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WARNING

THIS GAME MUST BE GROUNDED. FAILURE TO DO SO MAY RESULT IN DESTRUCTION TO ELECTRONIC COMPONENTS.

GENERAL INSTRUCTIONS FOR PHANTOM II

INSTALLATION

1. Remove shipping cleats located on bottom of cabinet.
2. Install four (4) provided leg levelers to bottom of cabinet and level cabinet.
3. The power is controlled by a switch located on top of the cabinet. Plug into A.C. only, 115 volts, 60 cycles. In low line areas (105 volts or less), a boost in the output voltage of the transformer may be obtained by removing the wire from the 115 volt tap of the transformer and rewiring it to the 105 volt position.

LINE VOLTAGE SAFETY SWITCH:

A line voltage safety switch has been provided for your protection. It is located on the right rear side of the cabinet in the upper back door area. When the back door is removed, it opens the circuit to the line voltage. To restore power (when servicing), pull switch fully out.

VOLTAGE CONTROL POTS:

Located on Power Supply Board (P.C. A080-90400-H000) and is preset at the factory. These pots should not be tampered with unless the Distributor Service Department is contacted.

VOLUME CONTROL POT:

Located on Game Logic Board (P.C. A084-90700-D652) controls the volume of all sounds and may be varied as desired by rotating pot control.

ADJUSTMENT SWITCHES:

Located on Game Logic Board (P.C. A084-90700-D652) and may be adjusted as indicated on separate instruction sheet in back box area.

TO REMOVE LOWER DISPLAY GLASS:

1. Remove upper back door.
2. Remove locking bracket in center of glass.
3. Slide glass out from rear of game.

M051-00652-A006

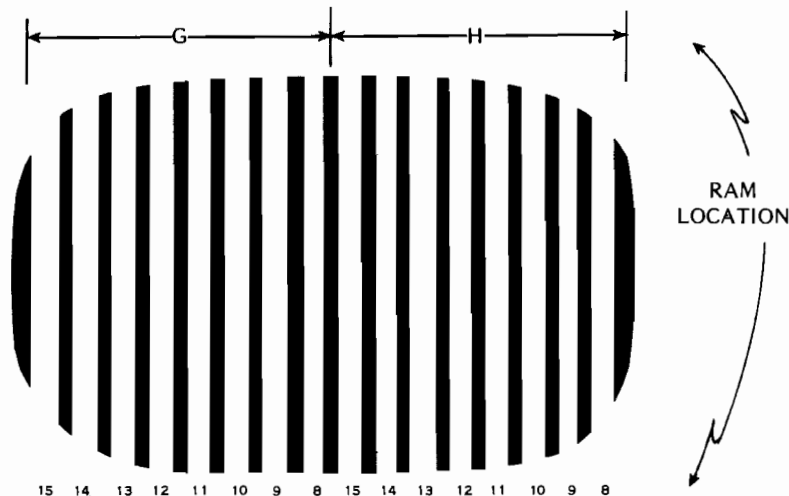
RAMS, PROMS AND ROMS

The PHANTOM II game microprocessor system has been programmed to detect a defective Ram, Prom and/ or Rom. To utilize the test, proceed as follows:

- 1) Set switch #6 to on position (A084-90700-D652).
- 2) Activate coin door tilt switch.
- 3) The Ram test sequence will scan and vertical lines will appear with cloud formations.
- 4) When all Rams are good, the scan will be continuous.
- 5) When a Ram is defective, dark vertical columns will appear (refer to Figure #1 for method of locating a bad Ram).
- 6) When Ram test is completed and all Rams are good, the T.V. screen will blank out to indicate a bad Prom or Rom by displaying letters locating it.
- 7) When Proms and Rom's are good, the Ram scan will be continuous.
- 8) Return switch #6 to off position (A084-90700-D652).
- 9) The Ram scan will stop and game will return to normal when the tilt switch is activated.

NOTE: Rams must be good before Prom and Rom test can be made.

Figure One — Method of Locating a Bad RAM



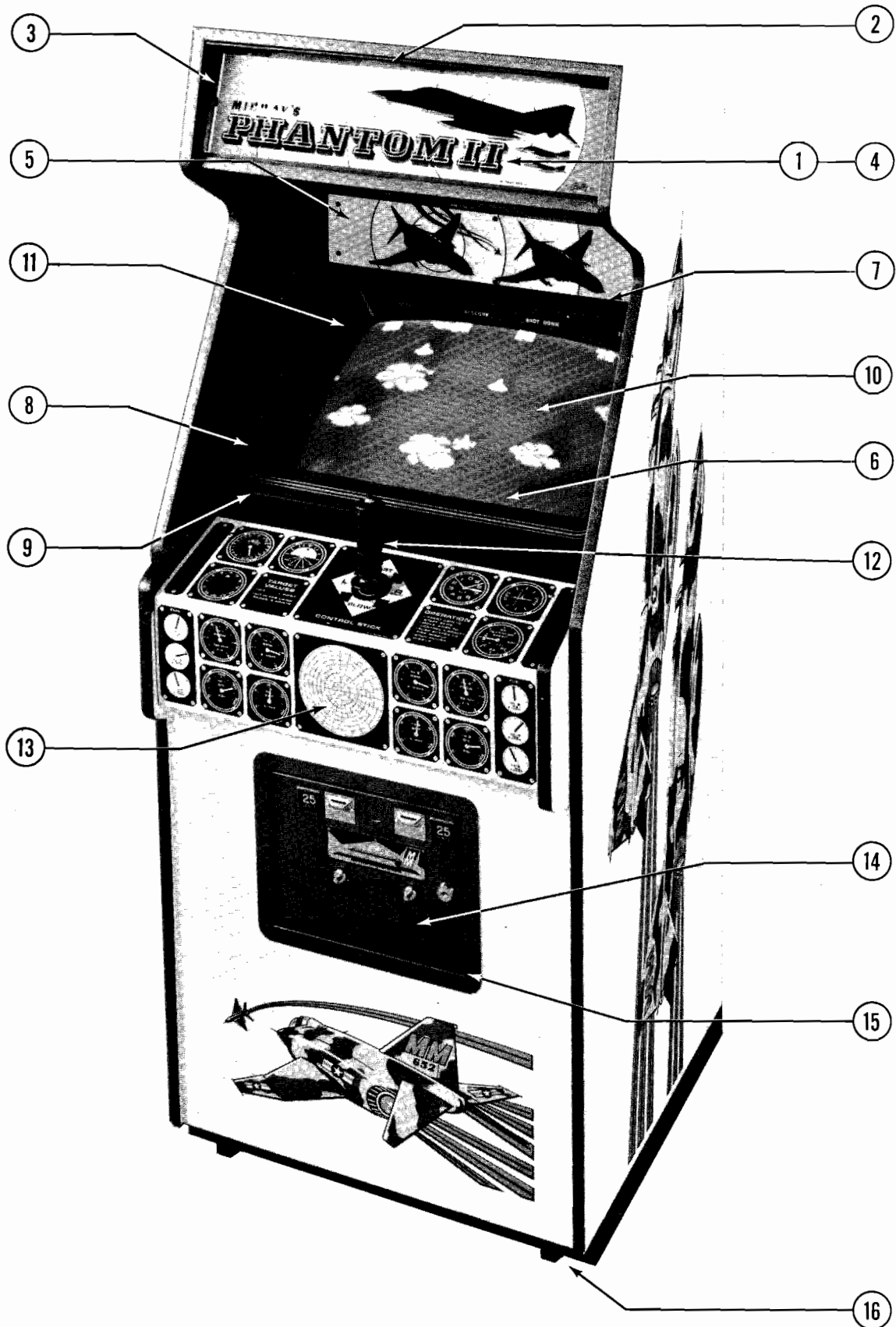
1. When one or more columns are missing or altered, this would indicate a RAM problem.
2. Use Figure One TV display to determine location of faulty RAMs.

ADJUSTMENT SWITCHES

| COIN | | | | |
|-----------------------------|-----------|-------|-------|-------|
| 1 COIN = 1 PLAY | | | | SW. 1 |
| 1 COIN = 2 PLAYS | | | | OFF |
| | | | | ON |
| TIME – EXTENDED PLAY | | | | |
| TIME | EXT. PLAY | SCORE | SW. 2 | SW. 3 |
| 45 SEC. | 20 SEC. | 20 | ON | ON |
| 60 SEC. | 25 SEC. | 25 | OFF | ON |
| 75 SEC. | 30 SEC. | 30 | ON | OFF |
| 90 SEC. | 35 SEC. | 35 | OFF | OFF |
| TEST – PLAY | | | | |
| TEST (RAM/ROM) | | | | SW. 6 |
| PLAY MODE OFF | | | | ON |
| | | | | OFF |

M051-000652-A013

NO. 652 - PHANTOM II - PICTURE

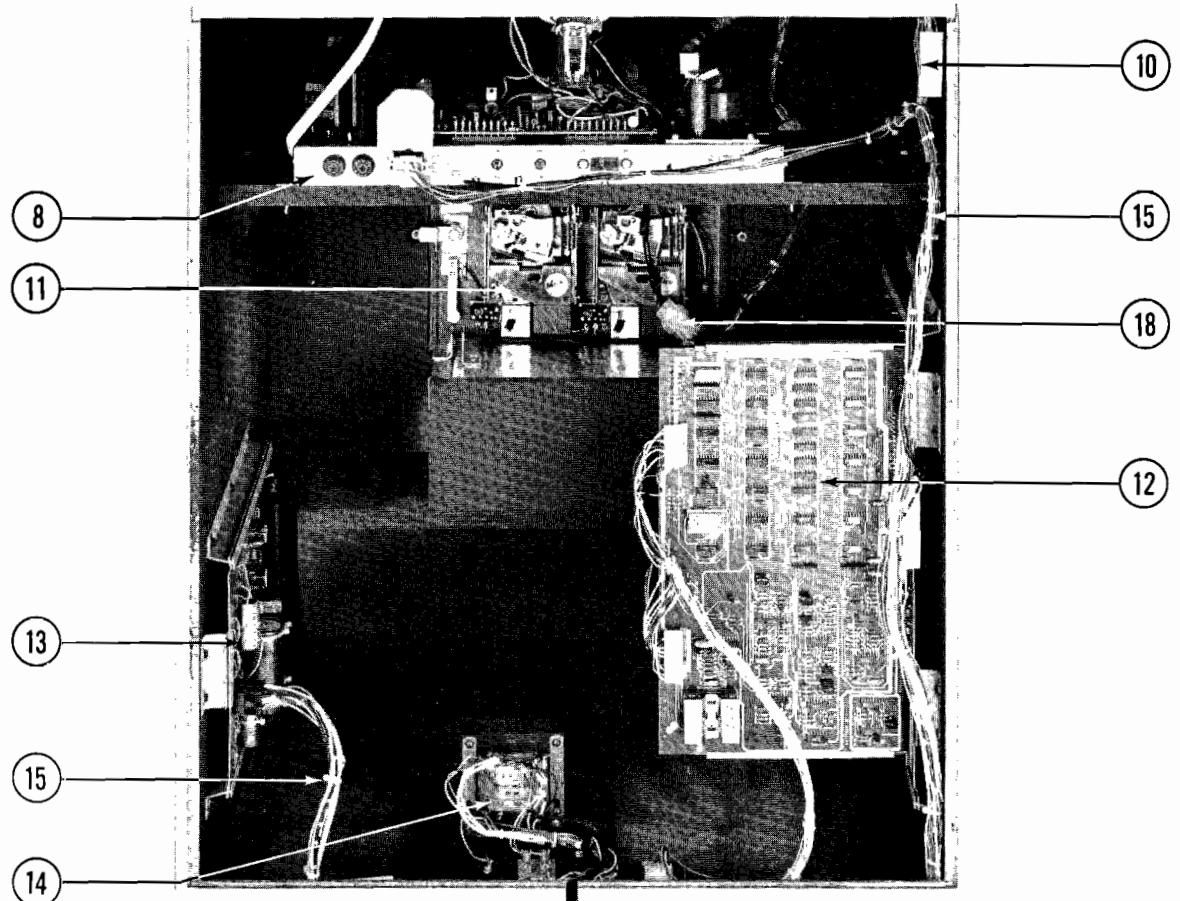
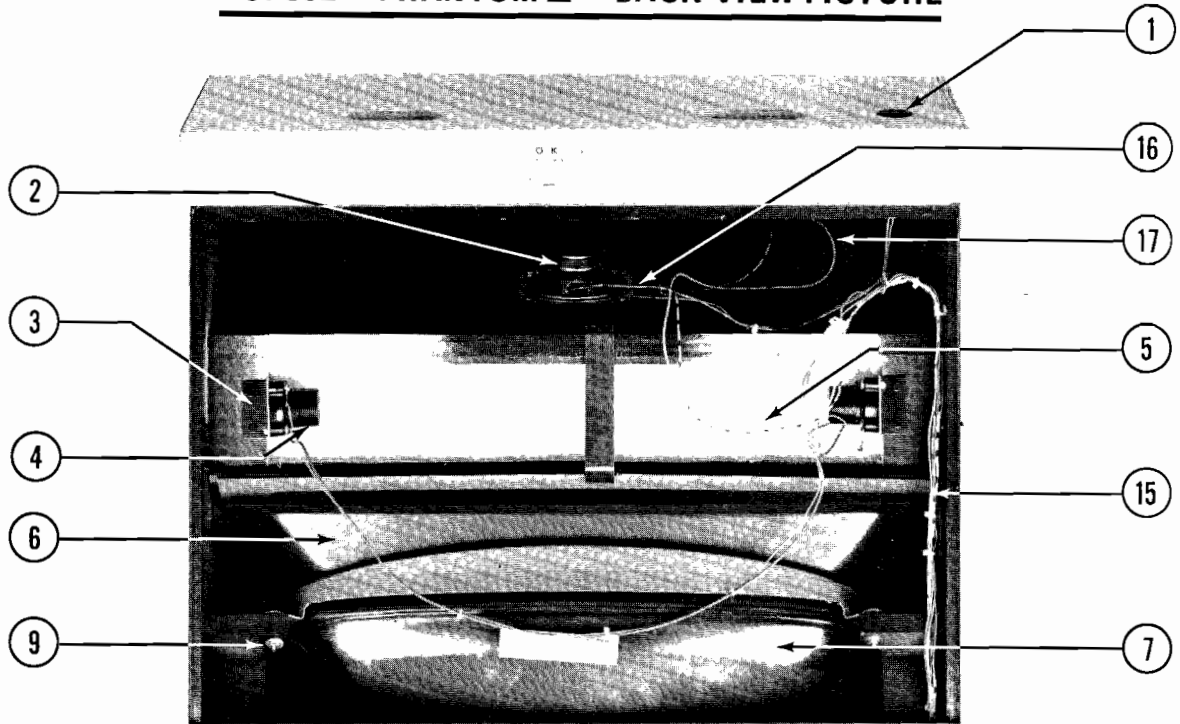


NO. 652 - PHANTOM II - PICTURE

ORDER BY PART NUMBER ONLY

| ITEM | PART NO | DESCRIPTION |
|------|-----------------|--|
| 1 | 0652-00900-00SC | DISPLAY INSERT PLEX - 24-13/16" x 6-1/4" x 3/16" |
| 2 | 0537-00903-0015 | GLASS CHANNEL - 24-1/4" LG. (2 REQ'D.) |
| 3 | 0537-00903-0030 | GLASS CHANNEL - 5-9/16" LG. (2 REQ'D.) |
| 4 | A652-00012-0000 | DISPLAY INSERT ASSY. - BEHIND DISPLAY INSERT PLEX |
| | 0017-00031-0030 | WEDGE BASE LAMP SOCKET (5 REQ'D.) |
| | 0017-00003-0219 | #194 WEDGE LAMP - 14V. (5 REQ'D.) |
| 5 | 0652-00905-00XF | EXPLOSION DISPLAY 24-15/16" x 5-7/8" x 3/32" |
| | 0017-00101-0025 | #8 x 1/2 HEX HD. BLK. WD. SCREW (6 REQ'D.) |
| 6 | 0652-00902-00XF | DISPLAY PLEX - 24-13/16" x 17-3/16" x 3/16" (BLUE) |
| 7 | 0537-00903-0015 | GLASS CHANNEL - 24-1/4" LG. |
| 8 | 0537-00903-0046 | GLASS CHANNEL - 16" LG. (2 REQ'D.) |
| 9 | 0629-00902-0100 | GLASS LIFT CHANNEL - 24" LG. |
| 10 | 0017-00003-0199 | 23" MONITOR C.R.T. |
| 11 | 0652-00903-0000 | T.V. BEZEL |
| 12 | A625-00025-0000 | CONTROL STICK ASSY. |
| 13 | 0652-00100-00XF | CONTROL PLATE |
| | 0017-00101-0639 | #8-32 x 1-1/4 CARRIAGE BOLT (9 REQ'D.) |
| | 0017-00104-0022 | #8 WASHER (9 REQ'D.) |
| | 0017-00103-0061 | #8-32 HEX NUT W/SEMS (9 REQ'D.) |
| 14 | A090-00020-2001 | FRONT DOOR ASSY. |
| 15 | A090-00002-0200 | FRONT DOOR FRAME ASSY. |
| | 0017-00101-0555 | #6-32 x 5/16 HEX HD. S.M.S. (3 REQ'D.) (MOUNTS DOOR TO FRAME) |
| | 0017-00003-0102 | COUNTER METER (MOUNTS ON COIN DOOR) |
| 16 | 0017-00102-0048 | 3/8-16 x 2" LEG LEVELERS (4 REQ'D.) |
| | 0017-00103-0026 | 3/8-16 HEX LEG LEVELER NUTS (4 REQ'D.) |

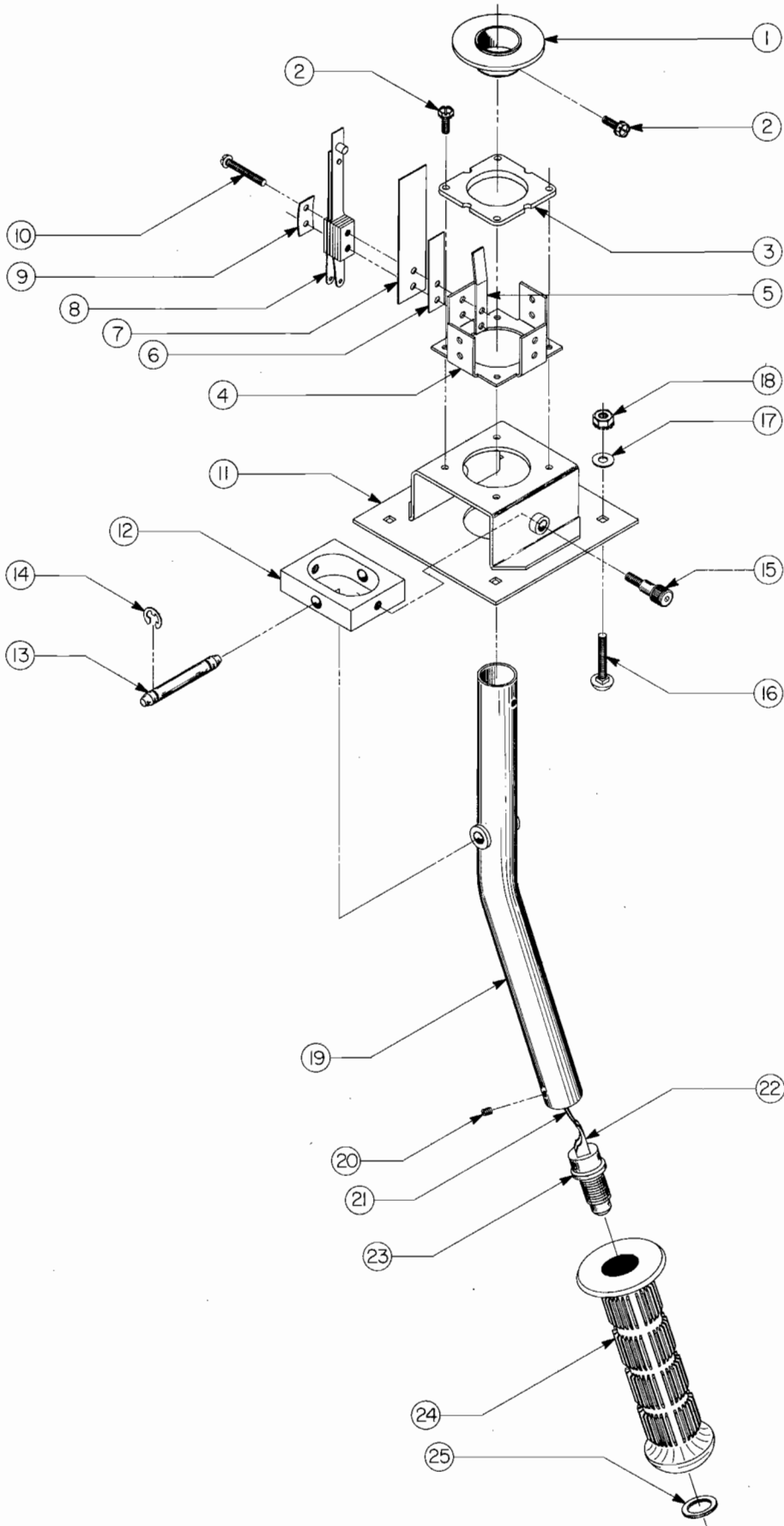
NO. 652 – PHANTOM II – BACK VIEW PICTURE



NO. 652 - PHANTOM II - BACK VIEW PICTURE
ORDER BY PART NUMBER ONLY

| ITEM | PART NO | DESCRIPTION |
|------|-----------------|---|
| 1 | 0586-00036-0000 | ON-OFF SWITCH |
| | 0567-00106-0100 | SWITCH MTG. PLATE |
| 2 | 0017-00003-0187 | SPEAKER - 6" x 9", 8 OHM, 9W. |
| | 0017-00009-0393 | BLACK SPEAKER GRILL W/4 1-1/2" SCREWS |
| 3 | 0652-00102-0000 | SOCKET MTG. BRKT. (2 REQ'D.) |
| | 0017-00101-0626 | #8-32 x 3/4 SLT. PAN HD. M.S. (4 REQ'D.) |
| | 0017-00103-0061 | #8-32 HEX NUT W/SEMS. (4 REQ'D.) |
| | 0017-00101-0025 | #8 x 1/2 HEX HD. BLK. WD. SCREW (4 REQ'D.) |
| 4 | 0017-00003-0135 | LAMP SOCKET (2 REQ'D.) |
| 5 | 0017-00003-0291 | LAMP, 13V. (2 REQ'D.) |
| 6 | 0652-00903-0000 | T.V. BEZEL |
| 7 | 0017-00003-0199 | 23" MONITOR C.R.T. |
| 8 | 0017-00003-0198 | 23" CHASSIS |
| | 0017-00003-0208 | 23" C.R.T. YOKE |
| | A652-00011-0000 | DAG SPRING ASSY. |
| | 3000-17155-0000 | GROUND STRAP |
| | 0080-00101-0000 | HIGH VOLTAGE SHIELD |
| | 0592-00104-0100 | CHASSIS MTG. BRKT. - R.H. |
| | 0592-00104-0200 | CHASSIS MTG. BRKT. - L.H. |
| | 0652-00503-0000 | CHASSIS MTG. PANEL |
| 9 | 0017-00101-0639 | #8-32 x 1-1/4 CARRIAGE BOLTS (4 TUBE, 4 CHASIS) |
| | 0017-00104-0022 | #8 WASHER (4 TUBE, 4 CHASSIS) |
| | 0017-00103-0061 | #8-32 HEX NUT - SEMS (4 TUBE, 4 CHASIS) |
| 10 | 0017-00003-0225 | CHEAT INTERLOCK SWITCH 125V., 10A. |
| | 0625-00133-00XF | INTERLOCK SW. MTG. BRKT. |
| 11 | A090-00020-2001 | DOUBLE ENTRY COIN DOOR ASSY. |
| 12 | A084-90700-D652 | GAME LOGIC BOARD ASSY. |
| | 0597-00012-0100 | P.C. SUPPORT BRKT. ASSY. - R.H. |
| | 0597-00012-0200 | P.C. SUPPORT BRKT. ASSY. - L.H. |
| 13 | A082-90400-H000 | POWER SUPPLY BOARD ASSY. |
| | 0624-00902-0100 | P.C. SUPPORT BRKT. - 12" (4 REQ'D.) |
| | 0624-00902-0300 | P.C. SUPPORT BRKT. - 2-1/2" (4 REQ'D.) |
| | 0017-00101-0025 | #8 x 1/2 HEX HD. WD. SCREW (20 REQ'D. - TOTAL) |
| | 0017-00104-0037 | #8 WASHER (20 REQ'D. - TOTAL) |
| 14 | A652-00022-0000 | TRANSFORMER BOARD ASSY. - DOMESTIC |
| | A652-00023-0000 | TRANSFORMER BOARD ASSY. - FOREIGN |
| 15 | A652-00001-0000 | MASTER CABLE ASSY. |
| 16 | A652-00018-0000 | SPEAKER CABLE ASSY. |
| 17 | A652-00019-0000 | DISPLAY INSERT CABLE ASSY. |
| 18 | A652-00020-0000 | COIN DOOR CABLE ASSY. |
| 19 | A652-00021-0000 | EXPLOSION LIGHT CABLE ASSY. |

NO. 652 – PHANTOM II – CONTROL STICK ASSEMBLY

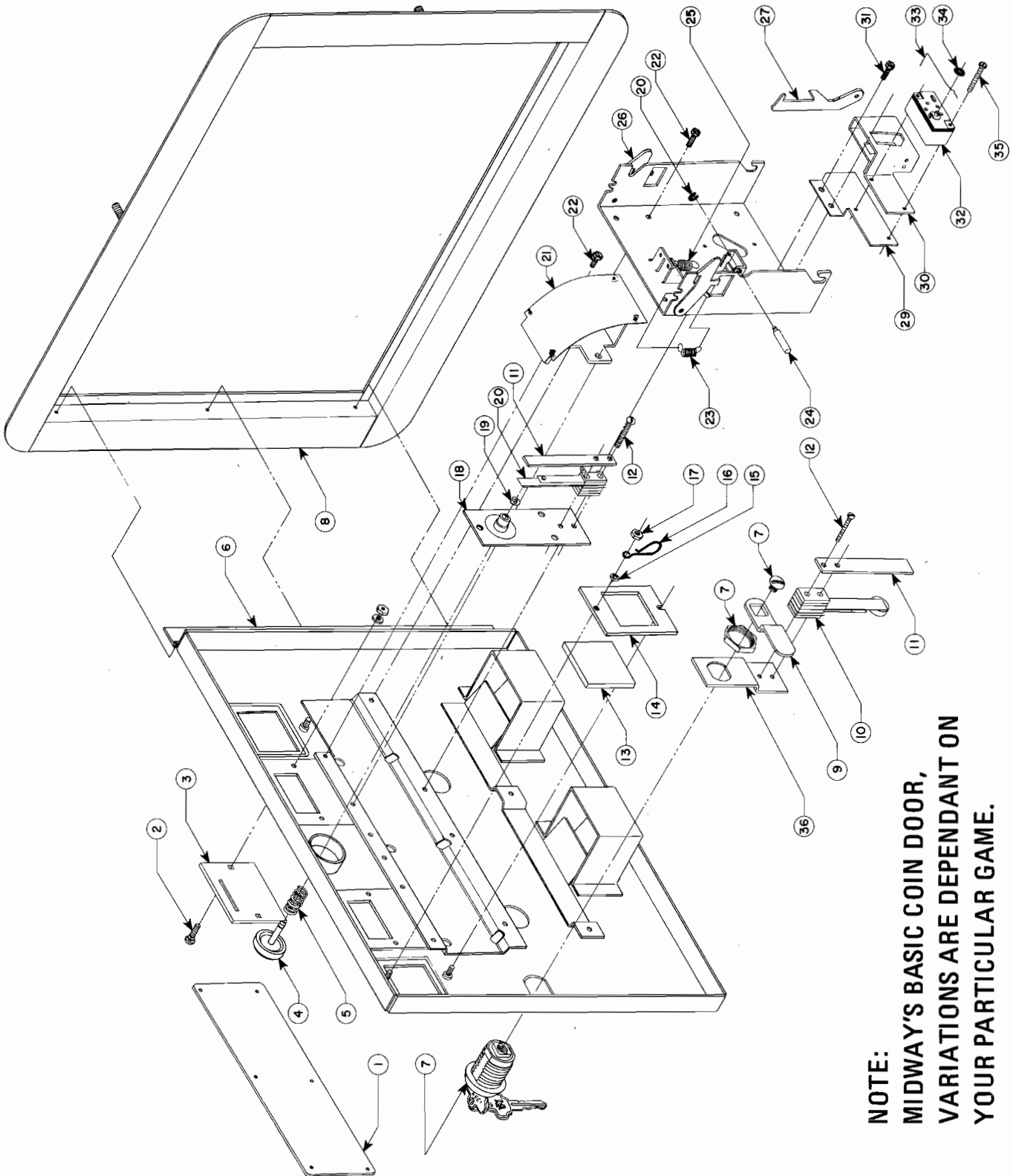


NO. 652 – PHANTOM II – CONTROL STICK ASSEMBLY

ORDER BY PART NUMBER ONLY

| ITEM | PART NO | DESCRIPTION |
|-------------|-----------------|---|
| 1 | A652-00016-0000 | WASHER & BUSHING SUB. ASSY. |
| 2 | 0017-00101-0599 | #8-32 x 3/8 SLT. EXT. HEX S.T.M.S. (6 REQ'D.) |
| 3 | 0652-00906-0000 | STOP |
| 4 | 0652-00103-00XF | SWITCH MTG. BRKT. |
| 5 | 0652-00105-00XF | POSITIONING BLADE (4 REQ'D.) |
| 6 | 0020-00230-0100 | NYLON INSULATOR (4 REQ'D.) |
| 7 | 0652-00106-0000 | CENTERING BLADE (4 REQ'D.) |
| 8 | A652-00026-0000 | LEAF SWITCH ASSY. (4 REQ'D.) |
| 9 | 0020-00202-0000 | SWITCH PLATE (4 REQ'D.) |
| 10 | 0017-00101-0529 | #5-40 x 1-3/4" SLT. RD. HD. S.T.M.S. (8 REQ'D.) |
| 11 | A652-00017-0000 | MOUNTING BRKT. BEARING ASSY. |
| 12 | 0652-00700-00XF | SWIVEL BAR |
| 13 | 0652-00703-00XF | PIVOT SHAFT |
| 14 | 0017-00100-0025 | 1/4" "E" RING (2 REQ'D.) |
| 15 | 0017-00101-0110 | #10-24 x 3/8 SHOULDER SOC. SCREW (2 REQ'D.) |
| 16 | 0017-00101-0637 | #8-32 x 1" CARRIAGE BOLT (4 REQ'D.) |
| 17 | 0017-00104-0022 | #8 FLAT WASHER (4 REQ'D.) |
| 18 | 0017-00103-0061 | #8-32 HEX NUT W/SEMS. (4 REQ'D.) |
| 19 | A652-00015-0000 | HANDLE ASSY. |
| 20 | 0017-00101-0307 | #8-32 x 1/8 SET SCREW (2 REQ'D.) |
| 21 | | WIRE LEADS (2 REQ'D.) |
| 22 | 0623-00911-0000 | SHRINK TUBING (2 REQ'D.) |
| 23 | 0017-00032-0004 | PUSH BUTTON SWITCH |
| 24 | 0652-00908-0000 | HAND GRIP - MODIFIED |
| 25 | 0017-00021-0009 | 15/32 - 32 NUT |
| | | <u>NOT SHOWN LIST</u> |
| | 0652-00910-0000 | SLIDE - NEOPRENE |
| | 0652-00109-00XF | PROTECTIVE BRKT. (MOUNTS ON CONTROL SHELF) |
| | 0010-00225-0100 | EXTENSION SPRING (LOCATED AROUND WIRE LEADS) |
| | 0017-00042-0001 | 1/8 CLAMP |
| | 0017-00101-0555 | #6-32 x 5/16 SLT. HEX WD. SCREW |

NO. 652 – PHANTOM II – FRONT DOOR ASSY.

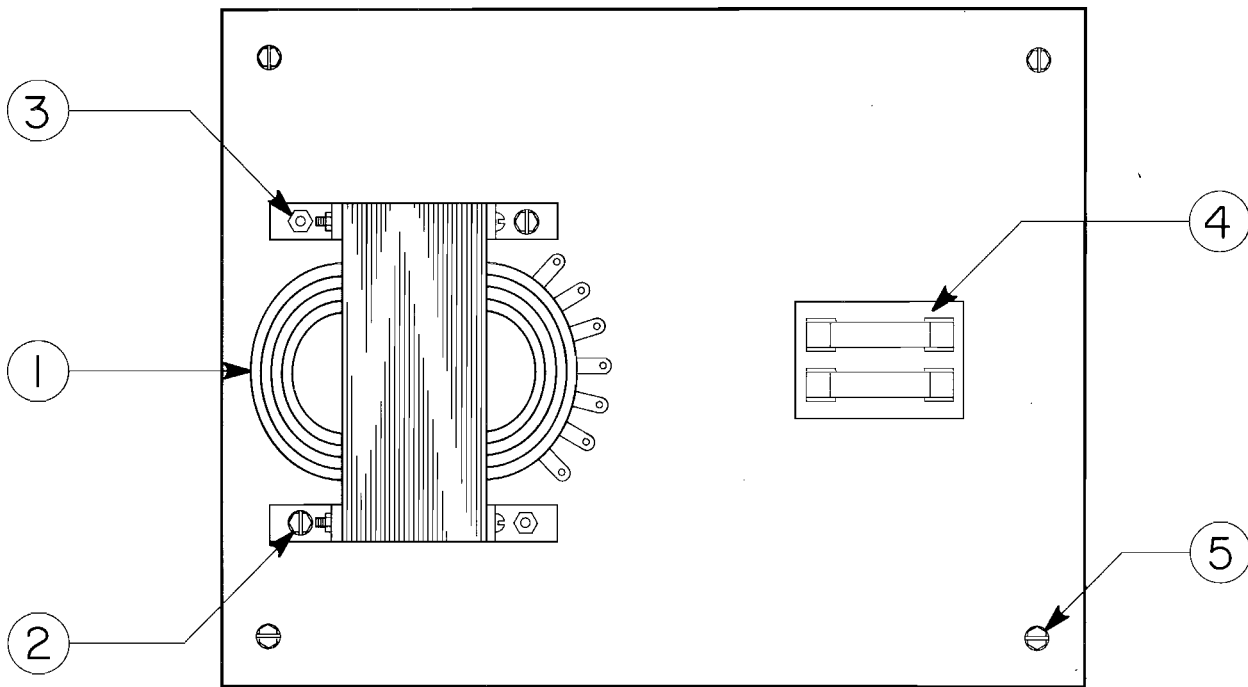


**NOTE:
MIDWAY'S BASIC COIN DOOR,
VARIATIONS ARE DEPENDANT ON
YOUR PARTICULAR GAME.**

NO. 652 – PHANTOM II – FRONT DOOR ASSY.
ORDER BY PART NUMBER ONLY

| ITEM | PART N^o | DESCRIPTION |
|-------------|------------------------------------|--|
| 1 | 0090-00902-0000 0090-00902-0100 | DRESS PLATE DRESS PLATE (W/O PRESS BUTTON TO START GAME) |
| 2 | 0017-00101-0552 | #6 - 32 x 1/4 CARRIAGE BOLT (2) |
| 3 | 0090-00117-03XF | COIN ENTRY PLATE (25¢) |
| 4 | 0090-00906-0000 | PLASTIC START BUTTON |
| 5 | 0010-00007-0000 | COMPRESSION SPRING |
| 6 | 0090-00013-0200 | DOOR ASSY. DOUBLE ENTRY |
| 7 | 0017-00005-0050 | DOOR LOCK & KEY WITH SCREW & NUT |
| 8 | 0090-00002-02BR | DOUBLE DOOR FRAME |
| 9 | 0017-00005-0041 | 421 N.S. CAM |
| 10 | 0090-00901-0000 | DOOR SWITCH |
| 11 | 0090-00126-01XF | SWITCH BACKUP PLATE |
| 12 | 0017-00101-0528 | #5-40 x 3/4" LNG. M.S. |
| 13 | 0090-00903-0040 | 25¢ WINDOW |
| 14 | 0090-00143-0000 | COIN PLEX RETAINER |
| 15 | 0017-00104-0002 | SPLIT LOCK WASHER |
| 16 | 0017-00007-0019 | KEY HOOK |
| 17 | 0017-00103-0005 | #6 - 32 HEX NUT |
| 18 | 0090-00010-0000 | SW. PLATE & OILLITE ASSY. |
| 19 | 0017-00100-0018 | "E" RING |
| 20 | 0090-00131-0000 | SWITCH |
| 21 | 0090-00104-0000 | TOP & BTM. COIN CHUTE W/BRKT. ASSY. |
| 22 | 0017-00101-0598 | #8 - 32 x 5/16 SCREW |
| 23 | 0010-00181-0100 | SPRING |
| 24 | 0090-00129-00XF | PIVOT POST |
| 25 | 0010-00134-0000 | SPRING |
| 26 | 0090-00008-0000 | ACCEPTOR FRAME ASSY. |
| 27 | 0093-00155-00XF | REJECTOR LEVER |
| 28 | 0017-00100-0012 | "E" RING |
| 29 | 0093-00151-00XF | COIN GUIDE MTG. BRACKET |
| 30 | 0090-00005-0000 | COIN GUIDE ASSY. |
| 31 | 0017-00101-0555 | #6 - 32 x 5/16 SCREW |
| 32 | 0017-00005-0039 | COIN SWITCH |
| 33 | 0010-00557-2500 | TRIP WIRE |
| 34 | 0017-00007-0132 | PUSH-ON RING (BIK) |
| 35 | 0017-00101-0507 | #4 - 36 x 3/4 SCREW |
| 36 | 0090-00128-00XF | SWITCH BRKT. – DOOR TILT |

NO. 652 – PHANTOM II – TRANSFORMER BOARD ASSY.



MIDWAY MFG. CO.
A BALLY CO.

NO. 652 – PHANTOM II – TRANSFORMER BOARD ASSY.

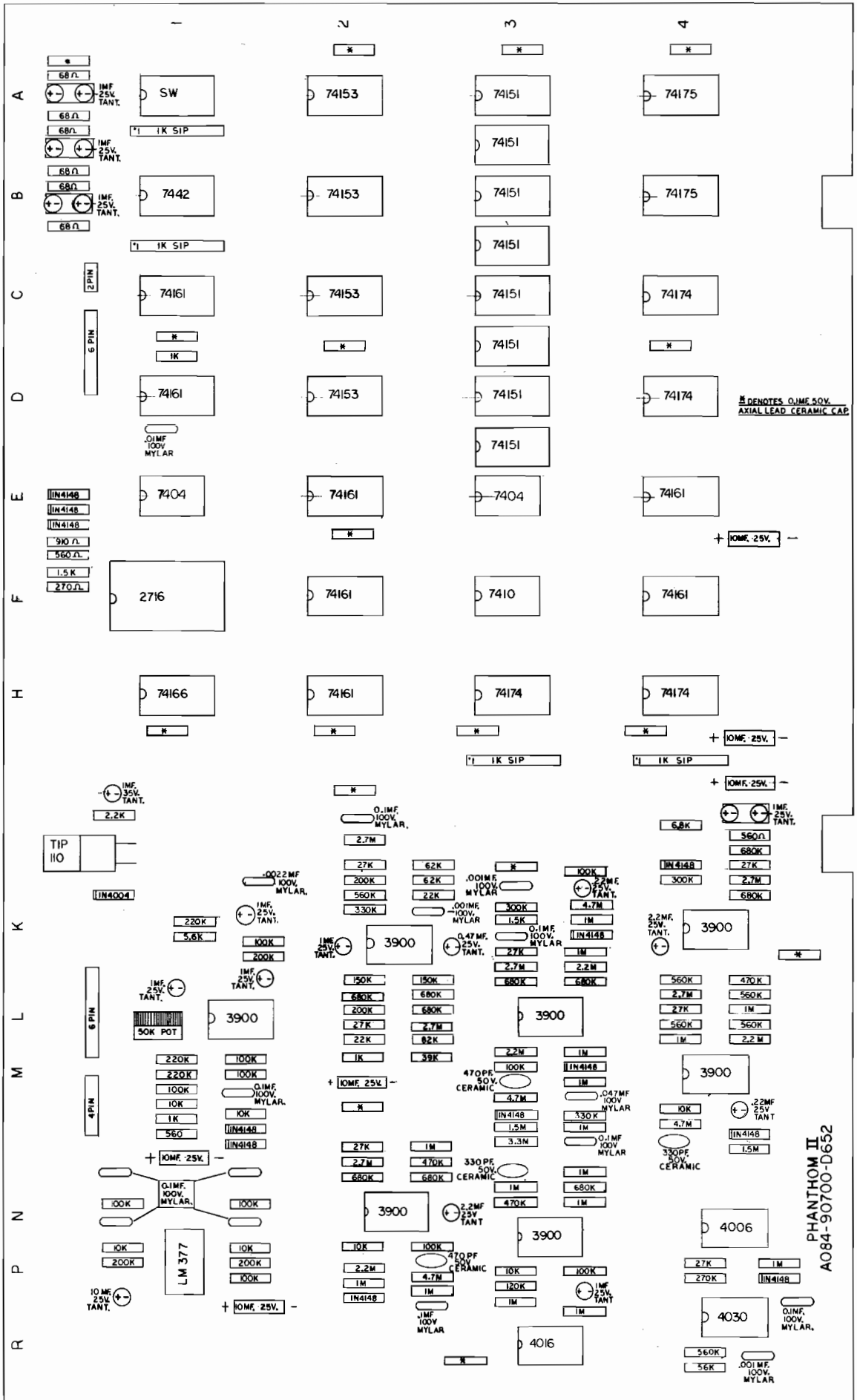
ORDER BY PART NUMBER ONLY

| ITEM | PART N ^o | DESCRIPTION |
|------|---|--|
| 1 | MT00-00058-0000 MT00-00059-0000 | TRANSFORMER – 60 CYCLE – DOMESTIC (OR) TRANSFORMER – 50 CYCLE – FOREIGN |
| 2 | 0017-00101-0017 | #6 x 1/2 SLT. HEX HD. WD. SCR. (2 REQ'D.) |
| 3 | 0017-00101-0637 0017-00103-0008 | #8-32 x 1" CARRIAGE BOLT (2 REQ'D.) WITH #8-32 HEX NUT (2 REQ'D.) |
| 4 | 0720-00001-0200 0017-00003-0103 0017-00003-0006 | 2 POSITION FUSE BLOCK FUSE 1 AMP FUSE 3 AMP |
| 5 | 0017-00101-0018 0017-00003-0064 | #6 x 3/4 SLT. HEX HD. SCREW (5 REQ'D.) 16 FT. LINE CORD – NOT SHOWN |

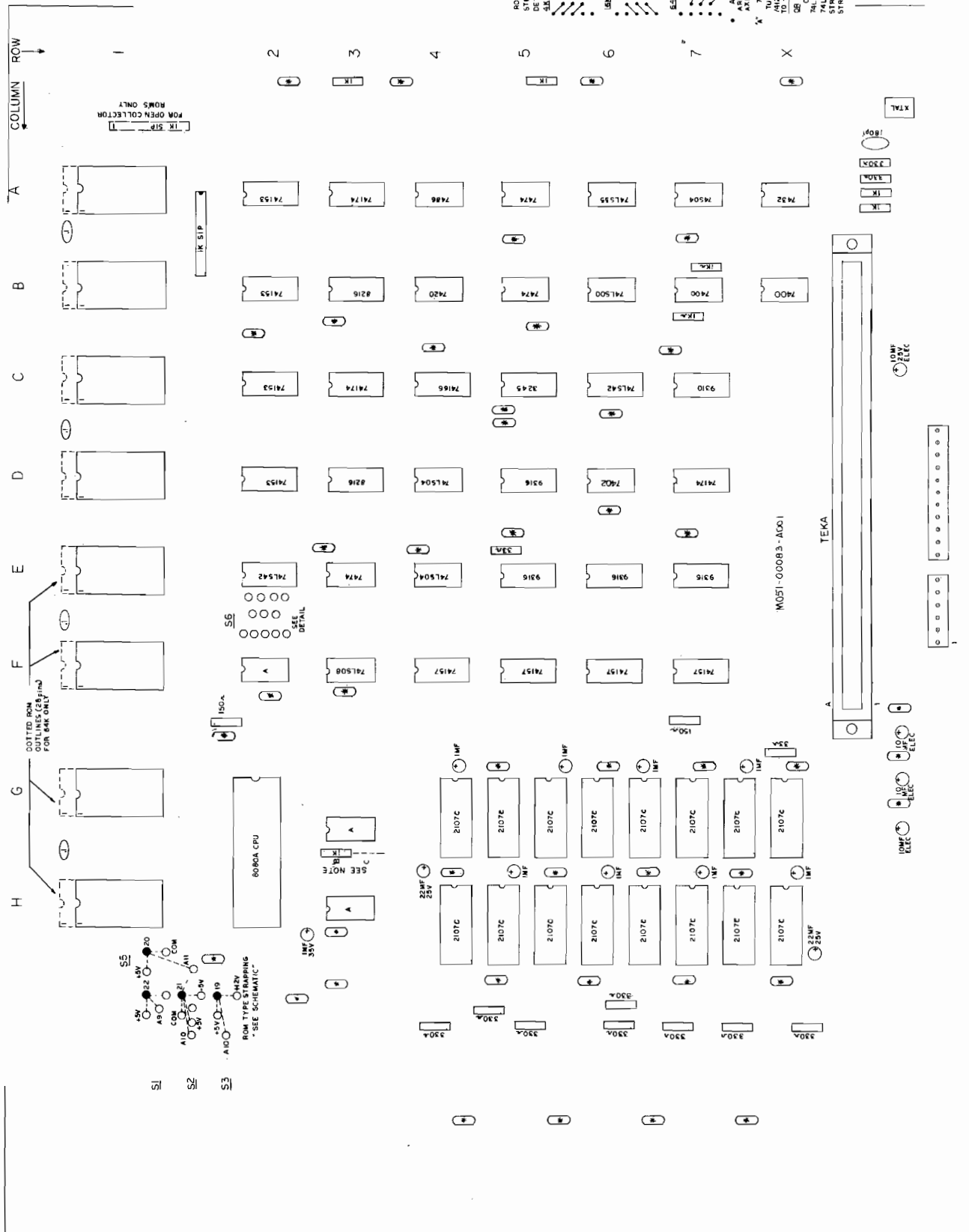
NO. 652 – PHANTOM II – ADDITIONAL PARTS LIST

ORDER BY PART NUMBER ONLY

| ITEM | PART N ^o | DESCRIPTION |
|------|---------------------|---|
| | A652-00006-0000 | LOWER BACK DOOR ASSY. |
| | A652-00007-0000 | UPPER BACK DOOR ASSY. |
| | A097-00001-0000 | LOCK ASSY. (1 LOWER, 1 UPPER) |
| | 0618-00117-0000 | VENT GRILL (1 UPPER, 1 LOWER) |
| | A623-00110-0000 | CASH BOX ASSY. |
| | A623-00013-0000 | CASH BOX COVER ASSY. |
| | A624-00001-0000 | CASH BOX GUIDE BRKT. ASSY. |
| | 0624-00101-0000 | CASH BOX SIDE CHANNEL |
| | 0017-00101-0628 | #8-32 x 3/4 CARRIAGE BOLTS (4 REQ'D.) |
| | 0017-00104-0022 | #8 WASHER (4 REQ'D.) |
| | 0017-00103-0008 | #8-32 HEX NUT (4 REQ'D.) |
| | 0652-00101-0000 | GLASS LOCK BRKT. (2 REQ'D.) |
| | 0652-00108-0000 | RETAINING BRKT. |
| | 0017-00009-0033 | BASSICK CLAMPS (2 REQ'D.) |
| | 0603-00131-0000 | STRIKE (2 REQ'D.) |
| | A084-90000-L652 | MOTHER BOARD ASSY. |
| | A084-90700-D652 | GAME BOARD ASSY. |
| | A082-90400-H000 | POWER SUPPLY BOARD ASSY. |
| | 0017-00009-0419 | PIN EXTRACTOR TOOL (PIN POPPER) (MOLAX JACKS ONLY) |



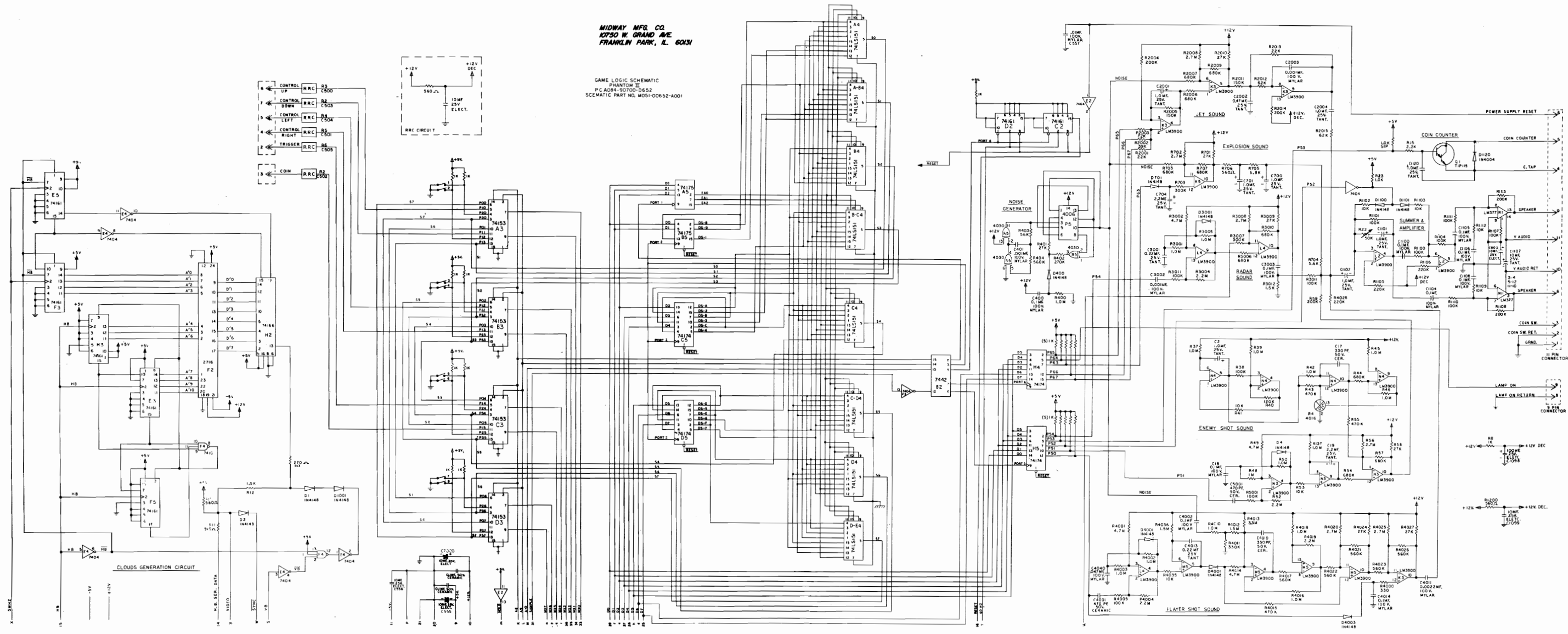
COMPONENT LAYOUT PART NO. M051-00652-A003

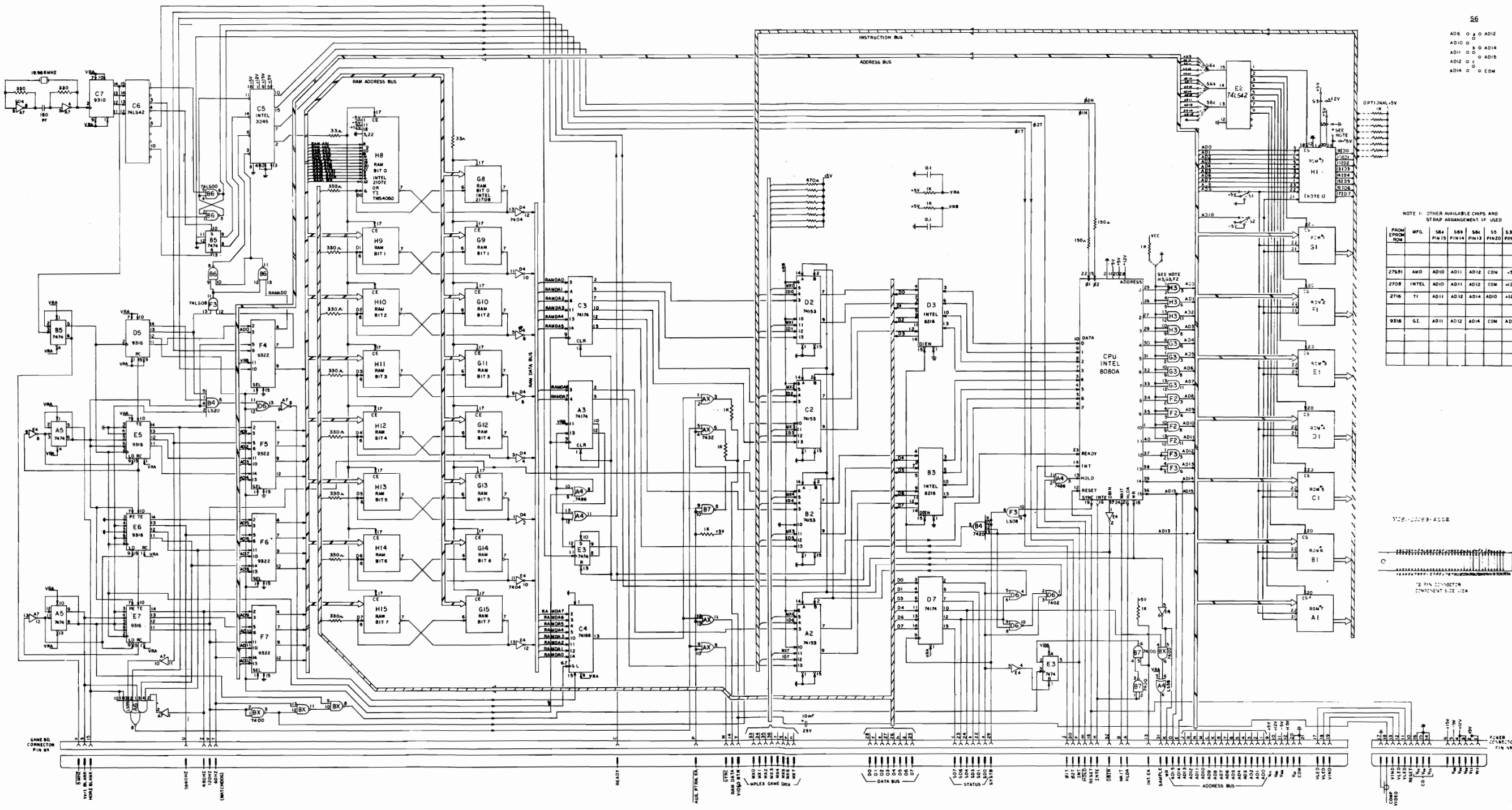


MOTHER BOARD COMPONENT LAYOUT
A084-90000-L652

MIDWAY MFG. CO.
10750 W. GRAND AVE.
FRANKLIN PARK, ILL. 60131

GAME LOGIC SCHEMATIC
PHANTOM II
PC A04-90700-0652
SCHEMATIC PART NO. M051-00652-A001

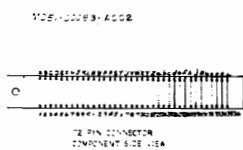




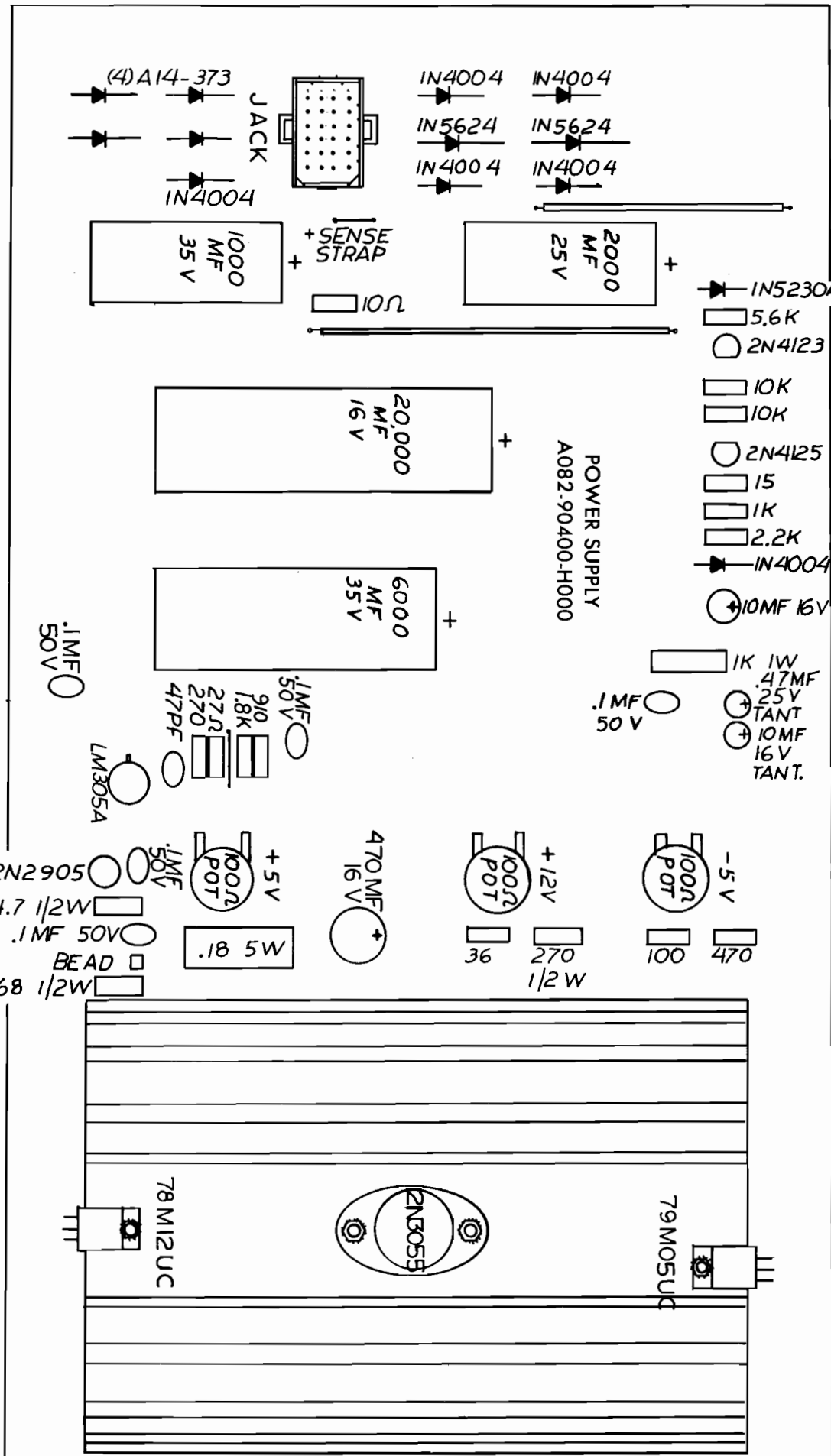
56
 AD6 ○ ○ ○ AD12
 AD10 ○ ○ ○ AD14
 AD11 ○ ○ ○ AD15
 AD12 ○ ○ ○ COM
 AD14 ○ ○ ○ COM

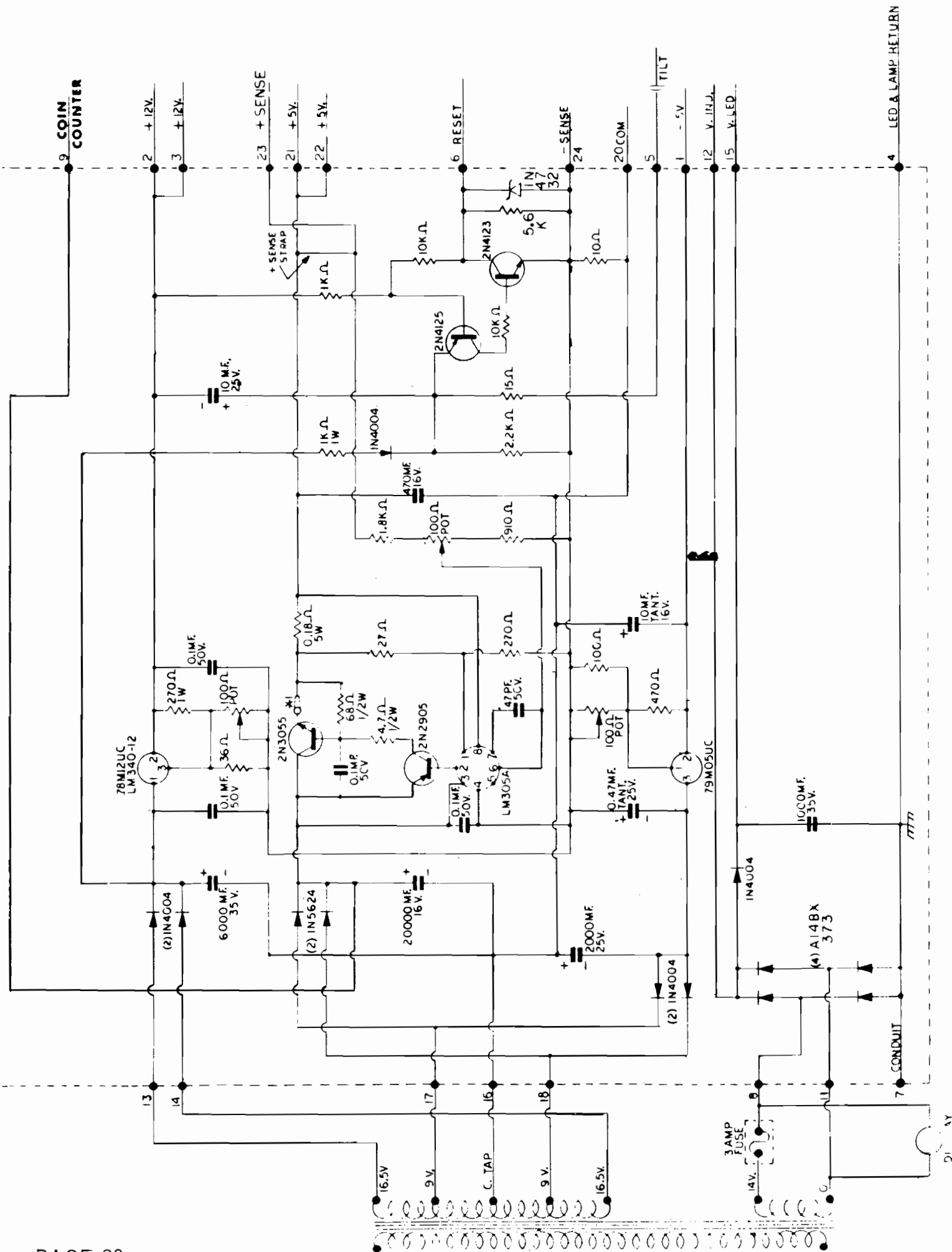
NOTE 1: OTHER AVAILABLE CHIPS AND STRAP ARRANGEMENT IF USED

| PROM EPROM ROM | MFG | 5A PIN15 | 5B PIN14 | 5C PIN13 | 55 PIN20 | 53 PIN19 | 52 PIN21 | 51 PIN22 | 50 PIN24 | MSIP NEEDLE |
|----------------|-------|----------|----------|----------|----------|----------|----------|----------|----------|-------------|
| 2781 | AMD | AD10 | AD11 | AD12 | COM | +5V | COM | AD9 | +5V | NO |
| 2708 | INTEL | AD10 | AD11 | AD12 | COM | +12V | +5V | AD9 | +5V | NO |
| 2716 | TI | AD11 | AD12 | AD14 | AD10 | +12V | +5V | AD9 | +5V | NO |
| 9316 | GI | AD11 | AD12 | AD14 | COM | AD10 | COM | AD9 | +5V | NO |

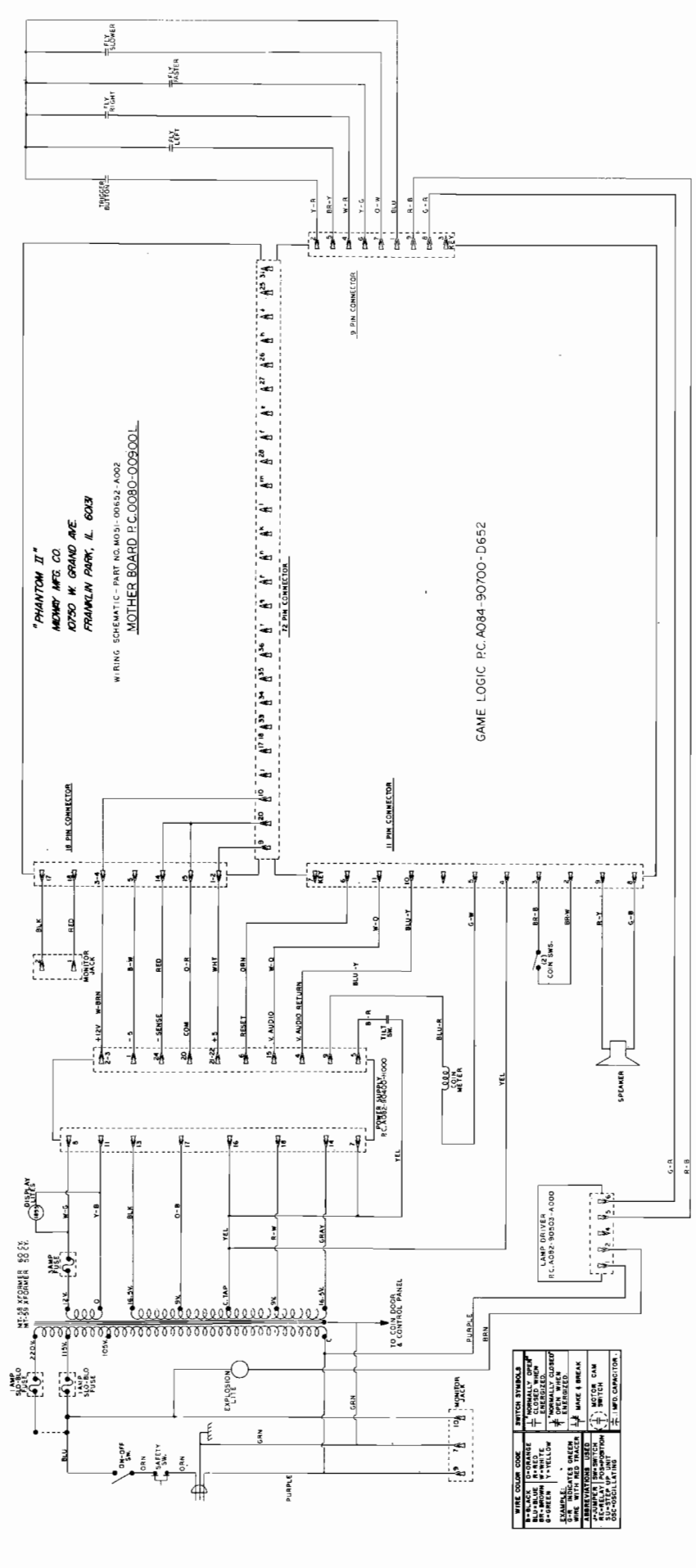


MOTHER BOARD SCHEMATIC
 A084-9000-L652

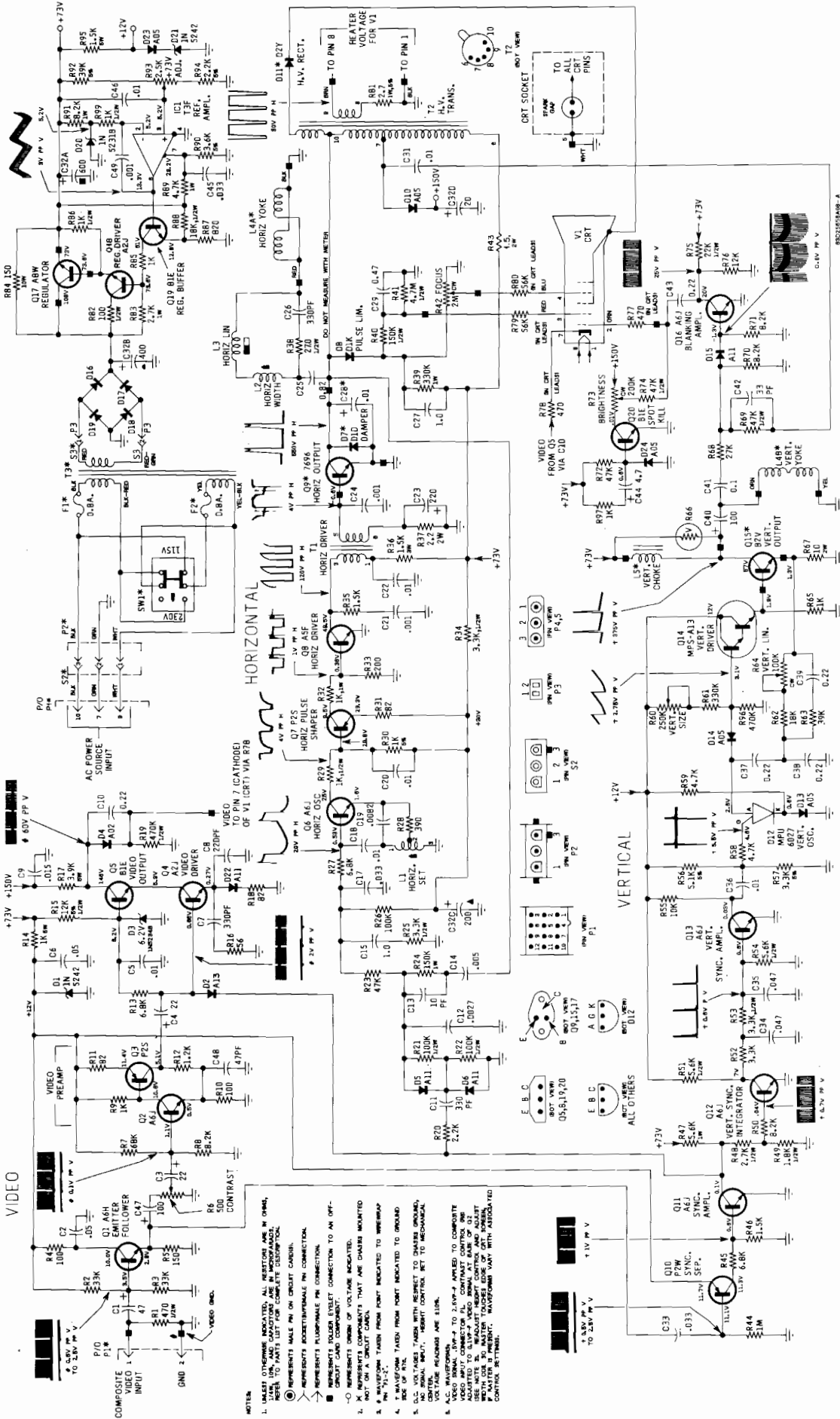




7777



POWER SUPPLY



M5000-155, M7000-155 - Diagram Schematic

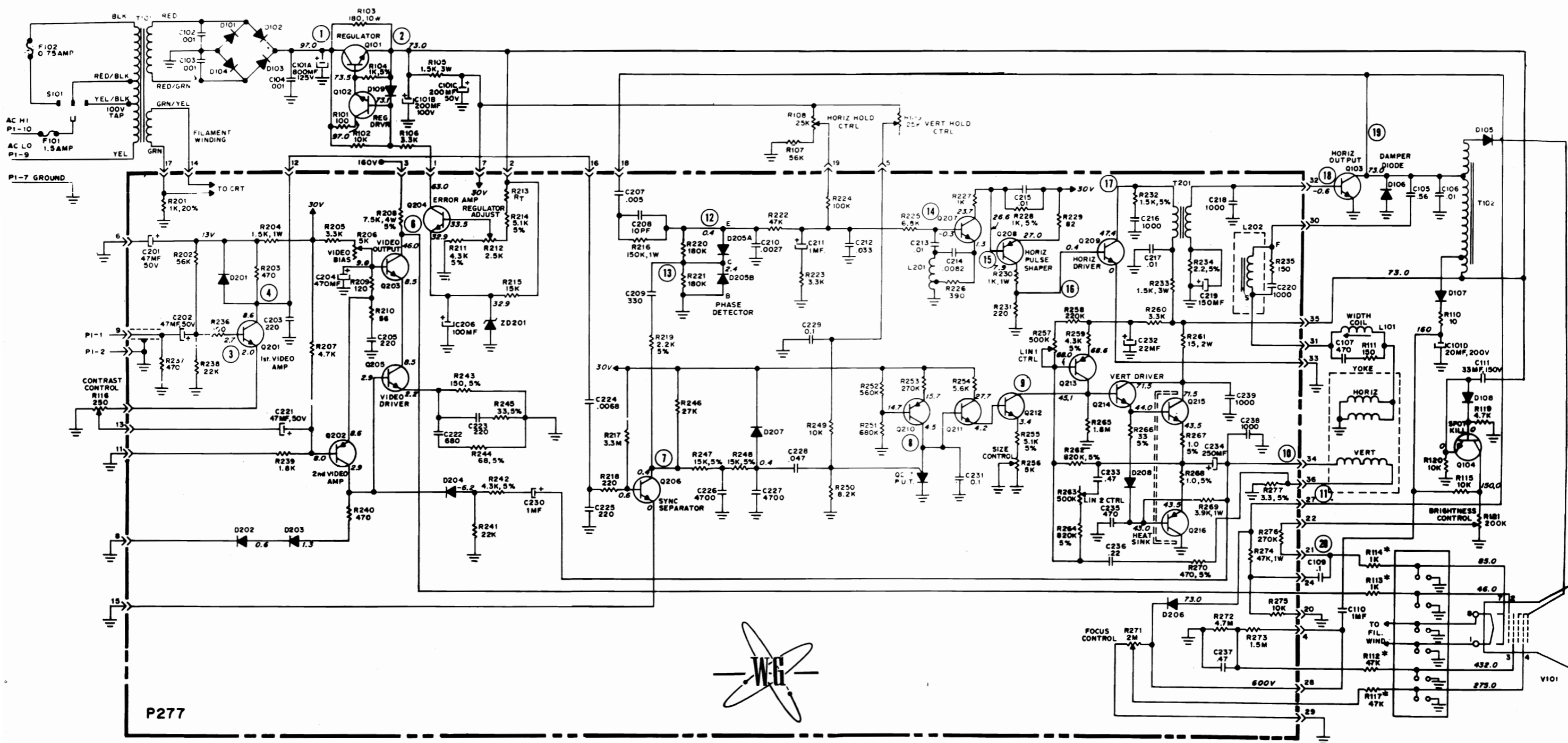
| REF. NO. | PART NUMBER | DESCRIPTION | REF. NO. | PART NUMBER | DESCRIPTION |
|--------------------------------|--------------|--|---------------------------|-------------|-----------------------------|
| ELECTRICAL PARTS | | | COILS & CHOKES | | |
| | 1Y25017A01 | MONITOR PANEL: complete; KT364LM | L-1 | 24D68822A08 | HORIZ SET |
| | 1Y25017A02 | POWER, Audio Panel: complete; KT365LM | L-2 | 24D68801A67 | COMPENSATING: 2000 uh |
| CAPACITORS | | | L-3 | 24D69163A18 | HORIZ LINEARITY |
| C-1 | 23C65282A41 | 50 mf 50V Lytic | L-4 | 24V25000A74 | HORIZ WIDTH: incl C42 & R68 |
| C-2 | 23C65282A41 | 50 mf 50V Lytic | L-5 | 24D68523A15 | DEFLECTION YOKE |
| C-3 | 21S180D10 | 220 pf 20% 100V X5F (Use 21R132503) | TRANSISTORS | | |
| C-4 | 23C65282A41 | 50 mf 50V Lytic | Q-1 | 48S137171 | 1st VIDEO: A6H |
| C-5 | 21S180B98 | 180 pf 10% 500V X5F | Q-2 | 48S137127 | 2nd VIDEO: P2S |
| C-6 | 23S10255A78 | 470 mf 16V Lytic | Q-3 | 48S134919 | VIDEO OUTPUT: A1M |
| C-7 | 21S180C01 | 680 pf 10% 500V X5F | Q-4 | 48S137317 | VIDEO DRIVER: A8H |
| C-8 | 21S180B85 | 560 pf 10% 500V X5F | Q-5 | 48S137115 | SYNC SEPERATOR: A5U |
| C-10 | 8S10191B67 | .22 mf 10% 250V Polyester | Q-6 | 48S137172 | HORIZ OSCILLATOR: A6J |
| C-11 | 8S10191A54 | .0068 mf 10% 160V Polyester | Q-7 | 48S137127 | HORIZ PULSE SHAPER: P2S |
| C-12 | 21S180D10 | 220 pf 20% 100V X5F (Use 21R132503) | Q-8 | 48S137093 | HORIZ DRIVER: A5F |
| C-13 | 21S131625 | 330 pf 10% X5F | Q-9 | 48S137203 | HORIZ OUTPUT: A6Z |
| C-15 | 21S180C41 | .0027 mf 10% 500V Z5F (Use 21K121699) | Q-10 | 48S137173 | VERT OSCILLATOR (1): P2W |
| C-16 | 23S10229A07 | 1.0 mf +40-20% 15V Lytic (Use 23C43280A17) | Q-11 | 48S137171 | VERT OSCILLATOR (2): A6H |
| C-17 | 8S10191B90 | .033 mf 10% 160V Polyester | Q-12 | 48S137115 | VERT DRIVER: A5U |
| C-18 | 8S10299A73 | .01 mf 10% 100V Poly carb | Q-13 | 48S134900 | VERT OUTPUT: A1C |
| C-19 | 8S10299A74 | .0082 mf 10% 160V Poly carb | Q-14 | 48S134952 | REGULATOR DRIVER: A2J |
| C-20 | 8S10191B98 | .01 mf 10% 250V Polyester | Q-15 | 48S137315 | REFERENCE AMP: A8G |
| C-21 | 21S180B51 | .001 mf 10% 500V X5F | Q-16 | 48S137368 | REGULATOR: A8W |
| C-22 | 8S10191B98 | .01 mf 10% 160V Polyester | Q-17 | 48S137172 | AUDIO DRIVER: A6J |
| C-23 | 21S180C02 | 10 pf 10% N150 | Q-18 | 48S137168 | AUDIO OUTPUT: P2V |
| C-24 | 23D65282A40 | 150 mf 10V Lytic | Q-19 | 48S137169 | 5V REGULATOR, Driver: A6G |
| C-25 | 21S180B51 | .001 mf 10% 500V X5F | Q-20 | 48S137344 | 5V REGULATOR: A8U |
| C-26 | 8S10212B53 | .47 mf 10% 630V Mtlz Poly | Q-21 | 48S137476 | SPOT KILLER: B1E |
| C-27 | 8S10212A11 | 1.0 mf 10% 630V Mtlz Poly | CONTROLS | | |
| C-28 | 8S10571A06 | .01 mf 5% 1200V Poly Prop Foil | R-5 | 18D68222A34 | CONTRAST: 250 Ohm |
| C-29 | 8S10571A23 | .56 mf 10% 250V Mtlz Prop Foil | R-10 | 18D66401A44 | VIDEO BIAS: 4K |
| C-30 | 8S10191A32 | .047 mf 10% 250V Polyester | R-17 | 18D67858A12 | FOCUS: 2 meg |
| C-31 | 21S180B87 | 220 pf 10% 500V X5F | R-21 | 18D68222A35 | BRIGHTNESS: 200K |
| C32 | 21S180D34 | .005 mf 20% 1KV Z5F (Use 21S180D31) | R-34 | 18D68222A37 | HORIZ HOLD: 25K |
| C-33 | 8S10212A69 | .47 mf 10% 100V Mtlz Poly | R-59 | 18D66401A44 | VERT LINEARITY: 4K |
| C-34 | 8S10191A32 | .047 10% 250V Polyester | R-65 | 17D65820A38 | VERT SIZE: 15 Ohm |
| C-35 | 8S10191B98 | .01 mf 10% 250V Polyester | R-74 | 17D65820A37 | REGULATOR ADJUST: 2K |
| C-36 | 23S10255A69 | 4.7 mf 100V Lytic | R-82 | 18D68222A36 | VERT HOLD: 3K |
| C-37 | 8S10212A20 | 2.2 mf 10% 100V Mtlz Poly | R-85 | 18D68222A34 | VOLUME: 250 Ohm |
| C-38 | 8S10212A20 | 2.2 mf 10% 100V Mtlz Poly | RESISTORS | | |
| C-39 | 8S10191B67 | .22 mf 10% 250V Polyester | R-1 | 6S127633 | 470 10% 1/2W |
| C-40 | 8S10212A10 | 1.0 mf 10% 100V Mtlz Poly (Use 8S10191A46) | R-2 | 6S125568 | 22K 10% 1/2W |
| C-41 | 8S10064A06 | .01 mf 10% 600V Mylar | R-3 | 6S127541 | 56K 10% 1/2W |
| C-42 | 21S180A71 | 470 pf 10% 500V X5F | R-4 | 6S127633 | 470 10% 1/2W |
| C43 | 23C65807A47 | 400 mf/125V; 600 mf/50V; 20 mf/200V Lytic | R-6 | 6S128955 | 1500 10% 1W |
| C-44 | 21S180E60 | .01 mf +80-20% 50V Z5V | R-7 | 6S121847 | 4700 10% 1/2W |
| C-47 | *23C65807A52 | 5000 mf 20V Lytic | R-8 | 6S122445 | 1800 10% 1/2W |
| C-49 | 23S10255A31 | 470 mf 40V Lytic | R-9 | 6S119926 | 2700 10% 1/2W |
| C-50 | 23D65282A41 | 50 mf 50V Lytic | R-11 | 6S128226 | 120 10% 1/2W |
| C-51 | 23S10255B43 | 40 mf 100V Lytic | R-12 | 6S127633 | 470 10% 1/2W |
| DIODES & RECTIFIERS | | | R-13 | 17S10731A02 | 7500 5% 5W WW |
| D-1 | 48S134921 | DIODE, Silicon: D1D; Dampner | R-14 | 6S124797 | 150 10% 1/2W |
| D-2 | 48S134978 | DIODE, Silicon: D1K; Pulse Limiter | R-15 | 6S127516 | 82 10% 1/2W |
| D-3 | 48D67120A11 | DIODE, Low Power | R-18 | ----- | Part of CRT socket assembly |
| D-4 | 48S137114 | RECTIFIER, H. V.: Silicon: D2Y | R-19 | ----- | Part of CRT socket assembly |
| D-5 | 48S191A05 | RECTIFIER, Silicon: 91A05 (Use 48S191A07) | R-20 | ----- | Part of CRT socket assembly |
| D-6 | 48S137469 | DIODE, Silicon: zener; D7G | R-22 | 6S129296 | 270K 10% 1/2W |
| D-7 | 48S134917 | DIODE, Dual: D1C; Detector | R-23 | 6S10053C67 | 27K 5% 1/2W |
| D-8 | 48S67120A11 | DIODE, Low Power | R-24 | 6S127538 | 3.3 meg 10% 1/2W |
| D-9 | *48S191A10 | RECTIFIER, Silicon: 91A10 | R-25 | 6S121300 | 27K 10% 1/2W |
| D-10 | 48S191A10 | RECTIFIER, Silicon: 91A10 | R-26 | 6S127541 | 56K 10% 1/2W |
| D-11 | 48S101A10 | RECTIFIER, Silicon: 91A10 | R-27 | 6S129875 | 2200 10% 1/2W |
| D-12 | 48S191A10 | RECTIFIER, Silicon: 91A10 | R-28 | 6S125531 | 180K 10% 1/2W |
| D-13 | 48D67120A11 | DIODE, Low Power | R-29 | 6S125531 | 180K 10% 1/2W |
| D-14 | 48S191A05 | RECTIFIER, Silicon: 91A05 (Use 48S191A07) | R-30 | 6S125892 | 47K 10% 1/2W |
| D-15 | 48S191A05 | RECTIFIER, Silicon: 91A05 (Use 48S191A07) | R-31 | 6S125534 | 100K 10% 1/2W |
| D-16 | 48S191A05 | RECTIFIER, Silicon: 91A05 (Use 48S191A07) | R-32 | 6S124506 | 3300 10% 1/2W |
| D-17 | 48S191A05 | RECTIFIER, Silicon: 91A05 (Use 48S191A07) | R-33 | 6S10053C53 | 6800 5% 1/2W |
| D-18 | 48S191A05 | RECTIFIER, Silicon: 91A05 (Use 48S191A07) | R-35 | 6S127541 | 56K 10% 1/2W |
| D-19 | 48D67120A11 | DIODE, Low Power | R-36 | 6S125545 | 390 10% 1/2W |
| D-20 | *48S10641D43 | DIODE, Silicon: D4.3 | R-37 | 6S121301 | 1000 10% 1/2W |
| D-21 | 48D67120A11 | DIODE, Low Power | R-38 | 6S10053C33 | 1000 5% 1/2W |
| D-22 | 48S191A05 | RECTIFIER, Silicon: 91A05 (Use 48S191A07) | R-39 | 6S127516 | 82 10% 1/2W |
| D23 | 48S191A05 | RECTIFIER Silicon: 91A05 (Use 48S191A07) | R-40 | 6S127547 | 1000 10% 1W |
| FUSES | | | R-41 | 6S127099 | 220 10% 1/2W |
| F-1 | 65S139424 | FUSE: 1A-250V | R-42 | 6S127513 | 1500 10% 1/2W |
| F-2 | 65S139424 | FUSE: 1A-250V | R-43 | 17S10130B07 | 1500 10% 3W fxd mtl film |
| INTEGRATED CIRCUITS | | | R-44 | 17S744356 | 2.2 10% 2W WW |
| IC-1 | *51S10732A01 | INTEGRATED CIRCUIT: T3F | R-45 | 6S120141 | 150K 10% 1W |
| | | | R-46 | 6S127634 | 33K 10% 1W |
| | | | R-47 | 6S128229 | 680K 10% 1/2W |
| | | | R-48 | 6S10053D21 | 4.7 meg 10% 1/2W |
| | | | R-49 | 6S124797 | 150 10% 1/2W |
| | | | R-50 | 6S10053C45 | 3300 5% 1/2W |
| | | | R-52 | 6S124506 | 3300 10% 1/2W |
| | | | R-53 | 6S129874 | 68 10% 1/2W |
| | | | R-54 | 6S131972 | 39 10% 1/2W |
| | | | R-55 | 6S10053C65 | 22K 5% 1/2W |
| | | | R-56 | 6S125535 | 39K 10% 1/2W |
| | | | R-57 | 6S124506 | 3300 10% 1/2W |
| | | | R-58 | 6S129793 | 82K 5% 1/2W |
| | | | R-60 | 6S129875 | 2200 10% 1/2W |
| | | | R-61 | 6S10053F29 | 820 10% 1W |
| | | | R-62 | 6S127515 | 3900 10% 1/2W |

REPLACEMENT PARTS LIST

| REF. NO. | PART NUMBER | DESCRIPTION | REF. NO. | PART NUMBER | DESCRIPTION |
|---------------------------------------|--------------|-----------------------------------|----------|----------------------------|---|
| R-63 | 6S121301 | 1000 10% 1/2W | | | |
| R-64 | 17S10130C91 | 10 10% 1/2W (special) | | | |
| R-66 | 6S129064 | 4700 10% 1W | | | |
| R-67 | 6S122848 | 18K 10% 1/2W | | | |
| R-68 | 6S124797 | 150 10% 1/2W | | | |
| R-69 | 17S647132 | 1200 10% 5W WW (Use 17S136197) | | | |
| R-71 | 6S119926 | 2700 10% 1/2W | | | |
| R-72 | 6S124551 | 15K 10% 1/2W | | | |
| R-73 | 6S129875 | 2200 10% 1/2W | | | |
| R-75 | 6S121301 | 1000 10% 1/2W | | | |
| R-76 | 6S124506 | 3300 10% 1/2W | | | |
| R-77 | 6S129221 | 100 10% 1/2W | | | |
| R-78 | 6S127005 | 5600 10% 1/2W | | | |
| R-79 | 17S135589 | 150 10% 10W WW | | | |
| R-81 | 6C66263A08 | VARISTOR (Use 6S66263A16) | | | |
| R-86 | 6S127099 | 220 10% 1/2W | | | |
| R-88 | 6S121301 | 1000 10% 1/2W | | | |
| R-89 | --- | Part of CRT Socket | | | |
| R-90 | 6S131412 | 56 10% 1/2W | | | |
| R-91 | 6S10053C39 | 1800 5% 1/2W | | | |
| R-92 | 6S10053C57 | 10K 5% 1/2W | | | |
| R-95 | 6S125568 | 22K 10% 1/2W | | | |
| R-96 | 6S125568 | 22K 10% 1/2W | | | |
| R-97 | 6S121847 | 4700 10% 1/2W | | | |
| R-98 | 6S127099 | 220 10% 1/2W | | | |
| R-99 | 6S128226 | 120 10% 1/2W | | | |
| SWITCHES | | | | | |
| SW-1 | 40S10624A01 | SWITCH, Slide: DPDT (115V-230V) | | | |
| TRANSFORMERS | | | | | |
| T-1 | 25D67440A03 | HORIZ DRIVER | | | |
| T-2 | 24D69791A21 | H. V. TRANSFORMER: complete | | | |
| T-3 | 25D65840A22 | VERT OUTPUT (Use 25D65840B23) | | | |
| T-4 | *25D68164A31 | POWER | | | |
| MISCELLANEOUS ELECTRICAL PARTS | | | | | |
| V-1 | 20WP4 | CRT (XM501-10 19VP111) | | | |
| | 23JEP4 | CRT (XM701-10 23VP111) | | | |
| | | | E-1 | 50V25008A22 65S139451 | SPEAKER: 4" PM; incl D22 LAMP: No. 1436 |
| MECHANICAL PARTS | | | | | |
| | | | | 9D66133A28 | CAP, SS Rect (HV Transformer - PRI/SEC lead) |
| | | | | 42B25158A01 31D70080B04 | CLAMP, Metal: Defl Yoke Mtg CONNECTOR, PC panel: 9 contact; on chassis |
| | | | S-2 | *15S10390A06 | CONNECTOR, PC panel: 12 contact; less key and contacts (power-audio panel) |
| | | | P-1 | *15S10183A69 | CONNECTOR, Plug: 12 contact; less contacts (power) |
| | | | | *39S10184A63 | CONTACT, Plug: for power connector 15S10183A69 |
| | | | | 39S10184A22 | CONTACT: for S2 connector |
| | | | | 15S10630A01 | COVER, nylon: slide switch; SW1 |
| | | | | *7S10609A03 | GROMMET, Plastic: PC panel mtg |
| | | | | 26C66745A05 | HEAT SINK: Q3 |
| | | | | *26C25198A01 | HEAT SINK: Q20 |
| | | | | 9C66238A02 | HOLDER, Fuse: F1 & F2 |
| | | | | 14A562353 | INSULATOR, Mica: Transistor socket; Q9, Q13, Q16 & Q20 (Use 14A543810) |
| | | | | 28S10733A01 | KEY, Plug: for S2 connector |
| | | | | 2S7051 | NUT, hex: 3/8-32; control mtg |
| | | | | 5S10281A03 | RIVET, drive pin: nylon; HV transf mtg |
| | | | | 47C66082A03 | ROD, Adjustment: width coil; L4 |
| | | | | 3S136050 | SCREW, tpg: 6-20 x 1/2 clu pan hd; Q9, Q13, Q16 & Q20 |
| | | | | 9S10143A41 | SOCKET, lamp: E1 |
| | | | | 9D67555V27 | SOCKET, CRT: incl leads & resistors |
| | | | | *9D25201A01 | SOCKET, HV Rectifier (4): complete; incl 2nd anode lead & cup |
| | | | | 9C63825A01 | SOCKET, transistor: Q9, Q13, Q16 |
| | | | | 9C63825A02 | SOCKET, transistor: Q20 |
| | | | | 41D65987A01 | SPRING, special: CRT aquadag grnd |
| | | | | 66P65173A47 | TOOL, contact removal (S2 connector) |

* DENOTES NEW ITEM APPEARING ON ANY LIST FOR FIRST TIME.

MOTOROLA PARTS DEPT.
MOTOROLA INC.
1155 HARVESTER RD.
WEST CHICAGO, IL 60185
PHONE (312) 231-4400



P277



- NOTES:
1. VOLTAGE MAY VARY WITH CONTROL SETTING.
 2. LINE VOLTAGE MAINTAINED AT 120VAC, 50/60HZ.
 3. ALL D.C. VOLTAGES ±10% MEASURED FROM POINT INDICATED TO CHASSIS USING HIGH IMPEDANCE METER WITH NO SIGNAL INPUT. CONTRAST AND BRIGHTNESS CONTROLS AT MAXIMUM; ALL OTHER CONTROLS IN NORMAL OPERATING POSITION.
 4. ○ - WITH INTERNAL NUMBER INDICATES LOCATION OF WAVE FORM READING.

WELLS - GARDNER ELECTRONICS

CORPORATION

2701 N. KILDARE AVE. • CHICAGO, ILL. 60639 • ALBANY 2-8220
TELEX 25-3286

- NOTES:
- * INDICATES RESISTORS LOCATED IN PICTURE TUBE LEAD ASSEMBLY.
 - RESISTANCE VALUES IN OHMS, 1/2 WATT, 10% UNLESS OTHERWISE NOTED. K=1,000 M=1,000,000
 - CAPACITANCE VALUES OF 1 OR LESS ARE IN MICROFARADS. ABOVE 1 IN PICOFARADS UNLESS OTHERWISE NOTED.

MODEL No.
V1001-5734

REPLACEMENT PARTS LIST

CHASSIS PARTS

CAPACITORS

| | | |
|-------------------|--------------|--|
| C101A, B, C, D | 45X0558-001 | 800 μ F/125V, 200 μ F/100V 200 μ F/50V, 20 μ F/200V Electrolytic |
| C102, 103 104 | 80X0001-000 | .001 μ F, GMV Z5U Cer. Disc. |
| ★C105 | 342X5642-049 | .56 μ F, 400V, 10% Polypropylene |
| ★C106 | 46X0536-001 | .01 μ F, 1200V, 5% Polypropylene |
| C107 | 80X0099-006 | 470 pF, Z5F, 10% |
| C109 | 342X1044-040 | 0.1 μ F, 400V, 20% Mylar |
| ★C110 | 46X0540-002 | 1.0 μ F, 630V, 10% Polyester Film |
| C111 | 45X0515-032 | 33 μ F, 150V, Electrolytic |

CONTROLS

| | | |
|-----------|-------------|------------------------------|
| R108, 109 | 40X0585-091 | 25k Ohm, Horiz. & Vert. Hold |
| R116 | 40X0585-090 | 250 Ohm, Contrast |
| R121 | 40X0585-092 | 200k Ohm, Brightness |

COILS & TRANSFORMERS

| | | |
|-------|-------------|----------------------|
| ★L101 | 9A2787-001 | Coil, Width |
| ★T101 | 53X0475-001 | Transformer, Power |
| ★T102 | 53X0474-001 | Transformer, Flyback |

RESISTORS

| | | |
|-------------------|--------------|-----------------------|
| R101 | 340X3101-941 | 100 Ohm, 10%, 1/2W |
| R102, 115, 120 | 340X3103-941 | 10k Ohm, 10%, 1/2W |
| ★R103 | 340X0181-341 | 180 Ohm, 10%, 10W, WW |
| R104 | 340X3102-931 | 1k Ohm, 5%, 1/2W |
| ★R105 | 340X6152-341 | .15k Ohm, 10%, 3W, WW |
| R106 | 340X3332-941 | 3.3k Ohm, 10%, 1/2W |
| R107 | 340X3563-941 | 56k Ohm, 10%, 1/2W |
| R110 | 340X3100-941 | 10 Ohm, 10%, 1/2W |
| R111 | 340X3151-941 | 150 Ohm, 10%, 1/2W |
| R119 | 340X3472-941 | 4.7k Ohm, 10%, 1/2W |

SEMICONDUCTORS

| | | |
|-----------------------|-------------|--|
| D101, 102 103, 104 | 66X0023-009 | Rectifier, Silicon 500V 1N444B |
| ★D105 | 66X0067-001 | Rectifier Varo H1802 |
| ★D106 | 66X0068-001 | Diode, Damper MR1-1600 |
| D107 | 66X0053-001 | Diode, 350V Ampere BA148 |
| D108, 109 | 66X0046-001 | Diode, Silicon FDH444 |
| ★Q101 | 86X0117-001 | Transistor (NPN) 2N5632 Regulator |
| Q102 | 86X0071-001 | Transistor (NPN) Reg. Driver MPSA06 |
| ★Q103 | 86X0118-001 | Transistor (NPN) BU207 Hor. Output |
| Q104 | 86X0065-001 | Transistor (NPN) D40N5 Spot Kill |

MISCELLANEOUS

| | | |
|-------|-------------|-----------------------------|
| ★F101 | 16X0171-001 | Fuse Holder |
| ★F102 | 16X0176-001 | Fuse, 1.5 Amp. Slo-Blo 3AG |
| ★ | 16X0175-001 | Fuse, 0.75 Amp. Slo-Blo 3AG |
| ★ | 13X1201-001 | HV Lead & Recept. Assy. |
| ★ | 28X0789-001 | Spring, Dag, Grounding |
| ★ | 9A2786-001 | Deflection Yoke & Clamp |
| ★V101 | 19VARP4 | CRT (19V1001) |
| or | or | |
| ★V101 | 22VATP4 | CRT (22V1001) |

★ Product Safety Device

REPLACEMENT PARTS LIST P277 CIRCUIT BOARD ASSY.

CAPACITORS

| | | |
|--------------------------|--------------|--|
| C201, 202, 221 | 45X0524-027 | 47 μ F, 50V, Electrolytic |
| C203, 205, 223, 225 | 80X0099-057 | 220 pF, 10%, Z5F, Cer. Disc. |
| C204 | 45X0524-053 | 470 μ F, 16V, Electrolytic |
| C206 | 45X0524-051 | 100 μ F, 50V, Electrolytic |
| C207 | 80X0099-192 | .005 μ F, 20%, 1KV, Cer. Disc. |
| C208 | 80X0099-036 | 10 pF, 10%, 500V, Cer. Disc. |
| C209 | 80X0099-013 | 330 pF, 10%, 500V, Cer. Disc. |
| C210 | 349X4722-109 | .0027 μ F, 10%, Mylar |
| C211 | 45X0524-023 | 1.0 μ F, 15V, Electrolytic |
| C212 | 349X3332-109 | .033 μ F, Mylar |
| C213 | 46X0537-002 | .01 μ F, Poly |
| C214 | 46X0537-003 | .0082 μ F, Poly |
| C215 | 349X1032-109 | .01 μ F, 10%, 100V Mylar |
| C216, 218, 220, 238, 239 | 80X0099-076 | 1000 pF, 10%, 500V, Cer. Disc. |
| C217 | 349X1032-209 | .01 μ F, 10%, 200V, Mylar |
| C219 | 45X0524-052 | 150 μ F, 10V, Electrolytic |
| C222 | 80X0099-137 | 680 pF, 10%, 500V, Cer. Disc. |
| C224 | 349X6822-109 | .0068 μ F, 10%, 100V, Mylar |
| C226, 227 | 80X0099-056 | 4700 μ F, 10%, Z5F, Cer. Disc. |
| C228 | 349X4732-109 | .047 μ F, 10%, 100V, Mylar |
| C229 | 349X1044-109 | 0.1 μ F, 20%, 100V, Mylar |
| C230 | 45X0515-014 | 1.0 μ F, 50V, Electrolytic |
| C231 | 349X1042-109 | 0.1 μ F, 10%, 100V, Mylar |
| C232 | 45X0524-026 | 22 μ F, 100V, Electrolytic |
| C233 | 349X4742-109 | .47 μ F, 10%, 100V, Mylar |
| C234 | 45X0524-025 | 250 μ F, 100V, Electrolytic |
| C235 | 80X0099-006 | 470 pF, 10%, Z5F, Cer. Disc. |
| C236 | 349X2242-109 | .22 μ F, 10%, 100V, Mylar |
| C237 | 46X0540-001 | .47 μ F, 10%, 630V, Polyester Film |

CONTROLS

| | | |
|-----------|-------------|----------------------------|
| R206, 256 | 40X0592-008 | 5k Ohm, Video Output, Size |
| R212 | 40X0585-093 | 2.5k Ohm, Reg. Adj. |
| R257, 263 | 40X0592-004 | 500k Ohm, Lin 1 & 2 |
| R271 | 40X0585-094 | 2M Ohm, Focus |

COILS & TRANSFORMERS

| | | |
|-------|-------------|---------------|
| ★L201 | 9A2788-001 | Horiz. Osc. |
| ★L202 | 9A2789-001 | Horiz. Lin. |
| ★T201 | 52X0126-001 | Horiz. Driver |

RESISTORS

| | | |
|----------------|--------------|---------------------|
| R201 | 340X3102-954 | 1k Ohm, 20%, 1/2W |
| R202 | 340X3563-944 | 56k Ohm, 10%, 1/2W |
| R203, 237, 240 | 340X3471-944 | 470 Ohm, 10%, 1/2W |
| ★R204 | 340X4152-843 | 1.5k Ohm, 10%, 1.0W |
| R205, 223, 260 | 340X3332-944 | 3.3k Ohm, 10%, 1/2W |
| R207 | 340X3472-944 | 4.7k Ohm, 10%, 1/2W |
| ★R208 | 340X7752-733 | 7.5k Ohm, 5%, 4.0W |
| R209 | 340X3121-944 | 120 Ohm, 10%, 1/2W |
| R210 | 340X3560-944 | 56 Ohm, 10%, 1/2W |
| R211, 242, 259 | 340X3432-934 | 4300 Ohm, 5%, 1/2W |
| R213 | 43X0467-001 | Thermistor |
| R214, 255 | 340X3512-934 | 5.1k Ohm, 5%, 1/2W |
| R215 | 340X3153-944 | 15k Ohm, 10%, 1/2W |
| ★R216 | 340X4154-843 | 150k Ohm, 10%, 1.0W |
| R217 | 340X3335-944 | 3.3M Ohm, 10%, 1/2W |
| R218, 231 | 340X3221-944 | 220 Ohm, 10%, 1/2W |
| R219 | 340X3222-934 | 2.2k Ohm, 5%, 1/2W |

RESISTORS (Cont'd.)

| | | |
|-----------|--------------|---------------------|
| R220, 221 | 340X3184-944 | 180k Ohm, 10%, 1/2W |
| R222 | 340X3473-944 | 47k Ohm, 10%, 1/2W |
| R224 | 340X3104-944 | 100k Ohm, 10%, 1/2W |
| R225 | 340X3682-944 | 6.8k Ohm, 10%, 1/2W |
| R226 | 340X3391-944 | 390 Ohm, 10%, 1/2W |
| R227 | 340X3102-944 | 1k Ohm, 10%, 1/2W |
| R228 | 340X3102-934 | 1k Ohm, 5%, 1/2W |
| R229 | 340X3820-944 | 82 Ohm, 10%, 1/2W |
| ★R230 | 340X4102-843 | 1k Ohm, 10%, 1.0W |
| R232 | 340X3152-934 | 1.5k Ohm, 5%, 1/2W |
| ★R233 | 340X6152-743 | 1.5k Ohm, 10%, 3.0W |
| R234 | 340X5022-333 | 2.2 Ohm, 5%, 2.0W |
| R235 | 340X3151-944 | 150 Ohm, 10%, 1/2W |
| R236 | 340X3101-944 | 100 Ohm, 10%, 1/2W |
| R238, 241 | 340X3223-944 | 22k Ohm, 10%, 1/2W |
| R239 | 340X3182-944 | 1.8k Ohm, 10%, 1/2W |
| R243 | 340X3151-934 | 150 Ohm, 5%, 1/2W |
| R244 | 340X3680-934 | 68 Ohm, 5%, 1/2W |
| R245, 266 | 340X3330-934 | 33 Ohm, 5%, 1/2W |
| R246 | 340X3273-944 | 27k Ohm, 10%, 1/2W |
| R247, 248 | 340X3153-934 | 15k Ohm, 5%, 1/2W |
| R249, 275 | 340X3103-944 | 10k Ohm, 10%, 1/2W |
| R250 | 340X3822-944 | 8.2k Ohm, 10%, 1/2W |
| R251 | 340X3684-944 | 680k Ohm, 10%, 1/2W |
| R252 | 340X3564-944 | 560k Ohm, 10%, 1/2W |
| R253, 276 | 340X3274-944 | 270k Ohm, 10%, 1/2W |
| R254 | 340X3562-944 | 5.6k Ohm, 10%, 1/2W |
| R258 | 340X3224-944 | 220k Ohm, 10%, 1/2W |
| ★R261 | 340X5150-843 | 15 Ohm, 10%, 2.0W |
| R262, 264 | 340X3824-934 | 820k Ohm, 5%, 1/2W |
| R265 | 340X3185-944 | 1.8k Ohm, 10%, 1/2W |
| R267, 268 | 340X3010-934 | 1 Ohm, 5%, 1/2W |
| R269 | 340X4392-843 | 3.9k Ohm, 10%, 1/2W |
| R270 | 340X3471-934 | 470 Ohm, 5%, 1/2W |
| R272 | 340X3475-944 | 4.7M Ohm, 10%, 1/2W |
| R273 | 340X3155-944 | 1.5M Ohm, 10%, 1/2W |
| ★R274 | 340X4473-843 | 47k Ohm, 10%, 1.0W |
| R277 | 340X3033-934 | 3.3 Ohm, 5%, 1/2W |

SEMICONDUCTORS

| | | |
|-------------------------------|-------------|---------------------------------------|
| D201, 202, 203, 204, 207, 208 | 66X0046-001 | Diode, Silicon FDH444 |
| D205A, 205B | 66X0066-001 | Diode, Dual, MSD6102 |
| D206 | 66X0054-002 | Diode, RCA D2102SF |
| Q201, 205, 206 | 86X0113-001 | Transistor (NPN) 2N3904 |
| Q202, 208 | 86X0114-001 | Transistor (PNP) 2N3906 |
| Q203 | 86X0071-001 | Transistor (NPN) |
| Q204, 212 | 86X0071-001 | Transistor (NPN) MPSA06 |
| Q207, 211 | 86X0058-002 | Transistor (NPN) MPSA20 |
| Q209 | 86X0116-001 | Transistor Horiz, Driver (NPN) 2N6557 |
| Q210 | 86X0066-001 | Transistor (PNP) MPSA70 |
| Q213 | 86X0072-001 | Transistor (PNP) MPSA56 |
| Q214 | 86X0073-001 | Transistor (NPN) MPSU07 |
| Q215 | 86X0074-001 | Transistor (NPN) 2N5192 |
| Q216 | 86X0075-001 | Transistor (PNP) 2N5195 |
| Q217 | 86X0070-001 | Transistor (P.U.T.) MPU131 |
| ZD201 | 66X0040-004 | Diode, Zener 31V |

MISCELLANEOUS

| | |
|-------------|------------------------------|
| 38A5395-000 | Pix Socket & Connector Assy. |
|-------------|------------------------------|

★ Product Safety Device

PHANTOM II
Game Logic
A084-90700-D652

| Chip Number | Function |
|--------------------|--------------------------------|
| 7404 | Hex inverter |
| 7410 | Triple 3 input nand |
| 7442 | BCD to decimal decoder |
| 74LS151 | Data selector |
| 74153 | Dual 4 line to 1 line selector |
| 74161 | 4 bit binary counter |
| 74166 | 8 bit shift register |
| 74174 | Hex "D" flip-flop |
| 74175 | Quad "D" flip-flop |
| 4006 | 18 bit shift register |
| 4016 | Quad switch |
| 4030 | Quad exclusive or |
| LM377 | Amplifier |
| LM3900 | Quad op. amp. |
| 2716 | 16 K Prom |
| TIP115 | NPN darlington transistor |