



IMAGE VIDEO

Division of 1077541 Ontario Limited

**TXI-48 AND TXI-80
TALLY EXPANSION INTERFACE**

Image Video

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WARRANTY

Image Video, a Division of 1077541 Ontario Limited, warrants all Image Video manufactured equipment to be free of defects due to faulty materials or improper workmanship. Image Video further warrants that any part which proves defective in materials or workmanship within two years from date of original purchase for use will be replaced or repaired at no cost in accordance with the terms stated below.

If during a period of ninety (90) days from the date of original purchase for use, an Image Video product requires a part replacement, due to defective materials or workmanship, the equipment is to be returned to the factory and the necessary new part will be furnished by Image Video, including the labour directly associated with the repair and all shipping charges, at no cost to the customer.

If a part becomes defective due to faulty materials or improper workmanship after 90 days from date of original purchase for use, but before two (2) years from that date, Image Video will furnish the necessary new part. There will be no charge to the customer for the part. Labour, if required, will be charged to the customer at the established rate. The customer may elect to return the defective equipment to Image Video prepaid. Image Video will furnish the new replacement part and labour at no charge and return the equipment at the customer's expense.

This warranty does not include any Image Video product or parts thereof, which have been subjected to misuse, neglect, improper installation, use in violation of instructions furnished, or accident. It does not extend to units which have been modified or changed outside our factory; nor to units from which the serial number has been removed, defaced or changed; nor to accessories not of our manufacture.

This warranty excludes tubes and assembled products not of Image Video manufacturer whether or not they are incorporated in an Image Video product or sold under an Image Video part or model number. Image Video will not be responsible for any expense or loss of revenue or property incurred by the purchaser due to a malfunction in the equipment.

All vendor instruments, components, vacuum tubes, assembled products, and other devices in this system not manufactured by Image Video, shall be warranted according to the agreement supplied by the manufacturing company.

This warranty is in lieu of all others expressed or implied, and no representative or person is authorised to assume any other liability in connection with the sale of our products.

**PLEASE CALL OUR SALES DEPARTMENT TO OBTAIN A RETURN
AUTHORISATION NUMBER WHEN RETURNING PRODUCTS FOR SERVICE OR
REPAIR OR FOR ANY OTHER REASON.**

TXI-48 and TXI-80 Tally Expansion Interface

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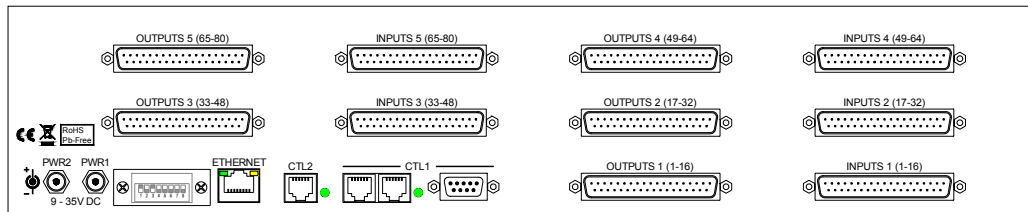
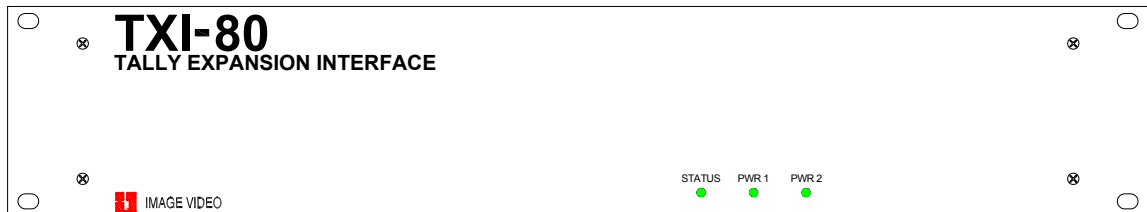
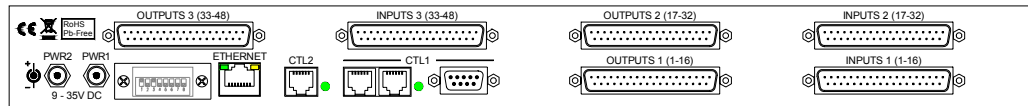
Revision History

<i>Revision</i>	<i>Date</i>	<i>Changes</i>
Prelim	August 27, 2008	preliminary document with pinout information only

TXI-48 and TXI-80 Tally Expansion Interface

1 INTRODUCTION

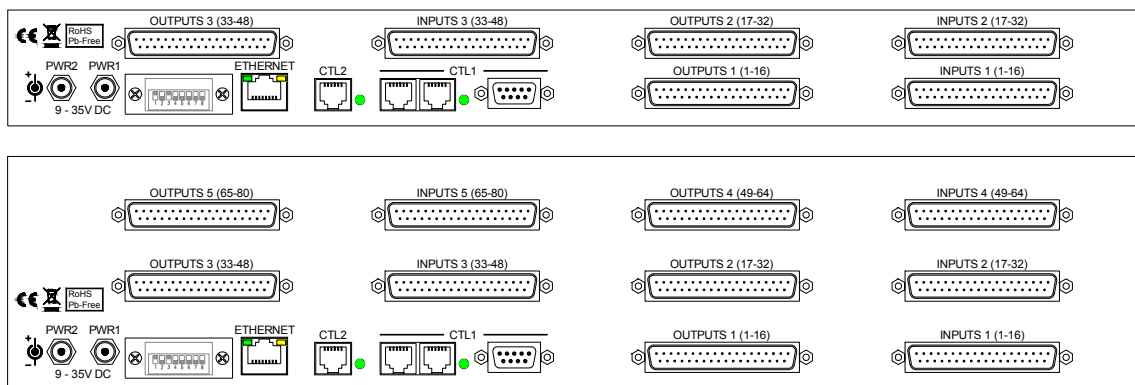
1.1 PREFACE



2 INSTALLATION

2.1 GENERAL

This section assists in the installation and connection of the TXI-48 and TXI-80 Tally Expansion Interface. The interface has rear panel connections for power, serial control, general purpose parallel inputs, and general purpose parallel outputs.



2.2 MOUNTING

The TXI-48 and TXI-80 are intended to be mounted in a standard 19" rack. There are no special mounting requirements, however, it should be noted that any excessive direct light on the front of the unit can make the LEDs difficult to distinguish. Adequate clearance should be provided at the rear of the unit for the connectors and cables. Adequate clearance must be provided at the sides of the unit for ventilation.

2.3 POWER

The interface is powered by one or two external wall-mount power supplies. The power supplies are connected to the panel through 2.5 mm coaxial DC power jacks on the rear of the unit. Only one of the external supplies is necessary for the proper operation of the interface. The second supply allows for power source redundancy.

Plug the power supply outlet plug into the power connector on the rear of the panel and the supply into any available AC power outlet.

! Confirm the wall-mount power supply conforms to the local AC power source before plugging it into the AC power outlet.

Table 1 Power Connector Pinout

Pin	Function
center pin	+9 to +35V DC
sleeve	Ground

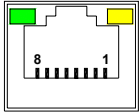
2.4 SERIAL CONTROL

The Tally Expansion Interface is controlled through both the Ethernet port and the RS-485 serial port CTL1. The RS-485 serial port CTL2 connection is used when this interface is controlling other parallel interface units.

2.4.1 Ethernet Port

The Ethernet port is a 10/100 BASE-T network port with one RJ-45 jack. This port is used in systems where the system controller uses a network link to connect to the interface. The system controller is typically an Image Video TSI-1000.

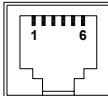
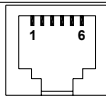
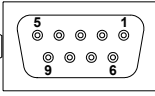
Table 2 Ethernet Port Pinout

ETHERNET	
	
<i>RJ-45 Pin</i>	<i>Function</i>
1	TX+
2	TX-
3	RX+
4	T45
5	T45
6	RX-
7	T78
8	T78

2.4.2 RS-485 Serial Port CTL1

The CTL1 port is a full-duplex multi-drop RS-485 asynchronous serial communications port with two RJ-12 jacks and a female 9-pin DE-9 receptacle. This port is used in systems where the system controller uses an asynchronous serial data link to connect to the interface. The system controller is typically an Image Video TSI-1000 or GSI-3.

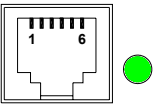
Table 3 RS-485 Serial Port CTL1 Pinout

CTL1		
		
<i>RJ-12 Pin</i>	<i>DE-9 Pin</i>	<i>Function</i>
1	2	Tx- (from the controller)
2	4	TXI circuit ground
3	3	Rx+ (to the controller)
4	8	Rx- (to the controller)
5		loop between RJ-12's
6	7	Tx+ (from the controller)
	6	TXI circuit ground
	1	TXI chassis ground
	9	TXI chassis ground
	5	no connect

2.4.3 RS-485 Serial Port CTL2

The CTL2 port is a full-duplex multi-drop RS-485 asynchronous serial communications port with one RJ-12 jack. This port is used in systems where this interface controls other parallel interface units.

Table 4 RS-485 Serial Port CTL Pinout

CTL2	
	
<i>RJ-12 Pin</i>	<i>Function</i>
1	Tx- (from the controller)
2	TXI circuit ground
3	Rx+ (to the controller)
4	Rx- (to the controller)
5	loop between RJ-12's
6	Tx+ (from the controller)

2.5 GENERAL PURPOSE PARALLEL INPUTS

There are two types of general purpose parallel inputs (GPI) inputs: voltage sense (wet) and pull-to-ground (dry). The type of input is configured by internal jumpers or is factory assembled for a specific type.

A voltage sense input is activated when 5 to 24VDC is applied to its connector pins. The input current is internally limited to approximately 6mA. Each voltage sense input is optically isolated from the other inputs and the main TXI circuit. To maintain the isolation between the external device and the TXI, the external device must supply the power for the inputs. If isolation is not required, or if the external device is not able to supply the power for the input, the +5V and circuit ground connections can be used to power the inputs.

A pull-to-ground input is activated when the path between the input + pin and the circuit ground pin is closed. The external device closing the path must be capable of switching 6mA. The open circuit voltage on the input + pin is approximately 5 VDC.

A +5V power source is available on each connector. The current of each power source is internally limited to 200mA. The power source is not isolated from the main TXI circuit.

The GPI input connectors are male 37-pin 'D' sub-miniature connectors with 4-40 jackscrews for mating connector locking.

There are 16 inputs on each GPI input connector. The pinout tables list the connections for all the GPI input connectors. The voltage sense GPI input connector pinout is listed in Table 5 on page 5. The pull-to-ground GPI input connector pinout is listed in Table 6 on page 6.

Table 5 Voltage Sense GPI Input Connector Pinout

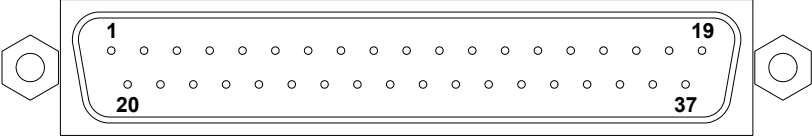
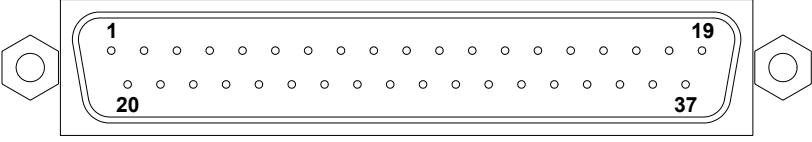
					
Pin	Function				
1	TXI chassis ground				
20	TXI circuit ground				
2	no connect				
21	input 1 -	input 17 -	input 33 -	input 49 -	input 65 -
3	input 1 +	input 17 +	input 33 +	input 49 +	input 65 +
22	input 2 -	input 18 -	input 34 -	input 50 -	input 66 -
4	input 2 +	input 18 +	input 34 +	input 50 +	input 66 +
23	input 3 -	input 19 -	input 35 -	input 51 -	input 67 -
5	input 3 +	input 19 +	input 35 +	input 51 +	input 67 +
24	input 4 -	input 20 -	input 36 -	input 52 -	input 68 -
6	input 4 +	input 20 +	input 36 +	input 52 +	input 68 +
25	input 5 -	input 21 -	input 37 -	input 53 -	input 69 -
7	input 5 +	input 21 +	input 37 +	input 53 +	input 69 +
26	input 6 -	input 22 -	input 38 -	input 54 -	input 70 -
8	input 6 +	input 22 +	input 38 +	input 54 +	input 70 +
27	input 7 -	input 23 -	input 39 -	input 55 -	input 71 -
9	input 7 +	input 23 +	input 39 +	input 55 +	input 71 +
28	input 8 -	input 24 -	input 40 -	input 56 -	input 72 -
10	input 8 +	input 24 +	input 40 +	input 56 +	input 72 +
29	input 9 -	input 25 -	input 41 -	input 57 -	input 73 -
11	input 9 +	input 25 +	input 41 +	input 57 +	input 73 +
30	input 10 -	input 26 -	input 42 -	input 58 -	input 74 -
12	input 10 +	input 26 +	input 42 +	input 58 +	input 74 +
31	input 11 -	input 27 -	input 43 -	input 59 -	input 75 -
13	input 11 +	input 27 +	input 43 +	input 59 +	input 75 +
32	input 12 -	input 28 -	input 44 -	input 60 -	input 76 -
14	input 12 +	input 28 +	input 44 +	input 60 +	input 76 +
33	input 13 -	input 29 -	input 45 -	input 61 -	input 77 -
15	input 13 +	input 29 +	input 45 +	input 61 +	input 77 +
34	input 14 -	input 30 -	input 46 -	input 62 -	input 78 -
16	input 14 +	input 30 +	input 46 +	input 62 +	input 78 +
35	input 15 -	input 31 -	input 47 -	input 63 -	input 79 -
17	input 15 +	input 31 +	input 47 +	input 63 +	input 79 +
36	input 16 -	input 32 -	input 48 -	input 64 -	input 80 -
18	input 16 +	input 32 +	input 48 +	input 64 +	input 80 +
37	TXI circuit ground				
19	current limited +5V				

Table 6 Pull-To-Ground GPI Input Connector Pinout


<i>Pin</i>	<i>Function</i>
1	TXI chassis ground
20	TXI circuit ground
2	no connect
21	input 1 + input 17 + input 33 + input 49 + input 65 +
3	TXI circuit ground
22	input 2 + input 18 + input 34 + input 50 + input 66 +
4	TXI circuit ground
23	input 3 + input 19 + input 35 + input 51 + input 67 +
5	TXI circuit ground
24	input 4 + input 20 + input 36 + input 52 + input 68 +
6	TXI circuit ground
25	input 5 + input 21 + input 37 + input 53 + input 69 +
7	TXI circuit ground
26	input 6 + input 22 + input 38 + input 54 + input 70 +
8	TXI circuit ground
27	input 7 + input 23 + input 39 + input 55 + input 71 +
9	TXI circuit ground
28	input 8 + input 24 + input 40 + input 56 + input 72 +
10	TXI circuit ground
29	input 9 + input 25 + input 41 + input 57 + input 73 +
11	TXI circuit ground
30	input 10 + input 26 + input 42 + input 58 + input 74 +
12	TXI circuit ground
31	input 11 + input 27 + input 43 + input 59 + input 75 +
13	TXI circuit ground
32	input 12 + input 28 + input 44 + input 60 + input 76 +
14	TXI circuit ground
33	input 13 + input 29 + input 45 + input 61 + input 77 +
15	TXI circuit ground
34	input 14 + input 30 + input 46 + input 62 + input 78 +
16	TXI circuit ground
35	input 15 + input 31 + input 47 + input 63 + input 79 +
17	TXI circuit ground
36	input 16 + input 32 + input 48 + input 64 + input 80 +
18	TXI circuit ground
37	TXI circuit ground
19	current limited +5V

2.6 GENERAL PURPOSE PARALLEL OUTPUTS

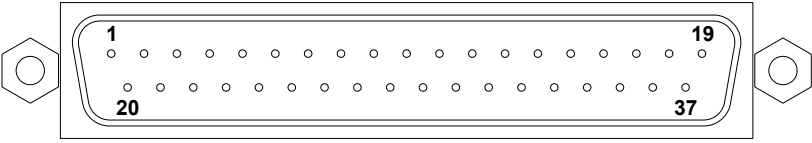
The general purpose parallel inputs (GPI) outputs are Form A (SPST) relay contacts that close when the output is activated. Each output is isolated from the other outputs and the main TXI circuit. The relay contacts are rated at a maximum of 50V, 0.5A and 10W.

A +5V power source is available on each connector. The current of each power source is internally limited to 200mA. The power source is not isolated from the main TXI circuit.

The GPI output connectors are male 37-pin 'D' sub-miniature connectors with 4-40 jackscrews for mating connector locking.

There are 16 outputs on each GPI output connector. The pinout tables list the connections for all the GPI output connectors in Table 7 below.

Table 7 GPI Output Connector Pinout

					
Pin	Function				
	1	TXI chassis ground			
20		TXI circuit ground			
	2	no connect			
21		output 1 a	output 17 a	output 33 a	output 49 a
	3	output 1 b	output 17 b	output 33 b	output 49 b
22		output 2 a	output 18 a	output 34 a	output 50 a
	4	output 2 b	output 18 b	output 34 b	output 50 b
23		output 3 a	output 19 a	output 35 a	output 51 a
	5	output 3 b	output 19 b	output 35 b	output 51 b
24		output 4 a	output 20 a	output 36 a	output 52 a
	6	output 4 b	output 20 b	output 36 b	output 52 b
25		output 5 a	output 21 a	output 37 a	output 53 a
	7	output 5 b	output 21 b	output 37 b	output 53 b
26		output 6 a	output 22 a	output 38 a	output 54 a
	8	output 6 b	output 22 b	output 38 b	output 54 b
27		output 7 a	output 23 a	output 39 a	output 55 a
	9	output 7 b	output 23 b	output 39 b	output 55 b
28		output 8 a	output 24 a	output 40 a	output 56 a
	10	output 8 b	output 24 b	output 40 b	output 56 b
29		output 9 a	output 25 a	output 41 a	output 57 a
	11	output 9 b	output 25 b	output 41 b	output 57 b
30		output 10 a	output 26 a	output 42 a	output 58 a
	12	output 10 b	output 26 b	output 42 b	output 58 b
31		output 11 a	output 27 a	output 43 a	output 59 a
	13	output 11 b	output 27 b	output 43 b	output 59 b
32		output 12 a	output 28 a	output 44 a	output 60 a
	14	output 12 b	output 28 b	output 44 b	output 60 b
33		output 13 a	output 29 a	output 45 a	output 61 a
	15	output 13 b	output 29 b	output 45 b	output 61 b
34		output 14 a	output 30 a	output 46 a	output 62 a
	16	output 14 b	output 30 b	output 46 b	output 62 b
35		output 15 a	output 31 a	output 47 a	output 63 a
	17	output 15 b	output 31 b	output 47 b	output 63 b
36		output 16 a	output 32 a	output 48 a	output 64 a
	18	output 16 b	output 32 b	output 48 b	output 64 b
37		TXI circuit ground			
	19	current limited +5V			