CHAPTER 8

8   VISTA 8 DIFFERENCES, based on SW V3.5 (as opposed to SW V3.3)

8.1   Introduction

Vista 8 is a further development of the Studer Vista console family. It has been designed specifically for live applications, such as live broadcasting of TV and radio as well as live PA, in particular for fixed installations. While maintaining the well-established operational philosophies and data transfer formats, it offers a completely new control bay, adding a highly flexible and ergonomic output section to the console. This output section can be varied in its placement and also provides all monitoring functions and the powerful dynamic "AutoTouch+" automation. Vista 8 is utilizing much of the proven hardware and software of Vista 6 and 7, guaranteeing the reliability of this product.

In this chapter we will explain the operational differences between the Vista 8 and the Vista 6/7. Some of the software features described here are also available for Vista 6 and 7 by upgrading to software version 3.4 or newer. They will be described in the software release notes of the corresponding product.

The Main Differences from Vista 6 and Vista 7:

- Vista 8 has faders fitted not only across the fader bays, but also in the control bay. Although these added faders can operate any channel of the console, their keys are optimized for master output control and the powerful "reverse interrogation".
- In addition to the twelve additional faders in the control bay, the Vistonics® screen offers real-time metering and instant access to another 40 console faders, such as auxiliary, groups, or matrix outputs.
- Metering: Vista 8 offers colored metering with very high contrast. It allows user-definable headroom indication by changing the color of the display to red within a wide range.
- Vista 8 offers the full functionality of the static snapshot automation of Vista 6 as well as full access to all dynamic automation controls of "AutoTouch+", offered previously by Vista 7 only. The console can therefore be started in "static" as well as in "dynamic" automation mode.
- Comprehensive functionality in conjunction to "N–X" buses (clean feeds, N–1) has been added, like on the Vista 6.
- In addition to the well-proven concept of "scrolling" through sections, Vista 8 offers the possibility to switch to another section on a channel-by-channel basis.
- In order to support live PA work, Vista 8 offers mute groups, cue list with MIDI and HiQNet control, surface illumination, a blackout function as well as matrix outputs.
- Studer is proud to offer full redundancy of the control system, including all necessary internal cards. In case of an emergency, a manual switchover is possible while maintaining the settings used before.
- The graphic controller screen is mounted externally. This allows using 3rd-party TFT screens. The keyboard has been placed in a drawer underneath the control bay, providing more space for actual audio operation.
- Vista 8 offers the possibility to connect any talkback microphone to the XLR connector mounted in the meter bridge. An analog level trimmer as well as 48 V phantom power (activated by a jumper within the meter bridge) allows adapting any type of microphone.

- Custom meters may be fitted into the meter bridge (2 units wide), while the flexible assignable meters are maintained. As an option it is possible to remove the assignable meter panel and fit custom metering across the whole central meter bridge (11 units wide).

8.2 Hardware Differences

8.2.1 Graphic Controller Screen

The TFT screen displaying the graphic controller software (GC) is not an integral part of the console anymore. It is therefore possible to connect any 3rd-party TFT screen with DVI input to the console. If the system is equipped with a redundant control system, the resolution of the screen may be 1024 × 768 or 1280 × 1024 (see chapter 8.2.6). If no redundant control system is fitted, the resolution is only limited by the capabilities of the internal graphics card. In order to provide power to the external screen, a power plug is provided on the rear side of the console. This connector has active power whenever the control system is powered up. This includes any redundancy option possibly fitted in the console. The output is automatically set to the same voltage as the mains voltage provided to the console.

8.2.2 Power Up/Down

The console is powered up by pressing the (upper) MAIN [ON] key located in the meter bridge. Shutting down the system is achieved by selecting the corresponding command within the console software ("System Shutdown").

If a redundant control system is fitted, it is powered up whenever the main system is (default). However, it is possible to start the redundant control system individually by setting an internal jumper accordingly (see service instructions for details). Use the REDUNDANCY [ON] key to start the redundant control system separately.

For servicing reasons it may be required to power down the desk while keeping the control system powered up. This is achieved by holding the DESK [ON] key for several seconds.

Power down: The system is powered down by using the corresponding command within the software. In case an "emergency shutdown" should be required, this is possible by pressing-and-holding the (upper) MAIN [ON] key for several seconds.

The STBY LED is on whenever power is connected to the console. The ON keys are lit whenever the corresponding part is powered up. If a key is flashing, the redundant power supply is no more active.

Emergency shutdown: Should it be necessary to power down the system without software control, it is possible to hold the MAIN [ON] key for several seconds. This will activate the emergency shutdown of the system.

Note: This should be used only if software-guided shutdown is absolutely not possible anymore!

8.2.3 Talkback Microphone

Vista 8 allows connection of any 3rd-party microphone to its talkback input. An XLR connector is located within the meter bridge. By using a small screwdriver the input sensitivity can be coarsely adjusted, while fine-tuning is done using the corresponding rotary control located in the control bay (software controlled). In addition, 48 V phantom power can be activated with a jumper within the meter bridge (see service manual for details).

8.2.4 Metering
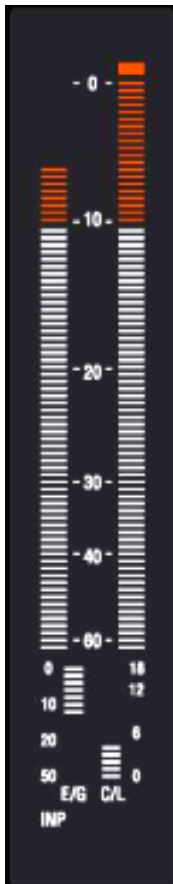
Vista 8 offers colored metering. The headroom threshold can be set between -5 dB$_{FS}$ and -25 dB$_{FS}$ using the "Option: Meter / Generator" menu. The metering contains dedicated sections for displaying the current gain reduction of compressor/limiter as well as expander/gate. An indication of the current metering tap point (input, post fade or direct output) is provided at the bottom.

8.2.5   Console Illumination (optional)

Vista 8 may be ordered with optional illumination. It may be varied in intensity using the "Option: Vista Settings" menu. There are two separate controls for the console lights (including Vistonics® backlights) and for the illumination mounted on top of the meter bridge.
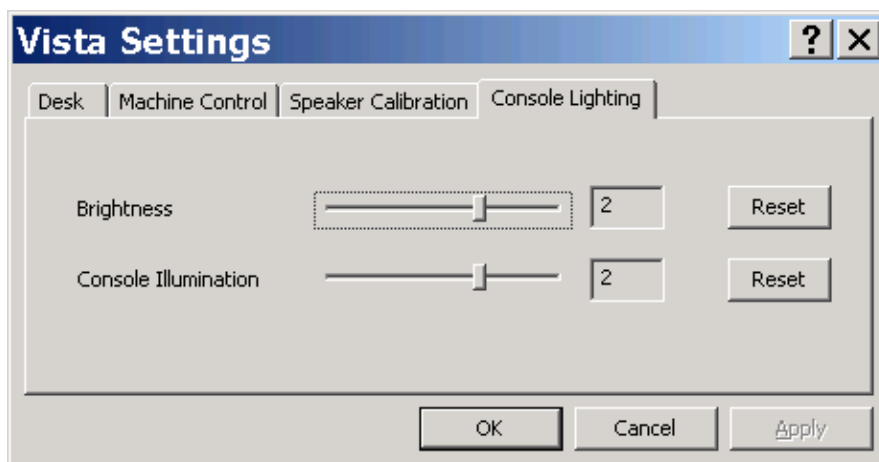
8.2.6   Redundant Control System

If the console is equipped with a redundant control system, the external graphic controller screen is running at a resolution of 1280×1024 pixels by default. Resolution may be reduced to 1024×768 pixels by setting an internal jumper (see service manual for more details).

8.2.6.1   Switchover to the Redundant Control System (Emergency Switch)

During normal operation, the main control system is backing up all necessary data of the currently loaded project in regular intervals to the redundant control system's hard drive. The interval is set in the "D950system.ini" file located within the Windows directory. If for any reason it should be necessary to switch to the redundant control system, the user may hold the emergency key ⊞ for about 3 seconds. This will switch the whole system over to the second control system. The user will then see the redundant system on the graphic controller screen and start the console application by double-clicking on the appropriate icon on the desktop. It will load the data previously backed up by the healthy main system, and the operator has full access to the whole system again. While the redundant system is active, the emergency key ⊞ is lit. However, it is not intended to switch back to the main control system during a live situation. In such a case, the data can be backed up using a CD-R or a USB memory stick and put back to the main control system after the production has been finished.

8.2.6.2 "Small" Switching to the Redundant Control System (Health Check)

It is possible to switch to the redundant control system without activating the emergency procedure. This may be useful for e.g. a quick health check or for maintenance purposes. In this case, only the keyboard, trackball and the graphic controller screen is switched over, while the console itself continues to run using the main control system. Such a security check may be performed at any time during console operation. Switchover is done by *pressing-and-releasing* the ⇧ (shift) key of the keyboard, followed by pressing the "-" key.

Note: This combination may vary according to the serial number of the console. Please refer to the documentation delivered with your console in case the key combination described shouldn't work.

8.3   Functional Differences: Control Bay

VIEW

AUX

GROUPS

MASTERS

DIR OUT

BUS OUT

MATRIX

USER 1

USER 2

USER 3

USER 4

TALK

MUTE

The control bay hosts twelve faders and a Vistonics® screen as well as the keys for monitoring functions, dynamic automation, talkback etc. known from other Vista consoles. The faders and the Vistonics® screen are fully independent from the rest of the console in terms of view changes and scrolling. A separate set of four keys provides independent scrolling functionality of this section. In the strip setup window of the graphic controller, a second page ("tab") has been introduced, allowing to set-up the strip usage of the control bay. Four fader pages with ten strips each are provided as a standard. By scrolling once to the left and the right, an extension of up to 120 strips is available for channel access within the control bay.

The Vistonics® screen is used as a collection of 40 level controls, usually representing a duplicate view of the fader bays' channel faders. The Vistonics® controls will then not only give access to the channel faders and graphically indicate their settings, but is also indicate a real-time level meter on the screen right next to the corresponding rotary control. This allows viewing up to 40 meters at a glance while having direct access to all of their corresponding faders by using the rotary control next to it. Tweaking any of the console's output levels is therefore extremely easy and fast.

The VIEW keys on the right-hand side of the control bay allow access to some predefined channel types (AUX, GROUPS, MASTERS, DIRECT OUT, BUS OUT) as well as to five user-definable views. By using the third page (**Vistonics Views** tab) of the strip setup window (next page), it is possible to define the five user setups in a way very similar to the known strip setup window. In order to make a user view, simply select the Vistonics® elements on the screen and fill them up using the right trackball button. Although primarily intended for outputs, also input faders can be visible and controlled with these USER views.

The top user-definable view is labeled **MATRIX**. This page is also fully user-definable and covers the same functionality as the other four USER1...4 keys. As a standard the user may want to use the MATRIX key to see the console's matrix outputs (see chapter 8.6.8).

The function of the Vistonics® keys next to each rotary knob on the Vistonics® screen may be modified by pressing the TALK or MUTE keys. They will change the Vistonics® key from a SOLO/PFL/SIP key (depending on the current mode) to a TALK or MUTE key.

Note: These functions may not be available on certain channel types.

Apart from displaying meters and set levels, the Vistonics® screen also indicates the label of the displayed channel with the color coding applied accordingly.

⏱ Temporary activation of these keys is possible.

The ⇧ (shift) key is reserved for future use and doesn't offer any function currently.

Channel Label

Channel Fader Level

Real Time
Level Meter

SOLO / PFL
MUTE / TALK

Channel Fader Control
of Vistonics Rotary
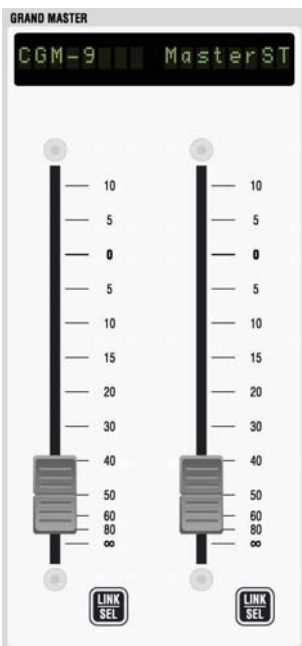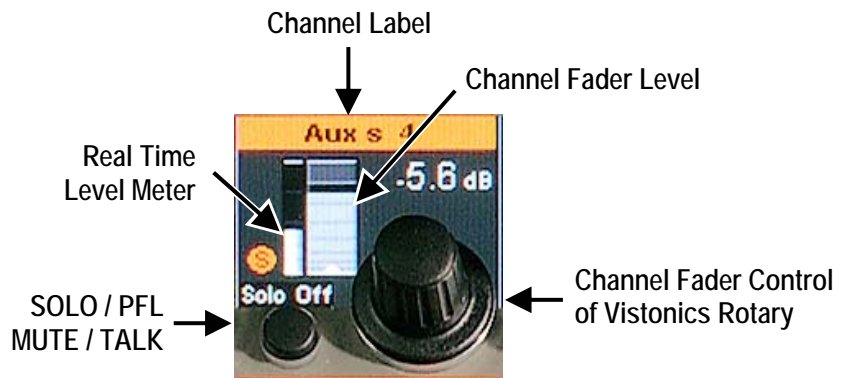
Vista 8's control bay also hosts two "grand master" faders. The user determines which two faders are most important for him and to which he wants constant access. This may be very useful as an "emergency access" to very important output faders, since these faders will never scroll or be switched over in any way. Which two channels are controlled by these faders is defined in the top right corner of page 2 (Control Bay tab) of the strip setup window, as shown below.
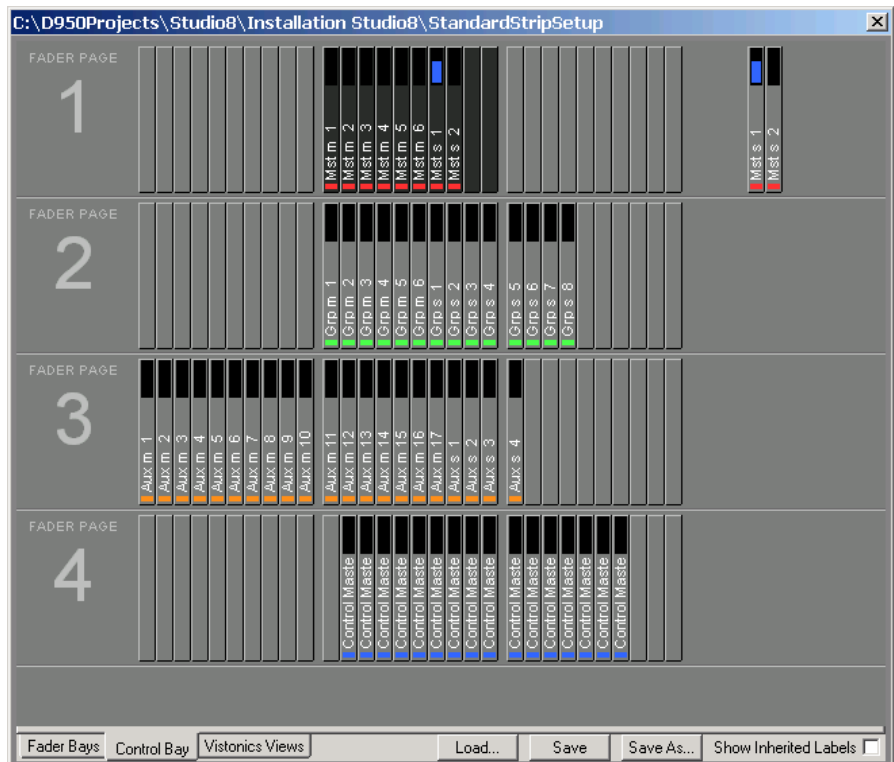
Note: *Any two* console faders can be assigned as "grand master" faders, regardless of their channel type.

8.4   Output Levels on Faders

8.4.1   Output Faders

The ten faders have their own strip setup window. It is available by clicking on a different "tab" within the standard strip setup window. The ten faders have four pages (keys FADER PAGE 1...4), and each page in fact contains 30 strips. Left/right scrolling is done with the ◀ ▶ arrow keys within each page in order to access up to 120 faders. As is the case with the user-definable view keys for the Vistonics® screen, any kind of channels can be assigned to these ten faders, including input channels, if required.

8.4.1.1 "Grand Master" Faders

The setup of the grand master faders is done within the same window. Unless the corresponding option is selected, faders defined as grand masters never change when selecting different fader pages (these faders are shown in the top right corner of the screenshot).

8.4.1.2 Touch Screen

On the touch screen area of the Vistonics® screen, the ten faders are correctly labeled and color-coded. If the channels currently shown contain EQ or dynamics functionality, the corresponding settings are graphically displayed on the touch screen. It is possible to touch those curves in order to open up their parameter control views on the Vistonics® rotaries, as known from the fader bays.

8.4.1.3   Contribution Access

Very often it is useful to operate the console in "reverse" way, coming from an *output* fader and operate the various *input* channels contributing to this output. By pressing the CONTRIB key on top of a fader the Vistonics® rotaries will show all channel faders currently contributing to this master signal. In case of a matrix or AUX master output, the view shows all channels contributing to this output, hence input, subgroup or master channels.

"Contribution" can be operated in two ways, depending on the state of the "Reduced View" key on the left-hand side:

"Reduced View ON":   When pressing CONTRIB only the channels currently assigned to the corresponding master bus are displayed.

"Reduced View OFF":   All channels that *may* contribute are displayed. These are all channels that can be assigned to that specific output bus. This view allows assigning or de-assigning them from the master bus by using the corresponding Vistonics® keys.
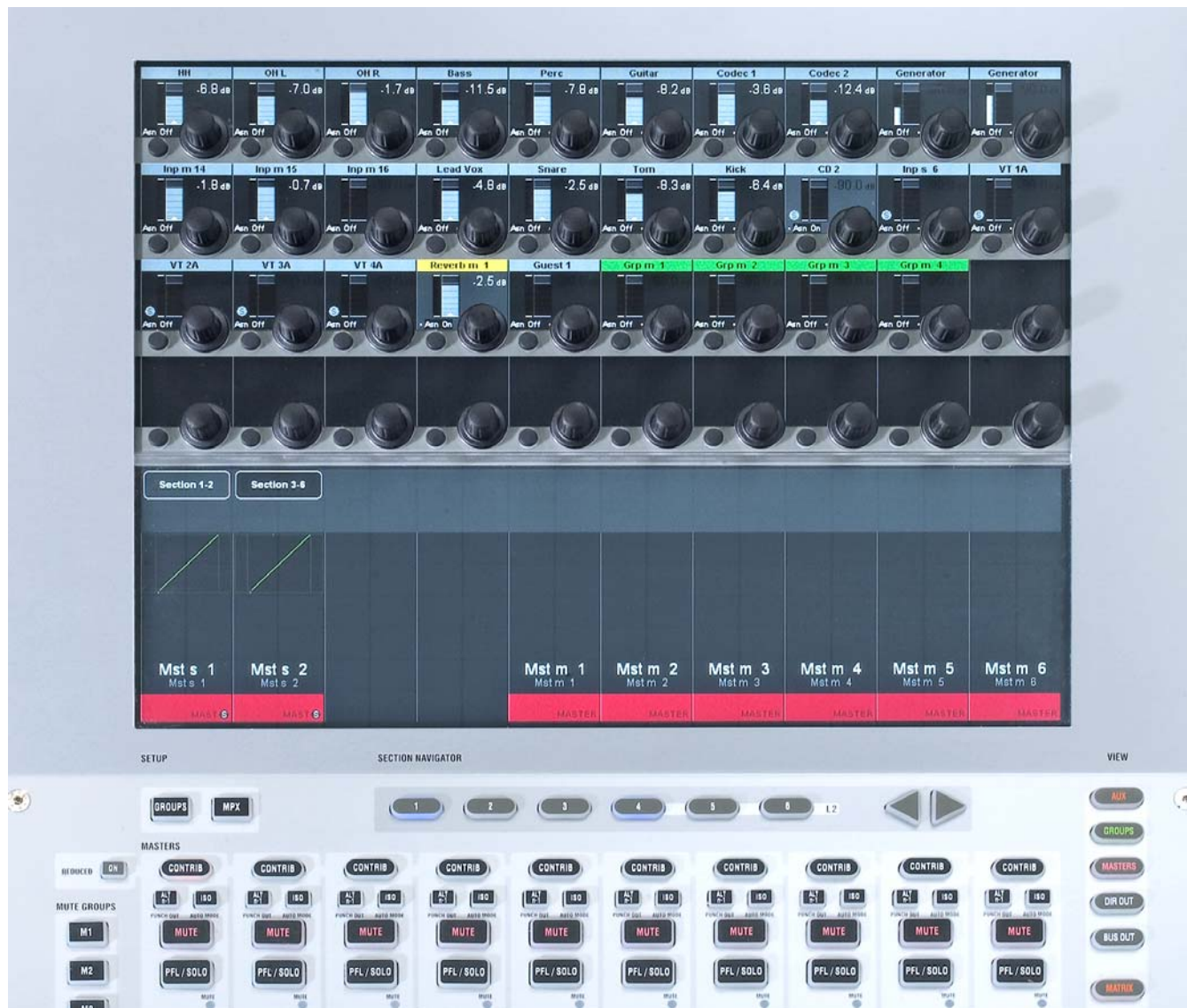
It is extremely easy to adjust a balance of e.g. a matrix output without accessing the fader strips of the contributing channels.

When working in "Reduced View OFF" mode, another advantage becomes apparent: The operator may do the bus assign now by choosing the output first and then assign the corresponding channels to it.

8.4.2   Other Differences

8.4.2.1   Dynamic Automation "AutoTouch+"

The AUTOMATION hardware panel in the control bay hosts a dedicated AUTO key for punching the selected objects in and out at the beginning and at the end of the write zone. This key therefore is a duplicate of the checkbox within the AutoTouch+ window in the control screen but provides direct access for quick changes. This is useful if the operator works with loops while auditioning certain settings. If the settings are finally adjusted, this key allows writing these values when playing back the loop for a last time.
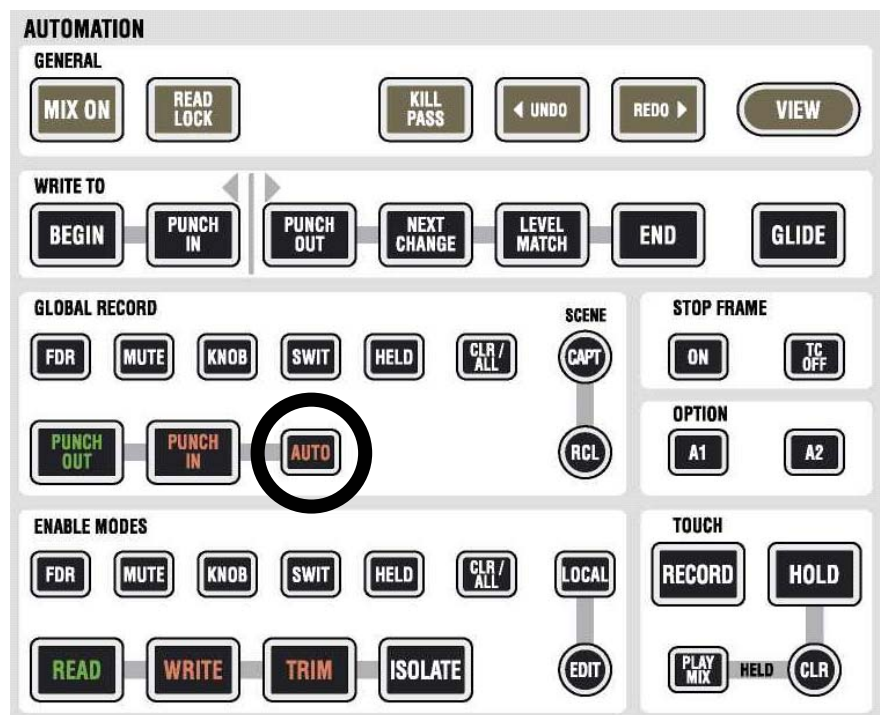
8.4.2.2   Studio Monitoring Controls

Vista 8 gives direct access to the most important functions for two studios. Control and view of the following functions are directly accessible, without having to select the appropriate studio first:

RED LIGHT, SIG 1 (Ready), SIG 2 (Call), TALK

These keys allow activation of the corresponding function; they may light automatically if the function has been activated e.g. by one of the GPI (general purpose inputs).

The right part of the studio monitoring panel is used to control the audio level of the two studios. First select the studio (A or B), then adjust the level and select from "Selected Source on Source Selectors" (SEL), feed studio with same source as control room (FOLW CR), or send PFL/SOLO signals to the studio (PFL/SOLO). It is also possible to disengage the mute mechanism normally activated by the red light logic. This is done by activating RE-INJECT.

8.4.2.3   Monitoring Source Selector

The 32 available monitoring source selectors act exactly the same as with Vista 6. First select the target to be changed: Control Room (CR), STUDIO A, or STUDIO B. Then select the appropriate source key (1...32). All keys are fully user-definable by using the monitoring setup dialog on the control screen (accessible to system administrators only). Each key may independently feed a set of one to eight loudspeakers. It is therefore possible to have a two-channel stereo source on one key, while another key selects a 5.1 surround source. This makes the use of third-party equipment for automatic mix-down of a 5.1 surround mix into a two-channel stereo mix very easy: Feed the mix-down equipment with the 5.1 master mix and feed its two output channels back to the console. Define one of the source selector keys to switch these two channels onto left and right loudspeaker.

Note: The keys 1...4 may be used as "sub-selectors", each opening up a choice of twelve more sources on the control screen. This functionality is the same as with Vista 6 and 7.
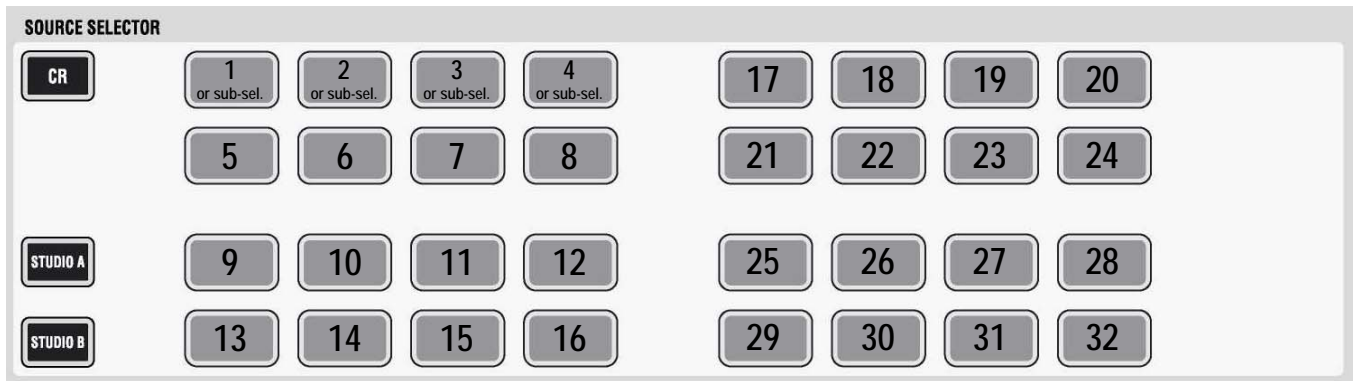
8.4.2.4   Option Keys
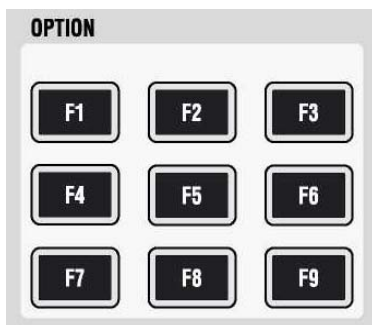
These keys are intended for future software expansion. Current functions:

F3   If the cue list is "armed", this key switches off/on all console lights.

F7   Used during live broadcasting; by pressing it, it is possible to de- and re-activate the offline conference temporarily without loosing its member definition. This key is a duplicate of the [icon] conference icon in the GC toolbar.

8.4.2.5   Machine Control (Option)

An optional machine control panel can be fitted into the Vista 8 control bay. This gives control over one external machine using Sony P2 ("Sony 9-pin") protocol. Please contact Studer Service & Support for installation instructions.

8.4.2.6   Graphic Controller Keys
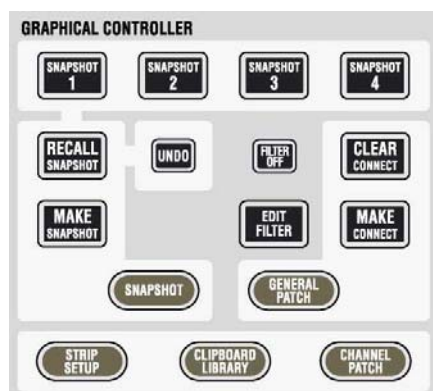
These keys have the same functionality as the ones on Vista 6 and 7. They allow fast access to the most important pages of the graphic controller screen.

The following keys have been added on Vista 8:

CLIPBOARD LIBRARY   Dedicated key for opening and closing the clipboard library.
(RECALL SNAPSHOT) UNDO   Snapshot recall: Hold UNDO and press RECALL SNAPSHOT; this will undo the last snapshot recall.
FILTER OFF   Dedicated key for temporarily inactivating snapshot filters.
EDIT FILTER   Dedicated key to enter and exit the snapshot isolation "filter edit" mode. When lit, all console controls are showing whether or not they are isolated against snapshot recalls. The user may modify their state by pressing or touching the corresponding controls. Ganging is possible.

This toolbar icon on the graphic controller screen allows access to the "AutoTouch+" control screen.

8.4.2.7 Section Navigator

The section navigator works in the same way as with Vista 6 and 7. It allows quick changes of the fader bays between sections as well as scrolling by one bay using the ◄ ► arrow keys.

8.4.3 Mute Groups

Vista 8 provides up to 16 mute groups. MUTE GROUPS M1...M8 have dedicated keys on the left side of the control bay.

Mute groups M9...M16 may be operated using eight of the 32 monitoring source selectors. Use of these keys (monitoring source selectors or mute groups) is defined in the "Option: Vista Settings" menu.
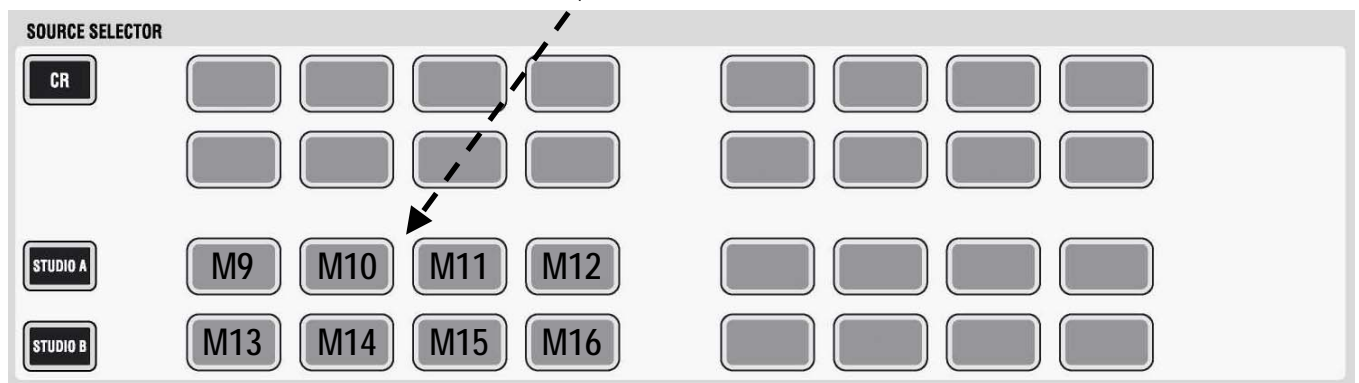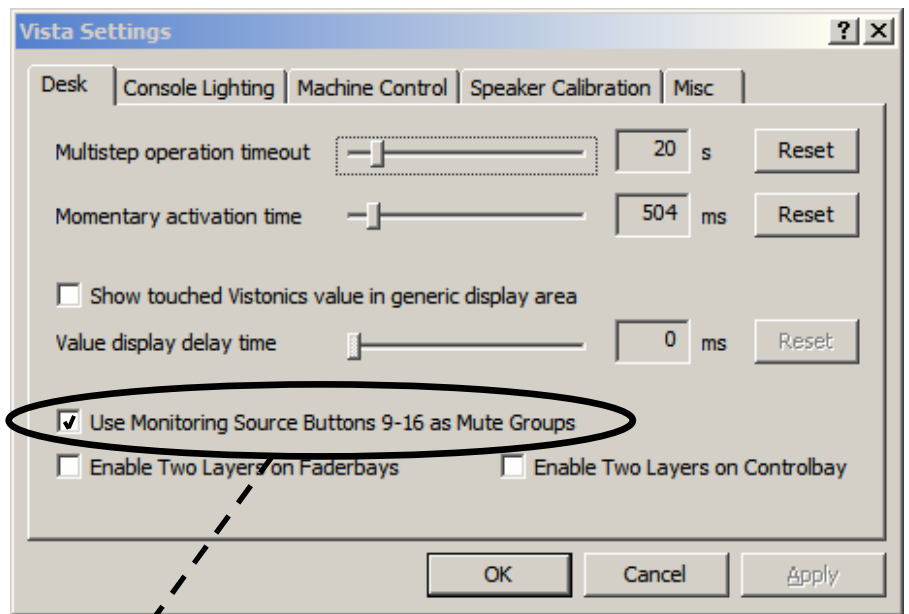
8.4.3.1   Setting up a Mute Group

Press the SETUP GROUPS key on the control bay. The mute group master keys (dedicated MUTE GROUPS M1...M8 keys, and if defined, the keys 9…16 in the SOURCE SELECTOR area, see above) will be half-lit.
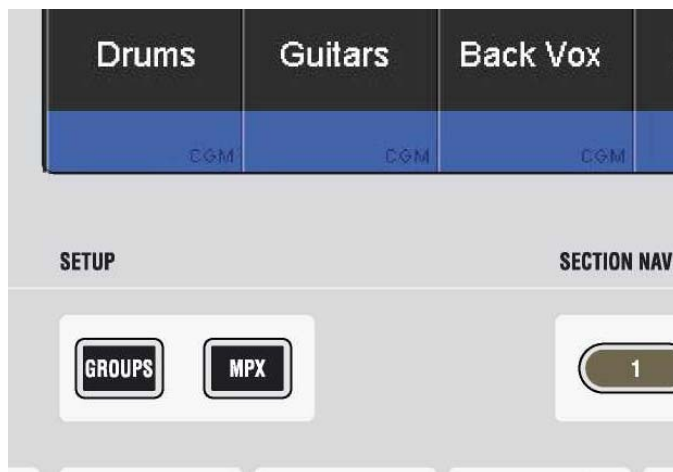
Select the mute group you want to setup (mute group master keys, or one of the source selectors 9…16).

A dialog will pop up on the graphic controller screen, allowing you either to add all currently muted channels on the console to this mute group with one trackball click, or to clear all members from the selected mute group. You may also select or deselect members using their LINK / SEL key.

Press the mute group master key again in order to select another one. Please note that hierarchies can be built up as well. In other words, a mute group may contain individual channels as well as another mute group master. Hierarchies are not indicated on the desk once the set-up menu is quit. The area below the channel labels indicates whether a channel is a member of one or multiple mute groups.

This Channel is Part of Mute Groups 1, 3, and 8

Press SETUP GROUPS again in order to leave the setup mode.

8.4.3.2   Where are the Mute Groups Saved?

Information on which channel belongs to which mute group is saved within a so-called "start snapshot" of each title. I.e., this information is saved once per title when the title is closed. However, the state of the mutes in each channel is saved within each snapshot.

8.5   Functional Differences: Fader Bay

Most of the functionality within the fader bay is identical to the one of Vista 6.

METER This key allows selection of the different meter tap points (input, post-fader, direct output).

The keys listed below change their function depending on the mode which the console is booted in. The key's standard labels are valid when booted in "static automation mode". This mode is foreseen to be the primary operation mode of Vista 8. The labels printed *below* the keys are active when the software is started in "dynamic automation" mode. For details on the functionality in "dynamic automation" mode, please refer to chapter 5.

USR 1 / REC SWIT   USR 2 / REC KNOB Act as user keys. These keys are user-programmable and may be used for various tasks, such as activating fader start or fader ramps, etc. Further programming is available on request from Studer Service & Support.

ALT n-1 / PUNCH OUT Activates the "alternate" N–1 signal; setup in the corresponding dialog of the control screen. Refer to chapter 8.2.10 for more details.

ISO / AUTO MODE Activates channel isolation against changes when recalling snapshots. Hold this key and touch/press any channel parameter in order to isolate this particular parameter or the whole function (e.g. EQ on/off key). If the whole channel is isolated, the key is fully lit.

L2 / MUTE REC Activates switching to the second layer if the corresponding option is activated. If the second layer is displayed, the key is fully lit. Refer to chapter 8.6.6 for more details.

TALK / FDR REC Activates the talkback function to the direct output and, if the channel is an owner of an N–X bus, to the output of this bus.

The locations of the PFL/SOLO and MUTE keys have been changed in order to suit a live situation better. This prevents from accidental use of the MUTE key. In addition, the MUTE key may be disabled whenever the console is in "On Air" (live) mode. This is done in the "Option: Vista Settings" dialog:
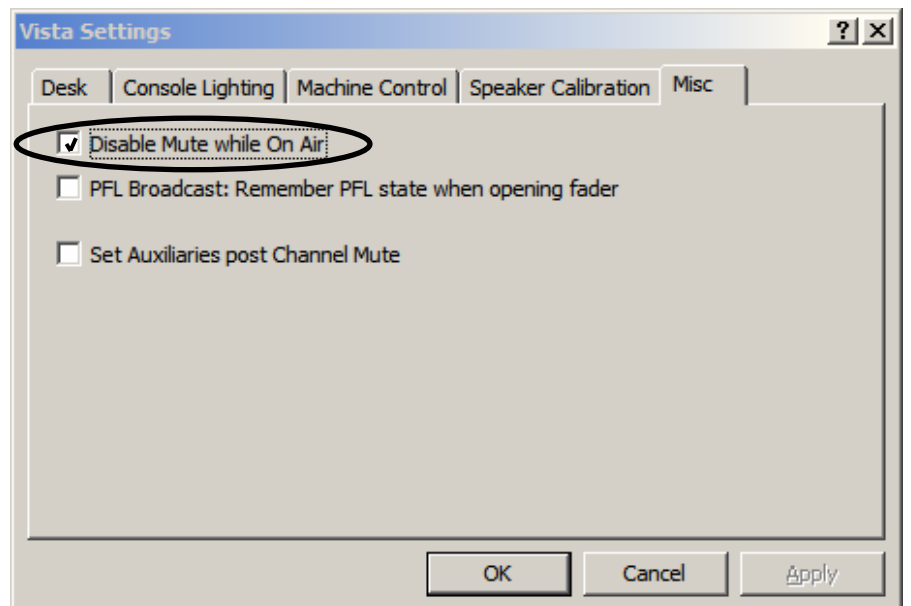
8.6 Other Software Improvements

8.6.1 Updating Multiple Snapshots

Very often, certain parameters should be overwritten in multiple snapshots. It may be important that only certain parameters are overwritten and others are left as they are in the individual snapshots. In order to achieve this, place those parameters into "Isolate" mode and recall a snapshot. If this action is now followed by an Update command, the values are changed as requested.

By using Trim mode (see chapter 4.4.4.5), it is even possible to apply relative changes to individual parameters of snapshots. E.g. place the fader 1 into Trim mode and lower it by 8 dB. Recall the next snapshot and click Update. This will save the original value of the second snapshot, reduced by 8 dB, to the hard disk. See example 2 below for details.

This can be done even faster: First select multiple snapshots and click Recall and Update once.

Note: The **Update** button is changing its name whenever multiple snapshots are selected.

8.6.1.1 Selecting Multiple Snapshots

Multiple snapshots can be selected at the same time by using the keyboard ⇧ SHIFT and CTRL keys. The selection of multiple snapshots is following standard windows rules: ⇧ SHIFT + click selects all snapshots in between the two, CTRL + click allows selection of individual snapshots.

Example 1: *Goal:* The value of channel 3 should be overwritten and set to –20 dB on "Snapshot #1", "Snapshot #3", and "Snapshot #5"

Procedure: Place the fader to –20 dB.

Hold ISO on channel strip 3. Touch the fader in order to put it into isolate mode.

Select "Snapshot #1" with the trackball.
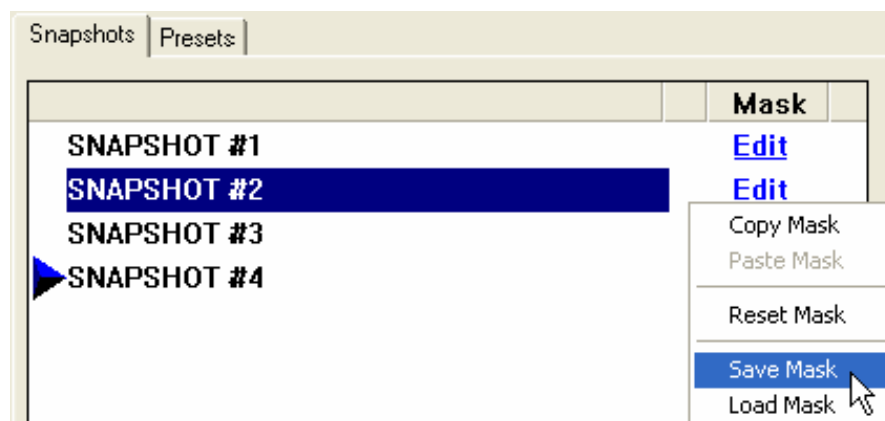
Hold the CTRL key on the control bay, and select "Snapshot #3" and "Snapshot #5".

Click on "Recall and Update", and confirm that you want to overwrite these snapshots.

The console will automatically recall and update the selected snapshots.

Example 2:	*Goal:*	The value of channel 3 should be lowered by 4 dB on "Snapshot #1", "Snapshot #3", and "Snapshot #5".
		These snapshots currently contain the following fader values:
		"Snapshot #1": 0 dB; "Snapshot #3": –5 dB; "Snapshot #5": –10 dB.
		Therefore, after the update they should contain the new, updated values:
		"Snapshot #1": –4 dB; "Snapshot #3": –9 dB; "Snapshot #5": –14 dB.
	Procedure:	Make sure the **Enable Trim mode** option in the "Option: Snapshot Automation" menu is set.
		Recall any snapshot.
		Hold ISO on channel strip 3. Touch the fader *twice* in order to put it into Trim mode.
		Lower the fader of channel 3 by 4 dB (the exact trim value will be displayed on the Vistonics® screen).
		Select "Snapshot #1" with the trackball.
		Hold the CTRL key on the control bay, and select "Snapshot #3" and "Snapshot #5".
		Click on "Recall and Update", and confirm that you want to overwrite these snapshots.
		The console will automatically recall and update the selected snapshots.

Since the console assumes that the controls being in Trim mode have been placed into this mode for the purpose of this update, the operator will be asked whether these controls should be taken out of Trim mode afterwards.

8.6.2   Saving Snapshot Masks

When working with partial snapshots (option available in "Option: "Snapshot Automation"), it is possible to right-click on the **Edit** link to the right of the snapshots. A context menu will allow not only copying and pasting of masks between snapshots, but also saving and loading of masks to/from files. The files will be saved in the `C:\d950System\Users` directory. This function can be very helpful when multiple operators are working on the console. During rehearsals, both operators may randomly save snapshots. After the rehearsal they select "their" snapshots and apply a prepared mask to them. This will make these particular snapshots only influence the part of the console which the operator was working on. Other applications may contain any recall of more complex masks.

8.6.3   Cue List

When using software V3.5 or newer, an extensive Cue List functionality is available. The Cue List allows sorting snapshots as well as attaching MIDI and HiQNet commands to each of them. Each title can contain one Cue List. The Cue List can be controlled from external controllers using MIDI. It is possible to use standard "MIDI show control" commands as well as recalling certain cues with a user-defined MIDI command (note and program change). The Cue List is only available in "static" mode, hence not when dynamic automation is active. Opening the cue list is done either by clicking on the *Cue Icon* (see left) in the GC screen's toolbar, or by using the LIST key on the control bay.

8.6.3.1   Activating Theatre Cue List Functionality

In order to activate the "theatre cue list" functionality, enter the "Option: "Static Automation" menu. (Explanation of further options see chapter below)
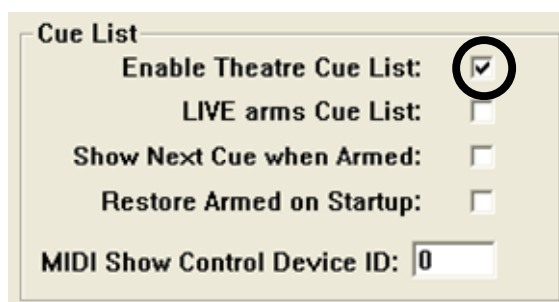
8.6.3.2   Hardware Keys

The following keys are located on the control bay:
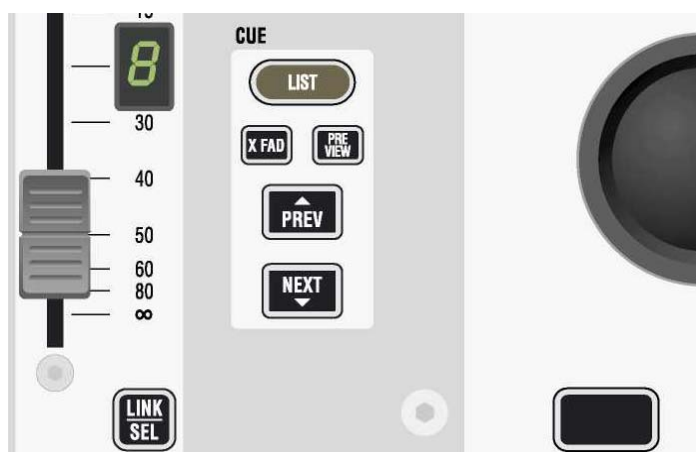
They can be used to control various functions of the cue list and allow certain functions to be switched using a hardware key, while it remains possible to use the trackball and operate these functions on the graphic controller screen:

- Switching on/off the cross-fade function between cues
- Activate or inactivate the cue preview mode
- Go to the next or previous cue.

8.6.3.3 Creating a Cue
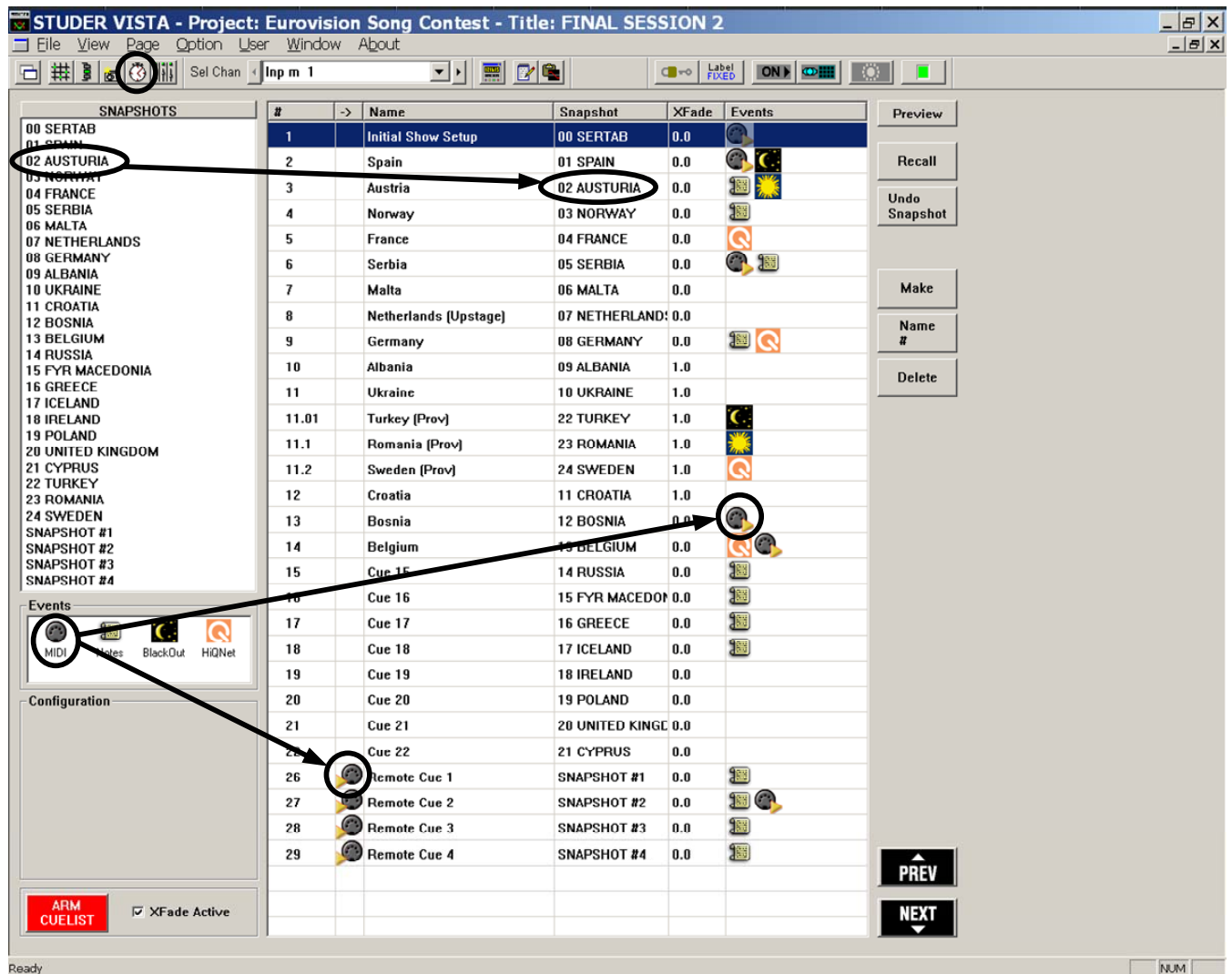
To create a cue, simply drag-and-drop one of the available **SNAPSHOTS** from the top left corner, or one of the **Events** from below the snapshots to the cue area. A cue can be created using the **Make** button on the right side of the cue list. It doesn't have to contain a snapshot; it is also possible to just fill in any event without activating any console setting changes.

8.6.3.4 Recalling a Cue

There are different ways to recall a cue:
- Double-click on its name
- Click on the NEXT or PREV button on the GC's control screen
- If the cue list is armed: Attach an incoming MIDI event to it and send the appropriate note or program change command to the console
- If the cue list is armed: Press NEXT or PREV on the control bay
- Send MIDI show control messages to the console, according to the specification given below.

8.6.3.5   Cue Numbering and Sorting

The cue will automatically be given a number, but it can also be edited manually in order to match cue numbers with other teams within a project (such as the lighting department). To do so, select the desired cue and click on Name / # in the right-hand part of the cue list. When modifying the cue number, it will automatically be re-sorted depending on the current number. The numbers used may contain a decimal point and up to two digits thereafter (#.##). When re-sorting cues using drag-and-drop, the numbers are automatically extended using a decimal point followed by up to two digits. In order to sort the cues, simply drag-and-drop the cue name to the desired place.

Automatic numbering example: When inserting a cue between the cues 11 and 12, this cue will automatically be numbered 11.1. If another cue is inserted between 11 and 11.1, this new cue will be numbered 11.01. Please note that he system doesn't allow further cues to be inserted between 11 and 11.01 without manually modifying the number 11.01 first.

8.6.3.6   Cross-fading Between Cues

Each cue displays a value for the cross-fade time when activating this cue. To modify the cross-fade time, point to the digits, hold the left trackball button, and scroll up or down. Alternatively, enter the number using the numerical keypad.

When clicking on the cross-fade time once, options for the behavior of switches during cross-fades become visible in the left part of the window (Options Area). For each cue it can be defined whether the switches should change their state before, in the middle, or after the cross-fade – while the other parameters are changing seamlessly.

Within a cue, a partial snapshot may be recalled, influencing only certain parts of the console. If a larger cross-fade time is applied to this and the next cue is recalled before the last cross-fade has been finished, there will be two cross-fades happening at the same time, possibly with different cross-fade times. Only if the two cues change the same parameters, the first cross-fade will stop and the second one is applied from this point onwards.

Example:

Given: All Faders are set to 0 dB.
Cue #1 contains a partial snapshot, setting faders 1…10 to –20 dB, cross-fade time 10 s.
Cue #2 contains a partial snapshot, setting faders 11…20 to –40 dB, cross-fade time 1 s.

Procedure: Recall Cue #1, e.g. by double-clicking on its name. Faders 1…10 will start moving down slowly.
Five seconds later, Cue #2 is recalled. Faders 11…20 will start moving down.
After six seconds, faders 11…20 have finished their cross-fade and are set to –40 dB.
After ten seconds faders 1…10 also have finished their cross-fade and are set to –20 dB.

8.6.3.7   Organizing Events

It is possible to move events from one cue to a different one by using drag-and-drop. Also, snapshots may be moved between cues using drag-and-drop. In this way, snapshots can be replaced or exchanged within cues.

8.6.3.8   Updating Snapshots

The snapshot names displayed in the cue list are only referring to the corresponding snapshot contained in the snapshot list. It is therefore possible to use the same snapshot in multiple cues, possibly using different cross-fade times. When updating a snapshot, the cues containing it will automatically use the updated snapshot.

Note: Snapshots can be updated from within the cue list window; right-click on the snapshot within the snapshot list in the top left corner in order to get different options, such as **Make**, **Update**, **Name**, etc.

MIDI   MIDI note and program changes can be used both as sources for firing a cue, or as events to be sent out of the console upon recalling a cue. In order to attach a MIDI command as a cue trigger, drag-and-drop the MIDI icon to the left side of the cue name. If a MIDI command should be sent out upon cue recall, drag-and-drop the MIDI icon to the right side of the cue. Multiple events may be added to the right side of a cue.

8.6.3.9 Event Options

After having attached an event to a cue, various parameters may be modified, depending on the event. When selecting the event icon within the cue list, the corresponding options are displayed within the **Configuration** area of the window (bottom left). The following options are available:
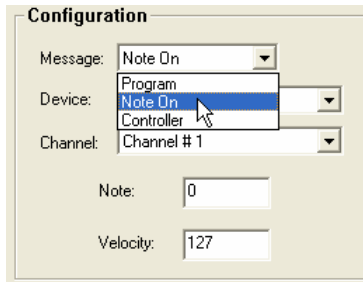
MIDI In: Program change, note change, and controller commands may activate the corresponding cue.
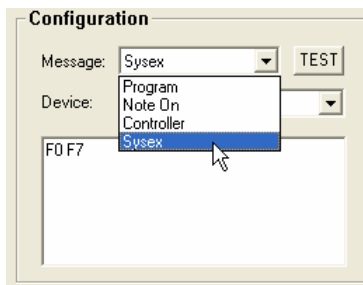
MIDI Out: Program change, note change, controller, and system exclusive ("Sysex") commands may be triggered by this event. A TEST button allows sending out this parameter during system setup without actually recalling the cue.

BlackOut:	Console lights on/off (see below).
Notes:	Enter your notes.
HiQNet:	Venue change message sent out from the console to any HiQNet device.

8.6.3.10 BlackOut

It is possible to make the whole console surface go dark. This function is useful in case complete darkness is required, e.g. in a theatre environment. This function also includes the optional console illumination. It can only be activated if the cue list is armed. The console lights come back on again either by the next BlackOut event (Parameter: OFF) or by pressing F3 in the control bay.

8.6.3.11 Arm CueList

To avoid undesired influence by external devices, the cue list inputs may be armed or disarmed. If not armed, the BlackOut function, the MIDI IN events, and the NEXT and PREVIOUS keys in the control bay are disabled.
It is possible to set the default value of the **ARM CUELIST** button by using the "Option: "Static Automation" menu.

8.6.3.12 XFade Active

It may be useful to temporarily disable cue cross-fades (e.g. during rehearsals). This can be done by un-checking this item.

8.6.3.13 Preview
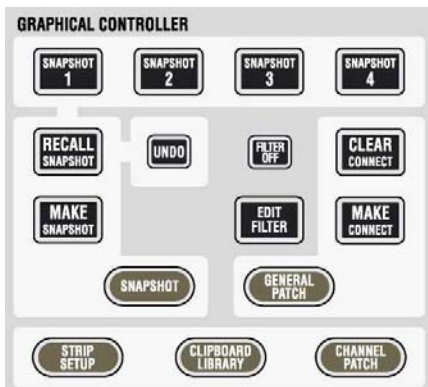
The snapshot/cue preview mode can be activated either by a hardware key or by clicking on the button located in the top right corner of the cue list window. When in preview mode, the cue or snapshot currently selected (single click) is compared to the current audio settings. If there is a difference, Vistonics® shows both values at the same time, using a pink graphical indication. When pressing the dedicated snapshot keys above the trackball, the preview mode is automatically activated until the same key is pressed again.

8.6.3.14 Cue List Options

In the "Option: Snapshot Automation Options" menu the following options are available:
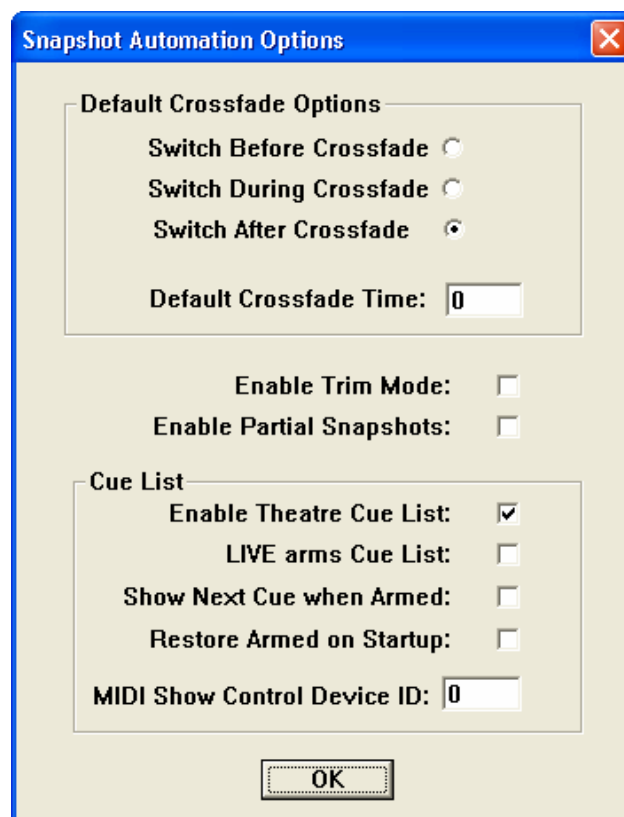
Default Crossfade Options: The system allows cross-fading between two cues. The default cross-fade values may be defined here. These will be used whenever a new cue is created.

Switch Options: Describes the behavior of switches (e.g. MUTE, EQ on/off etc.) when crossfading. They apply if a switch changes its state in the next cue. They may change their state before, during, or after the cross-fade.

Default Crossfade Time: Set default value of cross-fades when new cues are created.

Enable Trim Mode:	When pressing-and-holding the ISO key on the channel strip followed by touching individual controls (e.g. faders, rotaries), their state can be isolated from snapshot recalls. If this option is on, the particular parameter may be touched a second time. This will set it into Trim mode. In this mode all changes to that parameter since the last snapshot recall will be applied relative (!) to all upcoming snapshot recalls – thus, not modifying them on disk.
Enable Partial Snapshots:	Activates the "Partial Snapshot" feature. It will be possible to include only ganged channels when making a snapshot. Options are available within the snapshot window of the GC screen.
Enable Theatre Cue List:	Enables extensive functionality of cue lists.
LIVE (On-Air) arms Cue List:	When pressing LIVE in the EXT PFL SPEAKER area of the Vista 8 control bay, the state of the cue list will change accordingly.
Show Next Cue when Armed:	Defines whether the currently active or the next cue should be highlighted when the cue list is armed. This also allows reading the attached notes ahead during the live event.
Restore Armed on Startup:	The system will switch the console into the "armed" state whenever the software is started. This allows e.g. constant reception of external MIDI commands for firing off cues.
MIDI Show Control Device ID:	See below.

8.6.3.15 MIDI Show Control Device

It is possible to control the cue list by using "MIDI Show Control" commands. Vista 8 acts as a slave in this case. The following "MIDI Show Control" commands are supported: Go, Stop, Resume, Load, Reset, Standby+, Standby–, Sequence+, Sequence–.

Vista is designated as a Music Command Format (0x11). The MIDI device ID is set in the "Option: Snapshot Automation" menu.

Examples:	*Next Cue:*	F0 7F [Device ID] 02 11 01 F7 *(Go command)*
	Previous Cue:	F0 7F [Device ID] 02 11 12 F7 *(Standby Command), then*
		F0 7F [Device ID] 02 11 01 F7 *(Go Command)*
	Recall Cue 3.5:	F0 7F [Device ID] 02 11 01 33 2E 35 F7 *(Go Command with Q specified)*

8.6.4 Muting Pre-Fader Auxiliaries upon Channel Mute

A new option has been added in the "Option: Vista Settings" dialog. If selected, all auxiliary buses are muted if the channel MUTE key is activated. If this option is not active (default), only the auxiliary buses switched to post-fader are muting upon channel mute.

8.6.5 View MISC and CHANNEL with ⇧ (Shift) Key
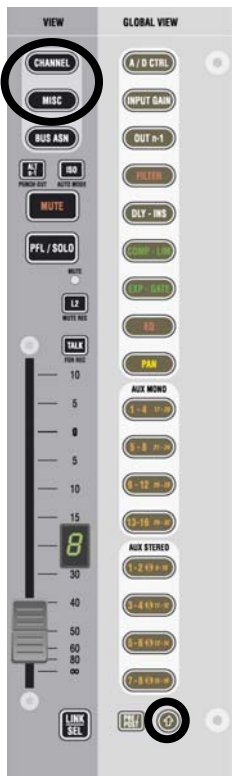
If the ⇧ (shift) key is activated on a fader bay, it is possible to see up to 40 mono and 20 stereo auxiliaries when pressing MISC and CHANNEL on a channel strip. This is useful when working with multiple auxiliary and matrix buses.

8.6.6 Single Fader Switch to Second Layer
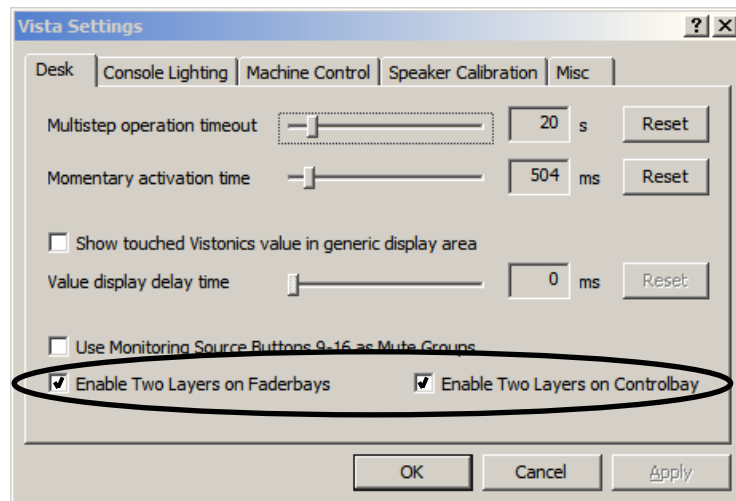
By activating "Enable Two Layers…" in the "Option: Vista Settings" menu, the virtual desk may be reduced from six to three sections. Scrolling will then be possible only between sections 1 and 3. The previous sections 4...6 now serve as a lower second (lower) layer of the console.

By pressing the L2 key on the channel strips, one individual channel strip can be switched between the upper and the lower half of the console. If a channel strip is currently displaying the third channel of section 1, it will afterwards display the third channel of section 4. This function may be helpful when working e.g. with backup microphones. In this way it is easy to switch to a different channel while leaving the other ones untouched.

8.6.6.1   Second Layer Disabled (Classic Operation)

Section 1	Section 2	Section 3	Section 4	Section 5	Section 6

← ————————————————— Scrolling ————————————————— →
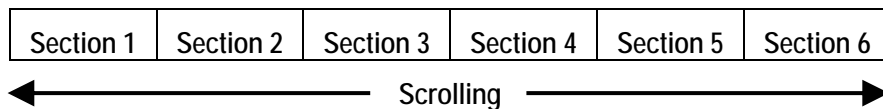
8.6.6.2   Second Layer Enabled

"Layer 1:"

Section 1	Section 2	Section 3

L2 Switches

"Layer 2:"

Section 4	Section 5	Section 6

← ———————— Scrolling ————————— →
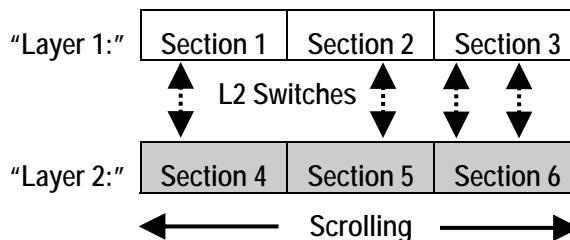
It is still possible to globally switch to the second layer by pressing the section navigator keys **4**...**6**. This will activate the **L2** keys on each strip of the console surface, indicating that the operator is now looking at the lower half of the console.

8.6.6.3   Displaying Both Layers at the Same Time
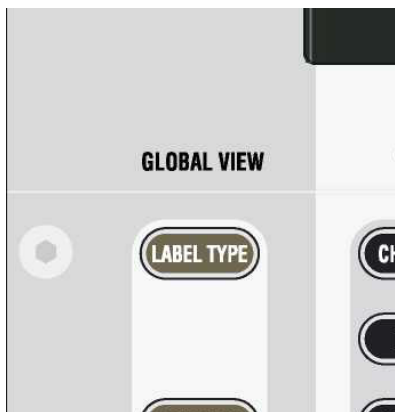
If the second layer option is activated, Vista 8 may display the label and real time metering of both layers at the same time. In order to activate this label view, press **LABEL TYPE** several times until the label display area on the Vistonics® screen shows the labels of both layers. This label of the second layer appears only if there is a channel assigned to that strip on both layers. Use the Strip Setup dialog on the graphic controller screen to do this.

Next to the label there is a small icon showing the level of the alternate layer (below, left). When switched to the second layer, the label lines are swapped, and the top line is showing the first layer label and metering (below, right).

Notes: This option may be activated separately for all fader bays as well as for the control bay.
The second layer is displayed only if the first layer is not empty.

8.6.7   Naming Auxiliary Buses

A name can be given to the auxiliary master channel, which is automatically propagated backwards to all displays of the input channel. Renaming the auxiliary master user label is done within the channel patch window. Double-click on the **Usr** (label) area and enter a name, e.g. the name of the device attached to the output of this auxiliary master channel. The given name will then automatically show up on the input channels rather than the auxiliary number.
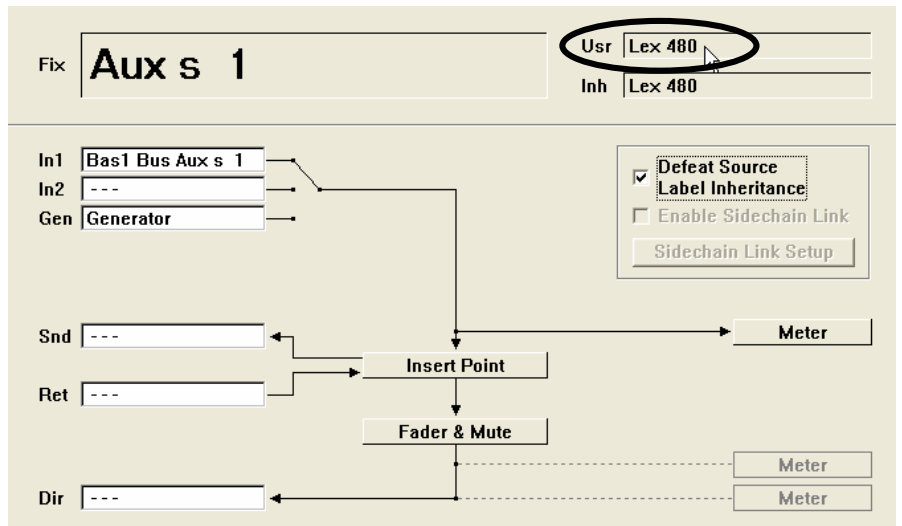
8.6.8   Matrix Buses

This type of bus/output is used very often for live applications, particularly in PA operation. A matrix bus is a kind of an auxiliary bus typically fed only by master channels (subgroups, masters, aux masters), but not from input channels. The Configuration Editor 3.4 application (and newer) offers the possibility to talk from master channels to auxiliary buses. It is therefore possible to have a "super auxiliary" bus that can be fed from any channel within the console. However, very often this may be confusing. The Configuration Editor software easily allows the software to know whether you intend to use a certain auxiliary bus as a typical aux bus (no actions necessary) or whether you want to use it as a matrix bus with typical feed possibilities (right-click on the Aux Bus field in the CHANNEL/BUS view, as shown below). The latter will remove the possibility to talk to this bus from input channels, but instead will add feeds from all master channels. This is identical to a matrix bus, and the corresponding master channels can be used as matrix outputs. They may even be equipped with signal processing, such as EQ, dynamics, or delay, in order to satisfy the specific needs of each customer.
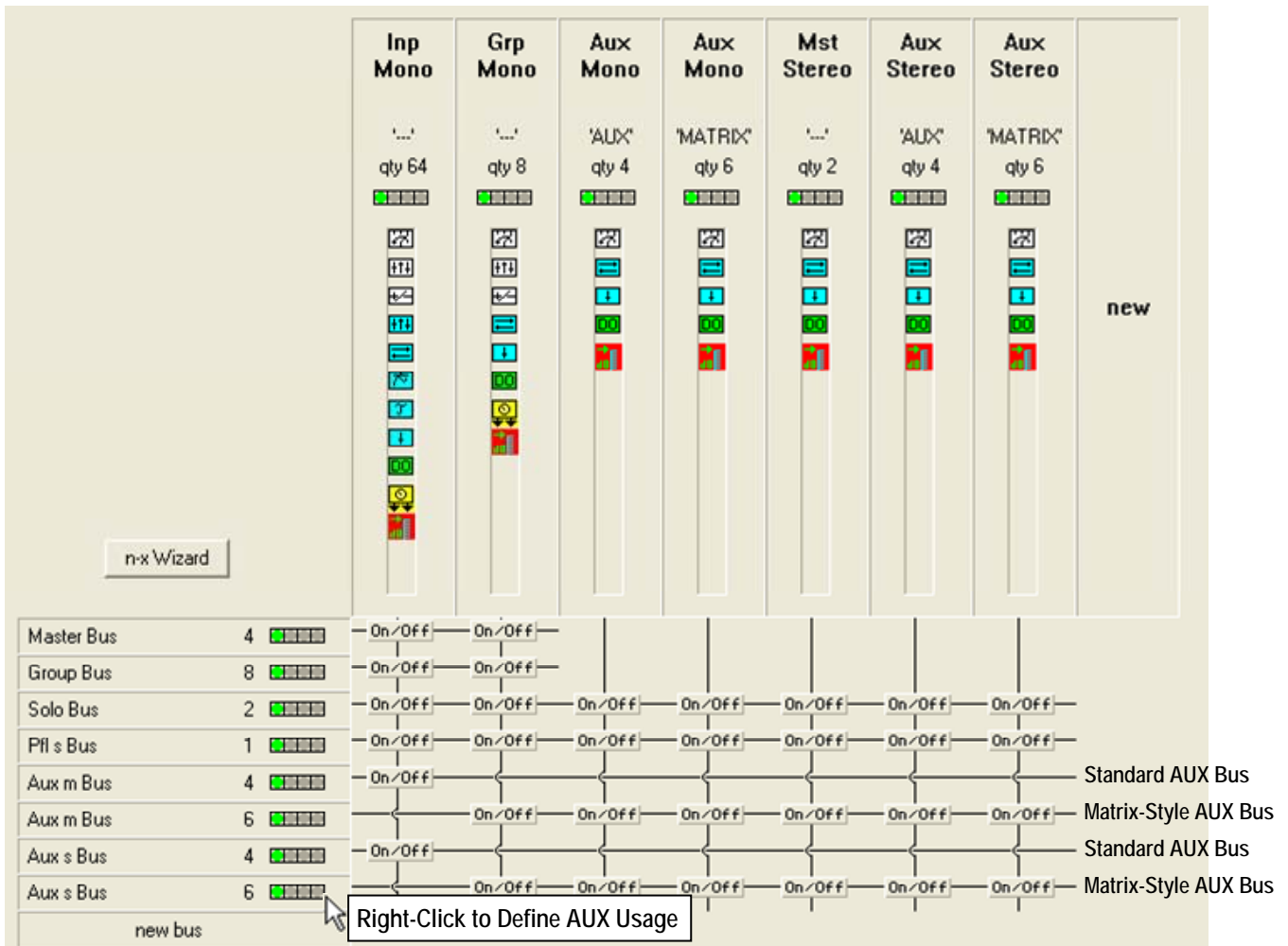
To avoid confusion about which master is a "true" auxiliary master and which one is a matrix output, it is recommended to rename the user label of the "matrix style" master channels to MATRIX 1, for example. This name will then be propagated and properly displayed on the input channels – as described at the beginning of these notes.

8.6.9   Multi-Track Buses with Switch for Pre-/Post-Fade and Pan On/Off

When configuring the "Multitrack Enhanced" bus type, additional parameters become available on the console. In the global OUT n–1 view or the local CHANNEL view, a multi-track send level is visible. This level is used for all multi-track buses. A "Pan ON/OFF" key allows the user to select whether the channel pan setting may affect the multi-track buses or not. By using the PRE/POST modifier key on the bottom right corner of the fader bay, the switch function may be changed to become a PRE/POST key for multi-track buses. So it can be determined:

- whether the multi-track buses are fed by a pre- or post-fader signal
- whether the channel panner should be active for the multi-track bus feed level.

Note: When working with channels equipped with Virtual Surround Panning (VSP™), only normal amplitude panning functions (without early reflections) will be active on the multi-track buses. If full VSP is desired on the multi-track buses, the standard "Multitrack" bus type must be used.

8.6.10   N–X

As a replacement for the previously offered "N–1" bus type, now a bus type with enhanced functionality is available. When configuring an "N–X" bus, additional functionality, such as contribution level adjustment (N–X level on each input channel in order to balance the signal going to all N–X buses) and the possibility to define and activate a conference between multiple N–X owner channels is obtained. An "alternate source" signal may be sent out of an N–X output (e.g. station ID signals) while the channel fader is closed. The N–X bus types have to be configured using the Configuration Editor software.

8.6.10.1 Send Level

When looking at the N–1 out global view (press GLOBAL VIEW: OUT), you will see a level on the bottom rotary. It defaults to 0 dB, which means that this channel signal is sent to all assigned N–X buses with a post-fader level of 0 dB. In some cases, a particular channel should have its signal at a lower level audible on the N–X buses, e.g. when you have a jingle machine connected and the persons listening to the N–X outputs don't want that signal to be so loud. It is therefore easy to adjust this level by adjusting the bottom rotary. *However, this will set the level going to all N–X buses.*

8.6.10.2 Offline Conferencing

When configuring the N–X buses, a subset of N–X owner channels may be defined to be members of a conference. Whenever their fader is closed, they will automatically hear all other members (without hearing themselves back), rather than the normal N–X signal. As soon as the fader is opened, they will instantly hear the N–X signal again.

8.6.10.3 Setting up the Offline Conference
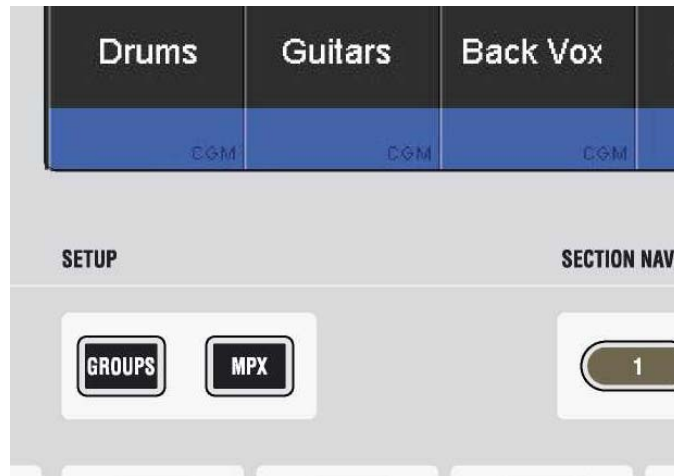
By pressing the SETUP MPX key on the control bay, the console is put into conference setup mode. The LINK / SEL keys of all possible conference member channels (all N–X owner channels) are half-lit, and the user may select any number of them to be members of the conference. If the user wishes to adapt this setting frequently, he may even stay in this mode during a live production, since the channels are instantly added or removed from the conference when pressing their LINK / SEL key (however, other features such as ganging will not be available while in setup mode).

All the channels currently defined as conference members are marked in the strip setup window.

The conference icon in the toolbar has three states:

Grayed out   No conference active nor defined

Colored   Conference active (if member faders closed)

Colored, crossed out   Conference defined, but temporarily deactivated (even if member faders closed).

Note: In certain circumstances, also an AUX master can be selected as a conference member (indicated by its half-lit LINK / SEL key). This is intended for adding e.g. an on-air signal to the conference. See details below.

8.6.10.4 Talk to the Conference

When pressing the TALK key on a channel which is currently conferencing, the talk function is automatically activated *on all members of the conference* at the same time.

8.6.10.5 Deactivate Conference Temporarily

The conferencing may temporarily be deactivated by clicking on the conference icon 🔅 in the toolbar or pressing F7 on the control bay. In this case the conference definition is retained. As soon as the conference is re-activated globally (by pressing F7 or clicking on the conference icon in the toolbar again), the previously selected channels may talk to each other again. Temporary activation of the F7 key is possible as well.

8.6.10.6   Conference Level

While in conference mode, the N–X send level of the channel conferencing may be adjusted. This level will then be used as a conference send level only. When opening the fader, the level previously set returns. In other words, the system remembers two level settings; one of them is active when conferencing, the other one is activated in normal N–X mode.

8.6.10.7   Monitoring the Conference Using the MPX Bus

Within the new Configuration Editor software, the MPX bus type has been added. This bus only exists once within a configuration (similar to a PFL bus) and is used to monitor the conference. It is a mono bus. Any channel currently conferencing is automatically assigned to the MPX bus, and the MPX bus output may be monitored using a source selector key. Since the MPX bus output is a normal bus output, it can also be patched to any console output. This allows, for example, feeding this signal to a small loud-speaker for constantly playing back the conference signal.

8.6.10.8   Adding On-Air Signal to the Conference

It is possible to add an amount of the master signal to the conference, in case the conferencing members should want to constantly hear what's happening on air. This functionality is provided by a special function, whereby an auxiliary master channel is added as a conference member. This AUX bus is fed by the on air signal from the masters.

Procedure: Have one AUX bus configured with an On/Off symbol at the master channels. Have another On/Off symbol between this master channel and all N–X buses (this step is normally performed by the N–X wizard available in the Configuration Editor software.)
Define your conference members by pressing MPX and selecting any of the half-lit N–X owner channels, and add the AUX master channel as a further conference member.
Go to the console master channels and open some level to this AUX bus.
Vary the N–1 send level on the corresponding AUX master channel in order to add the on-air signal to the conference. Since this feed is taken pre-fader, this master's fader has no effect.
Typically, one auxiliary bus is reserved for this use. It may be the one with the highest of all bus numbers, in order to avoid confusion with the rest of the buses. By using the new "N–X setup" wizard within the Configuration Editor software, this functionality can be easily added with all typical settings.

8.6.10.9 Alternate Signal to N–X Outputs (CUE)
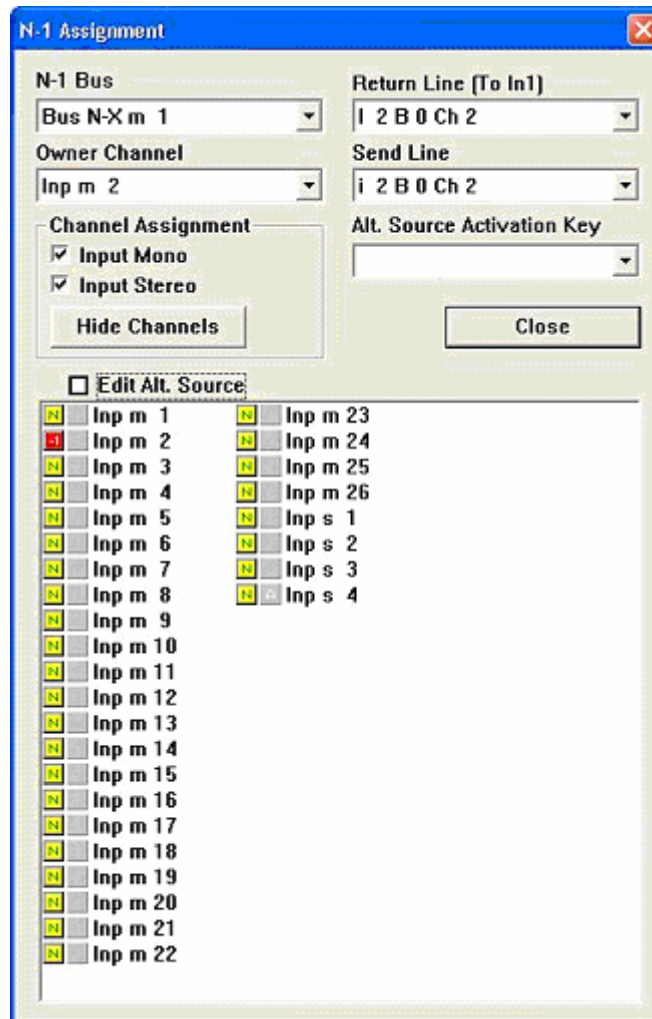
The new N–X bus type allows defining an "alternate N–X bus assignment". It is possible to select any console channel (or multiples) to be the alternate N–X output signal. This signal is activated by the ALT n–1 key on the channel strip. This can be done only if the owner channel's fader is closed.

If you don't want to use normal console channels to be the alternate signal, feel free to configure simple input channels not used otherwise during the production. Such a channel can be the "alternate cue signal" source for all N–X buses – or you can define a different alternate source for each N–X bus separately.

Set-up an "alternate N–X signal" for a specific N–X bus:
- Open the "Option: N–1 Assignment" menu in the graphic controller screen
- Select the N–X bus you want to define the alternate signal for
- Check the **Edit Alt. Source** checkbox
- Select any channel (or multiple) to be the alternate signal source for the selected N–X bus (their pre-fader signal will be used that can be weighted with the "N–1 send level" to form the alternate signal for this N–X bus).

Notes: The **Alt. Source Activation Key** option is not useful for Vista 8. It would allow activating the alternate N–X signal with the USR 1 or USR 2 keys. Since Vista 8 has a dedicated key for this purpose, selecting one of the user keys is unnecessary.

To avoid having to repeat this process too often, such a setup may be stored in a snapshot or preset to be used at any time by all operators.

8.6.11   D21m I/O System

The D21m I/O system has been completed by mic/line input cards as well as the possibility to connect remote I/O boxes (stage boxes) over a MADI link to a "hub" frame located next to the DSP core. For systems already installed, there is nothing new with this software. However, for new systems delivered with the D21m I/O system, the additional functionality provided by the D21m I/O system will be explained below.

8.6.11.1   Automatic Detection of I/O Setup

The D21m I/O system is very much a "plug-and-play" unit. There is no longer any need to tell the system which ports have mic/line preamplifier cards connected, nor is it necessary to define the presence of such cards at the time of configuration (in the Configuration Editor Software). This also means that there is no more "External Devices" sub-patch in the general patch window. The philosophy of automatic I/O detection works as follows:

At startup time of the console software, the I/O structure is scanned and compared with the structure previously found when the system was started for the last time. If the system detects any I/O structure changes (e.g. a stage box has been removed to work temporarily with another console), a warning is displayed for the user. He then may confirm that this situation is ok and the system should not expect the missing components for this session. The user also has the possibility to confirm the new I/O structure as the standard (and this will be the structure the system expects when starting the next time). If the channels within the configuration are equipped with the D21m input function, the user can go ahead and patch audio to input channels – while automatically getting control over all parameters of the I/O system.

8.6.11.2   Enhanced Surveyor Information

The information on the I/O system displayed in the surveyor is much en-hanced. Now not only the mic/line preamplifier cards are indicated, but the health state of all I/O cards. Power supplies (main and redundant) are indi-cated as well.
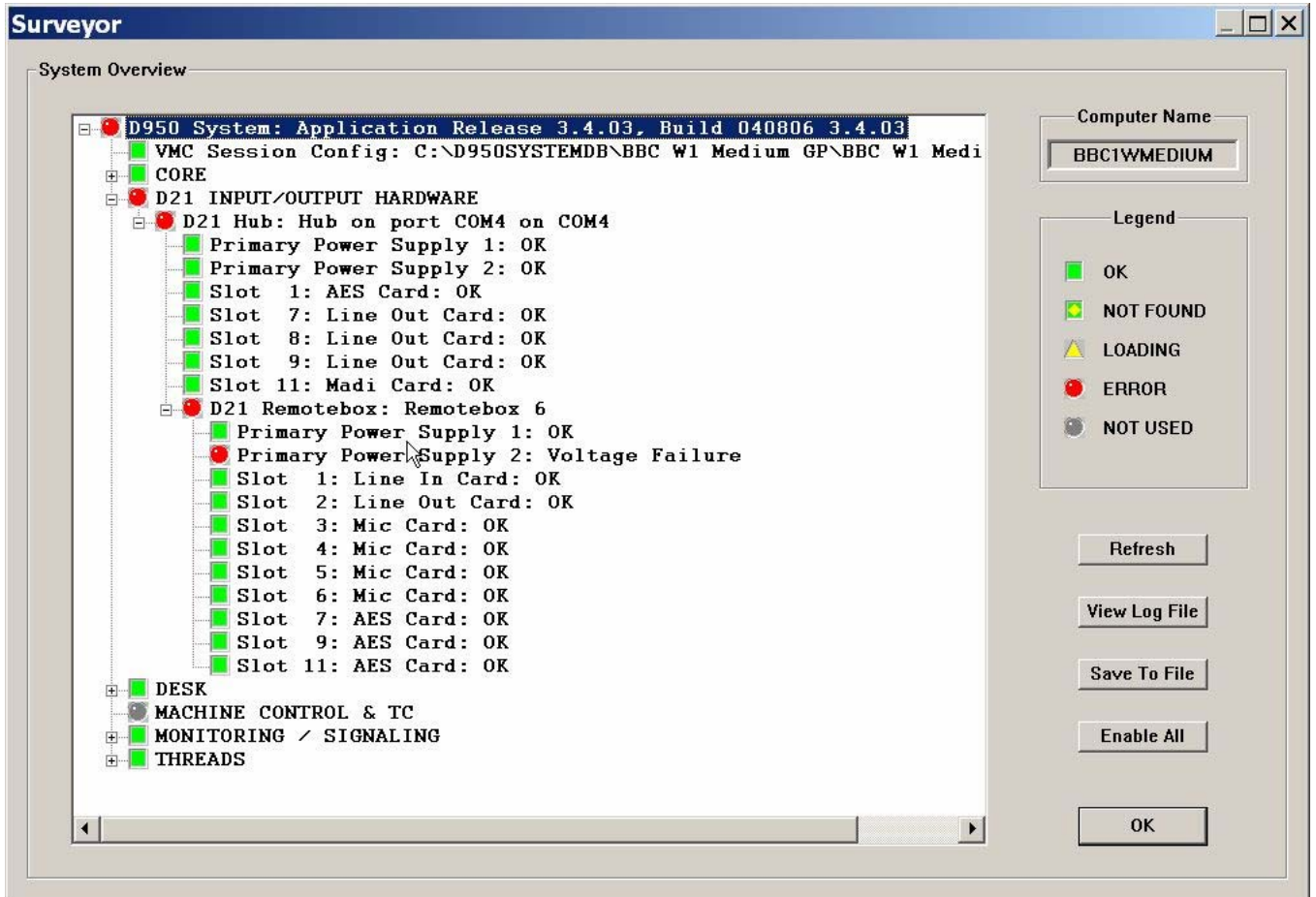
8.6.11.3   Automatic Generation of Intelligent Fixed Labels

STUDER VISTA - Project: Medium GP default - Title: Medium GP default - [General Patch]

File View Page Option User SysAdmin Window About

Sel Chan   Inp m 10

```
I 10 B 0 H4 AES 1/10
I 11 B 0 H4 AES 1/11
I 12 B 0 H4 AES 1/12
I 13 B 0 H4 AES 1/13
I 14 B 0 H4 AES 1/14
I 15 B 0 H4 AES 1/15
I 16 B 0 H4 AES 1/16
I 17 B 0 R4/6 Line In 1/1
I 18 B 0 R4/6 Line In 1/2
I 19 B 0 R4/6 Line In 1/3
I 20 B 0 R4/6 Line In 1/4
I 21 B 0 R4/6 Line In 1/5
I 22 B 0 R4/6 Line In 1/6
I 23 B 0 R4/6 Line In 1/7
I 24 B 0 R4/6 Line In 1/8
I 25 B 0 R4/6 Mic 3/1
I 26 B 0 R4/6 Mic 3/2
I 27 B 0 R4/6 Mic 3/3
I 28 B 0 R4/6 Mic 3/4
I 29 B 0 R4/6 Mic 4/1
I 30 B 0 R4/6 Mic 4/2
I 31 B 0 R4/6 Mic 4/3
I 32 B 0 R4/6 Mic 4/4
I 33 B 0 R4/6 Mic 5/1
```

Show Sources: Input Ports

Show Targets: Output Ports   □ Auto Select

Sort By: ● Fixed Label   ○ User Label   □ Use Subclasses

	Fixed Label	User Label
Current Source	I 48 B 0 R4/6 AES 7/8	Cubicle D08
Current Target	i 1 B 0 H4 AES 1/1	OS 01 Cue

Ready   NUM

AES input 3 (out of 16) of I/O card 1
inserted in Hub 4 (COM port 4)

Audio is transferred over HD link channel #3,
connected to DSP card #0

Mic input 2 (out of 4) of Mic/Line In card 3 (slot 3)
inserted in Remote I/O Box 6 (slot 6), connected via MADI
to Hub 4 (COM port 4)

Audio is transferred over HD Link channel #26,
connected to DSP card#0

Structure of Intelligent Fixed Labels:

I21   B 0   R4/6   Line In 1/5

Board and I/O

I/O Frame
(H: Hub, R: Remote I/O Box)

DSP Card

HD Link Channel
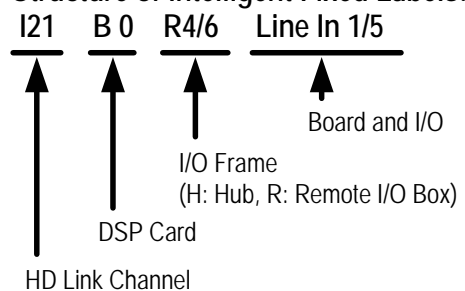
Frame numbers represent double-width slot in
corresponding hub frame to which the MADI link
is connected (1…6).
Card numbers represent slot number of frame
into which the card is inserted.

Audio coming through the D21m I/O components is always reaching the
core over Studer's proprietary HD (high density) link. This link is present
between the local hub(s) and the DSP core. Each link may carry up to 96
audio channels. Instead of displaying these channel numbers in the general
patch, the software 3.4 is able to give more intelligent names to the input
and output ports shown in the general patch. You will then see frame num-
bers as well as card types and channel numbers within each card. This gen-
eration is automatically active whenever the D21m I/O system is present

and the hub frame is connected to the console via a serial link. However, when recalling a snapshot containing the "non intelligent" fixed labels (e.g. from older productions), this will overwrite the fixed labels as well and make the "intelligent fixed labels" disappear. In this case, select **Regenerate Intelligent Fixed Labels** within the SysAdmin menu and update this snapshot.

8.6.11.4   Functionality of the D21m Mic/Line Input Card

The D21m mic/line input card features some additional functionality compared to previous I/O systems. All relevant parameters are accessible from the console surface and visible in the "A/D CTRL" global view. The input gain (one common connector for mic/line) can be adjusted click-free over an 86 dB range.

All mic/line cards provide an active split output for each microphone channel. This output may be used to connect a second console to the same microphones. This output is mainly independent from the mic gain set. However, to achieve maximum audio quality (signal-to-noise ratio) on these split outputs, it cannot be avoided to attenuate this split output by 20 dB whenever the mic input gain set on the main console is very low (for input signals from +4 to +25 dBu). This will be graphically indicated on the Vistonics® screen. Inputs of a second console connected to the split output(s) can therefore always work in the "microphone range" and don't necessarily have to switch to "line range".

A soft clip function is available on all channels and can be activated individually. This "analog limiter" may prevent nasty clipping noises in case the audio level should be too high. We recommend activating this function during live productions, since audio is not influenced below about –6 dB$_{FS}$.

Note: An analog insert point is made available by inserting an additional analog insert card. Its send output is always active at line level, and the return path may be activated by the corresponding switch on the console.

8.6.12 VCA-Style Masters ("Motors Off" Option)

The "Control Group Masters" in a classic sense were implemented in such a way that all channel faders belonging to a certain control group would automatically move whenever the master fader was moved. This has the advantage that you always visually see the audio settings currently active in the DSP core. However, there are two drawbacks to this behavior:

When the Control Group Master fader is closed, the user cannot adjust the balance between the member channels, since they are moved down together with the master fader.

When the master fader is closed, it is still possible that there is some audio passing through some of the member channels, since their fader is not completely closed.

With software release 3.4, there is now an alternative way of how the control group master channels can work, that is very similar to the VCA groups of an analog mixing console. Sometimes, this new behavior is also called "motors off". In this mode, the value set on the control group master channels (as seen on their scale) is added to or subtracted from all member channels, and the resulting (audio) level is set in the DSP core. The faders of the member channels don't move up/down, and so it is possible to have the master fader closed but still to correct the balance between the member faders. In addition, the user can be sure that whenever the master channel is closed, no audio can be heard from the member channels. Since the fader of a member channel doesn't represent the real audio value anymore, the digits below the label display are indicating the *real* audio value.

Note 1: If "VCA style" operation is active, you may see member channels change their fader values as soon as they are added to a control group. This is the case if the master channel is already set to a value different from 0 dB at the moment when a new slave channel is added to the group. This behavior is by intention, in order not to have any audio changing when adding or subtracting member channels from a control group. Example: You have set a microphone channel to –15 dB, and you add it to a "VCA" group the master channel of which is already set to –10 dB. In the moment the microphone channel is added to that group, the user will see the microphone fader jump up to –5 dB. This results in no audio change, as requested.

Note 2: The **VCA style Control Groups** option can be found in the Option menu of the graphic controller screen. On D950 and Vista 7 it is available only as long as the console doesn't have dynamic automation active. On Vista 6 it is permanently available.

8.6.12.1   Hierarchical CGMs

It is now possible to have control group masters (CGMs) being a member of other CGMs. The indication of the control group number on master channels has therefore slightly changed: The green display next to the fader is now constantly showing to which master a channel belongs. If there is no further hierarchical level above a CGM, this area is dark. The number of the CGM itself can now be seen in the second line of the label display area.
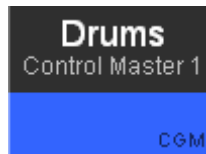
This Channel is CGM Number...
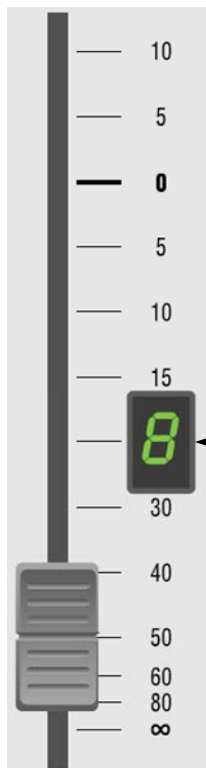
This Channel is Member of CGM...

8.6.13   Fast Adjustment of DIM and PFL/SOLO Offset Level

Up to the current software version it was possible to adjust the DIM level in the control room as well as in the attached studios. It was also possible to define an offset level for PFL and SOLO, so the control room monitoring level would increase by a certain level whenever PFL or SOLO is active. However, it was not accessible for operators to quickly change these settings. Now this is performed easily. The settings are saved within the monitoring file, as before.

8.6.13.1   Control Room DIM Level Adjustment

Hold the DIM key next to the control room level rotary. After a short while you will see the current DIM level on the level display. Turn the dB SPL CR level control to adjust the dimming level, and then release the DIM key.

8.6.13.2   Studio DIM Level Adjustment

Hold the DIM key next to the studio monitor LEVEL rotary for two seconds. Turn the LEVEL rotary control to adjust the dimming level and release the DIM key. The current dimming level is displayed with the LED ring around the LEVEL control.

8.6.13.3   PFL and SOLO Offset Level Adjustment

Hold the PFL or SOLO key (next to the EXT PFL SPEAKER level control). After about two seconds you will see the current offset level in the control room level display. Turn the dB SPL CR level control to adjust the offset level and release the PFL or SOLO key.

8.6.14 3rd-Party Control of Console Patch (Native ProBel Support)

Starting with version 3.5 of the D950/Vista Software, these products are able to support ProBel enabled devices natively, and so a second PC is no more necessary for this functionality. However, we do not recommend that existing installations are altered that are already in use with a second PC for ProBel interfacing.

The explanations below are therefore intended for installation personal and not for the console operators.

Supported Functionality

Our implementation enables the ability to map certain ProBel connect requests to a set of definable patch connections. The control of patch points is not restricted to set output patch points. It is possible to set any patch points within the console patch upon reception of a ProBel command. The set-up procedure is done from the General Patch screen, where certain patches can be selected (by just selecting the affected targets) and which are being mapped to a ProBel source/destination combination with a single click on a dialog.

Enabling ProBel Setup

In order to activate and see the **Setup Probel** button on the General Patch window, the system has to be in SysAdmin mode. The SysAdmin menu contains a General Patch sub menu and a **Use Probel on General Patch** item.
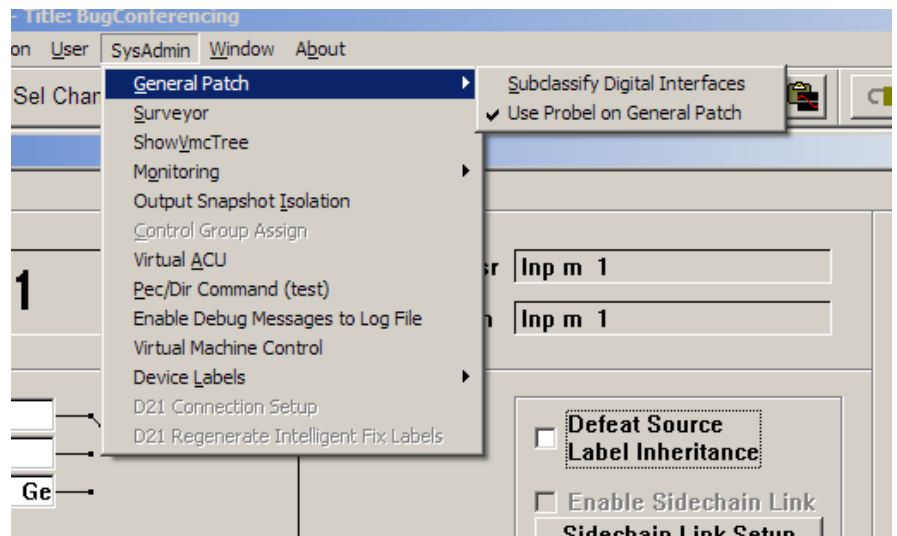
This setting will be written to the `D950System.ini` as well, resulting in the same behavior as if it was edited by hand in the first place.

The button will then be visible whenever the system enters SysAdmin mode.

Enabling COM Ports for Use with the ProBel Protocol

Ports that are to be used for ProBel need to be specified in the `D950System.ini` in the `[d950SerialPorts]` section. This gives the possibility to use non-standard data rates and parity settings.

```
[d950SerialPorts]
1= {p} COM1 baud=115200 parity=N data=8 stop=1
2= {b} COM6 baud=38400 parity=E data=8 stop=1
```

"b" is used to indicate ProBel use. Only the COM ports defined in this way will be available in the ProBel set-up dialog.

ProBel Set-up Dialog   With **Use Probel on General Patch** enabled the General Patch displays an additional button on the bottom right.
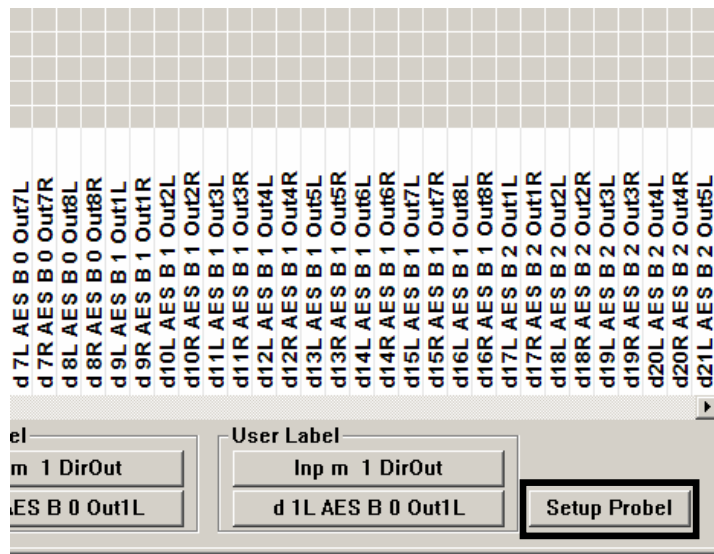
When clicking on this button the system brings up the set-up dialog and enters ProBel set-up mode.

Targets with their respective connections can be selected by clicking on them in the list on the general patch. Selected targets change their color to pink to show their selection state.

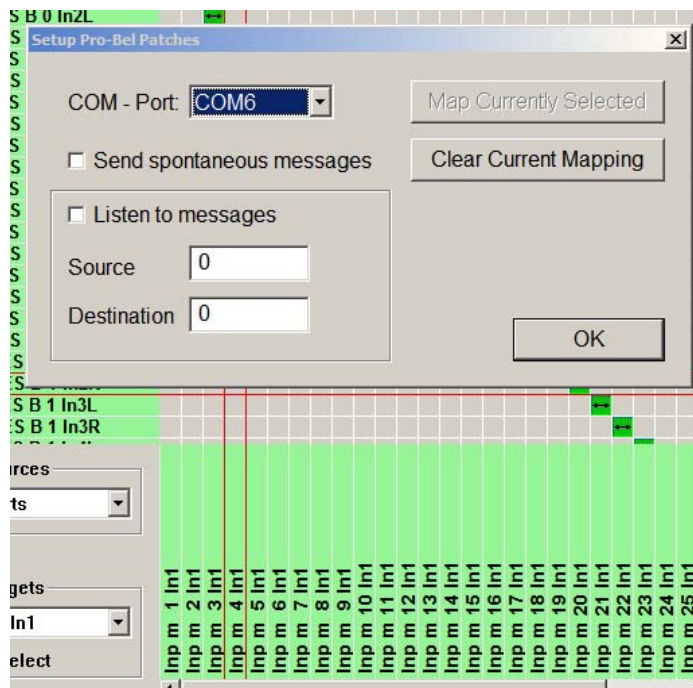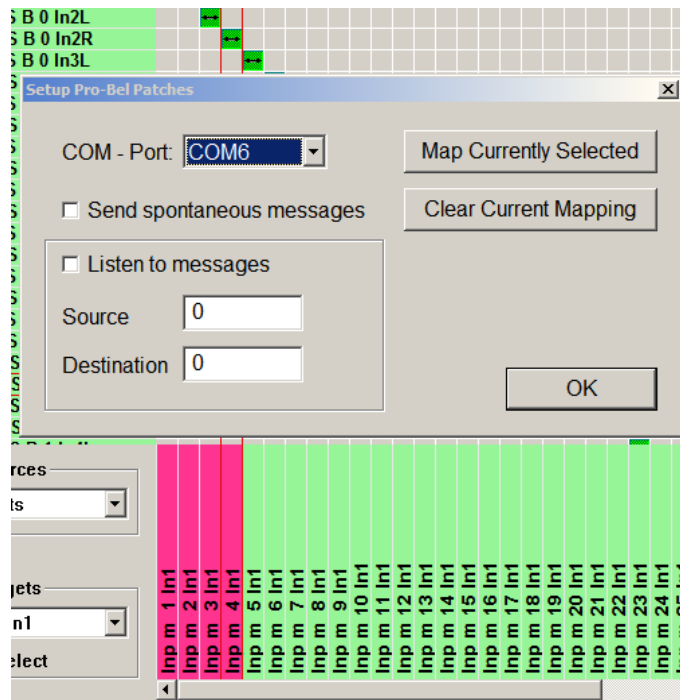Clicking on the **Map Currently Selected** button maps the patches for the selected targets (the pink-colored ones) to the ProBel connect command specified on the left.

With **Listen to messages** enabled, incoming connect messages are mapped to the edit fields on the dialog. To select targets affected by this connect command simply click on them in the target list of the general patch (color is set to pink).

Make sure to always associate the same ProBel destination to the same set of targets.

Any connection on the patch may be mapped to certain ProBel connect commands. You are not limited just to outputs or inputs!
With **Send spontaneous messages** enabled, the appropriate CON-NECTED message is sent whenever one of the defined patch combinations matches the same combination as when they were defined.

Files Used to Save ProBel Set-up   The system creates human-readable files (ini-file format) in the `D950System` directory to save the set-up. The files are named according to the COM port used:
File name: `PortX.probel` – with X being the COM port used.

Example for a `.probel` File

```
[TARGET_1 SOURCE_6]
Im23 Inp m 23 In1 left=D12L AES B 1 In4L left
Im24 Inp m 24 In1 left=D12L AES B 1 In4L left
[TARGET_1 SOURCE_7]
Im23 Inp m 23 In1 left=D11R AES B 1 In3R left
Im24 Inp m 24 In1 left=D11R AES B 1 In3R left
[TARGET_1 SOURCE_4]
Im23 Inp m 23 In1 left=
Im24 Inp m 24 In1 left=
[TARGET_0 SOURCE_0]
Im23 Inp m 23 In1 left=D11R AES B 1 In3R left
Im24 Inp m 24 In1 left=D11R AES B 1 In3R left
Im25 Inp m 25 In1 left=
Im26 Inp m 26 In1 left=
```

This file basically has a section for each used Source/Target combination. The fixed labels are being used; "left" is appended for left or mono sources/targets, and "right" is appended for right sources/targets.

8.6.14.1   Exclude Certain Patch Targets from Being Changed by Snapshots

Some customers are using our consoles as audio routers for other studio installations, controlling the internal router by protocols such as ProBel or ARMI. When recalling console snapshots, the patch points set by these devices are reset to the value of the snapshot, even if this was not always requested. With software release 3.4 it is possible to define certain patch targets as "isolated from snapshot recalls". In other words, the user defines the patch outputs are controlled by ProBel/ARMI devices and therefore makes those targets completely independent from snapshot recalls by the console operator. This set-up is typically done once on a system. See service instructions for information on how to set-up this isolation.

8.6.14.2   Label Import from 3rd-Party Systems

With software release 3.4 it is possible to exchange label information with external router systems, such as ProBel and Grass Valley. Using a serial connection, a permanent label exchange can be set up in such a way that the "device labels" used in Vista and D950 systems are permanently overwritten by received labels from the 3rd party router. This means that you will automatically see the name of the original sources on your channel strip, even if a large routing system is placed before your console.

Studer supports two label exchange protocols: ProBel SW-P-08 and Grass Valley Group Series 7000. Normally this feature is only used for label *import* from the external devices. However, when using the ProBel SW-P-08 protocol, also *export* of output interface labels is supported. It is therefore possible to connect two Vistas together and get the labels automatically from one Vista transferred to the second.

Note: If you plan to use this feature, please contact Studer Service & Support beforehand.

8.6.15 Support of External Monitoring Source Selector Panels

As an alternative to control patch points of the console by using 3rd-party controllers (ProBel protocol), Studer offers a "mini" ProBel controller module. The module may be mounted within the Vista 8 console or any-where externally. It hosts 32 freely programmable keys to set any number of patch points within the console. Each key may be defined to set a certain patch point (or a set of patch points.) The keys on the hardware panel are illuminated, if all of the defined patch points are currently set. As soon as one of them is cleared or changed, the key gets dark. This intelligence al-lows free grouping of the 32 keys to e.g. 16 groups of two sources each, or to one single group of 32 sources. Any combination in between is possible. It is also possible to use 16 keys as one group while using the remaining keys as two groups of eight, for example.

If a set of keys are setting patch points to the same destination they are automatically recognized as a group and therefore their illumination will automatically indicate the correct patch state. Rule: A key is illuminated as long as all defined patch points are set. If at least one of them is changed (e.g. by pressing another source selector or by the console's trackball) the key becomes dark.

Note: Switching patch points is not only possible to outputs of the console, but everywhere within the patch (e.g. input patches to input channels or in-serts). Therefore the Studer panel may also be used to switch any number of input patches of the console to different inputs.

8.6.15.1 Patch Point Isolation

These patch points cannot be isolated against changes by snapshot recalls, unless the inputs of the channels are isolated. The general function of iso-lating patch points against snapshot recalls may be applied to output patches only.

8.6.15.2 Patch Mapping Setup

The setup on the console side happens in the same way as when setting up normal ProBel control; see chapter 8.6.14 for details. The panel itself needs an address set. This address will guarantee that multiple panels may work at the same time. Multiple panels may be connected to one serial port of the console. Please refer to the service manual for more details.

8.6.16 Fader Ramp Control ("Audio Follows Video")

This function is only available in static automation mode.

Faders of all console channels can be externally controlled. When using this feature, the console operator determines the Fader Open/Close values, as well as the fade in/out speed. Various triggers are available in order to activate the fade. The channel patch window allows adjustment of all necessary settings.

The fader ramp function might be particularly useful when doing TV work. Opening and closing of certain microphone channels may be controlled by the video switcher, using GPIs (general-purpose inputs, i.e. closure contacts in the monitoring rack). Another possible use is radio/TV talk-shows: Different people have their microphones constantly opened and lowered. This action may be pre-programmed, and the fade in/out may be activated by just touching the fader or pressing one of the USER keys. The following options may be set in the channel patch window:

Enable Fader Ramp: Select if you want to use one of the two USER keys to enable the fader ramp on a specific channel. It is also possible to activate it constantly, leaving the USER keys free for other functions.

ON (Fader Value)**:** Clicking on the Capture button will set the current fader value to be used when the GPI is active, hence the value used when the fader is opened. Alternatively the value may be typed using the keyboard or by using the trackball: Click in the number field and drag the pointer up or down. This action is similar to the way time values are adjusted in the dynamic automation of the Vista consoles.

OFF (Fader Value)**:**	Clicking on the Capture button will set the current fader value to be used when the GPI is inactive, hence the value used when the fader is lowered/closed.
	Alternatively the value may be modified as described above.
Note:	By using the same GPI on two channels and setting the ON value to the "fader closed" position on one of the two and vice versa allows using one GPI to control opening *and* closing of different channels at the same time.
Speed ON:	Determines the time used for fading in the corresponding channel.
Speed OFF:	Determines the time used for fading out the corresponding channel.
Activation:	The fade actions may be activated by different events. Several events may be enabled at the same time. The fade will take place whenever one of the activated events is detected:
GPI:	Select one of the general-purpose inputs available on the console for triggering the fade.
Fader Touch:	Touch-and-release the fader in order to activate the fade.
Note:	If the fader is moved while being touched, no automatic fade is being executed. This prevents from accidental fading.
User Key 1/2:	The fade is activated when pressing the corresponding USER 1 or USER 2 key on each channel.
Note:	In case adjusted values should constantly jump back to their previous values, check that the `C:\D950System\Sig...ini` file is not write protected.

8.6.17   Option: Remember PFL State in Broadcast PFL Mode

If the broadcast PFL mode (also referred to as "PFL cut on channel active" function) is enabled, audio signals are cut from the PFL bus if the channel is ON and the fader is open.

For this mode, a **Remember PFL State** option has been added in the "Option: Vista Settings" menu. If this option is set, the channel will also go back into PFL state when the fader is closed again.