

DEMOLITION DERBY U.R. 2 PLAYER

Bally

MIDWAY MFG. CO.

10601 W Belmont Avenue
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U.S.A.



Phone: (312) 451-9200 Cable Address: MIDCO Telex No.: 72-1596

0A59-00300-0000

WARNING

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

WARNING: This equipment generates, uses, and can radiate radio frequency energy and if not used in accordance with the instructions manual, may cause interference to radio communications. It has been tested and found to comply with the limits for a CLASS A computing device pursuant to SUBPART J of PART 15 of FCC RULES, which are designed to provide reasonable protection against such interference when operated in a commercial environment. Operation of this equipment in a residential area is likely to cause interference in which case the user at his own expense will be required to take whatever measures may be required to correct the interference.

ELECTRICAL BULLETIN: FOR ALL APPARATUS COVERED BY THE CANADIAN STANDARDS ASSOCIATION (CSA) STANDARD C22.2 NO. 1, WHICH EMPLOYS A SUPPLY CORD TERMINATED WITH A POLARIZED 2-PRONG ATTACHMENT PLUG.

CAUTION: TO PREVENT ELECTRIC SHOCK DO NOT USE THIS (POLARIZED) PLUG WITH AN EXTENSION CORD, RECEPTACLE OR OTHER OUTLET UNLESS THE BLADES CAN BE FULLY INSERTED TO PREVENT BLADE EXPOSURE.

ATTENTION: POUR PREVENIR CHOCS ELECTRIQUES NE PAS UTILISER CETTE FICHE POLARISEE AVEC UN PROLONGATEUR, UNE PRISE DE COURANT OU UNE AUTRE SORTIE DE COURANT, SAUF SI LES LAMES PEUVENT ETRE INSEREES A FOND SANS EN LAISSER AUCUNE PARTIE A DECOUVERT.

Bally MIDWAY

Invites You To Use

**OUR TOLL FREE NUMBERS FOR
SERVICE INFORMATION CONCERNING THIS GAME, OR ANY
OTHER BALLY MIDWAY GAME YOU NOW HAVE ON LOCATION.**

**CALL US FOR PROMPT, COURTEOUS
ANSWERS TO YOUR PROBLEMS.**

VIDEO

PINBALL

Continental U.S. 1-800-323-7182

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GENERAL INSTRUCTIONS

FOR

DEMOLITION DERBY - 2 PLAYER

INSTALLATION

1. Remove keys from the taped coin return slot and unlock to open the coin box door.
2. Remove four (4) "CABINET LEVELING LEGS" from inside the coin box.
3. Tip the cabinet to the side and remove the shipping cleats from its bottom.
 - Locate the threaded holes - one in each corner - and install the "CABINET LEVELING LEGS" in them.
 - Level the cabinet.
 - When finished, the cabinet should be stable in the upright position.
4. ◦ Unlock and remove the rear access door to gain access to the 3-pronged line cord. Reinstall the rear access door.
5. Connect the 3-pronged line cord to a 3-slot A.C. wall outlet **to insure proper grounding.**
6. The power ON/OFF switch is located:
UPRIGHT MODEL: On top to the left rear of the cabinet.

TO SERVICE THE CONTROL PANEL

1. UPRIGHT MODEL:
 - The control panel is held in place by three (3) spring clamps which provide constant pressure on the strikes.
 - **AFTER turning power to the game off**, they can be reached through the coin door.
 - To release the clamps, lift up and toward the center of the control panel.
 - Once they are released, unhook them from their strikes. The third clamp is located near the center of the control panel.
 - Swing out the control panel on its hinge.
 - To remove the control panel:
 - With the control panel in its open position, disconnect it from its cabling and then disconnect it from its retaining chain.
 - Remove the screws which secure the continuous hinge to the cabinet.
 - The control panel is now loose and may be serviced.
 - To reinstall the control panel, reverse this procedure.

REMOVAL OF THE MAIN-DISPLAY-GLASS AND/OR THE T.V. BEZEL

1. UPRIGHT MODEL:

NOTE: In order to do this, the control panel **MUST** be removed first. See the "UPRIGHT MODEL" procedure.

- Turn the power to the game off and remove the control panel. This frees the main-display-glass so it can be removed.
- By putting your finger in the hole in the middle of the main-display-glass support, you can lift it up and out.
- Remove the bezel securing screws and the bezel may be removed.
- To reinstall the T.V. bezel and the main-display-glass, reverse this procedure.

VOLUME CONTROL POT / OPTION SWITCH LOCATIONS

The volume control pot is located, along with the credit switch and the self-test switch, just inside the cabinet on the right side of the coin door frame. The option switch is located as shown in the attached P.C. Board reference drawing. For adjustment, it can be reached through the games rear access door.

To make the sounds louder, turn the volume pot clockwise as you face it.

To make the sounds **less** loud, turn the volume pot counterclockwise as you face it.

SELF-TEST MODE

The Self-Test mode is a special mode for checking the game switches and computer functions. It is the most complete way of checking for proper game operation and is quite easy to use.

The Self-Test mode may be entered at any time and from any mode of operation. Simply locate the black slide switch inside the Coin Box compartment and slide it to the Self-Test position. With this switch in the Self-Test position, activate the slam switch located on the Coin Door. The game will enter the Self-Test mode immediately and display the following test menu....

1. SELF DIAGNOSTICS
2. SOUNDS
3. PLAYER INPUT
4. MACHINE SET-UP
5. CHANNEL TEST
6. GRID DISPLAY

MOVE CURSOR DOWN BY MOVING "STICKSHIFT" TO REVERSE POSITION
MOVE CURSOR UP BY MOVING "STICKSHIFT" TO FORWARD POSITION
HIT START BUTTON FOR TEST

1. SELF DIAGNOSTICS: This test is designed to effectively locate and identify any malfunction of the on-board computer. When selected, the game enters this mode immediately and begins scanning the memory stored in rom and ram. If a defective component is found during the scan, that component and its location will be displayed on screen. It will take about 15 seconds to perform the entire test.
2. SOUNDS: When selected, this test will display a menu of sounds. The first two selections on the menu are ALL and EXIT. If you move the cursor to select ALL the game will automatically perform a test of all the sounds on the menu. If you move the cursor to select EXIT, the game will exit the sound test and return to the main menu page. While in the sound test, any selection on the sound menu may be tested individually by positioning the cursor next to that sound and pressing the SELECT button.
3. PLAYER INPUT: This test is designed to confirm the operation of all player inputs and devices in the game. For example, when you wish to test the coin switches on the coin door, you would enter this test and activate the coin switches. If the switches are operating properly, the screen will display the words COIN CHUTE 1 or COIN CHUTE 2 depending on which coin switch has been activated. All inputs, pin controls, service switches, etc. may be tested in the same manner. To exit this test, activate the coin door slam switch.
4. MACHINE SET-UP: This test allows you to view your option settings with ease. When selected, a full menu of options will be displayed. The coins per credit, difficulty level, etc. are adjusted thru option switch settings and are viewed on this screen.
5. CHANNEL TEST: This test is self-functional and therefore when entered will perform the test automatically. Its purpose is to test all channels heard through the speaker. If any of the tones are not heard during this test, you may be experiencing a sound problem. To exit this test, activate the coin door slam switch.
6. GRID DISPLAY: This test was designed to display a crosshatch pattern used in adjusting the color monitor. This pattern may be used to adjust convergence, color balance, vertical linearity, and vertical/horizontal size. To exit this test, activate the coin door slam switch.

IMPORTANT NOTE: There is **NO** battery back up provided for this game. All logic & memory functions will be retained thru dip switch settings.

DEMOLITION DERRY
OPTION SWITCH SETTINGS

//////////////////SWITCH NO. 1 - AT B 3 - LOCATED ON SOUND I/O P.C. BOARD//////////////////

| DURING GAME PLAY: | <u>SW#1</u> | <u>SW#2</u> | <u>SW#3</u> | <u>SW#4</u> | <u>SW#5</u> | <u>SW#6</u> | <u>SW#7</u> | <u>SW#8</u> | <u>SW#9</u> | <u>SW#10</u> |
|---|-------------|-------------|-------------|-------------|------------------|------------------|-------------|-------------|-------------|--------------|
| | | | | | | | NOT USED | NOT USED | NOT USED | |
| 2 PLAYER UPRIGHT 4 PLAYER NOVELTY | ***OFF | | | | | | | | | |
| | ***ON | | | | | | | | | |
| ** STANDARD DIFFICULTY LEVEL HARDER DIFFICULTY LEVEL | | OFF ON | | | | | | | | |
| ** NO FREE PLAY FREE PLAY | | | OFF ON | | | | | | | |
| ** TROPHY GIRL FULL DISPLAY TROPHY GIRL LIMITED DISPLAY | | | | OFF ON | | | | | | |
| ** 1 COIN / 1 CREDIT 2 COINS/ 1 CREDIT 1 COIN / 2 CREDITS | | | | | OFF ON OFF | OFF OFF ON | | | | |
| ** NORMAL OPERATION FREEZE VIDEO | | | | | | | | | OFF ON | |

//////////////////SWITCH NO. 3 - AT D 14 - LOCATED ON SOUND I/O P.C. BOARD//////////////////

| | <u>SW#1</u> | <u>*SW#2</u> | <u>*SW#3</u> | <u>*SW#4</u> |
|---|-------------|--------------|--------------|--------------|
| ** NORMAL OPERATION SOUND I/O DIAGNOSTIC MODE | OFF ON | | | |
| ** NORMAL OPERATION RAM/ROM TEST INDICATES TEST RESULTS VIA YELLOW L E D ON SOUND I/O BOARD: <u>FAST FLASH = BAD ROM</u> <u>SLOW FLASH = BAD RAM</u> | | OFF ON | | |
| ** NORMAL OPERATION OSCILLATOR TEST | | | OFF ON | |
| ** NORMAL OPERATION FILTER TEST | | | | OFF ON |

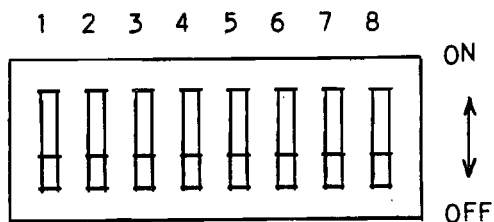
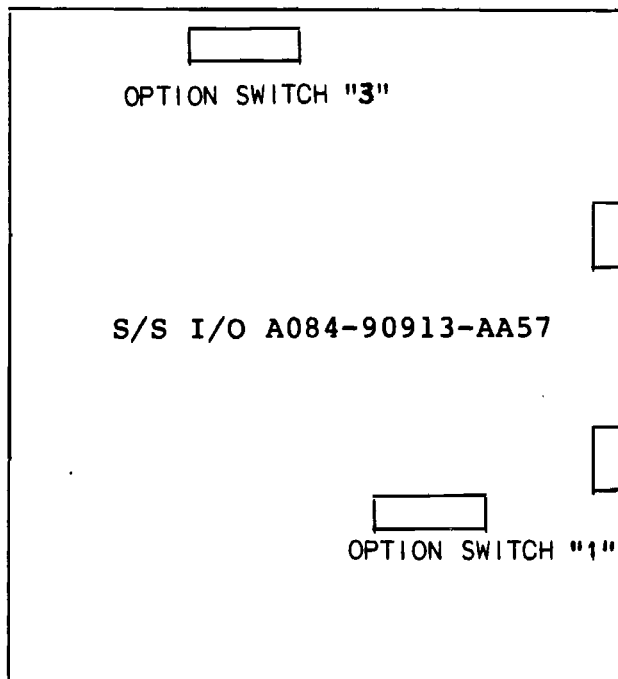
* NO EFFECT IF SW#1 OF SWITCH NO. 3 IS IN THE "OFF" POSITION.
** FACTORY RECOMMENDED SETTINGS.

*** IF SW #1 OF **SWITCH NO. 1** HAS NO EFFECT ON GAME IN "ON" POSITION OR "OFF" POSITION, **THIS** SOUND I/O P.C. BOARD SHOULD BE USED **ONLY** IN 4 PLAYER NOVELTY VERSION.

PART NO. M051-00C48-B007

THE REMAINDER OF YOUR NEW GAME'S MOST COMMON OPTION SETTINGS
ARE CONDUCTED DURING YOUR GAME'S SELF-TEST MODE

P. C. BOARD REFERENCE DRAWING



19" COLOR MONITOR SCHEMATIC DIAGRAM

MODELS 19K4901, 19K4906, 19K4951, 19K4956

Power Supply Voltage and Symbols

| Symbol | Voltage | Operating Circuit |
|--------|---------|--|
| | 15V | Vert. Osc. Sync Blanking CRT Cut-Off |
| | 130V | Horiz. Osc. Horz. Drive Horz. Output Vert. Output |
| | 175V | Video Output |

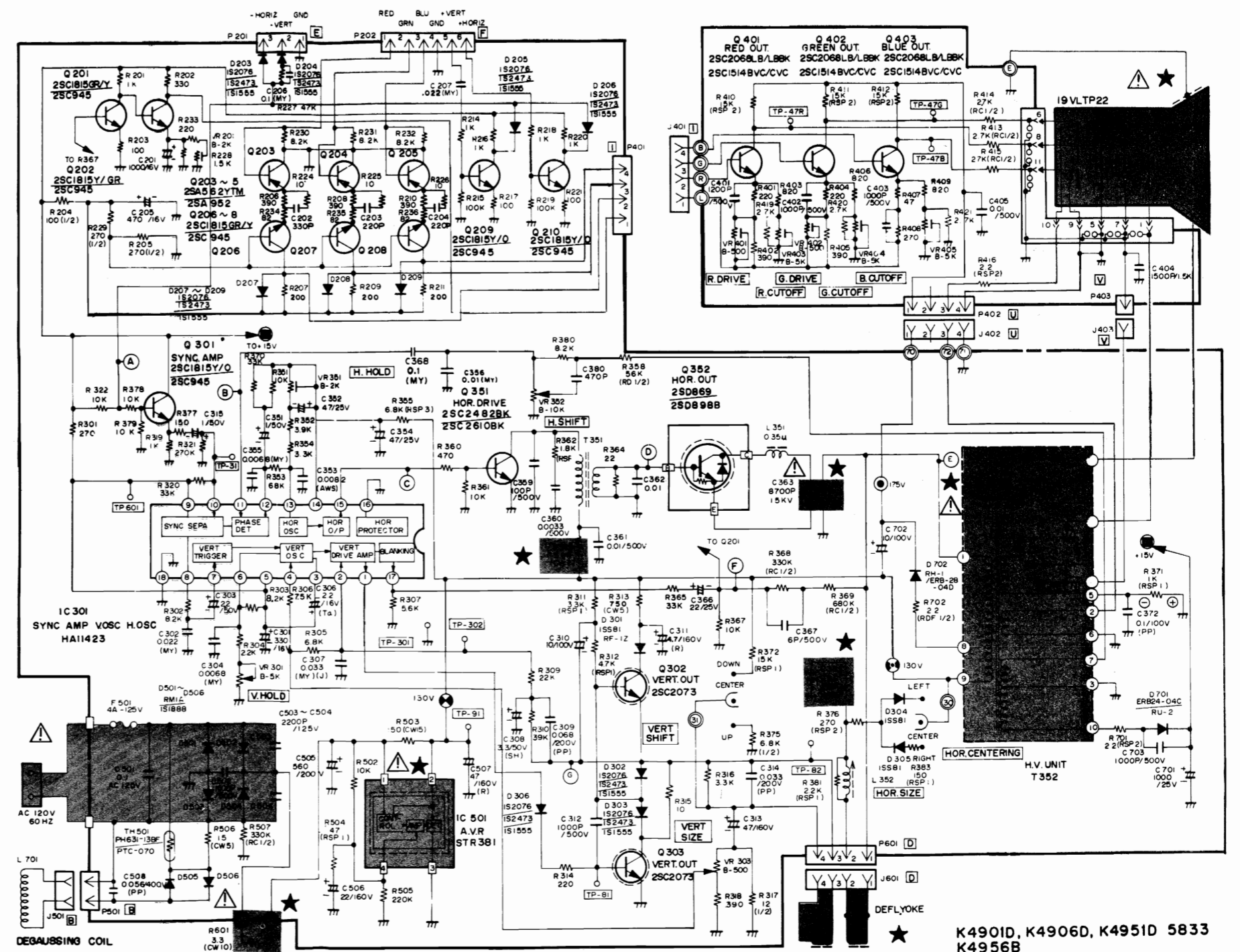
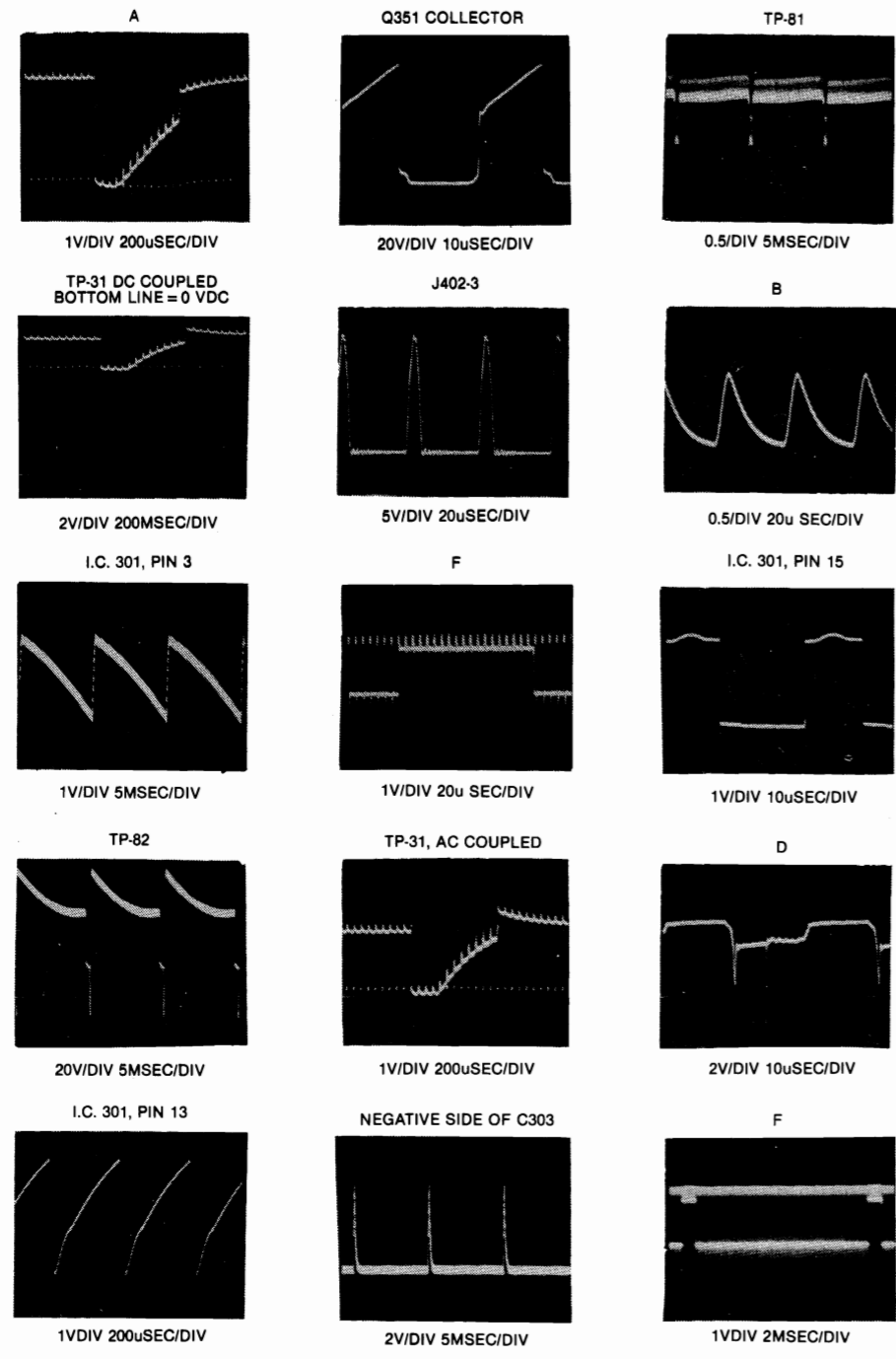
SERVICE TECHNICIAN WARNING
X-RAY RADIATION PRECAUTION:
 THIS PRODUCT CONTAINS CRITICAL ELECTRICAL AND MECHANICAL PARTS ESSENTIAL FOR X-RAY RADIATION PROTECTION.
 FOR REPLACEMENT PURPOSES, USE ONLY TYPE PARTS SHOWN IN THE PARTS LIST.

CAUTION: FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS.
AVERTISSEMENT: POUR MAINTENIR LE DEGRE DE SECURITE DE L'APPAREIL NE REMPLACER LES COMPOSANTS DONT LE FONCTIONNEMENT EST CRITIQUE POUR LA SECURITE QUE PAR DES PIECES RECOMMANDEES PAR LE FABRICANT.

OSCILLOSCOPE WAVEFORM PATTERN

The waveforms shown are as observed on the wide band oscilloscope with the monitor turned to a reasonably strong signal and a normal picture. The voltages shown on each waveform are the approximate peak amplitudes.

If the waveforms are observed on the oscilloscope with a poor high frequency response, the corner of the pulses will tend to be more rounded than those shown and the amplitude of any high frequency pulse will tend to be less.



K4901D, K4906D, K4951D 5833
 K4956B

REPLACEMENT PARTS LIST—ELECTROHOME 19" MONITOR

Components identified by the Δ symbol in the PARTS LIST and on the Schematic have special characteristics important to safety.

DO NOT degrade the safety of the set through improper servicing.

Abbreviations for Resistors and Capacitors

| Resistor | | Capacitor | |
|----------|-------------------------------|-----------|--|
| C R | : Carbon Resistor | C Cap. | : Ceramic Capacitor |
| Comp. R | : Composition Resistor | M Cap. | : Mylar Capacitor |
| OM R | : Oxide Metal Film Resistor | E Cap. | : Electrolytic Capacitor |
| V R | : Variable Resistor | BP E Cap. | : Bi-Polar (or Non-Polar) Electrolytic Capacitor |
| MF R | : Metal Film Resistor | MM Cap. | : Metalized Mylar Capacitor |
| CMF R | : Coating Metal Film Resistor | PP Cap. | : Polypropylene Capacitor |
| UNF R | : Nonflammable Resistor | MPP Cap. | : Metalized PP Capacitor |
| F R | : Fusible Resistor | PS Cap. | : Polystyrol Capacitor |
| | | Tan. Cap. | : Tantal Capacitor |

NOTE: When ordering replacement parts please specify the part number as shown in this list including part name, and model number. Complete information will help expedite the order.

Use of substitute replacement parts which do not have the same safety characteristics as specified, may create shock, fire or other hazards. For maximum reliability and performance, all parts should be replaced by those having identical specifications.

SERVICE REPLACEMENT PARTS LIST

| Symbol | Description | Part Number |
|------------------------------------|---|--------------------|
| | Main P.C.B. Ass'y | SU-1133A |
| | CRT Socket P.C.B. Ass'y | SU-3032A |
| | Purity Shield Ass'y | 07-220083-03 |
| Outside of the P.C.B. Ass'y | | |
| Symbol | Description | Part Number |
| | Picture Tube 19" | 17-7198-03 |
| Δ | Δ Deflection Yoke | A29779-D=21-141-01 |
| | PC Magnet | A75034-B=29-32-01 |
| Δ | Δ Flyback Transf. | A29951-B |
| Δ | Δ HVR | A46600-A |
| R05 | UNF Resistor 220 Ω ,25W K | QRF258K-221 |
| C04 | C Capacitor 150pF, AC1.5KV | QCZ0101-005 |
| X01 | Si. Transistor | 2SD870 |
| X02 | Si. Transistor | 2SC1106A |
| SC | Screw #8- $\frac{3}{4}$ | 31-610818-06 |
| SC | Screw $\frac{1}{4}$ x $\frac{3}{8}$ Pix Tube Mtg. (4) | 31-601418-12 |
| WA | Pyramidal Lock Washer (4) | 33-255-01 |
| | Nut Retainer, Pix Tube Mtg. (4) | 33-494-01 |
| | Clip—P.C.B. Support | 33-629-02 |
| | Standoff | 33-670-010R-02 |
| | Wire Terminal (Gnd. Strap) | 34-228-03 |
| | Terminal Lug (Gnd.) | 34-33-04 |
| | Groundstrap Assy. | 34-574-02 |
| | Grounding Spring | 35-212-03 |
| | Wire Hook (Gnd. Strap) | 35-3053-02 |
| | Purity Shield Holddown Clamp | 35-2348-01 |
| | Support Brkt. RH | 35-3890-01 |
| | Support Brkt. LH | 35-3890-02 |
| | Chassis Base | 38-449-02 |
| | Yoke Wedge (3) | 39-1233-01 |

Purity Shield Ass'y. Parts List

| Symbol | Description | Part Number |
|--------|--------------------------------------|--------------|
| | Degaussing Coil | 21-1007-30 |
| D911, | | |
| D912 | Rectifier 1 Amp 600V (2) | 28-22-27 |
| | Pin Terminal (2) | 34-708-01 |
| | Pin Terminal Housing | 34-709-01 |
| | Purity Shield (2 pcs.) | 35-3847-01 |
| | Purity Shield (2 pcs.) | 35-3847-02 |
| C911 | Capacitor 100nF 10% 400V | 48-171544-62 |
| R921 | Resistor, Wirewound 33 Ω , 4W | 42-113301-03 |
| | Fire Retardant Term. Strip 4 Lug | 34-492-09 |

CRT Socket P.C.B. Ass'y (SU-3032A) Parts List

| Resistors | | Part Number |
|------------|---|--------------|
| Symbol | Description | |
| R3105 | V R 200 | QVZ3234-022 |
| R3106 | V R 200 | QVZ3234-022 |
| R3113 | V R 5K | QVZ3234-053 |
| R3114 | V R 5K | QVZ3234-053 |
| R3115 | V R 5K | QVZ3234-053 |
| R3116 | OM R 10K Ω 2W J | QRG029J-103 |
| R3117 | OM R 10K Ω 2W J | QRG029J-103 |
| R3118 | OM R 10K Ω 2W J | QRG029J-103 |
| R3119 | Comp. R 3.3K Ω $\frac{1}{2}$ W K | QRZ0039-332 |
| R3120 | Comp. R 3.3K Ω $\frac{1}{2}$ W K | QRZ0039-332 |
| R3121 | Comp. R 3.3K Ω $\frac{1}{2}$ W K | QRZ0039-332 |
| Capacitors | | Part Number |
| Symbol | Description | |
| C3107 | E Cap. 10uF 250V A | QEW53EA-106 |
| C3108 | C Cap. 1000pF DC1400V P | QCZ9001-102M |

CRT Socket P.C.B. Ass'y (SU-3032A) Parts List (Cont.)

| Coils | | Part Number |
|-----------------|---------------------|-------------|
| Symbol | Description | |
| L3101 | Peaking Coil | QQL043K-101 |
| Semi-conductors | | Part Number |
| Symbol | Description | |
| X3101 | Si. Transistor | 2SC1514VC |
| X3102 | Si. Transistor | 2SC1514VC |
| X3103 | Si. Transistor | 2SC1514VC |
| Miscellaneous | | Part Number |
| Symbol | Description | |
| Δ | Δ CRT Socket | A76068 |

Main PCB Ass'y (SU-1133A) Parts List

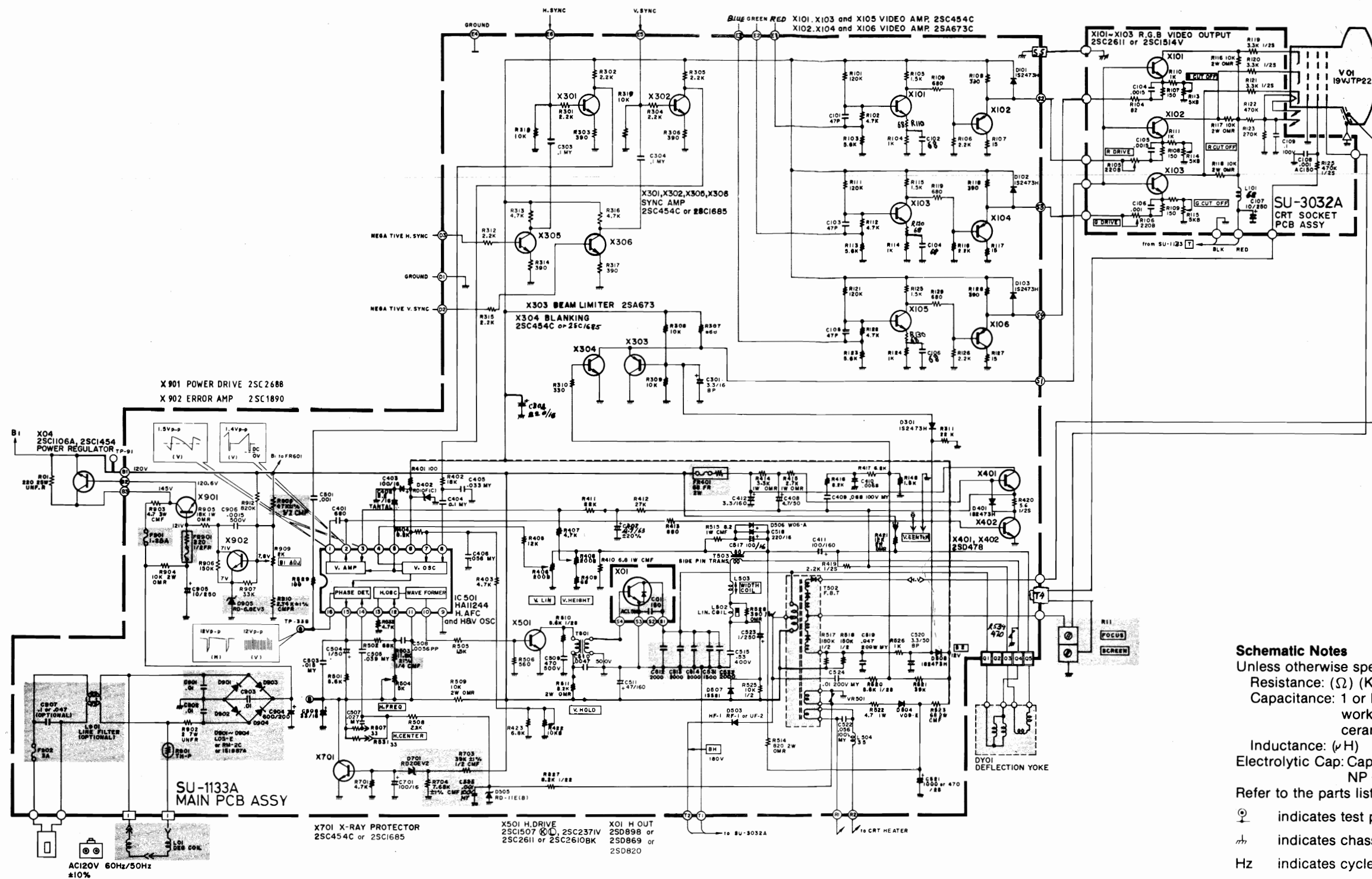
| Resistors | | Part Number |
|-----------------|--|--------------|
| Symbol | Description | |
| R1406 | V R 200 Ω | QVZ3230-002 |
| R1408 | V R 200 Ω | QVZ3230-002 |
| R1410 | CMF R 6.8 Ω 1W J | QRX019J-6R8 |
| R1414 | OM R 3.3K Ω 1W J | QRG019J-332 |
| R1415 | OM R 2.7K Ω 1W J | QRG019J-272 |
| R1421 | OM R 12K Ω 2W J | QRG026J-123Z |
| R1422 | V R 10K Ω | QVZ3230-014 |
| Δ R1401 | Δ F R 68 Ω 2W K | QRH024K-680M |
| Δ R1503 | Δ CMF R 11.8K Ω $\frac{1}{4}$ W+1% | QVR142F-1182 |
| R1504 | V R 5K Ω | QVZ3230-053 |
| R1509 | OM R 10K Ω 2W J | QRG026J-103Z |
| R1512 | OM R 8.2K Ω 2W J | QRG026J-822Z |
| R1514 | OM R 820 Ω 2W J | QRG026J-821Z |
| R1515 | CMF R 8.2 Ω 1W J | QRX019J-8R2 |
| R1522 | CMF R 4.7 Ω 1W J | QRX019J-4R7 |
| R1523 | OM R 68 Ω 2W J | QRG026J-680Z |
| R1528 | OM R 390 Ω 1W J | QRG019J-391 |
| R1534 | ZN R | ERZ-C05ZK471 |
| VR1501 | ZN R | ERZ-C05ZK271 |
| Δ R1703 | Δ CMF R 39 Ω $\frac{1}{2}$ W+1% | QVR122F-3902 |
| Δ R1704 | Δ CMF R 7.68K Ω $\frac{1}{4}$ W+1% | QVR142F-7681 |
| Δ R1901 | Δ Posistor | A75414 |
| R1902 | UNF R 2 Ω 7W K | QRF076K-2R0 |
| R1903 | CMF R 4.7 Ω 3W J | QRX039J-4R7 |
| R1904 | OM R 10K Ω 2W J | QRG026J-103Z |
| R1905 | OM R 18K Ω 1W J | QRG019J-183 |
| Δ Q1908 | Δ CMF R 47 Ω $\frac{1}{2}$ W+1% | QVR122F-470Z |
| Δ R1909 | V R 2K Ω | QVP5A0B-023E |
| R1910 | Δ CMF R 2.74K Ω $\frac{1}{4}$ W+1% | QVR142F-2741 |
| Δ FR1901 | Δ F R 220 Ω $\frac{1}{2}$ W K | QRH124K-221M |

Capacitors

| Symbol | Description | Part Number |
|----------------|-----------------------------------|--------------|
| C1301 | BPE Cap. 3.3uF 50V A | QEN61HA-335Z |
| C1402 | Tan Cap. 2.2uF 16V K | QEE51CK-225B |
| C1407 | E Cap. 4.7uF 6.3V A | QEW51JA-475 |
| C1411 | E Cap. 100uF 160V A | QEW52CA-107 |
| C1412 | E Cap. 3.3uF 160V A | QEW52CA-335 |
| C1508 | PP Cap. 5600uF 50V J | QFP31HJ-562 |
| Δ C1512 | Δ PP Cap. 2000pF DC1500V J | QFZ0082-202 |
| Δ C1513 | Δ PP Cap. 2000pF DC1500V J | QFZ0082-202 |
| Δ C1514 | Δ PP Cap. 2000pF DC1500V J | QFZ0082-202 |
| C1515 | PP Cap. 0.53uF DC1200V J | QFZ0067-534 |
| C1520 | BPE Cap. 3.3uF 50V A | QEN61HA-335Z |
| C1523 | E Cap. 1uF 160V A | QEW62CA-105Z |
| C1524 | M Cap. 0.1uF 200V K | QFM720K-104M |
| Δ C1531 | Δ PP Cap. 2000pF DC1500V J | QFZ0082-202 |
| Δ C1532 | Δ PP Cap. 1500pF DC1500V J | QFZ0082-152 |
| C1904 | E Cap. | QEY0034-001 |
| C1905 | E Cap. 10uF 250V A | QEW52EA-106 |

Main PCB Ass'y (SU-1133A) Parts List (Cont.)

| Coils | | Part Number |
|-----------------|----------------------|------------------|
| Symbol | Description | |
| L1502 | Linearity Coil | A39835 |
| L1503 | Width Coil | C30380-A |
| L1504 | Heater Choke | C30445-A |
| Transformers | | Part Number |
| Symbol | Description | |
| T1501 | Hor. Drive Transf. | A46022-BM |
| T1503 | Side Pin Transf. | C39050-A |
| Semi-conductors | | Part Number |
| Symbol | Description | |
| IC1501 | IC | HA11244 |
| X1101 | Si. Transistor | 2SC1685(R) |
| X1102 | Si. Transistor | 2SA673(C) |
| X1103 | Si. Transistor | 2SC1685(R) |
| X1104 | Si. Transistor | 2SA673(C) |
| X1105 | Si. Transistor | 2SC1685(R) |
| X1106 | Si. Transistor | 2SA673(C) |
| X1301 | Si. Transistor | 2SC1685(R) |
| X1302 | Si. Transistor | 2SC1685(R) |
| X1303 | Si. Transistor | 2SA673(C) |
| X1304 | Si. Transistor | 2SC1685(R) |
| X1305 | Si. Transistor | 2SC1685(R) |
| X1401 | Si. Transistor | 2SD478 |
| X1402 | Si. Transistor | 2SD478 |
| X1501 | Si. Transistor | 2SC2610BK |
| X1901 | Si. Transistor | 2SC2688 (K.L.M.) |
| X1902 | Si. Transistor | 2SC1890A (E.F.) |
| D1101 | Si. Diode | W06A |
| D1102 | Si. Diode | W06A |
| D1103 | Si. Diode | W06A |
| D1301 | Si. Diode | 1SZ473H |
| D1401 | Si. Diode | 1SZ473H |
| D1402 | Zener Diode | RD10F(C) |
| D1503 | Si. Diode | HF-1 |
| D1504 | Si. Diode | V09E |
| D1505 | Zener Diode | RD11E(B) |
| D1506 | Si. Diode | W06A |
| D1507 | Si. Diode | 1SS81 |
| D1508 | Si. Diode | 1SZ473H |
| Δ D1701 | Δ Zener Diode | RD20EV2 |
| Δ D1901 | Δ Si. Diode | 1S1887A |
| Δ D1902 | Δ Si. Diode | 1S1887A |
| Δ D1903 | Δ Si. Diode | 1S1887A |
| Δ D1904 | Δ Si. Diode | 1S1887A |
| Δ D1905 | Δ Zener Diode | RD6.8EV3 |
| Miscellaneous | | Part Number |
| Symbol | Description | |
| Δ F1901 | Δ Fuse 1.25A | QMF53U1-1R25S |
| Δ F1902 | Δ UL Fuse 3A | QMF66U1-3R0S |



Schematic Notes
 Unless otherwise specified
 Resistance: (Ω) (K→KΩ, M→MΩ), 1/4 (W) carbon resistor
 Capacitance: 1 or higher → (pF), less than 1 → (μF)
 working voltage → 50 (V)
 ceramic capacitor
 Inductance: (μH)
 Electrolytic Cap: Capacitance Value (μF)/working voltage (V),
 NP → non-polar (or bipolar) electrolytic cap.
 Refer to the parts list for additional component information.

⊕ indicates test point connection
 ⏏ indicates chassis ground unless otherwise specified
 Hz indicates cycles per second

For **safety** purposes (and continuing reliability)
 ⚠ replace all components marked with safety symbol with identical type.
 NOTE: FR → fusible resistor (—/—)

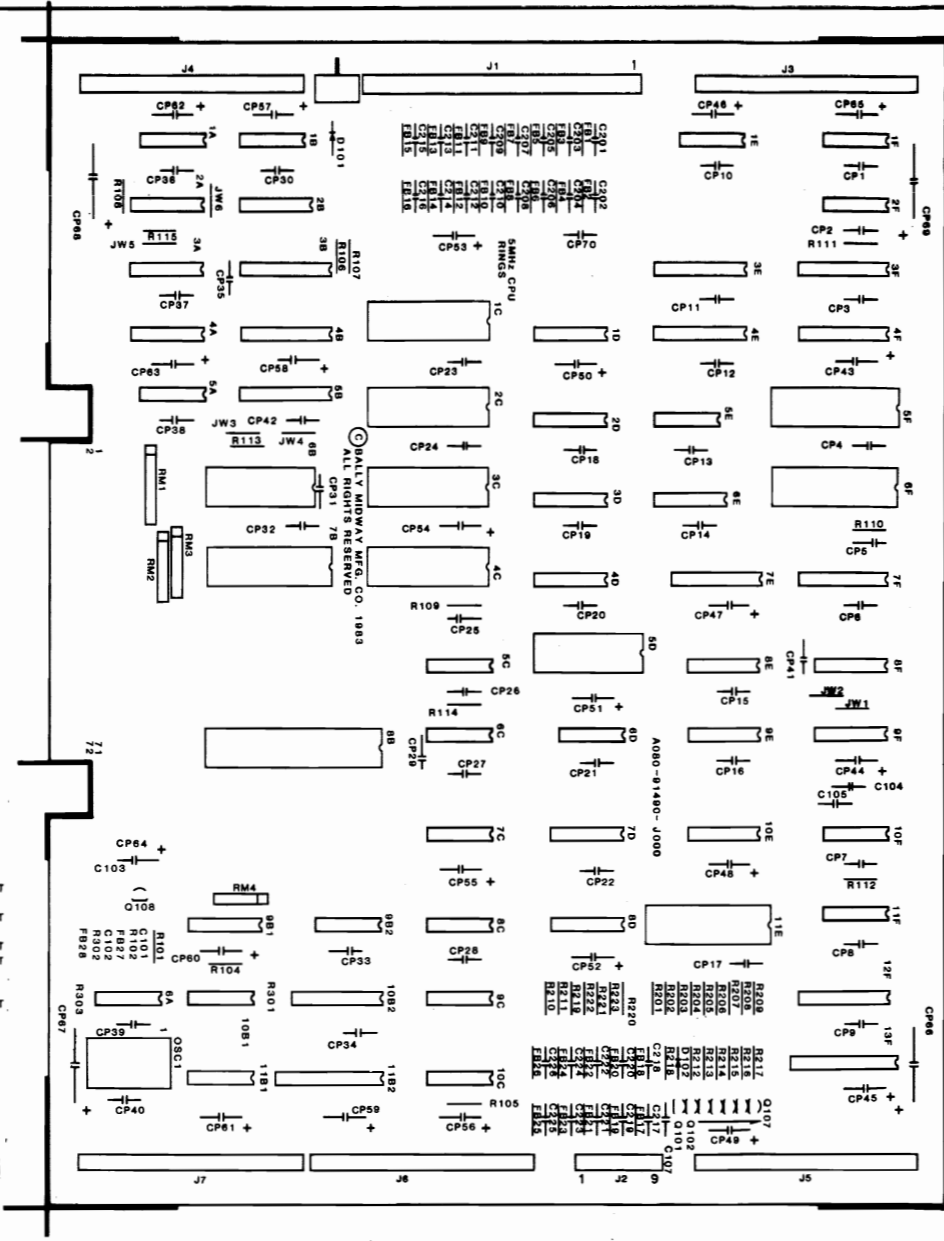
Parts identification on circuit boards:
 e.g. SU1126A (R107 = R1107)
 SU3030A (R113 = R3113)

00-4147-04
 G07-CB0

**WIRING DIAGRAM WAS NOT AVAILABLE AT
TIME OF PUBLICATION OF THIS MANUAL.
IT WILL SOON BE AVAILABLE THRU A SERVICE BULLETIN.**

DESIGNATION LIST

| DESIGNATION NO. | DESCRIPTION | DESIGNATION NO. | DESCRIPTION |
|-----------------|---------------------|--------------------|-------------------|
| CP1-CP42 | .01 MF AX. CER. | IC 4A | 74LS367 |
| CP43-CP65 | 10 MF 25V AX. | IC 5A | 74LS04 |
| | TANT. | IC 6A | 74S04 |
| CP66-CP69 | 470 MF 16V AX. | | |
| | ELECT. | IC 1B | 74LS32 |
| CP70 | .01 MF AX. CER. | IC 2B | 4017 |
| C101 | 33 PF AX. CER. | IC 3B | MHC07 |
| C102 | 47 PF AX. CER. | IC 4B, IC 5B | 74LS244 |
| C103 | .1 UF AX. CER. | IC 6B | NV RAM |
| C104 | .1 UF AX. CER. | IC 7B | 280B CTC |
| C105 | 390 PF AX. CER. | IC 8B | Z80B |
| C107 | 390 PF AX. CER. | IC 9B1 | 74S161 |
| C201-C216 | 390 PF AX. CER. | IC 9B2 | 74LS04 |
| C217-C222 | 47 PF AX. CER. | IC 10B1 | 74LS08 |
| C223-C226 | 820 PF AX. CER. | IC 10B2 | MHC03 |
| | | IC 11B1 | 74LS86 |
| R101 | 82K OHM 1/4W 5X | IC 11B2 | MHC01 |
| | CRBN. | IC 1C, IC 2C, | EPR0M |
| R102 | 39 OHM 1/4W 5X | IC 3C, IC 4C | |
| | CRBN. | IC 5C, IC 6C | 74LS74 |
| R104, R105 | 1K OHM 1/4W 5X | IC 7C | 74LS04 |
| | CRBN. | IC 8C | 7427 |
| R106-R108 | 4.7K OHM 1/4W 5X | IC 9C, IC 10C | 74LS20 |
| | CRBN. | | |
| R109-R114 | 1K OHM 1/4W 5X | IC 1D | 74LS139 |
| | CRBN. | IC 2D, IC 3D, | 74LS157 |
| R115 | 4.7K OHM 1/4W 5X | IC 4D, IC 7D | |
| | CRBN. | IC 8D | |
| R201 | 510 OHM 1/4W 5X | IC 5D | RAM |
| | CRBN. | IC 6D | 74LS32 |
| R202 | 1K OHM 1/4W 5X | IC 1E | 74LS32 |
| | CRBN. | IC 3E, IC 4E | 74LS245 |
| R203 | 2K OHM 1/4W 5X | IC 5E | 74LS08 |
| | CRBN. | IC 6E, IC 9E | 74LS174 |
| R204 | 510 OHM 1/4W 5X | IC 7E | 74LS273 |
| | CRBN. | IC 8E | 74LS155 |
| R205 | 1K OHM 1/4W 5X | IC 10E | 74LS157 |
| | CRBN. | IC 11E | 93419 |
| R206 | 2K OHM 1/4W 5X | | |
| | CRBN. | | |
| R207 | 510 OHM 1/4W 5X | IC 1F, IC 2F | 74LS86 |
| | CRBN. | IC 3F, IC 4F, | 74LS273 |
| R208 | 1K OHM 1/4W 5X | IC 7F | |
| | CRBN. | IC 5F, IC 6F | EPR0M |
| R209 | 2K OHM 1/4W 5X | IC 8F | 74LS153 |
| | CRBN. | IC 9F | 74LS157 |
| R210, R211 | 560 OHM 1/4W 5X | IC 10F, IC 11F | 74LS74 |
| | CRBN. | IC 12F | MHC06 |
| R212-R217 | 10 OHM 1/4W 5X | IC 13F | MHC02 |
| | CRBN. | | |
| R218 | 1K OHM 1/4W 5X | FB1-FB2B | FERRITE BEAD |
| | CRBN. | | |
| R219 | 100 OHM 1/4W 5X | ICS 13FA, | 8 PIN DIP SOCKET |
| | CRBN. | ICS 11B2A | |
| R220 | 820 OHM 1/4W 5X | ICS 13FB, | 16 PIN DIP SOCKET |
| | CRBN. | ICS 11B2B | |
| R221-R223 | 470 OHM 1/4W 5X | ICS 3B, ICS 10B2, | 20 PIN DIP SOCKET |
| | CRBN. | ICS 12F | |
| R301 | 62 OHM 1/4W 5% CRBN | ICS 6B, 5B | 24 PIN DIP SOCKET |
| R302, R303 | 6R OHM 1/4W 5% CRBN | ICS 7B, ICS 1C-4C, | 28 PIN DIP SOCKET |
| | PERN | ICS 11E, ICS 5F, | |
| RM1 | 4.7K OHM 9 PIN | ICS 6F | |
| | SIP | ICS 8B | 40 PIN DIP SOCKET |
| RM2, RM3 | 4.7K OHM 8 PIN | | |
| | SIP | | |
| RM4 | 4.7K OHM 6 PIN | J1 | 20 PIN .156C |
| | SIP | J2 | CONN. OMIT 15 |
| D101 | 1N5817 | J3-J7 | 9 PIN .100C |
| D102 | 1N4148 | | CONN. OMIT 3 |
| | | | HEADER |
| Q101 | 2N4123 | JW1-JW6 | FLEX PACK JUMPER |
| Q102-Q107 | A 70 | | JUMPERS |
| Q108 | 2N4403 | | |
| OSC 1 | 20 MHZ ± 0.1% | SW1 | PUSH BUTTON SW. |
| | OSCILLATOR | A080-91490-0000 | 5 MHZ GPU BD. |
| IC 1A | 74LS32 | | |
| IC 2A | 4053 | | |
| IC 3A | 74LS161 | | |



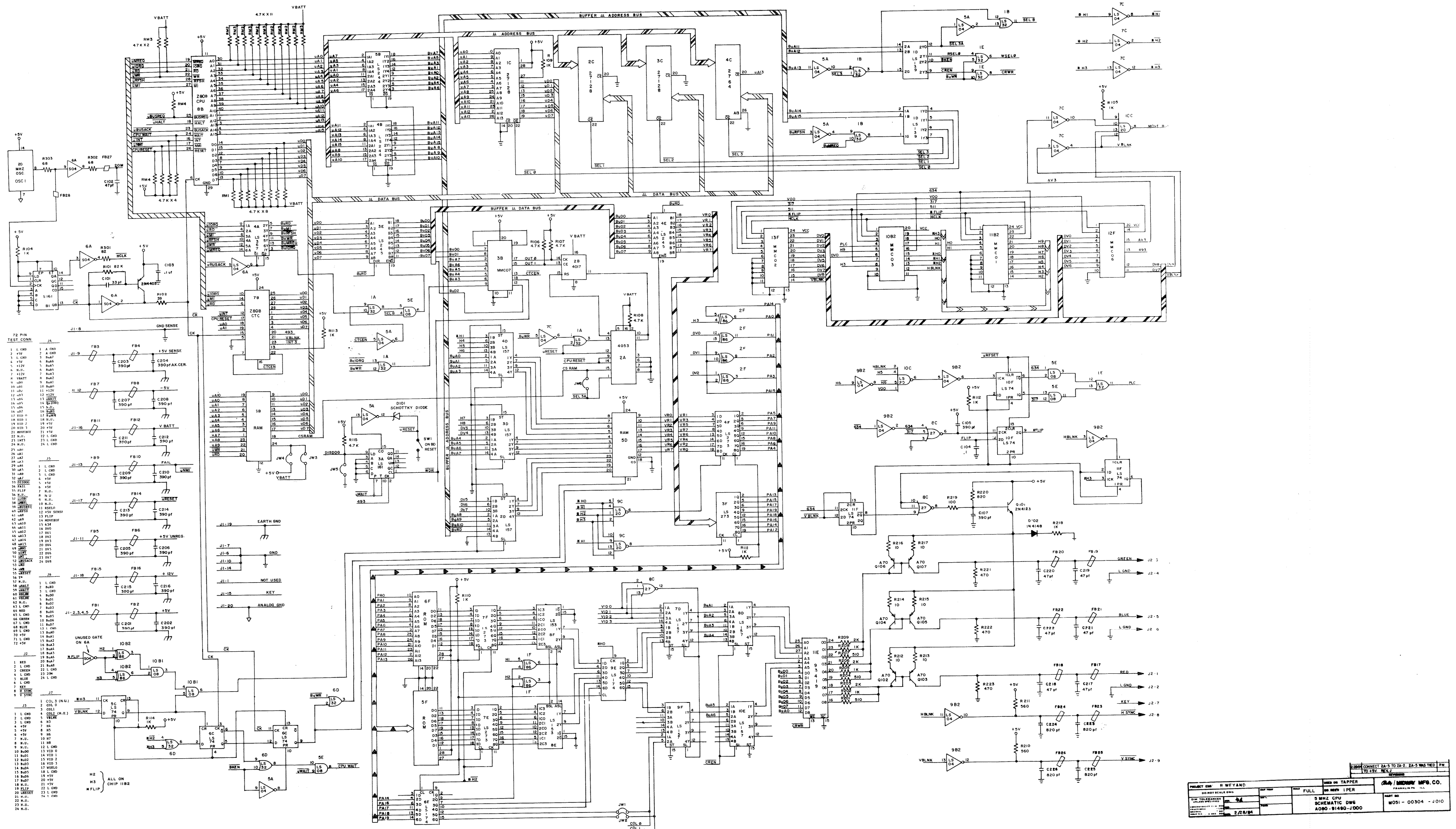
CROSS REFERENCE LIST

| DESCRIPTION | QTY | DESIGNATION NO. | PART NOS. | DESCRIPTION | QTY | DESIGNATION NO. | PART NOS. |
|--------------------------|-----|---|-----------------|-------------------|-----|---------------------------|-----------------|
| 33 PF 50V AX. CER. | 1 | C101 | 0986-00800-0300 | 74LS32 | 4 | IC 1A, 1B, 6D, 1E | 0986-00803-0600 |
| 47 PF 50V AX. CER. | 7 | C102, C217-C222 | 0986-00800-2800 | 74LS74 | 4 | IC 5C, 6C, 10F, 11F | 0986-00803-1005 |
| 390 PF 50V AX. CER. | 18 | C105, C107, C201-C216 | 0986-00800-3000 | 74LS245 | 2 | IC 11B1, 1F, 2F | 0986-00803-9900 |
| 820 PF 50V AX. CER. | 4 | C223-C226 | 0945-00816-0400 | 74LS153 | 3 | IC 1D | 0304-00803-0042 |
| .01 MF 50V 20X AX. CER. | 43 | CP1-CP42, CP70 | 0986-00800-2200 | 74LS157 | 7 | IC 8E, 8F | 0986-00803-1000 |
| .1 MF 50V 20X AX. CER. | 2 | C103, C104 | 0986-00800-0200 | 74LS273 | 4 | IC 2D, 3D, 4D, 7D, 8D | 0986-00803-9700 |
| 10 MF 25V 10X AX. TANT. | 23 | CP43-CP65 | 0986-00800-3400 | 74LS367 | 1 | IC 3A | 0986-00803-1003 |
| 470 MF 16V AX. ELECT. | 4 | CP66-CP69 | 0986-00800-3300 | 74S04 | 1 | IC 6E, 9E | 0986-00803-9800 |
| 10 OHM 1/4W 5X CRBN. | 6 | R212-R217 | 100E-00005-0011 | 74LS244 | 2 | IC 4B, 5B | 0986-00803-0800 |
| 39 OHM 1/4W 5X CRBN | 1 | R102 | 100E-00005-0023 | 74LS245 | 2 | IC 3E, 4E | 0986-00803-0900 |
| 68 OHM 1/4W 5% CRBN | 2 | R302, R303 | 100E-00005-0025 | 74LS273 | 4 | IC 7E, 3F, 4F, 7F | 0986-00803-1001 |
| 82 OHM 1/4W 5% CRBN | 1 | R301 | 100E-00005-0031 | 74LS367 | 1 | IC 4A | 0986-00803-2200 |
| 100 OHM 1/4W 5X CRBN. | 1 | R219 | 100E-00005-0033 | 74S04 | 1 | IC 6A | 0986-00803-0400 |
| 470 OHM 1/4W 5X CRBN. | 3 | R221-R223 | 100E-00005-0051 | 74S161 | 1 | IC 9B1 | 0304-00803-0038 |
| 510 OHM 1/4W 5X CRBN. | 3 | R201, R204, R207 | 100E-00005-0053 | 93419 | 1 | IC 11E | 0986-00803-9600 |
| 560 OHM 1/4W 5X CRBN. | 2 | R210, R211 | 100E-00005-0054 | | 6 | IC 1C, 2C, 3C, 4C, 5F, 6F | * SEE NOTE |
| 820 OHM 1/4W 5X CRBN. | 1 | R220 | 100E-00005-0058 | MHC01 | 1 | IC 11B2 | 0986-00803-8900 |
| 1K OHM 1/4W 5X CRBN. | 12 | R104, R105, R109-R114, R202, R205, R208, R218 | 100E-00005-0061 | MHC02 | 1 | IC 13F | 0986-00803-9000 |
| 2K OHM 1/4W 5X CRBN. | 3 | R203, R206, R209 | 100E-00005-0068 | MHC03 | 1 | IC 10B2 | 0986-00803-9100 |
| 4.7K OHM 1/4W 5X CRBN. | 4 | R106-R108, R115 | 100E-00005-0079 | MHC07 | 1 | IC 3B | 0986-00804-3200 |
| 82K OHM 1/4W 5X CRBN. | 1 | R101 | 100E-00005-0112 | NV RAM | 1 | IC 6B | 0304-00803-0079 |
| 4.7K OHM 9 PIN SIP. | 1 | RM1 | 102E-00004-0024 | RAM | 1 | IC 5D | 0986-00803-1008 |
| 4.7K OHM 8 PIN SIP. | 2 | RM2, RM3 | 102E-00004-0025 | Z80B | 1 | IC 8B | 0304-00803-0041 |
| 4.7K OHM 6 PIN SIP. | 1 | RM4 | 102E-00004-0027 | 280B CTC | 1 | IC 7B | 0304-00803-0040 |
| 1N5817 | 1 | D101 | 103E-00003-0009 | MHC06 | 1 | IC 12F | 0304-00803-9800 |
| 1N4148 | 1 | D102 | 103E-00002-0005 | FERRITE BEAD | 28 | FB1-FB2B | 0316-00804-0002 |
| 2N4123 | 1 | Q101 | 104E-00001-0007 | 8 PIN DIP SOCKET | 2 | ICS 13FA, | 0986-00804-3600 |
| A 70 | 6 | Q102-Q107 | 104E-00002-0012 | 16 PIN DIP SOCKET | 2 | ICS 11B2A | 0986-00804-3700 |
| 2N4403 | 1 | Q108 | 104E-00002-0006 | 20 PIN DIP SOCKET | 3 | ICS 3B, ICS 10B2, | 0986-00804-3800 |
| 20 MHZ ± 0.1% OSCILLATOR | 1 | OSC1 | 0304-00804-0007 | 24 PIN DIP SOCKET | 2 | ICS 12F | 0986-00804-3400 |
| 4017 | 1 | IC 2B | 0986-00803-8700 | 28 PIN DIP SOCKET | 8 | ICS 6B, ICS 5B | 0986-00804-3900 |
| 4053 | 1 | IC 2A | 0986-00803-2000 | 40 PIN DIP SOCKET | 1 | ICS 7B, ICS 1C-4C, | 0986-00804-3500 |
| 74LS04 | 3 | IC 9B2, 7C, 5A | 0986-00803-1007 | | 1 | ICS 6F | 0986-00804-3500 |
| 74LS08 | 2 | IC 10B1, 5E | 0986-00803-1006 | | 1 | ICS 8B | 0986-00804-3500 |
| 74LS20 | 2 | IC 9C, 10C | 0986-00803-1004 | | 1 | FB1-FB2B | 0316-00804-0002 |
| 7427 | 1 | IC 8C | 0304-00803-0046 | | 1 | J2 | 3000-16366-0902 |

* NOTE: SEE ROM CHART IN BACK.

| | | |
|------|-------------------------------------|----|
| 2284 | CONNECT 2A-5 TO 2A-2, 2A-5 WAS TIED | RW |
| | TO +5V. REV. J | |
| 268 | PARTNO. FUR J1 | BK |

| | | | | |
|------------------------------------|----------------|-------------|------------------|--------------------------|
| PROJECT ENG: R. PLOUSSARD | DATE: 10/12/84 | SCALE: FULL | NO. REQ'D: 1 PER | REVISED BY: TAPPER |
| DO NOT SCALE DIMS UNLESS SPECIFIED | | | | |
| TITLE: ASSEMBLY DRAWING | | | | |
| PART NO: A082-91490-0000 | | | | |
| MIDWAY MFG. CO. | | | | PART NO: M051-00304-0009 |



TEST CONN.

| | | | |
|----|-------|----|-------|
| 1 | 1.00V | 1 | 1.00V |
| 2 | 1.00V | 2 | 1.00V |
| 3 | 1.00V | 3 | 1.00V |
| 4 | 1.00V | 4 | 1.00V |
| 5 | 1.00V | 5 | 1.00V |
| 6 | 1.00V | 6 | 1.00V |
| 7 | 1.00V | 7 | 1.00V |
| 8 | 1.00V | 8 | 1.00V |
| 9 | 1.00V | 9 | 1.00V |
| 10 | 1.00V | 10 | 1.00V |
| 11 | 1.00V | 11 | 1.00V |
| 12 | 1.00V | 12 | 1.00V |
| 13 | 1.00V | 13 | 1.00V |
| 14 | 1.00V | 14 | 1.00V |
| 15 | 1.00V | 15 | 1.00V |
| 16 | 1.00V | 16 | 1.00V |
| 17 | 1.00V | 17 | 1.00V |
| 18 | 1.00V | 18 | 1.00V |
| 19 | 1.00V | 19 | 1.00V |
| 20 | 1.00V | 20 | 1.00V |
| 21 | 1.00V | 21 | 1.00V |
| 22 | 1.00V | 22 | 1.00V |
| 23 | 1.00V | 23 | 1.00V |
| 24 | 1.00V | 24 | 1.00V |
| 25 | 1.00V | 25 | 1.00V |
| 26 | 1.00V | 26 | 1.00V |
| 27 | 1.00V | 27 | 1.00V |
| 28 | 1.00V | 28 | 1.00V |
| 29 | 1.00V | 29 | 1.00V |
| 30 | 1.00V | 30 | 1.00V |
| 31 | 1.00V | 31 | 1.00V |
| 32 | 1.00V | 32 | 1.00V |
| 33 | 1.00V | 33 | 1.00V |
| 34 | 1.00V | 34 | 1.00V |
| 35 | 1.00V | 35 | 1.00V |
| 36 | 1.00V | 36 | 1.00V |
| 37 | 1.00V | 37 | 1.00V |
| 38 | 1.00V | 38 | 1.00V |
| 39 | 1.00V | 39 | 1.00V |
| 40 | 1.00V | 40 | 1.00V |
| 41 | 1.00V | 41 | 1.00V |
| 42 | 1.00V | 42 | 1.00V |
| 43 | 1.00V | 43 | 1.00V |
| 44 | 1.00V | 44 | 1.00V |
| 45 | 1.00V | 45 | 1.00V |
| 46 | 1.00V | 46 | 1.00V |
| 47 | 1.00V | 47 | 1.00V |
| 48 | 1.00V | 48 | 1.00V |
| 49 | 1.00V | 49 | 1.00V |
| 50 | 1.00V | 50 | 1.00V |
| 51 | 1.00V | 51 | 1.00V |
| 52 | 1.00V | 52 | 1.00V |
| 53 | 1.00V | 53 | 1.00V |
| 54 | 1.00V | 54 | 1.00V |
| 55 | 1.00V | 55 | 1.00V |
| 56 | 1.00V | 56 | 1.00V |
| 57 | 1.00V | 57 | 1.00V |
| 58 | 1.00V | 58 | 1.00V |
| 59 | 1.00V | 59 | 1.00V |
| 60 | 1.00V | 60 | 1.00V |
| 61 | 1.00V | 61 | 1.00V |
| 62 | 1.00V | 62 | 1.00V |
| 63 | 1.00V | 63 | 1.00V |
| 64 | 1.00V | 64 | 1.00V |
| 65 | 1.00V | 65 | 1.00V |
| 66 | 1.00V | 66 | 1.00V |
| 67 | 1.00V | 67 | 1.00V |
| 68 | 1.00V | 68 | 1.00V |
| 69 | 1.00V | 69 | 1.00V |
| 70 | 1.00V | 70 | 1.00V |
| 71 | 1.00V | 71 | 1.00V |
| 72 | 1.00V | 72 | 1.00V |

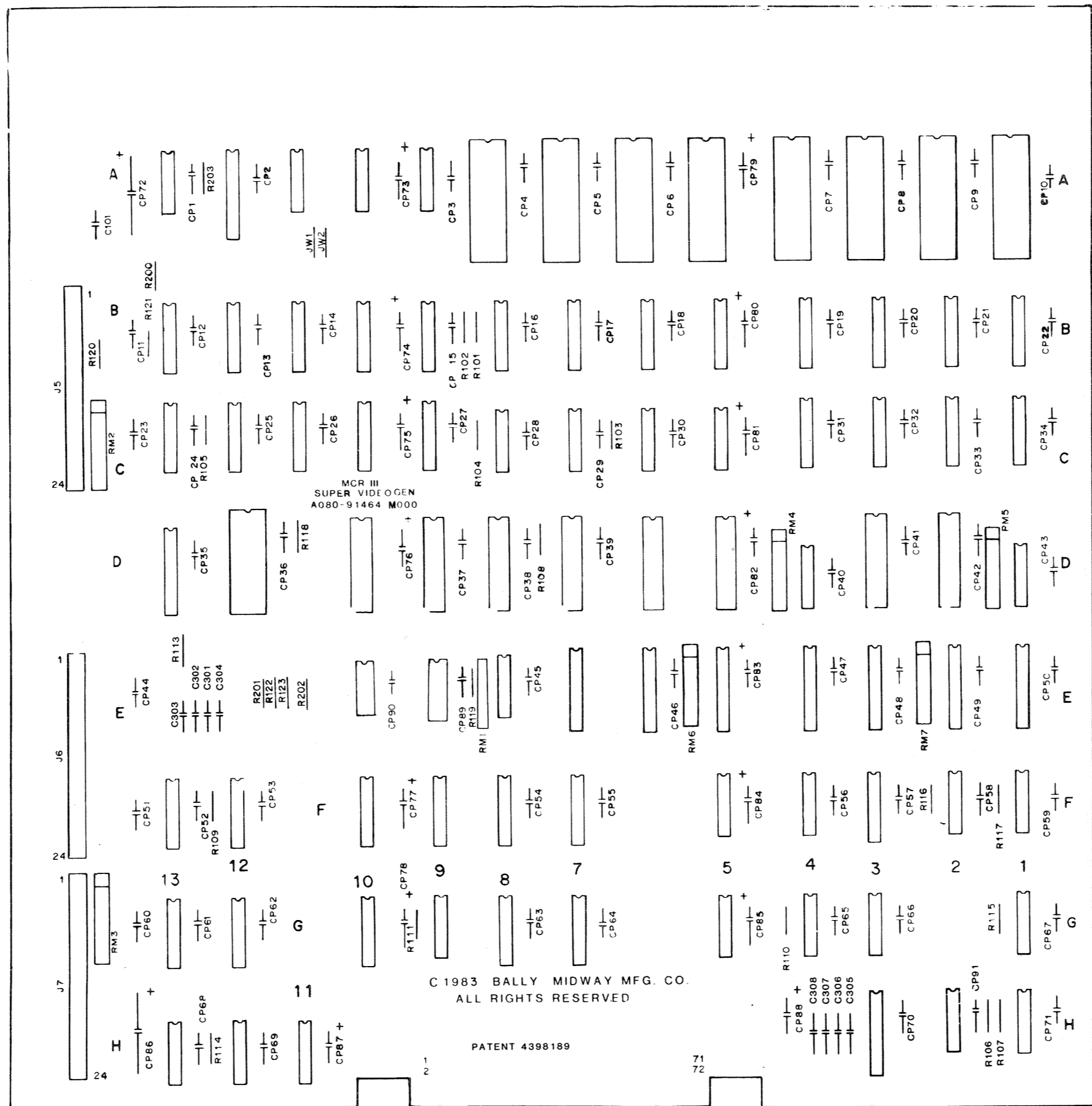
| | | | | | |
|-----------------|----------|---------------------|-----------|---------------|---------|
| PROJECT NO. | D. WYAND | DESIGNED BY | W. TAPPER | DATE | 2/28/84 |
| SCALE | 1:1 | REV | 1 | NO. OF SHEETS | 1 |
| 5 MHz CPU | | SCHEMATIC DWG | | PART NO. | |
| A080-81480-1000 | | MOSI - 00304 - J010 | | | |

DESIGNATION LIST

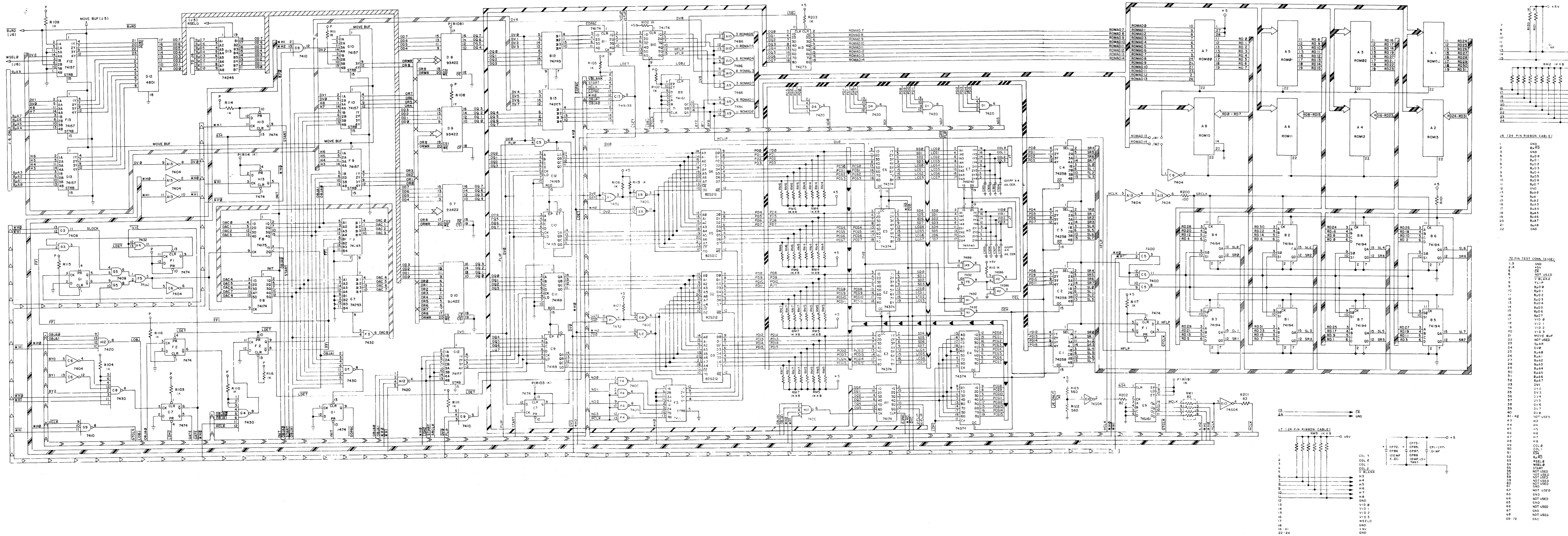
| DESIGNATION | DESCRIPTION | DESIGNATION | DESCRIPTION |
|-----------------|--------------------|--------------------------|------------------------------|
| C101 | .01 MF AX CER | IC 1D | 7420 |
| C301-C308 | 100 PF AX CER | IC 2D | 93479 |
| CP1-CP71 | .01 MF AX CER | IC 3D | 93479 |
| CP72,CP86 | 100 MF AX ELECT. | IC 4D | 7420 |
| CP73-CP85,CP87, | 10 MF 25V AX TANT. | IC 5D | 93479 |
| CP88 | | IC 6D | 93479 |
| CP89,CP90,CP91 | .01MF AX. CER. | IC 7D | 93422 |
| | | IC 8D | 93422 |
| | | IC 9D | 93422 |
| R101-R111,R113- | 1K OHM 1/4W | IC 10D | 93422 |
| R121 | | IC 12D | STAT. RAM |
| R122,R123 | 560 OHM 1/4W | IC 13D | 74LS245 |
| R200 | 100 OHM 1/4W | | |
| R201 R202 | 82 OHM 1/4W | IC 1E | 74LS374 |
| R203 | 1KOHM 1/4W | IC 2E | 74LS374 |
| | | IC 3E | 74LS374 |
| RM 1 | 82 OHM 8 PIN SIP | IC 4E | 74LS374 |
| RM 2 | 1K 10 PIN SIP | IC 5E | 74LS374 |
| RM 3 | 1K 10 PIN SIP | IC 6E | 74LS374 |
| RM 4 | 1K 9 PIN SIP | IC 7E | 74LS240 |
| RM 5 | 1K 9 PIN SIP | IC 8E | 74LS00 |
| RM 6 | 1K 9 PIN SIP | IC 9E | 74S161 |
| RM 7 | 1K 9 PIN SIP | IC 10E | 74S04 |
| | | IC 1F | 74LS74 |
| IC 1A | EPROM | IC 2F | 74LS74 |
| IC 2A | EPROM | IC 3F | 74LS15 |
| IC 3A | EPROM | IC 4F | 74S00 |
| IC 4A | EPROM | IC 5F | 74LS32 |
| IC 5A | EPROM | IC 7F | 74LS283 |
| IC 6A | EPROM | IC 8F | 74LS175 |
| IC 7A | EPROM | IC 9F | 74LS157 |
| IC 8A | EPROM | IC 10F | 74LS157 |
| IC 9A | 74LS86 | IC 12F | 74LS157 |
| IC 10A | 74LS86 | IC 13F | 74LS157 |
| IC 11A | 74LS174 | IC 1G | 74LS74 |
| IC 12A | 74LS273 | IC 3G | 74S08 |
| IC 13A | 74S04 | IC 4G | 74LS30 |
| | | IC 5G | 74LS30 |
| IC 1B | 74LS194 | IC 7G | 74LS283 |
| IC 2B | 74LS194 | IC 8G | 74LS174 |
| IC 3B | 74LS194 | IC 9G | 74LS10 |
| IC 4B | 74LS194 | IC 10G | 74LS157 |
| IC 5B | 74LS194 | IC 12G | 74LS157 |
| IC 6B | 74LS194 | IC 13G | 74LS157 |
| IC 7B | 74LS194 | | |
| IC 8B | 74LS194 | IC 1H | 74LS32 |
| IC 9B | 74LS161 | IC 2H | 74S86 |
| IC 10B | 74LS174 | IC 3H | 74LS240 |
| IC 11B | 74LS174 | IC 11H | 7420 |
| IC 12B | 74S283 | IC 12H | 7420 |
| IC 13B | 74S283 | IC 13H | 74LS74 |
| | | | |
| IC 1C | 74LS258 | ICS1A-ICS8A | 28 PIN SOCKET |
| IC 2C | 74LS258 | ICS D2,D3,D5-D10 | 22 PIN SOCKET |
| IC 3C | 74LS258 | ICS D12 | 24 PIN SOCKET |
| IC 4C | 74LS258 | | |
| IC 5C | 74LS00 | J5,J6,J7 | KK100 RT. ANGLE 24 PIN CONN. |
| IC 6C | 74LS04 | | |
| IC 7C | 74LS74 | | |
| IC 8C | 74LS30 | | |
| IC 9C | 74LS169 | JW 1, JW2 | JUMPER WIRE |
| IC 10C | 74LS169 | | |
| IC 11C | 74LS169 | MCR III SUPER VIDEO GEN. | A082-91464- 000 |
| IC 12C | 74LS169 | | |
| IC 13C | 74S133 | | |

CROSS REFERENCE LIST

| DESCRIPTION | QTY | DESIGNATION NO. | PART NOS. |
|------------------------------|-----|--|-----------------|
| CAP 100 PF | 8 | C301-C308 | 0986-00800-1000 |
| CAP .01MF | 75 | C101,CP1-CP71,CP89,CP90,CP91,CP73-CP85,CP87,CP88 | 0986-00800-2500 |
| CAP 10MF | 15 | | 0986-00800-2400 |
| CAP 100MF | 2 | CP72,CP86 | 0986-00800-1800 |
| 82 OHM 1/4 W RES. | 2 | R201, R202 | 100E-00005-0031 |
| 100 OHM 1/4 W RES. | 1 | R200 | 100E-00005-0033 |
| 1K OHM 1/4 W RES. | 21 | R101-R111, R113-R121, R203 | 100E-00005-0061 |
| 560 OHM 1/4W RES. | 2 | R122, R123 | 100E-00005-0054 |
| 8 PIN SIP 82 OHM | 1 | RM1 | 102E-00004-0035 |
| 9 PIN SIP 1K OHM | 4 | RM4-RM7 | 102E-00004-0011 |
| 10 PIN SIP 1K OHM | 2 | RM2, RM3 | 102E-00004-0013 |
| 74S00 | 1 | 4F | 0304-00803-0047 |
| 74LS00 | 2 | 5C, 8E | 0304-00803-0010 |
| 74S04 | 2 | 13A, 10E | 0304-00803-0011 |
| 74LS04 | 1 | 6C | 0304-00803-0012 |
| 74S08 | 1 | 3G | 0304-00803-0037 |
| 74LS10 | 1 | 9G | 0304-00803-0014 |
| 7420 | 4 | 1D, 4D, 11H, 12H | 0304-00803-0015 |
| 74LS30 | 3 | 8C, 4G, 5G | 0304-00803-0016 |
| 74LS32 | 2 | 5F, 1H | 0304-00803-0017 |
| 74LS74 | 5 | 7C, 1F, 2F, 1G, 13H | 0304-00803-0018 |
| 74S86 | 1 | 2H | 0304-00803-0049 |
| 74LS86 | 2 | 9A, 10A | 0304-00803-0019 |
| 74S133 | 1 | 13C | 0304-00803-0020 |
| 74LS157 | 8 | 3F, 9F, 10F, 12F, 13F, 10G, 12G, 13G | 0304-00803-0021 |
| 74S161 | 1 | 9E | 0304-00803-0038 |
| 74LS161 | 1 | 9B | 0304-00803-0022 |
| 74LS169 | 4 | 9C-12C | 0304-00803-0023 |
| 74LS174 | 4 | 11A, 10B, 11B, 8G | 0304-00803-0024 |
| 74LS175 | 1 | 8F | 0304-00803-0025 |
| 74LS194 | 8 | 1B-8B | 0304-00803-0026 |
| 74LS240 | 2 | 7E, 3H | 0304-00803-0050 |
| 74LS245 | 1 | 13D | 0304-00803-0027 |
| 74LS258 | 4 | 1C-4C, | 0304-00803-0028 |
| 74LS273 | 1 | 12A | 0304-00803-0029 |
| 74S283 | 2 | 12B, 13B | 0304-00803-0039 |
| 74LS283 | 2 | 7F, 7G | 0304-00803-0030 |
| 74LS374 | 6 | 1E-6E | 0304-00803-0031 |
| 93422 | 4 | 7D-10D | 0304-00803-0032 |
| 93479 | 4 | 2D, 3D, 5D, 6D | 0304-00803-0033 |
| STAT. RAM | 1 | 12D | 0304-00803-0034 |
| EPROM KIT | 8 | 1C1A-8A | |
| 28 PIN SOCKET | 8 | 1CS 1A-8A | 0986-00804-0300 |
| 22 PIN SOCKET | 8 | 1CS 2D, 3D, 5D, 6D, 7D-10D | 0986-00804-0700 |
| 24 PIN SOCKET | 1 | 1CS 12D | 0986-00804-1600 |
| KK100 RT. ANGLE 24 PIN CONN. | 3 | J5, J6, J7 | 0986-00804-4700 |
| JUMPER WIRE | 2 | JW1, JW2 | 0986-00805-0200 |
| MCR III SUPER VIDEO GEN. | | | A082-91464- 000 |



| | | |
|--|------------|---|
| PROJECT ENG. R. PLOUSSARD | USED ON | REVISIONS |
| DO NOT SCALE DWG | HEAT TREAT | SCALE FULL NO REQ'D I PER |
| DIM TOLERANCE UNLESS OTHERWISE SPECIFIED | MAT'L | SUPER VIDEO GEN. MCR III ASSY DWG A082-91464-M000 |
| DATE 01/11/84 | FINISH | PART NO. M051-00304-M005 |



25 (24 PIN RIBBON CABLE)
1-3
4-6

NOT USED
NOT USED
NOT USED
+5V
MOVE BUF
STX
DVE
DVI
DVA
DVB
DVC
DVE
DVF
DVG
DVA

26 (24 PIN RIBBON CABLE)
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5
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7
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9
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12
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16
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21
22

27 (24 PIN RIBBON CABLE)
1
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11
12
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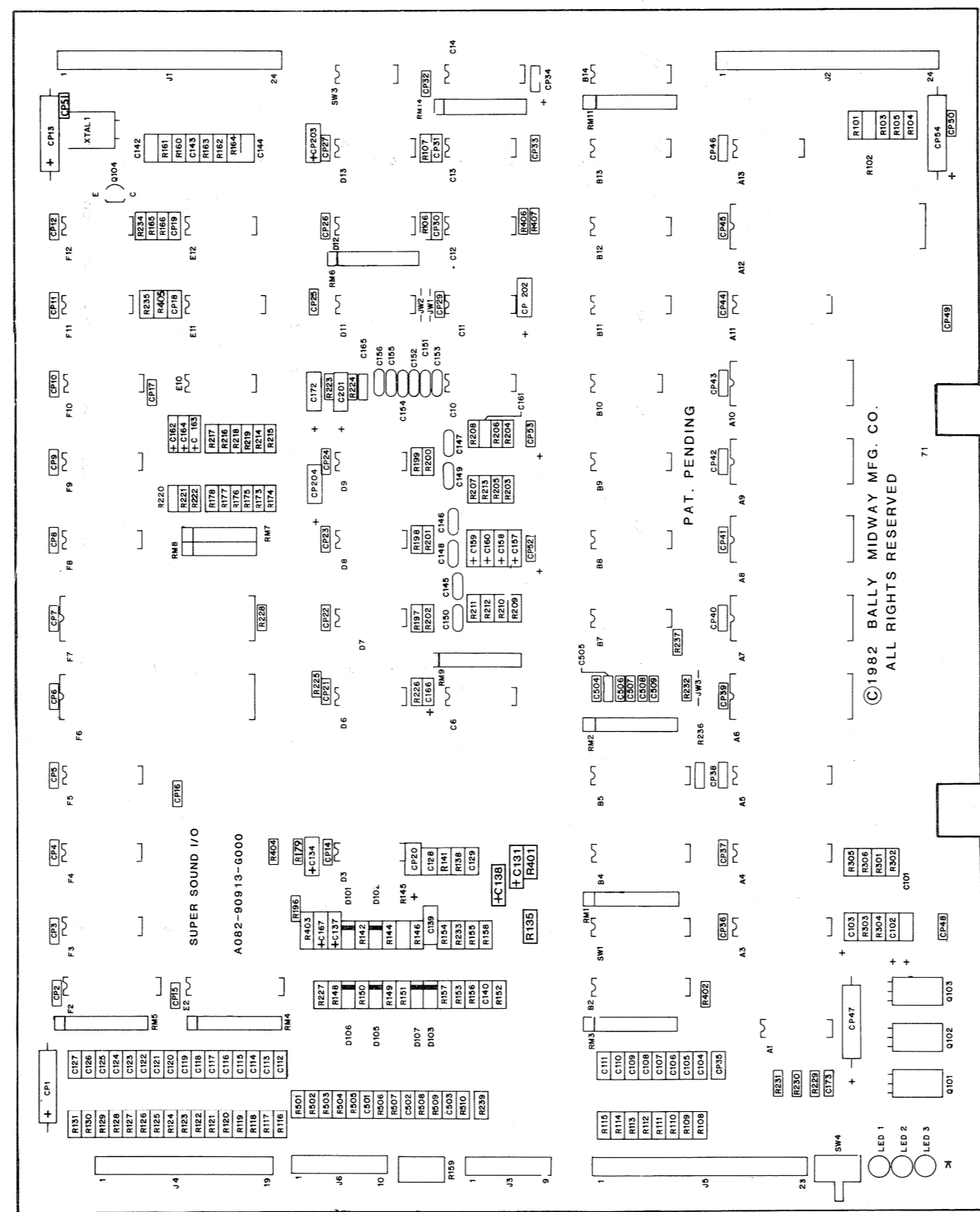
| | | | | | | | |
|--------------------------|--------------|----------|-----|---------------------|-----|----|----|
| DESIGNED BY | R. FLOUSSARD | DATE | REV | NO | REV | BY | NO |
| SCHEMATIC DWG. | | | | | | | |
| SUPER VIDEO GEN. MCP III | | | | | | | |
| ASSEMBLER | | | | | | | |
| D/F11784 | | | | | | | |
| MIDWAY MFG. CO. | | PART NO. | | MOSI - 00304 - MO06 | | | |

DESIGNATION LIST

| DESIGNATION NO. | DESCRIPTION | DESIGNATION NO. | DESCRIPTION | DESIGNATION NO. | DESCRIPTION |
|-----------------|-------------------------|-----------------|-------------------------|-----------------|-------------|
| C101-C103 | 10 MF 25V AX. TANT. | R152 | 1MEG. OHM 1/4W 5% CRBN. | D101-D103 | 1N4148 |
| C104-C127 | .1 MF 50V AX. CER. | R153 | 1K OHM 1/4W 5% CRBN. | D105-D107 | 1N4148 |
| C128,C129 | 47 PF 50V AX. CER. | R154 | 1MEG. OHM 1/4W 5% CRBN. | Q101-Q103 | T1P110 |
| C131 | 10 MF 25V AX. TANT. | R155,R156 | 10K OHM 1/4W 5% CRBN. | Q104 | 2N4403 |
| C134-C137 | 1 MF 20V AX. TANT. | R157,R158 | 1.2K OHM 1/4W 5% CRBN. | IC1A | 7406 |
| C138 | 10 MF 25V AX. TANT. | R160,R161 | 330 OHM 1/4W 5% CRBN. | IC3A,4A | 74LS273 |
| C139 | .047 MF 100V MYLAR | R162 | 220 OHM 1/4W 5% CRBN. | IC5A | 74LS374 |
| C140 | .01 MF 50V AX. CER. | R163 | 1.2K OHM 1/4W 5% CRBN. | IC6A | 1K X 8 RAM |
| C142 | 100 PF 50V AX. CER. | R164 | 22 OHM 1/4W 5% CRBN. | IC7A | ROM/EPROM 0 |
| C143 | .1 MF 50V AX. CER. | R165,R166 | 22 OHM 1/4W 5% CRBN. | IC8A | ROM/EPROM 1 |
| C144 | 33 PF 50V AX. CER. | R173-R178 | 4.7K OHM 1/4W 5% CRBN. | IC9A | ROM/EPROM 2 |
| C145-C156 | .0022 MF 100V 10X MYLAR | R179 | 5.6K OHM 1/4W 5% CRBN. | IC10A | ROM/EPROM 3 |
| C157-C159 | 1 MF 20V AX. TANT. | R196 | 24K OHM 1/4W 5% CRBN. | IC11A | Z-80 CPU |
| C161 | 330 PF 50V AX. CER. | R197-R202 | 5.6K OHM 1/4W 5% CRBN. | IC12A | 74LS508 |
| C162-C164 | 1 MF 20V AX. TANT. | R203-R208 | 33K OHM 1/4W 5% CRBN. | IC13A | 74LS244 |
| C165 | 330 PF 50V AX. CER. | R209-R211 | 13K OHM 1/4W 5% CRBN. | IC14C | 74LS138 |
| C166,C167 | 10 MF 25V AX. TANT. | R213 | 27K OHM 1/4W 5% CRBN. | IC15A | 74LS670 |
| C172 | 10 MF 25V AX. TANT. | R214-R219 | 33K OHM 1/4W 5% CRBN. | IC16B | 74LS532 |
| C173 | .01 MF 50V AX. CER. | R220-R222 | 13K OHM 1/4W 5% CRBN. | IC22B,4B,5B | 74LS670 |
| C501-C509 | .1 MF 50V AX. CER. | R224 | 27K OHM 1/4W 5% CRBN. | IC7B,8B | 74LS670 |
| CP1 | 470 MF 16V AX. ELECT. | R225,R226 | 4.7K OHM 1/4W 5% CRBN. | IC9B | 74LS532 |
| CP2-CF12 | .01 MF 50V AX. CER. | R227 | 1K OHM 1/4W 5% CRBN. | IC10B | 74LS670 |
| CP13 | 470 MF 16V AX. ELECT. | R228 | 4.7K OHM 1/4W 5% CRBN. | IC11B | 74LS670 |
| CP14-CP19 | .01 MF 50V AX. CER. | R231 | 300 OHM 1/4W 5% CRBN. | IC12B,13B | 74LS532 |
| CP20 | 10 MF 25V AX. TANT. | R232 | 4.7K OHM 1/4W 5% CRBN. | IC14B | 74LS174 |
| CP21-CP27 | .01 MF 50V AX. CER. | R233 | 3K OHM 1/4W 5% CRBN. | IC16C | 7407 |
| CP29-CP33 | .01 MF 50V AX. CER. | R234,R235 | 4.7K OHM 1/4W 5% CRBN. | MC3403 | 74LS403 |
| CP34 | 10 MF 25V AX. TANT. | R239 | 100 OHM 1/4W 5% CRBN. | MC14024 | 74LS504 |
| CP35-CP46 | .01 MF 50V AX. CER. | R301-R306 | 2.7K OHM 1/4W 5% CRBN. | 7427 | 74LS367 |
| CP47 | 470 MF 16V AX. ELECT. | R401 | 470 MF 16V AX. ELECT. | LM3900 | 74LS374 |
| CP52,CP53 | .01 MF 50V AX. CER. | R402 | 4.7K OHM 1/4W 5% CRBN. | 74LS02 | 74LS670 |
| CP54 | 470 MF 16V AX. ELECT. | R403,R404 | 33K OHM 1/4W 5% CRBN. | IC6D | 74LS02 |
| CP202-CP204 | 10 MF 25V AX. TANT. | R405-R407 | 4.7K OHM 1/4W 5% CRBN. | IC7D-9D | 74LS190 |
| R101-R107 | 4.7K OHM 1/4W 5% CRBN. | R408 | 4.7K OHM 1/4W 5% CRBN. | IC11D | 74LS190 |
| R108-R131 | 220 OHM 1/4W 5% CRBN. | R409 | 4.7K OHM 1/4W 5% CRBN. | IC12D | PROMSB2A |
| R135 | 33K OHM 1/4W 5% CRBN. | R501-R509 | 220 OHM 1/4W 5% CRBN. | IC13D | 74LS166 |
| R138,R141 | 180K OHM 1/4W 5% CRBN. | R510 | 2.7K OHM 1/4W 5% CRBN. | IC2E | 74LS244 |
| R142 | 100K OHM 1/4W 5% CRBN. | RM1 | 4.7K OHM 10 PIN S.I.P. | MC3403 | 74LS403 |
| R144,R145 | 620K OHM 1/4W 5% CRBN. | RM2-RM5 | 2.7K OHM 10 PIN S.I.P. | 74161 | 74LS161 |
| R146 | 10K OHM 1/4W 5% CRBN. | RM7 | 4.7K OHM 8 PIN S.I.P. | 74126 | 74LS126 |
| R148 | 100K OHM 1/4W 5% CRBN. | RM8 | 820 OHM 8 PIN S.I.P. | 74LS244 | 74LS244 |
| R149,R150 | 620K OHM 1/4W 5% CRBN. | RM9 | 1.8K OHM 10 PIN S.I.P. | 74LS191 | 74LS191 |
| R151 | 10K OHM 1/4W 5% CRBN. | RM14 | 4.7K OHM 10 PIN S.I.P. | 7474 | 74LS191 |

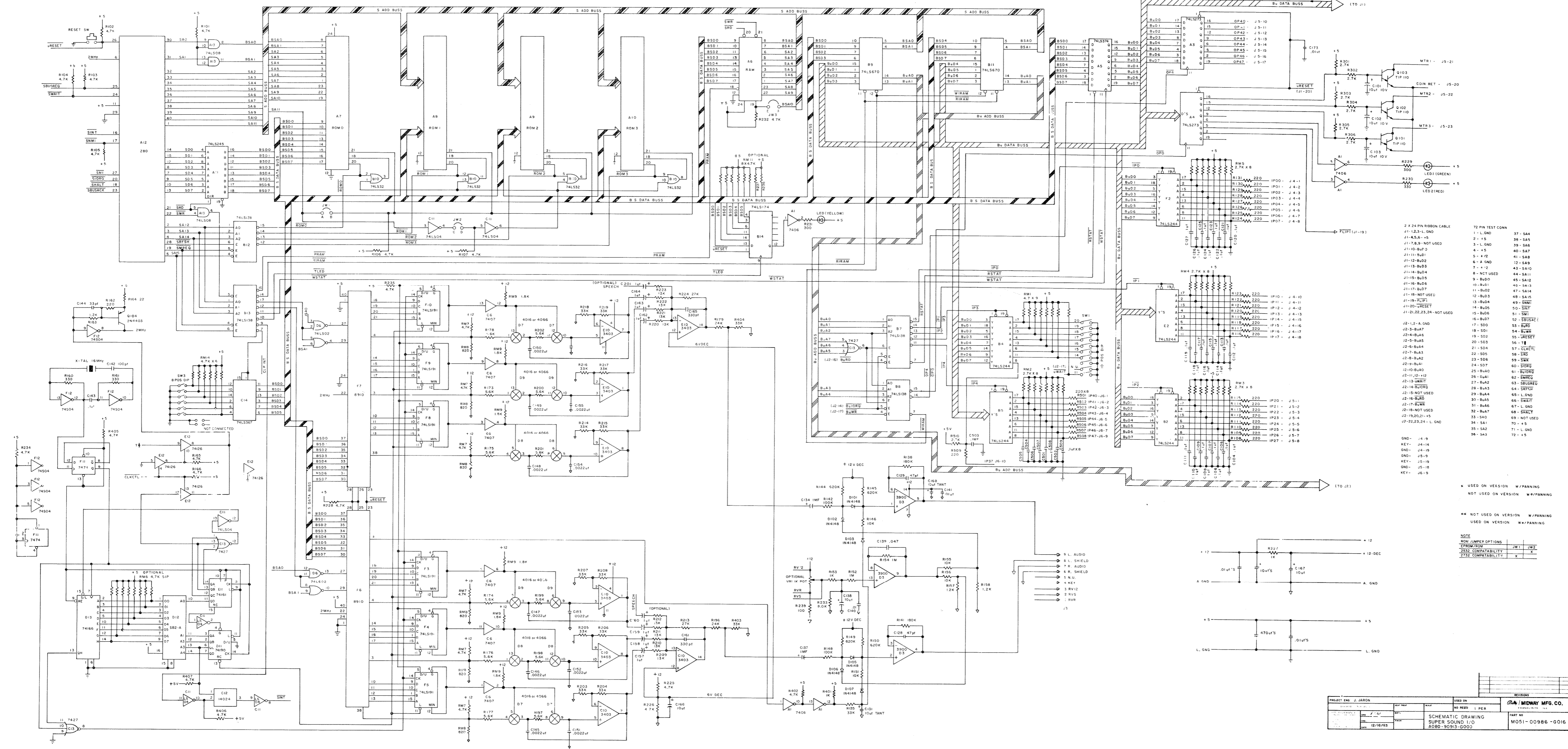
CROSS REFERENCE LIST

| DESCRIPTION | QTY | DESIGNATION NO. | PART NOS. | DESCRIPTION | QTY | DESIGNATION NO. | PART NOS. |
|--------------------------|-----|--|-----------------|------------------|-----|---------------------|-----------------|
| 33 PF 50V 5% AX. CER. | 1 | C144 | 0986-00800-0300 | 1N4148 | 6 | D101-D103,D105-D107 | 0986-00E01-0200 |
| 47 PF 50V AX. CER. | 2 | C128,C129 | 0986-00800-2800 | 2N4403 | 1 | Q104 | 0986-00802-0500 |
| 100 PF 50V 5% AX. CER. | 1 | C142 | 0986-00800-1000 | T1P110 | 3 | Q101-Q103 | 0986-00E02-0400 |
| 330 PF 50V AX. CER. | 2 | C161,C165 | 0986-00800-1300 | 74LS02 | 1 | IC 6D | 0986-00803-7400 |
| .0022 MF 100V 10X MYLAR | 12 | C145-C156 | 0986-00800-1200 | 74LS04 | 1 | IC 11C | 0986-00803-6900 |
| .047 MF 100V MYLAR | 1 | C139 | 0986-00800-2600 | 74S04 | 1 | IC 12F | 0986-00803-6600 |
| .01 MF 50V AX. CER. | 47 | CP2-CP12,CP14-CP19,CP21-CP27,CP29-CP33,CP35-CP46,CP48-CP51,C140,C173 | 0986-00800-2000 | 7406 | 1 | IC 1A | 0986-00803-7400 |
| .1 MF 50V AX. CER. | 34 | C104-C127,C143,C501-C509 | 0986-00800-1100 | 7407 | 1 | IC 6C | 0986-00803-5900 |
| 1 MF 20V AX. TANT. | 8 | C134,C137,C157-C159,C162-C164 | 0986-00800-1400 | 74LS08 | 1 | IC 13A | 0986-00803-7300 |
| 10 MF 25V AX. TANT. | 15 | CP20,CP34,CP52,CP53,CP202-CP204 | 0986-00800-0700 | 74LS32 | 1 | IC 10B | 0986-00803-6100 |
| 470 MF 16V AX. ELECT. | 4 | R164 | 0062-063B3-1XXX | 7474 | 1 | IC 11F | 0986-00803-6700 |
| 22 OHM 1/4W 5% CRBN. | 1 | R239 | 0062-110B3-1XXX | 74LS138 | 1 | IC 12E | 0986-00803-6800 |
| 100 OHM 1/4W 5% CRBN. | 1 | R231 | 0062-141B3-1XXX | IC7B,8B,12B,13B | 4 | IC7B,8B,12B,13B | 0986-00803-6500 |
| 300 OHM 1/4W 5% CRBN. | 1 | R232 | 0062-144B3-1XXX | 74LS161 | 1 | IC 11E | 0986-00803-5100 |
| 330 OHM 1/4W 5% CRBN. | 2 | R153,R227,R401 | 0062-179B3-1XXX | 74LS174 | 1 | IC 13D | 0986-00803-5300 |
| 1K OHM 1/4W 5% CRBN. | 3 | R157,R158,R163 | 0062-183B3-1XXX | 74LS190 | 1 | IC 14B | 0986-00803-7500 |
| 1.2K OHM 1/4W 5% CRBN. | 3 | R301-R306,R510 | 0062-199B3-1XXX | 74LS191 | 6 | IC 11D | 0986-00803-9400 |
| 2.7K OHM 1/4W 5% CRBN. | 7 | R233 | 0062-201B3-1XXX | 74LS244 | 5 | IC3F-5F,8F-10F | 0986-00803-5600 |
| 3K OHM 1/4W 5% CRBN. | 1 | R233 | 0062-201B3-1XXX | 74LS245 | 1 | IC2B,4B,5B,2E,2F | 0986-00803-4800 |
| 4.7K OHM 1/4W 5% CRBN. | 19 | R101-R107,R165,R166,R225,R226,R228,R232,R34,R235,R402,R405-R407 | 0062-211B3-1XXX | 74LS273 | 2 | IC 11A | 0986-00903-6400 |
| 5.6K OHM 1/4W 5% CRBN. | 12 | R173-R178,R197-R202 | 0062-215B3-1XXX | 74LS367 | 1 | IC3A,4A | 0986-00303-4700 |
| 10K OHM 1/4W 5% CRBN. | 4 | R146,R151,R155,R156 | 0062-227B3-1XXX | 74LS374 | 1 | IC 14C | 0986-00303-7000 |
| 13K OHM 1/4W 5% CRBN. | 6 | R209-R211,R220-R222 | 0062-233B3-1XXX | 74LS670 | 2 | IC 5A | 0986-00803-4600 |
| 24K OHM 1/4W 5% CRBN. | 2 | R179,R196 | 0062-245B3-1XXX | LM3900 | 2 | IC9B,11B | 0986-00803-6300 |
| 27K OHM 1/4W 5% CRBN. | 2 | R213,R224 | 0062-247B3-1XXX | AY-3-8910 | 2 | IC6F,7F | 0986-00303-8500 |
| 33K OHM 1/4W 5% CRBN. | 15 | R135,R203-R208,R214-R219,R403,R404 | 0062-251B3-1XXX | IC 3D | 1 | IC 3D | 0986-00303-4900 |
| 100K OHM 1/4W 5% CRBN. | 2 | R142,R148 | 0062-275B3-1XXX | MC3403 | 2 | IC10C,10E | 0986-00303-5000 |
| 180K OHM 1/4W 5% CRBN. | 2 | R138,R141 | 0062-287B3-1XXX | MC14016 | 3 | IC7D-9D | 0986-00303-6200 |
| 620K OHM 1/4W 5% CRBN. | 4 | R144,R145,R149,R150 | 0062-313B3-1XXX | MC14024 | 1 | IC 12C | 0986-00803-7100 |
| 1 MEG. OHM 1/4W 5% CRBN. | 2 | R152,R154 | 0062-323B3-1XXX | PROMSB2-A | 1 | IC 12D | 0986-00803-8200 |
| 820 OHM 8 PIN S.I.P. | 1 | RM8 | 0986-00805-0800 | RAM 1K X 8 | 1 | IC 6A | 0986-00803-8000 |
| 1.8K OHM 10 PIN S.I.P. | 1 | RM9 | 0986-00805-0600 | ROM/EPROM 0 | 1 | IC 7A | SEE NOTE |
| 2.7K OHM 10 PIN S.I.P. | 4 | RM2-RM5 | 0986-00805-0500 | ROM/EPROM 1 | 1 | IC 8A | |
| 4.7K OHM 8 PIN S.I.P. | 1 | RM7 | 0986-00805-0400 | ROM/EPROM 2 | 1 | IC 9A | |
| 4.7K OHM 10 PIN S.I.P. | 2 | RM1,RM14 | 0986-00805-0300 | ROM/EPROM 3 | 1 | IC 10A | |
| | | | | Z-80(3880) | 1 | IC 12A | |
| 16 MHZ XTAL LEAD | 1 | R152,R154 | 0062-323B3-1XXX | 24 PIN IC SOCKET | 1 | ICS 12D | 0986-00804-1400 |
| SNAPS | 3 | RM8 | 0986-00805-0800 | 24 PIN IC SOCKET | 5 | ICS6A-ICS10A | 0986-00804-1600 |
| SUPER SND. I/O BD. | 1 | RM9 | 0986-00805-0600 | 40 PIN IC SOCKET | 3 | ICS12A,ICS6F,ICS7F | 0986-00804-1500 |



NOTE: ROM PART NUMBERS AT BACK OF CATALOG.

| | | | | | |
|---------------------------------|--|------------|-------|---|--|
| PROJECT ENG: C. MEDNICK | | USED ON | | REVISIONS | |
| DO NOT SCALE DWG | | HEAT TREAT | SCALE | FULL NO. REQ'D PER | |
| DIM TOLERANCES UNLESS SPECIFIED | | MATERIAL | | Bally / MIDWAY MFG. CO. FRANKLIN PK. ILL. | |
| UNCERTAINTY 1% (MAX) | | FINISH | | PART NO. | |
| FUNCTIONAL | | DATE | | M051 - 00986 - G015 | |
| DECIMAL | | 12/19/83 | | ASSEMBLY DWG. | |
| HOLE DIA. ± 0.02 0.00 | | | | A082-90913-G000 | |



2 X 24 PIN RIBBON CABLE
 J1-23-L GND
 J1-4,5-E +5
 J1-7,8-NOT USED
 J1-10-Bu03
 J1-11-Bu01
 J1-12-Bu02
 J1-13-Bu03
 J1-14-Bu04
 J1-15-Bu05
 J1-16-Bu06
 J1-17-Bu07
 J1-18-NOT USED
 J1-19-FCPT
 J1-20-CRESET
 J1-21,22,23,24-NOT USED
 J2-1,2-A GND
 J2-3-Bu07
 J2-4-Bu06
 J2-5-Bu05
 J2-6-Bu04
 J2-7-Bu03
 J2-8-Bu02
 J2-9-Bu01
 J2-10-Bu00
 J2-11,12-+12
 J2-13-WSTAT
 J2-14-Bu00G
 J2-15-NOT USED
 J2-16-Bu00
 J2-17-Bu00
 J2-18-NOT USED
 J2-19-Bu00
 J2-20,21-+5
 J2-22,23,24-L GND
 GND- J4-9
 KEY- J4-14
 GND- J4-19
 GND- J5-9
 KEY- J5-19
 GND- J5-18
 KEY- J6-9

72 PIN TEST CONN
 1-L GND
 2-+5
 3-L GND
 4-+5
 5-+12
 6-A GND
 7-+12
 8-NCT USED
 9-Bu00
 10-Bu01
 11-Bu02
 12-Bu03
 13-Bu04
 14-Bu05
 15-Bu06
 16-Bu07
 17-S01
 18-S02
 19-CRESET
 20-S03
 21-S04
 22-S05
 23-S06
 24-S07
 25-Bu00
 26-Bu01
 27-Bu02
 28-Bu03
 29-Bu04
 30-Bu05
 31-Bu06
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 37-S04
 38-S05
 39-S06
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 51-S18
 52-S19
 53-BU00
 54-BU01
 55-CRESET
 56-S01
 57-CLKCT
 58-S02
 59-S03
 60-S04
 61-BU00G
 62-SWREG
 63-SPEECH
 64-SPEECH
 65-L GND
 66-SWAT
 67-L GND
 68-SWAT
 69-NOT USED
 70-+5
 71-L GND
 72-+5

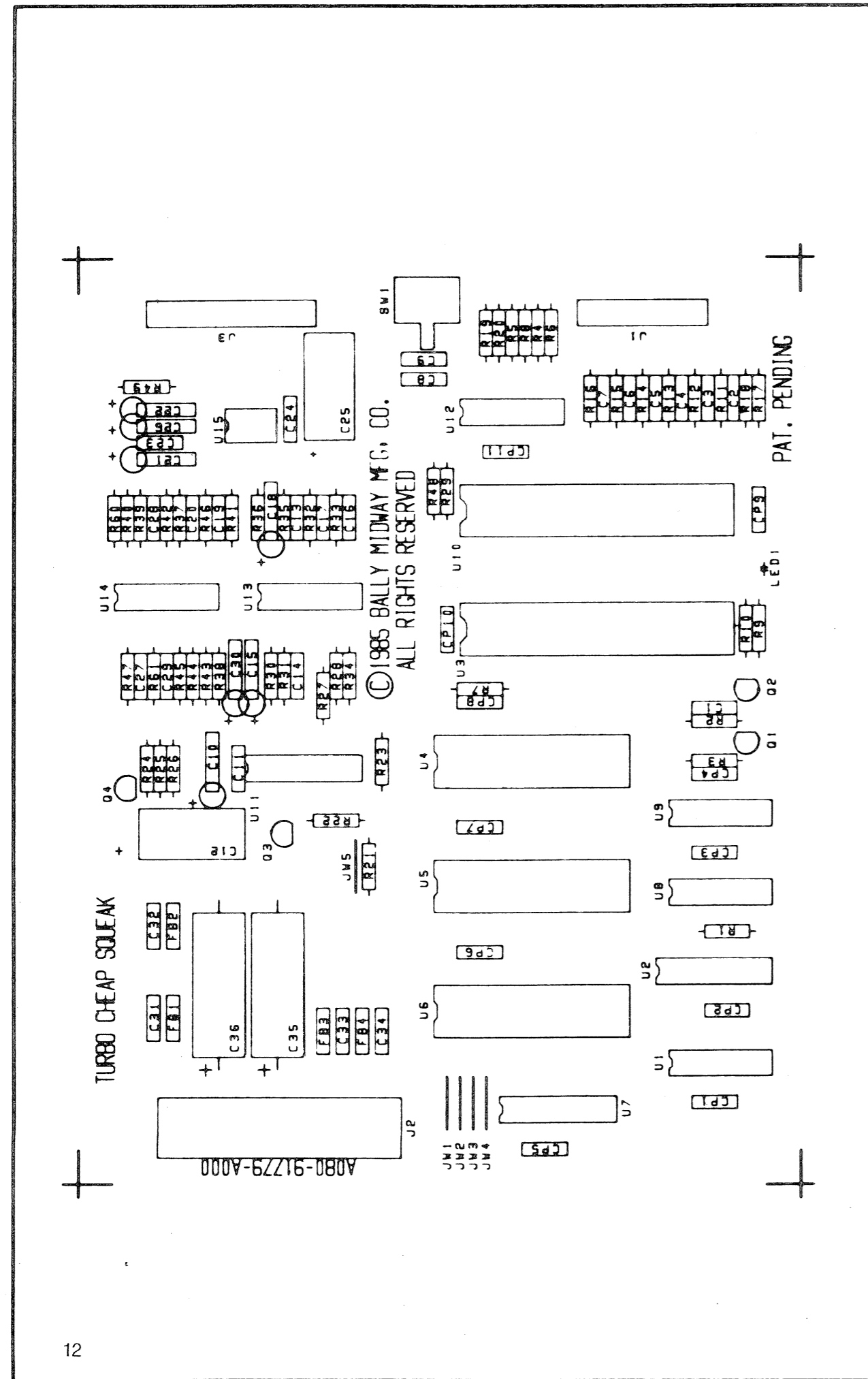
* USED ON VERSION W/PANNING
 NOT USED ON VERSION W/PANNING

** NOT USED ON VERSION W/PANNING
 USED ON VERSION W/PANNING

NOTE
 NOW AMPER OPTIONS
 EPROM/ROM
 2532 COMPATIBILITY
 2532 COMPATIBILITY

| PROJECT | DESIGNER | DATE | REV | USED ON | NO. PER | REVISIONS | | | | | | |
|---|----------|--|-----|---------|---------|--|-----|------|-------------|---|----------|--|
| PROJECT ENG. J. JARON | J. JARON | 12/16/83 | 1 | | 1 | | | | | | | |
| <p>REVISIONS</p> <table border="1"> <thead> <tr> <th>NO.</th> <th>DATE</th> <th>DESCRIPTION</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>12/16/83</td> <td>SCHEMATIC DRAWING SUPER SOUND 100 A080-9093.G000</td> </tr> </tbody> </table> | | | | | | | NO. | DATE | DESCRIPTION | 1 | 12/16/83 | SCHEMATIC DRAWING SUPER SOUND 100 A080-9093.G000 |
| NO. | DATE | DESCRIPTION | | | | | | | | | | |
| 1 | 12/16/83 | SCHEMATIC DRAWING SUPER SOUND 100 A080-9093.G000 | | | | | | | | | | |
| | | | | | | <p>MIDWAY MFG. CO.</p> <p>PART NO. M051-00986-G016</p> | | | | | | |

M051-00114-A126
TURBO CHEAP SQUEAK
A084-91779-A000



THIS DWG IS CONFIDENTIAL & PROPERTY OF BALLY/MIDWAY MFG. CO.

| | | |
|---|-----------------|-----------|
| Bally/MIDWAY MFG. CO. FRANKLIN PARK, IL 60131 | | REVISIONS |
| PART NO | M051-00114-A126 | |
| TURBO CHEAP SQUEAK | SHEET 1 of 5 | |
| A084-91779-A000 | | |

FIRST USED ON: DRN C-1, DATE 3/8/85, SCALE

MECH. CHK: MATH, FINISH

ELEC. CHK

DIM. TOLERANCES UNLESS OTHERWISE SPEC. CONCENTRICITY T.I.R. 002 ± 1/64 FRACTIONAL ± .005 DECIMAL ± .002 HOLE DIA. ± 1/2° ANGLE DO NOT SCALE DWG.

BRUNING-40-107

DESIGNATION LIST

| DESIGNATION | DESCRIPTION | DESIGNATION | DESCRIPTION |
|-------------|------------------|-------------|------------------|
| CP1-CP11 | .01MF AX. CR. | R32 | 33K OHM 1/4W 5% |
| C1 | 18PF AX. CR. | R33 | 18K OHM 1/4W 5% |
| C2-C3 | 820PF AX. CR. | R34 | 110K OHM 1/4W 5% |
| C4-C9 | 100PF AX. CR. | R35 | 33K OHM 1/4W 5% |
| C10 | 10MF RD TANT | R36 | 150K OHM 1/4W 5% |
| C11 | .01MF AX. CR. | R37 | 82K OHM 1/4W 5% |
| C12 | 47MF AX. ELECT. | R38 | 510K OHM 1/4W 5% |
| C13 | .01MF AX. CR. | R39 | 150K OHM 1/4W 5% |
| C14 | 270PF AX. CR. | R40 | 24K OHM 1/4W 5% |
| C15 | 1MF RD TANT | R41 | 3.3K OHM 1/4W 5% |
| C16 | .0056MF AX. CR. | R42 | 24K OHM 1/4W 5% |
| C17 | 270PF AX. CR. | R43 | 330K OHM 1/4W 5% |
| C18 | 1MF RD TANT | R44 | 160K OHM 1/4W 5% |
| C19 | 470PF AX. CR. | R45 | 100 OHM 1/4W 5% |
| C20 | 150PF AX. CR. | R46 | 560K OHM 1/4W 5% |
| C21-C22 | 1MF RD TANT | R47 | 24K OHM 1/4W 5% |
| C23 | 680PF AX. CR. | R48 | 4.7K OHM 1/4W 5% |
| C24 | .01MF AX. CR. | R49 | 2.7K OHM 1/4W 5% |
| C25 | 47MF AX. ELECT. | R60 | 1K OHM 1/4W 5% |
| C26 | 1MF RD TANT | R61 | 1K OHM 1/4W 5% |
| C27 | 68PF AX. CR. | | |
| C28-C29 | .01MF AX. CR. | Q1 | MPS3646 |
| C30 | 10MF RD TANT | Q2-Q4 | 2N5305 |
| C31-C34 | 390PF AX. CR. | | |
| C35-C36 | 470MF AX. ELECT. | U1 | C1K OSC |
| R1 | 4.7K OHM 1/4W 5% | U2 | 74LS76 |
| R2 | 3.3K OHM 1/4W 5% | U3 | 68R09E |
| R3 | 150 OHM 1/4W 5% | U4 | EPROM/ROM |
| R4-R8 | 4.7K OHM 1/4W 5% | U5 | EPROM/ROM |
| R9 | 100 OHM 1/4W 5% | U6 | 2K X 8 RAM |
| R10 | 47K OHM 1/4W 5% | U7 | 74LS139 |
| R11-R12 | 100 OHM 1/4W 5% | U8 | 74LS02 |
| R13-R16 | 10K OHM 1/4W 5% | U9 | 74LS00 |
| R17 | 100K OHM 1/4W 5% | U10 | 68B21 |
| R18 | 10K OHM 1/4W 5% | U11 | AD7533 |
| R19 | 100K OHM 1/4W 5% | U12 | 40106 |
| R20 | 10K OHM 1/4W 5% | U13 | LM359 |
| R21 | 4.7K OHM 1/4W 5% | U14 | LM359 |
| R22 | 47K OHM 1/4W 5% | U15 | 3340 |
| R23 | 360 OHM 1/4W 5% | | |
| R24 | 2.7K OHM 1/4W 5% | ICS U3 | 40 PIN IC SOCKET |
| R25 | 180 OHM 1/4W 5% | ICS U4-U6 | 28 PIN IC SOCKET |
| R26 | 360 OHM 1/4W 5% | ICS U10 | 40 PIN IC SOCKET |
| R27 | 120K OHM 1/4W 5% | ICS U11 | 16 PIN IC SOCKET |
| R28 | 330K OHM 1/4W 5% | | |
| R29 | 4.7K OHM 1/4W 5% | FR1-FR4 | FERRITE READ |
| R30 | 510K OHM 1/4W 5% | JW1-JW5 | JUMPER WIRE |
| R31 | 120K OHM 1/4W 5% | SW1 | PCB SWITCH |

M051-00114-A126
TURBO CHEAP SQUEAK
A084-91779-A000

DESIGNATION LIST

| <u>DESIGNATION</u> | <u>DESCRIPTION</u> |
|--------------------|-----------------------|
| LED 1 | GREEN LED |
| U1 | CLOCK OSCILLATOR 8MHZ |
| J1 | 9 PIN KK100 R/A |
| J2 | 12 PIN KK156 R/A |
| J3 | 12 PIN KK100 R/A |
| MTHW 1-4 | SPACERS |
| PCB | TURBO CHEAP SQUEAK |

M051-00114-A126
TURBO CHEAP SQUEAK
A084-91779-A000

CROSS REFERENCE

| <u>DESCRIPTION</u> | <u>QTY</u> | <u>DESIGNATION NO.</u> | <u>PART NUMBER</u> |
|---------------------|------------|----------------------------------|--------------------|
| 18PF AX. CR. | 1 | C1 | 0C48-00800-0001 |
| 68PF AX. CR. | 1 | C27 | 0307-00800-0011 |
| 100PF AX. CR. | 6 | C4,C5,C6,C7,C8,C9 | 0304-00800-0001 |
| 150PF AX. CR. | 1 | C20 | 0307-00800-0010 |
| 270PF AX. CR. | 2 | C14,C17 | 0307-00800-0009 |
| 390PF AX. CR. | 4 | C31,C32,C33,C34 | 0986-00800-3000 |
| 470PF AX. CR. | 1 | C19 | 0307-00800-0008 |
| 680PF AX. CR. | 1 | C23 | 0358-00800-0002 |
| 820PF AX. CR. | 2 | C2,C3 | 0304-00800-0002 |
| .0056MF AX. CR. | 1 | C16 | 0307-00800-0007 |
| .01MF AX. CR. | 5 | CP1-CP11,C11,C13,C24, C28,C29 | 0986-00800-2200 |
| 1MF RAD TANT | 5 | C15,C18,C21,C22,C26 | 0307-00800-0004 |
| 10MF RAD TANT | 2 | C10,C30, | 0307-00800-0005 |
| 47MF AX. ELECT | 2 | C12,C25 | 0307-00800-0003 |
| 470MF AX. ELECT | 2 | C35,C36 | 0A15-00800-0005 |
| 100 OHM 1/4WATT 5% | 4 | R9,R11,R12,R45 | 100E-00005-0033 |
| 150 OHM 1/4WATT 5% | 1 | R3 | 100E-00005-0037 |
| 180 OHM 1/4WATT 5% | 1 | R25 | 100E-00005-0039 |
| 360 OHM 1/4WATT 5% | 2 | R23,R26 | 100E-00005-0048 |
| 1K OHM 1/4WATT 5% | 2 | R60,R61 | 100E-00005-0061 |
| 2.7K OHM 1/4WATT 5% | 2 | R24,R49 | 100E-00005-0071 |
| 3.3K OHM 1/4WATT 5% | 2 | R2,R41 | 100E-00005-0074 |
| 4.7K OHM 1/4WATT 5% | 9 | R1,R4,R5,R6,R7,R8 R21,R29,R48 | 100E-00005-0079 |
| 10K OHM 1/4WATT 5% | 6 | R13,R14,R15,R16,R18 R20 | 100E-00005-0088 |
| 18K OHM 1/4WATT 5% | 1 | R33 | 100E-00005-0093 |
| 24K OHM 1/4WATT 5% | 3 | R40,R42,R47 | 100E-00005-0097 |
| 33K OHM 1/4WATT 5% | 2 | R32,R35 | 100E-00005-0100 |
| 47K OHM 1/4WATT 5% | 2 | R10,R22 | 100E-00005-0104 |
| 82K OHM 1/4WATT 5% | 1 | R37 | 100E-00005-0112 |
| 100K OHM 1/4WATT 5% | 2 | R17,R19 | 100E-00005-0115 |
| 110K OHM 1/4WATT 5% | 1 | R34 | 100E-00005-0117 |
| 120K OHM 1/4WATT 5% | 2 | R27,R31 | 100E-00005-0118 |
| 150K OHM 1/4WATT 5% | 2 | R36,R39 | 100E-00005-0120 |
| 160K OHM 1/4WATT 5% | 1 | R44 | 100E-00005-0121 |
| 330K OHM 1/4WATT 5% | 2 | R28,R43 | 100E-00005-0128 |
| 510K OHM 1/4WATT 5% | 2 | R30,R38 | 100E-00005-0133 |
| 560K OHM 1/4WATT 5% | 1 | R46 | 100E-00005-0134 |
| MPS3646 | 1 | Q1 | 104E-00001-0019 |
| 2N5305 | 3 | Q2-Q4 | 104E-00007-0003 |
| IC 40106 | 1 | IC U12 | 0304-00803-0056 |
| IC 74LS00 | 1 | IC U9 | 0A15-00803-0046 |
| IC 74LS02 | 1 | IC U8 | 0986-00803-7400 |
| IC 74LS76 | 1 | IC U2 | 0A15-00803-0072 |
| IC 74LS139 | 1 | IC U7 | 0A15-00803-0051 |

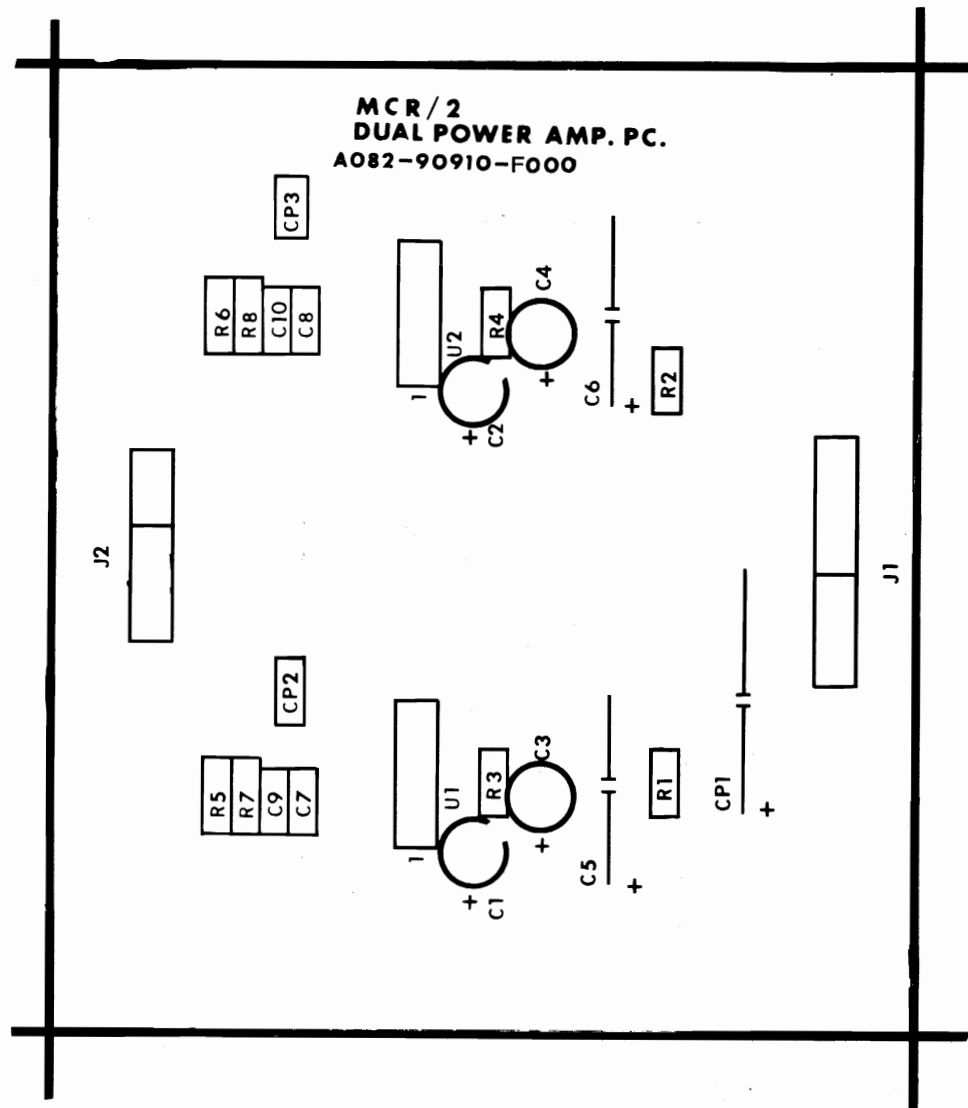
M051-00114-A126
 TURBO CHEAP SQUEAK
 A084-91779-A000

CROSS REFERENCE

| <u>DESCRIPTION</u> | <u>QTY</u> | <u>DESIGNATION NO.</u> | <u>PART NUMBER</u> |
|-----------------------|------------|------------------------|---------------------|
| IC AD7533 | 1 | IC U11 | 0304-00803-0055 |
| IC LM359 | 2 | IC U13-U14 | 0304-00803-0053 |
| IC 3340 | 1 | IC U15 | 0358-00803-0002 |
| IC 68B09E | 1 | IC U3 | 0C48-00803-0001 |
| IC 68R21 | 1 | IC U10 | 0A15-00803-0074 |
| IC 2K X 8 RAM | 1 | IC U6 | 0304-00803-0057 |
| IC EPROM/ROM | 2 | IC U4-U5 | SEE EPROM/ROM CHART |
| 16 PIN IC SOCKET | 1 | ICS U11 | 110E-00001-0003 |
| 28 PIN IC SOCKET | 3 | ICS U4-U6 | 110E-00001-0010 |
| 40 PIN IC SOCKET | 2 | ICS U3,U10 | 110E-00001-0011 |
| FERRITE BEAD | 4 | FB1,FB2,FB3,FB4 | 0316-00804-0002 |
| JUMPER WIRE | 5 | JW1,JW2,JW3,JW4,JW5 | 117E-00001-0003 |
| PCB SWITCH | 1 | SW1 | 0986-00804-3100 |
| LED GREEN | 1 | LED 1 | 119E-00001-0001 |
| CLOCK OSCILLATOR 8MHZ | 1 | U1 | 109E-00002-0009 |
| 9 PIN KK100 RT ANGLE | 1 | J1 | 0017-00021-1269 |
| 12 PIN KK156 RT ANGLE | 1 | J2 | 0017-00021-1286 |
| 12 PIN KK100 RT ANGLE | 1 | J3 | 0017-00021-1288 |
| SPACERS | 4 | MTHW 1-4 | 0017-00042-0328 |
| TURBO CHEAP SQUEAK | 1 | PCB | A080-91779-A000 |

DESIGNATION LIST

| DESIGNATION NO. | DESCRIPTION |
|-----------------|--------------------------|
| C1,C2 | 4.7 MF 25V RD TANT |
| C3,C4 | 22 MF 6V RD TANT |
| C5,C6 | 470 MF 6V AX ELEC |
| C7-C10 | .1 MF 50V AX CER |
| CP1 | 220 MF 25V AX ELEC |
| CP2,CP3 | .1 MF 50V AX CER |
| R1,R2 | 2.7K OHM 1/4W 5% CRBN |
| R3,R4 | 27 OHM 1/4W 5% CRBN |
| R5-R8 | 1 OHM 1/2W 5% CRBN |
| U1,U2 | MB3730 |
| J1 | 7 PIN |
| J2 | 5 PIN |
| HSA1,2 | HEATSINK ASSY |
| MH1-MH4 | 1/4" SPACER |



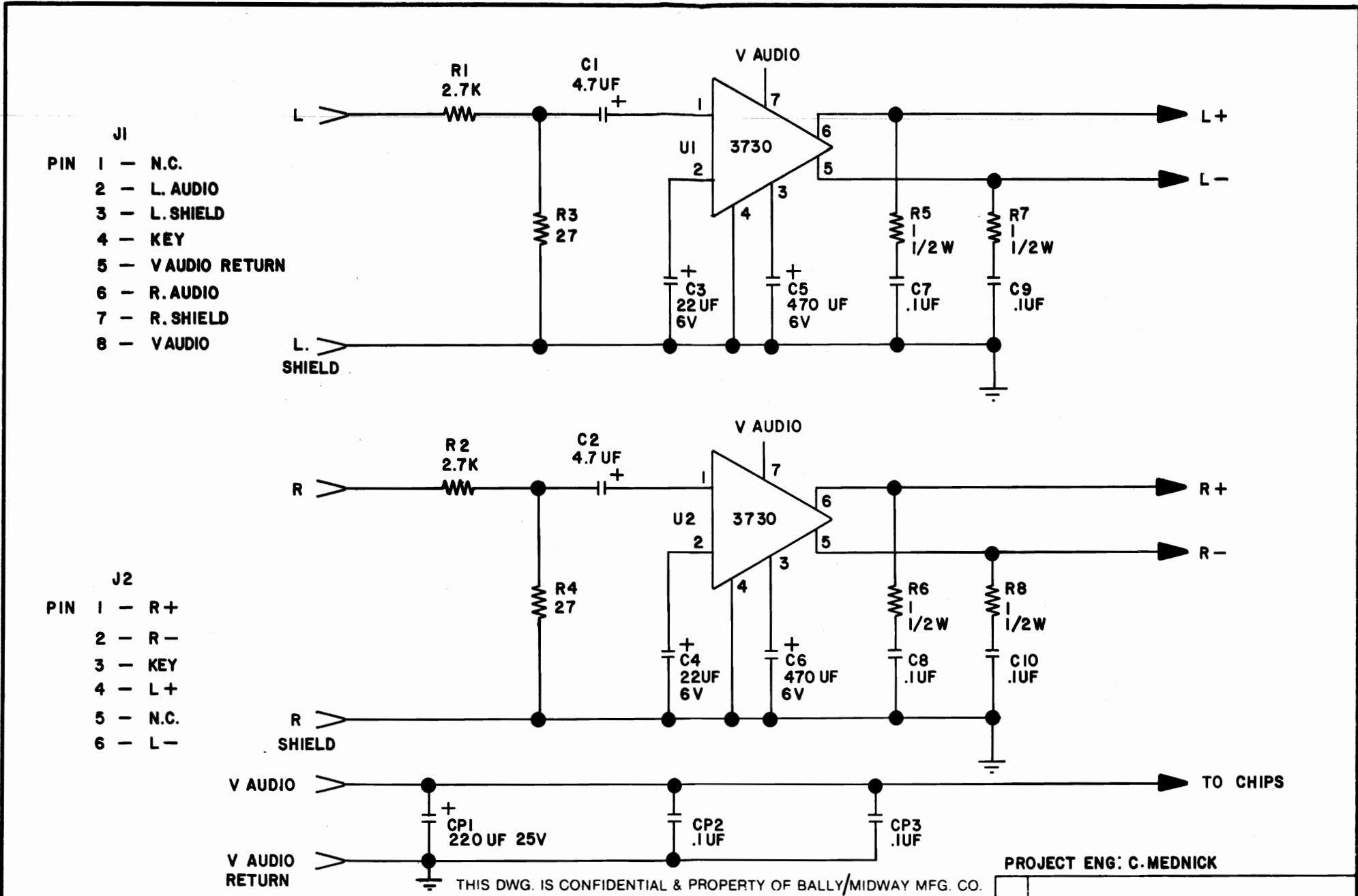
CROSS REFERENCE LIST

| DESCRIPTION | QTY | DESIGNATION NO. | PART NUMBER |
|--------------------|-----|------------------|-----------------|
| .1 MF 50V AX CER | 6 | C7-C10, CP2, CP3 | 0986-00800-1100 |
| 4.7 MF 25V RD TANT | 2 | C1, C2 | 0986-00800-3100 |
| 22 MF 6V RD TANT | 2 | C3, C4 | 0986-00800-1600 |
| 220 MF 25V AX ELEC | 1 | CP1 | 0986-00800-3200 |
| 470 MF 6V AX ELEC | 2 | C5, C6 | 0986-00800-1700 |
| 1 OHM 1/2W 5% | 4 | R5-R8 | 0062-02603-1XXX |
| 27 OHM 1/4W 5% | 2 | R3, R4 | 0062-06803-1XXX |
| 2.7K OHM 1/4W 5% | 2 | R1, R2 | 0062-19903-1XXX |
| MB3730 | 2 | U1, U2 | 0066-188XX-XX4X |
| TIN .045 SQ PINS | 12 | J1, J2 | 0017-00033-0480 |
| HEATSINK ASSY | 2 | HSA1, 2 | A986-00010-E000 |
| 1/4" SPACER | 4 | MH1-MH4 | 0017-00042-0320 |
| PC BOARD | 1 | | A080-90910-F000 |

PROJECT ENG: C. MEDNICK

THIS DWG IS CONFIDENTIAL & PROPERTY OF BALLY/MIDWAY MFG. CO.

| | | | | |
|---|--|---|---|--|
| DIM. TOLERANCES UNLESS OTHERWISE SPEC. CONCENTRICITY T.I.R. .002 FRACTIONAL ± 1/64 DECIMAL ± .005 HOLE DIA. +.002-.000 ANGLE ± 1/2° DO NOT SCALE DWG. | FIRST USED ON TRON DRN <i>m m</i> DATE 6/14/84 SCALE <i>4</i> | Bally/MIDWAY MFG. CO. FRANKLIN PARK, IL 60131 | | |
| | MECH CHK _____ MAT'L _____ ELEC CHK _____ FINISH _____ | | DUAL PWR AMP ASSEMBLY DRWNG A084-90910-F000 | |
| | | | REVISIONS | |
| | | | PART NO. M051-00986-F010 | |



PROJECT ENG: C.MEDNICK

| | | | | | | | |
|---|---------------|------|--------|-----------------------------|---|----------|-----------------|
| DIM. TOLERANCES UNLESS OTHERWISE SPEC. CONCENTRICITY T.I.R. .002 FRACTIONAL ±.1/64 DECIMAL ±.005 HOLE DIA. +.002-.000 ANGLE ± 1/2° DO NOT SCALE DWG. | FIRST USED ON | TRON | | FRANKLIN PARK, IL 60131 | REVISIONS | | |
| | DRN | M.M. | DATE | | | 6/14/84 | SCALE |
| | MECH CHK | | MAT L | | DUAL POWER AMP SCHEMATIC A080-90910-F000 | PART NO. | M051-00986-F011 |
| | ELEC CHK | | FINISH | | | | |

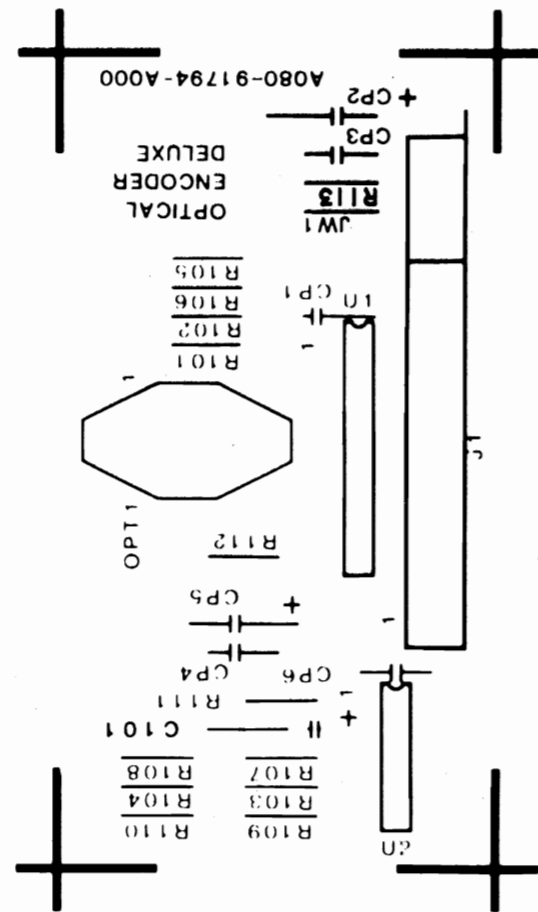
M051-00114-A130
OPTICAL ENCODER DELUXE
A084-91794-A000

DESIGNATION LIST

| <u>DESIGNATION</u> | <u>DESCRIPTION</u> | <u>DESIGNATION</u> | <u>DESCRIPTION</u> |
|--------------------|--------------------|--------------------|------------------------|
| C101 | 4.7UF RAD. TANT | R109-R110 | 200K OHM 1/4W 5% |
| CP1 | .01UF AX. CR. | R111 | 4.7K OHM 1/4W 5% |
| CP2 | 10UF AX. ELECT. | R112 | 6.2K OHM 1/4W 5% |
| CP3-CP4 | .01UF AX. CR. | R113 | 3K OHM 1/4W 5% |
| CP5 | 10UF AX. ELECT. | OPT 1 | OPTO SWITCH DUAL |
| CP6 | .01UF AX. CR. | U1 | 74LS491 |
| R101-R102 | 4.7K OHM 1/4W 5% | U2 | LM339 |
| R103-R104 | 200K OHM 1/4W 5% | J1 | 15 .045 SQ. PIN |
| R105 | 6.2K OHM 1/4W 5% | | |
| R106 | 82 OHM 1/4W 5% | JW1 | JUMPER WIRE |
| R107 | 30K OHM 1/4W 5% | PCB | OPTICAL ENCODER DELUXE |
| R108 | 91K OHM 1/4W 5% | | |

CROSS REFERENCE

| <u>DESCRIPTION</u> | <u>QTY.</u> | <u>DESIGNATION</u> | <u>PART NUMBER</u> |
|------------------------|-------------|---------------------|--------------------|
| .01UF AX. CR. | 4 | CP1,CP3-CP4,CP6 | 0628-00800-0100 |
| 4.7UF RAD. TANT | 1 | C101 | 0628-00800-0200 |
| 10UF AX. ELECT. | 2 | CP2,CP5 | 0628-00800-0300 |
| 82 OHM 1/4W 5% | 1 | R106 | 100E-00005-0031 |
| 3K OHM 1/4W 5% | 1 | R113 | 100E-00005-0073 |
| 4.7K OHM 1/4W 5% | 3 | R101,R102,R111 | 100E-00005-0079 |
| 6.2K OHM 1/4W 5% | 2 | R105,R112 | 100E-00005-0083 |
| 30K OHM 1/4W 5% | 1 | R107 | 100E-00005-0099 |
| 91K OHM 1/4W 5% | 1 | R108 | 100E-00005-0113 |
| 200K OHM 1/4W 5% | 4 | R103,R104,R109,R110 | 100E-00005-0123 |
| 74LS491 | 1 | U1 | 0628-00803-2700 |
| LM339 | 1 | U2 | 0628-00803-2900 |
| OPTO SWITCH DUAL | 1 | OPT 1 | 120E-00001-0010 |
| JUMPER WIRE | 1 | JW1 | 117E-00001-0003 |
| 15 .045 SQ. PIN | 15 | J1 | 0304-00804-0010 |
| OPTICAL ENCODER DELUXE | 1 | PCB | A080-91794-A000 |



A080-91794-A000

OPTICAL ENCODER DELUXE

THIS DWG IS CONFIDENTIAL & PROPERTY OF BALLY/MIDWAY MFG CO

Bally/MIDWAY MFG. CO.
FRANKLIN PARK, IL 60131

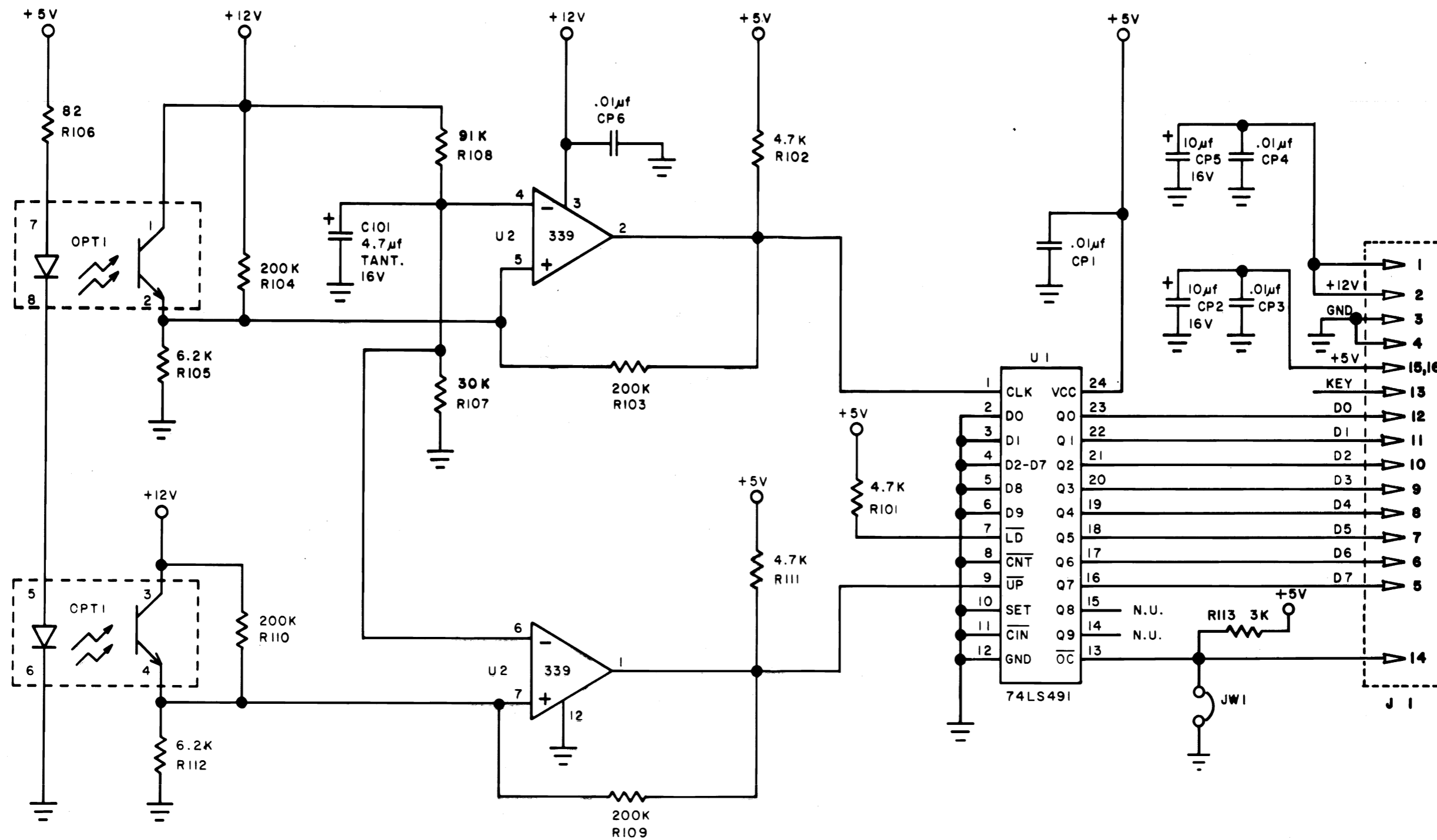
OPTICAL ENCODER DELUXE
A080-91794-A000

REVISIONS

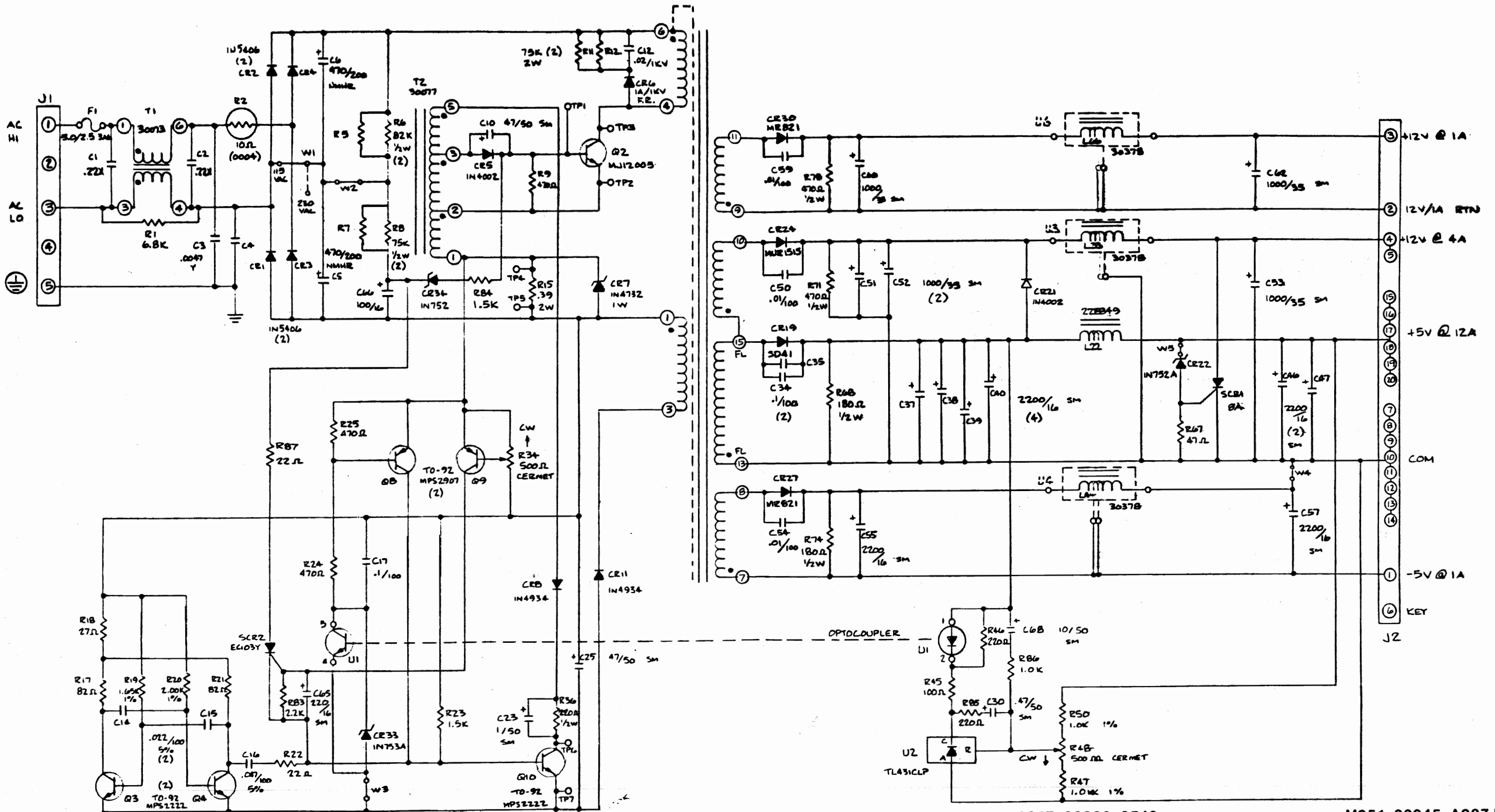
PART NO
M051-00114-A130
SHEET 1 of 2

DIM TOLERANCES
UNLESS OTHERWISE SPEC
CONCENTRICITY TIR .002
FRACTIONAL ± 1/64
DECIMAL ± .005
HOLE DIA +.002 - .000
ANGLE ± 1/2°
DO NOT SCALE DWG.

DATE 3/8/85
SCALE
MATERIAL
FINISH
ELEC CHK
MECH CHK
DRN C-V



| PROJECT ENG JOHN BOYDSTON | | | USED C | REVISIONS |
|---------------------------|--------|--|--------|-----------------------------|
| HEAT TREAT | SCALE | NO REQ'D | PER | <i>Balt</i> MIDWAY MFG. CO. |
| DRN C | MAT'L | SCHEMATIC DRAWING OPTICAL ENCODER DELUXE A084-91794-A000 | | PART NO |
| CKD | FINISH | | | M051 - 00114 - A131 |
| DATE | 3/8/85 | | | |



20 2. CAPACITOR VALUES IN MICROFARAD / VOLTS.
 1. RESISTOR VALUES ARE IN OHMS 1/4W, 5%, C.F.
 NOTES: UNLESS OTHERWISE SPECIFIED.

FOR ADDITIONAL ELECTRICAL INFORMATION,
 REFER TO MECH. DWG. NO. 0017-00003-0543.

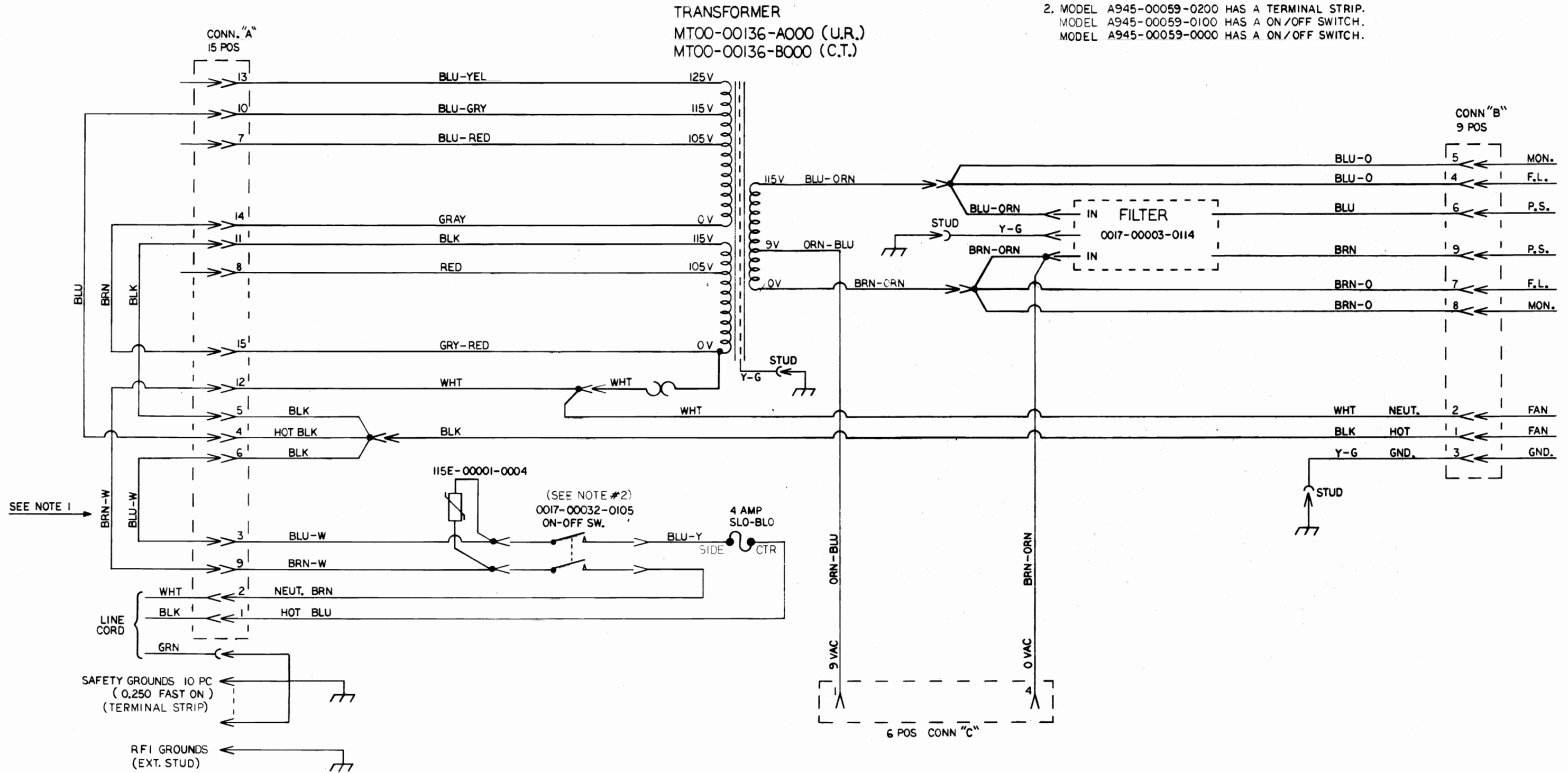
0017-00003-0543 M051-00945-A087

| QTY | FRG | PART OR IDENTIFYING NO. | NOMENCLATURE OR DESCRIPTION | MATERIAL SPECIFICATION |
|---|-----|-------------------------|---------------------------------------|------------------------|
| PARTS LIST | | | | |
| UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: FRACTIONS DECIMALS ANGLES | | | CONTRACT NO. | |
| XXX - | | | CAMARILLO, CALIF 93010 (805) 484-2851 | |
| MATERIAL | | APPROVALS | DATE | SCHEMATIC |
| FINISH | | S. WILKINS 5-10-84 | | |
| NEXT ASSY | | USED ON | | 31-SPI016 |
| APPLICATION | | DO NOT SCALE DRAWING | | |

A945-00059-0000/0100/0200
 UNI PWR SUPPLY CHASSIS ASS'Y # 125 SWUR + 125 SWCT

| | 105 | 115 | 210 | 220 | 230 | 240 |
|-----|-------|-------|------|-------|-------|-------|
| BLK | 5-8 | 5-11 | 8-14 | 11-14 | 11-14 | 11-14 |
| BRN | 14-15 | 14-15 | --- | --- | --- | --- |
| BLU | 4-7 | 4-10 | 4-7 | 4-7 | 4-10 | 4-13 |

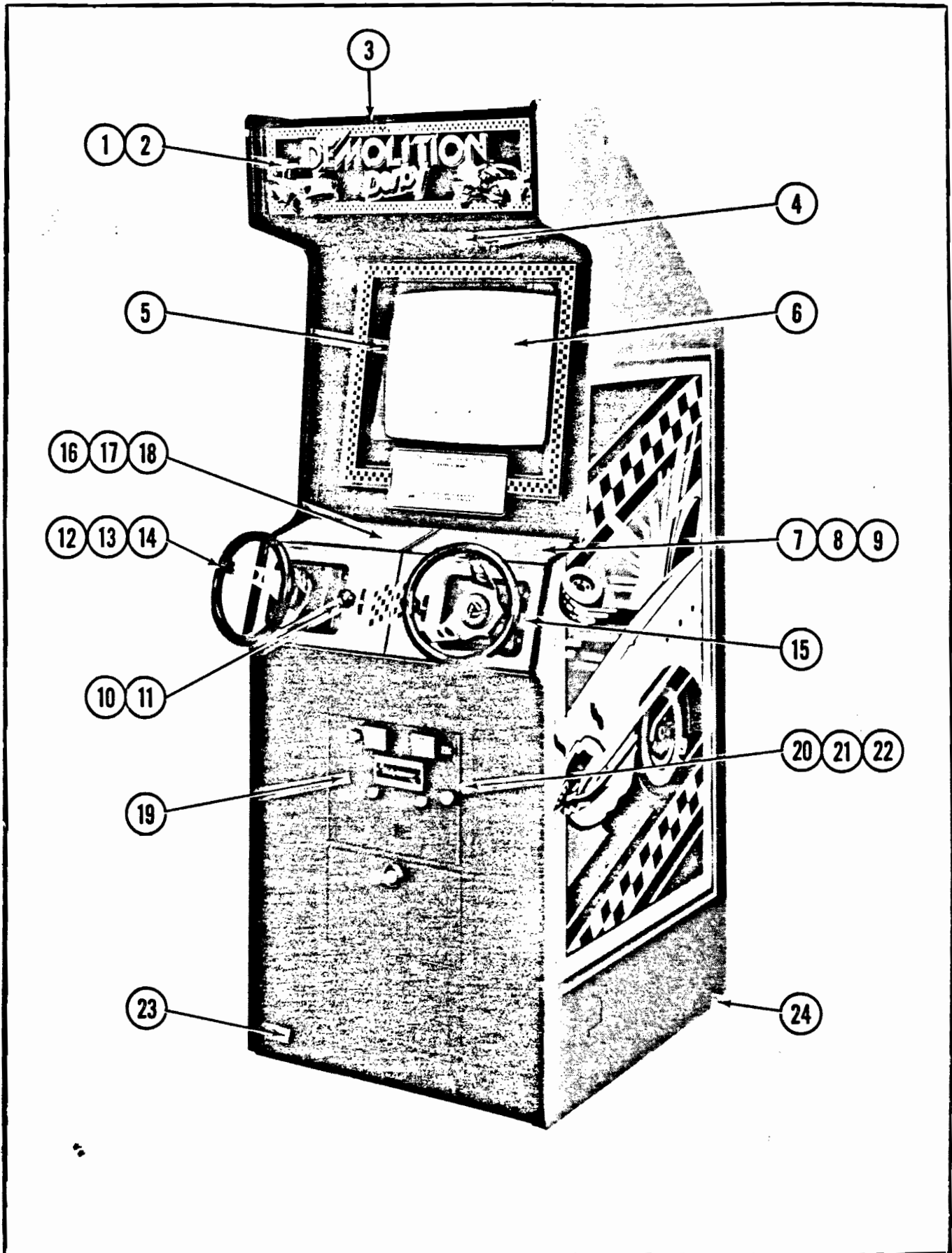
- NOTES: 1. JUMPERS ON CONN "A" 3-6 AND 9-12 CAN BE REPLACED WITH A SAFETY SW. AND/OR AUX. ON OFF SW.
 2. MODEL A945-00059-0200 HAS A TERMINAL STRIP.
 MODEL A945-00059-0100 HAS A ON/OFF SWITCH.
 MODEL A945-00059-0000 HAS A ON/OFF SWITCH.



DRAWING # M051-00945-A081
 REL FOR PRODUCTION: 4/26/85

Illustrated Parts Breakdown

DEMOLITION DERBY U.R.-2 PLAYER-FRONT



DEMOLITION DERBY U.R. - 2 PLAYER - FRONT PARTS LIST

ORDER BY PART NUMBER ONLY

| ITEM | PART NO. | DESCRIPTION |
|------|-----------------|---|
| 1 | 0A59-00900-00XF | HEADER GLASS |
| 2 | A595-00011-0000 | HEADER FLUORESCENT LIGHT ASSY. |
| | 0017-00003-0026 | BALLAST |
| | 0017-00003-0043 | FLUORESCENT LAMP |
| 3 | 0574-00903-0400 | HEADER RETAINING BRKT. (2 REQ'D) |
| * | 0017-00101-0138 | #8 X 5/8 TORX TAMPER PROOF SCREW (10 REQ'D) |
| * | 0017-00009-0522 | LONG ARM KEY T-20. (FOR ABOVE SCREW) |
| 4 | 0130-00002-0000 | BLACK SPEAKER GRILLE W/SLOTS |
| * | 0017-00003-0461 | 6" X 9" SPEAKER - 4 OHM, 15W. |
| 5 | 0017-00042-0314 | 19" T.V. BEZEL - INJECTION MOLDED |
| 6 | 0A59-00901-00XF | MAIN VIEWING GLASS |
| | AA59-00013-0000 | CONTROL SHELF ASSY. (ITEMS 7 THRU 18) |
| 7 | AA59-00011-00XF | CONTROL SHELF WELD ASSY. - DEGREASED |
| 8 | 0A59-00903-0000 | OVERLAY |
| 9 | AA59-00006-0000 | CONTROL SHELF CABLE ASSY. (NOT SHOWN) |
| 10 | AA59-00013-0000 | CONTROL ASSY: SPEED SHIFT (2 REQ'D) |
| 11 | AB96-00008-0000 | BALL KNOB & HANDLE ASSY. (2 REQ'D) |
| 12 | AA59-00014-0000 | STEERING WHEEL ASSY. (2 REQ'D) |
| 13 | AB96-00008-0000 | PLATE ASSY. W/BEARING |
| 14 | 0017-00009-0000 | SENSOR DISC ASSY. (2 REQ'D) |
| 15 | 0C48-00901-0000 | CONTROL COVER (2 REQ'D) |
| * | 0017-00009-0534 | BASSICK CLAMP (3 REQ'D) (NOT SHOWN) |
| * | | NOT PART OF ABOVE ASSEMBLY & MUST BE ORDERED SEPARATELY |

DEMOLITION DERBY U.R. - 2 PLAYER - FRONT PARTS LIST

ORDER BY PART NUMBER ONLY

| ITEM | PART NO. | DESCRIPTION |
|------|-----------------|---|
| 16 | 0017-00042-0260 | PUSHBUTTON ASSY. - WHITE (2 REQ'D) |
| 17 | 0017-00032-0093 | PUSHBUTTON SWITCH W/HOLDER (2 REQ'D) |
| 18 | 0017-00103-0054 | 5/8 X 11 PAL NUT (2 REQ'D) |
| 19 | A982-00014-0000 | U.S.A. 25¢ COIN DOOR & CABLE ASSY. |
| | A090-00620-0200 | CASH BOX & ENCLOSURE ASSY. (ITEMS 20 THRU 22) |
| 20 | A090-00603-00XF | COIN DOOR FRAME ASSY. |
| 21 | A095-00605-0000 | CASH BOX DOOR & LOCK ASSY. |
| | 0090-00188-0000 | CASH BOX DOOR |
| | 0017-00005-0229 | CASH BOX DOOR LOCK |
| | 0017-00005-0239 | CAM |
| 22 | A090-00606-0000 | CASH BOX & PULL ASSY. |
| 23 | 0935-00906-0100 | KICK PLATE - 23" LONG |
| 24 | 0017-00102-0048 | LEG LEVELERS |

THE DEMOLITION DERBY U.R. - 2 PLAYER - REAR ACCESS
ILLUSTRATION WAS NOT AVAILABLE AT THE TIME OF MANUAL
PUBLICATION. IT WILL BECOME AVAILABLE IN A SERVICE
BULLETIN.

DEMOLITION DERBY U.R. - 2 PLAYER - REAR ACCESS PARTS LIST

ORDER BY PART NUMBER ONLY

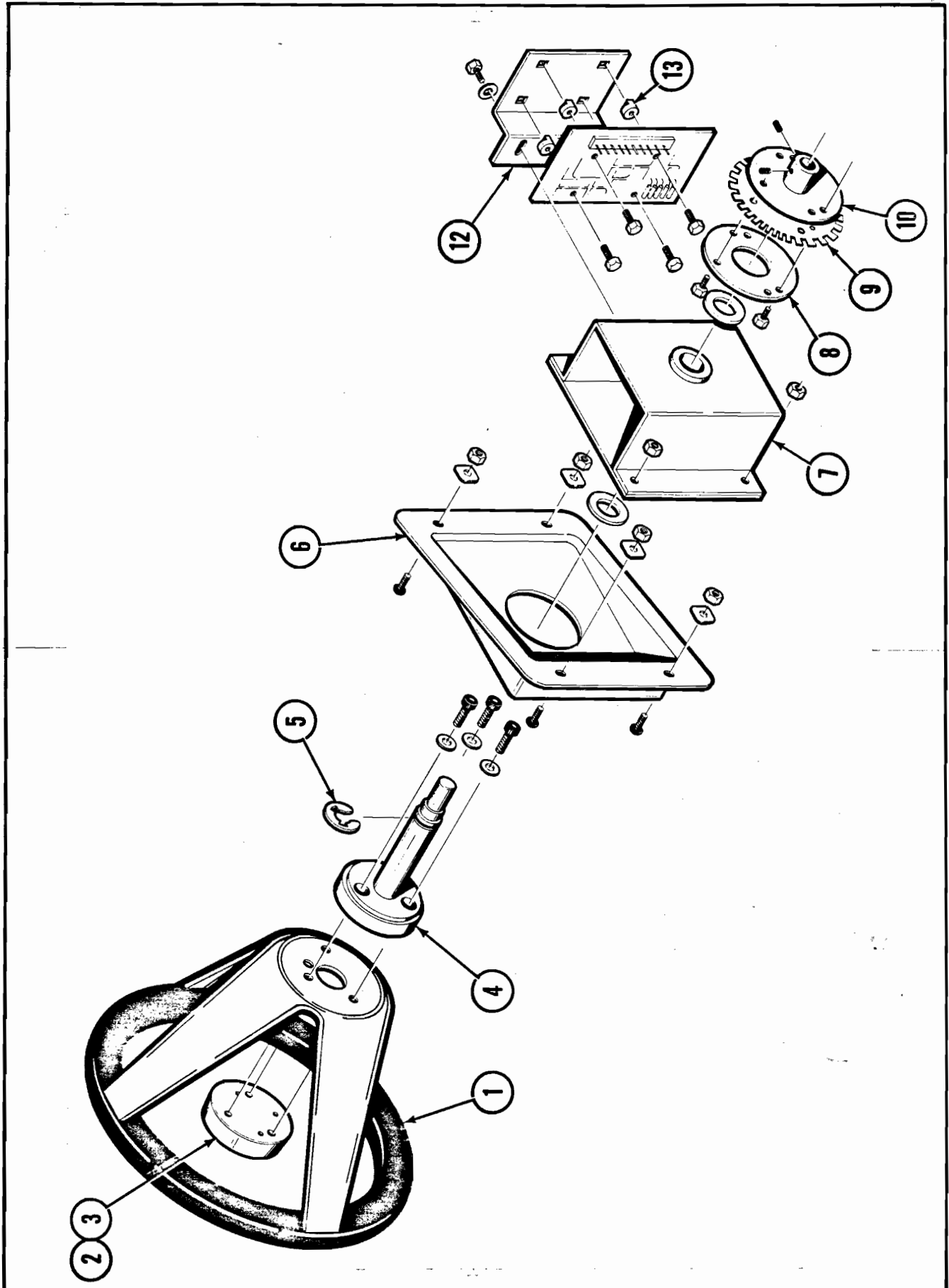
| ITEM | PART NO. | DESCRIPTION |
|------|-----------------|---|
| 1 | A945-00062-0000 | ON - OFF SWITCH & PLATE ASSY. |
| 2 | 0894-00916-0000 | PLASTIC PULL & VENT (2 REQ'D) |
| 3 | 0017-00003-0465 | WELLS-GARDNER - 19" COLOR DUAL SYNC HORIZONTAL MTG. MONITOR |
| 4 | 0311-00100-0000 | BEZEL MOUNTING BRACKET (2 REQ'D) |
| 5 | 0017-00042-0314 | 19" T.V. BEZEL - INJECTION MOLDED |
| 6 | A090-00606-0000 | CASH BOX & PULL ASSY. |
| 7 | A084-90910-F000 | DUAL POWER AMP P.C.B. ASSY. |
| 8 | A084-91779-AC48 | TURBO CHEAP SQUEAK P.C.R. |
| 9 | AA59-00004-0000 | CARD RACK W/PROGRAMMED CHIPS |
| | A084-90913-G000 | SUPER SOUND I/O P.C.B. ASSY. |
| | A084-91464-M000 | SUPER VIDEO GENERATOR MCR-3 P.C.B. |
| | A084-91490-J000 | 5 MHZ C.P.U. P.C.B. |
| 10 | A945-00059-0200 | POWER CHASSIS: 130VA-SWITCHING' |
| | 115E-00001-0004 | VARISTOR METAL OXIDE |
| | MT00-00136-A000 | ISOLATION TRANSFORMER |
| 11 | 0017-00003-0064 | LINE CORD ASSY. |
| | AA59-00500-0000 | CABINET ASSY. (ITEMS 12 & 13) |
| 12 | 0A59-00500-0000 | CABINET ASSY. |
| 13 | A961-00007-0000 | CASTER - WHEEL ASSY. |
| | | ADDITIONAL PARTS LIST |
| | AA59-00010-0000 | REAR DOOR ASSY. (INCLUDES 5 FOLLOWING PARTS) |
| | 0A59-00501-0000 | REAR DOOR (WOOD) |
| | 0017-00005-0050 | DOOR LOCK W/2 INDIVIDUAL KEYS |

DEMOLITION DERRY U.R. - 2 PLAYER - REAR ACCESS PARTS LIST

ORDER BY PART NUMBER ONLY

| ITEM | PART NO. | DESCRIPTION |
|------|-----------------|--|
| | 0017-00005-0209 | LOCK PLATE |
| | 0017-00009-0490 | VENT GRILLE - 5-5/8 SO. IN. (4 REQ'D) |
| | 0639-00116-00XF | CAM - OFFSET 30 DEGREES |
| | AA59-00007-0000 | MASTER CABLE W/BRKT. ASSY. (INCLUDES FOLLOWING PART) |
| | A515-00021-0000 | TEST SWITCH & BRKT. ASSY. |
| | AA59-00009-0000 | HIGH VOLTAGE CABLE ASSY. |
| | AA11-00011-0000 | VIDEO SIGNAL CABLE ASSY. |
| | 0017-00042-0072 | GROMMET (8 REQ'D) |

DEMOLITION DERBY U.R.-2 PLAYER-STEERING CONTROL ASSEMBLY

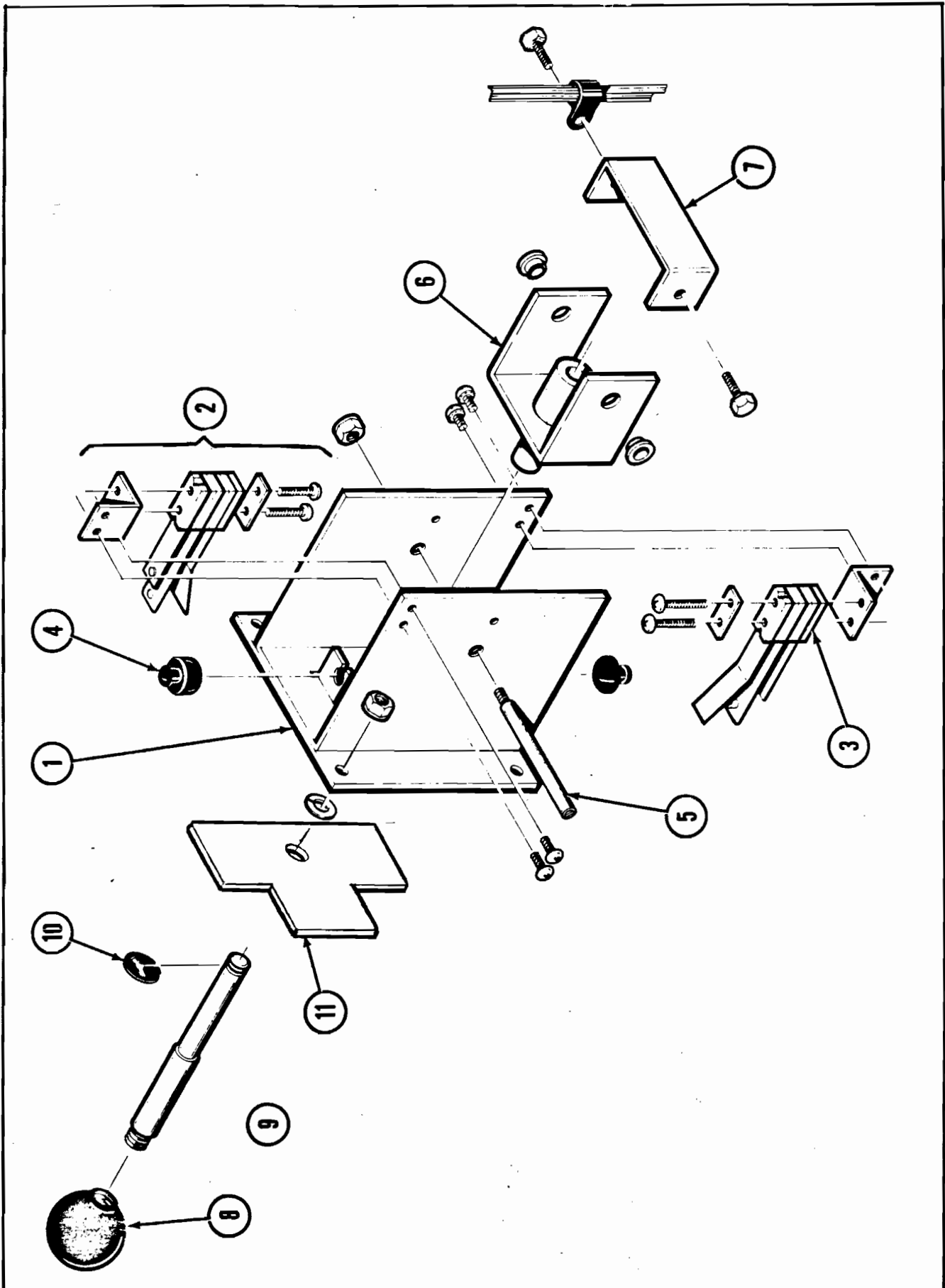


DEMOLITION DERBY U.R. - 2 PLAYER - STEERING CONTROL ASSY. PARTS LIST

ORDER BY PART NUMBER ONLY

| ITEM | PART NO. | DESCRIPTION |
|------|-----------------|---------------------------------------|
| | AA59-00014-0000 | STEERING WHEEL ASSY. (ITEMS 1 THRU 4) |
| 1 | 0017-00009-0608 | STEERING WHEEL |
| 2 | 0B96-00702-00XF | CAP |
| 3 | 0C48-00903-0000 | INLAY |
| 4 | 0017-00009-00XF | BASE & SHAFT ASSY. |
| 5 | 0017-00100-0109 | E-RING .750" |
| 6 | 0C48-00901-0000 | CONTROL COVER |
| 7 | AB96-00008-0000 | PLATE ASSY. W/REARING |
| | AC48-00030-0000 | SENSOR DISC ASSY. (ITEMS 8 THRU 10) |
| 8 | 0C48-00017-0000 | TOP PLATE |
| 9 | 0C48-00908-0000 | 64 POSITION DISC. |
| 10 | AC48-00029-00XF | HUB & PLATE ASSY. |
| 11 | A084-91794-A000 | OPTO DECODER DELUXE P.C.B. |
| 12 | 0C48-00118-0000 | P.C. BRACKET |
| 13 | 0017-00042-0072 | GROMMET (4 REQ'D) |

DEMOLITION DERBY U.R.-2 PLAYER-SPEED SHIFT CONTROL ASSEMBLY

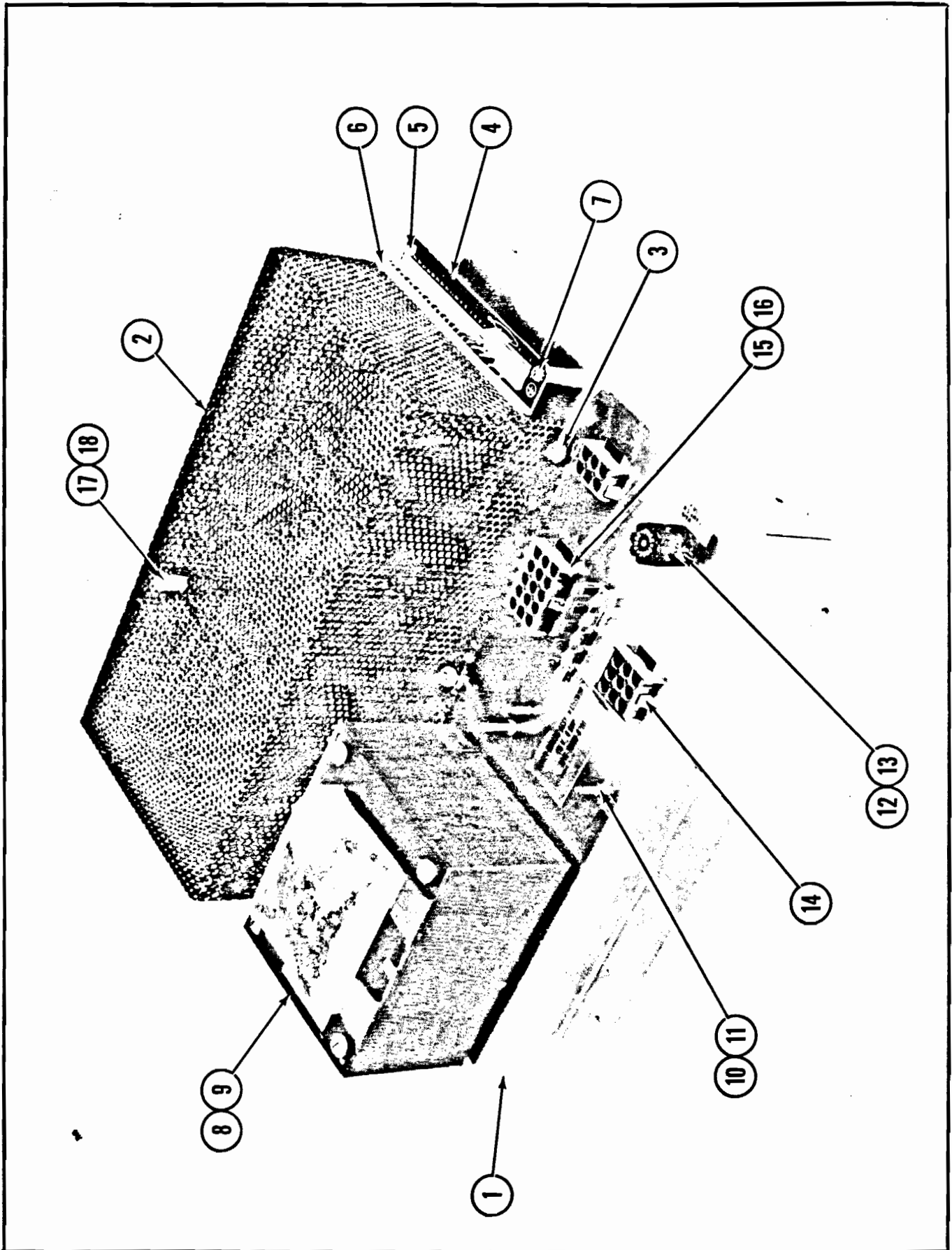


DEMOLITION DERBY U.R. - 2 PLAYER - SPEED SHIFT CONTROL ASSY.- PARTS LIST

ORDER BY PART NUMBER ONLY

| ITEM | PART NO. | DESCRIPTION |
|------|-----------------|---|
| 1 | AA59-00012-0000 | YOKE MTG. & PLATE - WELD ASSY. |
| 2 | AC48-00015-0000 | BRKT. & SWITCH ASSY. (2 REQ'D) (INCLUDING ITEM 3) |
| 3 | AC48-00016-0000 | LEAF SWITCH ASSY. |
| 4 | 0017-00041-0616 | RUBBER BUMPER (2 REQ'D) |
| 5 | 0852-00701-00XF | PIVOT PIN |
| 6 | AC48-00018-0000 | YOKE ASSEMBLY & BEARING |
| 7 | 0508-00112-0000 | MAIN BRACKET BRACE |
| * | AB96-00012-0000 | BALL KNOB & HANDLE ASSY. (ITEMS 8 & 9) |
| 8 | 0B96-00901-0000 | BALL KNOB - BLACK/ROUND |
| 9 | 0B96-00703-00XF | HANDLE |
| *10 | 0017-00100-0031 | E-RING .312" |
| *11 | 0A59-00904-0000 | FOLLOWER |
| | | NOT PART OF ABOVE ASSEMBLY & MUST BE ORDERED SEPARATELY |

DEMOLITION DERBY U.R.-2 PLAYER-POWER CHASSIS: 130VA (SWITCHING) PARTS LIST



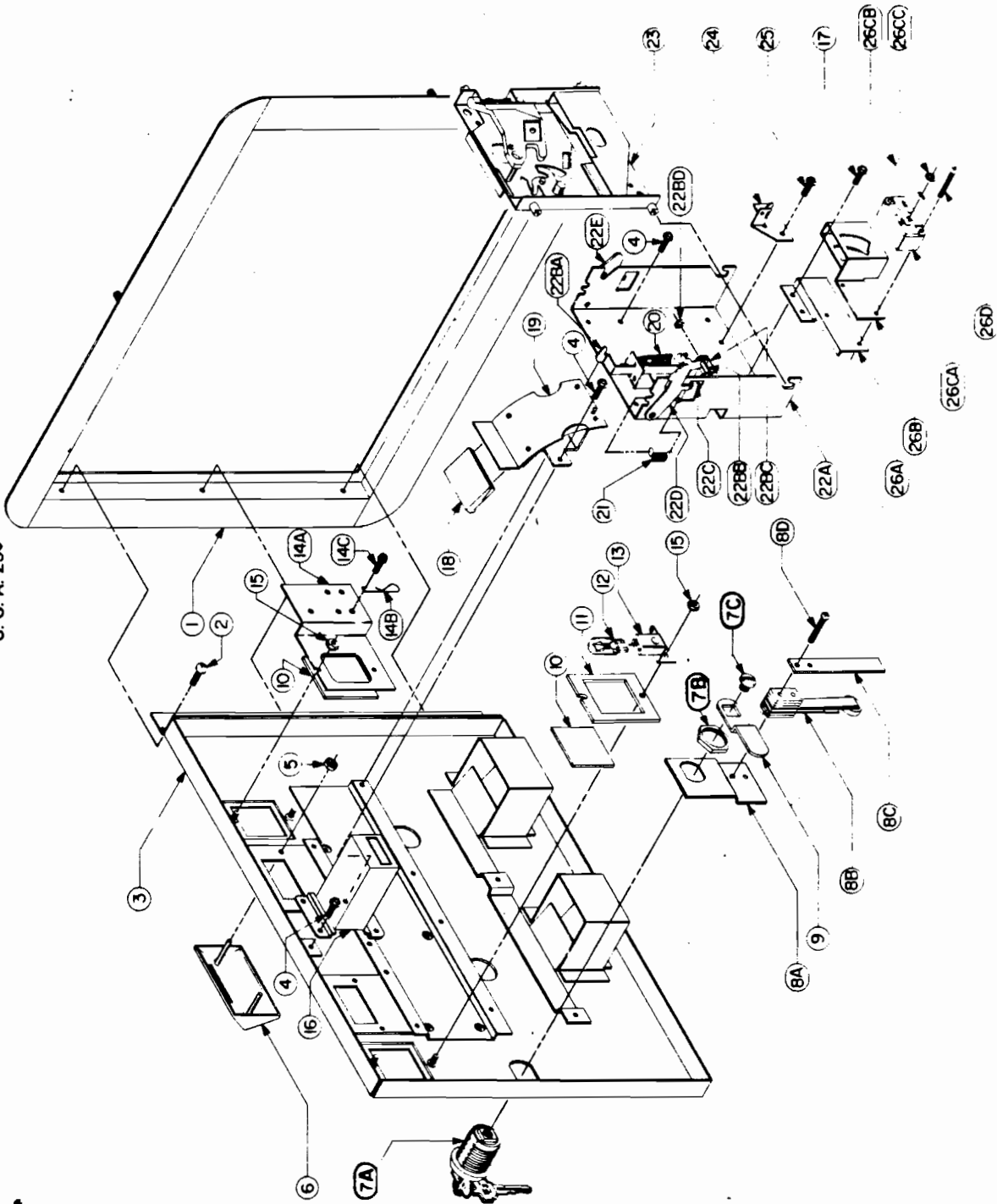
DEMOLITION DERBY U.R. - 2 PLAYER - POWER CHASSIS: 130VA (SWITCHING) PARTS LIST, CONT.

ORDER BY PART NUMBER ONLY

| ITEM | PART NO. | DESCRIPTION |
|------|-----------------|---|
| 1 | A945-00057-01XF | CHASSIS SUB-ASSEMBLY |
| 2 | 0945-00117-01XF | POWER SUPPLY COVER |
| 3 | 0017-00101-0123 | 8 X 4 UNSLOT HEX HD. SCREW (8 REQ'D.) |
| 4 | 0017-00003-0543 | SWITCHING POWER SUPPLY - 125VA |
| 5 | 0017-00042-0663 | LOCKING P.C. BRD. SPACER (4 REQ'D) |
| 6 | 0540-00138-2100 | CABLE PROTECTOR - 5" |
| 7 | 0017-00101-0134 | 6-32 X 4 PHIL. ROUND HD. SCREW |
| 8 | MT00-00136-A000 | ISOLATION TRANSFORMER W/O SHIELD ASSY.-115V., 50/60 HZ. |
| 9 | 0017-00103-0061 | 8-32 HEX NUT W/SEMS (4 REQ'D) (NOT SHOWN) |
| 10 | 0017-00003-0114 | LINE FILTER - 5 AMP, 115VAC (NOT SHOWN) |
| 11 | 0017-00101-0067 | 6 X 6 PHL. PAN HD. (2 REQ'D) |
| 12 | 0017-00003-0433 | FUSE HOLDER |
| 13 | 0017-00003-0263 | FUSE MDA, 3AG, 4 AMP, 115 VAC |
| 14 | A945-00030-0600 | CONNECTOR & CABLE ASSEMBLY |
| 15 | 0017-00021-0370 | TERMINAL STRIP |
| 16 | 0017-00101-0140 | 4-40 X 5 PHL. PAN HD. SCREW (2 REQ'D) |
| 17 | 0017-00009-0580 | CAPACITOR ALIGNMENT TOOL |
| 18 | 0945-00912-0000 | ADJ. TOOL HANDLE |
| | | ADDITIONAL PARTS LIST |
| | 115E-00001-0004 | VARISTOR-METAL OXIDE (UNDER CHASSIS) |
| | 0017-00021-1110 | 2 POSITION TERMINAL BARRIER STRIP (UNDER CHASSIS) |
| | 0017-00101-0780 | 6 X 8 PHIL. PAN HD. SCREW (UNDER CHASSIS) |
| | 0017-00103-0084 | 6-32 HEX NUT W/SEMS (UNDER CHASSIS) |

FRONT DOOR ASSEMBLY — U.S.A. 25c

FRONT DOOR ASSEMBLY
U. S. A. 25c



DEMOLITION DERBY U.R. - 2 PLAYER - FRONT DOOR ASSEMBLY - U.S.A. 25¢ - PARTS LIST

ORDER BY PART NUMBER ONLY

| ITEM | PART NO. | DESCRIPTION |
|------|-----------------|---|
| 1 | 0090-00002-04BK | DOUBLE ENTRY COIN DOOR FRAME |
| 2 | 0017-00101-0121 | #6-32 X 5/16 PHIL. TRS. HD. SCR. (3 REQ'D.) |
| 3 | A090-00073-02BK | DOUBLE ENTRY COIN DOOR W/DRESS PLATE |
| 4 | 0017-00101-0123 | #8 X 1/4 UNSLOT. HEX HD. SCREW (12 REQ'D.) |
| 5 | 0017-00103-0059 | PUSH NUT (4 REQ'D.) |
| 6 | 0090-00912-0000 | COIN ENTRY PLATE - 25¢ (2 REQ'D.) |
| 7A | 0017-00005-0200 | LOCK - INDIV. KEYED W/2 KEYS |
| 7B | 0017-00103-0079 | 3/4 HEX NUT |
| 7C | 0017-00101-0125 | #10 X 1/4 SLOT. PAN HD. SCREW |
| 8 | A090-00096-0000 | ANTI-SLAM SWITCH & BRKT. ASSY. |
| 8A | 0090-00185-00XF | DOOR TILT SWITCH BRKT. |
| 8B | A090-00095-0000 | DOOR ANTI-SLAM SWITCH |
| 8C | 0090-00126-01XF | SWITCH BACK-UP PLATE |
| 8D | 0017-00101-0155 | #4-40 X 9/16 PHIL. PAN HD. (2 REQ'D.) |
| 9 | 0017-00005-0238 | DOOR CAM |
| 10 | 0090-00903-9500 | 25¢ WINDOW (2 REQ'D.) |
| 11 | 0090-00143-0000 | COIN PLEX RETAINER |
| 12 | 0017-00003-0219 | 12 VOLT LAMP - G.E. #194 (2 REQ'D.) |
| 13 | 0017-00031-0048 | WEDGE SOCKET W/BRKT. (2 REQ'D.) |
| 14 | A090-00100-0000 | CABLE & KEY HOOK BRKT. ASSY. |
| 14A | 0090-00179-0000 | CABLE & SWITCH MTG. BRKT. |
| 14B | 0017-00007-0019 | KEY HOOK |
| 14C | 0017-00101-0123 | #8 X 1/4 UNSLOT. HD. SCR. (2 REQ'D.) |

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DEMOLITION DERBY U.R. - 2 PLAYER - FRONT DOOR ASSEMBLY - U.S.A. 25¢ - PARTS LIST, CONT.

ORDER BY PART NUMBER **ONLY**

| ITEM | PART NO. | DESCRIPTION |
|------|-----------------|--|
| 15 | 0017-00103-0084 | #6-32 HEX NUT W/SEMS (4 REQ'D.) |
| 16 | A090-00089-0000 | COIN METER W/DIODE |
| 17 | 0017-00101-0124 | #6 X 1/4 UNSLOT HEX HD. SCR. (4 REQ'D.) |
| 18 | 0090-00911-0000 | INSULATOR (2 REQ'D.) |
| 19 | A090-00087-0000 | COIN CHUTE & TOP ASSY. (2 REQ'D.) |
| | A090-00081-00XF | COIN CHUTE & BRKT. ASSY. |
| | 0090-00172-00XF | COIN CHUTE TOP |
| | 0017-00101-0140 | #4-40 X 5/16 PHIL. PAN HD. (3 REQ'D.) |
| | 0017-00007-0162 | COTTER PIN (4 REQ'D.) |
| 20 | 0010-00134-0000 | SPRING |
| 21 | 0010-00181-0100 | SPRING |
| 22 | A090-00115-0000 | COIN ACCEPTOR FRAME SUB-ASSY. (2 REQ'D.) |
| 22A | A090-00118-0000 | COIN ACCEPTOR & BUSH. ASSY. |
| 22B | A090-00116-0000 | REJECT LEVER ASSY. (2 REQ'D.) |
| 22BA | 0090-00182-00XF | REJECT LEVER |
| 22BR | 0090-00129-00XF | PIVOT POST |
| 22BC | 0090-00167-00XF | PIVOT LEVER |
| 22BD | 0017-00100-0012 | E-RING |
| 22C | 0017-00007-0083 | 1/8 X 1-5/8 ROLL PIN |
| 22D | 0093-00145-01XF | LATCH - LEFT |
| 22E | 0093-00145-00XF | LATCH - RIGHT |
| | 0017-00072-0036 | 120 X .218 X 7/32 RIVET (2 REQ'D.) |
| | 0090-00910-00XF | REJECT BUTTON |

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DEMOLITION DERBY U.R. - 2 PLAYER - FRONT DOOR ASSEMBLY - U.S.A 25¢ - PARTS LIST, CONT.

ORDER BY PART NUMBER ONLY

| ITEM | PART NO. | DESCRIPTION |
|------|-----------------|---|
| 22E | 0090-00183-0000 | BUTTON STOP |
| | 0017-00101-0140 | #4-40 X 5/16 PHIL. PAN HD. |
| 23 | 0017-00005-0003 | COIN ACCEPTOR W/STRING CUTTER (2 REQ'D.) (OR) |
| 23 | 0017-00005-0214 | COIN ACCEPTOR W/STRING CUTTER (2 REQ'D.) |
| 24 | A090-00064-0100 | ANTI-PENNY DEVICE |
| 25 | 0017-00101-0099 | #6 X 1/4 SLT. HEX HD. M.S. (2 REQ'D.) |
| 26 | A090-00077-0000 | COIN GUIDE & SWITCH ASSY. |
| 26A | 0090-00162-00XF | COIN SWITCH MTG. BRKT. |
| 26B | 0017-00005-0203 | COIN SWITCH CHUTE |
| 26C | A090-00059-0400 | COIN SWITCH & WIRE ASSY. |
| 26CA | 0017-00005-0195 | COIN SWITCH |
| 26CB | 0010-00599-0000 | COIN SWITCH WIRE |
| 26CC | 0017-00007-0015 | PUSH-ON RING |
| 26D | 0017-00101-0147 | #4-40 X 3/4 PHIL. PAN. HD. (4 REQ'D.) |
| | | ADDITIONAL PARTS LIST |
| | 0090-00184-0000 | COIN SWITCH COVER (2 REQ'D.) |

BALLY/MIDWAY'S DEMOLITION DERBY (4 PLYR)

C.T. #0C48

ROM/EPROM PART NUMBERS

UNPROGRAMMED SUPER VIDEO GEN. A084-91464-H000/L000/M000

PROGRAMMED SUPER VIDEO GEN. A084-91464-AC48

| POS. | MIDWAY PART NUMBER |
|------|--------------------|
| 1A | 0C48-00803-0016 |
| 2A | 0C48-00803-0015 |
| 3A | 0C48-00803-0014 |
| 4A | 0C48-00803-0013 |
| 5A | 0C48-00803-0012 |
| 6A | 0C48-00803-0011 |
| 7A | 0C48-00803-0010 |
| 8A | 0C48-00803-0009 |

| JUMPERS | IN | OUT |
|---------|----|-----|
| JW1 | | ** |
| JW2 | ** | |

UNPROGRAMMED 5MHZ CPU A084-91490-H000/J000

PROGRAMMED 5MHZ CPU A084-91490-AC48

| POS. | MIDWAY PART NUMBER |
|------|--------------------|
| 5F | 0C48-00803-0002 |
| 6F | 0C48-00803-0003 |
| 1C | 0C48-00803-0006 |
| 2C | 0C48-00803-0007 |
| 3C | 0C48-00803-0008 |
| 4C | BLANK |

| JUMPERS | IN | OUT |
|---------|----|-----|
| JW1 | | ** |
| JW2 | | ** |
| JW3 | ** | |
| JW4 | | ** |
| JW5 | | ** |
| JW6 | | ** |

UNPROGRAMMED S/S I/O A084-90913-F000/G000

PROGRAMMED S/S I/O A084-90913-AC48

| POS. | MIDWAY PART NUMBER |
|------|--------------------|
| 7A | BLANK |
| 8A | BLANK |
| 9A | BLANK |
| 10A | BLANK |

| JUMPERS | IN | OUT |
|---------|----|-----|
| JW1 | | ** |
| JW2 | | ** |

UNPROGRAMMED TURBO CHEAP SQUEAK A084-91779-A000

PROGRAMMED TURBO CHEAP SQUEAK A084-91779-AC48

| POS. | MIDWAY PART NUMBER |
|------|--------------------|
| U4 | 0C48-00803-0005 |
| U5 | 0C48-00803-0004 |

| JUMPERS | IN | OUT |
|---------|----|-----|
| JW1 | ** | |
| JW2 | | ** |
| JW3 | | ** |
| JW4 | ** | |
| JW5 | ** | |

UNPROGRAMMED OPTICAL ENCODER DELUXE A084-91794-A000

| JUMPER | IN | OUT |
|--------|----|-----|
| JW1 | | ** |