MoonPatrol

PRELIMINARY

DIP SWITCH SETTINGS

DIP SWITCH NO. 1

ADJUSTMENT	OPTIONS	SWITCH NUMBER							
		1	2	3	4	5	6	7	8
*RECOMMENDED SETTINGS		ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF
†COIN MODE 1	2 PLAYS/1 COIN					OFF	OFF	OFF	ON
	3 PLAYS/1 COIN					ON	OFF	OFF	ON
	4 PLAYS/1 COIN					OFF	ON	OFF	ON
	5 PLAYS/1 COIN					ON	ON	OFF	ON
	6 PLAYS/1 COIN					OFF	OFF	ON	ON
	*1 PLAY/1 COIN					OFF	OFF	OFF	OFF
	1 PLAY/2 COINS					ON	OFF	OFF	OFF
	1 PLAY/3 COINS					OFF	ON	OFF	OFF
	1 PLAY/4 COINS					ON	ON	OFF	OFF
	1 PLAY/5 COINS					OFF	OFF	ON	OFF
	1 PLAY/6 COINS					ON	OFF	ON	OFF
	FREE PLAY					ON	ON	ON	ON
†COIN MODE 2	1 PLAY/1 COIN					OFF	OFF		
	1 PLAY/2 COINS					ON	OFF		
	1 PLAY/3 COINS					OFF	ON		
	FREE PLAY					ON	ON		
	2 PLAYS/1 COIN							OFF	OFF
	3 PLAYS/1 COIN							ON	OFF
	5 PLAYS/1 COIN							OFF	ON
	6 PLAYS/1 COIN							ON	ON
# PATROL CARS	5 PATROL CARS	OFF	OFF						
	*4 PATROL CARS	ON	OFF						
	3 PATROL CARS	OFF	ON						
	2 PATROL CARS	ON	ON						
ADDITIONAL CAR AT:	*10,000/30,000/50,000			OFF	OFF				
	20,000/40,000/60,000			ON	OFF				
	10,000 ONLY			OFF	ON				
	NO EXTENDED PLAY			ON	ON				

DIP SWITCH NO. 2

ADJUSTMENT	OPTIONS	SWITCH NUMBER							
		1	2	3	4	5	6	7	8
*RECOMMENDED SETTINGS		OFF	ON	†	OFF	OFF	OFF	OFF	OFF
FLIP PICTURE	NO	OFF							
	YES	ON							
**CABINET TYPE	TABLE		OFF						
	UPRIGHT		ON						
COIN MODE SETTINGS FOR DIP SWITCH I	COIN MODE 1			OFF					
	COIN MODE 2			ON					
FREEZE SCREEN	*NO					OFF			
	YES					ON			
SECTOR-SELECTION FEATURE	*NO						OFF		
	YES						ON		
DEMO MODE	*NO							OFF	
	YES							ON	
TEST MODE	*NO								OFF
	YES								ON
SWITCH 4 (not used)					OFF				

*recommended settings

**For upright games, select ON for switch 2. Table games require OFF for switch 2.

†For games with a single coin selector or 2 selectors of the same value, S3 must be turned off. For games with selectors for 2 different coin values, S3 must be turned on.

Turn switch #8 of DIP switch #2 to the ON position and turn power ON. The MOON PATROL diagnostic program consists of 8 independent tests, 2 of which are automatic at turning power ON in diagnostic mode: RAM Test and ROM Test. After these two tests have been properly completed, pressing the 2 Player button brings an index of the other tests to the CRT display:

    01 DIP SWITCH
    02 I-O PORT*
    03 SOUNDS
    04 CHARACTER
    05 COLOR
    06 CROSS HATCH PATTERN

* Control Panel and Coin Door switches test.

As any test other than 02 is completed, pressing the 2-Player button returns the test index to the monitor display. When test 02 is completed, the joystick lever must be moved left while pressing the 2 Player button to return the test index. If no further testing is desired, turn power OFF and return switch #8 of DIP swith #2 to the OFF position.

RAM Test

If checked to be OK, "RAM OK" appears on monitor. If not OK,
"RAM NG <u>XXXX</u>   <u>YY</u>   <u>ZZ</u>" appears on monitor (without ROM test results).
          ↑   ↑   ↑
Faulty RAM address   RAM Input Data   RAM Output Data

If RAM is shown to be NG at address E000 ‑ E7FF failure can have occurred in either 3B RAM or 2K decoder. If RAM is shown to be NG at address 8000 ‑ 87FF failure can have occurred at RAM chip 3C or circuitry directly associated with the RAM chip--Chips 7J, 7K, 6A, 5D, 6D, 4A, 4B, 4C, and 4D of the Scrolling Video board or chip 5M of the CPU board. A faulty chip must be replaced to continue diagnostics.

ROM Test

If checked to be OK, the display below appears on the monitor.
                    "RAM   OK"
                    "ROM 0   OK   FF"
                    "ROM 1   OK   FF"
                    "ROM 2   OK   FF"
                    "ROM 3   OK   FF"

If any are not OK, for example ROM 1; this appears on monitor.
                    "RAM   NG"
                    "ROM 0   OK   FF"
                    "ROM 1   NG   FF"
                    "ROM 2   OK   FF"
                    "ROM 3   OK   FF"

A faulty ROM must be replaced to continue diagnostics.

01 DIP SWITCH Test
     Shows state of all switches contained in DIP switches #1 & #2 and the resulting game adjustments; as in Example 1-1.

          Example 1-1: DIP Switch Recommended Settings
                        0 = OFF, 1 = ON

     DIP SW   1 2 3 4 5 6 7 8
        SW1   1 0 0 0 0 0 0 0
        SW2   0 1 0 0 0 1 0 1

     PATROL CARS   4
     ADDITIONAL CARS
       POINTS 10, 30, 50 THOUSAND

     DIP SW · Test Example 1-1 (Cont.)
     COIN MODE   1 COIN   2 PLAYS
     BODY TYPE   UPRIGHT

     If any switch(es) of a DIP switch set is (are) not represented correctly, the respective DIP switch set or any of chips 1E, 1F, 1H, or 2J could be malfunctioning.

     Switch #8 of DIP switch #2 is shown as "1" only because that is the position required for game diagnostics.

02 I-O PORT (Control Panel/Coin Door Switch) Test
     Shows if all controls and coin mechanisms are functioning properly by displaying a matrix composed of he states of switches on the Control Panel and Coin Door as shown in Example 1-2.
          Example 1-2:   0 = OFF   1 = ON
                    1 2 3 4 5 6 7 8
KEY 0   0 0 0 0 0 0 0 0
KEY 1   0 0 0 0 0 0 0 0
KEY 2   0 0 0 0 0 0 0 0

TIMING   0000

     The TIMING number starts at 0000 and adds one count approximately every second.
     If any Control Panel or Coin Door switch is closed a "1" will appear in the above matrix as follows:
1 Player Start Button   KEY0-1
2 Player Start Button   KEY0-2
Coin Switch A   KEY0-4
Joystick Right (Faster)   KEY1-1
Joystick Left (Slower)   KEY1-2
Jump   KEY1-6
FIRE   KEY1-8
Coin Switch B   KEY2-5

     Coin Switch B is present only in games with coin doors that accept coins of two different values.

     To end this test and return to test index: move joystick lever left while pressing the 2 Player Start Button.

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03   SOUNDS Test

A list of sounds normally produced by the game appears as shown below on the monitor. Move joystick lever as necessary to light the number of the sound desired to test and press the 1 Player start button for repetition of the sound.

Example 1-3:
01   EXPLOSION (ROCK)
02   PASSING ONE POINT
03   UFO EXPLOSION
04   MISSILE FROM CAR
05   COIN
06   CAR JUMP
07   SPACE PLANT
08   UFO FLYING
09   BACK GROUND MUSIC
10   ENDING MUSIC
11   OPENING MUSIC
12   REACHING GOAL
13   CONGRATULATION
14   CAR EXPLOSION

04   CHARACTER Test

A display composed of 8 tanks vertically and horizontally flipped as shown below appears on monitor.

TANK = GRN
TREADS = GRN
TREAD WHEELS = VIOLET
GUN = RED

▒ = GREEN

■ = RED

□ = VIOLET
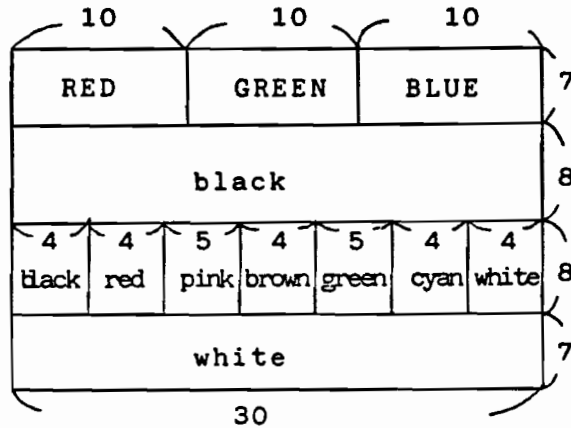

5
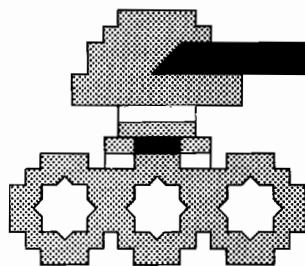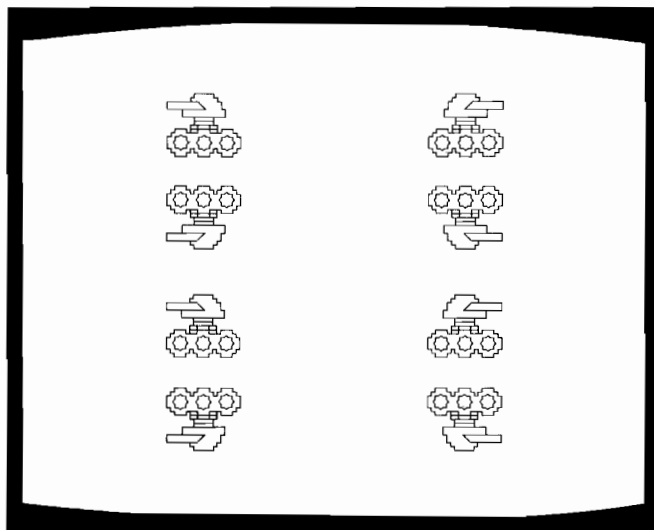
05   COLOR Test
      This test consists of 5 independent steps as follows:
      1.   An alphanumeric display is shown as below over a row of numbers 0 thru 9, letters
blue and numbers white.

                    ABCDEFGHIJKLMNOPQRSTUVWXYZ

                    0123456789

      2.   A color pattern is displayed as shown:

                                              *Numbers are the ratio
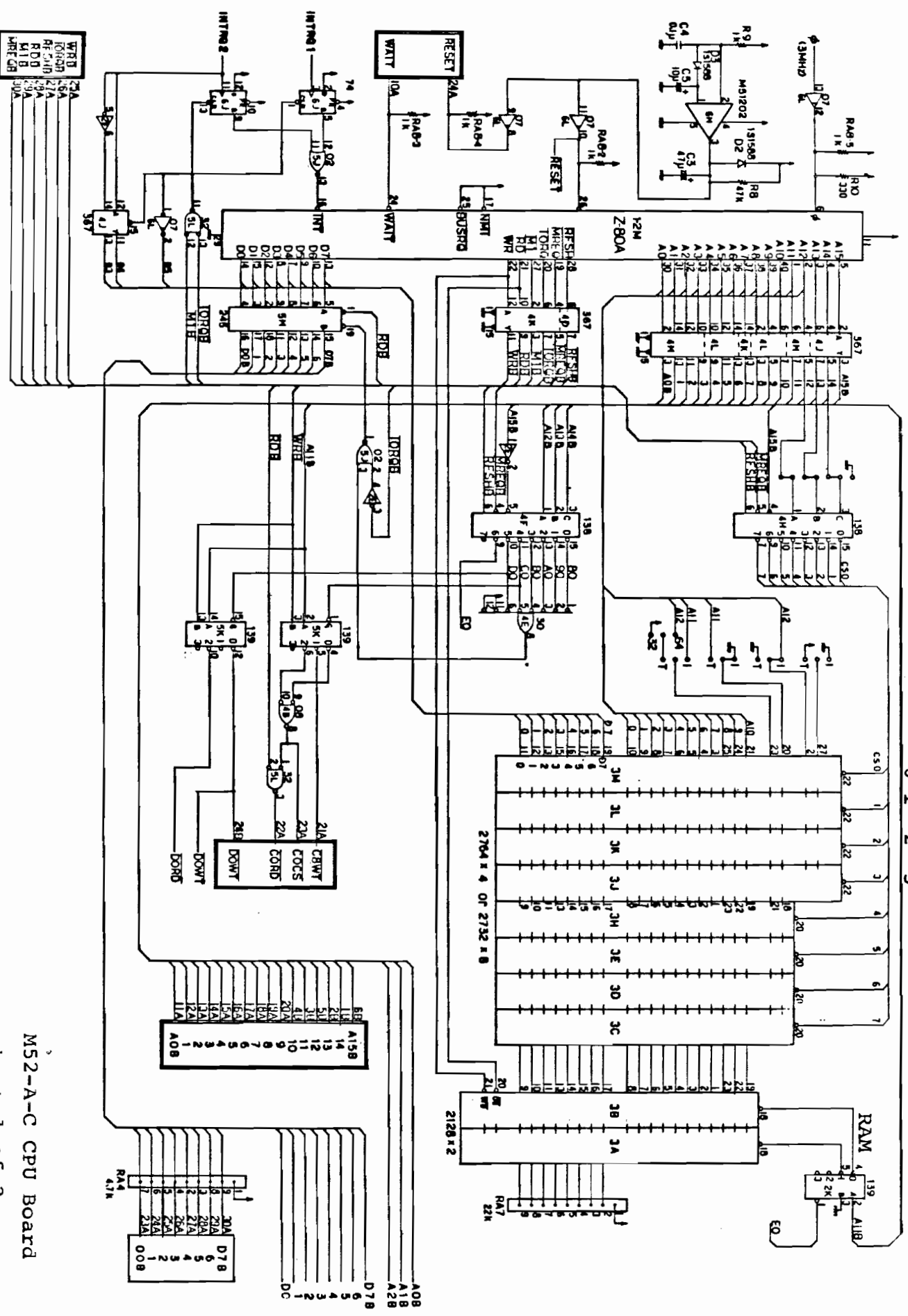   of size used for each
                                               color.

      3.   A field of red is displayed.

      4.   A field of green is displayed.

      5.   A field of blue is displayed.

      Each independent step of this COLOR test can be advanced through by pressing the 1
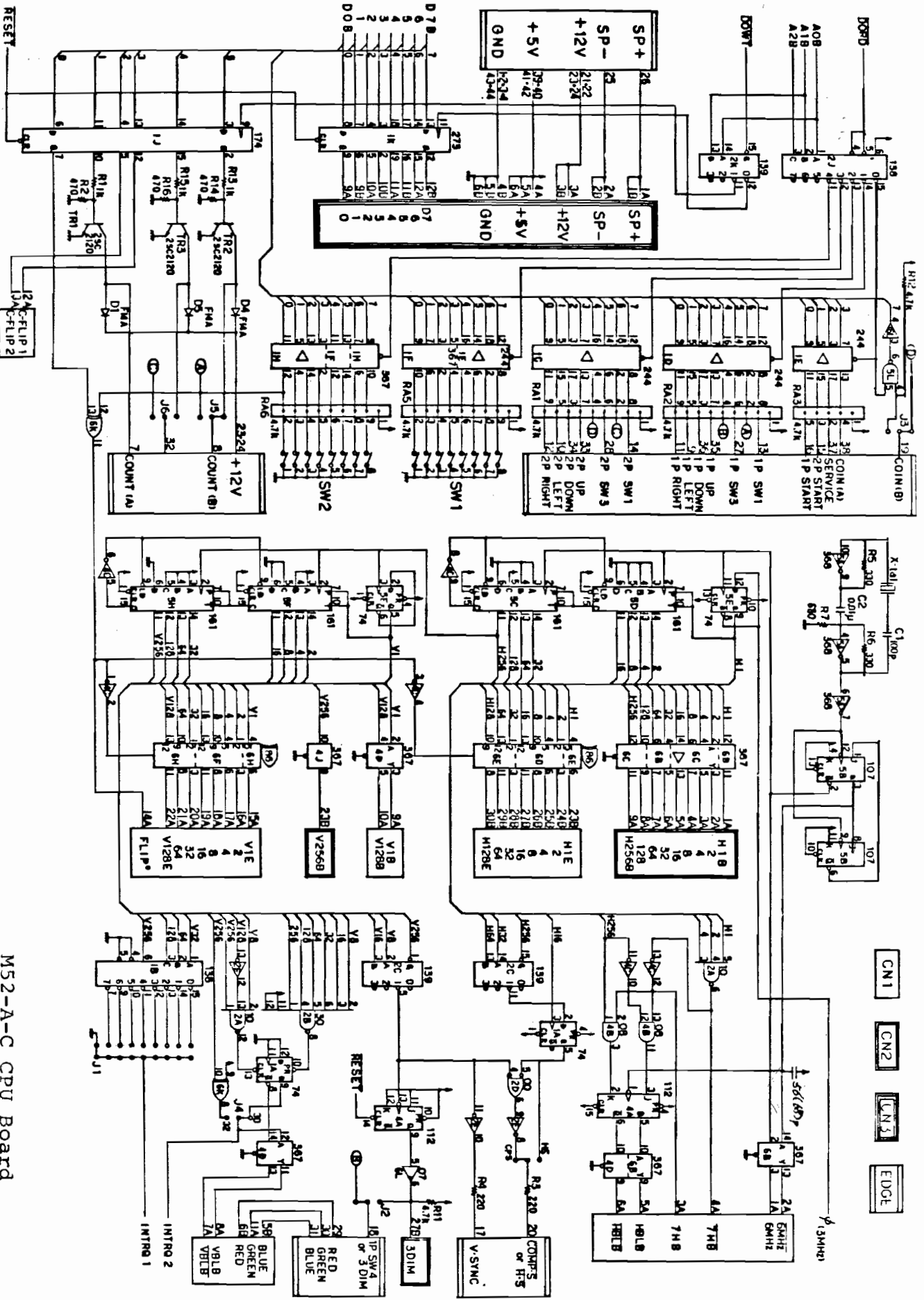Player start button.

06   CROSS HATCH PATTERN Test
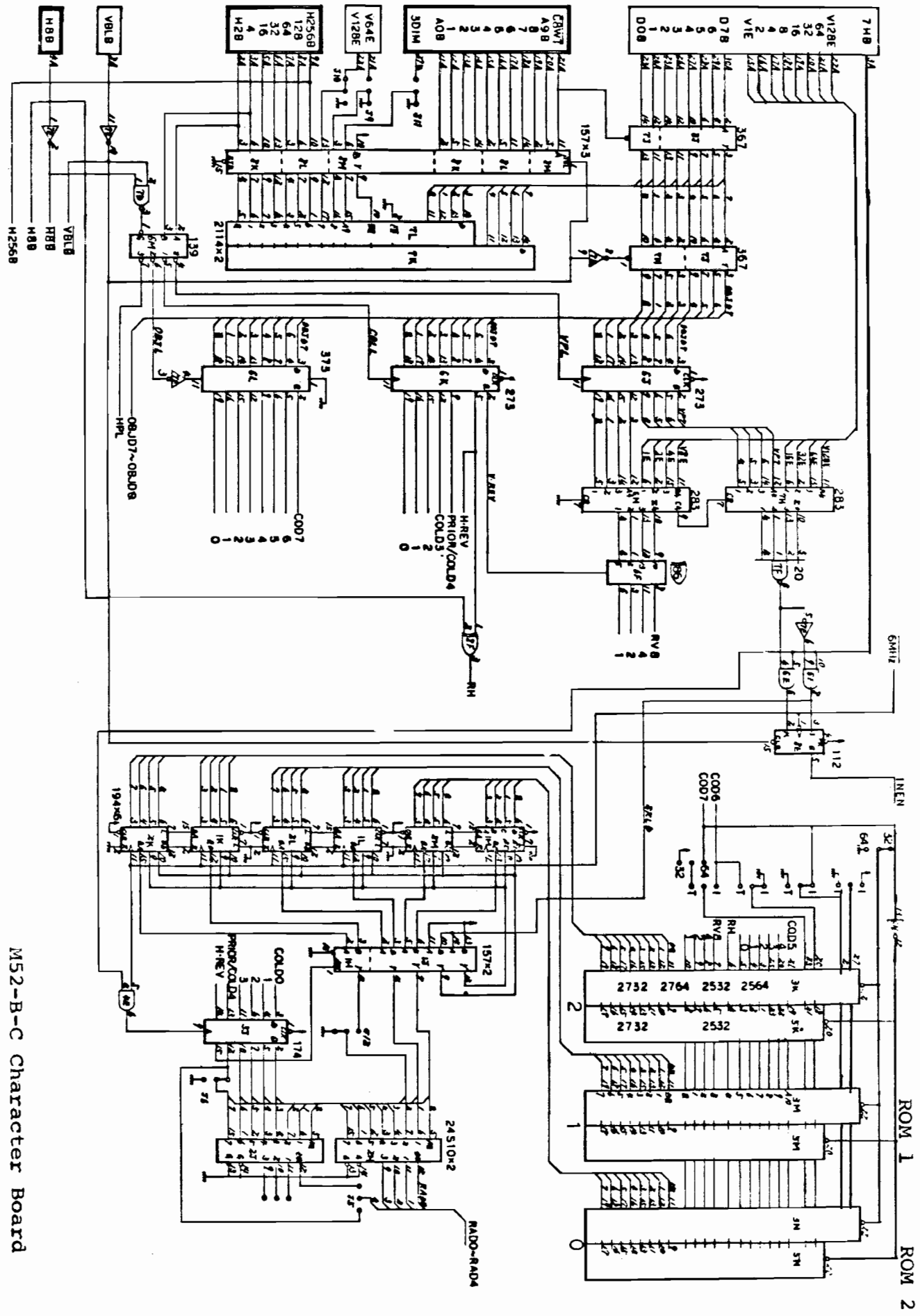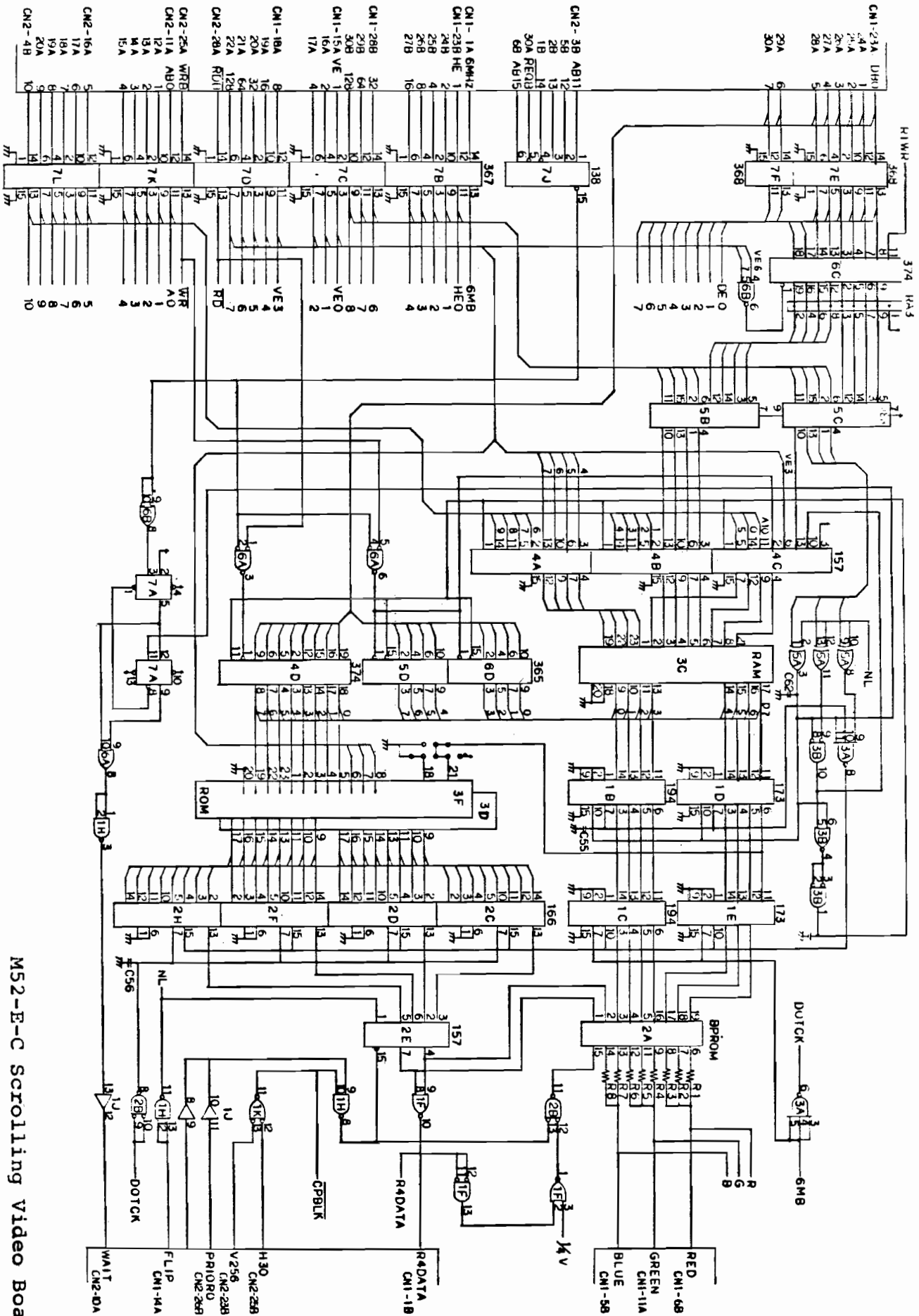   A white line matrix 16 lines vertical x 16 lines horizontal is displayed.
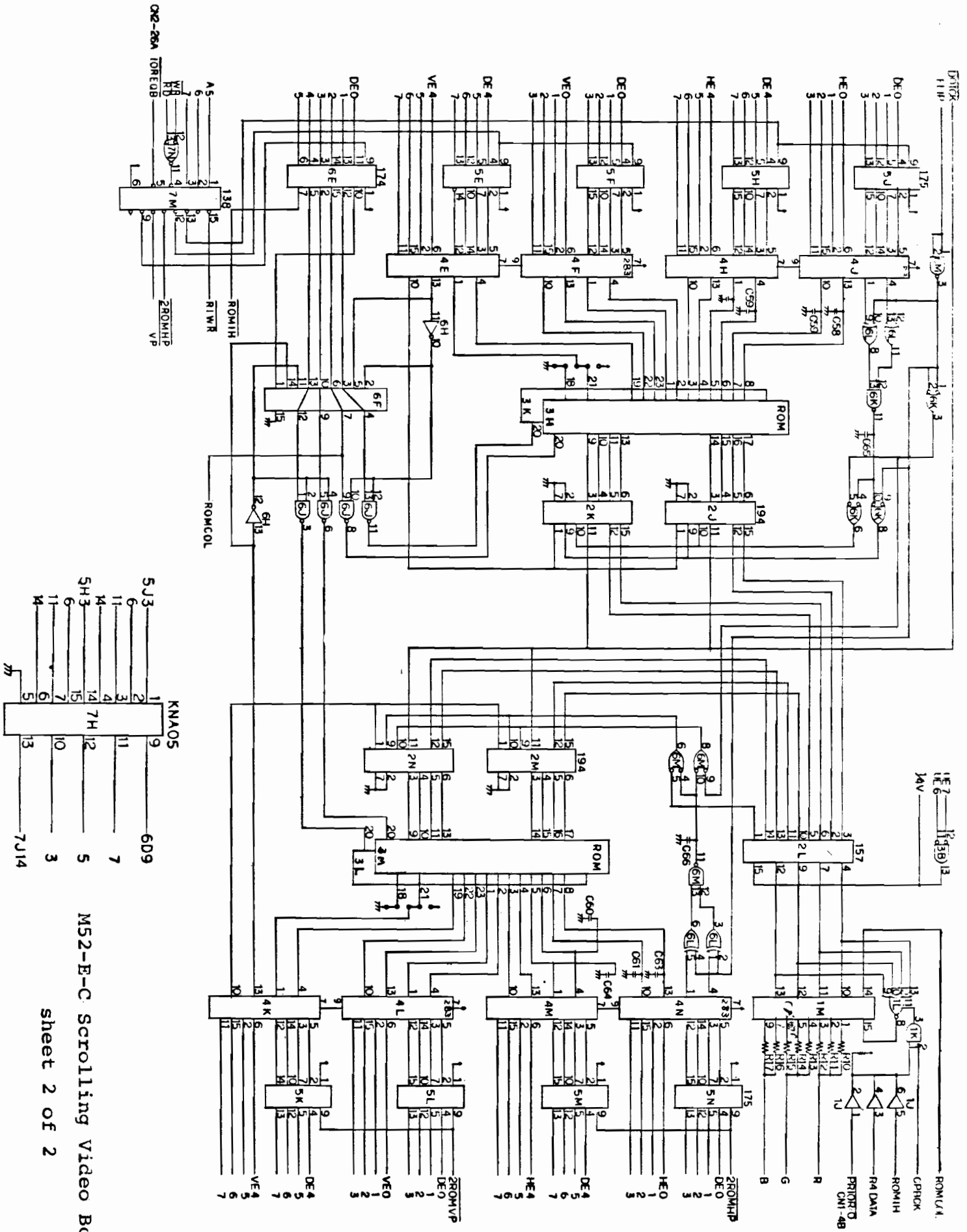
M52-A-C CPU Board
sheet 1 of 2

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M52-A-C CPU Board

sheet 2 of 2

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M52-B-C Character Board

sheet 1 of 2

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M52-R-C Character Board
sheet 2 of 2

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M52-E-C Scrolling Video Board

sheet 1 of 2

M52-E-C Scrolling Video Board

sheet 2 of 2

12
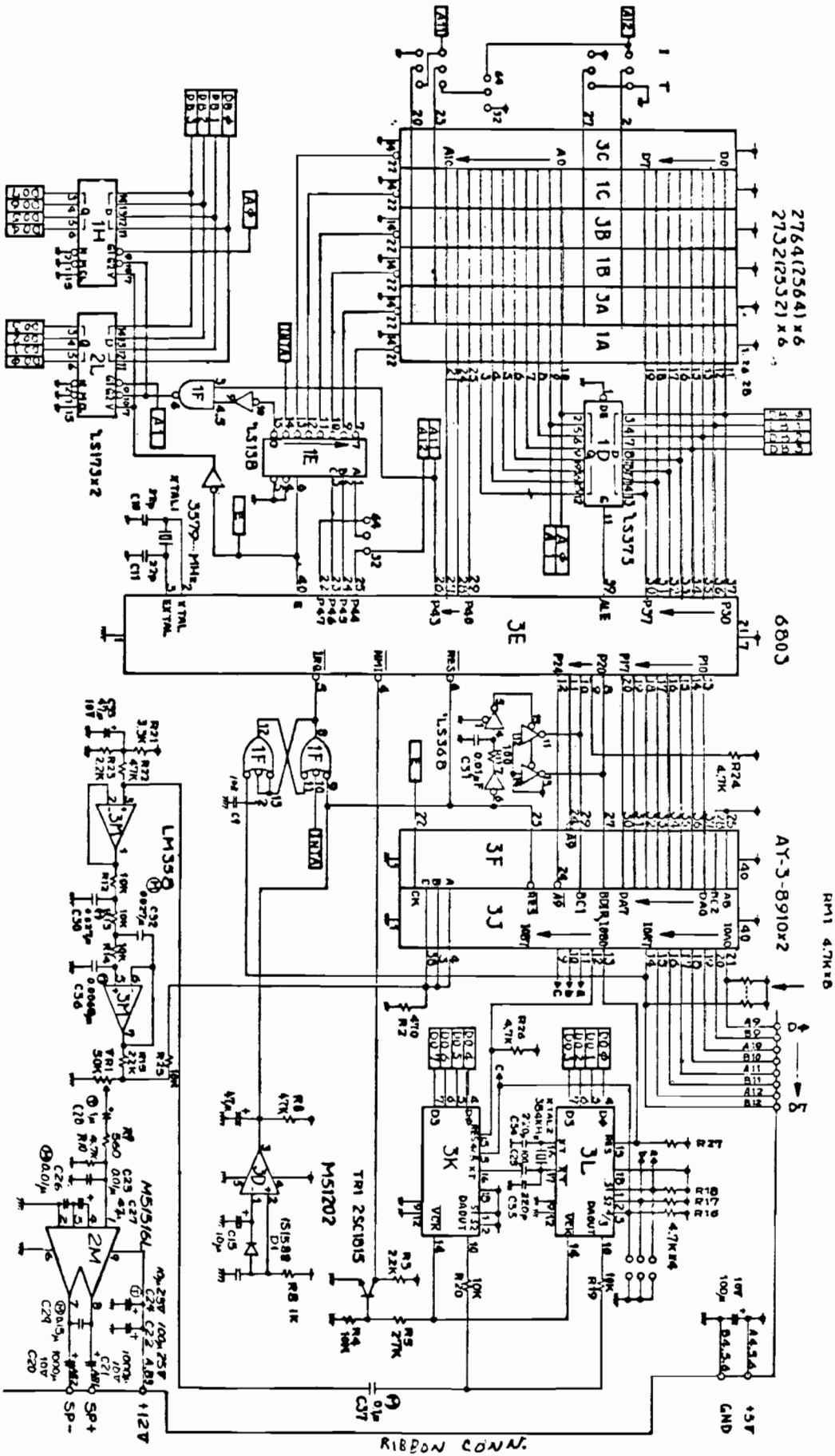
M52 SOUND-C Sound Board

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MOON PATROL

Power Supply Board Schematic Diagram

MOON PATROL UPRIGHT

PRELIMINARY PARTS LIST

DESCRIPTION	PART NO.
Cabinet Assembly	AB-11-689
Leg Adjuster Nut	08-7025
Leg Adjuster	08-7391
Cabinet	11-689
Marquee	31-1069-3007-U
Marquee Molding Top	20-9322
Marquee Molding Bottom	20-9306
Speaker Panel	D-9157
Speaker	5555-09382-01
Speaker Mounting Bracket	01-7466
Speaker Panel	11-685-4
Speaker Panel Cover	03-7712
Speaker Shield	03-7748
CRT Cover	31-1068-3007-U
Instruction Card	16-3007-17
CRT Bezel	03-7749
Control Panel	R-9430
Red Button Assembly	C-9214-4
White Button Assembly	C-9214-5
Yellow Button Assembly	C-9214-6
Joy Stick	20-9254
Trunk Latch Bracket	01-6994
Trunk Latch	20-9266
Control Panel Hinge	20-9447
Control Panel Overlay	31-1067-3007-U

DESCRIPTION	PART NO.
Coin Door	C-8989
Cash Box Door	C-8832
Cash Box Lock Bracket	01-7176
Cash Box Cover	01-7720
Deep Cash Box	03-7625
Cash Box Handle	12-6589
Locks	20-8995
Upper Rear Door	C-9462
Door Lock	20-6542-TB
Lock Cam	01-6583
Lower Rear Door	C-9436
Monitor/Shelf Assembly	B-9368-2
Monitor Shelf	11-685-2
Monitor	5675-09979-00
Moon Patrol Circuit Boards	A-9436
Power Supply Assembly	C-9437
Heat Sink	C-8809
PCB Plate	C-9265
P.S. PCB Assembly	D-8784-3007-U
Power Pack	D-9187-3007
Transformer	C-8529
Line Voltage Cable	H-9084
Vent Hole Cover	03-7602

MOON PATROL - COCKTAIL

PRELIMINARY PARTS LIST

DESCRIPTION	PART NO.
Cash Box Assembly	D-8603
Glide with Screw	20-9261
Monitor/Supports Assembly	B-9237-1
Cocktail CRT Support - L	11-679-3-L
Cocktail CRT Support - R	11-679-3-R
19" Monitor 19K4903	5675-09979-00
Line Voltage Cable Assembly	D-8613
Power Pack System 3 "T"	D-9188-3007
Heat Sink Assembly	C-8809
P.S. PCB Assembly	D-8784-3007-T
Power Pack-T Sub Assembly	D-9275
Transformer Assembly	C-8609
PCB Plate Sub Assembly	C-9265
Power Supply Mounting Board	
Clamp & Gasket Assembly - Table Top	B-8692
Cocktail Brace Assembly	B-9276
Stud-Shoulder Hinge	02-4122
Cocktail Top Brace	20-9262
Mask w/Instruction Cards	D-9240-3007
Cabinet Top Hinge Cocktail	01-7105
Top Lock Catch Bracket	01-7190
Top Lock Catch	02-4039
CRT Bezel •	03-7731
CRT Filter	03-7732
Cocktail Glass Blank	08-7384
Cocktail Top	11-679-4
Control Panel	D-9432
Red Button Assembly	C-9214-4
Yellow Button Assembly	C-9214-5
Joy Stick	20-9254
Control Panel Cover	31-1070-3007-T

DESCRIPTION	PART NO.
Component Door	D-9451
PCB's Assembly	A-9436
Lock Bracket - Cocktail	01-7102
Door Kick Plate	01-7115
Speaker Grill-T	03-7622
PCB Mounting Block	11-689-2
PCB Mounting/Stop Block	11-689-3
Component Door	11-690-2
Speaker	5555-09626-00
Coin Door Assembly	D-9452
Light Socket Assembly	A-8639
Lock Link & Stud Assembly	A-8650
Red Button Assembly	A-8654
Terminal Strip & Diode	A-9103
Lock Link/Stud Assembly	B-8651
Coin Door Lock Guide	01-7099
Coin Door Hinge	01-7103
Coin Door Kick Plate	01-7117
Guide Bracket	01-7131
Guide Strip	01-7133
Lock Link / Lower	01-7134
Lock Mech Guide	02-4029
Coin Mech - Quarter	09-11000
Cocktail Coin Door	11-679-5
Cam Lock - Coin Door	20-6542-TB
Cocktail Coin Door Cover	31-1057-3005-T