68HC11 MANUAL

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4. Block Diagram & Rack Layout
5. Symetrix Calibration
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INSTALLATION

INSTRUCTIONS

Allow about one hour for installation. The only tools required for the installation are a screw driver and a voltmeter. If the only tools that you need are a screw driver and a voltmeter, the installation has to be fairly simple. What makes it even easier is if you take a few minutes and read the entire instructions before starting.

IMPORTANT:

THIS INSTALLATION MUST TAKE PLACE ONLY ON MONDAY THRU THURSDAY BETWEEN THE HOURS OF 7:00 AM AND 10:00 AM LOCAL TIME.

___1. Read the entire installation instructions.

___2. All parts were received.

___3. Power down the show controller rack.

___4. Create a blank spot for the Show Controller Display (SCD) panel directly above the card cage. This space should be about 3 1/2".

___5. Mount the SCD panel in the space created above the card cage using the rack screws provided with the kit (Drawing #1).

___6. Route the cable attached to the SCD down to the card cage. Drop it down between the top cross bars between the CPU and the next card to the right.

___7. Remove the Transport board from the card cage (far left card in the cage).

___8. Remove the CPU board from the card cage (next card to the right of the Transport card).

HINTS: CPU card is plugged into the card cage; third slot from the left. CPU card is the only card with an EPROM (U21). CPU card has 8 LED's.

___9. Identify and remove the A/V switcher board. Also, disconnect the 26 pin ribbon cable from the board. A/V switcher board is a modified Character Driver board that has a header #6.

HINTS: A/V switcher board is connected to the Triad A/V switcher by a 26 pin ribbon cable. DO NOT REMOVE THE RIBBON CABLE FROM THE TRIAD A/V SWITCHER.

___10. Connect the Transport Adapter board to the new 68HC11 CPU by using the 26 pin ribbon cable provided with the kit. **JP1** on the Transport Adapter board and **JP6** on the 68HC11 CPU board.

HINTS: The 26 pin header on the 68HC11 CPU for the ribbon cable is on the back side of the board (the solder side). Since the connectors are keyed, they go into the header on the boards only one way. With this in mind, a minimal amount of insertion force is needed.

___11. Connect the ribbon cable from the Triad A/V switcher to the bottom 26 pin header on the 68HC11 CPU. The 26 pin header is labeled, **"A/V SWITCHER" (JP5).**

HINTS: If your connector is not keyed, make sure that the pin one of the cable (indicated by an arrow on the connector or a red/black mark on the cable) lines up with pin one of the header (left side of the header).

___12. Connect the ribbon cable from the Show Controller Display panel to the 26 pin header on the middle top of the 68HC11 CPU. The 26 pin header is labeled, **"LCD DISPLAY" (JP8).**

HINTS: Since the connector is keyed, it goes into the header on the board only one way. With this in mind, a minimal amount of insertion force is needed.

___13. Slide both the Transport Adapter board and the 68HC11 CPU into the card cage. Transport Adapter board plugs into the first slot from the left, and the 68HC11 plugs into the third slot from the left (Drawing #2).

___14. Dress up any loose cables.

___15. Verify all your connections.

HINT: Double check steps 10–13.

___16. Power up the show controller rack.

___17. Measure 5VDC on the front of the new CPU. The test points for the ground and the positive 5VDC are located in the bottom front section of the CPU board. Adjust the power supply to 5VDC if necessary.

HINT: To adjust the 5VDC on the power supply, it is necessary to pull out the Control Console (the unit with all the function buttons, i.e. RESET, PROG, and etc.) and adjust

the 5VDC pot through the hole on the left. Power supplies manufactured on and after 1992 have the adjustment hole on the right side.

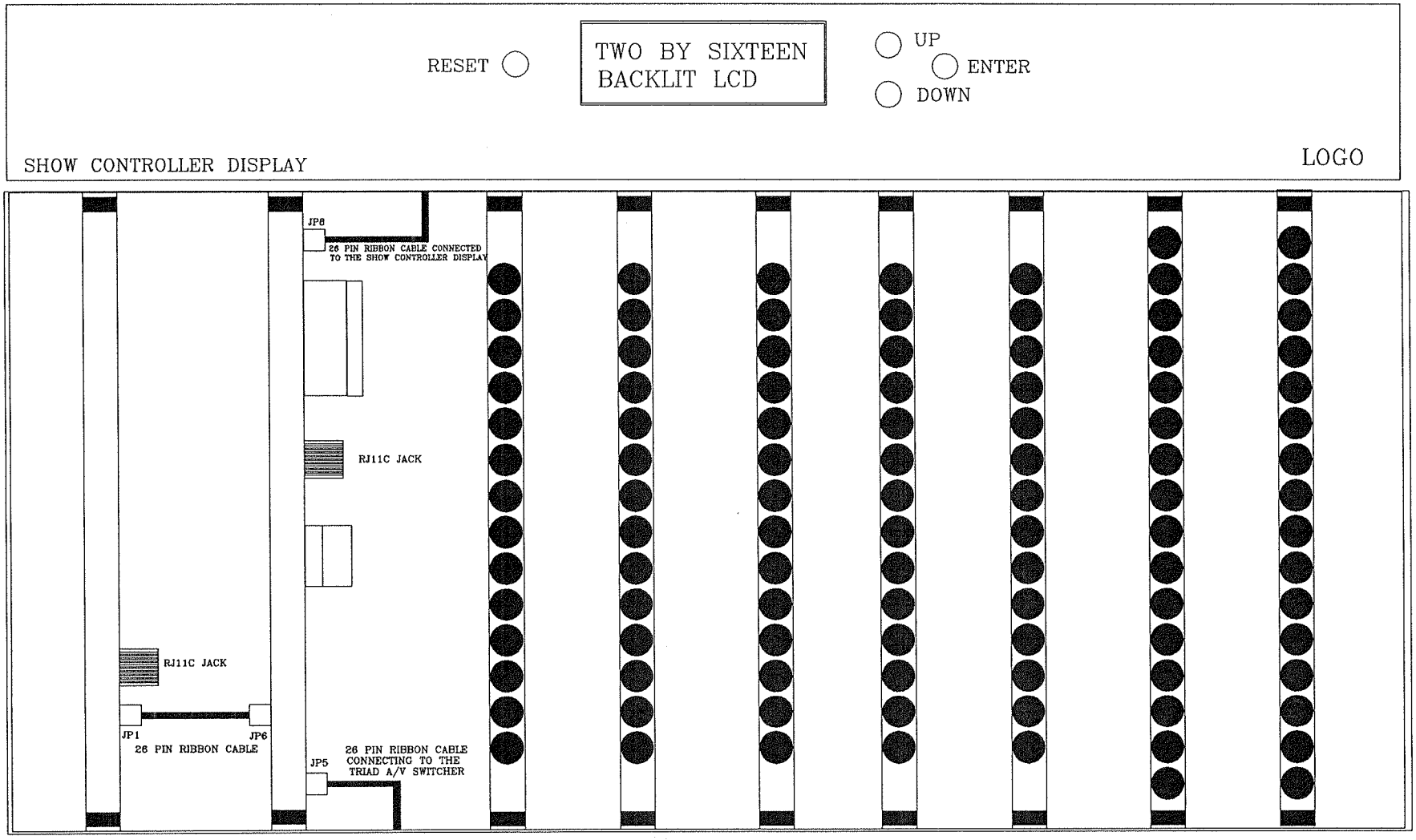
CAUTION: Make sure the screwdriver used in this adjustment has an insulated shaft.

___18. The LCD on the Show Controller Display panel is backlit, and it should be on at this time. If your display is not on, turn off the power and contact the Technical Support Department.

___19. The CPU will step through some diagnostics checks, and if all the checks pass the display reads: **"Cyberstar xx (c) 1993".** Again; if your system does not display this message, turn off the power and call the Technical Support Department.

___20. Congratulations, your installation was a success. Please call Technical Support and notify a technical advisor of your successful installation, 214–258–5555.

Store the old transport, CPU boards, and all of your old tapes in a safe place. After one week of operating with the new hardware; the old CPU board, transport board, and **all of your old tapes** must be returned to **SHOWBIZ PIZZA TIME INC., ATTENTION: ENTERTAINMENT.** Also, you may contact Bill Eckel at 214–258–5428 in the Parts Department if you wish to exchange your working A/V switcher board with a working character driver board. The cost for this exchange is $30.00.



CARD CAGE

CONFIDENTIAL

TITLE: CARD CAGE & DISPLAY LAYOUT	
DRAWN BY: Farshid Khoshgam	DATE: 8/16/93

DRAWING #2

CONFIDENTIAL

TITLE: SCD PLACEMENT	
DRAWN BY: Farshid Khashgam	DATE: 8/16/93

DRAWING #1

CARD CAGE

LOGO

UP ENTER DOWN

TWO BY SIXTEEN BACKLIT LCD

RESET

SHOW CONTROLLER DISPLAY

LIGHT DRIVER #2

LIGHT DRIVER #1

PASQUALLY CDB

JASPER CDB

MUNCH CDB

HELEN CDB

CHUCK E. CDB

A/V SWITCHR BOARD

CPU BOARD

EMPTY SLOT

TRANSPORT BOARD

NEW FEATURES

AND

OPERATING

INSTRUCTIONS

NEW FEATURES

Your new HC11 CPU system will perform very much the same as your old system but there are some new, added features:

Text messages embedded in the showtape can be displayed on the LCD display.

Certain setups and configurations that are particular to your location can be saved in battery–backed RAM.

A user–friendly diagnostics system has been added. Setups, diagnostics, and utilities may be accessed interactively through the Show Controller Display panel.

NORMAL SHOWTAPE OPERATIONS

If a showtape is inserted when the Show Controller Display is at its main menu (Cyberstar v1.1 (c) 1993), it will rewind and start playing from the beginning of the tape. At this point, an attempt will be made to validate the showtape. If the showtape does not pass the validation, it will be ejected within thirty seconds. If validation is successful, you will see a message on the 2nd line of the LCD display that starts with "***." These three asterisks indicate that the validation passed each of its steps successfully. Then, you will see the letter "R" followed by a three–digit number and the letter "L" followed by a three–digit number. The "R" and "L" stand for "regular" and "LIVE" showtapes, respectively. The three–digit numbers indicate the numbers of the most recently validated showtapes the system has encountered.

Throughout the tape, status messages may be displayed on the LCD display as deemed necessary by the Entertainment Department. The display may also show certain error conditions that may occur during operation.

During the normal show operating mode, while a tape is playing, you may eject a tape by pressing the "UP" and "DOWN" buttons simultaneously. However, this function is not enabled during a normal show, a birthday show, or a LIVE show. It is the ONLY method which may be used to eject the tape. DO NOT manually eject the tape using the EJECT button on the front of the tape deck. This will only confuse the system and cause future problems.

PLAYING A BIRTHDAY SHOW – To play a birthday show, press the BDAY button on the front of the Cyberamics Control Console or the Remote Control Panel. The button will light up and the next available birthday show will be played.

HOLDING A BIRTHDAY SHOW – To hold a birthday show, first select the birthday show by pressing the BDAY button then press the CHEER button. The CHEER button

will light up indicating that the birthday show will be held when it's ready to play. At that time, the tape deck will stop and the CHEER button will flash, awaiting a request to play the birthday show. Press the CHEER button to continue and play the birthday show.

Note: The birthday hold function does not function on a short, "vanilla" birthday show. On regular birthday shows, it works for a maximum of five minutes. If the CHEER button is not pressed within five minutes, the show will start by itself.

LIVE SHOWTAPE – To play a LIVE showtape, eject the tape currently playing by pressing the UP and DOWN buttons simultaneously. The tape will not eject during a regular show or a birthday show. Insert the LIVE showtape in the tape deck and it will go through the previously described validation process. When the LIVE show is ready to play, the tape deck will stop and the INTRO button will flash. Press the INTRO button to start the LIVE show.

Notes: You have five minutes in which to start the LIVE show, if the show is not started within that time, it will start by itself.

When the LIVE show finishes, the tape will rewind and eject itself and the NEXT button will flash indicating that the system is ready for you to remove the LIVE showtape and insert a regular showtape. When you insert the previous showtape (after the LIVE showtape has been played), it will resume where it left off (without rewinding).

DIAGNOSTICS

Upon power–up of the system, if you have not inserted a showtape, you may press the "ENTER" button to access the diagnostics menu. By using the "UP" and "DOWN" buttons, you will be able to scroll through many different selections. Some of these selections are freely accessible and others are protected by a password that may be obtained from ShowBiz Pizza Time, Inc. corporate office. The following list will outline those selections showing which are password protected and which are not:

VCR adjust	unprotected
Set Random	protected
Chuck E. Cheese	unprotected
Jasper	unprotected
Pasqually	unprotected
Munch	unprotected
Helen	unprotected
Reset System	protected
Reset Reg Tape #	protected
Reset LIVE Tape #	protected

View Tape #'s	unprotected
All Lights On	unprotected
Button Test	unprotected
Quit Diagnostics	unprotected

You may select any of these selections by using the "UP" and "DOWN" buttons to display it and then pressing "ENTER" to select it.

VCR ADJUST – Selecting the mode will cause the stage curtains to open. After selection, insert a VCR adjust tape into the VCR and press "PLAY" on the tape deck. The character movements encoded on the tape along with visual instructions will be seen. Within this mode, you may rewind, fast forward, and play the tape deck manually to adjust the characters. When you are finished, press "ENTER" to return to the diagnostics menu.

Note: You MUST use the VCR ADJUST tape supplied by the corporate office. VCR adjust tapes produced before September 1993 will not function correctly. If any attempt is made to use an incorrect VCR ADJUST tape, it will be ejected.

SET RANDOM – This mode is protected by password and allows the setup of characters for random movements. Your CPU card will be configured for you when you receive it.

CHUCK E. CHEESE through HELEN – These modes allow access to the individual functions of each character driver board. Use "UP" and "DOWN" to scroll through the character selections and press "ENTER" to select the character. The functions are selectable by the name of the function and DS9 through DS14 for extra functions. Use the "UP" and "DOWN" buttons to select any of the functions. Press "ENTER" to select the function. The function will then begin to cycle automatically. Pressing "ENTER" again will return you to the character menu. To exit diagnostics on a particular character, scroll past the DS14 function to "Exit" and then press "ENTER." You will be returned to the main DIAGNOSTICS menu.

RESET SYSTEM – This is a password–protected selection that allows the Cyberstar system to be reset (i.e. a "re–boot"). This selection is only needed in certain emergency situations under the direction of corporate office staff.

RESET REG TAPE # – This function is password protected. It resets the current "regular" showtape number back to "000."

RESET LIVE TAPE # – This function is password protected. It resets the current "LIVE" showtape number back to "000."

VIEW TAPE #'s – This selection will allow you to see the most currently validated showtape numbers for both "regular" and "LIVE" showtapes.

ALL LIGHTS ON – A diagnostic tool that turns on all bits of both light driver cards. Press "ENTER" to return to the diagnostics menu.

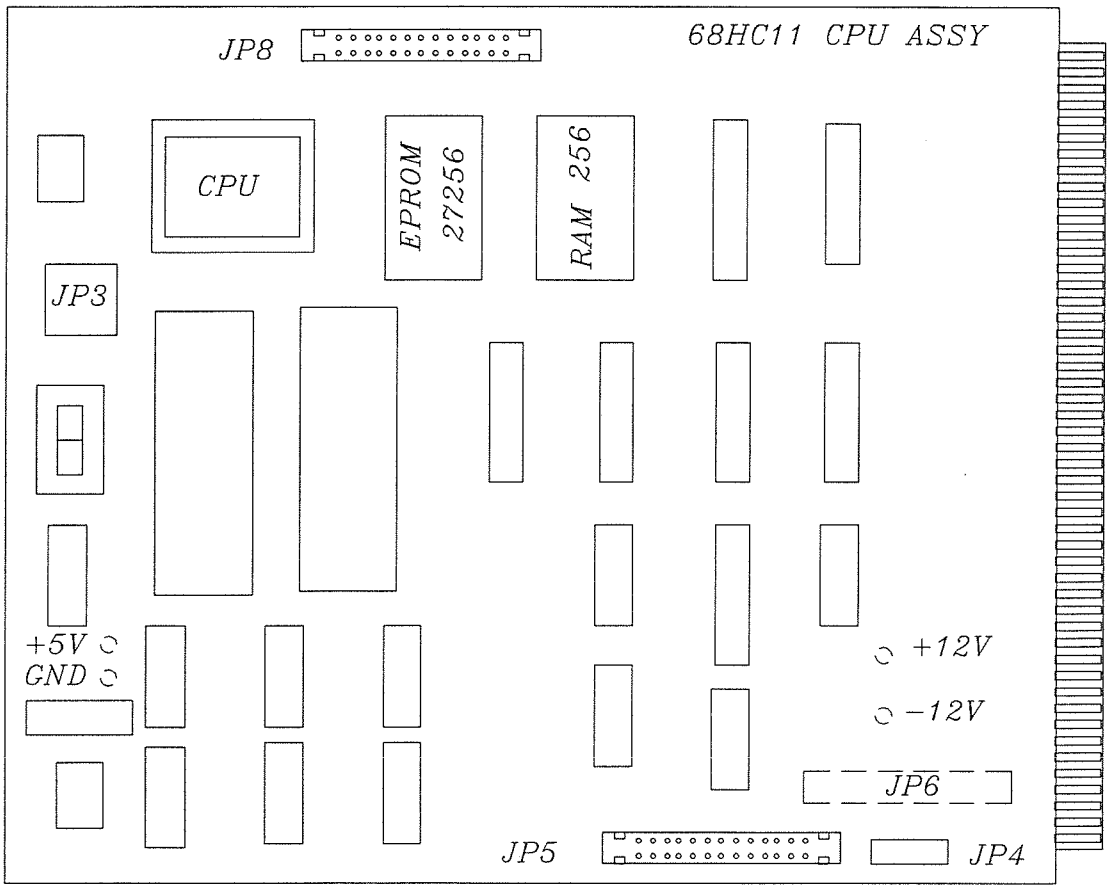
BUTTON TEST – This selection allows you to press each button on the remote console or front of the power supply lighting the corresponding bulb for that button. Its purpose is to test the push button switches and the bulbs in the switches. Press "PROG" to exit the test.

QUIT DIAGNOSTICS – This selection returns the user back to the normal show operating mode.

SCHEMATICS

&

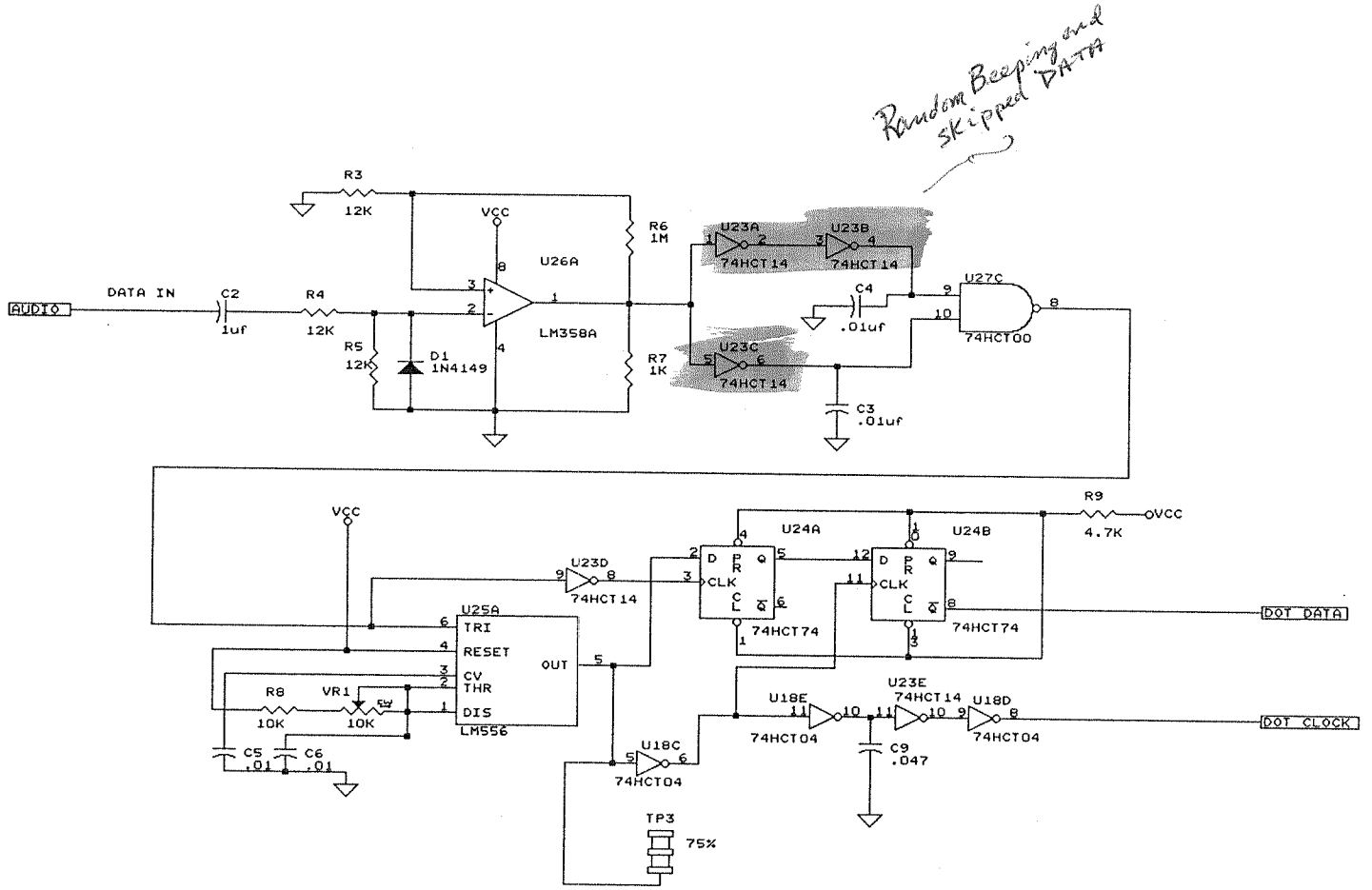
DIAGRAMS



CONFIDENTIAL

JP5 A/V SWITCHER 26 PIN HEADER
JP6 TRANSPORT ADAPTER 26 PIN HEADER
JP8 LCD DISPLAY 26 PIN HEADER

TITLE: 68HC11 CPU COMPONENT SIDE	
DRAWN BY: FARSHID KHOSHGAM	9/16/93



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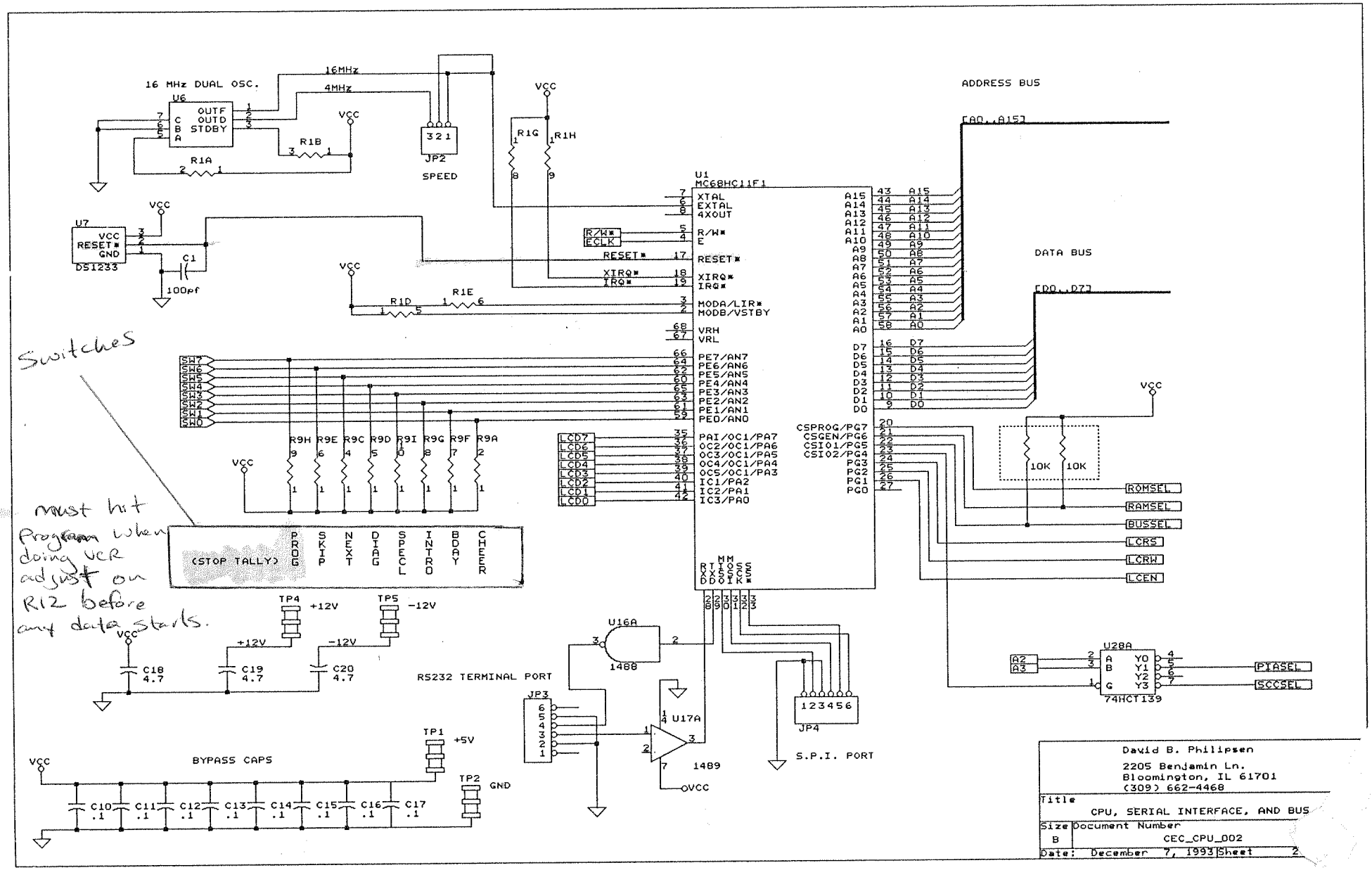
Bloomington, IL 61701
(309) 662-4468

Title	D.O.T. DECODING CIRCUITRY	
Size B	Document Number CEC_CPU_001	REV D
Date: December 7, 1993	Sheet 1 of 5	

Reset line



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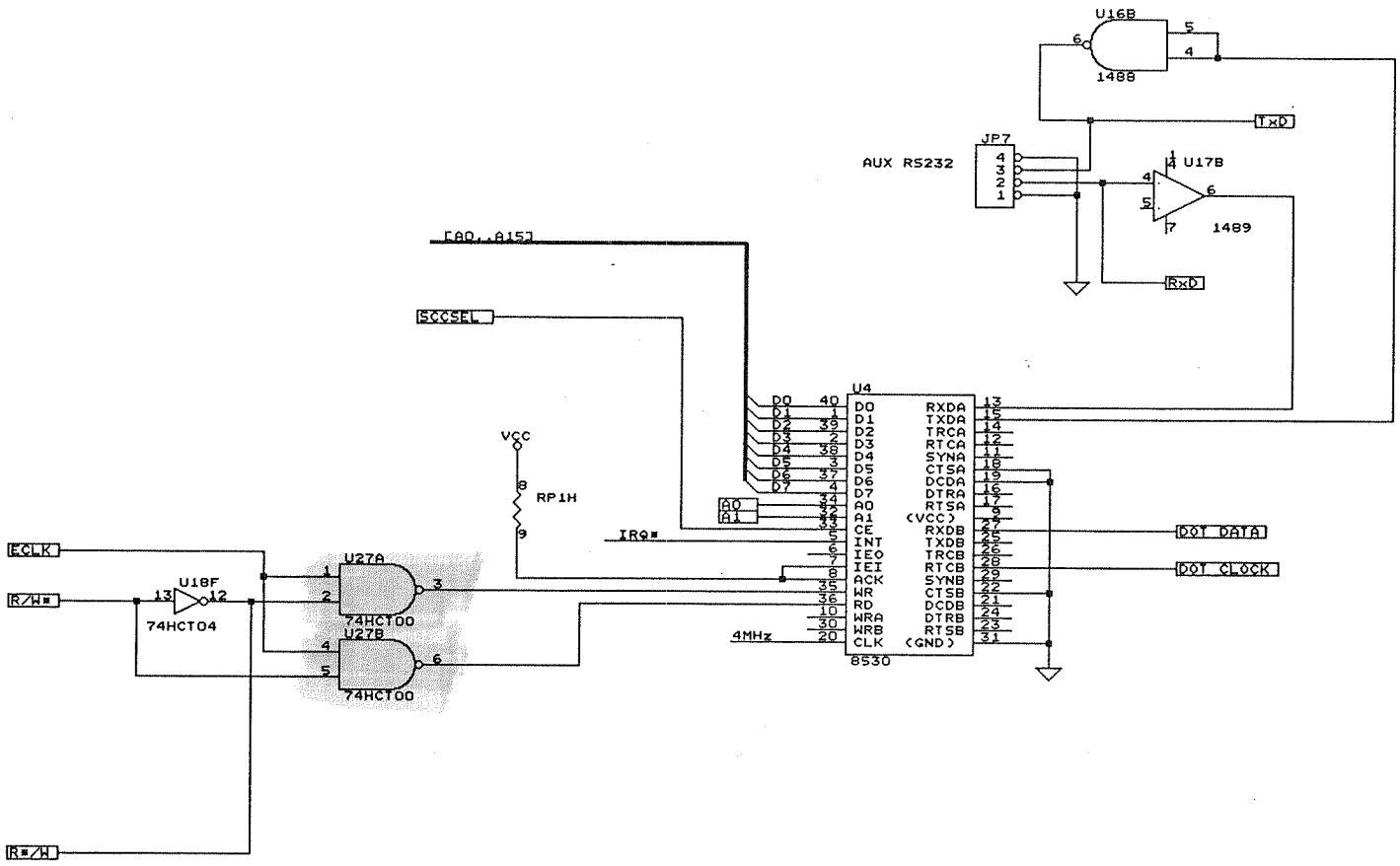
Title	
CPU, SERIAL INTERFACE, AND BUS	
Size: B	Document Number: CEC_CPU_002
Date: December 7, 1993	Sheet 2



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U27 - During Diag. Tape tape will eject or other Weird things.

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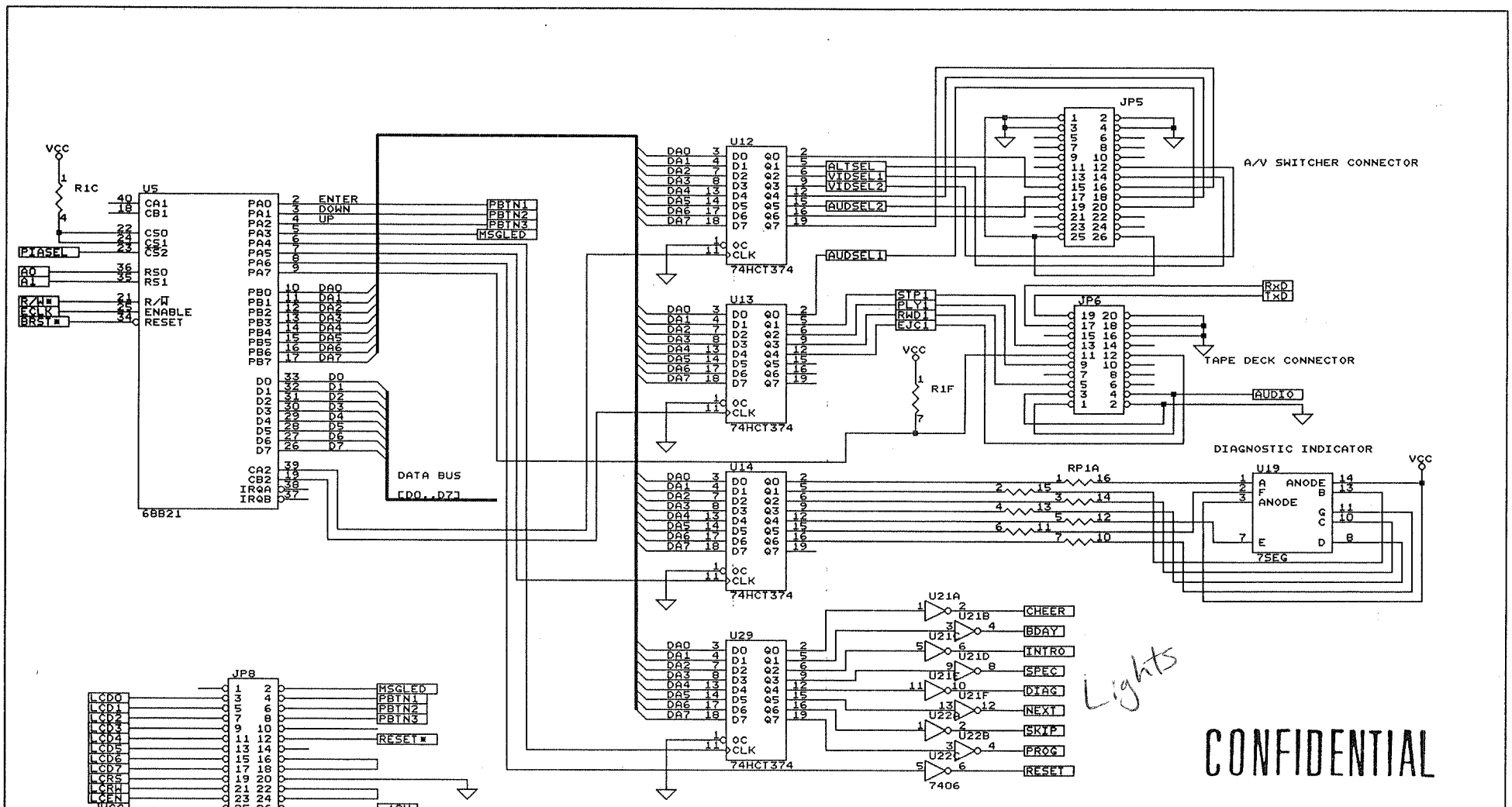
Title: SERIAL COMMUNICATIONS CONTROLLER

Size	Document Number	REV
B	CEC_CPU_004	B

Date: September 23, 1993 Sheet 4 of 5



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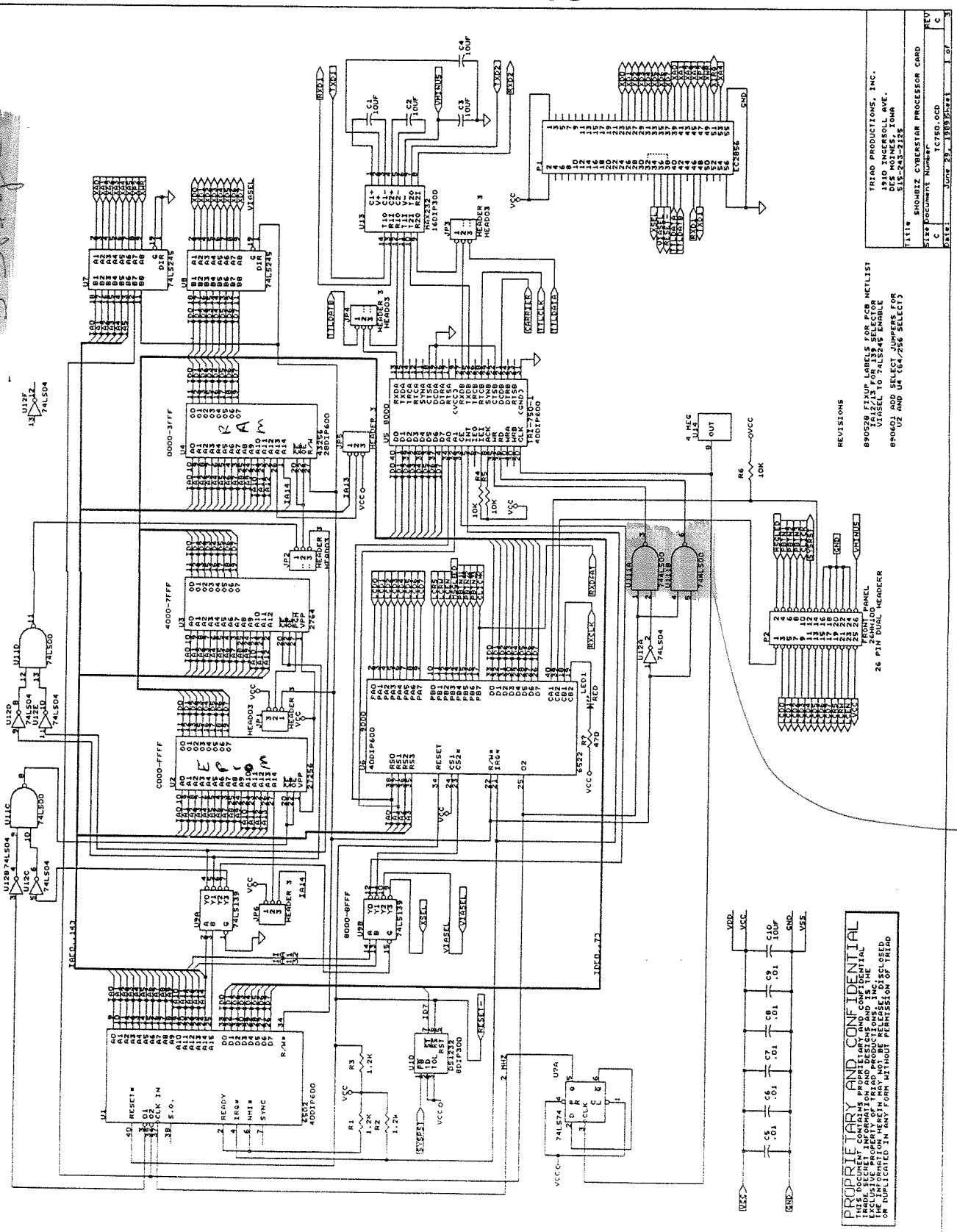
Title: PIA I/O CIRCUITRY

Size	Document Number	REV
B	CEC_CPU_003	C

Date: September 23, 1993 Sheet 3 of 5

SCHEMATICS


TRIAD PRODUCTIONS, INC.
1910 INGERSOLL AVE.
DES MOINES, IOWA
515-243-2125
Title SHOWBIZ CYBERSTAR PROCESSOR CARD
Size C Document Number TC750.OCD REV C
Date: June 29, 1989 Sheet 1 of 3
REVISIONS
890528 FIXUP LABELS FOR PCB NETLIST
IA12/13 FOR 139 SELECTOR
VIASEL TO 74LS245 ENABLE
890601 ADD SELECT JUMPERS FOR
U2 AND U4 (64/256 SELECT)
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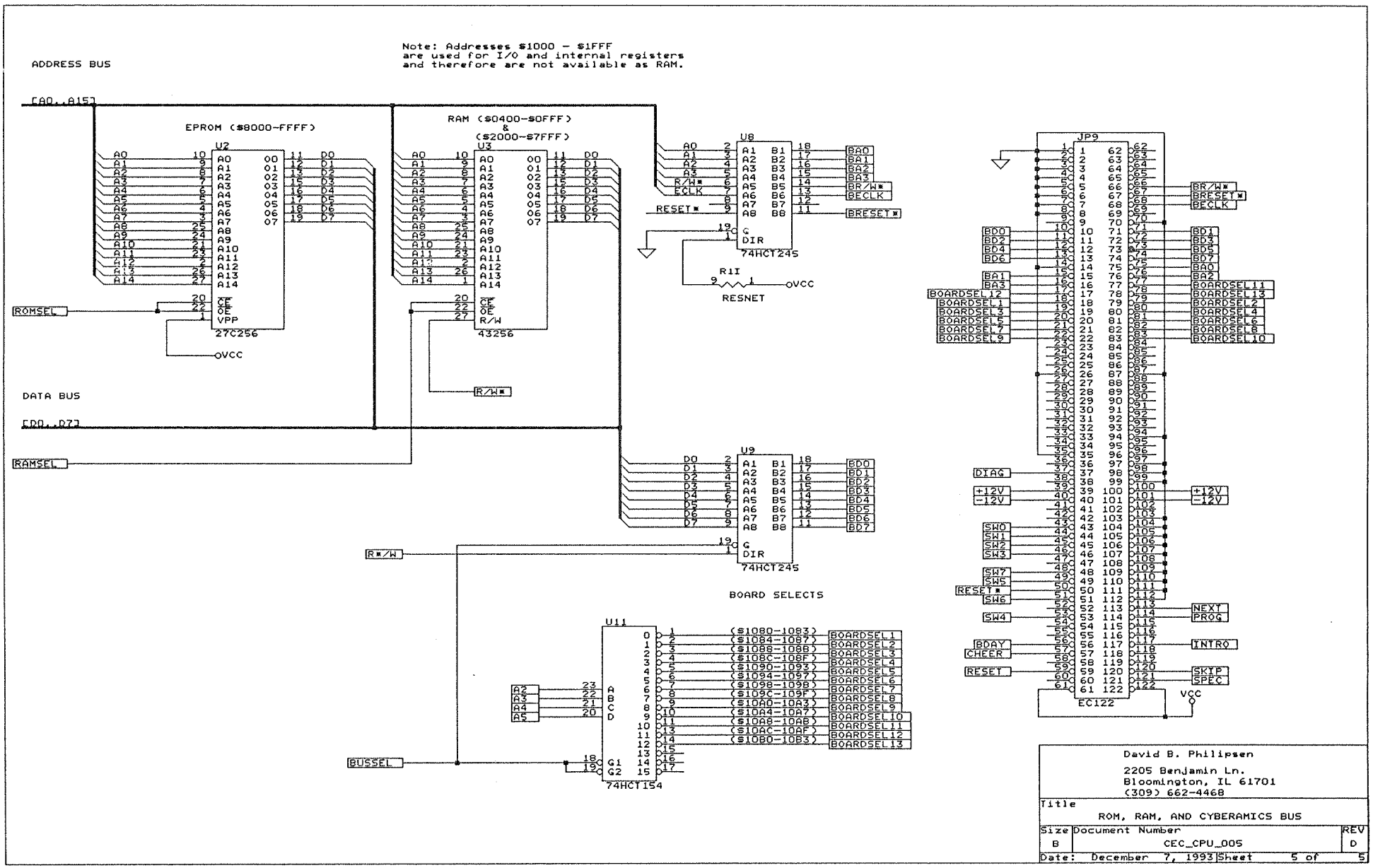

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Title
ROM, RAM, AND CYBERAMICS BUS

Size	Document Number	REV
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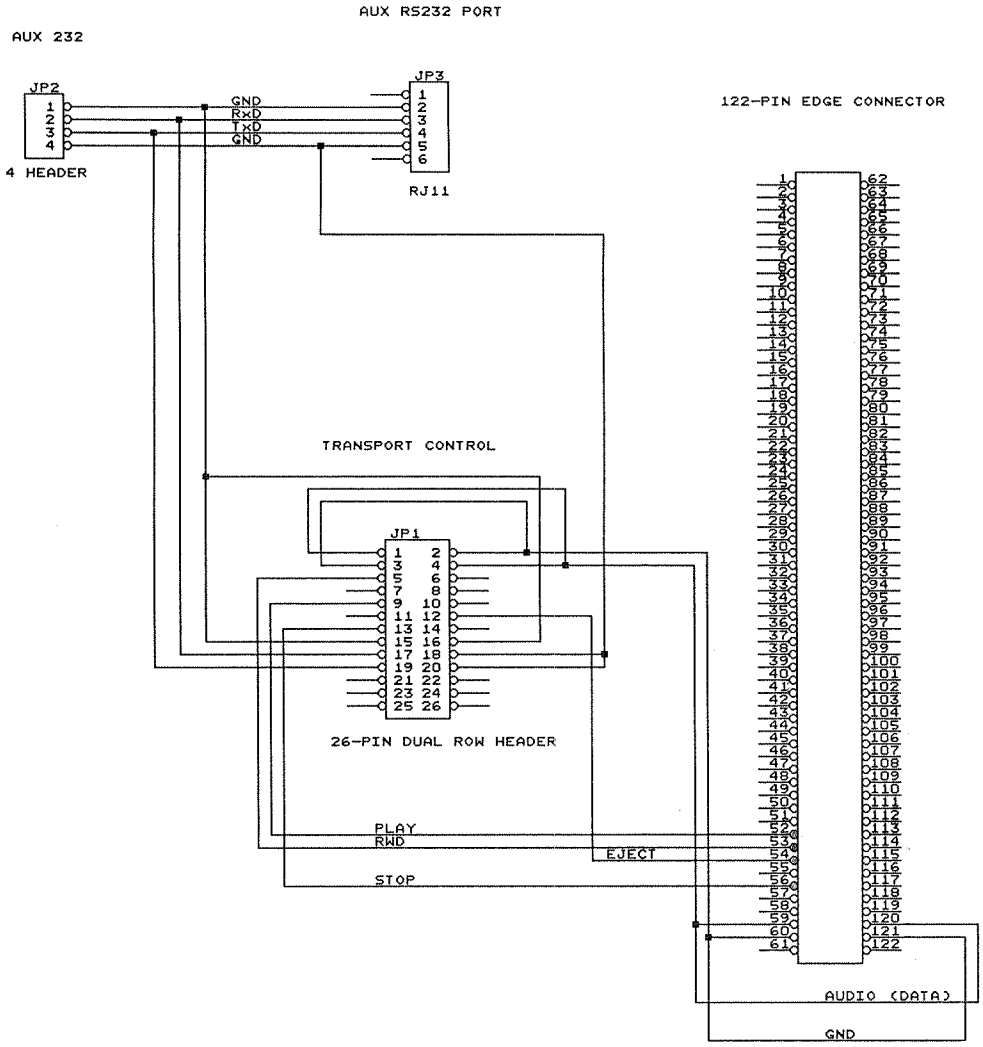
Date: December 7, 1993 Sheet 5 of 5



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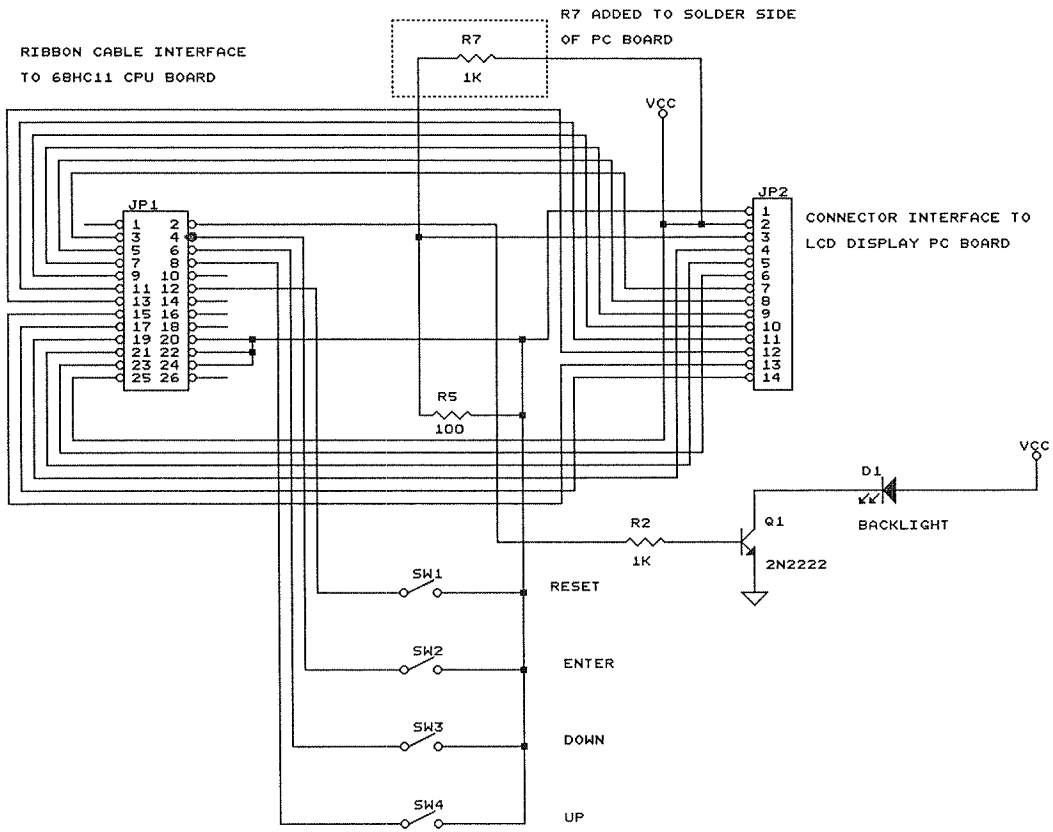
Title: XPORT ADAPTER		
Size: B	Document Number:	REV: A
Date: September 24, 1993	Sheet: 1 of 1	



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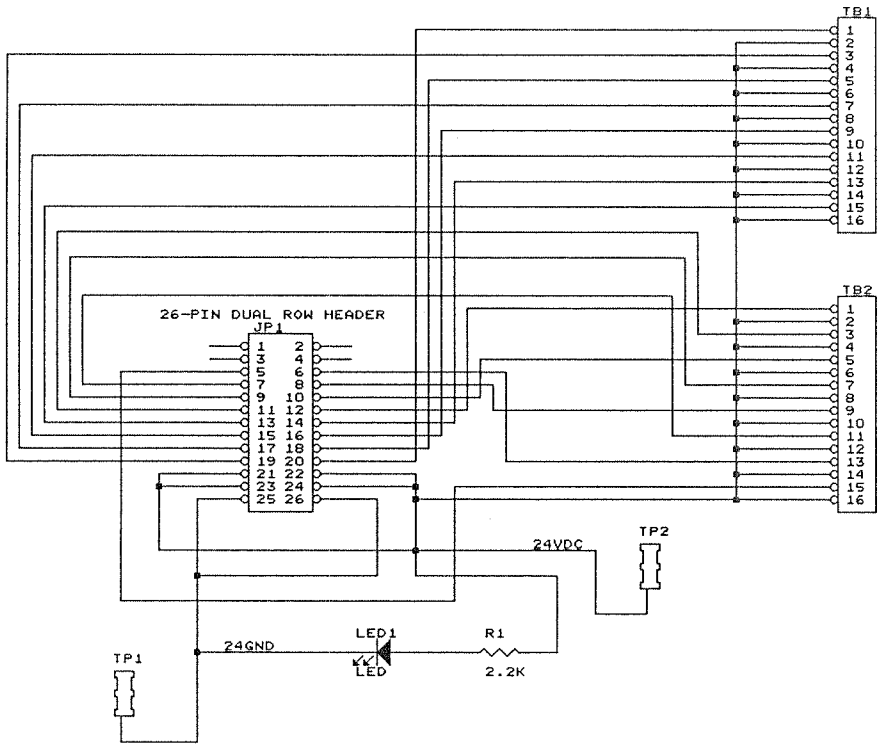
Title		
LCD INTERFACE		
Size B	Document Number	REV C
Date: October 4, 1993	Sheet 1 of 1	



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Title

CEC SOLENOID BOARD

Size	Document Number	REV
B	06-0005	C

Date: December 7, 1993 Sheet 1 of 1