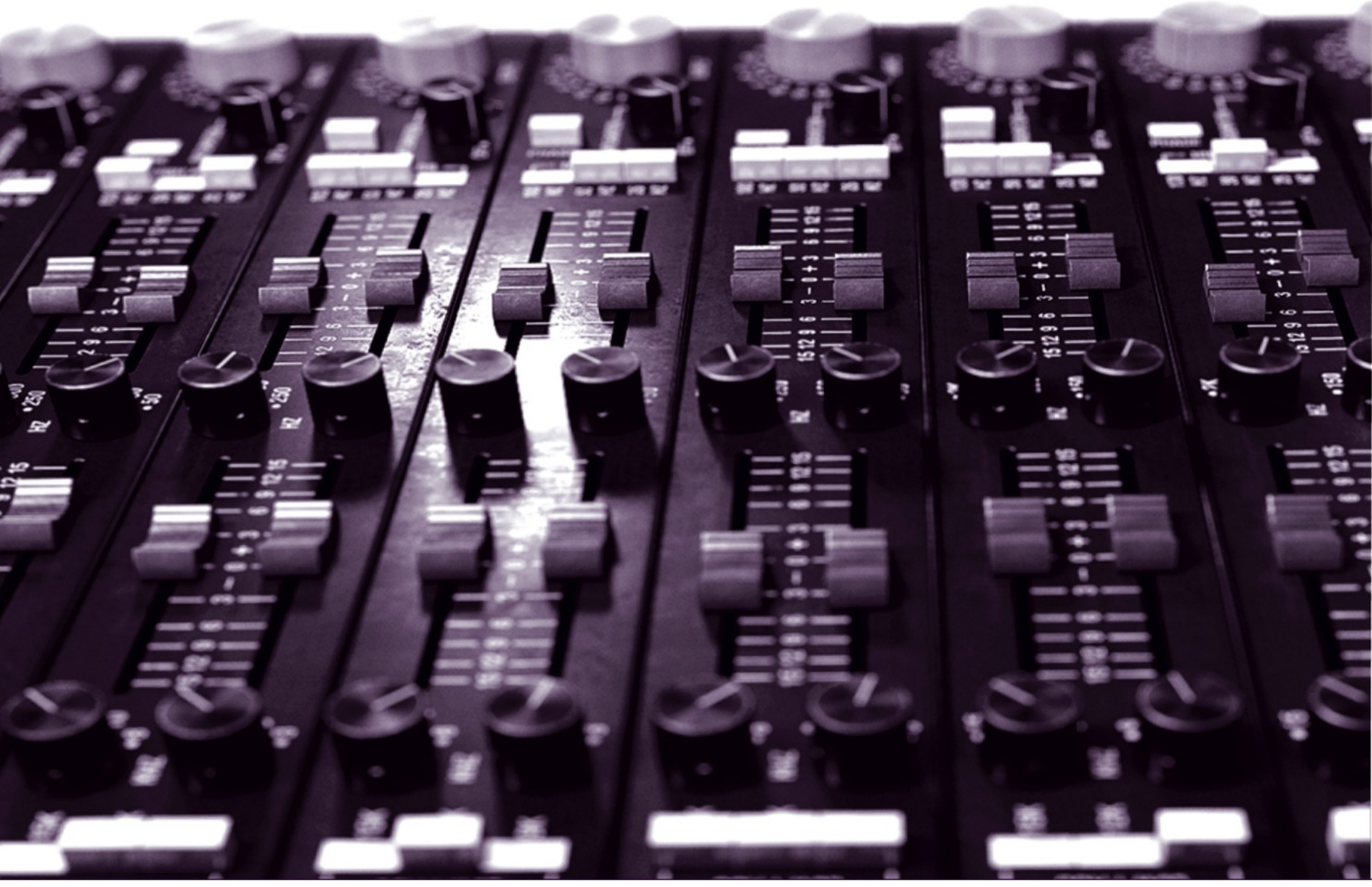
TRIDENT

FOR MAC AND WINDOWS
TDM, VENUE, VST, AU AND RTAS

SOFTUBE

A-RANGE EQUALIZER



USER'S GUIDE

Foreword by Malcolm Toft

I have evaluated the Softube Trident A-Range equaliser plug-in at my studio with some very experienced recording engineers. After exhaustive listening tests with many different instruments and vocals, I am pleased to say that we all agree this is an incredibly accurate software recreation of my original A Range design from 1971.

It exhibits all of the nuances of tone from the original, right down to the 'saturation' control which emulates the overdriven artifacts from the original when large amounts of equalisation are applied or the input is driven hard.

Well done to all the guys at Softube.

Professor Malcolm Toft
Original designer of the Trident A-Range console

Torquay, Devon, England
December 17, 2009

Table of Contents

Contact Details

If you would like to get in touch with Softube, please e-mail info@softube.com. Alternatively, you could use the phone or send an old-fashioned mail (do you remember envelopes, stamps and paper?) to:

Softube AB
S:t Larsgatan 10c
SE-582 24 Linköping
Sweden

Web: www.softube.com
E-mail: info@softube.com
Phone: +46 13 21 1623 (9 am – 5 pm CET)

Support

On the Softube website (www.softube.com) you will find answers to common questions (FAQ) and other topics that might interest you.

Support questions can be posted at http://www.softube.com, where we will help you as fast as we can!

Installation and Authorization

IF YOU BOUGHT THE PRODUCT IN A BOX you will have to register it in order to transfer the license to your iLok account:

1. Go to http://www.softube.com/register to transfer the license to your iLok account. You will need the **License Code** found in the box, your **iLok.com User ID**, and your iLok USB dongle. Follow the instructions on the web page.

IF YOU BOUGHT THE PRODUCT ONLINE and have got the confirmation e-mail, the license will already be deposited in your iLok account:

2. Make sure that you have the latest iLok drivers installed. They can be found at http://www.ilok.com.

3. Log on to http://www.ilok.com and transfer the newly received license to your physical iLok dongle.

4. Install the software from the DVD, or download the latest version from http://www.softube.com/installers.

Sometimes the DVD contains installers for all Softube products, but you will only be able to run those that you have acquired licenses for. In some cases, extra demo licenses are included when you buy a Softube product.

Introduction

The Trident™ A-Range® is a legendary piece of equipment. As only thirteen A-Range consoles were ever made, it remains a holy grail for sound engineers and producers around the world that hope to create equal works of art to those that were originally recorded on the A-Range – David Bowie's *Ziggy Stardust*, Queen, Elton John, the list goes on...

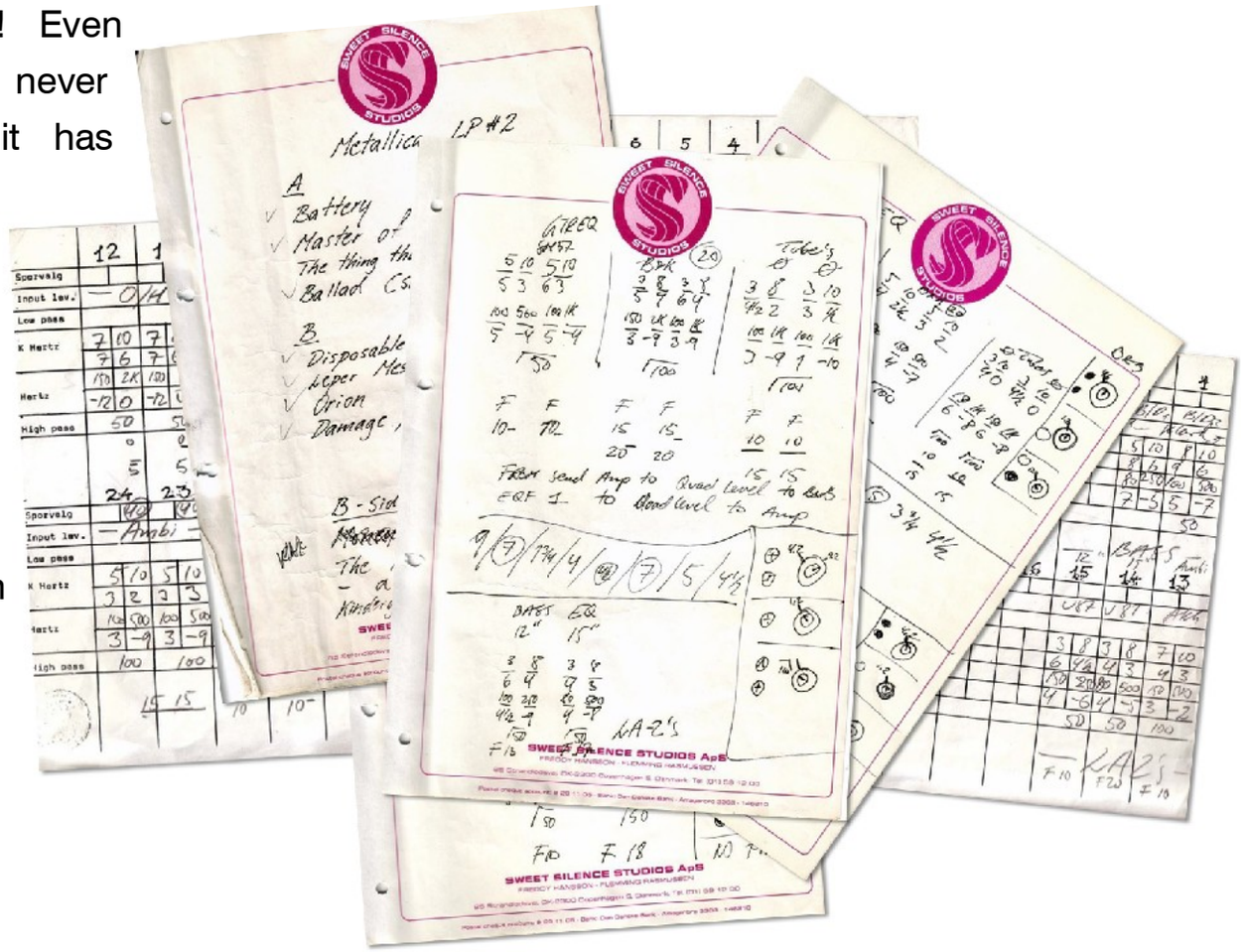
The A-Range was originally designed in the early 70's for Trident Studios in London by Malcolm Toft and Barry Porter. Toft was employed as a sound engineer at Trident Studios and when the studio needed a 24 track recording console, he started Trident Audio Developments to design and build the Trident A-Range. Other products followed and found their way to studios around the world. Toft remains active to this day, developing products under the Trident name.

The A-Range plug-in from Softube is the first and only native plug-in that has been fully endorsed by Toft and Trident Audio.

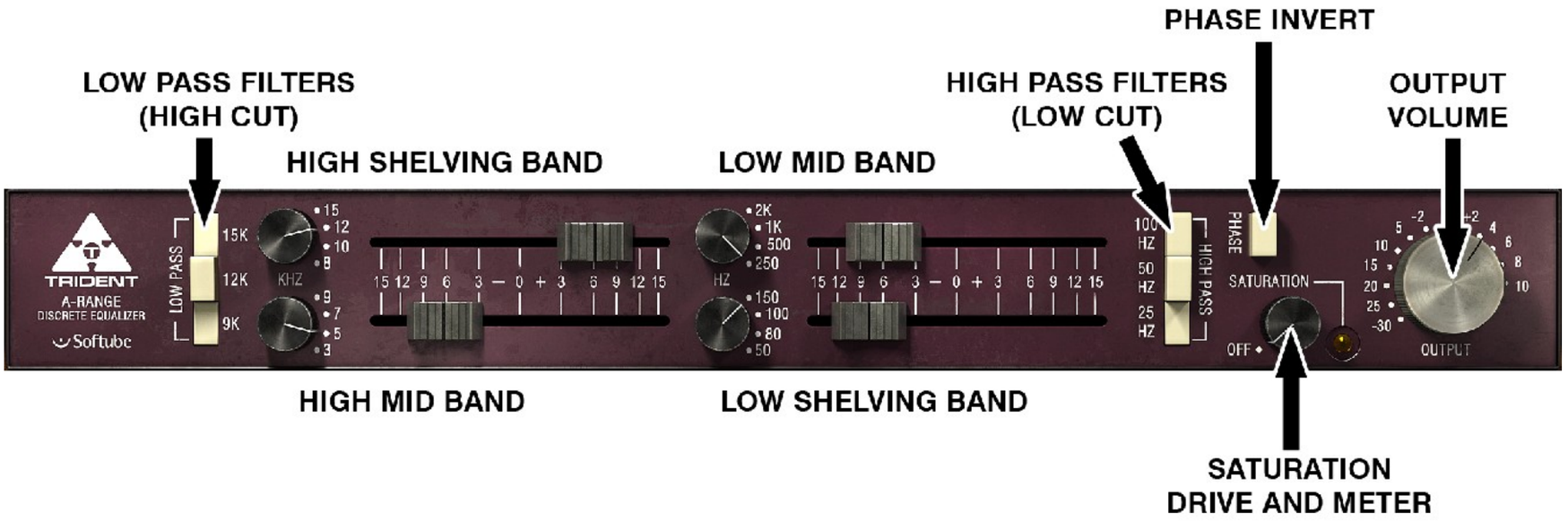
About the Trident A-Range

The plug-in version of the A-Range is modeled after a channel on one of the original 13 Trident A-Range consoles. This particular channel strip is channel number 15 from Sweet Silence Studio 'B' in Denmark and was borrowed from Danish producer Flemming Rasmussen. The A-Range console has been in Rasmussen's care for a long time and used by Flemming Rasmussen when recording albums such as Metallica's *Ride the Lightning*, *Master of Puppets* and *...And Justice for All*.

The A-Range channel features four bands of equalization and high and low pass filters, the sound of the filters are often referred to as “colorful” and “musical”. When running a hot enough signal through the original unit and boosting the bands it is possible to get it to distort, the sound is a hairy and effective saturation that is just right in some situation and just wrong in others! Even though the unit was never designed to distort, it has definitely been used this way by renowned producers and we thought it was only appropriate to stay true to the original unit and add the saturation to the plug-in as an option!



User Interface

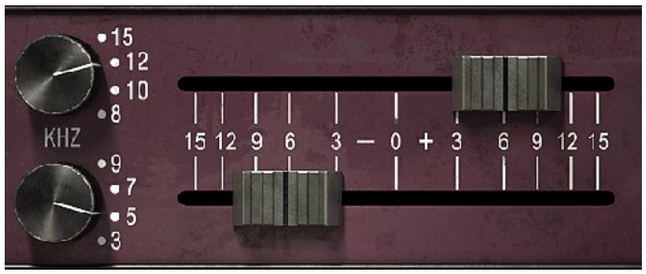


The layout of the A-Range equalizer is simple and easy. You have four different bands of equalization, with a frequency selector knob and a gain fader each. **Low** and **High Pass** filters can be activated by pressing the off-white buttons, and a handy **Phase Invert** switch is found on the right side of the panel. The **Saturation** knob engages the console saturation, and is best used as a subtle effect. If you don't wish to get saturation, just put it in the OFF position and all saturation circuits will be de-activated.

The A-Range console was actually designed to have very little distortion, but it was nevertheless possible to crank up the input volume and equalization bands to make it distort, an effect that has been of much use in lots of recordings. The actual amount of saturation depended heavily on the audio material and amplification before the console, so we added the **Saturation** knob to make things easier for you. If all bands are set to zero gain, **Saturation** on its default position (12 o'clock) and **Output Volume** on 0 dB, the A-Range plug-in will have unity gain.

Equalizer Bands

The four equalizer bands have two controls each – a "frequency selector" knob and a gain fader. The fader will boost the signal up to 15 dB by dragging the fader to the right and attenuate the signal by 15 dB by dragging it to the left.



High shelving band (top) and high mid band (bottom).

High Shelving Band

The frequency options for the **High Shelving Band** are 15 kHz, 12 kHz, 10 kHz and 8 kHz.

> *When boosted, the **High Shelving Band** gives a beautiful high-end shimmer to just about any material. Don't be afraid to try it on a master bus, as the result can be fantastic!*

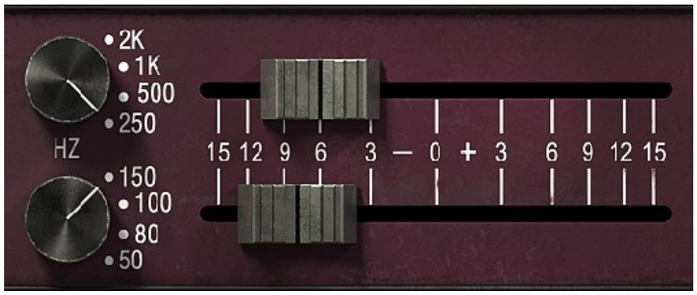
High Mid Band

The **High Mid Band** is of bell type with the following center frequencies: 9 kHz, 7 kHz, 5 kHz and 3 kHz.

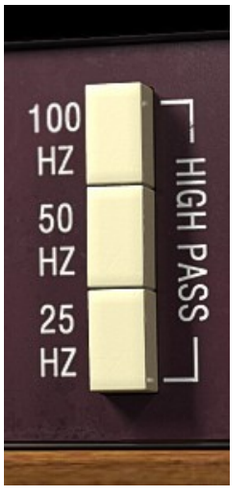
> *The bell filters interacts with each other in a rather funny way. For example, even if the gain of the **Low Mid Band** is set to zero, changing the frequency of that band will affect the frequency response of the **High Mid Band** filter significantly. The results are quite unpredictable and this is part of the reason for the unusual sound of the A-Range!*

Low Mid Band
The **Low Mid Band** is of bell type with the following center frequencies: 2 kHz, 1 kHz, 500 Hz and 250 Hz.

Low Shelving Band
The frequency options for the **Low Shelving Band** are 150 Hz, 100 Hz, 80 Hz and 50 Hz.



Low mid band (top) and the low shelving band (bottom).



Low Pass and High Pass Filters

The **Low Pass** and **High Pass** filters are controlled by three buttons respectively, which sets the cut-off frequency for the filters – 15 KHz, 12 kHz and 9 kHz for the **Low Pass** and 100 Hz, 50 Hz and 25 Hz for the **High Pass**. The cut-off characteristic is unusual and not exactly coherent but the slope is about 12 dB per octave.

*The three settings work independently and can be used in any combination which means that the more buttons you engage, the more attenuation you get. For example, pressing all three **Low Pass** buttons will actually result in a filter with an even lower cut-off frequency than 9 kHz.*

Phase Invert

The **Phase** button inverts the phase when pressed (as seen in the picture).

Saturation

The **Saturation** or distortion of the A-Range is placed after the equalizer bands and is depending on the gain settings of the bands. A louder or “hotter” signal will make the unit distort more and a weaker signal will make it distort less.

The Phase switch, Saturation knob and indicator LED and the Output Volume.

To be able to handle signals of different volumes and to make up for equalizer band settings we added a **Saturation** knob that basically is a volume compensated input gain for the saturation circuits. The LED next to the saturation knob indicates when the signal is being distorted. If you want to be sure not to add any saturation to the sound, click the “OFF” label and the saturation circuit will be bypassed.

> *You will get the best result if the saturation is used sparingly on percussive sounds, like a drum bus. Let it take care of occasional peaks, and do not run it too hot.*

Output Volume

The **Output** knob controls the output volume from the plug-in. The range of the output volume is -30 dB to 10 dB.

Key and Mouse Commands

All labels (such as the dB or frequency labels) are clickable. This allows you to easy select a setting by clicking on the wanted value. Hovering above a label will turn the mouse pointer into a pointing hand.

Figure 1: From top to bottom: Knob- and switch-changing cursor, Label cursor and the "About" box cursor.

Mouse

- UP/DOWN:

  Change a parameter, such as a knob or a switch.

- CLICK:

  Clicking on labels or activate the "About" box.

- MOUSE WHEEL *(Mac only)*:

  Use the mouse wheel to change parameters.

Keyboard Commands

Use these key commands while changing a parameter.

- FINE ADJUST:

  Command (Mac) or Control (Win)

- RESET TO DEFAULT:

  Alt (while clicking on the knob or fader).

Pro Tools Specific Keyboard Commands

- AUTOMATION CONTROL WINDOW:

  Control+Command+Alt+click (Mac) or Control-Windows-Alt-click (Windows)

- SHOW AUTOMATION TRACK:

  Control+Command+click (Mac) or Control-Windows-click (Windows)

Technical Side Notes

Mono and Stereo Operation

The TRIDENT A-RANGE plug-in is designed to work in both stereo and mono. How the different modes are selected depends on your host software. In most hosts you can select these when you select the plug-in. In other cases, inserting one the plug-in on a mono track will usually make it use the MONO mode, while selecting it on a stereo track makes it use the STEREO mode.

TDM/RTAS Stereo Operation

TDM stereo is **not** supported due to DSP limit constraints. You will need to use the "MULTI-MONO" mode instead of STEREO mode. Normal STEREO mode is however available in RTAS. If you plan to use "deck change" (online switching between RTAS and TDM), you should always use the MULTI-MONO mode instead of STEREO mode, otherwise deck change won't work.

RTAS on Pro Tools|HD

There are some specific issues to consider when using an RTAS plug-in in recording mode on a Pro Tools|HD system. First of all, an audio buffer latency is introduced in the RTAS version.

Secondly, all RTAS plug-ins are automatically bypassed in recording mode, unless an TDM plug-in is inserted on the insert slot *before* the RTAS plug-in.

Enabling the plug-in in recording mode (Pro Tools|HD 7 or higher):

- Insert a TDM plug-in (such as the "Trim" plug-in) on your track.
- Insert the Trident A-Range plug-in as RTAS on an insert slot *after* the TDM plug-in.

Please see your Pro Tools reference guide for more info.

Buying Recommendations

We always make buying recommendations in our manuals for a hardware equivalent of the plug-in. In this case, it's really simple and really hard – If you can find an A-Range channel and can afford it, get it!

This is a photo of channel 15 and 18 from one of the original Trident A consoles. These two are the ones we measured for the A-Range plug-in. A few cosmetic changes have been made to these units while at the Sweet Silence Studios: the original flip switches on the Mute button has been changed to big red switches, the gray fader handles have been changed to bright yellow, and three frequency selector knobs have also been replaced. But it has the original face plate color, a strange but beautiful aubergine style purple!

System Requirements

Supported sample rates: 44.1, 48, 88.2, 96, 176.4 and 192 kHz, in both mono and stereo.

All native versions

- Mac OS 10.4 (or higher) on a G4 or Intel CPU (or higher)
- Windows XP (or higher) on a PIII CPU (or higher)
- 512 MB RAM
- Any VST, Audio Units or RTAS (Pro Tools 7 or higher) compatible host application
- **iLok USB key and the latest iLok drivers** (download them from http://www.ilok.com)
- DVD drive or Internet access for installation

TDM and VENUE versions

- Pro Tools|HD Accel card is required
- Pro Tools|HD compatible system

Please, make sure that you always use the latest iLok driver. It is not included in the Softube installer, but can be downloaded from www.ilok.com.

Trident A-Range plug-in was made by: Niklas Odelholm – modeling, Oscar Öberg – DSP programming and modeling. Torsten Gatu – framework programming. Arvid Rosén – framework programming. Ulf Ekelöf – 3D rendering. Original hardware was designed by Malcolm Toft and Barry Porter at Trident Audio Developments. The original unit is owned by Flemming Rasmussen at Sweet Silence Studios.