

OPERATING INSTRUCTIONS

for

19" RACK MOUNT VARIABLE GAIN AMPLIFIER

MODEL:

PE15A7000



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POWER-UP:

On power-up, the front panel display will show:

**PASTERNAK
ATTENUATOR**

The unit will then initialize, and the front panel display will read:

**ATTENUATOR
60 dB**

60dB is full attenuation for this model. At this point, both the attenuation control knob and RS-232 communications are able to control the unit.

CONNECTIONS:

On the front panel of the unit, there are two SMA connectors labeled RF In and RF Out.

On the rear of the unit, there is a 9-pin d-subminiature connector used for RS-232 control. For pin-out information on the RS-232 connector please refer to the RS-232 Control section.

The final connection on the rear panel is the AC power connection. This connection will allow a 105 – 125 VAC, 47 – 420 Hz input. In the connector, there is a replaceable 1.5A 250V fuse. In the event the fuse blows, a spare fuse is included inside of the fuse casing. Simply remove the fuse casing from the power connector and replace the fuse. A power cord is included with the unit.

LCD DISPLAY:

The LCD Display will always show the current attenuation level of the unit. If an incorrect level is sent to the unit via RS-232 the attenuation value will remain the same. The attenuation level is selected in 1 dB steps 0 – 60 dB.

USING THE ATTENUATION CONTROL KNOB:

After the unit initializes and the LCD display shows 60 dB attenuation, turning the control knob counter-clockwise will reduce the attenuation level in 1 dB steps from 60 to 0. At 0 dB attenuation, turning the knob counter-clockwise will do nothing, and the unit will remain at full gain.

Inversely, by turning the control knob clockwise, the attenuation level will increase in 1 dB steps from 0 to 60. Similarly, at 60 dB attenuation, continuing to turn the knob clockwise will leave the unit at full attenuation (60dB is the maximum attenuation attainable with this unit).

Pushing the knob until hearing an audible click will have no effect on the unit's operation.

RS-232 CONTROL:

Upon start-up, the unit initializes with RS-232 communication enabled. By connecting the PE3C2850 (provided with unit), RS232 Female to RS232 Female Straight Cable, from a remote computer to the 9-pin connector on the rear of the unit, commands may be sent controlling the attenuation level.

If making a serial cable, Table 1 lists the necessary connections to enable RS-232 communication with this unit.

Table 1: RS-232 Serial Cable Connections

Pin Number	Function
2	Receive Data to PC
3	Transmit Data from PC
5	Ground

The RS-232 communication set-up is listed in Table 2 and has been tested on "HyperTerminal". "HyperTerminal" is available standard on Microsoft Based PC's and is located on the PC under **Start -> All Programs -> Accessories -> Communications**. Make sure to connect using the COM Port designated for the PC's serial port (usually COM1).

To find out which COM Port is designated go to **Start -> Control Panel**, then double click on **System**, then the **Hardware** tab, click on **Device Manager**, click on the + sign next to **Ports (COM & LPT)** and look for the port labeled **Communications Port**.

Table 2: RS-232 Set-up for use with HyperTerminal

Setting	Value
Baud Rate	9600 bits per second
Data Bits	8
Parity	None
Stop Bits	1
Flow Control	None

If using “HyperTerminal” to send RS-232 commands, it is necessary to go to **File -> Properties** and to then go to the “**Settings**” tab and “**ASCII Setup**” button. Once there, check the box for Send line ends with line feeds. It is also helpful to check the box labeled “**Echo typed characters locally**”. This will allow the user to see the characters they are sending to the unit.

RS-232 COMMAND STRUCTURE:

A valid command has the following structure: **ATNXX <Enter>** where XX is replaced by 00 – 60. The unit will respond with “**OK**” if the command was accepted. The LCD display will show the level that was selected. If an invalid command is sent, the unit will not change attenuation level and “**ERR**” will be returned.

Example: The user wants to set attenuation to 5 dB.
 ATN05 <Enter>
 OK
 (The user types ATN05 and “**OK**” is returned)
 The LCD displays 05 dB and the unit is set for 05 dB attenuation.
 Next the user tries to set attenuation to 60 dB.
 ATNN60 <Enter>
 ERR
 (ATNN is incorrect, it should be ATN)
 The LCD displays the last good attenuation setting and the unit does not change attenuation level.