



COMP-2A

Vintage Style Tube Compressor / Leveler



Congratulations on choosing the Golden Age Project COMP-2A Compressor / Leveler!

The COMP-2A is a one channel vintage style Compressor / Leveler using vacuum tubes in the signal and side-chain path. The input and output is transformer balanced, using two different transformers, each one optimized for its purpose. This is the way audio components were built before transistors and integrated circuits became available.

Integrated circuits are small and cheap and widely used in most modern designs. The drawback is that audio components built with modern technology doesn't always provide the best perceived sound quality or the type of character that the modern user desires.

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.

This is the reason why so many vintage audio components are cloned and produced again and also why the vintage originals are often very expensive on the second hand market.

The circuit used in the COMP-2A is based on a classic design that was originally produced in the early 1960s and it was initially intended for broadcast applications. It uses an electro-luminescent panel and a photoelectric cell to control gain. This gives it a unique, program dependent compression characteristic. In addition, the all tube signal path and the transformers adds a wonderful and musical character to the sound.

The ease of use with only two main controls makes it very simple to achieve the desired sound. These attributes has made the original units a favourite of engineers and musicians worldwide. This classic sound is now available at a very affordable price point with the COMP-2A.

FEATURES

- Vintage style all tube signal path. The tubes are fitted with grounded shields.
- Transformer balanced input and output. Can drive almost any load, balanced or unbalanced.
- Golden Age Project's version of the classic optical unit using a long life electroluminescent panel and two carefully matched Silonex NSL5910 photoresistors for T4B-style electro-optical gain control with program dependent attack and release times.
- Very simple to operate with only two main controls, Gain and Peak Reduction.
- HF control can make the side-chain circuit more sensitive to mid and high frequency content.
- Linear regulated low noise filament and high voltage power supply.
- A big meter selectable to show gain reduction or output level at two different reference levels.
- Hardwire bypass switch for easy comparisons.
- XLR and TRS input and output jacks for flexible connections.
- Link jack and switch for connecting to another unit for stereo operation.
- All external controls located on the front panel.
- Compact 2RU half rack format. Two units can be mounted with our 19-inch rack kit, the UNITE BIG.
- A solid build quality that will last many years of normal use.



CIRCUIT DESCRIPTION

The signal first enters the input transformer that balances the input signal and increase the level, it is then fed into both the side-chain circuit and the gain reduction circuit.

The gain reduction circuit consists of a resistor in series with the

photo resistor in the T4B module. The signal then goes to the GAIN potentiometer and to the output stage that consists of two double-triode tubes, a 12AX7 which operates as a voltage amplifier followed by a 6N6 which operates as a cathode-follower. The final component in the main signal path is the output transformer which provides impedance matching and a balanced output.

The side-chain section uses a 12AX7 double-triode and a 6P1 power penthode tube that drives the electro-luminescent panel in the T4B. The higher the voltage the more light is emitted on the photocells, their resistance decreases as the light intensity increases, thereby bringing the audio signal closer to ground in a R1/R2 resistor attenuator resulting in a lower signal level (the photocell is the "R2").

Engaging the HF control, ie turning it clockwise, increases the side-chain signal level in the mid- and high frequencies which will increase compression of frequencies above 1 kHz.

USING THE COMP-2A

The best way to explore the possibilities of any compressor and how different settings affects the sound of different sound sources is to experiment. You can also find a lot of information on the www helping you to understand how compressors work and how to use them.

To get started with using the COMP-2A:

- The components in the COMP-2A generates heat, it is very important that it gets adequate ventilation. Do not cover the top, back or the side panels of the unit. Make sure that air can circulate freely through all ventilations slots. Do not use it in hot surroundings.

- Since audio transformers are sensitive to external electromagnetic fields, try to keep a distance to mains power transformers in other units as big possible.

- Make sure that the AC voltage selector (above the mains power socket) is set to the correct mains voltage, 115 or 230V, change the setting if needed.

- Connect the mains power cable. Power on the unit with the switch on the front panel.

- Connect your line level audio source to one of the input jacks at the back panel and one of the output jacks to a line input on the next unit in the signal chain. The TRS and XLR jacks are connected in parallel so they carry exactly the same signal, both can be used at the same time in most cases.

Since the output is transformer balanced and fully floating towards ground, it doesn't matter if it feeds a balanced or an unbalanced input.

- The GAIN control sets the output level. A setting of around 1.5 will result in an output level that is similar to the input level (= 0 dB of gain) with no compression applied, ie PEAK REDUCTION set fully counter clockwise.

- Set the BYPASS switch to the IN position, turn PEAK REDUCTION clockwise until you get the desired amount of compression. The output level will decrease as compression increases, compensate that by increasing GAIN.

- The approximate amount of gain reduction can be displayed by selecting GR on the meter switch. The normal reading is 0 VU with no compression applied. You can trim this reading using the ZERO adjustment potentiometer that is accessed through a hole in the front panel.

The output level can be displayed by selecting +4 or +10 on the meter switch. The numbers corresponds to the reference level when the meter shows 0 VU. The +10 position is useful for avoiding the meter needle hitting its end stop at high output levels.

- You can easily check the effect of the processing in the COMP-2A by using the BYPASS switch, the unit is completely removed from the signal path in the BYPASS position.

- Setting the LIMIT/COMPRESS switch in the LIMIT position will increase the compression ratio, resulting in a higher compression, especially when the unit compresses heavily. The COMPRESS position is the standard mode.

- Turning the HF control clockwise will make the compressor more sensitive to mid and high frequency content.

- For stereo operation, the side-chain of two COMP-2A units can be linked together through the LINK jack at the back panel, using a TRS cable. The MONO adjustment potentiometer can be used to balance the units. An instruction of the procedure can be found on our web site.

TUBE SUBSTITUTION

There are a number of tubes available from different brands that can be used in the COMP-2A.

- The 12A7X's (tube socket "U1" and "U4") can be replaced with any equivalent from your favourite brand.

- The 6N6 in socket "U2" can be replaced with a 12BH7. Please note that you must then move the jumper "TX1" close to the socket from the "6N6" to the "12BH7" position.

- The 6P1 in socket "U3-6P1" and be removed if a 6AQ5 or an equivalent is placed in socket "U3-6AQ5".

DO NOT POPULATE BOTH THE 6P1 AND THE 6AQ5 SOCKETS AT THE SAME TIME!

WARRANTY

The COMP-2A is built to last. But as in any electronic device, components can break down.

There is a fuse located at the bottom of the mains power input socket. If the unit dies, please check this fuse. If it has blown, replace it with a new one.

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 terms are 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

I would like to thank you for choosing the COMP-2A! I hope it will serve you well and that it will help you in making many great sounding recordings.

Yours,
Bo Medin

Vintage character for modern ideas!