English

# SYSTEM 6000

*Ultimate Multichannel Processing Platform*

# Basic Operation

t.c. electronic®

ULTIMATE SOUND MACHINES

# IMPORTANT SAFETY INSTRUCTIONS

The lightning flash with an arrowhead symbol within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product.

1 Read these instructions.
2 Keep these instructions.
3 Heed all warnings.
4 Follow all instructions.
5 Do not use this apparatus near water.
6 Clean only with dry cloth.
7 Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8 Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9 Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10 Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11 Only use attachments/accessories specified by the manufacturer.

12  Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.

13 Unplug this apparatus during lightning storms or when unused for long periods of time.
14 Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

**Warning**
- To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture.
- This apparatus must be earthed.
- Use a three wire grounding type line cord like the one supplied with the product.
- Be advised that different operating voltages require the use of different types of line cord and attachment plugs.
- Check the voltage in your area and use the correct type. See table below:

| Voltage | Line plug according to standard. |
|---|---|
| 110-125V | UL817 and CSA C22.2 no 42. |
| 220-230V | CEE 7 page VII, SR section 107-2-D1/IEC 83 page C4. |
| 240V | BS 1363 of 1984. Specification for 13A fused plugs and switched and unswitched socket outlets. |

- This equipment should be installed near the socket outlet and disconnection of the device should be easily accessible.
- Do not install in a confined space.
- Do not open the unit - risk of electric shock inside.

**Caution:**
- You are cautioned that any change or modifications not expressly approved in this manual could void your authority to operate this equipment.
- Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type.
- Ventilation should not be impeded by covering the ventilation openings with items, such as newspapers, tablecloths, curtains, etc.

**Service**
- There are no user-serviceable parts inside.
- All service must be performed by qualified personnel.

**EMC / EMI**
This equipment has been tested and found to comply with the limits for a Class B Digital device, pursuant to part 15 of the FCC rules.
These limits are designed to provide reasonable protection against harmful interference in a residential installations.
This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.
If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

The user may find the following booklet, prepared by the Federal Communications Commission, helpful:
"How to identify and Resolve Radio/TV interference Problems."
This booklet is available from the US. Government Printing Office, Washington, DC 20402, Stock No. 004-000-0034-4.

**For the customers in Canada:**
This Class B Digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations. Cet appareil numérique de la classe B respecte toutes les exigences du Réglement sur le matériel brouilleur du Canada.

## Licenses


If you have purchased any of the optional software Licenses or the TC Icon Software Editor, then read the License Agreements in the Appendix section prior to use.

# TABLE OF CONTENTS

## Introduction



## Operation



## Hardware

# GETTING STARTED

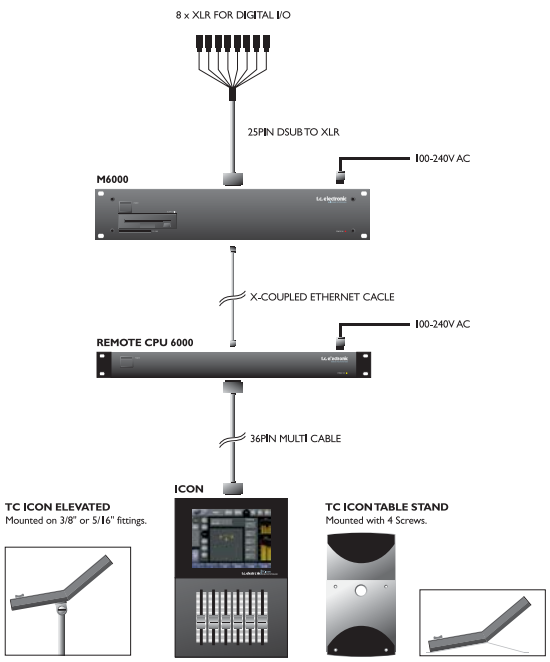
## Introduction

This is a Quick Guide on how to setup and operate a System 6000. For detailed instructions and full presentation of the algorithms please refer to the complete manual. The complete manual is available in English and can be downloaded via www.tcelectronic.com

A **Basic System 6000** consists of a Mainframe, a Remote CPU and TC Icon and this type of setup is the basis for this Quick Guide. The Remote CPU and the TC Icon Remote are to be viewed as one item as the one unit Remote CPU is a necessity for using the TC Icon Remote.

Instead of controlling the System 6000 with the TC Icon hardware version the system can also be controlled using a **TC Icon Software Editor** which operates equally well on PC and Mac computers. The usage of a computer with the TC Icon Software Editor or the usage of several Mainframes or Hardware Icons in a system requires HUB. Read all about the installation of the Software Editor in the appendix *TC Icon Software Editor*.

**The Basic Setup**

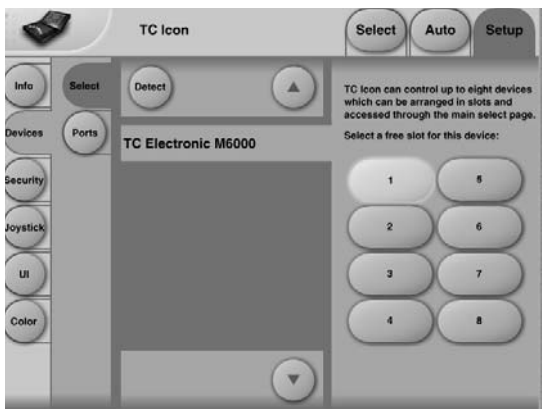



## Getting Started

- Connect the supplied “25 pin D-SUB to XLR” to the “Eight Channel to XLR I/O” connection on the DSP card rear panel. The DSP card is located in the Mainframe. These are your Audio audio In/Out connections.
- Make appropriate audio connections. Channel distribution is marked on the XLR connectors.
- Connect the Mainframe to the Remote CPU using a cross-coupled ethernet (CAT-5) cable (supplied).
- Connect the TC Icon to the Remote CPU using the supplied 36 pin multi-cable.

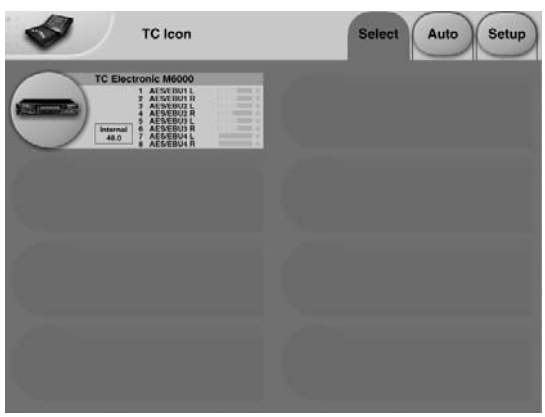
NOTE A standard setup requires the usage of a cross-coupled ethernet cable (supplied).
However, when several Mainframes and/or TC Icons or PC/Mac Editors are to be connected at the same time a HUB must be used. When using a HUB you must use non-cross-coupled ethernet cables.

- Power up both The Remote CPU and the Mainframe.
- The TC Icon Setup page appears.
- Press the **Assign** key. The TC Icon will then scan the System and find the connected Mainframe.
- When the Mainframe is detected, assign the frame to one of the eight shortcut keys in the right side of the display, by pressing one of the eight keys to the right. Any key will do.




When several Mainframes are connected this page serves as a convenient organizer for the entire system.

- Go to the Select page (top-tab), and you will see a screen similar to the one below depending on number of connected units and in which locations you have assigned them.




- Press the large **Mainframe** key.
- TC Icon now retrieves data from the Mainframe.
- When ready you will see the Frame - Routing display (see next page), and you are ready to operate the Mainframe.

# BASIC THE TC ICON ELEMENTS

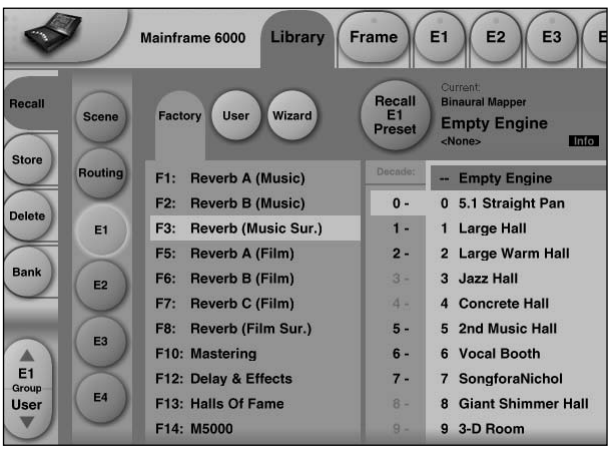
Before moving on to **Getting Sound** a few words on:
**Basic TC Icon operation**

Navigating the TC Icon is easy when a few basic elements are explained. The **Icon Link** key in the upper left corner allows you to navigate between two pages/modes.

On the **Select/Setup pages** you handle overall System settings that are NOT specific for individual Mainframes. It is also from here you access a specific Mainframe. The “Auto Page” deals with SMPTE automation.

Via the **Operating Pages** you operate a specific mainframe.

**Example - Operating pages**




## Structure

The core element of System 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.

## Resources

The powerful and flexible DSP distribution structure lets you run up to 4 Engine presets at the same time using any available algorithms.

## Operating Levels - Preset Types

We differentiate between 3 levels of presets:
Scene, Routing and Engine.

- **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.”

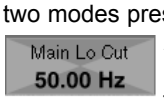
- **ROUTING**
  Handles all I/O Routings, including all physical I/O connections to the Engine I/O’s. No algorithm (Engine) settings are recalled/stored with this selection. A Routing preset holds all parameters displayed on the Frame-Routing page.

- **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 **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.

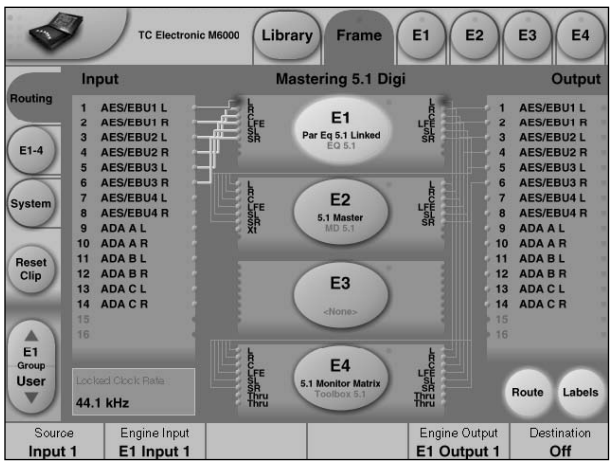
User Fader Group - Custom Group
A User Fader group where you can assign parameters to all 6 faders can also be created and saved along with the preset. The User Fader group is selected by pressing the **Fader Group** selectors.

# BASIC TC ICON ELEMENTS

## Getting sound

We assume that you have connected audio to the Mainframe.
If not already there - enter the Frame/Routing page by pressing the upper **Frame** tab and the **Routing** tab.

## Frame - Routing




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.

**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 -** try it!
- Select Engine Input using **Fader 2**
- Select an Engine Output using **Fader 5**
- Select Physical Output using **Fader 6**

With correct audio connections and a signal present on the Inputs you should no have audio through the system.

Read more about the Routing possibilities in the Routing chapter.

## UI - Icon Views - PC Editor Only!

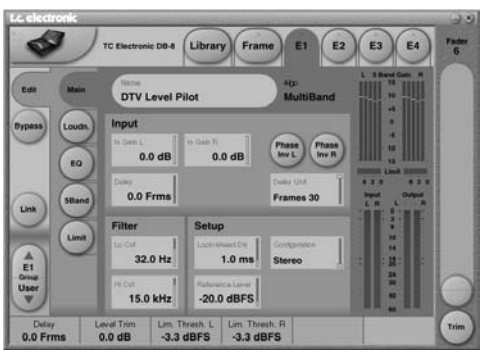
**On the Icon Setup page two sub-pages are available for controlling the TC Icon appearance.**

**Fader appearance**

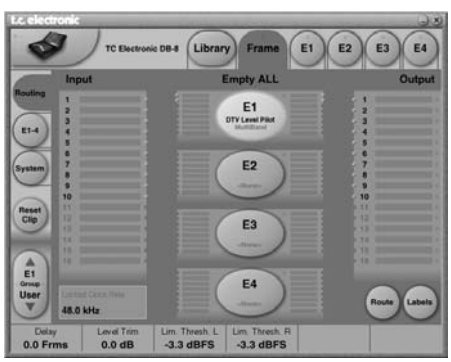
Three options are available. Changes will take place next time you open the TC Icon.

**Faders at bottom**

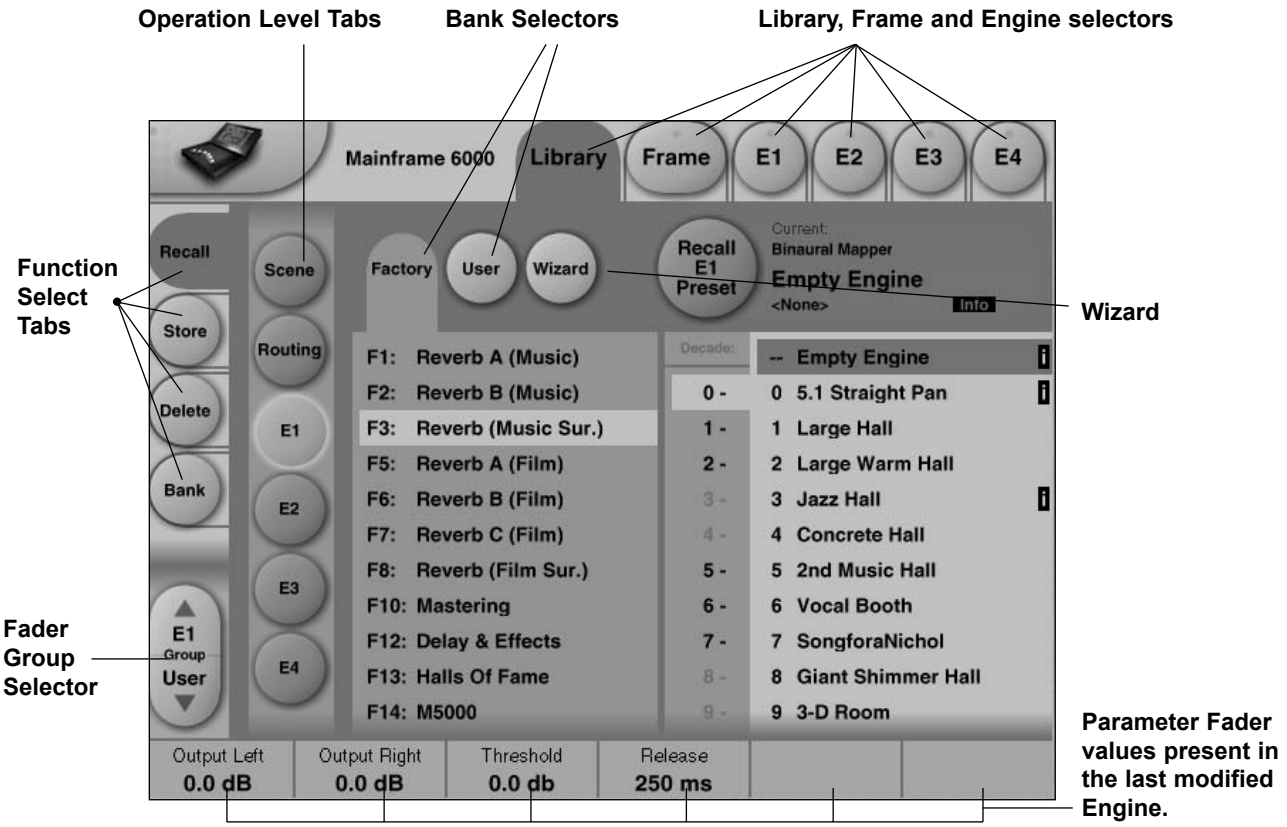

**Fader at right side**




**No faders**



# LIBRARY RECALL PAGES




## Recalling presets

This section describes how to recall/load the various preset types available in System 6000.

To access the Recall functions press:
**Library** (top tab), **Recall** (side tab) and **Scene, Routing** or **Engine 1-4** depending on the level of Recall you wish to make.

Page 5 of this manual describes the difference between Recall, Scenes and presets.

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

**Scene**
Gives access to the following preset banks:
- ROM (Presets #0-49)
- User (Presets #0-49)

**Routing**
Gives access to the following preset banks:
- ROM (Presets #0-49)
- User (Presets #0-49)

**Engine 1-4**
Gives access to the following preset banks:
- ROM (Banks #0-13 with 100 presets in each bank.)
- User (Presets #0-99)

**Recalling step by step**
- 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 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.

NOTE 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 F1: Reverb Music bank.

**Wizard**
Recall Wizard to assist you in selecting presets for your application. See next page.

**Algorithm Filter**
As described on the next page, an Algorithm filter is available on the Engine recall pages. With this filter you can narrow down your preset recall options by selecting specific filter categories.

NOTE The **Algo Filter** key indicates when the filter is active/inactive. When the filter is active you can only recall the presets defined via the algorithm filters.

# SEARCH 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 Search-Wizard function. Basically the Wizard allows you to set up a few criteria 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”.

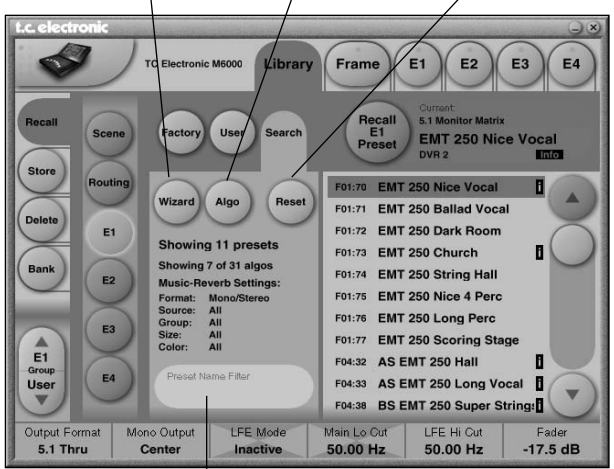

The Wizard is of course 100% non-destructive and you can at any time press **Reset** to cancel all Wizard settings and obtain full access to all presets.

## Search “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:**

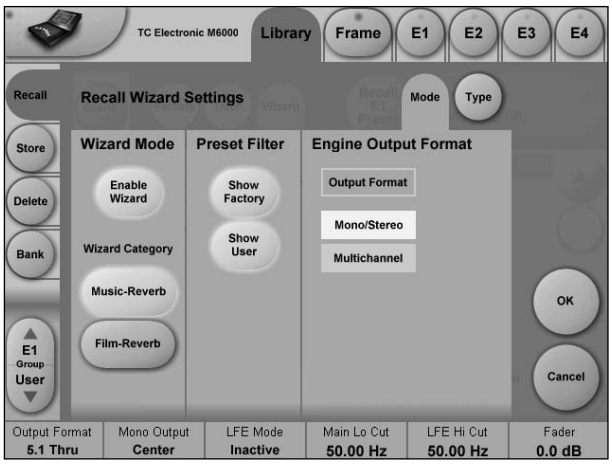
1 **Wizard** — Applies specifically for Reverb presets

2 **Preset Name Filter**

3 **Algorithm Filter**

Applies for all preset types

## 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.

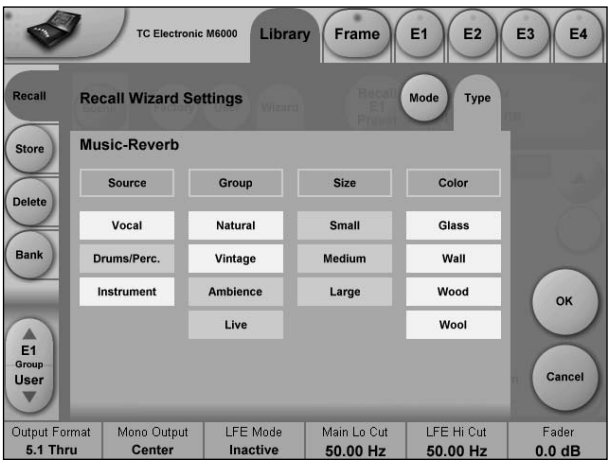
**Engine Output Format**
Press **Output Format** to activate the Output format filter. Then specify which Output format the presets you are searching for should have.
Options are Mono/Stereo or Multichannel or both.

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

## Type

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

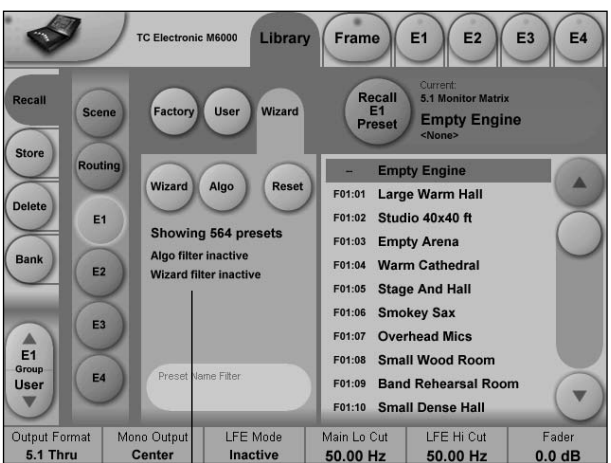
- Specify from which types of presets you would like to recall. Types vary depending on the selected Wizard Category selected on the Mode page.
- Pressing the top field in each column will select or deselect the entire column.




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

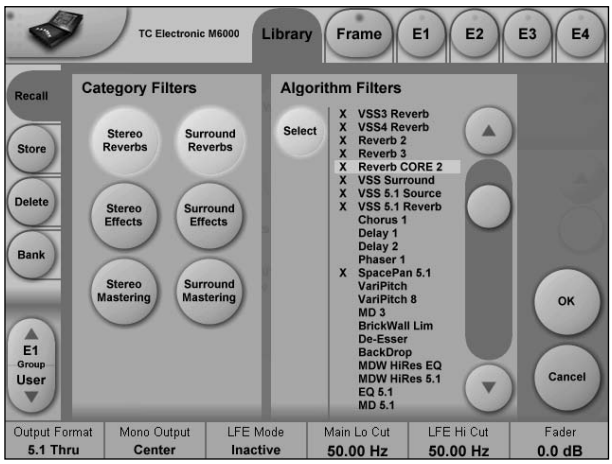
On this page you will now have an overview of your Wizard, Name and Algo Filter selections.

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



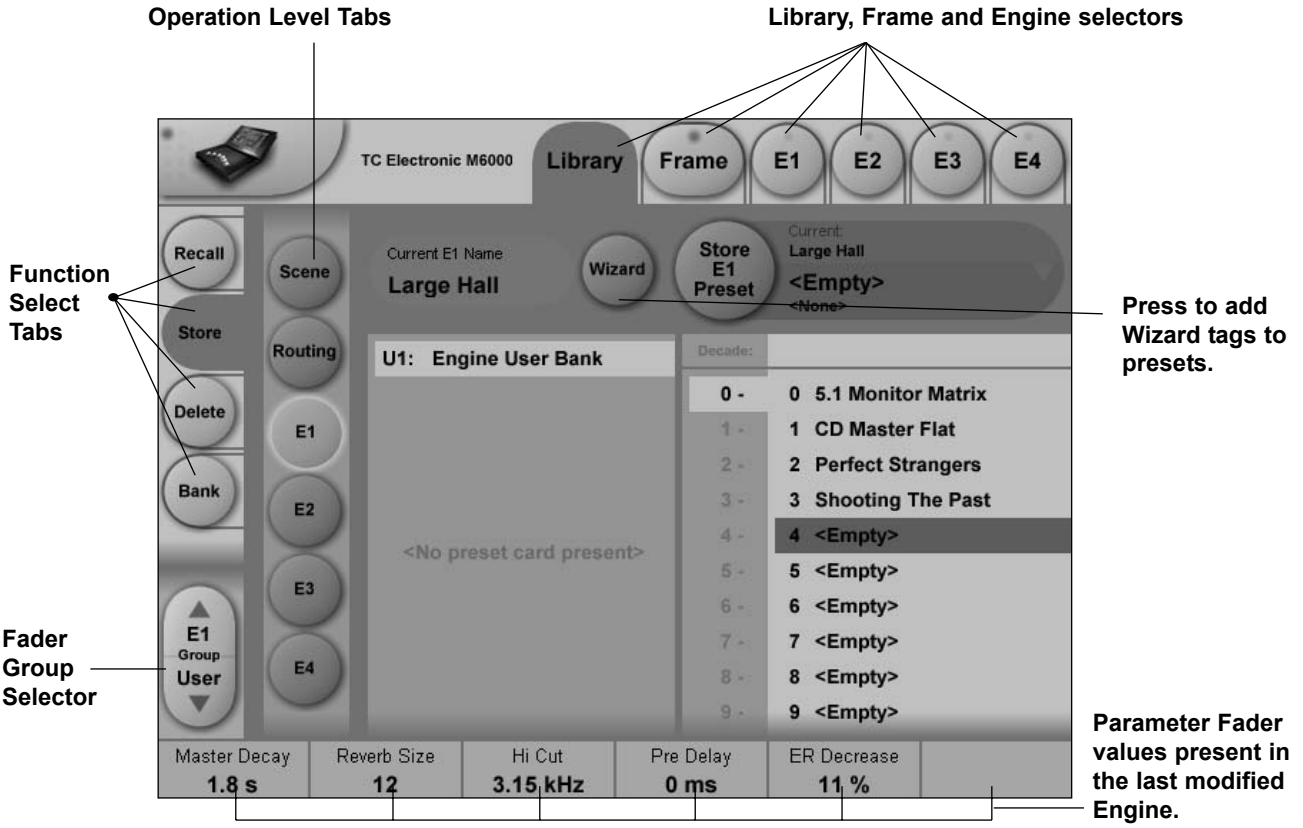

To access; press the **Algo** tab on the Wizard "main-page".

**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 the following banks are available for store operations.

**Scene**
Allows you to store in the following bank.
• User (Preset #0-49)

**Routing**
Allows you to store in the following bank.
• User (Preset #0-49)

**Engine 1-4**
Allows you to store in the following bank.
• User (Preset #0-99)

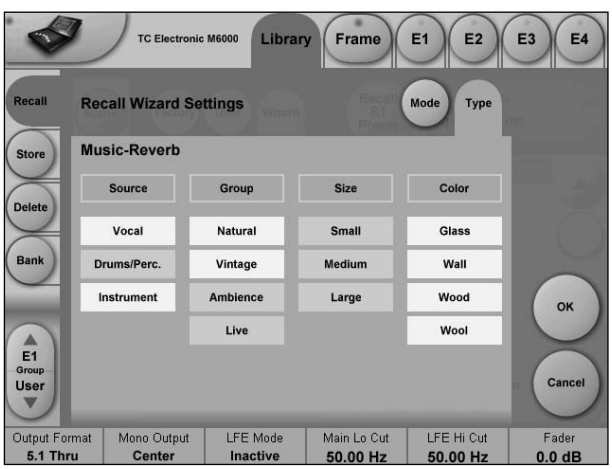
**Storing a Preset**
- Press the **Store** tab and select Scene, Routing or Engine 1-4.
- Use the **"Slider"** to select a preset location.
- Press the **Store** key to store the preset.

**How to rename a Scene, Routing or Engine preset**
- Press the Name field. A keyboard appears. (See next page)
- Type in the new name.
- Press **Enter**.

NOTE 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.

NOTE 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.

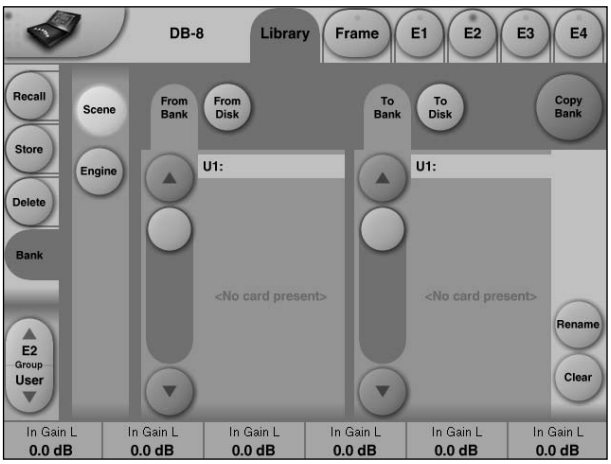



Via the Mode and Type pages you can add preset tags to user presets. When recalling presets using the Wizard; these are the tags used.
For further instruction on the Wizard please read pages 8 and 9 of this chapter.

# BANK COPY - NAMING DISPLAY - DELETING PRESETS

## 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.**




**Basic Operation**
Recalling/Storing to and from a 3.5” floppy or a PCMCIA card 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**.

**Scene/Routing/Engine Banks**
To/From Bank
Banks can be Scene, Routing, Engine, or Card banks if these are present on a PCMCIA card placed in the Mainframe front panel.

To/From disk
File banks can be Scene, Routing or Engine Banks located on a 3.5” disk present in the Mainframe.

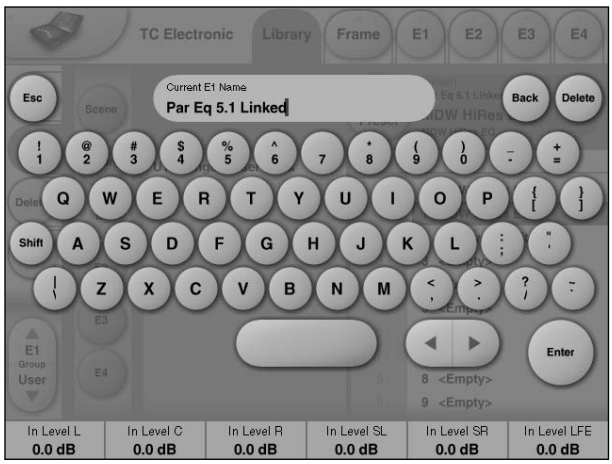
**Copy**
Press to activate copy function between the selected Banks.

**Rename**
Press to rename selected bank via the Naming display.

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

## Naming Presets

**All user preset types - 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**.

NOTE
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.

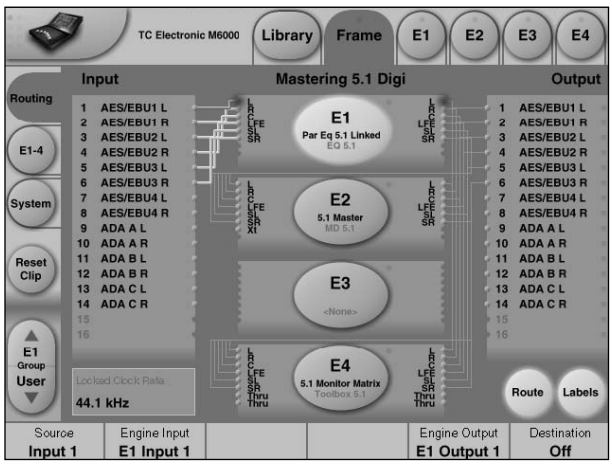
## Library - Delete

**It is possible to “clean up” the User bank by deleting individual presets via the Delete page.**

**Deleting a Preset**
- Press **Delete** (side tab) and select level by pressing **Scene**, **Routing** or **Engine**.
- Select the preset to delete using the on-screen **“Slider”**
- Press the **Delete** key to delete the preset.

# 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 5**
- Select Physical Output using **Fader 6**

**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 behave as if they were external devices.

**Internal overload LEDs and Reset Clip key**
Each Engine is is constantly monitored for internal overload. The small dot in the right side of the oval Engine key indicates when internal overload occurs. In this situation it is advisable to reduce 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".

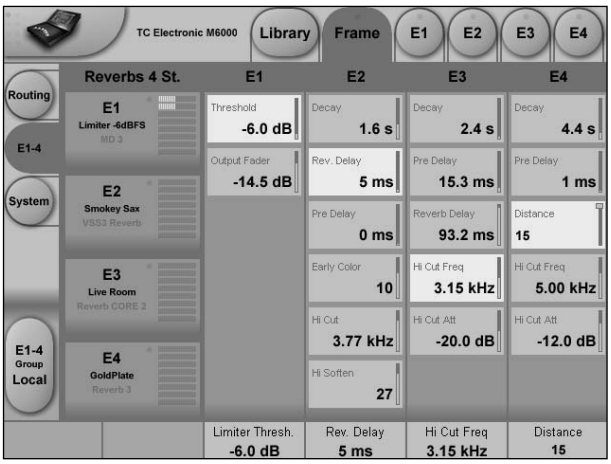
**Renaming Physical Inputs and Outputs**
Input and Output channels can be labeled individually. This is a global renaming process and is accessed by pressing **System** (side tab) followed by **I/O** and **Labels**.

## 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.

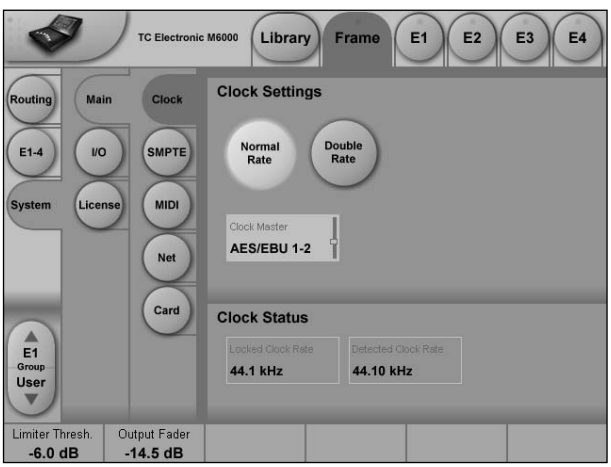
# FRAME - SYSTEM - MAIN

## Frame - E1 to E4




This page holds the User group parameters for all four Engines. Selecting User group parameters is done from the Engine pages. Values can be altered from both the Engine Edit pages and the page displayed above. Press the parameter you wish to assign to the Fader located below.

## Clock




**Clock Mode**
To be able to successfully clock your system you must select between two basic ranges of Sample Rates. We call these ranges Normal and Double mode. Double mode covers Sample Rates 88.2 and 96kHz, Normal mode covers 32, 44.1 and 48kHz. If incorrect mode is selected when trying to lock, no lock status can be obtained.

Normal Rate:
32, 44.1 or 48kHz are supported.

NOTE When Internal mode is selected 44.1 or 48kHz are supported

Double Rate:
88.2 or 96kHz are supported.

**Clock Master**
Select the Clock source for the complete Mainframe, including all Engines and all I/O's.

Select between:
Internal, Wordclock, AES 1-2, 3-4, 5-6 or 7-8.
A lock up to an external source will take approx. 7 sec.

NOTE It is not necessary to have the Physical Input routed to an Engine Input to have the clock accepted.

**Internal Clock Rate**
The internal Clock Rate can be set to 44.1 or 48kHz when Clock Mode is set to Normal and 88.2 or 96kHz when Clock Mode is set to Double.

**Locked Clock Rate**
The Clock Rate to which the Mainframe is currently locked. If the incoming Sample Rate is +/- 0.2% away from 32, 44.1, 48, 88.2 or 96kHz the Sample Rate will be shown with an added "!" to indicate that the Sample Rate is inaccurate.

**Detected Sample Rate**
This is a read-only parameter indicating the actual incoming Sample Rate. The tolerance of this detection is +/- 10Hz. An incoming Sample Rate of 44.056kHz will be detected as approx. 44.06kHz and the system indicates the Locked Clock Rate 44.100kHz.
The system will lock to and reject jitter at any Sample Rate between:

- 30 - 34kHz
- 42.5 - 45.5kHz
- 46.5 - 48.5kHz
- 85 - 91kHz
- 93 - 97kHz

**Sample Slip**
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.

Sample Slip
The Input is out of sync with the Mainframe. Check that there is only one Master Clock source in your setup.

Not Available
Indicates no connection available.

# FRAME - SYSTEM - MAIN

## SMPTE

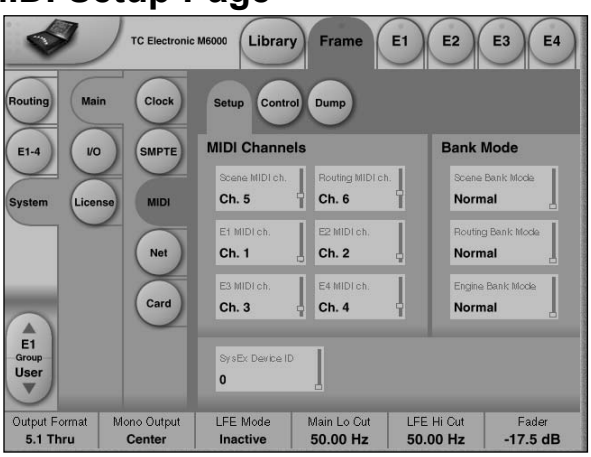

**Basic Operation**
- Press parameter to select and use Fader 6 to set value.

**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.

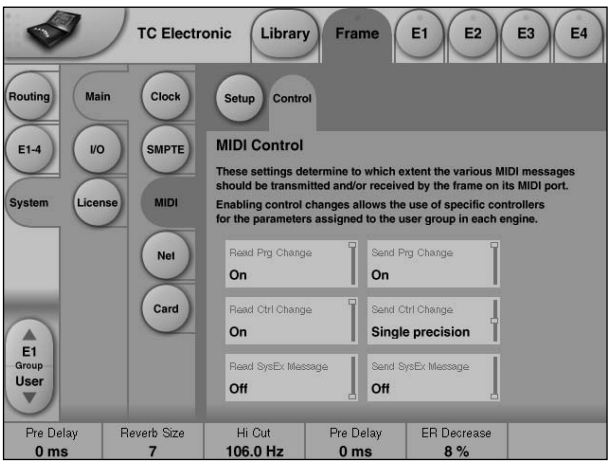
| | | | |
|---|---|---|---|
| Ctrl 32 value 0 | - | F1: | Reverb A (Music Stereo) |
| Ctrl 32 value 1 | - | F2: | Reverb B (Music Stereo) |
| Ctrl 32 value 2 | - | F3: | Reverb (Music Surround) |
| Ctrl 32 value 3 | - | F4: | Reserved |
| Ctrl 32 value 4 | - | F5: | Reverb A (Film Stereo) |
| Ctrl 32 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.

**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.

## External MIDI Control - of Fader Parameters

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 22 in this manual section explains how to create User Fader Groups. Fader Groups are explained on page 5.

**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: 128x128=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**

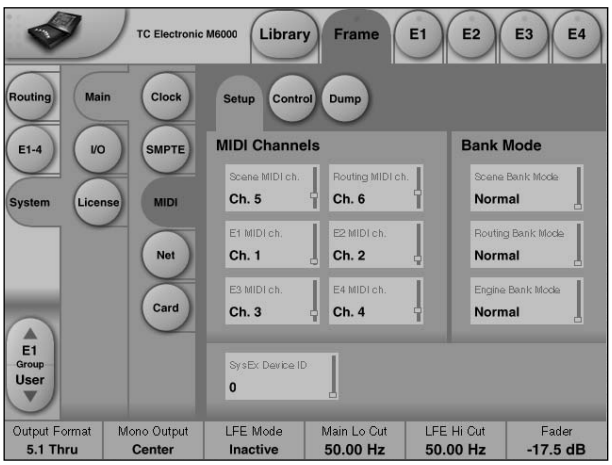
(Note that both LSB and MSB must be sent for double precision)

| | | | |
|---|---|---|---|
| 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 the System 6000 can easily solve this problem for you.

  The controls used are called Read/Send-Control/Program Changes, and determines whether you want to send, or receive MIDI Control Change/Program Changes.
  These features are 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.
- 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

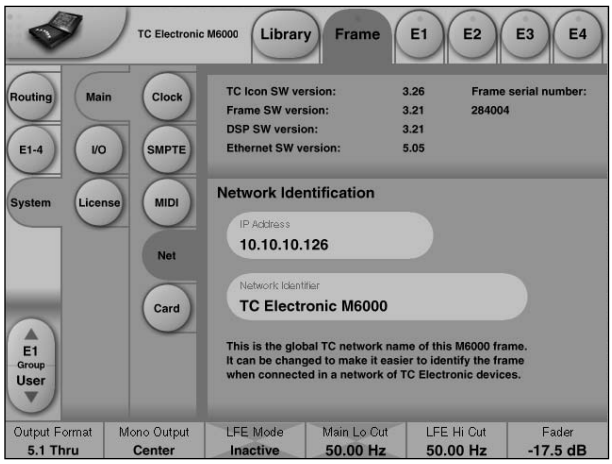
- Play back

**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

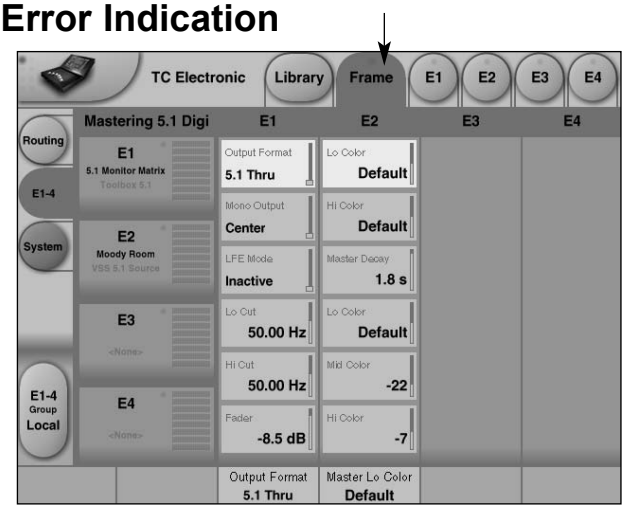
## Net




**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.

## 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.

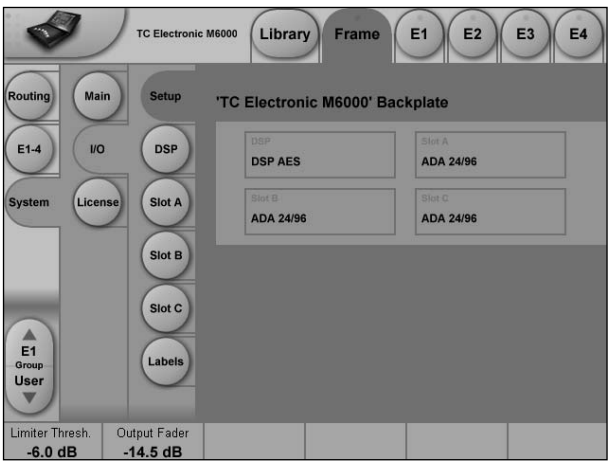
# FRAME - SYSTEM - I/O

**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 and select System - I/O as illustrated below

## I/O - SETUP

**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 - 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.

**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 indicate 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.

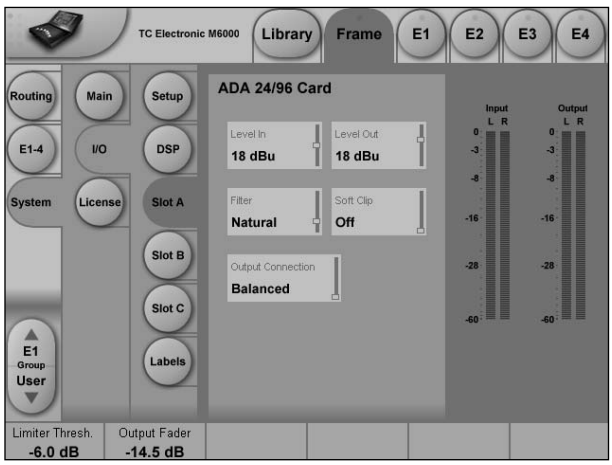
Sync Error (Red)
The Input is or has been out of sync with the mainframe. Press the **Reset** key to see if Sample Slips are still occurring. - If so - Check that there is only one Master Clock source in your setup. This monitoring function is excellent when trying to determine which connected device is out of sync.

No Input
Indicates no connection available.

## 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 set Inlevel to +16dBu 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).

WARNING **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 the following 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.

NOTE 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.

NOTE This works with balanced Inputs using 1:1 wiring, but balanced mode should be selected when 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.

**"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.

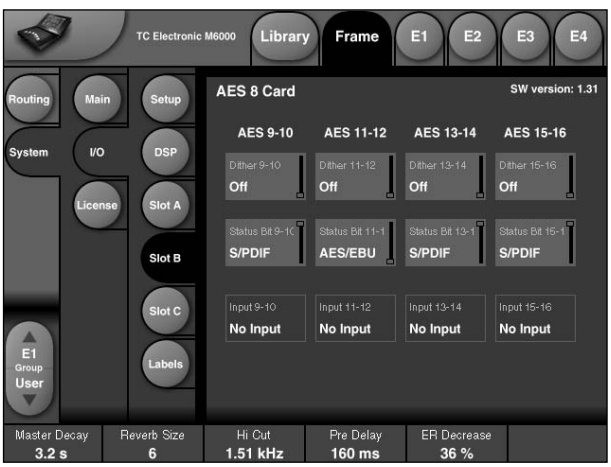
NOTE These filters are available in 44.1 and 48kHz.

**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.**



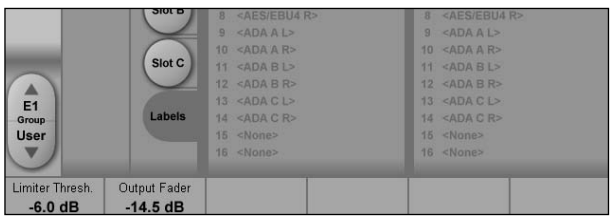

**Analog Input - Digital Input**
With an AES-8 card installed in a Mainframe, you must select whether Input channels 9 through 16 should be digital or analog.

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).

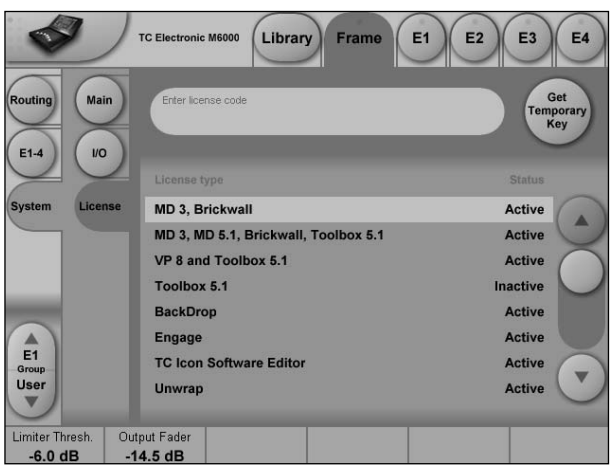
# I/O - Labels




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.

NOTE The I/O Labels are global and not affected by preset changes.

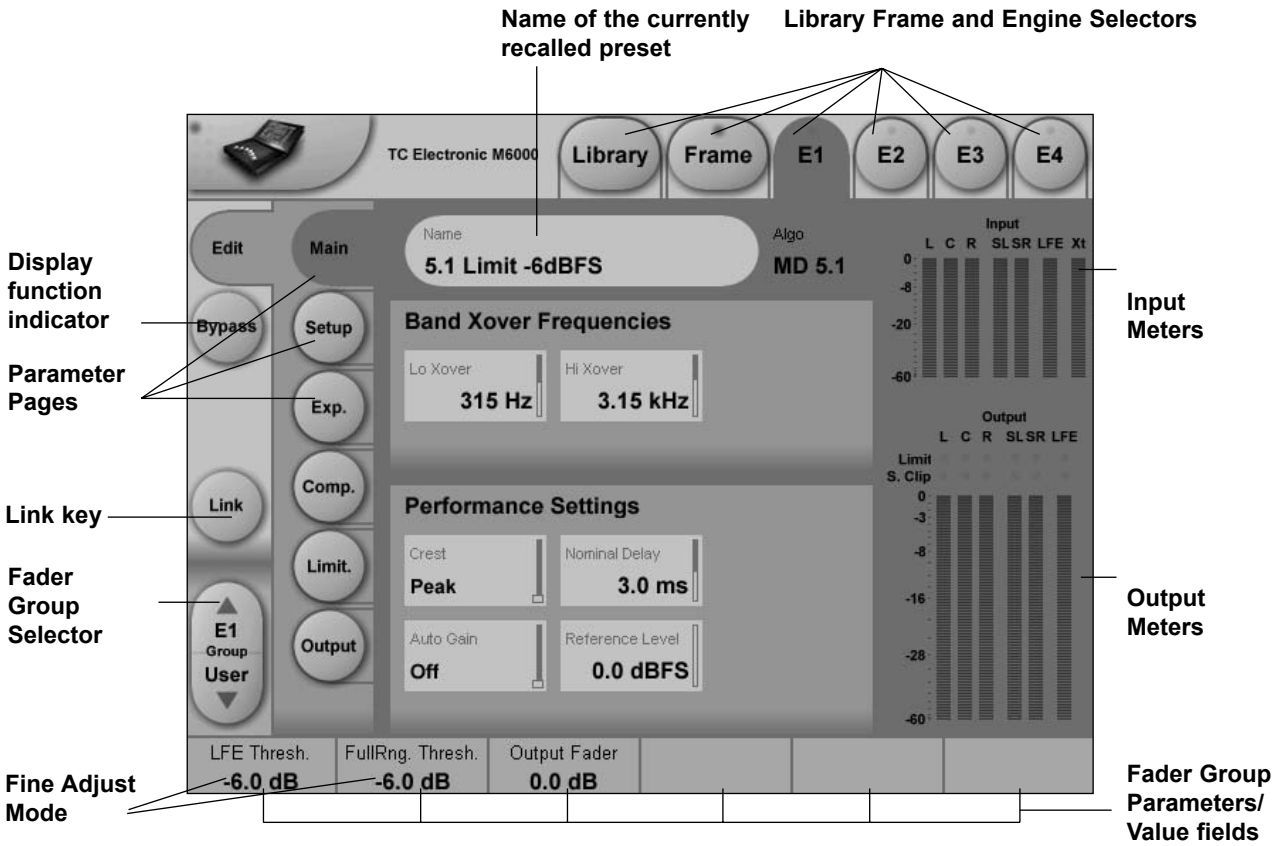
# Licenses




The System 6000 holds numerous algorithms as a part of the standard package. Various additional algorithms are available. These algorithms require purchasing of Licenses. and expands the Reverb 6000 to a System 6000.
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.

Any parameter can further be assigned to Fader 6 at any time .

## 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**

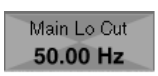
The **Bypass** key will respond in different ways depending on the recalled algorithm. See specific algorithm description. In some algorithms the **Bypass** will work as a mute function.

**Naming a Preset**

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

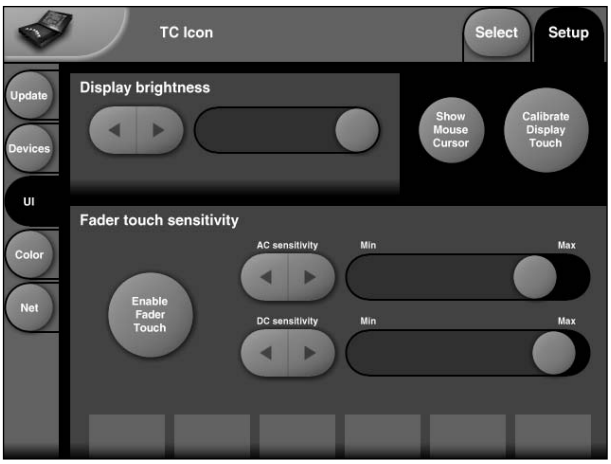
## Parameter value - Fine Adjust

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.

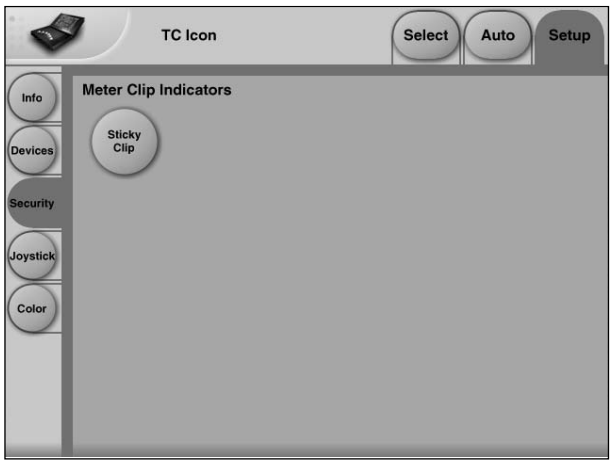
**Calibrate Display Touch**
For optimal performance the Touch Screen will at times need to be calibrated. Press and follow instructions to Calibrate the Touch Screen.

**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.

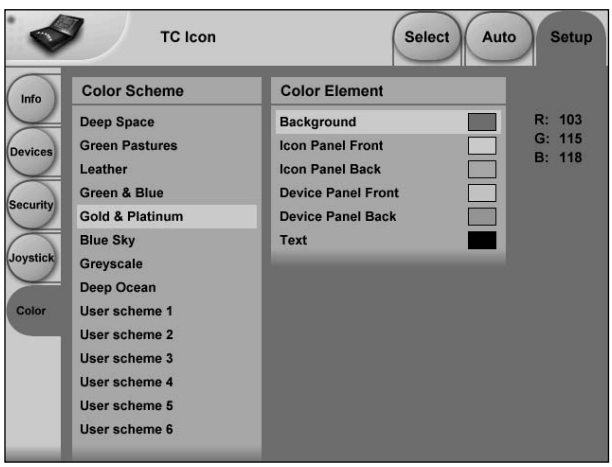
AC/DC Sensitivity
Sets the Faders sensitivity to AC and DC. Adjust these handles to achieve optimal performance in your environment.

## 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.

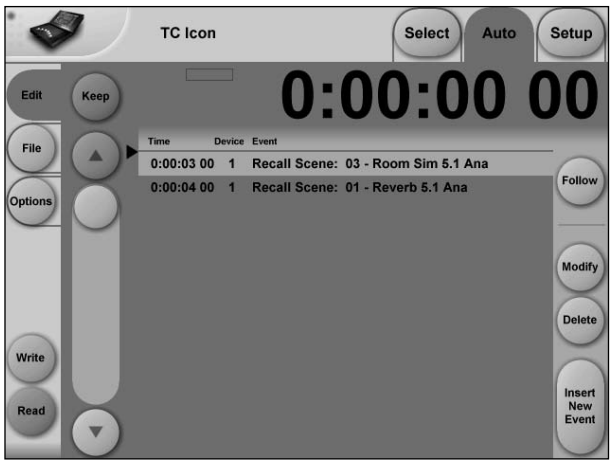
## Icon Color Scheme




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

# SMPTE

## 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 Remote CPU. 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 **Keep** to save the list.
This key corresponds/is the same, as the **Keep** key located on the File page. (see description at the 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.

NOTE 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)

NOTE 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 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 - indicates 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.

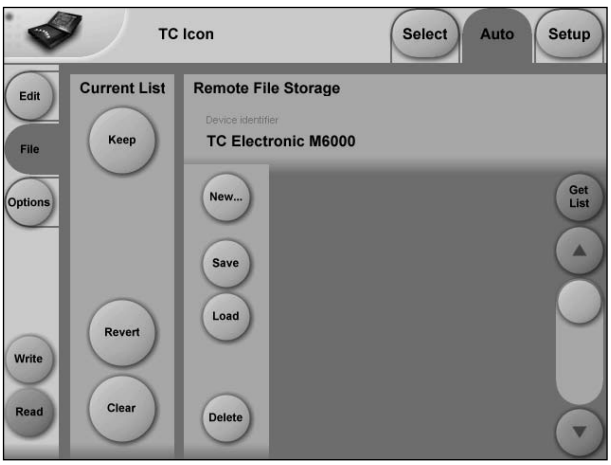
**Device**
This parameter selects which Mainframe connected to the LAN you are working on. Device numbers 1-8, corresponds to the Device position at the Select page.

**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 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.

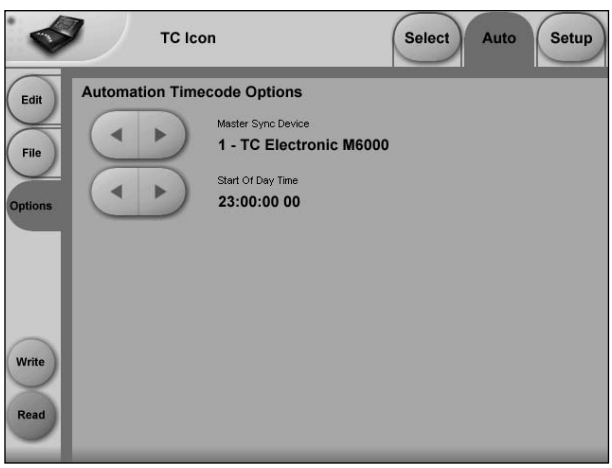
**New**
Press **New** to create and name a new Event list in the floppy disk in the Mainframe.

**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



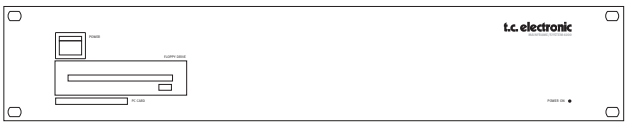

## Automation Timecode Options

**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.

# MAIN FRAME - FRONT & REAR PANEL

## System 6000 Mainframe Front




**Power Key**
Switches power On/Off.

**3.5" floppy disc slot**
For storing presets and event-lists and for loading software-upgrades.

**PCMCIA slot**
For future software facilities and handling of additional preset banks.

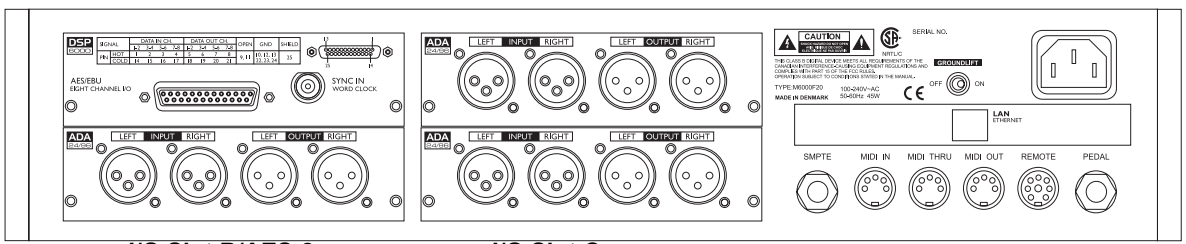
**Power On LED**
During start-up this LED is red. When the unit is ready for use, the LED will turn green.

---

## System 6000 Mainframe Rear

**BUS updated - label**

**DSP Slot** **I/O Slot A**




**I/O Slot B/AES-8** **I/O Slot C**

**DSP and I/O Slots A, B and C**
These slots are used for I/O cards ADA 24/96 and AES-8. Slots must be filled consecutively in alphabetic order.
The System 6000 DSP card fits the DSP slot only. When I/O cards are mounted, dip switches on the cards must be set accordingly.
An AES-8 card should be installed in "I/O Slot B/AES-8" only. If you Mainframe rear panel carries a label saying BUS updated you can install the AES-8 card yourself - Please refer to the full manual.
If your Mainframe serial number is below 285580 and no "BUS-updated label" is present on the rear-panel, a Mainframe hardware update performed by an authorized TC Service center is necessary before installation.

For further information contact:
TC Headquarters : support@tcelectronic.com
+45 87427000
US Customer : infous@tcelectronic.com
001 805 373 1828

**Power In**
100-230V AC. 50/60Hz - auto-select.

**SMPTE**
1/4" connection for SMPTE sync. Input.

**Ethernet/LAN**
Connection for external control devices e.g. the TC Icon. The type is 32 bit PCI Ethernet interface fully compliant with IEE 802.3u 10/100 Mbps CSMA/CD standards.
The connector type is a 100Base-T RJ-45 (CN13)

**Ground Lift**
Use this standard chassis ground lift if you encounter problems with hum.

**MIDI In, Thru and Out**
5 pin DIN connectors.

**Remote**
This connection is for service and test purposes only.

**GPI**
General Purpose Input. Connect a TC Master Fader or a tip-to-ground switch. Applications vary depending on the specific algorithm.

**Rackmounting Advice**
- The Mainframe 6000 should not be placed in an environment with a temperature exceeding 50 degrees celsius.
- Do not cover the ventilation openings on the sides of the frame.

NOTE The cooling fan is activated according to the temperature inside.

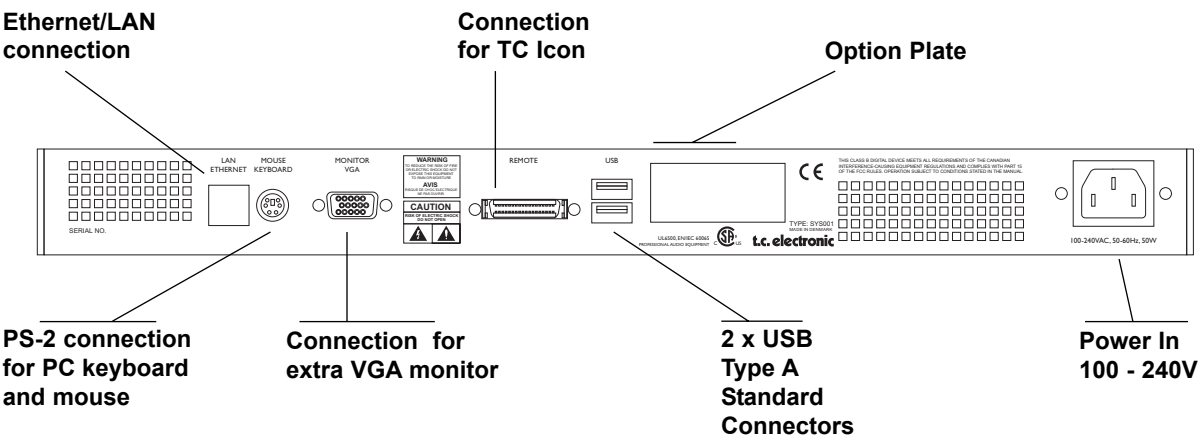
# REMOTE CPU - FRONT/REAR PANEL

## Remote CPU front panel


**Power Key**
Switches power On/Off.

**Power On LED**
The LED will turn green when power is on.

## Remote CPU rear panel




**Ethernet Connection**
32 bit PCI Ethernet interface fully compliant with IEE 802.3u 10/100 Mbps CSMA/CD standards.
The connector type is a 100Base-T RJ-45 (CN13)

**Connection for PC keyboard or mouse**
A standard PS2 Y-splitter must always be used when connecting a PS2-mouse, a keyboard or both.
This cable is not supplied with the unit.

**Connection for TC Icon**
36 pin multi-cable connection for TC Icon.

**TC Connection Cable.**
Use the special TC Icon cable supplied with the unit ONLY !

**USB Connection**
USB connection for future options.

**Monitor**
By connecting a monitor via this standard 15 pin D-Sub you can have the exact same picture as displayed on the TC Icon, running in parallel with the Icon. Color depth is 24 bit with a screen resolution of 640 x 480 pixels at 60Hz.

**Option Plate**
For future upgrade options.

**Power**
Connect 100-240V AC, 50/60Hz auto-select.

**Rackmounting Advice**
- The CPU unit should not be placed in an environment with a temperature exceeding 50 degrees celsius.
- Do not cover the ventilation openings on the back of the Remote CPU.

The cooling fan is activated according to the temperature inside.

# UPDATING SYSTEM 6000 SOFTWARE

**The System 6000 is a constantly evolving platform and updating software is a standard procedure keeping the system up-to-date. Upgrading is easily done following the procedures below.**

**Getting the newest software**
Visit our site at www.tcelectronic.com, select Reverb 6000 (System 6000 basic version). You may also contact your local dealer to get the latest software.

**There are four types of software in the System 6000.**
#1 Frame software
#2 DSP software
#3 Software for the TC Icon
#4 Ethernet software

There is no specific software for the Remote CPU as the TC Icon and the Remote CPU are to be viewed as one inseparable unit.


It is important to upgrade the software in the correct order: First #1 Frame software, then #2 DSP software, then #3 TC Icon software, then #4 Ethernet software and then the AES-8 card software. The AES-8 card software should only be upgraded if a newer AES-8 software version than the one you are currently using is available.

**Updating Frame Software**
- Power OFF the M6000
- Insert floppy-disk #1 "Frame application" into M6000. The disk must NOT be write-protected.
- Power ON M6000
- Wait approximately 2 minutes while the software is copied.
- When the LED on the right side of the M6000 turns constantly green, and the floppy-drive has stopped, remove the floppy-disk.

While uploading software, the power LED will flash between green and orange. This is normal. If the LED flashes in red, please upload the software once again.

A result file called Resboot.txt will be saved on the disk, and list the result of the operation. This file can be opened with Microsoft Notepad on a standard PC.

**Updating DSP Software**
- Power OFF both the Mainframe 6000 and the Remote CPU.
- Insert floppy-disk #2 "DSP application" into M6000. The disk must NOT be write-protected.
- Power on the Mainframe.
- Wait approximately 2 minutes while the software is copied.
- When the LED on the right side of the Mainframe turns constantly green, and the floppy-drive has stopped, remove the floppy-disk

While uploading software, the power LED will flash between green and orange. This is normal. If the LED flashes in red, please upload the software once again.
A result file called Rs<serial no>.txt will be saved on the disk, and list the result of the operation. This file can be opened with Microsoft Notepad on a standard PC.

**Updating TC Icon Software**
- Power ON the Remote CPU (The M6000 should already be powered ON, if not, remove any floppy disk and power ON the M6000 as well).
- Insert floppy-disk #3 "TC Icon application" in M6000.
- Access the SETUP / UPDATE page on TC Icon.
- Press the DETECT button in the big oval box.
- Press the big round button labeled: UPDATE FROM M6000 when it appears.
- Wait until the TC Icon automatically restarts.

**Updating Ethernet Software**
- Power OFF the M6000.
- Insert floppy-disk #4 "Ethernet application" into M6000. The disk must NOT be write-protected.
- Power ON M6000.
- Wait approximately 2 minutes while the software is copied.
- When the LED on the right side of the M6000 turns constantly green, and the floppy-drive has stopped, remove the floppy-disk.

While uploading software, the power LED will flash between green and orange. This is normal. If the LED flashes in red, please upload the software once again.

A result file called Resboot.txt will be saved on the disk, and list the result of the operation. This file can be opened with Microsoft Notepad on a standard PC.


To verify correct update-procedure has taken place, check the software version numbers both before and after an update. These version numbers are located on the Frame/System/Main/Net page.

**Loading the TC Icon software is also possible via LAN (Local Area Network).**
To setup your system 6000 in a network and update via LAN, please refer to the following pages.
It is not possible to update the Mainframe-software via ethernet.

**Updating Software via the M5000 Faceplate.**
Follow the exact same procedures as for the M6000.

## AES-8 Card Software

The AES-8 card is loaded with the latest software version when you receive the card. If you need to upgrade this software at any time follow these instructions:

- Download the latest software from www.tcelectronic.com Follow the instructions
- Power OFF both the Mainframe and the Remote CPU
- Insert the AES-8 floppy-disk into the Mainframe
- Power On the Mainframe
- Wait while the software is loaded.
- When the LED on the right side of the M6000 turns constantly green, and the floppy-drive has stopped, remove the floppy-disk

# SYSTEM 6000 IN A LOCAL AREA NETWORK

## Introduction

**If your setup is a standard System 6000 with a Mainframe and a TC Icon and no other units connected you do not need to dive into this section.**

The System 6000 standard setup with a Mainframe and a TC Icon is a “point to point Local Area Network” (LAN) because there are only 2 items connected. This setup is connected using the supplied Ethernet cable. Please note that the cable type this setup is **cross-coupled**.
This is the most simple LAN setup possible. As soon as several mainframes, TC Icons and/or a computer are hooked up on the network a HUB (not supplied) must be used. In this type of scenario standard ethernet cables (not cross-coupled) must be used.
The following section will explain a few important basic terms regarding network setups such as TCP/IP and Subnet Mask. Basic knowledge of these issues is necessary as soon as your setup consists of more than two items.
Please note that a working TCP/IP protocol must be installed on your computer before attempting to hook up the computer on the network.

## Subnet Mask - TCP/IP address

### Win 95/98/2000/NT

**Subnet Mask**
The Subnet Mask is a number that defines a group of computers (or Icons/Mainframes) connected to the network. All units in the group must have the same Subnet Mask. Further the first three groups of digits in the TCP/IP address must also be the same.
The System 6000 Subnet Mask is by default 255.255.255.0 and therefore the Subnet Mask on all other units/computers must be set accordingly.

NOTE The System 6000 Subnet Mask can be altered, to match your network Subnet Mask if this differs from the standard 255.255.255.0. Please see the section: **Setting Subnet Mask on the System 6000.**

To find the TCP/IP address and the Subnet Mask settings on your computer running Windows:
Go to Control Panel, Network, Configuration, double click on TCP/IP and you will see the following (or similar depending on you operating system).


**TCP/IP address**
The TCP/IP address is unique to each unit connected in the network. Two units must therefore never have the same IP address. However, the variation must be on the last three digits for the units in the Subnet to see each other.

**The TC Icon default address is : 192.168.1.125**
**The M6000 default address is : 192.168.1.126**

If your computers IP address (or any in the network) is one of the above you have two options. Either to alter the computer’s IP address or to alter the IP address of the TC Icon and the Mainframe. Please see the sections:
**Setting the TCP/IP address on the Mainframe.**
**Setting the TCP/IP address on the TC Icon.**

### Mac

- Go to “Control Panel - TCP/IP”
- Set Subnet Mask. Subnet Mask must be identical to the Subnet Mask used on System 6000. Default Subnet Mask setting on System 6000 is 255.255.255.0
- Set TCP/IP address. The first three numbers separated by “.” must be identical. The last three digits must be unique for each unit in the network.

**The TC Icon default address is : 192.168.1.125**
**The M6000 default address is : 192.168.1.126**

*Illustration (MacOS 9.2)*

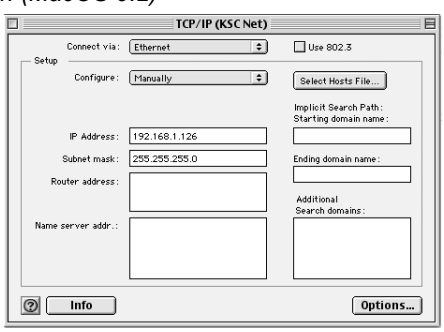
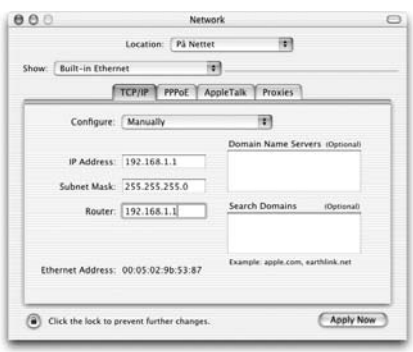



*Illustration (MacOS X)*



# SETTING SUBNET MASK AND TCP/IP

**Setting the Subnet Mask of the Mainframe 6000 via the TC Icon**

- Go to the Setup Select pages.
- Select the Main Frame on which you wish to change Subnet Mask.
- Press Subnet Mask key and type in the desired Subnet Mask.

**Setting the Subnet Mask of the TC Icon**


Be aware that the Subnet Mask for all connected devices must be the same. Since all Subnet Masks can be set via the TC Icon the last Subnet Mask to set must be the TC Icon Subnet Mask.

Go to the Setup Select pages.

- Select Setup - Net.
- Press the Subnet Mask key and type in the desired Subnet Mask.
- Press Enter to exit.

The Subnet Mask for the TC Icon is now set.

**Setting the TCP/IP address of the TC Icon**

Go to the Setup Select pages.

- Select Setup - Net.
- Press the IP Address field and type in the desired IP Address.
- Press Enter to exit.

The TCP/IP address for the TC Icon is now set.

**Setting the TCP/IP address of the Mainframe**

- Go to the page:
  Frame - System - Main - Net ID page.
- Press the field: Mainframe TCP/IP address.
  The Naming display appears.
- Enter the TCP/IP and press ENTER.

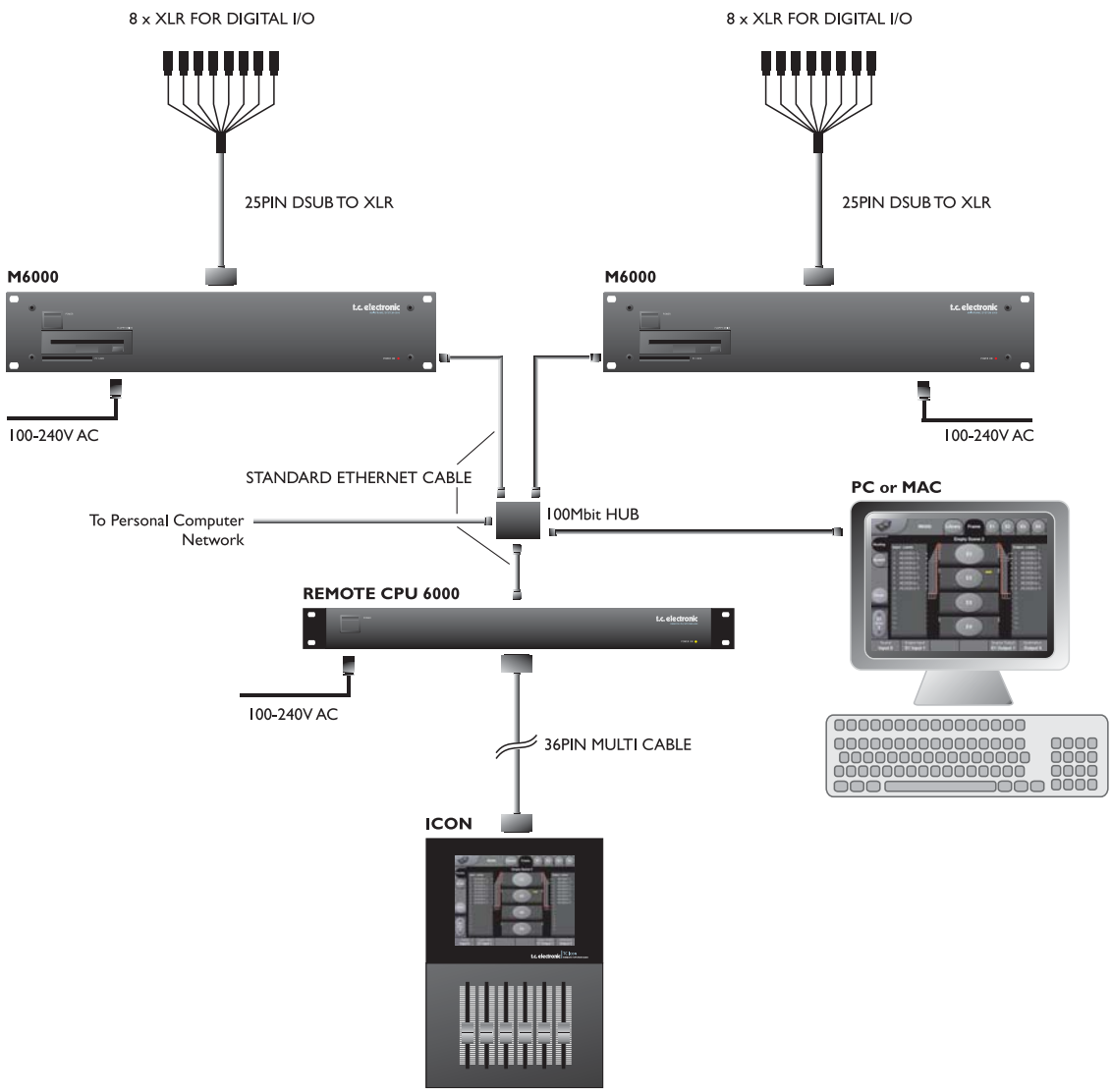
The Subnet Mask for the Mainframe is now set.

# SYSTEM 6000 IN A NETWORK

**This section is merely to illustrate how several System 6000 frames/TC Icons can be hooked up in a network.**

When more than one System 6000 mainframe or TC Icons are connected a 100 MB HUB or switch must be used.

When a HUB or switch is used you must use standard Ethernet cables. NOT cross-coupled. A Cross-coupled cable is only used when the System consist of a single TC Icon and a single Mainframe and no HUB.



# INSTALLING THE TC ICON SOFTWARE EDITOR

**The TC Icon Software Editor for PC and Mac is a fully operational software version of the TC Icon Remote for the System 6000. The software is free to download for evaluation BUT to actually operate a System 6000 via the Editor a license for each connected mainframe must be purchased from TC Electronic.**

**To achieve the TC Icon Software Editor**
- Download software directly from www.tcelectronic.com
- Call your local dealer
- Call TC Electronic headquarters
  +45 87427000
  or USA: 8053731828

**To purchase a Mainframe License for the TC Icon Software Editor**
- Purchase directly via www.tc-now.com
- Call your local dealer
- Call TC Electronic headquarters
  +45 87427000
  or USA: 805 3731828

## Installation - PC

**System Requirements**
- Pentium 233MHz or better
- 32MB RAM
- Windows 95, 98, or 2000
- WinZip installed

**Updating/installing the TC Icon Software Editor**
Your computer probably holds the required MS Installer program and you only need download the:

***TC Icon Software Editor - PC version***

This is a ".msi" file type and the size of this file is approx. 775kB

- Close all other programs than your web browser and access www.tcelectronic.com
- Access: Download, Software updates
  Press TC Icon Software Editor for PC to download
- Click Finish in the Setup Wizard
- Click Close

A TC Icon shortcut will appear both on the desktop and in the Start menu.


Previous versions of the TC Icon Editor will appear in the Control Panel Add/Remove menu. To retrieve these shortcuts you must reinstall the TC Icon Editor software.

**Installation including the Windows MS Installer**
If during the process described above you have discovered that the required MS Installer program is NOT already on you computer you should download the:

***TC Icon Software Editor (PC only)***
***+Windows Installer***

This file includes both the Microsoft Installer Service as well as the TC Icon Software Editor
The size of this file is approx. 3.5MB
- Close all other programs than your web browser and access www.tcelectronic.com
- Select Support
- In the Support Menu on the left side, choose "System 6000" from the "Software" drop-down menu.
- Enter your Login data and proceed to download the: "PC Upgrade" - application. You can either open the file directly or download it and then open it.
- Run the application.
- Follow the on-screen instructions and click "Finish" when the Setup Wizard has installed the Editor.

A TC Icon shortcut will appear both on the desktop and in the Start menu.

## Installation - Mac

**System Requirements**
- Apple G3 or G4
- MacOS 9.2 or higher / OS X
- Minimum of 64MB RAM
- Stuffit Expander installed

**Installation**
- Close all other programs than your web browser and access www.tcelectronic.com
- Select Support.
- In the Support Menu on the left side, choose "System 6000" from the "Software" drop-down menu.
- Enter your Login data and press "Click here to read the comprehensive guide for Mac users".
- Follow the instructions.

# MISCELLANEOUS

## The Complete manual

Following additional information can be found in the complete English manual:

- Detailed description of the System 6000 Algorithms
- Technical specifications
- In Depth information