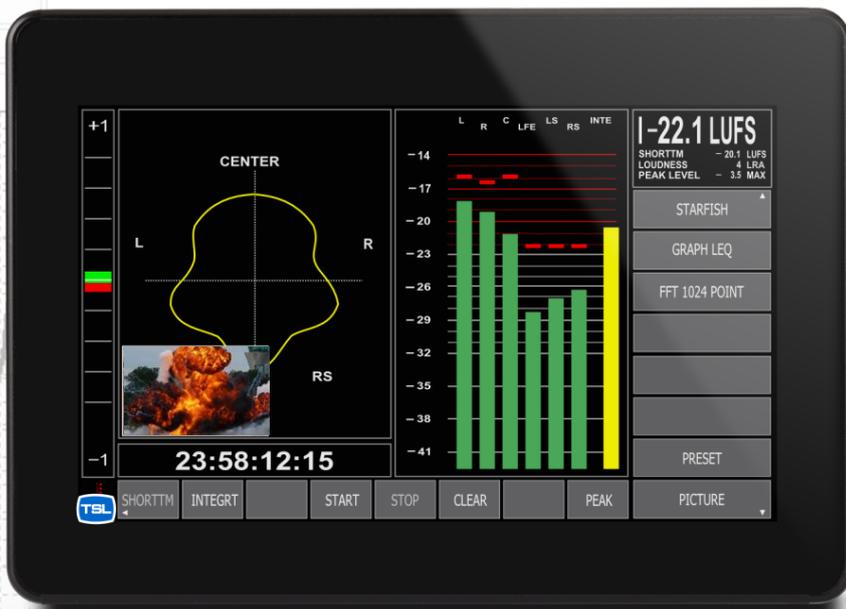# Operating Manual

PAM PiCo - Matrix II Application (PC)

Compact 'at-a-glance' Audio and Loudness Metering

PAM PiCo One

PAM PiCo Two

PAM PiCo Five

PAM PiCo Touch

Handbook 1. Issue 1

Table of contents

About this manual

This manual will provide you with a quick overview of the PICO-Matrix II Application functions.
Happy reading!

Please note: TSL Products reserve the rights to change the content of this manual at any time. The latest revision of this manual can be downloaded from: www.TSLProducts.com

Important Notes

Disclaimer

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Purpose

Any fitness for purpose legislation or other determination that may be applied in the area where this equipment is installed must take due cognizance that it is designed for use in professional broadcast, audio and video systems by appropriately trained personnel. The equipment is not intended for use in a domestic environment and regulations designed for such situations are not applicable.

PICO-Matrix II Application

About the PICO-Matrix II PC Application

The PICO-Matrix II PC application allows you to setup and alter any of the presets inside your meter, specifically focusing on routing various input sources to the correct metering destinations. Furthermore, the setup of the individual bargraph elements i.e. colours, width, role and labelling may be setup for each preset independently. Finally, PICO-Matrix allows you to both save and load setting from various meters, making back-up and clone across several devices a breeze.

Suitable for ....

The Matrix PC application is compatible with:
PICO1, PICO2, PICO5, PICO Touch
The Matrix application and use is free of charge for all of the above meters

Please make sure that you run the latest Application software in your meter before starting to use the PICO-Matrix II. Refer to the 'How to software update' section for more information on this.

System Requirements

The PICO-Matrix II application is compatible with Windows XP sp3 & Windows 7, Windows 8 & 8.1.
PICO Meter and PICO TOUCH application software released later than 18-05-2014.

Where to get a hold of the PICO Matrix Application

The Matrix application itself is free of charge and may be downloaded from [www.TSL Products.com](http://www.TSLProducts.com) at any point in time.

In order to enable the Matrix application, your PICO Meter is required to have the correct application software installed.

Connecting Your PICO Meter

Here are the basic steps to connecting your meter to the Matrix application.

1. Connect your Meter to your PC and power it up
2. Open the Matrix Application
3. Selecting and connecting to your meter

Here a few easy steps to up and running in a couple of minutes:

Connecting PICO Meter to your PC

This is as simple as connecting you meter to the appropriate computer interface (USB or Ethernet depending on your device).

Open the PICO-Matrix Application

- Start the application window.

Selecting and Connecting to your meter

- In the 'File' drop down, select 'Interface' and point to the appropriate COM port corresponding to your meter
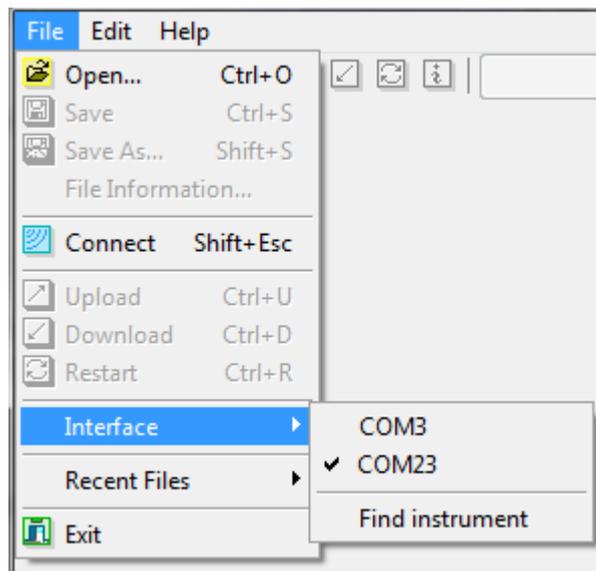
- Now select the 'Connect' point in the 'File' dropdown – you should now see the model, serial number and COM port in the lower right corner of the Matrix window-

- Hit the 'Read Preset' button in the topbar of the Matrix window

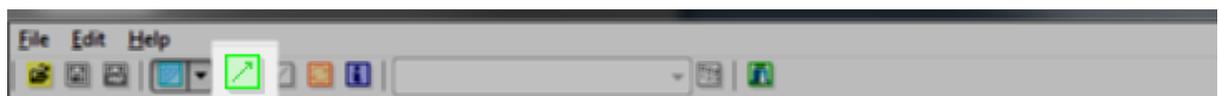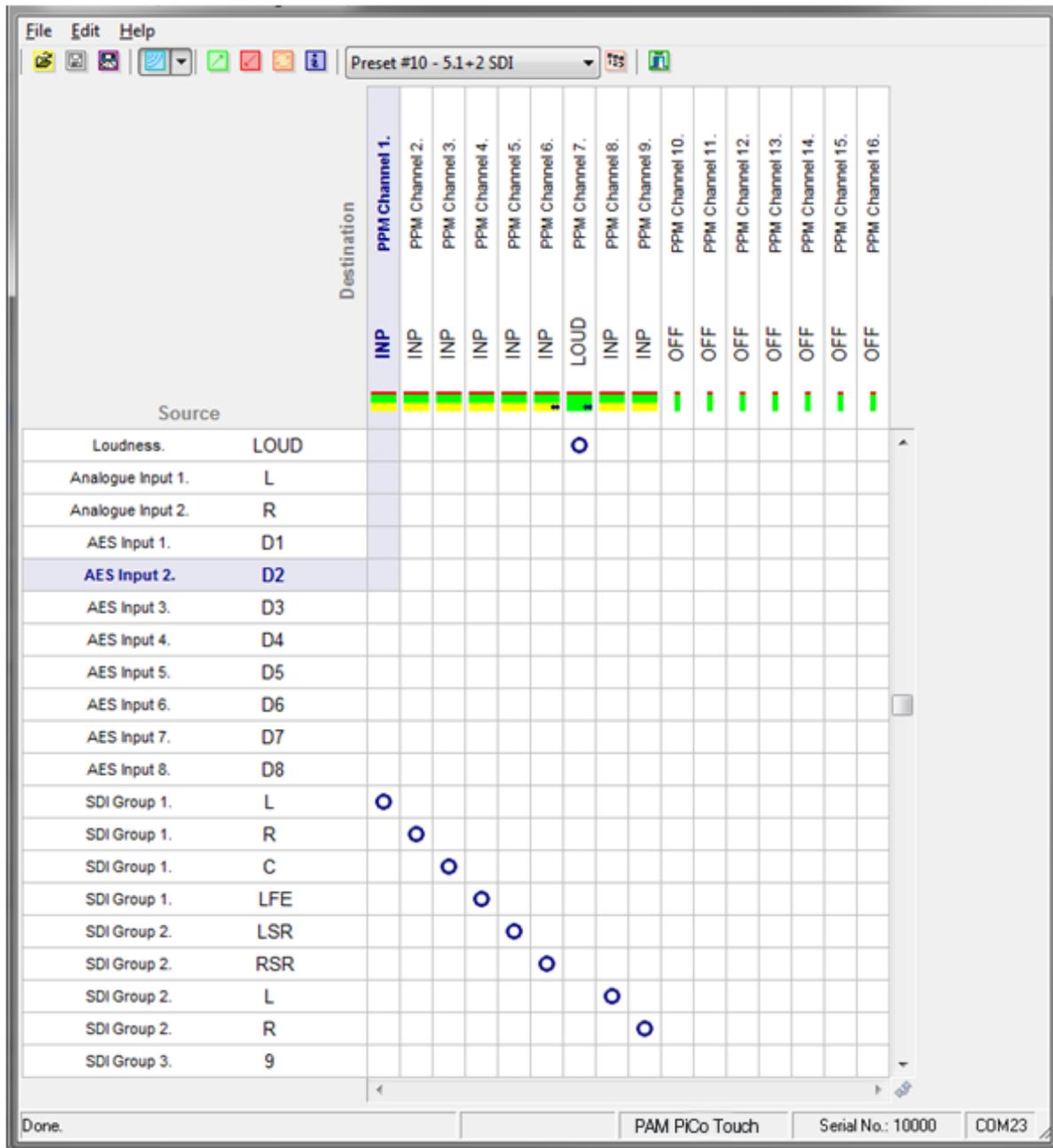- You will now see an overview of the audio source and destination routings of the current preset of your meter.


File   Edit   Help

Preset #10 - 5.1+2 SDI

Destination / Source		PPM Channel 1. INP	PPM Channel 2. INP	PPM Channel 3. INP	PPM Channel 4. INP	PPM Channel 5. INP	PPM Channel 6. INP	PPM Channel 7. LOUD	PPM Channel 8. INP	PPM Channel 9. INP	PPM Channel 10. OFF	PPM Channel 11. OFF	PPM Channel 12. OFF	PPM Channel 13. OFF	PPM Channel 14. OFF	PPM Channel 15. OFF	PPM Channel 16. OFF
Loudness.	LOUD							O									
Analogue Input 1.	L																
Analogue Input 2.	R																
AES Input 1.	D1																
AES Input 2.	D2																
AES Input 3.	D3																
AES Input 4.	D4																
AES Input 5.	D5																
AES Input 6.	D6																
AES Input 7.	D7																
AES Input 8.	D8																
SDI Group 1.	L	O															
SDI Group 1.	R		O														
SDI Group 1.	C			O													
SDI Group 1.	LFE				O												
SDI Group 2.	LSR					O											
SDI Group 2.	RSR						O										
SDI Group 2.	L							O									
SDI Group 2.	R								O								
SDI Group 3.	9																

Done.   PAM PiCo Touch   Serial No.: 10000   COM23

- *Please note that the PICO-Matrix II works 'off line' from the meter and requires data to be loaded back into the meter before taking effect. We will come back to this later in this manual.*

The Window & Functions

Window Overview

This section will provide you with a quick overview of the various buttons and information fields that you will see in the Matrix Application. Each of the different functions and buttons are described in further detail below.
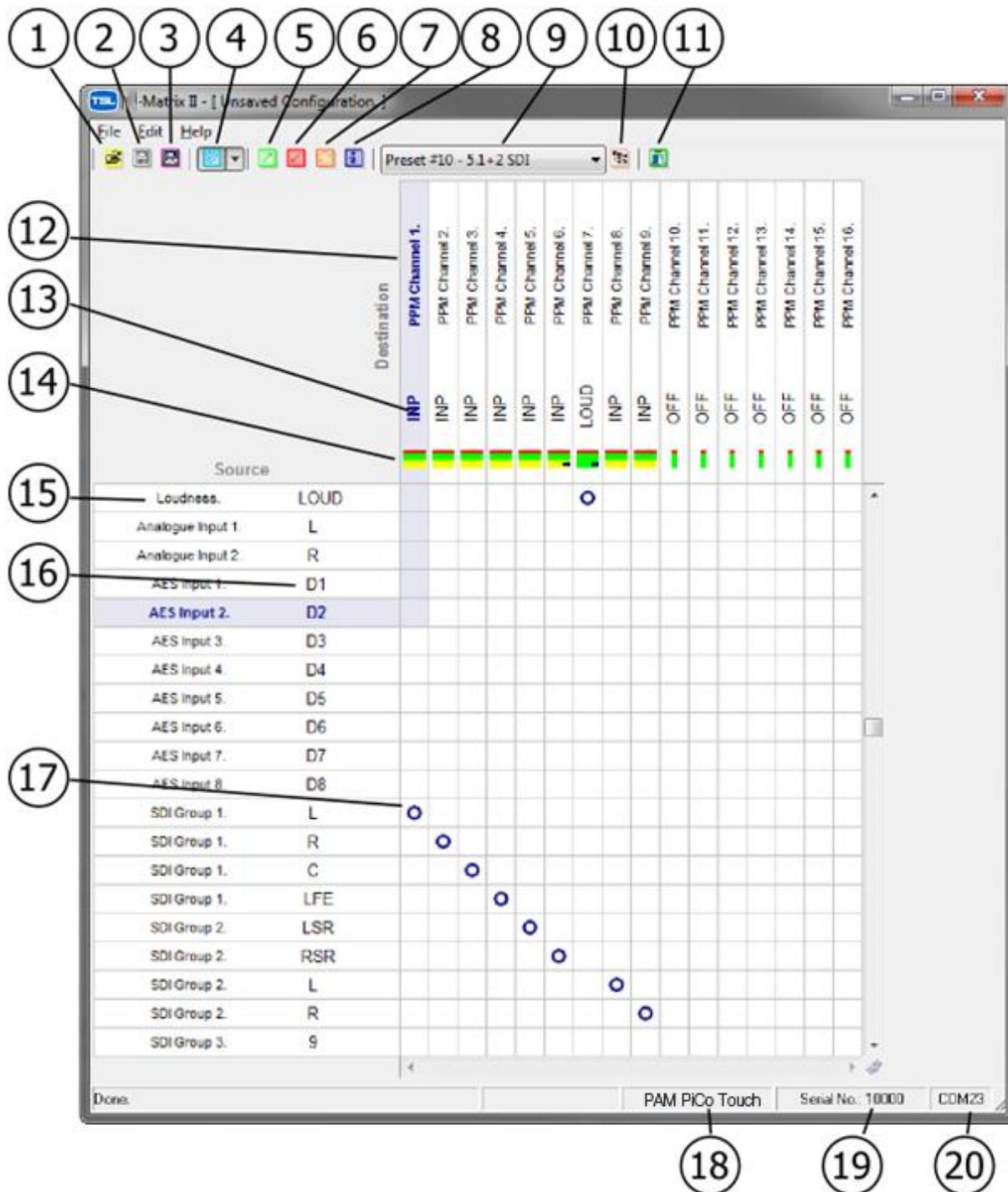
1. Open a saved Preset file
2. Save to an existing named preset file
3. Save with a new name – Save As…
4. Connecting/Disconnecting to your device
5. Read Preset – This uploads the settings of your meter to the Matrix application
6. Write Preset – This downloads the Matrix setup to your meter. Please note that this will overwrite the existing presets of your meter
7. Restart the connected device
8. Show information about the connected device
9. Select the preset – This dropdown allows you to choose which one of the metering presets you want to see and alter in the matrix window
10. Preset Options: this allows you to change preset name, as well as setting the 'power up' default preset of your meter

11. Close the Matrix Application
12. Destination – The specific metering position on the screen
13. The role of the Meter position. If set to INP, it will echo the label of the source connected – right click to alter
14. Bargraph options – this indicates bargraph width as well as over, normal and under color of the specific bargraph – right click to alter
15. Source – The specific source. Both internal and external sources are listed
16. Source Label – The label of the incoming source e.g. Left, Right, Center etc.
17. Matrix connection point – connecting the source to a specific destination
18. Model – the model device connected
19. Serial number of the connected device
20. The COM port of the connected device

Using the Matrix Window

Routing Source to Destination

Your meter comes with a bunch of factory presets that you may use as a starting point for setting up your desired settings.
Routing signals from a source to a destination is as easy as double clicking the connection point.
Removing the connection is just as easy – double click the connection point and it will be removed.

Source		PPM Channel 1. (INP)	PPM Channel 2. (INP)	PPM Channel 3. (INP)	PPM Channel 4. (INP)	PPM Channel 5. (INP)
AES Input 5.	D5					
AES Input 6.	D6					
AES Input 7.	D7					
AES Input 8.	D8					
SDI Group 1.	L	O				
SDI Group 1.	R		O			
SDI Group 1.	C			O		
SDI Group 1.	LFE				O	

This allows fast and easy routing of the incoming audio sources as well as offering a good overview of what signals are routed where.

Sources and their labelling

The sources available in your meter will show up on the right hand side of the display.

Each of the sources has a unique number and name that is fixed inside the meter. In addition, you may label the source to your liking.

The Source labelling is the name that will appear on your meter screen above the corresponding bargraph.

Changing the label is done by right clicking the relevant source and selecting the appropriate label from the dropdown 'Assign labels' window.

The Labels list holds a list of Global labels that are fixed inside your meter, but also a User list that may be altered to your liking.

Please refer the 'Changing User Labels' section of this manual for more information.

Destinations and their labelling

Each destination represents a metering position on your meter screen. The specific number of destinations available varies with the specific meter connected.

Like the Sources, the Label of each Destination may be altered by right clicking and selecting the 'Assign label' drop down.

As you may know from your meter, the label of the source also serves as an identifier of the role of the incoming signal e.g. Left channel, Right channel, LFE etc.

Your meter uses this role to ensure that the source is included correctly in the automated routing of e.g. Loudness measurements, StarFish, Phase correlation etc.

Therefore, it is very important that the role is set up correctly.

If the Destination label is set to INP, it will simply relay the label assigned to the relevant input source. For example the Source may be the AES input 1, labelled 'L', while the Destination is set to INP. This means that the Destination role will be 'L' / Left Channel.

In addition to setting up labels of destinations, the menu also features the ability to set up the oscilloscope options i.e. StarFish or JellyFish, as well as integration time surround mode.

PPM Options

When right clicking on a Destination, you are also given the option of altering the PPM options.

This menu allows you to change the color of the corresponding PPM both in 'Normal' and 'Under' position as well as selecting the PPM Width.
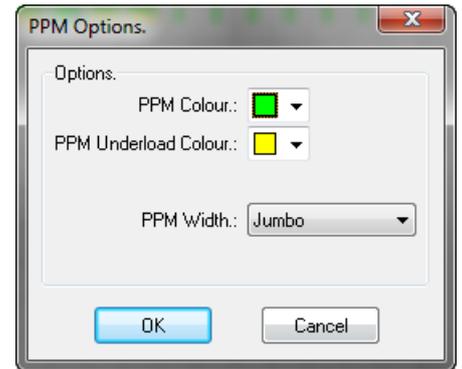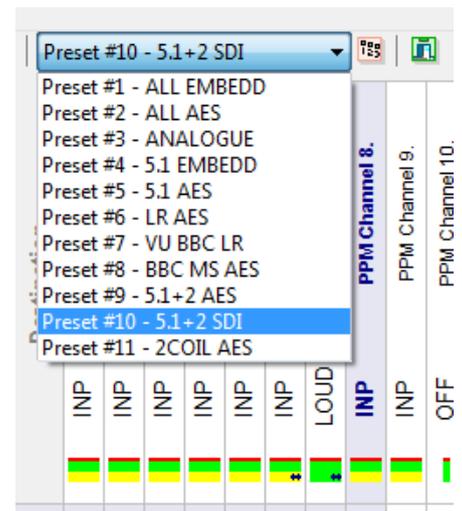

The Preset List drop down

In the top bar of the Matrix window, you will find the Preset drop down list.
This allows you to select any of the presets available in your meter for viewing and editing.
This way, you may easily and quickly gain an overview of the different settings and changes that you want to perform on your meter settings.

Downloading new settings to your meter or Saving to File

Once you are satisfied with your new settings, you may download them to the connected meter by hitting the 'Write' button the in the top bar.

By hitting this button, all presets and settings are loaded back into your meter and the meter will restart to ensure correct initialization of the new settings.

You may also save the settings as a file that can be used for either backup purposes or cloning settings across multiple meters.

## Editing Multiple Sources or Destinations at the same time

The Matrix features the ability to select multiple Sources or Destinations at the same time for fast editing.

For example, you might want a selected section of bargraphs to be the same width. Hit 'Shift' on your keyboard and now point to the starting and end point.

Holding the 'CTRL' key will enable you to select multiple individual channels.

When channels have been selected using 'Shift' and/or 'CTRL' the properties of the channels can be copied and pasted to another preset or another instance of PICO-Matrix using the 'Copy' and 'Paste' functions in the 'Edit' menu.
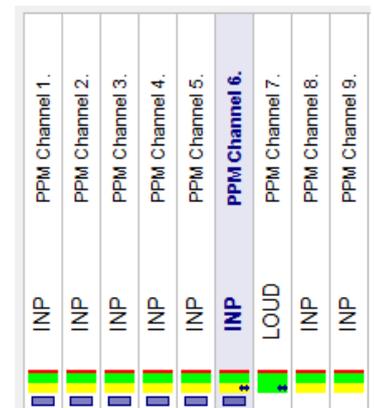
Cloning Meter Settings

Copying or cloning meter settings is as easy as saving settings from one meter and downloading them to another.

Settings and presets may be shared across different meter models, given that they share the active source inputs e.g. PICO TOUCH presets and setups may be downloaded into a PICO5.

In case sources not present in the download target meter are active in the preset file, these will automatically be disabled and will need reconfiguration compatible with the target meter.

Changing User Labels

As mentioned earlier, the Assign Labels list includes both Global and User labels.

If you want to alter the user labels of your meter, open the 'Edit' drop down and from the 'Quick editors' list, select the Audio Name Editor.

You will now see the list of 'Global' and 'User' labels. Any of these may be altered to your liking.

The main difference between the two, is the fact that 'Global' labels are global, while 'User' labels are preset specific.

Changing Preset names

If you want to alter the user labels of your meter, open the 'Edit' drop down and from the 'Quick editors' list, select the Preset Name Editor.

You will now see the list of Preset names and you may alter any of them to your liking

Matrix Options

The Matrix software offers the ability to change the highlight colors as well as selecting/deselecting the sources and destinations visible in the Matrix window. These may be changed in Edit/Options/UI/Audio Matrix Area.

The meters include a long list of internal and background sources. When a meter is connected to the Matrix a default list of sources are visible. However, should you desire to change this, you may set this up in the Edit/Options/UI/Enable Audio I/O

Flipping the Matrix View

The default direction of the Matrix view has Sources on the left Y-axis side and Destinations up top in the X-axis. Should you wish this to be reversed; the lower right corner of the squared matrix area offers a button that does just that. Double-click the 'direction' button and the Matrix view will instantly flip the position of Sources and Destinations.

Updating Your Meter

How to Software update your Meter

TSL Products constantly develop new software features, facilities and adjustments to adhere to all relevant scale and Loudness recommendations.
It is therefore recommendable that you, once in a while, check for new updates for your Meter on:
www.TSLProducts.com

Every Meter can easily be software updated via the inherent USB connector.
Please follow these instructions to software update:

- Go to www.TSLProducts.com
- Go to the product page corresponding to your meter and select the download section.
- Locate the PiCometeronline.exe tool and download
- Connect the Meter to your computer
- Launch the PiCoMeterOnline application
- The PiCoMeterOnline application will automatically check for latest software for your meter specifically.
- Follow on-screen instructions to load the latest software.