ECR6171

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1 Current Burle Matrix System

Early this week I got a Burle "Allegiant" matrix bay and miscellaneous extras (and everything seems to work). I now have one each of:

Model	Name
LTC 8801/60	Matrix card cage
TC8805	Matrix power supply
LTC 8553/00	Variable speed keyboard
TC8821VIM	32 channel video input card
TC8834VOM	4 channel video output card
TC8810A	CPU card
LTC 8059/00	PC based support software

1.1 Video inputs

The Matrix card cage can hold a total of eight TC8821VIM (video input) cards. Each video input card can support up to 32 cameras. If we are to be able to test past 128 cameras, then we will need a total of five TC8821VIM cards (this translates into a need for at least four more).

As far as I can tell, video input cards have to be contiguously installed with no "gaps" in the cards. I.e. we can not move one card from input slot 1, over to input slot 5 and get video in. (I tried this by moving the card from slot 1 to slot 2 and was unsuccessful. But then I might not have known what I was doing.) And I don't know if we have to have video in to be able to send camera controls out (see Section 1.2, page 2.

The rear panel of the Matrix card cage is marked to a maximum video input of 96. (It also has many flat ribbon type connectors for up to 256 video inputs.) It seems that to get past 96 video inputs we will need a TC8808 Interconnect Panel, or two. Each interconnect panel supports 32 video inputs and it is unclear if there can be any gaps in the panels (I believe that it would be OK to have a gap, but who knows?).

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[1]$Header: d:/ecr6171/RCS/prob2.tex,v 1.1 2000-06-16 12:09:14-07 Hamilton Exp Hamilton $

1.2   Camera control

I have no way to send a signal out to a camera to control it. Burle does have a TC8568 Signal Distribution Unit, which appears to be able to take data from the Matrix's CPU and send that data out to control individual cameras.

The connection between the interconnect panel and the matrix requires that a serial link be made. I haven't had a chance to determine what the format of the link is (because I haven't been able to get an oscilloscope and have been too busy looking at Walter's code). So I do not know if it is possible to bypass the interconnect panel or not. (I don't know if there is an "over protocol" in use between the matrix and the signal distribution unit. If there is, I don't want to waste time "reverse engineering" it. Or do I?)

1.3   Data converter units

Burle has several data converter units, one of these (TC8780) is designed to interface from their bi-phase signal and to convert it to RS-232 for serial transmission.

The other (TC8785) is "designed for use in existing Allegiant systems which have been upgraded to operate the new AutoDome series of cameras." I don't know what this means but the output data format might be something that we would want to interface with.

1.4   Test equipment

It would make many parts of work on this system, easier if I had an oscilloscope to use in measuring/observing the output signals. There are some older analog oscilloscopes available, however I would want to be able to carefully examine the contents of each message, and to do this I want a "lunch box" type of digital oscilloscope with a parallel printer interface. (Getting a new oscilloscope would allow me to get a real set of test leads too. If I can't get a new oscilloscope, then I'll need at least two, three is better, functional test leads and a good ground connector.)

I have a copy of Breakout for looking at serial data, however it is currently being used by one of the interns. When I need it, I'll go over and repossess it.

1.5   PIC emulator(s)

I currently have a PIC emulator which will probably work correctly. According to the box that it is in, it will support PIC16C5X type of chips. Unfortunately the TXB-AB uses a PIC16C73A type of chip. Normally the "obvious" solution would be to buy the correct emulator pod and be done with it. However, the TXB-AB has two PICs on it (one is a PIC16C57 and the other is a PIC16C73A) which talk between each other. Thus it would be useful if I had two complete PIC emulators. (Just to make it interesting, if I get a second emulator, I will then need a second PC to drive it. I do have a "spare" CM9760-CC1, (no monitor or keyboard though) however the software that drives the emulator is Windows based and the CC1 is DOS based.)