

SM PRO



# PEQ505

500 SERIES PARAMETRIC EQUALIZER

Operating Manual  
V1.1



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# 1 SAFETY INSTRUCTIONS

**CAUTION:** Please ensure power to your 500 series power chassis is OFF before installing or removing your 500 series modules. Hot Swapping, (exchanging of 500 series modules with the power on) is NOT recommended. If the power is on whilst exchanging modules, the pins on the modules multipin connector may short and burn the regulator. For this reason, hot swapping of modules is not covered under the SM Pro Audio warranty.

## **DETAILED SAFETY INSTRUCTIONS:**

All safety and operation instructions of this manual should be read and adhered to before operation.

### **Retain Instructions:**

Please retain all safety and operating instructions for future reference.

### **Follow instructions:**

All operation and user instructions should be followed.

### **Water, liquid and Moisture:**

The appliance should not be used near water, rain or other liquids. Make sure that no liquid can leak, spill or otherwise seep into the appliance.

### **Ventilation:**

Please place the appliance so no obstacles interfere or impede the flow of air through the ventilation openings.

### **Heat:**

The appliance should be situated away from other heat sources such as heaters, radiators, ovens, or other appliances that produce heat.

### **Power Source:**

Make sure your appliance is set to the correct voltage for the country in which it will be use before switching the device ON.

### **Grounding and Polarization:**

Precautions should be taken so that the grounding or polarization means of an appliance is not defeated.

### **Power-Cord Protection:**

Power supply cords should be routed so that they are not likely to be walked on, pinched, damaged, worn, or rubbed by any other device or obstacle.

### **Cleaning:**

The appliance should be cleaned only with a light soft cloth. Do not use any damaging or corrosive products on the unit.

### **Periods of inactivity:**

The power cord of the appliance should be unplugged from the outlet when left unused for a long period of time or in case a lightning storm occurs.

### **Damage Requiring Service:**

The appliance should be serviced by qualified service personnel when:

- The power supply cord or the plug has been damaged; or
- Objects have fallen, or liquid has been spilled into the appliance; or
- The appliance has been exposed to rain; or
- The appliance does not appear to operate normally or exhibits a marked change in performance; or
- The appliance has been dropped, or the enclosure damaged.

### **Servicing:**

The user should not attempt to service the appliance beyond that is described in the Operating Instructions.

**All other servicing should be referred to qualified service personnel.**

## 2 FOREWORD

Dear Customer,

Thank you for purchasing this SM Pro Audio product. Our PEQ505 has been designed as a tool for use in home & professional studios, P.A. rental companies, Schools and in many other situations where audio products would be used.

With vast experience in the audio industry over a long period of time, and along with valuable suggestions from our customers, our engineers have developed a product that we know you will be satisfied with. We guarantee you uncompromising quality as well as excellent technical and audio properties at an extremely affordable price.

We hope you enjoy making music with SM Pro Audio!

### 2.1 IMPORTANT NOTES:

Every effort has been made to ensure all information provided in this manual is accurate at the time of writing.

SM Pro Audio is not liable for any incorrect information contained in this manual and extends no liabilities in regard to this manual other than those required by local law.

SM Pro Audio may update the contents of this manual at any time without prior notice. The latest version of this manual is available from the SM Pro Audio website at all times.

<http://www.smproaudio.com>

# 3 INTRODUCTION

PEQ505 is a 500 series dual slot 5 channel parametric equalizer.

You have 5 separate parametric equalizers at your disposal and each channel can be switched on or off as necessary. The VU meter displays the master output level. Last but not least: The PEQ505 audio circuit uses LME49720 ultra-low distortion/low noise Op Amps, for superb audio input and output.

## 3.1 UNBOXING

Your SM Pro Audio PEQ505 was carefully packed in the factory and the packaging was designed to protect the unit from rough handling. Nevertheless, we recommend that you carefully examine the packaging and its contents for any signs of physical damage, which may have occurred in transit.

If the unit is damaged, please do not return it to us, but notify your dealer and the shipping company immediately, otherwise claims for damage or replacement may not be granted. Shipping claims must be made by the consignee.

## 3.2 CONNECTING

The SM Pro Audio PEQ505 is a 500 series compatible module, which connects to a 500 series power chassis via the rear multipin slot. **Please ensure the power is off before slotting your module into your 500 series power chassis.** Below is the feature layout of the multipin connector.

Terminal	1 CHASSIS
	2 OUTPUT 1 + (+4 Level)
	3 OUTPUT 2 + (-2 Level)
	4 OUTPUT -
	5 GND
	6 STEREO LINK
	7 INPUT 2 - (-2 Level)
	8 INPUT 1 - (+4 Level)
	9 INPUT 2 + (-2 Level)
	10 INPUT 1 + (+4 Level)
	11 GAIN TRIM RESISTOR
	12 +16V DC
	13 GND
	14 -16V DC
	15 +48V DC



# 4 PARAMETRIC EQ

## What is a parametric EQ?

Parametric EQ's are widely used by audio engineers and can be used to shape the sound to a higher degree than a standard shelving EQ. It is a form of audio equalization that allows continuous control over three parameters: level, frequency and bandwidth.

**Level** (also known as amplitude) is simply the amount of boost or cut. It determines the magnitude of the adjustment.

**Frequency** determines where in the tonal spectrum an adjustment occurs. Low frequencies correspond to bass sounds, high frequencies to treble.

**Bandwidth** (also known as Q) determines how wide or narrow the EQ band is.

# 5 CHANNEL CONTROLS

The picture on the right shows 1 of the 5 channels on your parametric equalizer. The controls are:

## 5.1 LEVEL

The rotary knob at the top of the channel (labelled -15 to 12 represents attenuation of dB). It controls the amount of boost or cut. The Level determines how much of a certain frequency is added or removed.

## 5.2 ON/OFF SWITCH

The on/off switch on each channel simply turns that particular EQ channel on or off. If you equalize a frequency and then decide you don't want to keep the change, you can just turn off that EQ band (turn the switch to off) until you need it, instead of having to zero out the settings.

## 5.3 FREQUENCY KNOB

The rotary control knob (labelled 100Hz to 2K), is used in conjunction with the frequency switch to adjust the centre frequency of the area affected by the filter band

## 5.4 FREQUENCY SWITCH

This switch acts as a frequency knob multiplier.

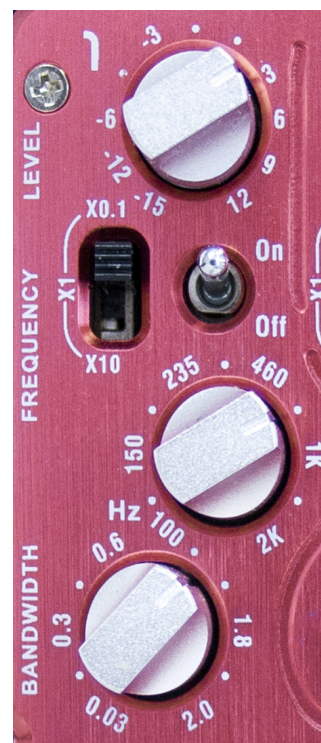
The X0.1 position moves the frequency range downwards (10 Hz to 200 Hz), for fine resolution in the low frequency area.

When the switch is in the X1 position, the range of the Frequency control corresponds to the numbers printed around the knob, 100 Hz to 2kHz. Use this position when you want to work in the midrange.

The X10 position shifts the Frequency knob's range upward by a factor of 10. The range becomes 1kHz to 20 kHz for high-frequency adjustments.

## 5.5 BANDWIDTH

This knob determines how wide an area the band will affect, (hence the term bandwidth). The knob is calibrated in terms of octaves. The range is 0.03 to 2 octaves. Using the .03 setting provides a squashed or very narrow range tone control and as you increase up to 2.0, the width of the range increases.



# 6 OUTPUT LEVEL

The Master output level (labelled 0 to 10) is a rotary control that simply controls the Master audio output level of the module.

## 6.1 BYPASS SWITCH

A bypass switch is provided to allow comparison of the EQ'd signal and the original unprocessed signal. When the bypass LED is on, you will hear the unprocessed signal, and when the bypass LED is off, you will hear the master signal with your parametric equalization edits.

## 6.2 LED DISPLAY

The green LED displays the signal strength from -25dB to +6dB. There is also a PEAK LED (red) to show if the signal is too hot and needs to be reduced.



# 7 LET'S PLAY

The PEQ505 opamps are in DIP8 sockets, this simply means that users can interchange between different types of opamps to achieve different results, and we would be happy if you report the results to us as well. Please note that any damage caused in this process cannot be covered under warranty.

# 8 SPECS

## Audio Inputs

XLR or ¼" line level depending on the 500 series chassis being used.  
Instrument input gain 0dB to 30dB

## Audio Outputs

XLR or ¼" line level depending on the 500 series chassis being used.  
Type Balanced & Unbalanced

## Amplitude Frequency Response

Line in 5Hz to 40kHz within 1dB

## EQ

5 individual parametric EQ's  
Gain +12dB - -15dB  
Frequency 10Hz – 20kHz  
Q Bandwidth 0.03 - 2

## Meter

VU meter -20 dBu – + 3 dBu

## Performance

THD (Unweighted) @ 1kHz 0.025%

## Power Supply

Transformer External  
Input 17v AC

SM ProAudio is constantly striving to maintain the highest professional standards. As a result of these efforts, modifications may be made from time to time to existing products without prior notice. Specifications and appearance may differ from those listed or shown.



# 9 WARRANTY

## 9.1 WARRANTY REGISTRATION

To be protected by this warranty, please register your purchase using our online registration form at <http://www.smproaudio.com/index.php/en/service/register>

## 9.2 WARRANTY

SM ProAudio warrants the mechanical and electronic components of this product to be free of defects in material and workmanship for a period of **three (3) years** from the original date of purchase, in accordance with the warranty regulations described below. If any defects occur within the specified warranty period that are not caused by normal wear or inappropriate use, SM Pro Audio shall, at its sole discretion, either repair or replace the product through its local distributor.

Warranty claims other than those indicated above are expressly excluded.

## 9.3 RETURN AUTHORIZATION NUMBER

To obtain warranty service, the buyer must: a. return the product to its place of purchase, or b. contact your local distributor, or c. email [service@smproaudio.com](mailto:service@smproaudio.com) BEFORE returning the product. All warranty requests must be accompanied by a description of the problem and an original purchase receipt. If you have previously registered your purchase (via the SM Pro Audio web site), you will then be issued with a return authorization number. If you have not previously registered your purchase, then you must forward a proof of purchase document (retail dealers invoice) before a return authorisation can be provided.

The product must then be returned in its original shipping carton, together with the return authorization number.

## 9.4 WARRANTY REGULATIONS

Any product deemed eligible for repair or replacement by SM Pro Audio under the terms of this warranty will be repaired or replaced in the best possible manner.

If the product needs to be modified or adapted in order to comply with applicable technical or safety standards on a national or local level, in any country which is not the country for which the product was originally developed and manufactured, this modification/adaptation shall not be considered a defect in materials or workmanship.

The warranty does not cover any such modification/adaptation, irrespective of whether it was carried out properly or not. Under the terms of this warranty, SM Pro Audio shall not be held responsible for any cost resulting from such a modification/adaptation.

Free inspections, maintenance/repair work and replacement of parts are expressly excluded from this warranty, in particular if caused by inappropriate use. Likewise, the warranty does not cover defects of expendable parts caused by normal wear of the product. Expendable parts are typically pots, potentiometers, switches and similar components.

Damages/defects caused by the following conditions are not covered by this warranty:

Misuse, neglect or failure to operate the unit in compliance with the instructions given in the user or service manuals.

Connection or operation of the unit in any way that does not comply with the technical or safety regulations applicable in the country where the product is used.

Damages/defects that are caused by any other condition beyond the control of SM Pro Audio.

Any repair carried out by unauthorized personnel will void the warranty.

Products which do not meet the terms of this warranty will be repaired exclusively at the buyer's expense. SM Pro Audio will inform the buyer of any such circumstance. If the buyer fails to submit a written repair order within 4 weeks after notification, SM Pro Audio will return the unit C.O.D. with a separate invoice for freight and packing. Such cost will also be invoiced separately when the buyer has sent in a written repair order.

## **9.5 CLAIM FOR DAMAGES**

Failure of SM Pro Audio to provide proper warranty service shall not entitle the buyer to claim (consequential) damages. In no event shall the liability of SM Pro Audio exceed the invoiced value of the product.

## **9.6 OTHER WARRANTY RIGHTS**

This warranty does not exclude or limit the buyer's statutory rights provided by national law, in particular, any such rights against the seller that arise from a legally effective purchase contract.

# 10 FCC AND CE REGULATION

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Caution: Any changes or modifications in construction of this device with are not expressly approved by the party responsible for compliance, could void the user's authority to operate equipment.

Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his/her own expense. If necessary, consult an experienced radio/television technician for additional suggestions.

# 11 CORRESPONDENCE

For technical support, warranty claims, and all other enquiries, please contact your local SM Pro Audio distributor.

Contact details of all SM Pro Audio distributors list can be found online at <http://www.smproaudio.com/index.php/en/dealers-distributors>

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