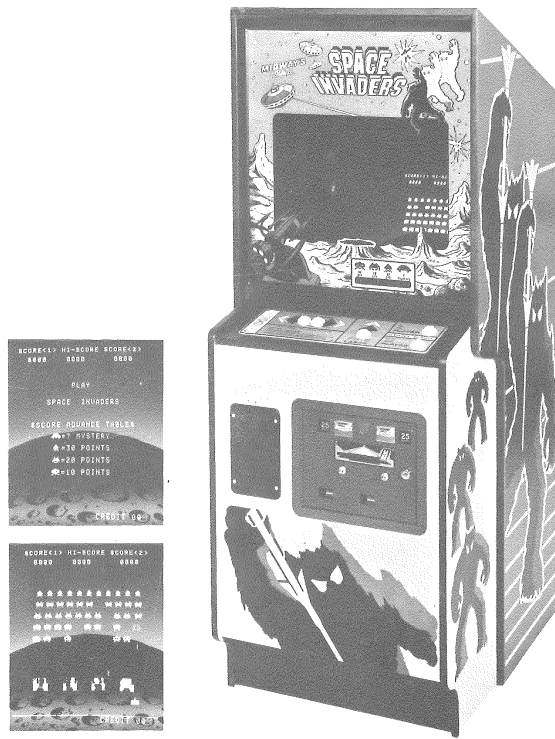


GAME NO. 739  
OCTOBER, 1978

# MIDWAY'S SPACE INVADERS PARTS CATALOG



**MIDWAY MFG. CO.**

A BALLY COMPANY

10750 WEST GRAND AVENUE  
FRANKLIN PARK, ILLINOIS 60131  
U.S.A.

PHONE: (312) 451-1360 CABLE ADDRESS: MIDCO TELEX NO.: 72-1596

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**WARNING**

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

## GENERAL INSTRUCTIONS FOR "SPACE INVADERS"

### INSTALLATION:

1. Remove shipping cleats located on bottom of cabinet.
2. Install 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.

### VOLTAGE CONTROL POTS:

Located on power supply board (P.C. A080-90400-F000) and are preset at the factory. These pots should not be tampered with unless the Distributor Service Department is contacted.

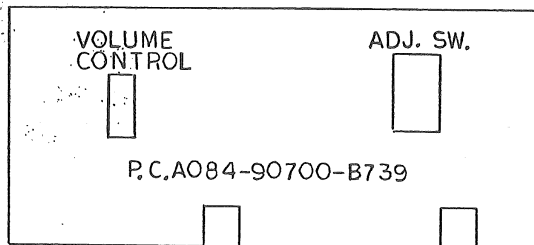
### MASTER VOLUME CONTROL:

Located on game logic board (P.C. A084-90700-B739) controls the volume of all sounds and may be varied as desired by rotating pots.

### ADJUSTMENT SWITCHES:

Located on game logic board (P.C. A084-90700-B739) and may be adjusted as indicated on separate instruction sheet in back box area.

1. No. of Missile Bases per game: Adjustable 3 to 6.
2. Bonus Missile Base: Awarded at 1,000 or 1,500 points.



### TO REMOVE CONTROL PANEL FOR SERVICE:

1. Open coin box door.
2. Unplug control panel jack located to the left of coin box opening.
3. Unlatch (2) clamps located on each side of cabinet.
4. Remove control panel for service.

---

**ADJUSTMENT SWITCHES**

---

|  |                    |       |
|--|--------------------|-------|
|  |                    | SW. 1 |
| COIN INFORMATION DISPLAYED<br>ON SCREEN        | 1 COIN, 1 PLAYER   | ON    |
|  | 2 COINS, 2 PLAYERS |       |
| COIN INFORMATION IS NOT<br>DISPLAYED ON SCREEN |                    | OFF   |

---

**BONUS MISSILE BASE**

---

|                                 |  |       |
|---------------------------------|--|-------|
|                                 |  | SW. 2 |
| BONUS BASE AWARDED AT 1000 PTS. |  | OFF   |
| BONUS BASE AWARDED AT 1500 PTS. |  | ON    |

---

**NUMBER OF BASES PER GAME**

---

|         |       |       |
|---------|-------|-------|
|         | SW. 3 | SW. 4 |
| 3 BASES | ON    | ON    |
| 4 BASES | ON    | OFF   |
| 5 BASES | OFF   | ON    |
| 6 BASES | OFF   | OFF   |

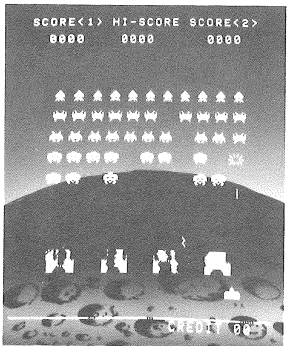
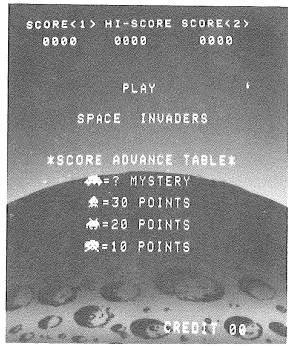
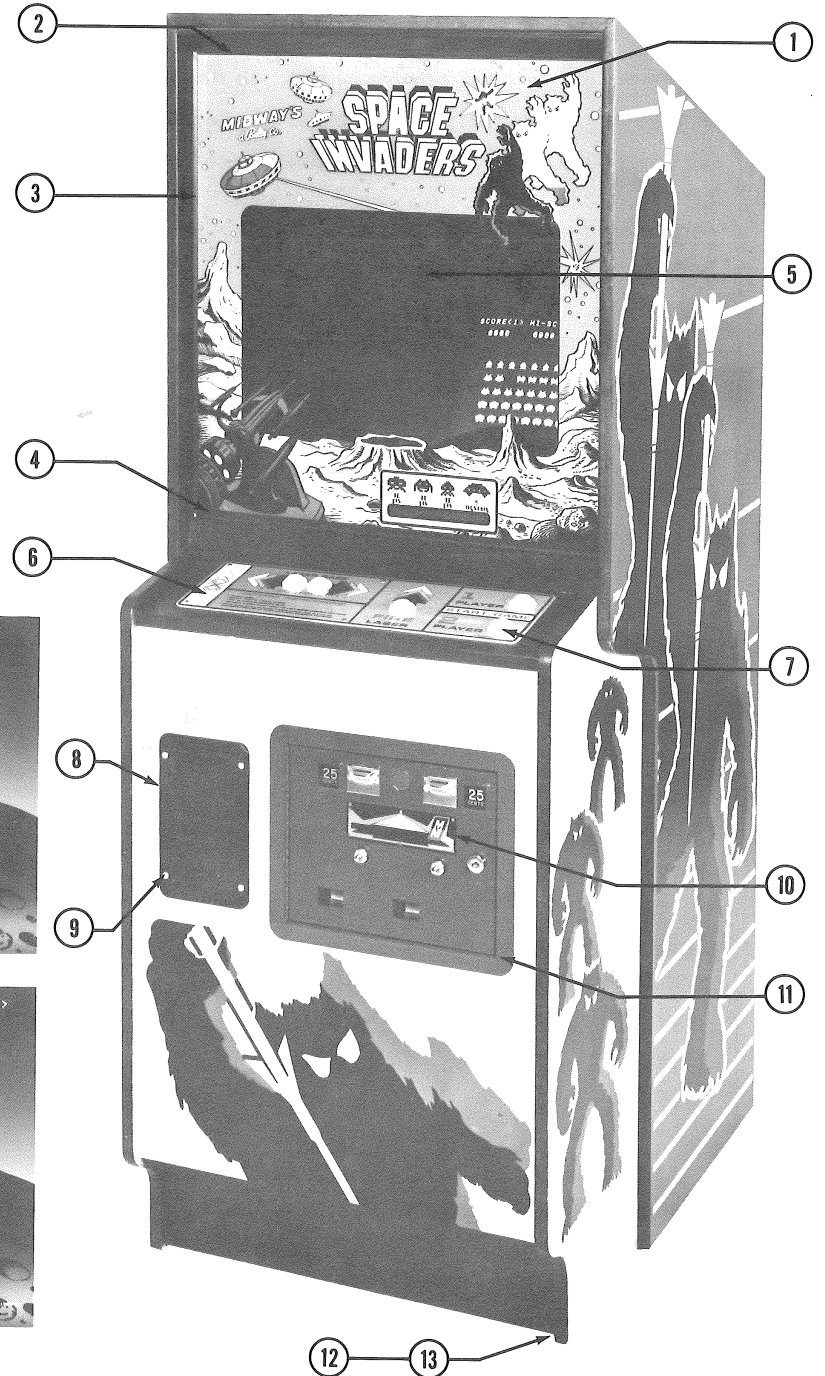
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\*SWS 5, 6, 7 AND 8 ARE NOTUSED.

M051-00739-A010

NOTE – NO RAM AND ROM TEST

**NO. 739 – SPACE INVADERS – PICTURE**



NO. 739 – SPACE INVADERS – PICTURE

*ORDER BY PART NUMBER ONLY*

| ITEM | PART N <sup>o</sup> | DESCRIPTION                                     |
|------|---------------------|---|
| 1    | 0739-00903-01SC     | DISPLAY PLEX – 26-5/16 x 24-7/8 x 3/16          |
| 2    | 0537-00903-0015     | GLASS CHANNEL – 24-1/4" LG.                     |
| 3    | 0537-00903-0011     | GLASS CHANNEL – 26-1/4" LG. (2 REQ'D.)          |
| 4    | 0629-00902-0100     | GLASS LIFT CHANNEL                              |
| 5    | 0739-00900-00SC     | BACKGROUND SCENERY CARD                         |
| 6    | 0739-00904-00SC     | DECORATIVE PLATE                                |
|      | 0017-00101-0639     | #8-32 x 1-1/4 CARRIAGE BOLTS (4 REQ'D.)         |
|      | 0017-00104-0022     | #8 WASHER (4 REQ'D.)                            |
|      | 0017-00103-0061     | #8-32 HEX LOCKNUT SEMS. (4 REQ'D.)              |
| 7    | A739-00012-0000     | PUSH BUTTON ASSY. (5 REQ'D.)                    |
|      | 0017-00009-0384     | BUTTON (5 REQ'D.)                               |
|      | 0017-00009-0376     | HOUSING (5 REQ'D.)                              |
|      | 0010-00593-0000     | SPRING (5 REQ'D.)                               |
|      | 0017-00104-0028     | FLAT WASHER (10 REQ'D.)                         |
|      | 0017-00100-0025     | "E" RING (5 REQ'D.)                             |
|      | 0017-00103-0054     | PAL NUT (5 REQ'D.)                              |
|      | 0586-00107-0000     | MTG. BRKT. (5 REQ'D.)                           |
|      | 0586-00036-0000     | SWITCH ASSY. (5 REQ'D.)                         |
|      | 0017-00101-0521     | #5-40 x 3/8 R.H.M.S. (5 REQ'D.)                 |
|      | 0020-00202-0000     | SWITCH PLATE (5 REQ'D.)                         |
| 8    | 0017-00009-0393     | SPEAKER GRILL & HARDWARE                        |
|      | 0017-00003-0187     | SPEAKER   |
| 9    | 0017-00101-0642     | #8-32 x 1-1/2 CARRIAGE BOLTS M.S. (4 REQ'D.)    |
| 10   | A090-00020-02GR     | DOUBLE ENTRY COIN DOOR ASSY.                    |
| 11   | A090-00002-02GR     | COIN DOOR FRAME                                 |
|      | 0017-00101-0555     | #6-32 x 5/16 HEX HD. S.M.S. (3 REQ'D.)          |
| 12   | 0017-00102-0048     | LEG LEVELERS (4 REQ'D.)                         |
| 13   | 0017-00103-0026     | LEG LEVELER NUTS (4 REQ'D.)                     |
|      |                     | <u>NOT SHOWN LIST</u>                           |
|      | 0017-00003-0164     | 19" CATHODE RAY TUBE (C.R.T.)                   |
|      | 0017-00003-0212     | 19" MONITOR CHASSIS                             |
|      | 0592-00104-0100     | CHASSIS MTG. BRKT. - R.H.                       |
|      | 0592-00104-0200     | CHASSIS MTG. BRKT. - L.H.                       |
|      | 0161-00100-0000     | T.V. MTG. WASHER (4 REQ'D.)                     |
|      | 0017-00101-0639     | #8-32 x 1-1/4 CARRIAGE BOLT (4 TUBE, 4 CHASSIS) |

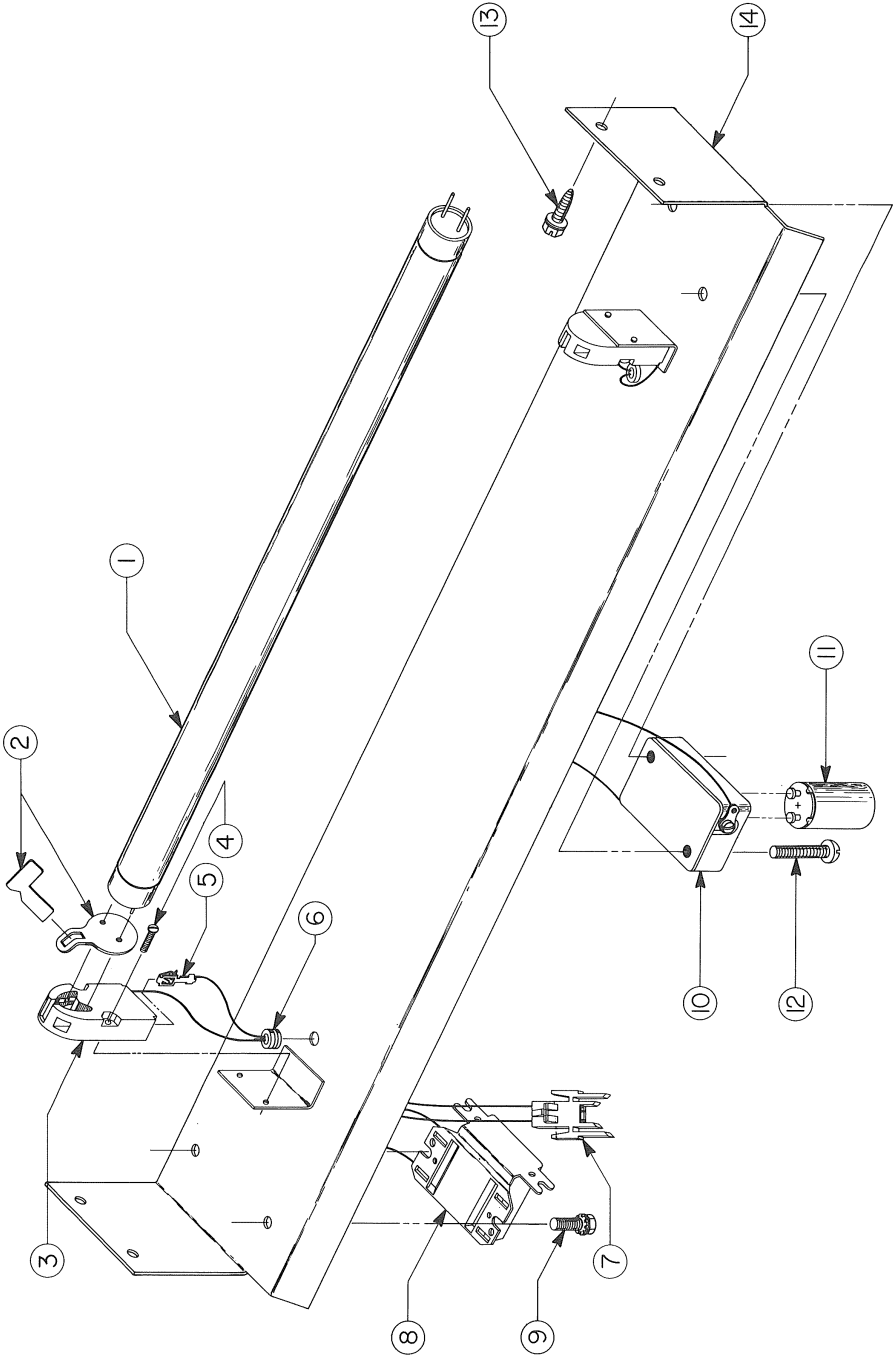
**MIDWAY MFG. CO.**  
A BALLY COMPANY

**NO. 739 – SPACE INVADERS – PICTURE**

***ORDER BY PART NUMBER ONLY***

| ITEM | PART N <sup>o</sup> | DESCRIPTION                                 |
|------|---------------------|---|
|      | 0017-00104-0022     | #8 WASHER (4 TUBE, 4 CHASSIS)               |
|      | 0017-00103-0061     | #8-32 HEX LOCKNUT SEMS. (4 TUBE, 4 CHASSIS) |
|      | 0739-00902-0000     | MIRROPANE MIRROR 24-13/16 x 23-3/4 x 1/4    |
|      | 0739-00502-0000     | LOCKING CLEAT (2 REQ'D.)                    |
|      | 0017-00101-0028     | #8 x 3/4 HEX. HD. WD. SCR. (4 REQ'D.)       |
|      | 0739-00102-0000     | GLASS LOCK BRKTS. (2 REQ'D.)                |
|      | 0739-00906-0000     | SCREEN OVERLAY                              |
|      | 0739-00905-0000     | CARDBOARD BEZEL                             |
|      | A739-00010-0000     | DAG SPRING ASSY.                            |
|      | 3000-17155-0000     | GROUND STRAP                                |
|      | 0080-00101-0000     | FISHPAPER SHIELD                            |
|      | 0017-00009-0033     | BASIC CLAMP (2 REQ'D.)                      |
|      | A739-00007-0000     | DISPLAY INSERT                              |
|      | 0017-00031-0002     | SOCKETS (5 REQ'D.)                          |
|      | 0017-00003-0052     | LAMPS (5 REQ'D.)                            |
|      | 0017-00041-0037     | SPONGE RUBBER TAPE - 24" LG.                |
|      | 0586-00036-0000     | ON-OFF SWITCH                               |
|      | 0567-00106-0100     | SWITCH MTG. PLATE                           |
|      | 0017-00101-0025     | #8 x 1/2 SLOT. HEX. HD. WD. SCR. (4 REQ'D.) |

**NO. 739 – SPACE INVADERS – FLUORESCENT FIXTURE ASSEMBLY**



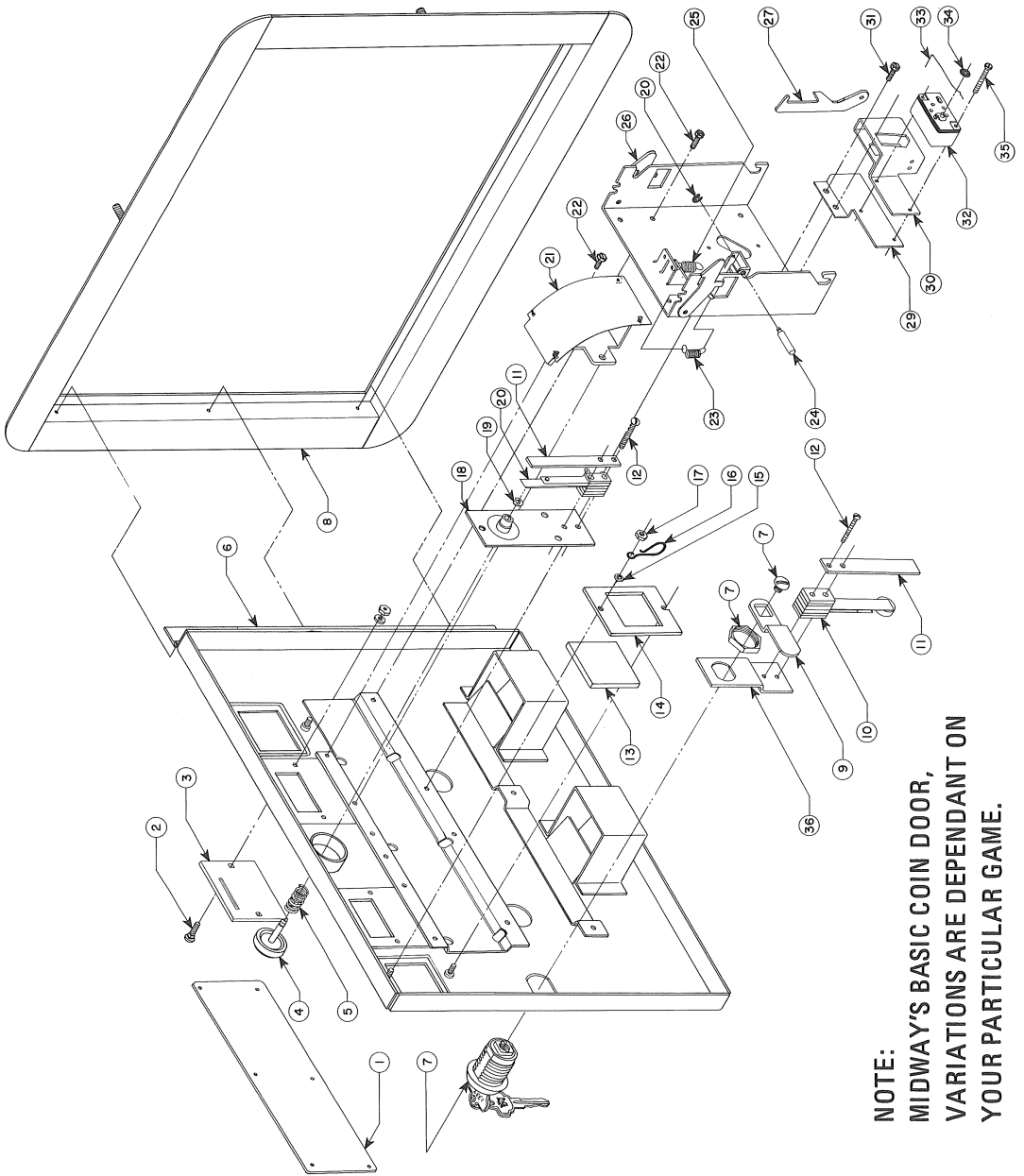


**NO. 739 – SPACE INVADERS – FLUORESCENT FIXTURE ASSEMBLY**

***ORDER BY PART NUMBER ONLY***

| ITEM | PART N <sup>o</sup> | DESCRIPTION                                   |
|------|---------------------|---|
| 1    | 0017-00003-0046     | 18" FLUORESCENT LAMP (BLACK LIGHT)            |
| 2    | 0017-00021-0005     | FLUORESCENT LOCKS (2 REQ'D.)                  |
| 3    | 0017-00031-0015     | LAMP HOLDERS (2 REQ'D.)                       |
| 4    | 0017-00101-0521     | #5 - 40 x 3/8 BINDER HD. M.S. (4 REQ'D.)      |
| 5    | 0017-00021-0078     | BRASS FLUORESCENT TERM. (4 REQ'D.)            |
| 6    | 0017-00041-0013     | GROMMETS (2 REQ'D.)                           |
| 7    | 0017-00021-0096     | 2 TERMINAL JACK – FEMALE                      |
| 8    | 0017-00003-0026     | BALLAST                                       |
| 9    | 0017-00101-0593     | #8-32 x 1/4 PAN HD. EXT. SEM. M.S. (2 REQ'D.) |
| 10   | 0017-00021-0079     | STARTER HOLDER                                |
| 11   | 0017-00003-0019     | STARTER                                       |
| 12   | 0017-00101-0528     | #5-40 x 3/4 R.H.M.S. (2 REQ'D.)               |
| 13   | 0017-00101-0025     | #8 x 1/2 HEX HD. WD. SCR. (4 REQ'D.)          |
| 14   | A739-00015-0000     | FLUORESCENT BRKT. WELDING ASSY.               |
|      |                     | <u>NOT SHOWN LIST</u>                         |
|      | 0739-00901-00SC     | PLANET ARTWORK                                |
|      | 0017-00101-0598     | #8-32 x 5/16 HEX HD. S.T. M.S. (3 REQ'D.)     |

**NO. 739 – SPACE INVADERS – FRONT DOOR ASSY.**



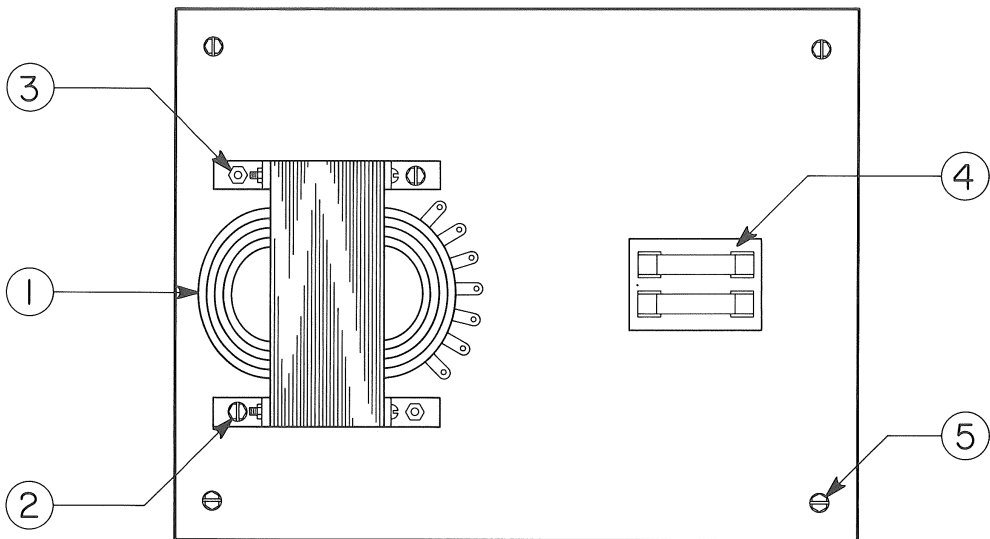
**NOTE:  
MIDWAY'S BASIC COIN DOOR,  
VARIATIONS ARE DEPENDANT ON  
YOUR PARTICULAR GAME.**

**NO. 739 – SPACE INVADERS – FRONT DOOR ASSY.**

***ORDER BY PART NUMBER ONLY***

| <b>ITEM</b> | <b>PART N<sup>o</sup></b>          | <b>DESCRIPTION</b>   |
|-------------|------------------------------------|--|
| 1           | 0090-00902-0000<br>0090-00902-0100 | DRESS PLATE<br>DRESS PLATE (W/O PRESS BUTTON TO<br>START GAME) |
| 2           | 0017-00101-0552                    | #6-32 x 1/4 CARRIAGE BOLT (2)                                  |
| 3           | 0090-00117-0300                    | 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          | 0090-00126-0100                    | 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          | 0090-00129-0000                    | PIVOT POST   |
| 25          | 0010-00134-0000                    | SPRING   |
| 26          | 0090-00008-0000                    | ACCEPTOR FRAME ASSY.   |
| 27          | 0093-00155-0000                    | REJECTOR LEVER   |
| 28          | 0017-00100-0012                    | "E" RING   |
| 29          | 0093-00151-0000                    | 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          | 0090-00128-0000                    | SWITCH BRKT. – DOOR TILT                                       |

**NO. 739 – SPACE INVADERS – TRANSFORMER BOARD ASSY.**



**MIDWAY MFG. CO.**  
A BALLY COMPANY

NO. 739 – SPACE INVADERS – TRANSFORMER BOARD ASSY.

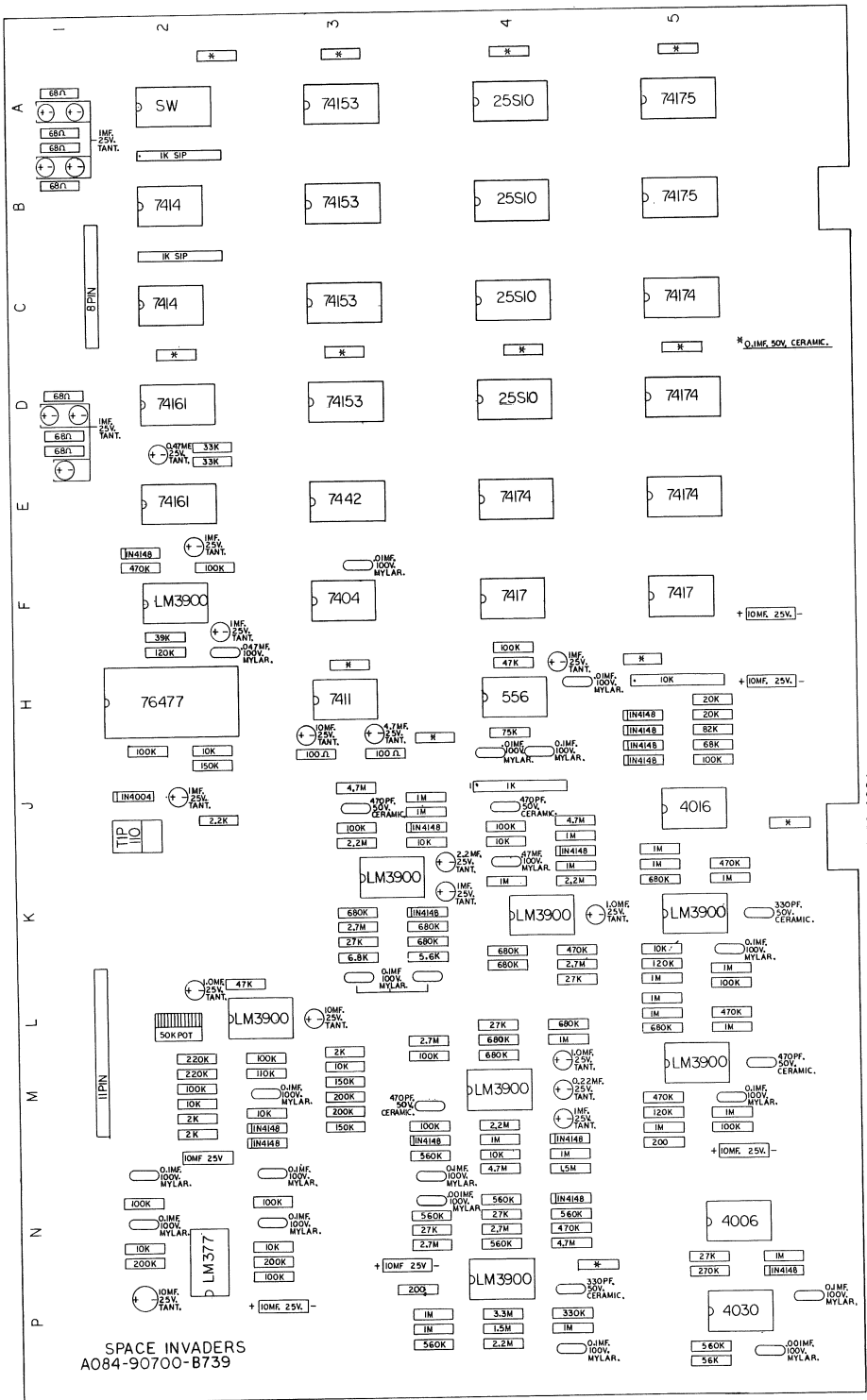
ORDER BY PART NUMBER ONLY

| ITEM | PART N <sup>o</sup> | DESCRIPTION                              |
|------|---------------------|--|
| 1    | MT00-00058-A000     | TRANSFORMER – 60 CYCLE - OR -            |
|      | MT00-00059-A000     | TRANSFORMER – 50 CYCLE – (FOREIGN)       |
| 2    | 0017-00101-0025     | #8 x 1/2 SLOT. HEX HD. S.M.S. (2 REQ'D.) |
| 3    | 0017-00101-0692     | #8-32 x 7/8 CARRIAGE BOLTS (2 REQ'D.)    |
|      | 0017-00103-0008     | WITH #-32 HEX NUT (2 REQ'D.)             |
| 4    | 0720-00001-0200     | FUSE BLOCK ASSY. (2 POSITION)            |
| 5    | 0017-00101-0030     | #8 x 1" HEX HD. WD. SCREW (4 REQ'D.)     |
|      | 0017-00101-0017     | #6 x 1/2 HEX HD. S.M.S. (4 REQ'D.)       |
|      |                     | <u>NOT SHOWN</u>                         |
|      | 0017-00003-0064     | LINE CORD – NOT SHOWN                    |
|      | A630-00015-0000     | TRANSFORMER BOARD ASSY. – COMPLETE       |

NO. 739 – SPACE INVADERS – ADDITIONAL PARTS LIST

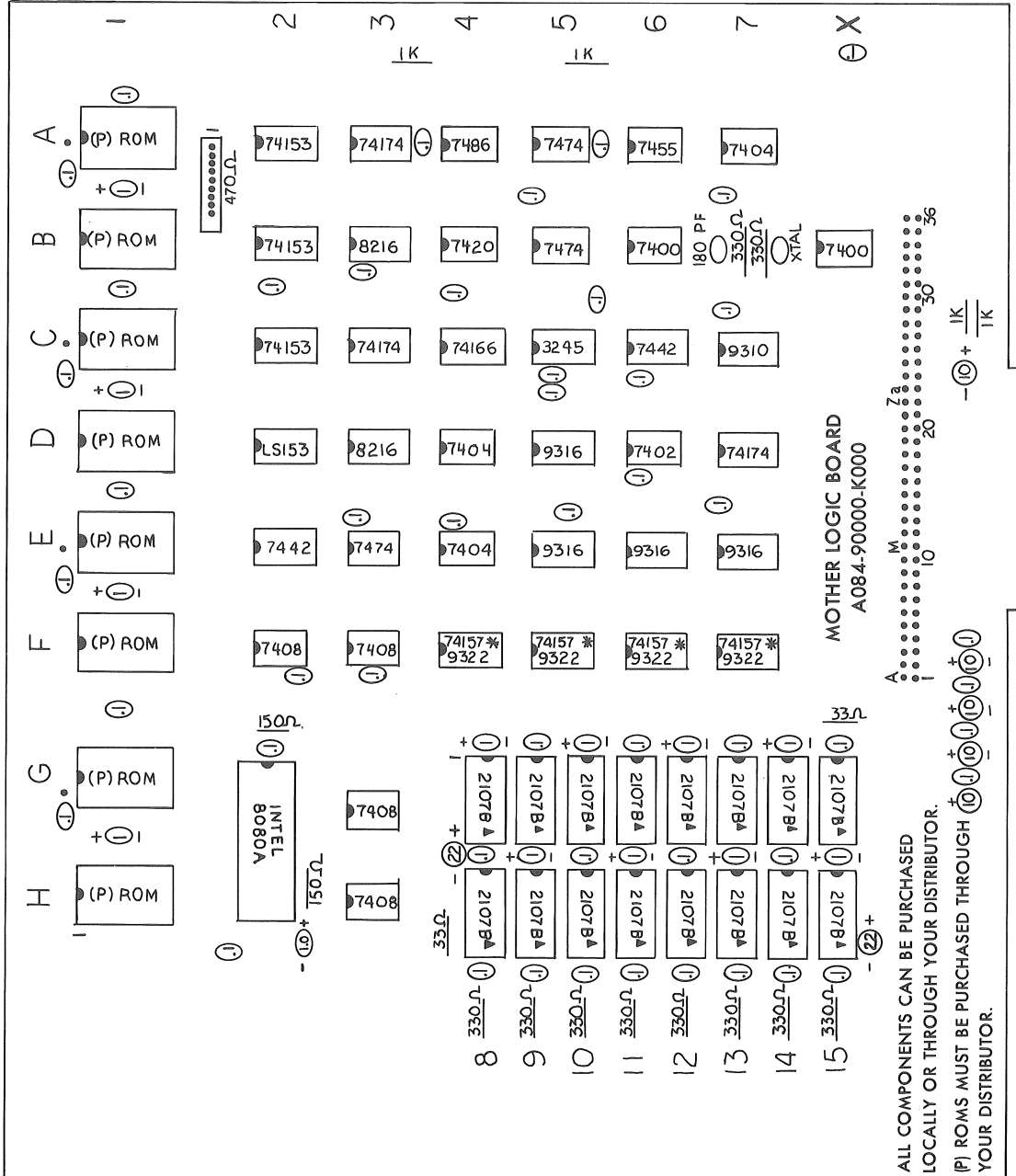
*ORDER BY PART NUMBER ONLY*

| ITEM | PART NO         | DESCRIPTION   |
|------|-----------------|---|
|      | A739-00014-0000 | LOWER BACK DOOR ASSY.                               |
|      | A739-00013-0000 | UPPER BACK DOOR ASSY.                               |
|      | A097-00001-0000 | LOCK ASSY. (1 UPPER, 1 LOWER)                       |
|      | 0618-00117-0000 | VENT SCREEN (2 UPPER, 2 LOWER)                      |
|      | A623-00110-0000 | COIN BOX ASSY.                                      |
|      | A623-00013-0000 | COIN BOX COVER ASSY.                                |
|      | A624-00001-0000 | COIN BOX GUIDE BRKT. ASSY.                          |
|      | 0624-00101-0000 | COIN BOX GUIDE BRKT.                                |
|      | 0017-00101-0628 | #8-32 x 3/4 CARRIAGE BOLTS (4 REQ'D.)               |
|      | 0017-00104-0022 | #8 STL. WASHER (4 REQ'D.)                           |
|      | 0017-00103-0061 | #8-32 LOCKNUT SEMS. (4 REQ'D.)                      |
|      | 0017-00003-0102 | COUNTER METER (MOUNTED ON COIN DOOR)                |
|      | M052-00190-0001 | TRANSPARENT TAPE (ORANGE) – 13" x 1"<br>WIDE        |
|      | 0017-00009-0009 | TURN BUTTONS (2 REQ'D.)                             |
|      | 0017-00101-0017 | #6 x 1/2 HEX HD. BLK. WD. SCREW (2 REQ'D.)          |
|      | 0603-00131-0000 | STRIKE (2 REQ'D.)                                   |
|      | 0017-00101-0028 | #8 x 3/4 HEX HD. BLK. WD. SCR. (4 REQ'D.)           |
|      | 0017-00003-0225 | "CHEAT" INTERLOCK SWITCH                            |
|      | 0625-00133-00B0 | INTERLOCK SW. MOUNTING BRKT.                        |
|      | 0017-00101-0028 | #8 x 3/4 HEX HD. BLK. WD. SCR. (2 REQ'D.)           |
|      | A084-90700-B739 | GAME BOARD ASSY.                                    |
|      | A084-90000-K000 | MOTHER BOARD ASSY.                                  |
|      | A082-90400-F000 | POWER SUPPLY ASSY.                                  |
|      | A630-00015-0000 | TRANSFORMER BOARD ASSY.                             |
|      | 0597-00012-0100 | P.C. SUPPORT BRKT. ASSY. – RIGHT                    |
|      | 0597-00012-0200 | P.C. SUPPORT BRKT. ASSY. – LEFT                     |
|      | 0624-00902-0100 | P.C. SUPPORT BRKT. – 12" (4 REQ'D.)                 |
|      | 0624-00902-0300 | P.C. SUPPORT BRKT. – 2-1/2" (4 REQ'D.)              |
|      | 0017-00101-0017 | #6 x 1/2 HEX HD. WD. SCR. (20 REQ'D.)               |
|      | 0017-00104-0037 | 3/4 O.D. x 3/16 I.D. x 1/16 STL. WASHER (20 REQ'D.) |
|      | 0017-00009-0419 | PIN EXTRACTOR TOOL (PIN POPPER)                     |

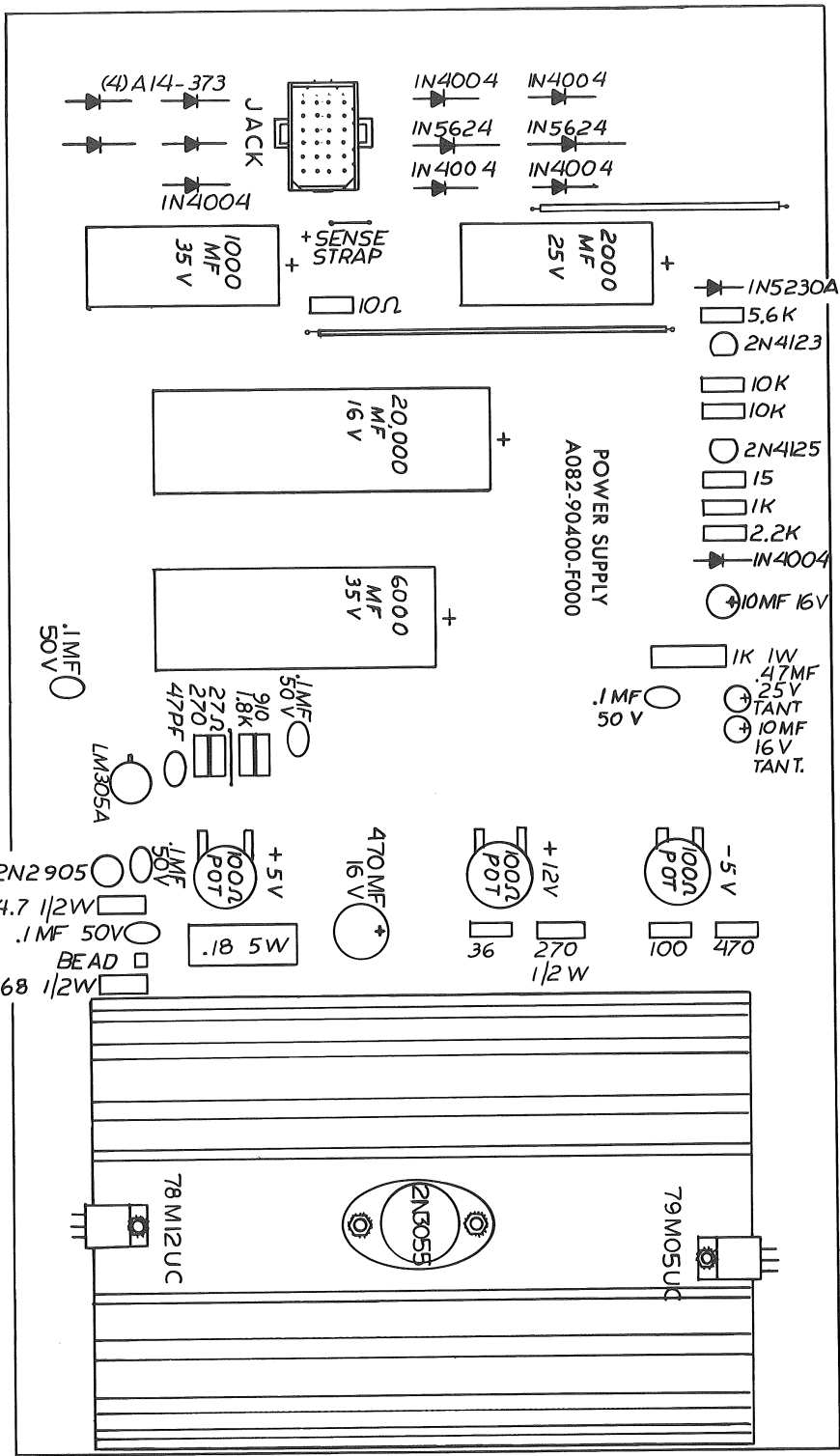


SPACE INVADERS  
A084-90700-B739

COMPONENT LAYOUT PART NO. MOSI-00739-4004



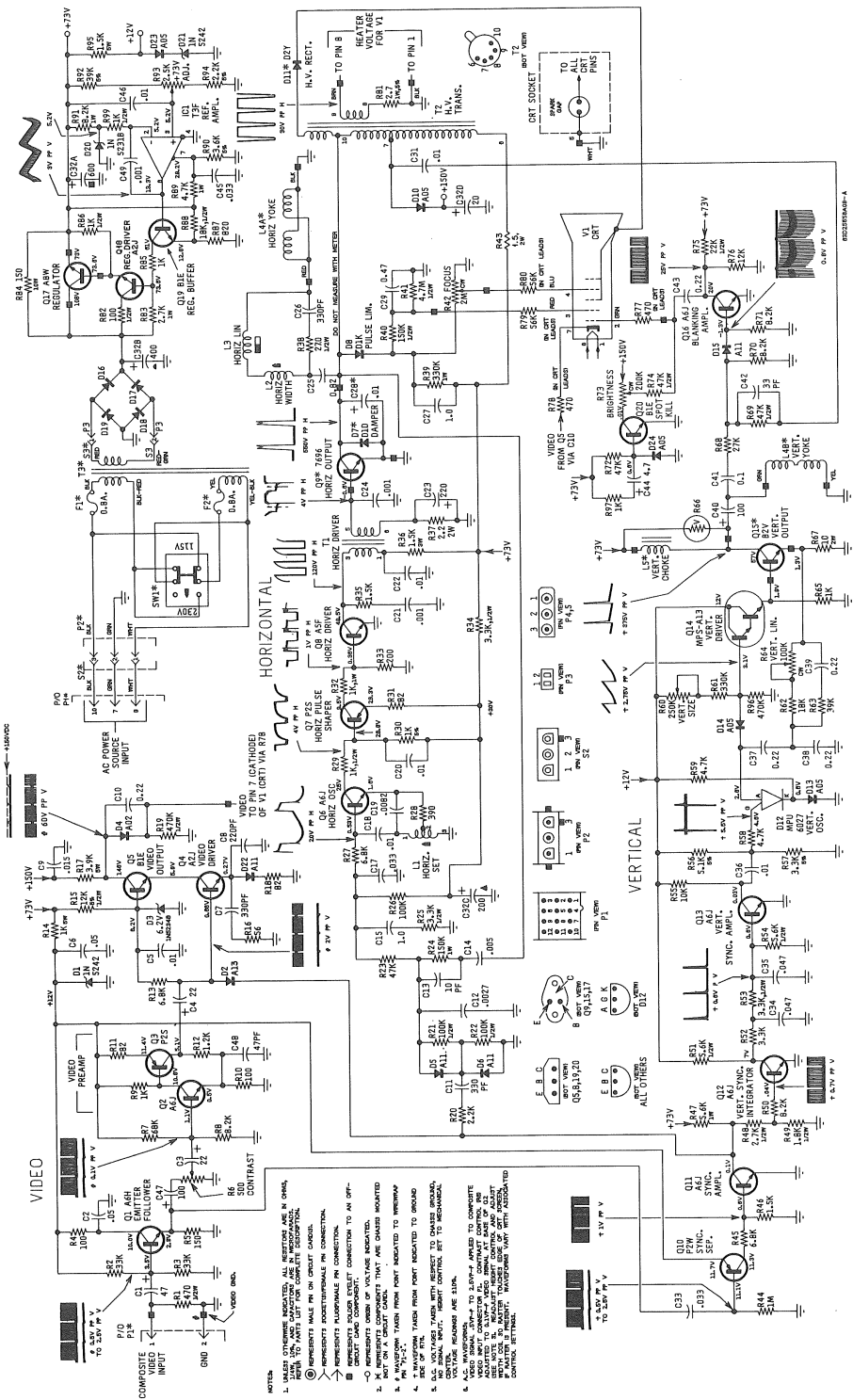






POWER SUPPLY

VIDEO



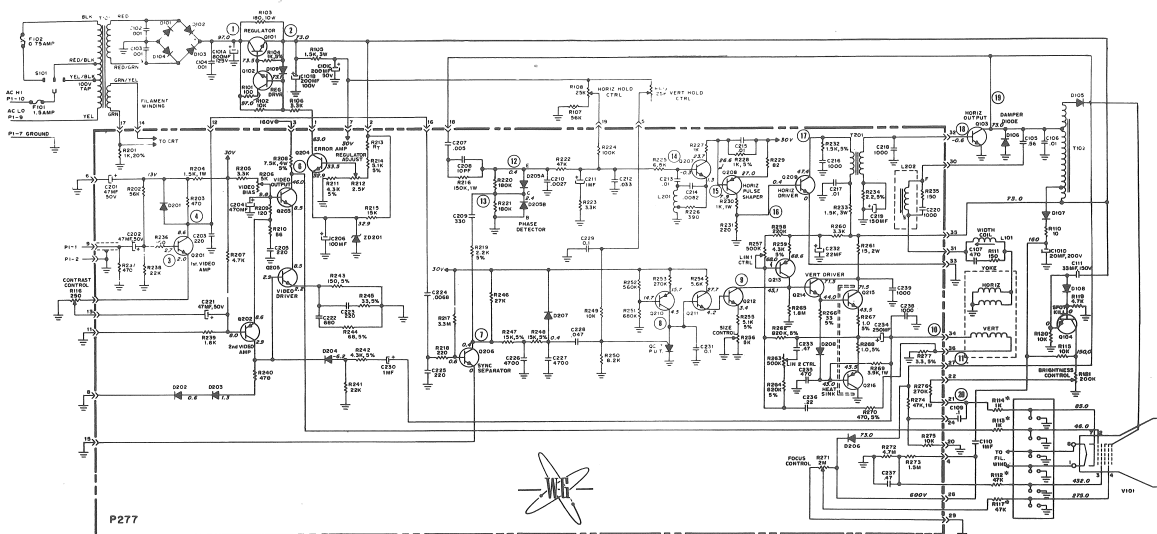
- NOTES
1. UNLESS OTHERWISE INDICATED, ALL RESISTORS ARE IN OHMS.
  2. CAPACITORS ARE IN MICROFARADS UNLESS OTHERWISE INDICATED.
  3. RESISTORS ARE IN OHMS UNLESS OTHERWISE INDICATED.
  4. CAPACITORS ARE IN MICROFARADS UNLESS OTHERWISE INDICATED.
  5. ALL VOLTAGE VALUES WITH RESPECT TO CHASSIS UNLESS OTHERWISE INDICATED.
  6. ALL VOLTAGE VALUES WITH RESPECT TO CHASSIS UNLESS OTHERWISE INDICATED.
  7. ALL VOLTAGE VALUES WITH RESPECT TO CHASSIS UNLESS OTHERWISE INDICATED.
  8. ALL VOLTAGE VALUES WITH RESPECT TO CHASSIS UNLESS OTHERWISE INDICATED.
  9. ALL VOLTAGE VALUES WITH RESPECT TO CHASSIS UNLESS OTHERWISE INDICATED.
  10. ALL VOLTAGE VALUES WITH RESPECT TO CHASSIS UNLESS OTHERWISE INDICATED.

M5000-155, M7000-155 - Diagram Schematic

# NOTES

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This space is provided for personal notes



NOTES:

1. VOLTAGE MAY VARY WITH CONTROL SETTINGS.
2. LINE VOLTAGE MEASUREMENTS BY DIRECT MEASUREMENT.
3. ALL D.C. VOLTAGES 100% MEASURED FROM FRONT REQUIREMENTS CHASSIS WITH HIGH RESISTANCE METER WITH NO SIGNAL INPUT. CONTRAST AND BRIGHTNESS CONTROL BY MEANS FROM ALL OTHER CONTROLS IN NORMAL OPERATING POSITION.
4. CIRCLE INTERNAL NUMBER INDICATES WAVEFORM OF WAVE FORM MEASUREMENT.

**WELLS - GARDNER ELECTRONICS**

CORPORATION

2701 N. KILDARE AVE. • CHICAGO, ILL. 60619 • ALBANY 2-8320

TELEX 22-3820

NOTES:

1. ISOLATES RESISTORS LOCATED IN PICTURE TUBE LENS ASSEMBLY.
2. RESISTANCE VALUE IS IN OHMS, UNLESS OTHERWISE NOTED. IN OHMS IN CIRCLES.
3. CAPACITANCE VALUE OF 1 OR LESS ARE IN MICROFARADS, ABOVE 1 IN MICROFARADS UNLESS OTHERWISE NOTED.

MODEL No.  
W1001-5734

# REPLACEMENT PARTS LIST

## CHASSIS PARTS

### CAPACITORS

|                   |              |  |
|-------------------|--------------|--|
| C101A,<br>B, C, D | 45X0558-001  | 800 $\mu$ F/125V, 200 $\mu$ F/100V<br>200 $\mu$ F/50V, 20 $\mu$ F/200V<br>Electrolytic |
| C102, 103<br>104  | 80X0001-000  | .001 $\mu$ F, GMV Z5U Cer. Disc.   |
| ★C105             | 342X5642-049 | .56 $\mu$ F, 400V, 10% Polypropylene   |
| ★C106             | 46X0536-001  | .01 $\mu$ F, 1200V, 5% Polypropylene   |
| C107              | 80X0099-006  | 470 pF, Z5F, 10%   |
| C109              | 342X1044-040 | 0.1 $\mu$ F, 400V, 20% Mylar   |
| ★C110             | 46X0540-002  | 1.0 $\mu$ F, 630V, 10% Polyester Film  |
| C111              | 45X0515-032  | 33 $\mu$ 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,<br>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 | 1.5k 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<br>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 Amperex BA148              |
| D108, 109             | 66X0046-001 | Diode, Silicon FDH444                  |
| ★Q101                 | 86X0117-001 | Transistor (NPN) 2N5632 Regulator      |
| Q102                  | 86X0071-001 | Transistor (NPN) Reg. Driver<br>MPSA06 |
| ★Q103                 | 86X0118-001 | Transistor (NPN) BU207 Hor.<br>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  |
| ★F102 | 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    |             |                             |
| ★V101 | 22VATP4     | CRT (22V1001)               |

★ Product Safety Device

# REPLACEMENT PARTS LIST P277 CIRCUIT BOARD ASSY.

## CAPACITORS

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

★ Product Safety Device

## 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 | 1.8M 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. |
|-------------|------------------------------|