

OPERATION NOTES FOR PSIDEX AUDIO PGP-1A PRE-AMPLIFIER



DESCRIPTION

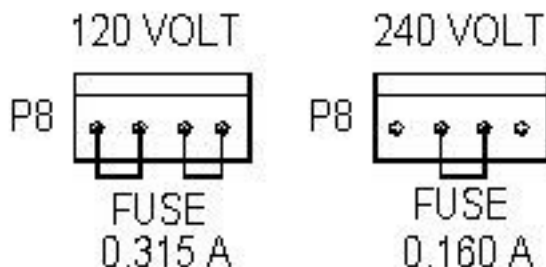
The Psidex Audio Laboratory PGP- 1A is a vacuum tube based microphone pre-amp and program line amplifier designed to provide solid, robust audio from any low impedance microphone ranging from low output ribbon to high output condenser. A 30 dB input attenuator is provided to allow using the unit as a bridging line amplifier, general purpose gain block or mixing amplifier.

INSTALLATION

Installation of the PGP-1A is straightforward. Unit can be rack mounted using appropriate hardware. Mounting screws should be used with a nylon washer or be of the non-marring type to prevent damage to the panel finish. CAUTION: BE SURE THE AC POWER SUPPLY YOU ARE USING IS SAME AS THAT MARKED ON THE UNIT REAR LABEL. Domestic (USA) units are shipped strapped for 120 volt operation..

LINE VOLTAGE SELECT

The PGP-1A is strapped for 120 volt ac operation for all units shipped in the U.S and to Canada. The unit may be set up for 240 volt ac operation by replacing the 4 wire connector at P8 with a connector arranged for 240 volt operation. P8 is located on the main pcb. CAUTION: THE MAINS LINE FUSE MUST BE CHANGED TO A RATING OF 0.160 AMPERES, TYPE T, FOR 240 VOLT OPERATION. A PROPER FUSE MUST BE USED TO MAINTAIN PRODUCT SAFETY. A connector and fuse kit can be obtained from Psidex for making 240 volt conversion.



Always provide for adequate air circulation around the PGP-1A chassis. Tube based equipment can run warm to hot!

Plug the line cord into the PGP-1A IEC power inlet and connect to a proper ac power source. Set POWER switch to ON and power led indicator will light to show unit is ready for operation. Allow a 2 minute warm up time.

OPERATION

Operation of the PEQ-1 is straight-forward and intuitive. A run down of the front panel controls is discussed in this section.

30 dB PAD

A 30 dB attenuator pad can be switched into the 250 ohm input circuit to allow for high level inputs when used as a bridging or instrument amplifier.

In the OUT position, the input is straight thru with no pad, The IN position inserts the pad into the input circuit and builds out the input impedance to 10k.

It is useful with guitar or bass inputs, or other signal sources which need higher Z_{in} than 250 ohms.

TRS INPUT

For convenience, a standard one-quarter inch standard T-R-S phone plug is provided for front panel input. This connector is wired in parallel with the rear panel input XLR with tip (T) tied to the input XLR pin 2, S tied to pin 3 and S to signal ground. Use this as an input jack if not using the rear XLR.

OUTPUT PHASE

This switch transposes the 600 ohm balanced output leads to allow phase reverse. In the normal position the signal path is: positive on Input pin 2 causes positive output on pin 2. In the reverse position the Output polarity is reversed.

DB GAIN and OUTPUT LEVEL

The system gain is selected with this switch in steps of 10 dB, from 30 to 60 dB. Gain can be varied over a wide range from zero gain to +6 dB over the GAIN switch setting with the OUTPUT LEVEL control.. Use the OUTPUT LEVEL to set your operating level as required. In general, use the lowest GAIN switch setting which suits your gain requirement,

VU switch

The VU meter can be switched off or can be set to indicate either standard +4 or +10 reference for meter zero dB. Use as an aid in setting system levels. Lowest system distortion is with this switch in the OFF position (due to loading effects).

PHANTOM POWER

This switch controls the +48 volt phantom microphone power. In the ON position power is supplied to the microphone via 6.8k resistors. The phantom power control is interlocked with the 30 dB pad switch so that phantom power is disabled when the 30 dB pad is IN. The yellow LED indicator above the phantom power switch is lit when ever phantom power is enabled.

REAR PANEL

POWER INLET

This unit uses a standard 3-pole IEC male power inlet connector with built in fusing. A spare fuse is included in the connector fuse drawer. Always replace fuses with the proper rating for the line voltage in use in accordance with the ratings shown above in the above LINE VOLTAGE SELECT section.

TUBES

Both tubes are easily removed via the tube access port at the rear of the unit. Remove the tube shield by pressing in and rotating slightly counter clockwise to clear the shield J retaining slot, then pull out to remove shield tube. Carefully pull tube to remove from socket. Do not rock to side as this can damage tube socket.

CAUTION: ALWAYS ALLOW TUBES TO COOL FOR AT LEAST 5 MINUTES AFTER REMOVING POWER TO AVOID BURNS. TUBES CAN REACH TEMPERATURES HIGH ENOUGH TO INFLICT PAINFUL BURNS UPON CONTACT WITH UNPROTECTED SKIN.

Replace tubes with the proper type as shown in the Technical Data section of this manual. It is well known that all tubes are *not* created equal and some will perform better than others. Experience has shown that quality brands of tubes will offer better performance and service than cheap off brands. The exception to this rule may be guided by the users experience and practice. Some older NOS (new old stock) tubes from the 1950's and 60's will very often perform and sound better than current manufactured tubes. If in doubt, replacement tubes can be ordered from Psidex.

INPUT-OUTPUT

This unit uses standard 3 pin XLR connectors for input and output functions. Standard audio pin-out is used:
Pin 1 Signal Common (Ground)
Pin 2 Signal, positive reference (Hi)
Pin 3 Signal, negative reference (LO)

TERMINATION

This switch places a 610 ohm resistive load across the line output. This switch should be in the IN position when feeding a known un-terminated load. Switch to the OUT position when the load is known to be internally terminated. Proper termination will preserve low distortion and maintain headroom.

TECHNICAL DATA

Gain	<ul style="list-style-type: none">• 36,46, 56, 66 Db maximum
Distortion	<ul style="list-style-type: none">• 0.008% @ +10 dBm, terminated at 600 Ω
Noise, Wideband 5 Hz-30 kHz	<ul style="list-style-type: none">• -87 dB below +10 output for 30 dB gain• -87 dB below +10 output for 40 dB gain• -80 dB below +10 output for 50 dB gain• -70 dB below +10 output for 60 dB gain
Noise, A Weighted	<ul style="list-style-type: none">• -92 dB below +10 output for 30 dB gain• -92 dB below +10 output for 40 dB gain• -90 dB below +10 output for 50 dB gain• -80 dB below +10 output for 60 dB gain
Frequency Response	<ul style="list-style-type: none">• 10 Hz to 45 kHz +/- 1 dB
Input- Output Phase Shift	<ul style="list-style-type: none">• <13 deg. lag @ 20 kHz
Maximum Output Level	<ul style="list-style-type: none">• +26 dBm terminated 600Ω
Input Impedance	<ul style="list-style-type: none">• 250Ω balanced, input pad OUT
Input Impedance	<ul style="list-style-type: none">• 10kΩ balanced, input pad IN
Output Impedance	<ul style="list-style-type: none">• 600Ω nominal
Phantom Mic. Power	<ul style="list-style-type: none">• +48 volts via 2x 6.8k
Tubes	<ul style="list-style-type: none">• 12AX7 (1), 6414 (1)

GENERAL

Mains Supply Hz.	•108-130 or 220- 250 volts Ac, 50/60
Mains Selection	<ul style="list-style-type: none">• Internal Jumpers.
Ac Power, V.A	<ul style="list-style-type: none">• 17.3
Power Inlet	<ul style="list-style-type: none">• Standard EIA 3 wire.
Physical Size	<ul style="list-style-type: none">• 2U EIA panel, 3.5 x 19 inches. Depth 9.5 inches.
Weight	<ul style="list-style-type: none">• 8.5 pounds.

The PGP-1A is sold with a one year warranty against all manufacturing defects.
Replacement or repair at the option of PSIDEX
Design and Product specifications may change without notice to maintain quality and performance.

NOTES