



PRE-73 PREMIER

Vintage Style Preamplifier



INTRODUCTION

Congratulations on choosing the Golden Age Project PRE-73 PREMIER microphone preamplifier!

The PRE-73 PREMIER is a one-channel vintage style microphone-, line- and instrument preamplifier. The signal path uses only discrete components like resistors, capacitors and transistors. The in- and output is transformer balanced, using two different transformers, each one optimized for its purpose. This is the way audio components were built before integrated circuits became available.

The circuit used in the PRE-73 PREMIER is similar to the preamp section in the classical 1073 module with a corresponding sound character that is warm, punchy, sweet and musical. These classic characteristics have been heard on countless recordings through the years and it is a versatile sound that works very well on most sound sources and in most genres. The essence of this sound is now available at a surprisingly low cost, making it available to nearly everyone.

FEATURES

- Vintage Style electronics. No integrated circuits in the signal path.
- Maximum gain in mic mode is 80 dB, enough to handle passive ribbon mics with quiet sound sources.
- Gain switch range is 20 - 80 dB. Line mode switch, gain is reduced by 30 dB in line mode.
- Selectable two position high frequency air eq boost mode, 3 or 6 dB @ 30 kHz.
- Selectable 6 dB/octave high pass filter at around 80 Hz (HP1) or 200 Hz (HP2).
- 14 dB output pad allowing the user to overdrive the output stage and transformer.
- Switchable impedance in mic mode, 1200 or 300 Ohm, will change the tone of most mics. The input impedance in line mode is 10 kOhm.
- Switchable phantom power and absolute phase.
- A high-impedance instrument input for any sound module, electric guitar or bass.
- A simple but effective 4-step LED output level meter.
- The output level control makes it possible to make fine gain adjustments and also to overload the main gain stage(s) for more character.
- Combo XLR/TRS input jack and separate output XLR and TRS jacks for flexible connections.
- Insert jack for inserting EQ's and other units.
- Selectable 600 Ohm output termination.
- Classic style knobs and buttons.
- Prepared for mounting one or two units in the UNITE PREMIER rack kit. It can also be mounted in one of the other UNITE rack kits and combined with the red and black Golden Age Project products.
 - Connector free internal wiring, all connections except the ones to the gain switch are soldered for the purest signal and most longterm stable signal path.
 - UK made Carnhill input and line output transformers.
 - Polystyrene capacitors in the amplifier circuits.
 - Tantalum capacitors in the signal path.
 - Beefed up power supply.
 - Sturdy toggle switches with gold plated contacts.
 - External power supply to avoid interaction with the audio circuits and transformers.
 - A solid build quality that will last many years of normal use.



CIRCUIT DESCRIPTION

The signal first enters the input transformer. The primary of the transformer has two windings that are either connected in series or in parallel which results in an input impedance of either 1200 Ohm or 300 Ohm in MIC mode. A resistive balanced -30 dB pad is inserted before the transformer in LINE mode.

The transformer is followed by two input gain stages. For gains up to 50 dB, only one of them is being used. For gains above 50 dB, the second gain stage is inserted in the signal path. Both gain stages use only three transistors each.

The signal then goes to the insert jack and from there to the output level potentiometer and then to the output stage. This stage again only uses three transistors, the last one in the chain is a hefty 2N3055 power transistor run in class-A mode, driving the output transformer.

So, all in all, the complete signal chain contains a maximum of only nine active elements. Compare that to the big number of transistors that are usually used in one single integrated circuit!

MODERN VERSUS OLD

It is true that there are some great IC's available today that achieves very low levels of static and dynamic distortion. The simple circuits that the PRE-73 PREMIER uses, and even more so the transformers, cannot match the low distortion specifications of modern IC's.

It is the distortion components that imparts a sound character to the audio signal and, if the distortion components are of the right type, this is a good thing since it makes the recorded voice or instrument sound "better", more musical, more pleasing to the ear. This is one reason why vintage style units are so popular today.

This is not to suggest that modern, transparent sounding audio circuits is a bad thing, sometimes they are preferred over colored ones. It's all about taste and it depends on the genre. For most modern music styles, color and character is definitely a good thing. And doesn't it feel good to use audio components built according to the old, minimalistic approach where one can follow the signal from one discrete component to another?

USING THE PRE-73 PREMIER

Using a preamplifier is not rocket science. Find some points below to help you in getting the maximum out of the PRE-73 PREMIER:

- Connect the cable from the power supply to the 24V AC connector on the back panel of the PRE-73 PREMIER. Power on the unit with the POWER switch on the front panel.
- Connect your Mic or Line input source to the input XLR/TRS combo jack on the back panel.
- Select MIC or LINE mode by the MIC/LINE switch.
- Engage one of the positions of the High Pass filter if you want to roll off the lower frequency range. Set the switch in the center position to remove the high pass filter from the signal path.
- Engage one of the two positions of the AIR eq boost if you want to add some level in the upper frequency range. The boost is centered at around 30 kHz. The switch center position = OFF.
- If you want the smallest amount of coloration, always set the OUTPUT level potentiometer at or close to maximum and adjust the output level with the stepped GAIN switch.
- If you want more character, turn the OUTPUT level potentiometer counterclockwise and increase the gain with the GAIN switch. This will drive the input gain stage(s) harder and provoke more character from them.

- You can also overdrive the output stage and the output transformer for even more character by engaging the OUTPUT PAD. It will lower the level after the output transformer with about 14 dB, the idea is to compensate for that by driving the output stage and transformer harder, i.e. increase GAIN and/or OUTPUT by the same amount.

Please note that the output pad lowers the level with 14 dB only when the internal termination jumper (JP1, see info below) is engaged, the reason is that it is designed to work into a 600 Ohm load.

- Instruments can be connected to the TS input jack on the front panel, it has an input impedance of about 100 kOhm. Press the DI switch to engage this input. A source at the back can remain connected.

- Engage 48 V phantom power for any mic that needs it. It is a good procedure to always disengage the phantom power and wait for about 10 seconds before unplugging the mic.

- When the LOW-Z switch is engaged, the input impedance of the input in MIC mode drops from 1200 Ohms to 300 Ohms. This will change the tone of most mics and will give you one more sound-shaping option. It will also increase the signal level.

- The phase switch simply reverses the phase by reversing the wires from the secondary winding of the output transformer. Reversing the phase of a signal is useful in many situations, one example is phase reversing the lower mic of a snare drum to make it sum in phase with the upper mic.

- There is an unbalanced insert jack located on the back panel where you can insert equalizers and other external effect units. It has an operating level of about -10 dbu to -18 dBu. Send is on "tip" and return is on "ring".

- The output transformer used in the PRE-73 PREMIER is made for having an ideal load of about 600 Ohm. The input impedance of most modern units is 10 kOhm or more. The PRE-73 PREMIER therefore has a 600 Ohm output termination resistor that is engaged by the jumper (JP1) located just behind the XLR output jack. The termination resistor will lower the output level slightly and also affect the upper frequency range. Remove the jumper if the PRE-73 PREMIER feed a unit with a 600 Ohm input impedance.

WARRANTY

The PRE-73 PREMIER is built to last. But as in any electronic device, components can break down.

There is a 1.0 A, slow blow fuse located inside the unit, close to the 24 V AC input jack. If the unit dies, check this fuse. If it has blown, replace it with a new one.

You can also try another 24 V AC adaptor if you have one available. If this doesn't help, or if the unit has another problem, it will need repair and you should then contact the reseller where you bought the unit.

The warranty period is decided by the Distributor for your country. The Distributor will support Golden Age Project resellers and end users with repairs and spare parts.

REGISTRATION

You are welcome to register your unit at our website:

www.goldenageproject.com

You are also welcome to visit: www.goldenagepremier.com

Thank you for choosing the PRE-73 PREMIER!
I hope it will serve you well and that it will help you in making many great sounding recordings.
Bo Medin

Vintage character for modern ideas!