



DRAGON'S LAIR^{*}
PRELIMINARY MANUAL

VIDEO DISK PLAYER.

To ensure best quality and reliability the following simple maintenance should be performed at 2 weekly intervals.

BEFORE OPENING THE PLAYER, PLEASE NOTE THE FOLLOWING.

- (a) The disk should be handled only by its edges or between the centre hole and one edge. Avoid any contact with the playing surface of the disk.
- (b) DO NOT use any form of abrasive cleaner, alcohol or other solvent.

PREVENTIVE MAINTENANCE:-

- 1/. Open disk player drawer.
- 2/. Remove filter at rear of drawer. Shake filter till free of dust. Replace filter.
- 3/. Release draw latch on player securing bracket. Remove securing bracket. (Easiest if drawer is partially in).
- 4/. With game powered up, press "OPEN" button on front of Player. Within 10 seconds the lid will open automatically allowing access to the video disk.
- 5/. When player door is open turn power OFF at switch on rear panel of game cabinet.
- 6/. Carefully remove the disk and dust it with a clean, lint-free, 100% cotton cloth. If necessary, the cloth may be dampened slightly with water. DO NOT use any form of abrasive cleaner, alcohol or other solvent.
- 7/. With playing surface facing downwards, replace disk and press it gently onto centre spindle.
- 8/. Close lid of player.
- 9/. Replace securing bracket.
- 10/. Gently close and secure drawer.
- 11/. Turn power ON.

2.0 INTERFACE

2.1 INTRODUCTION

The IVDBC is intended for use in a variety of configurations. Therefore, not all of the interfaces described here would be used in a specific application.

2.2 CIRCUIT BOARD CONNECTORS

<u>Reference Designator</u>	<u>Description</u>	<u>Mating Connector</u>
J1	36-Pin Control Panel inputs, coin acceptor switch inputs, coin counter outputs, DC power input, audio input, volume control and audio output	Molex Shell Order #03-06-1362 Molex Pin Model #4529 or #4559 (female)
J2	6-Pin serial, video disc player interface - serial send, receive and handshaking	Molex Shell Order #03-09-2062 Molex Pin Model #1190, 1380, 2870 or 1434 (male)
J3	24-Pin Parallel video disc player interface, - 8-bit data and handshaking.	Amphenol Type 24
J4	Composite video input from video disc player	BNC
J5	6-Pin RGB output to monitor	Molex Shell Order #03-09-1063 Molex Pin Model #1189, 1381, 2871 or 1433

2.2 CIRCUIT BOARD CONNECTORS (cont'd)

Reference Designator	Description	Mating Connector
J5 (cont'd)		(Female Pin 1-5) Molex Pin Model #1190, 1380, 2870 or 1434 (Male - Pin 6 only)
J6	16-Pin General Output	16-Pin ribbon cable

2.3 CONNECTOR PINNING

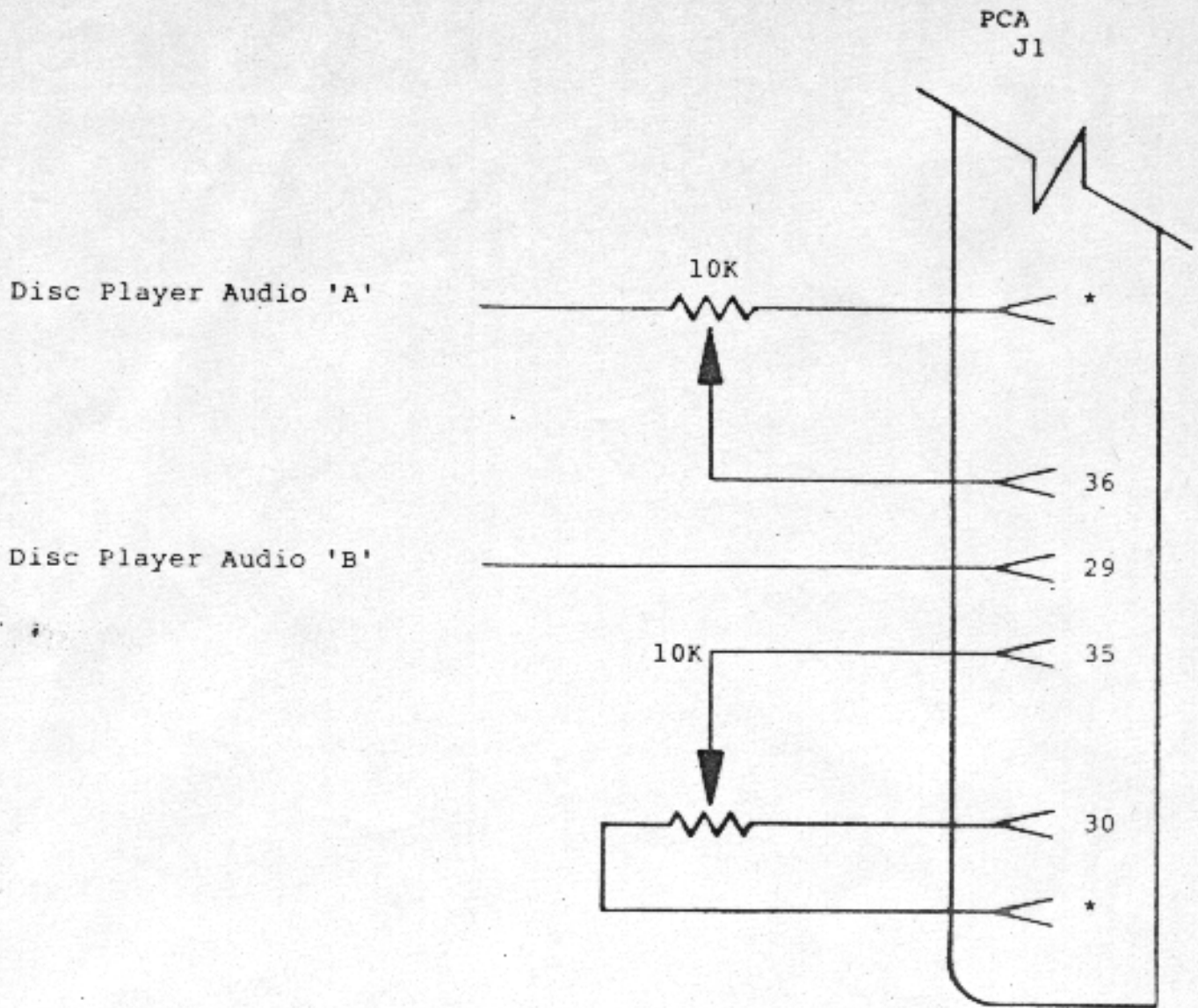
Connector	Pin #	Function
J1	1	Joystick - up
	2	Joystick - down
	3	Not used
	4	+5V @ 2A supply
	5	Joystick - left
	6	Joystick - right
	7	Not used
	8	+5V @ 2A supply
	9	Right coin acceptor switch
	10	Left coin acceptor switch
	11	Not used
	12	Coin counter - right
	13	Two player start switch
	14	One player start switch
	15	Action Switch
	16	5V supply return
	17	Not used
	18	Not used
	19	Coin counter - left
	20	Ground (common)
	21	Not used
	22	Ground (common)
	23	Ground (common)
	24	Ground (common)
	25	Ground (common)
	26	Ground (common)
	27	Ground (common)
	28	Ground (common)
	29	Video disc audio input - 1
	30	Volume control output - 1
	31	+25V @ 2A supply
	32	+25V @ 2A supply
	33	Speaker A-output
	34	Speaker B-output
	35	Volume control wiper - B
	36	Video disc audio input - 2

* See Audio/Volume Control Diagram

2.3 CONNECTOR PINNING (cont'd)

Connector	Pin #	Function
J2	1	Serial data to player
	2	Signal ground
	3	DTR to disc player
	4	CTS from disc player
	5	Signal ground
	6	Serial data from player
J3	1	Data Bit 0
	2	Data Bit 1
	3	Data Bit 2
	4	Data Bit 3
	5	Not used
	6	Not used
	7	Ready
	8	Not used
	9	Not used
	10	Not used
	11	Enter
	12	Not used
	13	Data Bit 4
	14	Data Bit 5
	15	Data Bit 6
	16	Data Bit 7
	17	Int/Ext
	18	Ground
	19	Ground
	20	Ground
	21	Ground
	22	Ground
	23	Ground
	24	Ground
J4	1	Signal - composite video
	2	Ground
J5	1	Red output
	2	Ground
	3	Blue output
	4	Comp Sync output
	5	V Sync output
	6	Green output
J6	1	Data Bit 3
	2	Data Bit 2
	3	Data Bit 1
	4	Data Bit 0
	5	Address Bit 2
	6	Address Bit 1
	7	Address Bit 0
	8	Decoding Bit 2
	9	Decoding Bit 1
	10	Not used
	11	+5V output
	12	+5V output
	13	+5V output
	14	Ground
	15	Ground
	16	Ground

2.4 VOLUME CONTROL SCHEME



* Any ground (common)

SIZE A	DRAWING NUMBER	
SCALE		SHEET

2.5 Power Supply Requirements

Two voltages are required:

+5VDC @ 2 amps regulated ±5%

+25VDC @ 1.3 amps unregulated

3.0 SYSTEM OPERATION

3.1 Initialization

The system is initialized whenever power is cycled or the reset switch (S1) is depressed.

3.2 Options

Two banks of eight switches each, SWA and SWB are used to select various coinage and game play options. These switches are read only immediately after system reset. Modifying the switch settings has no effect until system reset occurs.

3.2.1 Coinage/Credit Options

Two independent coin acceptor switch/coin counter combinations have been provided for coin/credit ratios which are determined for the left and right coin acceptors by SWA and SWB respectively. Program logic requires that the number of coins for a slot be detected before credits are incremented. Credits are incremented by the amount selected.

3.2.1.1 Left Slot

Coins:

<u>SWA-1</u>	<u>SWA-2</u>	<u>SWA-3</u>	
Off	Off	Off	= Freeplay
On	Off	Off	= 1 coin
Off	On	Off	= 2 coins
On	On	Off	= 3 coins
Off	Off	On	= 4 coins
On	Off	On	= 5 coins
Off	On	On	= 6 coins
On	On	On	= 7 coins

3.2.1.1 Left Slot (cont'd)

Credits:

<u>SWA-4</u>	<u>SWA-5</u>	<u>SWA-6</u>	
Off	Off	Off	= slot disabled
On	Off	Off	= 1 credit
Off	On	0	= 2 credits
On	On	Off	= 3 credits
Off	Off	On	= 4 credits
On	Off	On	= 5 credits
Off	On	On	= 6 credits
On	On	On	= 7 credits

3.2.1.2 Right Slot

Coins:

<u>SWB-1</u>	<u>SWB-2</u>	<u>SWB-3</u>	
Off	Off	Off	= Freeplay
On	Off	Off	= 1 coin
Off	On	Off	= 2 coins
On	On	Off	= 3 coins
Off	Off	On	= 4 coins
On	Off	On	= 5 coins
Off	On	On	= 6 coins
On	On	On	= 7 coins

Credits:

<u>SWB-4</u>	<u>SWB-5</u>	
Off	Off	= slot disabled
On	Off	= 1 credit
Off	On	= 2 credits
On	On	= 3 credits

3.2.2 Lives per Game

SWB-6

Off	3 lives per game
On	5 lives per game

3.2.3 Power-up Diagnostics

SWB-7

Off	Disabled **
On	Enabled

3.2.3 Difficulty

SWA-7

SWA-8

Off	Off	Easy **
On	Off	Intermediate
Off	On	Hard
On	On	Very hard

NOTE:-

Set option switch SWB-8 to OFF before entering diagnostic mode. This disables the watchdog timer.

** Atari recommended setting.

4.3 POWER-UP DIAGNOSTICS

LED display DS1 is used as an indicator for the power-up diagnostics. As each portion of the diagnostic is run, an identifying number is displayed as follows:

- 1 - CPU test
- 2 - ROM test
- 3 - RAM test
- 4 - Display memory test
- 5 - CTC test
- 6 - DART test

Where there is a diagnostic failure, the display will freeze with the number of the test which failed.

During normal game play, DS1 and DS2 are driven by the 10 msec and 5 msec system interrupts and will flicker accordingly.

'Eurolair' Option Switch Diagram

Left Slot Coins:

SWA-1	SWA-2	SWA-3
Off	Off	Off = freeplay
On	Off	Off = 1 coin
Off	On	Off = 2 coins
On	On	Off = 3 coins
Off	Off	On = 4 coins
On	Off	On = 5 coins
Off	On	On = 6 coins
On	On	On = 7 coins

Right Slot Coins:

SWB-1	SWB-2	SWB-3
Off	Off	Off = freeplay
On	Off	Off = 1 coin
Off	On	Off = 2 coins
On	On	Off = 3 coins
Off	Off	On = 4 coins
On	Off	On = 5 coins
Off	On	On = 6 coins
On	On	On = 7 coins

Left Slot Credits:

SWA-4	SWA-5	SWA-6
Off	Off	Off = slot disabled
On	Off	Off = 1 credit
Off	On	Off = 2 credits
On	On	Off = 3 credits
Off	Off	On = 4 credits
On	Off	On = 5 credits
Off	On	On = 6 credits
On	On	On = 7 credits

Right Slot Credits:

SWB-4	SWB-5
Off	Off = slot disabled
On	Off = 1 credit
Off	On = 2 credits
On	On = 3 credits

Lives Per Game:

SWB-6
Off = 3 lives per game
On = 5 lives per game

Game Difficulty Level:*

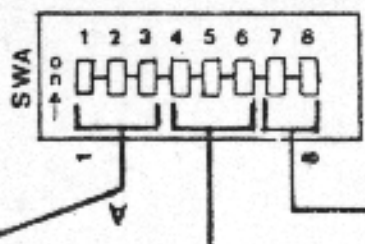
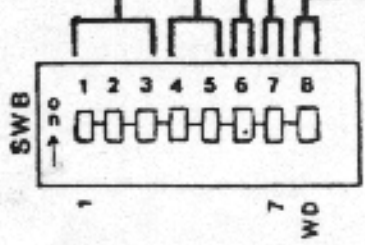
SWA-7	SWA-8
Off	Off = Easy
On	Off = Intermediate
Off	On = Hard
On	On = Very Hard

Enable Power-up Diagnostics:

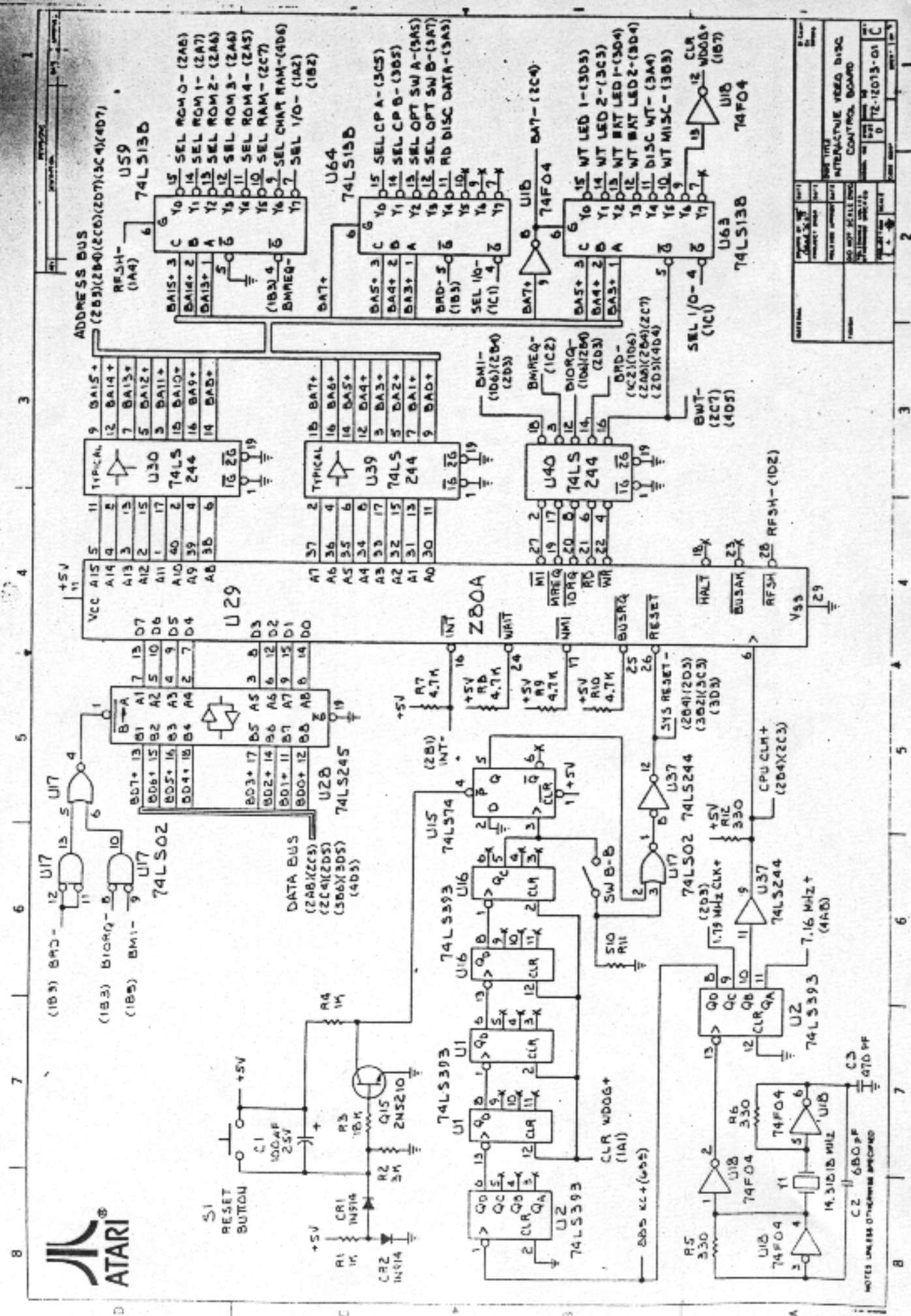
SWB-7
On = Enable Diagnostics at Power-up
Off = Disable Diagnostics

Watchdog Timer Enable:

SWB-8
On = Enable Watchdog Timer
Off = Disable Watchdog Timer

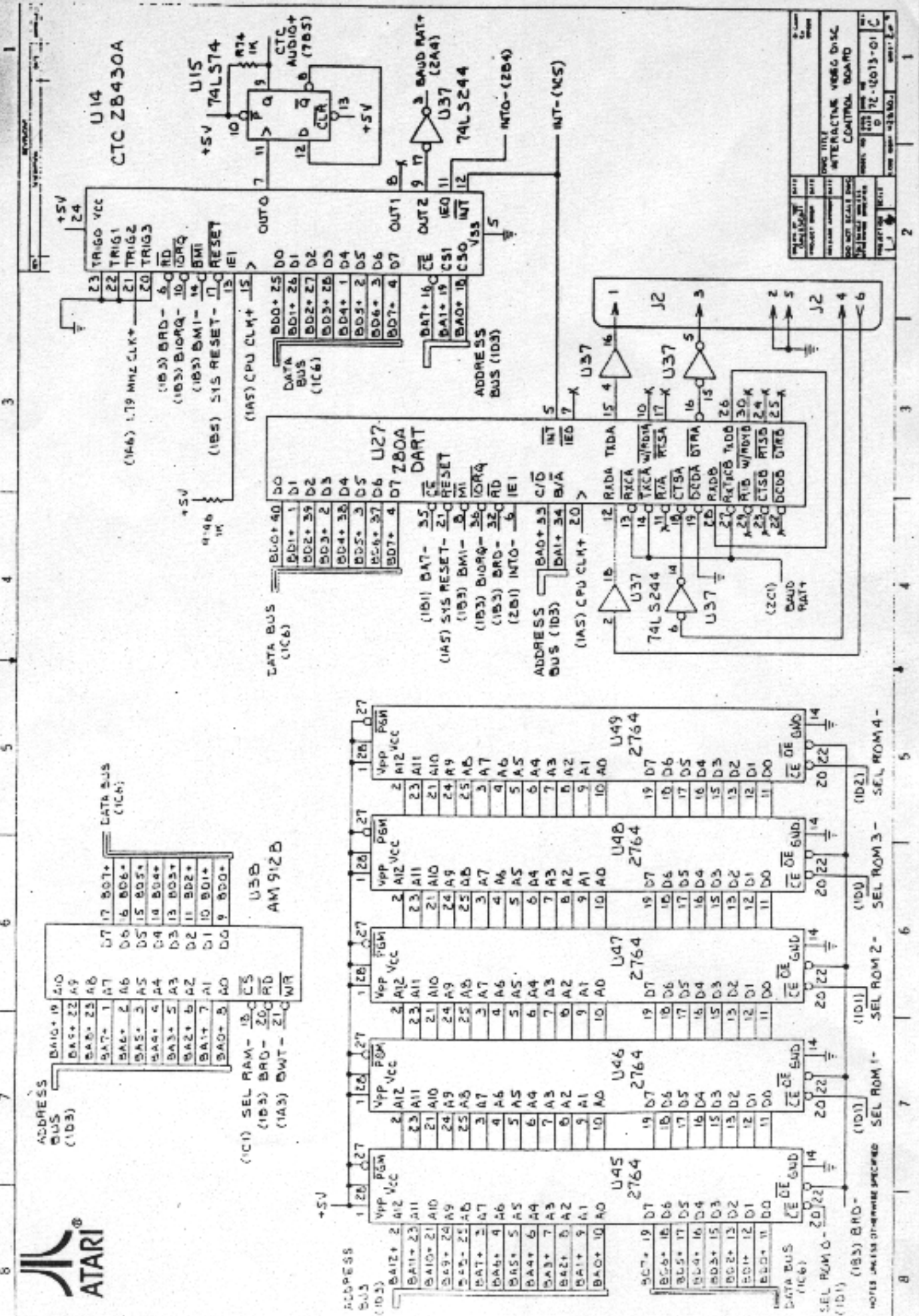


* Difficulty shifts to the next higher level after surviving 5 consecutive rooms (1 shift per game)

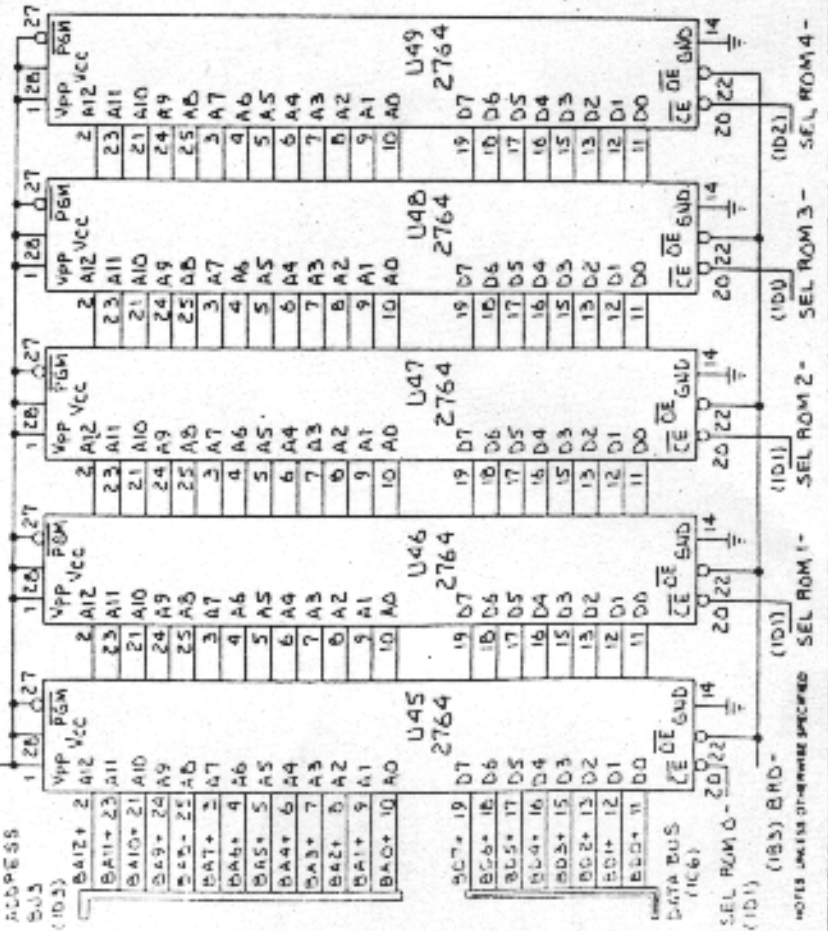


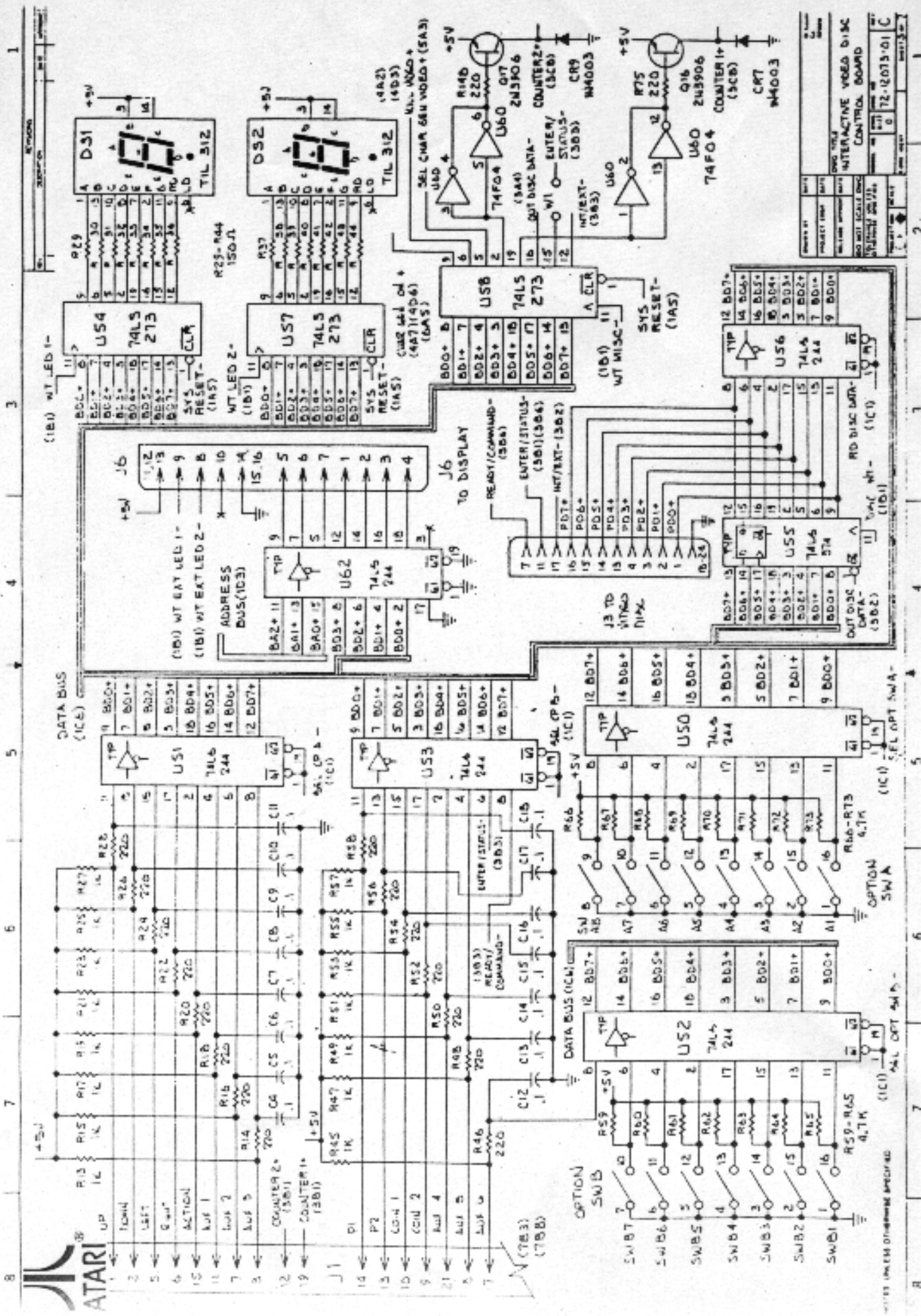
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100	FOR THE ATARI 2600

NOTES: UNLESS OTHERWISE SPECIFIED



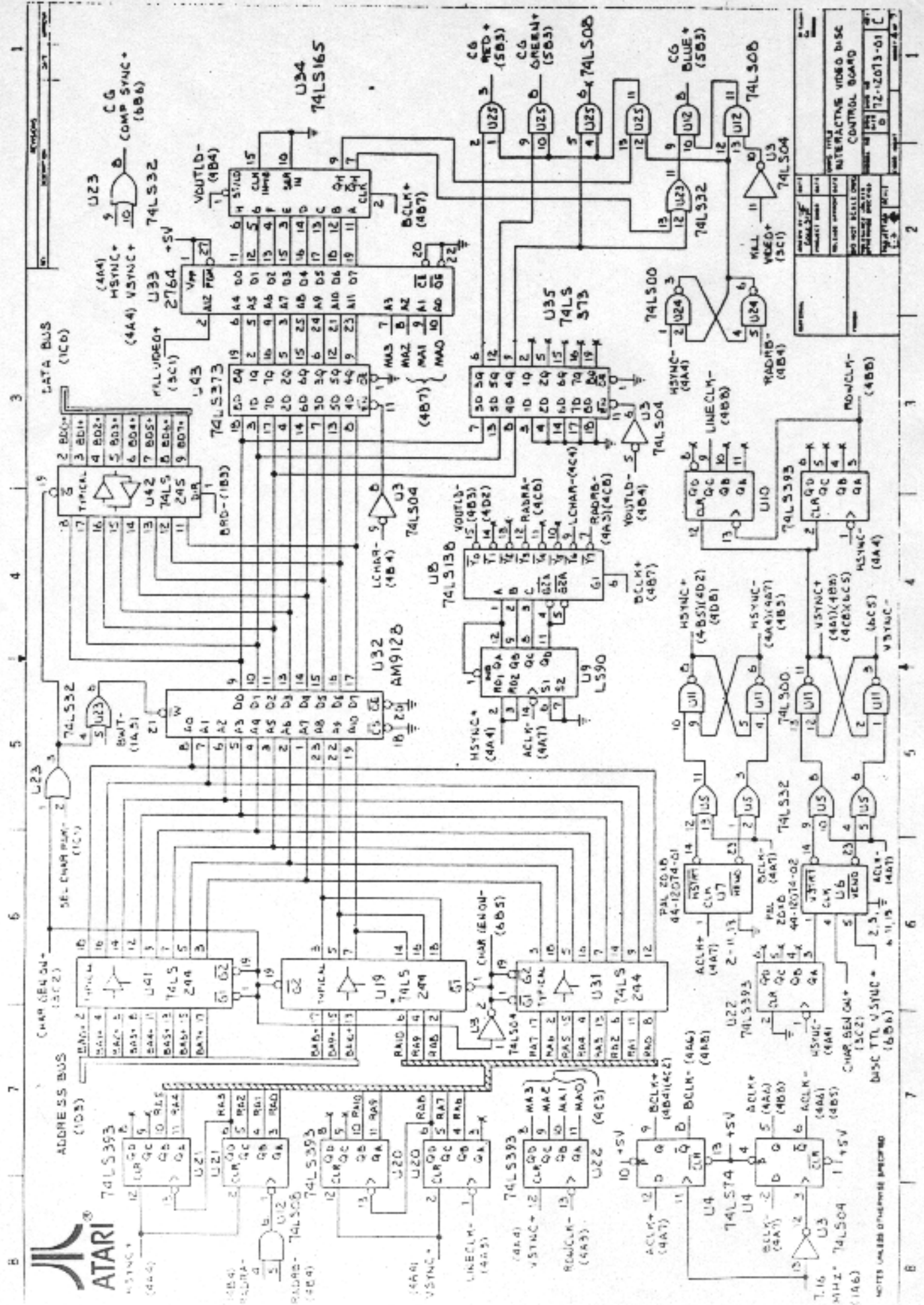
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 CHECKED BY: _____
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 APPROVED BY: _____
 PART: 103-2038
 REV: 1
 DATE: 11-21-83
 SCALE: _____
 SHEET: 11 OF 12
 PROJECT: 103-2038
 TITLE: INTERACTIVE VIDEO DISC CONTROL BOARD



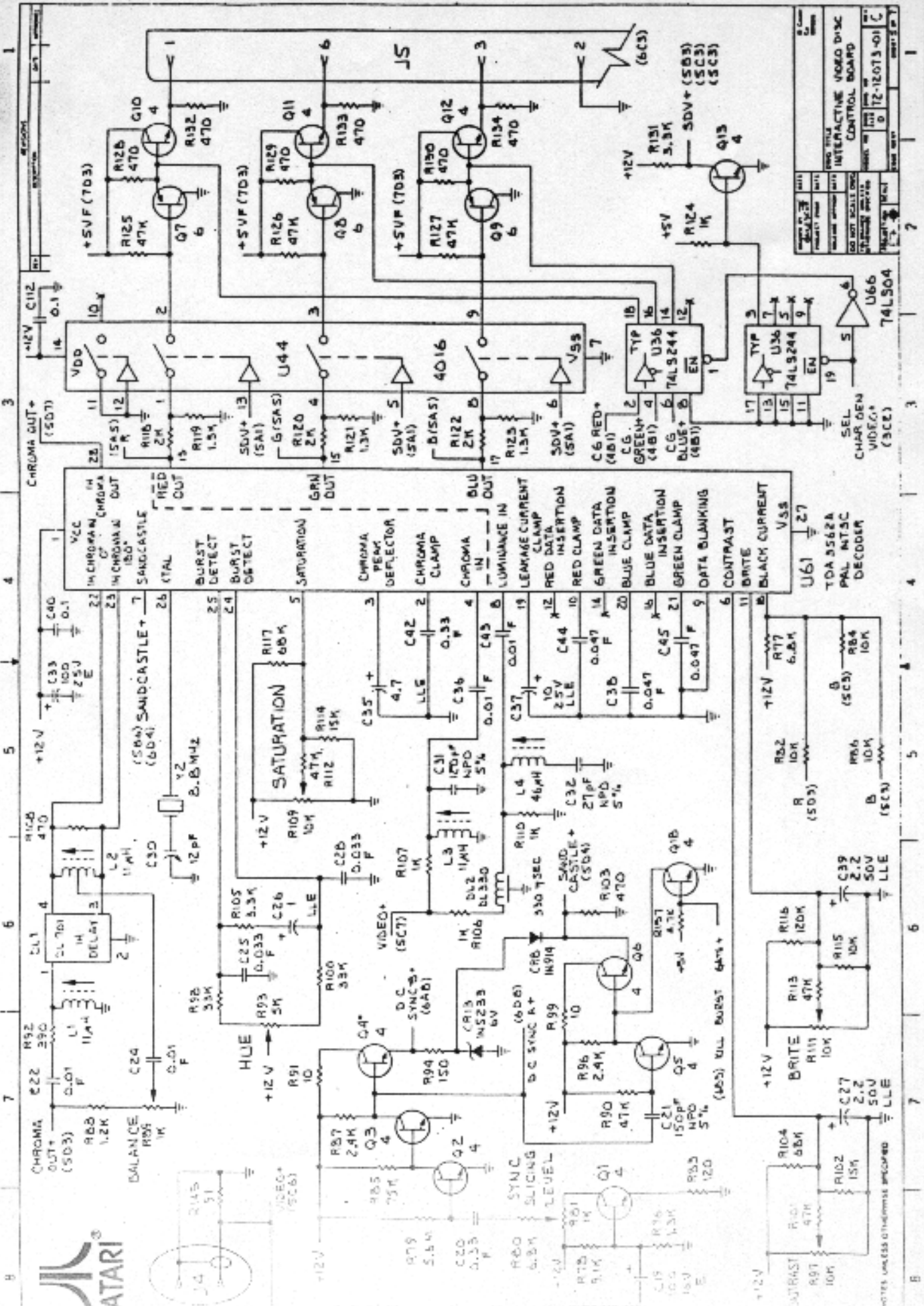


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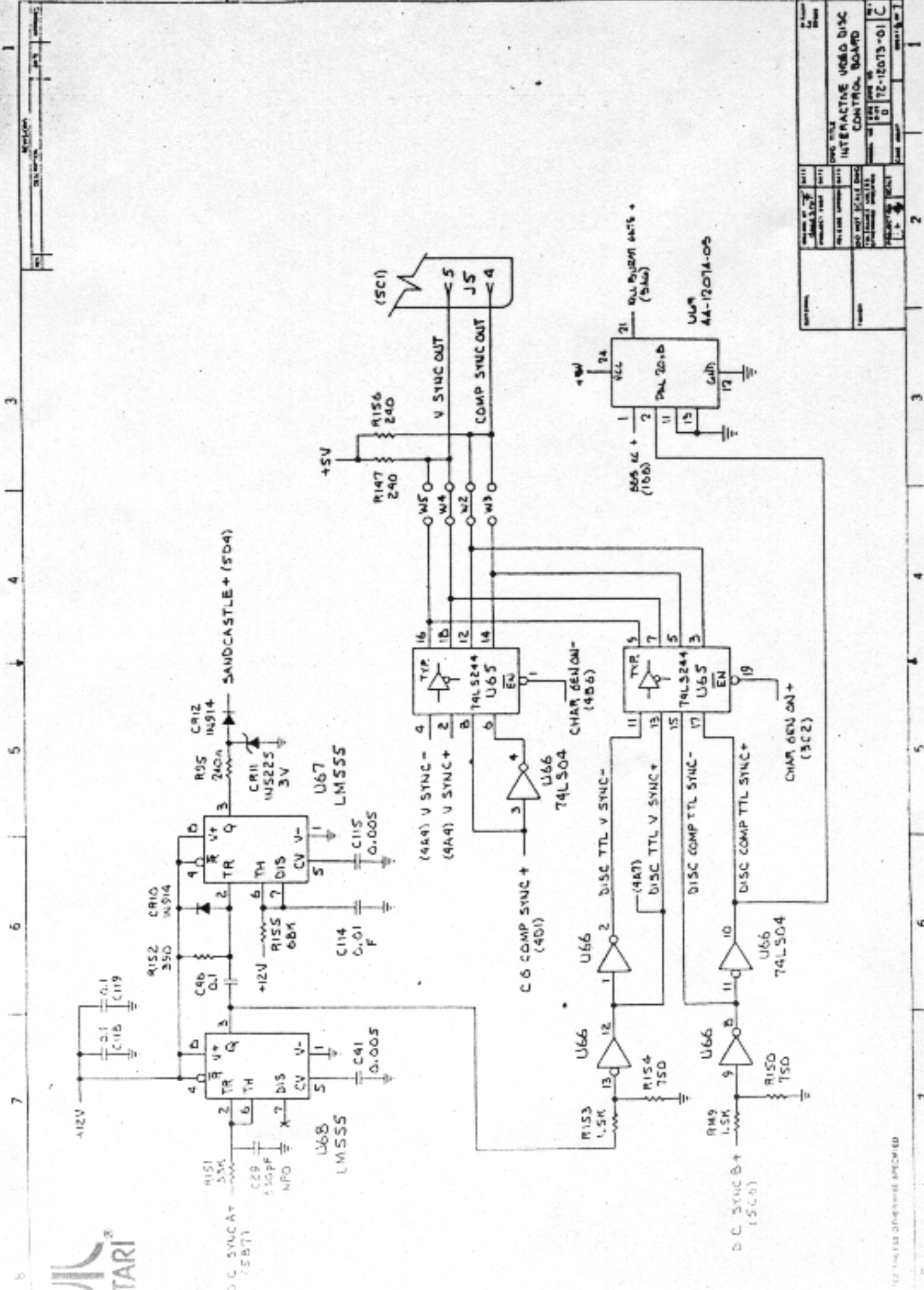
©1975 AMES DESIGN APPROVED



NOTES: UNLESS OTHERWISE SPECIFIED
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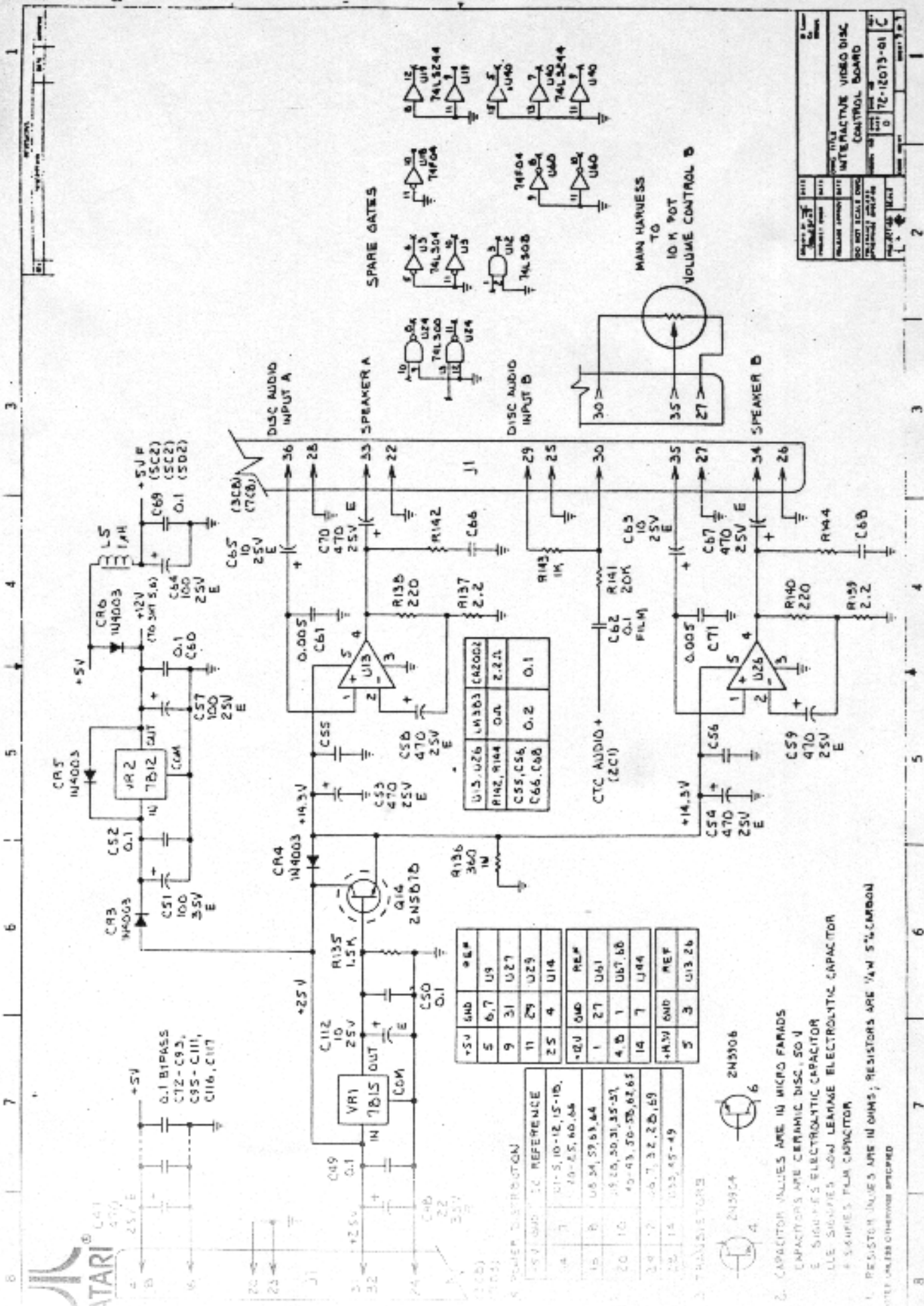


NOTES: UNLESS OTHERWISE SPECIFIED



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097	01-10-74	01	01
098	01-10-74	01	01
099	01-10-74	01	01
100	01-10-74	01	01





RESISTOR VALUE	QTY	REF
+5V GND	9	U9
5	31	U27
9	29	U29
2.5	4	U14
+12V GND	1	REF
1	27	U61
4.7	1	U67, U68
14	7	U64
+14.3V GND	1	REF
5	3	U13, U26

IC	MANUFACTURER	QTY	REF
7413	U13	1	U13
7412	VR2	1	VR2
741304	U14	1	U14
741305	U15	1	U15
741306	U16	1	U16
741307	U17	1	U17
741308	U18	1	U18
741309	U19	1	U19
741310	U20	1	U20
741311	U21	1	U21
741312	U22	1	U22
741304	U23	1	U23
741304	U24	1	U24
741304	U25	1	U25
741304	U26	1	U26
741304	U27	1	U27
741304	U28	1	U28
741304	U29	1	U29
741304	U30	1	U30
741304	U31	1	U31
741304	U32	1	U32
741304	U33	1	U33
741304	U34	1	U34
741304	U35	1	U35
741304	U36	1	U36
741304	U37	1	U37
741304	U38	1	U38
741304	U39	1	U39
741304	U40	1	U40

1. CAPACITOR VALUES ARE IN MICRO FARADS
2. CAPACITORS ARE CERAMIC DISC .50V
3. SIGNALS ELECTROLYTIC CAPACITOR
4. ALL SIGNALS NON LEAKAGE ELECTROLYTIC CAPACITOR
5. SIGNALS FILM CAPACITOR
6. RESISTOR VALUES ARE IN OHMS; RESISTORS ARE 1/4W 5% CARBON

ATARI 2600 INTERACTIVE VIDEO DISC CONTROL BOARD
 BOARD NO. 72-12073-01
 REV. 1.0
 DATE: 11/82
 BY: [Signature]