

INSTRUCTION MANUAL

for

DYNAMIC NOISE FILTER



Model DNF 1201A

UNPACKING

Unpack your Model 1201A carefully and check it for possible damage caused by shipping. If the unit is faulty, return it in its original carton to your dealer since the shipping container may show evidence of mishandling.

Complete your Instrument Warranty Registry Card and mail immediately to KLH.

For your convenience and to help you expedite any service needed on your Model 1201A, please staple or Scotch® tape your sales slip to this page and record the serial number, the date of purchase, and your dealer's name and address for future reference. Please refer to them any time you correspond with KLH. In the event that your Model 1201A is lost or stolen, the availability of this information will be of invaluable help in the filing of an insurance claim and in the report required by your local police.

LINE VOLTAGE INPUT

Your 1201A is designed to operate with a power line input of 105-125 volts, 50 to 60 Hertz. Do not connect it to any other line voltage or frequency, since this can cause damage to the power supply. Conversion to 210-250 volts, 50 to 60 Hertz, may be made by a qualified technician.

INSTALLATION

Your 1201A is designed to suppress noise for any stereo or matrix 4-channel high-fidelity system. The DNF 1201A can be installed in standard 19 inch wide racks, and requires a 3½" vertical mounting space. The inside pairs of holes are compatible with home hi fi equipment mounting racks. Four screws (not provided with the equipment) should be used for mounting the unit into the vertically adjustable mounting holes located in the rack frame. The four corner slots will mate exactly with the pre-drilled and tapped mounting holes on professional recording and broadcast installations. Connect the 1201A to your system through the external tape circuit of your pre-amplifier or receiver. Use only the finest quality audio cables for connecting the Model 1201A.

- 1.) Disconnect power from your system.
- 2.) Plug the power cord into a switched outlet on your preamplifier or receiver.
- 3.) Connect the INPUTS of the 1201A to the TAPE OUT jacks of your system.
- 4.) Connect the OUTPUTS of the 1201A to the TAPE INPUT jacks of your system.
- 5.) Connect the RECORD INPUTS of your tape deck to the TAPE RECORD jacks provided on the 1201A.
- 6.) Connect the PLAY OUTPUTS of your tape deck to TAPE PLAY jacks provided on the 1201A.
- 7.) Operate the TAPE MON switch on your receiver or preamplifier to insert the 1201A between the source and the rest of your system.

WARNING — TO PREVENT FIRE OR SHOCK HAZARD DO NOT EXPOSE THIS DEVICE TO RAIN OR MOISTURE

TAPE CONTROLS

TAPE MONITOR and TAPE PRE/POST facilitate using the 1201A for tape recording. The TAPE MONITOR switch permits monitoring from tape. The TAPE PRE/POST switch allows positioning of the 1201A prior to or after a tape recorder in the circuit. No rewiring is required.

OPERATION

CAUTION: BEFORE TURNING YOUR RECEIVER OR PREAMPLIFIER ON OR OFF, TURN YOUR VOLUME CONTROL TO 0. THIS ELIMINATES A TURN ON OR TURN OFF THUMP.

1. Make the following initial settings of the controls on your 1201A:

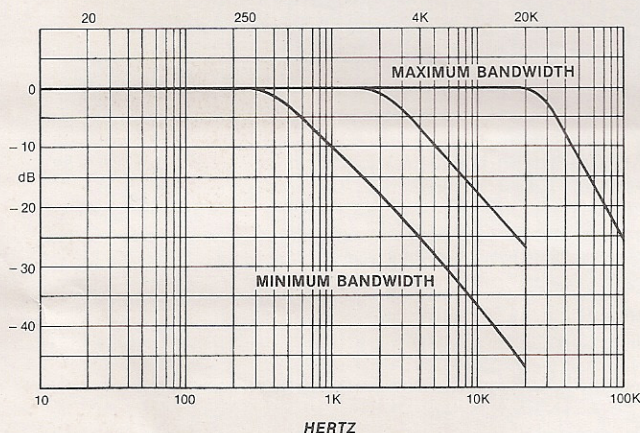
Press POWER
Press OUT
Set SENSITIVITY at 5
Release TAPE MONITOR
Release TAPE PRE/POST

Before turning on the power on your preamplifier or receiver, be sure the volume control is set at 0. Alternately, setting the TAPE-SOURCE switch at SOURCE on your preamplifier or receiver will also avoid the turn on thump. If your preamplifier or receiver has a built in time delay, the thump will automatically be avoided, regardless of the control settings.

2. To process signals through your 1201A set the TAPE-SOURCE switch on your preamplifier or receiver at TAPE. Now select the appropriate processing switch on the 1201A.

3. Adjust the SENSITIVITY control until the red and green lights illuminate alternately.

FREQUENCY RESPONSE



At no signal, the 1201A attenuates high frequencies and noise at 9 dB/octave along the lower curve in this graph. A small high frequency signal is sufficient to extend the bandwidth and reduce the high frequency attenuation as shown by the middle curve. A higher incoming signal level or higher frequency gradually extends the bandwidth until the response is flat.

Final adjustment of the 1201A is best made by ear, once you have learned to recognize the application and range of the controls and the effects of too much or too little signal processing. As you become familiar with the versatility of the 1201A, you will easily establish control settings that match the quality of the program material and personal listening tastes. The control progression from wideband sensitivity to suppression increases noise filtering action; the reverse progression decreases noise filtering action.

For the technically inclined owner, the following information may be interesting: the four controlling variables in the operation of the 1201A are the level of the input signal, the frequency of the input signal, the attack time or speed at which the cutoff frequency of the variable low pass filter increases and the decay time or speed at which the cutoff frequency of the variable low pass filter decreases. The SIGNAL PROCESSING level switches merely change the sensitivity of the bandwidth controller versus frequency and attack time. MIN sets the bandwidth controller cutoff frequency at 9 kHz with fast attack time. MED sets the bandwidth cutoff frequency at 9 kHz with average attack time. MAX sets the bandwidth cutoff frequency at 5 kHz with slow attack time. Combinations of control switches can be used. Disengaging all switches by depressing any one slightly is very useful for piano. Depressing both the MED and either the MIN or MAX works well on brass. The full potential of the 1201A can be developed by experimenting with combinations.

AUXILIARY EQUIPMENT

Expanders and equalizers are normally connected after the 1201A since the 1201A operates best on conventional unprocessed sources.

The 1201A can be used to reduce noise on source material prior to recording with any encoding noise reduction system. The 1201A will provide clean sources and the encoding system will preserve the quality through the tape recorder. The 1201A will improve the playback on a tape already processed on an encode noise reduction system by reducing the original source noise and hiss.

INPUT LEVEL ADJUSTMENTS

On the rear of your 1201A you will find a pair of left and right screwdriver adjust type level controls. These are factory adjustments set for unity gain and should not require any attention on your part. If, however, you find that the front panel SENSITIVITY control needs to be set at the extreme end of its range, either left or right for all program sources, these controls may require resetting. Adjust so that the SENSITIVITY control is at the approximate center of its range, with the red and green lights flashing alternately. There is no reason for concern if, on quiet classical program material, the red light is on more frequently; or on loud brassy material, the green light is on most of the time.

PERFORMANCE MEASUREMENTS

When measuring the frequency response of a 1201A, the results can be confusing because the bandwidth changes with the incoming signal frequency and its level. Accurate measurements can be made only with the OUT button pushed to provide a fixed 30 kHz bandwidth. In the factory, a fixed DC control voltage is substituted for the bandwidth controller output when the narrow band response is being measured.

CARE OF YOUR 1201A

No periodic maintenance is needed beyond occasional dusting. CAUTION — avoid using solvents and cleaning fluids, since these may mar the finish.

SERVICE

Your 1201A is built to the most rigid control standards possible. Each unit is pre-tested at the factory prior to shipping. If you experience any difficulty with your 1201A, consider the following: When high frequencies are lost, advance the SENSITIVITY control toward WIDEBAND and reduce the SIGNAL PROCESSING level as required. If noise levels are too high, advance the SENSITIVITY control toward SUPPRESSION and increase the SIGNAL PROCESSING level as required. Normally, resetting of the control will remedy most difficulties. Severely damaged records with heavy scratches, ticks and pops are beyond the performance restoration capability of any noise suppression technology available today.

If you are unable to find the reason why your 1201A is not operating properly by reading through this manual and by following the procedures listed under this section, please follow the instructions outlined below:

Whenever possible, please contact the dealer from whom the system was purchased to arrange for final verification of the defect, replacement if your unit is brand new, or shipping if it requires repairs. If your dealer is not within the immediate area or cannot inspect your unit for any reason, write directly to KLH Customer Service Department, 145 University Avenue, Westwood, Massachusetts 02090. Describe the trouble and any tests you have made, with as much detail as possible, giving the name of your dealer, date of purchase, and the serial number in the center of the back panel of the 1201A. Alternatively, you may take your 1201A directly to the regional KLH Factory Authorized Service Agency, listed in your local Yellow Pages. KLH will make every effort to remedy any problem within the terms of the Warranty at minimum inconvenience to you.

Do not ship your 1201A or any part thereof to the KLH factory without requesting and receiving a Special Numbered Shipping Label prior to shipment. Any unit arriving at the KLH factory without the Special Numbered Shipping Label will be refused by the KLH Receiving Department.

Freight charges must be **prepaid** when the 1201A is shipped to KLH for repairs. It is the responsibility of the sender to see that any part of the 1201A returned to KLH for any reason is properly packed. Any 1201A damaged in shipment due to incorrect packing will not be recognized by the carrier as an insurance claim, and the sender will be charged for any parts and labor required to return the unit to proper operating condition. To insure freedom from damage in shipment, the 1201A **must** be packed as it was when it left the KLH plant. If you no longer have the original factory packing, you may obtain a carton, including the end caps, for a minimal charge from the KLH Customer Service Department simply by making a written request.

Please adhere to the following procedures precisely:

TO PACK THE 1201A

1. Wrap the 1201A in its plastic bag, or one of the common polyethelene bags supplied by dry cleaners, to prevent scuffing of the front panel and walnut grain enclosure in transit. If necessary, use Scotch® or masking tape to secure the bag firmly around the 1201A. Make certain that the AC line cord is outside the plastic bag. If you are using a bag other than the one supplied with the 1201A, tear a small hole in the plastic to facilitate feeding the line cord through the bag.

2. Carefully slide the 1201A into both end caps insuring a snug fit. Place the AC line cord so it will not interfere when the 1201A is slid into the shipping carton.

3. Place the 1201A, with the end caps in place, into the shipping carton.

The 1201A must be shipped via a common carrier and only in its specially designed factory packing to prevent damage in shipping.

DO NOT SHIP THE 1201A, REGARDLESS OF CIRCUMSTANCES, VIA PARCEL POST.

SPECIFICATIONS

Typical at 25°C with 5K load unless otherwise specified.

CHANNELS	Two having matched frequency response and phase for stereo. May be used on quad matrix signals before decoding.
HISS REDUCTION	Up to 30 dB above 5 kHz. 5 to 14 dB total above 400 Hz depending upon the program material and control settings.
FREQUENCY RESPONSE	
Minimum Bandwidth	-3 dB @ 500 Hz/-10 dB @ 1 kHz/-20 dB @ 2.5 kHz
Maximum Bandwidth	±0.5 dB max. 10 Hz to 20 kHz/-3 dB @ kHz/-25 dB @ 100 kHz
INPUT	
Level @ 0 vu	0 dB, 0.77 V rms Adjustable to 10 dB lower level
Maximum Undistorted	6 V rms @ 0.1 dB gain
Impedance	80 K
OUTPUT	
Rated	+10 dB, 2.5 V rms
Level @ 0 vu	0 dB, 0.77 V rms
Clipping Level	6 V rms
Impedance	50 ohms, DC coupled
Short Circuit Protection	Included
GAIN AT 1 KHZ	0.0 dB, adjustable to +10 dB

DISTORTION	Total Harmonic, 20 Hz to 10 kHz, Sensitivity Max. 0.2% Max. Intermodulation, 60 Hz, 7 kHz, 4:1 0.05%
INTERNAL NOISE	100 µV rms, 20 Hz to 20 kHz
CONTROLS	POWER, SIGNAL PROCESSING-OUT, MAX, MED, MIN, SENSITIVITY, TAPE MONITOR, PRE/POST
INDICATORS	LEDs for SUPPRESSION, WIDEBAND
POWER REQUIREMENTS	Standard Voltage 105-125 V, 50-60 Hz, 8 W Optional 210-250 V, 50-60 Hz, 8 W
CONNECTORS	8 phono jacks for 1201A and tape deck
MECHANICAL	
Size	19" long, 3½" high, 7¾" deep 48.3 cm long, 8.9 cm high, 19.7 cm deep
Shipping Weight	9 lbs. 4.1 kg
WARRANTY	Limited, one year parts and labor