



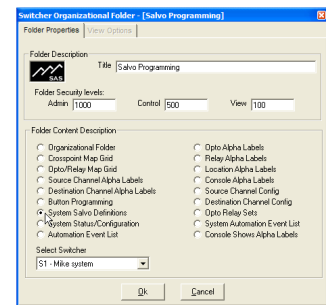
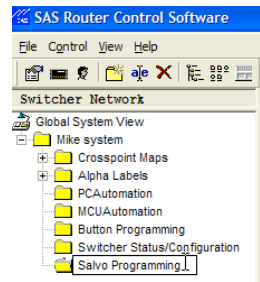
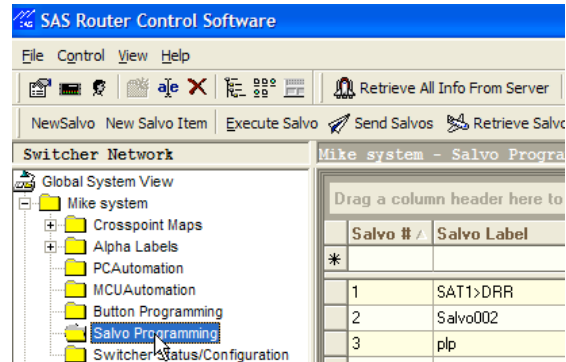
The Salvo Programming Folder

Salvos are lists of router command events (up to 128 events can be included in a single salvo) that can be triggered essentially simultaneously by SAS PC automation.

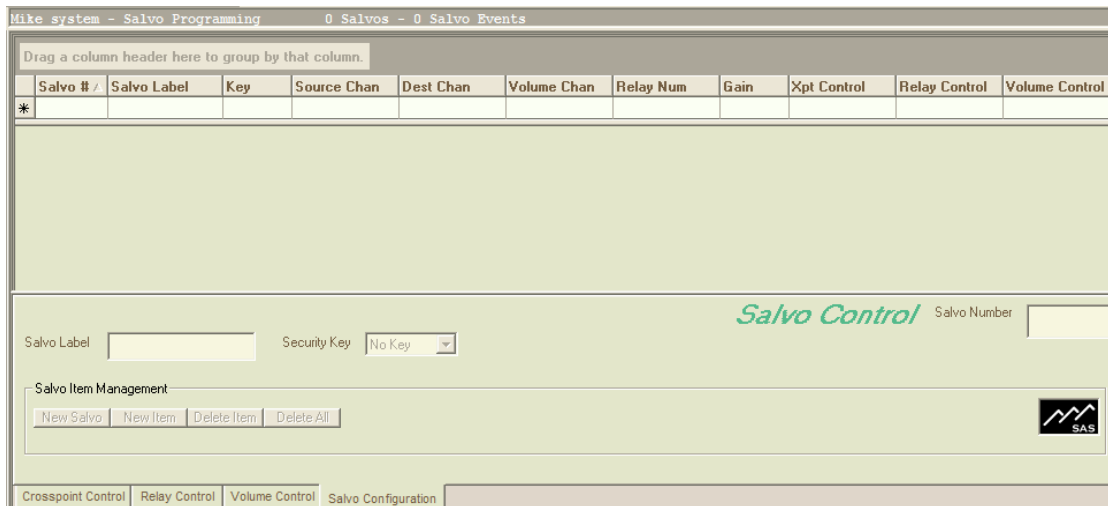
Salvos can be created or edited by opening up the Salvo Programming Folder in the folder list of the Router Control Software.

Usually the Salvo Programming folder is just above or below the Switcher Status/Configuration Folder.

If your Router control software does not have a Salvo Programming Folder, you can create one by right clicking your top-level system folder, select new folder, type in Salvo Programming for the name, then right-click the new folder and select Folder Properties. Check the “System Salvo Definitions” button, use the drop-down to select your Switcher (in a multi-frame switcher you’ll select whichever frame you want Salvos to execute from, typically Frame 1. Click OK and a Salvo Programming folder will be created.



Sample Salvo Programming Folder



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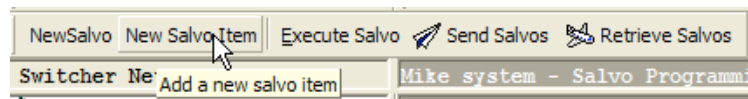
Using Salvos

At this time Salvos can be executed via PC Automation action, or directly from the Salvo Programming Folder.

One of the primary purposes for Salvos is to simplify automation programming by creating a list of events, stored on the MCU card, that can be executed by automation as one event. Typical uses include studio switching, satellite audio and cue switching, changing the states of many relays at once, and other tasks that need multiple and/or several different types of commands to execute from a common trigger.

The Router Commands available for use in Salvos are Crosspoint Take, Crosspoint Sum On, Crosspoint Sum Off, Opto/Relay Association, Direct Relay Control, and Input or Output Gain change.

Salvos can be triggered, created, and new items can be added to

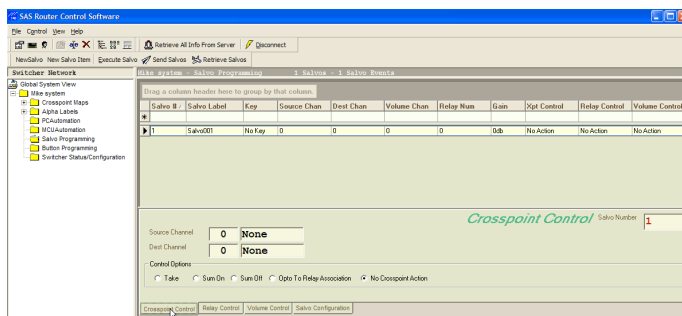


existing Salvos using buttons in the Salvo command bar. There are also controls for sending salvos to the router's MCU card and retrieving them from the router's MCU.

When you create a salvo, you give it a label. Salvo labels are limited to eight characters, so be creative. Next you choose the tab for the action you want – Crosspoint control (including relay/opto association), Relay Control, or Volume Control. The last tab, Salvo Configuration allows you to do all the things you can do in the salvo command bar, and adds buttons for deleting salvo items or entire salvos.

Click the New Salvo button in the salvo command bar to create a new salvo. Initially your new salvo will be named Salvo001 if it's the first one to be created, and will have one item (yet to be defined).

Crosspoint Items:



The Crosspoint Control Tab is where you can define the current Salvo Item's crosspoint control effects. Take, Sum On, Sum off, and Opto Relay Association items can be defined for your salvo on this tab. The number of the source and destination, or opto and relay can be entered on this tab. Crosspoint commands work just like the

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ones you're already familiar with: Take replaced any audio on the destination with the new source audio; sum on adds the new source audio to the existing audio routed to the destination, and sum off removes just the specified source from the destination.

Opto-Relay association make what amounts to a crosspoint between an opto input and a relay output such that relay state follows the opto's state.

Note that opto and relay names currently do not get looked up properly – instead, when you define an opto-relay association, the audio source and destination names for those numbers will show up instead – we're working to fix this UI bug; it's just a lookup, the opto and relay numbers that you specify will indeed be associated.

The Relay Control tab is where you can directly control relay states as part of a salvo.

Specify the correct relay by number or by using the drop-down relay list, then choose the action you want that relay to take – Latch, Release, Momentary (approx 250msec duration), or no relay action.

The Volume control tab allows you to change the input trim or output trim of one audio resource.

Source volume change allows you to adjust the level of an analog or digital input, and allows you to boost or attenuate the source level. Note that if your source level is greater than +24dBm, attenuating the source in this manner will not keep you out of distortion, as this function occurs after the first buffer stage of the router input.

Destination volume change allows you to attenuate the output level of any ANALOG destination in the system. This control should not be used on console controlled outputs: busses, headphone, cue, or monitor outputs with console level-controls, or mix-minus outputs.

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A single salvo item generally does one thing, but it CAN contain up to three different actions if you need crosspoint control, relay control, and volume control all in the same item. More commonly, a salvo will be created with multiple item entries, each performing a single task.

Salvo Example

Drag a column header here to group by that column.											
Salvo # /	Salvo Label	Key	Source Chan	Dest Chan	Volume Chan	Relay Num	Gain	Xpt Control	Relay Control	Volume Control	
*											
1	SAT1>DRR	No Key	1	11	0	0	0db	Opto/Relay	No Action	No Action	
1	SAT1>DRR	No Key	2	12	0	0	0db	Opto/Relay	No Action	No Action	
1	SAT1>DRR	No Key	3	13	0	0	0db	Opto/Relay	No Action	No Action	
1	SAT1>DRR	No Key	4	14	0	0	0db	Opto/Relay	No Action	No Action	
1	SAT1>DRR	No Key	423	229	0	0	0db	Take	No Action	No Action	
2	Null>DRR	No Key	17	11	0	0	0db	Opto/Relay	No Action	No Action	
2	Null>DRR	No Key	17	12	0	0	0db	Opto/Relay	No Action	No Action	
2	Null>DRR	No Key	17	13	0	0	0db	Opto/Relay	No Action	No Action	
2	Null>DRR	No Key	17	14	0	0	0db	Opto/Relay	No Action	No Action	
2	Null>DRR	No Key	129	229	0	0	0db	Take	No Action	No Action	

Crosspoint Control

Salvo Number: 1

Source Channel: 423 Sg1S1t1

Dest Channel: 229 DRR1>

Control Options:

Take
 Sum On
 Sum Off
 Opto To Relay Association
 No Crosspoint Action

Crosspoint Control
 Relay Control
 Volume Control
 Salvo Configuration

The first salvo shown in the above screen-shot has five items and is designed to switch a satellite audio source to a Digital Reel to Reel and to associate the satellite source’s four network closures (brought into the system on OPTOs) with system relays that connect to logic inputs on the DRR. The system OPTOs 1-4 (getting closures from the satellite receiver) are mapped to system Relays 11-14 (providing closures to the Digital Reel to Reel). The last item in the salvo crosspoints audio source 423 (the satellite receiver audio) to destination 229 (the DRR audio input).

The second salvo replaces the satellite receiver cues with a NULL opto (#17) feeding all four relays that connect to the DRR. At the same time, the audio source feeding the DRR is switched to be source 129, in this case the DSP loopback source of a program output for one of the consoles in the system.

Operationally, either manually or by PC automation, firing salvo one lets you record the audio and cues from a satellite show with your DRR, and salvo two switches the source audio and “turns off” the cues.



Summary Screen

The salvo screen allows you to click on any column header to sort by that value. Normally the salvo number or the salvo description is used as the sort key so you can quickly find and review or edit your salvos.

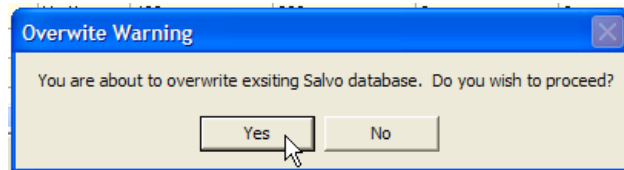
If your screen size does not let you see all of your salvo items at once, the scroll bar on the right will let you scroll up/down.

Salvo #	Salvo Label	Key	Source Chan	Dest Chan	Volume Chan	Relay Num	Gain	Xpt Control	Relay Control	Volume Control
1	SAT1>DRR	No Key	4	14	0	0	0db	Opto/Relay	No Action	No Action
1	SAT1>DRR	No Key	1	11	0	0	0db	Opto/Relay	No Action	No Action
1	SAT1>DRR	No Key	423	229	0	0	0db	Take	No Action	No Action
1	SAT1>DRR	No Key	3	13	0	0	0db	Opto/Relay	No Action	No Action
1	SAT1>DRR	No Key	2	12	0	0	0db	Opto/Relay	No Action	No Action
2	Null>DRR	No Key	17	13	0	0	0db	Opto/Relay	No Action	No Action
2	Null>DRR	No Key	129	229	0	0	0db	Take	No Action	No Action
2	Null>DRR	No Key	17	11	0	0	0db	Opto/Relay	No Action	No Action

Notice at the top of the Salvo Summary screen, there is a count of Salvos and Salvo Items.

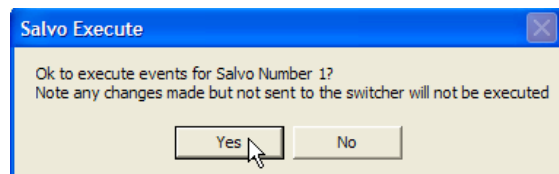
Sending Salvos

For a salvo to be run it must already reside on the MCU card in your router. The Send Salvos button in upper command bar of the Salvo Programming window pushes all of your defined salvos into the non-volatile memory of your connected MCU card. The Retrieve Salvos button should be used carefully – it will overwrite the PC software’s list of salvos with what ever is currently saved in your MCU. A warning pops up so you can say No if you accidentally hit the Retrieve button.



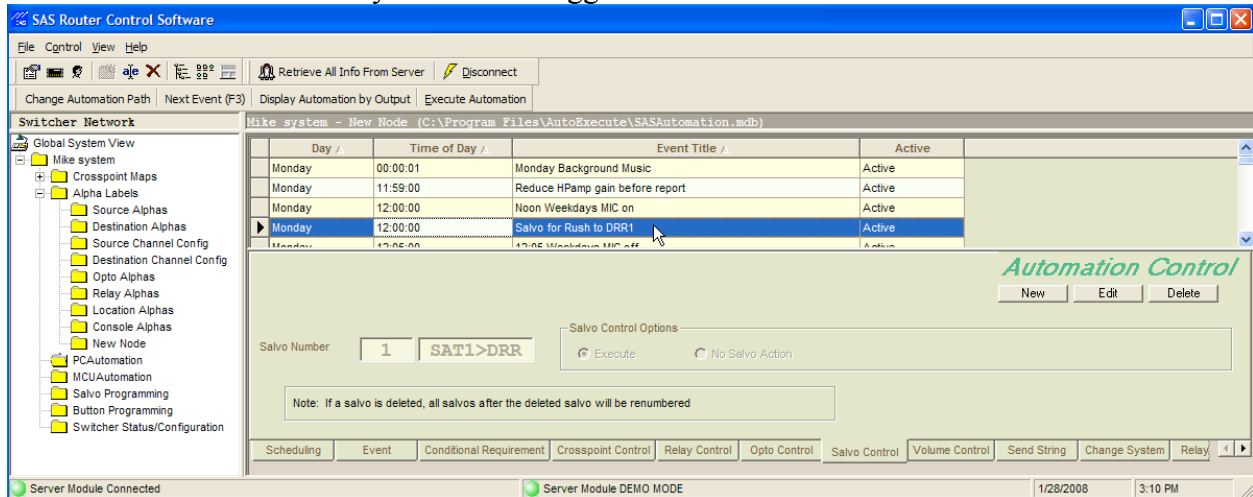
Executing Salvos

The Router Control Software allows you to manually execute a salvo by clicking on the execute Salvo button . When you click this button, a warning will pop up reminding you that only salvo items already sent to the MCU card will be executed.

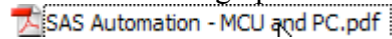




If you wish to have the SAS Automation engine run the salvo when certain conditions occur or at a specific time during the day or week, Open up your PC Automation folder and create an event that fires the salvo based on your desired trigger.



Details on setting up PC Automation can be found in the automation guide



[SAS Automation - MCU and PC.pdf](#), which is also included in our current Installation-Configuration Guide. The [Installation-Configuration Guide](#) (clickable link) is loaded with useful information on the SAS 32KD router and console systems.

If you have additional questions about this SAS feature, please email or call us. The email address for support is support *at* sasaudio.com. Our phone number is 818-840-6749, with live support staffing from 8A – 6P (California time) Monday through Friday.

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