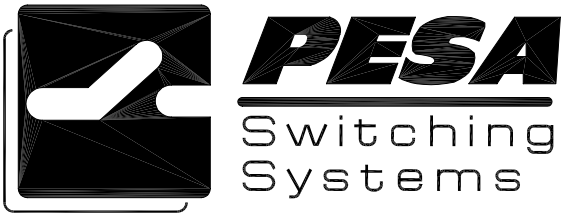

CP5
Protocol
Converter

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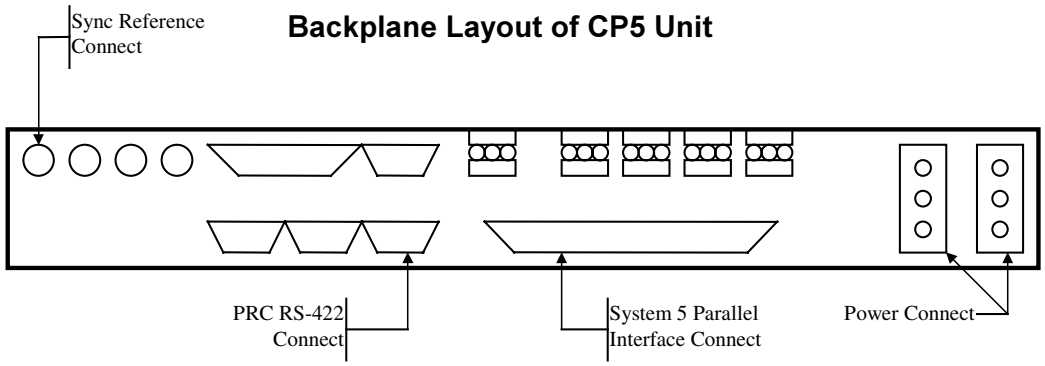
Introduction

The CP5 protocol converter is designed to allow for PESA System 5 matrices to be controlled by PESA control systems using the PRC system protocol. The CP5 box inputs PRC commands from the controller from the PRC RS-422 connection and interprets them into System 5 commands over the System 5 37 pin parallel interface.

Connections

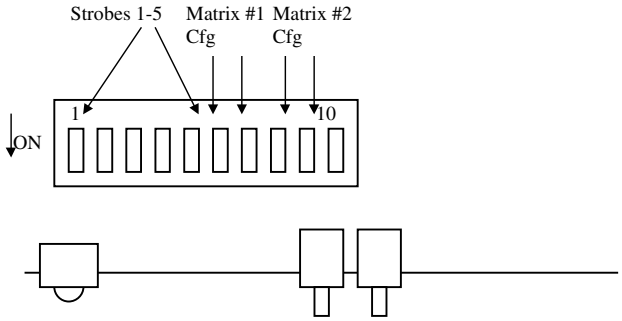
The CP5 is connected to the PESA controller and system 5 matrices through the following interconnects:

1. Connect Power to the CP5 (J17 or J18) from the System 5 matrix video power supply. This may be accessible through the auxiliary power connectors on the video frame being controlled. (This must be video power supply. It cannot be an audio power supply.)
2. Connect Sync reference to the far left BNC (J1). This insures that switches take place on frame boundaries and may be omitted if desired. As long as the sync reference is connected to the System 5 matrices, switching will occur in the vertical interval.
3. Connect the PRC control cable to the bottom right hand 9 pin D connector (J14). This is a pin to pin connection from the PESA controllers 9 pin PRC control port.
4. Connect the 37 pin D connector (J15) to the System 5 matrices being controlled.



Programming

The CP5 has the ability to control System 5 matrices on two strobes with up to 192 inputs and outputs on each strobe. The information indicating which strobes are active and the size of the matrices is determined by setting the DIP switch on the CP5 CPU.



2400 EX DIP Switch Positioning

Strobe Settings

Positions 1-5

0 = PRC and System 5 Strobe #x is disabled

1 = PRC and System 5 Strobe #x is enabled

(#x corresponds to the DIP switch position, i.e. position 1 for strobe 1, position 2 for strobe 2, etc.)

(There is a limit to a maximum of two strobes being active at any one time. In this case, the first two selected are the ones used.)

Matrix Size

Matrix size DIP switches indicate to the CP5 the maximum size of the matrices being controlled. However, the it does not restrict the smallest size of the matrix. It is used to indicate to the CP5 where it should look for matrix cards and allows it to optimize its performance on smaller systems.

Due to the implementation of the PRC control protocol, matrices are restricted so that the number of inputs and the number of outputs are evenly divisible by 16. When populating systems with 48x8 matrix cards, cards need to be added in groups of two to insure adherence to the 16 boundaries.

Swx 6	Swx 7	Matrix #1 maximum matrix size
0	0	Matrix #1 has a maximum of 48 Inputs and Outputs
1	0	Matrix #1 has a maximum of 96 Inputs and Outputs
0	1	Matrix #1 has a maximum of 144 Inputs and Outputs
1	1	Matrix #1 has a maximum of 192 Inputs and Outputs

Swx 8	Swx 9	Matrix #2 maximum matrix size
0	0	Matrix #2 has a maximum of 48 Inputs and Outputs
1	0	Matrix #2 has a maximum of 96 Inputs and Outputs
0	1	Matrix #2 has a maximum of 144 Inputs and Outputs
1	1	Matrix #2 has a maximum of 192 Inputs and Outputs

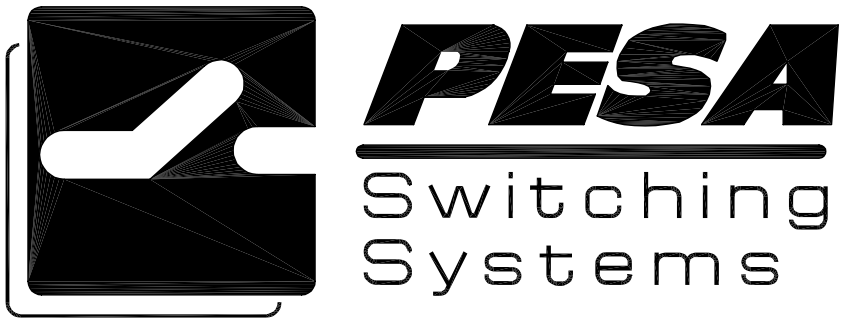
Address Space Mapping

The CP5 maps the System 5 strobes directly to the PRC strobes. For example, when Strobe 1 is active on the CP5, its matrix responds to strobe 1 on the PRC.

The System 5 matrix input and outputs are all based at offset 0 in the PRC address space. Input 1 on the System 5 address space is address input 1 in the PRC address space. Output 1 on the System 5 address space is address output 1 in the PRC address space.

Revision History

Rev.	Date	Description	By
A	05-01-96	Initial Release.	C Jaynes
B	06-18-99	Converted to MS Word Format.	G. Tarlton
C	03-06-01	Deleted Printing Specification per ECO CE00113.	G. Tarlton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