

TC1280 & TC1380

STEREO MULTITAP DIGITAL AUDIO DELAY



INTRODUCING

The TC 1280 features two independently or simultaneously controllable delay channels. The TC 1380 features one Input and three independently controllable delay Output channels. The units are ideal for any system requiring precise stereo delay or for multiple loudspeaker systems in auditoriums, theaters, arenas, stadiums, lecture halls or any large space requiring distributed loudspeaker time correction. Applications include Concert Delay towers, Theater Delay clusters, Mastering Delay, Delay in connection with A/V format conversion... wherever the highest quality stereo delay is specified.

APPLICATIONS

- ▶ **Fixed Installations:** Distributed Loudspeaker Systems, Churches, Auditoriums, Theaters etc.
- ▶ **Sound Reinforcement:** Concert Delay Tower, F.O.H. Monitor Delay.
- ▶ **Post Production, TC 1280:** Mastering Delay, A/V format conversion.
- ▶ **Broadcast:** Satellite Link audio delay alignments.

- ▶ **Recording Studio:** Ultra short Stereo delay effects, Stereo Enhancements.
- ▶ **TC 1380:** Speaker alignment for drivers in bi-amped, tri-amped or four-way systems.

FEATURES

- ▶ Total relay bypass in the event of power loss.
- ▶ Total In/Out delay down to 30 μ sec possible with resulting phase linearity less than 2 μ sec.
- ▶ Standard memory for TC 1280 is 625 ms expandable to 10 seconds stereo in 625 ms increments and for TC 1380 1250 ms expandable to 20 seconds in 1250 ms increments.
- ▶ Dynamic differential 18 bit resolution AD/DA conversion at 1 mHz Sample Rate provides greater than 100 dB dynamic range THD: <0.05% 1 kHz, 0 dBu.
- ▶ Delay increments down to 5 μ sec possible.
- ▶ Delay times may be entered in feet, meters, frames or half-frames.
- ▶ 4 preset memory bank for easy switch between installation setups.
- ▶ Non-Volatile memory including security lock of preset delay times.

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ULTIMATE SOUND MACHINES

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TC 12/1380



TC Delays have a unique non-digital sound because the A/D converters found in the TC 1280 and TC 1380 were designed without the usual "brick wall" filters found in other digital delays.

Careful component selection and exact alignment standards further ensure long term performance and reliability. Once the delay settings for the units have been chosen, the units delay controls may be locked out to avoid unauthorized tampering. Delay times may still be accessed

via the rear panel MIDI input. Full MIDI system exclusive data implementation is available upon request. Memory expansion is never a problem. Both units will allow for increase in delay of up to 2.5 sec. in TC 1280 and 5 sec. in TC 1380 - directly on the motherboard. Time may be expanded to 10 seconds Stereo (TC 1280) or 20 sec. per channel in TC 1380 with the addition of the optional memory expansion card.

TECHNICAL SPECIFICATIONS

INPUT/OUTPUT

Connectors:	XLR balanced (pin 2 hot)
Input Impedance (balanced):	20 kOhm
Max. Input Level (balanced):	+22 dBu
Input Gain adj.:	±10 dB
Output Impedance (balanced):	50 Ohm
Max. Output Level:	+22 dBu
Output Gain adj.:	0 to -70 dB
Dynamic Range:	> 100 dB
THD+N:	< -66 dB (0.05%) @ 1 kHz, 0 dBu
Frequency Response:	20 Hz to 20 kHz, +0/-0.5 dB
Group Delay:	< 5 µs
Digital Conversion:	Dynamic Differential 18 bit resolution AD/DA
Sample Rate:	1 MHz
Processing Delay:	30 µs

CONTROL INTERFACE

MIDI:	In/Out: 5 Pin DIN, Sysex implemented
Remote:	1/4" phone jack

GENERAL

EMC Complies with:	EN 55103-1, EN 55103-2, FCC part 15 class B, CISPR 22 class B
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SAFETY

COMPLIES WITH:	IEC 65, EN 60065
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Operating Temperature:

32°F to 122°F (0°C to 50°C)

Storage Temperature:

-4°F to 140°F (-20°C to 60°C)

Finish:

Anodized aluminum front,
Plated cadmium coating steel chassis

Dimensions:

19" x 1.75" x 11.6" (483 x 44 x 294 mm)

Weight:

11 lbs. (5 kg)

Shipping Weight:

14 lbs. (6.4 kg)

Mains Voltage:

100/120/220/240 VAC, 50/60 Hz
(selectable)

Power Consumption:

<30 W

Warranty Parts and Labor:

1 year

OPTIONS

ME80: Memory expansion card

CH01: 1.25 sec. memory expansion

Note: Due to continuous development and standardization all specifications are subject to change without notice

ARCHITECTS & ENGINEERS SPECS

STEREO DELAY: The stereo digital delay device shall be capable of delaying the audio input signal to each of the two independent channels. The minimum output time setting shall be 30 µs and the time delay of each output shall be capable of adjustment in increments of 5 /10/20/50/100/200/500/1000 µs to a maximum delay time of 625 ms. The unit shall utilize dynamic differential conversion with a 1 MHz sampling rate and shall have a dynamic range greater than 100 dB. The input shall be electronically balanced and capable of accepting signals up to +22 dBu (0 dBu = 0.775 V) and shall have an impedance of 20 kOhm with a balanced source and 10 kOhm with an unbalanced source. Input gain shall be variable ±10 dB and the output gain shall be adjustable from unity to -70 dB. A 5 segment LED shall indicate the remaining headroom. The output shall be balanced such as to electronically simulate a transformer and may be run in a balanced or unbalanced mode. Output level shall remain unchanged whether run in balanced or unbalanced mode and shall be capable of +22 dBu. Total harmonic distortion shall not exceed 0.05% at 1 kHz at 0 dBu. Frequency shall be flat +0, -0.5 dB from 20 to 20 kHz. Group delay within this frequency range shall vary less than 5 µs. The digital delay device shall include a digital display that shall indicate the delay time. Delay times shall also be displayed as calculated distances in feet or meters at

normalized temperature and humidity conditions (20°C, 50% relative humidity). The delay time LED's shall also be capable of displaying in utility mode software revision, delay resolution, device number, security lock status, and 4 memory presets #. The unit shall also have mute functions and shall default to total relay bypass in the event of power loss. Input and output connections shall be made via rear XLR connectors. The chassis shall be steel with electroplated cadmium coating and the front panel fashioned from 3 mm aluminum. The unit shall measure 44.5 x 483 mm (1 3/4 by 19") and shall occupy 1 EIA rack space. Depth behind the front panel shall be 294 mm (11.6"). The unit shall have user selectable mains voltage at 100/120/220/240 volts AC, at 50/60 Hz. The unit shall be capable of operating between -20% and +10% nominal line voltage and shall draw no more than 30 watts. The acceptable operating environment shall be from 0°C to +50°C and storage environment shall be from -20°C to +60°C. The unit shall comply with subpart J, FCC part 15 rules and IEC 801 regarding RF emission and immunity. The unit shall be a TC Electronic 1280 Stereo Digital Audio Delay.

MULTITAP DELAY: As above except the digital delay device shall be capable of delaying one audio input signal to each of three independently adjustable outputs. The unit shall be a TC Electronic 1380 Multitap Digital Audio Delay.

AUTHORIZED DEALER