

# CHANDLER LIMITED

## TG12345 CURVE BENDER

Circuit Design - Wade Goeke

Concept - Wade Goeke and Pete Cobbin, Senior Recording Engineer, Abbey Road

Front Panel Layout - Wade Goeke; Pete Cobbin; Simon Campbell, Senior Technician, EMI Studios Group; Tom Williams, Business Affairs Manager, Abbey Road; David Holley, Managing Director, EMI Studios Group.

Based on original circuit designs by Mike Batchelor.

The EMI TG12345 Curve Bender is the ultimate TG equalizer issued in celebration of the 75th birthday of Abbey Road Studios. The Curve Bender was conceived by Chandler Limited designer Wade Goeke and Abbey Road Senior Engineer Peter Cobbin and is based on the vintage EMI TG12345 desk used to record The Beatles and Pink Floyd. This newest EMI equalizer continues the tradition of EMI EQs started in 1954 with the RS57, affectionately entitled the Curve Bender by EMI designers, the 1969 TG12345 and the 1974 TG12412. The newest version takes the simple but beautiful sounding TG12345 equalizer and realizes it in a full featured and rethought package for today's use.

During his mixing of numerous Beatles related projects including Anthology, Yellow Submarine, and Imagine, Peter Cobbin thought of having a full featured and ultimately flexible version of the original desk EQ units. After Wade presented him with a working version of the famed console EQ, Pete set Wade to making his unit. Peter asked for four bands and filters based on the slopes of the original desk but with overlapping and expanded choices. Wade turned the nine selections of the vintage version into 51 EQ points plus a multiply switch that increases the boost/cut to 15db (as well as sharpening the Q), filters, and bell/shelf selections on the high and low bands.

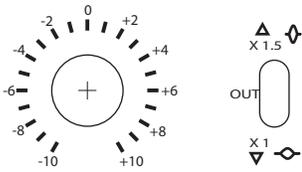
A simple equalizer from the rich past of EMI and Abbey Road has now come full circle into a modern powerhouse suitable for recording, mixing, and mastering. The rest is NEW EMI/Abbey Road/Chandler Limited history.

NOTE ON FRONT PANEL LABELING - You will notice white and yellow markings on the controls of the front panel. This is not a mistake :-). Because of the new controls and settings added to the Curve Bender we have used two colors for control labels. White labels designate a setting exactly as it would have been on a vintage TG unit. Yellow designates selections chosen by Wade and Abbey Road Senior Engineer Peter Cobbin. This way you may accurately recall a standard TG setting or purposely break all the rules.



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## Controls and Features



Boost/Cut and Multiply - Standard boost and cut on TG units is +/- 10 in 1 or 2 db steps. This standard has been maintained with the boost and cut of each EQ band being 1db steps, but in order to add flexibility we took that idea one step further. The multiply switch increases the boost/cut to 15db overall for more aggressive EQing while also sharpening the EQ curve for tonal variety. Please note that this does not multiply the frequency!



INDIVIDUAL BYPASS - By setting the multiply switch to the center position you can bypass each channel individually.

AMPLIFICATION - The core of the TG12345 Curve Bender is the TG12345 MKI amplifier. One of its most important features is that it showcases germanium transistors and gives the TG12345 an unmistakable sound that has never been imitated.

This was used in these TG console versions:

MKI - which was the original proto type desk used to record the Beatles Abbey Road album. Only one of these was ever made.

MKII - Three of these were made for Studio 1, 2, 3 at Abbey Road and a fourth for the mobile recording section. These desks were used to record John Lennon's "Instant Karma," Paul McCartney's "Maybe I'm Amazed" and George Harrison's "All Things Must Pass" singles and albums respectively.

The MKI amplifier was also used in the MKIII version but was changed in the MKIV to a silicon amplifier. This huge wrap around TG desk was used to record Pink Floyd's "Dark Side of the Moon" and was the first implementation of the TG MKIV amplifier.

The MKIV amp is prevalent in much of the Chandler/Abbey Road reissues including the TG1, TG2, and Passive TG Channel.

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## Controls and Features Continued

GENERAL EQ NOTES - To allow the user to access unmodified settings from the original TG desk the EQ points are marked in two ways. White indicates the vintage settings from the TG12345 and yellow the new ones chosen to fill in the gaps in the expanded selection. Even though we have added many choices to the unit, in all cases the curve of the original EQ has been maintained. Boosting 3.6k, although it was not a choice on the vintage desk, will have the same shape as 4.2k TG12345 console.

In the same way, we have added bell and shelving selections on the bass and treble bands. On the TG console the low frequency was a single shelving selection and the presence was eight peaking selections. In the spirit of making the ultimate TG EQ we again copied the curves of the shelving and peaking bands so that the treble and bass sections can now use the curves of each, i.e., you may now peak or shelf on the bottom and peak or shelf on top.

### Equalizer Points -

Treble - 3.6, 4.2, 6.5, 8.1, 10, 12, 16, and 20 kHz. Bell or shelf selection. +/-10 or +/-15 db boost and cut. +/-15 boost/cut also sharpens Q on bell curves.

Presence 1 - .8, 1.2, 1.8, 2.8, 3.6, 4.2, 6.5, 8.1 kHz. Bell curves at +/-10 or +/-15 db boost and cut. +/-15 boost/cut also sharpens Q on curves.

Presence 2 - .3, .5, .8, 1.2, 1.8, 2.8, 3.6 kHz. Bell curves at +/-10 or +/-15 db boost and cut. +/-15 boost/cut also sharpens Q on curves.

Bass - 35, 50, 70, 91, 150, 200, 300 Hz. Bell or shelf selection. +/-10 or +/-15 db boost and cut. +/-15 boost/cut also sharpens Q on bell curves.

Selection of the TG12345 was as follows -.5, .8, 1.2, 1.8, 2.8, 4.2, 6.5, 10, and low shelf.

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## Controls and Features Continued

Connections - All connections on the Curve Bender are transformer balanced with pin 2 hot.

Power supply - This is designed to be used with Chandler Limited PSU-1 MKII power supply.

The power pin out is as follows:

- 1) chassis and audio ground
- 2) 48 volt
- 3) +28 volt
- 4) -28 volt

Notes on Grounding - On the back of the power supply are two black banana connectors.

These join the audio ground to earth ground with a solid wire between them. Depending on your studio you may want this connected or disconnected. Turn up your monitors or headphones a bit and experiment with which has a lower noise floor in your system. You may also need to join the audio banana plug to other sections of your studio to obtain lowest noise floor. The audio banana is located closest to the edge of the power supply case. Use something simple like a guitar cord and touch the tip to other portions of your studio to find best results. In some cases it may be best to connect a 10 ohm resistor between banana plugs.