

TABLE OF CONTENTS

1. OVERVIEW.....	1
1.1. PORTS	1
1.2. UMD PROTOCOLS.....	2
1.2.1. Incoming.....	2
1.2.2. Outgoing.....	2
1.3. TYPICAL USAGE	2
2. SERIAL PORT CONFIGURATION	2
3. PROTOCOL TRANSLATION CONFIGURATION.....	3
3.1. INCOMING PORTS	3
3.2. OUTGOING PORTS	4
4. ETHERNET OUTPUT EXAMPLES	5
4.1. EXAMPLE 1: SINGLE UP/DOWN TIMER TO SINGLE UMD	5
4.2. EXAMPLE 2: TWO UP/DOWN TIMERS, EACH TO ITS OWN UMD	6
4.3. EXAMPLE 3: TWO UP/DOWN TIMERS, 1 IMAGE VIDEO CONSOLE.....	8
4.4. EXAMPLE 4: 8 UP/DOWN TIMERS, EACH TO ITS OWN UMD	10
4.5. EXAMPLE 5: 1 UP/DOWN TIMER TO 2 PPVs.....	13
5. SERIAL OUTPUT EXAMPLES	15
5.1. EXAMPLE 1: SINGLE UP/DOWN TIMER TO SINGLE UMD	15
5.2. EXAMPLE 2: TWO UP/DOWN TIMERS, EACH TO ITS OWN UMD	17
5.3. EXAMPLE 3: ONE TSL CONSOLE TO SINGLE UMD	18
6. BACKPLATE CONNECTIONS	20
6.1. UP/DOWN TIMER	20
6.1.1. RS-232 Connection.....	20
6.1.2. RS-422 Connection.....	20

6.2. IMAGE VIDEO CONSOLE	21
6.2.1. DB9 Pin Out For Com 8 – 12	21
6.2.2. RS-422 Connection	21
6.3. GENERIC	21
6.3.1. RS-232	21
6.3.2. RS-422	21

Figures

Figure 1: 7700PTX Ports	1
Figure 2: Typical Network Environment	2
Figure 3: Jumper Locations for Rev A and Rev 1 DA Cards	3
Figure 4: Outgoing Port Configuration	4
Figure 5: Example 1 Setup	5
Figure 6: Example 1 Configuration	6
Figure 7: Example 2 Setup	7
Figure 8: Example 2 Configuration	7
Figure 9: Example 2 Configuration	8
Figure 10: Example 3 Setup	9
Figure 11: Example 3 Configuration	10
Figure 12: Example 4 Setup	11
Figure 13: Example 4 PTX1 Configuration	12
Figure 14: Example 4 PTX2 Configuration	13
Figure 15: Example 5 Setup	14
Figure 16: Example 5 Configuration	15
Figure 17: Serial Example 1 Setup	16
Figure 18: Serial Example 1 Configuration	16
Figure 19: Serial Example 2 Setup	17
Figure 20: Serial Example 2 Configuration	18
Figure 21: Serial Example 3 Setup	19
Figure 22: Serial Example 3 Configuration	19

Tables

Table 1: Serial Port Parameters	3
Table 2: Outgoing Port Configuration Fields	4

REVISION HISTORY

<u>REVISION</u>	<u>DESCRIPTION</u>	<u>DATE</u>
0.1	Preliminary Version	Oct 04

Preliminary

1. OVERVIEW

1.1. PORTS

The PTX is an under monitor display (UMD) protocol converter that has the following external ports:

- 4 serial ports
- 1 monitoring & debug port
- 1 10/100 Ethernet port

These are illustrated in Figure 1.

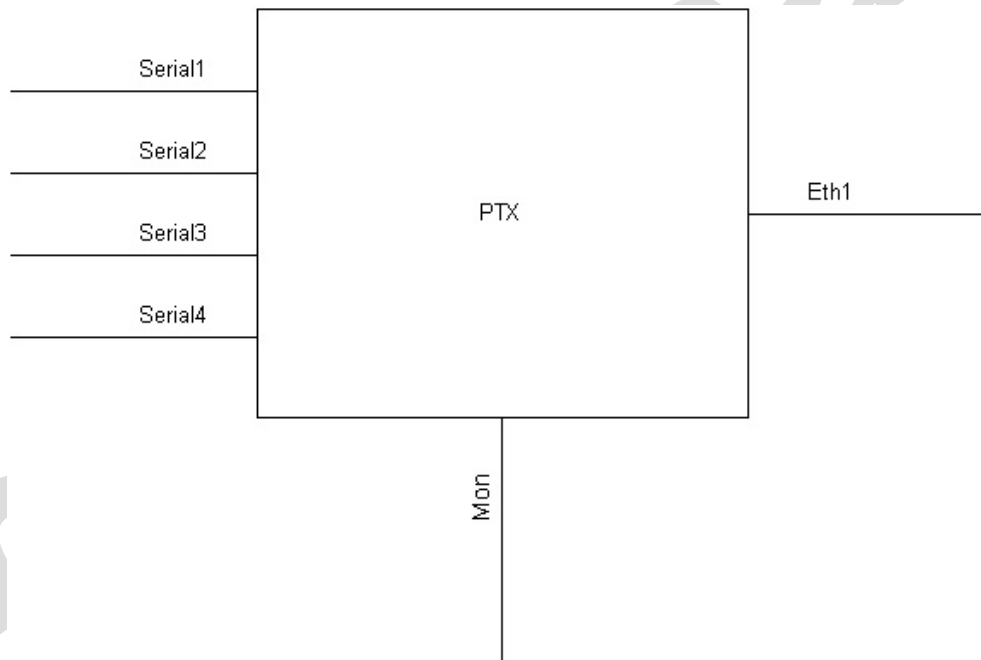


Figure 1: 7700PTX Ports

As one might expect, the basic idea behind the PTX is to translate some UMD protocol received on one port to some other protocol destined for a different port. Generally speaking, only one protocol stream is accepted per port. For Ethernet, however, up to 4 are supported – 1 for each unique TCP port (which is configurable). Therefore, a total of up to 8 incoming UMD protocol streams are supported.

1.2. UMD PROTOCOLS

1.2.1. Incoming

The PTX will support the following incoming protocols for translation:

1. Leitch Up/Down timer
2. Image Video
3. Television Systems Limited (TSL)

1.2.2. Outgoing

The PTX will transmit only the Image Video protocol

1.3. TYPICAL USAGE

A typical network setup might consist of the following where the serial protocols received on ports *Serial1*, *Serial2*, and *Serial3* are translated then sent to the MVP devices on the Ethernet network:

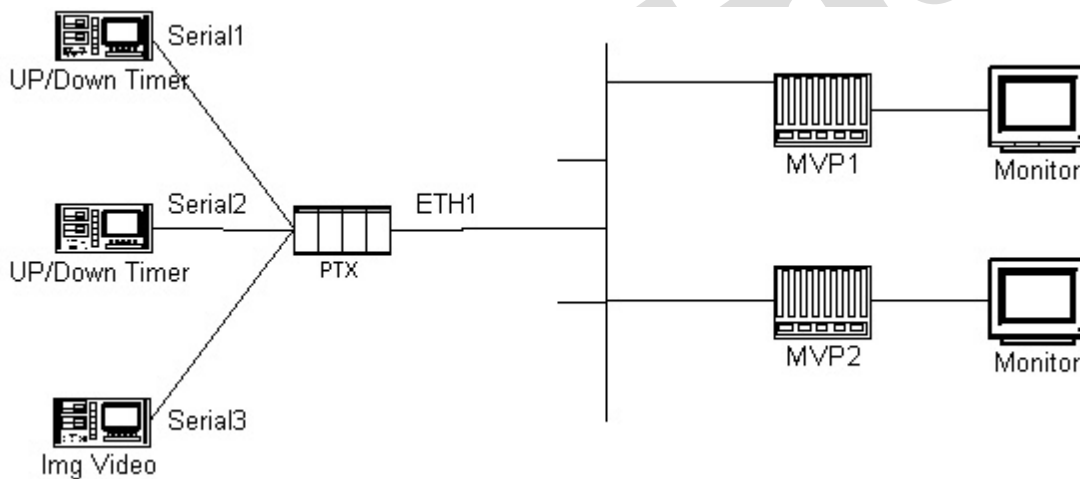


Figure 2: Typical Network Environment

2. SERIAL PORT CONFIGURATION

Table 1 below lists the parameters associated with configuring the serial ports. Unless otherwise noted, the parameters apply to all serial ports.

Parameter	Notes
Baud Rate	
Data Bits	
Parity	
Stop Bits	
Standard	For serial port 4, only RS-232 is valid.

Table 1: Serial Port Parameters

3. PROTOCOL TRANSLATION CONFIGURATION

3.1. INCOMING PORTS

Figure 3 below provides a conceptual view of how the incoming ports are configured.

Incoming				
Port	Sub-Port	IP Address	TCP Port	Protocol
Serial1				☒ None
				☐ Up/Down
				☐ Img Vid
				☐ TSL
Serial2				☒ None
				☐ Up/Down
				☐ Img Vid
				☐ TSL
Serial3				☒ None
				☐ Up/Down
				☐ Img Vid
				☐ TSL
Serial4				☒ None
				☐ Up/Down
				☐ Img Vid
				☐ TSL
Eth1	1			☒ None
				☐ Up/Down
				☐ Img Vid
				☐ TSL
	2			☒ None
				☐ Up/Down
				☐ Img Vid
				☐ TSL
	3			☒ None
				☐ Up/Down
				☐ Img Vid
				☐ TSL
	4			☒ None
				☐ Up/Down
				☐ Img Vid
				☐ TSL

Figure 3: Jumper Locations for Rev A and Rev 1 DA Cards

7700 MultiFrame Manual

7700PTX-MVP UMD Protocol Converter

An incoming protocol stream is identified by its associated port/sub-port combination. Serial ports have no sub-ports. The Ethernet port has 4. To enable a port/sub-port combination, a protocol other than “None” needs to be selected. For serial ports, this is all the configuration necessary. For the Ethernet port, the additional configuration of an IP address and TCP port is required for each sub-port. The TCP ports need to be unique and they can be any user-assigned value. It is suggested, however, that a port ranging between the values of 9800 and 9810 be used.

3.2. OUTGOING PORTS

Figure 4 provides a conceptual view of how the outgoing ports are configured.

Ser1 Outgoing Pool				Ser4 Outgoing Pool			
	Dst Disp Id	Src Port	Src Sub-Port		Dst Disp Id	Src Port	Src Sub-Port
1				1			
2				2			
3				3			
4				4			

Eth1 Outgoing Pool					
	IP Address	TCP Port	Dst Disp Id	Src Port	Src Sub-Port
1					
2					
3					
4					
5					
6					
7					
8					

Figure 4: Outgoing Port Configuration

Table 2 provides a description of each of these fields.

Number	Field Name	Description
1	IP Address	IP address of the destination.
2	TCP Port	TCP port used for this outgoing stream.
3	Dst Disp Id	Image Video display section ID (required when and has significance only if the incoming protocol received by the indicated source port/sub-port is not Image Video nor TSL).
4	Src Port	Incoming source port.
5	Src Sub-Port	Incoming source sub-port.

Table 2: Outgoing Port Configuration Fields

These tables provide the routing information between the incoming and outgoing protocol streams.

4. ETHERNET OUTPUT EXAMPLES

4.1. EXAMPLE 1: SINGLE UP/DOWN TIMER TO SINGLE UMD

For the first example, suppose we have the setup of Figure 5 where:

- an up/down timer is connected to the PTX via serial 1
- it's output is intended for a PPV with a single UMD (PID 1)

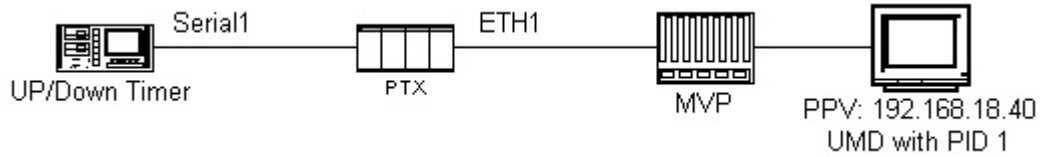


Figure 5: Example 1 Setup

7700 MultiFrame Manual

7700PTX-MVP UMD Protocol Converter

The corresponding configuration would be:

Incoming					Eth1 Outgoing Pool					
Port	Sub-Port	IP Address	TCP Port	Protocol		IP Address	TCP Port	Dst Disp Id	Src Port	Src Sub-Port
Serial1				☐ None	1	192.168.18.40	9803	1	Ser1	
				☒ Up/Down	2					
				☐ Img Vid	3					
				☐ TSL	4					
Serial2				☒ None	5					
				☐ Up/Down	6					
				☐ Img Vid	7					
				☐ TSL	8					
Serial3				☒ None						
				☐ Up/Down						
				☐ Img Vid						
				☐ TSL						
Serial4				☒ None						
				☐ Up/Down						
				☐ Img Vid						
				☐ TSL						
Eth1	1			☒ None						
				☐ Up/Down						
				☐ Img Vid						
				☐ TSL						
	2			☒ None						
				☐ Up/Down						
				☐ Img Vid						
				☐ TSL						
	3			☒ None						
				☐ Up/Down						
				☐ Img Vid						
				☐ TSL						
	4			☒ None						
				☐ Up/Down						
				☐ Img Vid						
				☐ TSL						

Figure 6: Example 1 Configuration

4.2. EXAMPLE 2: TWO UP/DOWN TIMERS, EACH TO ITS OWN UMD

For the next example, suppose we had the setup of Figure 7 where:

- an up/down timer is connected via serial 1
- its output is intended for the first UMD (PID 1) of a PPV with 2 UMDs
- a second up/down timer is connected via serial 2
- its output is intended for the second UMD (PID 2) of the same PPV

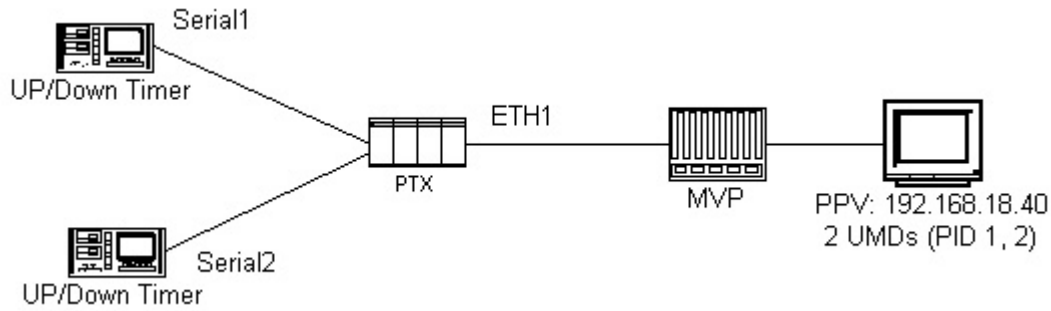


Figure 7: Example 2 Setup

The corresponding configuration would be:

Incoming					Eth1 Outgoing Pool				
Port	Sub-Port	IP Address	TCP Port	Protocol	IP Address	TCP Port	Dst Disp Id	Src Port	Src Sub-Port
Serial1				☐ None	1	192.168.18.40	9803	1	Ser1
				☒ Up/Down	2	192.168.18.40	9803	2	Ser2
				☐ Img Vid	3				
				☐ TSL	4				
Serial2				☐ None	5				
				☒ Up/Down	6				
				☐ Img Vid	7				
				☐ TSL	8				
Serial3				☒ None					
				☐ Up/Down					
				☐ Img Vid					
				☐ TSL					
Serial4				☒ None					
				☐ Up/Down					
				☐ Img Vid					
				☐ TSL					
Eth1	1			☒ None					
				☐ Up/Down					
				☐ Img Vid					
				☐ TSL					
	2			☒ None					
				☐ Up/Down					
				☐ Img Vid					
				☐ TSL					
	3			☒ None					
				☐ Up/Down					
				☐ Img Vid					
				☐ TSL					
	4			☒ None					
				☐ Up/Down					
				☐ Img Vid					
				☐ TSL					

Figure 8: Example 2 Configuration

7700 MultiFrame Manual

7700PTX-MVP UMD Protocol Converter

Incoming					Eth1 Outgoing Pool					
Port	Sub-Port	IP Address	TCP Port	Protocol		IP Address	TCP Port	Dst Disp Id	Src Port	Src Sub-Port
Serial1				☐ None	1	192.168.18.40	9803	1	Ser1	
				☒ Up/Down	2	192.168.18.40	9803	2	Ser2	
				☐ Img Vid	3					
				☐ TSL	4					
Serial2				☐ None	5					
				☒ Up/Down	6					
				☐ Img Vid	7					
				☐ TSL	8					
Serial3				☒ None						
				☐ Up/Down						
				☐ Img Vid						
				☐ TSL						
Serial4				☒ None						
				☐ Up/Down						
				☐ Img Vid						
				☐ TSL						
Eth1	1			☒ None						
				☐ Up/Down						
				☐ Img Vid						
				☐ TSL						
	2			☒ None						
				☐ Up/Down						
				☐ Img Vid						
				☐ TSL						
	3			☒ None						
				☐ Up/Down						
				☐ Img Vid						
				☐ TSL						
	4			☒ None						
				☐ Up/Down						
				☐ Img Vid						
				☐ TSL						

Figure 9: Example 2 Configuration

4.3. EXAMPLE 3: TWO UP/DOWN TIMERS, 1 IMAGE VIDEO CONSOLE

For this example, suppose we have the setup given in Figure 10 where:

- an up/down timer is connected via serial 1
- its output is intended for the first 2 UMDs (PID 1,2) of a PPV with 8 UMDs
- a second up/down timer is connected via serial 2
- its output is intended for the next 2 UMDs (PID 3,4) of the same PPV
- an image video console is connected via serial 3
- it is configured to drive the last 4 UMDs (PID 5,6,7,8) of the same PPV

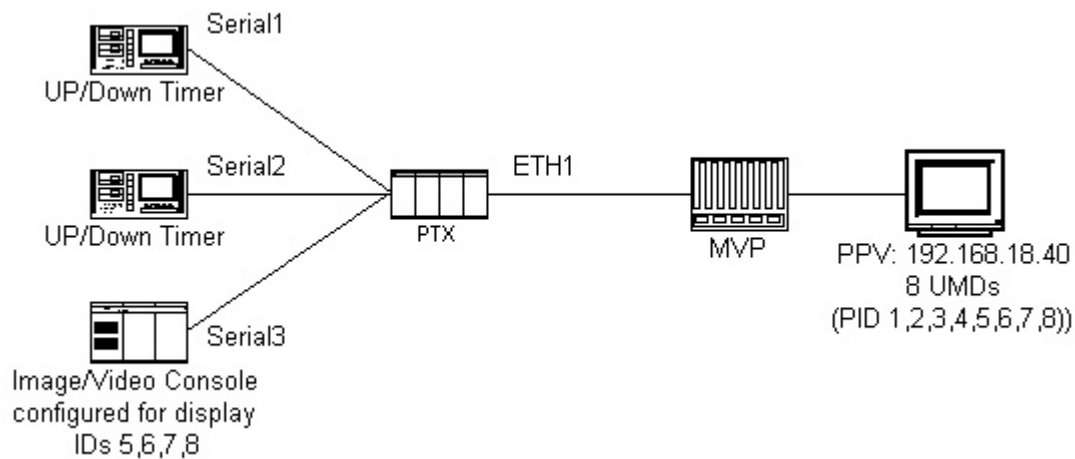


Figure 10: Example 3 Setup

The corresponding configuration would be:

7700 MultiFrame Manual

7700PTX-MVP UMD Protocol Converter

Incoming					Eth1 Outgoing Pool					
Port	Sub-Port	IP Address	TCP Port	Protocol		IP Address	TCP Port	Dst Disp Id	Src Port	Src Sub-Port
Serial1				☐ None	1	192.168.18.40	9803	1,2	Ser1	
				☒ Up/Down	2	192.168.18.40	9803	3,4	Ser2	
				☐ Img Vid	3	192.168.18.40	9803	32768	Ser3	
				☐ TSL	4					
Serial2				☐ None	5					
				☒ Up/Down	6					
				☐ Img Vid	7					
				☐ TSL	8					
Serial3				☐ None						
				☐ Up/Down						
				☒ Img Vid						
				☐ TSL						
Serial4				☒ None						
				☐ Up/Down						
				☐ Img Vid						
				☐ TSL						
Eth1	1			☒ None						
				☐ Up/Down						
				☐ Img Vid						
				☐ TSL						
	2			☒ None						
				☐ Up/Down						
				☐ Img Vid						
				☐ TSL						
	3			☒ None						
				☐ Up/Down						
				☐ Img Vid						
				☐ TSL						
	4			☒ None						
				☐ Up/Down						
				☐ Img Vid						
				☐ TSL						

Figure 11: Example 3 Configuration

Note, 32768 normally corresponds to “all” UMDs. Since the associated incoming protocol is Image Video, 32768 is nothing more than a place holder since the PTX does not override Image Video’s display ID addressing.

4.4. EXAMPLE 4: 8 UP/DOWN TIMERS, EACH TO ITS OWN UMD

For the next example, suppose we have the setup of Figure 12 where:

- a PPV has 8 UMDs (PIDs 1,2,3,4,5,6,7,8)
- PTX 1 has 4 up/down timers connected to it whose outputs are targeted for the first 4 UMDs

- PTX 2 has 4 up/down timers connected to it whose outputs are targeted for the second 4 UMDs

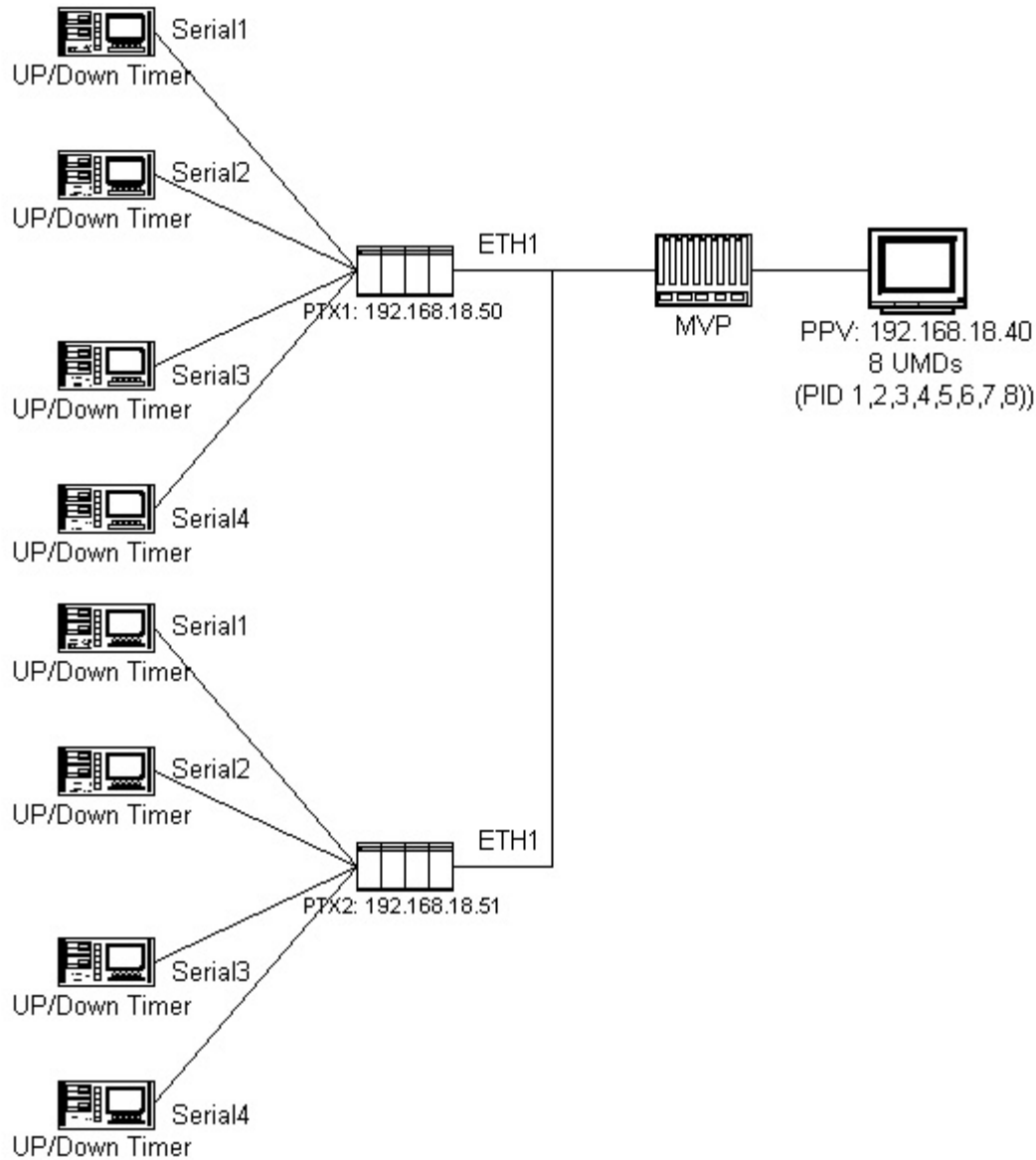


Figure 12: Example 4 Setup

A PPV listens on a single TCP port for UMD protocol data. Furthermore, it processes this data on a per-byte basis. Thus, it is necessary (if more than 4 timers exists) to have a PTX act as a UMD protocol proxy server. In our case, PTX1 serves as this proxy on behalf of PTX2. The corresponding configuration of each PTX would be:

7700 MultiFrame Manual

7700PTX-MVP UMD Protocol Converter

Incoming					Eth1 Outgoing Pool					
Port	Sub-Port	IP Address	TCP Port	Protocol		IP Address	TCP Port	Dst Disp Id	Src Port	Src Sub-Port
Serial1				☐ None	1	192.168.18.40	9803	1	Ser1	
				☒ Up/Down	2	192.168.18.40	9803	2	Ser2	
				☐ Img Vid	3	192.168.18.40	9803	3	Ser3	
				☐ TSL	4	192.168.18.40	9803	4	Ser4	
Serial2				☐ None	5	192.168.18.40	9803	32768	Eth1	1
				☒ Up/Down	6					
				☐ Img Vid	7					
				☐ TSL	8					
Serial3				☐ None						
				☒ Up/Down						
				☐ Img Vid						
				☐ TSL						
Serial4				☐ None						
				☒ Up/Down						
				☐ Img Vid						
				☐ TSL						
Eth1	1	192.168.18.51	9800	☐ None						
				☐ Up/Down						
				☒ Img Vid						
				☐ TSL						
	2			☒ None						
				☐ Up/Down						
				☐ Img Vid						
				☐ TSL						
	3			☒ None						
				☐ Up/Down						
				☐ Img Vid						
				☐ TSL						
	4			☒ None						
				☐ Up/Down						
				☐ Img Vid						
				☐ TSL						

Figure 13: Example 4 PTX1 Configuration

Incoming					Eth1 Outgoing Pool					
Port	Sub-Port	IP Address	TCP Port	Protocol		IP Address	TCP Port	Dst Disp Id	Src Port	Src Sub-Port
Serial1				☐ None	1	192.168.18.50	9800	5	Ser1	
				☒ Up/Down	2	192.168.18.50	9800	6	Ser2	
				☐ Img Vid	3	192.168.18.50	9800	7	Ser3	
				☐ TSL	4	192.168.18.50	9800	8	Ser4	
Serial2				☐ None	5					
				☒ Up/Down	6					
				☐ Img Vid	7					
				☐ TSL	8					
Serial3				☐ None						
				☒ Up/Down						
				☐ Img Vid						
				☐ TSL						
Serial4				☐ None						
				☒ Up/Down						
				☐ Img Vid						
				☐ TSL						
Eth1	1			☒ None						
				☐ Up/Down						
				☐ Img Vid						
				☐ TSL						
	2			☒ None						
				☐ Up/Down						
				☐ Img Vid						
				☐ TSL						
	3			☒ None						
				☐ Up/Down						
				☐ Img Vid						
				☐ TSL						
	4			☒ None						
				☐ Up/Down						
				☐ Img Vid						
				☐ TSL						

Figure 14: Example 4 PTX2 Configuration

4.5. EXAMPLE 5: 1 UP/DOWN TIMER TO 2 PPVS

For this example, the setup of Figure 15 shows:

- an up/down timer connected via serial 1
- it's output is to drive a single UMD (PID 1) of PPV1
- it also drives all the UMDs (PID 1,2,3,4) of PPV2

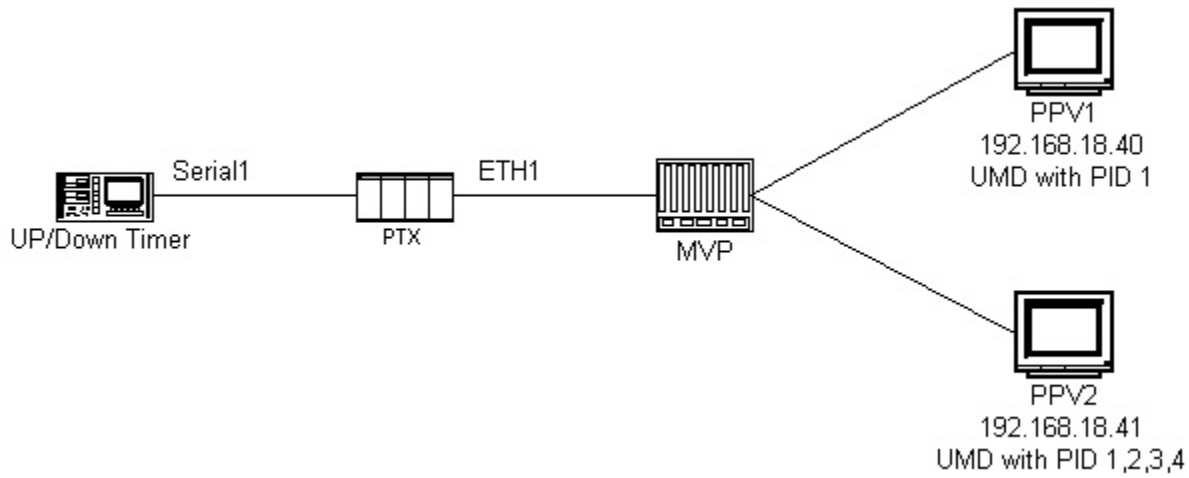


Figure 15: Example 5 Setup

The corresponding configuration would be:

Incoming					Eth1 Outgoing Pool					
Port	Sub-Port	IP Address	TCP Port	Protocol		IP Address	TCP Port	Dst Disp Id	Src Port	Src Sub-Port
Serial1				☐ None	1	192.168.18.40	9803	1	Ser1	
				☒ Up/Down	2	192.168.18.41	9803	32768	Ser1	
				☐ Img Vid	3					
				☐ TSL	4					
Serial2				☒ None	5					
				☐ Up/Down	6					
				☐ Img Vid	7					
				☐ TSL	8					
Serial3				☒ None						
				☐ Up/Down						
				☐ Img Vid						
				☐ TSL						
Serial4				☒ None						
				☐ Up/Down						
				☐ Img Vid						
				☐ TSL						
Eth1	1			☒ None						
				☐ Up/Down						
				☐ Img Vid						
				☐ TSL						
	2			☒ None						
				☐ Up/Down						
				☐ Img Vid						
				☐ TSL						
	3			☒ None						
				☐ Up/Down						
				☐ Img Vid						
				☐ TSL						
	4			☒ None						
				☐ Up/Down						
				☐ Img Vid						
				☐ TSL						

Figure 16: Example 5 Configuration

Instead of 32768 for outgoing pool entry 2, we could have used 1,2,3,4. The advantage of using “all” UMD values is that if additional UMDs are added to the PPV, they too will receive the up/down timer information.

5. SERIAL OUTPUT EXAMPLES

5.1. EXAMPLE 1: SINGLE UP/DOWN TIMER TO SINGLE UMD

For this example, consider the setup of Figure 17 where:

- an up/down timer is connected via serial 1 (RS 422)

7700 MultiFrame Manual

7700PTX-MVP UMD Protocol Converter

- it's output is to drive a single UMD (PID 1) of PPV
- PPV is connected to serial 4 (RS 232)

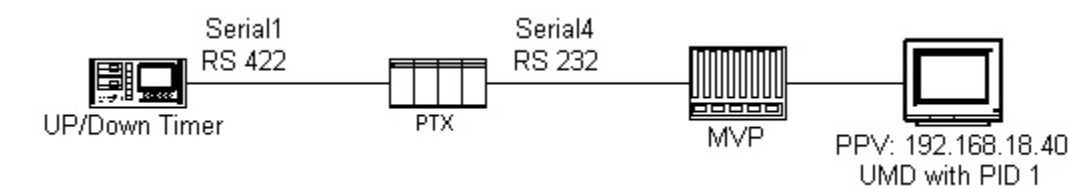


Figure 17: Serial Example 1 Setup

The corresponding configuration would be:

Incoming					Ser4 Outgoing Pool			
Port	Sub-Port	IP Address	TCP Port	Protocol		Dst Disp Id	Src Port	Src Sub-Port
Serial1				☐ None	1	1	Ser1	
				☒ Up/Down	2			
				☐ Img Vid	3			
				☐ TSL	4			
Serial2				☒ None				
				☐ Up/Down				
				☐ Img Vid				
				☐ TSL				
Serial3				☒ None				
				☐ Up/Down				
				☐ Img Vid				
				☐ TSL				
Serial4				☒ None				
				☐ Up/Down				
				☐ Img Vid				
				☐ TSL				
Eth1	1			☒ None				
				☐ Up/Down				
				☐ Img Vid				
				☐ TSL				
	2			☒ None				
				☐ Up/Down				
				☐ Img Vid				
				☐ TSL				
	3			☒ None				
				☐ Up/Down				
				☐ Img Vid				
				☐ TSL				
	4			☒ None				
				☐ Up/Down				
				☐ Img Vid				
				☐ TSL				

Figure 18: Serial Example 1 Configuration

5.2. EXAMPLE 2: TWO UP/DOWN TIMERS, EACH TO ITS OWN UMD

For the next example, suppose we had the setup of Figure 19 where:

- an up/down timer is connected via serial 1 (RS 422)
- its output is intended for the first UMD (PID 1) of a PPV with 2 UMDs
- a second up/down timer is connected via serial 2 (RS 232)
- its output is intended for the second UMD (PID 2) of the same PPV
- PPV is connected to serial 4 (RS 232)

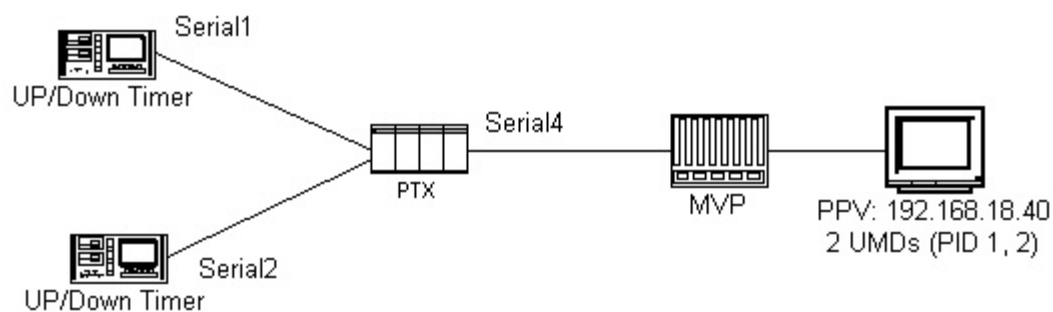


Figure 19: Serial Example 2 Setup

The corresponding configuration would be:

Incoming					Ser4 Outgoing Pool			
Port	Sub-Port	IP Address	TCP Port	Protocol		Dst Disp Id	Src Port	Src Sub-Port
Serial1				☐ None	1	1	Ser1	
				☒ Up/Down	2	2	Ser2	
				☐ Img Vid	3			
				☐ TSL	4			
Serial2				☐ None				
				☒ Up/Down				
				☐ Img Vid				
				☐ TSL				
Serial3				☒ None				
				☐ Up/Down				
				☐ Img Vid				
				☐ TSL				
Serial4				☒ None				
				☐ Up/Down				
				☐ Img Vid				
				☐ TSL				
Eth1	1			☒ None				
				☐ Up/Down				
				☐ Img Vid				
				☐ TSL				
	2			☒ None				
				☐ Up/Down				
				☐ Img Vid				
				☐ TSL				
	3			☒ None				
				☐ Up/Down				
				☐ Img Vid				
				☐ TSL				
	4			☒ None				
				☐ Up/Down				
				☐ Img Vid				
				☐ TSL				

Figure 20: Serial Example 2 Configuration

5.3. EXAMPLE 3: ONE TSL CONSOLE TO SINGLE UMD

For this example, Figure 21 indicates:

- a TSL console driving display address 12 is connected via serial 1 (RS 232)
- it's output is to drive a single UMD (PID 12) of PPV
- PPV is connected to serial 4 (RS 232)

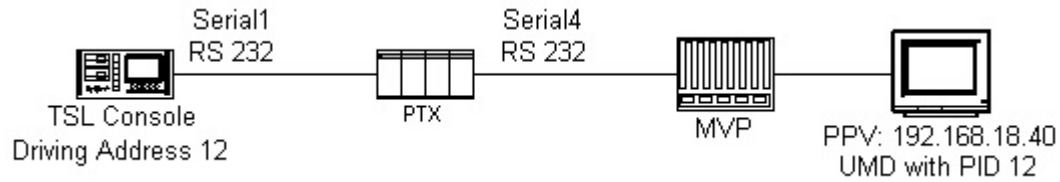


Figure 21: Serial Example 3 Setup

The corresponding configuration would be:

Incoming					Ser4 Outgoing Pool			
Port	Sub-Port	IP Address	TCP Port	Protocol		Dst Disp Id	Src Port	Src Sub-Port
Serial1				☐ None ☐ Up/Down ☐ Img Vid ☒ TSL	1	32768	Ser1	
				☒ None ☐ Up/Down ☐ Img Vid ☐ TSL	2			
				☒ None ☐ Up/Down ☐ Img Vid ☐ TSL	3			
				☒ None ☐ Up/Down ☐ Img Vid ☐ TSL	4			
Eth1	1			☒ None ☐ Up/Down ☐ Img Vid ☐ TSL				
	2			☒ None ☐ Up/Down ☐ Img Vid ☐ TSL				
	3			☒ None ☐ Up/Down ☐ Img Vid ☐ TSL				
	4			☒ None ☐ Up/Down ☐ Img Vid ☐ TSL				

Figure 22: Serial Example 3 Configuration

Because the TSL protocol provides its own display address, 32768 can be used as a place holder for the Dst Disp Id field. The PTX will not override TSL addressing. It will simply convert it to the Image Video protocol equivalent.

6. BACKPLATE CONNECTIONS

6.1. UP/DOWN TIMER

The UDT offers two serial communications options: an RS-232 output or an RS-422 output. Unless specified otherwise when ordering, **RS-232 is the default output**. The rear cover of the UDT must be removed to determine which output option is installed. The default communications settings are 9600 baud, eight data bits, one stop bit, no parity.

The UDT should be configured so that it outputs its serial data in hh:mm:ss format (rather than hh:mm:ss.ff). To access the serial communications options, press the SHIFT-7 key combination. Note that while accessing the serial communications options, the UDT will automatically pause both channels and suspend all other timing operations. The UDT lower display indicates which option is currently selected. The display will read — —:— —:00 for continuous second output (HH:MM:SS), and — —:— —.30 for continuous frame output (HH:MM:SS.FF). Alternately, '25' may be displayed instead of '30' when using EBU timecode. To change the output options, press the + (plus) key to step through the selections and press the START/STOP key to accept a particular output option. This section may be exited at any time by again pressing the SHIFT-7 key combination or the CLR ALL key.

6.1.1. RS-232 Connection

UDT Pin	PTX Connection
24 (RS-232 Output)	Rx
25 – 32 (any of these is ground)	Gnd

6.1.2. RS-422 Connection

UDT Pin	PTX Connection
5 (tx-)	Rx
23 (tx+)	Cts
25 – 32 (any of these is ground)	Gnd

6.2. IMAGE VIDEO CONSOLE

6.2.1. DB9 Pin Out For Com 8 – 12

The default RS-422 settings are 9600, 7 data bits, even parity, 2 stop bits.

Pin Number	Description
1	Gnd
2	Rx-
3	Tx+
4	Tx common
6	Rx common
7	Rx+
8	Tx-
9	Gnd

6.2.2. RS-422 Connection

RS-422 Pin	PTX Connection
Tx- (8)	Rx
Tx+ (3)	Cts
Tx common (4)	Gnd

6.3. GENERIC

6.3.1. RS-232

DB9 Pin	PTX Connection
2 (rx)	Tx
3 (tx)	Rx
5 (gnd)	Gnd

6.3.2. RS-422

RS-422 Signal	PTX Connection
Tx-	Rx (rx-)
Tx+	Cts (rx+)
Tx Common	Gnd
Rx-	Tx (tx-)
Rx+	Rts (tx+)
Rx Common	Gnd

This page left intentionally blank