Control

Installation
Manual
Issue 1

GTP-32

Router Protocols

Contents

Introduction

A guide on the installation and configuration of GTP-32 router protocols. This guide is not specific to any router protocol but rather a general guide that applies to all router protocols.

Installation

Configuring a Router Protocol on a GTP-32

1. In your web browser, go to the IP address of the GTP-32 that is being configured. The home page for the GTP-32 will be displayed.

2. At the top of the web page, click on the Protocol Assignment link. The Protocol Assignment table will be displayed below.

3. Click on the Edit Protocol Assignment link just above the Protocol Assignment table.

4. For each channel that will be configured, select/enter the following configurations:

   a) Select "Ethernet" from the Physical Connector drop-down menu if connecting to the router over Ethernet. Select "Serial" from the drop-down menu if connecting to the router over RS422.

   b) In the Channel Label field, enter a name for the channel.

   c) Select a router protocol from the Control Protocol drop-down menu. Only licensed and installed protocols will be available in the Control Protocol drop-down menu.

PROTOCOL ASSIGNMENT TABLE

Channel#	Physical Connector	Channel Label	Control Protocol	Group Toggle Range	
1	Ethernet ∨	label0	quartz_rtr ∨	0 ∨	0 ∨
2	Ethernet ∨	label1	quartz_rtr ∨	0 ∨	0 ∨
3	Ethernet ∨	label2	Unassigned ∨	0 ∨	0 ∨
4	Serial_4 ∨	label3	Unassigned ∨	0 ∨	0 ∨
5	Ethernet ∨	label4	Unassigned ∨	0 ∨	0 ∨
6	Ethernet ∨	label5	Unassigned ∨	0 ∨	0 ∨
7	Ethernet ∨	label6	Unassigned ∨	0 ∨	0 ∨
8	Ethernet ∨	label7	Unassigned ∨	0 ∨	0 ∨

You must Unassign the Protocol prior to changing it.

5. Click on the Save button to save the changes to the Protocol Assignment table. You will be prompted with a reboot window. A GTP-32 reboot is recommended by TSL, however if the GTP-32 is ON-AIR or in operation you can select "cancel" to avoid the reboot and resume the router protocol installation.

6. If you are connecting to the router over Ethernet, click on the Edit link in the PHY Config column for the channel that is being configured. A pop-up window will be displayed.
If you are connecting to the router over RS422, skip to step 9.

7. Enter the IP address of the router that the GTP-32 will be connecting to. Do not change the Port number unless specifically instructed to do so by TSL Support. If no port number is present match the port number to the port number configured on the router.

Ethernet PHY Configuration

Save   Done

Channel	Primary IP Address	Port	Backup IP Address
1	192.168.10.178	4000	0.0.0.0

8. Click on the Save button to save the changes. Close the pop-up window once the page has refreshed.

9. Click on the Edit link in the Device Config column for the channel that is being configured. A pop-up window will be displayed.

10. In the pop-up window, select/enter the following configurations:

   a) Enter the level number of the router.

   b) Enter the Router Source Start. This should be the first source on the router.

   c) Enter the Router Source End. This should be the last source on the router.

   d) Enter the DNF Source Start. This should be the first source the GTP-32 recognizes, primarily used to adjust offsets.

   e) Enter the Router Destination Start. This should be the first destination on the router.

   f) Enter the router destination End. This should be the last destination on the router.

   g) Enter the DNF Destination Start. This should be the first destination the GTP-32 recognizes, primarily used to adjust offsets.

Router Configuration Table

☑ Re-Read Configuration After Reset

Read Source / Destination Names from: DEVICE ▼

For Router Start / End, use lowest / highest configured source and destination.
If no information is entered, the router will be initialized to 1 level, 2000x2000.

Matrix	Level Number	Level Label	Router Source Start	Router Source End	DNF Source Start	Router Destination Start	Router Destination End	DNF Destination Start
0	1		1	300	1	1	64	1

[Save] [Done]

11. Click on the Save button to save your changes.

12. Repeat steps 6 through 10 for each other channel that is being configured.

13. Click the Refresh button above the Protocol Assignment table.

Each configured channel will show "Connected" in the Status column once configured correctly.

If a channel shows "No Comm.", double check the configuration on both the GTP-32 and the Router. If the configuration is correct, please contact TSL Technical Support.

Configuration

Configuring a Router Monitor Event

1. In your web browser, go to the IP address of the GTP-32 that is being configured. The home page for the GTP-32 will be displayed.

2. At the top of the web page, click on the Protocol Assignment link. The Protocol Assignment table will be displayed below.

3. Click on the Monitor link under the definition's column for the router channel that is being configured.

4. In the Router Monitor Events page, click on the Add link above the Router Monitor Events Table to add an entry to the table.

5. Enter the following settings:

   a) Enter a unique monitor event label.
   b) Enter a description of the monitor event. (Optional)
   c) Enter the router level number.
   d) Enter the source number.
   e) Enter the destination number.

- Event Label must be unique on this unit, no duplicates.
- Maximum of 31 characters.
- To create a Source Change definition, enter CHANGE in the Source column.

Router Monitoring Definitions Add Event

Monitor Event Label	Description	Level	Source	Destination
CH_1_ Mon1to1	Src1 on Dest1	1	1	1

Save & Add   Done

The registered column of the Router Monitor Events table notifies a user of which monitor events are assigned to action (locally or on a remote panel).

The registered column will display a value of "0" until the event is used locally, on a remote GTP or on a USP3 type device. Once an event is assigned to an action the column will display a value of "1".

Router Monitoring Event Definitions

Monitor Event Label	Description	Level	Source	Destination	Event State	Registered
CH_1_Mon1to1	Src1 on Dest1	1	1	1	OFF	0
CH_1_Mon1to2	Src1 on Dest2	1	1	2	OFF	0
CH_1_Mon1to3	Src1 on Dest3	1	1	3	OFF	0
CH_1_Mon2to1	Src2 on Dest1	1	2	1	OFF	0
CH_1_Mon2to2	Src2 on Dest2	1	2	2	OFF	0
CH_1_Mon2to3	Src2 on Dest3	1	2	3	OFF	0

Configuring a Router Control Action

1. In your web browser, go to the IP address of the GTP-32 that is being configured. The home page for the GTP-32 will be displayed.

2. At the top of the web page, click on the Protocol Assignment link. The Protocol Assignment table will be displayed below.

3. Click on the Control link under the definition's column for the router channel that is being configured.

4. In the Router Control Actions page, click on the Add link above the Router Control Actions Table to add an entry to the table.

5. Enter the following settings:

   a) Enter a unique control action label.
   b) Enter a description of the Control function. (Optional)
   c) From the Action Type drop down menu, select the function of the router control action. Default is "TAKE ACTION".
   d) Enter the level number.
   e) Enter the source number.
   f) Enter the destination number.

Add Router Control Action Definitions

Router Control Action Label	Description	Action Type	"From" Level	"From" Destination	Level	Source	Destination	Salvo	User Data Register	Text Start Position	Text Count	Command
CH_1_ CTRL1to1	Routes Src1 to Dest1	TAKE ACTION			1	1	1					SAVE Cancel

TAKE ACTION
COPY ACTION
SALVO ACTION
COPY NAME ACTION

The Router Control Actions table will appear as below:

Channel 1 Router Control Action Definitions

Router Control Action Label	Description	Action Type	"From" Level	"From" Destination	Level	Source	Destination	Salvo	User Data Register	Text Start Position	Text Count
CH_1_CTRL1to1	Routes Src1 to Dest1	TAKE ACTION			1	1	1				
CH_1_CTRL1to2	Routes Src1 to Dest2	TAKE ACTION			1	1	2				
CH_1_CTRL1to3	Routes Src1 to Dest3	TAKE ACTION			1	1	3				
CH_1_CTRL2o1	Routes Src2 to Dest1	TAKE ACTION			1	2	1				
CH_1_CTRL2o2	Routes Src2 to Dest2	TAKE ACTION			1	2	2				
CH_1_CTRL2o3	Routes Src2 to Dest3	TAKE ACTION			1	2	3				

Mapping a Router Monitor Event to an Action

1. In your web browser, go to the IP address of the GTP-32 that is being configured. The home page for the GTP-32 will be displayed.

2. At the top of the web page, click on the Event Monitoring Table link. The Event Monitoring Table (EMT) will be displayed below.

3. Click on the Add link above the Event Monitoring Table to add an entry to the table.

   a) From the Source Event Type drop down menu, select Router Monitor.
   b) From the Source Event Label drop down menu, select the router monitor event that will control an action.
   c) From the ON/OFF Type drop down menu, select an action type. Our example will be "GPO Control".
   d) In the ON Function and Data drop down menu, select the desired GPO function and GPO to be controlled.
   e) In the OFF Function and Data drop down menu, select the desired GPO function and GPO to be controlled.
   f) Click on Save & Exit.

4. An entry will be made in the Event Monitoring Table (EMT).

EVENTS								ACTIONS				
Status	Source IP	Connection Status	Event Label	Registration State	Event State	Event Type		ON/OFF Type	ON Data	ON Function	OFF Data	OFF Function
Enabled	0.0.0.0	Local	CH_1_Mon1to1	REGISTERED	OFF	Router_Monitor	—	GPO Control	1:GPO_1	Turn On GPO	1:GPO_1	Turn Off GPO

Mapping an Event to a Router Action

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2. At the top of the web page, click on the Event Monitoring Table link. The Event Monitoring Table (EMT) will be displayed below.

3. Click on the Add link above the Event Monitoring Table to add an entry to the table.

   a) From the Source Event Type drop down menu, select Router Monitor.
   b) From the Source Event Label drop down menu, select the router monitor event that will control an action.
   c) From the ON/OFF Type drop down menu, select an action type. Our example will be "GPO Control".
   d) In the ON Function and Data drop down menu, select the desired GPO function and GPO to be controlled.
   e) In the OFF Function and Data drop down menu, select the desired GPO function and GPO to be controlled.
   f) Click on Save & Exit.

Add Event to Channel Event Monitoring

Status:	Enabled ⌄
Source IP:	0.0.0.0
Source Event Type:	GPI ⌄
Source Event Label:	1: GPI_1 ⌄
ON/OFF Type:	Router_Control ⌄
ON Function and Data:	CH_1_CTRL1to3 ⌄ ⌄
OFF Function and Data:	Do Nothing ⌄ ⌄

Save & Exit | Save & Add | Done

4. An entry will be made in the Event Monitoring Table (EMT).

EVENTS								ACTIONS				
Status	Source IP	Connection Status	Event Label	Registration State	Event State	Event Type		ON/OFF Type	ON Data	ON Function	OFF Data	OFF Function
Enabled	0.0.0.0	Local	GPI_1	REGISTERED	OFF	GPI	—	Router_Control	N/A	CH_1_CTRL1to3	N/A	Do Nothing

Event Logs

Router Connection

In your GTP-32 event logs, a successful router connection will be displayed in the following manner:

"SYS:05/05/2023 19:12:25:00","LTC(*):19:12:25:13","265002108","CH:1 QUARTZ_RTR: User-Entered Router Configuration - Matrix 0, 1 Levels, 300 Sources, 64 Destinations."
"SYS:05/05/2023 19:12:25:00","LTC(*):19:12:25:13","265002108","CH:1 QUARTZ_RTR: Initialize Virtual Level 1."
"SYS:05/05/2023 19:12:25:00","LTC(*):19:12:25:13","265002108","CH 1 QUARTZ_RTR Ethernet Config: Main IP= 192.168.10.178 Port= 4000, Backup IP = 0.0.0.0, Port = 4000"
"SYS:05/05/2023 19:12:25:00","LTC(*):19:12:25:13","265002108","CH:1 QUARTZ_RTR: Polling (heartbeat) rate is 200 ms."
"SYS:05/05/2023 19:12:25:00","LTC(*):19:12:25:13","265002108","CH 1 TCP Client starting up"
"SYS:05/05/2023 19:12:25:00","LTC(*):19:12:25:13","265002108","CH:1 Gained connection to IP: 192.168.10.178 PORT: 4000"

Router Monitor Event

In your GTP-32 event logs, a received router monitor event will be displayed in the following manner:

"SYS:05/05/2023 19:30:00:00","LTC(*):19:30:00:13","14585","EPS: Event Received: CH_1_Mon2to1 from Local State:ON"
"SYS:05/05/2023 19:30:00:00","LTC(*):19:30:00:13","14585","EPS: Event CH_1_Mon2to1 notification sent to 1 registrant(s)"
"SYS:05/05/2023 19:30:00:00","LTC(*):19:30:00:13","14585","DMP: EVENT","CH_1_Mon2to1","ON"
"SYS:05/05/2023 19:30:00:00","LTC(*):19:30:00:13","14585","DMP: ON ACTION","Turn On GPO","Data:1, Value:114"
"SYS:05/05/2023 19:30:00:00","LTC(*):19:30:00:13","14586","IOD: ACTION GPO_1(M) ON","GPO_1","Turn GPO ON"

Router Control Action

In your GTP-32 a router control action take will be displayed in the following manner:

"SYS:05/05/2023 19:15:38:00","LTC(*):19:15:38:09","265013682","IOD: VIRTUAL GPI_1(L)","GPI_1","ON","Count=257"
"SYS:05/05/2023 19:15:38:00","LTC(*):19:15:38:09","265013683","EPS: Event Received: GPI_1 from Local State:ON"
"SYS:05/05/2023 19:15:38:00","LTC(*):19:15:38:10","265013683","EPS: Event GPI_1 notification sent to 1 registrant(s)"
"SYS:05/05/2023 19:15:38:00","LTC(*):19:15:38:10","265013683","DMP: EVENT","GPI_1","ON"
"SYS:05/05/2023 19:15:38:00","LTC(*):19:15:38:10","265013683","DMP: ON ACTION","CH_1_CTRL1to3","Data:0, Value:116"
"SYS:05/05/2023 19:15:38:00","LTC(*):19:15:38:10","265013683","CH:1 QUARTZ_RTR: Send Take command (.SV3,1) (DNF Src 1, DNF Dest 3)"