

EXCITING AMUSEMENT GAME.

METEOR

- * DESTROY SALLING METEORS & UFO!!
- * 360° ALL-DIRECTIONAL FIRING POSSIBLE!!
- * EMERGENCY ESCAPE, OUR SPACESHIP!!



User Manual - Meteor by HOEI

Manual owned & scanned by 'Level 42', edited by 'speleo_de'

- GAME INSPECTION -

This game is ready to play upon removal from the shipping carton. However, your careful inspection is needed to supply the final touch of quality control. Please follow these steps to help us insure that your new game was delivered to you in good condition.

NOTE; Do not plug the game in yet!

1. Examine the exterior of the game cabinet for dents, chips or broken parts.
2. Unlock and open the rear access panel of the cabinet and inspect the interior of the game as follows:
 - a. Check that all plug-in connectors (on the game harness) are firmly seated. Replug any connectors found unplugged. **DON'T FORCE CONNECTORS TOGETHER.** The connectors are numbered.
 - b. Check that all plug-in integrated circuits on the game PCB are firmly seated in their sockets.

WARNING;

To avoid possible unpleasant electrical shock, do not touch internal parts of the TV monitor with your hands or metal objects held in your hands!

- c. Check all major subassemblies such as the power supply, control panel and TV monitor for secure mounting.

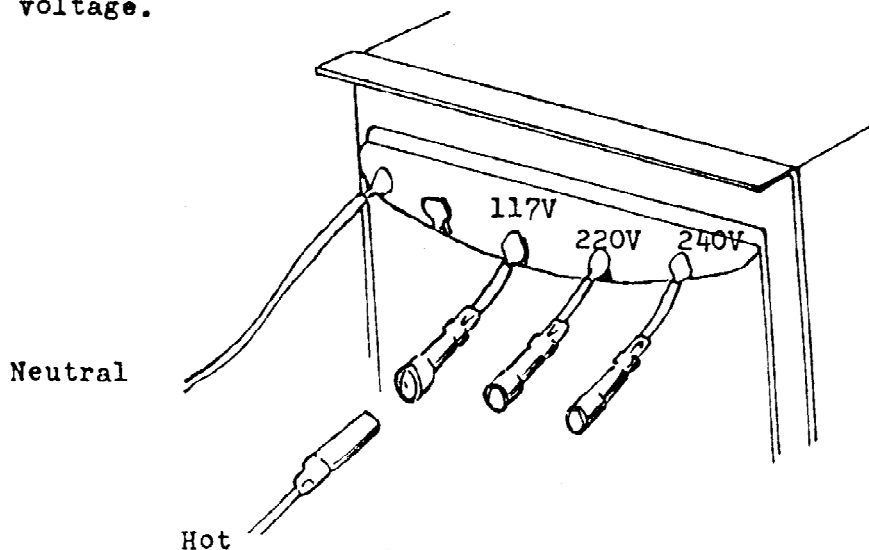
- GAME INSTALLATION -

Installation Requirements

Power	110 watts
Temperature	0 to 40°C (32 to 104°F)
Humidity	Not over 95% relative
Space Required	61x80cm
Game Height -	172cm

1. VOLTAGE SELECTION

Before plugging in your game, make sure that the voltage selection plug on the Set-down-Transformer is correct for your location's line voltage.



2. INTERLOCK and POWER ON/ OFF

To minimize the hazard of electrical shock while working on the inside of the game cabinet, interlock switch has been installed.

It's located behind the rear access door. This switch remove all A.C. line power from the game circuitry when a door is opened.

Check for proper operation of the interlock switch by performing the following steps:

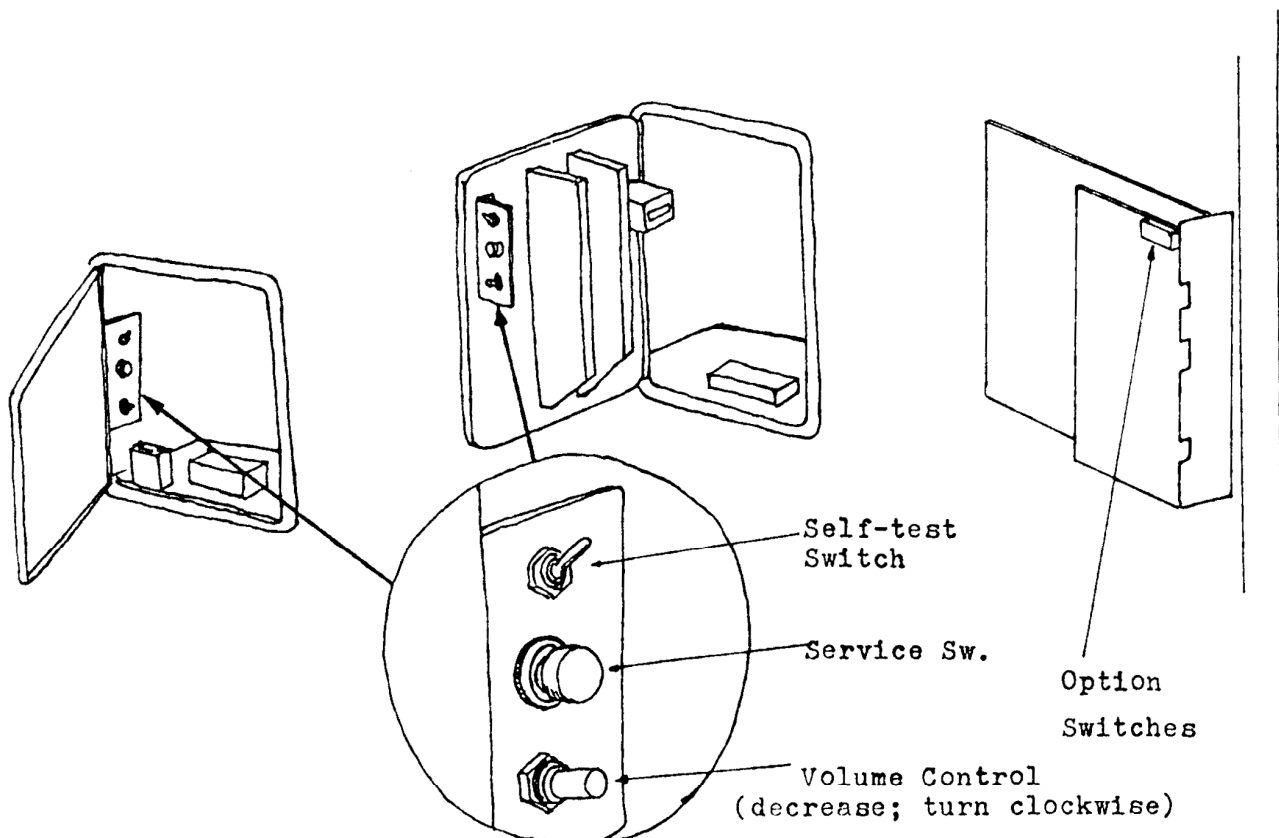
1. Unlock and open the access door.
2. Plug the A.C. line power cord into an A.C. outlet.
3. Close the access door.
4. Within 30 seconds the TV monitor should display a picture.
5. Slowly open the rear access door. The TV monitor picture should disappear when the door is opened approximately 2.5cm. Close and lock the access door.
6. If the results of step 5 are satisfactory, the interlock switch is operating properly. If the TV monitor doesn't go off as described, switch is broken from its mounting or stuck in the on position.

- SELF-TEST PROCEDURE -

This game will test itself and provide data to demonstrate that the game's circuitry and controls are operating properly. The data is provided on the TV monitor and the game speaker, no additional equipment is necessary.

Part of the self-test procedure includes a display of the operator-selectable game options. Therefore, we suggest you run the self-test procedure anytime you need to change the game's option's.

To run the self-test, follow the instructions.

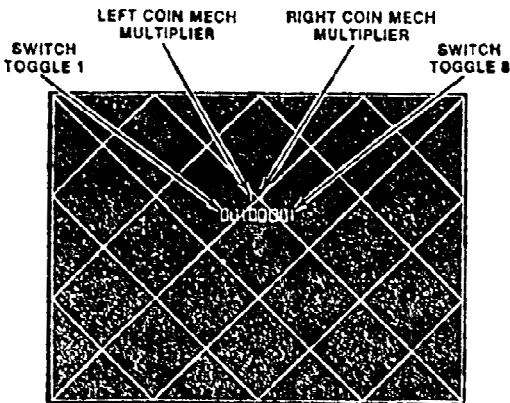


LOCATION of SELF-TEST SWITCH, VOLUME CONTROL and OPTION SWITCH

- SELF-TEST PROCEDURE -

INSTRUCTION	RESULTS IF TEST PASSES	RESULTS IF TEST FAILS																																																													
<p>Set self-test switch to on position</p>	<p>TV monitor displays picture as shown in figure.</p>	<p>RAM FAILURE is indicated by a sequence of from 1 to 6 tones. A low-frequency tone is heard for each good RAM chip. A much lower frequency is heard for a failing RAM chip. The sequence stops with the last failing RAM chip. To restart the sequence, press the Reset pushbutton on the game PCB or set the self-test switch to off, then again to the on position, Identify the bad RAM chip with table below. Example: Three tones, the a tone of much lower frequency indicates failure of RAM chip 9E.</p> <table border="1" data-bbox="850 607 1422 824"> <thead> <tr> <th>TONE #</th> <th>RAM CHIP LOCATION</th> </tr> </thead> <tbody> <tr><td>1</td><td>1L</td></tr> <tr><td>2</td><td>1R</td></tr> <tr><td>3</td><td>9D</td></tr> <tr><td>4</td><td>9E</td></tr> <tr><td>5</td><td>9F</td></tr> <tr><td>6</td><td>9G</td></tr> </tbody> </table> <p>ROM/PROM FAILURE is indicated by two lines of numbers in the upper lefthand corner of the display. The number on the first line indicates the failing ROM/PROM chip(s). Identify the bad ROM/PROM with table below. The number on the second line indicates the failing data bit of the failing ROM/PROM. Identify the bad bit with the second table below. If more than one bit is failing, the displayed number(s) are hexadecimal combinations of the numbers shown below.</p> <p>Examples: 1) If bits D2 & D3 fail, C is displayed. 2) If bits D2, D3 & D7 fail, 8C is displayed</p> <table border="1" data-bbox="815 1263 1517 1361"> <thead> <tr> <th>BIT(fail)</th> <th>D7</th> <th>D6</th> <th>D5</th> <th>D4</th> <th>D3</th> <th>D2</th> <th>D1</th> <th>D0</th> </tr> </thead> <tbody> <tr> <td>Hexa-</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> </tr> <tr> <td>decimal</td> <td>8</td> <td>4</td> <td>2</td> <td>1</td> <td>8</td> <td>4</td> <td>2</td> <td>1</td> </tr> </tbody> </table> <table border="1" data-bbox="815 1384 1489 1688"> <thead> <tr> <th>DISPLAY NO.</th> <th>FAILING PROM</th> </tr> </thead> <tbody> <tr><td>0</td><td></td></tr> <tr><td>1</td><td>A</td></tr> <tr><td>2</td><td>B</td></tr> <tr><td>3</td><td>C</td></tr> <tr><td>4</td><td>D</td></tr> <tr><td>5</td><td>E</td></tr> <tr><td>6</td><td>F</td></tr> <tr><td>7</td><td>G</td></tr> <tr><td></td><td>H</td></tr> </tbody> </table> <p>RAMSEL SIGNAL FAILURE is indicated by PAGE SELECT ERROR message at lower middle of display.</p>	TONE #	RAM CHIP LOCATION	1	1L	2	1R	3	9D	4	9E	5	9F	6	9G	BIT(fail)	D7	D6	D5	D4	D3	D2	D1	D0	Hexa-	0	0	0	0	0	0	0	0	decimal	8	4	2	1	8	4	2	1	DISPLAY NO.	FAILING PROM	0		1	A	2	B	3	C	4	D	5	E	6	F	7	G		H
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<p>2. Activate all control panel and coin door switches.</p>	<p>1 PLAYER START and 2 PLAYER START LEDs are lighted. High-pitched click for each activated switch.</p>	<p>1 PLAYER START and/or 2 PLAYER START LEDs not lighted. High-pitched click sound is not heard for any particular switch.</p>																																																													

TV MONITOR DISPLAYS



Photograph above shows toggles 1, 2, 4-7 on, and toggles 3 and 8 off.

- OPTION SWITCH SETTING -

To change toggle positions of the switch assembly, you need not remove the game PCB. The switch, usually colored black, is easily accessible when the game PCB is mounted in place.

When changing the options, verify proper results on the TV monitor display during self-test. A switch toggle in the on position is indicated by a 0 for that switch on the TV monitor display. A switch in the off position is indicated by a 1.

TOGGLE SETTING of 8-TOGGLE SWITCH ON GAME PCB								OPTION
1	2	3	4	5	6	7	8	
ON	ON							English Language
OFF	ON							German Language
ON	OFF							French Language
OFF	OFF							Spanish Language
		ON						4-Ship Game
		OFF						3-Ship Game
			ON					Left Coin Mech x1
			OFF					Left Coin Mech x2
				ON	ON			Right Coin Mech x1
				OFF	ON			Right Coin Mech x4
				ON	OFF			Right Coin Mech x5
				OFF	OFF			Right Coin Mech x6
						ON	ON	Free Play
						OFF	ON	1 Coin 2 Plays
						ON	OFF	1 Coin 1 Play
						OFF	OFF	2 Coins 1 Play

- GAME PLAY -

Hoel's Meteor game has five possible modes of operation: Attract, Ready-to-Play, Play, High Score Initial and Self-test. Self-test is a special mode for checking the game switches and computer functions. You may enter this mode at any time. When entered, all game credits are cancelled.

1. ATTRACT MODE

The attract mode begins when power is applied to the game, after a play or high score initial mode, or after self-test. This mode is continuous and is only interrupted when a coin is inserted and accepted or when in self-test. In this mode, the TV monitor displays two possible pictures. Both pictures have three score values across the top of the screen and a message that states the number of coins for a game. The middle score represents the high score to date. The left score is for player 1, the right score is for player 2.

One picture displays meteors and an occasional enemy spaceship "floating" across the screen. The second picture displays up to 10 of the highest scores since the game was last powered up or since the last self-test. These two displays alternate every 16 seconds.

2. READY-TO-PLAY MODE

This mode begins when sufficient coins have been accepted for a one or two player game. It ends when the 1 PLAYER START or 2 PLAYER START pushbutton is pressed. When this mode begins, the message PUSH START flashes immediately below the center score at the top of the screen. The displayed pictures are otherwise the same as those shown in the attract mode.

3. PLAY MODE

The play mode begins when either start pushbutton is pressed. The mode ends when the player's last ship of the game is lost.

If the 1 PLAYER START pushbutton is pressed, the following picture is displayed: the PLAYER 2's score disappears; the PLAYER 1's score becomes 00, and the number of ships (3 or 4, depending on the operator's setting) for the game appears below that score. The message PLAYER 1 also appears below the high score to date. Two seconds after pressing the 1 PLAYER START button the PLAYER 1 message disappears, and the game ship appears at the center of the display. Four large meteors appear and drift in from the outer edges of the display.

If the 2 PLAYER START pushbutton is pressed, the following picture is displayed: the PLAYER 1 and PLAYER 2 scores become 00, and the number of ships for the game appears below each score. The player 1 score also flashes as the message PLAYER 1 appears below the high score to date. Two seconds after the 2 PLAYER START pushbutton is pressed, the PLAYER 1 message disappears. The game ship for player 1 appears at the center of the display as four large meteors appear and drift in from outer edges of the display.

By pressing the LEFT ROTATE and RIGHT ROTATE pushbuttons on the control panel, the player may aim a spaceship toward any of the meteors. By pressing the FIRE pushbutton, the player may shoot at the meteors.

When shot, each large meteor divides into two medium-sized meteors and the game adds twenty points to the player's score. Medium-sized meteors, when shot, divide into two small-sized meteors, and the player receives fifty points. Small-sized meteor, when shot, will completely disappear, and the game awards 100 points to the player. When players have shot all meteors, a new set of large meteors again appear and drift in from the outer edges of the TV monitor display. At the beginning of the game, four large meteors appear. At the beginning of the next cycle when large meteors reappear, there are six, the next time eight, and thereafter ten - to increase player challenge.

At any time during game play, a flying saucer may appear from either side of the display. The game awards players 200 points for shooting a large saucer and 1000 points for a small saucer. (The latter is a smaller target for players, though not any faster moving than the large one. It also shoots more accurately.)

The player's objective in the game is to shoot and destroy as many meteors as possible before all his or her spaceships are destroyed. A ship is destroyed if an meteor or saucer smashes into it, or if a flying saucer shoots it. To prevent losing a ship, the player may press the THRUST pushbutton to move out of the path of an meteor or saucer. As an emergency maneuver, players can press the HYPERSPACE pushbutton: the ship disappears and reappears at a random location on the display - however, possibly right on top of, or in the path of, an meteor. The ship may also explode on retry.

The game awards an extra ship each time a player's score reaches multiples of 10,000; i.e., one ship is awarded at 10,000 points, another ship at 20,000 points, etc.

When the last ship of the game is destroyed, the message GAME OVER appears below the high score. This message remains for a 3 seconds before the high score initial mode begins.

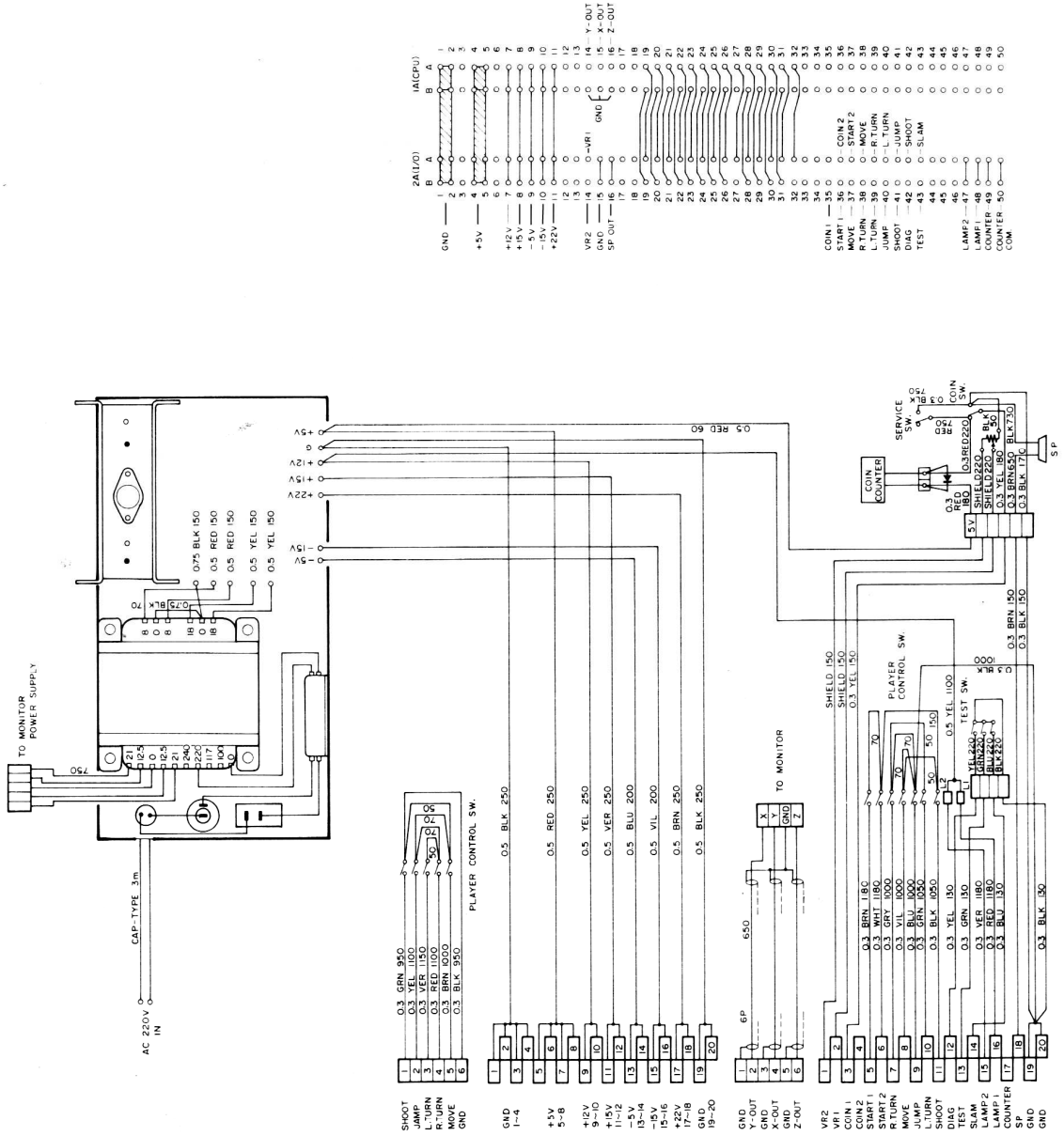
4. HIGH SCORE INITIAL MODE

At the beginning of the high score initial mode, the player instructions appear at the top of the screen, and A _ _ appears at the lower center of the display. Players enter initials one character at a time. By pressing the LEFT ROTATE pushbutton, the displayed character steps through the alphabet from A to Z. By pressing the RIGHT ROTATE pushbutton, the character steps backwards through the alphabet from A to a blank, then from Z to A.

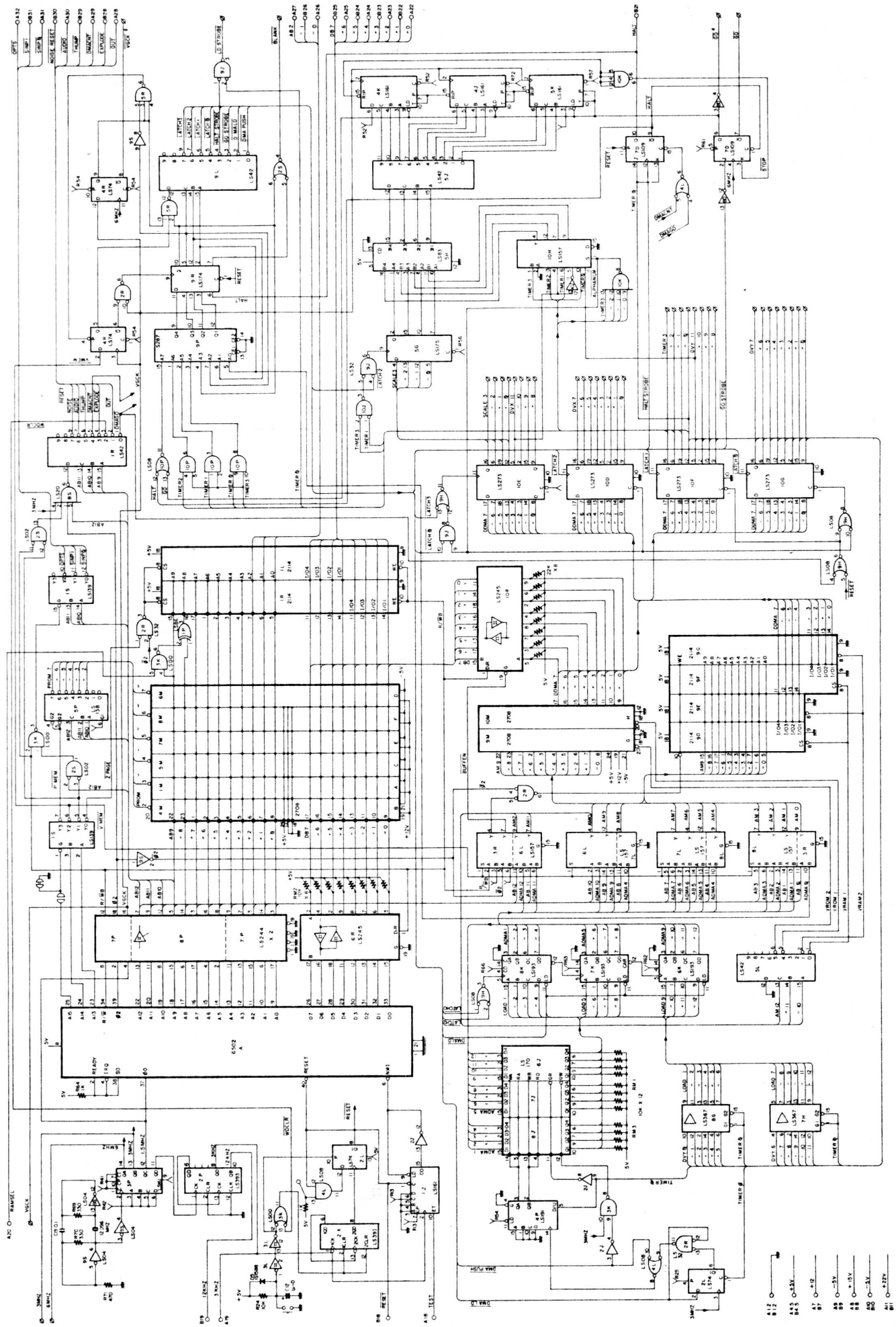
Once the game displays the desired letter, players should press the HYPERSPACE pushbutton to record the letter; then an A appears in the next space.

If players need only two letters for their initials, they should use the blank between Z and A in one of the three locations. Pressing the HYPERSPACE pushbutton a third time will cause the initials and game score to be transferred to the "10 highest scores" listing that appears during the attract mode.

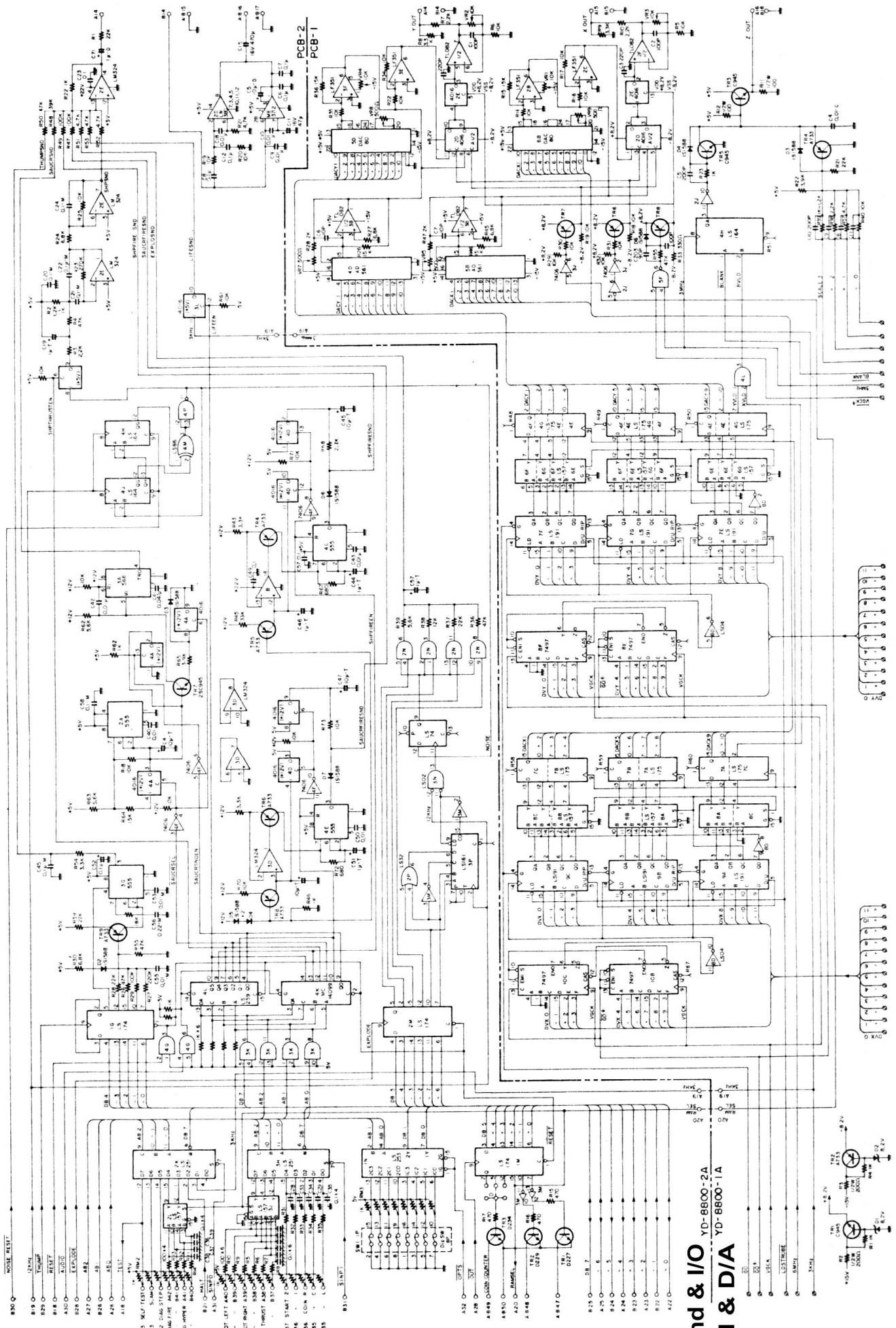
Wiring Diagram



Schematic Diagram - CPU & ROM / RAM

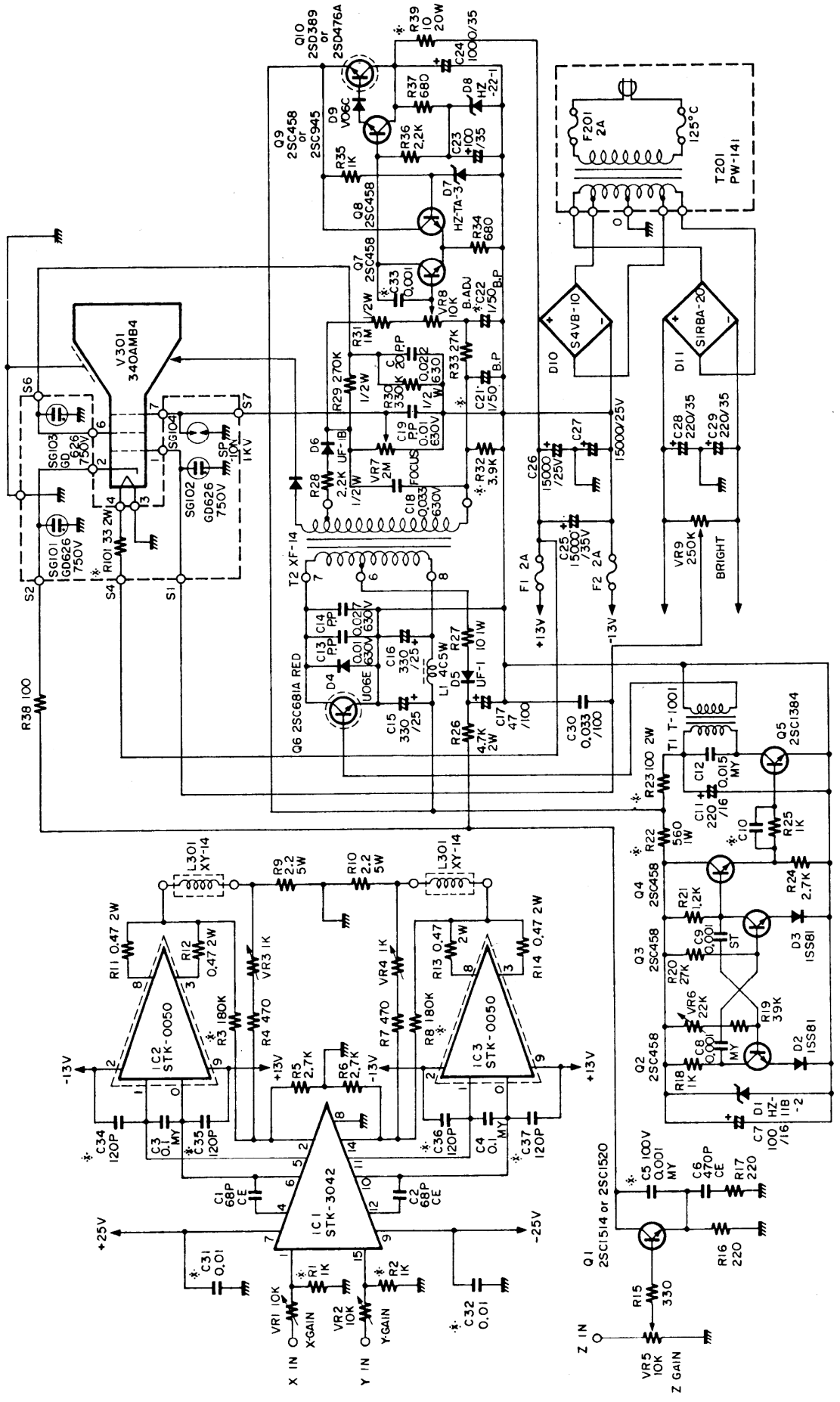


Schematic Diagram - Sound & I/O - VSM & D/A



Sound & I/O YD-8800-2A
VSM & D/A YD-8800-1A

Schematic Diagram - HOEI Monitor (Cocktail Table)



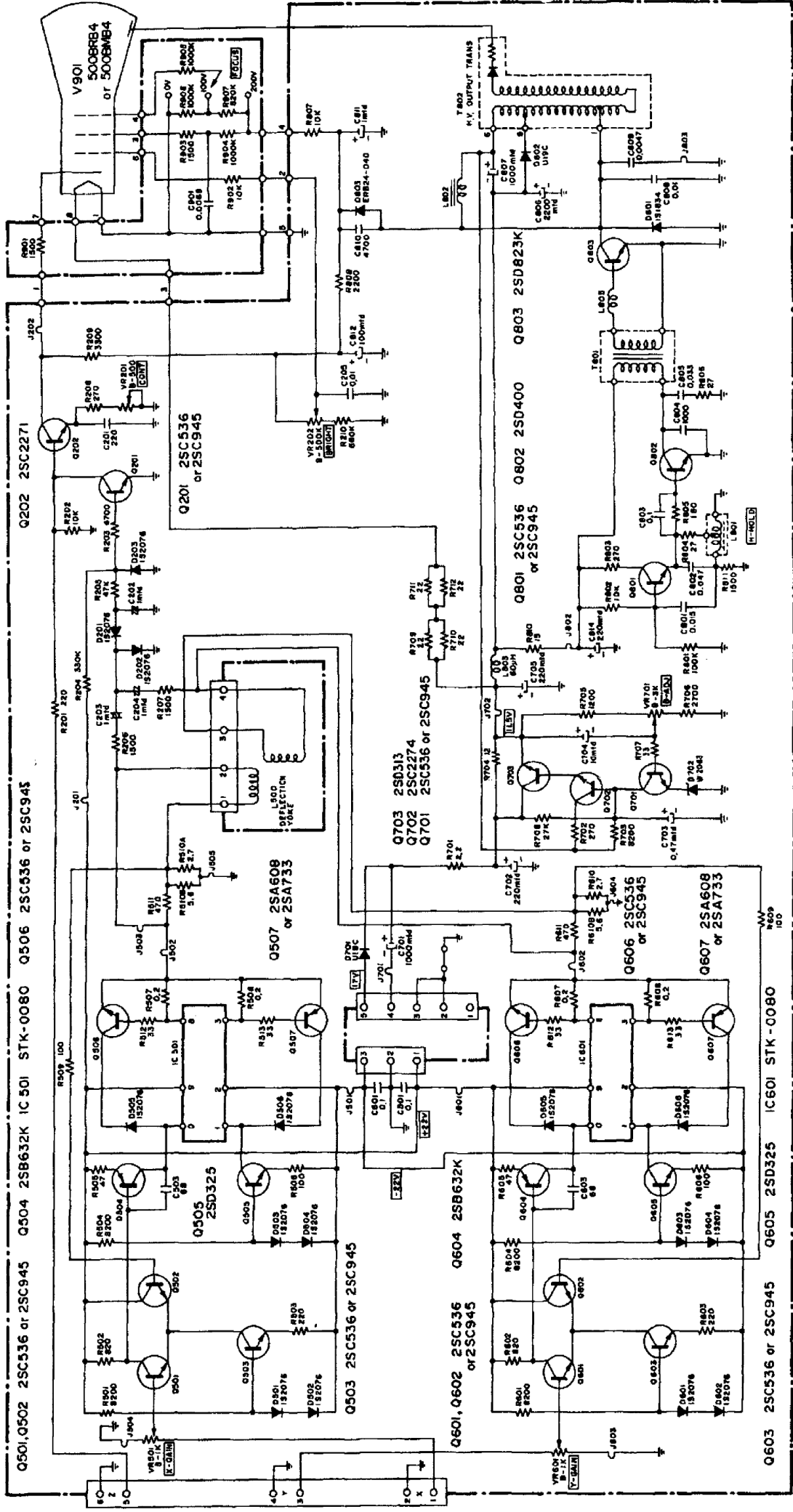
Schematic Diagram - LAI Monitor 20" (Upright)

SCHEMATIC DIAGRAM (model LAI-KZ-20XYB)



NOTES:

1. All resistance values are in ohm. K = 1,000 M = 1,000,000
2. Unless otherwise noted in schematic diagram, all capacitors less than 1 are expressed in mfd(μ F) and the values larger than 1 are in pF.
3. This is a fundamental circuit diagram. Some production changes may be made without revision of the diagram.



NOTE: This is only the Schematic Diagram of the LAI XY monitor. For a complete User Guide including parts list, PCB layout etc, please see the known archives, eg at <http://arcarc.xmission.com/>