MACKIE.

t24™

DIGITAL LIVE CONSOLE

OWNER'S MANUAL ADDENDUM
VERSION 1.2 UPDATE

Contents

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Part No. SW0194 Rev. A 3/05

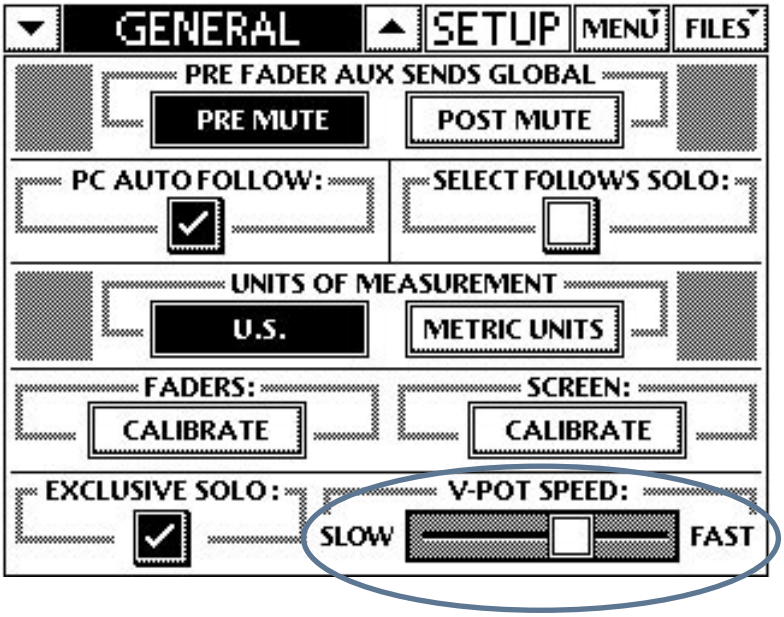
TT24 Version 1.2 Features

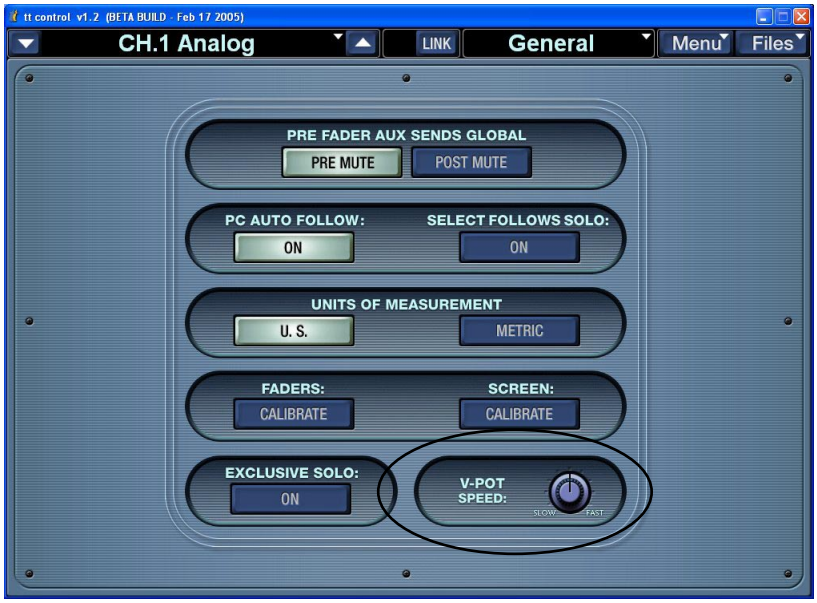
This addendum to the TT24 Owner's Manual highlights the new features included with the version 1.2 software upgrade.

1. V-Pot Speed Control

Manual Section: Change 6.12.2 *General*

Feature Description: The speed and responsiveness of all V-Pot and QuickMix knob functions (except Pan) are affected by the eight position V-POT SPEED setting in the SETUP/GENERAL screen. You now have the ability to set the V-Pot sensitivity to your personal preference. "Fast" allows the V-Pot to travel through the entire range of a parameter in one full turn of the encoder. "Slow" allows for finer control and requires more than one turn to travel through the range of a parameter.

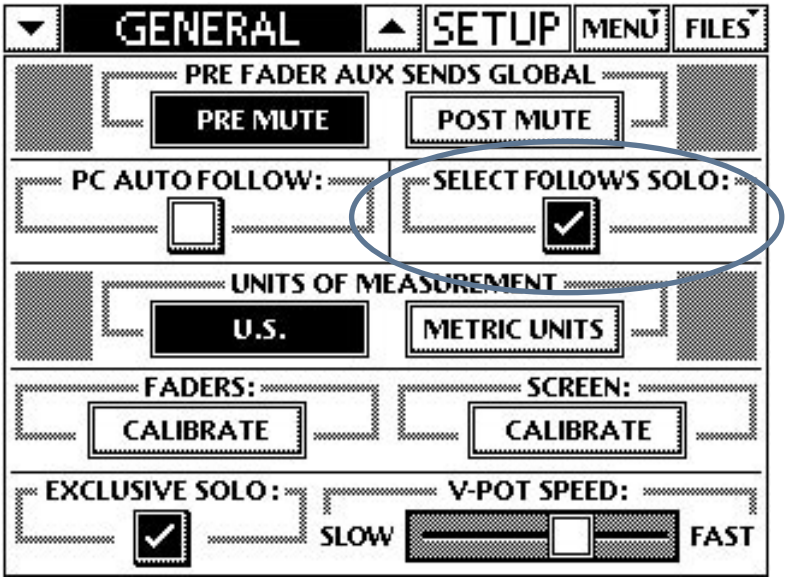




2. Select Follows Solo

Manual Section: Change 6.12.2 *General*

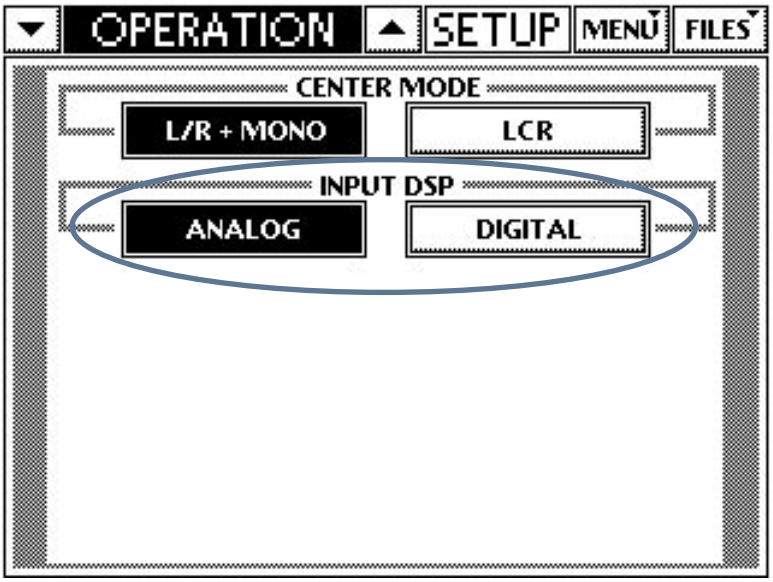
Feature Description: Select Follows Solo allows channel selection to be dependent on the channel's solo button press. This feature is useful during initial set-up and mixing for quick access to channel editing when soloing channels into the monitor and headphone bus. The feature is activated and deactivated via a LCD and PC button in the SETUP/GENERAL screen.



3. Input DSP Routing

Manual Section: Change 6.12.1 *Operation*

Feature Description: Input DSP routing allows you to route the 24 channels of DSP normally assigned to the analog bank to the digital bank instead. This takes the Trim, Phase, HPF, EQ, Gate, and Compressor from all 24 analog inputs and moves them to the digital channels 25-48. This function is accessed via the SETUP/OPERATION screen and controlled with the backlit buttons labeled analog and digital on TT control and the LCD screen. Additionally, when a UFX-II card is inserted in a TT24 and being used to load the digital channels 25-48 with DSP both the analog and digital buttons are lit indicating that DSP exists on both channels.



4. MIDI Control

Manual Section: Add 6.12.4 *MIDI Control*

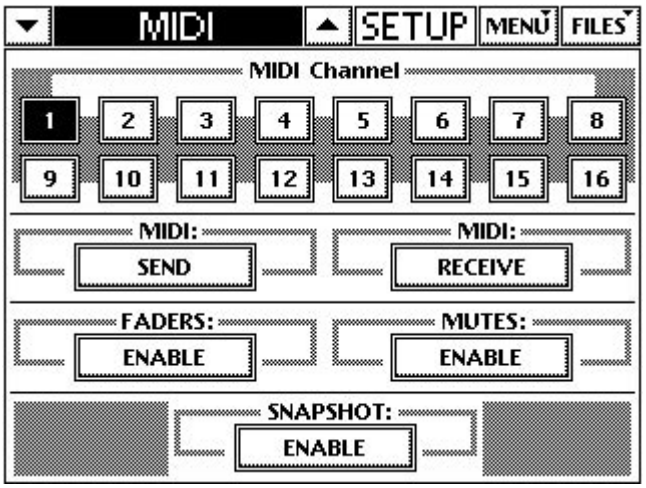
Feature Description: Version 1.2 firmware adds a basic level of MIDI functionality to the TT24, allowing fader values, channel mutes, and snapshots to be modified remotely from a sequencer or other MIDI-equipped device connected to the TT24's MIDI IN connector. Additionally, the TT24 can be configured to send MIDI messages from its MIDI OUT connector when these parameters are changed from the console surface.

Enabling MIDI Input and Output

MIDI messaging in the TT24 is disabled by default. In order to take advantage of the TT24's MIDI functionality, it is necessary to enable MIDI Input and/or output in the MIDI page of the SETUP menu. To configure the TT24 to respond to supported incoming MIDI messages, click or press the RECEIVE button in the MIDI page to highlight it. Similarly, to configure the TT24 to send MIDI messages when supported parameters are changed, click or press the SEND button in the MIDI page to highlight it.

Configuring the MIDI channel

MIDI messages are transmitted and received using one of sixteen MIDI channels. In order for the TT24 to communicate with another device, both pieces of equipment must be configured to use the same MIDI channel. To set the TT24's MIDI channel, click or press the number of the desired MIDI channel in the MIDI page of the SETUP menu to highlight it. The selected channel will be used by the TT24 when sending or receiving supported MIDI messages.



Note: MIDI message bytes are represented using hexadecimal notation. See the table on the next page for decimal to hexadecimal conversion.

Snapshots:

When RECEIVE is enabled in the MIDI page of the SETUP menu, Snapshots in the TT24's memory can be recalled using MIDI Program Change messages. Similarly, if SEND is enabled, a MIDI Program Change message is sent from the TT24's MIDI OUT connector when you recall a snapshot from the console.

MIDI Snapshot message bytes: Cn ss

Where: n = MIDI Channel (0x0 to 0xF)
ss = Snapshot number (0x00 to 0x62)

Example: Sending "C0 44" recalls snapshot 68 on a TT24 set to MIDI channel 1.

Mutes:

When RECEIVE is enabled in the MIDI page of the SETUP menu, the status of channel Mutes can be changed using MIDI Note messages. Similarly, when SEND is enabled, a MIDI Note message is sent from the TT24's MIDI OUT connector when you change a channel's Mute status from the console.

MIDI Channel Mute message bytes: 9n ii mm

Where: n = MIDI Channel (0x0 to 0xF)
ii = Channel strip ID
Deck 1: (0x00 to 0x17)
Deck 2: (0x18 to 0x2F)
Deck 3: (0x30 to 0x47)
Deck 4: (0x48 to 0x5F)
mm = Mute Status (Un-Muted = 0x00; Muted = 0x7F)

Example: Sending "90 18 7F" mutes channel strip 1 of Deck 2 on a TT24 set to MIDI channel 1.

Faders:

When RECEIVE is enabled in the MIDI page of the SETUP menu, the value of the channel faders can be changed using MIDI Continuous Controller messages. Similarly, when SEND is enabled, MIDI Continuous Controller messages are sent from the TT24's MIDI OUT connector when you move a channel fader on the console.

MIDI Channel Fader message bytes: Bn ii vv

Where: n = MIDI Channel (0x0 to 0xF)
ii = Channel strip ID
Deck 1: (0x00 to 0x17)
Deck 2: (0x18 to 0x2F)
Deck 3: (0x30 to 0x47)
Deck 4: (0x48 to 0x5F)
vv = Fader Value (0x00 to 0x7F)

Example: Sending "B0 18 61" sets the fader on Channel strip 1 of Deck 2 to 0.0 dB on a TT24 set to MIDI channel 1.

Decimal to Hexadecimal Conversion Table

Decimal	Hexadecimal (0x)	Decimal	Hexadecimal (0x)	Decimal	Hexadecimal (0x)
00	0	16	10	32	20
01	1	17	11	33	21
02	2	18	12	34	22
03	3	19	13	35	23
04	4	20	14	36	24
05	5	21	15	37	25
06	6	22	16	38	26
07	7	23	17	39	27
08	8	24	18	40	28
09	9	25	19	41	29
10	A	26	1A	42	2A
11	B	27	1B	43	2B
12	C	28	1C	44	2C
13	D	29	1D	45	2D
14	E	30	1E	46	2E
15	F	31	1F	47	2F

...and so on.

5. Firmware Version HELP

Manual Section: Change 3.4.9 *Engineer's Utility*

HELP button

Feature Description: The HELP button now displays the current firmware version in the TT24 mixing console.

For example: v1.02 Build 52

6. Custom USER Bank

Manual Section: Add 3.2.5 *USER BANK* and Add 6.13.5 *USER BANK*

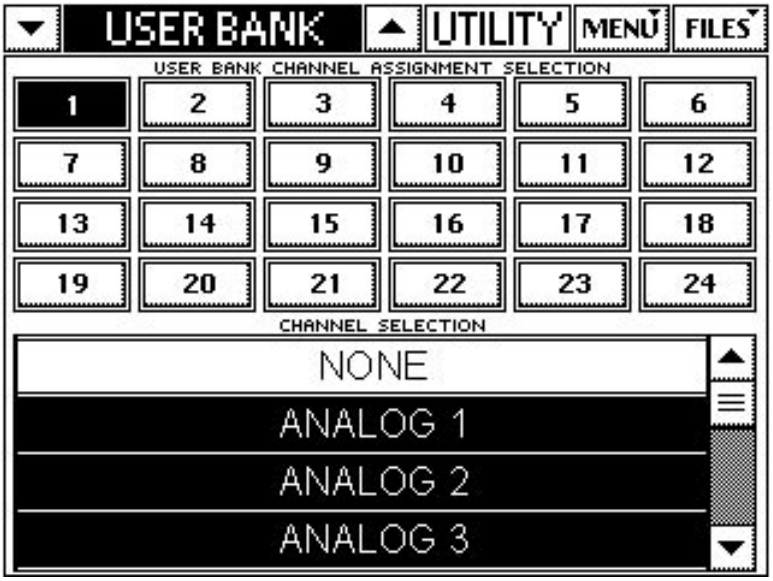
Feature Description: A customizable user bank has been added to the TT24 to allow you to compile a new bank of 24 faders containing any of the channels included in the 4 primary banks (ANLG, DGTL, RTNS, MSTR).

To configure the user bank add 6.13.5 USER BANK:

The user bank configuration screen (Utility/User Bank) has a grid of buttons labeled 1-24 that allows you to pick which channel will be assigned to the user bank. A scrolling list of all channels is available to select the user bank channels. Changes to the user bank are immediate upon selection. This control is available via TT control or LCD.

To mix via the user bank add 3.2.5 USER BANK:

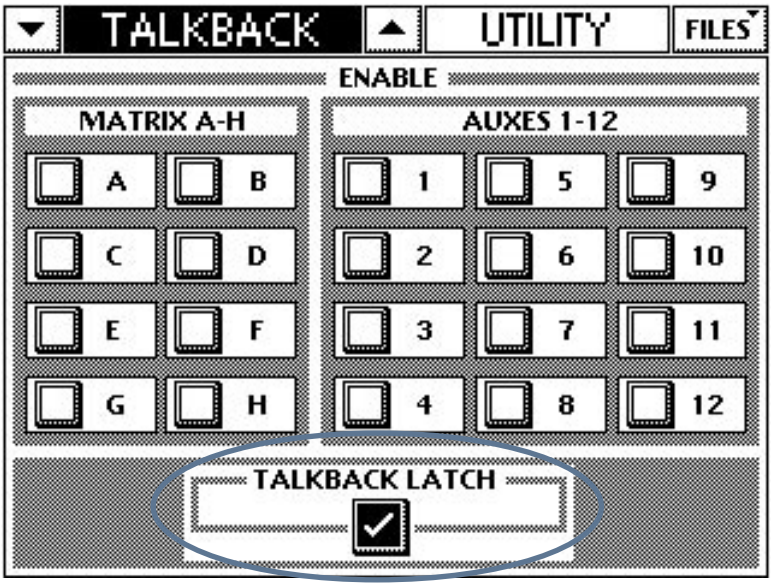
To access the user bank for mixing simply press the ANLG and DGTL bank select buttons simultaneously. They will both illuminate and the faders will snap to their current settings, indicating the TT24 is in the user bank.



7. Talkback Latch

Manual Section: Change 6.13.2 *TALKBACK*

Feature Description: By default, the Talkback button operates in a latching manner. Press the talkback button on the mixer to engage the input and the button illuminates. Press again to disengage and the button turns off. The talkback button can be changed to operate in a momentary (push to talk) method by deselecting the talkback latch button on the TT control or LCD via UTILITY/TALKBACK.



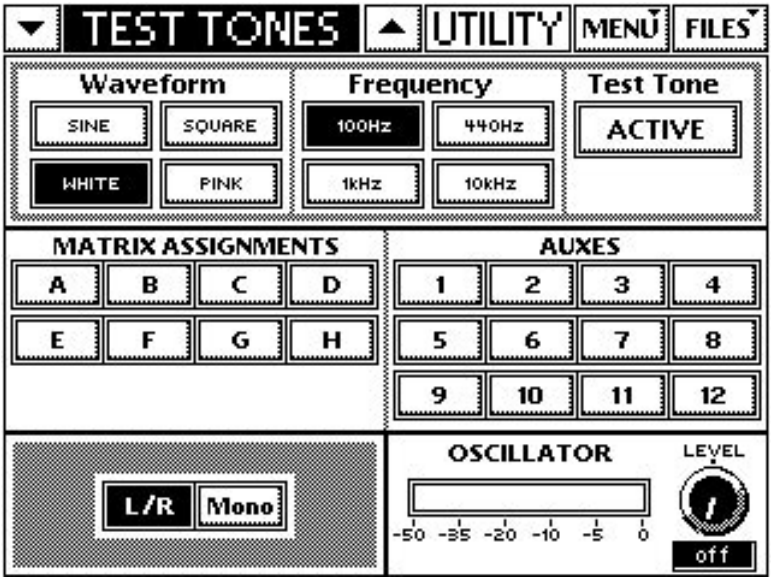
8. Built-in Test Tones/Oscillator

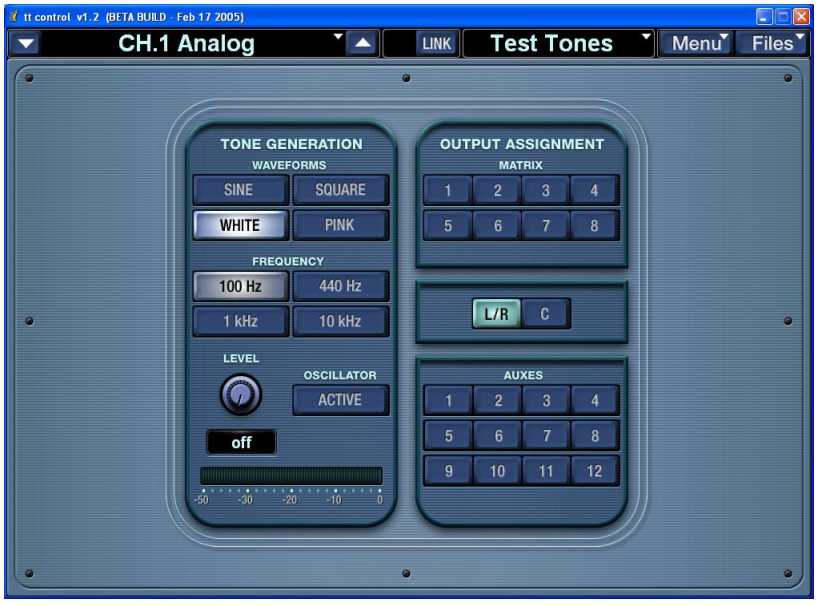
Manual Section: Add 6.13.5 *TEST TONES*

Feature Description: A test tone + oscillator function is now built-in to the TT24. It provides a selection of test signals including:
White noise
Pink noise
Sine and square waves of 100 Hz, 440 Hz, 1 kHz, and 10 kHz

Test tone signals can be routed to any of the following destinations:
Matrix A-H
Auxes 1-12
L-R
Ctr/Mono

There is a separate test tone activation button, level control, and meter for your convenience. Access to the test tone oscillator section is provided in TT control and the LCD via UTILITY/ TEST TONE.





9. Mute Groups

Manual Section: Add 3.7.4 *Mute Groups*

Feature Description: Eight dedicated mute groups have been added to the TT24 for applications where muting groups of input channels quickly with a single button is required. All channels from the ANLG, DGTL, and RTNS bank can be included in a mute group. Outputs are not available for mute groups.

The Mute groups on the TT24 use the group assign area of the mixer's control surface to assign channels to a mute group as well as to activate/deactivate mute groups.

To assign input channels to a Mute Group:
Press and hold the CTRL button in the QuickMix area and also press any one of the GROUP ASSIGN 1-8 buttons. When this is done, the Group Assign button illuminates and the Group Mute button blinks indicating the TT24 is in Mute Group Assign mode. Simply press the channel mute button for any input to be included in the Mute Group. You can press other Group Assign buttons to configure any of the eight mute groups when in this assign mode. Pressing the blinking Mute Group MUTE button or lit Group Assign button will exit the assignment mode.

To activate/deactivate Mute Groups:
Press the Group Mute button while holding the Group Assign button to activate and deactivate mute groups. All channel mutes will light when a mute group is successfully activated.

Note: TT24 Mute Groups are unlike those on an analog console in that they are destructive. When a Mute Group is engaged, you can unmute an individual channel with the channel mute button. This allows for easier muting of groups and individual channels.

10. Auto Repeat Function on Snapshot Controls

Manual Section: Add to 3.6 *Auto Repeat on Snapshot Controls*

Feature Description: Press and hold the snapshot up or down arrows to step through three numbers and then begin increasing or decreasing in increments of fives to allow for faster access to a desired snapshot.

11. Three Built-in 31-band Graphic Equalizers

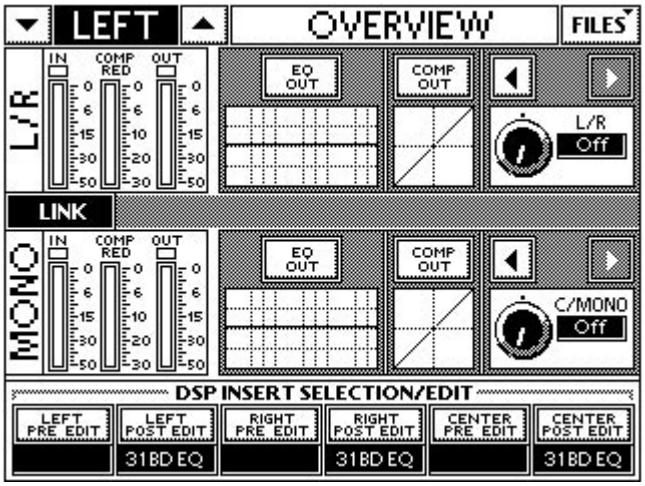
Manual Section: Add to 3.4.2 *31-Band Graphic Equalizer*

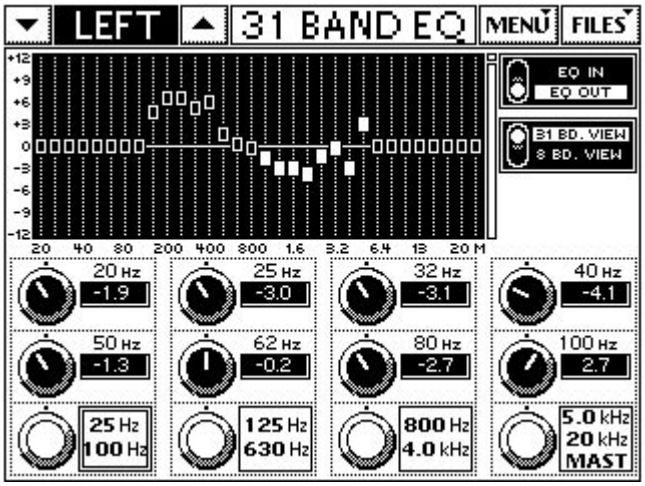
Feature Description: The TT24 now has three 31-band Graphic Equalizers available on the Left, Right, and Ctr/Mono outputs.

Each 31-band graphic EQ has (31) 1/3 octave, ISO centered, constant-Q filters with a range of +/- 12 dB. An EQ in/out toggle is available for bypassing and A/B listening of EQ settings. The LCD also offers an 8-band view for greater visibility of filters on the LCD screen.

To access the 31-band GEQs via the LCD screen, simply press the SELECT button of the main fader and select FAT in the QuickMix section. The Fat screen will show the three GEQs in the insert points at the bottom of the screen. Press the Insert Edit button to display the 31-band GEQ editing screen. The EQ filters are edited in the QuickMix section through the use of the 12 rotary encoder/pushbuttons. The bottom row of four use the push button to select the group of eight filters to be edited and the two top rows of four use the rotary encoders to change the boost/cut level.

The TT control application allows for mouse control of the filters.



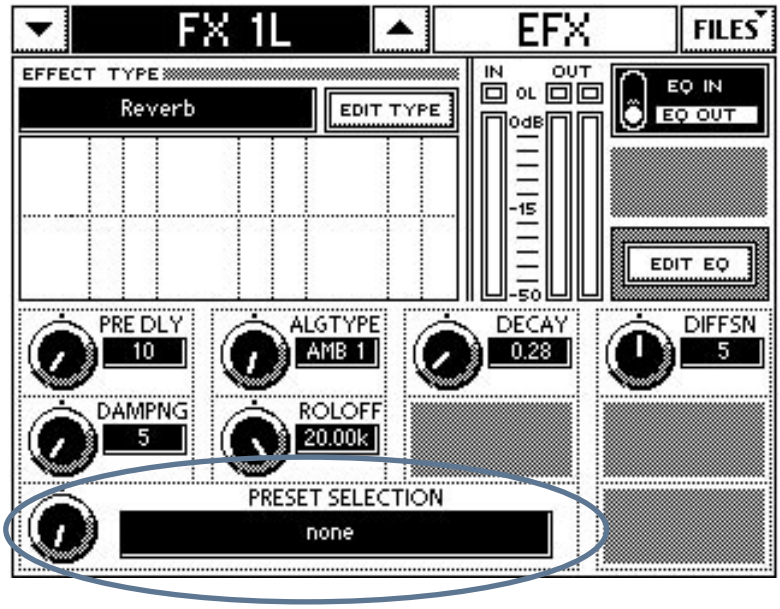


12. EFX Preset Dial

Manual Section: Add to 6.11 *Effects*

Feature Description: This EFX preset display and dial has been added to the EFX editing screen to allow you to quickly and easily scroll through existing presets for any internal effect (i.e., reverb, reverb+gate, chorus, etc.).

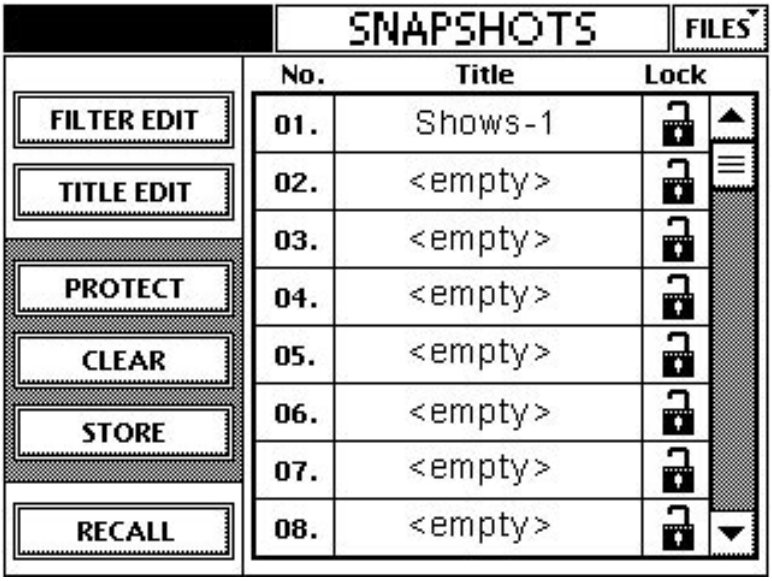
Editing internal effects is done by pressing the EFX button in the QuickMix section and then pressing the edit button of the desired effect. On this screen, a display and knob have been added for scrolling through and listening to presets.



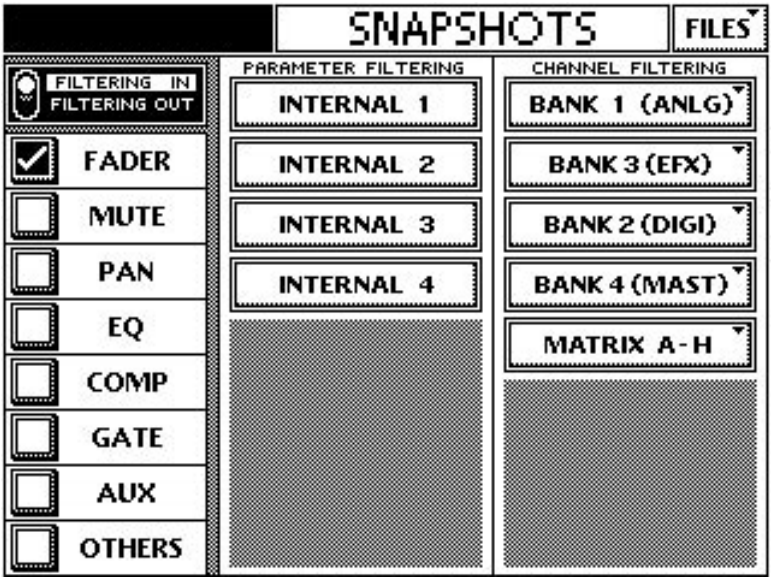
13. Snapshot Filtering and Editing via Quick Mix Section

Manual Section: Add to 3.4.6 *SNAP*

Feature Description: All detailed snapshot editing and filtering functions are now accessible through the onboard QuickMix section. Simply press the SNAP button and the LCD screen offers locking, naming, and filtering functions for any snapshot.



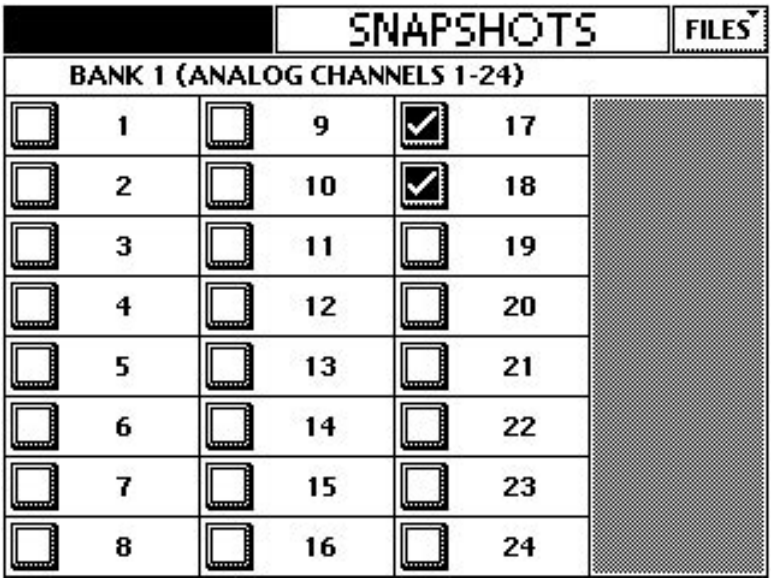
Press the FILTER EDIT button to access the specific filtering screens. The TT24 offers the ability to filter mix elements like mute, fader, pan, EQ, compressor, gate, auxes, and others on a per snapshot basis.



When any of the elements are selected in the filter edit screen, they are not affected when that snapshot is recalled.

Additionally, internal EFX and individual input and output channels can be filtered out of snapshot recall as well through the channel filtering section on the filter edit screen.

Note: All filter settings apply to an individual snapshot.



14. TT24 Parameters Saved in Snapshot

Manual Section: Clarify 3.6 *Snapshots*

Feature Description: The following parameters are saved in a snapshot.

ANALOG and DIGITAL INPUT channels 1-48 (when UFXII is providing DSP on DIGITAL bank)

- Trim
- Phase
- HPF
- EQ
- Gate
- Compressor
- DSP order
- Mute
- Fader
- Pan
- Select
- Group Assignments
- Aux pre/post
- Aux level

LINE INPUTS 1-8

- EQ
- Mute
- Fader
- Pan
- Select
- Group Assignments
- Aux pre/post
- Aux level

Internal FX returns (stereo 1-4)

- FX type
- Mute
- Fader
- Pan
- Select
- Group Assignments
- Aux pre/post
- Aux level

EXPANSION slot returns 1-8
- Mute
- Fader
- Pan
- Select
- Group Assignments
- Aux pre/post
- Aux level

AUXILIARY MASTER OUTPUTS 1-12
- EQ
- Kill filters
- Compressor
- Mute
- Fader
- Select

Group Masters 1-8
- Group Mode
- DSP enable
- EQ
- Compressor
- Mute
- Fader
- Pan
- Main Assign
- Select

Main Left-Right and CTR/mono
- Parametric EQ
- Kill filters
- Compressor
- DSP order
- Fader
- Select
- 31 band GEQs

Internal FX processors 1-4
- FX type
- Preset dial
- All current FX settings

Matrix A-H
- Matrix enable
- Delay
- Matrix inputs
- Fader
- Select

Stereo Input
- Source select
- Mono
- Main group assignmnets
- Fader
- Mute

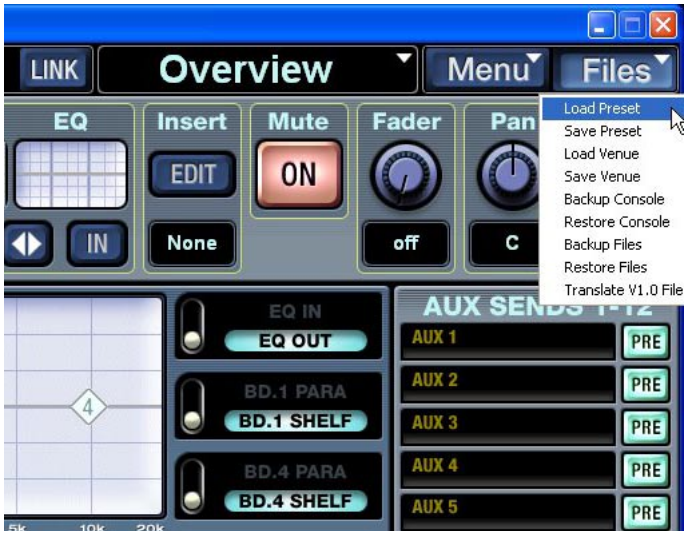
Talkback
- Talkback routing

Internal DSP (analog or digital)

15. Expanded TT Control File Backup and Restore Function

Manual Section: Clarify 6.14

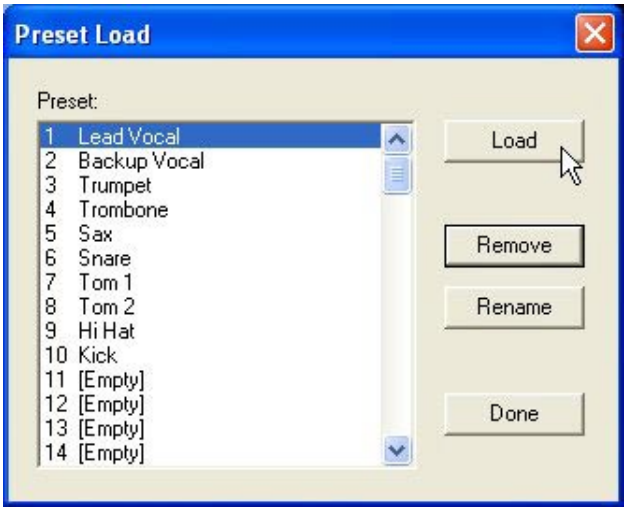
Feature Description: The TT24 has a greatly expanded PC-based file backup and restore system. Click the file button in the upper right hand corner of the TT control application and the following list of options is available:

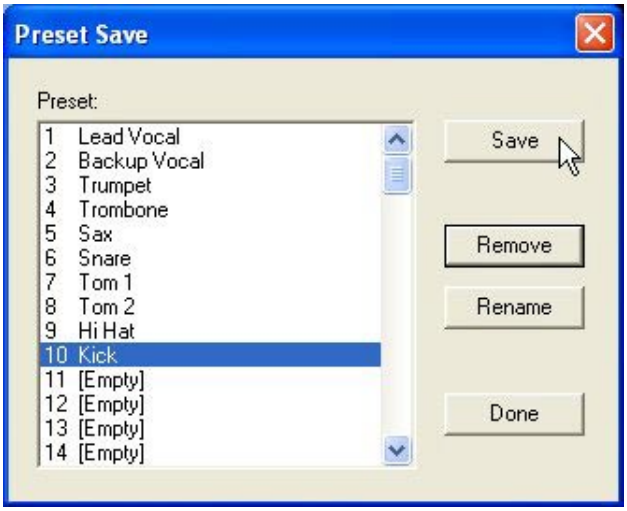


Load Preset
Save Preset

Presets can be made for entire channels or parts of channels including EQs, Compressors, and Gates. Additionally, the internal EFX processors have presets as well.

Loading and saving presets using the LCD or PC application is done from the TT24's internal memory.

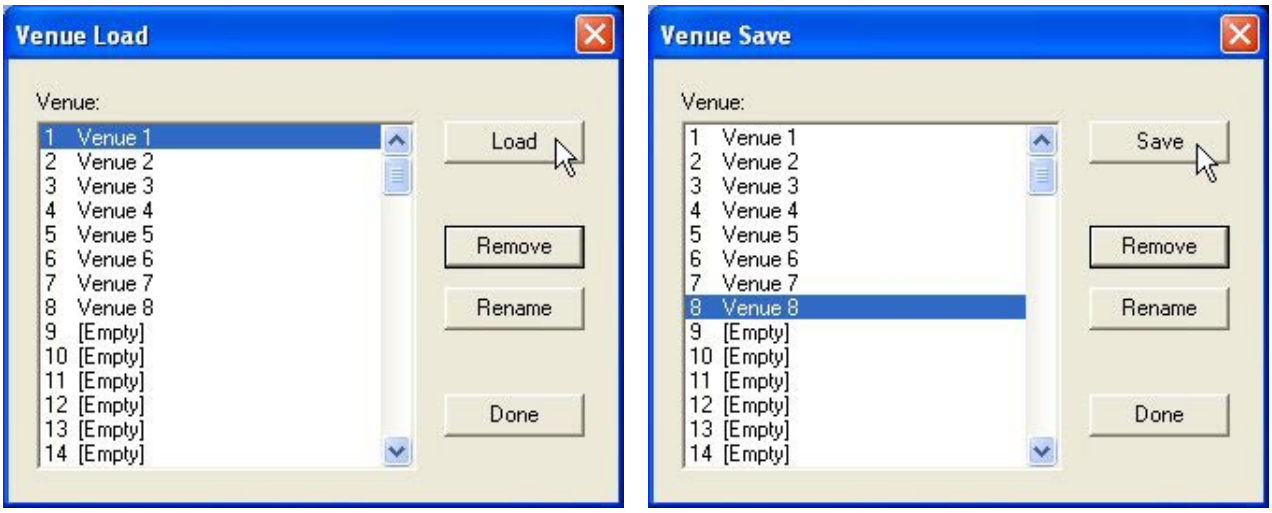




Load Venue
Save Venue

Multiple venues can be stored on the TT24 for recall of specific system settings. A venue consists of all parameters related to configuring the TT24. With a venue, you can save a particular sampling rate, external word clock, select follows solo, etc. (see "Parameters Saved in a Venue" below).

Loading and saving venues using the LCD or PC application is done from the TT24's internal memory.



Parameters Saved in a Venue

SETUP/operation
- Center mode

SETUP/operation
- Pre fader aux sends global
- PC auto follow
- Select follows solo
- Metric/US measurements
- Exclusive solo
- V-pot speed

SETUP/digital
- Sample rate
- Clock source
- Digital input (S/PDIF or AES/EBU)
- Sample Rate convert

SETUP/MIDI
- Channel select
- MIDI send enable
- MIDI receive enable
- MIDI fader enable
- MIDI mute enable

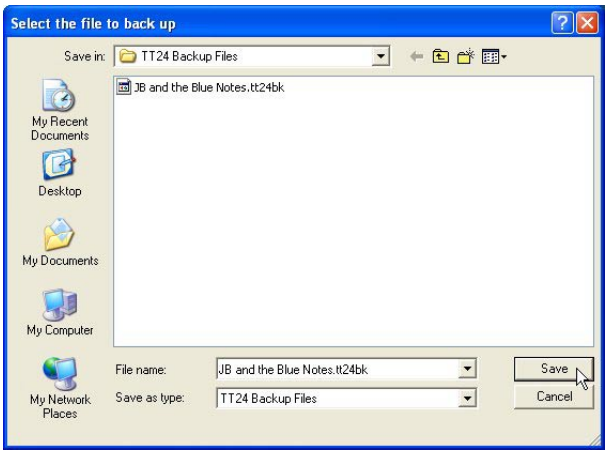
UTILITY/USER BANK
- Channel assignment selection

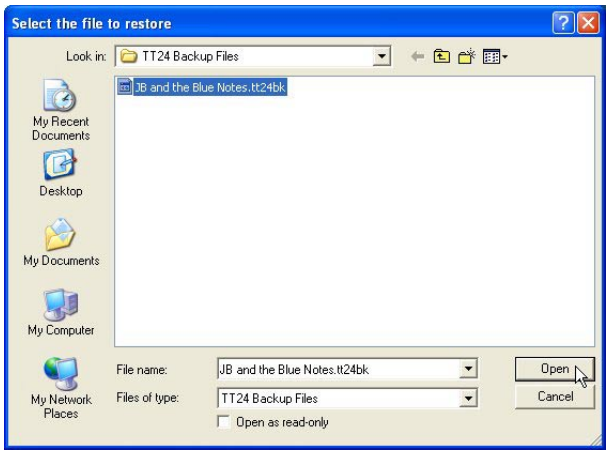
UTILITY/TEST TONES
- Output assignments
- Output level

UTILITY/ TALKBACK
- Talkback Latch

Backup Console
Restore Console

Backup and restoring the TT24 internal memory can be done exclusively from the TT control application using the backup and restore console functions. This effectively creates an offline file that contains all snapshots and presets currently on the TT24. Choose the backup console function from the file menu and simply choose a name and directory for your *.tt24bk file.

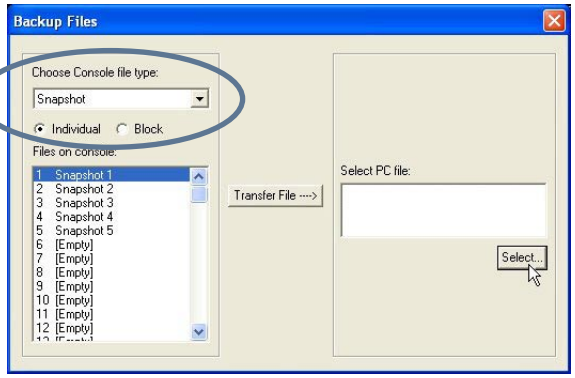




Backup Files
Restore Files

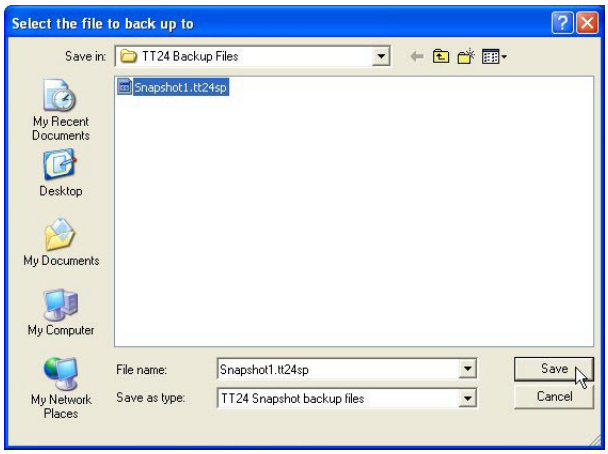
Backing up and restoring of files is a new and flexible method for backing blocks of files or individual files of any type to a PC. This backup is done exclusively from the TT control PC application by choosing the backup files option in the upper right corner of the application under file.

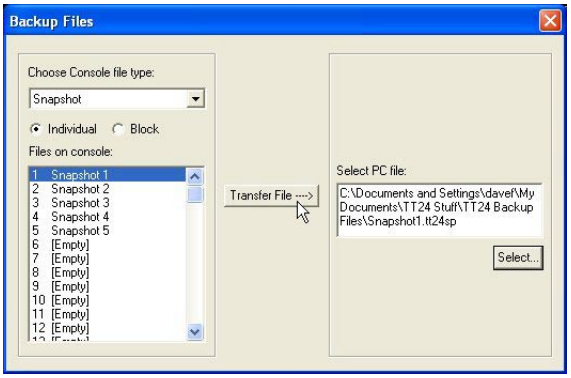
1. Choose the file type, which consists of snapshot, venue, channel, EQs, gate, compressor, and each internal EFX type.



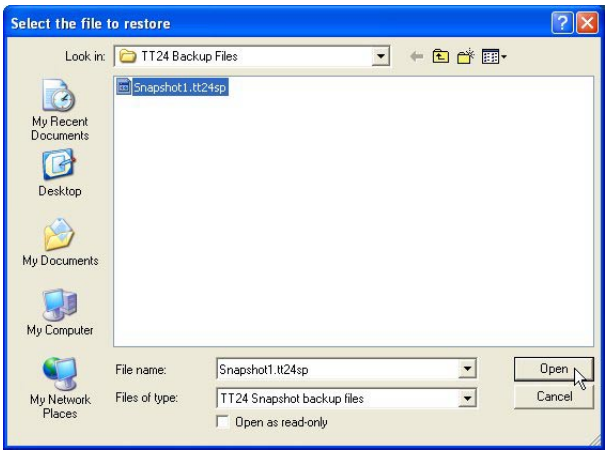
2. Next choose individual or block. This option allows you to select all of a given file type on the console or one individual file to backup.
3. Once the file to be backed up has been selected, you must create a file name and location for the backup. This is done by clicking the Select button in the "Select PC file" area.

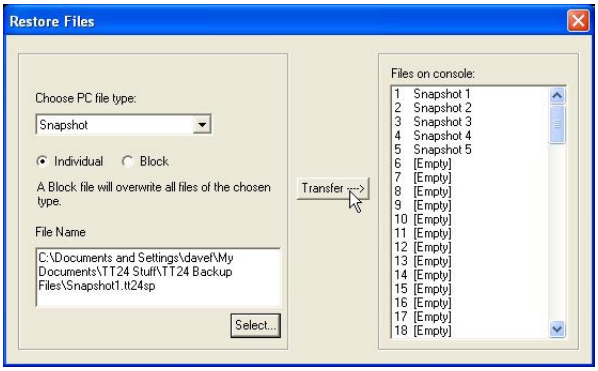
4. Once the file to be backed up has been selected and a name and destination has been created, simply click the Transfer File button and a message appears confirming the size and successful transfer of the file.





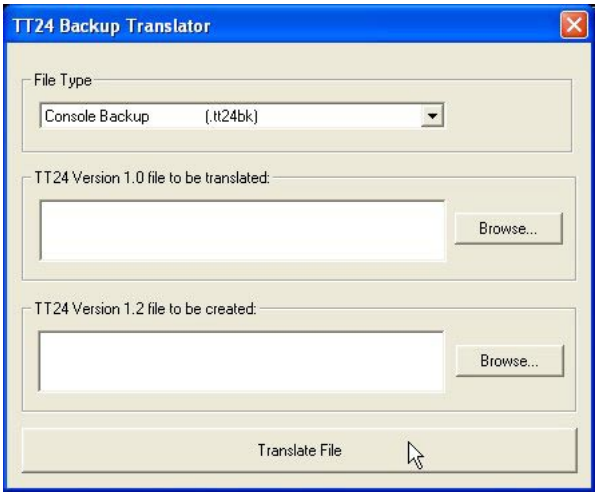
5. Restoring a file has the same basic interface.





Translate v1.0 Files

The version 1 translator is a utility to allow for early release TT backup files to be forward compatible with version 1.2 firmware. This translator requires that a version 1 console backup file is selected and a new translated backup file named and pointed to a directory on the PC. Once a file has been translated it can be restored to the TT24 thru the previously explained restore console function.



16. TT24 Console Surface Quick Keys

SYSTEM

Hard Reset = CTRL+HELP on power up

Pressing and holding these two buttons on power up will hard reset the TT24 to factory default settings. This will also clear all internal memory deleting all snapshots, presets, and venues.

Soft Reset = CTRL+UTIL on power up

Pressing and holding these two buttons on power up will soft reset the TT24 to factory default settings. This will NOT clear all internal memory. Therefore, all snapshots, presets, and venues will remain intact.

Manual LCD Calibration = CTRL+SETUP

Pressing these two buttons simultaneously while the TT24 is already powered up will activate the LCD calibration screen. If the touchscreen does not allow proper action on button presses this allows for easy recalibration of the screen.

RESET FUNCTIONS

Reset Channel = CTRL+ FAT

Pressing these two buttons will reset the selected channel to default settings.

Reset EQ = CTRL+ EQ

Pressing these two buttons will reset the selected channel's EQ to default settings.

Reset Dynamics = CTRL+ DYN

Pressing these two buttons will reset the selected channel's Comp/gate to default settings.

Reset Group and Auxes = CTRL+ GRP/AUX

Pressing these two buttons will reset the selected channel's group assignments to OFF, and auxiliary send levels to OFF.

Reset all Channel Auxes = CTRL+ AUX 1-12

Pressing the CTRL button plus any individual aux number button (1-12) will reset all channels' aux sends to off. Very useful for clearing an aux mix.

TT Control Special Screens

Matrix Overview = CTRL + MTRX

Pressing these two buttons will cause the TT control application to display a matrix overview screen.

Bank Meters = CTRL + METERS

Pressing these two buttons will cause the TT control application to display a high-resolution meter screen of the currently selected bank.

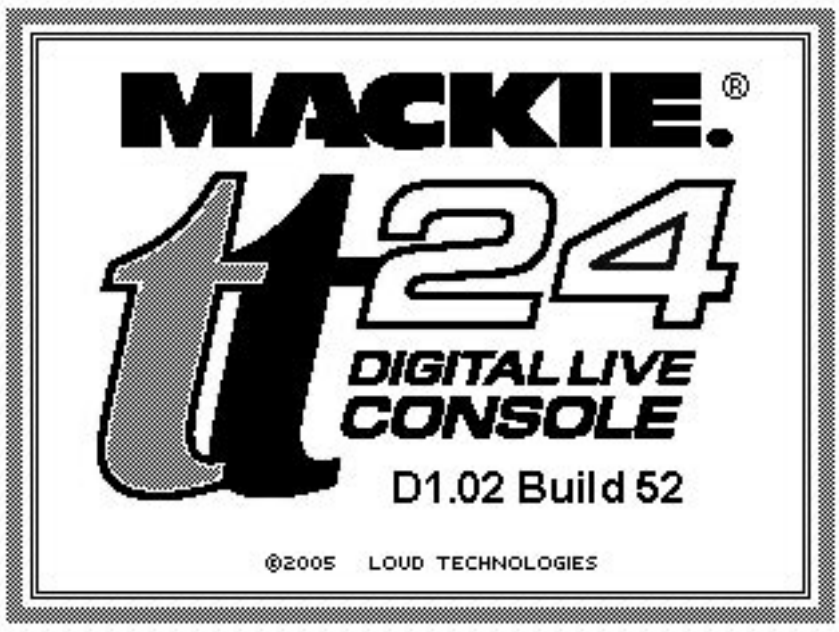
96 faders = CTRL+ any bank button (ANLG, DGTL, RTNS, MSTR)

Pressing these two buttons will cause the TT control application to display a 96 fader screen where all channels of the mixer are viewable on one screen.

EXTRAS

Global V-Pot Gain Reduction Meters

Press and hold the METERS button for 2 seconds and all V-Pots will convert to gain reduction mode where the LEDs show gain reduction metering and the knob controls threshold. This can be done on a individual channel basis by putting the V-Pots in meters mode and pressing the the encoder. The red LED at the bottom of the V-Pot indicates gain reduction mode when in METERS.



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