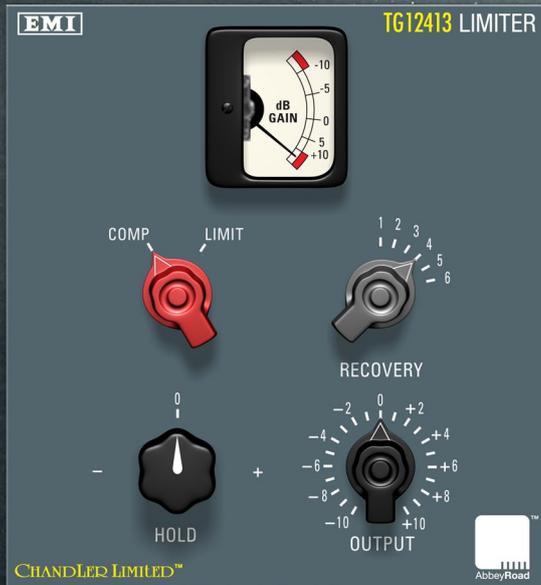


The EMI TG 12413
Limiter Plug-in
'from the original
Abbey Road mix
desk'



CHANDLER
LIMITED™

EMI
TG12413
LIMITER

AbbeyRoad™
Plug-in

Plug-in Version 1.0 for TDM, RTAS, and AudioSuite

User's Guide

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1 — Introduction

Welcome to the TG12413 Limiter Plug-in.

TG equipment was used on many classic records and this Limiter was featured on every channel of TG consoles used to record The Beatles “Abbey Road”, several Pink Floyd records including “Dark Side of the Moon”, and Paul McCartney. Now, the TG12413 Limiter Plug-in brings the same unique and authentic sonic possibilities to the world of Digital Audio Workstations.

The TG12413 Plug-in is actually two Plug-ins in one, letting you choose between classic and contemporary versions of this legendary compressor/limiter:

TG12413 1969

The TG12413 (1969) Plug-in is a recreation of the classic TG12413 Limiter used in custom EMI and Abbey Road recording and mastering consoles from the late 60’s and 70’s.

TG12413 2005

The TG12413 (2005) Plug-in is a recreation of the Chandler Limited TG1 Compressor. The Chandler TG1 was remade from the original design information and circuit board drawings as provided by Abbey Road and EMI to ensure extreme authenticity!

The TDM and LE Versions

The TG12413 Plug-in is available in TDM, RTAS, and AudioSuite versions and is supported on Pro Tools HD, Pro Tools LE, and Pro Tools M-Powered systems (and compatible Avid systems).

- The TDM version supports up to 192 kHz sample rates.
- The RTAS version supports up to 192 kHz sample rates.
- The AudioSuite version supports up to 192 kHz sample rates.

The TG12413 supports mono, mono-to-stereo, stereo, multi-channel, and multi-mono formats.

System Requirements

- Version 1.0 supports Macintosh OS X and Windows XP. (Check the Abbey Road or Chandler Limited web sites for the most current support news.)
- The TG12413 Plug-in supports any Pro Tools HD, LE, or M-Powered system capable of running Pro Tools software version 6.4 or higher.
- The TG12413 Plug-in requires an iLok Smart key for authorization and copy protection. If you do not have an iLok, consult the Digidesign web site for information on acquiring one for your Pro Tools software.

DSP and TDM Systems

The table provides the theoretical maximum number of mono instances of the TG12413 Plug-in supported on TDM systems. The second column is the number of instances that can fit on one DSP, the third column is the total percentage usage of that DSP.

HD (“Presto”) DSP:

2005 Mono	9	(99%)	1969 Mono	7	(89%)
2005 Stereo	5	(99%)	1969 Stereo	4	(93%)
2005 LCR	3	(87%)	1969 LCR	2	(69%)
2005 LCRS / Quad	2	(77%)	1969 LCRS / Quad	2	(89%)
2005 5.0	2	(94%)	1969 5.0	1	(58%)
2005 5.1/6.0	1	(58%)	1969 5.1/6.0	1	(67%)
2005 6.1 / 7.0	1	(67%)	1969 6.1 / 7.0	1	(77%)
2005 7.1	1	(75%)	1969 7.1	1	(87%)

TDM insert delay: 2 samples

Multishell delay: 2 samples

Delay due to processing inside the EMI plug-in: 0 samples

2 — Installation, Registration, and Authorisation

Installing the TG12413 Plug-in involves the following steps:

1. Installing the Plug-ins.
2. Authorising your iLok Smart Key for the TG12413 using the License Card provided.

Follow the instructions below to complete the installation, registration, and authorisation process.

Installing

To install the TG12413 Limiter Plug-in:

1. Download the installer for your Pro Tools system, computer platform, and operating system, from the Abbey Road or Chandler Limited web site. Or, insert the TG12413 installer disc into your CD-ROM drive.
2. Double-click the installer. TDM users should install the TDM bundle, which installs TDM, RTAS, and AudioSuite versions. LE users should install the LE version, which installs RTAS and AudioSuite versions. .
3. Follow the instructions onscreen to install the Plug-ins.
When you are finished, remove the disc from your CD-ROM drive.

Registering is required in order to initiate the Plug-in Demo (Try it) process. In addition, registering your purchase with Chandler Limited entitles you to periodic updates, as they become available.

Registering

To download the TG12413 Limiter Plug-In you will need Pro Tools 6.4 or greater, an ILOK, and an ILOK account.

1. First, point your internet browser to **<http://www.abbeyroad.co.uk/ilok/>**
2. Fill out the provided form and click the 'Submit Query' Button.
3. Your browser will start downloading the version of the plug-in you selected to run on your system.
4. Once the download is complete, go to **<http://www.ilok.com>** and login. When you are in, click the 'You have licenses' link. Then make sure your ILOK is connected and scroll to the bottom of the page. Click the 'Synchronize' button, and then you should be ready to go.
5. Make sure the plug-in is in the proper folder to work with your system.

If you wish to purchase a full version or need support email: **support@chandlerlimited.com**, or call **(319) 885-4200**.

Authorising the TG12413 Plug-in

To authorise your copy of the TG12413 Plug-in, do the following:

1. Make sure you have installed the Plug-in as instructed in the previous section.
2. Make sure you have an iLok Smart Key.
3. Launch Pro Tools.
4. When prompted to authorise the TG12413 Plug-in, follow the instructions on-screen to "Use License Card." This involves carefully separating the small GMS chip from the larger License Card, and inserting the chip into your iLok when prompted on-screen. This transfers your license from the card to your iLok.
5. When the process is complete, you can remove the GMS chip from your iLok. (Tip: The small GMS chip can be snapped back into place in its License Card for easier storage.)

Customer Support

Technical support is available online. Please email Chandler Limited at:

support@chandlerlimited.com

Include your Online Store Invoice number, or your TG12413 Limiter Plug-In License number, as well as your telephone number.

Downloads of the latest versions of the TG12413 Limiter Plug-In software, as well as manuals and other resources, are also available at the Chandler Limited web site:

<http://www.chandlerlimited.com>

3 — Using the TG12413 Limiter Plug-in

Using the TG 12413 in sessions involves inserting either the 2005 or 1969 version of the Plug-in on a track, then adjusting parameters as needed.

To insert the TG 12413 Plug-in on a track:

1. Create an audio track, aux input, or master fader.
2. Choose TG12413 (2005) or TG12413 (1969) from the track Insert selector (see your Pro Tools guides for more information if you are unfamiliar with inserting Plug-ins).
3. To adjust the Plug-in, see the next sections.

Using the AudioSuite version involves selecting the material to process, selecting the desired TG12413 Plug-in (2005 or 1969) from the AudioSuite menu, adjusting the AudioSuite parameters, then processing. See your Pro Tools documentation for more AudioSuite instructions.

The TG12413 Plug-in supports all TDM sample rates up to 192 kHz, and can be used on mono, stereo, and multichannel tracks up to 7.1 format (use the multi-mono version for greater than stereo applications). The TG12413 also supports all standard Pro Tools Plug-in conventions, including settings files, multi-mono channel linking, and Plug-in automation.

TG12413 Plug-ins and Controls

The TG12413 Plug-in is provided in two modules (1969, and 2005). Each of the modules provides four controls and a gain meter. The two modules are shown below.



Fig. 1 — TG12413 (1969)



Fig. 2 — TG12413 (2005)



Fig. 3 — Gain Reduction Meter

Meter

The dB Gain meter shows gain reduction being applied by the current compressor or limiter settings. The meter indicators range from +10 to -10, which is identical to the vintage TG unit. In actuality it shows gain reduction ranging from 0 at the bottom to 20db at the top.

Comp/Limit

This switch selects between compress and limit function of the unit. It selects between a 2:1 compressor or as a limiter with up to 20db of limiting.



Fig. 4 — 1969 Module



Fig. 5 — 2005 Module

The limiter has a very classic pumping/breathing sound, and while the compressor is less drastic sounding it has a sound all its own. Both can be mean and nasty or more subtle depending on the Input/Hold and Recovery settings (see below). As a general rule limit might be more usable for tracking and effect type sounds, while comp might be better for mixing.

Input Controls (Hold, and Input)

One of the fundamental differences between the 1969 and 2005 TG12413 Plug-in modules is the Input or Hold control and corresponding response curves that each provide. In essence their roles are reversed- Hold (1969 version) acts as a level back off system to the Limiter while Input (2005 version) increases level into the Limiter. You could say that the 1969 version is slightly more subtle while the 2005 can limit more intensely.

Hold (TG12413 1969 Module Only)



As previously mentioned the Hold control on the 1969 module acts as a back off system to the Limiter side chain. Turning the knob clockwise will give you more gain reduction. You will notice that as the knob is turned to the left the meter rises as the threshold point of the Limiter is reduced. For example if the needle is set at -5 you will have the potential of 8db reduction.

Fig. 6 — 1969 Module

Input (TG12413 2005 Module Only)



The Input control functions as your input gain/threshold switch which simply drives the Limiter harder as you turn it up. This control emulates the 21-position switch available as a special order option on the Chandler Limited/Abbey Road Special Edition TG1 hardware. Its specially designed taper provides smoother control at lower settings. Crank this up to really hear the unit pump!

Fig. 7 — 2005 Module

Output

This is a 21-position switch set to 1 dB steps giving +/-10dB of output adjustment for level matching as well as accurate, recallable gain make-up. Use this with the bypass control to set unity output from the unit.

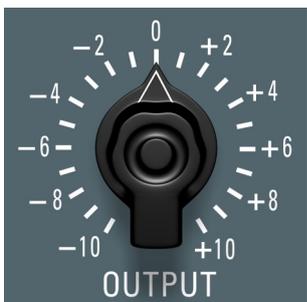


Fig. 8 — 1969 Module



Fig. 9 — 2005 Module

Recovery

This switch is marked 1-6 because the release times change when switching between compress and limit. #1 being the fastest through to #6 being the slowest. This control is important for varying the sound of the unit. As you slow compression it greatly affects the amount and sound of the gain reduction. Listen closely to the changes it makes.



Fig. 10 — 1969 Module



Fig. 11 — 2005 Module

Recovery Times by Mode (in seconds)

Settings	1	2	3	4	5	6
Limit Mode	0.05	0.1	0.25	0.5	1	2
Compress Mode	0.25	0.5	1.20	2.5	5	10
Attack Times						
Limit Mode	8 ms Charging Time					
Compress Mode	47 ms Charging Time					

Adjusting Controls

The TG12413 may be adjusted in two ways.:

- First is the standard Pro Tools “knob emulation.” Click and drag up/to the right to increase a control setting, or drag down/to the left to decrease.
- Second, click on any part of the labelling around the control knob to go instantly to a setting. This is meant to emulate the switches on an original TG Limiter.

To reset a control to its default setting:

- Option-click (if on Macintosh) or Alt-click (on Windows) the desired control.

Bypassing

To bypass the TG12413 Plug-in:

- Click the Plug-in Master Bypass switch in the top of the Plug-in window.

4 — Operational Tips

This chapter provides additional information and operational tips to help you get the most out of the Chandler Limited TG12413 Limiter.

Vintage Limiting

The TG12413 can easily produce classic over-the-top limiting sounds from your favourite vintage recordings. This is best done by boosting the Input on the 2005 or having the Hold fully clockwise on the 1969 until you get the desired effect while adjusting the output gain to match levels. Set Recovery to 1 (fastest) to give you the most bang! You can easily go from smooth vintage to the craziest sound imaginable (like a Fairchild 670 about to explode) by varying the gain in this way. You may also find it useful to boost up the Pro Tools fader to send a higher signal to the Limiter.

EQ the Limiter

We have also had great results using a nice EQ such as a Pultec, or TG Channel MKII and boosting frequencies into the limiter, causing it to clamp down hard on those areas and produce some interesting pumping sounds. 5k on a vocal or 5k and 50hz on a drum room mic will give you a lovely Beatles Sgt. Pepper flashback.

General Limiting Settings

For general use you may want to back off on the Input or Hold but you can get these sounds by setting Recovery between 2-6 when the Input is still set high. This will work for either compress or limit.

Getting Less Limiting

If you are getting more limit than you want at very low Input settings try setting the Recovery times slower. Setting the Recovery between 3-6 can be a very effective way to “get less” as it slows the attack times of the unit. You may actually see more reduction on the meter but will hear less drastic effects from the Limiter.

Drum Room Mics

A favourite way to use the TG12413 for drums is on a single room mic. Place it 5 – 10 feet from the kick pointing down slightly. You may prefer a ribbon of some sort as they are less bright and counteract the swishing you can get from the cymbals. Crank up the Input or Hold and keep the Recovery fast. It works well to squeeze it very hard and then mix the desired amount below the track.

Dual Limiter/Compressor

Running two channels in a series can be very cool! Patch them together and set the first to limit with fast Recovery, and the second to comp with slower Recovery. Adjust the Inputs for desired amount of reduction. Try this out:

Limiter Settings:

Control	Setting or Range
Input	4 to 7 or more
Output	As needed
Comp / Limit	Limit
Recovery	1 to 2

Compressor Settings:

Control	Setting or Range
Input	4 to 7
Output	As needed
Comp / Limit	Compress
Recovery	3 to 5

For more help on settings check out the included presets, created by the Abbey Road Engineers and Chandler Limited.