Final Touch Automation®
Quick-Start Guide v.2023-11-07

1.0 Overview

Refer to section 1.0 Overview in the Operator's Manual for detailed information.

The *Final Touch Automation* system is a fully integrated and self-contained automation package designed for API 1608-II, 2448, Legacy AXS, and Vision consoles. The system provides moving fader, mute, and switch automation with extended DAW control and snapshot capabilities on all four consoles. Vision consoles are also capable of automated Aux Send ON/off and EQ Bypass.

2.0 Automation System Components

Refer to sections 2.0 System Architecture and 3.0 Automation System Components in the Operator's Manual for detailed information.

The *Final Touch Automation* system is composed of the following components:
- Automation Control Module (ACM)
- Channel Fader Modules with Fader Control Modules (FCMs)
- Input Modules
- Stereo Returns with FCM
- Program Masters with FCM
- Group Masters with FCM
- Interface

Final Touch Automation Block Diagram
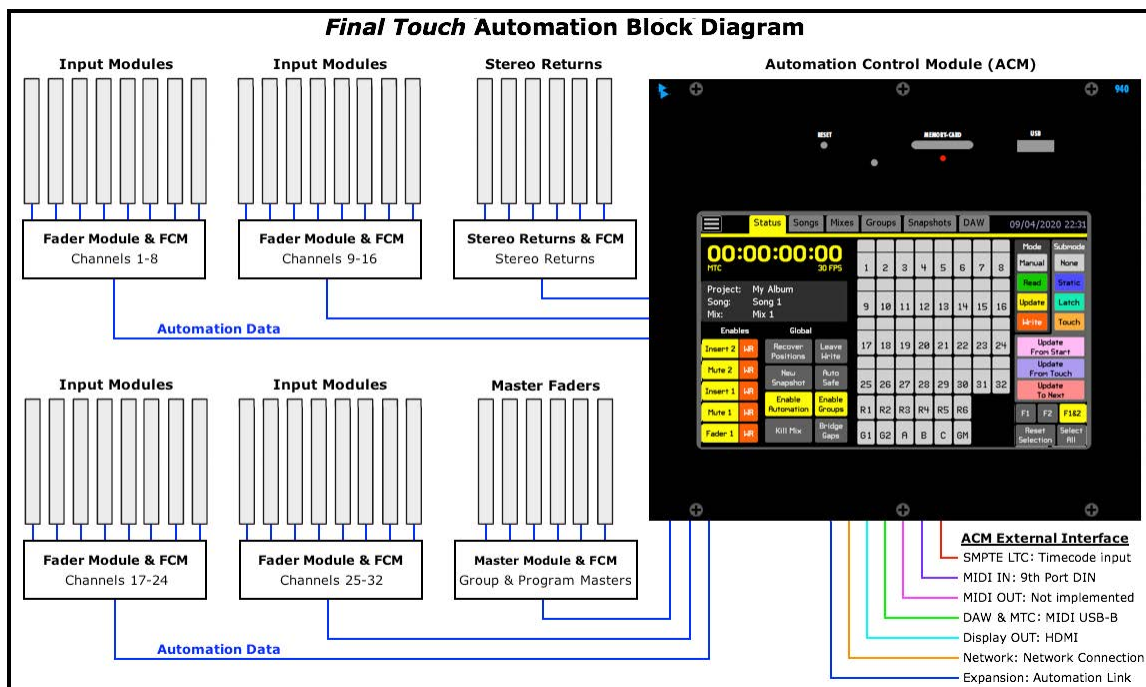
2.1 Summary of Control Functions:

Channel Large Fader, Mute, and Insert: 1608-II / 2448 / AXS / Vision
Channel Small Mute and Insert: 2448 / AXS / Vision
Channel Small Fader and Input Module Switch Functions: Vision only
Stereo Return Fader, Mute, and Insert: 1608-II / 2448 / AXS
Group Faders: 1608-II / 2448 / AXS / Vision
Master Fader(s): 1608-II / 2448 / AXS / Vision

3.0 Software Overview

Refer to sections 5.0 Software Startup and 6.0 Software Overview in the Operator's Manual for detailed information.

The Status page is the primary software interface for automation operation. It provides the information and controls needed for easy and efficient automation of channel faders and switches.
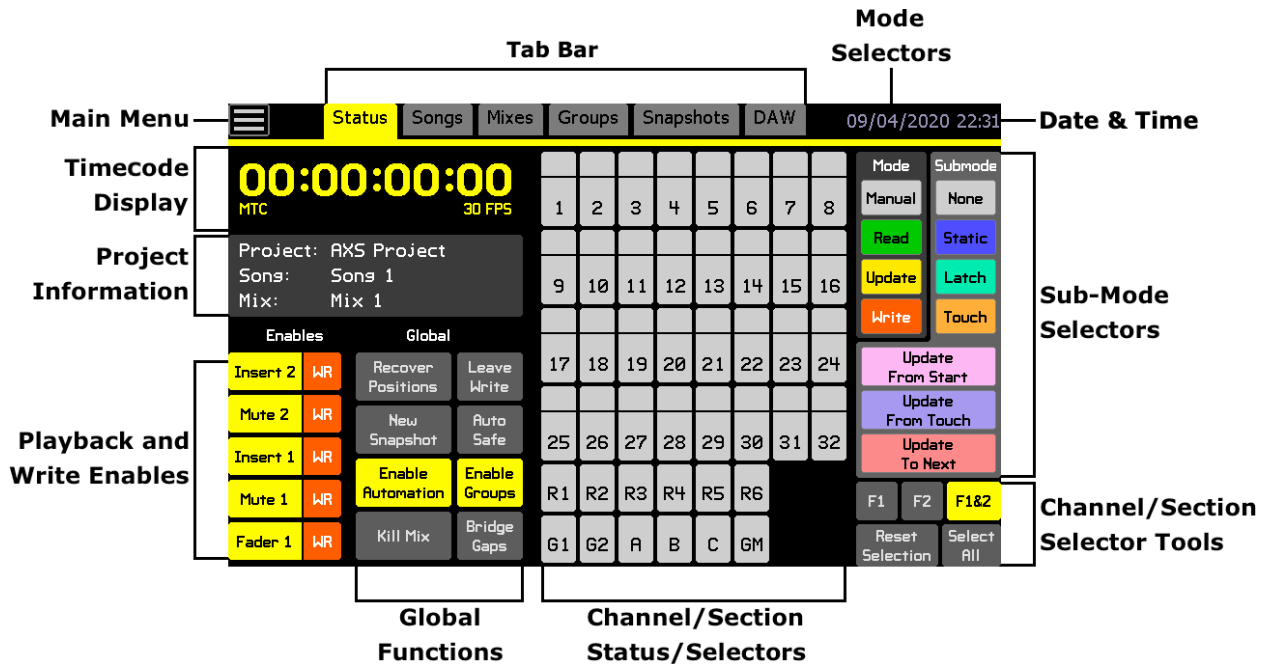
The Status page provides information and operational functions as follows:
- **Main Menu**: Project file management, fader demo mode, and system configuration
- **Tab Bar**: Tabs to pages that support operations within a project and DAW control
- **Date & Time Display**: Current system time and date
- **Timecode Display**: Current or last timecode location, source, and frame rate
- **Project Information**: Name of currently loaded project file, song, and mix
- **Playback and Write Enables**: Allows mix events to be written to and/or played back from automation
- **Global Functions Enables**: Activates global automation functions
- **Mode Selectors**: Applies main automation modes to selected channels/sections
- **Submode Selectors**: Applies automation submode to selected channels/sections
- **Channel/Section Selector Tools**: Buttons to help select/deselect multiple channels/sections
- **Channel/Section Status and Selectors**: Channel/section selection grid for all installed Input Channels, Stereo Returns, Group Masters, and Program Master faders for mode/submode assignment and status indication

3.1 Tabs and Pages

The touch-screen has a tab bar across the top of the screen that provides two primary means of access to the *Final Touch Automation* software:
- **Main Menu**: File management, demo modes, and system configuration
- **Tabs**: Tabs open the following project and operational pages:
  - Status: Primary user interface page
  - Songs: Directory and tools for the songs within a project
  - Mixes: Directory and tools for mixes within a song
  - Groups: Directory and tools for groups within a song
  - Snapshots: Directory and tools for the snapshots within a project
  - DAW: "Enables," "Shift," and "Bank" buttons, transport control, and DAW program control

4.0 Automation Controls

Refer to sections 3.0 Automation System Components and 4.0 Fader Automation Controls in the Operator's Manual for detailed information.

In addition to being a primary channel level control, all 944, 944C, and individual channel faders are equipped with a collection of automation controls. These controls include:

- **Fader**: Level control
- **Fader Cap**: Activation of touch-sensitive automation features
- **Mode Selectors**: (MANUAL), READ, UPDATE, WRITE, SWITCH OVERWRITE
- **Section SELector**: Channel section selection control (except 1608-II)
- **Submode LED Indicators**: **STATIC** and **SUB-MODE**
- **NULL Point LED Indicators**: Up and down arrows
- **DAW Functions**: LEVEL, **MUTE, SOLO, SELECT, RECORD** (track record ready)

Channel fader *Final Touch Automation* controls only vary in regard to channel section selection. The Legacy AXS and 2448 both have Large and Small Fader paths and identical channel automation features, so channel faders on both consoles support mode assignment to Fader 1 (Large), Fader 2 (Small), or both channel sections. Vision consoles support mode assignment to Fader 1, Fader 2, Switches, or ALL channel sections. 1608-II consoles have only one signal path per channel and do not have a channel section selector.

Group Master Faders, Master Faders, and Stereo Returns are appropriately equipped with automation controls to support their functions.

As an example, the image below illustrates the location of each automation control and indicator on a Legacy AXS (944) or 2448 (944C) channel fader (DAW controls not called-out).
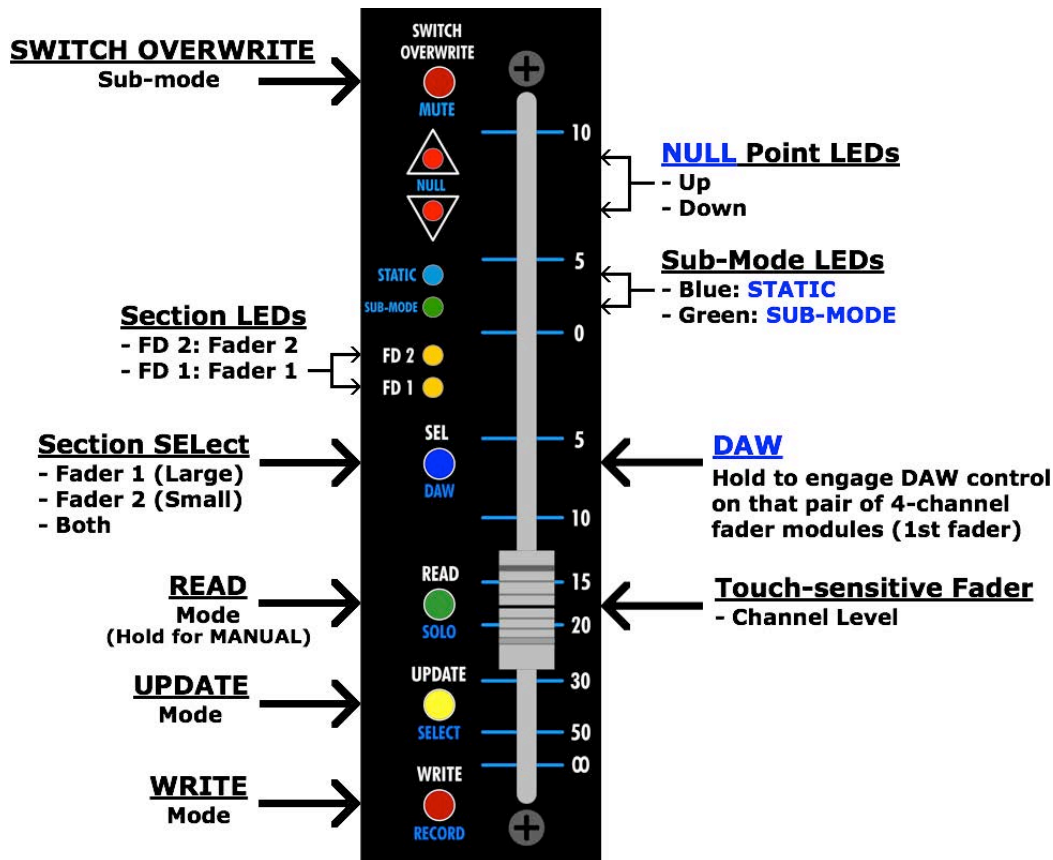
1608-II and Vision faders are equipped in a similar manner, but altered to support the features on those consoles.

5.0 File Management

Refer to section 7.0 File Management in the Operator's Manual for detailed information.

A "project" is intended to support one or more individual audio recordings that are part of a larger work, like an album or movie. For each individual recording, a collection of mixes, groups, and snapshots are generated and stored within a project. For music recordings, all of the mixes for individual songs would be saved within the project as "songs," along with the snapshots (stored settings) for the project. For film/video projects, individual scenes could be stored as songs or as individual projects.

Projects, songs, mixes, groups, and snapshots are organized as follows:
- Groups are created and stored within mixes
- A collection of mixes are stored in a "song" and displayed on the Mixes page
- Songs are stored within a "Project File"
- Project files are stored within a "Project Folder"
- Snapshots are stored within the "Project File"
- Exported mixes and snapshots can be stored anywhere, but are typically stored in a project folder
- Project folders are stored in the "PROJECTS" folder on the memory-card

Final Touch Automation Software Organization
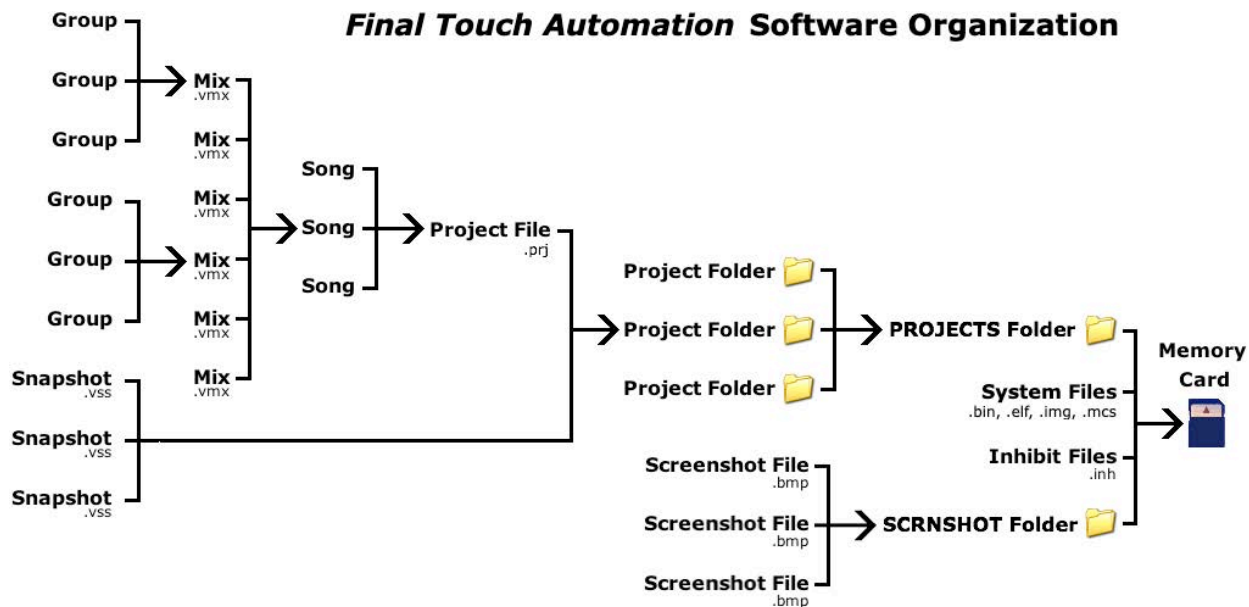
6.0 Automation Concepts

Refer to section 8.0 Automation Concepts in the Operator's Manual for detailed information.

The Automation Control Module (ACM) provides a suite of automation controls and parameters that are accessible via a touch-screen control panel display. Vision consoles have two touch-screen displays. Channel faders, channel modules, Stereo Returns, Program Masters, and Group Masters all provide additional automation controls.

6.1 Manual Mixing

Typically, all automation controls should be in **Manual** when the initial mix is created on the console, establishing a preliminary balance and blend. **Manual** mode disables writing and playback of automation moves.

To put the entire console in **Manual** mode, press "F1&2" to engage it (illuminated in yellow) and then press "Select All" to select all channels. Then press "**Manual**" to put all the automated controls in **Manual** mode.

F1&2 (Fader 1 and 2): Selects both channel sections for mode or submode assignment in the channel grid (Fader 1: Fader, mute, and insert, Fader 2: mute and insert)

Select All: Selects all channels in the channel grid for mode or submode assignment

Manual: Assigns **Manual** mode to the selected channels/sections in the channel grid

Once a good preliminary mix is created in **Manual** mode, the automation system can be engaged at a convenient point.

> *NOTE: A good preliminary mix should be created in **Manual** mode before creating an automated mix so adequate initial positions are established for the first automated mix pass. This is best done before a new project or song is created so the initial positions from the preliminary manual mix are incorporated in the first mix pass in the mix tree of the new project. Alternately, initial positions can be set or reset at the beginning of a mix using **Static** and **Write**.*

6.2 Mix Passes

A "mix pass" or "mix" is simply a file containing time-stamped mix events for fader and switch changes throughout the entire length of the recording. Whenever timecode is started, the channels in **Read** or **Update** will playback the previously recorded moves in that mix at the proper time.

The ACM can contain only one mix pass at a time. This mix is known as the "current mix" or the "active mix" and it is the one that will be played back in **Read** or **Update** mode. If changes are made to a mix pass using hardware or software interfaces, the new moves are processed and a new mix is added to the mix tree when timecode is stopped or an edit is performed. The new pass automatically becomes the "current mix."

6.2.1 Kill Mix

If the "Kill Mix" function is engaged before timecode is stopped, the end-of-pass processes are suppressed so any changes are discarded and a new mix pass is not created in the mix tree.

Kill Mix: Suppresses all end-of-pass processes when timecode is stopped. It activates a flag to discard any changes made during the current automation pass.

Kill Mix can be toggled ON and off anytime while timecode is running. If **Kill Mix** is engaged when timecode is stopped, a new mix will not be created. Any moves written during the pass will be discarded.

6.3 Initial Mix Basis

When a new project is created via the File menu, an "initial mix" is created and placed in the mix tree. The "Basis" for this mix must be determined in the "New Project" dialog box when the new project is created. The "Basis" is the data that is used to create the "initial mix." This data is either the "initial positions" of all automated controls or an existing mix.

The following data sets can be selected as the basis for the initial mix:

- **Current Positions**: The current physical positions of automated faders and switches
- **Current Mix & Groups**: The current active mix in the ACM (with moves and groups)
- **Default Positions**: Physical positions of automated faders will be fully down and no mutes and switches will be engaged.

To select the desired "Basis" scroll to highlight it. "Current Positions" is the default basis for new projects. Select "Current Positions" to use the mix you created in **Manual** mode as the "Basis" when a new project is created. These "current positions" will serve as a starting point for an automated mix.

The "Current Positions" are written for the entire duration of timecode, from 00:00:00:00 to 23:59:59:2X. Channels in **Read** or **Update** will play back the "Current Positions" in the first mix (Mix 1) no matter where timecode is started. These positions will be the starting point for subsequent fader and switch moves. When changes to faders and/or switches are written to automation, they will be played back at the timecode locations at which they were recorded.

6.3.1 Recover Positions

If a mix is created in **Manual** mode as the starting point for automated mixing, but is not saved as part of a mix, all automated faders and switch positions will resume their last valid positions stored in the current ACM mix when placed in **Read** or **Update** from the ACM, replacing the new mix positions. This will result in the loss of the new mix positions. However, the altered fader and switch positions from all sections of all channels are automatically stored in a temporary buffer whenever **Read** or **Update** is entered from **Manual** or **Write**. The fader positions stored in this temporary buffer can be recovered by pressing the **Recover Positions** button.

Recover Positions: Changes the automation mode to **Manual** and moves automated faders and switches to the positions stored in the temporary buffer.

> *NOTE: Mode changes made on fader modules are not recognized by the Recover Positions function. Accordingly, individual faders/sections that aren't in **Manual** will not recover when the **Recover Positions** button is pressed.*

6.3.2 Static Submode

New initial positions can be created using the **Static** submode when it is desirable to clear all recorded moves and start over with new initial positions.

Static: The last positions of controls are written to all timecode (resets initial positions)
- When timecode is stopped with **Static** engaged, the last physical positions of automation controls will be written to all timecode locations
- Moves made while in **Static** are not recorded, only the positions of the automated controls when timecode is stopped are written

Static only works in **Write** mode, but can be enabled in **Read** or **Update** as well as **Write**. **Static** can be engaged at any time.

> *NOTE: When **Static** is used, all previously recorded moves for the selected channels/sections will be erased throughout the entire range of timecode (00:00:00:00 to 23:59:59:2X).*

7.0 Automation Modes

Automation "modes" and "submodes" determine how the system records and plays back control moves. Modes dictate basic functionality. There are four (4) primary automation modes:

Manual: No automation control, record or playback

Read: Playback of recorded mix events (fader moves, mute and switch on/off)

Update: Plays back existing mix events, but faders write when moved and mutes/switches write when pressed

Write: Records moves whenever engaged, replacing existing mix events

Manual, **Read**, **Update**, and **Write** can be assigned to channels/sections individually (via fader controls), as a group, or on a global basis by highlighting the desired channels/sections selectors in the channel grid and using the "Mode" buttons on the Status page.

Modes can also be assigned on individual channels, Stereo Returns, and Master faders using the MODE buttons on the faders (MANUAL), READ, UPDATE, WRITE.

7.1 Manual Mode

Manual: Fader, mute, and switch moves are not written or played back

In **Manual** mode:
- The automation system has no effect on channel controls and vice-versa
- Use to create an initial mix the current fader, mute, and switch positions can be used as the basis for a new project, song, and mix.

7.2 Read Mode

Use **Read** to play back existing moves while building an automated mix. **Read** should also be used when printing a final mix.

Read: Previously recorded automation moves are played back
- Faders and switches will move to their recorded positions for each timecode address
- Automation controls in **Read** will not record new moves

In **Read** mode:
- Channels/sections without recorded moves will move to their initial positions
- Faders may be moved to audition different levels, but moves will not be recorded
- Faders will snap back to their recorded positions when moved and then released
- Switches may be changed, but will not be recorded
- Switches will continue to playback recorded moves after any changes have been made

7.3 Update Mode

Use **Update** mode to record new moves and touch-up previously recorded moves.

Update: Previously recorded moves are played back until a change is made
- Playback is exactly as if in **Read** until changes are made
- When a fader is touched, it will record moves as if in **Write** until released
- When a touched fader is released, it will return back to its recorded position using a preset glide rate set in the song properties and resume playback of previously recorded moves
- Switches will record any changes and will also playback any previously recorded changes

In **Update** mode:
- Can function as a "record ready" state for the **Write** mode
  - Required when putting channels/sections in **Write** from the Status page

7.4 Write Mode

Use **Write** mode to record new moves and overwrite previously recorded moves.

Write: Current positions and moves will be recorded over any existing moves
- Previously recorded moves are not played back and are overwritten
- Automation controls are recorded at all times, even when faders aren't touched
- Recording will continue until timecode is stopped or the mode is changed

In **Write** mode:
- Can be engaged from the Status page only if **Update** or **Static** is engaged first
- **Write** can be engaged from **Manual** or **Read** without being in **Update** using the red **WRITE** button on the fader

Write mode can be very destructive to your mix, so there is a safety interlock for entering **Write** from the Status page. Any channels commanded to enter **Write** from the Status page will not do so unless they are already in **Update** mode or the **Static** or **Latch** submodes. This allows you to "record-enable" a selection of channels/sections using **Update**, **Static**, or **Latch**, start playback, and punch the selected channels into **Write** mode using the **Write** button on the Status page.

Whenever a channel/section is in **Write** while timecode is running, existing mix events will be erased and new mix events will be recorded. Changing modes from **Read** or **Update** to **Write** allows the engineer to "punch-in" to the automation data on the selected channels/sections. Changing modes from **Write** to **Read** allows the engineer to "punch-out" and stop recording new automated mix events on the selected channels/sections.

8.0 Timecode

Refer to sections 9.0 Function Enables, 10.0 Timecode and Synchronization, and 23.2 General Configuration in the Operator's Manual for detailed information.

The recorded media to be mixed (typically on DAW) must be synchronized with the automation system so recorded automation moves are played back in time. SMPTE timecode (LTC) or MIDI timecode (MTC) is used for synchronization.

For synchronization to take place, automation must be enabled. Press "**Enable Automation**" to engage synchronization with the incoming timecode. This function is engaged by default. Disengaging automation will suspend synchronization and automation playback and write enables when the media is being played back.

The timecode frame rate is determined by the frame rate of the open project.

The system can use six (6) SMPTE timecode frame rates:

- 23.976
- 24
- 25
- 29.97
- 29.97 drop
- 30 (default)

The project frame rate is set at the time a new project is created. The frame rate of the current or an existing project cannot be changed after it is created.

8.1 Timecode Source

To set the timecode source, open the Main menu and select the "General Configuration" sub-menu from the "System" menu item. The "General Configuration" dialog box will open.

> *NOTE: Timecode frame rate is determined by the project file and is set when a project is created. The frame rate cannot be changed for exisiting projects.*

Select the desired source for timecode from the "TC Source" pull-down menu. The menu choices are as follows:

- **LTC**: SMPTE Longitudinal timecode
- **MIDI TC**: (MTC) MIDI timecode

If LTC is selected, the incoming SMPTE timecode will be received at the SMPTE LTC XLR interface connector.

If MIDI TC is selected, incoming MIDI timecode will be received on the selected MTC Port.

MTC is received at the selected USB-B MIDI port or MIDI IN port.

9.0 Songs

> *Refer to section 15.0 Songs in the Operator's Manual for detailed information.*

Within each project, a "song" can be created for each recording and stored on the Songs page. Within each song, several "mixes" can be created and stored on the Mixes page. A set of "snapshots" can also be generated and store with the project via the Snapshots page.

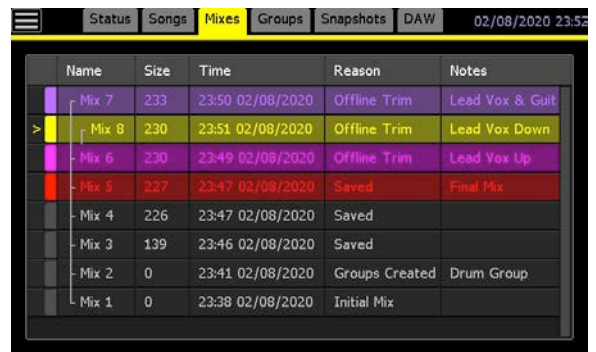Songs can be made "current" and edited in various ways via the Song menu (press in the Songs page).

10.0 Mixes

Refer to section 16.0 Mixes in the Operator's Manual for detailed information.

Within each song, several "mixes" can be created and stored on the Mixes page. As mix events are recorded, edited, or groups are created/edited, new mix passes will appear on the Mixes page. Groups are created and stored within mixes using the Groups page.

Mixes can be made "current" or edited in various ways via the Mix menu (press in the Mixes page).

11.0 Groups

Refer to section 17.0 Groups in the Operator's Manual for detailed information.

A "group" contains control links between a "group master" and several "group members" that provides control over a specific set of controls (faders, mutes, inserts/switches) from the master. The Groups page displays all the groups within the current mix.

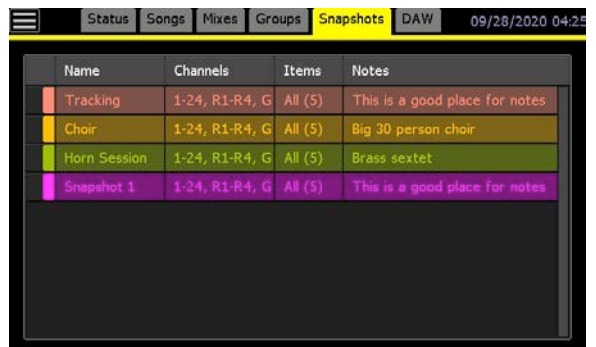Groups can be edited in various ways via the Group menu (press in the Groups page).

11.1 Enable Groups

For groups to function, they must be enabled. Enable Groups activates and deactivates all the control groups within the current mix. Groups are enabled by default. Disabling groups will suspend all current groups. Press Enable Groups to engage or disengage all of the groups in the current mix.

12.0 Snapshots

Refer to section 18.0 Snapshots in the Operator's Manual for detailed information.

A "snapshot" is a captured static image of the positions of the faders and/or switches on all or a selected set of channels. The Snapshot menu allows the engineer to "take" a "snapshot" of the static positions of the selected controls on selected channels. The snapshots in the list can be "applied" back to the console controls to restore the stored settings. Snapshots can be edited in various ways via the Snapshot menu (press in the Snapshots page).

13.0 Get started

Refer to sections <u>22.0 Application Guides</u> in the Operator's Manual for detailed information.

13.1 Create a New Project

Refer to sections <u>7.6 Projects and Project Manager</u> and <u>7.7 Project Manager Menu</u> in the Operator's Manual for detailed information.

To create a new project folder and project file, perform the following procedure:

1. Open the Main menu and select "Manage Projects" from the "File" sub-menu. The Project Manager window will open.

2. Press the "New Project" button or press in the Project Manager window to open the Project Manager menu and select "New…". The "New Project" dialog box will open.

3. Press the "Title:" text-entry field and enter a name for the new project folder using the pop-up keyboard or external keyboard.

4. Press the "Filename:" text-entry field and enter a name for the new project file using the pop-up keyboard or external keyboard.

5. Press the "Timecode:" pull-down menu and select a frame-rate for the new project.

6. Press the "Basis:" pull-down menu and select the basis (positions or mix data) for the initial mix in the new project.

7. Press the "Notes:" text-entry field and enter any notes about the project.

8. Press a color to assign it to the new project.

9. Press "OK" to create the new project folder and project file and store them on the memory-card. The new project will become the current project.

13.2 Create a New Group

Refer to section <u>17.0 Groups</u> for detailed information.

To create a new group and mix from the current mix, perform the following procedure:

1. Press the Groups tab to open the Groups page.

2. Press within the Groups page to open the Group menu.

3. Select "New" from the Group menu and the "Group: Create New" dialog box will open.

4. Press in the "Name:" text-entry field and enter a name for the new group using the pop-up keyboard or external keyboard.

5. Press in the buttons in the "Controls:" section to select the control groups to be created (Fader, Mute, Insert).

6. Select a group master and members using the console hardware. The first touched fader or actuated switch will become the group master. The beeper will emit an audio alert when the master is selected.

7. Select group members by touching faders and/or actuating automation switches. Selection of group members will be acknowledged by the beeper.

8. Press in the "Notes:" text-entry field and enter any notes about the group.

9. Press the "Color:" field to open the "Color Picker." Select a color and press "OK."

10. Once the group has been set up, press "OK." A new group for each set of selected controls will be created within a new mix. This mix will be added to the current song's mix tree and will become the current mix.

13.3 Create a Snapshot

Refer to section 18.0 Snapshots for detailed information.

To create a new snapshot within the currently open project, perform the following procedure:

1. Press the Snapshots tab to open the Snapshots page.

2. Press within the Snapshots page to open the Snapshot menu.

3. Select "New…" from the Snapshot menu and the "Snapshots: Create New" dialog box will open.

4. Press in the "Name:" text-entry field and enter a name for the new snapshot using the pop-up keyboard or external keyboard.

5. Press in the buttons in the "Fader 1:" and "Fader 2" sections to select the controls to be captured in the new snapshot.

6. Press "All" to select all "Channels:" (channels/sections) to be captured in the new snapshot or press "Selected" to select specific "Channels:" (channels/sections) using the console hardware.

7. If "Selected" is engaged, press the fader and/or actuate switches to select the channels/sections to be captured in the new snapshot. The beeper will emit an audio alert as sections are selected.

8. Press in the "Notes:" text-entry field and enter any notes about the snapshot.

9. Press the "Color:" field to open the "Color Picker." Select a color and press "OK."

10. Press "OK" to create the new snapshot within the currently open project.

13.3.1 Apply an Existing Snapshot

To apply an existing snapshot to the current song, perform the following procedure:

1. Put selected channels/sections in **Manual** or **Write**.

2. Press the Snapshots tab to open the Snapshots page.

3. Press the snapshot to be applied to select it and open the Snapshot menu.

4. Select "Apply…" from the Snapshot menu and the "Snapshot: Apply" dialog box will open.

5. Press "OK" to apply the control settings stored in the selected snapshot to the console hardware.

NOTE: Applying a snapshot will reset the console controls whose settings are stored in the snapshot. Press "**Recover Positions**" on the Status Page to "undo" the accidental application of snapshots.

NOTE: Channels/sections in **Read** or **Update** will return to their written positions when timecode is started after a snapshot is applied without timecode running.

14.0 Basic Step-By-Step Automation Procedure

1. Press "Select All" on the Status page and assign **Manual** mode to all channels/sections.

2. Create a static mix of the tracks that's as balanced and blended as possible without automated moves.

3. Open the Main menu and select "Manage Projects" from the File submenu to open the Project Manager dialog box.

4. Press the "New Project" button to open the New Project dialog box.

5. Enter a title and select a timecode frame rate. Select "Current Positions" as the basis for the first mix. Enter project notes and pick a color if desired. Press "OK" and a new song and mix tree will be created.

6. Press "Select All" on the Status page and assign **Update** mode to all channels/sections.

7. With timecode running, touching/moving any automated fader or actuating any automated switch (MUTE, INSERT, etc.) will update the mix and will create new mix pass in the mix tree.

8. A complete mix can be created in **Update** mode. If more advanced functions are needed, refer section "22.0 Applications Guides" or the related chapter in the Final Touch Manual.

9. Once the mix is completed, press "Select All" on the Status page and assign **Read** mode to all channels/sections while the mix is being recorded.

15.0 DAW Control

Refer to sections 19.0 DAW Control and 23.5 DAW Configuration in the Operator's Manual for detailed information.

The steps that follow assume DAW control has been configured as follows:
- The USB-B cable carrying Mackie Control or HUI MIDI data is connected to the DAW computer
- The DAW interface, computer, and software are properly configured for DAW control via Mackie Control or HUI
- The ACM is properly configured for DAW control (See Section 19.6 DAW Configuration)

To enable DAW control, perform the following procedures:

1. Press the DAW tab to open the DAW page. The Channels tab will open by default, displaying several rows of channels and controls for mapping functions. The track names from the open DAW session will be inherited by the channel labels on the DAW page. The level meter in the channels with display audio and data.

2. Press the "Enable" buttons for each "bank" of 8 channels needed for DAW control and DAW control will immediately engage. The configured console faders and mutes will change to match the track faders and mutes in the DAW. Press the "Enable" buttons a second time to exit DAW control.

> ***OR***
>
> Hold the SEL/**DAW** button on the first fader of a section of faders for about two seconds to put that section of channels in DAW mode. Holding the SEL/**DAW** button a second time will exit DAW control.

3. Use the "Shift Left" and "Shift Right" buttons to shift the DAW tracks being controlled to the left or right one track at a time.

4. Use the "Bank Left" and "Bank Right" buttons to shift the DAW tracks being controlled left or right eight tracks at a time.

5. Press the Controls tab to open the DAW Controls page. Use the DAW specific transport and program controls to manage primary DAW operations from the console.

6. Use the following console fader controls to control the DAW tracks:

Console	**=**	**DAW**
Fader	=	**Fader**
SWITCH OVERWRITE	=	**MUTE**
READ	=	**SOLO**
UPDATE	=	Track "**SELECT**" (hold to enter track name in DAW)
WRITE	=	Track **RECORD** Ready
NULL LEDs	=	Indicates a soloed DAW track when both are illuminated

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