UCI-2000-D PROTOCOL CONVERTER FOR DI-TECH ROUTING SWITCHERS AND CONTROL SYSTEMS

QUICK-START GUIDE

Contents

PRODUCT DESCRIPTION

The PESA UCI-2000-D protocol converter is designed to provide an interface between Di-Tech and PESA routing switchers and control systems. The UCI-2000 can operate in one of two distinct modes:

- Allowing PESA routing matrices to be controlled by Di-Tech control systems and control panels

- Allowing Di-Tech routing matrices to be controlled by a PESA 3300/3500 series control system

1. DI-TECH TO PESA MODE

Operating in this mode, the UCI-2000 allows PESA routing switchers to be added to an existing Di-Tech routing system on additional control levels. The UCI-2000 will support a PESA matrix size of up to 256 x 256 x 8 levels to be added to the Di-Tech controller.

The UCI-2000 simply appears to the Di-Tech control system as a single or multi-level router on the XY bus. There is no special setup procedure required in the Di-Tech controller for it to communicate with the UCI-2000. The additional routing levels are configured in the controller just as they would be for a Di-Tech router. DIPswitches in the UCI-2000 are used to set the control levels for the PESA routing switchers that the UCI-2000 is controlling. All commands sent by the Di-Tech controller that are intended for these levels are translated into PESA PRC format and executed on the PESA routers.

Figure 1 shows the interconnection between the PESA routers, the UCI-2000, and the Di-Tech routing system in this mode.
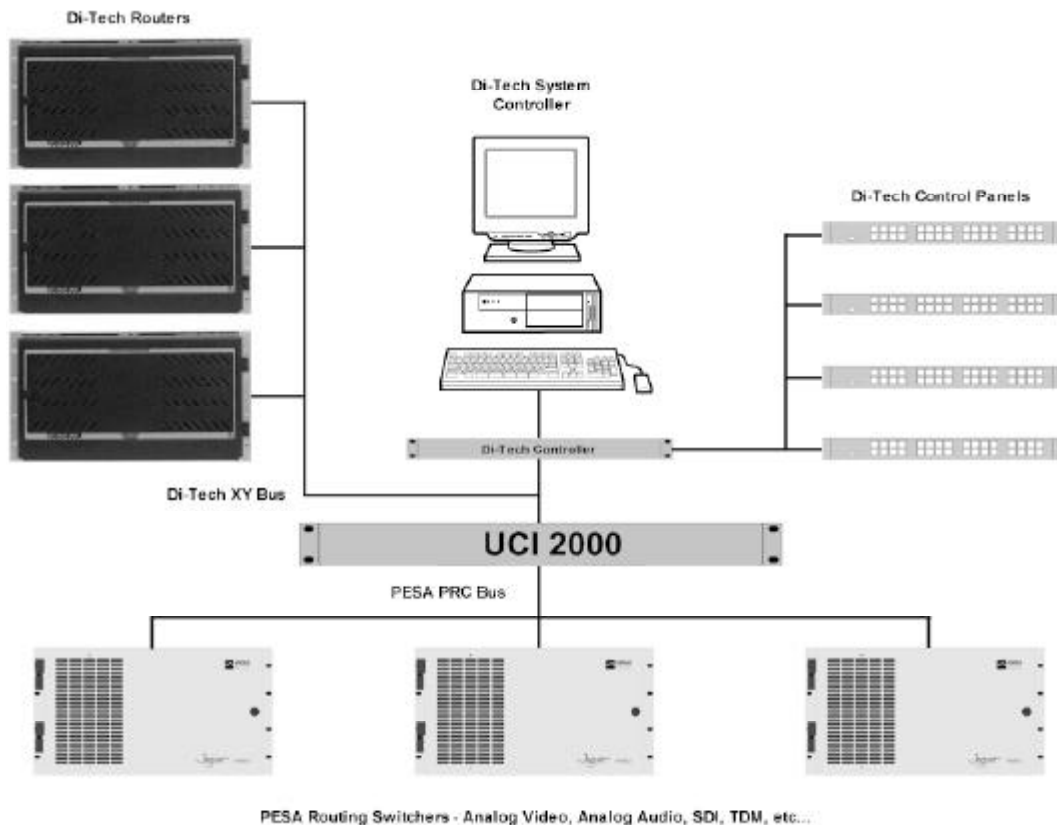
Figure 1. Di-Tech to PESA Mode

The UCI-2000 can be integrated with the following Di-Tech controllers: 9002 Virtual Matrix Controller, Executive Virtual Matrix Controller, Pace/Visual Pace 3000 (via Model 9740), Meridian, and all 286 and 586 based controllers that use the DI-Tech 37 pin parallel XY bus.

PESA routers can exist anywhere in Di-Tech level space between levels 1 and 16, with a few caveats:

- PESA routers cannot share a level with a Di-Tech router (i.e. expansion of an existing level).

- If several PESA PRC routing levels will be controlled, they need not be numbered contiguously (i.e. 2, 3, 5 is valid); however, the following condition must be met: the system will control PESA routers existing either on levels 1-8 OR levels 9-16. If several levels are being added and the last level will be # 9 or greater, start all the PRC levels at 9.

The control levels are set on DIPswitch S4 in a bit-mapped fashion (bit per level). For example: turn on switch 2 for level 2, switch 3 for level 3, etc. Switch 8 of DIPswitch S3 sets the base starting level of the card to either 1 (switch OFF) or to 9 (switch ON). If this switch is on, simply add 8 to the level numbers set on S4.

1.1. Configuration Settings

Switch and jumper locations are illustrated in Figure 2.
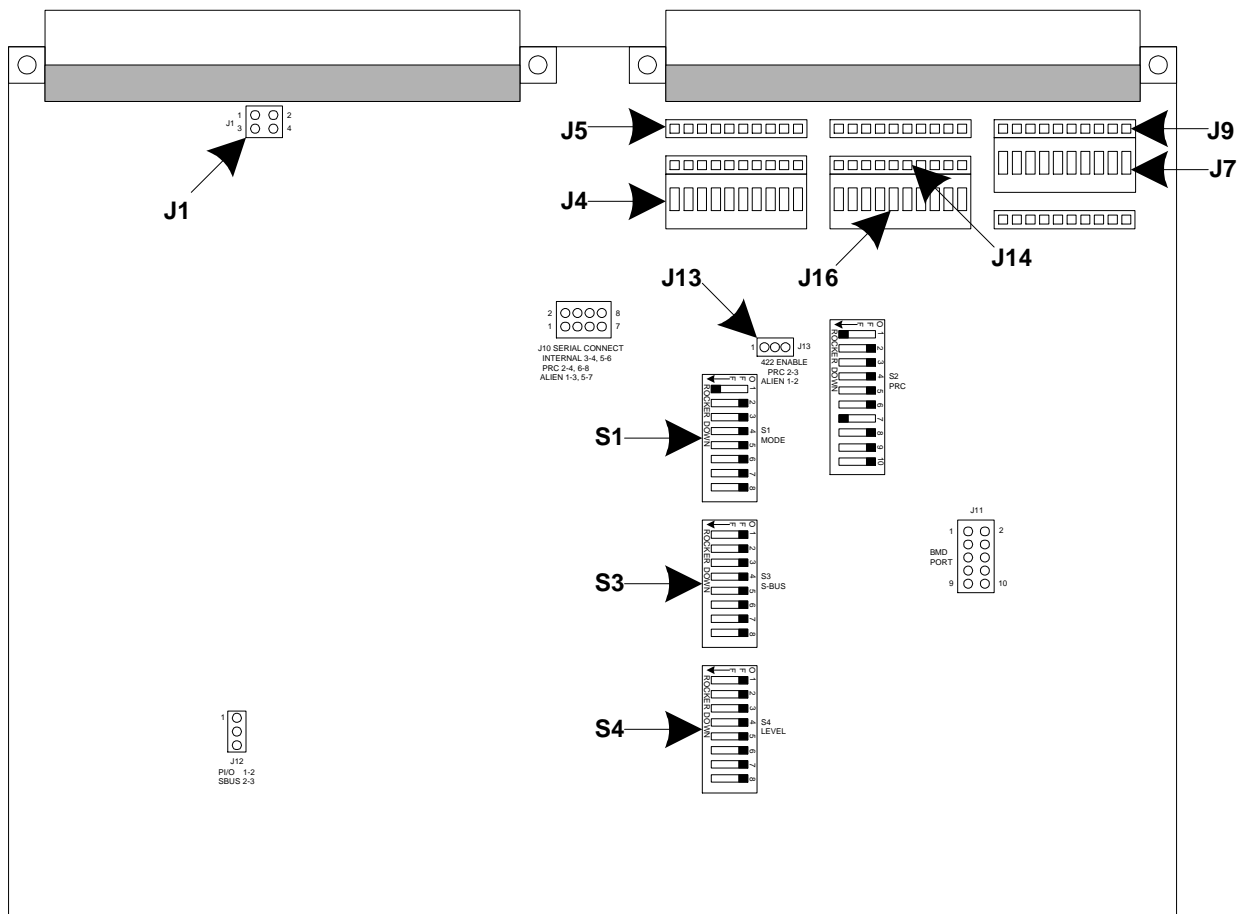
Figure 2. Switch and Jumper Locations

Jumper settings, DIPswitch settings, and cable connections are detailed in Table 1, Table 2, and Table 3.

Table 1. Jumper Settings

Jumper	Setting
J4 - J5 (COM 1: RS-422)	PRC Port
J14 - J16 (COM 2: RS-232)	Diagnostic Terminal
J7 - J9 (COM 3: RS-422)	Not Used
J1	1 - 3
J10	1 - 3, 5 - 7
J12	1 - 2
J13	1 - 2

Table 2. DIP Switch Settings

DIPswitch	Setting
S1	1 OFF 2 ON 3 OFF 4 OFF 5 OFF 6 OFF 7 OFF 8 In-Line Diagnostics ON/OFF
S2	Not Used
S3	1-7 Not Used 8 ON Board controls levels 9-16, OFF levels 1-8
S4	Set Control Levels, bit per level

Table 3. Cable Connections

Port	Description
COM1	PRC - Connect to PESA Routers
COM2	RS232 Terminal/PC (38400,N,8,1)
COM3	Not Used
SYSTEM V CONTROL (37-pin)	Connect to Di-Tech XY Bus controller

2.   PESA TO DI-TECH MODE

The PESA to Di-Tech mode allows existing Di-Tech matrix frames to be used with a new PESA routing and control system. All switch commands are made from PESA control panels connected to the PESA 3500 Plus System Controller. Any Di-Tech control panels are not compatible with the 3500 Plus and will not work. The UCI-2000 will support a Di-Tech matrix size of up to 256 x 256 x 8 levels to be added to the PESA system controller

The UCI-2000 simply appears to the 3500 Plus controller as a single or multi-level router on the PRC bus. There is no special setup procedure required in the Win 3500 Plus controller for it to communicate with the UCI-2000 and access the Di-Tech routers. The additional routing levels are configured just as they would be for a PESA router (please see the Win 3500 Plus manual for further information). All PRC commands issued for these levels (strobes) are translated into Di-Tech X-Y format and executed on the Di-Tech routers.

Figure 3 shows the interconnection between the PESA routers, the UCI-2000, and the Di-Tech routing system in this mode.
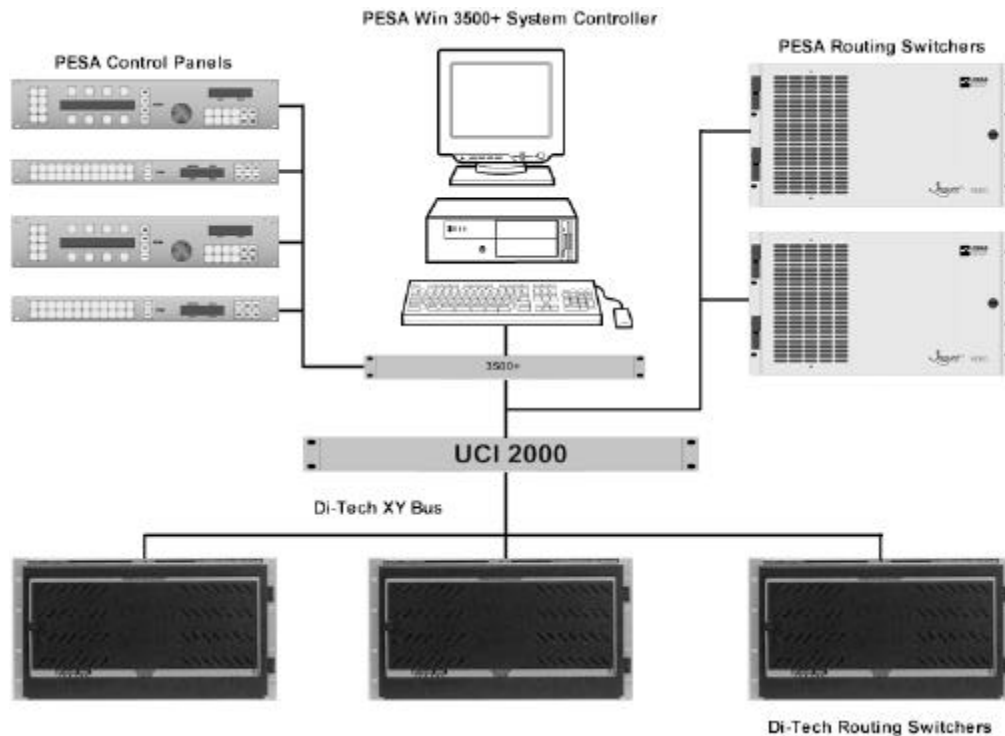

Figure 3. PESA to Di-Tech Mode

2.1.   Configuration Settings

DIPswitches are used in the UCI-2000 to set the control strobes for the Di-Tech routing switchers that the UCI-2000 controls. The strobes, I/O range, and any other specific features of each Di-Tech router are configured by setting DIPswitches in the Di-Tech routers.

Di-Tech routers can exist anywhere in PESA PRC level space between levels 1 and 23, with a few caveats:

- Di-Tech routers cannot share a level with a PESA PRC router (i.e. expansion of an existing level).

- Di-Tech routers must exist as a contiguous block of levels.

Because there may be some existing Di-Tech routers in the field that do not support level settings above 8, all Di-Tech routers are set to start at levels 1-8 regardless of where they "really" exist in the 3500 Plus controller. The UCI-2000 automatically offsets the base PRC strobe number when sending commands to the Di-Tech routers and assumes all Di-Tech routers exist starting at level 1 (native to Di-Tech).

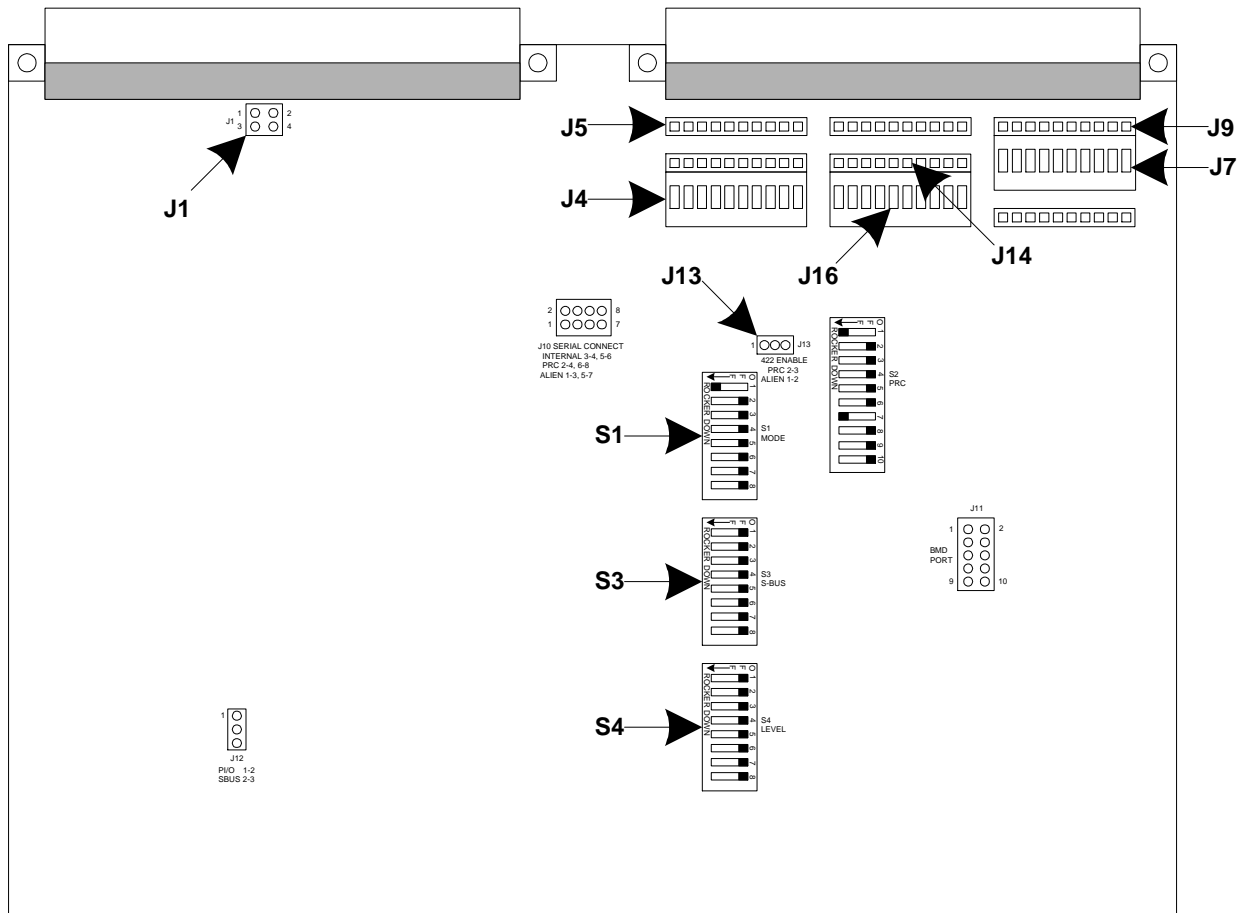Switch and jumper locations are illustrated in Figure 2.

Figure 4. Switch and Jumper Locations

The base PRC strobe is set on DIPswitch S2, switches 1-4 in binary, and the number of levels is set using S2 switches 5-7 in binary. S2 switches 8-10 should be OFF (no delay between commands and no continual refresh to the Di-Tech routing matrix). Refer to Table 4 for further information.

Table 4. Switch S2 Functionality (PESA to Di-Tech Mode only)

Function	Switch Position									
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
PRC Address 0	OFF	OFF	OFF	OFF						
PRC Address 1	ON	OFF	OFF	OFF						
PRC Address 2	OFF	ON	OFF	OFF						
PRC Address 3	ON	ON	OFF	OFF						
PRC Address 4	OFF	OFF	ON	OFF						
PRC Address 5	ON	OFF	ON	OFF						
PRC Address 6	OFF	ON	ON	OFF						
PRC Address 7	ON	ON	ON	OFF						
PRC Address 8	OFF	OFF	OFF	ON						
PRC Address 9	ON	OFF	OFF	ON						
PRC Address 10	OFF	ON	OFF	ON						
PRC Address 11	ON	ON	OFF	ON						
PRC Address 12	OFF	OFF	ON	ON						
PRC Address 13	ON	OFF	ON	ON						
PRC Address 14	OFF	ON	ON	ON						
PRC Address 15	ON	ON	ON	ON						
Controls 8 Matrices					OFF	OFF	OFF			
Controls 1 Matrices					ON	OFF	OFF			
Controls 2 Matrices					OFF	ON	OFF			
Controls 3 Matrices					ON	ON	OFF			
Controls 4 Matrices					OFF	OFF	ON			
Controls 5 Matrices					ON	OFF	ON			
Controls 6 Matrices					OFF	ON	ON			
Controls 7 Matrices					ON	ON	ON			
No Delay Time to Alien *								OFF	OFF	
Some Delay Time to Alien								ON	OFF	
More Delay Time to Alien								OFF	ON	
Most Delay Time to Alien								ON	ON	
No Continual Status Refresh *										OFF
Continual Status Refresh										ON

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* Default

Jumper settings, DIPswitch settings, and cable connections are detailed in Table 5, Table 6, and Table 7.

Table 5. Jumper Settings

Jumper	Setting
J4 - J5 (COM 1: RS-422)	Not Used
J14 - J16 (COM 2: RS-232)	Diagnostic Terminal
J7 - J9 (COM 3: RS-422)	PRC
J1	1 - 2
J10	3 - 4, 5 - 6
J12	2 - 3
J13	2 - 3

Table 6. DIPswitch Settings

DIPswitch	Setting
S1	1 ON 2 OFF 3 OFF 4 OFF 5 OFF 6 OFF 7 OFF 8 In-Line Diagnostics ON/OFF
S2	Indicates to the PESA controller where the UCI2000is located in the PRC matrix bus.
S3	Not Used
S4	Not Used

Table 7. Cable Connections

Port	Connection
COM1	Not Used
COM2	RS232 Terminal/PC (38400,N,8,1)
COM3	PRC - Connect to 3300/3500/3500+ controller
SYSTEM V CONTROL (37-pin)	Connect to Di-Tech XY Bus routers

3. TROUBLESHOOTING

3.1. PESA Customer Service

Contact information for the Customer Service Department appears on the front cover of this document.

3.2. Repair

Before attempting to repair this equipment, consult your warranty documents and/or PESA's Customer Service Department. Unauthorized field repairs may void your warranty.

3.3. Replacement Parts

Only parts of the highest quality have been used in the design and manufacture of this equipment. If the inherent stability and reliability are to be maintained, replacement parts must be of the same high quality. Contact PESA's Customer Service Department before installing any parts not purchased from PESA.

3.4. Return Material Authorization (RMA)

Before returning any equipment for service or replacement, contact PESA's Customer Service Department for an RMA number. Contact information for the Customer Service Department appears on the front cover of this document.