

SigMatrix

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IMPORTANT INFORMATION

The following items are fundamental requirements or capabilities that you need to be aware of when installing, editing or operating **SigMatrix**.

Recommended Minimum System Requirements

As a guideline, make sure your PC meets the following minimum system requirements. Systems that do not meet these specifications may or may not be adequate.

- Windows® 95, 98, ME, NT, XP, 2000
- Pentium processor
- 32M RAM
- SVGA video
- 10M Free Hard Disk Space
- CD-ROM drive

Serial Interface Cable

In most cases Serial communications between the PC and the router requires a Null Modem Cable. The cable uses a minimum of three wires for transmit, receive and ground. The handshaking lines do not require connection. The exception to the Null Modem cable type would be with Sigma HDVS3232 HD/SDI models, they require a straight thru cable. Refer to the router's operator manual for additional information in the SCI (System Control Interface) section.

Group Tables

The Source and Destination Group tables are used to identify each device connected to the router. The flexibility of the tables enables the installer to customize **SigMatrix** for the application at hand.

Logically combining sources (or destinations) into groups helps most users to make better use of the visual aspects of the user interface. **SigMatrix** has the capacity to identify up to a maximum of 32 groups of devices in both the Source and Destination tables. Each group can have an icon and a unique name associated with it. Each group can have up to 128 entries but no more than 1024 entries can be used among the groups.

This structure provides the ability to name all 128 Sources in a follow mode application within a single group. Another possibility is to place common types of devices under separate groups. I.e. All Satellite feeds in one group and all fiber optic feeds in another group.

Salvos

Salvos are switching operations where multiple source/destination combinations are transferred to the router for execution by a single command. **SigMatriX** is capable of executing two different varieties of this type of multiple switch operation – Salvos and Resident Salvos.

NOTE- For information on how Resident Salvos are stored, see section later in this manual on Resident Salvo Editor (p.33).

There are two basic differences between Salvos and Resident Salvos. Salvos are stored within **SigMatrix** and sent to the router by a Take operation. Resident Salvos are configured from within **SigMatriX** but must be downloaded to the SCI in the router for execution at some point in the future. The other difference in these two operations is a result of where the salvos are stored. Because Resident Salvos are stored in the SCI, all switching operations will be executed simultaneously. Salvos must be sequentially transmitted to the router resulting in a series of individual switching operations.

Resident Salvo Tables

The execution of Resident Salvos requires the download of Salvo tables to the router. The router stores the Resident Salvo information and executes the switch or series of switches upon the receipt of the salvo execute command from SigMatriX. When the software sends a Resident Salvo execute command to the router **before** the tables are downloaded, no error will be indicated. This is due to the fact that the router receives a valid command albeit the switch string stored in the router is empty.

Icon Bitmaps

An icon library is used to store bitmaps for use in visually identifying the Source and Destination entries. The default bitmaps provide a basic selection. Adding bitmaps to the icons folder where SigMatriX was installed can augment the icon library. Use 32x32 (28x28 with 2 pixel borders preferred) “.bmp” files.

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SECTION I – INITIALIZATION AND SET-UP

Initial Log-on Screen



SigMatrX Logon to System

 Sigma Router Management
Version 1.0.684
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Please enter your User Name and Password then click the Logon button.

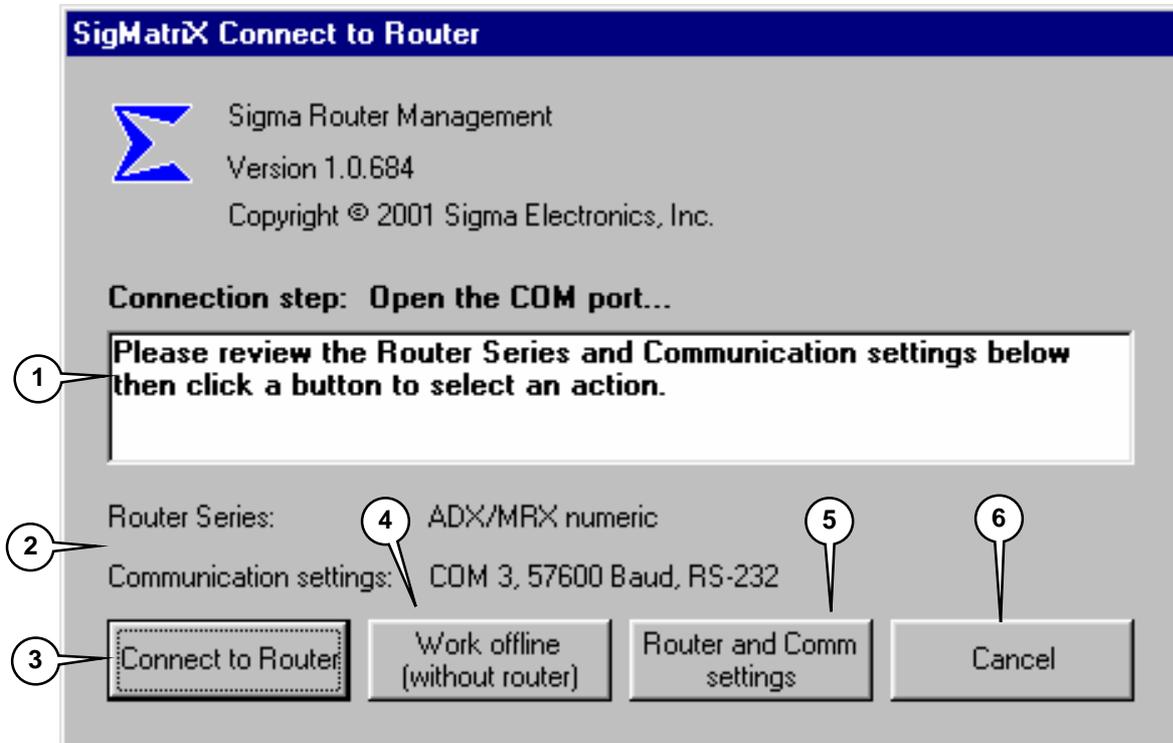
User Name:

Password:

The first screen encountered when **SigMatrIX** is started is the log-on screen. The selection options are described below.

1. **User name** - Entry of the user name is optional. The user name is saved and attached to actions that are recorded in activity logs for auditing purposes.
2. **Password** – Factory set password is “**sigmatrix**”. The password is case sensitive and must be entered exactly as shown. Instructions for changing the password are described on p. 49. Currently, there may be only one password stored.
3. **Logon** – Initiates **SigMatrIX** operation after User name and Password are entered.
4. **Reset** – Reinitializes the log-on screen in case of incomplete or unacceptable information.
5. **Quit** – Exit the **SigMatrIX** program.

Connect to Router



After successfully logging in to the program, the second screen encountered is the **SigMatrIX Connect to Router** screen. Here is displayed the vital information pertaining to the serial connection between the host computer and the router via the serial port.

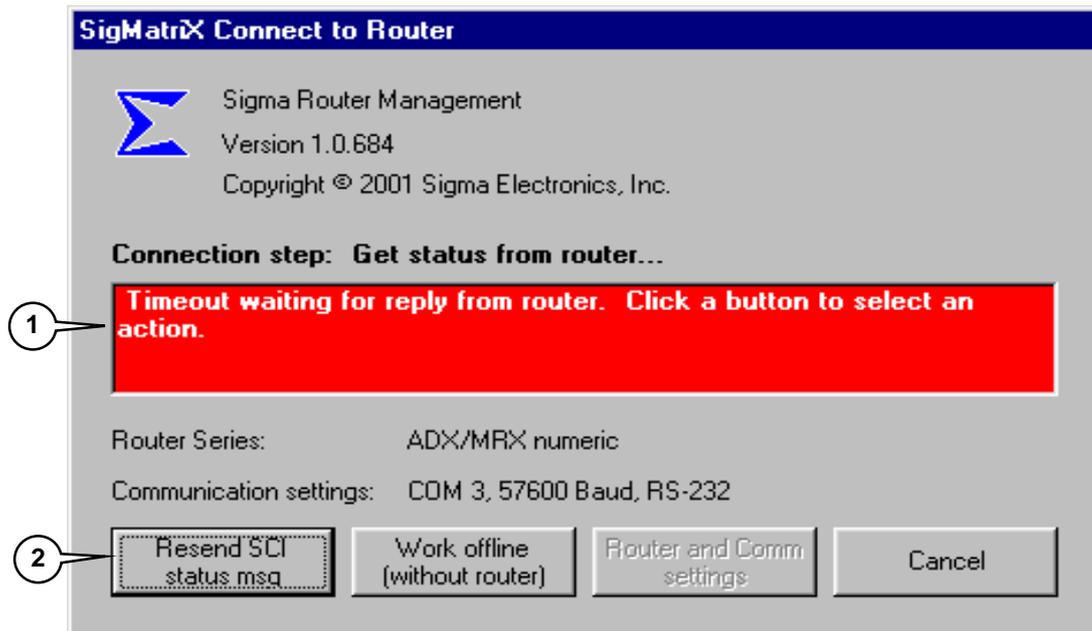
1. **Message window** - provides information pertaining to the connection operations being performed by **SigMatrIX**. These messages will assist you in obtaining a valid connection to the router to be controlled.
2. **Current Settings** -The "Router Series" and "Communication settings" data is obtained from the current registry settings. The name of the last database loaded is stored in the registry and will be automatically loaded.

When **SigMatrIX** is started for the first time the sample database "DEMO1.mdb" is loaded.

The program has default settings for router type and serial port settings, but these should be checked for compatibility prior to connecting to the router.

3. **Connect to Router** – After reviewing connection messages and settings, select this button to initiate connection to the router. Successful connection will activate the main **SigMatrix** screen. If connection attempts are unsuccessful, an error message will display in the message window and the *Connect to Router* button changes to reflect the nature of the problem. The most likely problems are incorrect COM port settings or a disconnected serial cable.
4. **Work offline (without router)** – Select this to edit a database when not connected to a router. The **SigMatrix** Main Screen will then appear. Although no switching operations can be performed at this time, control is transferred to this screen to allow the user the opportunity to modify either another database or to edit salvos, Scheduler data or change system settings. The name of the previously loaded database is stored in the registry and will be automatically loaded.
5. **Router and Comm settings** – Select this to identify the series name of the router being controlled and communication settings for serial port. For more information about this selection, see **Communication Settings** (p.5).
6. **Cancel** – Select to close **SigMatrix**.

Connection Error Messages



If a connection error occurs, the *Connect to Router* window changes to indicate that there has been a problem.

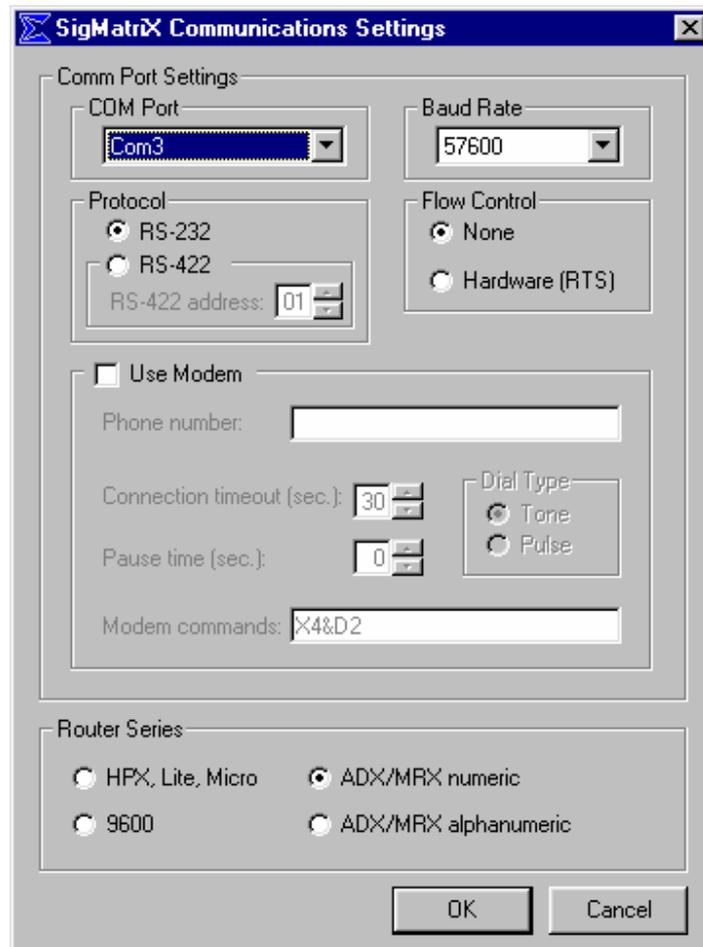
1. **Message Window** – background changes color and displays message describing the problem encountered.
2. **Connect to Router** button – the text changes to reflect the nature of the problem.

There **are** a number of reasons why connection problems occur. Check the following hints to attempt to correct the problem.

Connection Troubleshooting

- Verify that the baud rate and COM port parameters specified in **SigMatrix** are compatible with settings selected on the router.
- Verify that the router has power.
- Verify that the proper serial cable is used between the computer and the router and is firmly attached to both units.
- For ADX Series routers, verify the setting of the System Control Interface (SCI) card's Alphanumeric/numeric mode DIP switch. Refer to the Sigma ADX Series Operator's Manual for more information. If any DIP switch settings are changed on the SCI, recycle the power or reset the SCI before attempting to re-establish communications to the router.

Communication Settings



SigMatriX must be set to the appropriate parameters for successful communication with the router. SigMatriX is able to utilize either the host computer's serial port or its modem to communicate with the router. **Note:** When using a Sigma supplied modem select baud rate 19200.

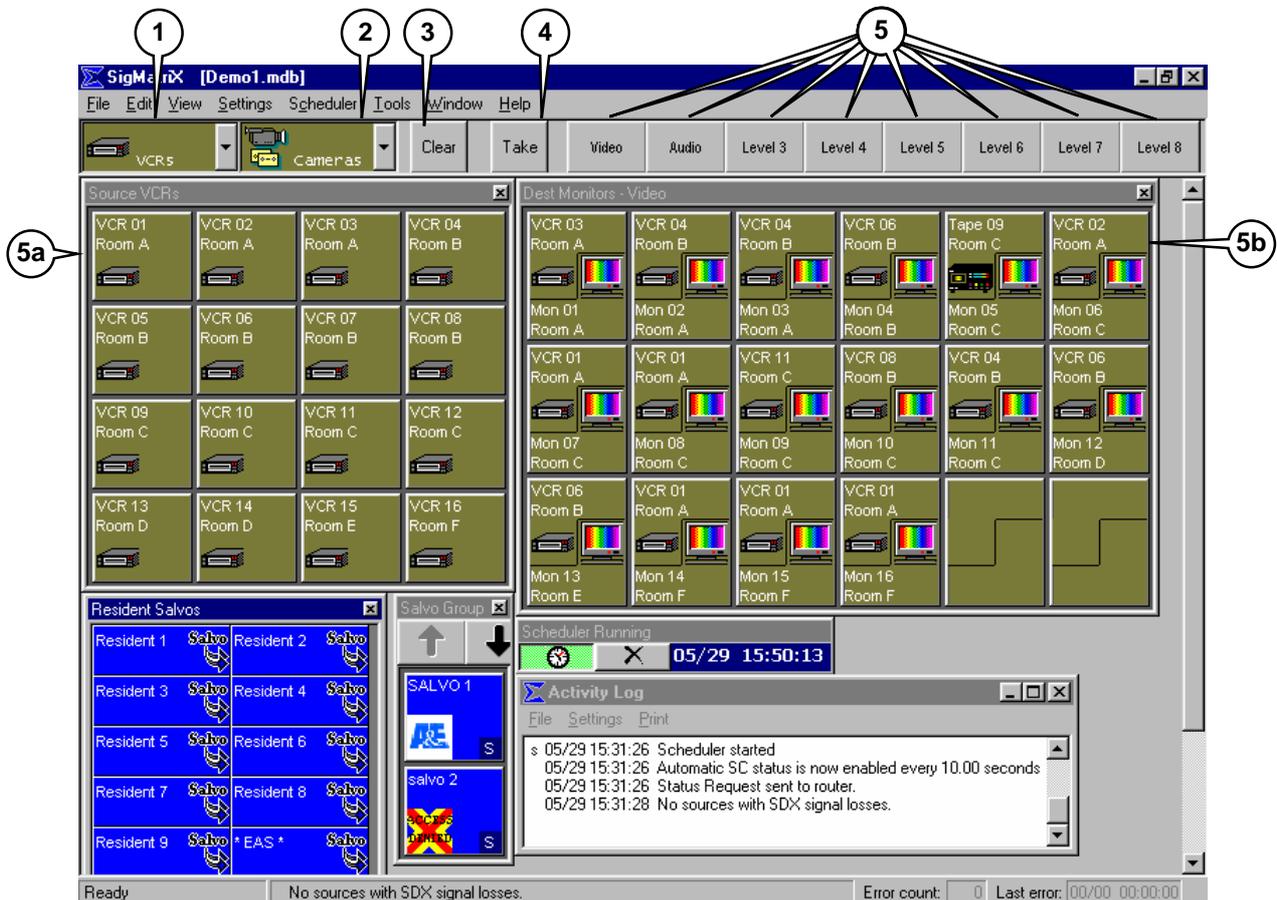
The router series to be controlled must also be specified so that **SigMatriX** can be properly configured. Many configuration settings are automatically set based upon this selection. **NOTE: For 2100 Series or Dagger Series routers up to 16x16, use HPX, Lite, Micro Router Series. For HDVS3232, use ADX/MRX numeric.**

When all selections have been made, select **OK**. A window will be displayed with the option to make the changes permanent. To save the changes to the registry, select **YES**. This will return you to the Router connection screen.

NOTE: When using a modem, the provided default modem command string should be sufficient for most modem applications. If it is suspected that the default command string is insufficient, please consult the documentation provided with the modem or other technical support provided by the modem manufacturer.

SECTION II - MAIN SCREEN AND MENU SELECTIONS

Main Screen



After a valid connection is made to the router the main **SigMatriX** operating screen appears. If the *Work offline* option was selected, the main operating screen also appears but the Activity Log indicates that no connection has been made to the router. At the top of the screen the filename of the database that is loaded is shown in brackets [filename.mdb]. To load a different database, select File:Open from the menu bar. A complete description of the functions accessible via the menu bar will be explained later. The main screen is shown with the various functions called out and explained.

If the **SigMatriX** Scheduler detects unexecuted events whose start time has passed the Scheduler Summary window will appear after a valid connection is made to the router. For more information see Scheduler Summary – at Start-Up (p.60)

These descriptions match the circled numbers on the **Main Screen** illustration.

1. **Source Group selector** - This is a drop-down box that shows all Source Groups in the database. When a group is selected by clicking on its name in the drop down box, that group is displayed in a new Source Group window like that discussed in item 6. If a Source Group is already displayed, the newly selected Source Group window is made the active window (displayed on top of any other group windows).
2. **Destination Group selector** - Same function as the Source Group selector, but for the Destination Groups.
3. **Clear button** - Clears any preset source, destination, or salvo selection that is pending. Also clears the error indicator if it is active (the error indicator is a blinking yellow background at the top of the screen).
4. **Take button** - Executes a take of the preset source and destination(s), or the selected Salvo. The results of the take are shown on the status line (p. 11) and in the Activity Log (p. 9).

When in Auto Take mode (see Main Menu Bar: Settings- p.16), the *Take* button is disabled and displays the label "*Auto Take*". The take occurs automatically when you select a destination or a salvo.

5. **Level selection (Breakaway) buttons** - These buttons serve two purposes.
 - For a normal (or follow mode) switch, a source is selected from a Source Group window **(5a)**. The Level selection buttons are disabled but indicate all valid levels for the source. Selecting a Destination button **(5b)** completes the entry of valid switch data.
 - For a breakaway or split mode switch, using the Level selection buttons (5) picks the desired levels first, and **then** the relevant source **(5a)** is selected. Each Level button will display the source selected for that level. Prior to selection of a destination from the Destination Group window, any of the remaining valid levels may be assigned to different sources. When a destination is selected from the Destination Group window, all unselected Level buttons are disabled.

When a complete switch operation has been entered, the Take button **(4)** flashes red indicating valid switch data is ready to be sent to the router. Selecting the *Take* button at this time executes the switch. If any changes are needed, the *Clear* button **(3)** may be selected prior to selecting the *Take* button and the correct data re-entered. **Note:** To view a Destination Group of a particular Level, position the cursor over the Level button (5) you want to view. Press the right mouse button and the Destination Group will change to that particular Level.

Main Screen (cont.)

The screenshot displays the SigMatrIX software interface with the following components:

- Source VCRs (6a):** A 4x4 grid of 16 VCR units, each labeled with a number (01-16) and a room name (A-F).
- Dest Monitors - Video:** A 4x6 grid of 24 monitor units, each labeled with a number (01-16) and a room name (A-F).
- Resident Salvos:** A table listing 9 residents, each associated with a salvo icon and name.
- Salvo Group:** A section showing two salvo groups: SALVO 1 and salvo 2.
- Scheduler Running:** A status bar showing the date and time: 05/29 15:50:13.
- Activity Log:** A window displaying system logs, including messages about scheduler start, status changes, and signal losses.
- Status Bar:** Located at the bottom, it shows "Ready", "No sources with SDX signal losses.", "Error count: 0", and "Last error: 00/00".

Callouts 6, 6a, 7, and 8 are present on the image, pointing to the Source VCRs grid, the Source VCRs header, the Dest Monitors grid, and the Activity Log window respectively.

- 6. Source Group Display Window** - This window shows all assigned sources in the group. If multiple groups exist in the database each can be displayed in a separate window. For easy identification, each group's name is included in the window's title bar **(6a)**. A window is opened by selecting a group name in the Source group selector **(1)**. Each cell in the display represents one source.

If the display window has more source cells than can be displayed in the visible window area, *Page Up* and *Page Down* arrow buttons are added at the top of the window. The number of columns and maximum number of visible rows in the window can be changed from the *View/Grid formatting control* menu selection (see Main Menu Bar: View: Grid Sizing Control). Once saved, these values are used for opening all source windows (to resize a display window it must be closed, then reopened).

When exiting **SigMatrix**, the question "Save Workspace Setup Before Exit?" is asked. Click "Yes" to save the size and position of all open windows, including Source Group, Destination Group, Salvo, and Activity Log windows.

- 7. Destination Group Display Window** - Functions nearly identically as the Source group window, but for destination groups. There is one functional difference in the Destination window. When the cursor is placed over a Destination button and the right mouse button is pressed, a drop-down box is displayed. This box displays the current source of each signal on every valid level for that particular destination.
- 8. Activity Log Window** - Records system activity initiated by the user in date/time order. Selecting View:Activity Log from the main menu activates the Activity Log Window. The Activity Log is configured as "always on top"; it will display over top of any window on which it is placed.

NOTE - Errors are logged with an "***" (hard error requiring user action) or "*s" (error for a scheduled event) in the left margin.

Main Screen (cont.)



9. Salvo Window - This window displays the buttons for all Salvos. The number of Salvo buttons shown is determined from settings in the View:Grid formatting control menu selection. If the display window has more Salvos than can be displayed in the visible window area, *Page Up* and *Page Down* arrow buttons (**9a**) are added at the top of the window.

10. Resident Salvo Window - This window is displayed from the View: Resident Salvos menu selection. It shows the buttons used to select a Resident Salvo for execution. The number of buttons displayed, if any, is dependent upon the configured router series. Selecting one of these Resident Salvo cells and doing a take will send a salvo execute to the router for the selected Resident Salvo. ***The Resident Salvo data must have been previously downloaded to the router.***

To download the Resident Salvos prior to execution, activate the Download Control Panel (View:Download control menu selection) and click the *Start data download* button.



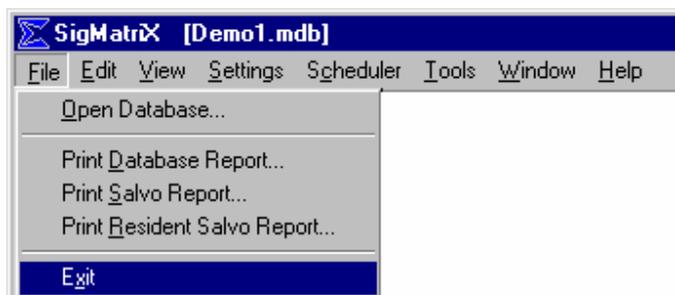
WARNING – When the *Start data download* button is selected, any Resident Salvo data previously stored in the router will be replaced with the data currently programmed into ***SigMatrix***. If no salvo data has been programmed into ***SigMatrix***, when Salvos are downloaded, the SCI will ***purge all the Resident Salvo data in its memory.***

11. **Current system state** - This reports on the current activities (if any) of the system. The *Ready* state indicates the system is ready for user input.
12. **Status line** - Shows the most recent status. This is a message that was logged to the Activity Log **(8)** or it gives a message that provides the user feedback about recent actions taken. Additionally, warning and error messages are displayed here.
13. **Error counter** - Counts the total number of system errors encountered during the current run time. The counter is reset to zero each time ***SigMatrix*** is started. Selecting the Clear button, if the appropriate option has been selected in the Miscellaneous Settings window, can clear this counter (Settings: Miscellaneous Settings – p.7).
14. **Time of last error** - If the Error counter **(13)** is greater than zero, then this shows the time of the most recent error. This will match the time of the most recent error in the Activity Log **(8)**. . Selecting the Clear button **(3)** if the appropriate option has been selected in the Miscellaneous Settings window can clear this counter (Settings: Miscellaneous Settings).

Main Menu Bar

A standard Windows® menu bar is displayed across the top of the screen just below the title bar. There are eight drop-down menus accessible from this menu bar. They are titled *Files*, *Edit*, *View*, *Settings*, *Scheduler*, *Tools*, *Window*, and *Help*. The standard Windows® mouse and keyboard menu selection conventions apply in **SigMatrix**. Each item will be explained in detail in the following sections.

Main Menu: Files



Open Database - This is used to select a different database than the one currently loaded. This opens a standard Windows® file selection/identification window. Entry of a new database filename will create a new file and load it.

NOTE: Because of the comprehensive nature of the template file *DEMO1.mdb*, it is recommended that this file be copied and renamed to maintain its integrity. The copy should be used as a starting point when creating a new database.

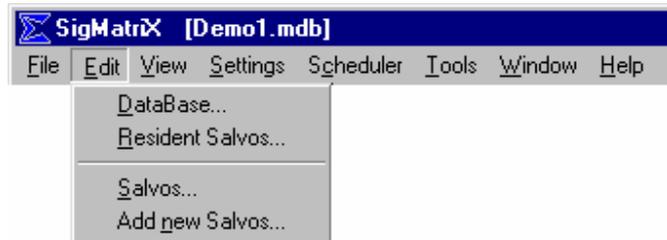
Print Database Report – Provides a hard copy report of the contents of the current **SigMatrix** database. This includes all Source and Destination Groups and their contents.

Print Salvo Report – Provides a hard copy report of the current configuration of all Salvos specified in the **SigMatrix** database.

Print Resident Salvo Report – Provides a hard copy report of the current configuration of all Resident Salvos specified in the **SigMatrix** database.

Exit – Quits the **SigMatrix** program. When selected, if any changes have been made, **SigMatrix** will ask if the current settings should be saved. If current settings are not saved, the workspace setup reverts to its previous state on the next run time.

Main Menu Bar: Edit



The selections in this drop-down menu are used to access those portions of the **SigMatrix** database where data is stored for display of information on the screen or to be transmitted to the router for future switching operations.

To ensure database integrity, selecting Edit:Database or Edit:Resident Salvos turns off the Scheduler. If the Scheduler must remain active, database-editing operations should be performed at another time. Salvo data additions or updates do not require suspension of the Scheduler.

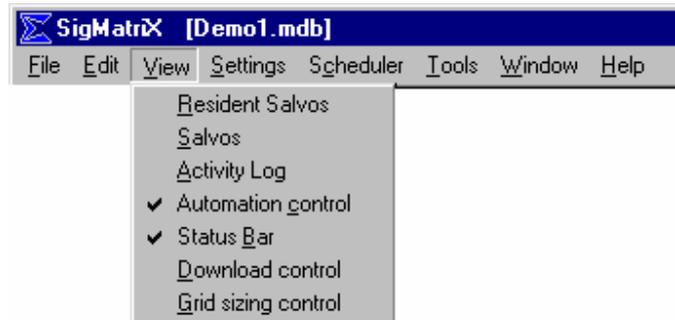
DataBase - This selection accesses the editing functions used to change the data in **SigMatrix** pertaining to the identification of the sources and destinations connected to the router.

Resident Salvos – This selection accesses the editing functions used to create or modify a Resident Salvo - a combination of source/destination assignments stored under a single button function. Resident Salvos are stored within the **SigMatrix** database but *must be* downloaded to the router for simultaneous execution via a take operation or a Scheduled event.

Salvos – This selection accesses the editing functions used to modify a previously created salvo. After selection of this menu item, a current Salvo button must be selected from the Salvo Group window to load into the editor. Salvos are stored within the **SigMatrix** database and are only transferred to the router at the time of execution through a take operation or a Scheduled event.

Add New Salvos – This selection creates a new salvo - a combination of source/destination assignments stored under a single button function. Similar to previous menu item but allows entry of the salvo name and selection of an associated icon to be added to the currently stored set of salvos. Salvos are stored within the **SigMatrix** database and are transferred to the router only through a take operation or a Scheduled event.

Main Menu Bar: View



The selections in this drop-down menu affect what is displayed on the main screen. When selected, the corresponding item will appear within the main window along with the source and destination windows.

Resident Salvos – Selecting this displays the Resident Salvo window. This displays the salvo data stored within the router. **NOTE: Not all Sigma routers support Resident Salvos. The number of Resident Salvos available for use depends on the router series.**

Salvos – Displays the Salvo Group window. Salvos are one or more takes stored as a group. See the **Salvos** section of this manual (p. 40) for more information on creating and using salvos.

Activity Log - Displays the Activity Log window containing the real-time display of all actions taken by the system. The Activity Log is also automatically saved to disk. The last 150,000 characters of data sent to the Activity Log file is displayed in the Activity Log window. To access the entire Activity Log, **within the Activity Log window**, select the File menu and then select View: Current Log File.

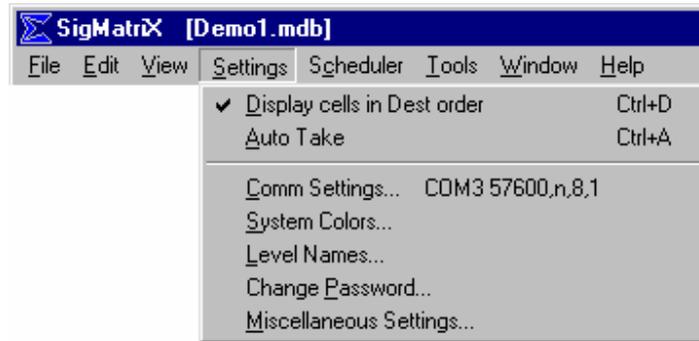
Automation Control Bar – The Automation Control Bar is an “always on top window” which can be displayed anywhere on the Windows® desktop when the **SigMatriX** main window is open. This window includes a shortcut for toggling the Scheduler on/off, a shortcut to cancel any outstanding command and a display of the current date/time for reference purposes.

Status Bar - Displays the Status Bar across the bottom of the main window that contains status messages, the current system state, the error counter, and time of last error. Although some of this information is recorded in the Activity Log, it is recommended that users choose to display the Status Bar because of the critical nature of the information displayed.

Download Control - Displays the Download Control panel below the main toolbar. This function is used to download the contents of all Salvos to the router as well as alphanumeric data, if configured for an alphanumeric router.

Grid Sizing control - Displays the Grid Sizing control panel immediately below the main toolbar. This is used to determine the row and column sizing of the various display windows.

Main Menu Bar: Settings



The selections available on the Settings drop-down menu are used to configure a number of the parameters that affect the operation of **SigMatrixX**.

Display cells in Dest order - The status of this item determines the order of display of cells in the Destination window. When checked, the arrangement of the cells follows the order in which they were entered in their group. When unchecked they are displayed in alphabetical order of the Sources.

SHORTCUT: *Ctrl+D* will toggle between these two display modes.

Auto-Take - The status of this item determines whether the Auto-Take mode is on or off. When Auto-Take is enabled, a take occurs as soon as a valid source and destination are selected. For proper operation, the source should be selected first and then the destination.

SHORTCUT: *Ctrl+A* will toggle Auto-Take on and off.

Comm Settings - Opens the Communication Settings window. For a complete explanation of these settings refer to earlier Communications Settings reference (p. 7).

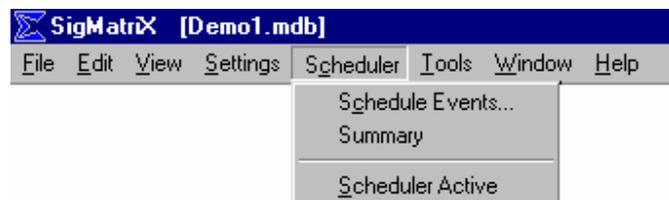
System Colors - Opens the Select System Colors window. This window allows the selection of display colors for backgrounds and text within the Source, Destination, and Salvo windows. It also allows for the selection of the background and text highlight colors used to identify selected cells. The default color set can also be restored from this window. For a more complete explanation, see System Colors (p. 47).

Level Names - Opens the "Change Level Names" editing box. In this window, the types of signals being routed in each level of the system can be identified with both full and abbreviated names for display and log purposes. For a more complete explanation, see Level Names (p. 48).

Change Password - Opens the Change Password editing box. The default password is “sigmatrix”. From this window the current password may be changed. All passwords must be at least four (4) alphanumeric characters. The password is case sensitive for recognition. If the password is written down for future reference, be certain that it is recorded exactly as entered. See Change Password (p. 49) for a more complete explanation of this topic.

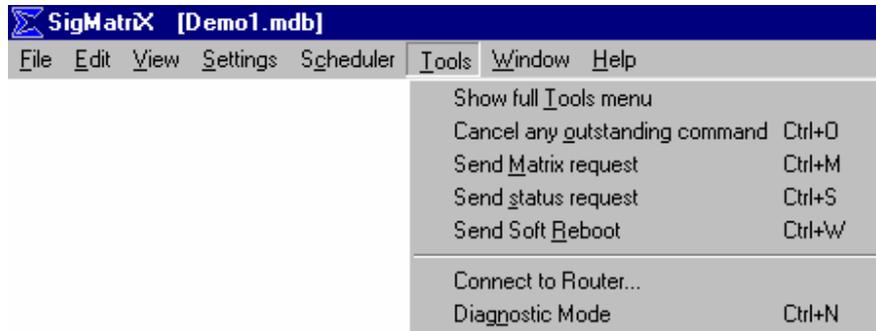
Miscellaneous – Includes a variety of settings to configure and troubleshoot the database. See Miscellaneous Settings (p.50) for a more complete description.

Main Menu Bar: Event Scheduler



See **Event Scheduler** (p.52) for a complete explanation of the operation of this powerful tool used for unattended operation of preprogrammed switching events.

Main Menu Bar: Tools Menu



Items under the **Tools** menu are primarily designed as diagnostic tools for troubleshooting communications or database issues that are not readily resolved. These functions are included to assist Sigma Electronics Applications or Software engineers in their efforts during remote technical assistance. Contact the Sigma Electronics home office should a need arise to solve a problem of this nature.

The first menu item (**Show full Tools menu**) is a toggle that will expose or hide the less commonly used **Tools** menu items. Note that some items in the **Tools** menu are available only when the related system feature is installed. For example, the **Source Failure inquiry** and **Silence SDX alarm** items are present only if **SigMatrix** is configured for ADX/MRX routing systems.



WARNING – Some items in the expanded menu initiate extensive and irreversible changes to the database or data stored in the router. These selections should only be made when the operator is fully aware of the consequences of these actions.

Cancel any outstanding command – cancels any command sent to the router that is currently in progress and also flushes any commands waiting to be executed.

Send Matrix request (Ctrl+M) – reports the router matrix size in the Activity Log.

Send status request (Ctrl+S) – manually request a router status report.

Send Soft Reboot (Ctrl+W) – causes the router to reinitialize without losing any cross-point connections or stored salvo data in the router's memory.

Send Hard Reboot (Ctrl+C) – causes the router to reinitialize all cross-point connections, connecting Source 1 to all Destinations.

NOTE: This is a destructive command.

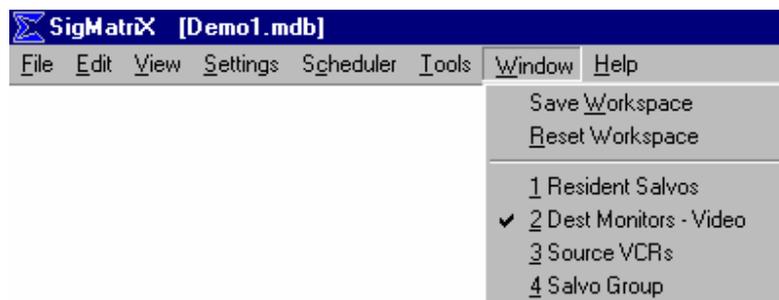
Connect To Router – establish communications with the router after working offline.

Diagnostic Mode – expands the amount of information sent to the Activity Log window and file for each action taken. This is a troubleshooting aid when errors or unexpected results are occurring.

Diagnostic messages are logged with a “d” in the left margin in the Activity Log window.

For all other functions contained in this menu, contact a Sigma Electronics Applications engineer.

Main Menu Bar: Window



In addition to providing a list of all the windows currently displayed in the **SigMatriX** main display, there are selections that affect the workspace layout.

“*Save Workspace*” –copies all workspace parameters to the database so the next time **SigMatriX** is started all window options will be the same.

“*Reset Workspace*” – restores all window options to the default status as originally set when **SigMatriX** was installed.

Main Menu Bar: Help

This window shows the version of the **SigMatriX** software that is running as well as the current information about the router communication parameters.

There is also a shortcut button in the Help window that will access the Windows® system information function. This provides information about the host computer and may assist the operator in determining what communication parameters need to be set.

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SECTION III - CUSTOMIZING SigMatrix

Documentation Format

Most of the editing actions in **SigMatrix** are not initiated by menu item selection but rather by direct selection of the item to be changed. For this reason, the explanation of the customizing operations will be basically organized in the operational sequence most likely to be used rather than as a strict explanation of the menu items in the order that they appear on the screen.

Creating a SigMatrix Database

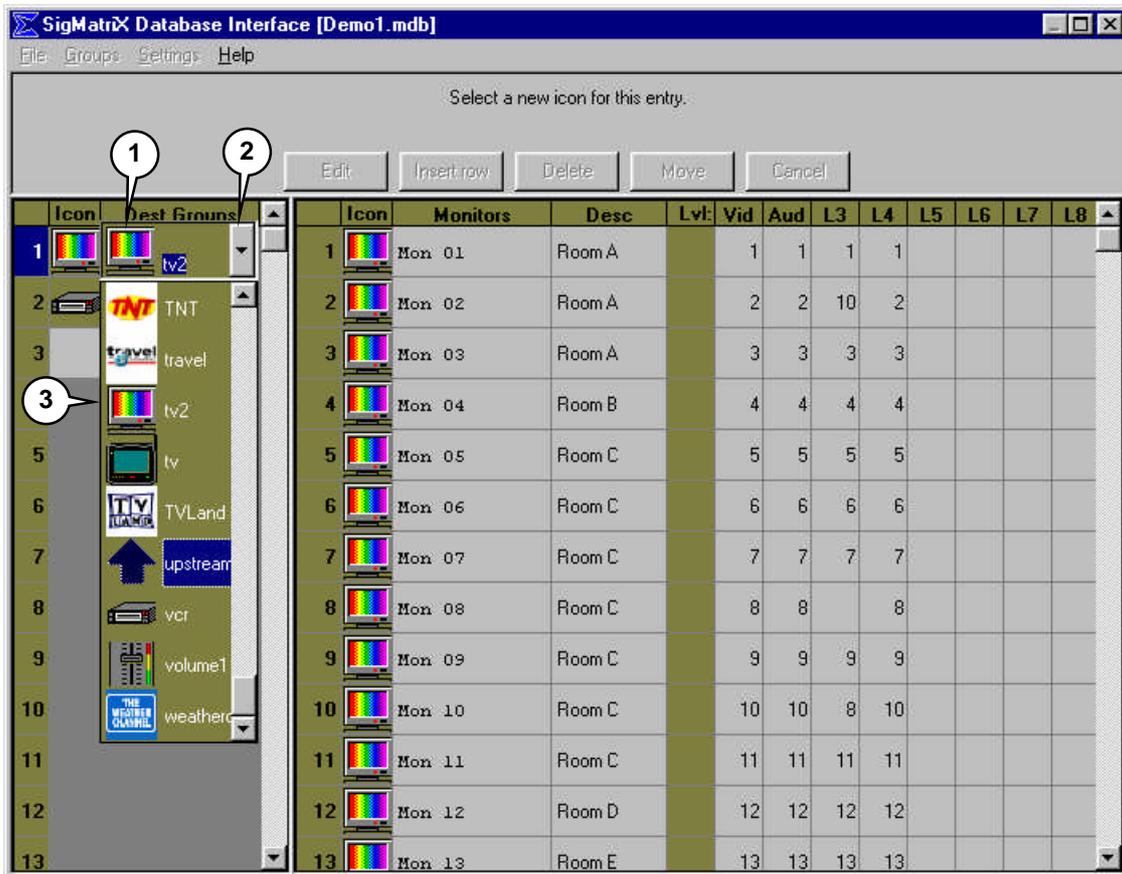
The *DEMO1.mdb* database included with the **SigMatrix** program may be used, as is, to control a routing system after the communication parameters are set. However, this would not be very convenient because it is loaded with generic names for all sources and destinations. Most users will want to label the various buttons and icons in a way that has more meaning to them.

There is a backup copy of this default database that can be used as a template to create the customized database file to be used. The file name is *DEMO1BKP.mdb*. For maximum flexibility, copy and rename this file before starting to create a custom database file.

Group Identification

Although not necessary, logically combining sources or destinations into groups helps most users to make better use of the visual aspects of the user interface. **SigMatrix** has the capability to identify up to a maximum of 32 groups of devices in both the Source and Destination tables. Each group can have an icon and a unique name associated with it. These parameters are displayed on the left side of the database display window.

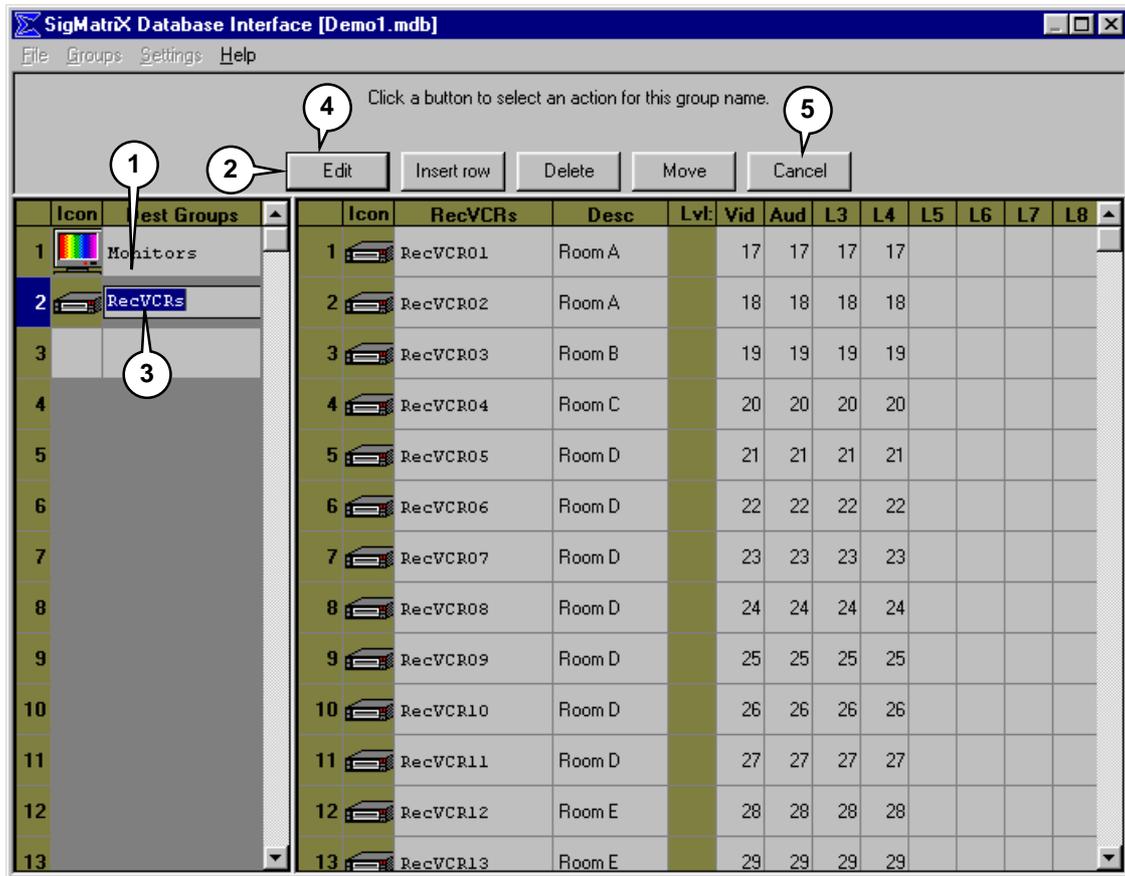
Editing the Group Icon



When there are less than 32 groups defined, the row below the last entry is available to enter data. Clicking on either cell in the row immediately initiates the entry mode.

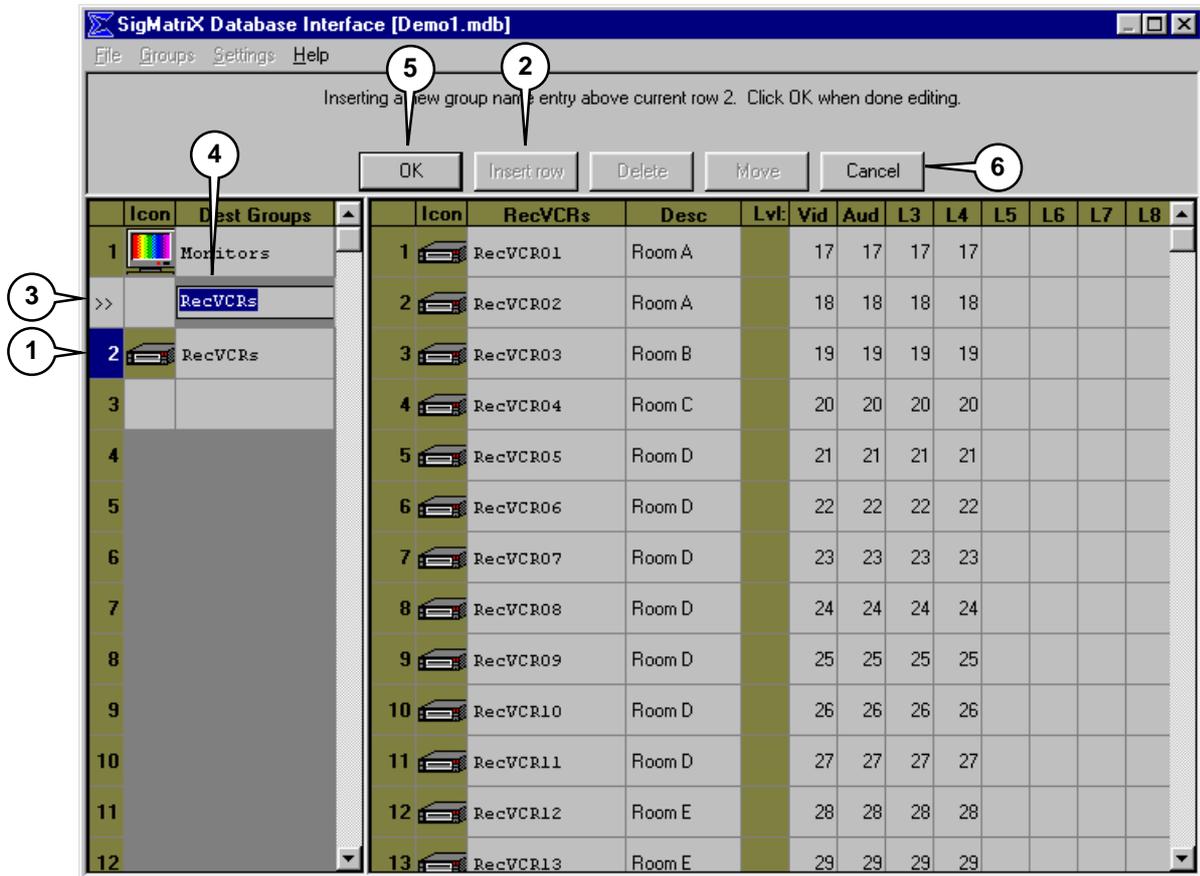
1. **Select Group Icon** – Click on the group icon to be changed. A drop-down box will appear immediately to the right of the selected cell.
2. **View other icons** - Click on the arrow on the right side of the drop-down box to view other icons.
3. **Select desired icon** – Click on the icon desired from the list.
 - **Cancel icon change** – Click anywhere outside the icon cell to cancel the process before a change is made.

Editing a Source or Destination Group Name



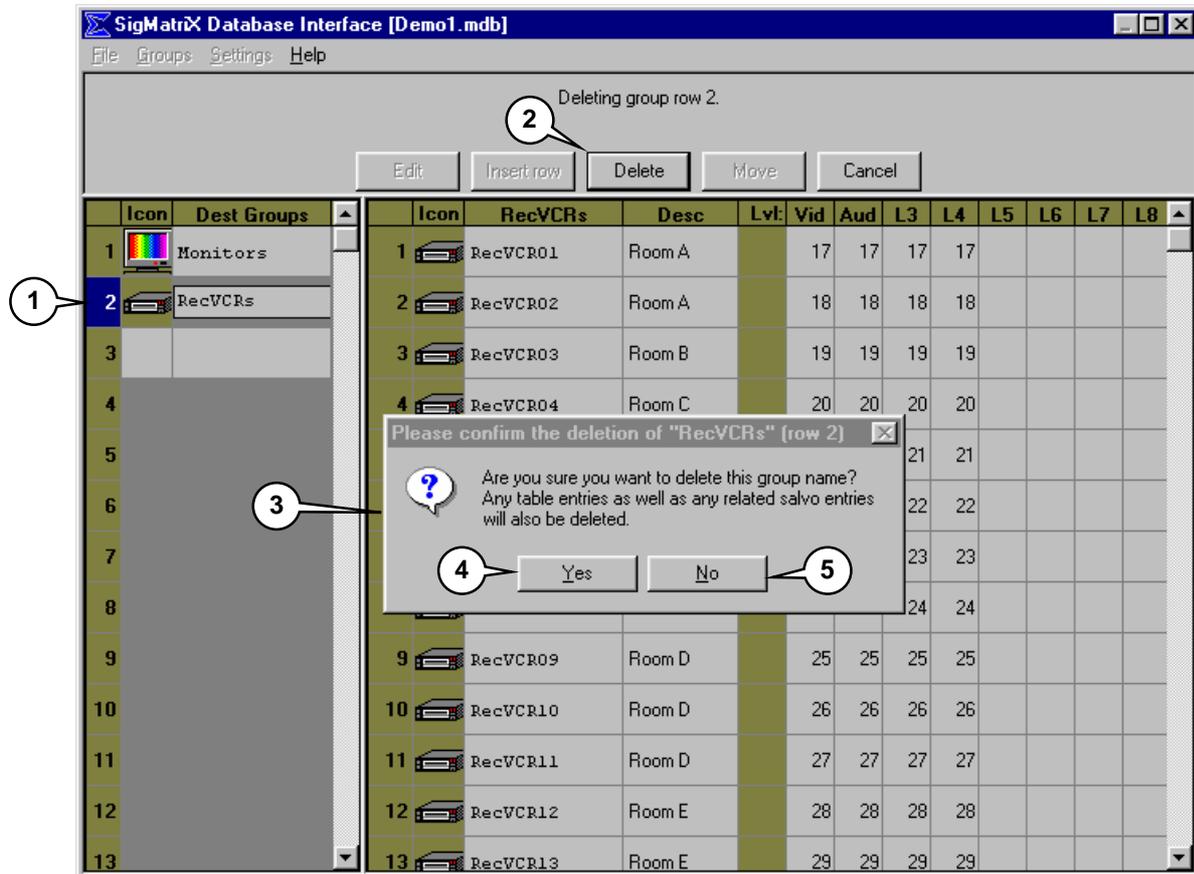
1. **Select Name** – Click on the cell containing the group name to be changed. The cell will be highlighted.
2. **Edit name** - Select the *Edit* button at the top of the window. (The text on the button changes to *OK*).
3. **Enter new name** - Type in the desired name.
4. **Confirm entry** - When complete, select *OK* or hit [Enter].
5. **Cancel entry** - To cancel the edit without changing the name, select a different cell or select the *Cancel* button at the top of the screen.

Inserting a New Row Between Current Entries



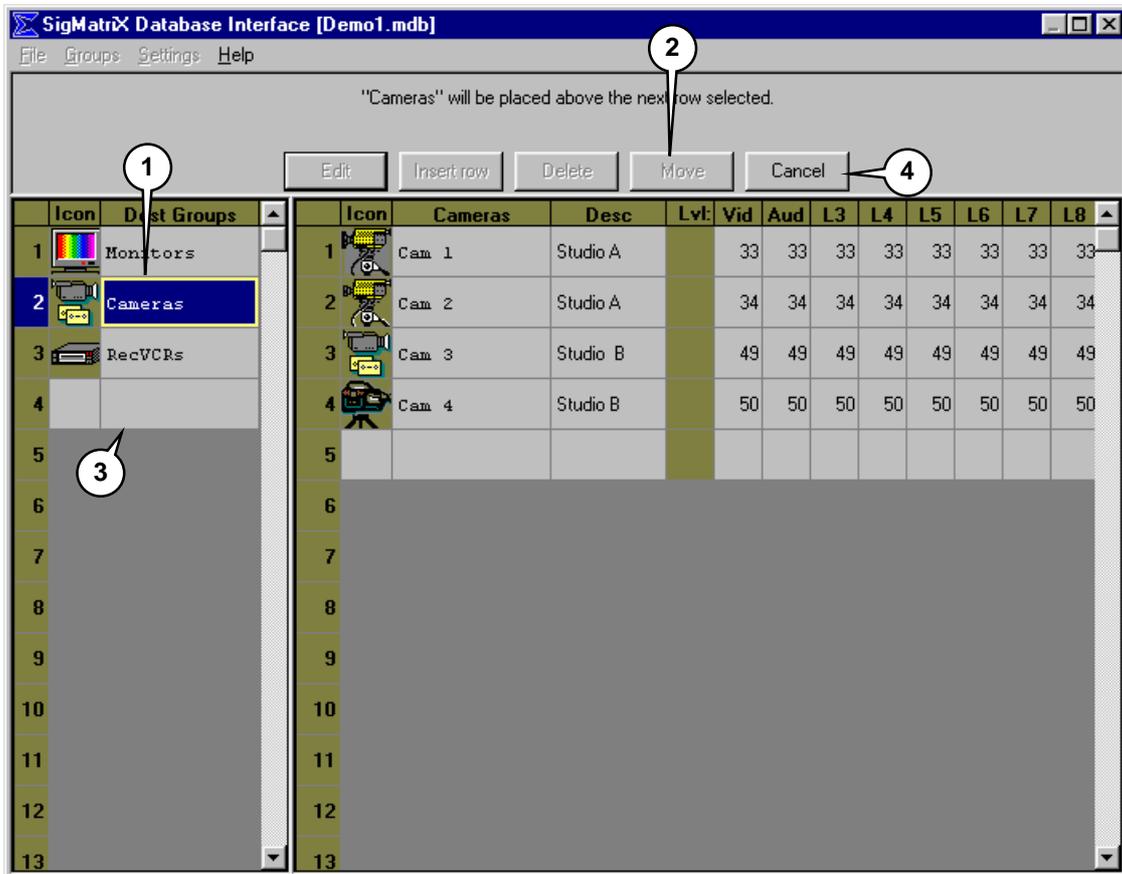
1. **Select location of new row** - Click on the name cell directly below where the new row is to be inserted.
2. **Insert new row** - Click on the *Insert row* button at the top of the screen.
3. **Temporary row is inserted** - A temporary row will be inserted above the selected row.
4. **Enter new group name** - Enter a unique group name.
5. **Confirm entry** - To complete the insertion of the new row, select *OK* or hit [Enter].
6. **Cancel row entry** - To cancel the new row without entering the name, select a different cell or select the *Cancel* button at the top of the window. This will cause the newly inserted row to disappear and revert to its prior form.

Deleting a Group



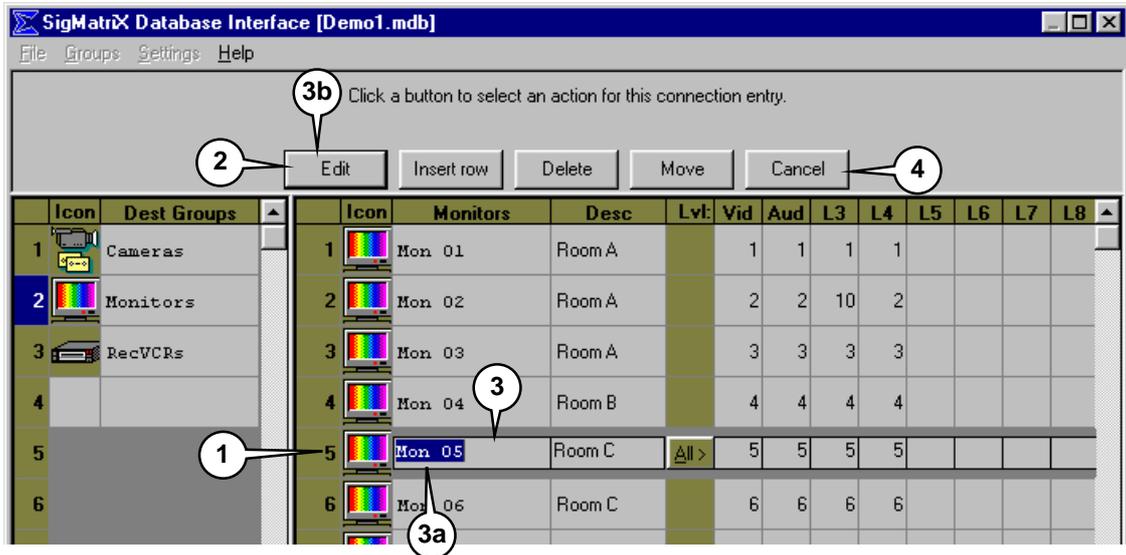
1. **Select Group Name** - Click on the name cell of the group to be removed.
2. **Delete** - Click the *Delete* button at the top of the window.
3. **Reminder Appears** - A confirmation window will appear with the reminder that "Any table entries as well as any salvo entries will also be deleted."
4. **Confirm Deletion** - To delete the group name, click **YES**.
5. **Cancel Deletion** - To cancel the deletion and leave the group name in the table, click **NO**.

Moving a Group Name



1. **Select Group** - To move a Group name to a different position in the table, click on the Group to be moved.
2. **Move** - Click the *Move* button at the top of the window. This will highlight the selected group.
3. **Select Target Row** - Click on the row directly below the desired new position. The highlighted row will be moved directly above that row.
4. **Cancel Move** - To cancel the move, click on a different cell or select the *Cancel* button at the top of the window.

Editing a Group Entry



Most of the editing conventions for editing group entries are identical to those detailed for Editing a Source or Destination Group Name (p.23). The differences in the editing functions will be explained.

1. **Select Group Entry** -To begin the group entry edit mode, click on the group entry number on the left side of group entry panel (to the right of the Group Name slider bar).
2. **Enter the Edit Mode** – Click on the *Edit* button at the top of the window. At this point the text of the *Edit* button changes to “OK”.
3. **Select Text Cells** - To edit any of the text cells including the *Level* cells in this row, click on the cell to be changed. The cell will highlight.
 - **Enter New Text** - enter the desired text (3a).
 - **Confirm entry** - To complete the action, click on the *OK* button or hit [ENTER] (3b).
4. **Cancel** - To cancel the edit select the *Cancel* button.

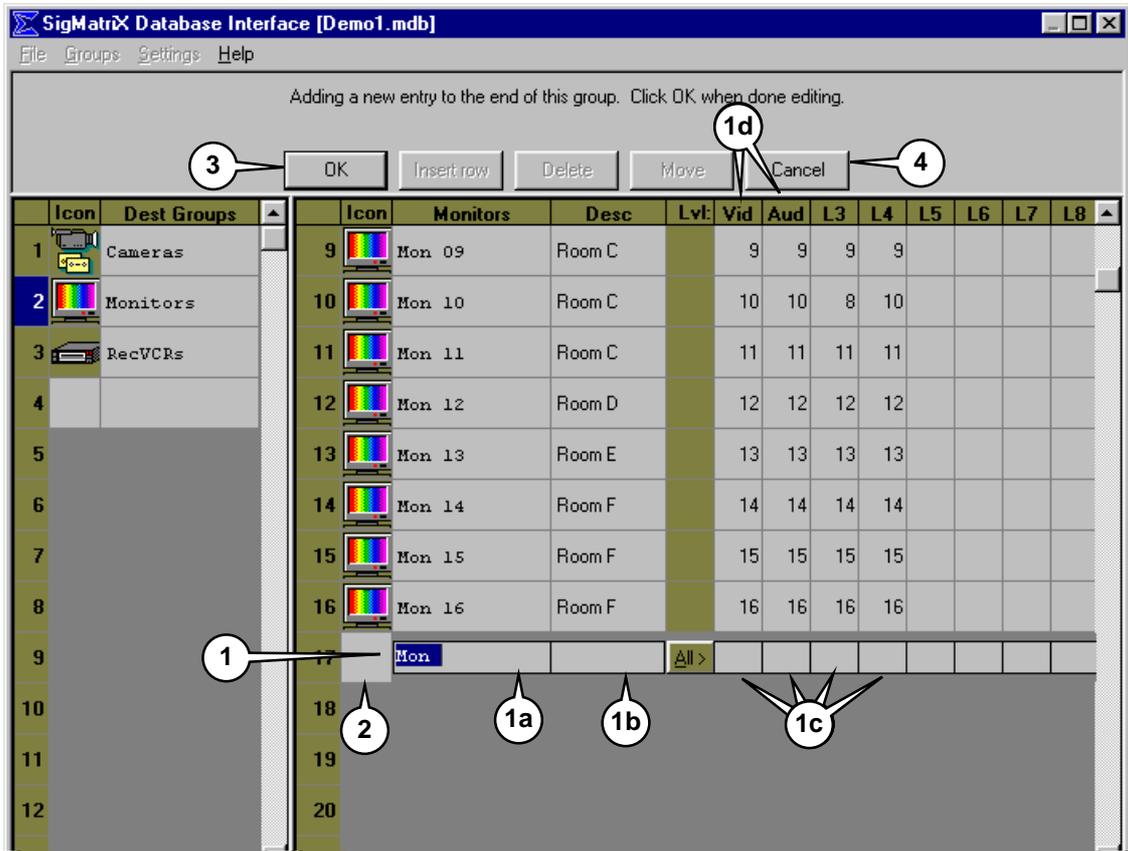
Inserting, Deleting, or Moving a Group Entry

To Insert, Delete, or Move a group entry, follow the instructions for Insert, Delete, or Move a Group Name but highlight a Group Entry instead of the Group Name.

Changing a Group Entry Icon

To change the icon assigned to a group entry, click on the icon cell and follow the instructions found in **Editing the Group Icon** (p.22).

Adding a new entry to a Group



When there are less than 128 defined entries, the row below the last entry (if the table is blank, the first row) is available to enter data.

1. Enter Name, Description and Connection Number

Clicking on this row immediately enters the edit mode. Enter the new item's name (**1a**), description (**1b**), and "**physical numeric connection location**" (**1c**) for each applicable *Level*. The "*physical numeric connection location*" is the number assigned to the connector on the rear of the router to which the cable from the Source or Destination is attached. This information is critical so that the program can relate the alphanumeric name to the actual physical connection. For each Level in use (i.e. video and audio...) the correct physical connection location **must** be entered.

The image shows numbers in the appropriate number of level boxes as determined by the configuration of the router (usually 4 or 8). It is only

necessary for numbers to be entered into the *Level* boxes in use by the system. For example, if the system in use consists of only video and audio it is only necessary to supply numeric information for *Levels* 1 and 2 **(1d)**.

2. **Select Destination Icon**

Next, select the icon cell. A drop-down box will appear immediately to the right of the selected cell. If the icon displayed is not the one desired, click on the arrow on the right edge of the drop-down box. Scroll through the list until a desired icon from the available list appears. To select the new icon, click on it. To remove the drop-down box without changing the icon, click anywhere outside the drop-down box. This is similar to **Editing the Group Icon** (p.22).

3. **/Confirm Entry**

When all edits for the entry are complete, select *OK* or hit [Enter].

4. **Cancel Entry**

To cancel the edit, select a cell in another row or select the *Cancel* button at the top of the window.

Editing a Group Entry Already Assigned to a Salvo

Editing row 4. Click OK when done editing.
Level(s) L1-L4 used in one or more salvos. Any changes to these cells will also be reflected in the salvos.

| Icon | Dest Groups | Icon | Monitors | Desc | Lvl | Vid | Aud | L3 | L4 | L5 | L6 | L7 | L8 |
|------|-------------|------|----------|--------|-----|-----|-----|----|----|----|----|----|----|
| 1 | Cameras | 1 | Mon 01 | Room A | | 1 | 1 | 1 | 1 | | | | |
| 2 | Monitors | 2 | Mon 02 | Room A | | 2 | 2 | 10 | 2 | | | | |
| 3 | RecVCRs | 3 | Mon 03 | Room A | | 3 | 3 | 3 | 3 | | | | |
| 4 | | 4 | Mon 04 | Room B | 4 | 4 | 4 | 4 | 4 | | | | |
| 5 | | 5 | Mon 05 | Room C | | 5 | 5 | 5 | 5 | | | | |
| 6 | | 6 | Mon 06 | Room C | | 6 | 6 | 6 | 6 | | | | |
| 7 | | 7 | Mon 07 | Room C | | 7 | 7 | 7 | 7 | | | | |
| 8 | | 8 | Mon 08 | Room C | | 8 | 8 | 8 | 8 | | | | |
| 9 | | 9 | Mon 09 | Room C | | 9 | 9 | 9 | 9 | | | | |
| 10 | | 10 | Mon 10 | Room C | | 10 | 10 | 8 | 10 | | | | |
| 11 | | 11 | Mon 11 | Room C | | 11 | 11 | 11 | 11 | | | | |
| 12 | | 12 | Mon 12 | Room D | | 12 | 12 | 12 | 12 | | | | |
| 13 | | 13 | Mon 13 | Room E | | 13 | 13 | 13 | 13 | | | | |

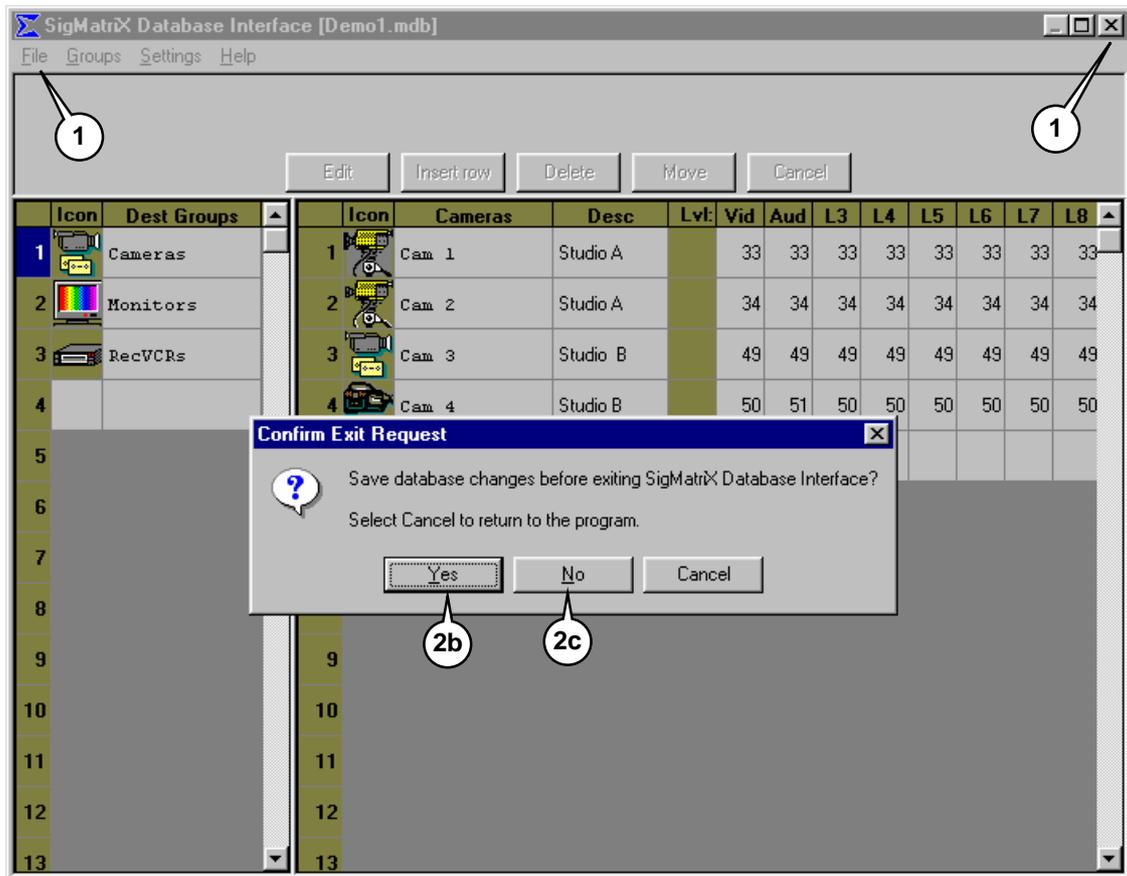
If a Source or Destination is already assigned as part of a salvo switch, changing the numeric *Level* data might affect the outcome of the salvo.

As an example, if the user moves the physical connections of a Source/Destination from one connector number to another on the router, the Level data must be changed to reflect the new physical connection number.

If the Source/Destination has been assigned within a salvo, the data is automatically updated to reflect the changes.

1. **Warning Message** - A reminder message will be displayed across the top of the window informing the user that any changes made to the level data will be reflected in the salvos.
2. **Level Cells Change Color** - To alert the user to an edit affecting a salvo, those *Level* cells assigned to a salvo will change to the source/destination background color as selected from the Settings:System Colors drop-down box.

Exiting the Group Data Editor



1. **Select Exit** - When edits to all group data have been completed, click on the **X** in the title bar or select the File-Exit menu item from the main menu bar.
2. **Confirm Exit Request** - In either case, a confirmation window will appear.
 - **Return to Edit Mode** - To return to the Database Editor select *Cancel* (2a).
 - **Save Changes and Exit** - To save any and all changes made to the database and return to the Main screen, select **Yes** (2b).
 - **Discard All Changes and Exit** - To discard all changes and return to the Main screen select **No** (2c).

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Resident Salvo Editor

Multiple simultaneous switches can be stored in the router as a Resident Salvo switch. Resident Salvos differ from Salvos in that Resident Salvos must be downloaded to the router for execution while Salvos are sequentially transmitted to the router when the *Take* button is selected or it is transferred by Scheduler. Because the data is resident in the router, Resident Salvos are completely executed in the router during a single vertical interval of the reference video input signal. Salvos, because of the sequential transfer to the router, may take significantly longer to complete, depending on the number of switches stored in the salvo.

SigMatriX has the capacity to store up to ten (10) Resident Salvos. All Resident Salvos may have a description attached to them by the user. The last Resident Salvo is identified as "EAS". In those systems equipped with automatic Emergency Alert System (EAS) event switch capability, the EAS Salvo will be automatically executed when an EAS event occurs. When the EAS condition is released, the router will revert back to its previous cross-point assignments. In systems not equipped with automatic Emergency Alert System (EAS) event switch capability, the EAS Salvo can be programmed with any desired information and utilized as a standard Resident Salvo. As with all Resident Salvos, it cannot be renamed.

Programming Resident Salvo switches in **SigMatriX** is done with the Resident Salvo Editor. The Resident Salvo Editor is accessed from the **SigMatriX** main menu bar selection *Edit- Resident Salvos*. To eliminate potential switching conflicts when in then Resident Salvo Editor, the Scheduler must not be running. If it is running, when the Resident Salvo Editor is initiated a window will appear giving the operator the option to continue (shutting down the Scheduler) or cancel (return to the main screen).

Creating or Editing Resident Salvos

The screenshot shows the SigMatrX Resident Salvo Editor interface. The main window contains two data tables: 'Source Groups' and 'Dest Groups'. The 'Source Groups' table lists VCRs (VCR 01 to VCR 11) and Tape (Tape 09, Tape 14). The 'Dest Groups' table lists Cameras (Cam 1 to Cam 4). A 'Current Resident Salvo' panel on the right shows a list of source and destination entries. The interface includes an 'Apply' button (6) and a 'Cancel' button (4). A 'Salvo Actions' panel contains a 'Delete selected entry(s)' button and a checked 'Sort by Dest name' option. A 'Current Resident Salvo' dropdown menu (1) is set to 'Resident 1'. A table (7) shows the current salvo entries: Tape 09 to Mon 04, Tape 09 to Mon 05, Tape 06 to Mon 05, Tape 09 to Mon 11, and Tape 14 to Mon 11. A '5' callout points to the 'Cameras' table.

| Source Groups | VCRs | Lvl: | Vid | Aud | L3 | L4 | L5 | L6 | L7 | L8 |
|---------------|-----------|-------|-----|-----|----|----|----|----|----|----|
| 1 VCRs | 1 VCR 01 | All > | 1 | 1 | 1 | 1 | | | | |
| 2 Tape | 2 VCR 02 | All > | 2 | 2 | 2 | 2 | | | | |
| 3 | 3 VCR 03 | All > | 3 | 3 | 3 | 3 | | | | |
| 4 | 4 VCR 04 | All > | 4 | 4 | 4 | 4 | | | | |
| 5 | 5 VCR 05 | All > | 5 | 5 | 5 | 5 | | | | |
| 6 | 6 VCR 06 | All > | 6 | 6 | 6 | 6 | | | | |
| 7 | 7 VCR 07 | All > | 7 | 7 | 7 | 7 | | | | |
| 8 | 8 VCR 08 | All > | 8 | 8 | 8 | 8 | | | | |
| 9 | 9 VCR 09 | All > | 9 | 9 | 9 | 9 | | | | |
| 10 | 10 VCR 10 | All > | 10 | 10 | 10 | 10 | | | | |
| 11 | 11 VCR 11 | All > | 11 | 11 | 11 | 11 | | | | |
| 12 | | | | | | | | | | |

| Dest Groups | Cameras | Lvl: | Vid | Aud | L3 | L4 | L5 | L6 | L7 | L8 |
|-------------|---------|-------|-----|-----|----|----|----|----|----|----|
| 1 Cameras | 1 Cam 1 | All > | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 |
| 2 Monitors | 2 Cam 2 | All > | 34 | 34 | 34 | 34 | 34 | 34 | 34 | 34 |
| 3 RecVCRs | 3 Cam 3 | All > | 49 | 49 | 49 | 49 | 49 | 49 | 49 | 49 |
| 4 | 4 Cam 4 | All > | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 |
| 5 | | | | | | | | | | |
| 6 | | | | | | | | | | |
| 7 | | | | | | | | | | |
| 8 | | | | | | | | | | |
| 9 | | | | | | | | | | |
| 10 | | | | | | | | | | |
| 11 | | | | | | | | | | |
| 12 | | | | | | | | | | |

| Source | Dest |
|---------|--------|
| Tape 09 | Mon 04 |
| Tape 09 | Mon 05 |
| Tape 06 | Mon 05 |
| Tape 09 | Mon 11 |
| Tape 14 | Mon 11 |

Creating or Editing Resident Salvos (cont.)

1. **Select Resident Salvo Number** - Select a Resident Salvo number from the list of available Salvos. All assignments will be made to this Resident Salvo until a different Resident Salvo is selected.

The name of each Resident Salvo (1st line of text on button) is programmed into Sigmatrix. These cannot be modified. To change the description for any Resident Salvo (2nd line of text on button), select Settings>Edit Resident Salvo Description.

2. **Select Source Group** - Select the number (or name) of the desired Source Group from the left side of the Source window to display all Source Group entries.
3. **Select Destination Group** - Select the number (or name) of the desired Destination Group from the left side of the Destination window to display all Destination Group entries.
4. **Select Source** - Select the first desired Source by clicking on the appropriate *Level* cell(s) on the Source entry line. Selecting the *ALL* button will select all *Levels* for that Source. Selected cells will change to the configured background color. Selecting *Level* cells individually will create a “breakaway” condition; meaning only those selected *Level*(s) will change when the Salvo is executed. To de-select an individual cell from the Resident Salvo assignment before *Applying* it, re-click the cell. Click on the *Cancel* button to de-select the Source and Destination cells.

The number within each *Level* cell represents the physical connection number on the router to which the Source (or Destination) is connected. This information was provided at the time the database was created.

5. **Select Destination** - Select the desired Destination by clicking on the appropriate *Level* cells in the Destination window. In this case, each *Level* box selected changes to the configured background color. This indicates that those *Levels* for that Destination are now assigned and cannot be assigned again within the current salvo.
6. **Apply** – Once a Source and Destination has been selected, click on the *Apply* button to add it to the Resident Salvo Entry list.
7. **The Resident Salvo Entry panel** - As assignment(s) are “*Applied*” they appear in the Resident Salvo Entry panel list located on the right side of the display.

Changing Destination Assignment

SigMatrX Resident Salvo Editor [Demo1.mdb]

File Settings Help

Select Source and Dest level cells to build Resident Salvo entries, then click Apply.
Salvo entry - Source: Tape 09 Dest: Mon 05 Levels: L1

Apply Cancel

Salvo Actions

Delete selected entry(s)

Sort by Dest name

| Source Groups | VCRs | Lvl | Vid | Aud | L3 | L4 | L5 | L6 | L7 | L1 |
|---------------|----------|-------|-----|-----|----|----|----|----|----|----|
| 1 VCRs | 1 VCR 01 | All > | 1 | 1 | 1 | 1 | | | | |
| 2 Tape | 2 VCR 02 | All > | 2 | 2 | 2 | 2 | | | | |
| 3 | 3 VCR 03 | All > | 3 | 3 | 3 | 3 | | | | |
| 4 | 4 VCR 04 | All > | 4 | 4 | 4 | 4 | | | | |
| 5 | 5 VCR 05 | All > | 5 | 5 | 5 | 5 | | | | |
| 6 | 6 VCR 06 | All > | 6 | 6 | 6 | 6 | | | | |
| 7 | 7 VCR 07 | All > | 7 | 7 | 7 | 7 | | | | |
| 8 | 8 VCR | | | | | | | | | |
| 9 | 9 VCR | | | | | | | | | |
| 10 | 10 VCR | | | | | | | | | |
| 11 | 11 VCR | | | | | | | | | |
| 12 | | | | | | | | | | |

Current Resident Salvo

Resident 1

| Source | Dest |
|---------|--------|
| Tape 09 | Mon 04 |
| Tape 09 | Mon 05 |
| Tape 06 | Mon 05 |
| Tape 09 | Mon 11 |
| Tape 14 | Mon 11 |

Confirm Delete From Resident Salvo Table

Delete this entry from Resident Salvo Resident 1 ?
 Source: Tape 09 Dest: Mon 05 Levels: L1

Yes No

| Dest Groups | Cam | Lvl | Vid | Aud | L3 | L4 | L5 | L6 | L7 | L1 |
|-------------|-------|-------|-----|-----|----|----|----|----|----|----|
| 1 Cameras | 1 Cam | | | | | | | | | |
| 2 Monitors | 2 Cam | | | | | | | | | |
| 3 RecVCRs | 3 Cam | All > | 49 | 49 | 49 | 49 | 49 | 49 | 49 | |
| 4 | 4 Cam | All > | 50 | 50 | 50 | 50 | 50 | 50 | 50 | |
| 5 | 5 | | | | | | | | | |
| 6 | 6 | | | | | | | | | |
| 7 | 7 | | | | | | | | | |
| 8 | 8 | | | | | | | | | |
| 9 | 9 | | | | | | | | | |
| 10 | 10 | | | | | | | | | |
| 11 | 11 | | | | | | | | | |
| 12 | | | | | | | | | | |

After a Destination *Level* cell has been assigned, it cannot be assigned to another Source. To change a Destination cell's assignment after it has been "*Applied*", it must be deleted from the Resident Salvo Entry list.

1. **Select Salvo entry** - Select the Resident Salvo Entry to be deleted by clicking on either the Source or Destination cell.
2. **Summary Information** – When a Resident Salvo Entry is selected, summary information pertaining to that entry is displayed at the top of the window for review.
3. **Delete Selected entry(s)** - Determine that this entry is to be deleted, then click on the *Delete selected entry(s)* button in the upper right corner of the display.

Multiple entries can be simultaneously deleted from the Resident Salvo Entry panel by clicking and dragging the mouse over those consecutive Destination or Source entries to be removed. All selected entries may then be removed by selecting the *Delete selected entry(s)* button.

Further it is possible to delete all entries for a Resident Salvo by clicking on the Destination or Source button at the top of the list the Resident Salvo Entry Panel. This action automatically selects ALL current Resident Salvo entries for deletion.

4. **Confirm Delete From Salvo Table** – This box will appear on the display after *Delete selected entry(s)* is selected. Respond as desired. If the response is *No*, the Resident Salvo entry will remain unchanged.
5. **Sort by Destination Name** - As additional entries are listed, their sort order is determined by the *Sort by Dest name* check box. The default setting is checked. When not checked, the list is sorted by Source Names.
6. **Cancel** - To cancel a Resident Salvo assignment (de-select Source and Destination cells) before *Applying* it, click the *Cancel* button.

Ending Resident Salvo Editor Session

7. **Exit** - When all assignments have been made, select another Resident Salvo number to edit or select *File:Exit* from the menu bar. **SigMatriX** will display a window with the option to make the Resident Salvo edits permanent. To save the Resident Salvos to the database file select *YES*. The program then returns to the main screen.

NOTE – Resident Salvos cannot be executed from **SigMatriX** without first being downloaded to the router. See Download Control (p.44).

Programming Emergency Alert System (EAS) Salvo

Select Source and Dest level cells to build Resident Salvo entries, then click Apply.

Apply Cancel

Salvo Actions
Delete selected entry(s)
 Sort by Dest name

| Source Groups | Tape | Lvl: | Vid | Aud | L3 | L4 | L5 | L6 | L7 | L8 |
|---------------|------------|-------|-----|-----|----|----|----|----|----|----|
| 1 VCRs | 1 Tape 01 | All > | 17 | 17 | 17 | 17 | | | | |
| 2 Tape | 2 Tape 02 | All > | 18 | 18 | 18 | 18 | | | | |
| 3 | 3 Tape 03 | All > | 19 | 19 | 19 | 19 | | | | |
| 4 | 4 Tape 04 | All > | 20 | 20 | 20 | 20 | | | | |
| 5 | 5 Tape 05 | All > | 21 | 21 | 21 | 21 | | | | |
| 6 | 6 Tape 06 | All > | 22 | 22 | 22 | 22 | | | | |
| 7 | 7 Tape 07 | All > | 23 | 23 | 23 | 23 | | | | |
| 8 | 8 Tape 08 | All > | 24 | 24 | 24 | 24 | | | | |
| 9 | 9 Tape 09 | All > | 25 | 25 | 25 | 25 | | | | |
| 10 | 10 Tape 10 | All > | 26 | 26 | 26 | 26 | | | | |
| 11 | 11 Tape 11 | All > | 27 | 27 | 27 | 27 | | | | |
| 12 | | | | | | | | | | |

| Dest Groups | Monitors | Lvl: | Vid | Aud | L3 | L4 | L5 | L6 | L7 | L8 |
|-------------|----------|-------|-----|-----|----|----|----|----|----|----|
| 1 Cameras | 1 Mon 01 | All > | 1 | 1 | 1 | 1 | | | | |
| 2 Monitors | 2 Mon 02 | All > | 2 | 2 | 10 | 2 | | | | |
| 3 RecVCRs | 3 Mon 03 | All > | 3 | 3 | 3 | 3 | | | | |
| 4 | 4 Mon 04 | All > | 4 | 4 | 4 | 4 | | | | |

Current Resident Salvo
* EAS *
Source: Tape 04, Dest: Mon 06

| | | |
|------------------|------------------|------------------|
| Resident 1 Salvo | Resident 2 Salvo | Resident 3 Salvo |
| Resident 4 Salvo | Resident 5 Salvo | Resident 6 Salvo |
| Resident 7 Salvo | Resident 8 Salvo | Resident 9 Salvo |
| * EAS * Salvo | | |

Salvo number 10 is a special-case salvo that is reserved (and is labeled) for EAS operation. In routers equipped with the EAS system, Salvo 10 is automatically executed when an EAS event occurs. When the EAS condition is released the router will revert back to its previous cross-point assignments.

For this reason, if an EAS salvo is desired, it MUST be programmed into the EAS salvo (Salvo 10).

NOTE: In non-EAS systems this salvo may be used as a regular salvo but the label will remain "EAS".

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Salvos

Overview

A Salvo is collection of one or more takes that will be executed as a unit. To create Salvos, select Edit:Add new Salvos from main menu.

After a Salvo is created, clicking on the Salvo's cell in the Salvo Group window and then clicking the Take button will execute it (or, if *Auto-Take* is in effect, the Salvo will be executed as soon as the Salvo's cell is clicked). To view the Salvo Group window, select **Salvos** under the **View** menu item.

A Salvo can be scheduled for later execution. This can be done either directly from the **Event Scheduler** (by selecting **Schedule Events...** under the **Scheduler** menu item) or while editing the Salvo (see **Editing a Salvo**, p.43). See the **Event Scheduler** section of this manual (p.52) for more information on scheduling events.

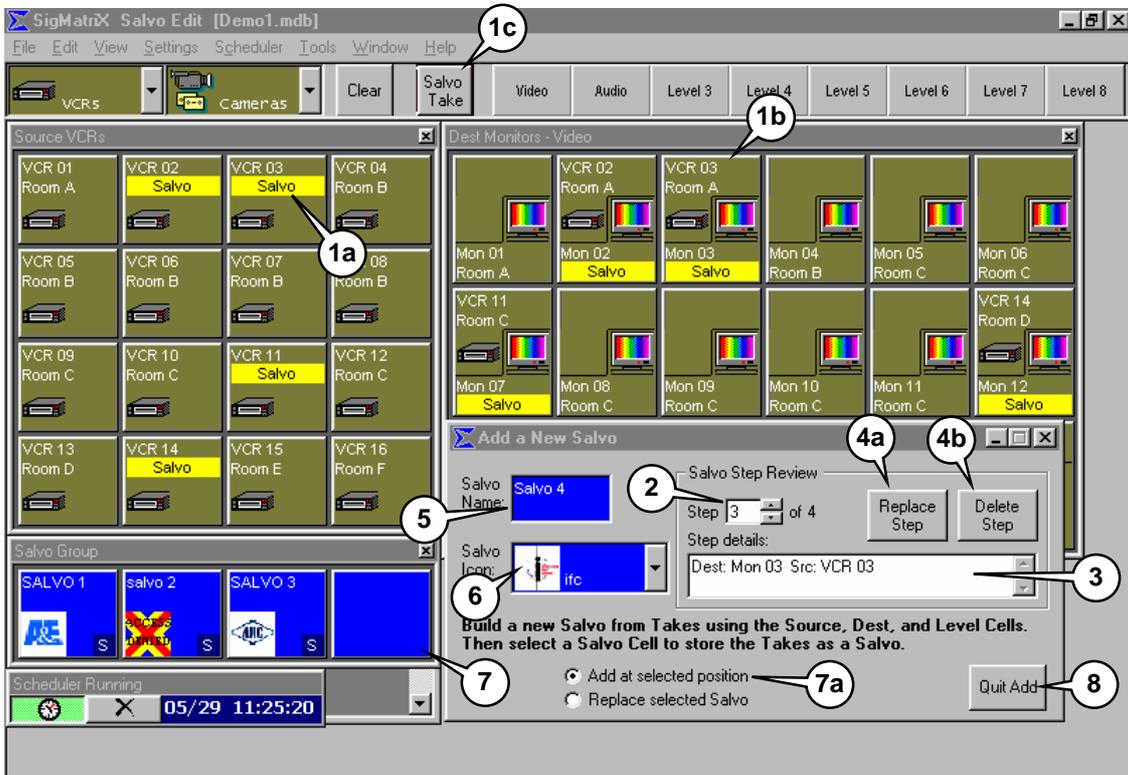
Adding A New Salvo



To add a new Salvo, select Edit: Add new Salvos from the Main Menu. The figure above shows the **SigMatriX** display after this has been done. Note the following about the display:

1. **Title bar** - labeled "**SigMatriX** Salvo Edit".
2. **Take button** – caption changes to "Salvo Take".
3. **Destination Cells** - The upper parts of all destination cells are empty in preparation for displaying the Salvo's take steps.
4. **Salvo Group** - window appears (if not already displayed).
5. **Add a New Salvo window** - displayed to allow the user to supply a name and icon for the Salvo and also keep track of the **Salvo steps** (takes that make up the Salvo) as they are added.

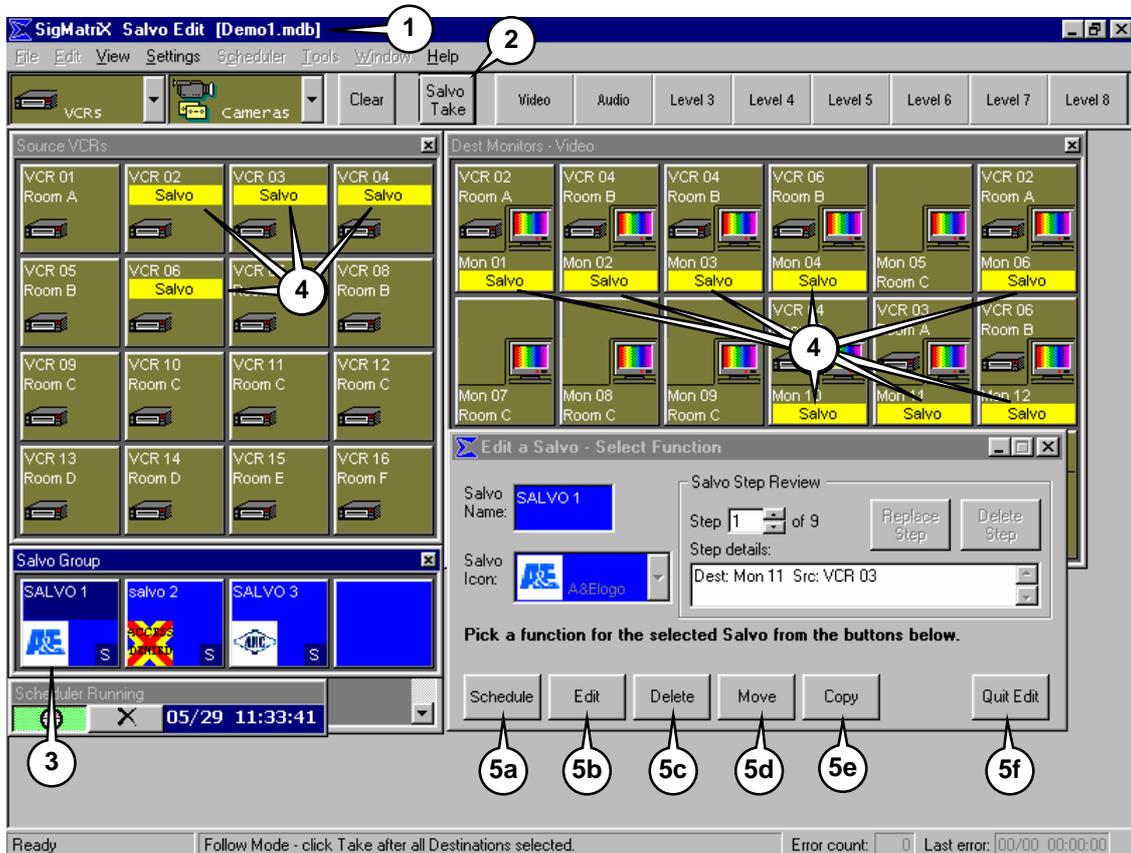
Adding Steps to a New Salvo



To add a Salvo, follow these steps.

1. Create one or more **Salvo steps** by doing takes. Select a source (**1a**), then destination(s) (**1b**), and then click the Salvo Take button (**1c**).
2. After adding one or more **Salvo steps**, they can be reviewed by selecting a step number here.
3. The selected step's details can be seen here.
4. The selected step can be replaced (**4a**) or deleted (**4b**) by using these buttons.
5. The name for the new Salvo is entered here. Two lines of text are permitted.
6. An optional icon is selected here.
7. The final step is to add the new Salvo to the **Salvo Groups** window. Click on the desired cell position in this window. Depending on the option button selected (**7a**) the Salvo will either be *inserted* at that position (moving any existing Salvos aside to make room) or will *replace* the Salvo at that position.
8. Click here to cancel the Salvo add operation.

Editing a Salvo



To edit a Salvo, select **Edit: Salvo** from the main menu. Next, select a Salvo to edit by clicking on the desired Salvo's cell in the **Salvo Group** window. The display will be similar to that shown above.

1. **Title bar** – labeled “**SigMatriX Salvo Edit**”.
2. **Take button** - caption changes to “**Salvo Take**”.
3. The selected Salvo's cell starts blinking.
4. **Salvo's steps** - highlighted in the appropriate source and destination group window cells (if the cells are visible).
5. Pick the edit function to perform by clicking on one of the buttons at the bottom of this window.
 - a. **Schedule** – To schedule this Salvo for execution. The **Event Scheduler** window is displayed.
 - b. **Edit** – Add or delete steps, change the name or icon.
 - c. **Delete** – to delete the Salvo.
 - d. **Move**– to move the Salvo to a new cell location in the Salvo Group.
 - e. **Copy** – to copy the Salvo to a new cell location in the Salvo Group.
 - f. **Quit Edit** – to cancel the edit operation.

Resident Salvo Downloading

A Resident Salvo is a special type of simultaneous multiple switch operation. Resident Salvos are all executed as one, not a series of sequential events. Before executing Resident Salvos, they must first be transferred to the router so they can be executed in this manner. This is done through the Download Control Panel.



Download Control

1. **Salvo Download Panel** - The Download Control Panel is displayed at the top of the main screen underneath the standard tool bar. This function is accessed via the View:Download control menu selection from the main menu bar.
2. **System status** - The System status is used to monitor the progress of the download and to display any error messages.

3. **Download type** – If system is configured as a numeric router, only “*All Resident Salvos*” is available. If system is configured as an alphanumeric router, there will be four options –

- Changed Resident Salvos and Tables
- All Resident Salvos and Tables
- All Resident Salvos
- All Tables

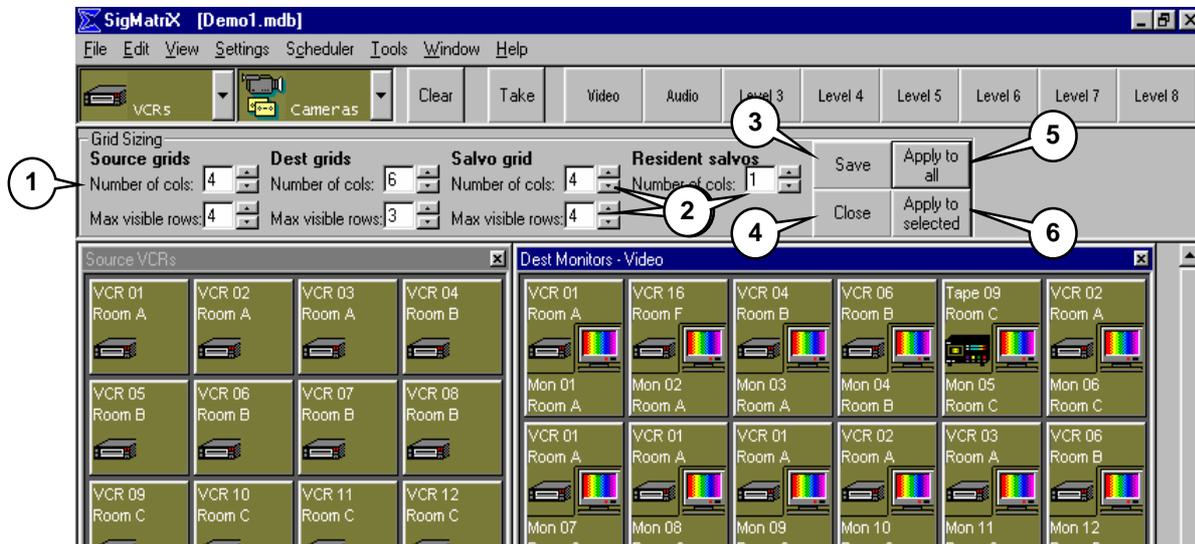
“Tables” in these options, refers to Source and Destination Group information. If the router system includes alphanumeric control panels, the data in these tables needs to be downloaded to the router for proper operation.

4. **Start data download** - Click to start the transfer of the saved Resident Salvo data to the router. This will cause the Cancel button to become active and the message in the system status to change to *Sending load data to the SCI*. A progress indicator will also appear beneath the “*Type*” drop-down box. If the download is successful the System status message returns to “*Ready for Operation*” and the number of records sent and any failures in transmission are recorded. This information is also recorded in the Status Bar and the activity log.

5. **Close Download Control toolbar** – Pressing this button removes the Download Information panel from the main screen.

Display Options and Operational Settings

Grid Sizing Control

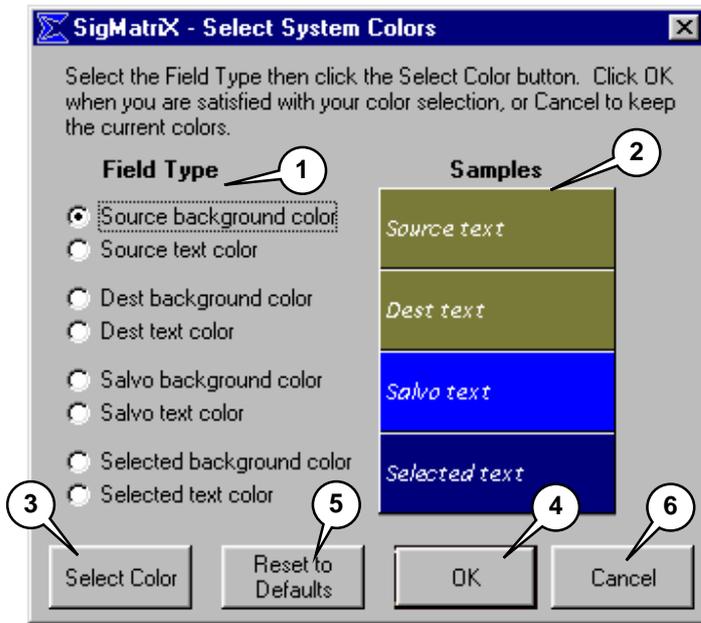


The **SigMatrix** user interface has been optimized for display on a monitor with at least SVGA resolution. Because there are many other possibilities, controls have been added to the program to modify the display of the various windows. In addition to the standard Windows® navigational aids, controls for number of rows and columns in each of the Source, Destination Salvo and Resident Salvo windows have been included.

- 1. Grid sizing Panel** - To access the Grid sizing panel select the View:Grid formatting control menu selection from the main menu bar.
- 2. Grid sizing controls** – Enter the desired numbers into each box by using the incrementing arrows to set the number of cells displayed in each row and column in the Source, Destination and Salvo windows.
- 3. Save** - After the desired number of rows and columns are selected for each of the windows, click the *Save* button to record the changes to the registry. Any new windows opened after saving the new settings will use the new row/column information. To apply the new settings to windows already open, first close it and then reopen it.
- 4. Close** - click on the *Close* button to remove the *Grid Sizing* panel from the display.
- 5. Apply to all** – When selected, updates the current screen display using the new settings entered in the boxes, as described above, for *all windows on the screen*.

6. **Apply to selected** - When selected, updates the current screen display using the new settings entered in the boxes, as described above, for *only the selected window on the screen*.

System Colors



1. **Field Type** - Under the “*Field Type*” header there are eight choices of text and backgrounds that the user can change.
2. **Samples** - To the right of each group under the “*Samples*” header the particular color combinations are indicated for review.
3. **Select Color** - To change any color select the appropriate item under field type and then click on the “*Select Color*”. This opens the color selection box.
4. **OK** - Make the desired color selection and then press “*OK*”.
5. **Reset to defaults** – Select to change all colors back to the default color scheme.
6. **Cancel** – Select to exit the color selection menu without making any further changes.

Change Level Names

In this box, the names used to identify each level of the routing system can be identified with both full and abbreviated names for display and log purposes.

SigMatrX - Change Level Names

You can change the name used to describe any of the system levels below. The "Short Name" will be used when there is limited display space available.

The number of levels actually available for use depends on the specific Sigma router configuration.

| Level | Name | Short Name |
|-------|--------------------------------------|----------------------------------|
| 1 | <input type="text" value="Video"/> | <input type="text" value="Vid"/> |
| 2 | <input type="text" value="Audio"/> | <input type="text" value="Aud"/> |
| 3 | <input type="text" value="Level 3"/> | <input type="text" value="L3"/> |
| 4 | <input type="text" value="Level 4"/> | <input type="text" value="L4"/> |
| 5 | <input type="text" value="Level 5"/> | <input type="text" value="L5"/> |
| 6 | <input type="text" value="Level 6"/> | <input type="text" value="L6"/> |
| 7 | <input type="text" value="Level 7"/> | <input type="text" value="L7"/> |
| 8 | <input type="text" value="Level 8"/> | <input type="text" value="L8"/> |

Change Password

In this window, the current password may be changed. All passwords must be at least four (4) alphanumeric characters. **SigMatrix** is case sensitive for password characters. If the password is written down for future reference, be certain it is recorded exactly as entered.



The image shows a dialog box titled "SigMatrix Change Password". The title bar is dark blue with white text. The main area has a light gray background. At the top, it says "To change the password:" followed by a numbered list of four steps: 1. Enter the current password in the upper field. 2. Enter the new password in the middle field. 3. Enter the new password again in the lower field. 4. Click the Save button. Below the instructions are three text input fields. The first is labeled "Current Password:", the second "New Password:", and the third "Reenter New Password:". At the bottom, there are three buttons: "Save", "Reset", and "Exit".

SigMatrix Change Password

To change the password:

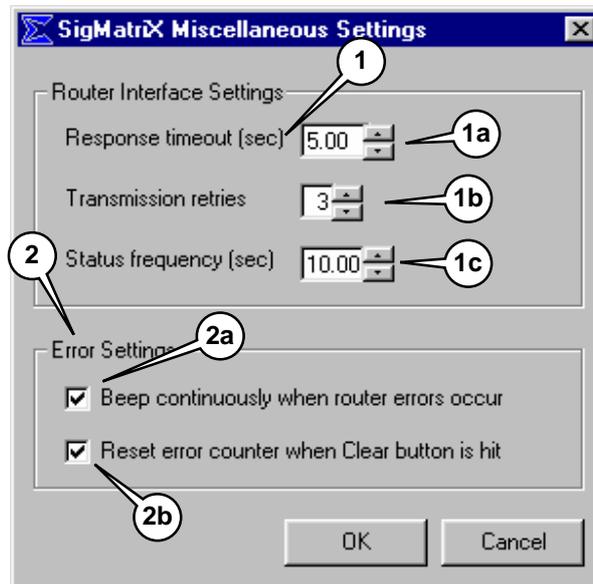
1. Enter the current password in the upper field.
2. Enter the new password in the middle field.
3. Enter the new password again in the lower field.
4. Click the Save button.

Current Password:

New Password:

Reenter New Password:

Miscellaneous Settings



There are two classifications of parameters that can be set from this window - Router Interface Settings and Error Settings. The Router Interface Settings determine the frequency and duration of the attempts to connect to the SCI in the router while the Error Settings determines how SigMatriX responds to an error condition.

1. **Router Interface Settings** - There are three parameters to be configured- *Response timeout*, *Transmission retries* and *Status frequency*.
 - a. **Response timeout** - how long **SigMatriX** waits for a reply to commands it has sent to the router before assuming no response is coming back. At the expiration of the configured timeout, SigMatriX either resends the command or cancels it depending on how many times it has been resent and the configured number of transmission retries.
 - b. **Transmission retries** - the number of times **SigMatriX** automatically resends a command when it receives an unexpected response or timeout before it stops sending and generates an error message.
 - c. **Status frequency** - how often **SigMatriX** sends a periodic status request to the router. The status request is used to update the **SigMatriX** display with the current cross-point information. A value of 0.00 seconds means that no periodic status request is ever sent. A value of 10.00 seconds will be adequate for most applications. Each

Take operation updates the status information and reinitializes the counter used to determine when a periodic status request is to be sent.

2. **Error Settings** – there are two items relating to error reporting that are able to be configured in **SigMatrix**.
 - a. **Beep on error** – When checked, causes **SigMatrix** to emit a continuous beep upon an error condition. If not checked **SigMatrix** will beep one time when the error occurs.
 - b. **Reset on Clear** – When checked, causes the error counter to be reset when the Clear button is hit.

SECTION IV - EVENT SCHEDULER

Overview

Events can be scheduled for future execution by using this utility. The types of events that can be scheduled are **Resident Salvos** and **Salvos**.

Resident Salvo - a combination of source/destination assignments stored under a single button function. Resident Salvos are stored within the **SigMatrix** database but *must be* downloaded to the router for simultaneous execution via a Take operation or a scheduled event.

Salvo - a combination of source/destination assignments stored under a single button function. Salvos are stored within the **SigMatrix** database and are sent sequentially to the router only at the time of execution via a Take operation or a scheduled event.

Note that the number of Resident Salvos available is dependent on the Sigma router type. Some router types **do not** support Resident Salvos. However, since a Salvo is just a collection of takes, **Salvos** can be used with **any** Sigma router.

To schedule an event, select **Schedule: Schedule Events** from the main menu. See **Scheduling an Event** (p.54) for details. A Salvo may also be scheduled by selecting the *Schedule* button while editing the Salvo. See **Salvos** (p.40) for further information.

After an event is scheduled, it will be automatically executed at the scheduled time, provided that the scheduler is active. The scheduler is automatically activated when **SigMatrix** is started, and remains active unless the user deactivates it by one of the following actions:

1. By un-checking the *Scheduler Active* selection under the Scheduler menu selection. This selection is a toggle – click it to alternately activate and deactivate the Scheduler.
2. By clicking the *Scheduler* button on the Automation Control bar.
3. When performing certain database editing functions. In these cases the user is informed that the scheduler will be automatically deactivated. It will be re-activated when the function is completed. These functions include the **File: Open Database**, **File: Edit Database** and **File: Edit Resident Salvos**.
4. **SigMatrix** is shut down (exited).

The current status of the Scheduler is shown in the Automation Control box's title.

Any event scheduled to execute while the Scheduler is deactivated will be executed within a few seconds after the scheduler is re-activated.

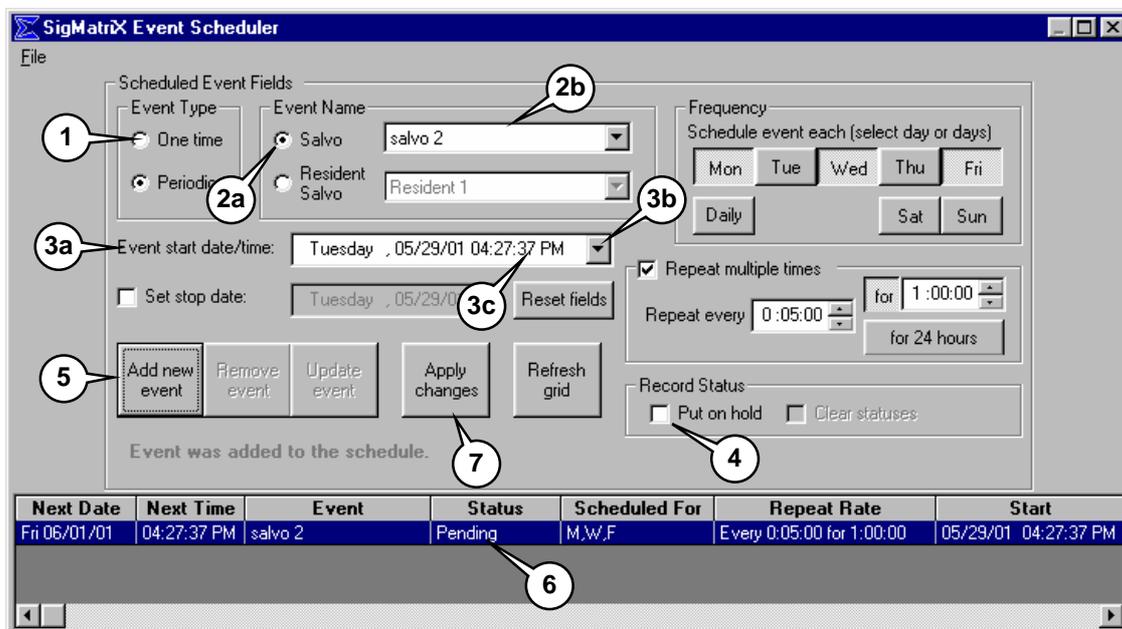
Note that the schedule is ***contained in the database***. If you open a different database (via the ***File: Open Database*** selection), the schedule in the newly opened database will be used to schedule events for execution and the schedule in the closed database will no longer be used.

Scheduling an Event

An event may be scheduled as either a **One-time** event or a **Periodic** event.

- One-time events have only a start date and time and are complete after a single execution.
- Periodic events occur repeatedly every week. They can have an optional stop date and time. The event will be executed until the stop date and time is reached, it is deleted from the schedule or it is put on hold.

Scheduling a **One-time** Event



The above figure shows the **Event Scheduler** while adding a one-time event.

1. The **One time** option button is selected.
2. Select an event type option button. Here, **Salvo** was selected (2a). Next, pick from among the available events of that type (2b).
3. Select a start date and time (3a). This must not be less than the current date and time (this is the default time already in this box). The date may be selected by using a drop-down calendar (click the arrow button (3b)).

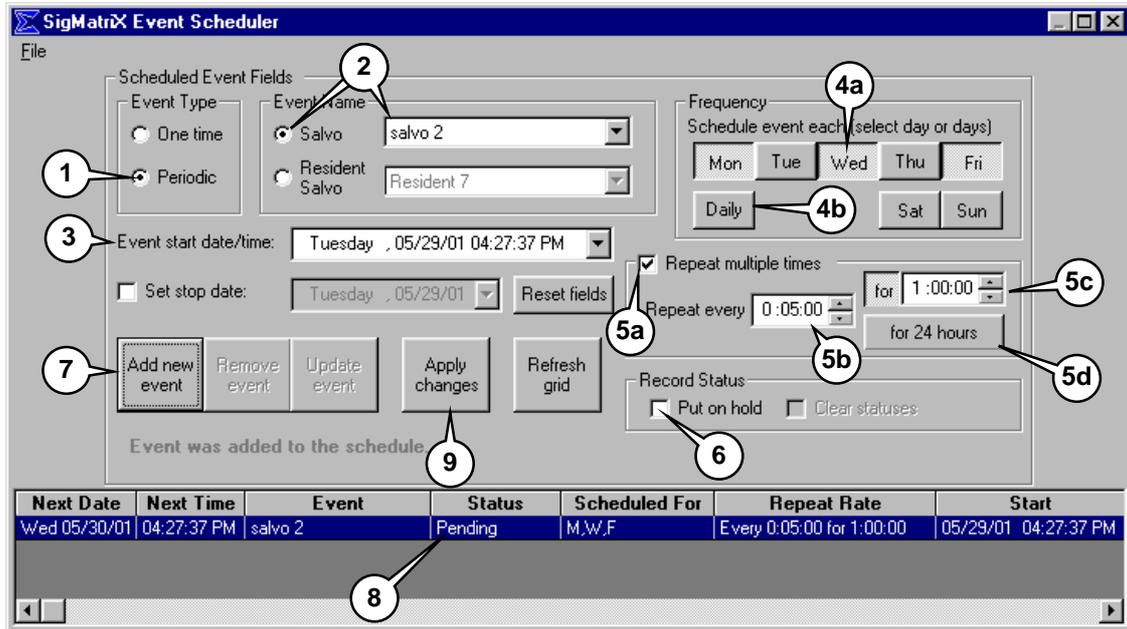
All date and time sub-fields can be individually edited by clicking on them then using the keyboard arrow keys to increment or decrement the data value. For example, **(3c)** points to the seconds sub-field.

The date fields automatically update to keep valid data in the whole field. For example, when you change the month, the day of the week automatically changes to the correct day for that date in the new month.

4. The event may optionally be put on hold by clicking here. While on hold the event will not be executed.
5. Click this button to add the event to the schedule.
6. Once added, the event will appear on the schedule grid located at the bottom of the Event Scheduler window with its status listed as *"Pending"*. The pending status is to prevent events scheduled for the current time that are accidentally added to the Scheduler, from being executed immediately upon selection of the Add new Event button.
7. To change the event's status from Pending to Scheduled, select the Apply Changes button.

NOTE: The status of all pending events will be automatically changed to Scheduled when the Event Scheduler session is terminated.

Scheduling a *Periodic* Event



The above figure shows the **Event Scheduler** when adding a periodic event.

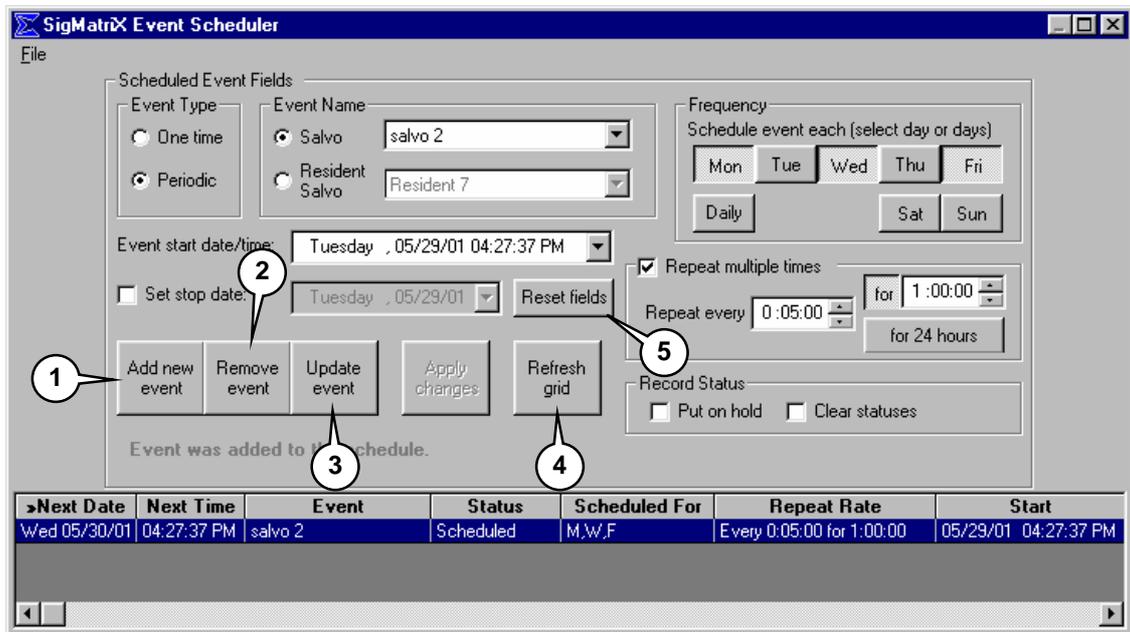
1. The **Periodic** option button is selected.
2. Select an event type and name. The process is the same as for a one-time event.
3. Select a start date and time. The process is the same as for a one-time event.
4. In the Frequency section of the upper window, select the days of the week to execute the event. At least one day must be selected by clicking the days button (**4a**). All seven days may be quickly selected by clicking the **Daily** button (**4b**). In the example shown above, the event will execute each Monday, Wednesday and Friday.
5. The event can optionally be repeated multiple times when it executes. Check this box (**5a**), then set the **Repeat every** (**5b**) and **for** (**5c**) times. These times are specified in HH:MM:SS format. In this example the event

will execute at 4:27:37 PM (according to the **Event start date/time**). It will then execute every five minutes for one hour (until 5:27:37 PM). It will do this each scheduled day. If this box is **not** checked, the event will execute once at 4:27:37 PM on each scheduled day. To have an event periodically repeated for an entire day, select the *“for 24 hours button” (5d)*.

6. The event may optionally be put on hold by clicking here. While on hold the event will not be executed.
7. Click this button to add the event to the schedule. In the example, this has already been done.
8. Once added, the event will appear on the schedule grid located at the bottom of the Event Scheduler window with its status listed as *“Pending”*. The pending status is to prevent events scheduled for the current time that are unintentionally added to the Scheduler, from being executed immediately upon selection of the *Add new Event* button.
9. To change the event’s status from Pending to Scheduled, select the *Apply Changes* button. **SigMatrix** only monitors events with Scheduled status for execution at the programmed time.

NOTE: The status of all pending events will be automatically changed to Scheduled when the Event Scheduler session is terminated.

Modifying Scheduled Events



The data contained in a Scheduled Event appearing in the Schedule grid at the bottom of the **SigMatrix** Event Scheduler window may be changed (and/or copied to another line) after it has been scheduled. To change the event parameters, highlight the event to be changed in the schedule grid. All event parameters display in the data entry boxes on the upper half of the window.

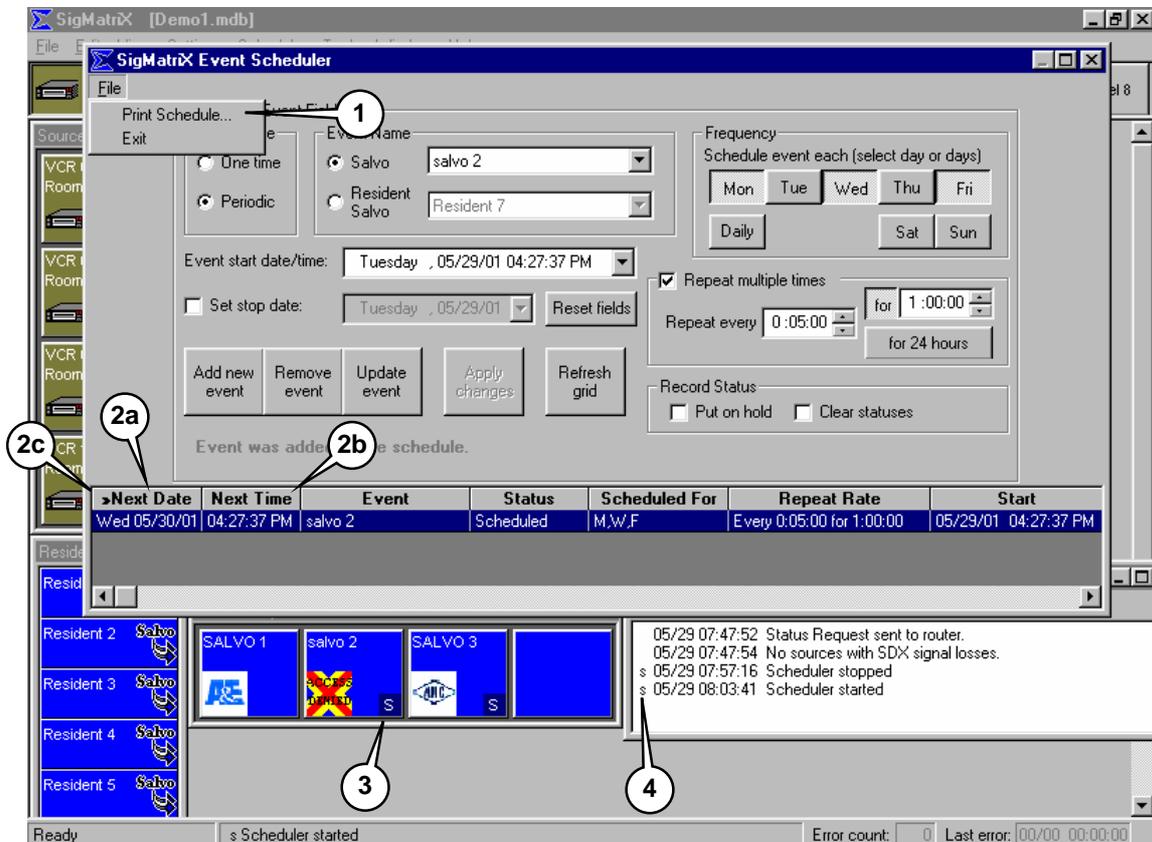
After changing the desired data in the entry boxes, the following actions may be used to change the data in the schedule grid.

1. **Add new event** – adds a new event using the current data in the **Scheduled Event Fields**.

NOTE: You cannot add a second event with the same event name, date, and time as an event already on the schedule.

2. **Remove event** – Delete the selected event from the schedule.
3. **Update event** – Update the selected event with the current entries in the data entry boxes.
4. **Refresh grid** – Refresh the schedule grid with any new data (i.e. if an event has executed since the Event Scheduler was first displayed, this will update the grid's Next Date/Time fields).
5. **Reset fields** – Resets the **Scheduled Event Fields** to their default values.

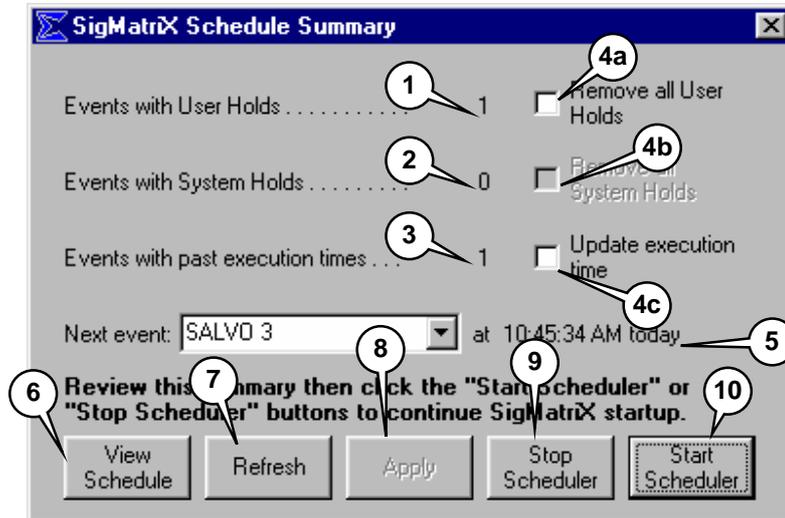
Other Scheduler Features



1. **Printing** – The currently loaded schedule of events can be printed by selecting File: Print Schedule from the menu bar at the top of the window.
2. **Grid Display Sorting** - The **Next Date (2a)** and **Next Time (2b)** grid columns show the next time the event is scheduled to be executed. You can click on any grid column to sort the grid rows by that column. The “>>” indicator shows on which column the grid is sorted (**2c**). Click on the column a second time to sort it in descending order. The indicator changes to “<<” in this case.
3. **Scheduled Status Indicator** - If a Salvo has been scheduled, it will have the “S” indicator in the lower right hand corner of its cell in the Salvo Group window displayed in the main **SigMatriX** window.
4. **Activity Log Messages** - Any Activity Log messages related to scheduling will have an “s” prefix. If a scheduled event has an error, the prefix will be “*s”.

Schedule Summary

Schedule Summary - At Start-up



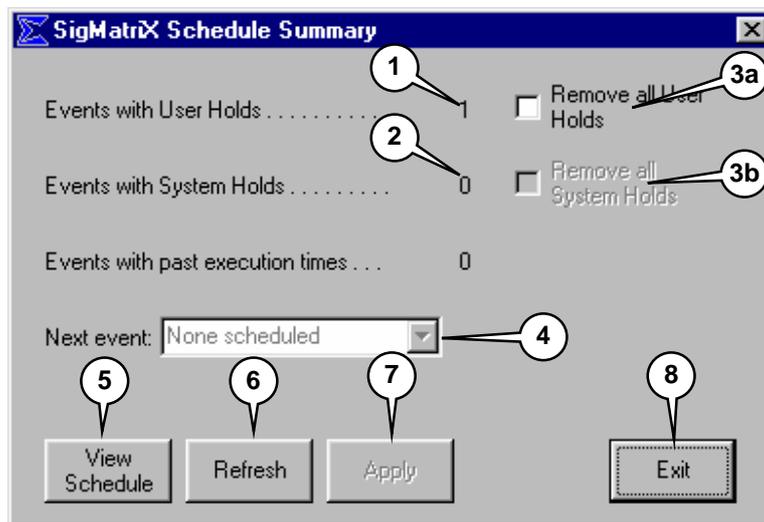
Upon initial entry into **SigMatrIX**, the Scheduler will be automatically activated. If the Scheduler finds events that should have been executed while SigmatrIX was not running, this window will be displayed to give the operator the opportunity to deal with overdue events or events on Hold, prior to Scheduler activation.

The number of events in the schedule whose status is Hold or were not executed because Scheduler was inactive when their execution time arrived will be displayed in the boxes at the top of the window. SigMatrIX must be given instruction how to handle these events when the Scheduler is activated or *they will be executed at the earliest possible time*.

1. **Events with User Holds** - This type of hold is applied to the event by the user in the *Event Scheduler* window. These events will not execute until the holds are removed. Holds can also be individually removed by editing the event in the *Event Scheduler* window (see 6. below).
2. **Events with System Holds** - These events will not execute until the holds are removed. This type of hold is put on an event if the system detects some problem with it. Typically, **SigMatrIX** applies a system hold when the event is executed but does not complete successfully. A record of the problem will be found by looking in the **Activity Log**. The hold can also be individually removed by editing the event in the **Event Scheduler** window (see 6. below).

3. **Events with past execution times** - the number of such events that occurred while Scheduler was inactive *that will be executed upon Scheduler activation*.
4. Collective disposition of the above events can be accomplished in the following ways –
 - a. **Remove all User Holds** – By checking this box, then selecting the *Apply* button (**8**), it will remove *all* User Holds within the program (change status to Scheduled).
 - b. **Remove all System Holds** - By checking this box, then selecting the *Apply* button (**8**), it will remove *all* System Holds within the program
 - c. **Update execution time** – By checking this box **SigMatrix** will calculate the next execution times for all periodic events with past execution times in the schedule. The status of all one-time events will be changed to Done and the updated times will be entered into the schedule when the *Apply* button (**8**) is selected. When Scheduler is activated it will not execute these events.
5. **Next event** - Shows the name, date, and time of the next event scheduled to execute.
6. **View Schedule** – Used to edit individual events. This will start the Event Scheduler Editor **without activating the Scheduler itself**. Individual items may then be modified as previously described and the Scheduler activated at a later time.
7. **Refresh** – Used to update the statistics shown in this window.
8. **Apply** - Must be selected to complete the changes indicated in the check boxes described above. If *Apply* is not selected, these check boxes will be cleared and no actions taken when exiting from Summary.
9. **Stop Scheduler** – Used to exit the Summary window and allow **SigMatrix** to complete the initialization process without activating the Scheduler.
10. **Start Scheduler** - Used to exit the Summary window and allow Scheduler to start and execute any overdue events that have not been cleared.

Schedule Summary Window – Opened from within *SigMatrix*



This shows the Schedule Summary window displayed when Schedule: Summary is selected from the Main menu. The present case is different than when the Summary automatically appears at start-up. In this case, the Scheduler is not going to be automatically activated as a part of Sigmatrix start-up procedures. The user has complete control over the activation of the Scheduler.

Although possible, it is unlikely that scheduled events will have passed while the database was open and the Scheduler deactivated. If such an event has occurred it can be handled as described in **Schedule Summary - At Start-up** (p.61).

The number of events in the schedule whose status is Hold (and/or whose execution time has passed while the Scheduler was inactive) will be displayed in the boxes at the top of the window. These events can be disposed of collectively or they can individually be edited within the Scheduler program.

1. **Events with User holds** - This type of hold is applied to the event by the user in the *Event Scheduler* window. These events will not execute until the holds are removed. Holds can also be individually removed by editing the event in the *Event Scheduler* window (see below).
2. **Events with System holds** - These events will not execute until the holds are removed. This type of hold is put on an event if the system detects some problem with it. Typically, **SigMatrix** applies a system hold when the event is executed but does not complete successfully. A record of the problem will be found by looking in the **Activity Log**. The hold can be individually removed by editing the event in the **Event Scheduler** window (see 5. below).

3. Collective disposition of these events can be accomplished in the following ways –
 - a. **Remove all User Holds** – By checking this box, then selecting the *Apply* button (7), it will remove *all* User Holds within the program (change status to Scheduled).
 - b. **Remove all System Holds** - By checking this box, then selecting the *Apply* button (7), it will remove *all* System Holds within the program
4. **Next event** - shows the name, date, and time of the next event scheduled to execute.
5. **View Schedule** – Used to edit individual events. This will start the Event Scheduler Editor **without activating the Scheduler itself**. Individual items may then be modified as previously described and the Scheduler activated at a later time.
6. **Refresh** – Used to update the statistics shown in this window.
7. **Apply** - Used to complete the changes indicated in the check boxes described above. If not selected, these check boxes will be cleared and no actions taken when exiting from Summary.
8. **Exit** – Used to exit the Summary window.

APPENDIX - SUPPORT FOR OPTIONAL HARDWARE

Signal Loss Detection (SDX)

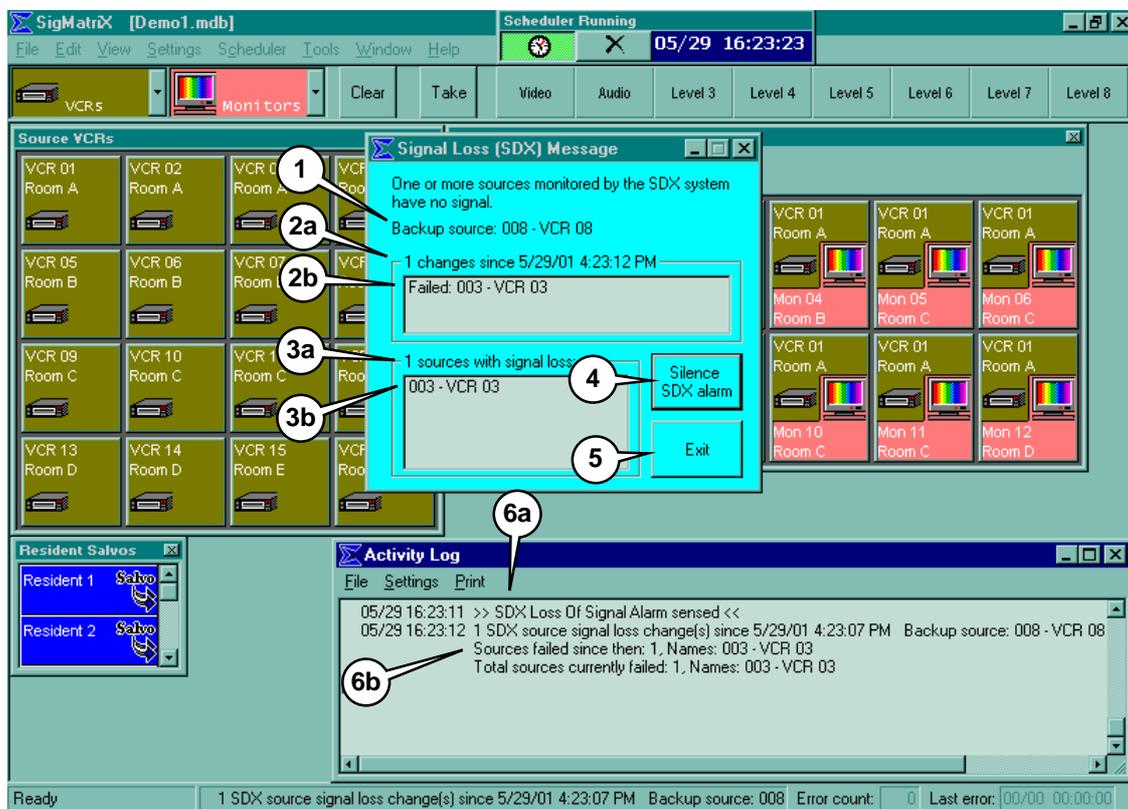
Overview

SigMatrix can interface with a Sigma Electronics SDX control panel to monitor and report on loss of source signals. To use this feature, a properly configured SDX control panel must be in the system.

Note that the SDX control panel can only be used in an ADX router system and **SigMatrix** must be configured to communicate with ADX/MRX numeric or alphanumeric routers. For more information see the Communications Settings section of this manual.

After setting up the SDX control panel, **SigMatrix** will alert the user to any changes in source signal loss by displaying a message window. See the **Source Signal Loss Status Change** section for details.

Source Signal Loss Status Change

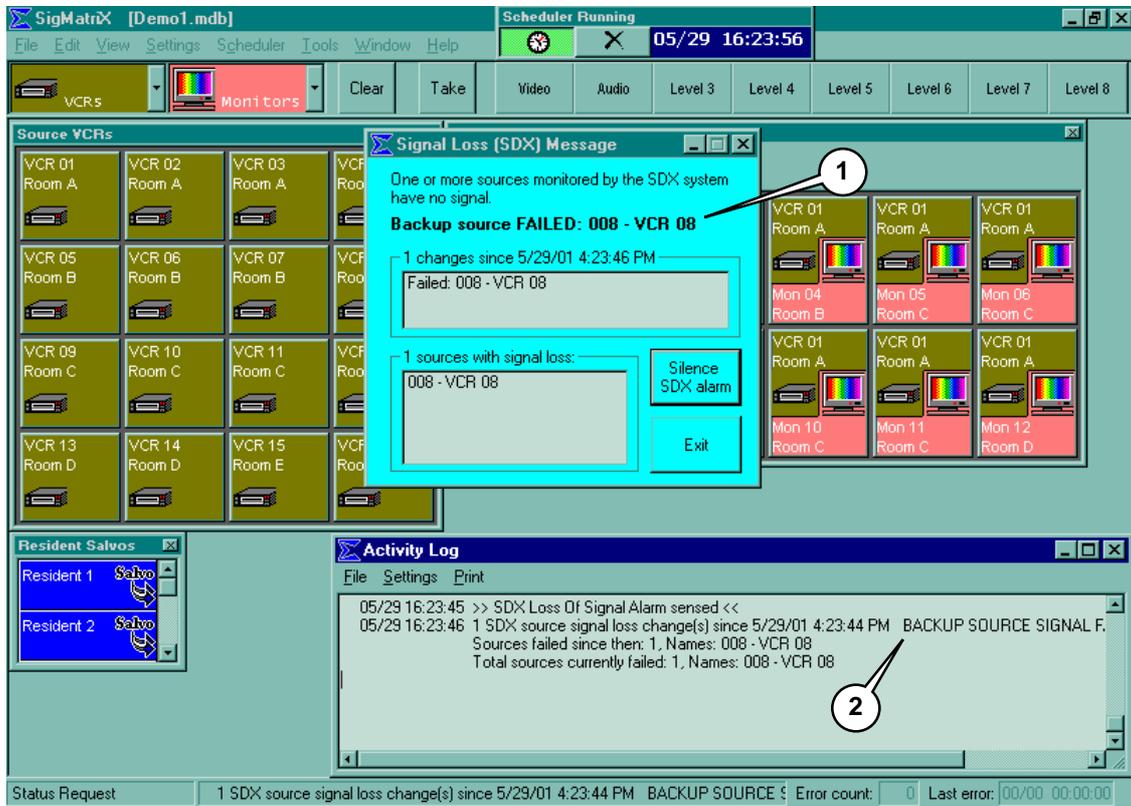


When there is a change in source signal loss status, a window similar to this appears. The window remains visible until all signals are restored or the user closes the window (by clicking either the **Exit** button **(5)** or the **X** in the top right-hand corner of the window).

This window does not need to be closed in order to continue using **SigMatrix**. However, if closed by the user, the window will reappear the next time changes in source signal loss status occur. Closing the window and other actions are accomplished as follows:

1. The backup source is displayed here. This is the source that the SDX control panel will use in place of any failed sources.
2. Any changes in signal loss status are tallied here. Details are shown in window **(2b)**. A change can either be that the source is now **failed** or **recovered**. A source's physical connection number is listed followed by its alphanumeric name (if assigned). In this example source "**VCR 03**", which has its physical connection at input 3, has failed.
3. The total number of sources that currently have a signal loss are shown in this window heading **(3a)**. The source names appear in the window **(3b)**.
4. **Silence SDX alarm** - Click this button to silence the SDX alarm. The SDX control panel trips the alarm when a new signal loss occurs.
5. **Close** - Click this button to close this window.
6. When an SDX alarm event occurs, a message is logged to the Activity Log **(6a)**. This type of event will occur anytime a source fails or is restored. A summary of changes and current signal loss status is also logged **(6b)**.

Backup Source Signal Failure



One source is designated (via settings at the SDX control panel) for use as a backup source. If **this** source fails, the PC's speaker beeps and a special alert is triggered.

1. The backup source detail line is made bold, blinks on and off, and the verbiage "**Backup Source FAILED**" is used.
2. "**BACKUP SOURCE SIGNAL FAILURE**" is added to the related Activity Log message.

The alert is removed after the backup source is restored. If the user closes the window, it will reappear when the next change in source signal loss status occurs.