



ADVANCED CONTROL SYSTEMS

FUNCTIONALITY DEEP-DIVE SERIES

Issue Three: Table Routing

INTRODUCTION

Every customer has their own workflows and challenges to address; users should be able to leverage the full capabilities of their systems. In this series of How-To Guides, we will help engineers understand how to configure systems with added-value functionality to help solve issues in existing and future projects. Customers will be able to use a control platform as a simple unified system to deliver professional output and make simple day-to-day modifications without the need for expensive support calls.

This How-To Guide showcases TSL's table routing capabilities.

What is a Table Router?

The table route is a simple mechanism by which a crosspoint made within a connected matrix can be used to trigger another crosspoint. This triggered crosspoint can be made within the same matrix or within another matrix.

Scenario

This guide provides step-by-step instructions for setting up a multiviewer's sources to follow the sources routed to a switcher. When a source is routed to a destination that feeds a source of the switcher, Tallyman will then use this change as a trigger to route the same source to a corresponding destination that feeds a source of the multiviewer. This will allow all the sources routed to a switcher to be displayed on the multiviewer.

BEFORE YOU START

This document assumes you have set up router control, as described in Step 1 of TSL Control Systems: Functionality Deep Dive: #1 Router Control.

EXAMPLE OF USER CASES

Protocol conversion of routing control between third party routers

A controller using SW-P-08 protocol, for example, might be required to control a matrix using Quartz protocol. In this case you can table route from an SW-P-08 Dummy router to a Quartz router within TallyMan. The reason you would use a table route as opposed to a copy route is that the size and mapping of controller and router frame may be different.

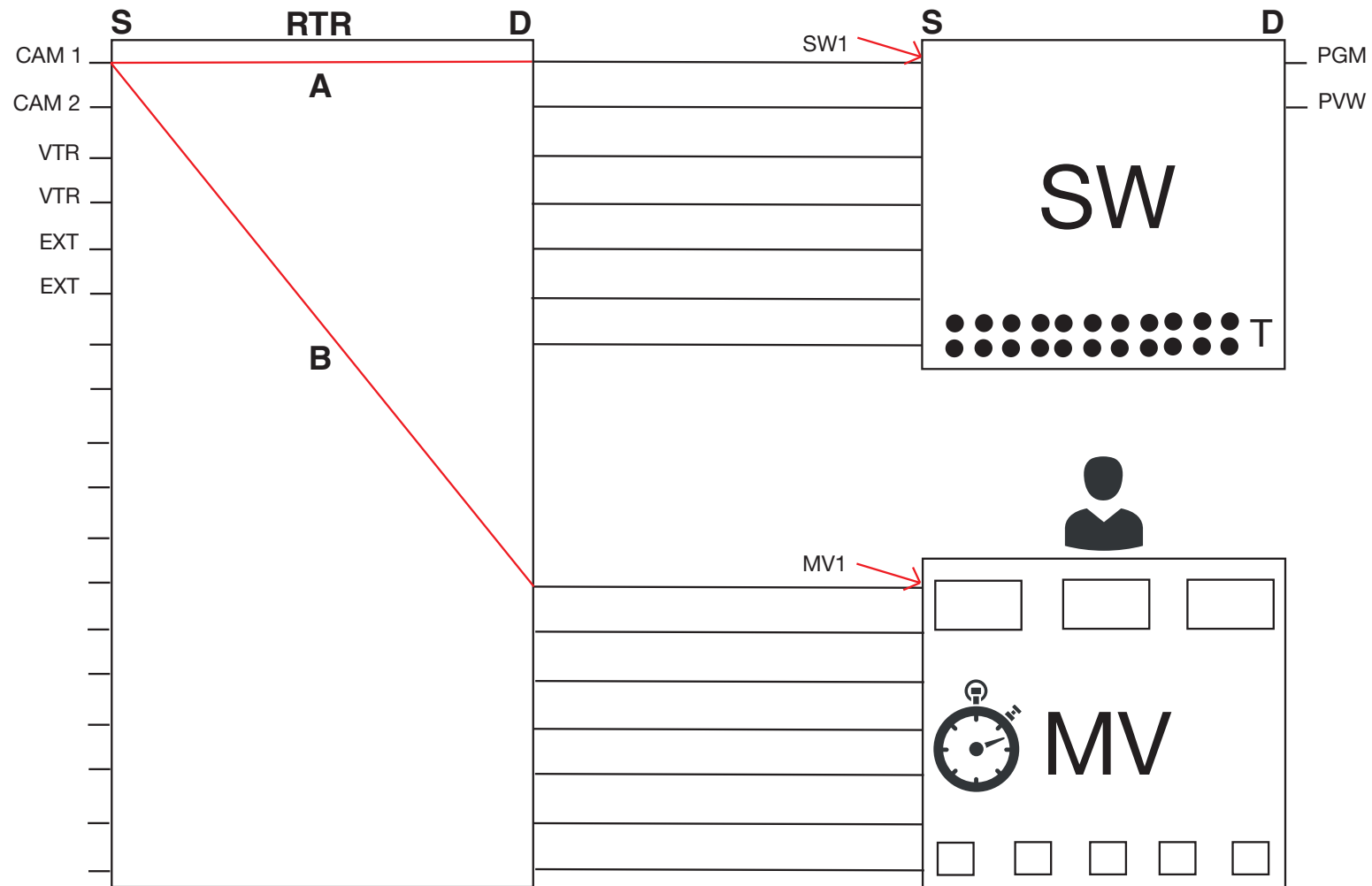
Multiviewer follow Switcher

Many studio systems require switcher inputs to be permanently displayed in multiviewer pips. Using table routes allows you to:

- Set the trigger crosspoints as crosspoints to switcher destinations.
- Set the action crosspoints as crosspoints to the multiviewer destinations.

This means you can configure the table route to take any source routed to a switcher input and route it to a multiviewer input.

In this example: Both source 1 of the switcher and multiviewer will always have the same source routed.
If the source changes on the switcher, then the the source of the multiviewer will also change automatically.



ADD & SET UP A ROUTER

Although we are using a new config in this example, the steps can also be used to add to an existing configuration.

In this example:

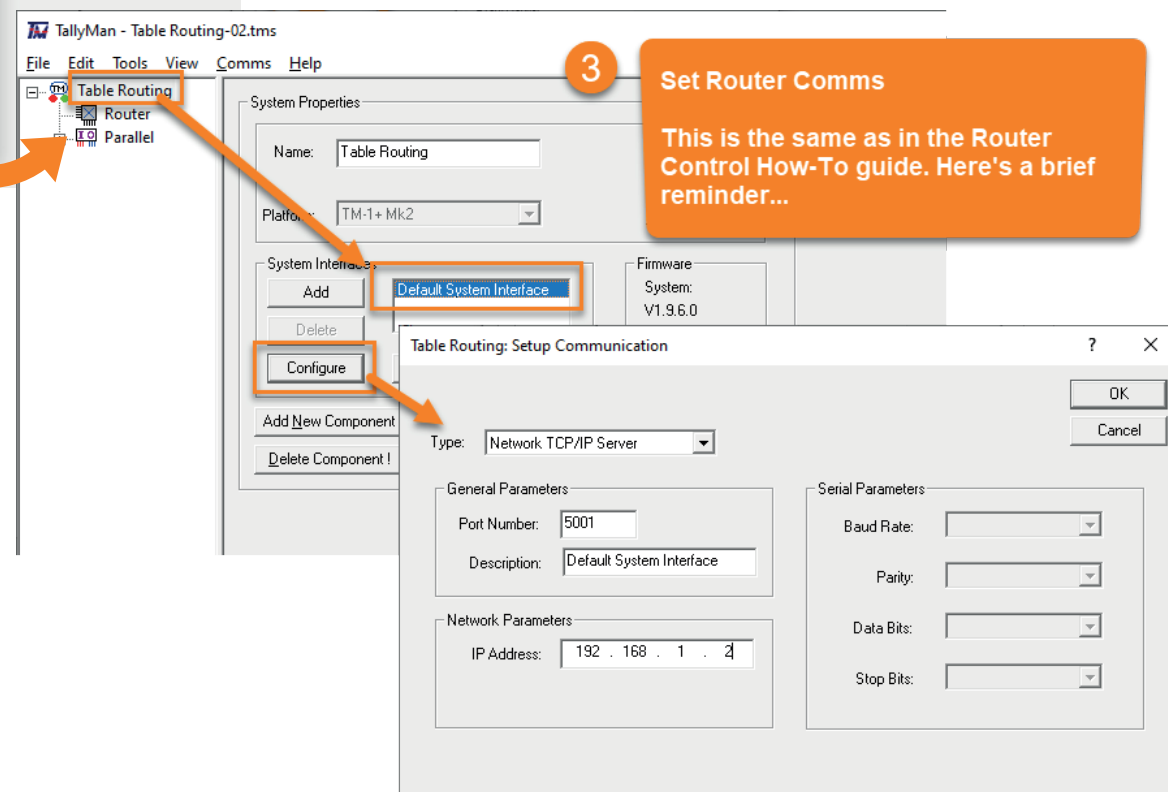
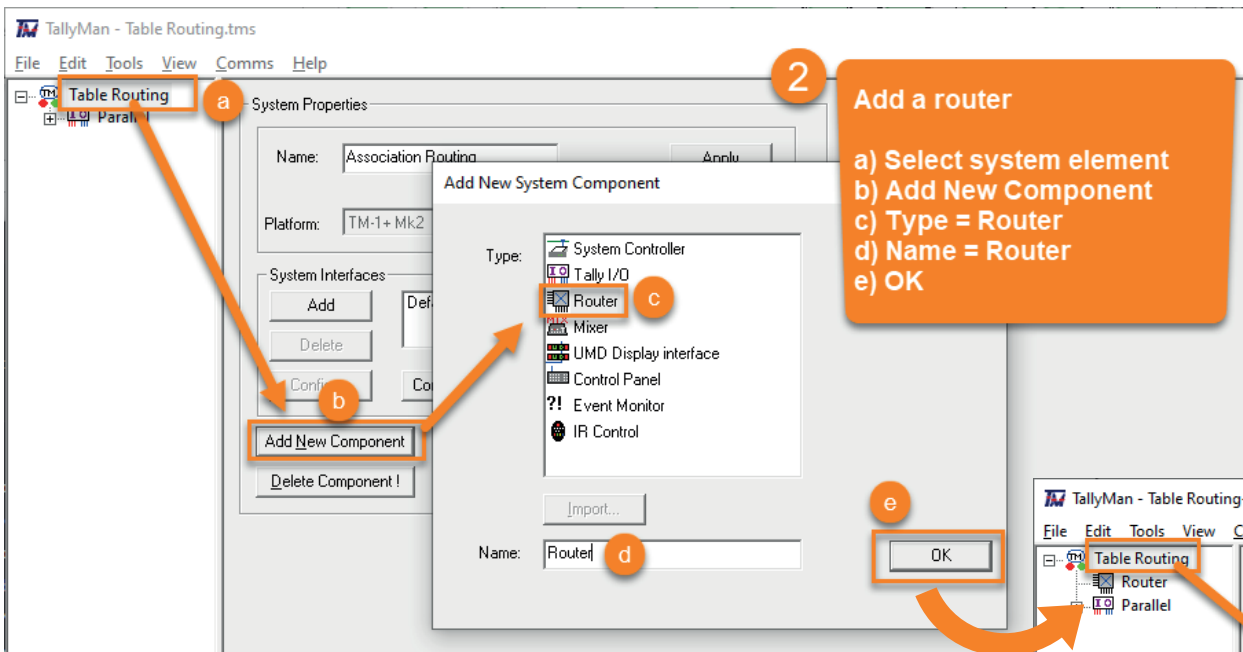
- Connecting to a 32x32 router over SW-P-08 protocol.
- Using the table router function to set up the destinations of the router that feed the multiviewer, to follow the switcher destinations of the router so that the multiviewer's sources are the same as the switcher's sources.

1

Create a new system...

a) File > New
b) Name = Table Routing
c) Platform = TM-1 + Mk2
d) Apply

ADD & SET UP A ROUTER



ADD & SET UP A ROUTER

4 Configure router sources and destinations

a) Select Router element
b) Type - ProBel SP08
c) Apply
d) Sources = 32
e) Destinations = 32
f) Configure Size

TallyMan - Table Routing-02.tms

File Edit Tools View Comms Help

Table Routing

Router

Parallel

Router Properties

Name: Router

Type: ProBel SP08

Matrix: 0 Level: 0

☐ Multi Level

☐ Act as dummy router

Size

Number of Sources: 32

Number of Destinations: 32

Max Levels: 1

Assign Interface

<Local>

☐ Disable Control

ADD & SET UP A ROUTER

Populating the router's Sources and Destinations

There are two methods for populating a router's Source (input) and Destination (output) names:

- Manually entering every name one by one
- Using an Excel spreadsheet to copy/paste multiple names at a time

Firstly, here's the result we're trying to achieve:

5

Spreadsheet method

- Create Excel spreadsheet with I/P and O/P names
- Select I/P names in spreadsheet and Copy
- Select Router Source element
- Click to select the first Source entry
- Shift-click to select the range to Source 10
- Edit > Paste Names

a

	M	N	O	P	Q
1					
2		CAM1		SW IP1	
3		CAM2		SW IP2	
4		CAM3		SW IP3	
5		CAM4		SW IP4	
6		SVR1		SW IP5	
7		SVR2		SW IP6	
8		EXT1			
9		EXT2		MV IP1	
10		GFX1		MV IP2	
11		GFX2		MV IP3	
12				MV IP4	
13				MV IP5	
14				MV IP6	
15					

f

Edit

- Copy Mnemonics
- Copy Names
- Paste Mnemonics
- Paste Names
- Paste Labels
- Custom Delimiter >

d

Click on Source 1

e

Shift-click on Source 10

TallyMa - Table Routing.tms

File Edit Tools View Comms Help

Table Routing

Router

Source

Destination

Parallel

Index	Source	Mnemonic	Mixer Label	As
1	Source 1			
2	Source 2			
3	Source 3	Src 3	Src 3	
4	Source 4	Src 4	Src 4	
5	Source 5	Src 5	Src 5	
6	Source 6	Src 6	Src 6	
7	Source 7	Src 7	Src 7	
8	Source 8	Src 8	Src 8	
9	Source 9			
10	Source 10			
11	Source 11			
12	Source 12	Src 12	Src 12	
13	Source 13	Src 13	Src 13	
14	Source 14	Src 14	Src 14	
15	Source 15	Src 15	Src 15	
16	Source 16	Src 16	Src 16	
17	Source 17	Src 17	Src 17	
18	Source 18	Src 18	Src 18	
19	Source 19	Src 19	Src 19	
20	Source 20	Src 20	Src 20	
21	Source 21	Src 21	Src 21	
22	Source 22	Src 22	Src 22	

ADD & SET UP A ROUTER

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Manual method

To name the first Source (input):

- a) Select Router Source element
- b) Double-click Source 1 entry
- c) Name = SW IP1
- d) OK

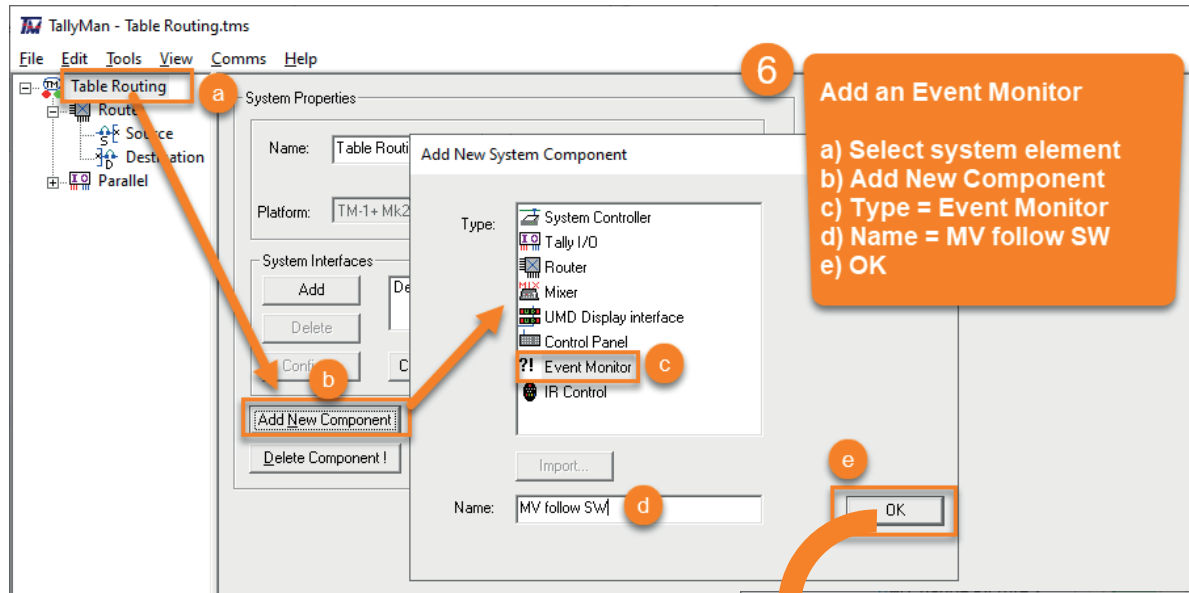
Repeat b) through d) for every Source name you want to specify.

Repeat the whole procedure for all the Destination (output) names.

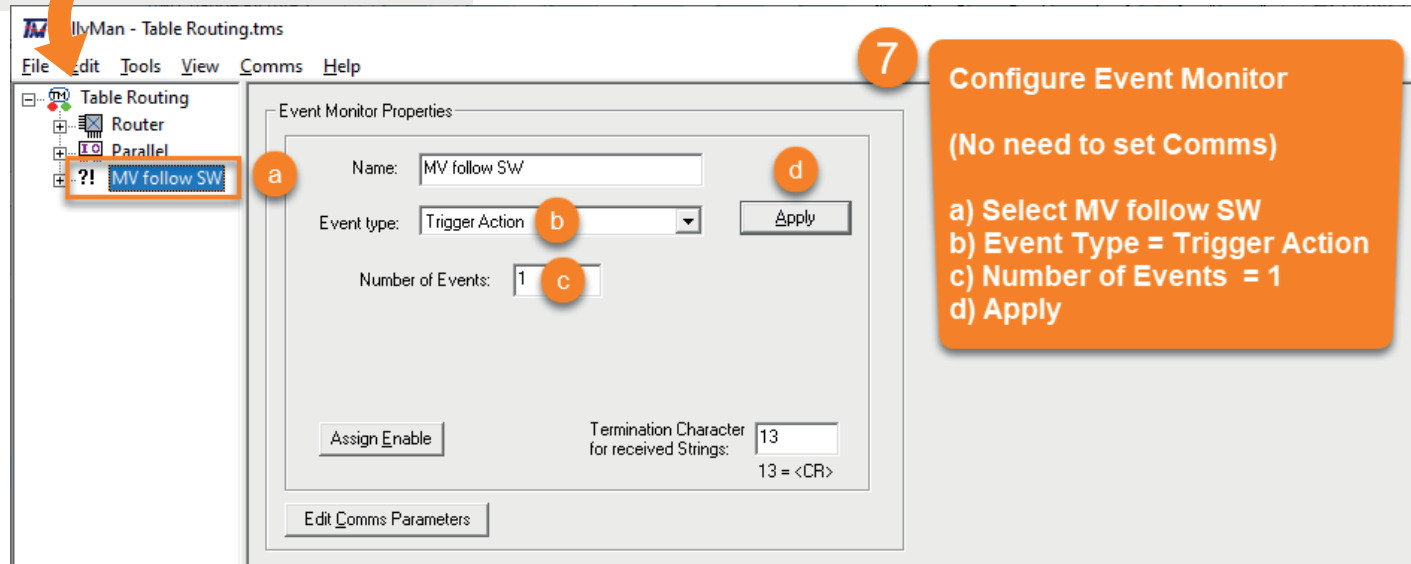
The screenshot shows the TallyMan - Table Routing-02.tms application. The 'Table Routing' tree on the left has 'Router' selected. The 'Table' tab is active, showing a table with columns: Index, Source, Mnemonic, Mixer Label, and Assignment. The table contains 32 rows, with 'Source 1' selected. The 'Edit Source 1 of Router' dialog box is open, showing the 'Name' field set to 'SW IP1' and the 'Mnemonic' field set to 'Src 1'. The 'Button Label' section has 'From Mnemonic' selected. The 'Assignment' section has 'Source' selected. The 'Matrix' is set to '<No Assignment>'. The 'Level' is set to 'Normal'. The 'Repeat Edit' section has 'Auto Inc' and 'Auto Copy' checked. The 'Allow user configuration' and 'Inhibit tally' checkboxes are unchecked. The 'Category' is set to 'All'. The 'OK' button is highlighted with a red box and labeled 'd'.

Index	Source	Mnemonic	Mixer Label	Assignment
1	Source 1	Src 1	Src 1	
2	Source 2	Src 2	Src 2	
3	Source 3	Src 3	Src 3	
4	Source 4			
5	Source 5			
6	Source 6			
7	Source 7			
8	Source 8			
9	Source 9			
10	Source 10			
11	Source 11			
12	Source 12			
13	Source 13			
14	Source 14			
15	Source 15			
16	Source 16			
17	Source 17			
18	Source 18			
19	Source 19			
20	Source 20			
21	Source 21			
22	Source 22			
23	Source 23			
24	Source 24			
25	Source 25			
26	Source 26			
27	Source 27			
28	Source 28			
29	Source 29			
30	Source 30			
31	Source 31	Src 31	Src 31	
32	Source 32	Src 32	Src 32	

ADDING AN EVENT MONITOR



Configure the Event Monitor



ADDING AN EVENT MONITOR

8 Edit Event Action

Set Trigger Type

- a) Double-click Event
- b) Name = MV follow SW
- c) Trigger Type = Router
- d) Set Router
- e) Parent = Router
- f) OK

(Edit Event Action window should remain open for step 9...)

Select Parent:

Router **e**

f OK

Table Routing.tms

Index	Event	Trigger Type
1	Event 1	No Trigger

Edit Event Action 1 of MV follow SW

Name: MV follow SW **b**

Mnemonic:

Trigger Type: Router **c**

Set Router **d**

Source: ☐ Inc

Routed to Dest: ☐ Inc

☐ No trigger on initial pass

Specify the router to be monitored. This is for use with the following Actions: Reverse route, Copy Route, Table Route

Action Type: No Action

Source: ☐ Inc

Routed to Dest: ☐ Inc

No File

Delay (x 10 mS): 0

Repeat Edit

☐ Auto Inc

☐ Auto Cop

ADDING AN EVENT MONITOR

9 Edit Event Action (window should still be open after step 8...)

Set Action Type

a) Action Type = Table Route
b) Set Router
c) Parent = Router
d) OK

Table Routing.tms

File Edit Tools View Comms Help

Table Routing

- Router
- Parallel
- MV follow SW
- Event

Index	Event	Trigger Type	Parent	Channel	Delay
1	Event 1	No Trigger	1: Program	0	

Edit Event Action 1 of MV follow SW

Name: MV follow SW

Mnemonic:

Trigger

Type: Router

Router

Source: [] [ST] [] Inc

Routed to Dest: [] [ST] [] Inc

Edit Tally Channel

☐ No trigger on initial pass

Specify the router to be monitored.
This is for use with the following Actions:
Reverse route, Copy Route, Table Route

Action

Type: Table Route (a)

Set Router (b)

Source: [] [ST] [] Inc

Routed to Dest: [] [ST] [] Inc

Edit Table

Delay (x 10 mS): 0

Automate routing with a custom table.
e.g. Audio follow video, multiviewer follow contributions, or 4k quad link.

Select Parent:

Router (c)

Cancel

OK (d)

SETTING ROUTER DESTINATIONS & LINKS

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Set Router Destination Links (part 1 of 3)

- a) Click Edit Table in Edit Event Action window
- b) Click Preset 1:1 in Edit Table Routing Assignment window
- c) Click OK to set Preset source table 1:1
- d) Click Cancel (don't Preset destination table)

Edit Event Action 1 of MV follow SW

Name: MV follow SW ☐ Allow user configuration

Mnemonic:

Trigger Type: Router

Action Type: Table Route

Source:

Routed to Dest:

☐ No trigger on initial pass

Specify the router to be monitored. This is for use with the following Actions: Reverse route, Copy Route, Table Route

Edit Table Routing

Set Router Destination

Trigger Destination

1: SW IP1	...
2: SW IP2	...
3: SW IP3	...
4: SW IP4	...
5: SW IP5	...
6: SW IP6	...
7: Destination 7	...
8: Destination 8	...
9: Destination 9	...
10: Destination 10	...
11: Destination 11	...
12: Destination 12	...
13: MV IP1	...
14: MV IP2	...
15: MV IP3	...
16: MV IP4	...

Edit 1: SW IP1

13: MV IP1 ☒ Inc

☒ AutoInc

Filter view: All

Edit Source Assignment

☐ AutoInc

Filter view: All

TallyMan

Preset source table to 1:1?

TallyMan

Preset destination table to 1:1?

Action router active levels:

Level: Single Level Router

SETTING ROUTER DESTINATIONS & LINKS

11 Set Router Destination Links (part 2 of 3)

- a) In Set Router Destination Link panel, Select 1: SW IP1
- b) In Edit 1: drop-down menu, Select 13: MV IP1
- c) Enable AutoInc (then Inc option appears)
- d) Enable Inc
- e) Click OK six times to auto increment the trigger destinations

The screenshot shows the 'Edit Table Routing Assignment' dialog box. The 'Set Router Destination Link' panel on the left has a list of destinations. '1: SW IP1' is highlighted with a blue bar and an orange circle 'a'. Below this list is the 'Edit 1: SW IP1' section. It contains a 'Clear' button, a drop-down menu showing '13: MV IP1' with an orange circle 'b', a checked 'Inc' checkbox, a checked 'AutoInc' checkbox with an orange circle 'c', and an 'OK' button with an orange circle 'd'. To the right of the 'Edit 1' section is the 'Edit Source Assignment' section, which has a 'Clear' button, a drop-down menu, an unchecked 'AutoInc' checkbox, and an 'OK' button. At the bottom of the dialog is a 'Filter view' dropdown set to 'All'. On the far right, there is a 'Level:' dropdown set to 'Single Level Router' and buttons for 'Cancel', 'OK', 'Preset 1:1', and 'Clear All'. A large orange callout box with the number '11' and the title 'Set Router Destination Links (part 2 of 3)' contains the five-step instructions. A faint watermark 'ADDING AN EVENT MONITOR' is visible across the bottom right of the dialog.

SETTING ROUTER DESTINATIONS & LINKS

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Set Router Destination Links (part 3 of 3)

a) Click OK to save and
dismiss Edit Table Routing
Assignment window

b) Click OK to save and
dismiss Edit Event Action
window (not shown here)

Edit Table Routing Assignment

Set Router Destination Link

Trigger Dest	Action Dest
1: SW IP1	MV IP1
2: SW IP2	MV IP2
3: SW IP3	MV IP3
4: SW IP4	MV IP4
5: SW IP5	MV IP5
6: SW IP6	MV IP6
7: Destination 7	...
8: Destination 8	...
9: Destination 9	...
10: Destination 10	...
11: Destination 11	...
12: Destination 12	...
13: MV IP1	...
14: MV IP2	...
15: MV IP3	...
16: MV IP4	...

Set Router Source Link

Trigger Srce	Action Srce
1:CAM1	CAM1
2:CAM2	CAM2
3:CAM3	CAM3
4:CAM4	CAM4
5:SVR1	SVR1
6:SVR2	SVR2
7:EXT1	EXT1
8:EXT2	EXT2
9:GFX1	GFX1
10:GFX2	GFX2

Cancel

a OK

Action router active levels:

Level:

Single Level Router

Preset 1:1

Clear All

Edit 1: SW IP1

Clear

13: MV IP

☐ AutoInc

Filter view: All

OK

Note (before you click OK):
This is how the Router Destination Link panel looks after step 11

USING THE TABLE ROUTER

To use the Table Router, you need to set up a router control panel.

An Table Router is controlled in the same way as any router in Tallyman, by either hardware panel, virtual panel or via an event.

As a quick reference:

To use TMVP, in Tallyman:

1. Choose Comms > Disconnect from System.
2. Add a TMVP interface on a new port.
3. Choose Comms > Write Configuration and Restart when prompted.

To create a router control panel in TMVP:

1. Create a New Project and Import the Tallyman tms file.
2. Connect TMVP to Tallyman.
3. Create/edit a panel and add sources and destinations.
4. Use the Assign tab to find the router and assign the sources and destinations to the buttons.
5. Click the Play button use the router panel in kiosk mode.

Take a look at the detailed instructions are in **Functional DeepDive #1: Routing Control**



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FUNCTIONAL DEEP-DIVE SERIES

Issue One: Router Control



Access Issue #1 and additional video guides at:
tslproducts.com/tech-insight-hub/functional-deep-dives

USING THE TABLE ROUTER

Illustrating the Table Router at work

Once your control panel is set up you can start to route the table router like any router. When you make a cross-point, the tabled cross-points will also be made.

To see this in action in TMVP:

1. Add another row of destination buttons to your router control panel.
2. Assign the destinations of the router that feed the multiviewer to the buttons.
3. Click the Play button use the router panel in kiosk mode.
4. When you route sources to the destinations that feed the multiviewer, the second row of destination representing the destinations that feed the multiviewer will also receive the same sources.



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