



PRE-573

Vintage Style Preamp for the 500 Series rack format

INTRODUCTION

Congratulations on choosing the Golden Age Project PRE-573 microphone preamplifier!

The PRE-573 is a one-channel vintage style microphone, line and instrument preamplifier. The signal path uses only discrete components like resistors, capacitors and transistors. The microphone and line input and the line output are 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 subjective sound quality delivered by vintage equipment is often preferred over the one delivered by modern units, a situation that is even more obvious now when music is recorded with clean sounding digital audio equipment.

The circuit used in the PRE-573 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.
- The output is transformer balanced and fully floating and can drive a 600 ohm load up to level of about 28 dBu.
- Maximum gain on the mic input is 80 dB, enough to handle passive ribbon mics with quiet sound sources.
- The total gain range goes from -15 to +80 dB. The 10 – 70 dB range is handled by a turn switch and a toggle switch selects an additional 5 or 10 dB gain.
- Switchable impedance on the mic input, 1200 or 300 ohms, will change the tone of many mics.
- The input can be configured to accept line level signals by another switch, the level is then lowered by about 25 dB and the input impedance increased to about 15 kohm.
- Switchable phantom power with a LED indicator.
- A flexible front panel instrument input for any sound module, electric guitar or bass that can be selected between a high impedance Active or a mid-Z Passive mode. These two DI-options makes it possible to get different tones from electric instrument. The Passive DI input mode is usually more suited for injecting active units like sound modules.
- The output level control makes it possible to make fine gain adjustments and also to overload the main gain stage(s) for more character and then lower the signal to a suitable level before the output stage.
- Insert jack for inserting Golden Age Project 500 Series effect units. The insert can be activated by removing a jumper at the back of the module.
- Phase switch.
- Selectable AIR equalizer adds a small boost above 10 kHz.
- A simple but effective signal and overload indicator is offered by a single LED that starts glowing red at about +4 dBu and then increases its intensity up to the maximum output level.
- Tantalum capacitors in the signal path.
- Selectable 600 ohm Output Termination at the back of the module.
- Circuit board star grounding scheme.
- A solid build quality that will last many years of normal use.





CIRCUIT DESCRIPTION

The signal first enters an input transformer. The primary of the input 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.

The transformer are 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 uses only three transistors each.

The signal then goes to the Insert connector with its bypass jumper, to the Output level potentiometer and from there on 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 only contains a maximum of nine active elements. Compare that to the big number of transistors that are usually used in one single integrated circuit!

USING THE PRE-573

Using a preamplifier is not rocket science. Here are some points though to help you getting the maximum out of the PRE-573:

- As a start, you need to mount the module in a 500 series rack unit. There are several alternatives available from different manufacturers, the PRE-573 should work fine with most of them. Please make sure that the rack unit power supply is always turned off when you mount or remove the PRE-573.

MIC / LINE INPUT

Connect your Mic or Line source to the input connector on the 500 rack unit corresponding to the slot where the PRE-573 is placed.

For Microphone sources:

1. Set the MIC - LINE switch to the MIC position.
2. Set the MIC/LINE - ACTIVE DI switch to the MIC/LINE position.
3. Set the PASSIVE DI switch to the off position, ie, the downward position.
4. Engage the +48 V if the connected mic needs phantom power. It is good procedure to always disengage the phantom power and wait for about 10 seconds before unplugging a mic.

- The 300 - 1200 switch will select the input impedance. 1200 ohm is the normal position for most mics. Lowering the mic input impedance to 300 ohm will change the tone of many microphones and will give you one more soundshaping option.

For Line level sources:

1. Set the MIC - LINE switch to the LINE position.
2. Set the MIC/LINE - ACTIVE DI switch to the MIC/LINE position.
3. Set the PASSIVE DI switch to the off position, ie, the downward position.

The LINE input mode will attenuate the input signal with about 25 dB and also increase the input impedance to about 15 kohm.

- 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.

The +10 - 0 - +5 dB switch should normally be in the 0 position but you can set it to +5 or +10 dB anytime you want to add gain.

The +5 and +10 dB positions of this switch corresponds to the -45 and -50 dB (with the PRE-573 GAIN switch set to 40) and -75 and -80 dB (with the PRE-573 GAIN switch set to 70) in the classical 1073 unit.

- If you want more character, turn the OUTPUT level potentiometer counter-clockwise and increase the gain with the GAIN switch. This will drive the input gain stage(s) harder and provoke more character from them.

DI INSTRUMENT INPUT

Instruments can be connected to the DI instrument TRS input on the front panel.

The DI input has two selectable modes, Passive and Active. The Active mode uses a FET-buffer and has an input impedance of about 1,5 Mohm. The signal is fed through the input transformer and then onwards to the gain stage(s).

The Passive mode feeds the signal from the TRS jack directly to the gain stage(s). It has an input impedance of about 100 kohm.

To use the Active mode:

1. Set the MIC/LINE - ACTIVE DI switch to the ACTIVE DI position.
2. Set the PASSIVE DI switch to the off position, ie, the downward position.

To use the Passive mode:

Set the PASSIVE DI switch to the On position, ie, the upward position.

Please note:

The DI input in Active mode has a much higher sensitivity than the Passive mode so GAIN must be set lower than in Passive mode for the same output level. The input impedance is also much higher so the DI input will load the connected instrument less compared to the Passive mode.

The tone of most instrument will differ in the two modes giving you several sound options.

Do not use a higher GAIN than 70 dB in Passive mode and less in the Active mode.

Some instruments will sound and work better in one of these modes, the best way of finding out is to experiment.

Mic / Line sources can remain connected when you use the DI input.

OTHER FUNCTIONS

The 3 position AIR - OFF - PHASE switch works like this:

1. The Phase position simply reverses the phase by reversing the wires from the secondary winding of the output transformer. Reversing the phase of the signal is useful on a number of occasions, one example is phase reversing the the lower mic on a snare drum to make it sum in phase with the upper mic.
2. In the middle position of the switch, the phase is not reversed.
3. Putting the switch in the upper AIR position adds a small boost above 10 kHz.

There is an unbalanced Insert connector located at the back of the unit where you can insert Golden Age Project 500 Series effect modules. The operating level is about -18 dBu. To activate the insert, the jumper located close to the connector must be removed.

The output transformer used in the PRE-573 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-573 has a jumper selectable 600 ohm output termination resistor. The jumper, which is located at the back of the unit, is not connected from factory, resulting in a slightly higher level in the upper frequency range (mainly above 20 kHz).

Engaging the termination resistor by closing the TERM jumper will bring down the load to about 600 ohm. This will lower the high end frequency response slightly which can sometimes be a good thing. This option, together with the AIR option, makes it possible to achieve different high frequency response curves.

WARRANTY

The PRE-573 is built to last. But as in any electronic device, components can break down. If the unit has a 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: www.goldenageproject.com

I would like to thank you for choosing the PRE-573!
I hope it will serve you well and that it will help you in making
many great sounding recordings.

Yours, Bo Medin

**Create music
- Be happy!**