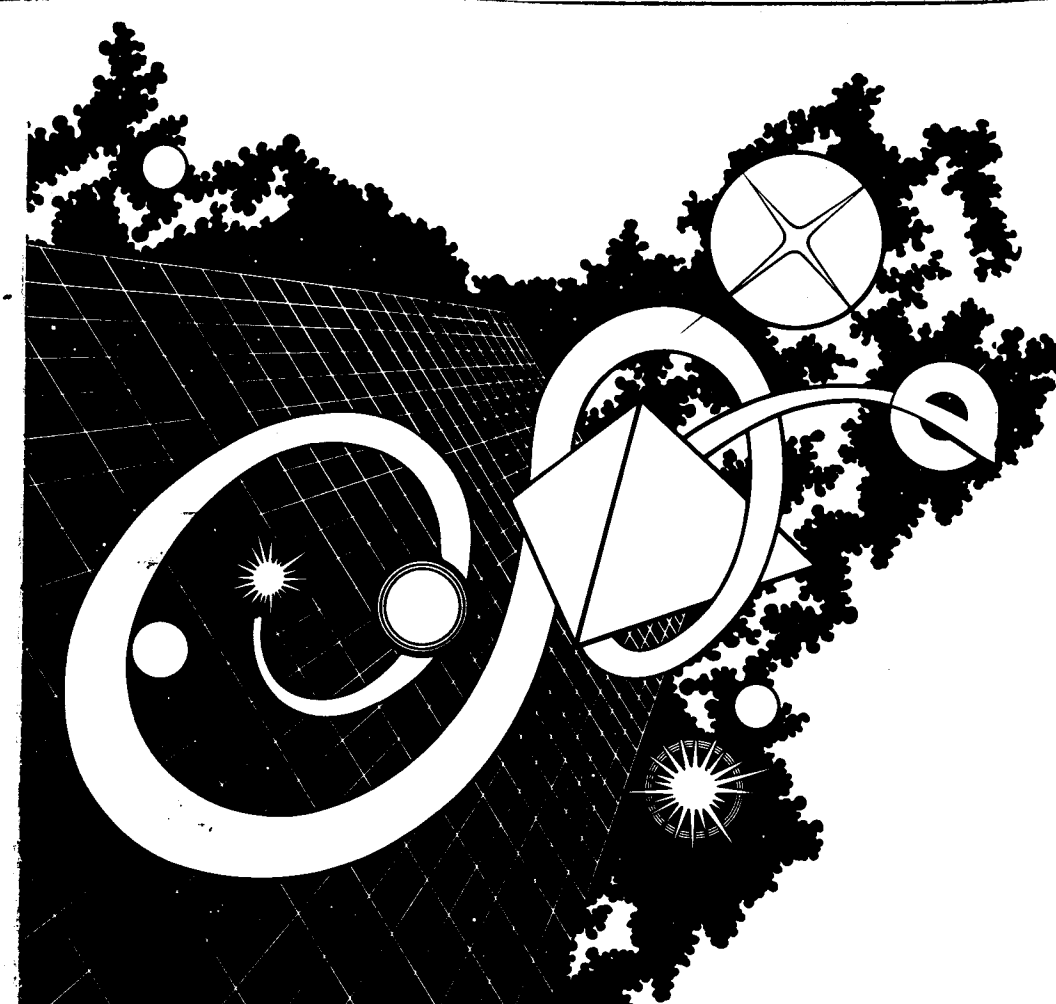


Table of Contents

Sheet 1A	Table of Contents
Sheet 1B	Quantum Main Wiring Diagram (039550-01 A)
Sheet 2A	Regulator/Audio II PCB Schematic Diagram (035435-02 F), Color X-Y Power Supply Wiring Diagram (037394-01 B)
Sheet 2B	Coin-Door Wiring Diagram (A037542-01 D), Utility Panel Wiring Diagram (A038004-01 E), Fluorescent Light Wiring Diagram (035833-01 A), Coupler PCB Schematic (A035220-02 C)
Sheet 3A	Memory Map and Schematic Diagram Notes
Game PCB Schematics (039297-XX A), Sheets 3B—7A	
Sheet 3B	Power Input, Clock, Power-On Reset and Watchdog
Sheet 4A	Microprocessor, Address Bus Buffers, Bidirectional Data Bus Buffers, Address Decoders
Sheet 4B	Program RAM, Data Transfer Acknowledge Generator
Sheet 5A	Program ROM
Sheet 5B	Trak-Ball™ Input, Coin Door and Control Panel Input
Sheet 6A	Non-Volatile Memory, Coin Door and Control Panel Output
Sheet 6B	Vector Memory Arbitrator, Vector Memory, Bidirectional Vector Memory Data Buffers
Sheet 7A	Vector Data Shifters, Op Code and Intensity Latches
Sheet 7B	State Machine, Vector Address Controller
Sheet 8A	Center Flag, Vector Flag, Vector Halt Flag, Normalization Flag, Vector Scaling
Sheet 8B	Vector Timer, Intensity Correction, Z Intensity
Sheet 9A	Color Memory and Output, Audio Output
Sheet 9B	DAC Reference and Bipolar Current Sources, X-Axis Output
Sheet 10A	Y-Axis Output, Adjusting the X- and Y-Axis Video Potentiometers
Display Schematics, Sheets 10B—11B	
Sheet 10B, 11A	Amplifone Color X-Y Display Schematic
Sheet 11B	Wells-Gardner Color X-Y Display Schematic Diagram

NOTE
This staple temporarily holds the schematic package together. Remove the staple before using these schematics.



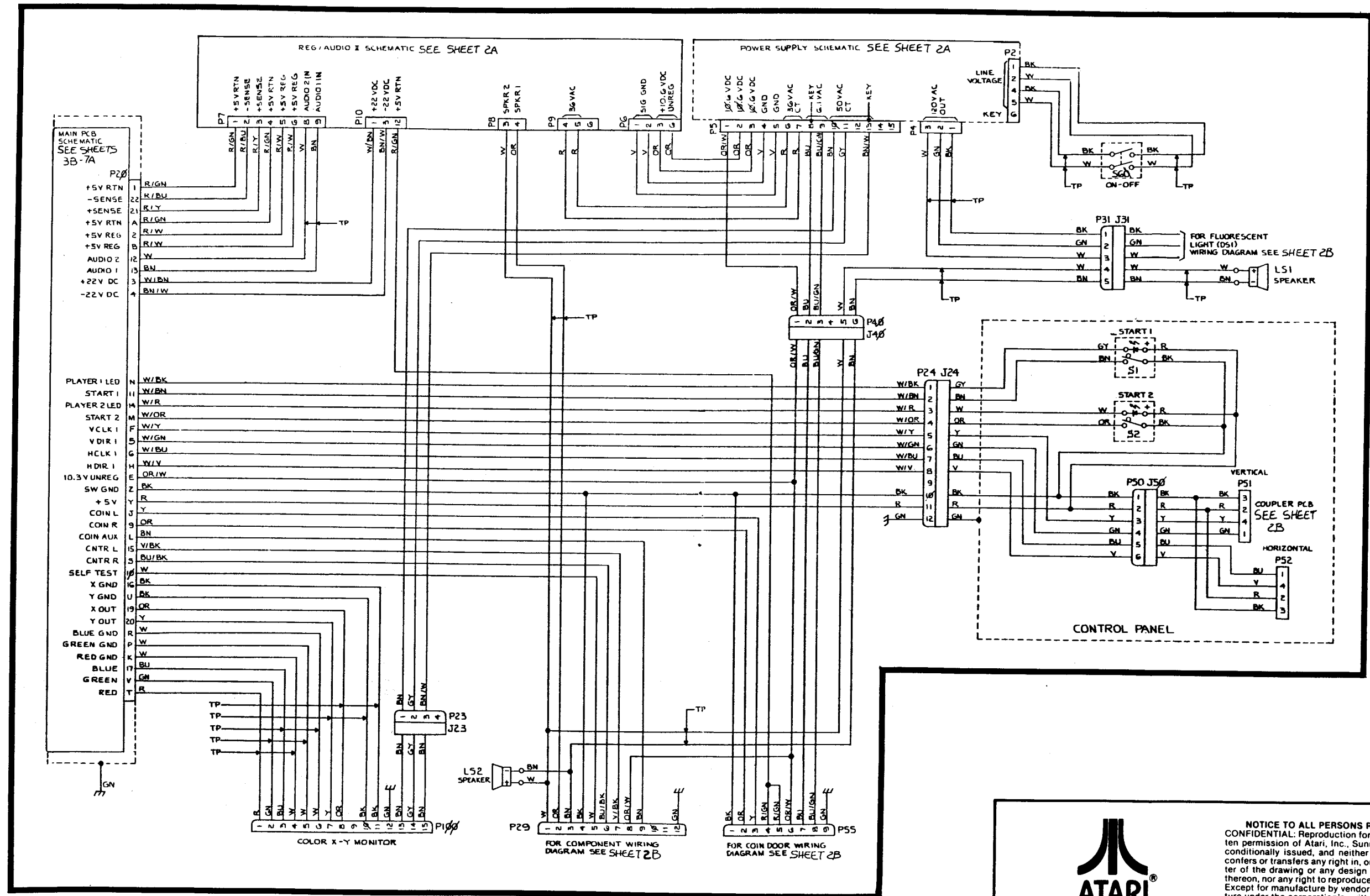
Schematic Package Supplement to



Operation, Maintenance, and Service Manual

12L

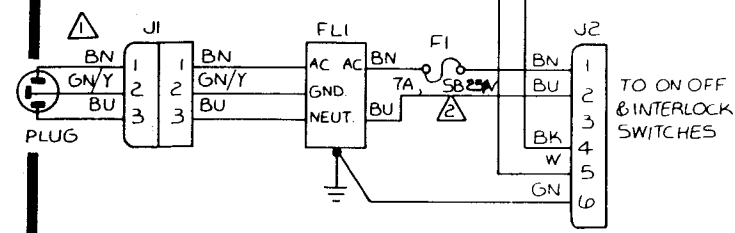
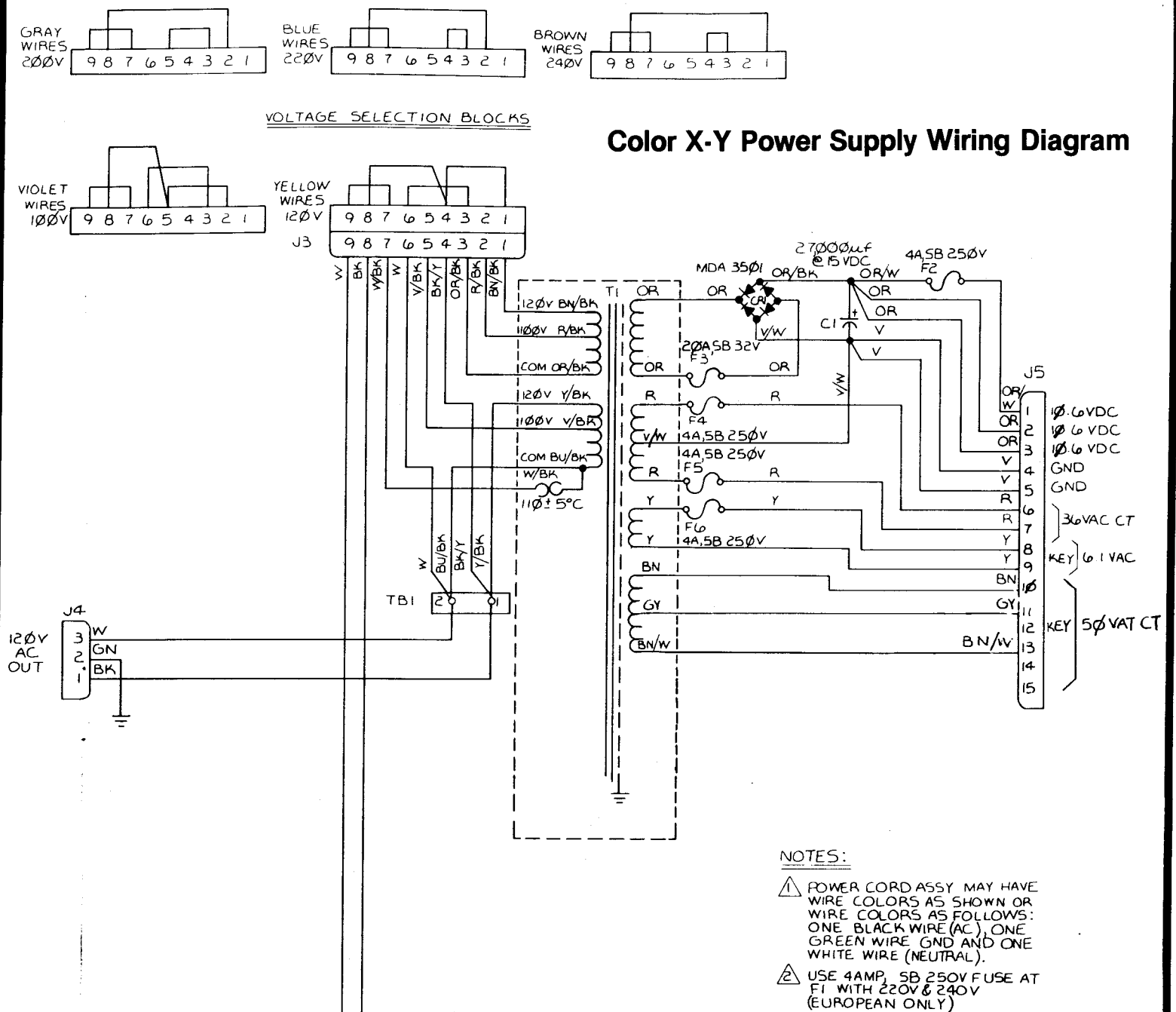
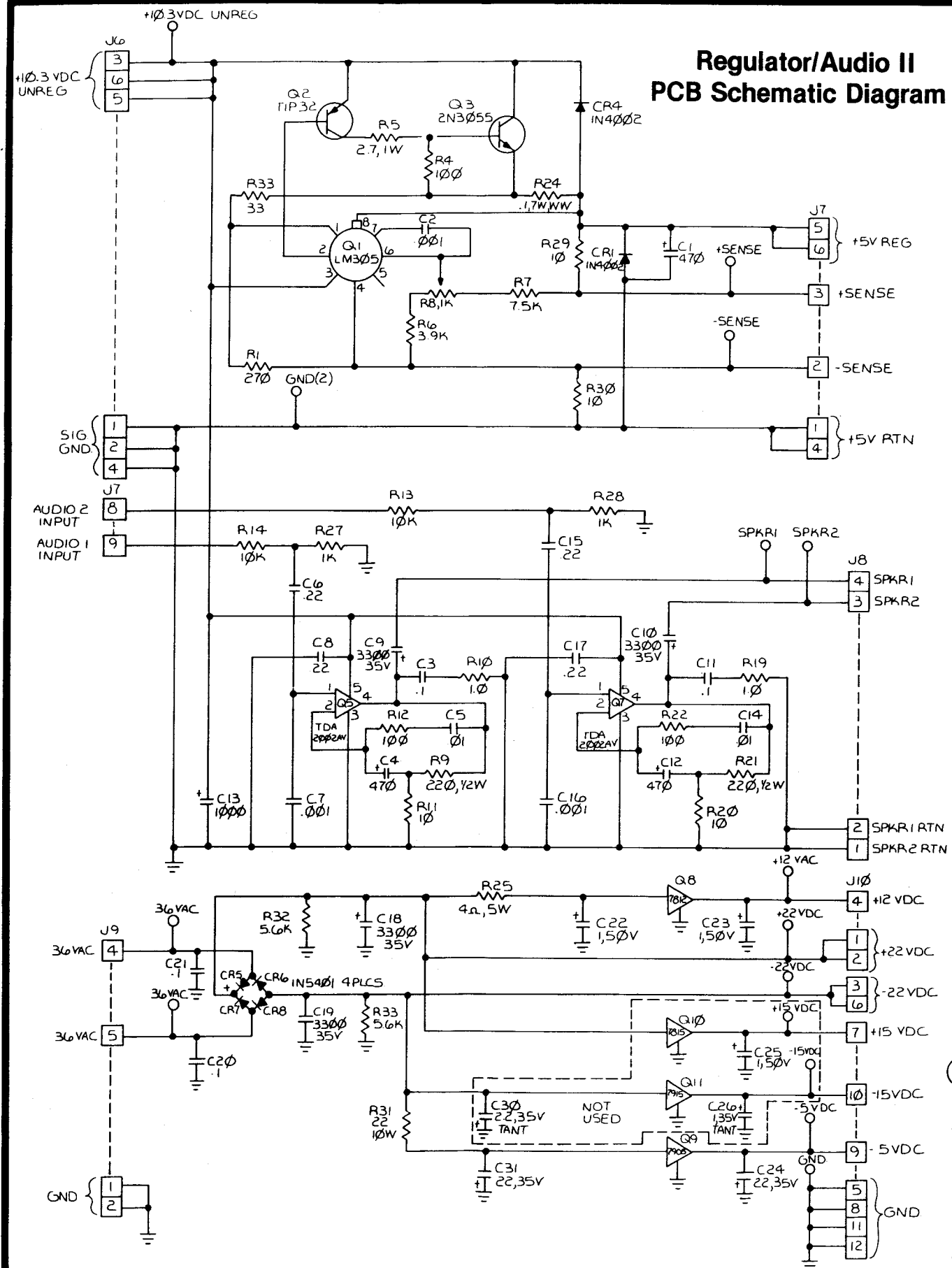
© ATARI INC., 1982



Quantum™ Main Wiring Diagram

© ATARI INC., 1982
 A Warner Communications Company

SP-221 Sheet 1B
 1st Printing



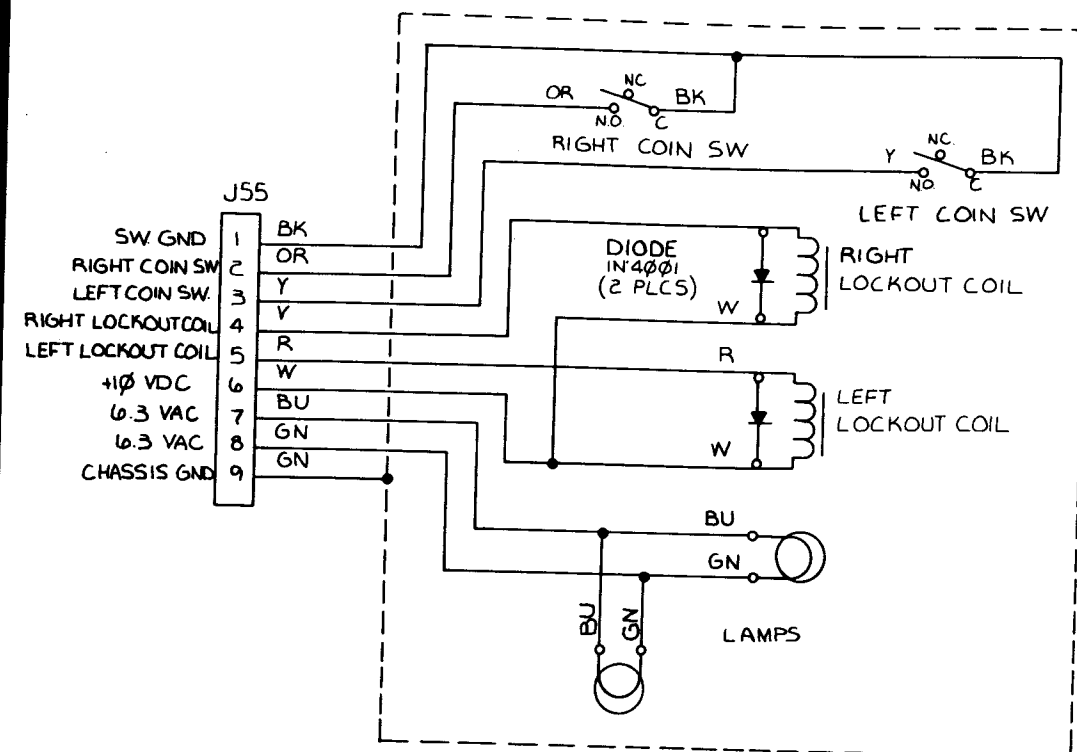
**Quantum™ Reg./Audio II PCB
and Power Supply Diagrams**

© ATARI INC., 1982
A Warner Communications Company

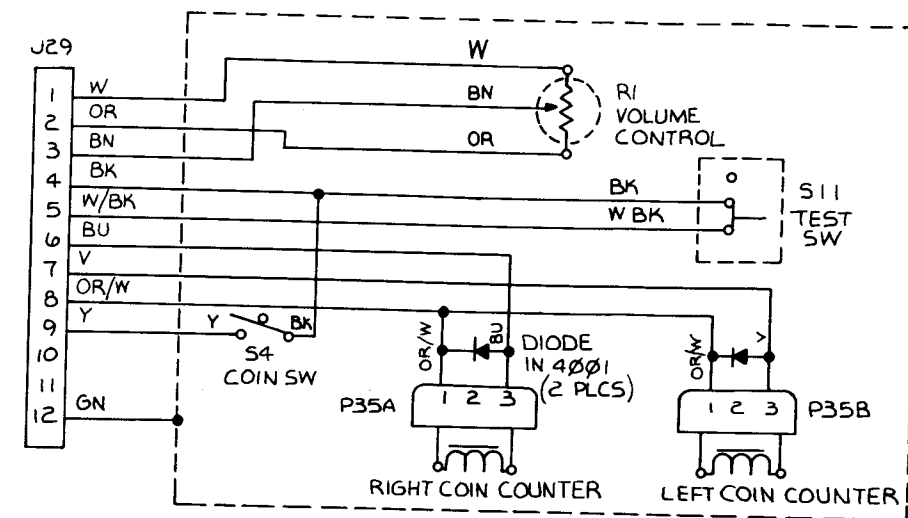
NOTICE TO ALL PERSONS RECEIVING THIS DRAWING
CONFIDENTIAL: Reproduction forbidden without the specific written permission of Atari, Inc., Sunnyvale, CA. This drawing is only conditionally issued, and neither receipt nor possession thereof confers or transfers any right in, or license to use, the subject matter of the drawing or any design or technical information shown thereon, nor any right to reproduce this drawing or any part thereof. Except for manufacture by vendors of Atari, Inc., and for manufacture under the corporation's written license, no right is granted to reproduce this drawing or the subject matter thereof, unless by written agreement with or written permission from the corporation.

SP-221 Sheet 2A
1st Printing

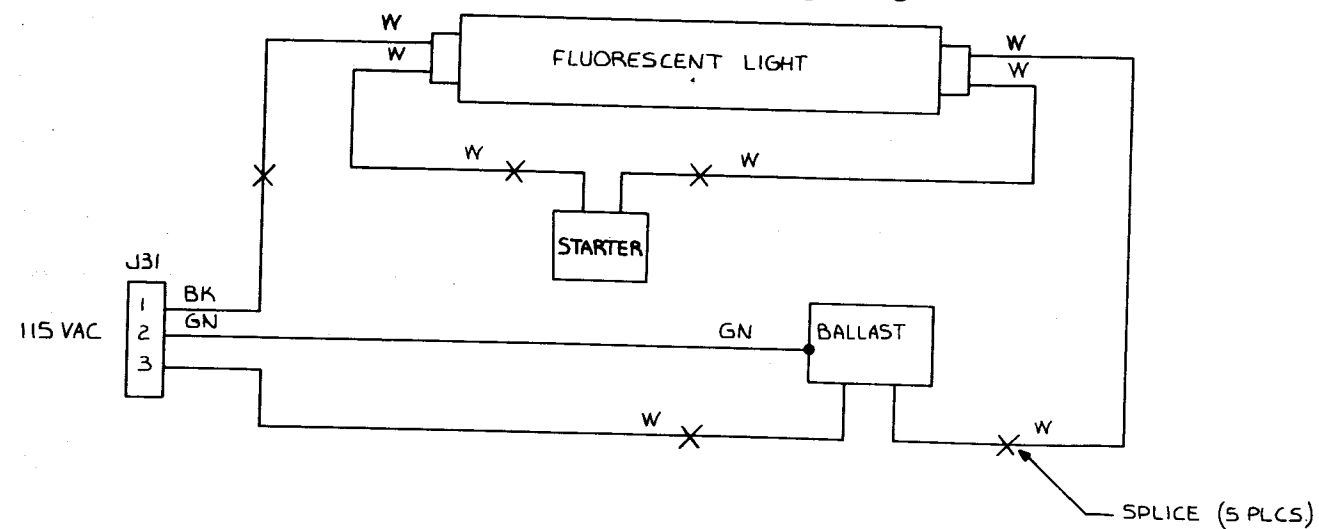
Coin-Door Wiring Diagram



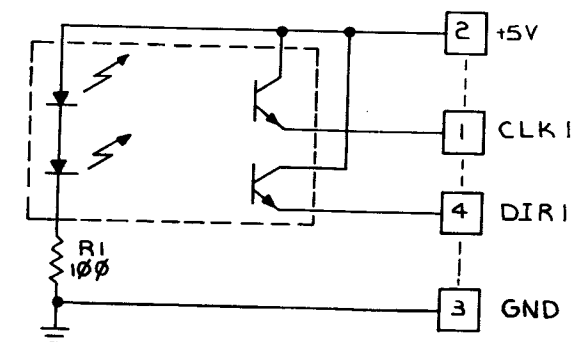
Utility Panel Wiring Diagram



Fluorescent Light Wiring Diagram



Coupler PCB Schematic



NOTICE TO ALL PERSONS RECEIVING THIS DRAWING
 CONFIDENTIAL: Reproduction forbidden without the specific written permission of Atari, Inc., Sunnyvale, CA. This drawing is only conditionally issued, and neither receipt nor possession thereof confers or transfers any right in, or license to use, the subject matter of the drawing or any design or technical information shown thereon, nor any right to reproduce this drawing or any part thereof. Except for manufacture by vendors of Atari, Inc., and for manufacture under the corporation's written license, no right is granted to reproduce this drawing or the subject matter thereof, unless by written agreement with or written permission from the corporation.

Quantum™ Game Wiring Interfaces

© ATARI INC., 1982

A Warner Communications Company

SP-221 Sheet 2B
 1st Printing

MEMORY MAP

HEXIDECIMAL ADDRESS	FUNCTION
000000 - 003FFF	ROM0
004000 - 004FFF	ROM1
008000 - 00BFFF	ROM2
00C000 - 00FFFF	ROM3
010000 - 013FFF	ROM4
018000 - 01BFFF	RAM0
01C000 - 01CFFF	RAM1
940000	TRACKBALL
948000	SWITCHES
950000	COLORAM
958000	CONTROL
960000 - 970000	RECALL
968000	VGRST
970000	VGG0
978000	WDCLR
900000	NVRAM
840000	I/O S
800000 - 801FFF	V MEM
940000	I/O
900000	DTACK1

Schematic Reference Designators and Symbols

Logic symbols depict the logic function performed by that particular device and may differ from the manufacturer's data.

REFERENCE DESIGNATORS:

C	Capacitor
CR	Diode, signal or rectifier
F	Fuse
J	Connector
L	Inductor, fixed or variable
LS	Speaker
P	Connector
Q	Transistor or silicon-controlled rectifier
R	Resistor, fixed or variable
S	Switch
T	Transformer
TP	Twisted wire pair
VR	Voltage regulator
Y	Crystal

WIRE COLORS:

R	Red
GN	Green
Y	Yellow
W	White
BU	Blue
BN	Brown
BK	Black
OR	Orange
V	Violet
GY	Gray

Electrical components shown on the schematic diagrams are in the following units unless otherwise noted:

Capacitors = microfarads (μf)
 Resistors = ohms (Ω)
 Inductors = microhenrys (μh)

SYMBOLS:



Ground



PCB edge connector pad



Test Point



PCB test connector pad



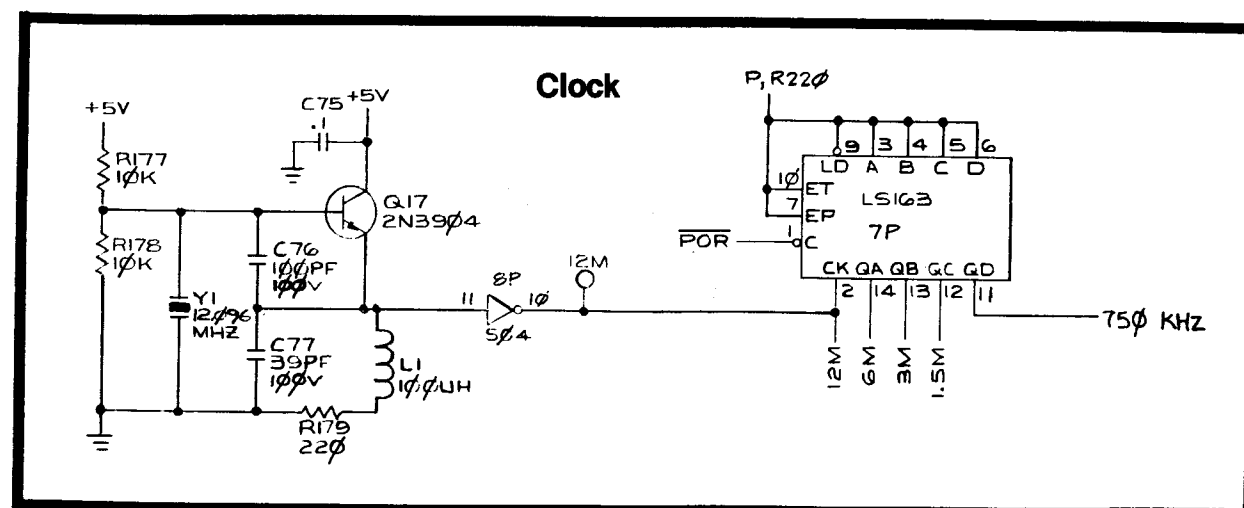
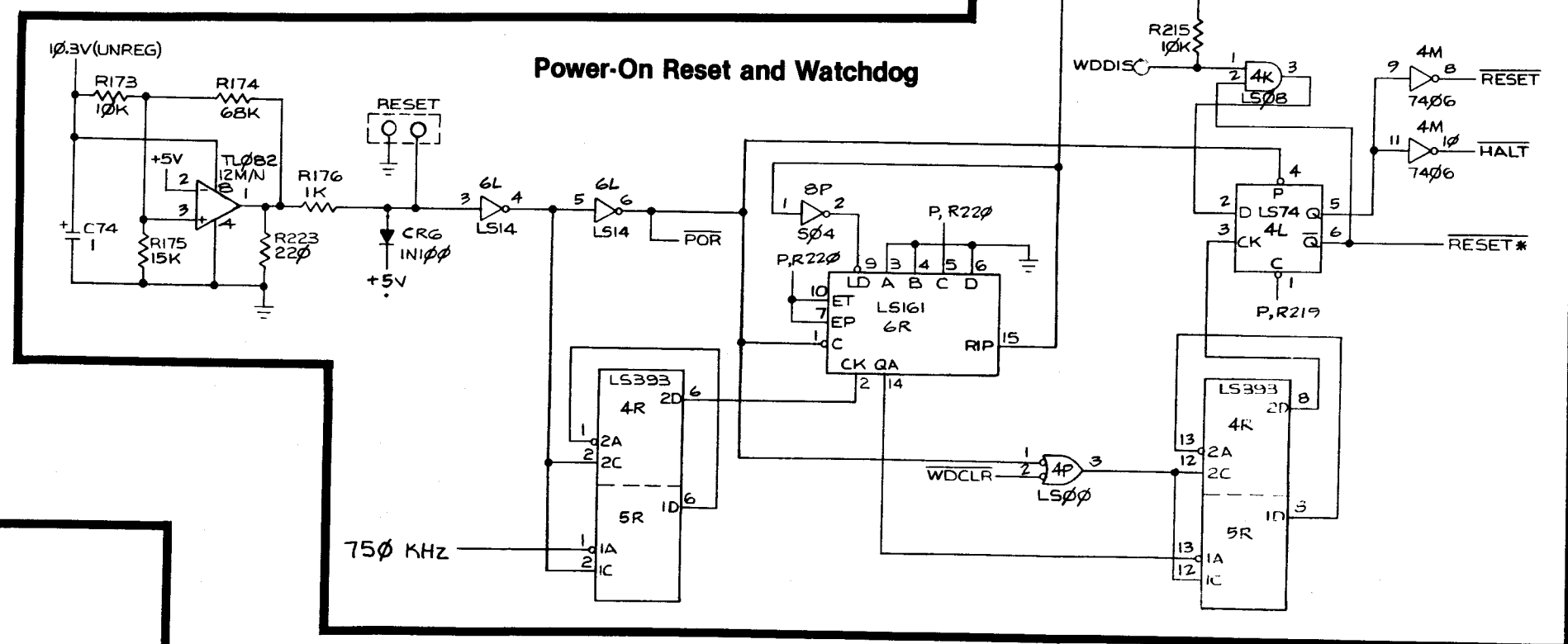
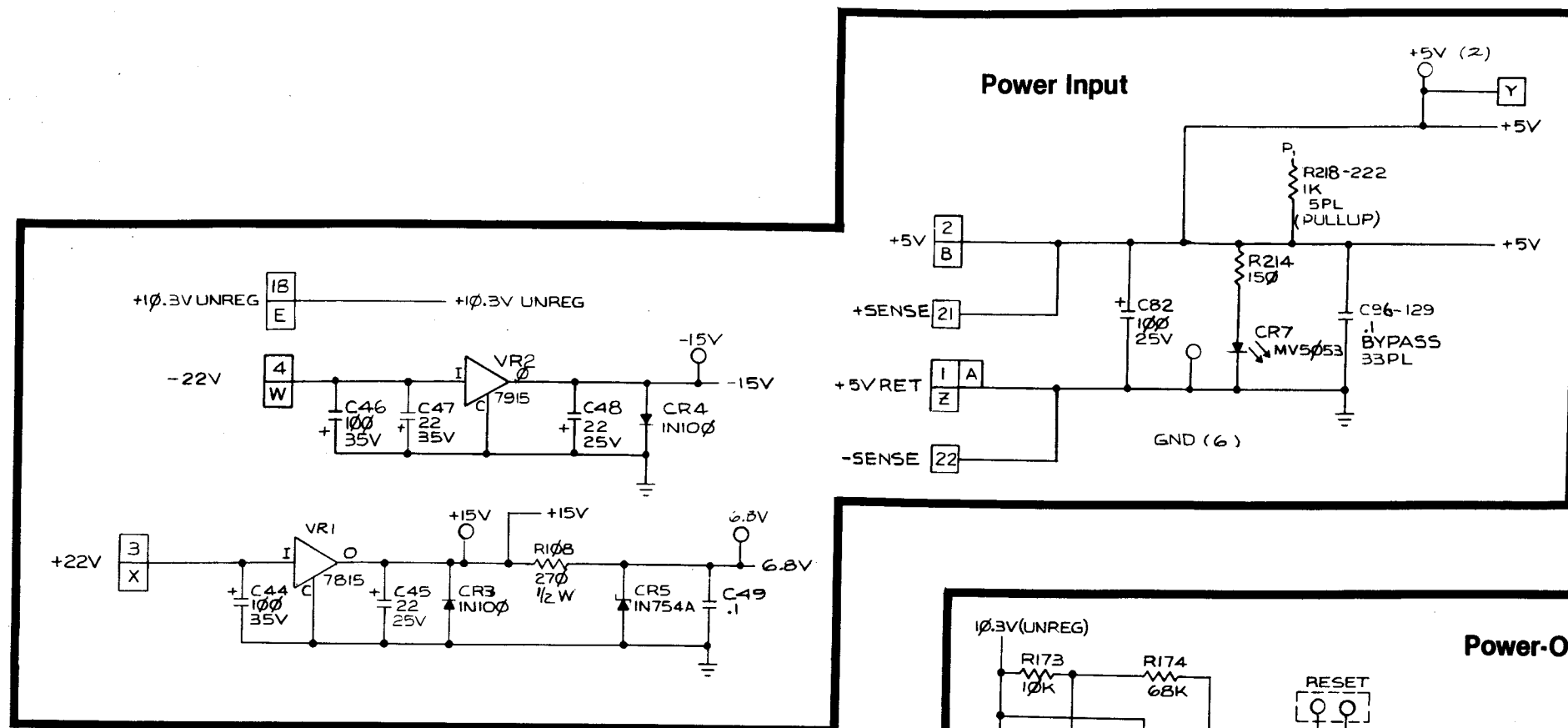
NOTICE TO ALL PERSONS RECEIVING THIS DRAWING
 CONFIDENTIAL: Reproduction forbidden without the specific written permission of Atari, Inc., Sunnyvale, CA. This drawing is only conditionally issued, and neither receipt nor possession thereof confers or transfers any right in, or license to use, the subject matter of the drawing or any design or technical information shown thereon, nor any right to reproduce this drawing or any part thereof. Except for manufacture by vendors of Atari, Inc., and for manufacture under the corporation's written license, no right is granted to reproduce this drawing or the subject matter thereof, unless by written agreement with or written permission from the corporation.

Quantum™ Memory Map and Schematic Notes

© ATARI INC., 1982

A Warner Communications Company

SP-221 Sheet 3A
 1st Printing



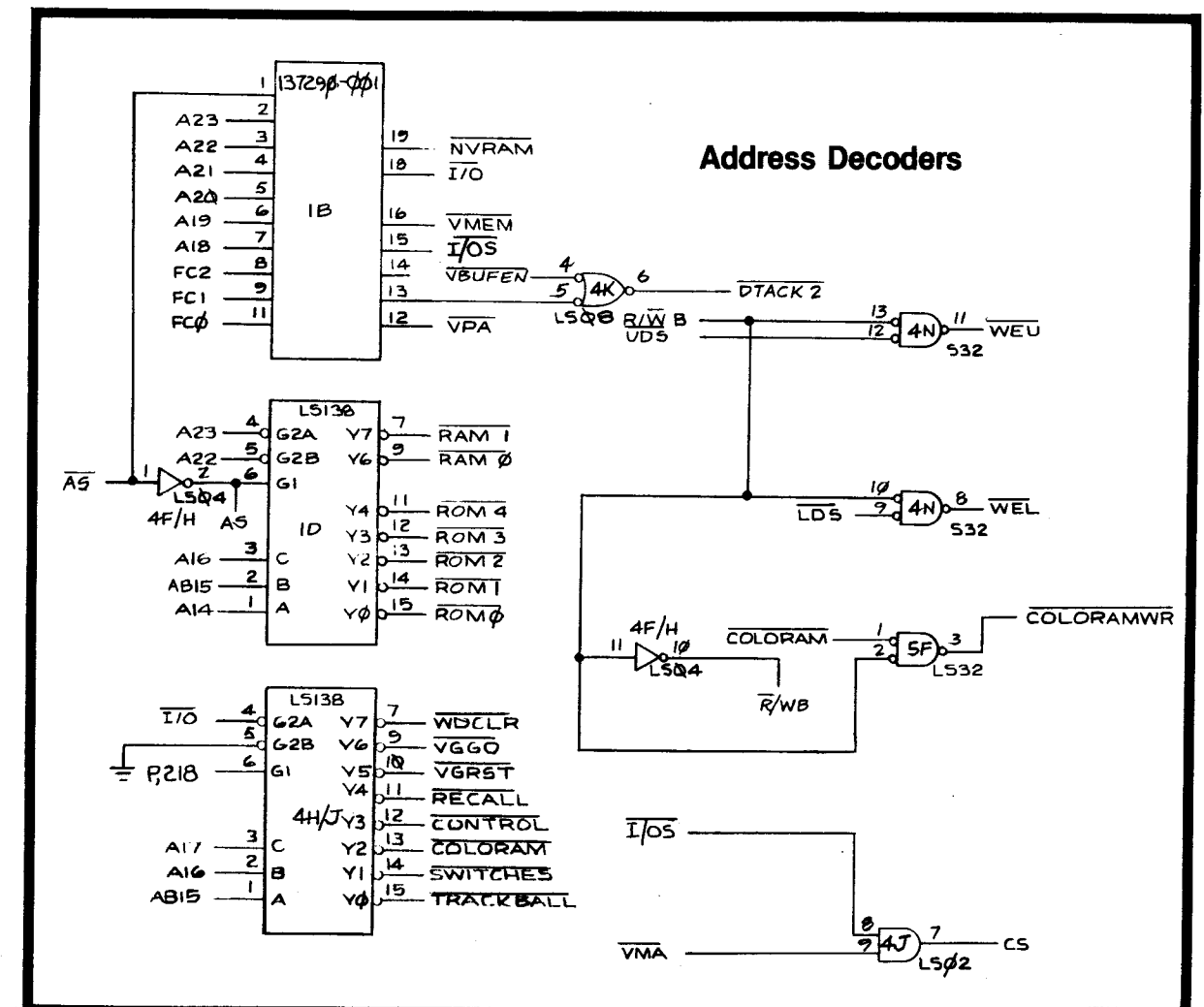
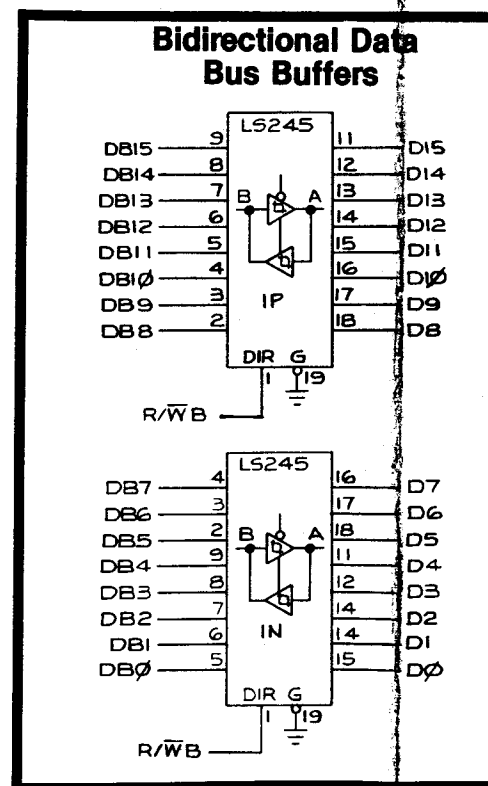
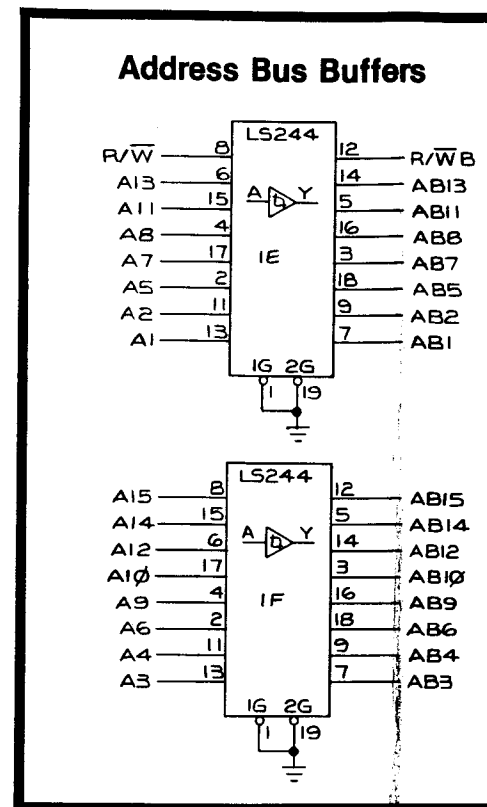
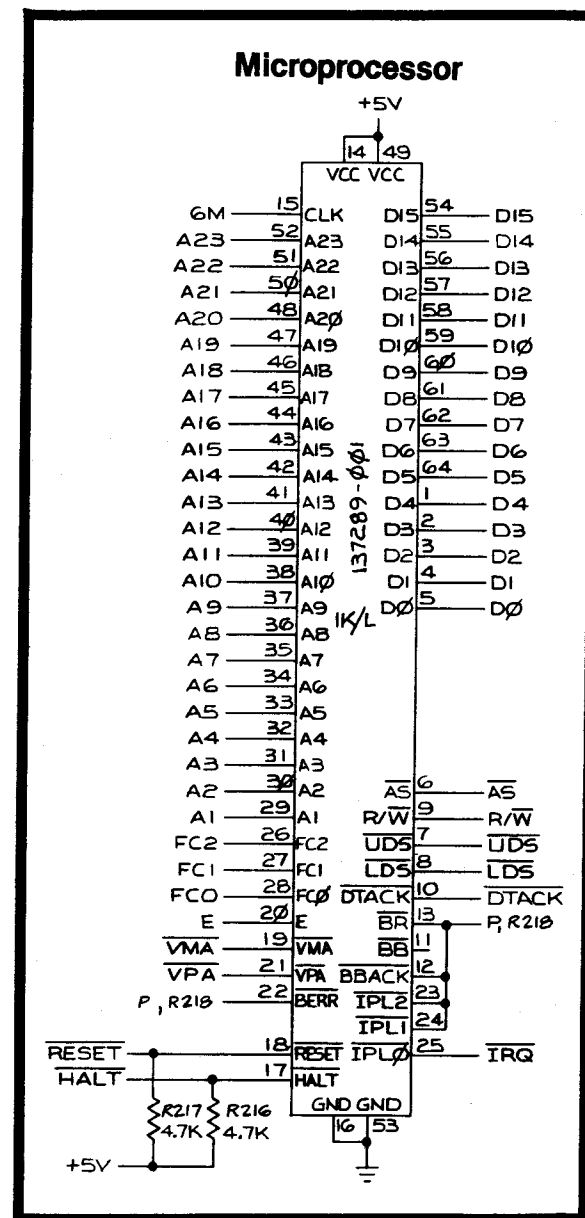
NOTICE TO ALL PERSONS RECEIVING THIS DRAWING
 CONFIDENTIAL: Reproduction forbidden without the specific written permission of Atari, Inc., Sunnyvale, CA. This drawing is only conditionally issued, and neither receipt nor possession thereof confers or transfers any right in, or license to use, the subject matter of the drawing or any design or technical information shown thereon, nor any right to reproduce this drawing or any part thereof. Except for manufacture by vendors of Atari, Inc., and for manufacture under the corporation's written license, no right is granted to reproduce this drawing or the subject matter thereof, unless by written agreement with or written permission from the corporation.

Quantum™ PCB Schematic Diagram

© ATARI INC., 1982

A Warner Communications Company

SP-221 Sheet 3B
 1st Printing

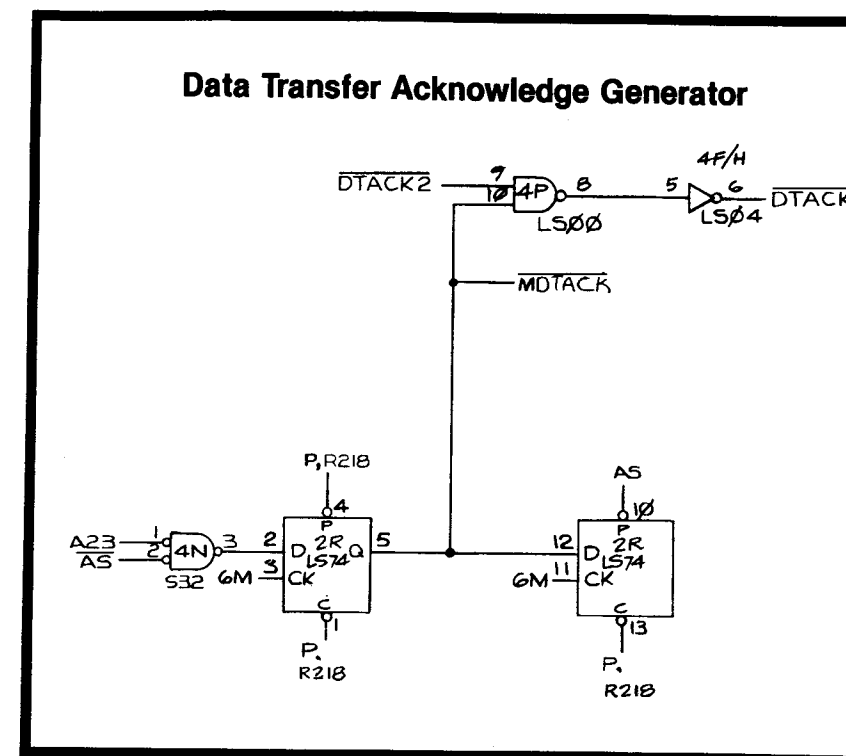
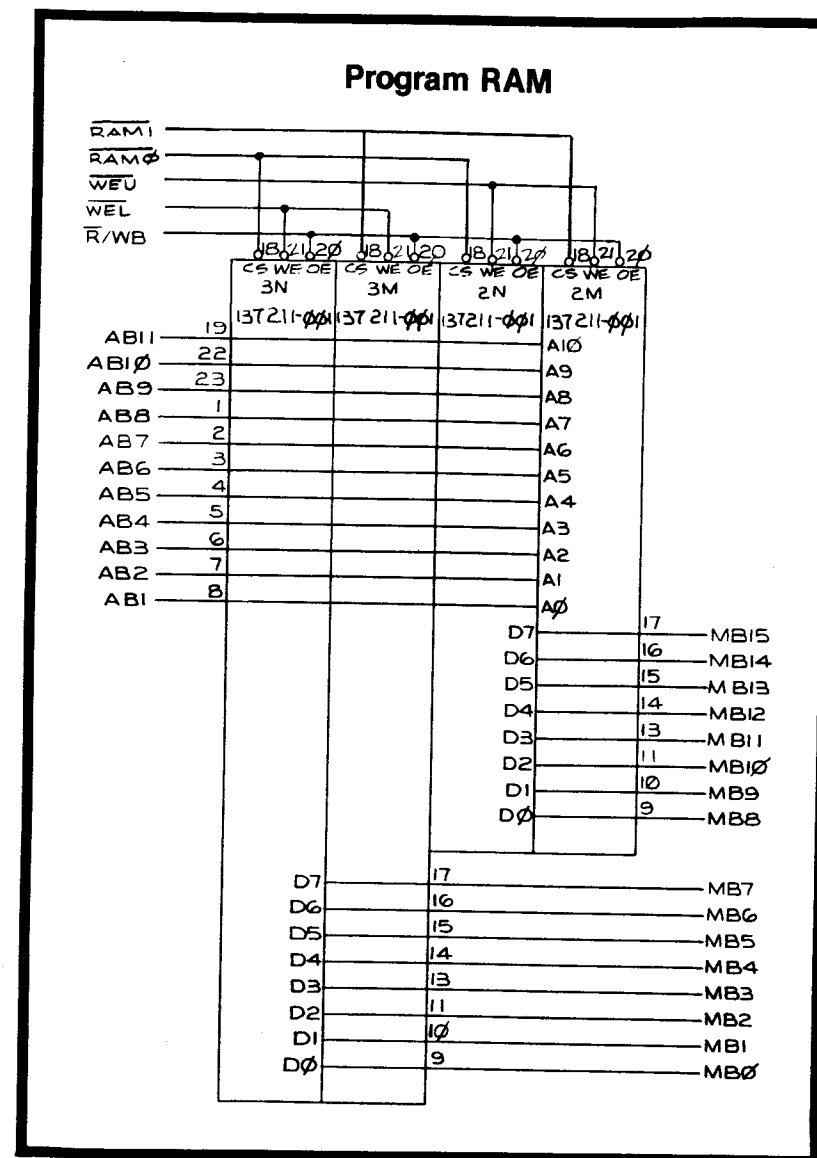


NOTICE TO ALL PERSONS RECEIVING THIS DRAWING
CONFIDENTIAL: Reproduction forbidden without the specific written permission of Atari, Inc., Sunnyvale, CA. This drawing is only conditionally issued, and neither receipt nor possession thereof confers or transfers any right in, or license to use, the subject matter of the drawing or any design or technical information shown thereon, nor any right to reproduce this drawing or any part thereof. Except for manufacture by vendors of Atari, Inc., and for manufacture under license with written permission, no right is granted to reproduce this drawing or the subject matter thereof, unless by written agreement with or written permission from the corporation.

Quantum™ PCB Schematic Diagram

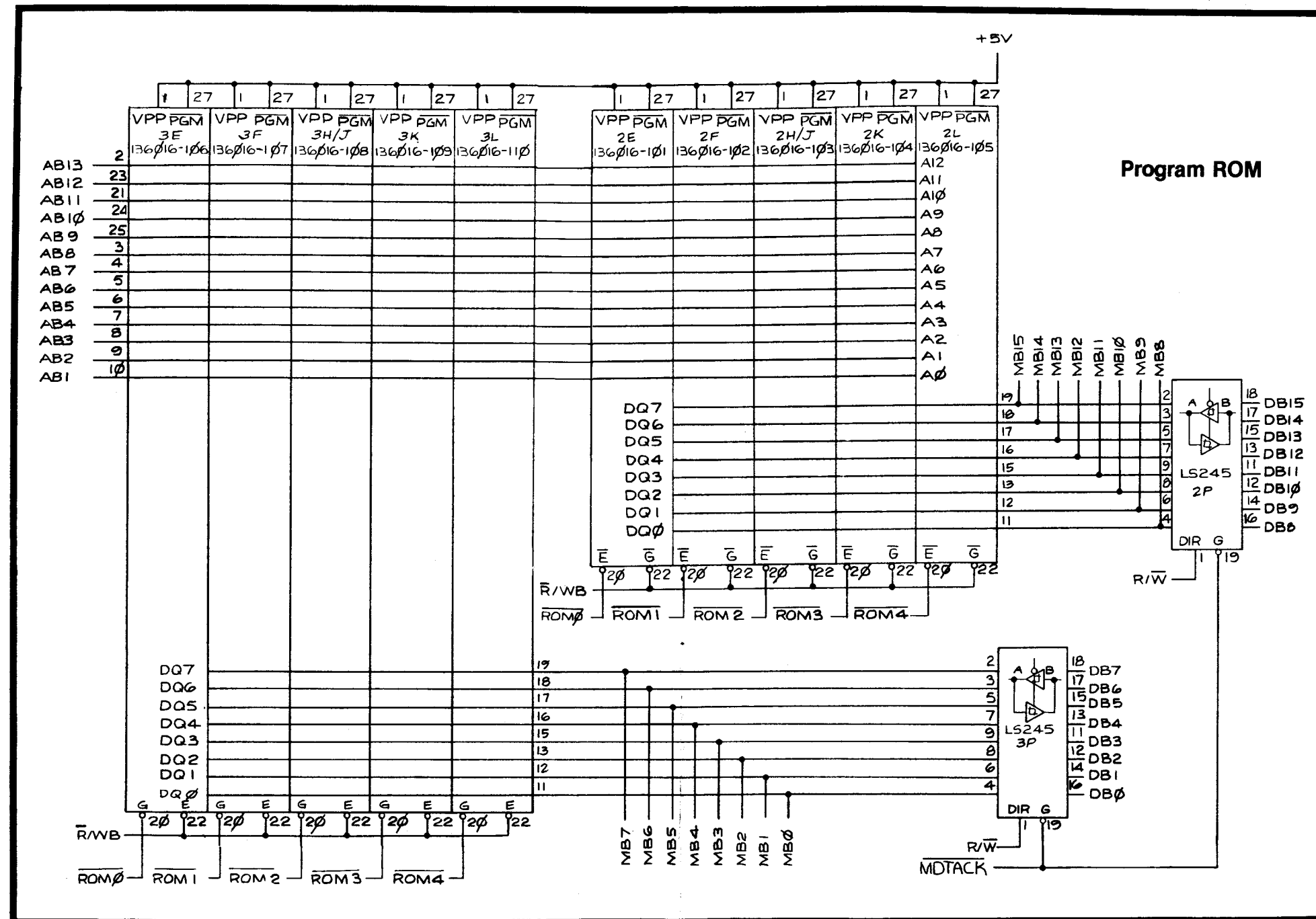
© ATARI INC., 1982
A Warner Communications Company

SP-221 Sheet 4A
1st Printing



NOTICE TO ALL PERSONS RECEIVING THIS DRAWING
 CONFIDENTIAL: Reproduction forbidden without the specific written permission of Atari, Inc., Sunnyvale, CA. This drawing is only conditionally issued, and neither receipt nor possession thereof confers or transfers any right in, or license to use, the subject matter of the drawing or any design or technical information shown thereon, nor any right to reproduce this drawing or any part thereof. Except for manufacture by vendors of Atari, Inc., and for manufacture under the corporation's written license, no right is granted to reproduce this drawing or the subject matter thereof, unless by written agreement with or written permission from the corporation.

Quantum™ PCB Schematic Diagram

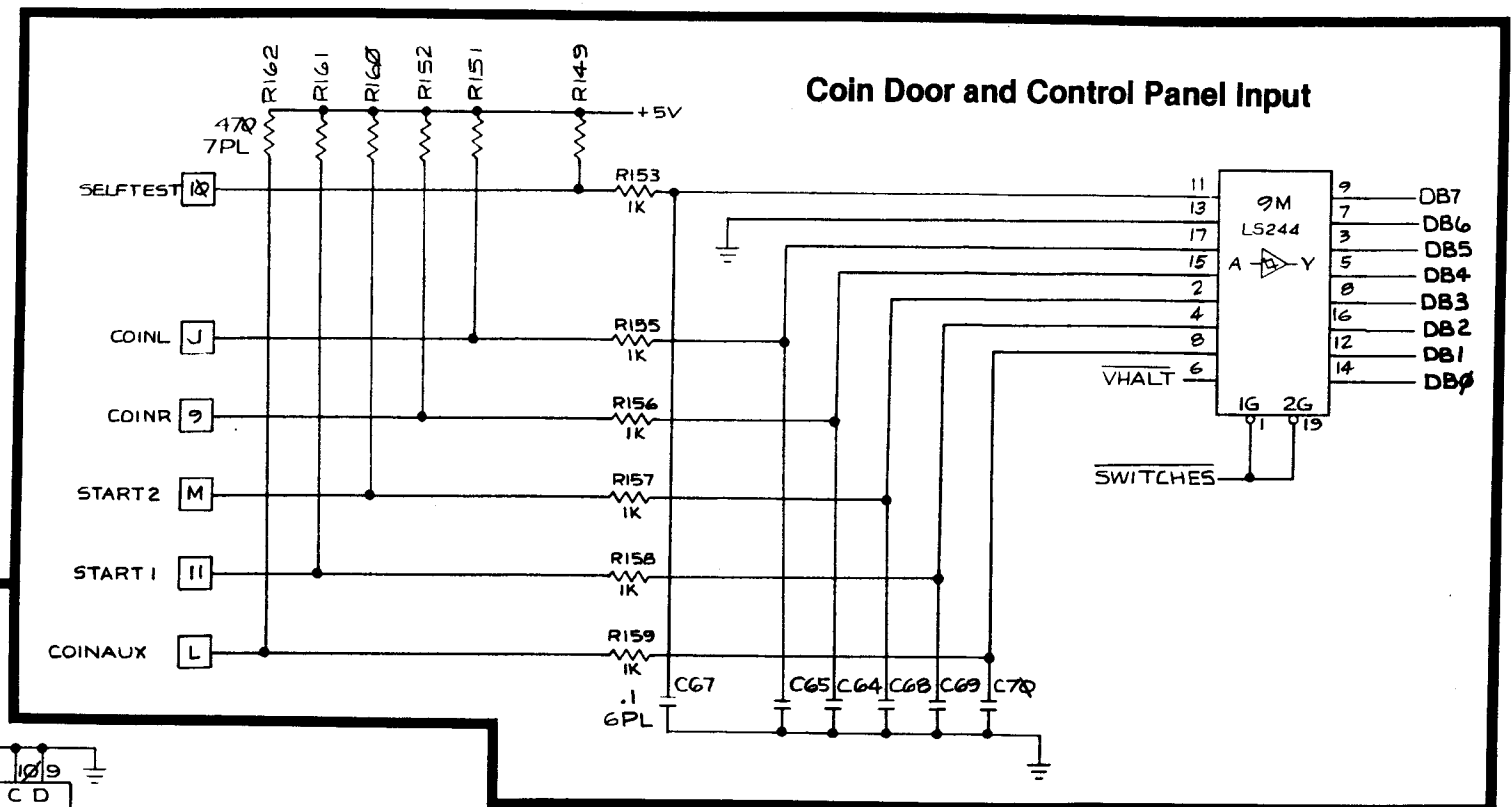
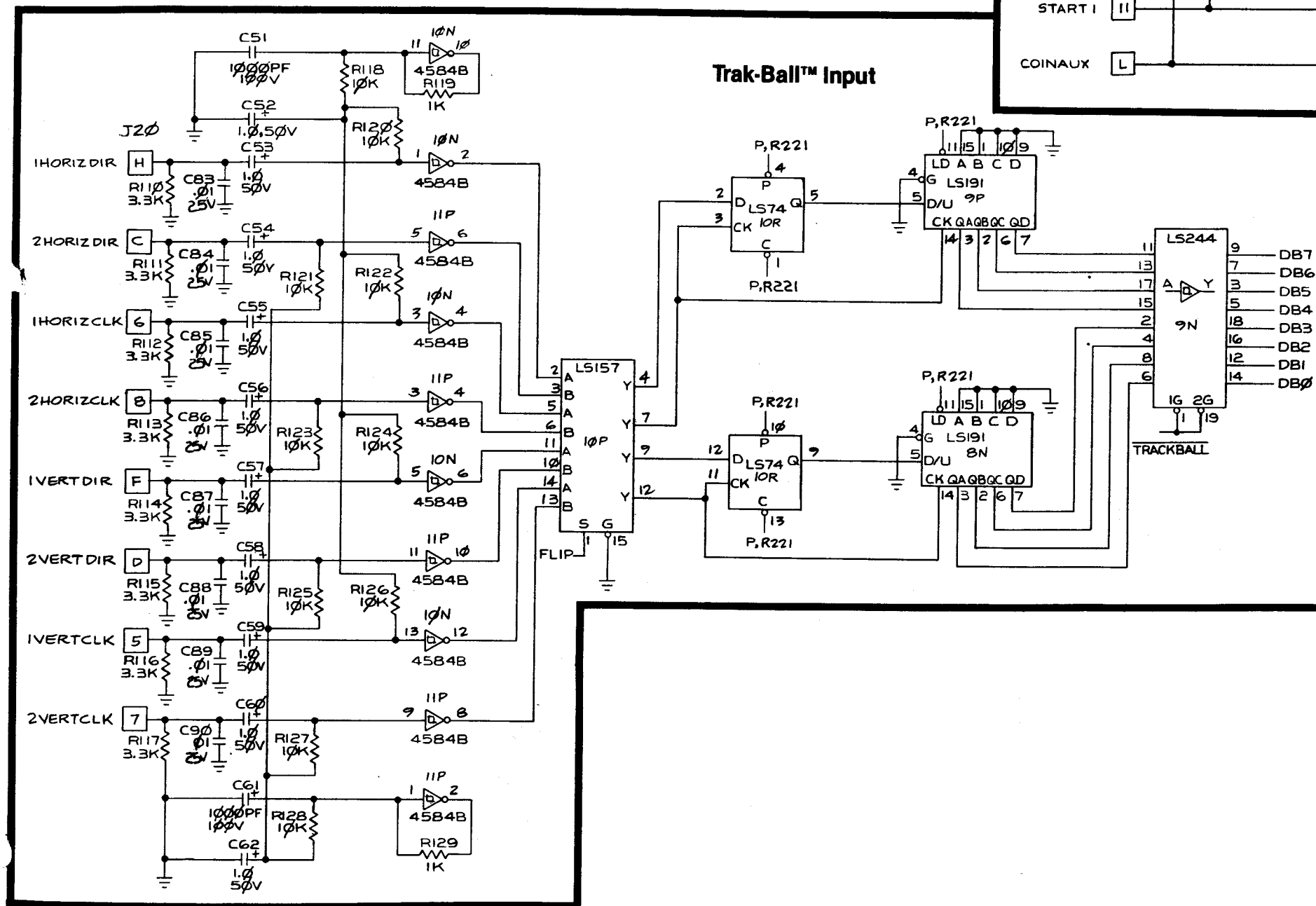


NOTICE TO ALL PERSONS RECEIVING THIS DRAWING
 CONFIDENTIAL: Reproduction forbidden without the specific written permission of Atari, Inc., Sunnyvale, CA. This drawing is only conditionally issued, and neither receipt nor possession thereof confers or transfers any right in, or license to use, the subject matter of the drawing or any design or technical information shown thereon, nor any right to reproduce this drawing or any part thereof. Except for manufacture by vendors of Atari, Inc., and for manufacture under the corporation's written license, no right is granted to reproduce this drawing or the subject matter thereof, unless by written agreement with or written permission from the corporation.

Quantum™ PCB Schematic Diagram

© ATARI INC., 1982
 A Warner Communications Company

SP-221 Sheet 5A
 1st Printing

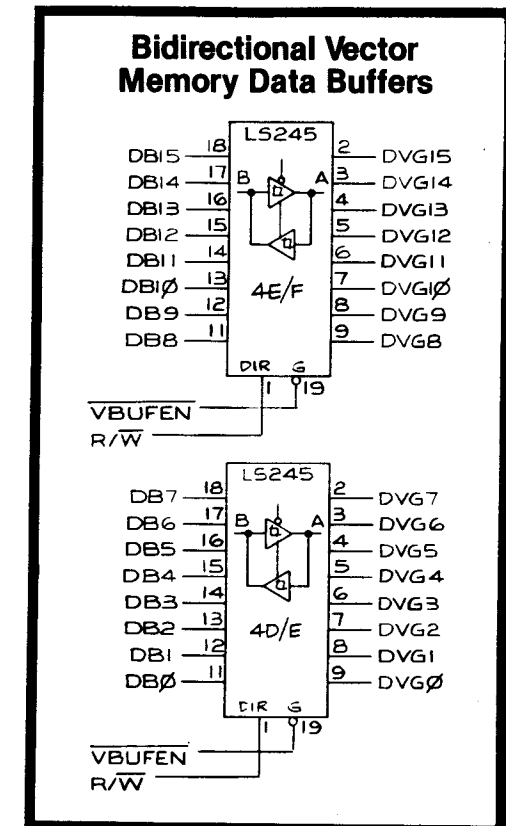
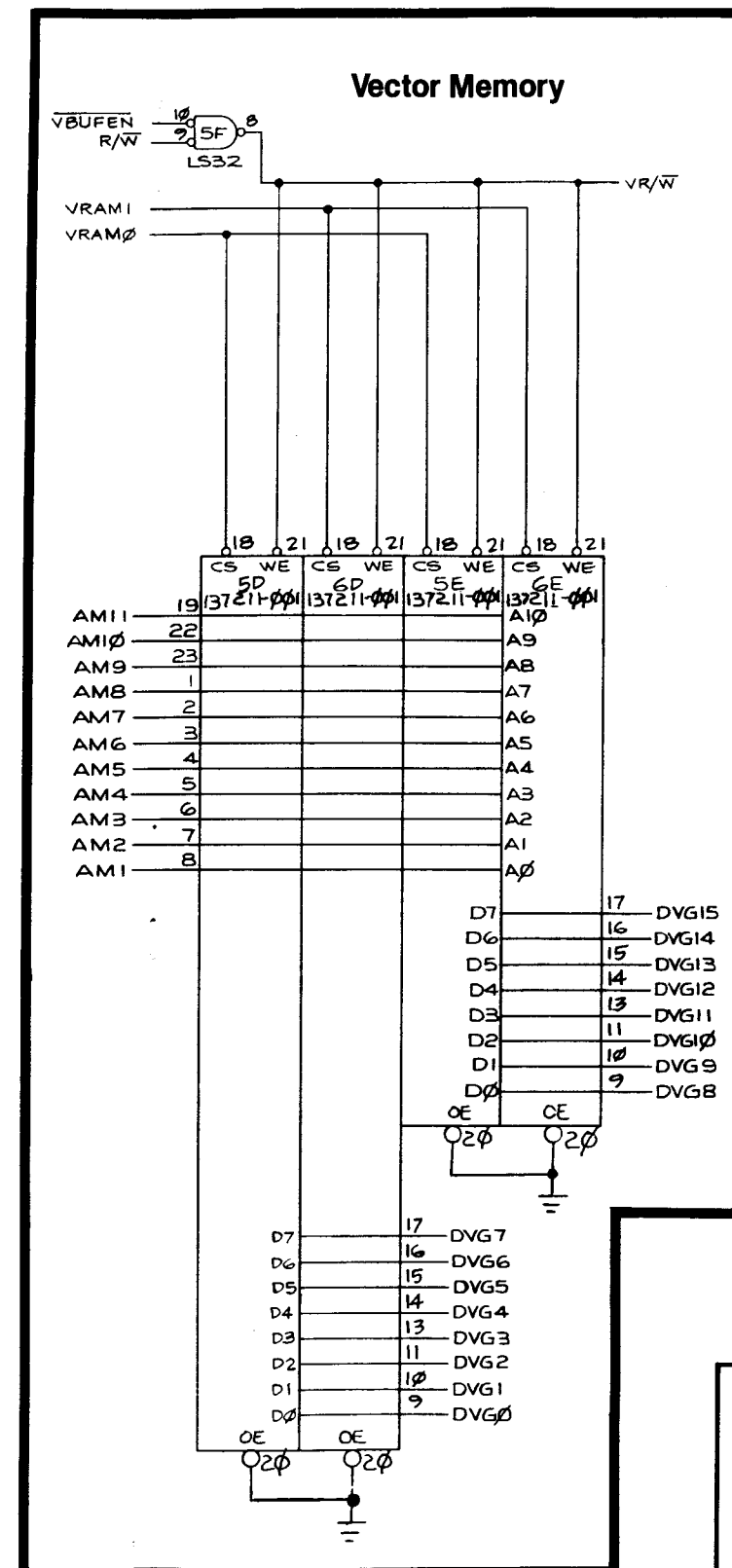
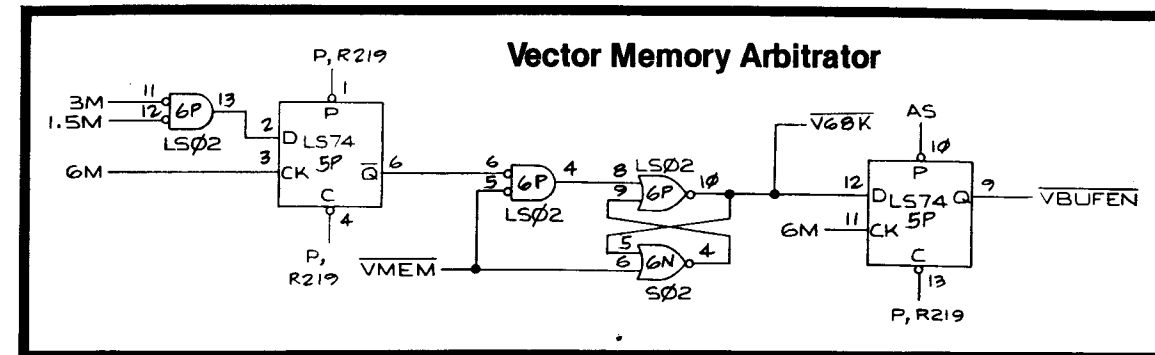


NOTICE TO ALL PERSONS RECEIVING THIS DRAWING
 CONFIDENTIAL: Reproduction forbidden without the specific written permission of Atari, Inc., Sunnyvale, CA. This drawing is only conditionally issued, and neither receipt nor possession thereof confers or transfers any right in, or license to use, the subject matter of the drawing or any design or technical information shown thereon, nor any right to reproduce this drawing or any part thereof. Except for manufacture by vendors of Atari, Inc., and for manufacture under the corporation's written license, no right is granted to reproduce this drawing or the subject matter thereof, unless by written agreement with or written permission from the corporation.

Quantum™ PCB Schematic Diagram

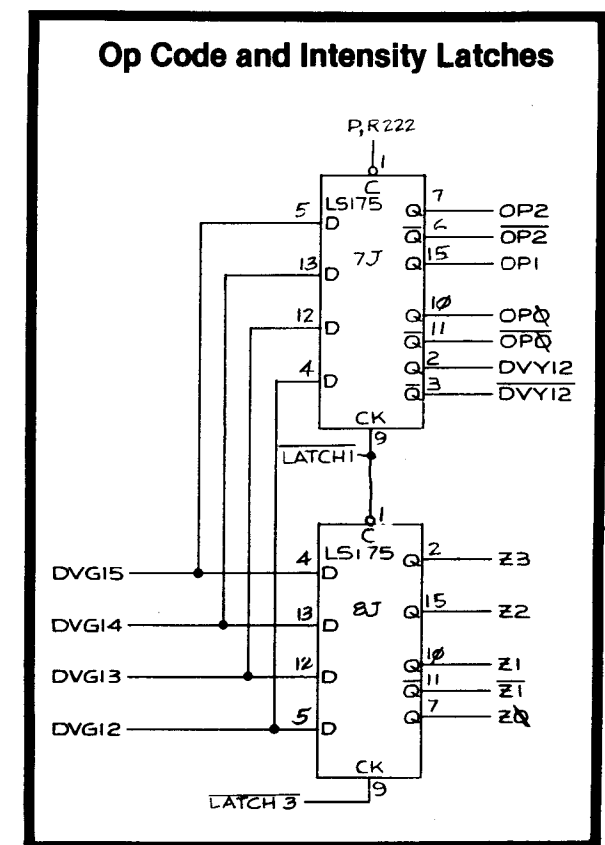
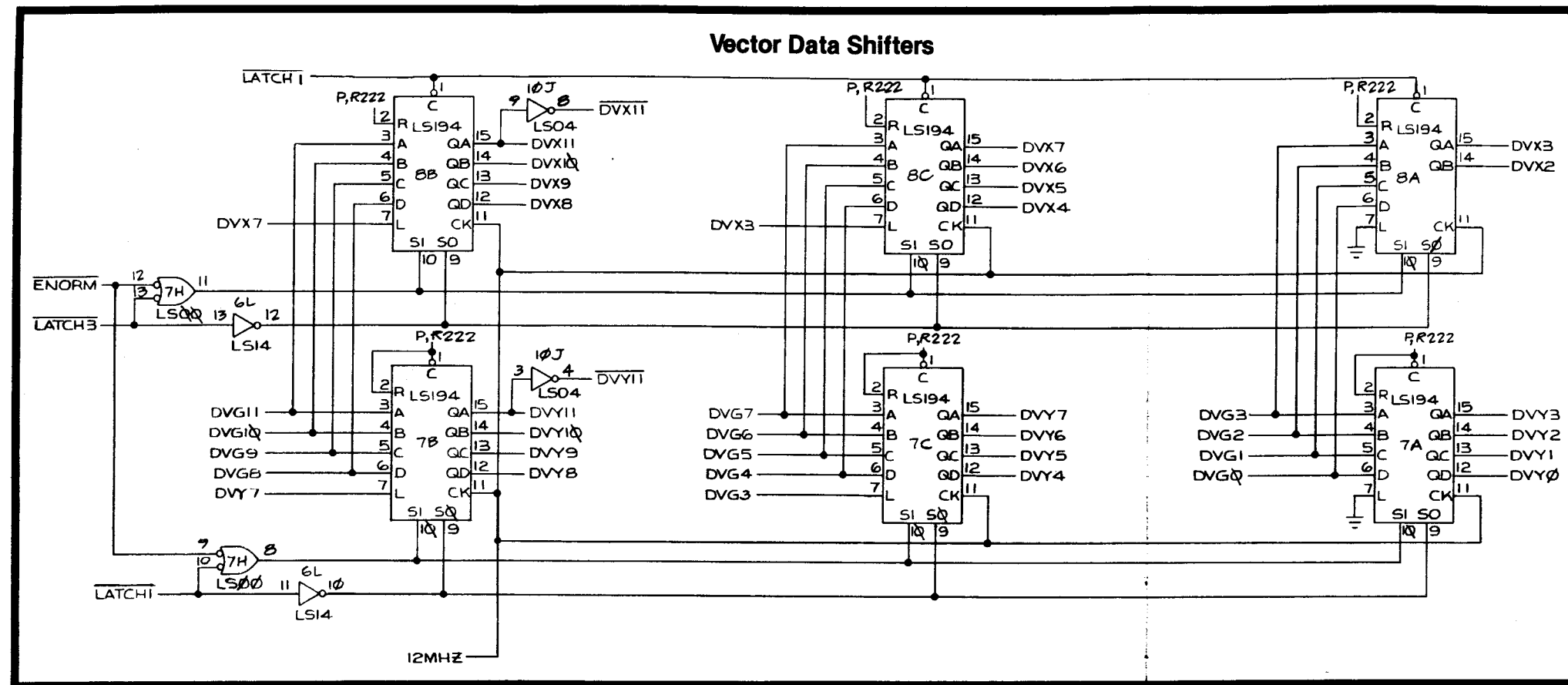
© ATARI INC., 1982
 A Warner Communications Company

SP-221 Sheet 5B
 1st Printing



NOTICE TO ALL PERSONS RECEIVING THIS DRAWING
 CONFIDENTIAL: Reproduction forbidden without the specific written permission of Atari, Inc., Sunnyvale, CA. This drawing is only conditionally issued, and neither receipt nor possession thereof confers or transfers any right in, or license to use, the subject matter of the drawing or any design or technical information shown thereon, nor any right to reproduce this drawing or any part thereof. Except for manufacture by vendors of Atari, Inc., and for manufacture under the corporation's written license, no right is granted to reproduce this drawing or the subject matter thereof, unless by written agreement with or written permission from the corporation.

Quantum™ PCB Schematic Diagram



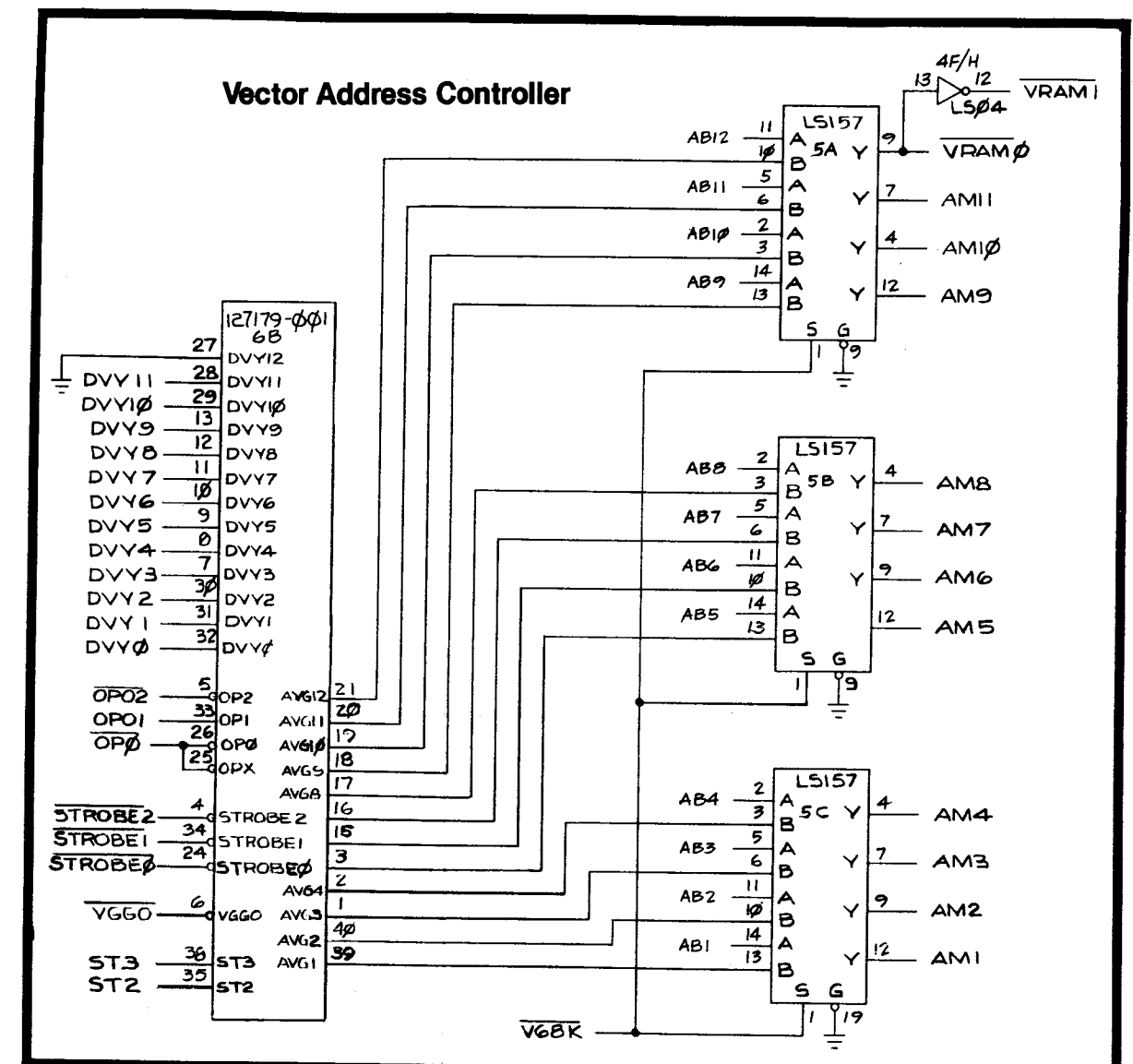
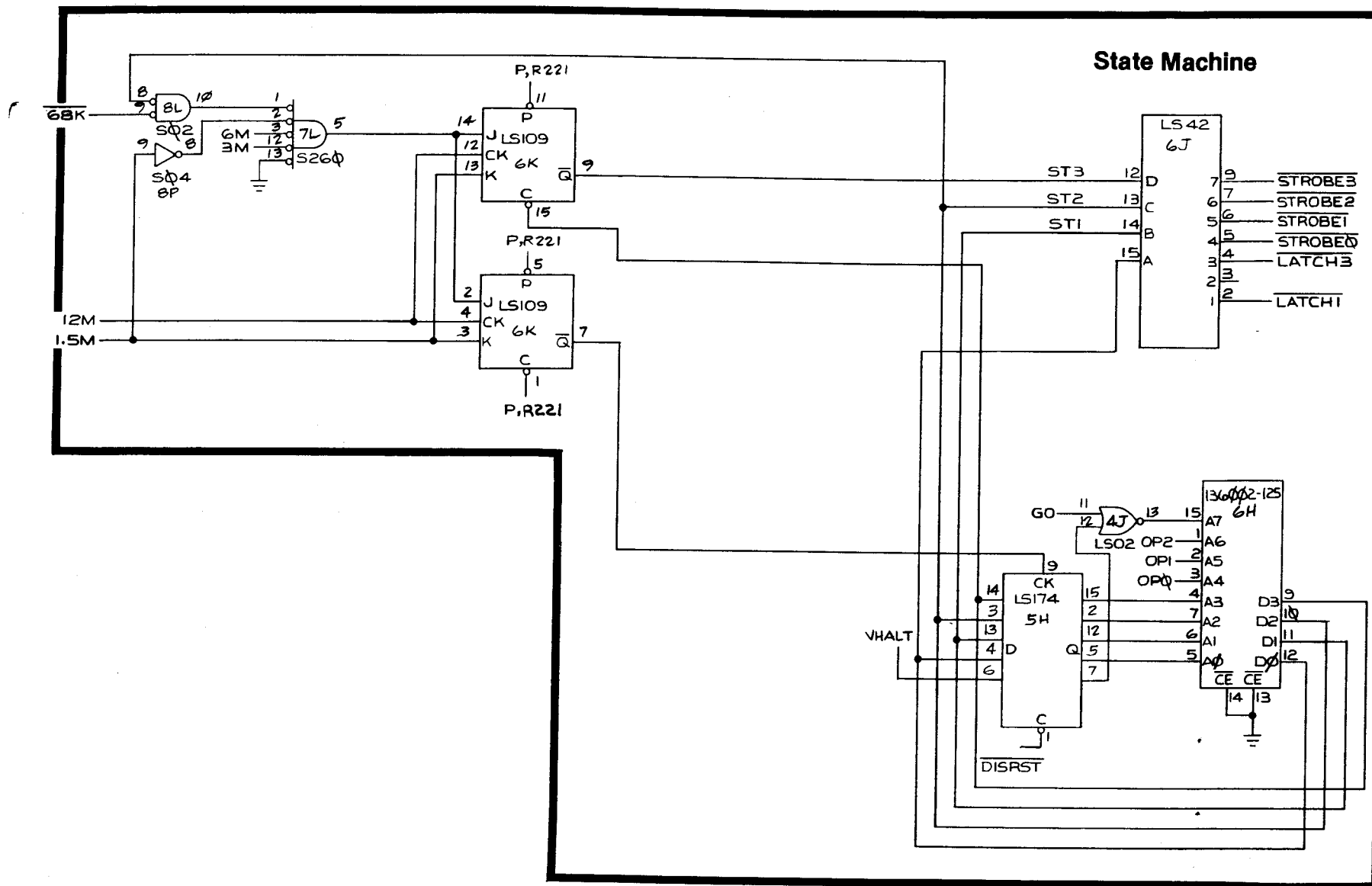
NOTICE TO ALL PERSONS RECEIVING THIS DRAWING
 CONFIDENTIAL: Reproduction forbidden without the specific written permission of Atari, Inc., Sunnyvale, CA. This drawing is only conditionally issued, and neither receipt nor possession thereof confers or transfers any right in, or license to use, the subject matter of the drawing or any design or technical information shown thereon, nor any right to reproduce this drawing or any part thereof. Except for manufacture by vendors of Atari, Inc., and for manufacture under the corporation's written license, no right is granted to reproduce this drawing or the subject matter thereof, unless by written agreement with or written permission from the corporation.

Quantum™ PCB Schematic Diagram

© ATARI INC., 1982

Warner Communications Company

SP-221 Sheet 7A
 1st Printing

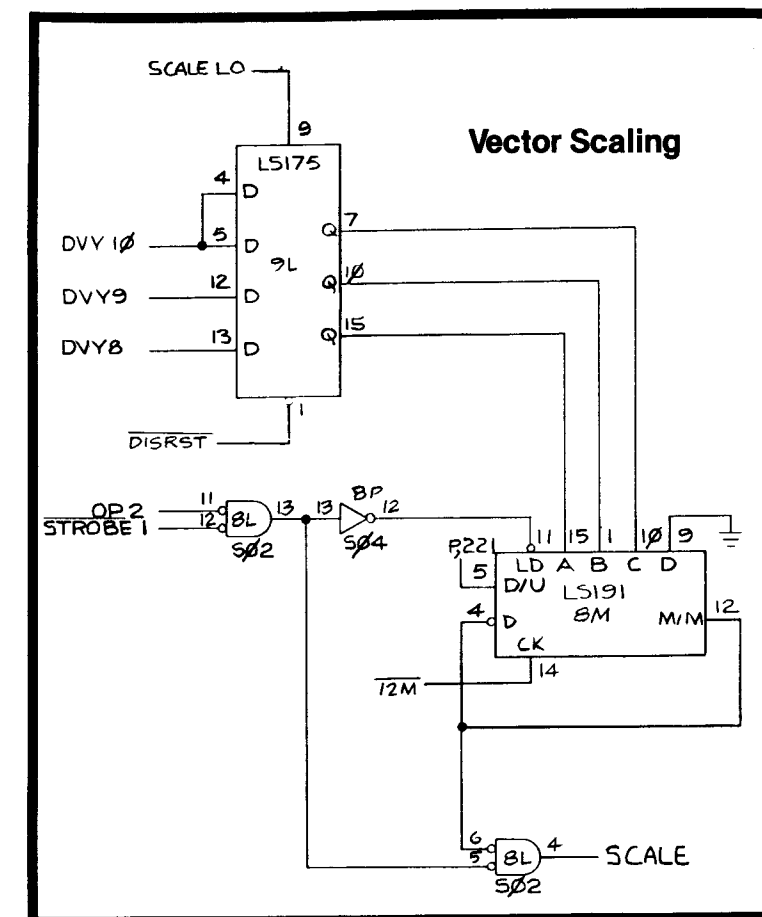
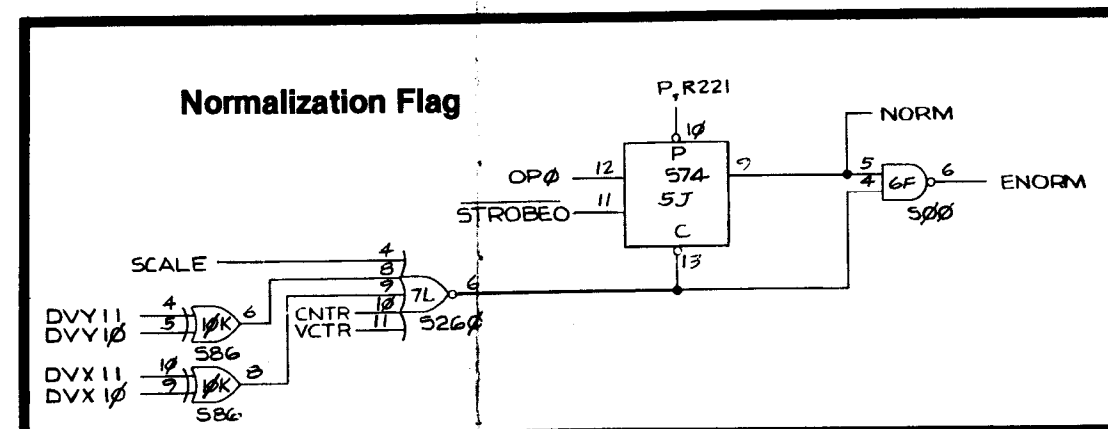
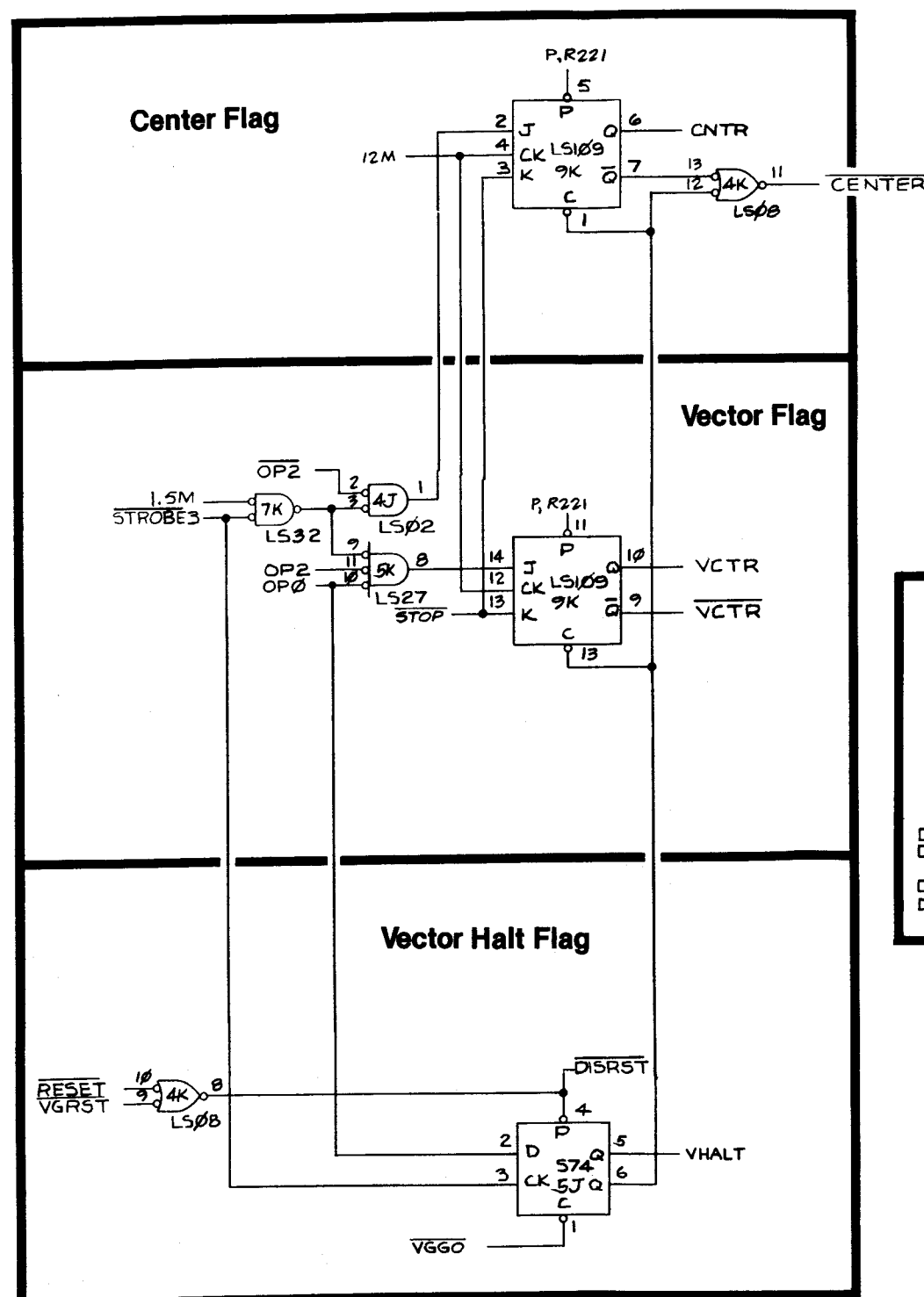


NOTICE TO ALL PERSONS RECEIVING THIS DRAWING
 CONFIDENTIAL: Reproduction forbidden without the specific written permission of Atari, Inc., Sunnyvale, CA. This drawing is only conditionally issued, and neither receipt nor possession thereof confers or transfers any right in, or license to use, the subject matter of the drawing or any design or technical information shown thereon, nor any right to reproduce this drawing or any part thereof. Except for manufacture by vendors of Atari, Inc., and for manufacture under the corporation's written license, no right is granted to reproduce this drawing or the subject matter thereof, unless by written agreement with or written permission from the corporation.

Quantum™ PCB Schematic Diagram

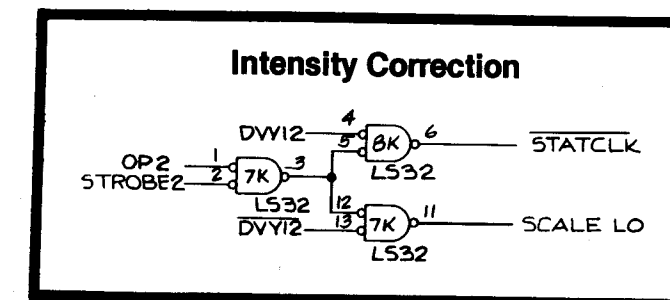
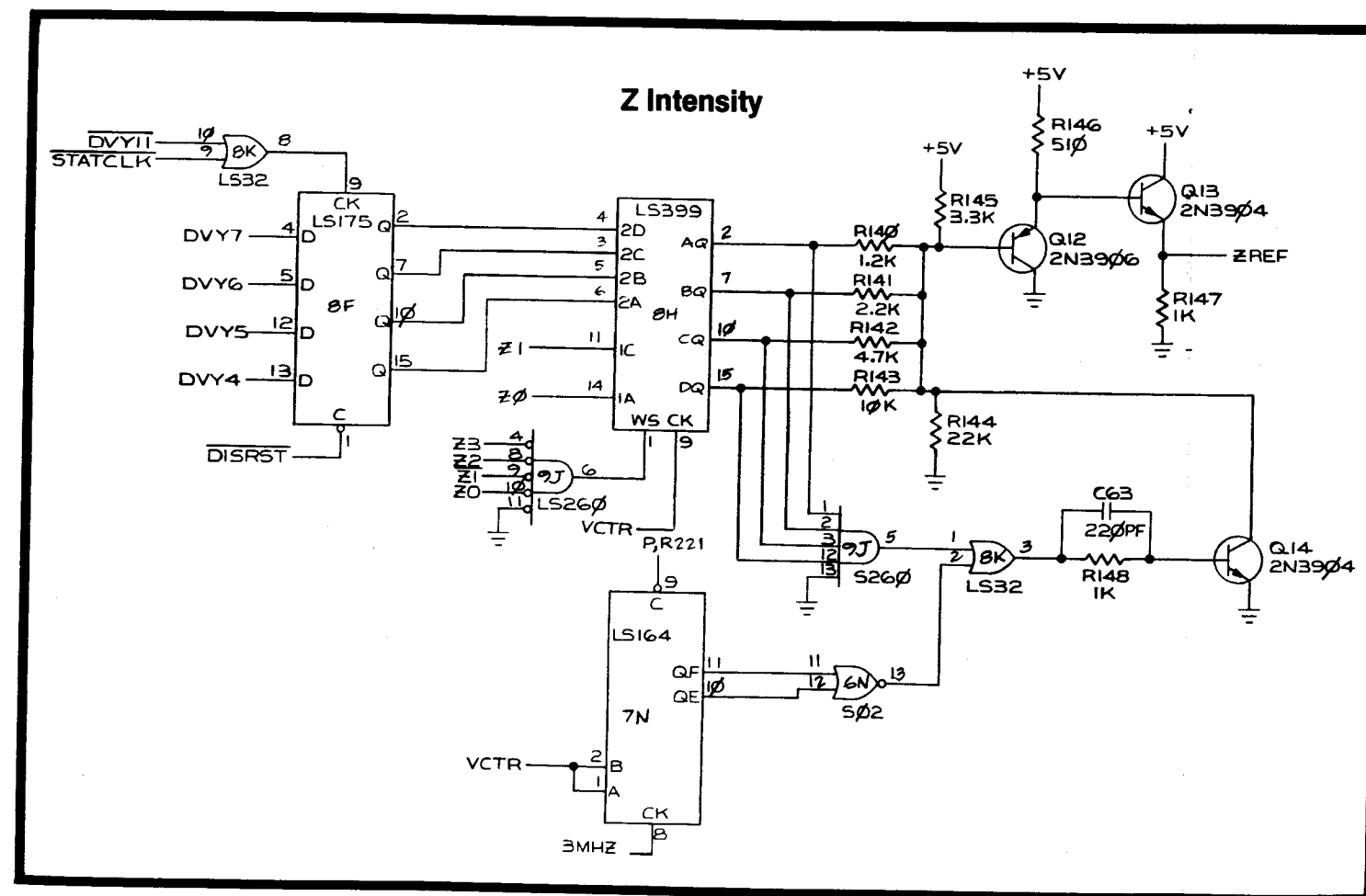
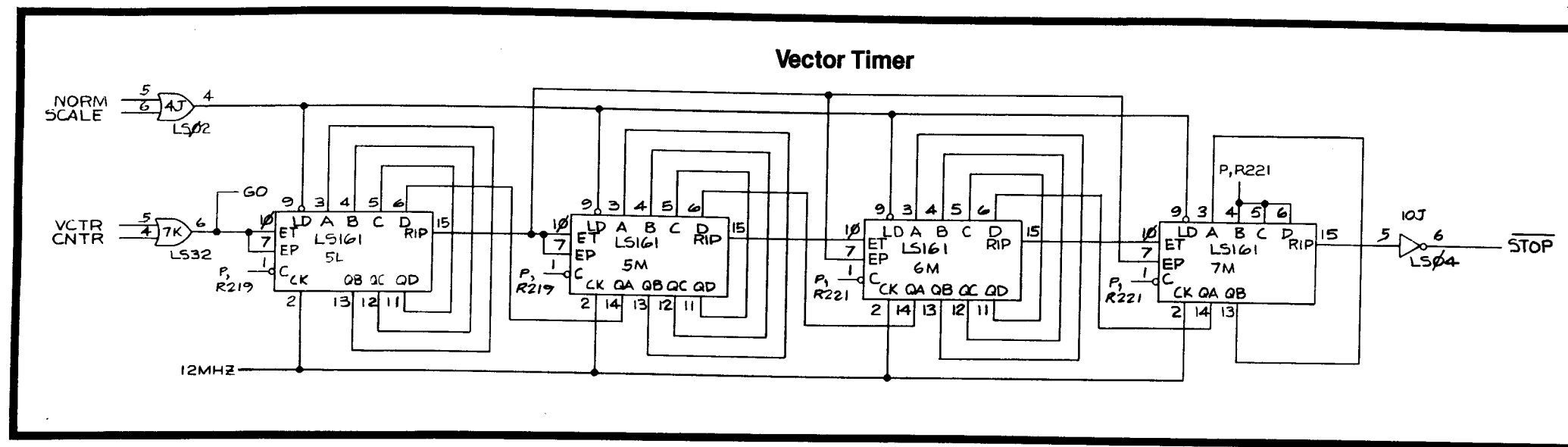
© ATARI INC., 1982
 A Warner Communications Company

SP-221 Sheet 7B
 1st Printing



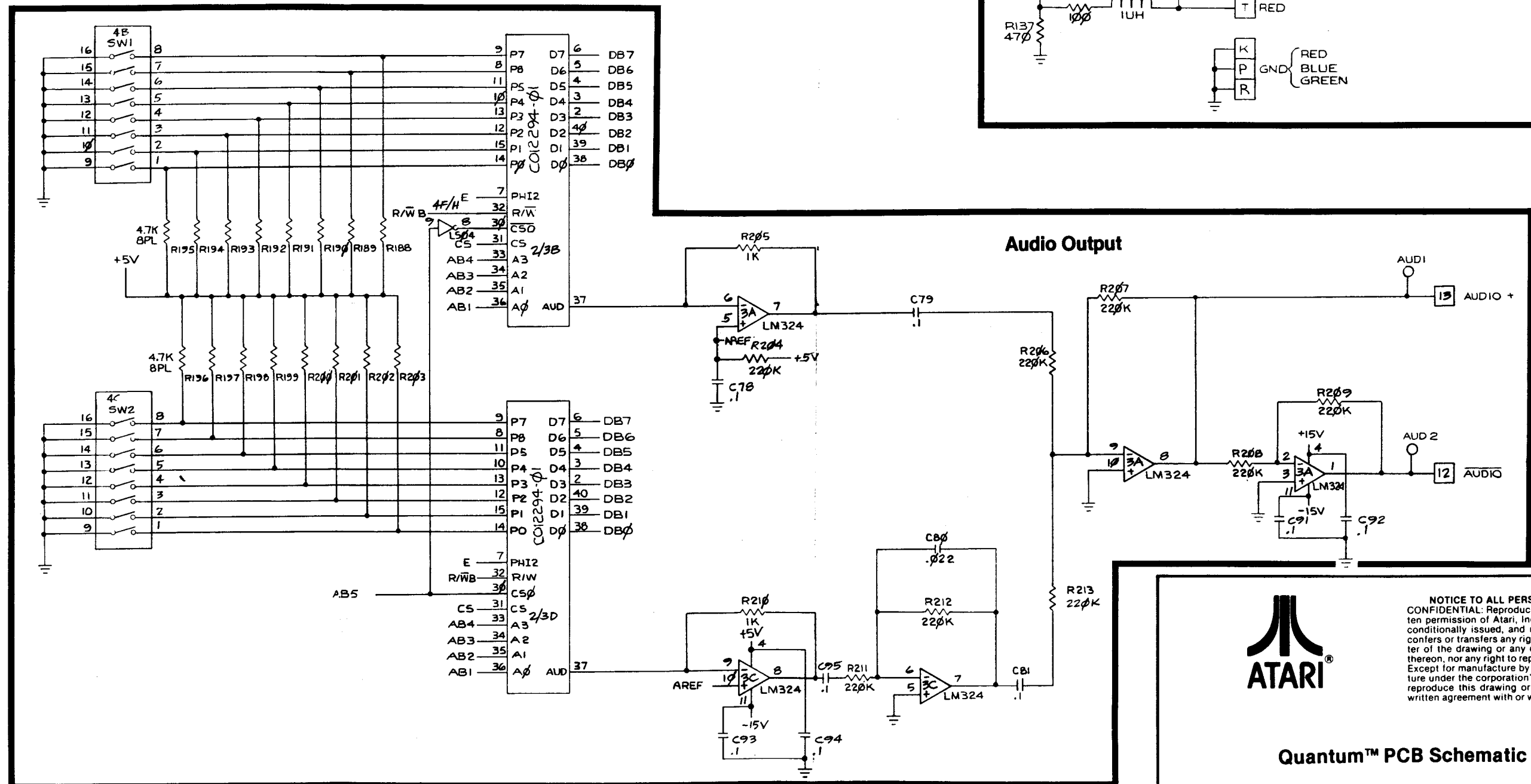
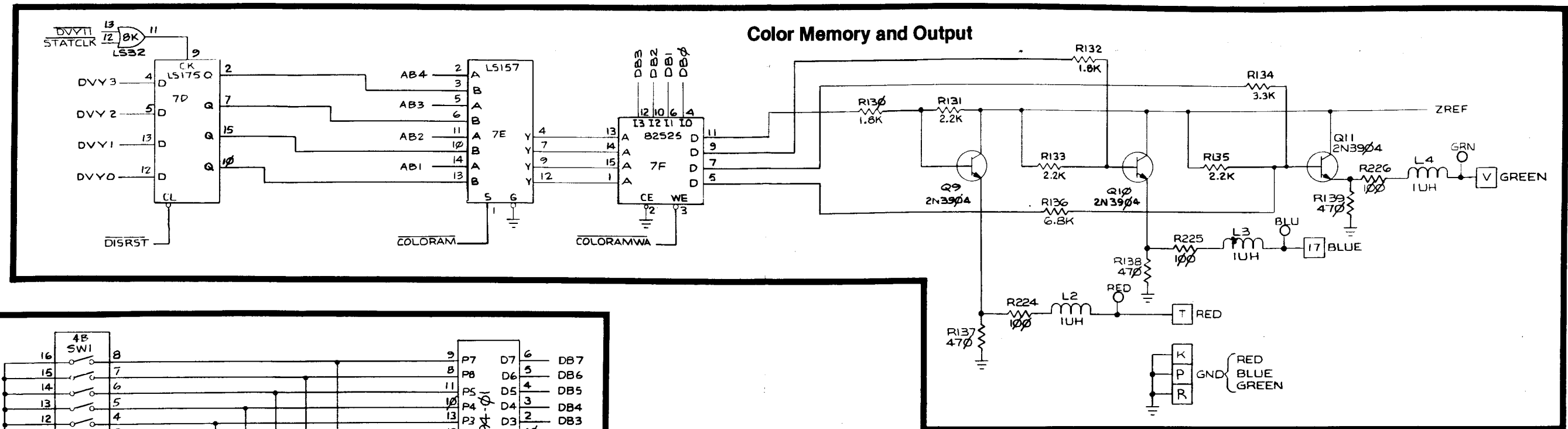
NOTICE TO ALL PERSONS RECEIVING THIS DRAWING
 CONFIDENTIAL: Reproduction forbidden without the specific written permission of Atari, Inc., Sunnyvale, CA. This drawing is only conditionally issued, and neither receipt nor possession thereof confers or transfers any right in, or license to use, the subject matter of the drawing or any design or technical information shown thereon, nor any right to reproduce this drawing or any part thereof. Except for manufacture by vendors of Atari, Inc., and for manufacture under the corporation's written license, no right is granted to reproduce this drawing or the subject matter thereof, unless by written agreement with or written permission from the corporation.

Quantum™ PCB Schematic Diagram



NOTICE TO ALL PERSONS RECEIVING THIS DRAWING
 CONFIDENTIAL: Reproduction forbidden without the specific written permission of Atari, Inc., Sunnyvale, CA. This drawing is only conditionally issued, and neither receipt nor possession thereof confers or transfers any right in, or license to use, the subject matter of the drawing or any design or technical information shown thereon, nor any right to reproduce this drawing or any part thereof. Except for manufacture by vendors of Atari, Inc., and for manufacture under the corporation's written license, no right is granted to reproduce this drawing or the subject matter thereof, unless by written agreement with or written permission from the corporation.

Quantum™ PCB Schematic Diagram



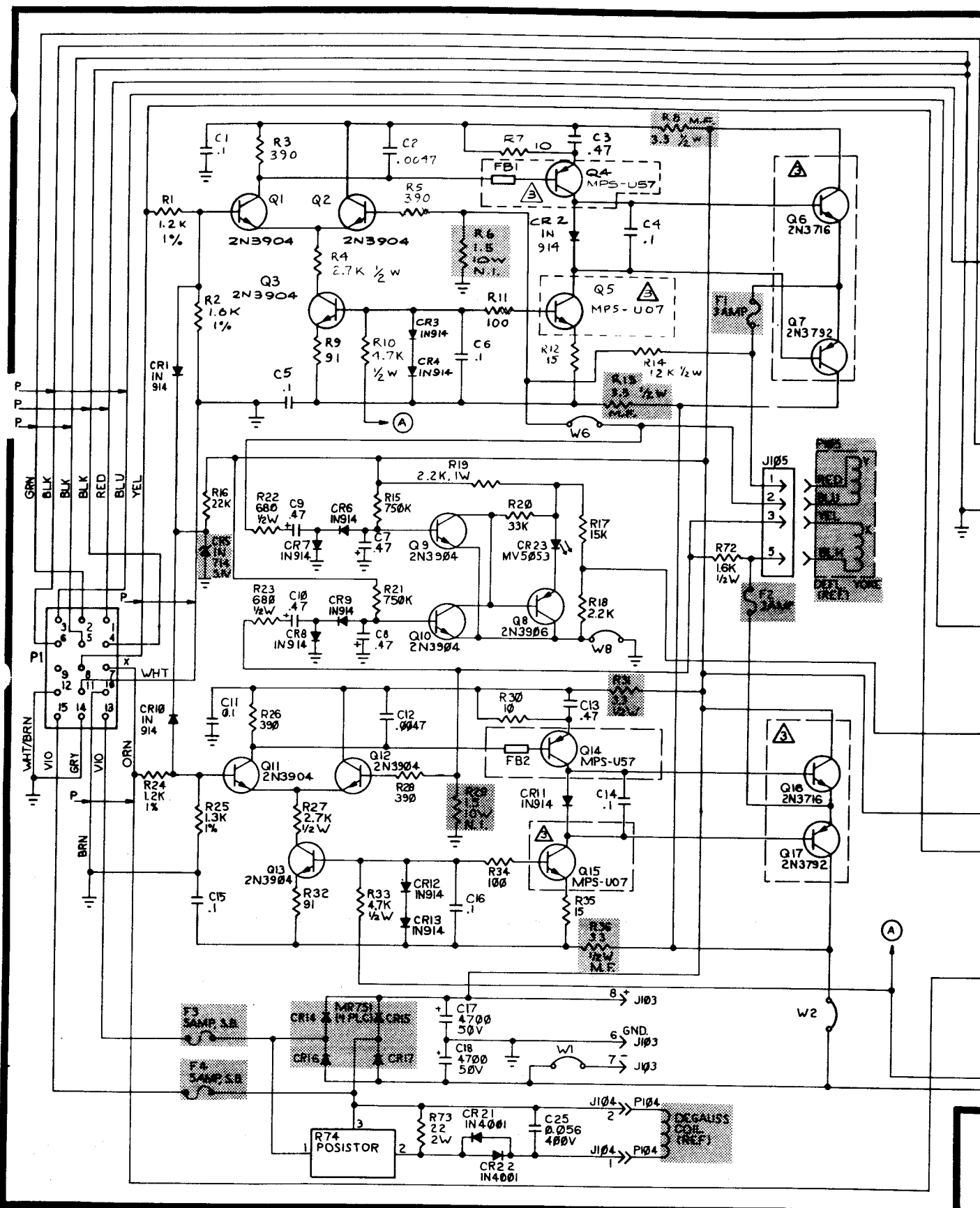
NOTICE TO ALL PERSONS RECEIVING THIS DRAWING
 CONFIDENTIAL: Reproduction forbidden without the specific written permission of Atari, Inc., Sunnyvale, CA. This drawing is only conditionally issued, and neither receipt nor possession thereof confers or transfers any right in, or license to use, the subject matter of the drawing or any design or technical information shown thereon, nor any right to reproduce this drawing or any part thereof. Except for manufacture by vendors of Atari, Inc., and for manufacture under the corporation's written license, no right is granted to reproduce this drawing or the subject matter thereof, unless by written agreement with or written permission from the corporation.

Quantum™ PCB Schematic Diagram

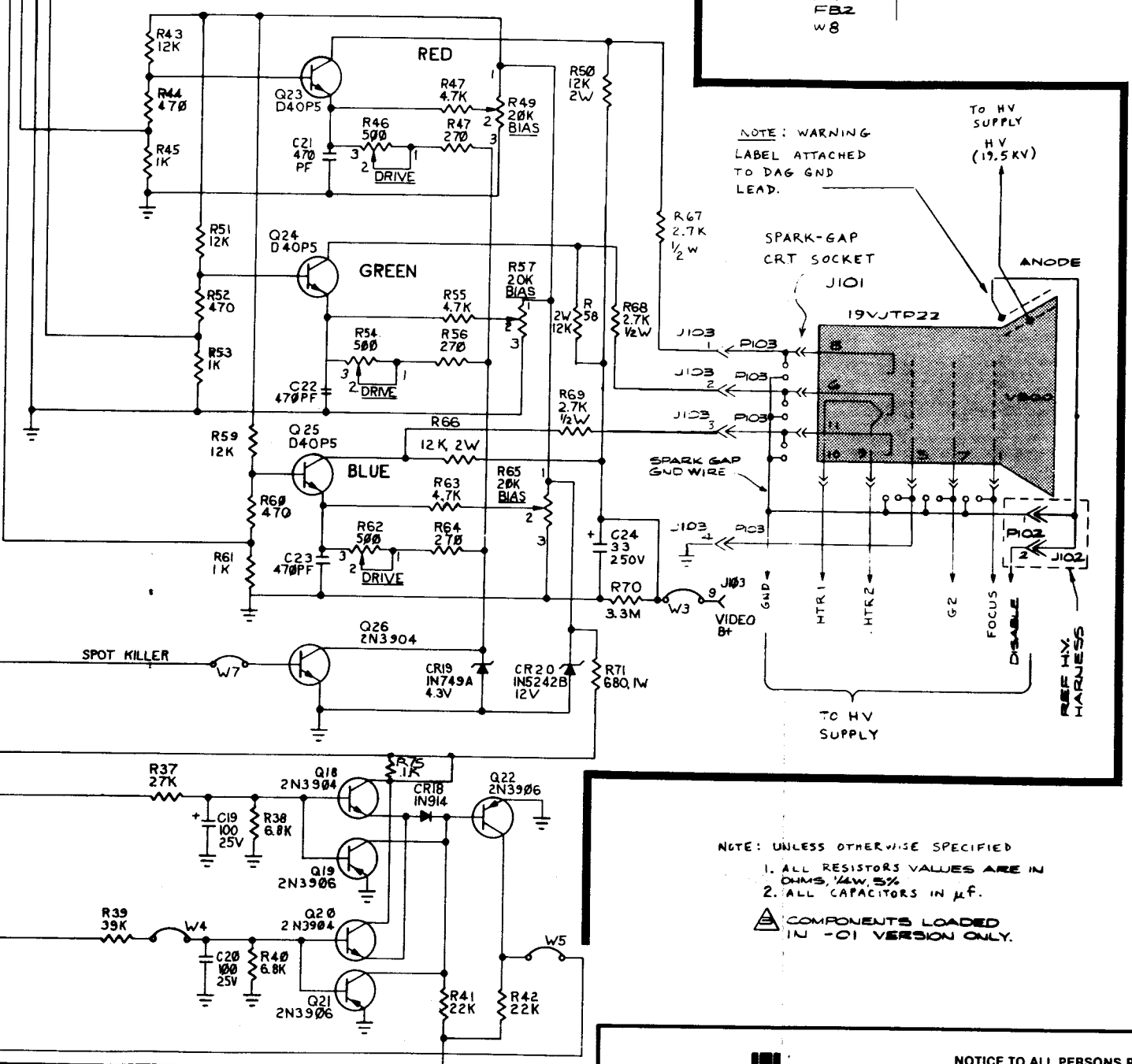
© ATARI INC., 1982

A Warner Communications Company

SP-221 Sheet 9A
 1st Printing



Amplifone Deflection PCB



DESIGNATOR	
LAST USED	NOT USED
R74	
C25	
CR23	
Q26	
R4	
FB2	
W8	

NOTE: WARNING LABEL ATTACHED TO DAG GND LEAD.

- NOTE: UNLESS OTHERWISE SPECIFIED
1. ALL RESISTOR VALUES ARE IN OHMS, 1/4W, 5%.
 2. ALL CAPACITORS IN μ F.
- ▲ COMPONENTS LOADED IN -01 VERSION ONLY.

WARNING

Components identified by shading have special characteristics important to safety and should be replaced only with identical types.

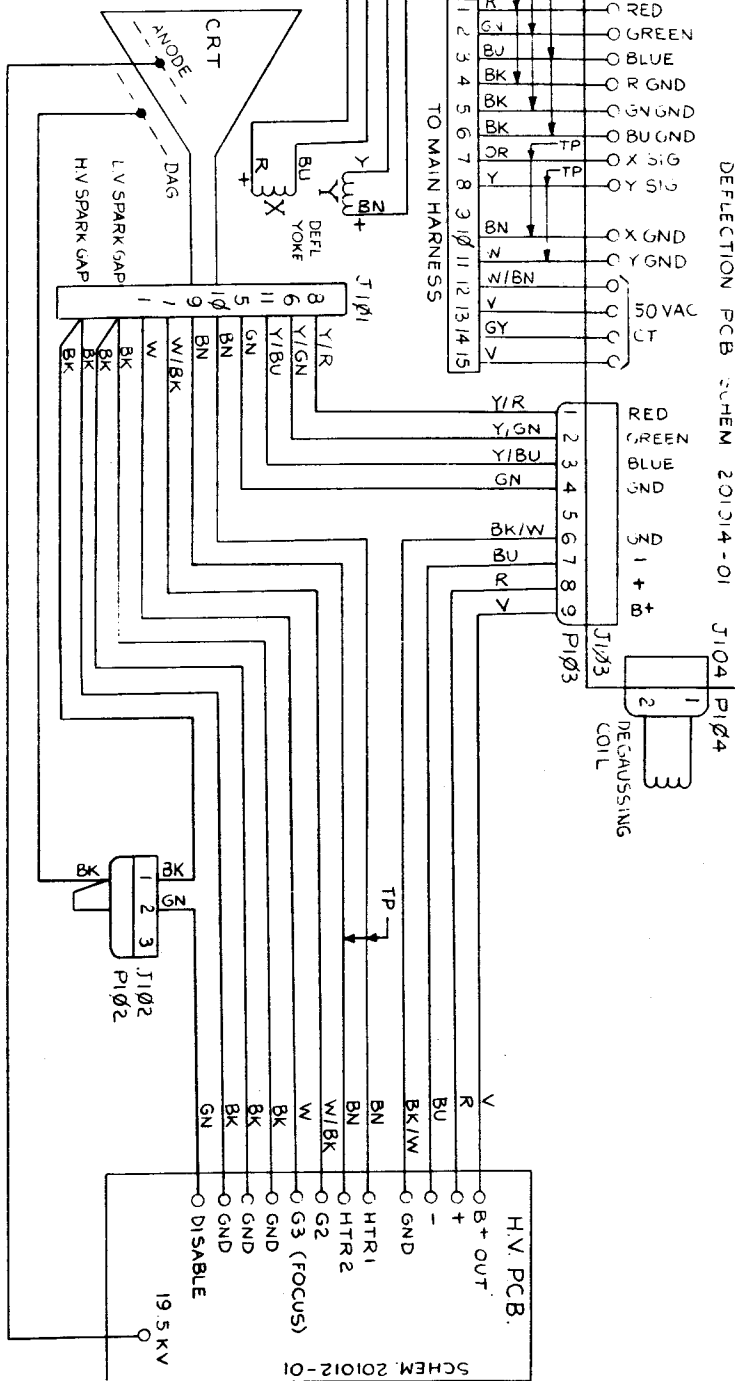


Amplifone Color X-Y Display Schematic

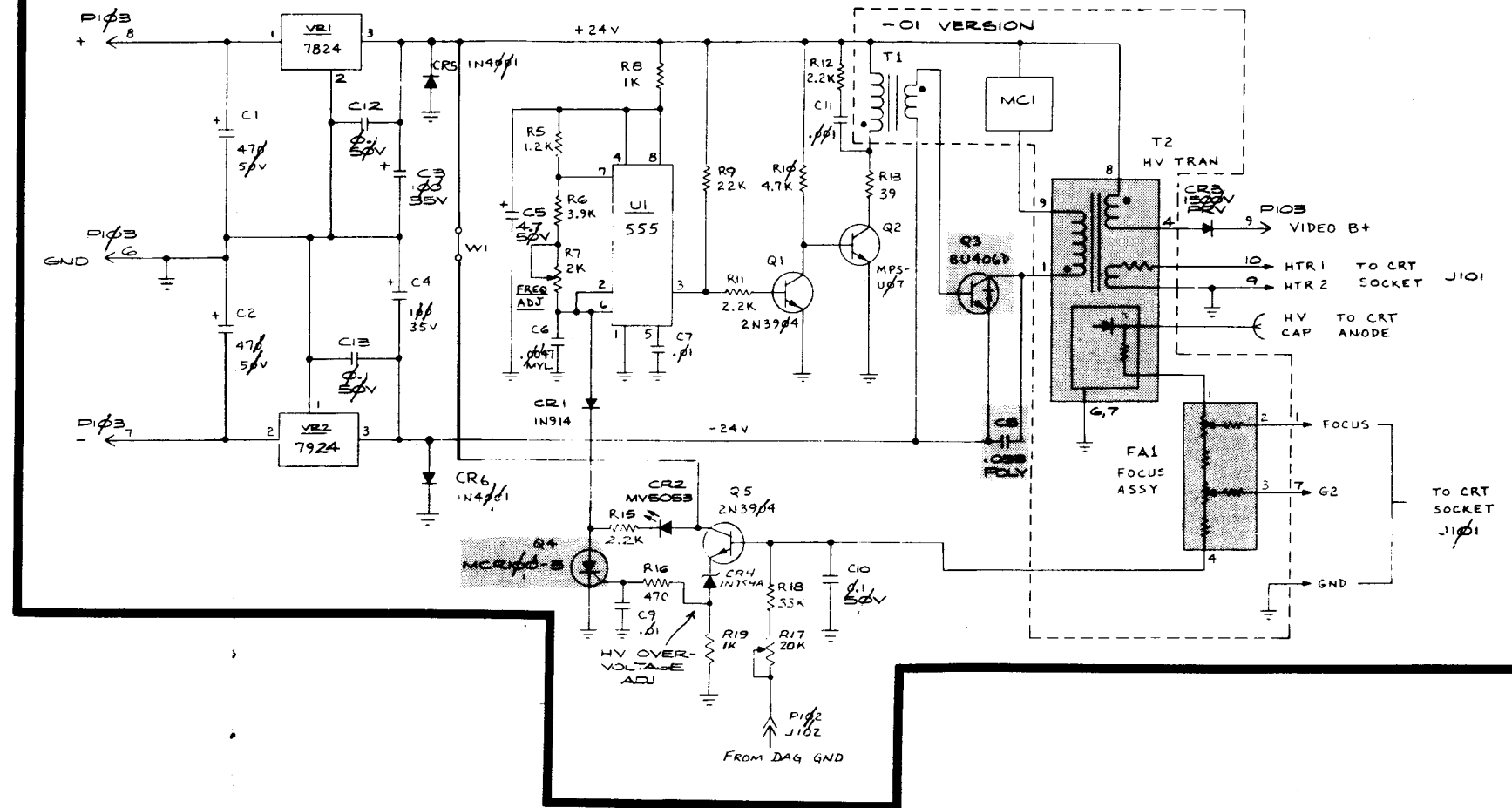
© ATARI INC., 1982
A Warner Communications Company

NOTICE TO ALL PERSONS RECEIVING THIS DRAWING
CONFIDENTIAL: Reproduction forbidden without the specific written permission of Atari, Inc., Sunnyvale, CA. This drawing is only conditionally issued, and neither receipt nor possession thereof confers or transfers any right in, or license to use, the subject matter of the drawing or any design or technical information shown thereon, nor any right to reproduce this drawing or any part thereof. Except for manufacture by vendors of Atari, Inc., and for manufacture under the corporation's written license, no right is granted to reproduce this drawing or the subject matter thereof, unless by written agreement with or written permission from the corporation.

Amplifone Main Wiring Diagram



Amplifone High-Voltage PCB



Note: Unless otherwise specified-

1. All resistor values are in ohms, 1/4 W, 5%
2. All capacitor values are in μF .

- WARNING

Components identified by shading have special characteristics important to safety and must be replaced only with identical parts.

DESIGNATOR	
LAST USED	NOT USED
R19	R1 - 4, 1A
C13	
Q5	
VR2	
T2	
FA1	
U1	
MC1	
CR6	
W1	



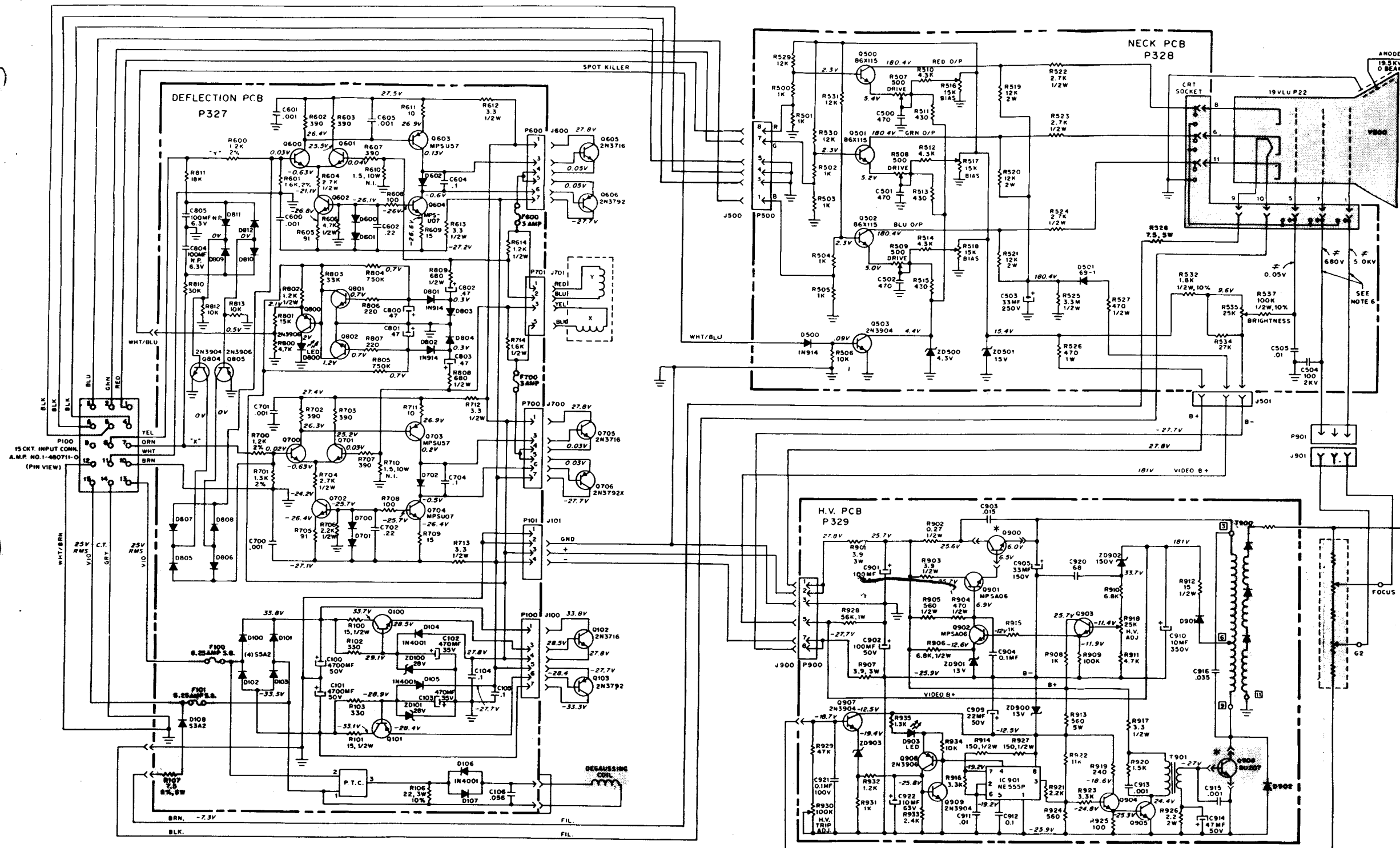
NOTICE TO ALL PERSONS RECEIVING THIS DRAWING
CONFIDENTIAL: Reproduction forbidden without the specific written permission of Atari, Inc., Sunnyvale, CA. This drawing is only conditionally issued, and neither receipt nor possession thereof confers or transfers any right in, or license to use, the subject matter of the drawing or any design or technical information shown thereon, nor any right to reproduce this drawing or any part thereof. Except for material specifically identified as vendor information or manufactured under this corporation's written license, no right is granted to reproduce this drawing or the subject matter thereof, unless by written agreement with or written permission from the corporation.

Amplifone Color X-Y Display Schematic

© ATARI INC., 1982

 A Warner Communications Company

SP-221 Sheet 11A
1st Printing



GENERAL NOTES

1. Resistance values in ohms, 1/4 watt, $\pm 5\%$, unless otherwise noted. K = 1,000, M = 1,000,000
2. Capacitance value of 1 or less is in microFarads, above 1 in picoFarads, unless otherwise noted.
3. * Q900 and Q906 are not in High-Voltage PCB.
4. All D.C. voltages are $\pm 10\%$ measured from point indicated to ground, using a high-impedance meter. Voltages are measured with no signal input and controls are in a normal operating position.
5. Circled numbers indicate location of waveform reading.
6. ZD100-101 uses (66X0040-007) zener diode in series with (340X2331-934) 330-ohm resistor in early production models.
7. Use a 1,000:1 probe when measuring G2 (screen) or focus voltage.



Wells Gardner Color X-Y Display Schematic Diagram

© ATARI INC., 1982
A Warner Communications Company

NOTICE TO ALL PERSONS RECEIVING THIS DRAWING
CONFIDENTIAL: Reproduction forbidden without the specific written permission of Atari, Inc., Sunnyvale, CA. This drawing is only conditionally issued, and neither receipt nor possession thereof confers or transfers any right in, or license to use, the subject matter of the drawing or any design or technical information shown thereon, nor any right to reproduce this drawing or any part thereof. Except for manufacture by vendors of Atari, Inc., and for manufacture under the corporation's written license, no right is granted to reproduce this drawing or the subject matter thereof, unless by written agreement with or written permission from the corporation.

SP-221 Sheet 11B
1st Printing