

# SYSTEM 6000 OPERATION - CONTENTS

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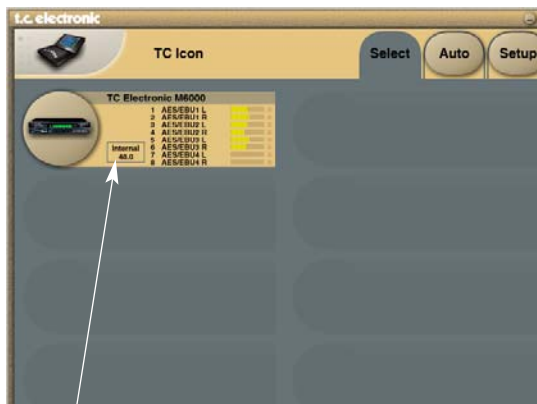
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# BASIC OPERATION - SYSTEM 6000

Fig 1



List of connected units

## Introduction

This section of the manual is a general introduction on how to operate System 6000 via the TC Icon. The basic System 6000 consists of a Mainframe with a DSP card and up to three I/O cards, plus a TC Icon remote with Remote CPU. Several mainframes as well as several TC Icons can be hooked up at the same time via a standard Local Area Network (LAN).

## Accessing a Mainframe

First time you connect the Mainframe and TC Icon you must:

- Power up all devices.
- The TC Icon Setup page appears (see above).
- Connected Mainframes are automatically detected and assigned to the shortcut keys in the right side of the display. However, it is entirely up to you how you wish to organize the frames on this page.

### Assigning Frames to shortcut keys

- unassign by pressing one of the eight shortcutkeys
- select the Frame you wish to assign from the list of connected units,
- then press the shortcut key you wish to assign to

- Go to the Select page (top-tab), and press the large **Mainframe** key of the connected frame you wish to access (see Fig 2).
- TC Icon now retrieves data from the Mainframe.
- When ready you will see the Frame - Routing display, and you are ready to operate the Mainframe.

To go back to the TC Icon pages press the Icon logo in the top left corner.

## Engine Structure

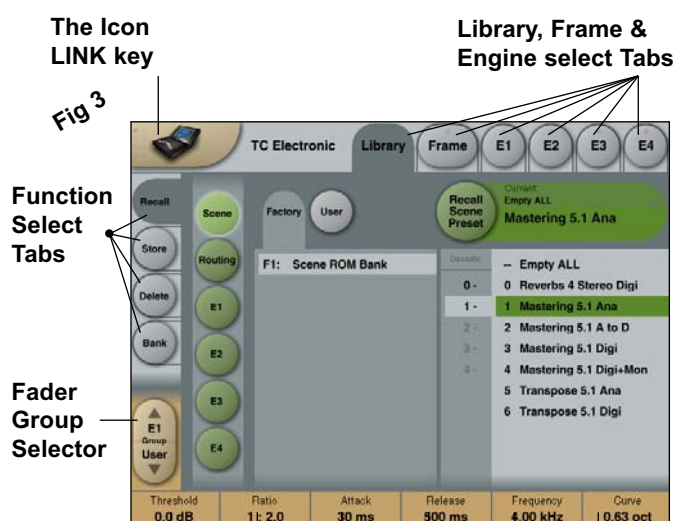
The core element of Mainframe 6000 is the 4 Engine structure. This structure enables you to run up to four powerful algorithms/presets simultaneously. Each Engine is capable of utilizing up to 8 Inputs and 8 Outputs, depending on the selected algorithm/preset. Up to 16 physical Input and 16 physical Output channels can be routed in the most flexible way.

## Engine Resources

The Mainframe 6000 offers a sofar unseen amount of DSP-resources. The flexible DSP distribution structure lets you run up to 4 Engine presets at the same time using any available algorithms. How about running your signal from a full-blown VSS-5.1 Reverb through a MD-5.1 Multiband Dynamics algorithm to a Toolbox-5.1 for e.g format conversion and total control of levels? Setups like these are no problem with the System 6000.

Be aware that when using some of the most powerful algorithms or running at 96kHz, less than 4 Engine presets can be loaded simultaneously. Required Engine resources pr. algorithm is listed for each algorithm in the algorithm-chapter.

# BASIC OPERATION - SYSTEM 6000



Parameter values present in the currently recalled preset.

## Basic TC Icon operation

Navigation in the TC Icon display is easily done when a few basic elements are explained.

The Icon **Link** key in the upper left corner allows you to navigate between the two pages/modes illustrated on the previous page.

### In both modes you:

- Press the top-tabs to do primary selections
- Press the side-tabs or elements to do secondary selections.

### Fig. 1:

Via the “overall” **Select & Setup** pages you access overall settings and choices like:

- Selection of which mainframe to operate
- Setting up IP addresses for connected units
- Enable devices to network
- Updates via network or disk
- TC Icon settings such as display appearance

### Fig. 2:

The selection of mainframe is done in the Select page illustrated in “Fig 1”. The page/pages illustrated in Fig. 2 are pages containing parameters on a specific mainframe. These are the Operating Pages and the page you will be working in once the system is up and running. Only when several mainframes are connected you will need to go to the “overall” Select and Setup pages to switch mainframe.

## Operating Levels

The Library-Recall page illustrated in Fig.3 leads to explanation of the “operating levels” in the System 6000. We differentiate between 3 levels of presets: Scene, Routing and Engine levels.

### • SCENE

This is the most extensive selection you can make. It includes all four Engine algorithms as well as Physical and virtual Engine connections. A Scene recall can be compared to a “total recall.”

### • ROUTING

Handles all I/O Routings, including all physical I/O connections to the Engine I/O’s. No algorithm (Engine) settings are recalled/stored with this selection. A Routing preset holds all parameters displayed on the Frame-Routing page.

### • ENGINE

Handles the current algorithm in the selected Engine. A single preset can be loaded to each of the four Engines.

## Parameter Values and Fader Groups

In the bottom of the display, Fader assignments and values will always reflect the last modified Engine. Most parameters can be controlled via the 6 Faders. As some algorithms hold numerous parameters and we operate with 6 Faders the preset parameters are organized in Fader Groups. To scroll between the Fader Groups use the **Fader Group** selectors.

### Parameter value - Fine Adjust

Any parameter value can be adjusted in two accuracies. A Normal and a Fine Adjust - mode. To switch between the two modes press the Value Fields above the faders. As shown in the illustration the Fine Adjust mode will be indicated with two triangles in the value field.

### Fader 6

Any parameter can always be assigned to Fader 6 by pressing the parameter. Detailed explanation will follow in the next sections.

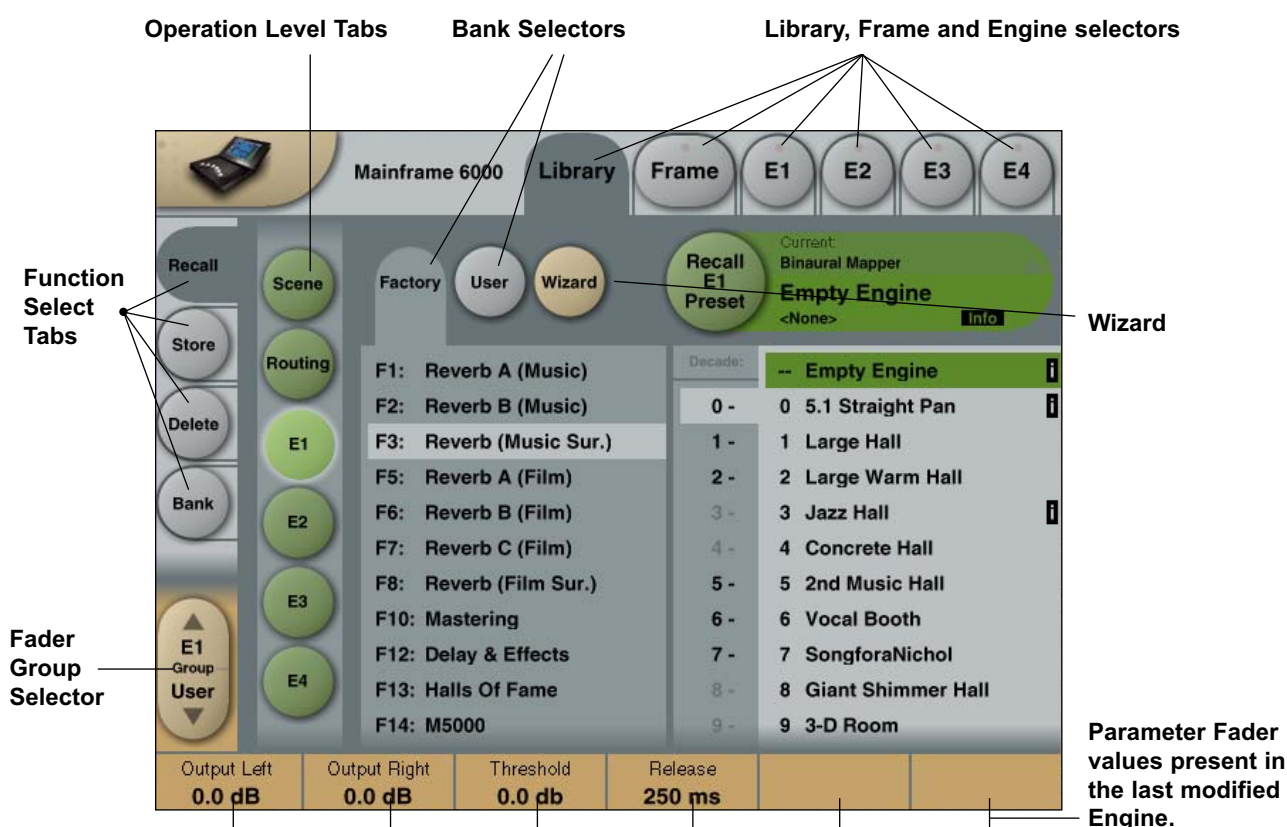
### User Fader Group - Custom Group

A User Fader group where you can assign parameters to all 6 faders can also be created and saved along with the preset. The User Fader group is selected by pressing the **Fader Group** selectors.

## Did you just unpack the System 6000 ?

The first time you connect the System 6000 various settings must be set. Please go to the “Hardware and Installation” section. This section will also explain how to upgrade software etc.

# LIBRARY - RECALL



## Library Recall

On the Library Recall page the following banks are available for recall operations.

### Scene

Gives access to the following preset banks:

- Factory F1: Scene ROM bank
- User U1: User Scene bank

### Routing

Gives access to the following preset banks:

- Factory F1: ROM bank
- User U1: User Scene bank

### Engine 1-4

Gives access to the following preset banks:

- Factory Reverb banks (For Reverb 6000)
- Factory Master (mastering) banks (For Mastering 6000)
- User banks

## Recalling a Scene or an Engine preset

- Press the RECALL tab to select the Recall page.
- Now select the level of: Scene, Routing or Engine 1-4.
- Select which bank you wish to recall from: Factory or User. If a System 6000 formatted PCMCIA card is inserted in the Mainframe, card-banks will also be available and displayed below the User banks.
- Select presets pressing: Bank, Decade (=tens) and preset number. (grayed out numbers indicates that the Decade is empty)
- Press the **Recall** key to recall/load the preset.



When trying to load an algorithm that requires more DSP power than currently is free, a Pop-up display will ask to load the "Empty Engine" preset into an Engine of your choice. The "Empty Engine" preset is located as preset 00 in the Reverb Music bank.

## Wizard and Algorithm Filter

See next page.

# THE WIZARD & ALGORITHM FILTER

## Introduction

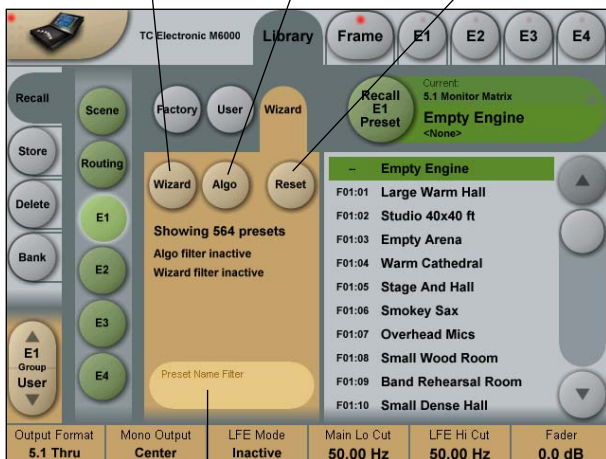
To easily find the perfect preset for your application among the vast amount of presets available in the System 6000, we have added a Wizard function. Basically the Wizard allows you to set up a few criterias and thereby narrow down the pool of presets to select from. All Reverb Factory presets are marked with Wizard category-tags. When storing User presets you can assign a Wizard category tag yourself to each preset. To further narrow down your selection you can use the Algorithm Filter. Via this filter you can select categories or specific algorithms to select from. Finally you can search on preset names that includes specific words such as "Hall or Cathedral".



The Wizard is of course 100% non-destructive and you can at any time press **Reset** to cancel all Wizard settings and obtain full access to all presets.

## Wizard "main-page"

Press **Wizard** to enter Wizard functions  
 Press **Algo** to enter Algorithm Filter  
 Press **Reset** to reset all Wizard settings



**Preset Name Filter**  
 Search function on presets names

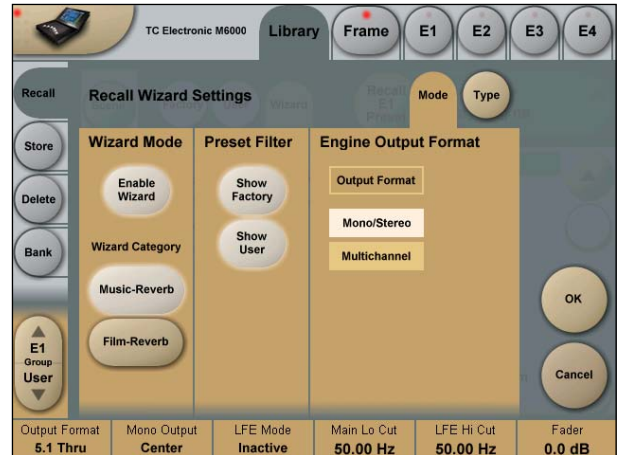
### Preset Name Filter

- Press and a keyboard will pop up.
- Enter any relevant keyword (e.g. "arena") - and only presets with names containing "arena" will be listed.

### The hierarchy of the Algorithm Filter and Wizard:

- 1 **Wizard** Applies specifically for Reverb presets
- 2 **Preset Name Filter** Applies for all preset types
- 3 **Algorithm Filter**

## The Wizard



To access; press the **Wizard** tab on the Wizard "main-page".

### Mode

#### Enable Wizard

Press to enable the Wizard.

#### Wizard Category

Select which main categories you would like to select presets from. Options are: Music-Reverb or Film-Reverb.

#### Show Factory - Show User

Select whether you wish to be able to recall from either Factory or User preset banks or from both.

#### Engine Output Format

Press **Output Format** to activate the Output format filter. Then specify which Output format the presets you are searching for should have. Options are Mono/Stereo or Multichannel or both.

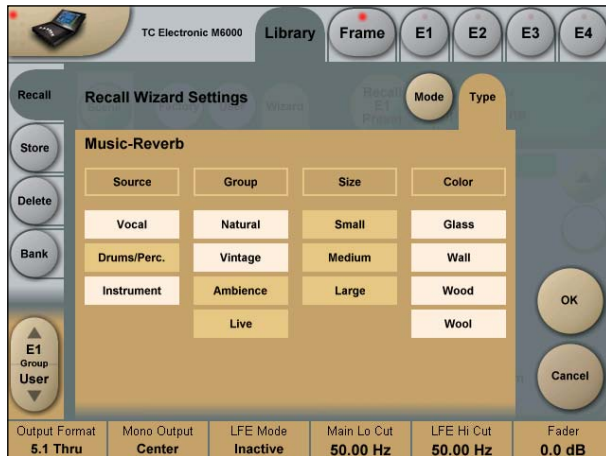
**Now go to the Type page and select Wizard tags.** (see next page)

# THE WIZARD & ALGORITHM FILTER

## Type

This is where you make the most detailed selection of presets to choose from.

- Specify from which types of presets you would like to recall. Types varies depending on the selected Wizard Category selected on the Mode page.
- Pressing the top field in each column will select or deselect the entire column.

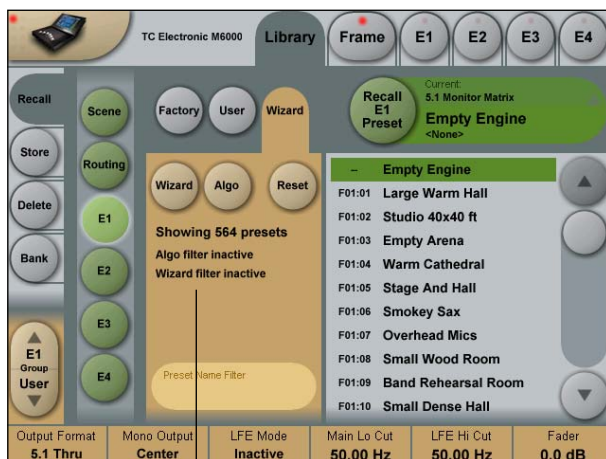


- Now press OK and you will return to the Wizard “main-page” (see below).

On this page you will now have an overview of your Wizard, Name and Algo Filter selections.

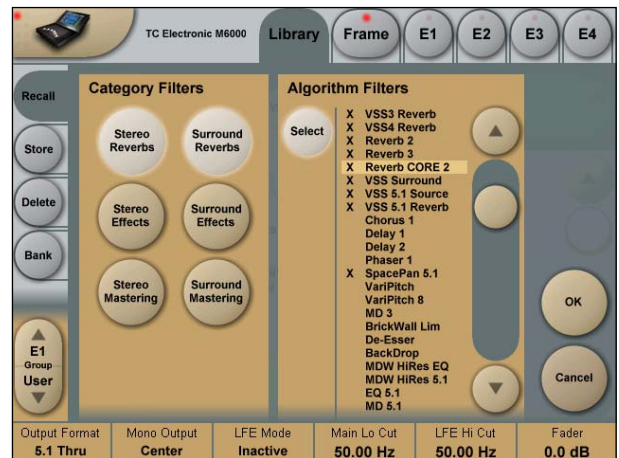


You can at any time press **Reset** to cancel all Wizard settings and obtain full access to all presets.



Overview of selections via Wizard, preset name Filter and Algorithm Filter

## Algorithm Filter



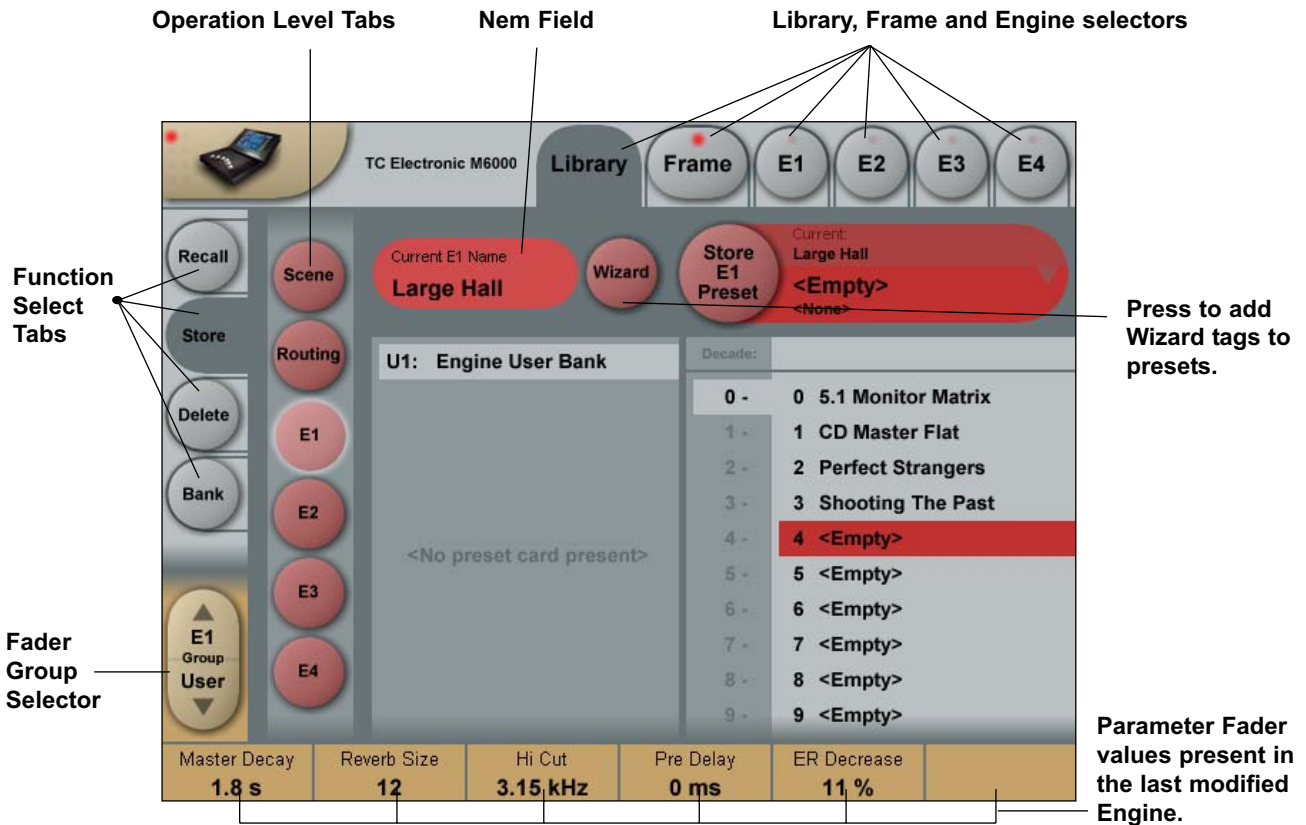
To access; press the **Algo** tab on the Wizard “main-page”.

### Operation

- Press one or more of the six **Category Filter** keys for an application specific selection of preset types.
- Use the **Slider** and the **Select** key in the Algorithm Filter section to select or de-select individual Algorithms.
- Press **OK** to exit.

Whether you now wish to do a standard preset recall from the Factory/User recall pages; or use the Wizard function to further narrow down the selection, you can only see and recall presets matching the Algorithm Filter settings. Example: You wish to select between various Surround presets but only in 5.1.

# LIBRARY - STORE



## Library Store - Scene, Routing or Engine presets

On the Store page you may store Scene, Routing and Engine presets.

### Storing a Preset

- Press the **Store** tab and select Scene, Routing or Engine 1-4.
- Select a preset location by pressing first the decade-number and the a location within the decade.
- Press the **Store** key to store the preset.

### Naming a Scene, Routing or Engine preset

- Press the Name field. A keyboard will pop up.  
(See next page)
- Type in the new name.
- Press **Enter**.

The preset is not stored when the keyboard **Enter** key is pressed. Only the name is entered.

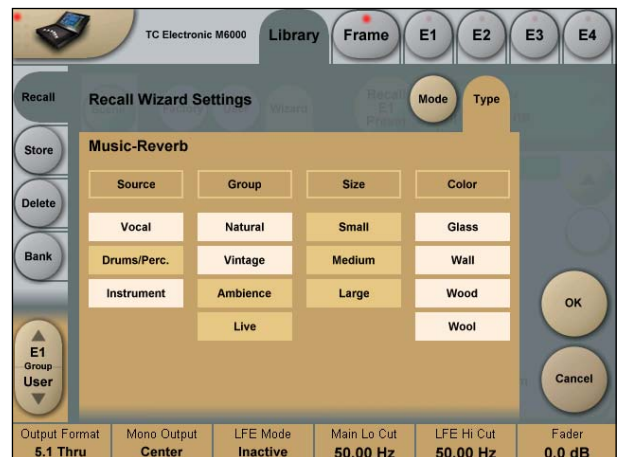
To store you **MUST** press the red **Store** key.



Fader assignments in the bottom of the display will always reflect the last modified Engine. The Engine Fader Group selector in the lower left corner indicates the Engine in use.

## Wizard

- Press to enter the Wizard page.



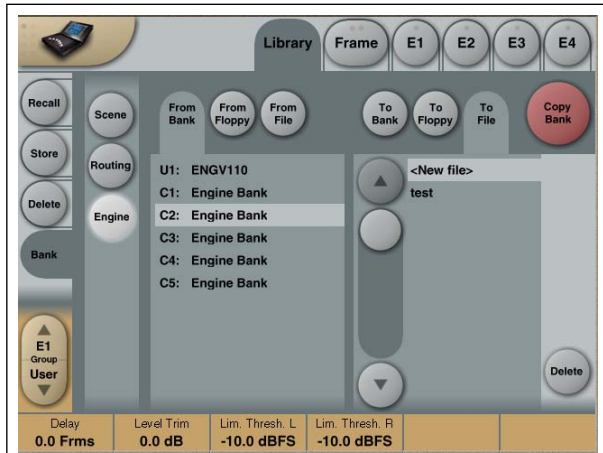
Via the Mode and Type pages you can add preset tags to user presets. When recalling presets using the Wizard; these are the tags used.

**For further instruction on the Wizard please read pages 5 and 6 of this chapter.**

# BANK & THE NAMING DISPLAY

## Library - Bank

Via the Library Archive page you can copy Scene, Routing and Engine banks to and from a 3.5" disk or a PCMCIA card. If you are using the TC Icon software Editor preset banks can also be copied to and from your harddisk.



### Basic Operation

Bank copying is handled as a complete User bank transferal.

- Press **Scene**, **Routing** or **Engine** to select preset bank type.
- Select "from" and "to" depending on your choice.
- Press **Copy Bank**.

### Scene/Routing/Engine Banks

#### To/From - Bank/Floppy/File

Scene, Routing or Engine banks can be backed up and retrieved from a 3.5" disk, a PCMCIA or a file location on a connected computer (when using the TC Icon software editor).

### Copy Bank

Press to activate copy function between the selected Banks.

### Rename

Press to rename the selected bank via the Naming pop-up display.

### Delete

Press to clear the selected Bank. You will be asked to confirm your choice to avoid unintended deletion.

## Using PCMCIA cards

To use a PCMCIA card with System 6000, the card must be properly formatted. This is done from the Frame/System/Card page.

### A 1MB PCMCIA card can hold:

1000 Engine presets in 10 banks of 100 presets  
500 Routing presets in 10 banks of 50 presets  
500 Scene presets in 10 banks of 50 presets

### A 512kB PCMCIA card can hold:

500 Engine presets in 5 banks of 100 presets  
250 Routing presets in 5 banks of 50 presets  
250 Scene presets in 5 banks of 50 presets

## Naming Presets

All user preset types - on Scene, Routing or Engine level can be renamed.



### Basic operation

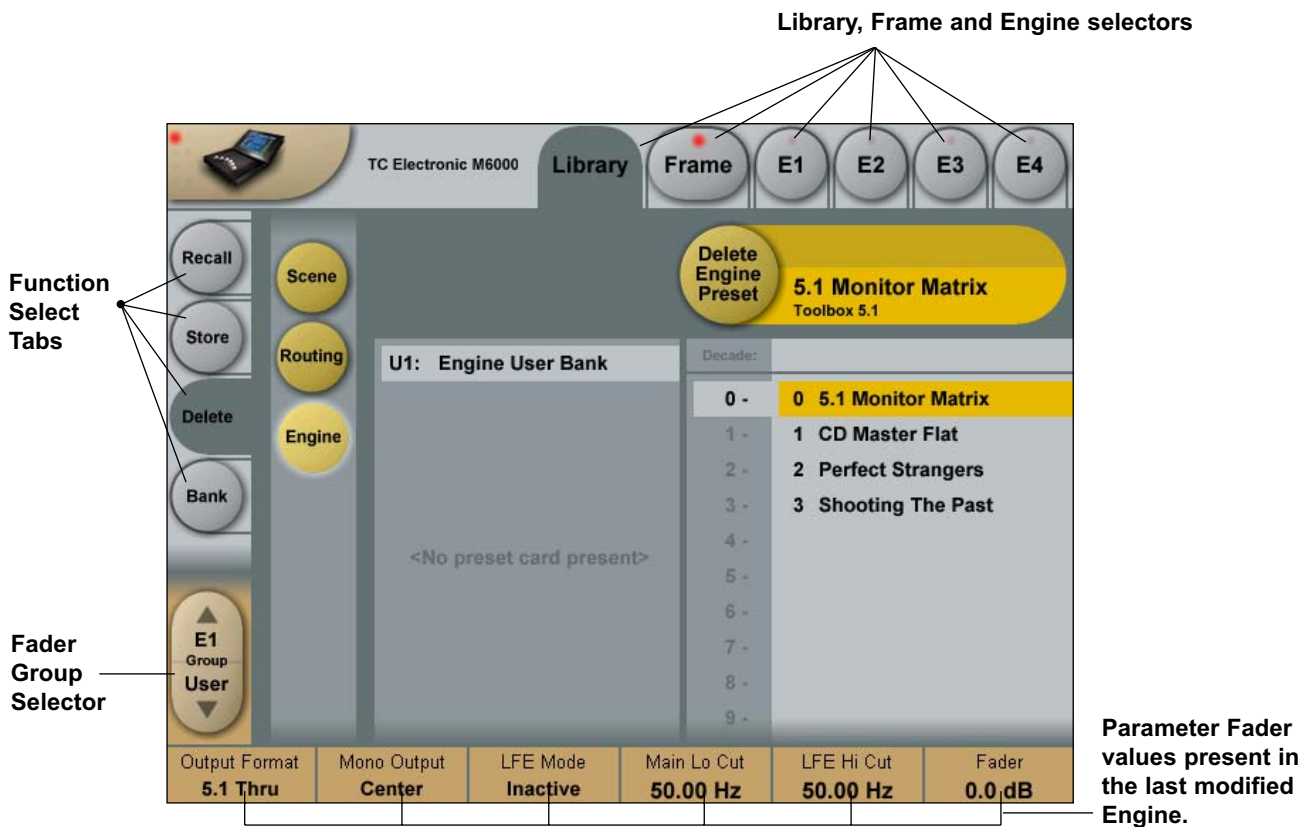
- Press the **Name** field. A keyboard will pop up.
- Type in the new name.
- Press **Enter**.



The preset is not stored when the keyboards **Enter** key is pressed. Only the name is entered. To store you **MUST** press the red **Store** key on the Store page.

The previous accessed display will always be present beneath the keyboard. Current Fader values will be displayed and faders can be used to adjust parameter values.

# LIBRARY - DELETE



## Library - Delete

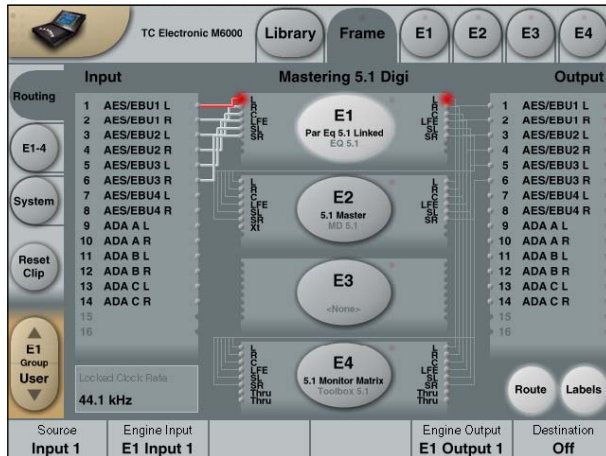
For convenience it is possible to “clean up” the User bank by deleting individual presets.

### Deleting a Preset

- Press **Delete** (side tab) and select level by pressing **Scene**, **Routing** or **Engine**.
- Select decade and preset location and press the Delete button.

# FRAME

## Frame - Routing



### Introduction

The Routing page is the patch-bay of the System 6000 Mainframe. All routings of physical Inputs/Outputs as well as internal routing between the Engines are setup here. The understanding of this page is therefore essential to operating the System 6000.

### To access the Routing Page:

- Press **Frame** (upper tab)
- Press **Routing** (side tab)
- Press **Route** to enable routing facilities

### This is the page where you:

- Have the overall view of all I/O's
- Route physical Inputs to Engine Inputs
- Route Engine Outputs to physical Outputs
- Access Input and Output meters

### Routing Inputs

- Press the **Route** key to select route operation.
- Press **ENGINE 1** to 4 to select the Engine you wish to route
- Select a physical Input or another Engine's Output using **Fader 1**
- Select Engine Input using **Fader 2**

### Routing Outputs

- Press the **Route** key to select Route operation
- Press **Engine 1** to 4 to select the Engine you wish to route
- Select an Engine Output using **Fader 3**
- Select Physical Output using **Fader 4**

### The I/O possibilities are as follows

- It is possible to connect any physical Input to several Engine Inputs (up to 32), however, it is not possible to connect more than one physical Input to the same Engine Input.
- It is possible to connect all Engine Outputs (up to 32) to one single physical Output.
- It is possible to connect an Engine Output to the Inputs of the three other Engines.



To distribute a single Output of an Engine to several physical Outputs:

- Route the Engine Output to a physical Output.
- Route the same Engine Output through a passive channel of an algorithm loaded in another Engine. E.g. channels 7 and 8 of the Toolbox-5.1.



When routing an Engine Output to an Engine Input with the M5000 frame and no TC Icon, the Engine Input channel number must match the Engine Output number from where the signal originates. E.g. Output channel 1 from Engine 1 to Input channel 1 on Engine 2, 3 or 4.



### Engine Processing Delay

Processing delay between the routed Engines behaves as if the were external devices.

### Internal overload LEDs and Reset Clip key

Each Engine is constantly monitored for internal overload. The small dot on the right side of the oval Engine key indicates when internal overload occurs. In this situation it is advisable to reduced the Input level of algorithm loaded in that particular Engine. If the "**Sticky Clip** function" is enabled on the Setup Security page (accessed by pressing the TC Icon symbol in upper left corner of the display), the LED will keep lit until **Reset Clip** on the Frame Routing page is pressed.

### Labels

The Input/Output fields can show either meters or the labels/names on the Input/Output channels. To switch between the two modes press "Labels".

### Renaming Physical Inputs and Outputs

Input and Output channels can be labeled individually. This is a global renaming process and is accessed by pressing **System** (side tab) followed by **I/O** and **Labels**. After that follow the naming procedure described on page 6.

### Meters

#### Engine I/O Meters

Engine I/O meters are shown at the left and right of the large E 1-4 buttons in the middle of the display. The number of meters shown will always reflect the number of I/O channels in the loaded algorithm.



# FRAME - SYSTEM - MAIN

## SMPTE



### Basic Operation

- Press parameter to select and use Fader 6 to set value.

### Reader Enabled

On/Off switch for the System 6000 SMPTE Reader.

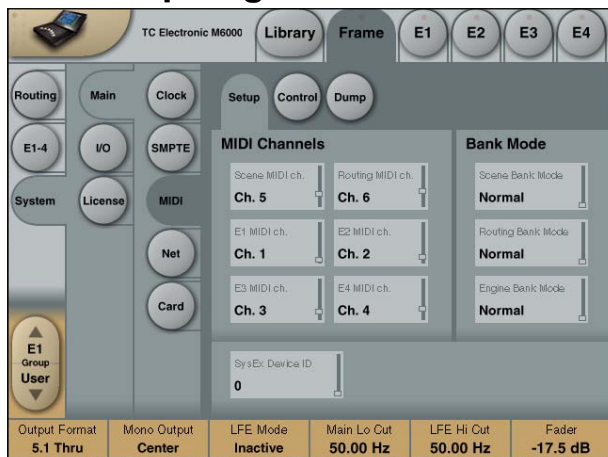
### Frame Rate

Range: 24 FPS, 25 FPS, 29.97 FPS, 30 Drop FPS, 30 FPS.

### Running Status

The small field in the top left corner of the numeric display will state "Running" when SMPTE clock is running.

## MIDI Setup Page



## Introduction

### MIDI Channels

To recall presets for Scene, Routing and Engines 1 to 4 you must first setup individual MIDI channels for these categories.

In the example above we have setup MIDI channels 1 to 4 for Engines 1 to 4 respectively; channel 5 to access Scene presets and channel 6 to access Routing presets.

### Bank Mode

The Bank mode settings determine the destination bank of the received program change on the specified MIDI channels.

#### Normal mode:

This mode requires that the external sending MIDI device can send both Controller 0 and 32 in addition to MIDI program changes. This is an essential feature to recall presets from a device holding more than 128 preset location. (see table in next column for details)

#### Factory and User mode:

These modes will force any incoming program change to access either Factory or User banks directly and are typically used if your sending MIDI device cannot send Controllers 0 and 32 as described above.

### Normal mode

In Normal mode all banks can be accessed for program changes. Bank selection is done via Ctrl 0 (MSB) and Ctrl 32 (LSB):

- Controller 0 must be set to 0 in all cases.
- Controller 32 value must match the bank number you wish to address according to the table below.

Ctrl 32 value 0	- F1:	Reverb A (Music Stereo)
Ctrl 32 value 1	- F2:	Reverb B (Music Stereo)
Ctrl 32 value 2	- F3:	Reverb (Music Surround)
Ctrl 32 value 3	- F4:	Reserved
Ctrl 32 value 4	- F5:	Reverb A (Film Stereo)
Ctrl 32 value 5	- F6:	Reverb B (Film Stereo)
Ctrl 32 value 6	- F7:	Reserved
Ctrl 32 value 7	- F8:	Reverb (Film Surround)
Ctrl 32 value 8	- F9:	Reserved
Ctrl 32 value 9	- F10:	Mastering
Ctrl 32 value 10	- F11:	Reserved
Ctrl 32 value 11	- F12:	Pitch & Delay
Ctrl 32 value 12	- F13:	Reserved
Ctrl 32 value 13	- F14:	M5000 Presets

Ctrl 32 value 32 - User bank

Ctrl 32 value 64 - Card Bank 1

Ctrl 32 value 65 - Card Bank 2

Ctrl 32 value 66 - Card Bank 3

Ctrl 32 value 73 - Card Bank 10

#### Example:

You wish to recall preset 10 from the Reverb (Music Surround) bank. According to the table above:

- Set Ctrl 0 to "0" and Ctrl 32 to "2" and send program change no 10.

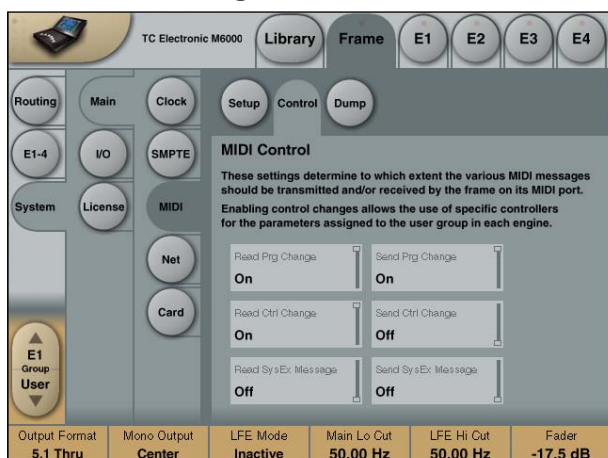
### SysEx Device ID

Range: 0 to 126

Select SysEx ID for the Mainframe.

# FRAME - SYSTEM - MAIN

## MIDI Control Page



On MIDI Control Page the following options are available:

### Read Program Change

Select whether the Frame should read incoming program changes or not.

### Send Program Change

Select whether the Frame should send program changes to MIDI out when presets are recalled via TC Icon or the TC Icon Software editor.

### Read Control Change

Select whether the Frame should Read Control Changes messages.

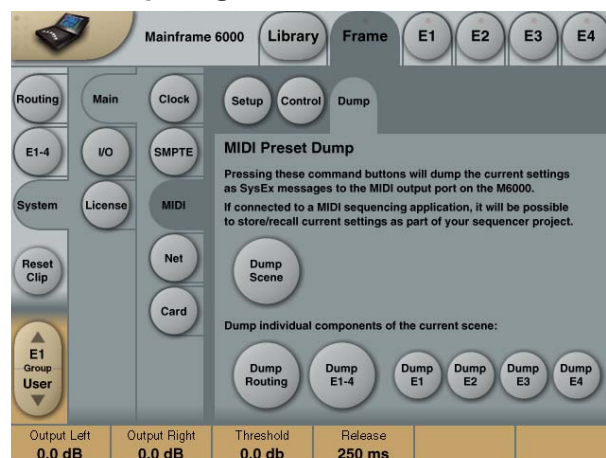
### Send Control Change

Options here are Single (7 bit) or Double (14 bit) precision.

### Read SysEx - Send SysEx

These two parameters determine whether the Frame should read and send SysEx.

## MIDI Dump Page



Pressing these command buttons will dump the current settings as SysEx messages to the MIDI Out port of the Mainframe.

If connected to a MIDI sequencing device it is then possible to store/recall current settings as part of your sequencing project or as backup handling via MIDI.

### Dump Scene

Press to dump the current scene to MIDI. Scene presets include all current Routing and Engine presets.

### Dump Routing

Press to dump only the current Routing to MIDI. No Engine settings are dumped.

### Dump E1-4

Press to dump all currently loaded Engine settings to MIDI. Presets loaded in all 4 eEngines are included.

### Dump E1, Dump E2, Dump E3 & Dump E4

These four keys are used to dump currently loaded preset from a single Engine to MIDI.

# FRAME - SYSTEM - MAIN

## External MIDI Control - of Fader Parameters

From software version 2.5, all fader assignable parameters can be remote controlled via MIDI Control Change Messages. To be able to control Faders you must create a dedicated Fader User Group holding these parameters. Page 20 in this manual section explains how to create User Fader Groups.

### Single Precision - Double Precision

We support both single (7bit) and double precision (14 bit) Controller Data, but you should notice that best resolution is achieved using 14 bit Controller Data. By controlling parameters with Single precision you will be able to control in 128 steps for a complete parameter range. For most applications this will be quite fine and this is also the precision most external controllers and especially sequencers support. This is called 7 bit precision.

However, System 6000 supports the 14 bit precision standard that has a considerably higher resolution:  $128 \times 128 = 16384$  steps.

To achieve this resolution via an external fader control the external controlling device must be able to handle two controllers at the same time on the same MIDI channel. The scheme below shows which controllers to assign to which Faders for both Single Precision and Double Precision situations.

#### Single precision:

FADER 1	MIDI CC	70	Sound Controller 1
FADER 2	MIDI CC	71	Sound Controller 2
FADER 3	MIDI CC	72	Sound Controller 3
FADER 4	MIDI CC	73	Sound Controller 4
FADER 5	MIDI CC	74	Sound Controller 5
FADER 6	MIDI CC	75	Sound Controller 6

#### Double precision, LSB:

(Note that both LSB and MSB must be sent for double precision)

FADER 1	MIDICC	48	General Purpose Controller #1
FADER 2	MIDICC	49	General Purpose Controller #2
FADER 3	MIDICC	50	General Purpose Controller #3
FADER 4	MIDICC	51	General Purpose Controller #4
FADER 5	MIDICC	52	Undefined
FADER 6	MIDICC	53	Undefined

#### Double precision, MSB

(Note that both LSB and MSB must be sent for double precision)

FADER 1	MIDICC	16	General Purpose Controller #1
FADER 2	MIDICC	17	General Purpose Controller #2
FADER 3	MIDICC	18	General Purpose Controller #3
FADER 4	MIDICC	19	General Purpose Controller #4
FADER 5	MIDICC	20	Undefined
FADER 6	MIDICC	21	Undefined

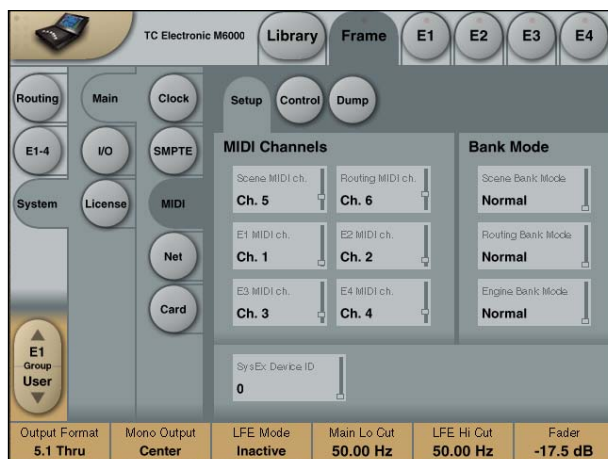


MSB value indicates the actual double parameter change. So sending a LSB will not change the value, but only cache this value for later use when receiving the MSB part. The LSB must therefore be sent before the MSB.

# FRAME - SYSTEM - MAIN

## Setting up

Make sure to select MIDI channel settings corresponding to the channels your external controller is using for each Engine. This is setup in the MIDI Setup page.



## A few things to take into consideration when using the TC Icon Faders to record automation into your sequencer:

Make sure that the record enabled MIDI track does not echo back the MIDI Input to the System 6000. Otherwise the System 6000 will receive double MIDI CC values, which creates a MIDI loop and un-smooth automation data.

The following example explains how to avoid this on a Protools System. If you are using other systems you should look for similar features or use the feature introduced in System 6000 Software version 2.5 (see below):

### Example

- In DigiDesign Protools in the MIDI menu you disable MIDI THRU. This way when the track is record enabled, the incoming events are not echoed to the Output.
- In case your sequencer or MIDI data recorder does not offer the possibility to mute the track while recording you can use a new feature to avoid a MIDI loop with the System 6000.

The new function is added to System 6000 software version 2.5 and is located on the System/MIDI page. The controls used are called Read/Send-Control/Program Changes, and determines whether you want to send, or receive MIDI Control Change/Program Changes. This is especially helpful, in case you are using the ICON faders to record the MIDI CC data to your external application.

## How to record/playback MIDI data into/from DigiDesign Protools 5.x ?

### Recording

- On the TC Icon go to the Frame/System/Main/MIDI page, and set up the Send/Receive parameters as follows:

Send CC : ON  
Receive CC : OFF

- Make sure that in the Protools MIDI menu, the MIDI THRU function is disabled to avoid a MIDI loop while in recording mode (as explained in the previous column).
- Make sure you have your MIDI Input devices correctly configured in Protools. Set MIDI Thru to OFF in the MIDI menu.
- Create new MIDI Track
- Set the MIDI Output channel of that track in the Mixer window
- Add New MIDI controllers, and choose the right Controller numbers from the list (see next page)
- Record the MIDI automation data using the Icon faders or external MIDI faders/knobs

### Playing Back

- On the TC Icon go to the Frame/System/Main/MIDI page, and set up the Send/Receive parameters as follows:

Send CC : OFF  
Receive CC : ON

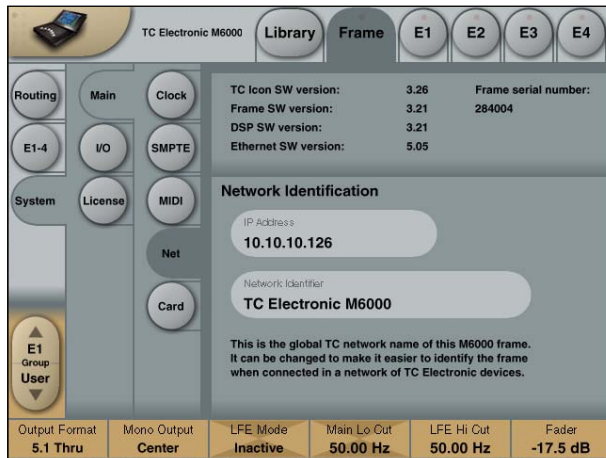
- Play back

**For more info on MIDI recording in Protools, please refer to your Protools Manual and Digidesign.**

**See previous page for overview of Single and Double precision controller numbers.**

# FRAME SYSTEM MAIN

## Net



### Software versions

Current installed software versions.

### Network Identifier

Press the field "Network Identifier" to enter a name for the Mainframe. This is the global TC network name for the frame. By giving the frame a specific name it will be easier to identify the frame when hooked up in a network with several frames.

### IP- address

The IP address for the Mainframe.  
The first seven digits must be identical for all itmes in the network and the last three digits must be unique.

### Example

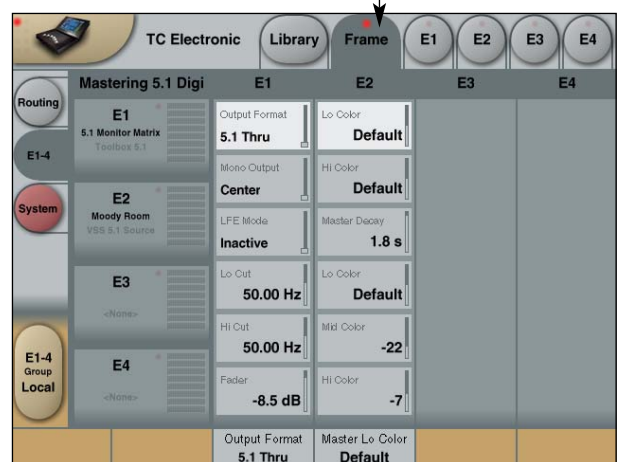
The TC Icon default address is : 192.168.1.125

The M6000 default address is : 192.168.1.126



Please note that if the first seven digits are altered on Frame the TC Icon is unable to detect and "see" the Frame.

## Error Indication



If "no Lock" is acheived or "Sample Slip" situations occur this will be indicated via the small red dot in top of the Frame Tab.

Press the **Frame Tab** and you will be guided to the exact page where you can correct or compensate for these situations. Simply press the "red" tabs.

# FRAME - SYSTEM - I/O

Via the I/O page the following operations are handled:

- Settings for the DSP card
- Settings for up to three I/O cards
- Labeling of all physical Input and Output channels

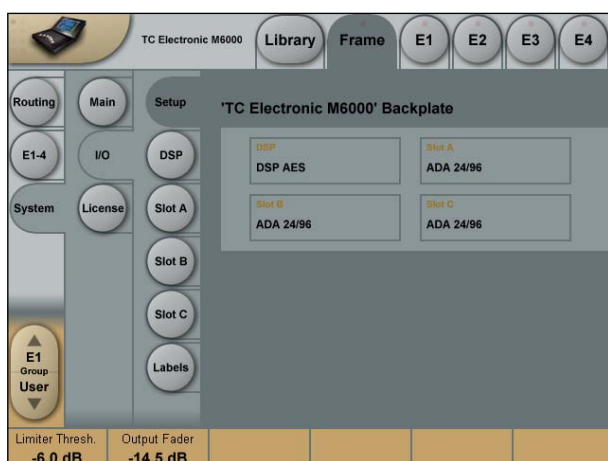
## Basic operation

If more than one mainframe is connected:

- Press the Icon symbol in the upper left corner to enter the **Select & Setup** pages
- Select which mainframe you wish to setup
- Press the Icon symbol once again and select System - I/O as illustrated above

## I/O - SETUP

The following Setup page will appear in: Frame/System/I/O/Setup when an AES-8 card is installed.



The graphics are based on the card DIP switch settings, and may not reflect the physical back panel of the frame.

## Analog Input - Digital Input

With an AES-8 card installed in a Mainframe, you must select whether Input channels 9 through 16 should be digital or analog.

When Digital Input is selected:

Input channels 9-16 will be the AES-8 card.

When Analog Input is selected:

Only analog Inputs are available!

If an ADA-24/96 card is installed in slot A analog Input channels 9-10 are available.

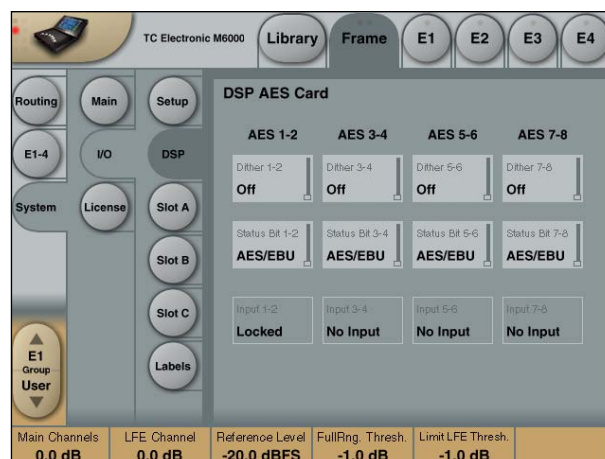
If ADA 24/96 cards are installed in both slot A and C, analog Input channels 9-10 and 13-14 are available.

Please note the following:

- No Inputs on the AES-8 card are available when analog Input is selected.
- Digital Input must be selected to activate AES-8 card Input channels 9-16 even if no ADA 24/96 cards are present.

- Outputs 9-16 are always available. If ADA-24/96 cards are installed, they will output simultaneously with the AES-8 Outputs on channel 9-10 (Slot A) and 13-14 (Slot C).

## I/O - DSP



## Status Bit

Status bit information can be set separately for each of the AES Outputs.

Options are:

AES/EBU : Professional usage of Status bits.

S/PDIF : Consumer usage of Status bits.

## Dither

Range: Off, 24, 20, 18, 16, 8

Dither is set for truncation to match the receiving device.

## Clock Status - Sample Slip Detection

Input 1-2, Input 3-4, Input 5-6, Input 7-8

Input 9-10, Input 11-12, Input 13-14, Input 15-16

Monitors the Clock status of the incoming AES/EBU Inputs and indicates whether the incoming Clock is in sync with the mainframe Clock settings. Three states of incoming clock can be indicated.

## Locked

The Input is in sync with the Mainframe.

## Sync Error (Red)

The Input is or has been out of sync with the mainframe.

Press the **Reset** key to see if Sample Slips are still occurring. - If so - Check that there is only one Master Clock source in your setup. This monitoring function is excellent when trying to determine which connected device is out of sync.

## No Input

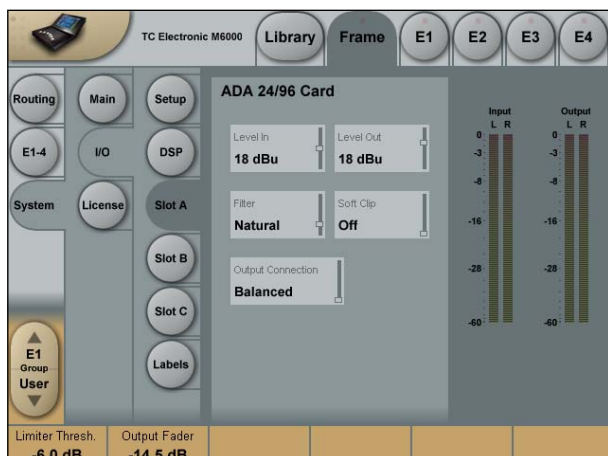
Indicates no connection available.

# FRAME - SYSTEM - I/O

## I/O - Slot A, B & C

This is where you setup card specific parameters. Parameters are only available when a I/O Card is detected.

For the ADA 24/96 card the following parameters can be set.



### Level In

Changes the analog nominal Input level between +6dBu and +30dBu in 6dB increments. The analog Input level enables you to match the M6000 Input to the Output of e.g. your mixer. If the nominal operating level on your mixer is e.g. +4dBu and you select +12dBu on the Level In parameter you will have a headroom of 8dB. If you select +16dBu in the Level In the headroom will be +12dB, and so forth.

### Level Out

Changes the analog output level between +6dBu and +24dBu in 6dB increments.

### Output Connection

Select the type of connection you are using on the Output of the card. Select between:  
Balanced or unbalanced (with signal on pin 2 or pin 3).



**If you are connecting unbalanced cables to the Outputs when Outmode is set to "Balanced", the Outputs will be muted/un-muted sequentially via a goldplated short circuit protection relay. This is intentional and will not cause damage to any device.**

## Balanced/Unbalanced Operation

### Unbalanced operation

Some mastering studios prefer unbalanced wiring. Please read these notes for optimum performance. Preferably, balanced cables should be used on Inputs and Outputs even for unbalanced setups.

### Input

Pin 2 hot, pin 3 connected to reference (shield) at the Output of upstream device.

### Output, pin 2 selected

Pin 2 hot, pin 3 connected to reference (shield) at the Input of downstream device. In this mode pin 3 acts as a reference Input for the ADA2496 Output stage and should not be left unterminated.



This mode will not work properly with balanced inputs unless wiring is compensated as described. If wired properly, this is the optimum output mode for feeding unbalanced devices.

### Output, pin 3 selected

Pin 3 hot, pin 2 not needed. In this mode pin 2 and pin 1 carry the same output reference.



This works with balanced inputs using 1:1 wiring, but balanced mode should be selected if driving a balanced input.

## Filters

When operating the mainframe in normal Sample Rates (32 - 48kHz) you can select different down- and up-sampling filter types. The AD and DA conversions are always performed in high-sample domain (88.2 to 96kHz). Afterwards the digital down- and up-sampling is performed in the digital domain using a local DSP on the ADA24/96 card. Select filter type according to the source material you are working on.

### Filters

Chose between - Linear, Natural, Vintage, Bright and Standard (Std).

### "Linear" filter

These filters are linear-phase and non-aliasing (the stop-band starts below the Nyquist frequency). The pass-band response is extremely smooth and non-equiripple, extending beyond 20kHz. With the "Linear" filters you'll have a hard time discriminating between the sound of the conversion chain and direct analog, even at 44.1kHz!

### "Natural" filter

Based on the "Linear" filter class, but with a carefully adjusted non-linear phase response, these filters obtain an almost "better-than-live" reproduction of space while retaining crystal-clear imaging and absolute tonal neutrality. The "Natural" filters too are non-aliasing.

### "Vintage" filter

Based on the "Natural" filters, here we've added a bit of warmth and roundness to the treble by introducing a smoother "tube like" roll-off. This filter would be an exceptionally good choice when mastering material that seems too hard in the high-end frequencies. These filters too are non-aliasing and non-linear phase.

# FRAME - SYSTEM - I/O

## "Bright" filter

These filters are something entirely different: Ultra-short impulse response, linear phase and quite a bit of deliberate aliasing produces a "digital" and slightly aggressive sound adding plenty of top-end life to e.g. Rock and Techno recordings, or giving you the feeling of air you need when you are mastering a somewhat dark sounding source material.

## "Standard" filter

This filter emulates the response of typical mid-end converters: Equiripple half-band filters that are precisely 6dB down at the Nyquist frequency.



These filters are available in 44.1 and 48kHz.

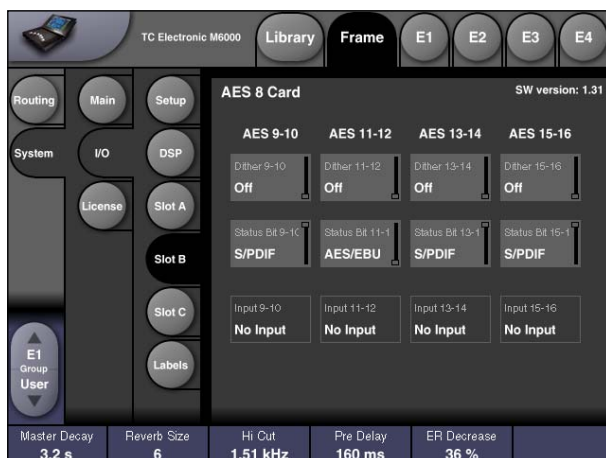
## Softclip

The Softclip algorithm runs in the 96kHz domain right after the AD conversion before the down-sampling filter.

## AES-8 Card

### Slot B with an AES-8 card installed

The following Setup page will appear in: Frame/System/I/O/Setup when an AES-8 card is installed.



## Analog Input - Digital Input

With an AES-8 card installed in a Mainframe, you must select whether Input channels 9 through 16 should be digital or analog.

### When Digital Input is selected:

Input channels 9-16 will be the AES-8 card.

### When Analog Input is selected:

Only analog Inputs are available!  
If an ADA-24/96 card is installed in slot A analog Input channels 9-10 are available.

If ADA 24/96 cards are installed in both slot A and C, analog Input channels 9-10 and 13-14 are available.

### Please note the following:

- No Inputs on the AES-8 card are available when analog Input is selected.
- Digital Input must be selected to activate AES-8 card Input channels 9-16 even if no ADA 24/96 cards are present.
- Outputs 9-16 are always available. If ADA-24/96 cards are installed, they will output simultaneously with the AES-8 Outputs on channel 9-10 (Slot A) and 13-14 (Slot C).

## I/O - Labels



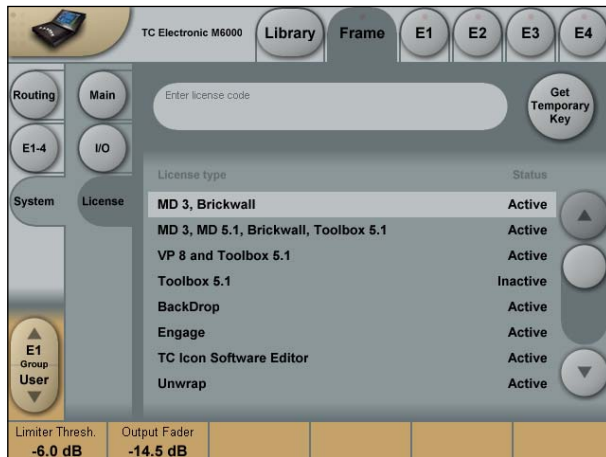
All physical Inputs and Outputs can be named/renamed. Enter the Titles page by pressing the tabs System and Titles. Press any of the 16 Inputs/Outputs and the Naming display will pop up. Enter adequate name for the Input/Output and press **Enter**. The names will be displayed on the Frame-Routing page.



The I/O Labels are global and are not stored or recalled at any preset level.

# FRAME - SYSTEM - LICENSES

## Licenses

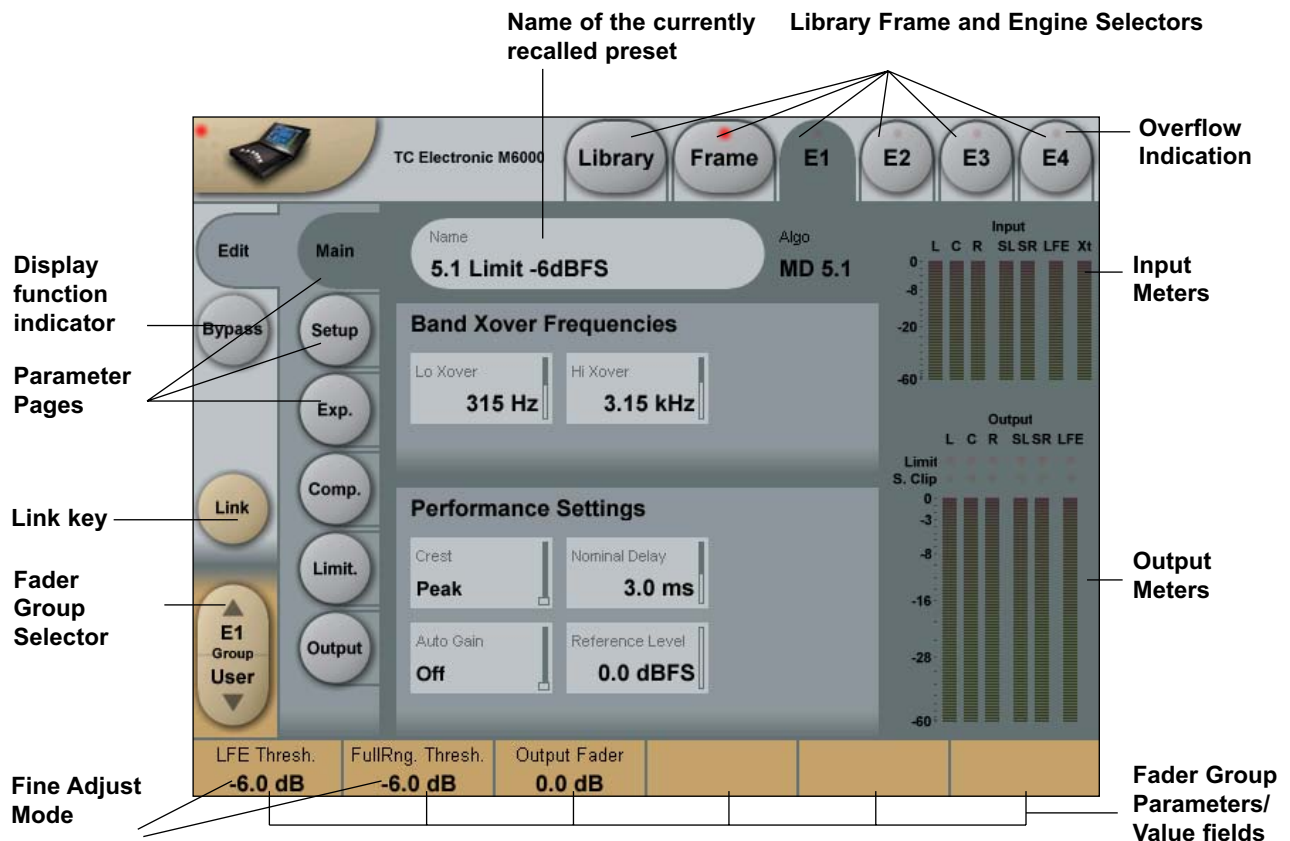


The System 6000 holds numerous algorithms as a part of the standard package. Various other algorithms are available. These algorithms require purchasing of Licenses.

The License types and their status (active/inactive ) available with the installed software are listed under "License Type". (see above)

To try out one or more of the licenses a time limited Demo Key can be achieved by contacting TC Electronic. Press the **Get Demo Key** and follow the instructions.

# ENGINE - EDIT PAGE



## The Engine 1-4 Edit Pages

This is where you edit algorithm parameters. Parameters in several algorithms are distributed on different pages. As illustrated above the MD 5.1 has 6 pages: Main, Setup, Expander, Compressor, Limiter and Output. Depending of the quantity of parameters represented in the groups one or more groups will be displayed.

### Basic operation

- Press E1 to E4 to select Engine. Parameters for the recalled algorithms are instantly available for editing.
- Select a parameter group. In the example above - a MD 5.1 algorithm - the groups are Main, Setup, Expander, Compressor, Limiter and Output.
- All parameters are assigned to the Fader Groups. Select Fader Group using the **Fader Group** selector.
- Press any parameter and it is assigned to Fader 6.

### Overflow Indication

If internal overflow occurs this will be indicated on the Frame and Engine Tabs via a red LED.

## Fader User Group - Assign key

By pressing the **Fader Group Selector Up** key you enter the User group. In this group you can assign any parameter to any Fader. The User Fader group is stored with a preset.

- Press the **Link** key.
- Select the Fader you wish to link a parameter to, by pressing the field just above the fader.
- Press the parameter you wish to link to the selected fader.

### Bypass

The **Bypass** key will respond in different ways depending on the recalled algorithm. See specific algorithm description. In some algorithms the **Bypass** will work as a mute function.

### Naming a Preset

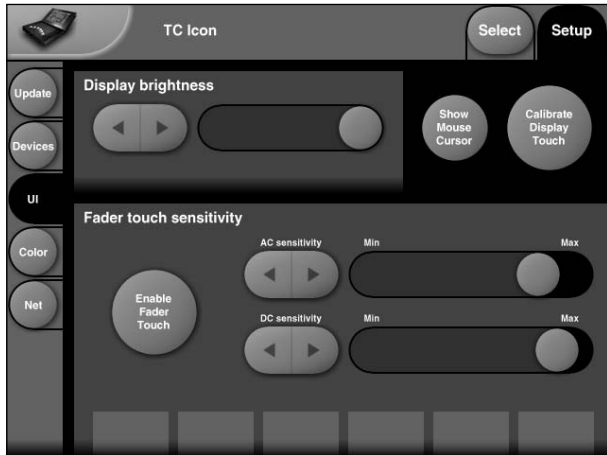
- Press the Name field. A keyboard will pop up. (See the "Naming display" section).
- Type in the new name.
- Press **Enter**.

## Parameter value - Fine Adjust

Any parameter value can be adjusted in two accuracies. A Normal and a Fine Adjust - mode. To switch between the two modes press the Value Fields above the faders. As shown in the illustration the Fine Adjust mode will be indicated with two triangles in the value field.

# ICON SETUP

## Icon User Interface



Go to the **Select & Setup** pages pressing the **TC Icon** key in the upper left corner. Press **SETUP** (upper tab) and **UI** (side tab) to enter the setup page for the TC Icon display.

### TC Icon Display Parameters

In this display you setup various parameters regarding the appearance of the display as well as the Fader Touch Sensitivity.

### Display Brightness

Adjust the brightness of the display using either the **Arrow** cursors or simply drag the **Adjust handle**.

### Show Mouse Cursor

Press to show mouse/pointer position.

### Calibrate Display Touch

For optimal performance the Touch Screen will at times need to be calibrated. Press and follow instructions to Calibrate the Touch Screen.

### Fader Sensitivity

To avoid accidental movement of the faders they are sensitive to humidity and will only respond when touched by your skin.

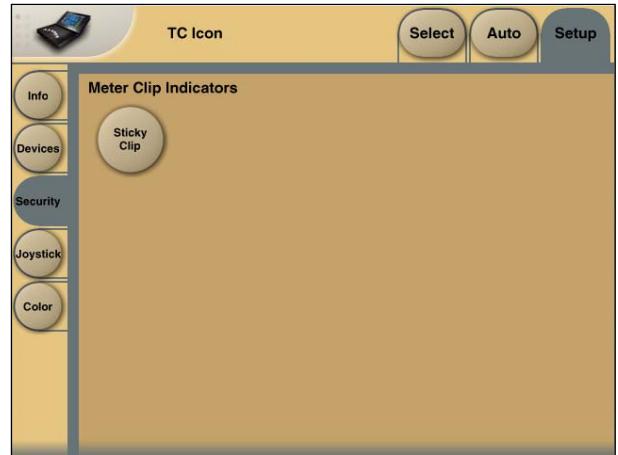
### Enable Fader Touch

Enables touch sensitivity of the Faders.

### AC/DC Sensitivity

Sets the Faders sensitivity to AC and DC. Adjust these handles to achieve optimal performance in your environment.

## Sticky Clip



### Meter Clip Indicators

If the Sticky Clip function is activated the Internal Overload LED on the Frame Routing page will stay lit once activated until Reset Clip on the Frame Routing page is pressed.

## Icon Color Scheme



### Color Scheme

Select the Color scheme of your choice. Depending on the surrounding light conditions different schemes may be more appropriate than others.

## Auto Edit Page



In the Auto Edit page all automation Events are listed and handled.

### Keep

Press to save the Event List locally on the Icon. It is possible to save one Event List on the Icon. Additional cue-lists can be stored and recalled on floppy disks on the Mainframe. The **Keep** key will turn red as soon as any editing of the list has taken place, indicating that you must press to save the list.

This key corresponds/is the same, as the **Keep** key located on the File page. (see following page)

### Write

When enabled any program change is written to the SMPTE Event List. This can be. e.g Engine, Routing or Scene recalls.

### Read

When enabled the Event list will be executed according to incoming SMPTE clock. Read and Write functions can be activated simultaneously.



General Read and Write status is given in the **Icon Tab** in the left corner.

### Save

Press to save the Event list. The **Save** key will turn red as soon as any editing of the list has taken place, indicating that you must press to save the list.

This key corresponds/is the same, as the **Save** key located on the file page. (see next page)



Be aware that until **Save** is pressed Edited SMPTE information is not yet stored in the Event list. For convenient indication the **Save** key will be red as soon as any alteration of the current Event list is present.

### Cursor

The white triangular cursor always indicates the current clock position in relation to the Event List.

### Event Parameters

For each Event the following parameters are available.

- Time - indicates the SMPTE time at which the Event takes place.
- Device - indicating on which Device Mainframe the Event is taking place. Device numbers 1-8, corresponds to the Device position at the Select page.
- Event - states the occurring Event at the given time.

### Modify

Press this key to access Event parameters for the currently selected Event. (see further description below)

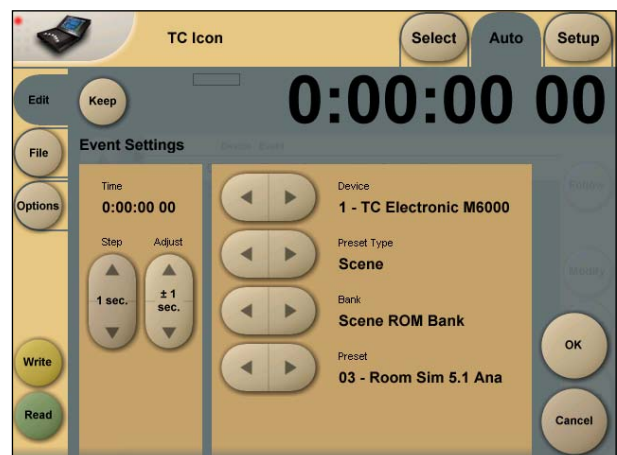
### Insert

Press to insert an Event (see further description below)

### Delete

Press to delete the selected Event.

## Modify/Insert - Edit



## Event Settings

### Operation

- To access Event settings press **Modify** in the Edit page.
- Setup all parameters for the Event you are about to Modify or Insert.
- Press OK to confirm.

### Time

The time where the Event being Modified or Inserted is taking place.

### Step/Adjust

Range: Frame, 1 Second, 10 Seconds, 1 min., 10 min. or 1 hour.

Use the Step parameter to select Adjust range and the Adjust parameter to increase/decrease the time.

# SMPTE

## Device

This parameter selects which Mainframe connected to the LAN you are working on. Device numbers 1-8, corresponds to the Device position at the Select page.

## Preset Type

Selects whether the preset Event you are working on is a Scene, Routing, Engine or a System preset.

## Bank

Select the bank related to the preset you are about to setup/recall via SMPTE.

## Preset

Select the preset from the selected bank

## File



## Current List

### Keep

Press to save the Event List locally on the Icon. It is possible to save one Event List on the Icon. Additional cue-lists can be stored and recalled on floppy disks on the Mainframe. The **Keep** key will turn red as soon as any editing of the list has taken place, indicating that you must press to save the list.

This key corresponds/is the same, as the **Keep** key located on the Edit page. (see previous page)

### Revert

This "Undo" function allows you to revert the to the last saved SMPTE Event list. This is the List that is stored locally on the TC Icon.

### Clear

Press **Clear** to delete the entire SMPTE Event list present in the TC Icon.

## Remote device disk drive

Event lists can easily be organized and saved to a Floppy disk in the Mainframe.

Mainframe selection is done in the Auto Edit page.

## Get List

Press to get a list of all SMPTE Event lists stored on the floppy disk located in the Mainframe.

## New

Press **New** to create and name a new Event list in the floppy disk in the Mainframe.

## Save

Press to save the current Event list to the disk.

## Load

Press to load Event list from disk.

## Delete

Press to delete selected Event preset from the Event Preset list.

## Options



## Automation Timecode Options

### Master Sync Device

Select which of the Mainframes connected on the LAN you wish to act as Master Clock.

### Start Of Daytime

Range: 23:00:00:00 or 00:00:00:00

If the SMPTE time code present on your tape media or film does not start exactly at the beginning of the tape the 23:00:00:00 setting would be a good choice to keep chronological order in the Event List.

# TC ICON SOFTWARE EDITOR

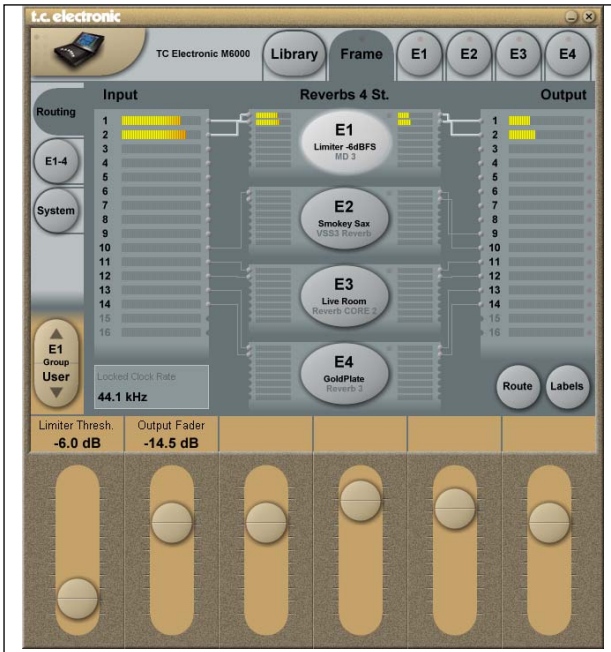
The TC Icon Software Editor is a fully operational software remote control for the System 6000

All functions available via the TC Icon hardware version are also available via the Software Editor.

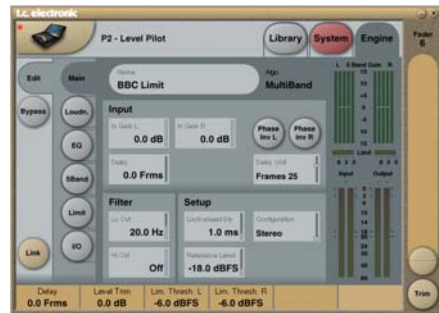
A network adapter must be installed in your computer for connection to a Mainframe.

To install the TC Icon Software Editor, please follow the instructions in the Hardware & Installation chapter.

The Hardware & Installation chapter also explains how to setup TCP/IP addresses etc.



Fader at right side



No faders



## UI - Icon Views

On the Icon Setup page two sub-pages are available for controlling the TC Icon appearance.

### Fader appearance

Three options are available. Changes will take place next time you open the TC Icon.

### Faders at bottom

