



Power Amplifier

Nor280



Applications

- Sound insulation measurements
- Reverberation time measurements
- Absorption coefficient measurements

Our aim is to take the latest technology available to help our customers complete their measurements faster but without loss of precision. With the Nor280 we have again met this objective.

This power amplifier is the 4th generation of specially designed units for building acoustic measurements from Norsonic. It is less than half the size and weight, but twice as powerful as its predecessors; it replaces the Nor260 as the preferred amplifier to drive the Norsonic range of full and hemi dodecahedron instrumentation loudspeakers.

Features

- Specially designed for Building Acoustic measurements
- Lightweight and rugged construction
- Self contained noise generator
- 500 W_{rms} output power
- Emits 120 dB sound power level in the 50—5000 Hz frequency range when used with Norsonic dodecahedron loudspeakers types Nor250 or Nor270
- Wireless remote control of noise generator (optional)
- Equalization network to optimise acoustic output from speaker
- Balanced signal input for low noise and limited cross talk problems

The Building Acoustics Standards place heavy demands on loudspeakers and as such many may be destroyed if traditional PA power amplifiers are used to drive them. These amplifiers are normally very powerful and designed to give a flat frequency response covering a much wider range than the speaker system can handle. Feeding these systems with broadband pink or red/white noise may destroy the speaker; the low frequency content of the noise causes the speaker cone to move with much higher amplitude than its design limits. Hence, the speaker coil or the cone itself may be destroyed. In addition a lot of energy is wasted in the low frequency area below 15Hz.

To overcome this problem, and to optimise the power where it is needed, a unique built in equalization network compensates for the falling frequency response of the speaker system in both the low and high frequency areas. This also ensures that the 5 dB requirement between neighbour frequency bands are met when used in combination with the Nor250 or Nor270 loudspeakers. A part of the equalization network is a high pass filter that removes low frequency signals that lie below the required frequency range for building acoustic measurements and a low pass filter that removes all frequencies above 12kHz. This feature protects the speakers from distortion and concentrates power into the frequency bands where it is needed.

The class D amplifier construction ensures low weight, high power output and low heat dissipation. The amplifier delivers up to

500Wrms into a 4 ohm load and an output current of up to 35 Amp!

Both the input and output of the amplifier are short circuit protected and an automatic system will guard against overheating and too high signal voltage on the input. The built in cooling fan is normally not running. Only at high room temperatures or prolonged use of the amplifier at full power will the fan switch on. It will however, immediately switch off when the input signal

goes off; this feature makes the unit well suited to reverberation measurements in areas of low background noise.

The noise generator features both Pink, White and Red/White noise excitation signals. The noise or line signal can be attenuated in 5 dB steps to -35dB. By adding option 1, wireless on/off you may switch on/off the signal remotely from another room. The balanced line input ensures minimum cross talk and induced noise when using long signal cables.

Technical specifications:

Output:	Short circuit and over temperature protected	
Output connector:	Speakon NL4MP	
Output power:	500Wrms (4ohm) and 250Wrms (8ohm) measured as THD+N<0.1%. The built-in LP and HP filters ensure that the output power matches the Norsonic Nor250 and Nor270 series of dodecahedron loudspeakers.	
Peak power:	>1 kW	
Output current:	Maximum 35 A	
Input:	Balanced input to avoid ground loops and cross talk to signal cables	
Input sensitivity:	1V (0dB)	
Input impedance:	10k ohm//220pF	
Input connector:	3 pin female XLR	
Weight:	3,5Kg (7,7 lb)	
Dimensions (D x W x H):	275 x 110 x 246 (mm)	11 x 4,3 x 9,7 (inch)
Operating temperature:	-20 to + 35 °C	
Operating humidity:	0-90 %RH	
Enclosure class:	IP20	
Mains voltage:	220Vac (190 - 265Vac, 45-55Hz) or 110Vac (90 - 132Vac, 55-65Hz).	
Mains fuse:	T 3,15A for 220Vac and T 6A for 110Vac.	
EMC and safety standards:	EN55103-1, EN55103-2, IEC61340-5 part 1&2, IEC61010, FCC part 15b class A	
Schedule of parts:	Mains input lead, BNC to XLR female adapter, Output connector or a complete assembled cable 5m if ordered with a Norsonic Nor250, Nor270 or Nor270H dodecahedron speaker. User manual with conformance certification.	
Ordering information:	Option 1: Wireless remote on/off switch (must be specified when ordering)	
Specification subject to change without notice		