



DSP SOUND MASKING GENERATOR/EQUALIZERS

**MG2001
MG3001**



**Initial Ramp-up
screen of the
MG3001
MG Control
Software**

SPECIFICATIONS

- Number of Channels:** One or Two
- Memories and Presets:** 12 memories and 12 presets, non-volatile. No battery required
- Input / Output Specifications:**
 - Number of inputs/outputs: 2/2
 - Maximum Input Level: +22dBu
 - Circuit: Servo-balanced (unbalanced without gain change).
- Maximum Operating Level:** +22dBu into 600 ohms
- Dynamic Range:** 99dB
- Frequency Response:** 20Hz - 20kHz, ±0.5dB.
- Digital Filters:**
 - Capacity: 70 parametric filters
 - Types: Parametric, High-Pass, Low-Pass, Shelving, Symmetrical (1/3 & 1/6 oct.)
- Frequency Range:** All filters, 20Hz - 20kHz
- Shelving:** 6dB/octave range
- DSP Processor:** Analog Devices SHARC DSP with 32/40 floating point math. 20 bit data, 48kHz conversion rate with over-sampling.
- Computer Interface:** RS-232 (16550 UART required)
- Chaining Interface:** RS-232 repeater via RJ-11 cable (up to 250 units).
- Chaining Interface:** Switch (making 1 to 12 dry contact closures)
- Noise Source:** 32 bit digital. Select white or pink. Random - repeats less than once in 6 hours.
- Pinking Filter:** Flat between 20Hz and 20kHz.
- Power:** 94-132 or 190-260 VAC, 50/60Hz, switchable. Detachable power cord with IEC connector.
- Dimensions & Weight:**
 - 19" x 1 3/4" (1RU) x 10", 7 lbs
 - 48.26 cm x 4.45 cm x 25.65 cm, 3.175 kg

- The MG Series offers password security and ease-of-use by connecting a PC running Windows 95 / 98 / NT4 along with the included MG Control Software.
- Two noise generators- White or Pink noise.
- Latest generation DSP engine.
- Servo-balanced inputs and outputs.
- Isolation input and output transformers.
- Uses only 1RU (1.75") rack space.

APPLICATION

The MG2001 represents the latest technology in digital signal processing (DSP) engines for sound masking generator/equalizers. This model features two built-in digital noise generators and two analog noise generators allowing the versatility of digital, analog, or mixed noise at either of its two outputs. Each noise source is separately adjustable—between 80dBu and 0dBu in 0.1 dB steps.

The MG2001 offers a variety of user selectable filter options including one-third octave, parametric high/low pass, and high/low shelving filters. Each filter offers precision .1 dB level and 1 Hz frequency steps. All set-up and operating functions of the MG2001 are conducted from a PC using software provided for Windows 95/98/NT4. After defining and downloading the control functions through the PC, the settings will be stored within the unit in non-volatile memory (no battery required). The MG2001 model features 12 storage memories and 12 preset functions. The unit occupies 1 rack space unit (1 3/4") with a depth of 10" behind the front panel. It contains a built-in power supply capable of operating between 94-260 VAC at either 50 or 60 Hz.

The MG3001 has all the features of the MG2001 above with the addition of a clock circuit that allows for varying parameters at different times of day. The device will ramp-up gradually, so that workers do not notice a difference in the noise level.

ARCHITECT & ENGINEER SPECIFICATIONS

The parametric masking generator/equalizer shall be Atlas Sound's (MG2001, MG3001) with a two-channel, digital signal processor with servo-balanced analog inputs and outputs which can be operated balanced or unbalanced without change in gain. Settings are entered from a PC using MG Control software provided for Windows 95/98/NT4. After defining and downloading the control functions through the PC, the settings will be stored within the unit in non-volatile memory (no battery required). The generator/equalizer shall feature 12 storage memories and 12 preset functions. The unit shall also feature a real time clock circuit allowing for varying parameters at different times of the day (Model MG3001 only). The unit shall occupy only 1 rack space unit (1 3/4") with a depth of 10" behind the front panel. It will contain a built-in power supply capable of operating between 94-260 VAC at either 50 or 60 Hz.

Specifications subject to change without notice



Northeast Total Communications

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"THE MASKER" UL LISTED, SELF-CONTAINED AUDIO MASKING SYSTEM

**AM1100
Series**



**AM1100
(Front View)**



**AM1100
(Rear View)**

FEATURES

- Self-Contained System is Equipped with 4" Loudspeaker, Level Control Amplifier, Power Supply, and Digital Pink-Noise Generator
- Unique One-Point Suspension Allows 360° Positioning Capability
- External Master Panel Allows Convenient Access to Power and Level Control Functions
- Available in 117 VAC and 16 VAC Versions
- Listed Under UL Standard 1480 as a General Signaling Appliance

APPLICATIONS

Achieve acoustical privacy in open and partitioned office areas by installing Atlas Sound's self-contained, audio masking system — The Masker. Compact assembly adds low-level sound into environment to obscure ambient noise, achieving conversational privacy in designated areas. Easy-to-install system may be used in general application to increase privacy and/or productivity in individual cubical and work areas by "blocking out" surrounding conversation. It is also used in individual office areas, common waiting areas, and professional offices where confidential conversations occur. The equalized masking sound lowers intelligibility and "masks" disruptive outside sounds.

GENERAL DESCRIPTION

The Masker AM1100 Series is an easy-to-install, high-performance masking system that includes a built-in power supply, digital pink-noise generator, 2-watt amplifier, 4" loudspeaker and selection of optional installation and performance enhancements. Compact assembly is housed within a 6" metal cube enclosure with one point suspension to allow 360° positioning in ceiling plenums.

Easy-to-operate control panel features on/off power switch, screwdriver-adjust master SPL level control, knob adjust attenuator (1½ dB per step), and two screwdriver-adjust low-pass filters. For installation convenience, the sound out-put curve of The Masker is pre-set at the factory to meet most masking applications (see Fig. 1).

Custom curves to satisfy individual customer specifications are also available upon special request. The 117VAC versions are standard with transformer, IC electronic regulator, replaceable fuse and grounded plug or conduit connector for termination. The 16VAC version is equipped with IC electronic regulator, re-settable circuit breaker and 8" leads for connection to external power transformer. Models are finished in black epoxy and configured as listed in the chart below. Option abbreviations are as follows: (L) AC line cord with molded plug and (H) 4' suspension chain with "S" hook.

SPECIFICATIONS

MODEL	POWER REQUIREMENTS	PINK-NOISE GENERATOR	AMPLIFIER SECTION	POWER SUPPLY SECTION	LOUDSPEAKER	FREQUENCY RESPONSE	WEIGHT
AM1100-LH	117VAC, 60 Hz 7 Watts	IC Type Digital Operation	IC Type, 2 Watts Output	IC Electronic Reg., Xfmr, Replaceable Fuse	4" (102mm) 10 oz. Ceramic Magnet	200 Hz - 4 kHz	5.4 lbs (2.45)
AM1100-16V	16VAC, 60 Hz @ 350 mA			IC Electronic Reg., Circuit Breaker			

MODEL	DESCRIPTION
AM1100-LH	117 VAC Masker with line cord and 4 foot chain
AM1100-16VH	16 VAC Masker with chain (Power Supply not included *)

* The generic UL listed 16VAC power supply required for the AM1100-16VH is available from: Caldrad Electronics, 819 N. Highland Ave. Los Angeles, CA 90038, Voice: (323) 465-2131 Fax: (323) 465-3504 Order Part Number: 45-760

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ARCHITECT & ENGINEER SPECIFICATIONS

The self-contained audio masking system shall be Atlas Sound Series AM1100 Model _____ or approved equal. The unit shall be completely self-contained in a 6" metal cube enclosure and have one point suspension allowing for a full 360° positioning of loudspeaker system. Assemblies shall include a 4" diameter loudspeaker with 10 oz. ceramic magnet. Frequency response shall be 200-4,000 Hz. The pink-noise generator shall be an IC type with digital operation. The amplifier shall be an IC type with 2 watt output. The sound output curve shall be preset at the factory. Masking assembly shall have a power requirement of _____ (117VAC, 60 Hz or 16VAC, 60 Hz). Models for 117VAC operation shall include transformer, IC electronic

regulator, replaceable fuse and line cord for termination. The 16VAC Model shall be equipped with IC electronic regulator, re-settable circuit breaker and 8" leads for connection to external power transformer. Control panel shall consist of an on/off power switch, knob adjust attenuator (1½ dB per step), screwdriver-adjust master volume control, and two screwdriver-adjust low-pass filters for sound out-put wave shaping.

Figure 1

ACOUSTICAL RESPONSE IN 1/3 OCTAVES

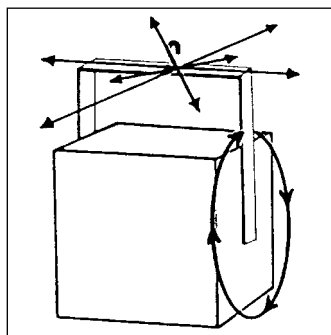
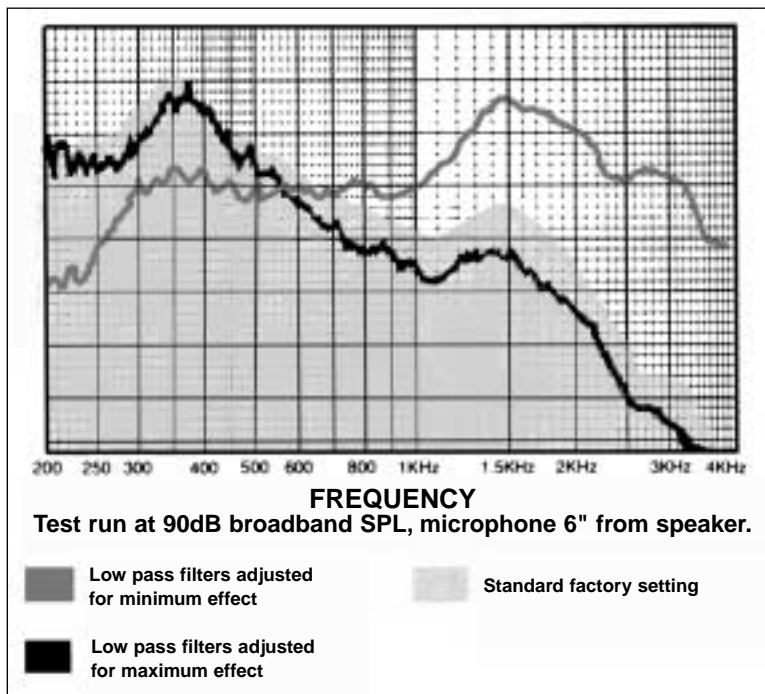


Figure 2
360° Positioning Capability

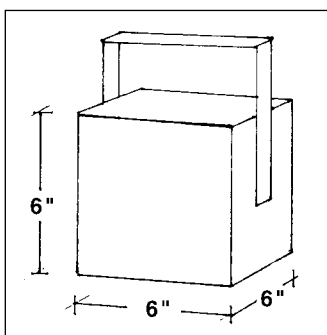


Figure 3
Compact Size Mounts Anywhere

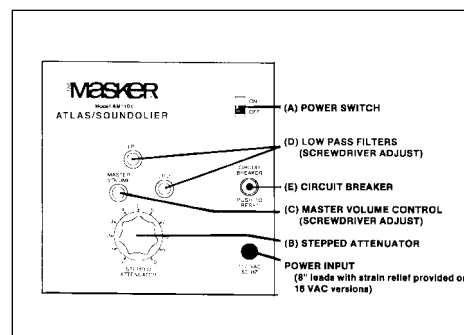


Figure 4
User-Friendly Controls

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GENERAL PURPOSE DIGITAL NOISE GENERATOR

GPN-1200A

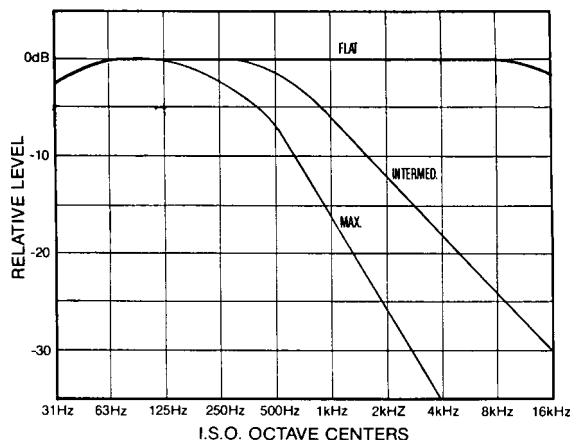


GPN-1200A Front



GPN-1200A Back

EFFECT OF LOW PASS FILTER
ON PINK NOISE OUTPUT:



FEATURES

- Provides Output Level Necessary for Most Commercial Equalizers and Amplifiers (.3V into 600 ohms, -8 dBm)
- Generates Pink or White Noise Selectable via Rear-Mounted Switch
- Adjustable Low Pass Filter Shapes Frequency Spectrum for Use in Common Sound Masking Applications
- Rear-Mounted Controls Prevent Unauthorized Tampering
- Mounts in Any Standard 19" Wide Rack Cabinet

APPLICATIONS

Utilize digital noise generator Model GPN-1200A for audio equipment testing, or as the signal source in sound masking systems. It provides the output level necessary to match the input circuits of most commercially available equalizers and amplifiers.

Unit is recommended for use in sound masking systems using Atlas Sound masking loudspeakers. Sound masking systems are designed to help eliminate the auditory distraction associated with open office plan environments as well as providing conversation privacy in offices such as schools, churches, restaurants, etc. (Additional information on masking loudspeakers and sound masking in general is available upon request.)

GENERAL DESCRIPTION

The Atlas Sound GPN-1200A digital generator with switchable output is capable of producing either pink or white noise to match the input circuits of most commercial equalizers and amplifiers. Output level is .3V into 600 ohms (-8 dBm). Low pass filter shapes frequencies from 16 kHz to 250 Hz at 12 dB per octave. This self-contained unit with built-in power supply operates at 117 VAC at 60 Hz and includes replaceable fuse, ¼" phone jack, and screw terminal output connections.

Chassis is mounted to a rugged 19" x 1¼" (483 x 44mm) rack panel for easy installation. Rear-mounted controls prevent unauthorized tampering. Finish is black semi-gloss epoxy.

ARCHITECT AND ENGINEER SPECIFICATIONS

The digital noise generator shall be Atlas Sound Model GPN-1200A. It shall be capable of producing either pink or white noise with an output level of .3V into 600 ohms (-8 dBm). It shall have a low pass filter adjustable from 16 kHz to 250 Hz at 12 dB per octave. The generator shall have a built-in power supply (117 VAC at 60 Hz input) and be premounted to a standard 19" x 1¼" (483 x 44mm) rack panel. All controls shall be rear mounted to prevent unauthorized tampering. Output connections consisting of screw terminals and ¼" phone jack shall be provided. Finish shall be black semi-gloss epoxy.

Specifications subject to change without notice

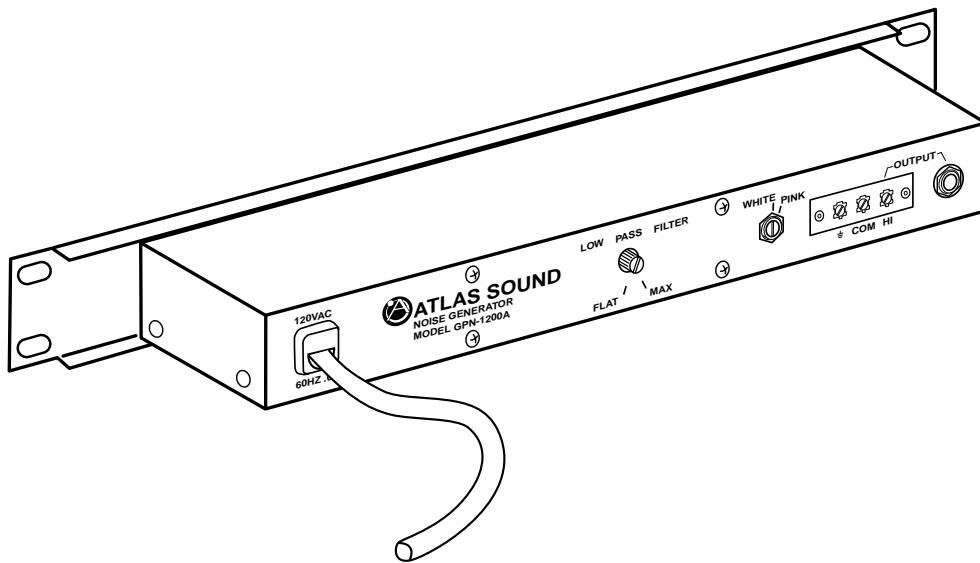
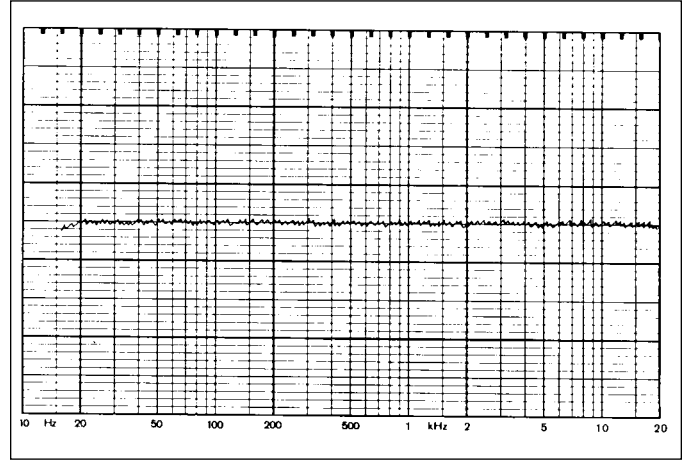
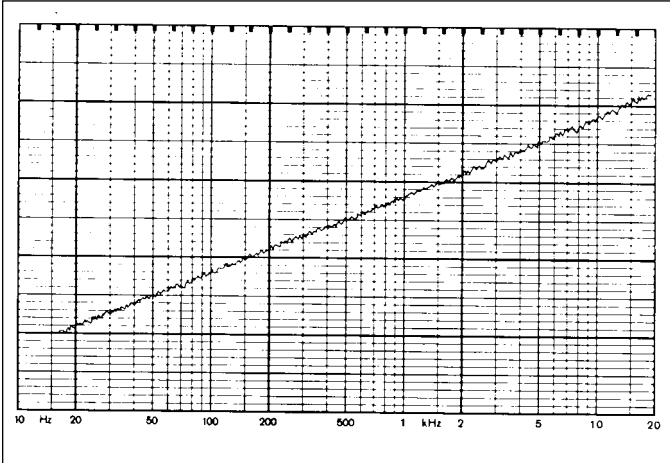


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NINE

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GPN1200A - Rear Side

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SOUND MASKING GENERATOR / EQUALIZER WITH LCD DISPLAY

MG1500A



FEATURES

- Pink-Noise Generator for Acoustic Masking Based on Digital Circuits with Integrated Equalizer
- Response Controlled Via Digitally-Adjusted 14-Broadband Active Filters
- Internal Power Supply for Standard 117VAC operation
- Provides Optimized Level Control
- Digital LCD Display
- High-Pass Filter and Low-Pass Filter
- Up to 10 Memory Settings Available for Storing Different Equalization Curves
- Built-In Password Security System
- Single-Touch Button Control
- Mounts in Any Standard 19" Wide Rack Cabinet, and Occupies a Single Rack Unit

APPLICATIONS

Utilize the Atlas Sound Model MG1500A digital pink-noise generator /equalizer as a source for acoustic masking. Unit is recommended for use with sound masking systems using Atlas Sound masking loudspeakers. Sound masking systems are designed to help eliminate the auditory distraction associated with open office plan environments. (Additional information on masking loudspeakers and sound masking, in general, is available upon request.)

GENERAL DESCRIPTION

Masking pink-noise generator model MG1500A is a self-contained, digitally-controlled generator with analog equalizer. It features 14, one-third octave and 2, one octave filters on standard I.S.O. centers, as well as a high-pass and a low-pass filter. The noise generator drives a set of selected filters which shape the response curve to achieve given design specifications. The unit's internal power supply operates on 117VAC.

The MG1500A's push-button control facilitates quick and precise adjusting, while the unit's memory bank allows up to 10 different equalization curves to be programmed and stored to suit varying masking requirements throughout a given time frame. All settings are retained in non-volatile memory, eliminating the need for batteries. The output

of the MG1500A is connected to the system amplifier via a barrier strip. The generator output can be connected for balanced or unbalanced operation. In balanced operation the output impedance is 102 Ohms and unbalanced output impedance is 51 Ohms. The nominal output level is -0.5 dBu, ± 2.0 dBu.

To avoid tampering, the masking generator offers password protection and programmable security measures to guard settings and pre-sets from being altered. An LCD display provides digital read-out for quick identification of setting selection, and the display can be personalized to display name, phone number, etc. The MG1500A mounts in a standard rack panel measuring 19" W x 1-3/4" H (483 x 44mm), and occupies only a single-rack unit. The generator is equipped with rear-mounted terminals and a 6' (1829 mm), three-conductor power cord. Controls are accessible from the front and output terminals are accessible from the rear of the generator. The power supply uses a toroidal power transformer to minimize noise and hum.

NINE

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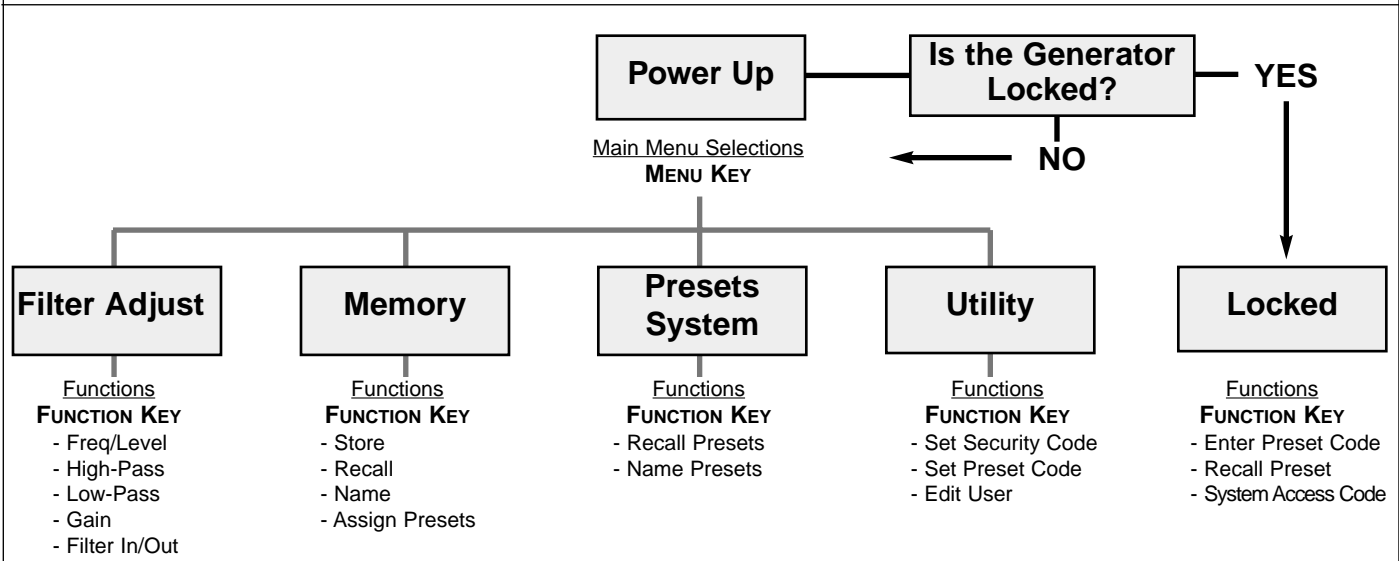
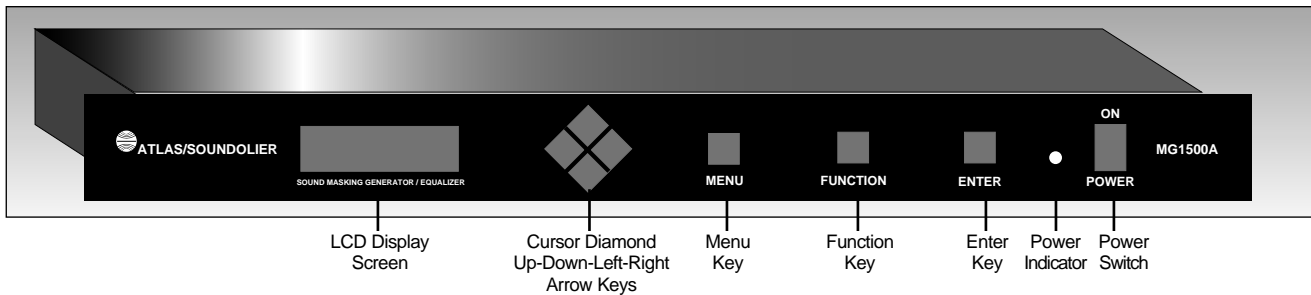
HIGH AND LOW-PASS FILTERS

These filters attenuate unwanted ultrasonic and subsonic signals which would otherwise be amplified. The response of each filter is 12dB/octave. The -3dB point of the high-pass filter is adjustable in 8 steps: 10 Hz, 32 Hz, 51 Hz, 62 Hz, 75 Hz, 100 Hz, 130 Hz, and 160 Hz. The low-pass filter is adjustable in 8 steps: 6 kHz, 7 kHz, 9 kHz, 11 kHz, 13 kHz, 15 kHz, 23 kHz, and 32 kHz.

BAND FILTERS

The generator has 14, one-third octave and 2, one-octave filters on standard I.S.O. centers from 200 Hz to 16 kHz. The range of each filter is 20 dB (± 10 dB) in 0.5 dB steps. The one-third octave frequency centers are: 200 Hz, 250 Hz, 315 Hz, 400 Hz, 500 Hz, 630 Hz, 800 Hz, 1000 Hz, 1250 Hz, 1600 Hz, 2000 Hz, 2500 Hz, 3150 Hz, and 4000 Hz. The one octave filter frequency centers are 8000 Hz and 16.0 kHz.

Model MG1500A Programming Features—An Overview



ARCHITECT & ENGINEER SPECIFICATIONS

The pink-noise masking noise generator shall be Atlas Sound Model MG1500A sound masking generator and equalizer with a digital noise source and a digitally controlled analog equalizer.

The generator shall have 14, one-third octave and 2, one-octave filters on standard I.S.O. centers. The range of each filter is 20 dB (± 10 dB) in 0.5 dB steps. The one-third octave frequency centers are 200 Hz to 4000 Hz. The one octave frequency centers are 8000 Hz and 16.0 kHz.

All settings shall be retained in non-volatile memory, thus eliminating the need for batteries. All functions shall be controlled via a system of

menus that appear in an LCD display screen. All controls shall be accessible from the front. To aid as a tamper deterrent, three levels of security shall be provided. The MG1500A shall store up to ten different sets of setting in its ten memories. Output connections shall be located on the rear panel.

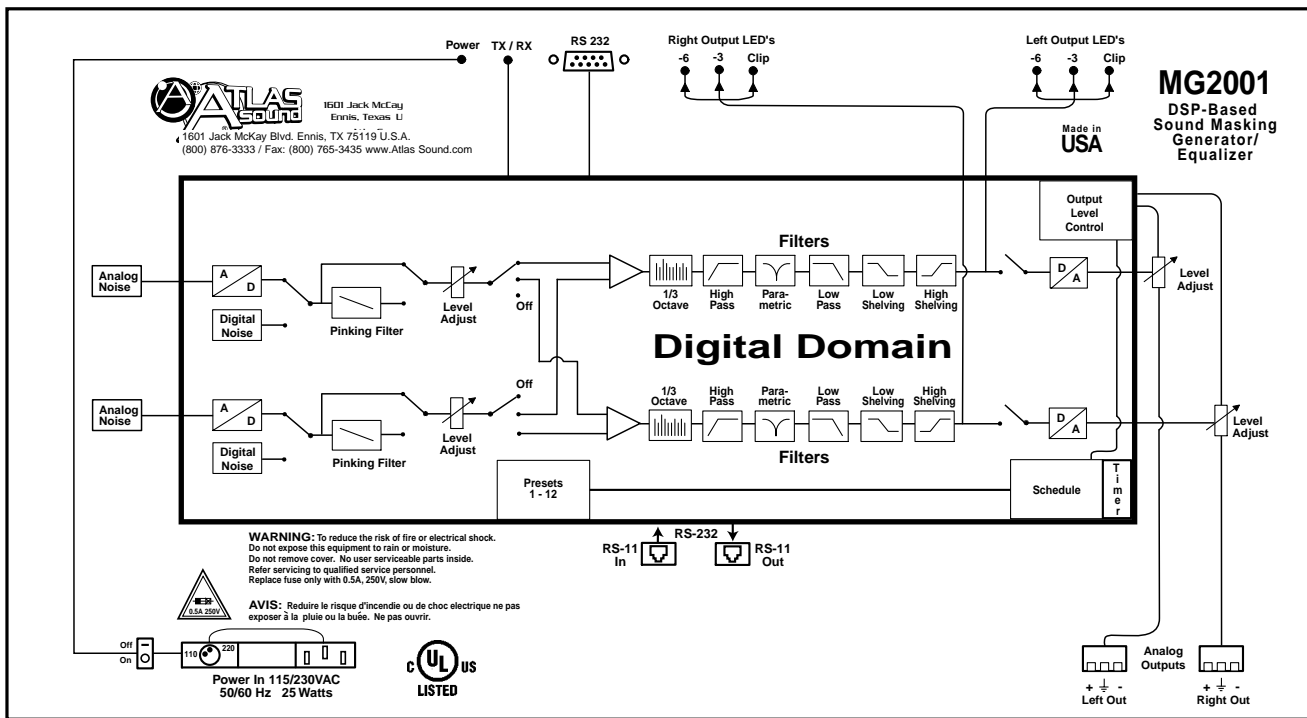
The generator shall mount in a standard 19" W x 1 1/4" H rack space. The power supply shall employ a toroidal power transformer to minimize noise and hum. A three conductor, 6-foot power cord shall be included. The front panel shall be aluminum finished in black.

Specifications subject to change without notice



1601 JACK MCKAY BLVD. / ENNIS, TEXAS 75119 U.S.A. / TELEPHONE: (800) 876-3333 / FAX (800) 765-3435

TOP PANEL DIAGRAM



Model MG3001 is similar with the addition of a real-time clock

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