TARG

Operator's Manual 1.0

III. SELECTABLE OPTIONS

TARG has several switch selectable options which are controlled by a 8-position DIP switch located on the main logic board at position 16A. This switch is acccessible from the front of the game though the coin door. Figure 1 shows all selectable functions controlled by the 8-position DIP switch.

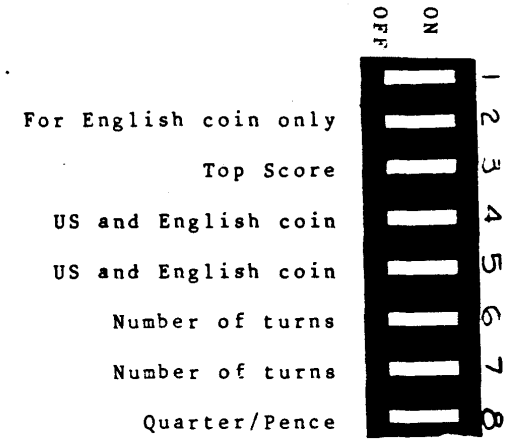


Figure 6.5: Functions of the 8-position DIP Switch

Following are the switch settings for the selection of options:

A. COINAGE	Switch 4	Switch 5
2 Player - 1 Coin	OFF	OFF
1 Player - 1 Coin 2 Player - 2 Coin	OFF	ON
1 Player - 2 Coin 2 Player - 4 Coin	ON	OFF

B. TYPE OF COINS	Switch 8
Quarters	OFF
English coins	ON

C. FOR ENGLISH COINS ONLY	Switch 2	Switch 4	Switch 5
1 game, one 10 pence coin 6 games one 50 pence coin	ON	OFF	OFF
1 game two 10 pence coins 3 games one 50 pence coin	OFF	OFF	OFF

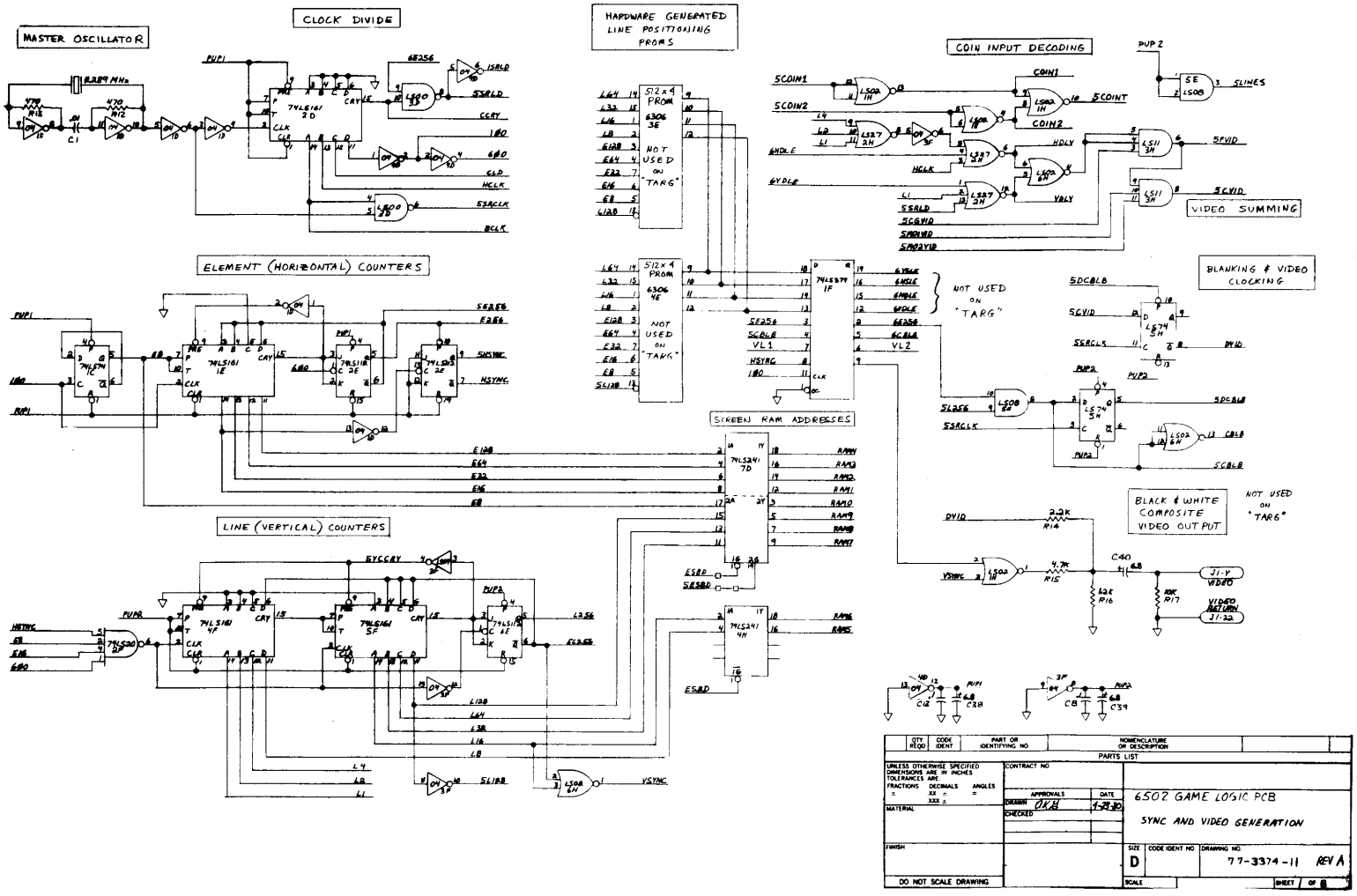
D. NUMBER OF TURNS	Switch 6	Switch 7
2 Wummels (turns)	OFF	OFF
3 Wummels	ON	OFF
4 Wummels	OFF	ON
5 Wummels	ON	ON

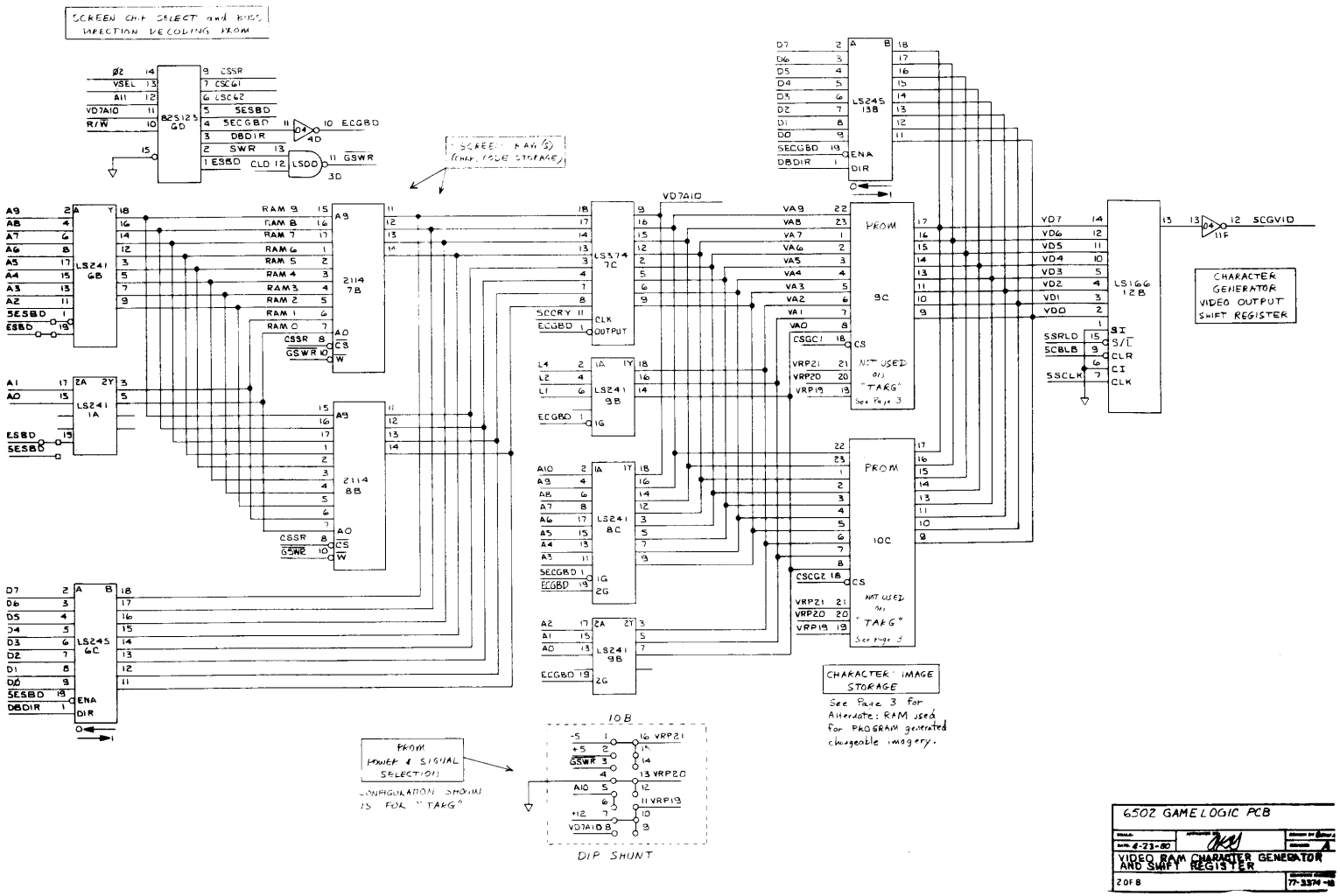
E. TOP THIS SCORE	Switch 3
Credit awarded for topping score	ON
Extended play for topping score	OFF

TARG

Technical Manual 1.0

Exidy


MASTER OSCILLATOR
8.389 MHz
CLOCK DIVIDE
HARDWARE GENERATED LINE POSITIONING PROMS
COIN INPUT DECODING
VIDEO SUMMING
ELEMENT (HORIZONTAL) COUNTERS
SCREEN RAM ADDRESSES
BLANKING & VIDEO CLOCKING
LINE (VERTICAL) COUNTERS
BLACK & WHITE COMPOSITE VIDEO OUT PUT
NOT USED ON "TARG"
SCOIN1
SCOIN2
SCOINT
SLINES
5FVID
5CVID
6HDLE
6VDLE
HCLK
VBLK
SSRLD
SCGVID
SMONVID
SMONVID
PUP1
PUP2
HSYNC
VSYNC
SCBLK
DVID
VIDEO RETURN
J1-Y VIDEO
J1-22
CONTRACT NO
APPROVALS
DRAWN
CHECKED
DATE
1-29-80
6502 GAME LOGIC PCB
SYNC AND VIDEO GENERATION
MATERIAL
FINISH
DO NOT SCALE DRAWING
SIZE
D
CODE IDENT NO
DRAWING NO
77-3374-11
REV A
SCALE
SHEET
OF



6502 GAME LOGIC PCB

DRAWN

DATE 4-23-80

APPROVED

VIDEO RAM CHARACTER GENERATOR AND SHIFT REGISTER

SIZE

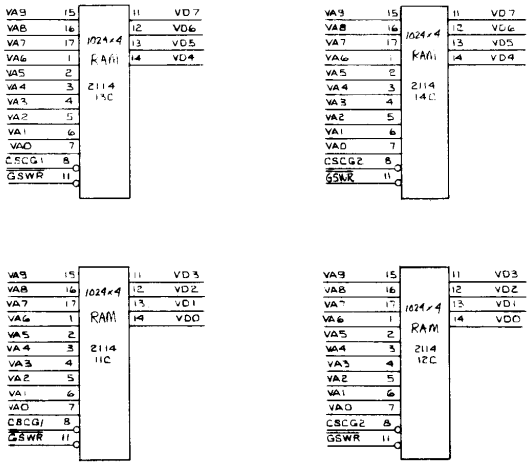
2 OF 8

DRAWING NO. 77-3574-10

CHARACTER GENERATOR
IMAGE STORAGE RAMS

For use with PROGRAM
generated character images.

JCEL on "TARG"

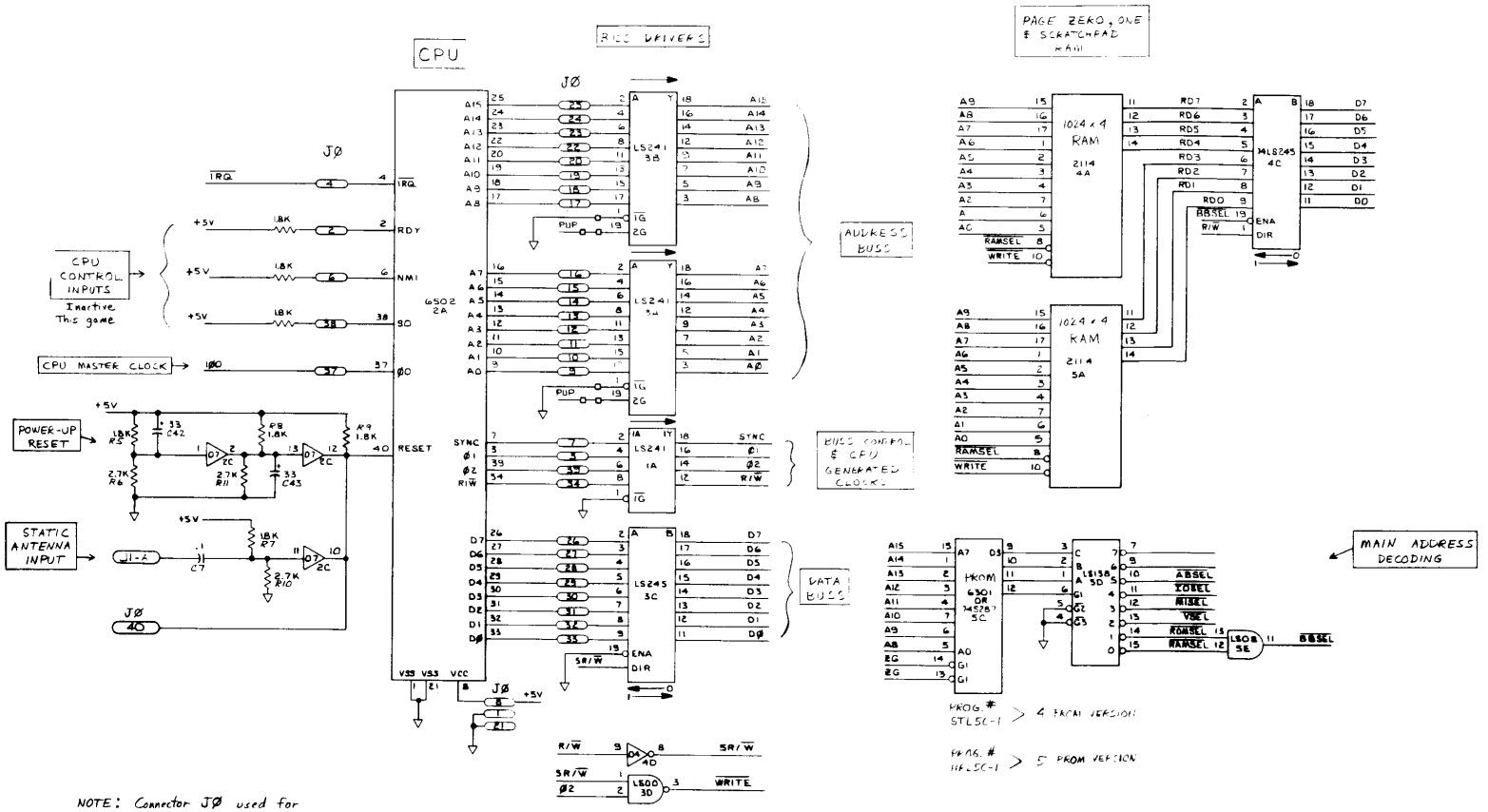


6502 GAME LOGIC PCB

4-23-80

IMAGE STORAGE RAM

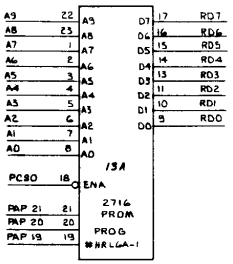
3 OF 8

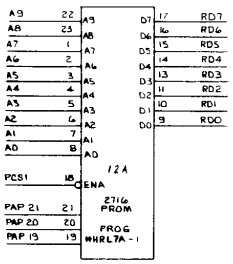


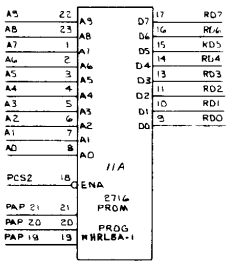
NOTE: Connector JØ used for test & analysis purposes only. Contains all CPU connections.

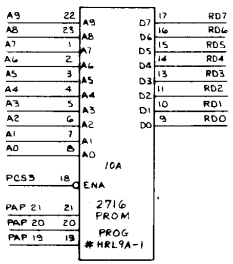
6502 GAME LOGIC PCB		
SCALE	APPROVED BY	DRAWING NO. A
DATE 4-23-80		REVISED A
SHEET: CPU: PROGRAM RAM BUS ARCHITECTURE		
4 OF 8		77-5374-R

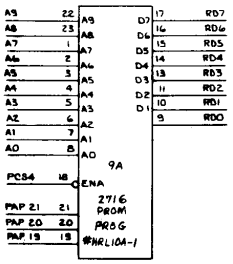
PROGRAM MEMORY

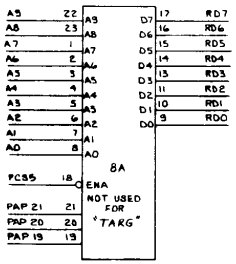


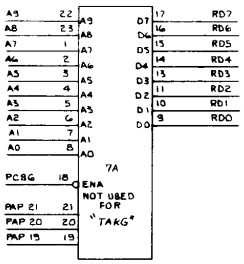


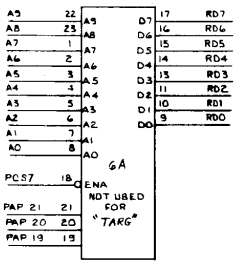






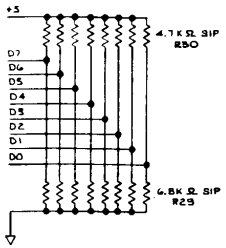


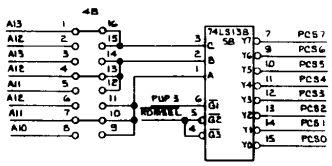




DATA BUSS TERMINATION

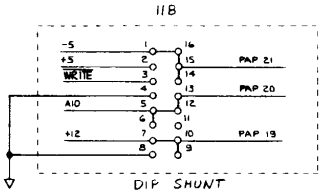
Ringing Suppression





PROM ADDRESS SELECTION

Configuration shown For "TARG"



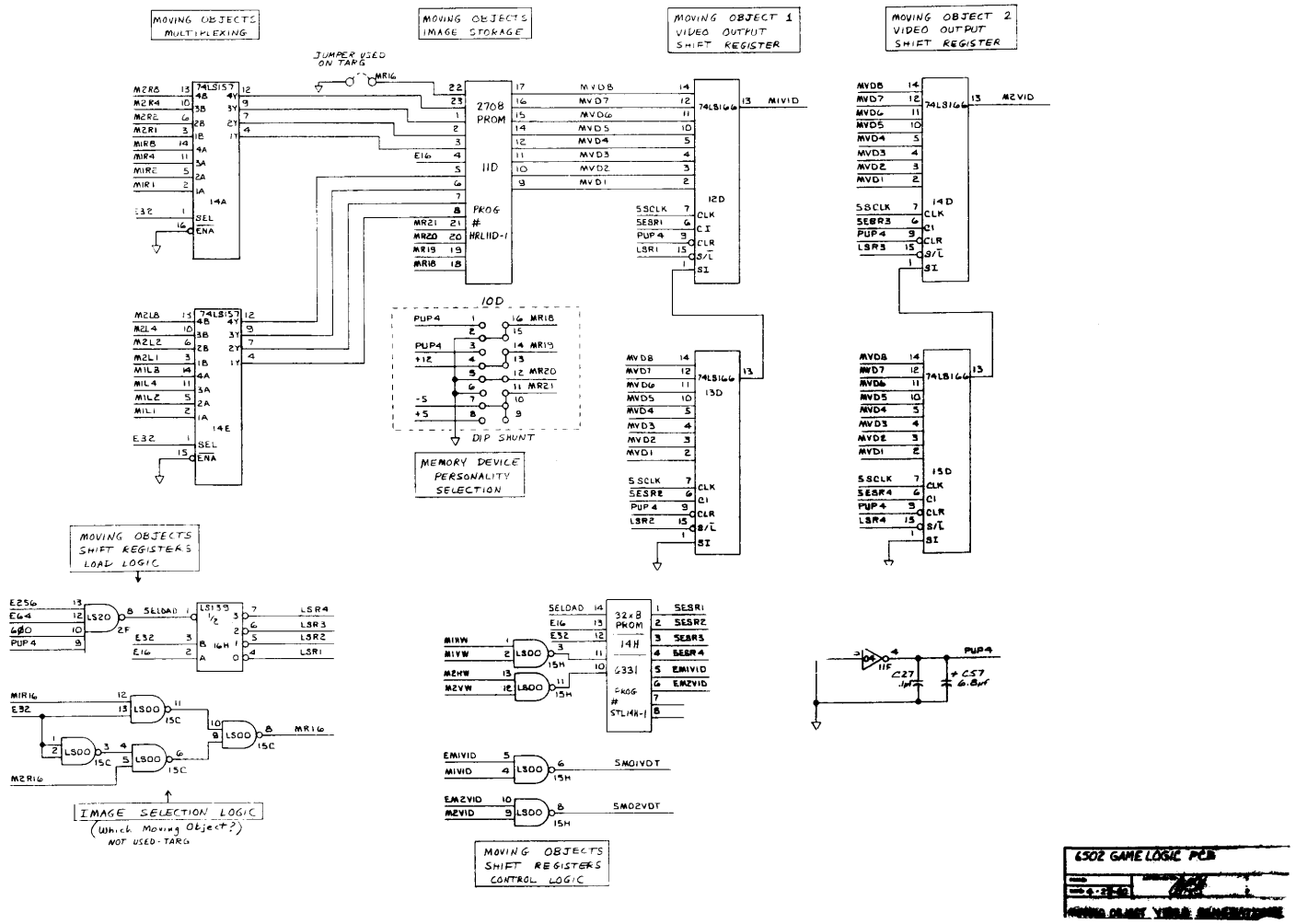
DIP SHUNT

MEMORY DEVICE PERSONALITY SELECTION

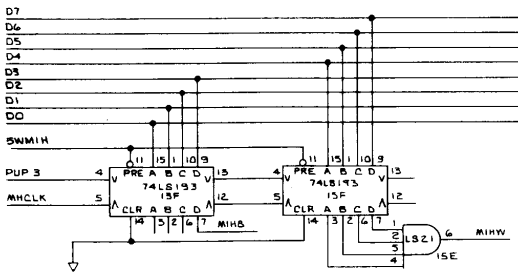
Configuration shown for "TARG"

EXIDY INC.

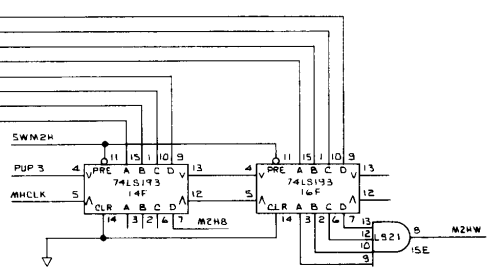
6502 GAME CONTROL CBD


MOVING OBJECTS MULTIPLEXING
MOVING OBJECTS IMAGE STORAGE
MOVING OBJECT 1 VIDEO OUTPUT SHIFT REGISTER
MOVING OBJECT 2 VIDEO OUTPUT SHIFT REGISTER
JUMPER USED ON TARG
MR16
74LS157
14A
14E
2708 PROM
11D
PROG # HRL11D-1
74LS166
12D
13D
14D
15D
MVID
M2VID
10D
DIP SHUNT
MEMORY DEVICE PERSONALITY SELECTION
MOVING OBJECTS SHIFT REGISTERS LOAD LOGIC
LS20
LS139
LSR4
LSR3
LSR2
LSR1
IMAGE SELECTION LOGIC
(Which Moving Object?)
NOT USED - TARG
32x8 PROM
14H
6331
PROG # STL11A-1
SEBR1
SEBR2
SEBR3
SEBR4
EMIVID
EMZVID
LS00
SM01VDT
SM02VDT
MOVING OBJECTS SHIFT REGISTERS CONTROL LOGIC
PUP4
C27 .1μF
C57 6.8μF
6502 GAME LOGIC PCB

MOVING OBJECT 1
HORZ. COUNTERS



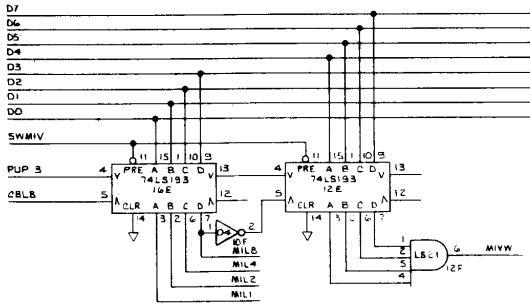
MOVING OBJECT 2
HORZ. COUNTERS



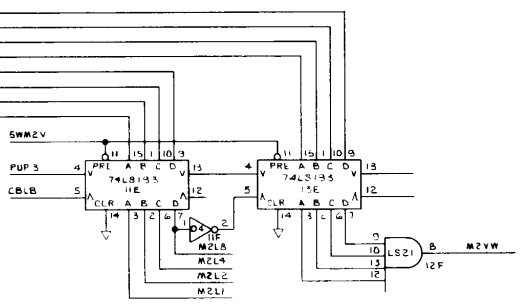
NOTE: FOR "TARG"....

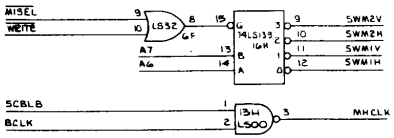
MOVING OBJECT 1 = PLAYER IMAGE (WUMMEL)
MOVING OBJECT 2 = MISSILE

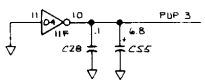
MOVING OBJECT 1
VERTICAL COUNTERS



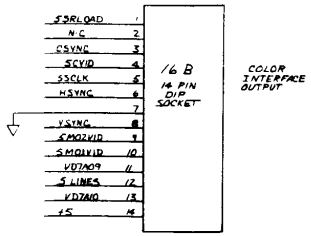
MOVING OBJECT 2
VERTICAL COUNTERS







'WRITE MOVING OBJECT' DECODING

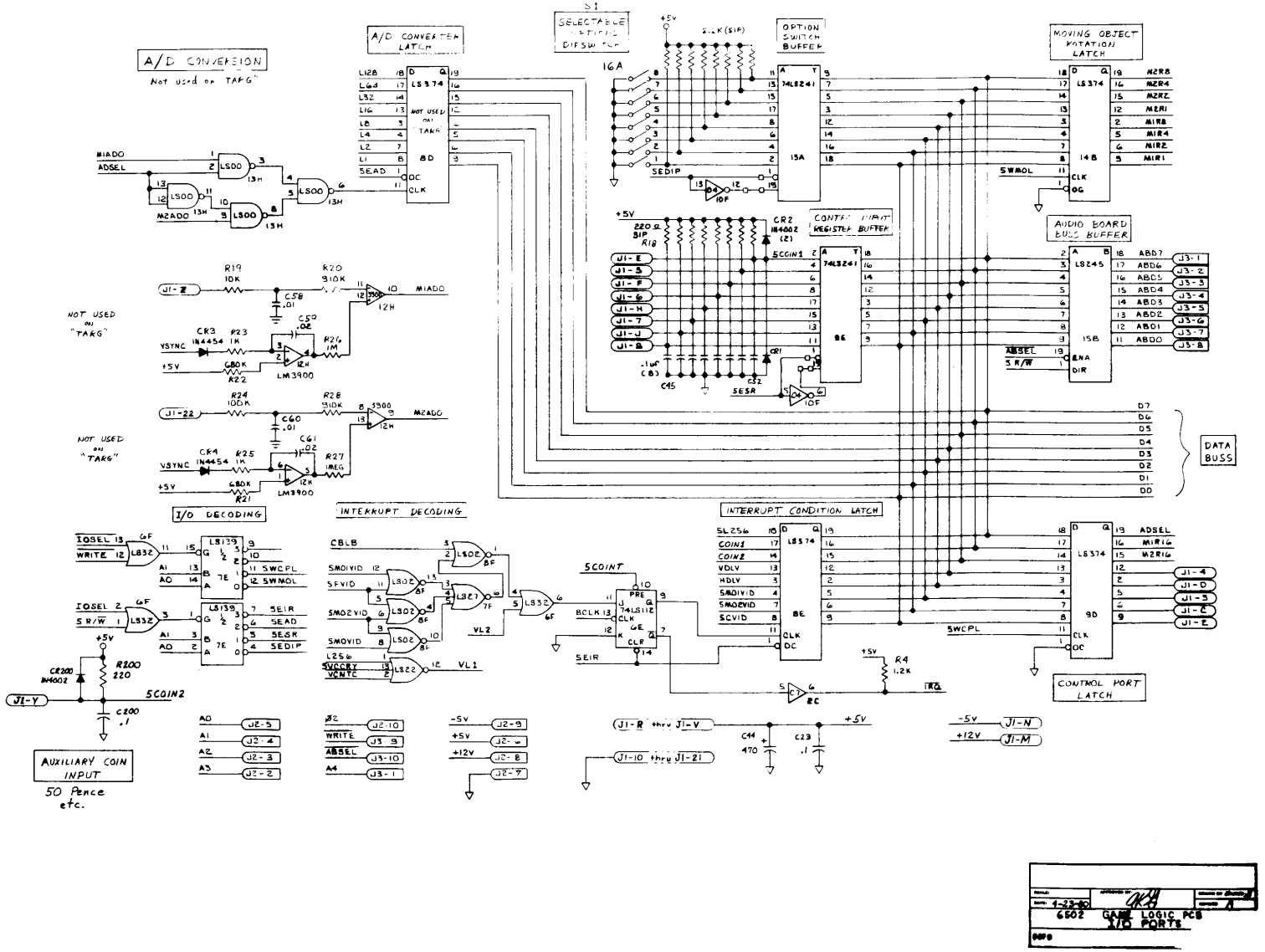


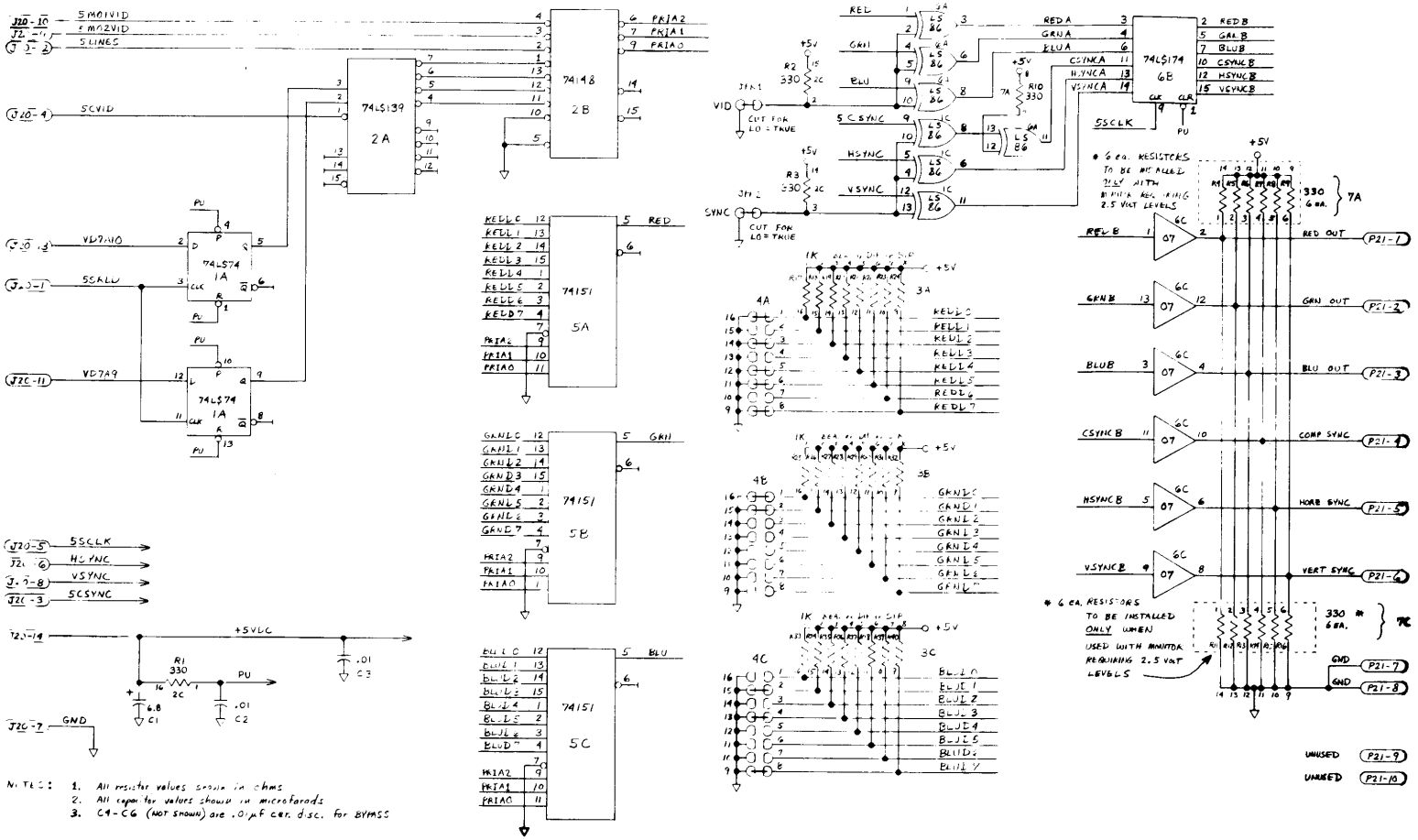
6502 GAME LOGIC PCB

4-23-80

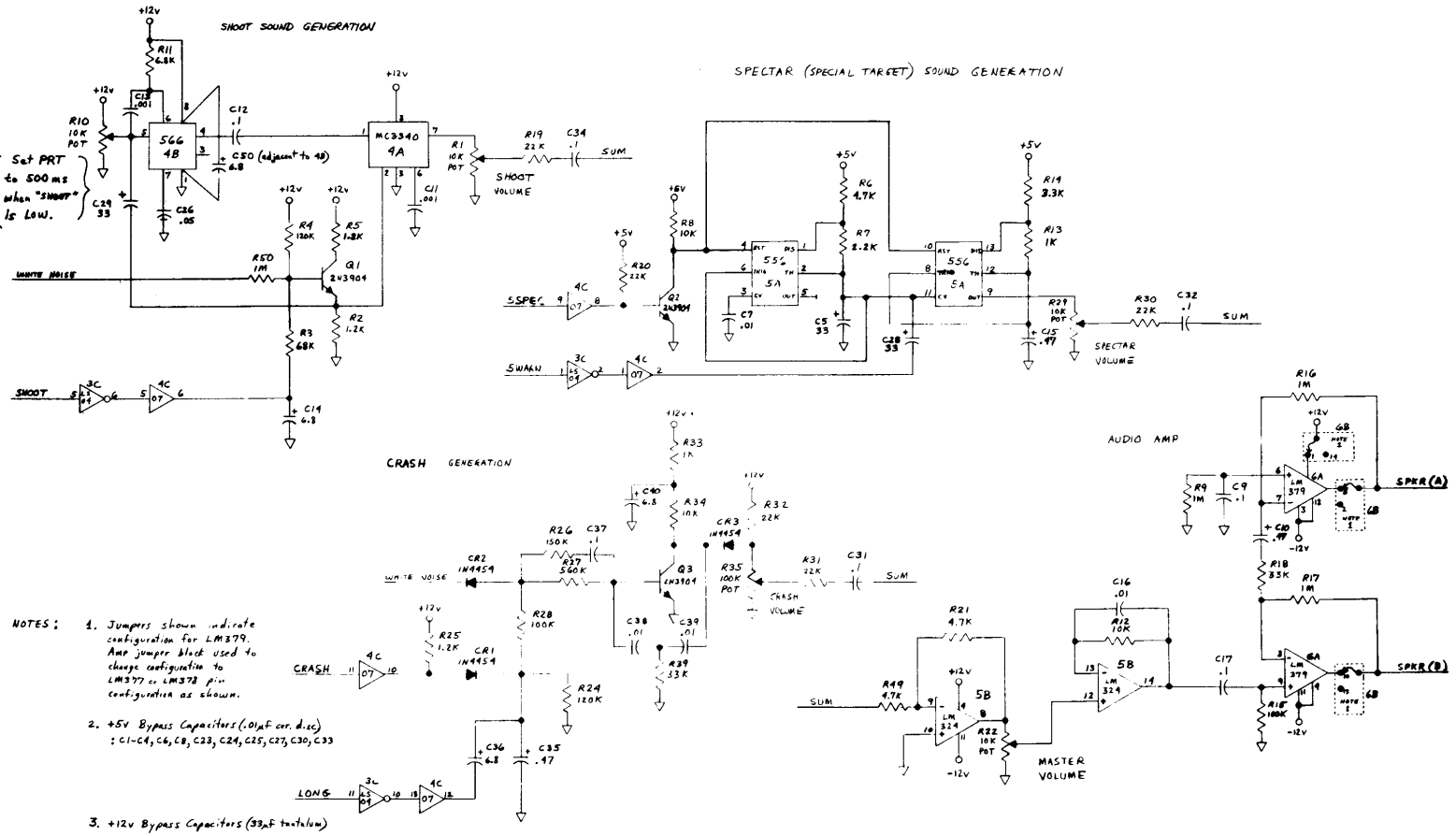
COLOR INTERFACE OUTPUT AND MOVING OBJECT POSITION COUNTERS

6 OF 8


A/D CONVERSION
Not used on "TARG"
A/D CONVERTER LATCH
SELECTABLE STATUS DIPSW PCB
16A
OPTION SWITCH BUFFER
MOVING OBJECT ROTATION LATCH
AUDIO BOARD BUSS BUFFER
CONTROL INPUT REGISTER BUFFER
MIADO
ADSEL
M2ADO
NOT USED on "TARG"
I/O DECODING
INTERRUPT DECODING
INTERRUPT CONDITION LATCH
DATA BUSS
CONTROL PORT LATCH
AUXILIARY COIN INPUT
50 Pence etc.
6502 GAME LOGIC PCB
I/O PORTS



NOTES:
1. All resistor values shown in ohms
2. All capacitor values shown in microfarads
3. C4-C6 (NOT shown) are .01μF cer. disc. for BYMSS

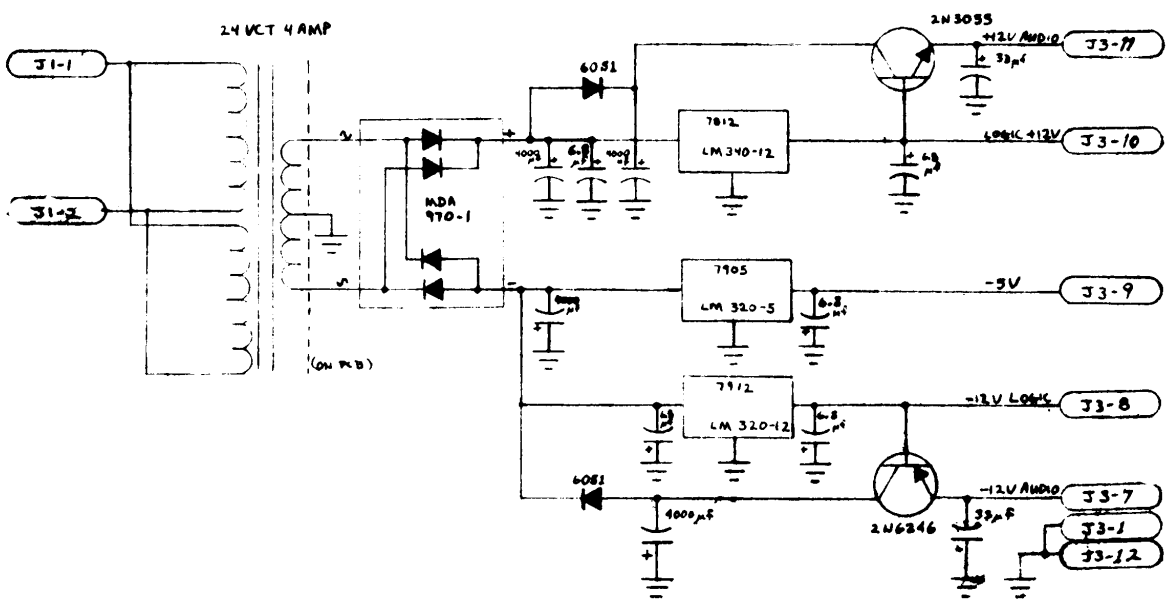


NOTES:

1. Jumpers shown indicate configuration for LM379. Amp jumper block used to change configuration to LM377 or LM378 pin configuration as shown.
2. +5V Bypass Capacitors (.01μF cer. disc) : C1-C4, C6, C8, C23, C24, C25, C27, C30, C33
3. +12V Bypass Capacitors (33μF tantalum) : C19, C20

77-3371-11 REV A0 TARG AUDIO

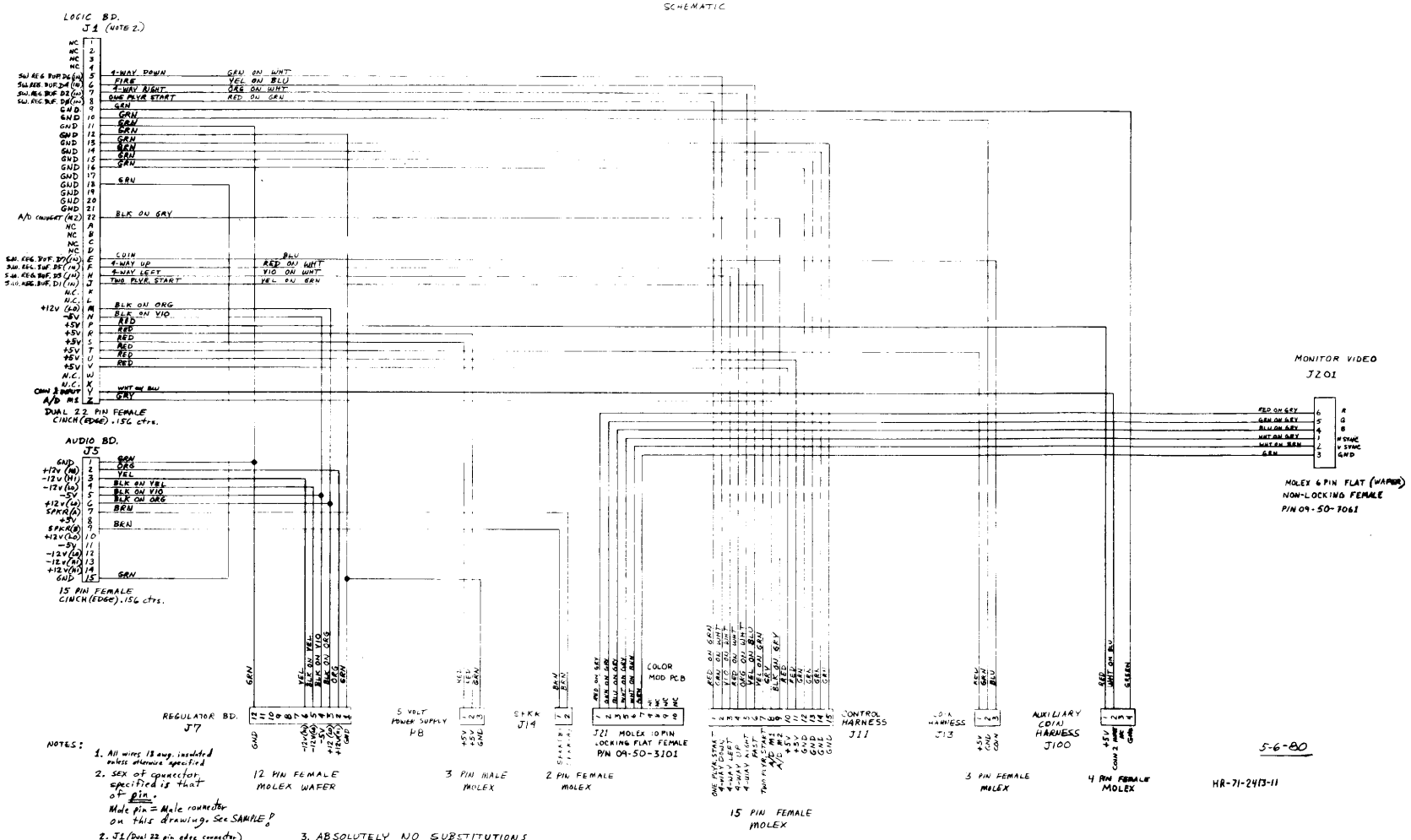
2 of 2



UNIVERSAL POWER SUPPLY SCHEMATIC

+12V Audio & Logic, -12V Audio & Logic, -5V Logic

6502 COLOR MAIN HARNESS
SCHEMATIC



NOTES:

1. All wires 18 awg. insulated unless otherwise specified
2. SEX of connector specified is that of pin.
   Male pin = Male connector on this drawing. See SAMPLE.
   J1 (Dual 22 pin edge connector) must have polarizing key inserted between pins 36.
3. ABSOLUTELY NO SUBSTITUTIONS ON SPECIFIED WIRE COLORS

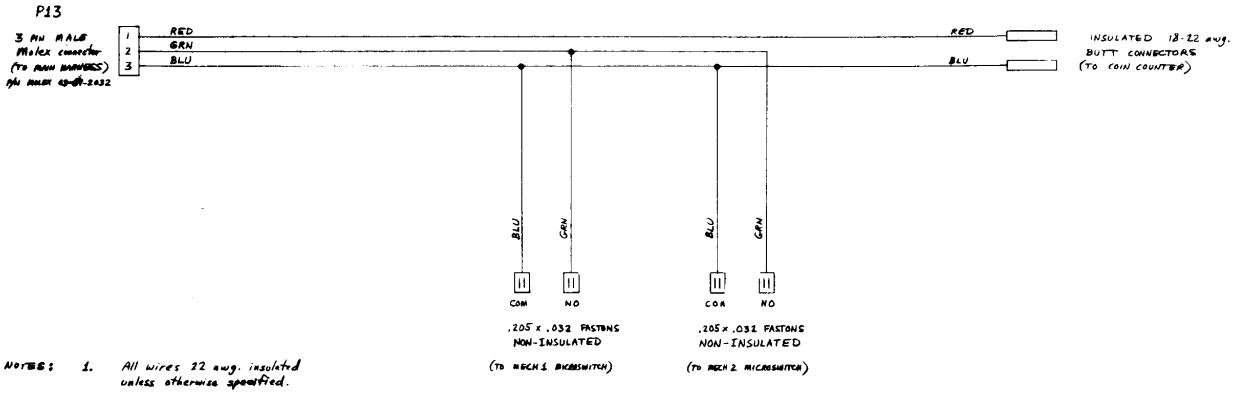
5-6-80

HR-71-2413-11

TARG

COIN HARNESS SCHEMATIC

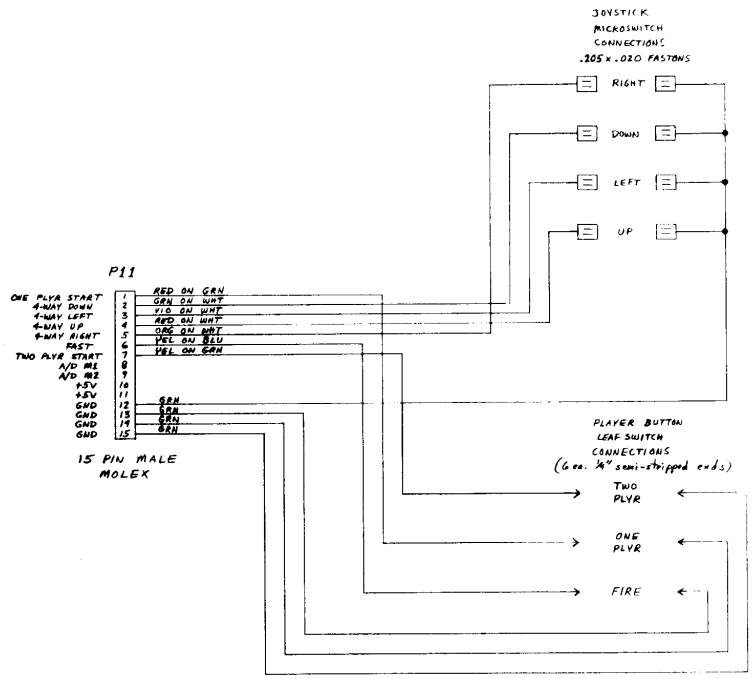
(UNIVERSAL COIN HARNESS)



NOTES:

1. All wires 22 awg. insulated unless otherwise specified.
2. ABSOLUTELY NO SUBSTITUTIONS ON SPECIFIED WIRE COLORS

TARG
CONTROL PANEL HARNESS SCHEMATIC



NOTES:
1. All wires 22 awg. insulated unless otherwise specified.
2. ABSOLUTELY NO SUBSTITUTIONS ON SPECIFIED WIRE COLORS

ST 30-3188