mcDSP

6060
Ultimate Module Collection

User Manual

McDSP 6060 Ultimate Module Collection Plug-in Manual

McDSP
McDowell Signal Processing, LLC

Special Thanks to:

• All the customers that kept asking McDSP for more modules.

from Colin and the entire McDSP team.

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Getting Started with 6060

Each McDSP plug-in is delivered inside an installer application, and uses an iLok2, iLok3, or iLok Cloud session to authorize each plug-in.

System Requirements

McDSP HD and Native plug-ins are compatible with Pro Tools, Logic X, Cubase, Nuendo, Abelton Live, MOTU Digital Performer, Studio One, Sonar, and other DAWs that support AAX, AU, VST and/or VST3 plug-in formats.

McDSP Native plug-ins support AAX Native, AU, VST, and VST3 plug-in formats. McDSP HD plug-ins additionally support the AAX DSP plug-in format, as well as AAX Native, AU, VST, and VST3 plug-in formats. McDSP plug-ins support Mac OS 10.8.5 (Mountain Lion), Mac OS 10.9.5 (Mavericks), 10.10.x (Yosemite), 10.11.x (El Capitan), 10.12.x (Sierra), 10.13.x (High Sierra), and Windows 7, 8, and 10.

McDSP plug-ins require an iLok2 or iLok3 USB Smart Key, or an iLok License Manager account and an iLok Cloud session for authorization.

McDSP AAX plug-ins require Windows 7 or later, Mac OS 10.8.5 or later, and support Pro Tools 10.3.8 or later, Pro Tools 11.1.3 or later, Pro Tools 12.x or later, and Pro Tools 2018.x or later.

McDSP AU plug-ins require Mac OS 10.8.5 or later, and support Logic X, Digital Performer, Abelton Live, and other AU compatible DAWs.

McDSP VST and VST3 plug-ins require Windows 7 or later, Mac OS 10.8.5 or later, and support Cubase 8.x or later, Cubase 9.x or later, Nuendo 6.5.x or later, and other VST and VST3 compatible DAWs.

McDSP HD plug-ins also support the VENUE S6L systems.

Please visit mcdsp.com for the latest compatibility information.

Installing the 6060 Plug-in

Installation on Mac OS X

The 6060 plug-in package includes this manual, ReadMe and Release Notes, a folder of presets for the 6060 plug-in, and the 6060 plug-in. Two copies of the 6060 Licensing Agreement are included - one in this pdf manual and a second as a separate text file. The 6060 plug-in manual requires that Adobe Acrobat reader (or similar .pdf reader) is installed.

The authorization of the 6060 plug-in is still required after running the installer, and those steps are detailed in the following sections.

Installing the 6060 plug-in and presets with the Installer:

The online version of the package has been prepared for Internet delivery, and is transmitted as a compressed file in zip format (.zip). Simply double click the zip file to unpack the installer.

- Run the 6060 plug-in Installer application to install (copy) the 6060 plug-in, presets, and documentation to a local folder on your system. The plug-in will be placed in the 'Plug-ins' folder, and the presets will be placed in the 'Plug-ins Settings' folder.

- If a previous version of the 6060 plug-in (or other HD, Native, or LE version) was already in the plug-ins folder, it will automatically be updated (or replaced) by the installer.

Installation on Windows

The 6060 plug-in package includes this manual, ReadMe and Release Notes, a folder of presets for the 6060 plug-in, and the 6060 plug-in. Two copies of the 6060 Licensing Agreement are included - one in this pdf manual and a second as a separate text file. The 6060 manual requires that Adobe Acrobat reader (or similar .pdf reader) is installed.

The authorization of the 6060 plug-in is still required after running the installer, and those steps are detailed in the following sections.

Installing the 6060 plug-in and presets with the Installer:

The 6060 plug-in package contains a Windows self extracting executable (.exe). The 6060 plug-in executable file will automatically install the plug-in and its presets on your system. Double click the file to launch the installer to install the 6060 plug-in, presets, and documentation.

Authorization of the 6060 plug-in is still required after running the installer, and those steps are detailed in the following sections. Note that after installing new versions of the PACE iLok drivers with the 6060 plug-in installer, you will be prompted by the 6060 plug-in installer to reboot your system. If you are not prompted by the installer, there is no need to reboot.

- • Run the 6060 plug-in Installer application to install the 6060 plug-in, presets, and documentation to a local folder on your system. The plug-in will be placed in the 'Plug-ins' folder, and the presets will be placed in the 'Plug-ins Settings' folder.

- • If a previous version of the 6060 plug-in (or other HD, Native, or LE version) was already in the plug-ins folder, it will automatically be updated (or replaced) by the installer.

Installation on VENUE S6L Systems

The 6060 plug-in package for VENUE S6L systems includes presets for the 6060 plug-in. The 6060 Licensing Agreement is displayed when installing the product on an S6L. The pdf manual can be obtained by running the Mac OS X or Windows version of the 6060 Pro Tools plug- in installer on any available computer.

The VENUE compatible installer will automatically install the 6060 plug-in and its presets on your system. The authorization of the 6060 plug-in is still required after running the installer, and those steps are detailed in the following sections.

Note that only McDSP HD plug-ins support the VENUE S6L systems.

Installing the 6060 plug-in and presets on VENUE with the 'HD Disk':

The installer for all McDSP VENUE compatible plug-ins is available at the McDSP website (mcdsp.com). Once located and downloaded, the installer must be copied to a USB flash drive in order to run the installers on the VENUE system. For convenience, all McDSP VENUE compatible plug-ins are located in the same downloadable zip file, so only one file needs to be copied onto a USB flash drive to install all VENUE compatible McDSP products.

- Unzip the downloaded file and locate the folder named "AAX Plug-Ins" inside the unpacked folder.

- Copy this folder and its contents to an MS-DOS (FAT32) formatted USB flash drive.

- Once you have copied this folder, you should see it at the root level of the USB flash drive (i.e. "D:\AAX Plug-ins"). Important: If the "AAX Plug-ins" folder is not located at the root level of the USB flash drive or has been renamed, the VENUE console may not properly recognize the installer.

Once the USB flash drive has the "AAX Plug-ins" folder at its root level, continue to the next steps below.

- Insert the USB flash drive into an available USB port of the VENUE S6L system.

- Ensure your system is in 'CONFIG' mode, you cannot install plug-ins in 'SHOW' mode.

- Navigate to the 'OPTIONS' page and then select the 'PLUG-INS' tab.

- You should now see the all the McDSP VENUE compatible plug-ins available on the left hand side.

- Select the 6060 plug-in and select 'INSTALL.'

- If a previous version of the 6060 plug-in was already installed, it will be updated by the installer.

- To authorize, insert an iLok2 or iLok3 containing the appropriate license into your VENUE S6L console. Note McDSP plug-ins running on an S6L may not be authorized from an iLok Cloud session.

Note that after installing new versions of the PACE iLok drivers with the 6060 plug-in installer, you will need to reboot your system. You will not be prompted to reboot, and if you don't you may see an error message saying "TPkd driver required, and a reboot. Please reboot or reinstall the software.' If you see this message, simply reboot the console and try again.

Authorizing your McDSP Plug-ins

McDSP plug-ins require an iLok2 or iLok3 USB smart key, or an iLok Cloud session, to purchase or upgrade McDSP plug-ins. Management of authorizations (licenses) are handled via the iLok License Manager software application. Both the iLok License Manager software and iLok3 USB smart key are available at ilok.com. Additional information about the iLok License Manager is available at ilok.com.

Authorizing with the iLok License Manager

To use your McDSP plug-ins, you will first need to download an authorization license for your product. Visit iLok.com and download the latest version of the iLok License Manager. Please note that the iLok License Manager requires:

- • Mac OS X 10.5.8 and above (Intel only)

- • Windows 32-bit and 64-bit Windows XP (SP2) and above

- • An iLok account

After you've downloaded and installed the iLok License Manager, make sure your iLok is plugged into the USB port of your computer and login.

Demos

All McDSP plug-ins can be demoed immediately without any iLok USB smart key.   Even if the user does not have an iLok account, a McDSP plug-in will guide the user to create an iLok account and will automatically deposit a demo authorization into the newly created account.

Redeeming License Codes

Once logged in, click on the upper right
section of the iLok License Manager
and choose the button for 'Redeem an
Activation Code'. Here you can enter the
activation code. Once it is redeemed,
drag this license and drop it on the iLok
of your choosing to activate it. Once the
activation is complete, run the McDSP
installer corresponding to the activated
license. Note McDSP HD licenses
authorize HD plug-ins, and McDSP Native
licenses authorize Native plug-ins.
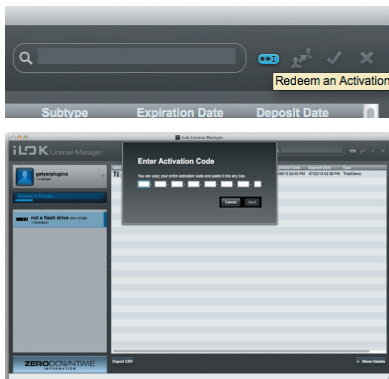
Registering Your McDSP Plug-in

If you purchased a McDSP plug-in or McDSP plug-in bundle electronically from
mcdsp.com, your purchase is automatically registered with McDSP.

If you purchased a McDSP plug-in or McDSP plug-in bundle electronically from
an authorized McDSP dealer, your iLok.com account is used to confirm your
purchase should you wish to upgrade at a later time.

Using Your McDSP Plug-ins

Starting a McDSP Plug-in

Follow the installation, authorization, and registration instructions above. Launch your DAW host, and the McDSP plug-in and its presets are ready for use. Refer to your DAW User Manual for details on general plug-in operation.

Exiting a McDSP Plug-in

A McDSP plug-in is exited by closing the plug-in window, or de-instantiating the plug-in. Your DAW host sessions will save instantiated plug-in configurations and their settings. Refer to your DAW User Manual for details on general plug-in operation.

6060 Ultimate Module Collection

The 6060 Ultimate Module Collection contains the largest collection of processing options of any module-based plug-in available. The 6060 includes over 30 unique modules for EQ, compression, saturation, distortion, specialized filtering, dynamic range expansion, gating, and more. Custom modules include bass optimized biasing for the larger than life low end, transformer-based tone shaping circuits for high end shine, tape simulation, de-essing and new EQ and compression designs. Additional modules are already in the works.

The 6060 allows up to six modules to be operated at once. Modules can be arranged in any order and swapped on the fly using the module selector panel, or from the popup menu in each module. Any combination of modules can even be split into two separate signal paths for some serious parallel processing.

The 6060 also includes updated compression algorithms not available in the 6050 Ultimate Channel Strip or the original 6030 Ultimate Compressor. Improvements include feedback and feedforward processing, and the rare option of negative compression on a few select modules.

The 6060 is indeed, the ultimate module collection.

Feature List:

- Largest collection of processing options of any module-based plug-in
- Easy drag and drop, on the fly module auditioning
- Split Mode operation for two separate parallel signal paths
- Analog Saturation Modeling
- Double precision processing
- Ultra low latency

The Quick Start Tour: The 6060 Plug-in

Start the DAW host and instantiate the 6060 plug-in

- Launch the DAW host and open a session.

- Verify the Display-> Mix Window Shows->Inserts View option is checked.

- In one of the inserts of a stereo master fader, select the 6060 plug-in. Note the 6060 plug-ins will operate on master or regular audio tracks in mono or stereo versions.

- If the insert selection does not show the 6060 plug-in, verify that the 6060 plug-in has been installed correctly.

- For more information on starting your DAW host and working with plug-ins, see the Reference Guide provided by your preferred DAW.

6060 Overview

The 6060 is a massive collection of processing options delivered in module format. There are over 30 modules with the initial release of the 6060, and more are planned. Up to six modules can be used at once, in any combination or order, and/or split off into two separate signal paths for two discrete signal paths that can be mixed together at the final output.

Module groups are equalization, compression, and 'more' - where 'more' means expanders, gates, saturations, and loads of other specialized tools.

An input and output section allow the user to calibrate input and output levels. Each module may be individually enabled, and there are side chain processing options for many of the modules.

The up to six modules can also be combined split using the Split Input feature. By simply selecting the "I" button in any module, all modules to the left of that module become path A and the others become path B. Two new knobs appear just above the main output and output meters to allow mixing of the A and B output levels before being processing by the final output.

Controls

Module Selector Section

Modules in the 6060 can be quickly auditioned (on the fly) from the Module Selector section. There are three groups of modules - EQ, COMP, and MORE. Shown under the EQ, COMP, and MORE buttons is an Xpander Slot for additional module groups.
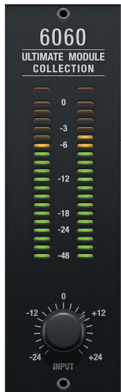
Input Section

The incoming audio is metered in this section (post input gain) before being sent to the 6060 modules.

EQ Modules

The 6060 has twelve equalizer modules (so far). All have up to four bands of EQ and/or filters. Relative control values are retained when switching between modules for rapid preview of each module's sound. This design approach is also available in the 6060 compressor modules, and other similarly functioning modules (gates, expanders, etc.).

COMP (Compression) Modules

The 6060 has ten compressor modules (so far). Compression algorithms vary from the gentle to the very aggressive. The 6060 adds new features like feedback (in addition to feedforward) compression, and a negative compression mode on a few select modules.

MORE Modules

The 6060 has many other processing options including saturation modules like the S671, specialized filtering, tape machine emulations, transformer circuit modeling, bass optimized biasing, de-essing, and plenty more.
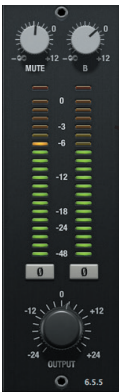
Output Section

Final output levels can be adjusted with the phase output level controls. When in Split Input mode, two additional level knobs appear about the output meters to mix the split input channels.

Displays

Module Metering

Many modules in the 6060 include metering to show signal
level compression, expansion, saturation, etc. Most meters are
in a dB scale.

Input and Output Metering

The 6060 has input and output metering showing
signal levels before and after all module processing has
occurred. Signal levels shown in these meters are directly
affected by the Input and Output controls.

General Information

To adjust any of the 6060 controls the user can:

- Hold the <Command> key while dragging the slider for fine control, or

- Click on the text box to highlight and edit the numeric value to get precise control (if a value outside the valid range is input, the control will default to the nearest allowed value when enter is hit) and hit <Enter>, or

- Click on the text box to highlight the numeric value and then use the arrow keys to increase or decrease the numeric value, or

- Use the <Option> key to bring all the controls to their default values, or

- Use hardware controller surfaces supported by your DAW host such as the Avid S6, Mackie HUI, Digidesign's ICON™, ProControl™ and Control 24.

Control Linking

There is no control linking available in the 6060 at this time.

Automation

All 6060 controls are completely automatable. See your DAW User Manual for automating plug-ins section.

Presets: Using the Presets and Making Your Own

The 6060 preset library demonstrates the wide range of applications the 6060 can be used. No preset will suit every application, and they have been provided as a guide for the user, and will hopefully inspire new ideas and ways to use this sophisticated plug-in.

Refer to your DAW User Manual for accessing and saving plug-in presets.

Using the 6060

The 6060 Ultimate Module Collection has plenty of processing options. The following sections cover basic operations, provide more in depth descriptions of some of the features, and outline some of the applications of the 6060 plug-in.

Basics

The 6060 has three module groups (so far), they are EQ, Compression, and More. While each module has a unique tone and/or function, the modules retain a common set of controls so different EQ, Compression, and 'More' modules can be auditioned on the fly during playback while relative settings are unchanged.

EQ

The 6060 has a dozen custom EQ and filter modules. McDSP's founding in 1998 started with an equalizer plug-in called FilterBank. Over the last two decades McDSP has developed its tone shaping techniques even further and some of the results can be found in the 6060 EQ modules. Each module is described briefly below.

Compression

The compressors in the 6060 module pull from over two decades of McDSP engineering experience. Some modules are roughly based on industry classics, while others are new designs. Unique features are added where possible, including feedforward and feedback compression modes, and a switchable negative compression mode in select modules.

More

The 6060 isn't the largest collection of module-based processing options by having 'less'! Additional modules include expanders, gates, distortion/saturation algorithms, de-essing, specialty tone shapers, and tape machine emulations. And that's just in the first release.

A Closer Look - EQ Modules

E671

Fairchild made not only great compressor/limiters, they also put out a few program equalizers. The Fairchild 664, a two band EQ, served as the basis for the E670 design. Gentle low and high shelving EQ, complimented by a mid band parametric, give the E670 a smooth sound, but the three bands (each with its own gain and frequency control) provide flexibility expected in the modern studio. Suitable for subtle adjustments in any mixing situation.

Moo Q

All tube designs are known for a warm tone with tons of headroom. The Moo Q delivers these qualities and more in a three band package.

iQ

The only two-band equalizer in the 6060 collection, the iQ is surprisingly adept at fine tuning mixes in any music genre. Tracks needing some low end 'glow' or high end 'sheen' can benefit from use of the iQ module.

E300/E301

While there may be no electro-optical attenuation in these equalizers, McDSP wanted to have equalizer modules that complimented the Opto-C/L compressor modules in the 6060 Ultimate Module Collection plug-in. The Opto-C/L modules are good general purpose compressors, with the Opto-L module operating more like a vintage limiter. In that spirit, the E300/301 modules are very utilitarian as well. The E300 and E301 three-band modules have the same frequency and gain ranges, but the E301 is a tad narrower in bandwidth, especially at higher gain settings.

British-E

McDSP's own FilterBank plug-in, originally released in 1998, harnessed the fundamental design characteristics of the Neve line of equalizers, most notably the 1069, 1073 and 1081, with its unique Peak, Slope, and Dip controls. The British E module uses this same FilterBank technology to create an amalgamation of great Neve equalizers. The classic hpf, low shelf, parametric, high shelf combination makes the British E module useful for most mixing situations.

EZ Q

The folks at dbx did not release any parametric equalizers to match their classic compressor product line. But if they did, here at McDSP we think it would have sounded like the EZ Q. Using a high pass filter to crave out the rumble, plus capable low and high shelfs, and a fairly flexible parametric, the EZ Q gets the job done.

EQ'76

This 6060 module draws from the UREI 545 parametric
equalizer. The EQ'76 has four bands of paramtric equalization
with a slight Q-gain dependency. The EQ'76 design is close
to that of the E300/301 modules, but using a different set
of frequency ranges and a more modern gain-dependent
bandwidth design.

FRG EEE

What else can compliment a compressor nicknamed 'The Frog'
(FRG444 from the 6030 Ultimate Compressor plug-in) than an
equalizer with a name like FRG EEE (pronounced 'froggy').
Two parametrics bounded by a high and low shelf pair, the
FRG EEE is a capable equalizer, not unlike what is seen in
modern channel strips in analog mixing consoles.

E357

The E357 is a 3-band EQ meant to work in tandem with the
D357 compressor. The slopes are steeper than most other EQ
modules, and have a bit of character (like the D357). Use with
caution.

MEF 1

The Mid Emphasis Filter (MEF) does more than just cut out some of the low and high frequency content of a track. The Emphasis control brings out what is left between the two filter bands, helping tracks stand out without competing with each other.

E404

A re-issue of the classic FilterBank E4 module from 1999, the E404 offers up the same high pass filter, low shelf, parametric, and high shelf EQ that made FilterBank an award-winning plug-in.

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A Closer Look - Compression Modules

C671

The C671 module is a variation of a Fairchild 670, with slightly faster signal tracking to accommodate modern production styles, and yet still imparts a 'warmth' into the audio output.   The McDSP C671 is sonically identical to the original C670 module from the 6030 Ultimate Compressor plug-in, but includes its own makeup gain, as do all the other 6060 compression modules. For this reason, all the compression module name enumerations are increased by '1' to note the addition of the makeup gain in each module.

MT2

The Moo Tube module emulates an all tube design with a few unique twists. Mid range sensitivity has been modified by McDSP engineering, attack and recovery times are gentle yet usable for many applications, and the output frequency response is variable based on the amount of compression.

iC2

The iComp module is an all original McDSP design. Attack and release times are not available on this module, and are instead automatically updated based on user selected threshold and ratio control values.

Opto-C3/Opto-L3

The Opto-C3 and Opto-L3 modules use an electro-optical attenuation circuit model for compression (Opto-C) or limiter (Opto-L) applications. The use of an electro-optical circuit causes the dynamic compression to 'back off' after a certain amount of dB reduction is achieved. This feature is sometimes referred to as a 'dog tail compression effect'. Both the Opto-C3 and Opto-L3 modules feature a feedback compression (or limiter) mode in which the compressor (or limiter) output is the key signal. As more gain is applied, the compression amounts also increase, creating a convenient way to audition more compression at roughly similar audio levels. The addition of the feedback mode in several of the compression modules is one of the many new features of the 6060 Ultimate Module Collection plug-in.

BC-23

Based on a more 'traditional' English design, the British C-23 (BC-23 for short) module offers control for threshold, ratio, attack, and recovery. Internal circuit smarts help prevent unwanted distortion, even at extreme compression settings (low threshold, fast attack and release). As found in several of the compression modules in the 6060, there is also a feedback compression mode.

Over EZ3

The Over EZ3 module incorporates a smooth knee response with a flexible control configuration including user selectable threshold, ratio, attack, and release. New additions in this module include the feedback compression mode, and the rare and 'careful how you use it' negative compression mode.

When the negative compression mode is enabled, the LOWEST compression ratio is infinity to 1. As the compression ratio control is increased, the actual compression ratio DECREASES (-100:1, -10:1, -2:1) towards a final compression value of -1 to 1. At this maximum setting, for every 1 dB of signal level increase, there is a 1 dB REDUCTION in output level. Any amount of negative compression causes pumping and breathing in output levels, and when used with fast attack and release times, creates plenty of signal distortion. Negative compression is a feature to be used carefully.

SST'78

The SST'78 module is a solid-state circuit model with a McDSP designed key circuit. For the curious, SST does not stand for Super Sonic Transport. The SST'78 features feedforward and feedback compression modes, as well as a negative compression mode. Because the SST'78 is capable of very fast attack and release times, caution is advised when engaging its negative compression circuit.

FRG446

The FRG446 module, commonly referred to as 'The Frog' by McDSP engineering staff, uses an moderately aggressive compression design to quickly respond to audio input. As with other 6060 compression modules, feedback (and feedforward) compression modes are offered, as is the dangerous negative compression mode.

D359

The D359 module is the most aggressive compressor in the 6060 Ultimate Module Collection plug-in. An LED style GR meter is also used to show as much dynamic range control response as possible.   Feedback (and feedforward) compression modes are offered, as is the (did we mention dangerous?) negative compression mode.

A Closer Look - More Modules

EZG

Inspired by noise gate units such as the dbx 904, 363x, and 463x, the EZ G is a great complement to the dynamics Over EZ compressor. A set of adjustable side chain high pass and low pass filters make the EZ G a versatile noise gate.

iX

The iX downward expander provides as much signal rejection as the EZ G, but as an expander also offers a ratio control to adjust the transition, or slope, between the unaffected and expanded signals.

FRGX

Upwards and downwards expansion is what the FRG X is all about. Up to 24 dB of signal cut or boost is available, along with a ratio control. Adjustable side chain filtering is included.

S671

Tracks needing a bit of grit will benefit from a touch up from the S671 saturation module. A Tone control is provided to tailor the 'edge' added by the S671 to a variety of applications.

Moo-D

If the analog saturation from the S671 is not the right tone tweak, then the creamy tube overdrive of the Moo-D module may be a better choice. Often a better choice for mixes than for individual tracks.

D-100

In-your-face distortion is what the D-100 module is for. When tracks need to get 'nasty' the D-100 is a go-to choice.

SOS

The SOS (Same Old SSSSS) module is a finely tuned de-esser. The module name is also a nod to SOS Magazine reviewer Sam Inglis' request for a de-esser. I guess SOS could also stand for "De-SSS for Sam?

The SOS module also offers a Low Cut mode to reduce plosives and other low-end noise common in vocal and dialog tracks. The SOS HF+ mode puts more de-essing sensitivity into frequencies approximately 1 octave above the selected de-essing frequency.

BOB

The Bass Optimized Bias module is designed for making low rumble really rumble. Over 24 dB of low end boost is available at the selected frequency. Signal levels below the selected frequency are actually reduced, so that the boosted low end is better focused. A Squash control can provide some frequency selective compression near the boosted low end frequency, at a selectable recovery rate. Two bias modes offer additional tone flexibility.

TAPE

The TAPE module builds on the famous (or infamous?) McDSP Analog Channel AC202 module, but with a new design for emulating tape compression and playback response. Tape head bump and roll off are user selectable, as is the repro-head type (Modern or Vintage). Tape formulations are based on the Quantegy GP9 and Ampex 456. Tape compression is largely controlled by signal level going into the TAPE module input, however there is also user selectable tape compression via the 'Comp' control. Overall tape compression amount is displayed in dB.

SHINE

Although the idea of artificial intelligence (AI) is relatively new, the use of an AI-based computer model to synthesize new algorithms has been around for a long time. The SHINE module uses such an AI based approach to approximate some McDSP engineered frequency curves.

The AI topology used in the SHINE module is derived from the transfer function of a transformer. But instead of simply trying to reproduce the incoming signal accurately at the output (ie transform it), McDSP engineering applied some tone bending savvy and came up with 2 modes and 2 lift curves per mode for some interesting high-shelf-like polish for incoming audio signals … aka 'Shine'!!

GC-1

Gate and Compressor are often combined, so why not put both into a single module? Lo the GC-1 is born!

Use the Gate section to remove room tone or unwanted background noise. There is up to 48 dB of rejection provided by the Range control, and an extra fast response characteristic can be enabled with the FAST button. There is also a preset hold time enable by the HOLD button.

The Comp section takes the output of the Gate and applies some dynamic range control. The compressor in the GC-1 is the only compressor that offers an Auto attack/release mode.

The GC-1 is great for a snare or kick that has too much room tone but also needs to be squashed and then turned up. The GC-1 is also suitable for vocals, and plenty of other acoustic instruments where you don't really want to hear all of what has been recorded!

PDQ

The PDQ module is a specialized EQ circuit that offers a boost (Peak) and cut (Dip) at a selected frequency. This Pultec-like operation has a sound all its own, and can take the user in another tone direction that a standard EQ would not. The 'WIDE' mode for each band will displace the boost (Peak) and cut (Dip) gains further from each other. Also note the default values for the PDQ gains is +/- 6 dB, implying they were intended to be working simultaneously. But by rotating the Peak or Dip knob fully to the left, their effect on the gain response of the EQ is minimized.

A Closer Look at the 6060 Plug-in

The 6060 Ultimate Module Collection has additional features to better manage its module and processing options. These features are explained in the following sections.

Module Section

There are two methods for selecting a module in any of the six available module slots - the Module Selector panel at the far left of the 6060 user interface, and the upper right hand corner of any module.

The Module Selector panel shows the three groups of modules in the 6060 - EQ, COMP, and MORE. As each group button is pressed, the list of available modules below is updated. Clicking any one of these module buttons will immediately update the module being used. To control which module is updated, there are six orange Module Target buttons across the top of the Module Selector panel numbered 1 through 6. These indicate which module is going to be updated when selecting one of the module buttons. As module controls are updated the Module Target buttons tracks the most recently adjusted module.

Another way to update the selected module is to click the module name in the upper right hand corner of the user interface. A popup menu will appear showing all the available modules.

Module Processing Order

The 6060 modules can be placed in any order by simply clicking and dragging a module to a new location. Other modules will be moved accordingly.   The enable button located in the lower left hand corner of each module shows the module number (1, 2, 3, 4, 5, 6) which corresponds to the Module Target button on the far upper left of the user interface.

Module processing starts on the left hand side of the user interface at the input section, and then progresses left to right, until reaching the output section.

Split Input Mode

Any combination of the 6060 modules can be split into two separate signal paths and mixed together at independent levels.

The Split Input Mode can be enabled from the yellow "I" button located in the lower left corner of each module. Once pressed, modules to the left are assigned channel "A", and modules to the right are assigned to channel "B". The channel assignment is shown by the an "A" or "B" appearing in place of the yellow Split Input "I" button on each module, except for the module where the split input point was selected.

Split Input Mode can be disabled by pressing the yellow "I" button on the module it was originally enabled on. Or a new split input point can be selected by pressing on of the "A" or "B" buttons on another module.

The two Split Input channels "A" and "B" can be adjusted from two new knobs that appear just above the output meters. These knobs operate more like faders as their control range goes from -inf to +12 dB, with a default value of 0 dB. Either Split Input channel can be muted by pressing the "A" or "B" label underneath the Split Input level knobs, and their label will change to "MUTE". Pressing this area again will toggle the mute behavior off.   The mute function is a great way to audition a Split Input channel individually.

Key Signal Options

Some 6060 modules can select a side chain signal as the key signal to trigger a compressor (or other module functionality).   There are two buttons on the lower right corner of modules that support side chain input. The first button, with a 'key' symbol, will enable side chain input. The second button, with a 'speaker' symbol, will allow the user to audition the side chain input.

Note the user must select a valid side chain input for the 6060 plug-in. If a a valid side chain input is not selected, the side chain input signal is silent, and will therefore not cause the compressor (or other module functionality) to be triggered.

6060 Applications

The 6060 Ultimate Module Collection offers the largest number of module-based processing options of any plug-in on the market.   To that end, the number of applications are many. A few are listed in the sections below, and hopefully serve as a basis for coming up with many more uses.

Parallel Processing

For fans of combining two versions of the same track in their mix (parallel processing), the 6060 offers some great choices.

Putting the 6060 into Split Input mode, the user can choose one combination of compression and EQ in channel "A", and another combination in channel "B". For example, a very mid-range heavy, aggressively compressed (and even distorted) sound could be created in "A", and a more full-range, gently compressed (maybe some tape compression with the TAPE module) in "B".

The same approach could be applied to vocals, dialog, and plenty of other applications. The Split Input mix controls are even automatable - useful for creating a finely tuned mix.

Multi-Stage Processing

The six module slots can be useful for adding a small amount of compression in several stages.   Some of the gentler compression modules like the C671 or MT2 can be used in series for a very gradual compression effect.

Another variation is to place an aggressive dynamic range processing module (GC-1, FRG446, D359) first in the signal chain to address some of the signal spikes at higher levels (say spikes above -6 dB). After taking care of these signal spikes, then apply the series of compressors.   In this approach, the limiter-like action as the first stage prevents the next stages from being triggered by these spikes.

Drums

The large number of equalizers, compressors, and signal saturators, plus the Split Input mode of the 6060, offer a great number of unique processing approaches.

Starting with compression, because the 6060 lets you swap modules on the fly, each compressor 'tone' can be auditioned quickly. Once a suitable compressor is found, then the same approach can be applied to selecting an equalizer. If the user is unsure if compression should be before or after the EQ, the module order can be adjusted easily (and during playback).

Some of the special processing modules (BOB, TAPE, S671, Shine) are useful in adjusting the overall sound post compression and EQ.

The SST'78, FRG446, and D359 offer some of the most aggressive compression, but also offer a wide range of attack and release times, and are suitable for all kinds of drumming styles.

Vocals

One of the most challenging 'instruments' to record, the human voice confounds recording engineers everyday.   Fortunately the 6060 modules offer plenty of options to solve a variety of problems.

The use of multi-stage or parallel processing as described in previous sections can be very useful when mixing vocals or dialog.

The Shine module is a new approach to boosting high end signal content, and can be very useful in getting sibilance details to better stand out.

The GC-1 module is a great combination of a gate and a compressor, and useful for removing unwanted low level signal while compressing other signal spikes.

The SOS module is a powerful de-esser and take the edge off annoying 'sss' and 'tthh' sounds. It even includes a low cut filter to reduce (or remove) low frequency plosives.

Guitar, Keys, Beats, and More

Adjusting tones of guitars, keys and other instruments can be a sophisticated combination of many processors.   With the 6060 Ultimate Module Collection, you've got some options.

The C671 is good for controlling some of the dynamics in guitars, and the gentle EQ curves of the E671 and iQ can give just the right amount of timbre tweak.

The Shine module has four different combinations of lifts and modes which can be very useful in bringing some, well, 'shine' to the top end of a piano, or any organ, synth, or other keyboard track.

Making beats? Try the Bass Optimized Bias (BOB) module to get some serious low end going. The negative compression mode of some of the updated compressor modules can generate plenty of distortion and other dynamic twists.

Need more? Check out the TAPE module - plenty of folks recorded to tape 'back in the day', and its easy to check out a few classic tape machines and tape formulations. Several modules are made to work together like the E671 equalizer, C671 compressor and S671 saturator, and the MooTube, MT2, and Moo-D modules. Many other EQ and compressor modules are paired, like the FRGEEE and FRG446, and the EC300/EC301 and Opto-C3/L3.

6060 Plug-in Reference Guide

6060 Specifications

Parameter	Range	Function
Input and Output		
INPUT	-24 to +24 dB	Gain applied pre module processing
OUTPUT	-24 to +24 dB	Gain applied post module processing
PHASE	+/- 180 degrees	Signal polarity adjustment applied post module processing
Compressor Modules		
THRESHOLD	-48 to 0 dB	Signal level at which compression is triggered
RATIO	varies by module	Amount of compression applied as signal level exceeds compression threshold
ATTACK	varies by module	Rate at which compression starts
RELEASE (RECOVERY)	varies by module	Rate at which compression stops
MAKEUP GAIN	varies by module	Gain applied to signal post compression
FF/FB	on/off	Source of signal causing compression to trigger. Can be input (feedforward or FF), or feedback (FB), from compression output, post compression makeup gain
NEG COMP	on/off	Negative compression mode enable - causes compressor to reduce signal output as input levels increase (as opposed to keeping signal level close to threshold level)
EQ Modules		
GAIN	-12 to +12 dB	Equalizer band gain applied at specified frequency
FREQ	varies by module	Equalizer band frequency
Expander Modules		
THRESHOLD	-48 to 0 dB	Signal level (post expander HPF and LPF) at which expansion is triggered
RANGE	varies by module	Maximum amount of signal level adjustment from expansion
RATIO	varies by module	Amount of expansion applied as signal level falls below selected threshold
ATTACK	varies by module	Rate at which expansion starts

Parameter	Range	Function
RELEASE	varies by module	Rate at which expansion stops
HPF FREQ	varies by module	High Pass Filter (HPF) frequency for HPF applied to expander input
LPF FREQ	varies by module	Low Pass Filter (LPF) frequency for LPF applied to expander input
Gate Modules		
THRESHOLD	-48 to 0 dB	Signal level (post expander HPF and LPF) at which gate is opened (is otherwise closed at a level determined by Range)
RANGE	varies by module	Maximum amount of signal level adjustment from expansion
HOLD	varies by module	Amount of time gate will remain open after signal level falls below selected threshold
ATTACK	varies by module	Rate at which gate opens
RELEASE	varies by module	Rate at which gate closes
HPF FREQ	varies by module	High Pass Filter (HPF) frequency for HPF applied to gate input
LPF FREQ	varies by module	Low Pass Filter (LPF) frequency for LPF applied to gate input
Saturation Modules - S671		
SATURATION	0 to 100%	Amount of signal build up generated to produce saturation effect
TONE	-100 to 100%	Timbre adjustment to saturation characteristic
Saturation Modules - Moo-D		
DRIVE	0 to 100%	Amount of signal gain applied (pre saturation)
TONE	-100 to 100%	Timbre adjustment to saturation characteristic
LOW CUT	0 to 100%	Amount of low frequency signal content reduction
Saturation Modules - D-100		
DISTORTION	0 to 100%	Amount of signal distortion/destruction
TONE	-100 to 100%	Timbre adjustment to distortion/destruction characteristic
LOW CUT	0 to 100%	Amount of low frequency signal content reduction

Parameter	Range	Function
GC-1 Module		
GATE THR	-48 to 0 dB	Signal level at which gate is opened (is otherwise closed at a level determined by Range)
GATE RANGE	0 to 100%	Amount of signal reduction when gate is closed
HOLD	on/off	Enable a longer hold time causing gate to remain open longer after signal level falls below selected threshold
COMP THR	-48 to 0	Signal level at which compression is triggered
GAIN	-24 to +24 dB	Gain applied post compression
ATTACK	varies by module	Rate at which compression starts
RELEASE	varies by module	Rate at which compression stops
AUTIO	0 to 10	Engages automatic attack and release values that are signal dependent
SOS Module		
THR	-48 to 0 dB	Signal level at which de-essing is triggered
LO CUT	on/off	Enables removal of low frequency signals to reduce vocal or dialog plosives
RECOVER	50 to 500 msec	Rate at which de-essing stops
FAST ATTACK	on/off	Rate at which de-essing starts - when enables a faster rate is selected
RANGE	0 to 100%	Amount of de-essing applied
FREQ	1.6 to 16 kHz	Frequency at which de-essing is detected and reduced
HF+	on/off	High Frequency Plus mode to further attenuate de-essing at frequencies about selected frequency
TAPE Module		
ROLL OFF	30 to 300 Hz	Frequency near which tape playback head low frequency roll off and head bump are oriented
BUMP	0 to 100%	Amount of playback head mis-alignment
HEAD	Modern / Vintage	Type of playback head
COMP	0 to 100%	Amount of tape compression
TAPE	GP9 or 456	Type of tape formulation used is the playback head

Parameter	Range	Function
SHINE Module		
GAIN	0 to 100%	Amount of transformer warping to cause pseudo high frequency boost
MODE	Mode 1 or Mode 2	Two types of transformer models
LIFT	Lift 1 or Lift 2	Two types of transformer high frequency boost available per Mode
PDQ Module		
PEAK	0 to +12 dB	Amount of signal boost oriented around selected frequncy
DIP	0 to -12 dB	Amount of signal reduction oriented around selected frequency
FREQ 1	1.5 to 15 kHz	Frequency of peak/dip EQ band 1
FREQ 2	50 to 500 Hz	Frequency of peak/dip EQ band 2
WIDE	on/off	Orientation of peak (boost) and dip (reduction) around selected frequency

DSP Delay

McDSP DSP AAX plug-ins have an internal delay of 16 samples. This is the minimum amount of sample delay McDSP plug-ins can operate at while maintaining the current level of DSP usage.

DSP Usage

Pro Tools™ HDX hardware

The AAX DSP version of the 6060 DSP usage is shown in the table below for operation at the 48 kHz sample rate. DSP usage approximately doubles for 88.2 kHz and 96 kHz sample rates. This information can also be viewed in the Pro Tools System Usage window.

Maximum Instantiation Counts at 48kHz

Configuration	# Instances per DSP	# Total Instances per HDX card
6060 Mono	3	54
6060 Stereo	2	72

All McDSP AAX DSP plug-ins can share the same DSP with other McDSP, Avid, and third party plug-ins.

mcDSP

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