

Sullivan Bluth's

DRAGONS LAIR III™

Leland
CORPORATION

OWNER'S MANUAL

DRAGON'S LAIR II

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Part Number B-701-00030-00

INTRODUCTION—

Welcome to the growing number of value conscious people who operate Leland Corporation products. We are proud of the advanced engineering and quality of each product we build.

Please take a few moments to read through this manual. It has been designed to acquaint you with the features of your new "Dragon's Lair II™" game and to help you make the most profit from this machine.

When it comes to service, remember that your Authorized Leland Distributor knows your game best and is dedicated to your complete satisfaction. He can provide quality parts, service, and any other assistance you may require.

THE LELAND CORPORATION—

Please leave this owner's manual in the game at the time of resale. The next owner will also need this important information.

All information and specifications in this manual are current at the time of printing. However, because of the Leland Corporation's policy of continual product improvement, we reserve the right to make changes at any time without notice.

NON-LELAND REPLACEMENT PARTS NOTICE—

The Leland Corporation recommends the use of genuine Leland Corporation parts when replacing any malfunctioning component or assembly in this game. For safety and reliability, The Leland Corporation does not recommend or authorize any substitution of parts or modifications of Leland equipment. Such alterations may adversely affect game play or cause serious injury, and will void your warranty. Unauthorized parts and/or modifications may also void FCC compliance.

FCC WARNING—

This equipment generates, uses, and can radiate radio frequency energy and if not installed in accordance with the Owners Manual, may cause interference to radio communications. This game has been tested and found to comply with the limits for a Class "A" computing device pursuant to subpart "J" of part 15 of the FCC rules, which are designed to provide reasonable protection against such interference when operated in a commercial environment. Operation of this equipment in a residential area is likely to cause interference, in which case the user, at his own expense, will be responsible to correct the interference.

MAINTENANCE AND UPKEEP—

Maintaining your Dragon's Lair II™ game is of utmost importance in order to enjoy steady earnings. A dirty cabinet, sticky coin mechanism, or poorly adjusted monitor, can be the cause of an abrupt drop in revenue.

The following are recommended procedures to follow when servicing your machine.

EVERY COLLECTION---

Make sure that the cabinet and especially the control panel and monitor are clean and free of gum, grease, and dirt.

Play the game. Check the joystick and buttons for proper response.

NOTE: Be sure to adjust, clean, or replace any marginal switches.

Examine the monitor to insure that the picture is "rich" and inviting.

ONCE A MONTH---

Check the inside of the cabinet for dirt and dust.

HINT: Carry a portable "Dustbuster"-type vacuum.

Confirm proper adjustment of game volume, brightness, and contrast controls.

Check the screen corners for "rainbows" or color "fringing." This can indicate a need for degaussing. Your game is equipped with an automatic degaussing circuit which operates when AC power is applied. This will take care of most situations without operator attention. If the game is moved (or subject to mechanical shock) with the power on, supplemental degaussing may be needed.

Look for proper fluorescent lamp operation. The reduced brightness caused by one inoperative bulb is highly noticeable. Check coin slot lamps and coin mechanisms, clean or lubricate if required. To replace coin lamps use 6 volt type GE259 or equivalent.

Be sure to keep the Laser Disc Player clean and free of dust and dirt. Before transporting the game, remove the Laser Disc from the player. See the player instruction manual, and subsequent pages of this manual, for additional Laser Disc information.

LASER DISC PLAYER SETTINGS--

Your game is shipped with the Laser Disc Player installed and configured. The only operator assembly required is unpacking and inserting the Laser Disc into the player. This requires powering up the game and pressing the "open/close" button on the player front panel to extend the disc loading platform. Holding the Laser Disc by the edges only, carefully insert it into the recess in the extended platform label side up. Press the "open/close" button again to retract the loading platform.

If the player is removed or replaced, before re-installing it check the rear panel configuration switches for proper settings.

For Philips brand machine:

1. Set the "Replay" button to "Off."
2. Set the "Baud rate" button to "9600."

For Sony brand machine:

1. Use a small screwdriver or similar tool to set the four numbered slide switches labeled "baud rate" as follows:

#1- down #2- down #3- down #4- up

See the Laser Disc Player manual for additional information regarding handling and care of the Disc and Player.

GENERAL TROUBLESHOOTING

GAME CONTROLLER CIRCUIT BOARD—

The Controller Assy is provided with seven diagnostic LED indicators. The relationship between circuit board nomenclature, and LED functions are:

D1 = ALE (Address Latch Enable), On during normal operation.

D2 = Watchdog Timer, Blinks at approximately 2 HZ.

D3 = +5VDC (Logic Power Supply)

D4 = Transmit Data Comm1, Not used.

D5 = Receive Data Comm1, Not used.

D6 = Transmit Data Comm2, To Disc Player.

D7 = Receive Data Comm2, From Disc Player.

Also installed on the Controller board is **Logic Reset Pushbutton, S1.**

The active Comm Port, (Comm2) employs the standard RS-232 protocol for communication with the Laser Disc Player. See subsequent manual sections for more information about the serial interface.

If you require a mechanical coin counter, connections are provided on J16 for a 12 Volt type. Pins 2 and 3 are 12VDC normally high, pins 1 and 4 pulse to Ground for coins dropped. Voltage spikes are clamped by diodes D12 and D13, but it is prudent to install a diode across the coil of the mechanical counter.

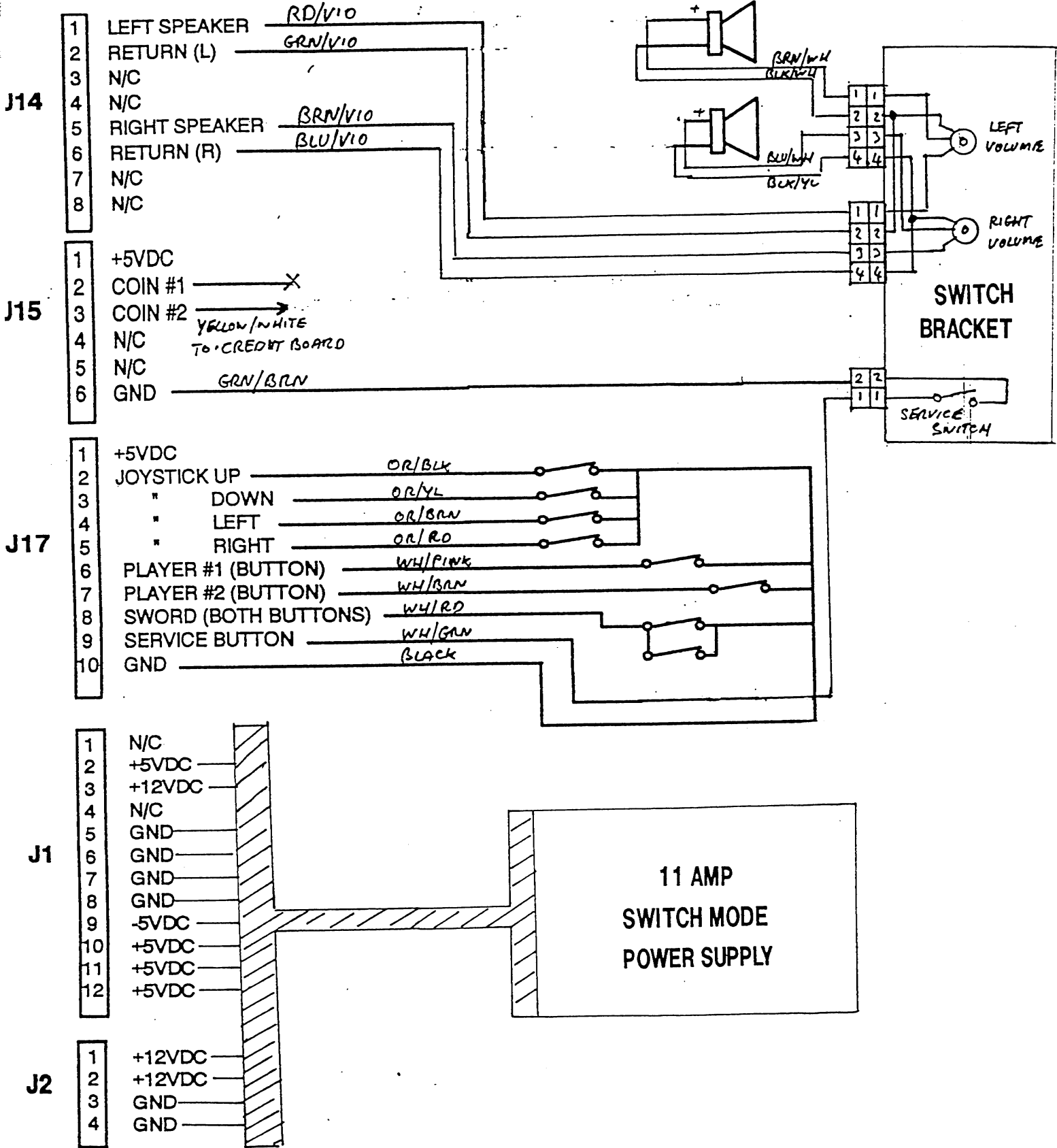
Audio levels are adjusted by two potentiometers mounted on the top edge of the board, (Left and Right stereo channels marked "L" and "R"). When adjusting game volume, "balance" both controls to maintain proper stereo imaging.

POWER SUPPLY—

Depending upon which model you have, the AC Mains protective device is either a discrete 5AMP fuse (3AG type) or a combination circuit breaker/on-off switch.

Connect this game only to a grounded three-wire outlet which provides 240 Volts, 50Hz. Do not use AC Mains of a different voltage or frequency. If you have only a two-wire outlet, we recommend that you have a licensed electrician install a grounded outlet. This will reduce the possibility of a player receiving a shock.

CONTROLLER BOARD CONNECTOR WIRING —



CONTROLLER BOARD CONNECTOR WIRING CONT.—

P3

1	GND
2	TRANSMIT DATA
3	RECEIVE DATA
4	RTS
5	CTS
6	DSR
7	GND
8	DCD
11	HSYNC
18	VSYNC
20	DTR
22	RI

J12

1	AUDIO IN "RIGHT"
2	SHIELD

J13

1	AUDIO IN "LEFT"
2	SHIELD

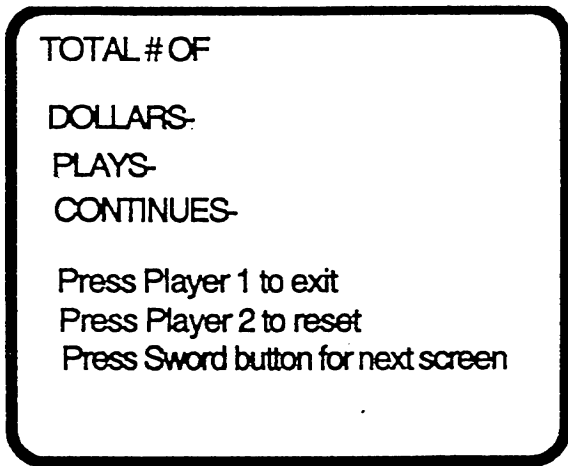
BOOKKEEPING AND DIAGNOSTIC SCREENS—

Dragon's Lair II records bookkeeping information in internal memory. Game software also provides a set of helpful hardware tests. To access these features, switch to the Service Mode.

To place the game in Service Mode:

1. Open the Coin Door, press and hold the "Service Button".
2. Press the "Player 1" button on game front panel.
3. Release both buttons.

The first screen will be displayed as indicated below:



This first screen can be used for "period" totals, (i.e. between collections). Pressing the "Player 2" button returns all three counters to zero.

A NOTE ABOUT SCREENS:

The following series of screens may vary slightly, depending on the revision level of your Laser Disc. Differences are basically cosmetic and the items described in subsequent pages are functionally the same in all versions. You may find the "partitioning" of individual functions between screens, or the order of screens, to vary from your games Service Mode display. These differences are necessary to accommodate Laser Disc Players from several manufacturers.

Most screens contain instructions for using them on the bottom few lines. When the "Sword Button" is mentioned, either right or left button will work.

BOOKKEEPING AND DIAGNOSTIC SCREENS CONTINUED—

**SCREEN
#2**

Lifetime # of
DOLLARS-
PLAYS-
Press Player 1 to exit
Press Sword Button for next screen

Cumulative (lifetime) totals.

**SCREEN
#3**

Attract Sound-
Free Play-
Joystick up/down to select
Joystick right = ON
Joystick left = OFF
Press Player 1 to exit
Press Sword Button for next screen

Toggles for Attract Mode
audio and Free Play.

**SCREEN
#4**

Average play time =
Difficulty 1 to 4
Press Player 1 to exit
Press Sword Button for next screen

Game time average
continuously updated.

Difficulty level adjustment
is not implemented in this
version of the game.

BOOKKEEPING AND DIAGNOSTIC SCREENS CONTINUED--

**SCREEN
#5**

Player Controls test

Move joystick and hit buttons
one at a time for feedback
Press Player 1 and Player 2 to exit

The "feedback" sounds
are superimposed on
both stereo channels.

**SCREEN
#6**

Move joystick to start sound test

Press Player 1 to exit
Press Sword Button for next screen

This will produce a stream
of Controller generated
sounds.

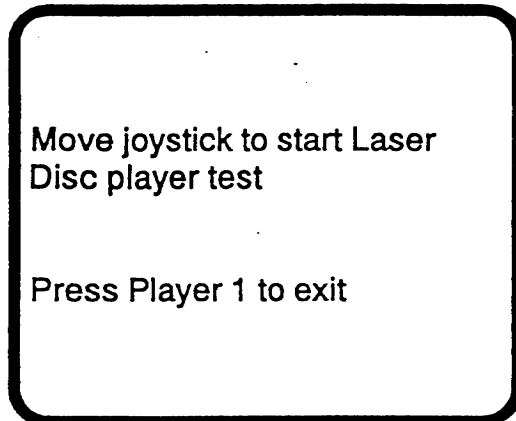
**SCREEN
#7**

HIT PLYR 1
Continue
.50 3 LIVES .25 1 LIFE

This toggles between
".50 for 3 lives" fixed,
or continue (buy in)
".25 for 1 life".
Press Sword Button
for next screen.

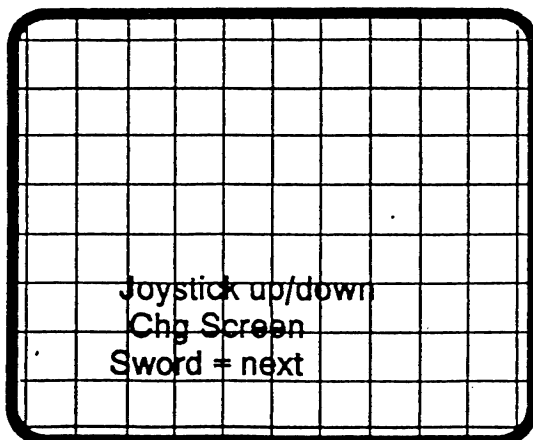
BOOKKEEPING AND DIAGNOSTIC SCREENS CONTINUED—

SCREEN
#8



This will start a surface scan of the entire Laser Disc. If a defect is found, the screen will display "BAD AREA" for one second, accompanied by a "warbling" sound, testing then resumes automatically. When scanning is complete, the screen will display "Disc OK" or "Disc Bad" until any button is pressed. Pressing Sword button returns game to attract mode.

SCREEN
#9



This is the first of a series of monitor adjustment screens. Subsequent screens are provided for adjustment of:

- Gray Scale
- Linearity
- Convergence
- Red, Green, Blue, Purity
- White "Temperature"
- "Cutoff"
- Color Bars

TROUBLESHOOTING TIPS—

Save the packing materials that your Laser Disc was shipped in for protecting the disc when it's not installed in the player.

Be sure to remove the Laser Disc from the player before transporting the game.

TROUBLESHOOTING TIPS CONTINUED---

If the Laser Disc fails the test of screen #8 with a "Disc Bad" indication it is usually the result of foreign matter (i.e. dust, smoke) accumulation. If the disc is in need of cleaning, use only a damp cloth, (well wrung out), then wipe with a dry cloth. For difficult cases use a cleaning product such as "Glass Plus" and a **soft** cloth. Never use solvents or cleaning materials that contain alcohol.

Treat the Laser Disc with care. Particularly avoid dropping it, or exposure to high temperatures. If the disc appears to be warped or cracked **DO NOT USE IT!** See the Laser Disc Player manual for additional information.

The vendor's warranty on the Laser Disc Player is supplemented by the Advance Replacement policy of the Leland Corporation. This provides the operator with the fastest possible replacement in case of problems. More information about warranty requirements are on the last page. Be sure to record the serial number of the Laser Disc Player, (there is a place provided in the front of this manual.) Contact your distributor for details of your warranty.

PARTS LIST---

PART IDENTIFIER	DESCRIPTION
A-210-00038-00	Circuit board, Dragon's Lair II, complete
B-601-00035-00	Cabinet graphics, right side
B-601-00036-00	Cabinet graphics, left side
B-603-00027-00	Graphics, marquee
B-604-00047-00	Graphics, control panel
C-703-00023-00	Button, 2" round, yellow, (sword button)
D-741-00006-00	Joystick, digital, 4 way
C-910-00001-00	Laser Disc, Dragon's Lair II

For these parts, please have the model and cabinet serial number available at time of order.

Power supply
Control panel assembly, Dragon's Lair II
Coin mechanism
Laser Disc player
Monitor, 25"

Note: The coin meter will count accepted coins in 10c units.

SWITCH OPTIONS (DIP SW 1, 2, 3, 4)					Coins under \$1.00	Games per \$1.00	Games per \$2.00
1	2	3	4	Coin		Coin	
off	off	off	off	20¢ per game	5	10	
on	off	off	off	" "	5	11	
off	on	off	off	" "	6	12	
on	on	off	off	40¢ "	3	6	
off	off	on	off	" "	3	7	
on	off	on	off	" "	3	8	
off	on	on	off	" "	4	8	
on	on	on	off	60¢ "	2	4	
off	off	off	on	" "	2	5	
on	off	off	on	80¢ "	2	3	
off	on	off	on	" "	2	4	
* on	on	off	on	\$1 "	1	2	
off	off	on	on	" "	1	3	
on	off	on	on	" "	2	3	
off	on	on	on	" "	2	4	
on	on	on	on	" "	3	4	

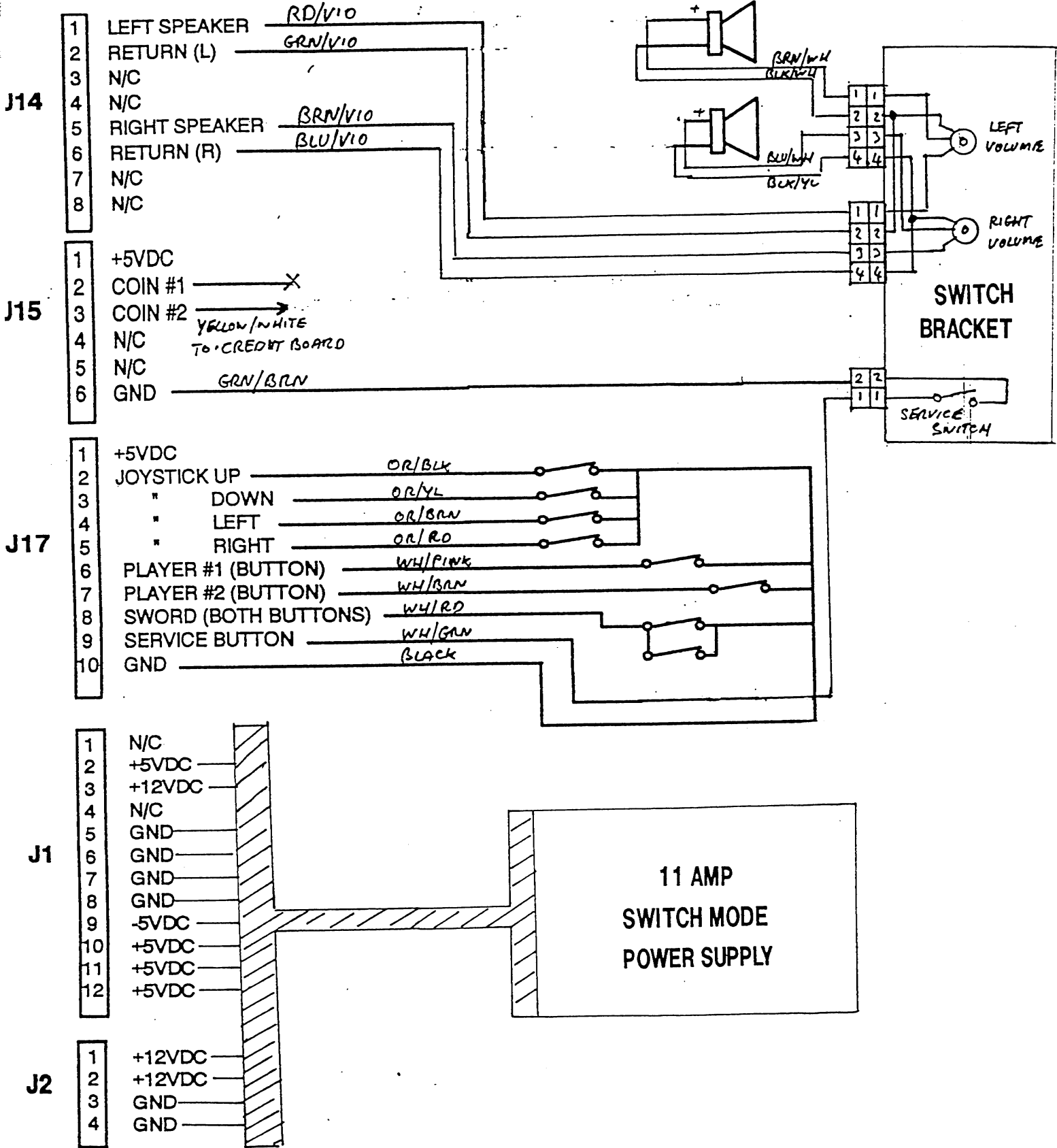
Credit PCB reset LED

To simplify diagnosis of any coin board faults, should the credit PCB become faulty the LED will flash on and off. A short flash when power is applied is normal, with the LED being off when operating correctly.

CREDIT BOARD DIP SWITCH SETTING

* FACTORY SETTING

CONTROLLER BOARD CONNECTOR WIRING —



CONTROLLER BOARD CONNECTOR WIRING CONT.—

P3

1	GND
2	TRANSMIT DATA
3	RECEIVE DATA
4	RTS
5	CTS
6	DSR
7	GND
8	DCD
11	HSYNC
18	VSYNC
20	DTR
22	RI

J12

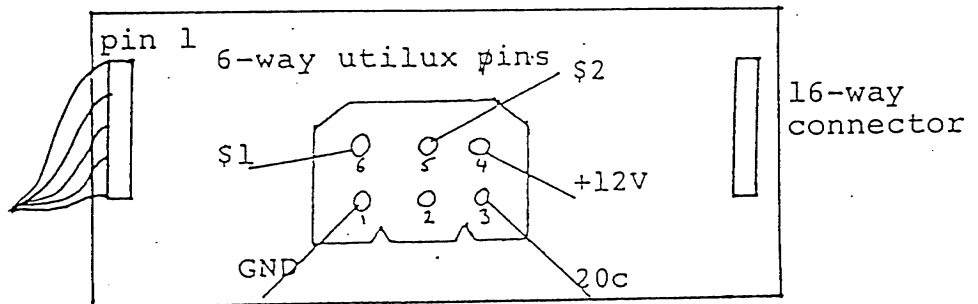
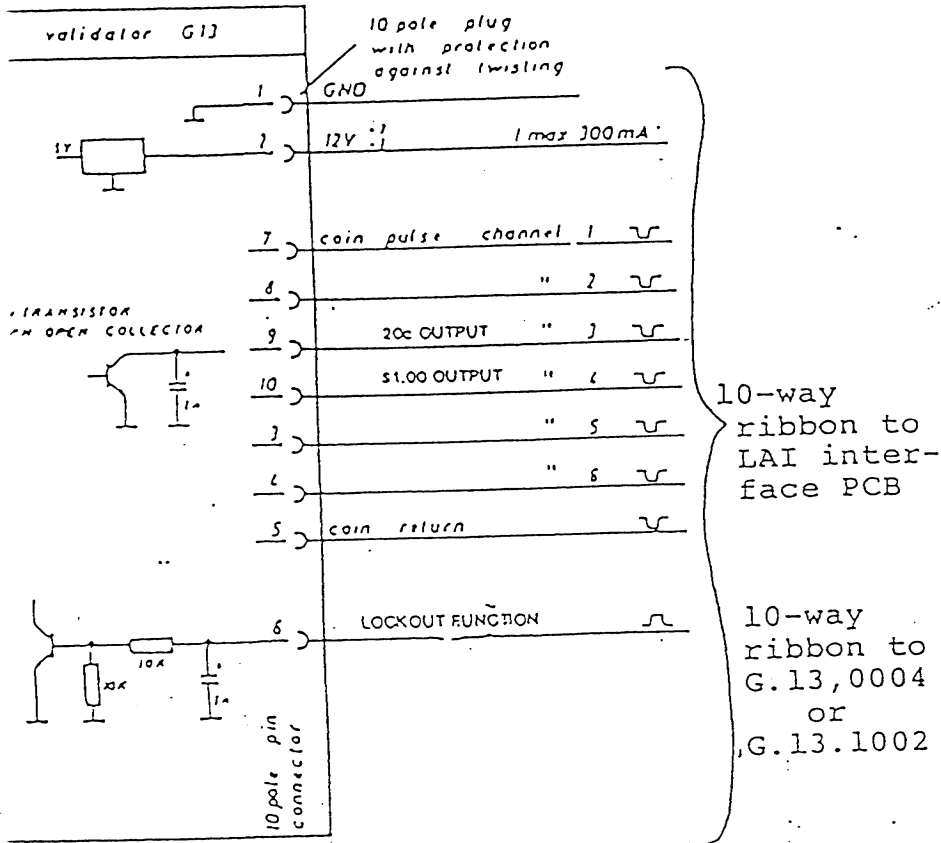
1	AUDIO IN "RIGHT"
2	SHIELD

J13

1	AUDIO IN "LEFT"
2	SHIELD

MODEL G.13.1002

NRI COIN MECHANISM. STANDARD MODEL g.13.1002
CREDIT PCB NOT INCORPORATED



NB: DIL switch (dual in line) under PCB cover is for single coin inhibit

e.g. Corresponding channel to DIL switch
Channel 1 (coin) - DIL switch 1
Channel 2 (coin) - DIL switch 2

WARNING: These pin details are for use on G.13.1002 model only and not for any other NRI mechanism.

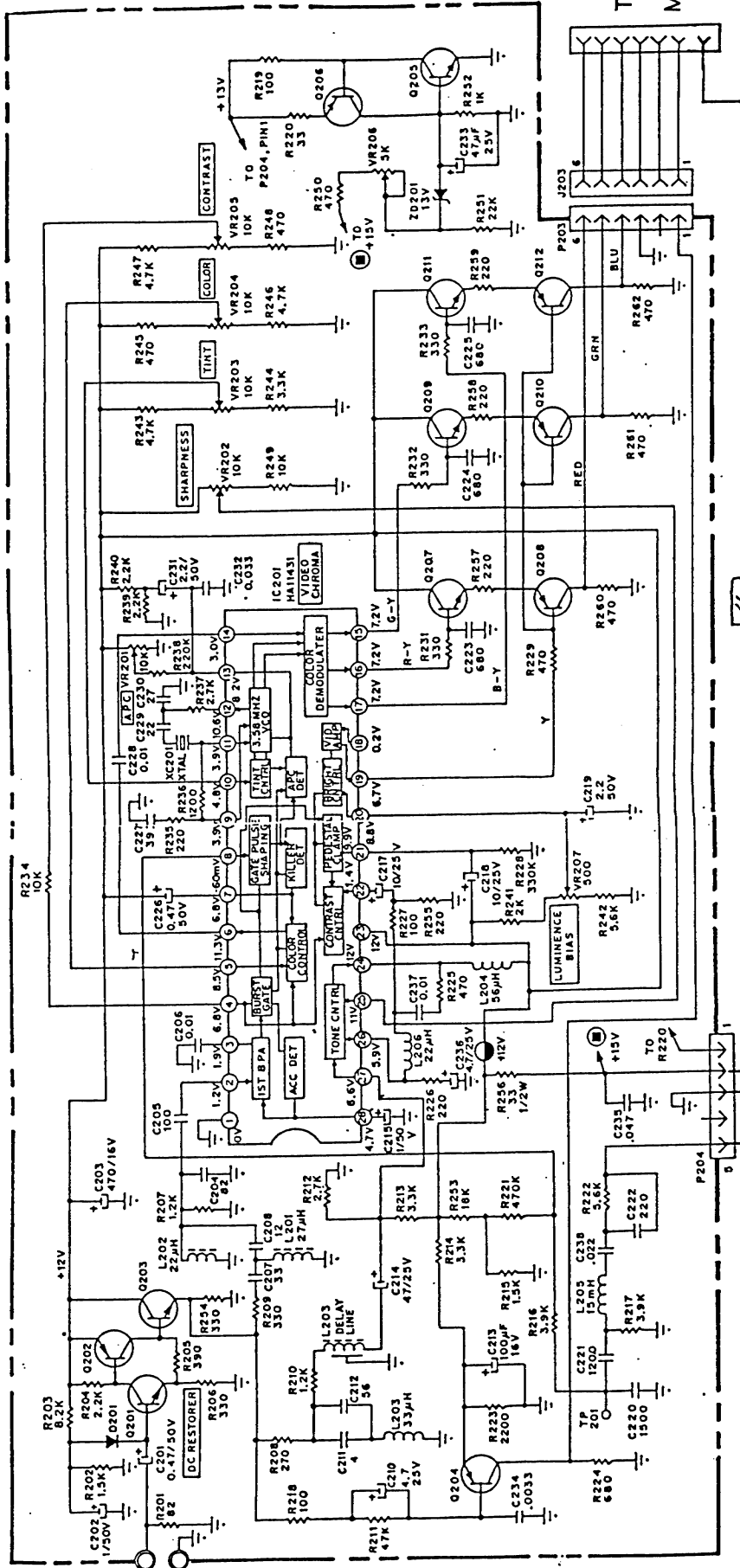
(1) If the correct connector is not used the coin mech. will be damaged.

(2) Model G.13.1404 uses only a 10-way connector at one end and a 16-way connector at the other.

(3) Model G.13.1002 and G.13.0004 use only a 10-way connector at both ends.



LASER DISK
PLAYER
Vid₄₀
IN



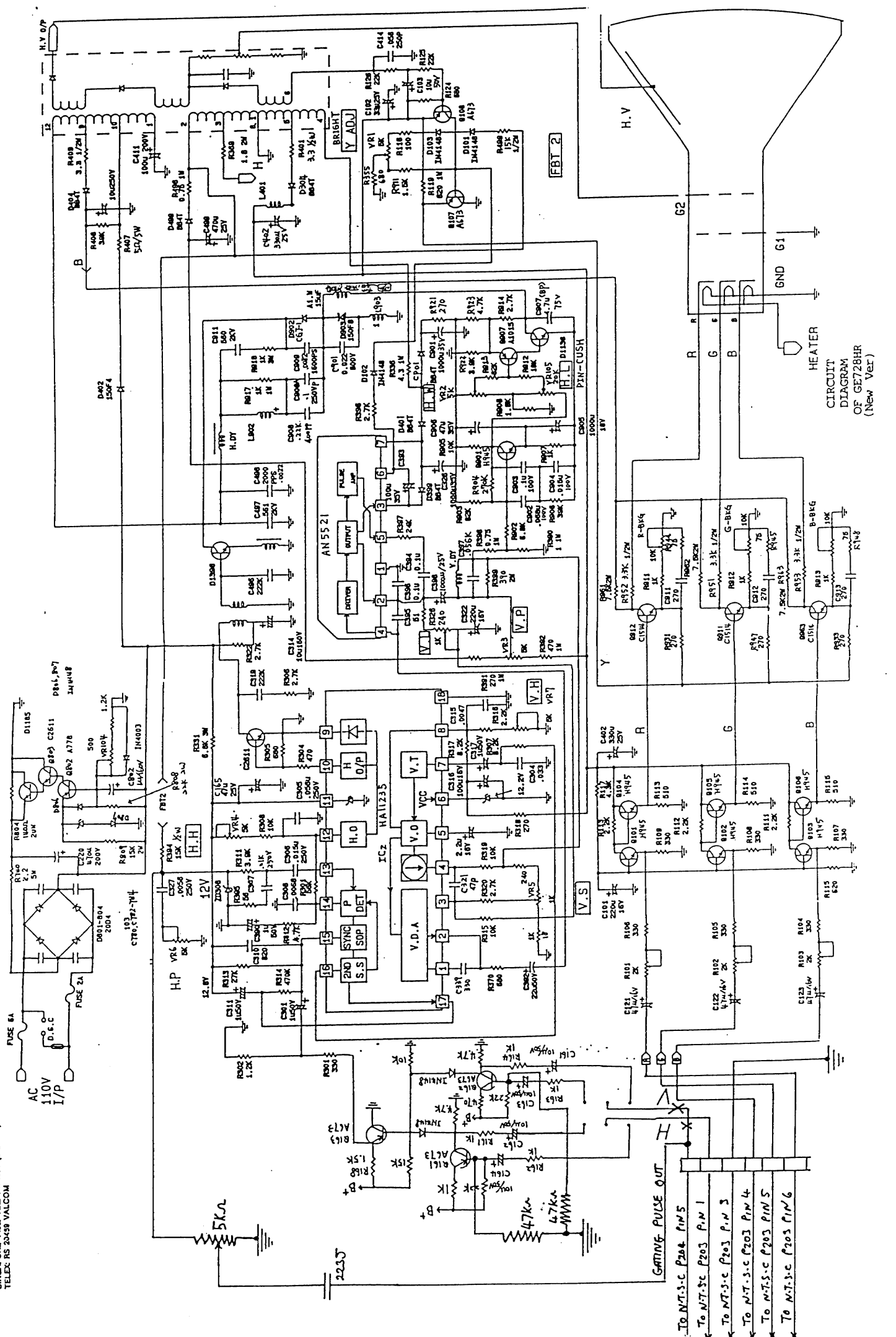
TO GLENDALE
MONITOR

NTSC DECODER SCHEMATIC

From
Power
Supply
0V
+12v

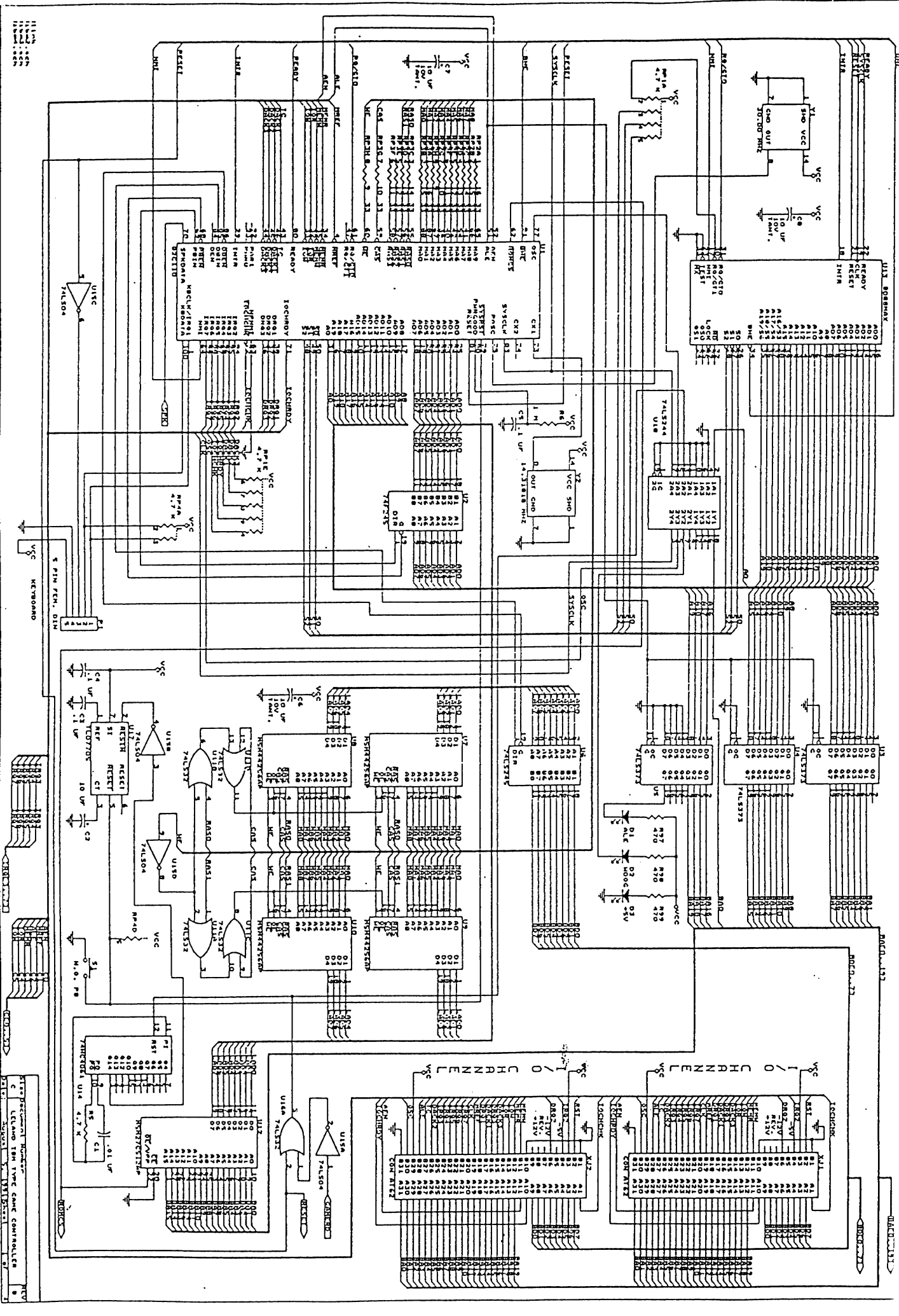
MODIFIED FOR DRAGONS LAIR II

GLENDONS
ELECTRONIC COMPONENTS PTE. LTD.
631 ALMURIED ROAD #04-11, LIPPO FACTORY,
SINGAPORE 1-24. TEL: 7474651 (2 LINES)
TELEX: RS 20459 VALCOM



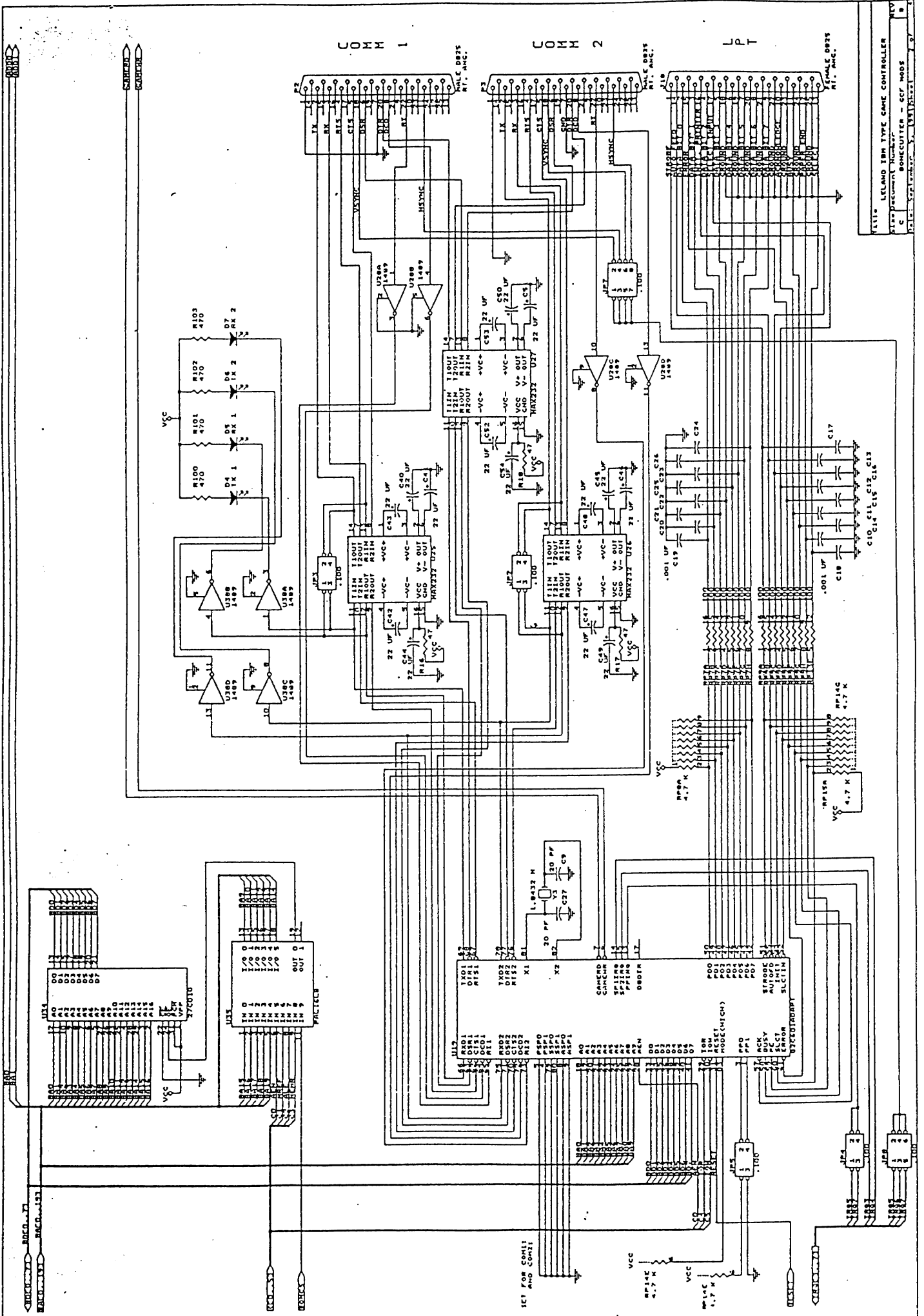
CIRCUIT
DIAGRAM
OF GE728HR
(New Ver)

- To NT-3-C P204 PIN 5
- To NT-3-C P203 PIN 1
- To NT-3-C P203 PIN 3
- To NT-3-C P203 PIN 4
- To NT-3-C P203 PIN 5
- To NT-3-C P203 PIN 6



11/18/84
11/18/84
11/18/84
11/18/84

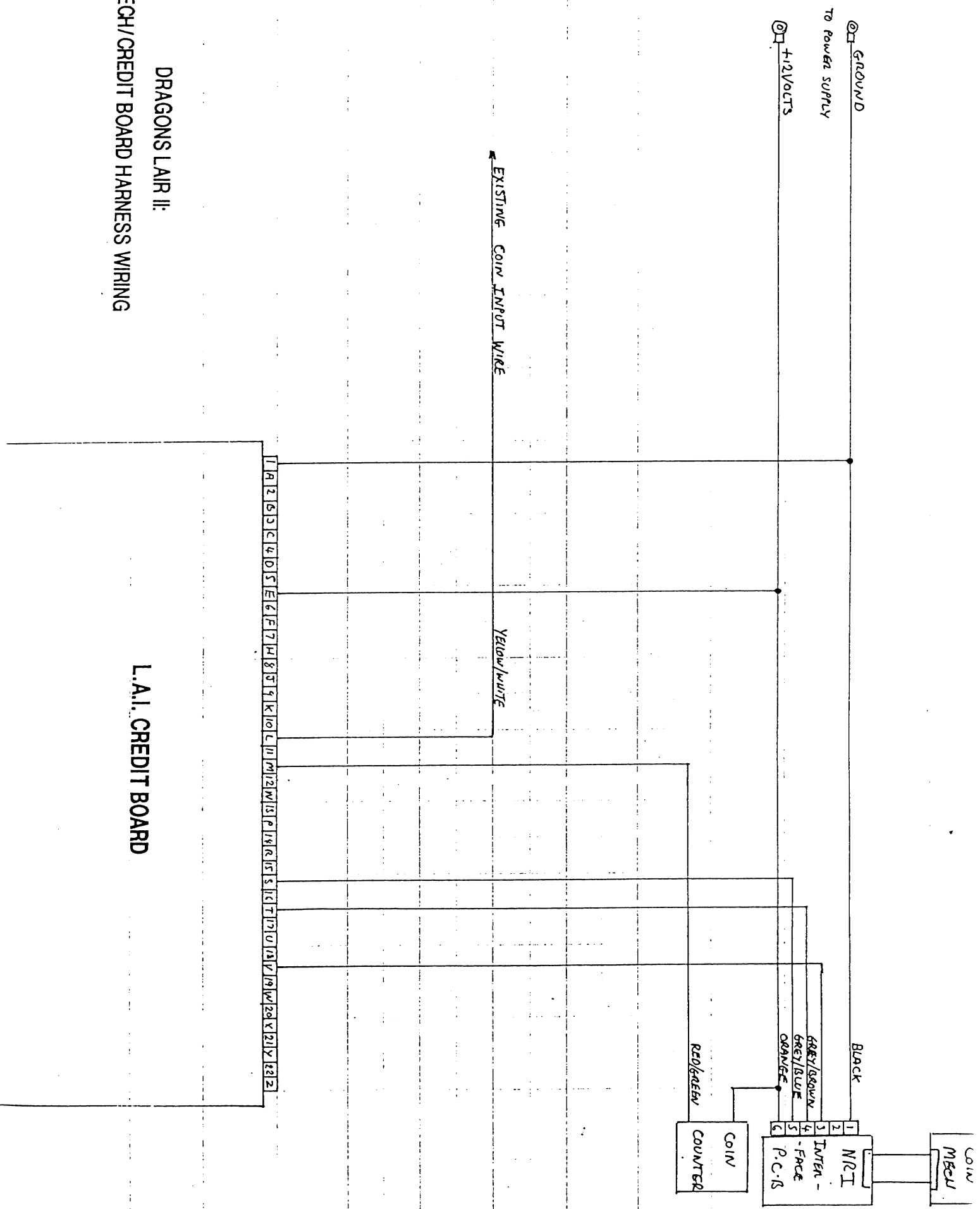
STRIPBOARD NUMBER
C LELAND 184 TYPE GAME CONTROLLER
DATE: 11/18/84



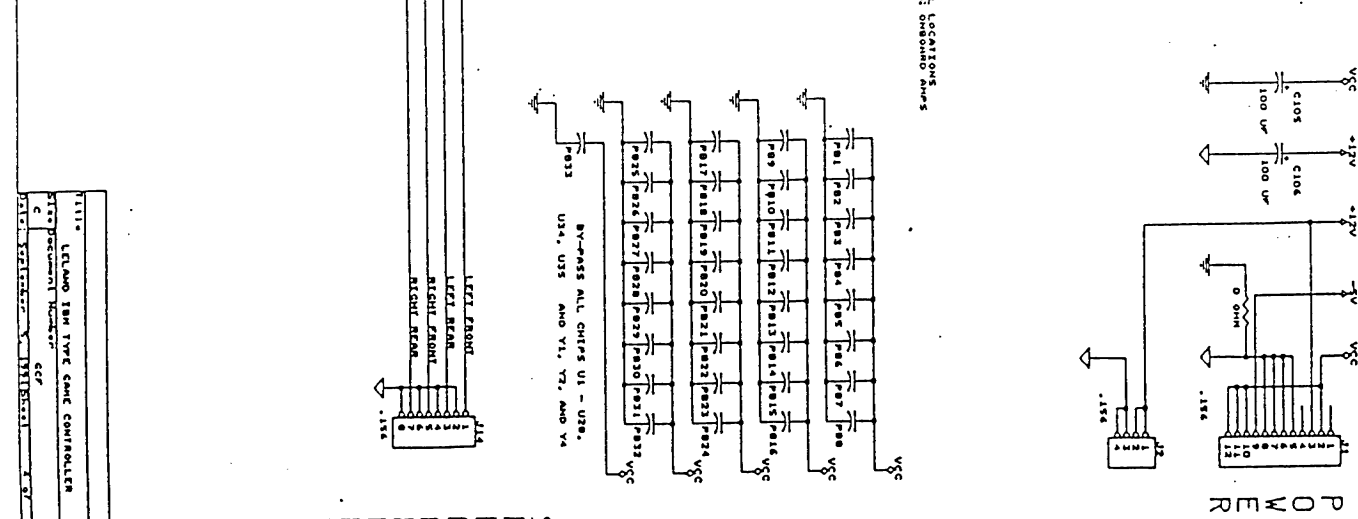
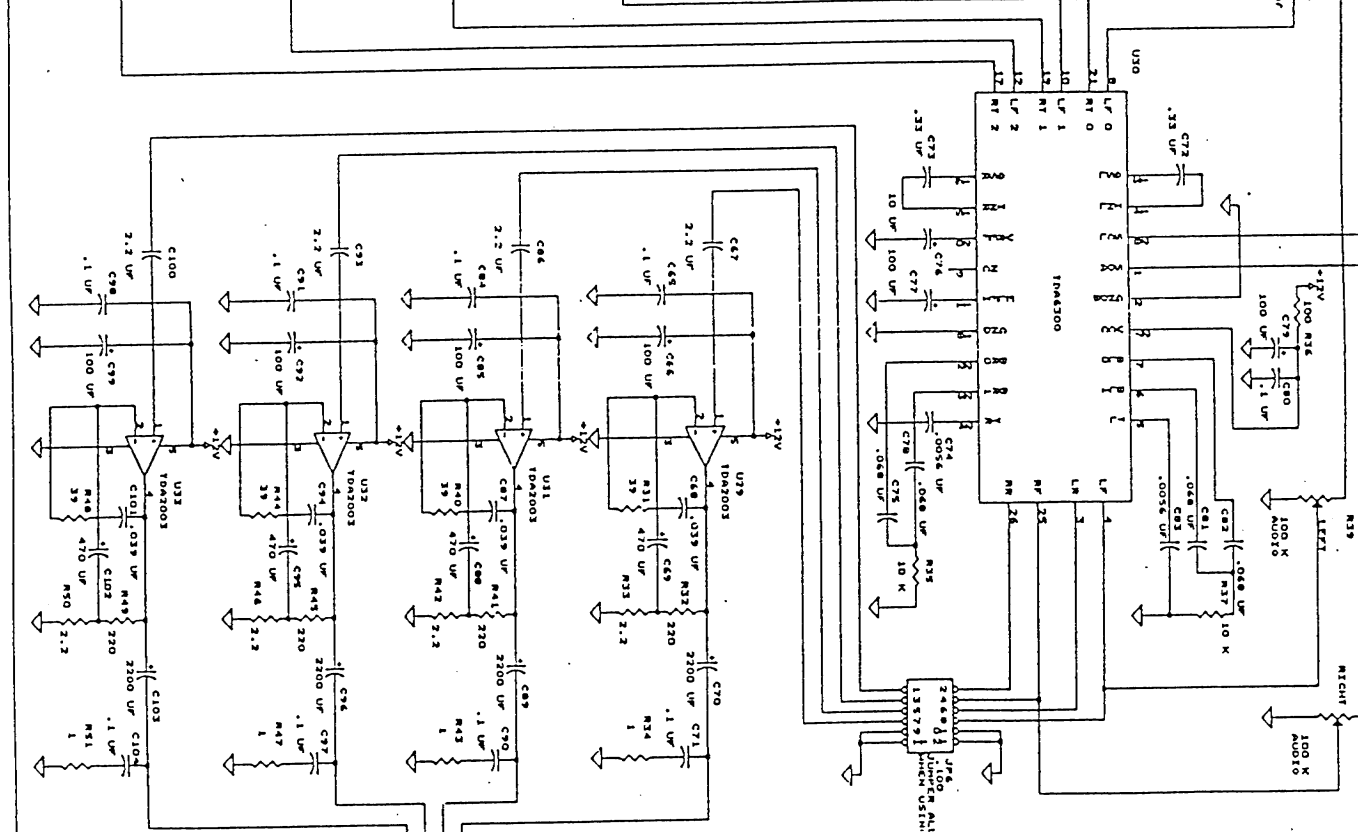
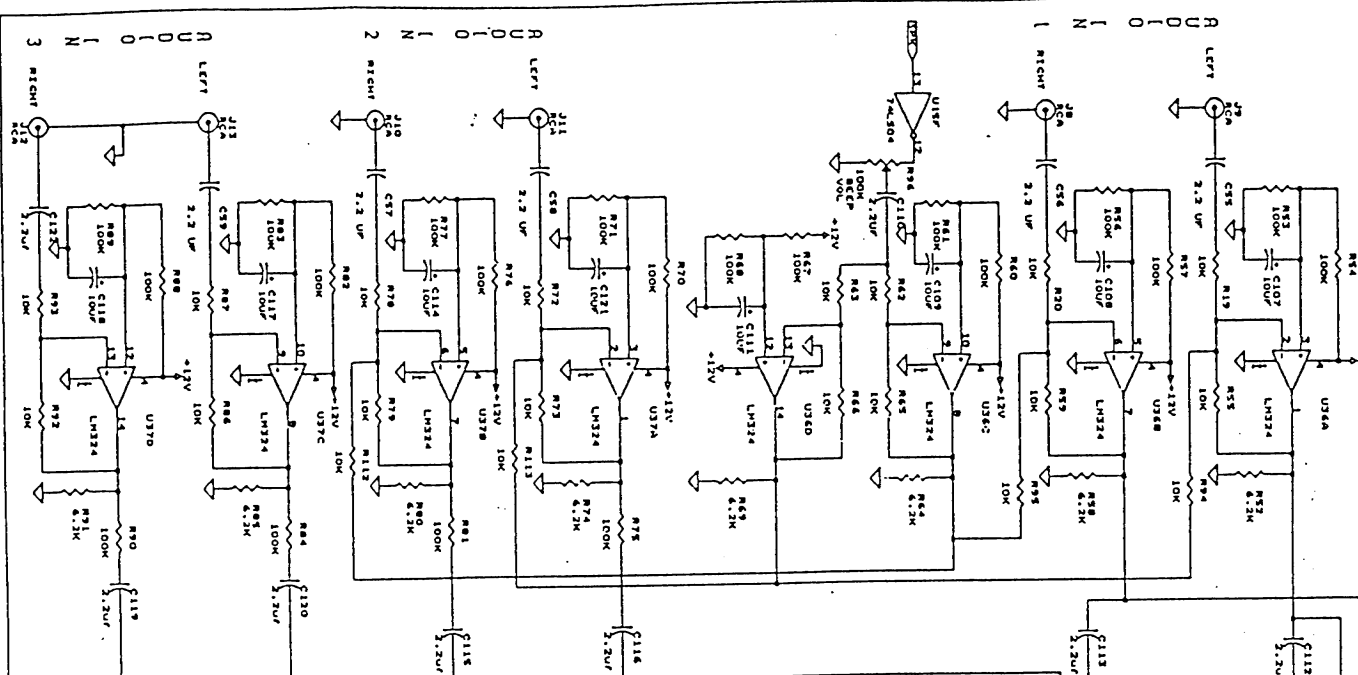
TITLE: LELAND IBM TYPE GAME CONTROLLER
 REF: Schematic Number
 C BOHECUTTER - GCR MODE
 DATE: 10/27/68
 1 2

DRAGONS LAIR II:
 COIN MECH/CREDIT BOARD HARNESS WIRING

L.A.I. CREDIT BOARD



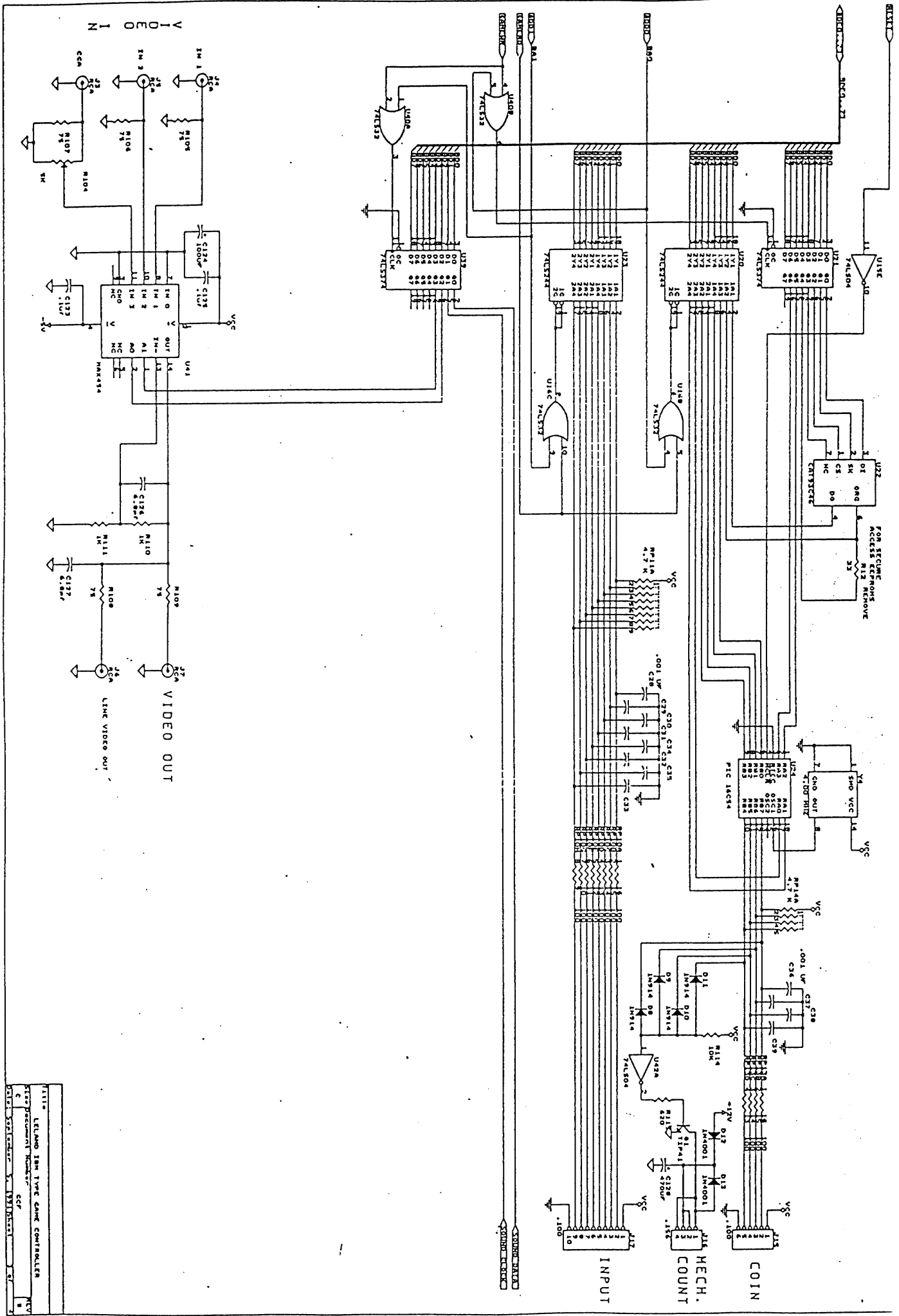
BOARD RELAY



SLEW RATE
 LEFT FRONT
 LEFT REAR
 RIGHT FRONT
 RIGHT REAR
 BY-PASS ALL CHIPS U1 - U38.
 U31, U35 AND V1, V2, AND V4

U111	74LS123	MONOSTABLE MULTIVIBRATOR
U112	74LS244	HEX INVERTER
U113	74LS123	MONOSTABLE MULTIVIBRATOR
U114	74LS244	HEX INVERTER
U115	74LS123	MONOSTABLE MULTIVIBRATOR
U116	74LS244	HEX INVERTER
U117	74LS123	MONOSTABLE MULTIVIBRATOR
U118	74LS244	HEX INVERTER
U119	74LS123	MONOSTABLE MULTIVIBRATOR
U120	74LS244	HEX INVERTER
U121	74LS123	MONOSTABLE MULTIVIBRATOR
U122	74LS244	HEX INVERTER
U123	74LS123	MONOSTABLE MULTIVIBRATOR
U124	74LS244	HEX INVERTER
U125	74LS123	MONOSTABLE MULTIVIBRATOR
U126	74LS244	HEX INVERTER
U127	74LS123	MONOSTABLE MULTIVIBRATOR
U128	74LS244	HEX INVERTER

LEADN IIR TYPE GAME CONTROLLER
 2170
 C
 11/11/81



TITLE: LELAND IBM TYPE GAME CONTROLLER
 SITE: Peconic, New York
 DATE: September 1, 1971
 BY: [Signature]

Note: The coin meter will count accepted coins in 10c units.

SWITCH OPTIONS (DIP SW 1, 2, 3, 4)					Games per \$1.00	Games per \$2.00
1	2	3	4	Coin	Coin	Coin
off	off	off	off	20¢ per game	5	10
on	off	off	off	" "	5	11
off	on	off	off	" "	6	12
on	on	off	off	40¢ "	3	6
off	off	on	off	" "	3	7
on	off	on	off	" "	3	8
off	on	on	off	" "	4	8
on	on	on	off	60¢ "	2	4
off	off	off	on	" "	2	5
on	off	off	on	80¢ "	2	3
off	on	off	on	" "	2	4
* on	on	off	on	\$1 "	1	2
off	off	on	on	" "	1	3
on	off	on	on	" "	2	3
off	on	on	on	" "	2	4
on	on	on	on	" "	3	4

Credit PCB reset LED

To simplify diagnosis of any coin board faults, should the credit PCB become faulty the LED will flash on and off. A short flash when power is applied is normal, with the LED being off when operating correctly.

CREDIT BOARD DIP SWITCH SETTING

* FACTORY SETTING