networks and 2  $\pi$  / 4  $\pi$  radiation space control switch. An active symmetric input stage with a 2-pos sensitivity control switch precedes the filter group.

The low frequency system utilizes two long-throw 385 mm woofers in a dual chamber configuration, both drivers having their own power amplifiers. Together with the active filter stage the system response has 6th order Butterworth characteristic extending to 28 Hz ( $-3$  dB). The critical midrange frequencies are reproduced with a 80 mm soft dome unit. The frequency range is 400 Hz to 3,5 kHz, and the driver also has a power amplifier channel of its own.

Lower treble range is reproduced with a 28 mm soft dome tweeter loaded with a short horn. The speaker covers a frequency range from 3,5 to 7,0 kHz.

The high end from 7,0 to 20 kHz is reproduced with a 21 mm soft dome super tweeter loaded with a short horn.

The tweeters also have a power amplifier channel of their own.

The front panel real-time level indicators of all three channels form a reliable headroom monitor, and the separate clipping indicators give an accurate indication of amplifier channel clipping.

The control logic of the amplifier system senses the temperature of the modules, the DC-voltage at output, as well as the overloading of the elements thus eliminating any risks of burning the system.

The muting operation in the starting sequence eliminates all undesired tone bursts in the speaker.

Maintenance is easy because of the simple mechanical construction.

The power amplifier modules are built into a 19" rack frame. For easy access, the front panel of the amplifier unit is fitted with hinges to the frame. The cooling plates are on the front panel. There is no fan and thus, causing no disturbing noise, it can easily be mounted in the studio.

## SPECIFICATIONS

### SPEAKER SECTION

Four-way vented box (B6) system with dynamic drivers. The system acoustical axis is on the midrange driver axis.

		Min	Typ	Max
Lower cutoff frequency,	$-3$ dB, Hz	26	28	30
Upper cutoff frequency,	$-3$ dB, kHz	17	20	
Passband response tolerance, free field,	$\pm$ dB		2	3
Maximum continuous acoustic output at 1 m on axis in half space,	dB	118	120	
Harmonic distortion at 105 dB SPL at 1 m on axis	$f \leq 200$ Hz		2	3
	$f > 200$ Hz		0,5	2
Treble radiation loss at 30 degrees off axis,	at 10 kHz, dB		3	5
	at 15 kHz, dB		4	7
Drivers	Bass	2 $\times$ 385 mm, L15/541		
	Mid	80 mm, SM75—150		
	Treble	28 mm, D28 21 mm, D21		
Enclosure finish		Black		

### AMPLIFIER SECTION

Four identical class AB power amplifiers mounted with the power supply on the cooling plate, which is also the amplifier's mechanical frame. The mid and treble amplifier power limiters track their respective driver's thermal response.

Bass output voltage at 4 ohms load,	continuous, V	2 $\times$ 29	(2 $\times$ 200W)	
	transients, V	2 $\times$ 32	(2 $\times$ 250)	
Mid output voltage at 4 ohms load,	continuous, V	18	( 80W)	
	transients, V	38	(360W)	
Treble output voltage at 4 ohms load, Channels driven separately	continuous, V	13	( 40W)	
	transients, V	38	(360W)	
Slewing rate		V/ $\mu$ s	60	
System distortions at nominal output,	THD,	%	0,05	0,2
	SMTE-IM,	%	0,1	0,2
	CCIF-IM,	%	0,1	0,2
	DIM100,	%	0,1	0,2
Open-loop gain,		dB	55	
Open-loop bandwidth'		kHz	80	
Negative feedback,		dB	25	

## CROSSOVER FILTER SECTION

Three parallel band pass filters with common symmetric input stage and individual output controls.

		Min	Typ	Max
Input impedance (balanced),	kohm		10	
Input level for maximum output, 2 settings	dBu	+ 13		+ 23
0 dBu will produce 107 dB SPL in free field at 1 m on speaker axis with volume and tone controls at 'cal' position.				
Subsonic attenuation,	at 15 Hz, dB		14	
Ultrasonic attenuation, 2 nd order,	at 30 kHz, dB		5	
Crossover frequency, bass/midrange midrange/treble treble/high treble	Hz		400	
	kHz		3,3	
	kHz		7	
Output controls, all channels,	dB		-6	0
Bass tilt filter, adjustable in 2 dB steps,	at 60 Hz, dB	-4		+ 2
Bass roll-off switch, two positions,	at 30 Hz, dB	-4		0

## GENERAL

Input connector	XLR 3—31			
Self generated noise level, at 1 m on axis,	dB (A)		20	
Operating temperature,	deg C	0		45
Specifications applicable,	deg C	15		30
Relative humidity, non condensing	%	20		85
Mains voltage, specifications applicable, operation,	VAC		220	
	VAC	198		242
Power consumption,	VA	50		1500

## DIMENSIONS

Amplifier:				
Height,	mm		354 (8U)	
Width,	mm		483	
Depth,	mm		220	
Weight,	net, kg		28	
Volume,	shipping, kg		35	
Speaker:	shipping, cu m		0,1	
Height,	mm		775	
Width,	mm		1105	
Depth,	mm		553	
Weight,	net, kg		98	
	shipping, kg		120	
Volume,	net, liters		320	
	shipping, cu.m.		0.65	

Fig 1. Sound pressure response in anechoic conditions on axis, at 1 m distance. Note: The measuring error of the anechoic chamber is less than  $\pm 0,5$  dB down to 60 Hz but the rapid roll-off below 40 Hz is due to the room. The actual system  $-3$  dB frequency is 28 Hz.

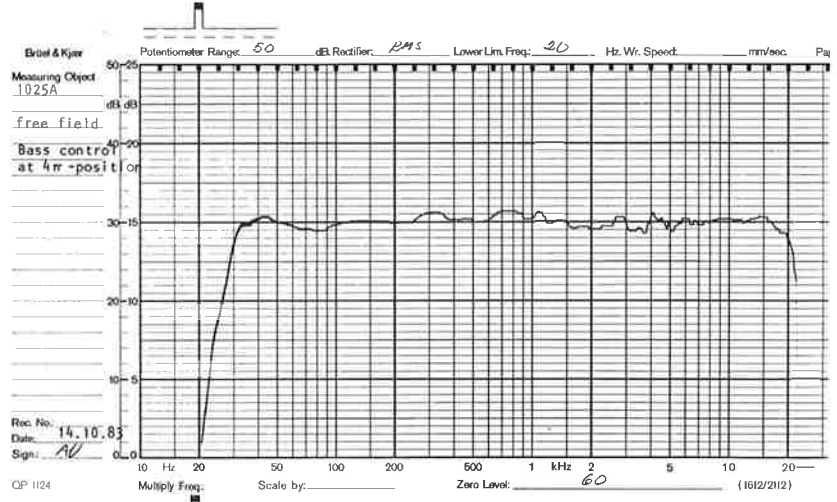


Fig 2. Total harmonic distortion measured at 90, 100 and 110 dB SPL 1 m on speaker axis in anechoic conditions.

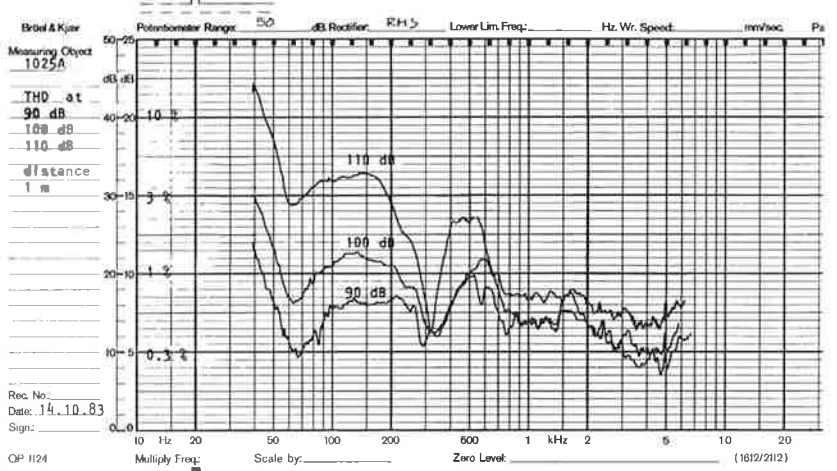


Fig 3. Above 200 Hz: Sound pressure response on axis, 15 and 30 degrees off axis at 1 m distance in anechoic conditions. Below 200 Hz: Operation range of bass environment control.

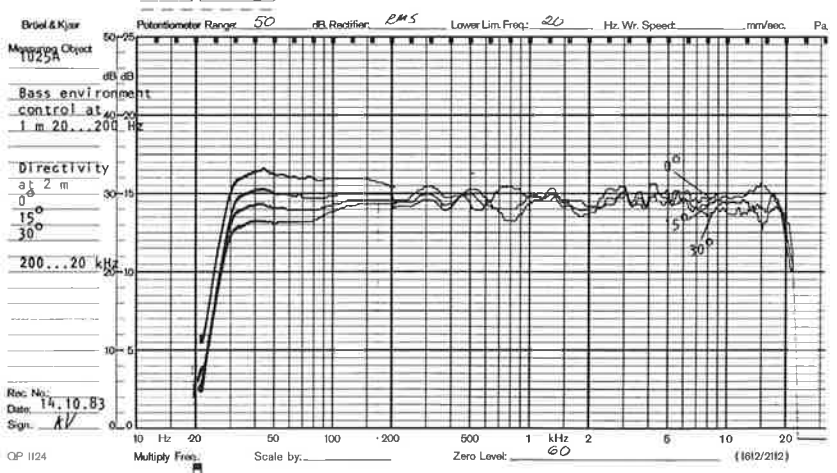
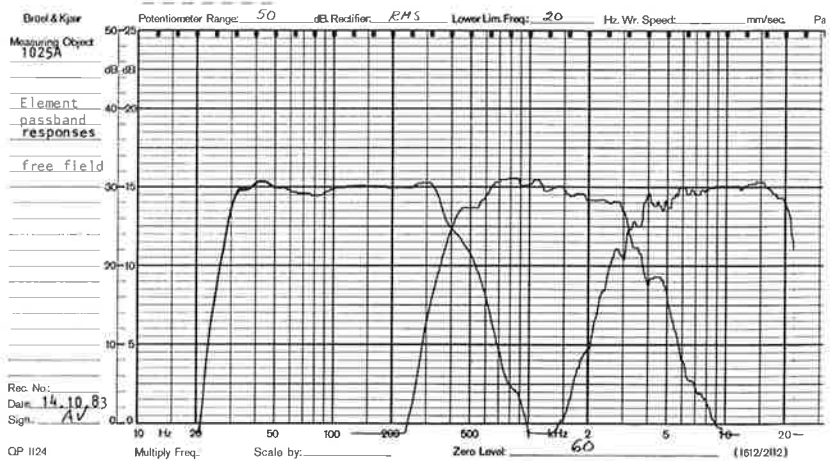


Fig 4. The acoustic responses of channel passbands. Conditions as in Fig 1.



All data subject to change without prior notice.

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