

DS102 Series Non-Stationary Soundmasking Conditioners

tech spec _ sheet

The industry's largest supplier of design-build soundmasking solutions



FEATURES

- Analog Non-Deterministic Non-Stationary random soundmasking generator
- One or two channel configurations
- Three soundmasking spectra to select from: Pink, White, and Superwhite
- Low pass filter with variable cutoff frequency selection
- Twenty-two active band 1/3-octave equalizer for shaping soundmasking spectrum (*dedicated*)
- Six active band one octave equalizer (*mixer dedicated*)
- Two high level (*paging, music, nonsense syllables, misinformation*) and one low level (*microphone*) level mixer inputs
- A variety of dedicated outputs facilitates use of external soundmasking amplifiers or processors
- Muting for high level and soundmasking signals
- Seven-position zone level control
- Available with shelf or standard 19" NEMA rack mount (*2U, 3-1/2 inches" high*)
- Colored LED display indicates Power On, Level, and Overload
- Dedicated fuses protect internal electronics against power surges
- High contrast control panel
- Protective front panel security cover deters tampering
- All models are rated at 100% duty cycle

GENERAL APPLICATION

Dynasound's DS102 series of Non-Stationary Soundmasking Conditioners are used to increase speech privacy in a variety of environments by introducing a security-grade soundmasking signal, while also permitting it to be layered of external sources. Based on configuration, the DS102 series Non-Stationary Soundmasking Conditioners can be used to generate an analog non-deterministic and non-stationary soundmasking signal, tune the soundmasking signal specific to the environment's acoustical requirements, layer the soundmasking signal with additional sources that will further impede signal recovery, or operate two separate zones off two discrete channels. The internal signal mixer features its own dedicated six-band one-octave equalizer, allowing for auxiliary sources to be equalized independent of the soundmasking signal. The soundmasking signal can be

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muted for emergency paging and the auxiliary sources can be muted for priority paging. All models have a variety of line level outputs to drive external power amplifiers. The DS102 series of Non-Stationary Soundmasking Conditioners are critical to the securing of speech privacy when **DIAM and DCID requirements for SCIF** need to be met.

GENERAL DESCRIPTION AND OPERATION

Dynasound's DS102 series of Non-Stationary Soundmasking Conditioners are available in three configurations that range from a single-channel soundmasking random generator and 1/3-octave equalizer (*model DS1020*); a single-channel soundmasking random generator with 1/3-octave equalizer and auxiliary source mixer with dedicated one-octave equalizer (*model DS1021*); or two soundmasking random generators, each with a dedicated equalizer, configured as two separate channels (*model DS1024*). The appropriate model should be chosen for the respective application. Each model is available for rack-mounting (*denoted by the "R" suffix when ordering*) or shelf-mounting (*denoted by the "S" suffix when ordering*). The three model configurations and their application is described below:

DS1020R, DS1020S - Non-Stationary Soundmasking Conditioner

This model may be used to generate the source signal for a security-grade soundmasking system. Its random analog signal is non-stationary and non deterministic. It features a selection of Pink, White, or Superwhite Noise spectra and a 1/3-octave equalizer for tuning the selected spectrum. The DS1020 also has a active Low Pass filter. The DS1020 signal is designed to impede the intelligibility of information gathered by electronic eavesdropping methods and advanced signal recovery techniques.

Weight: 17 lbs. Power Requirements: 5 Watts.

DS1021R, DS1021S - Non-Stationary Soundmasking Conditioner / Mixer

This model may be used as the source for a security-grade soundmasking system that requires the introduction of additional sound sources. Its random analog signal is non-stationary and non deterministic. It features a selection of Pink, White, or Superwhite Noise spectra and a 1/3-octave equalizer for tuning the selected spectrum. The DS1021 signal is designed to impede the intelligibility of information gathered by electronic eavesdropping methods and advanced signal recovery techniques. Its built-in mixer allows the introduction of two Line "High" Level input sources and one Microphone "Lo-Z" Level input source. These additional inputs can be used to layer the soundmasking signal with music, paging, nonsense syllables, misinformation, or other source signals, in order to further impede advance signal recovery techniques. The mixer section has its own dedicated six-band equalizer.

Weight: 18 lbs. Power Requirements: 7 Watts.

DS1024R, DS1024S - Two Non-Stationary Soundmasking Conditioners

This model may be used as the source for a security-grade soundmasking system that requires more than one source signal. It has two independent random analog signal generator channels that are non-stationary and non deterministic. Each channel features a selection of Pink, White, or Superwhite Noise spectra and a 1/3-octave equalizer for tuning the selected spectrum. Each channel also has a Low Pass filter. This two-generator unit allows one to secure two separate environments against eavesdropping or to operate both 70-Volt and 8-Ohm soundmasking device circuits. The DS1024 signals are designed to impede the intelligibility of information gathered by electronic eavesdropping methods and advanced signal recovery techniques.

Weight: 19 lbs. Power Requirements: 15 Watts.

When operating a DS102 series soundmasking conditioner, the soundmasking signal is generated and equalized on its own dedicated circuit. The high contrast controls for the circuit are accessible by removing a protective cover plate on the front panel of the unit (*Note that this panel is to be replaced so as to prevent tampering after the soundmasking signal and auxiliary signal mix has been adjusted*).

When configured with the internal mixer, the level of each of the three auxiliary inputs is first mixed with independent volume controls, then all three signals are tuned by the mixer's equalizer. This mixed and equalized auxiliary source signal is then blended with the independently equalized soundmasking signal. Finally, the layered signal of auxiliary sources and soundmasking is fed to a variety of signal output posts located on the rear panel of the unit

There is a vertical LED Bar Graph on the front panel, which monitors the model output. With no output, the lowest Green light is lit to indicate that the unit is powered. The top Red LED indicates overload. (*Note: The DS1021 will have all green LED segments that work in conjunction with the internal mixer module*). The final mixed output signal is fed to the LED Bar Graph Display for visual indication of unit output.

Muting is accomplished on line input 1, line input 2, and the soundmasking signal by closure of a remote SPST switch (*provided by others*) such as those found on a microphone and telephone paging systems. This is a simple industry standard operation and no additional voltage is needed to accomplish this.

Dynasound's DS102 series of Non-Stationary Soundmasking Conditioners are designed to provide a continuous supply of random soundmasking for protecting against various types of eavesdropping and signal recovery. When properly operated, its signal output is fed to an adequate soundmasking amplifier and device network, creating a speech privacy barrier at the breach points that impedes attempts of eavesdropping. It is important to note that the DS102 series of Soundmasking Conditioners are effective only if the soundmasking is set to adequate levels. Contact Dynasound for specific level recommendations. Dynasound provides a more detailed installation document for the DS102 series.

SPECIFICATIONS

Soundmasking Generator

Soundmasking Source: Pink, White, and Superwhite Spectra (*switchable*)

Source Type: *Analog, Non-Stationary, Non-Deterministic (will not produce repeating patterns)*

Spectrum Slope: Pink = +0 dB/Octave; White = +3 dB/Octave; Superwhite = +6 dB/Octave;

Spectrum Tuning: 22 active bands, 1/3-octave increments with ISO center frequencies of 80 Hz, 100 Hz, 125 Hz, 160 Hz, 200 Hz, 250 Hz, 315 Hz, 400 Hz, 500 Hz, 630 Hz, 800 Hz, 1 kHz, 1.25 kHz, 1.6 kHz, 2 kHz, 2.5 kHz, 3.15 kHz, 4 kHz, 5 kHz, 6.3 kHz, 8 kHz, and 10 kHz (*-9 dB to +10 dB*)

Low Pass Filter: Adjustable roll-off frequency from 100 to 10000 Hz with -12 dB/Octave slope

Muting: Terminal Post, (*rear panel*)

Mixer (*model DS1021 only*)

Inputs: 3 total; two 10K-sOhm impedance for high level line sources (*rear panel terminal posts*), one 250-Ohm impedance for low level microphone-type sources (*rear panel XLR audio connector*)

Source Tuning: six active bands, one-octave increments with ISO center frequencies of 125 Hz, 250 Hz, 500 Hz, 1 kHz, 2 kHz, 4 kHz (*-9 dB to +10 dB*)

Muting: Terminal Post, (*rear panel*)

Physical

Dimensions: 3-1/2 inches high, 10-3/4 inches deep, 18 inches wide (shelf mounted) or 19 inches wide (rack mounted).

Power: 120 Volt, 60 Hz, fused. See listing above for specific model power consumption.

Finish: Black with gold silk screening. Metal side panels for shelf mount, or black "L" adapters for rack mount.

ORDERING INFORMATION

DS1020R, DS1020S – Non-Stationary
Soundmasking Conditioner (*one channel*).
Shipping weight: *17 lbs.*

DS1024R, DS1024S – Non-Stationary
Soundmasking Conditioner / Mixer (*two channels*).
Shipping weight: *19 lbs.*

DS1021R, DS1021S – Non-Stationary
Soundmasking Conditioner / Mixer (*one channel*).
Shipping weight: *18 lbs.*

Note:

R suffix denotes rack mount unit

S suffix denotes shelf mount unit