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REVISION HISTORY

<u>REVISION</u>	DESCRIPTION	DATE
1.0	First Release	Feb 08
2.0	Add Source and Destination Aliases. General clean up.	Feb 09

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1. OVERVIEW

The basic function of the 7700S2IP-RCL is to provide an interface between a QMC-2 and a RCL-based router system. In essence, the 7700S2IP-RCL makes the RCL router system (maximum supported size is 1024 sources by 1024 destinations) appear as a Quartz router (maximum size 240 sources by 16 destinations) to the QMC-2. The 7700S2IP-RCL can communicate with up to two controllers (a primary and a secondary). Each controller may have either 1 or 2 system controller cards installed. Thus, the 7700S2IP-RCL can communicate simultaneously with up to 4 system controller cards.



2. CARD EDGE CONTROLS

2.1. DETERMINING CURRENT IP ADDRESS SETTINGS

To read the current IP address during normal operation, press the front switch DOWN. The IP address can be read on the four-character alphanumeric display.

2.2. RESTORING FACTORY DEFAULTS

To restore all settings to factory defaults, apply power to the card while holding the toggle switch UP until the green LED is illuminated.

2.3. CARD EDGE LEDS

LED 22 is illuminated when Ethernet activity is detected.

All other card edge LEDs are for factory use only.



Figure 2-1: Card Edge



3. CONFIGURATION

3.1. EXAMPLE CONFIGURATION

The setup of Figure 3-1 will be used to demonstrate how to configure the 7700S2IP-RCL.



Figure 3-1: Example Setup

Figure 3-1 contains the following elements:

• A primary RCL router controller with a system controller installed in slot 1. The system controller has IP address 192.168.18.39. It controls the primary RCL router. The primary RCL router has destination names *Out1P*, *Out3P*, *Out5P*, *Out7P*, and *Out9P* and source names *In1P*, *In3P*, *In5P*, *In7P*, *In9P*, *In11P*, *In13P*, *In15P* within area name *area*.



- A secondary RCL router controller with a system controller installed in slot 1. The system controller has IP address 192.168.18.40. It controls the secondary RCL router. The secondary RCL router has destination names *Out1S*, *Out3S*, *Out5S*, *Out7S*, and *Out9S* and source names *In1S*, *In3S*, *In5S*, *In7S*, *In9S*, *In11S*, *In13S*, *In15S* within area name *IaIa*.
- RCL router destinations *Out1*, *Out3*, *Out5*, *Out7*, and *Out9* are connected to QMC master control switcher inputs *Program*, *Preset*, *Keyer 1 Fill*, *Keyer 1 Key*, *DVE Background* respectively.
- An NTP server with IP address 192.168.18.37. The time provided by the NTP server is used by the 7700S2IP-RCL when adding entries to its event log.
- VistaLINK PRO with IP address 192.168.18.38. VLPro will be used to configure the 7700S2IP-RCL. VLPro will receive SNMP traps from the 7700S2IP-RCL.
- 7700S2IP-RCL with IP address 192.168.18.54.

The 7700S2IP-RCL communicates:

- with VLPro using SNMP
- with the RCL system controllers via the RCL protocol over a TCP link
- with the QMC master control switcher using the Quartz Remote Control Protocol over a serial link

Conceptually, this is equivalent to:

Source Alias		Destination Alias	Inputs	
In1		Out1	Program	
In3 In5		Out3	Preset	e.
In7 In9	Quartz	Out5	Keyer 1 Fill	
In11	Router	Out7	Keyer 1 Key	QMC Master Control Switcher
In15		Out9	DVE Background	
L				





3.2. STEP 1: CONNECT 7700S2IP-RCL TO THE QMC MASTER CONTROL SWITCHER

- 1. Ensure there is no power applied to the 7700S2IP-RCL.
- 2. If using RS-422, connect the pins of the 7700S2IP-RCL to those of a serial port of the QMC master control switcher according to Figure 3-3 and Table 3-1.
- 3. If using RS-232, connect the pins of the 7700S2IP-RCL to those of a serial port of the QMC master control switcher according to Figure 3-4 and Table 3-2.
- 4. Apply power to the 7700S2IP-RCL.



Figure 3-3: RS-422 Pins

7700S2IP-RCL Pin Name	QMC Master Control Switcher Pin Name
TX-	RX-
TX+	RX+
GND	RX GND
RX-	TX-
RX+	TX+
GND	TX GND

Table 3-1: RS-422 Wiring





Figure 3-4: RS-232 Pins

7700S2IP-RCL Pin Name	QMC Master Control Switcher Pin Name
ТХ	RX
RX	ТХ
GND	GND

Table 3-2: RS-232 Wiring

3.3. STEP 2: CONNECT A PC TO THE DEBUG/MONITOR PORT

The network and SNMP parameters of the 7700S2IP-RCL must be configured via its debug/monitor port, the header of which is labelled J1. A special Evertz adapter cable allows this port to connect to the COM port of a personal computer. The following steps describe this procedure.

- 1. Locate the small, keyed, four-pin end of the upgrade cable provided by Evertz.
- 2. Connect it to the four-pin interface (J1) near the front of the 7700S2IP-RCL, directly above the card unlock latch.



Figure 3-5: Upgrade Jumper

- 3. Connect the other end of the upgrade cable to a straight-through serial cable. Connect the serial cable to the serial or COM port of the computer.
- 4. Initiate HyperTerminal on your computer by selecting: *"Start\Programs\Accessories\Communications\HyperTerminal"*.
- 5. Enter a name for your connection, for example: 7700S2IP-RCL.
- 6. Press the <Enter> key. A new "Connect To" window will appear.

Connect To		? ×
🧞 VIP		
Enter details for	the phone number that you want to	dial:
Country/region:	United States of America (1)	7
Ar <u>e</u> a code:	905	
Phone number:		
Connect using:	COM1	•
	OK Cance	el

Figure 3-6: 'Connect To' Window



- 7. In the "*Connect using*" region, select COM1 from the drop down menu. If COM1 is in use, select an alternate COM port.
- 8. Press the <Enter> key or select OK. This opens the "COM Properties" window.

COM1 Propertie	s		?×
Port Settings			
<u>B</u> its per	second: 11520)0	-
1	<u>)</u> ata bits: 8		▼
	Parity: None		<u> </u>
2	Stop bits: 2		
Elev			
<u>-</u> iov	v controit. J <u>acons</u>		
		<u>R</u> esta	ore Defaults
	ОК	Cancel	Apply

Figure 3-7: COM1 Properties

- 9. Enter the information for the COM1 Properties settings as listed in the screen above.
- 10. Press the <Enter> key or select OK. The "COM Properties" window closes, leaving the HyperTerminal window open.
- 11. Apply power if the 7700S2IP-RCL does not have power. The boot sequence and Main Menu are displayed in the HyperTerminal window.
- 12. If the 7700S2IP-RCL has power, press the <Enter> key to view the 7700S2IP-RCL's menu system.
- 13. Various 7700S2IP-RCL parameters are configurable via the 7700S2IP-RCL's menu system, the root of which is called *Main Menu*.



🏶 c3_dbg - HyperTerminal	
File Edit View Call Transfer Help	
Main Menu (7700S2IP-RCL v1.00 b25)	~
 (1) Network Configuration (2) SNMP Setup (3) Engineering/Debug 	
(X) Exit	
<	>
Connected 3:51:49 ANSI 115200 8-N-2 SCROLL CAPS NUM Capture Prin	nt echo //

Figure 3-8: HyperTerminal Main Menu

3.4. STEP 3: CONFIGURE NETWORK PARAMETERS

🏶 c3_dbg - HyperTerminal	
File Edit View Call Transfer Help	
Network Configuration (7700S2IP-RCL v1.00 b25)	
MAC: 00:02:c5:fe:cf:74 ip address: 192.168.18.54 netmask address: 255.255.255.0 gateway: 0.0.0.0 broadcast address: 192.168.18.255 DHCP enabled: False	
<pre>(1) Set IP Address (2) Set Netmask (3) Set Gateway (4) Set Broadcast Address (5) Use DHCP (S) Save and Exit (X) Exit</pre>	
Connected 4:29:28 ANSI 115200 8-N-2 SCROLL CAPS NUM Capture Print echo	1

Figure 3-9: 7700S2IP-RCL Network Configuration Menu

The network parameters of the 7700S2IP-RCL can only be configured by using its menu system.



- 1. From the Main Menu select Network Configuration.
- 2. Select Set IP Address then enter the IP address, 192.168.18.54, of the 770S2IP-RCL.
- 3. Select Set Netmask then enter the subnet mask, 255.255.255.0, of the 7700S2IP-RCL.
- Select Set Gateway to set the gateway IP address if the 7700S2IP-RCL resides on an IP network which differs from that of the controller(s), NTP server, or VLPro. The gateway can be left as 0.0.0.0 if the 7700S2IP-RCL and the controller(s), NTP server and VLPro reside on the same IP network.
- 5. For a manually entered network configuration, ensure *DHCP enabled* is set to *False*. A setting of *True* means the 7700S2IP-RCL will, upon boot, try to fetch network settings from a DHCP server. The *Use DHCP* entry permits changes to this parameter.
- 6. Once the network settings are configured, select *Save* and *Exit* before exiting the *Network Configuration* to save the settings, otherwise select *Exit*.
- 7. Reboot the 7700S2IP-RCL. This can be done by selecting *Engineering/Debug* from the *Main Menu*, then *Reboot*, then *y*.
- 8. Ensure the VLPro machine can ping the 7700S2IP-RCL.



The 7700S2IP-RCL must be rebooted for any network setting changes to take effect.



3.5. STEP 4: CONFIGURE SNMP TRAP DESTINATIONS

🌯 c3_dbg - HyperTerminal	
File Edit View Call Transfer Help	
I Trap Setup (7700S2IP-RCL v1.00 b25) 	
 (1) Set Trap IP Address (2) Remove Trap IP Address (S) Save and Exit (X) Exit > 1 Enter new trap destination IP address > 192.168.18.38	
 Trap Setup (7700S2IP-RCL v1.00 b25)	
Trap Destination 1: 192.168.18.38	
<pre>(1) Set Trap IP Address (2) Remove Trap IP Address (S) Save and Exit (X) Exit > s_</pre>	
Connected 4:37:33 ANSI 115200 8-N-2 SCROLL CAPS NUM Capture Print echo	

Figure 3-10: 7700S2IP-RCL Trap Destinations

The SNMP parameters, including the SNMP trap destinations, of the 7700S2IP-RCL can only be configured by using its menu system.

- 1. From the Main Menu select SNMP Setup.
- 2. Select Trap Setup.
- 3. Select Set Trap IP Address.
- 4. Enter the IP address of the host to receive SNMP traps. For our example this is 192.168.18.38.
- 5. Select Save and Exit to save the settings, otherwise select Exit.
- 6. The menu system of the 7700S2IP-RCL is no longer required. As such, the adapter cable can be removed from the debug/monitor port.



3.6. STEP 5: OPEN 7700S2IP-RCL VLPRO CONFIGURATION VIEW

@ VistaLINK PRO (Standalone) - 192.168.18.54	
File Tree Alarm Configuration Audit Preset Tools Window Help	
Tree 🐮 🏘 🦛 Views 🥾 🖳	
The transmission Tree 192.118.8.9.3	
Discovery Status Log	

Figure 3-11: VLPro Hardware Navigation Tree

- 1. Launch VLPro. The IP address of the 7700S2IP-RCL, 192.168.18.54, should appear in the hardware navigation tree.
- Right click on the IP address.
 Click *View Configuration*.



3.7. STEP 6: CONFIGURE NTP SERVER IP ADDRESS (OPTIONAL)

🤗 VistaLINK PRO (Standalu	one) - 192.168.18.54		
<u>File Tr</u> ee <u>A</u> larm <u>C</u> onfi	guration Au <u>d</u> it <u>P</u> reset <u>T</u> ools	s <u>W</u> indow <u>H</u> elp	
Tree 🔁 🧞 🐔 Mews 📖	R 14		
Navigation Tree	📟 192.168.18.54, 7700S2IPR0	CL: Configuration	
	Refresh 🩋 🙋 1.0 Apply 🌉	: 🖳	
L 🛲 192.168.18.54	General \QMC-2 Interface \C	ontroller Interface	
	-7700S2IP-RCL		Event Log
	MIB Revision	1	Current Number 2
	Firmware Version	1.00 build 25	Clear False
	Serial Number	0320700022	
	Reboot	False	Index
	-NTD		
	Server Ip Address	192.168.18.37	
	Packets Sent	0	
	Packets Received	0	
	-Current Date And Time		
	+/- h	h mm ss	
	Local Offset + 💌		
	yyyy mo	dd hh mm ss	
	UTC 2008 1	1 0 1 11	
	Local 2008 1	1 0 1 11	
	1		
Discourses Status	•		

Figure 3-12: Specifying NTP Server

The 7700S2IP-RCL maintains an event log. It is located on the *General* tab as shown in Figure 3-12. Each entry in the event log has a timestamp. If the 7700S2IP-RCL is not communicating with an NTP server, it will use the system up time in relation to January 1, 2008 for its event log timestamps. If the 7700S2IP-RCL is communicating with an NTP server, it will retrieve the UTC time from the server, calculate the local time using the *Local Offset* settings, and use the local time for its event log timestamps. To set the IP address of the NTP server:

- 1. From the VLPro configuration view, click the General tab.
- 2. Enter the IP address of the NTP server. For our example, this corresponds to 192.168.18.37.
- 3. Click the icon to the right of Apply.
- 4. Click the icon to the right of *Refresh*.



🔗 VistaLINK PRO (Standalo	ne) - 192.168.18.54	
<u>File Tree Alarm Confi</u>	guration Au <u>d</u> it <u>P</u> reset <u>T</u> ools <u>W</u> indow <u>H</u> elp	
Tree 🔁 🏘 🚮 Hews 🌉	R %	
Navigation Tree	📟 192.168.18.54, 7700S2IPRCL: Configuration	●
192.168.18.53	Refresh 🧶 🙋 1.0 Apply 🌉 🌉 🐉	
L 192.168.18.54	General \QMC-2 Interface \Controller Interface \	
	7700S2IP-RCL	Event Log
	MIB Revision 1	Current Number 2
	Firmware Version 1.00 build 25	Clear False
	Serial Number 0320700022	
	Reboot False 🔻	Index 2008/01/01 00:00:04 System initialized and running
	- NTD	200001/01 00.00.04 Oyotenn mitalaitea ana ranning
	Server Ip Address (0.0.0 to disable) 192.168.18.37	
	Packets Sent 1	
	Packets Received 1	
	Current Date And Time	
	+/- hh mm ss	
	Local Offset + • 0 • 0 • 0 •	
	yyyy mo dd hh mm ss	
	UTC 2008 2 5 17 29 29	
	Local 2008 2 5 17 29 29	
	4	
Discovery Status Log 🔲		

Figure 3-13: Checking NTP Server Communication

- 5. Notice how the number associated with *Packets Received* has become non-zero. This indicates the 7700S2IP-RCL is communicating with the NTP server.
- 6. The NTP server returns UTC time. To obtain the local time, set a local offset using the +/-, *hh*, *mm*, and *ss* local offset parameters. Be sure to follow by clicking the icon to the right of *Apply*.



3.8. STEP 7: CONFIGURE CONTROLLER INTERFACE PARAMETERS

🕞 VistaLINK PRO (Standalo	ne) - 192.168.18.54				
<u>F</u> ile T <u>r</u> ee <u>A</u> larm <u>C</u> onfig	uration Au <u>d</u> it <u>P</u> reset <u>T</u> ools <u>W</u> indow <u>H</u>	elp			
Tree 🔁 🏘 🚮 🛛 Mews 🖏 🛙	R 4				
🐠 Navigation Tree	192.168.18.54, 7700S2IPRCL: Configuration	n			
	Refresh 🧑 🧖 1.0 Apply 时 💥	\			
192.108.18.34	General \QMC-2 Interface Controller Interface	e /			
	Connguration	Primary	Controller	Secondar	y Controller
	Session Configuration Up-To-Date				
	Do Session Configuration Update	False 👻		False 👻	
	Area Name	area		lala	
	Video Level Name (optional)				
		Slot 1	Slot 2	Slot 1	Slot 2
	IP Address (0.0.0.0 to disable)	192.168.18.39	0.0.0.0	192.168.18.40	0.0.0.0
	TCP Port	12345	12345	12345	12345
	Transmit TCP Connection Established Faults		V	V	
	Transmit RCL Session Established Faults	V	V		
	Status				
		Primary	Controller	Secondar	y Controller
		Slot 1	Slot 2	Slot 1	Slot 2
	TCP Connection Established				
	RCL Session Established	•	-		
	Ctatistics				
	Statistics	Primary	Controller	Secondar	y Controller
		Slot 1	Slot 2	Slot 1	Slot 2
	Packets Transmitted To Controller	0	0	0	0
	Packets Received From Controller (no error)	0	0	0	0
	Packets Received From Controller (error)	0	0	0	0
	Response Timeouts	0	0	0	0
	Clear	False 🔹	False 👻	False 💌	False
	4				
Discovery Status				1	

Figure 3-14: Controller Interface Parameters

- 1. From the VLPro configuration view, click the Controller Interface tab.
- 2. Enter the area name of the primary controller. As per our example, the area name of the primary controller is *area*. The area name is case sensitive.
- 3. Enter the area name of the secondary controller. As per our example, the area name of the secondary controller is *lala*. The area name is case sensitive.
- 4. Optionally, enter the name of the video level used by the primary controller. **The level name is case sensitive.** If no level is specified then the 7700S2IP-RCL will indicate all levels when issuing the crosspoint switch request.



- 5. Optionally, enter the name of the video level used by the secondary controller. **The level name is case sensitive.** If no level is specified then the 7700S2IP-RCL will indicate all levels when issuing the crosspoint switch request.
- 6. Enter the IP address of the primary system controller in slot 1. As per our example, this is 192.168.18.39.
- 7. Enter the IP address of the secondary system controller in slot 1. As per our example, this is 192.168.18.40.
- 8. By default, the system controllers listen on TCP port 12345 for incoming connection requests. If this value has been modified, then the appropriate TCP port needs to be specified for the system controllers.
- 9. Click the icon to the right of Apply.
- 10. Click the icon to the right of Refresh.



🤗 VistaLINK PRO (Standalo	ne) - 192.168.18.54				
<u>F</u> ile T <u>r</u> ee <u>A</u> larm <u>C</u> onfig	uration Au <u>d</u> it <u>P</u> reset <u>T</u> ools <u>W</u> indow <u>H</u>	elp			
Tree 🔁 🏘 🐔 Mews 📖	R 14				
Navigation Tree	192.168.18.54, 7700S2IPRCL: Configuration	1			<u>^</u>
— — 192.168.18.53	Refresh 🩋 🩋 1.0 Apply 📑 🙀				
····· · · · · · · · · · · · · · · · ·	General \QMC-2 Interface Controller Interface	e /			
	Configuration	Primary	Controller	Secondar	v Controller
	Session Configuration Up-To-Date				
	Do Session Configuration Update	False 👻		False 👻	
	Area Name	area		lala	
	Video Level Name (optional)				
		Slot 1	Slot 2	Slot 1	Slot 2
	IP Address (0.0.0.0 to disable)	192.168.18.39	0.0.0.0	192.168.18.40	0.0.0.0
	TCP Port	12345	12345	12345	12345
	Transmit TCP Connection Established Faults				
	Transmit RCL Session Established Faults	¥	¥		
	Status				
	Janus	Primary	Controller	Secondar	y Controller
		Slot 1	Slot 2	Slot 1	Slot 2
	TCP Connection Established				
	RCL Session Established	-	-	•	
	Stausuus	Primary	Controller	Secondar	y Controller
		Slot 1	Slot 2	Slot 1	Slot 2
	Packets Transmitted To Controller	0	0	0	0
	Packets Received From Controller (no error)	0	0	0	0
	Packets Received From Controller (error)	0	0	0	0
	Response Timeouts	0	0	0	0
	Clear	False 🔻	False 🔹	False 🔻	False
	4				
Discovery Status Log					

Figure 3-15: Session Configuration Update Indication

11. Notice that the color of the status box associated with *Session Configuration Up-To-Date* is red. This indicates that, although the 7700S2IP-RCL has received the area name and IP address changes, it has not yet begun to use these parameters in communications with the system controllers. To rectify this, set *Do Session Configuration Update* combo boxes to *True*.



🔗 VistaLINK PRO (Standalo	ne) - 192.168.18.54					
<u>F</u> ile T <u>r</u> ee <u>A</u> larm <u>C</u> onfig	uration Au <u>d</u> it <u>P</u> reset <u>T</u> ools <u>W</u> indow <u>H</u>	elp				
Tree 🐮 🧞 🐔 Views 🛝	R 11					
🛞 Navigation Tree	192.168.18.54, 7700S2IPRCL: Configuration	1				
	Refresh 🧞 🗞 1.0 Apply 🎼 🎉 🧦					
192.168.18.54	General \QMC-2 Interface \Controller Interface	e /				
	Configuration	Drimonu	Controllor	Cocondor	u Controllor	
	Coopies Configuration Un To Date					
	De Receier Configuration Op-10-Date	Tau				
	Do Session Configuration Optiate			lele		
	Area Name	area				
	Video Level Name (optional)		01-4-0		01-1-0	
	IP Address (U.U.U.U to disable)	192.168.18.39		192.168.18.40		
	TCP Port	12345	12345	12345	12345	
	Transmit TCP Connection Established Faults		¥	¥		
	Transmit RCL Session Established Faults	 Image: A start of the start of	¥	V	M	
	Status					-
		Primary	Controller	Secondar	y Controller	
		Slot 1	Slot 2	Slot 1	Slot 2	
	TCP Connection Established		-	•		
	RCL Session Established		•	•		
	-Statistica					
	Stausuus	Primary	Controller	Secondar	y Controller	
		Slot 1	Slot 2	Slot 1	Slot 2	
	Packets Transmitted To Controller	0	0	0	0	
	Packets Received From Controller (no error)	0	0	0	0	
	Packets Received From Controller (error)	0	0	0	0	
	Response Timeouts	0	0	0	0	
	Clear	False 👻	False 👻	False 👻	False 🔻	
	 vi					
Discovery Status Log 🔲	<u>N</u>					

Figure 3-16: Conducting a Session Configuration Update

- 12. Click the icon to the right of *Apply*. After approximately 5 seconds, the 7700S2IP-RCL will attempt to open a TCP connection with the system controllers. If successful, it will attempt to establish RCL sessions.
- 13. Click the icon to the right of *Refresh*.



🤗 VistaLINK PRO (Standalo	me) - 192.168.18.54				
<u>F</u> ile T <u>r</u> ee <u>A</u> larm <u>C</u> onfig	guration Au <u>d</u> it <u>P</u> reset <u>T</u> ools <u>W</u> indow <u>H</u>	lelp			
Tree 🔁 🧞 🐔 🛛 Mews 🖏	R 1				
Navigation Tree	192 168 18.54, 7700S2IPRCL: Configuration	n			-
	Refresh 🧞 🗞 1.0 Apply 片 🤐				
 192.168.18.54	General (QMC-2 Interface) Controller Interface	e /			
	Configuration	Primory (Controllor	Socondar	v Controllor
	Receipe Configuration Un To Date				
	De Section Configuration Undate	Ealea -		Ealea 👻	
	Area Nama				
	Video Lovel Name (optional)				
		Plot 1	Plot 2	Plot 1	Plot 2
	IR Address (0.0.0.0 to discribe)	102 169 19 20			
	TCD Dort	132.100.10.33	12245	100.10.40	12245
	Transmit TCB Connection Established Foults	[12345]	[12345]	[12345] [2]	12343
	Transmit DOL Dession Established Faults				
			Image: 1 = 1		
	Status				
		Primary (Controller	Secondar	y Controller
		Slot 1	Slot 2	Slot 1	Slot 2
	TCP Connection Established		-		•
	RCL Session Established		-		
	- Statistics				
	Gallolioo	Primary (Controller	Secondar	y Controller
		Slot 1	Slot 2	Slot 1	Slot 2
	Packets Transmitted To Controller	5	0	5	0
	Packets Received From Controller (no error)	7	0	7	0
	Packets Received From Controller (error)	0	0	0	0
	Response Timeouts	0	0	0	0
	Clear	False 👻	False 👻	False 🔹	False
Discovery Status					

Figure 3-17: Checking System Controller Communication

- 14. Notice that the Session Configuration Up-To-Date status box has changed from red to green indicating that the 7700S2IP-RCL is using the specified controller interface parameters in communications with the system controllers.
- 15. Notice further that the *TCP* Connection Established status and *RCL* Session Established status boxes have also changed from red to green indicating the 7700S2IP-RCL has established both a TCP connection and RCL session with the primary and secondary slot 1 system controllers.



3.9. STEP 8: ASSOCIATE CONTROLLER DESTINATIONS WITH QMC-2 INPUTS

192.1	68 18 55, 7700 S2IF	PRCL: Config	uration														of 🖾 🔤
Refresh 🌡	🖞 🙋 1.0 Apply	1 4 1 4 1 4	4														
Genera	QMC-2 Interface	Controller In	nterface \														
Destina	ations											Sources				-1	
		Controller			Primar	y Controller			Sec Transmit	ondary Controll	er		Controller Source	Primary Controller	Secondary Controller		Primary Controller
		Destina-		Cross-	Crosspoin	t		Cross-	Crosspoir	t	1011	Numb	Alias	Source	Source		Number Source
Numbr	vr OMC 2 Innut	tion	Cross-	point Motob	Match Foulto	Destina-	Cross-	point Motob	Match Foulto	Destina-	Cross-						1 • In1P •
4	Brogrom		point				point				point	1					Set
4	Propot											2					
2	Fiesel									-		3					Secondary Controller
3	Keyer i Fill			2								4					Number Source
4	Keyer 1 Key											5					1 • In18 •
5	Keyer 2 Fill		_									6					Set
6	Keyer 2 Key		-							-		7					
7	Keyer 3 Fill				¥				4			8					
8	Keyer 3 Key				V				V			9					
9	Emergency			•					V			10					
10	DVE Background		-		 Image: A start of the start of							11					
11	Voice Over 1				¥				1			12					
12	Voice Over 2				V				V			13					
13	Spare 1				V							14					
14	Spare 2		_		V				2			15					
15	Spare 3				V				1	2		16					
16	Spare 4				V				\checkmark			17					
			ſ	QMC-2 Inp	ut De	stination		QMC-2	Input	Destination		18					
			l	Filogram	- UI			Fingh						L	1 had		
				L	261				58								
Genera Configu Up-To-E	ration Do Date Up	Configuratio	n False 🔻	Stat Pack To Q	istics et Transmitte MC-2	ed 1	Pa Fri	icket Receiv om QMC-2	red	c	ear False 🔻						
Levels			Serial Port S	ettings			-1 - (11 - 770										
Video Li	evel M1		Note: Change Baud 31	es to these p 3400 🔹	Darameters n Data	a Bits 8	ot of the /70	rity None	• s	top Bits 1	Standard R	8-232 🔻					

Figure 3-18: QMC-2 Interface Parameters

- 1. From the VLPro configuration view, click the QMC-2 Interface tab.
- 2. Use the QMC-2 Input and Destination combo boxes to associate a controller destination with a QMC-2 input. For instance, our example requires destination Out3P and Out3S to be connected to the Preset input for the primary and secondary controller respectively. Clicking the primary's Destination combo box allows us to select Out3P. Clicking the QMC-2 Input combo box allows us to select Preset. This is shown in Figure 3-19.



	192.16	8.18.55, 7700S2H	PRCL: Config	uration 💥								
Refre	esh 🌌	OMC-2 Interface	💕 🖳 😽	farface)								
rDe	estinat	ions	J controller it	nenace)								
						Prim	nary Controller			Seco	ndary Controll	er
			Controller Destina-		Cross-	Transm	it oint		Cross-	Transmit Crossnoint		
			tion	Cross-	point	Match	Destina-	Cross-	point	Match	Destina-	Cross-
Nu	umber	QMC-2 Input	Alias	point	Match	Faults	tion	point	Match	Faults	tion	point
1	1	Program				¥				Y		
2	1	Preset		0		1				1		
3	1	Keyer 1 Fill				1				V		
4	1	Keyer 1 Key				1				V		
5	Ì	Keyer 2 Fill				V				V		
6	1	Keyer 2 Key				1				V		
7	(Keyer 3 Fill				V				V		
8	3	Keyer 3 Key				V				V		
9	i.	Emergency								V		
10	1	DVE Background				1				V		
11	1	Voice Over 1				1				V		
12	! '	Voice Over 2				1				V		
13)	Spare 1				V						
14	i i	Spare 2				¥				V		
15	i i	Spare 3				V				¥		
16	i 1	Spare 4				V				1		
				1	QMC-2 Inp	ut [Destination		QMC-2	Input	Destination	
					Preset				Preset			<u> </u>
						Set				Set		

Figure 3-19: Router Destination to QMC-2 Input

3. Click the Set button. Notice how the router destination name moves to the appropriate text box.



192.168.18.55, 7700S2IPRCL: Configuration
 Refrest
 20
 10
 4000

									-		
		Controller Destina-	Cross	Cross-	Transm Crossp	it oint	Cross	Cross-	Sec Transmit Crosspoli	nt	Croop
Number	QMC-2 Input	Alias	point	Match	Faults	tion	point	Match	Faults	tion	point
1 Pri	ogram				V						
2 Pri	eset				V	Out3P			V	Out3S	
3 Ke	yer 1 Fill				1				V		
4 Ke	yer 1 Key				1				1		
5 Ke	yer 2 Fill				V				V		
6 Ke	yer 2 Key				V				V		
7 Ke	yer 3 Fill				1				V		
8 Ke	yer 3 Key				1				V		
9 En	nergency				V						
10 DV	E Background				V				V		
11 Vo	ice Over 1				¥				\checkmark		
12 Vo	ice Over 2				1				1		
13 Sp	are 1				V	-			V		
14 Sp	are 2				V				V		
15 Sp	are 3				V				V		
16 Sp	are 4				1				1		
				QMC-2 Inp Preset	out -	Destination Out3P 👻]	QMC-2 Prese	Input t •	Destination Out3S	•
					Set				Se	et	

Figure 3-20: Using Destination Combo Box

4. Specify a controller destination alias as shown by Figure 3-21.



Ę	1 92.1	68.18.55, 770082lF	PRCL: Config	uration								
F	Refresh 🠇	2 🧞 1.0 Apply	B y B y B y	:								
	General	QMC-2 Interface	Controller Ir	iterface \								
	Destina	tions				Prima	ary Controller			Secor	ndary Controlle	er
			Controller		-	Transmit				Transmit		
			Destina- tion	Cross-	Cross- point	Crosspoi Match	nt Destina-	Cross-	Cross- point	Crosspoint Match	Destina-	Cross-
	Numbe	r QMC-2 Input	Alias	point	Match	Faults	tion	point	Match	Faults	tion	point
	1	Program					-			V		
	2	Preset	Out3			V	Out3P			V	Out3S	
	3	Keyer 1 Fill				1				V		
	4	Keyer 1 Key				1				¥		
	5	Keyer 2 Fill				1				V		
	6	Keyer 2 Key				V				V		
	7	Keyer 3 Fill				1				V		
	8	Keyer 3 Key				1				1		
	9	Emergency				V				V		
	10	DVE Background				V				V		
	11	Voice Over 1				1				V		
	12	Voice Over 2				1				¥		
	13	Spare 1				1				V		
	14	Spare 2				V				V		
	15	Spare 3				1				V		
	16	Spare 4				1				¥		
				ſ	QMC-2 Inpu	It De	estination		QMC-2	Input	Destination	
				l	Preset			C.	Preset	•		-
					L	Set				Set		

Figure 3-21: Specifying a Destination Alias

5. Repeat the process for the remaining QMC-2 inputs as per Figure 3-22.



m 192.168.18.55, 7700S2IPRCL: Configuration



Figure 3-22: All QMC-2 Inputs Specified

6. Click the icon to the right of Apply.



3.10. STEP 9: SELECT CONTROLLER SOURCES

Sources				_
Numb	Controller Source Alias	Primary Controller Source	Secondary Controller Source	Primary Controller Number Source
1	In1	In1P	In1S	Set
2	In3	In3P	In3S	
3	In5	In5P	In5S	Secondary Controller
4	In7	In7P	In7S	Number Source
5	In9	In9P	In9S	8 🕶 [In155 💌
6	In11	In11P	In11S	Set
7	In13	In13P	In138	
8	In15	In15P	In158	
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				▼

Figure 3-23: Selecting Controller Inputs

- 1. From the VLPro configuration view, click the QMC-2 Interface tab.
- 2. Use the *Source* and *Number* combo boxes, along with the *Set* button, to specify the controller sources to be used by the QMC-2.
- 3. Specify the control source aliases.
- 4. Click the icon to the right of Apply.



Make the controller sources contiguous.



3.11. STEP 10: PERFORM A QMC-2 SESSION CONFIGURATION UPDATE

Figure 3-23 shows a red *Configuration Up-To-Date* status box. This means that the 7700S2IP-RCL has yet to begin using the modified QMC-2 parameters. To rectify this:

- 1. Set the Do Configuration Update combo box to True.
- 2. Click the icon to the right of Apply.
- 3. Click the icon to the right of *Refresh*.
- 4. Notice that the Configuration Up-To-Date status box is now green (as shown in Figure 3-24).

192.168.18.55, 7700S2IPRCL: Configuration									
Refresh 🧞 🧞 1.0 Apply 🎉 🞉									
General QMC-2 Interface Controller Interface									
Destinations									
	Controller		Primary Controller			Secondary Controller			
	Destina-	c	Cross- Crossp	oint		Cross- Crosspoint			
	tion C	ross- p	ooint Match	Destina-	Cross-	point Match	Destina-	Cross-	
Number QMC-2 Input	Allas pi	oint N	natch Faults	tion	point	Match Faults	tion	point	
1 Program	Out1	In1		Out1P	In1P		Out1S	In1S	
2 Preset	Out3	In3		Out3P	In3P		Out3S	In3S	
3 Keyer 1 Fill	Out5	In5		Out5P	In5P		Out5S	In5S	
4 Keyer 1 Key	Out7	In7		Out7P	In7P		Out7S	In7S	
5 Keyer 2 Fill									
6 Keyer 2 Key									
7 Keyer 3 Fill					li				
8 Keyer 3 Key					i				
9 Emergency									
10 DVE Background	Out9	In9		Out9P	In9P		Out9S	In9S	
11 Voice Over 1									
12 Voice Over 2									
13 Spare 1									
14 Spare 2									
15 Spare 3									
16 Spare 4									
		6	QMC-2 Input	Destination		QMC-2 Input	Destination	3	
Set									

Figure 3-24: Checking QMC-2 Configuration Up-To-Date Status



4. FIRMWARE UPGRADE

There are two ways to upgrade 7700S2IP-RCL firmware:

- 1. Using FTP to perform the upgrade via TCP/IP. (recommended procedure)
- 2. Using a terminal application such as *HyperTerminal* to perform the upgrade via a serial connection.

4.1. FTP

- 1. Open a command prompt window (in Windows: *Start/Programs/Accessories/Command Prompt*)
- 2. Enter the location of the firmware file. For example, type *cd c:\temp*.
- 3. Enter the command *ftp* followed by the 7700S2IP-RCL IP address. For example, type *ftp* –*A* 192.168.18.22.
- 4. Enter the FTP command *put* followed by the firmware file name. For example, *put* 7700S2IP-RCL.bin.
- 5. When the transfer is complete enter the FTP command: bye.
- 6. Step 5 begins the process of saving the firmware to the non-volatile flash of the 7700S2IP-RCL. The save process is displayed as a percentage on the 7700S2IP-RCL LCD. Once the process is complete, the 7700S2IP-RCL LCD again displays the product name and firmware version.
- 7. Power off the 7700S2IP-RCL.
- 8. Power on the 7700S2IP-RCL.

4.2. SERIAL

- 1. Power off the 7700S2IP-RCL.
- 2. Connect an adapter cable to a PC running a console or terminal application, such as Windows *HyperTerminal*, to the 7700S2IP-RCL debug/monitor port.
- 3. Configure the port settings of the terminal program as follows:

Baud	115200
Parity	no
Data bits	8
Stop bits	2
Flow Control	None

- 4. Set the 7700S2IP-RCL run/upgrade jumper to the upgrade position.
- 5. Power on the 7700S2IP-RCL.
- 6. After a few moments, the prompt *PPCBOOT*> will appear. Enter the command *upload*.
- 7. Start the firmware upload on the terminal application (for instance, in *HyperTerminal* select *Transfer/Send File...*), use Xmodem as the transfer protocol, and select the firmware file. For example, 7700S2IP-RCL.bin.
- 8. Once the upload is complete the message upload okay is displayed.
- 9. Power off the 7700S2IP-RCL.
- 10. Set the 7700S2IP-RCL run/upgrade jumper to the run position.
- 11. Remove the serial adapter cable.
- 12. Power on the 7700S2IP-RCL.



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