

Technical Specifications:

Size: 102 x 121 x 52 mm / 4" x 4.75" x 2"

Weight (incl. battery): 413g / 0.91 lbs

Gain (at 1kHz, LFO off): 15-30dB, inverting.

Current draw: 1.2 ... 12mA (depending on Depth) at 9V.

Made in Germany.

Contact:

If you have any questions or comments about our products and services, or suggestions for improvements or additions, please let us know. We appreciate any feedback, suggestions, and concerns. Please use the contact form on our website www.tortenmann.de or write to info@tortenmann.de.



Battery Replacement:

1. Remove the four screws holding the bottom panel.
2. Lift the bottom panel.
3. Carefully disconnect the old battery from the clip and connect a new one of the same type. Be sure not to apply too much force to the connector clip and to the leads.
4. Put the battery back into the unit. Make sure that it fits tightly and no leads are being bent or squeezed when reattaching the bottom panel.
5. Tighten the mounting screws with moderate tension.

The TT-3 Tremolo is designed and manufactured with high quality materials and components, which can be recycled and reused. Please act according to your local rules and do not dispose old products with your normal household waste. All packaging consists of recycled paper and can be disposed via regular paper recycling. Batteries must be collected and disposed of separately from household waste.



Warranty information:

Tortenmann products carry a 2 year warranty to the original owner with proof of purchase. The warranty covers damage by our errors only, and not any modification or repair done by anyone other than Tortenmann. Batteries are not covered.

Every unit is thoroughly tested and inspected prior to shipment. Still, if you experience any problems with your TT-3, do not hesitate to contact us via service@tortenmann.de. Alternatively, contact the nearest Tortenmann dealer, who will probably be able to repair the unit or, in case of a defect covered by the warranty, will take charge of the shipping procedure.

TT-3 Tremolo Operating Instructions

- Effective from serial #103 -



Overview:

The TT-3 Tremolo is a musical instrument effects unit that produces a classic tremolo effect, an amplitude modulation controlled by a sinusoidal low frequency wave. Speed and depth of the modulation, as well as the output level are continuously adjustable. The effect can be turned off and the unit be used as a full range booster.

Discrete germanium transistor circuitry and a unique electro-optical amplitude modulation system make the TT-3 a warm and full-sounding device capable of producing a great variety of tremolo effect timbres.

Extreme dependability has been stressed in the design of the TT-3 Tremolo. Like all Tortenmann products, it is hand wired and assembled in Germany with only the highest quality components and with the greatest care. We are confident that the TT-3 will provide you with many years of satisfying and trouble-free use.

Controls:

The TT-3 is basically a simple booster, with its gain being controlled by a low frequency modulation signal via an electro-optical coupling device. A low frequency oscillator (LFO) produces a near-sine waveform with a frequency of about 1 to 10 Hz, adjustable with the "Speed" control. The output of the LFO controls the driver of the optoelement. The gain of this driver stage, and hence, the depth of the modulation may be adjusted by means of the "Depth" control (note that the depth cannot be zero in this configuration).

At high depth settings, the driver stage will be driven into saturation by the LFO signal, giving rise to a modified modulation waveform, approaching that of a square wave. The net effect is a modulation waveform that is sensitive to the modulation depth. At very high depth settings, a chopper-like effect is achieved, with the audio signal being switched on and off at the LFO rate. Also, the harmonic content of the signal will rise at higher depth settings, as the signal gain stage is

approaching its maximum gain capability.

Pulling the "Depth" knob turns the TT-3 into a full range booster ("↑Off"). The LFO is disabled and the "Depth-" turns into a Gain control with a range of about 15 to 30dB. As the gain of the unit is still controlled by the opto-element, its amount is reflected in the brightness of the front panel lamp. Please note that the unit draws considerable amounts of current at high Gain settings. It is therefore recommended to use a power supply for this application.

The output level can be adjusted by means of the "Output" control, which passively attenuates the signal at the output of the unit. Thus, it may be used to adjust the level fed into the subsequent piece of equipment, ideally a tube amplifier.

The footswitch puts the unit into and out of the signal path, the status being indicated by the lamp (off when in bypass mode, LFO- or gain-controlled when on).

Connectors:

◀ Input: a mono TRS jack must be plugged in order to turn on the unit. To save battery power, always disconnect the "IN" jack when not in use.

The output connector is located on the opposite side of the unit and is not marked.

⚡ External power supply: accepts a standard 2.1mm barrel jack connector with a negative center pin. It may be used to connect a DC power supply of 9-18V.

