



ADVANCED CONTROL SYSTEMS

FUNCTIONALITY DEEP-DIVE SERIES

Issue Five (a): String Receive Commands

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 String Driver capabilities.

WHAT ARE STRING COMMANDS?

String commands in TallyMan allow users to configure defined ASCII and Hexadecimal strings to be transmitted and/or received by TallyMan via IP or Serial connections. The strings provide an interface to a wide range of third-party devices and software that communicate over their own proprietary protocol or through means other than the standard switcher/router protocols, Ember+ or SNMP.

Users have utilised string commands to recall scene presets in audio mixing consoles, control and monitor changeovers, video servers and interface with logging software along with many more applications.

SCENARIOS

This guide provides in-depth instructions on how to:

- String Receive: TallyMan is configured to receive strings to notify the TallyMan of the status of a device (Main or Backup).
- String Transmit: TallyMan is configured to send 'Play' and 'Stop' commands to a Blackmagic Design media player.



1. ADDING AN EVENT MONITOR

SETTING UP A STRING RECEIVE COMMAND

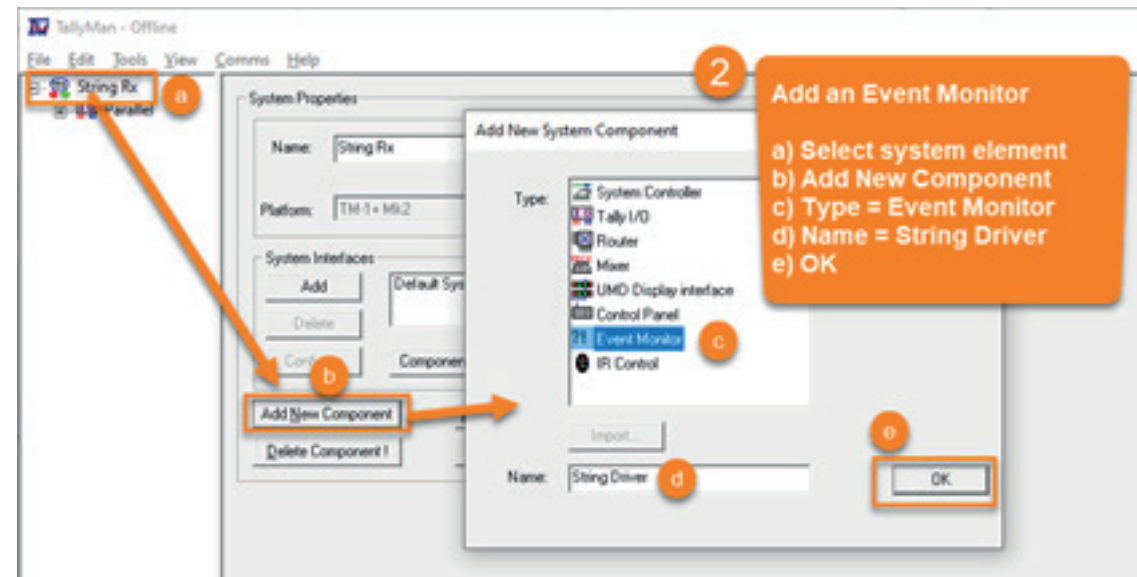
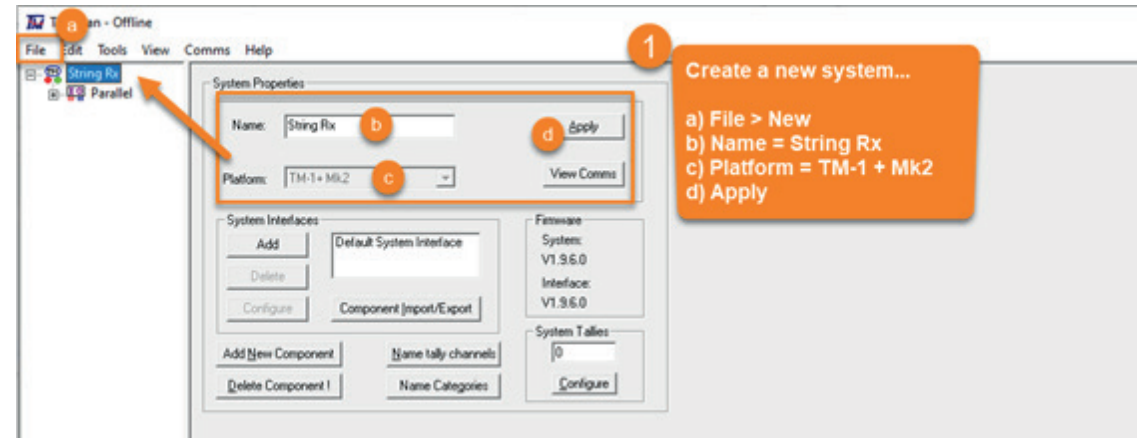
In this example, a hypothetical device is notifying us of its state, either main or backup, using the following strings:

- “main\n\r”
- “backup\n\r”

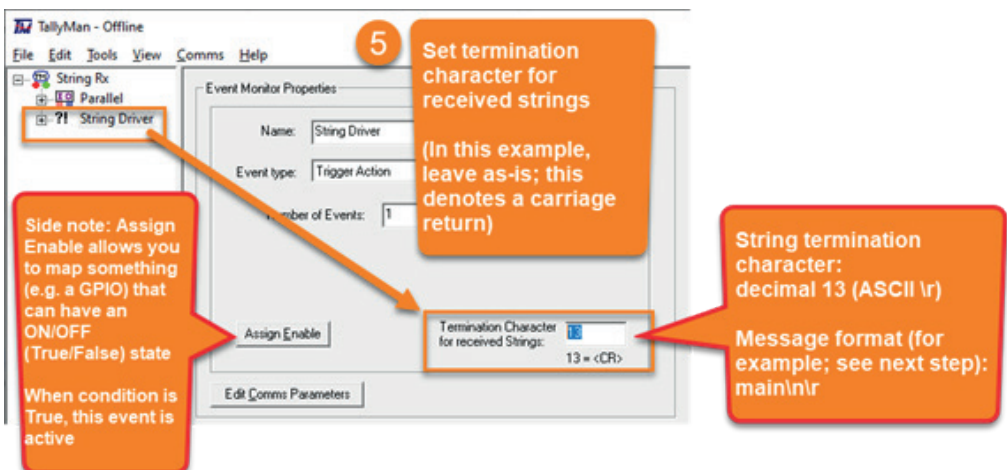
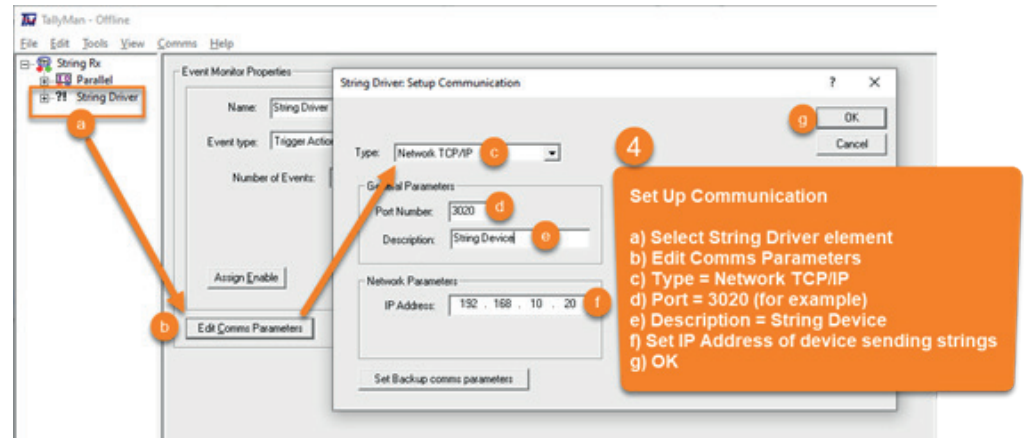
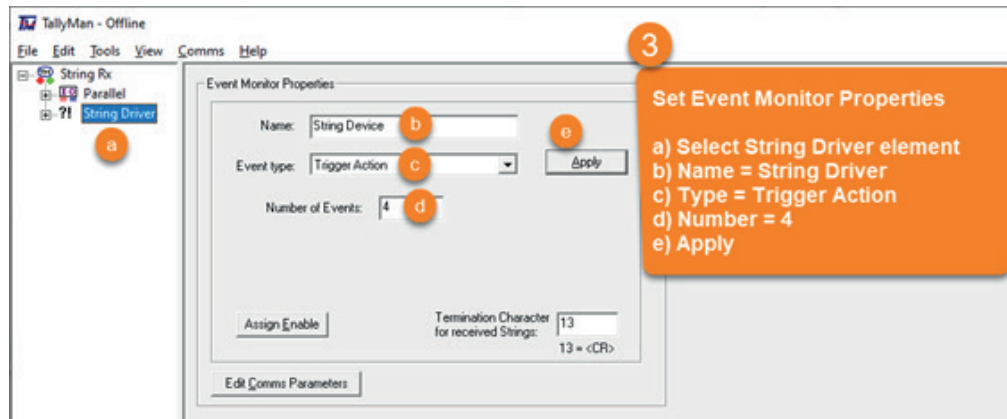
The example uses the string receive trigger actions specifically to activate parallel tally outs.

Note: The commands are specified by the third-party device that Tallyman is communicating with. For commands used by a specific device, please contact the manufacturer for a list of available commands for that device.

We are creating a new project however these same steps can be used to add this functionality to an existing configuration.



2. SETTING UP THE EVENT MONITOR



NOTE

The Termination Character refers to the character of the received string that will signify the end of the command. The default is character 13 of an ASCII table which is <CR> (carriage return). When Tallyman receives this character, it assumes the command has ended. Any further incoming messages will be treated as new command. If required, the termination character can be modified to suit what is specified in the third-party device's command list.

3. SETTING UP THE EVENTS TO RECEIVE COMMANDS

Edit Event Action 1 of String Driver

- a) Expand String Driver and select Event
- b) Double-click on Event 1 entry
- c) Name: State = Main
- d) Trigger Type = String
- e) Edit Input String
- f) String = main\n
- g) OK
- h) Action Type = Set Tally
- i) OK

NOTE

In this instance the command is 'main' followed by a '\n' that translates to <LF> or Line Feed. There is no need to add \r for <CR> or Carriage Return because that is added by Tallyman.

Edit Event Action 2 of String Driver

- a) Double-click on Event 2 entry
- b) Name: State = Backup
- c) Trigger Type = String
- d) Edit Input String
- e) String = backup\n
- f) OK
- g) Action Type = Set Tally
- h) OK

Now that we have set up the first two events to receive the state of both main and backup and set their tally states, we need to use the next two events to reset those tally states. We will reset the 'State = Main' tally when the 'State = Backup' tally becomes active and vice versa.

3. SETTING UP THE EVENTS TO RECEIVE COMMANDS

4. EDIT MAIN EVENT ACTION 3 OF STRING DRIVER

Edit Event Action 3 of String Driver

- a) Double-click on Event 3 entry
- b) Name: Reset = Main
- c) Trigger Type = String
- d) Edit Input String
- e) String = backup\n
- f) OK
- g) Action Type = Clear Tally
- h) Edit Output Tally
- i) Assigned to output tally of Event 1: State = Main
- j) OK
- k) OK (in main Edit Event window)

Edit Text

Cancel

OK

Tooltip:
\\ = Breakout (to enter "\\\\" use "\\u005C")
\\r = <CR> - Carriage Return
\\n = <LF> - Linefeed
\\x = HEX(\\u00 - \\uFF)
\\p = partial match

Examples:
Play\\n = Play<CR><LF>
a\\u005Cu005C\\r = a\\n<CR>
ON\\p = check if string contains "ON"

Edit Tally Mask

Select active tally channel for event:

OK

Cancel

Tally Channel

<input checked="" type="checkbox"/> Program	<input type="checkbox"/> Iso 8
<input type="checkbox"/> Iso 1	<input type="checkbox"/> Iso 9
<input type="checkbox"/> Iso 2	<input type="checkbox"/> Iso 10
<input type="checkbox"/> Iso 3	<input type="checkbox"/> Iso 11
<input type="checkbox"/> Iso 4	<input type="checkbox"/> Iso 12
<input type="checkbox"/> Iso 5	<input type="checkbox"/> Iso 13
<input type="checkbox"/> Iso 6	<input type="checkbox"/> Iso 14
<input type="checkbox"/> Iso 7	<input type="checkbox"/> Iso 15

Assigned to output tally of Event: 1: State = Main

4. EDIT MAIN EVENT ACTION 3 OF STRING DRIVER

5. EDIT BACKUP EVENT ACTION 4 OF STRING DRIVER

Edit Event Action 4 of String Driver

- a) Double-click on Event 4 entry
- b) Name: Reset = Backup
- c) Trigger Type = String
- d) Edit Input String
- e) String = main/in
- f) OK
- g) Action Type = Clear Tally
- h) Edit Output Tally
- i) Assigned to output tally of Event 2: State = Backup
- j) OK
- k) OK (in main Edit Event window)

Edit Text

main/in

OK

Edit Tally Mask

Select active tally channel for event:

Tally Channel

- ☒ Program
- ☐ Iso 1
- ☐ Iso 2
- ☐ Iso 3
- ☐ Iso 4
- ☐ Iso 5
- ☐ Iso 6
- ☐ Iso 7
- ☐ Iso 8
- ☐ Iso 9
- ☐ Iso 10
- ☐ Iso 11
- ☐ Iso 12
- ☐ Iso 13
- ☐ Iso 14
- ☐ Iso 15

Assigned to output tally of Event: 2: State = Backup

OK

Cancel

Tally I/O Properties

Name: Parallel Tally

Apply

Tally Inputs

Hardware: Logic Level

Number: 64

Tally Outputs

Hardware: Relay Isolated

Number: 32

Clear Forced Outputs

Assign Inhibit ☐ Invert Inhibit

Set Comms Parameters

Configure I/O

Edit Tally I/O component

- a) Select Parallel component
- b) Name = Parallel Tally
- c) Input = Logic Level, 64
- d) Output = Relay Isolated, 32
- e) Apply

5. EDIT BACKUP EVENT ACTION 4 OF STRING DRIVER

5. EDIT BACKUP EVENT ACTION 4 OF STRING DRIVER

11

Edit Tally Out 1

- a) Expand Parallel Tally and select Tally Out
- b) Double-click on Relay Out 1 entry
- c) Name = Main
- d) Add Tally
- e) Type = Event
- f) Parent = String Driver
- g) Tally = 1: State = Main
- h) Add
- i) Finished
- j) OK

TallyMan - String Rx HowTo.tms

File Edit Tools View Comms Help

String Rx

Parallel Tally

Tally In

Tally Out

String Driver

Index Tally Output Channel Outp...

Index	Tally Output	Channel	Outp...
1	Relay Out 1	1: Program	
2	Relay Out 2	1: Program	
3	Relay Out 3	1: Program	
4	Relay Out 4	1: Program	
5	Relay Out 5	1: Program	

Edit Tally Out 1 of Parallel Tally

Notes

☐ Allow user configuration

Name: Main

Mapped Tallies

Add Tally

Delete Selection

Tally	Logic	Channel
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Active Tally Channel Out

☒ Program

☐ Iso 1

☐ Iso 2

☐ Iso 3

☐ Iso 4

☐ Iso 5

☐ Iso 6

☐ Iso 7

Type: Event

Parent: ?! String Driver

Tally: 1: State = Main

> Add >

Finished

Delete Selection

Repeat Edit

☐ Auto Inc

☐ Auto Copy

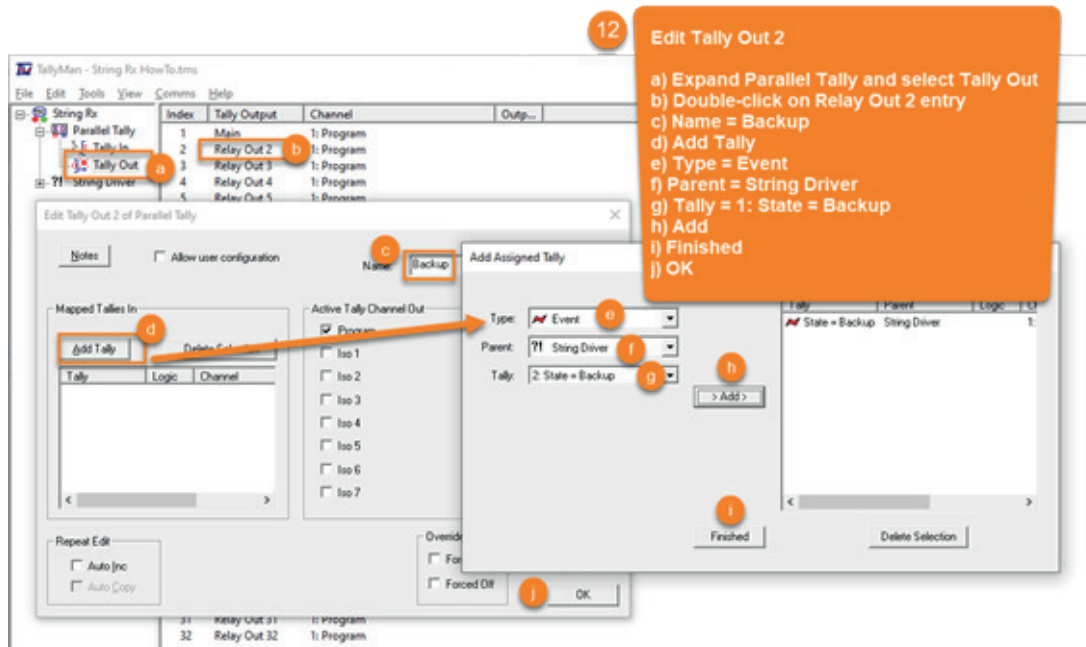
Override

☐ Forced On

☐ Forced Off

OK

5. EDIT BACKUP EVENT ACTION 4 OF STRING DRIVER



WRITE THE CONFIGURATION

This procedure is described in the Router Control HowTo document, so follow the steps there if you need detailed instructions. Briefly; Choose Comms > Write Configuration.

This configuration is representative for receiving ASCII commands from third-party devices. The principles are the same for different commands and devices that support transmitting ASCII/Hex commands. Make sure to check the devices manual to find the commands used by the device and check for the string termination characters to make the termination of a command is correct.

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