

PRELIMINARY OWNER/OPERATOR'S MANUAL

GAPLUS

PRELIMINARY

Bally

MIDWAY MFG. CO.

10601 W Belmont Avenue
Franklin Park, Illinois 60131
U.S.A.



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

PRELIMINARY INSTRUCTIONS
FOR
GAPLUS

INSTALLATION

1. Unlock and 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. Close and lock the rear access door and plug the game into a **standard** A.C. wall outlet **ONLY**.

| |
|---|
| ----- WARNING ----- Game MUST be properly grounded. |
|---|

LINE VOLTAGE SAFETY INTERLOCK SWITCHES

Line voltage SAFETY INTERLOCK SWITCHES have been provided for your protection. The locations of these SAFETY INTERLOCK SWITCHES are:

1. UPRIGHT MODEL: Inside the rear of the cabinet at the side of the rear access door.

When the cabinet access door(s) are secured in place, the SAFETY INTERLOCK SWITCH plunger(s) are in a fully depressed condition. The game circuit can function normally.

When any cabinet access door(s) are opened, the SAFETY INTERLOCK SWITCH plunger(s) are in a partially extended condition. This isolates the game circuit from the line voltage.

To restore power to the game circuit with the access door(s) open, gently pull the SAFETY INTERLOCK SWITCH plunger(s) out to the fully extended condition. **THIS IS TO BE USED FOR SERVICING THE GAME ONLY!**

SELF-TEST

A slide switch is provided to make the game run a "Self-Test" on itself. The SELF-TEST SWITCH is located on a mounting bracket just inside the coin door opening.

When in the Self-Test mode, the monitor screen will display the results of certain test functions it has run on itself.

TO SERVICE THE CONTROL PANEL

1. UPRIGHT MODEL:

- ° The control panel is held in place by three latches, one on the left side, one on the right side, and one in the center of the front of the cabinet.

They are spring loaded to provide constant positive pressure on their latch plates.

They can be reached through the coin door AFTER turning power to the game off.

To release the latches, lift up and toward the center of the control panel.

Once they are released, unhook them from their latch plates.

- ° To remove the control panel:

Cradling the control panel between yourself and the cabinet, disconnect it from its cabling and any miscellaneous hardware.

The control panel is now free and can be removed.

- ° To reinstall the control panel, reverse this procedure.

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

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 lifted up.
- ° By putting your finger in the hole in the middle of the main-display-glass support, you can lift it up and out.
- ° Loosen the screws which secure the T.V. bezel-glass-clamps in place.
Move the clamps to the side and the bezel glass may be removed.
Remove the bezel securing screws and the bezel with four bezel-glass-clamps may be removed.
- ° To reinstall the T.V. bezel assembly and the main-display-glass, reverse this procedure.

VOLUME CONTROL POT

The volume control pot is located on the games Logic P.C. Board in the back of the game cabinet. For adjustment, it may be reached through the games rear access door.

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

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

CAUTION

- Be sure to check the PC Board for any foreign particles i.e. dust, etc.. Foreign particles on the PC Board are one of the main causes of the PC Board malfunctions.
- When in doubt as to the cause of any particular problem, **ALWAYS** take the PC Board to your distributor for repair. DO NOT attempt to repair the PC Board yourself by using a volt-ohm meter or other testing equipment.
- When transporting the PC Board, be sure to pack the board carefully with air caps, sponge or other packing materials.

PC BOARD

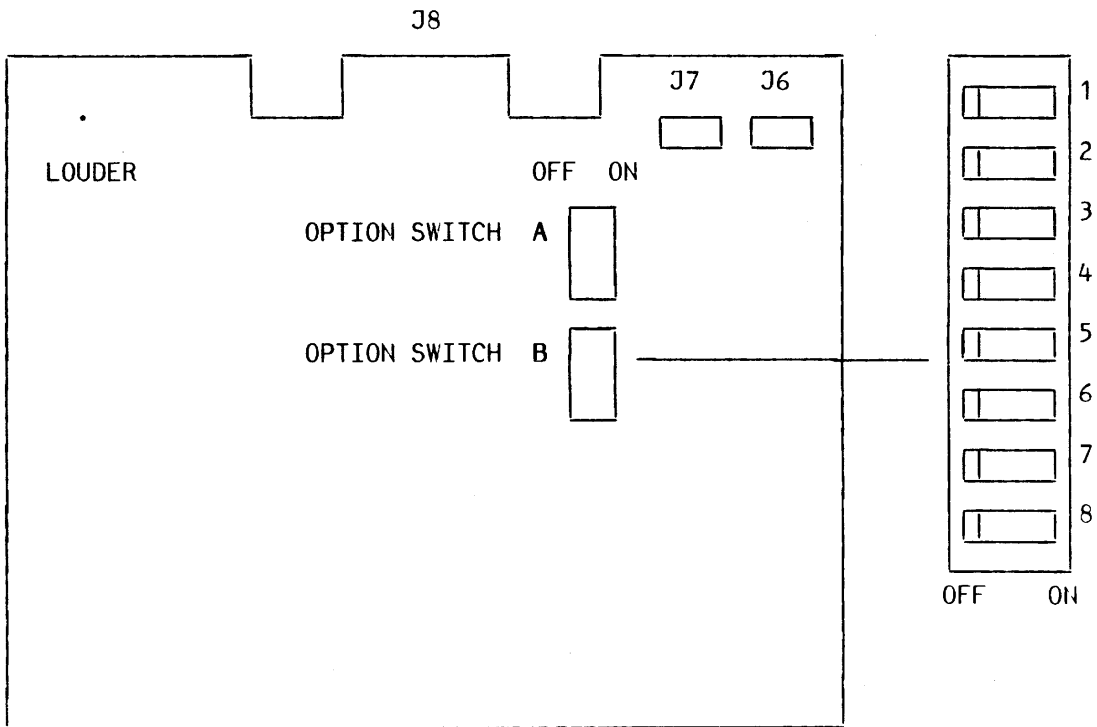
- Option Switches:

The game fee, bonus points, etc. are operator-adjustable. See the Option Switch Settings Table.

To perform the Self-Test, use the test switch located on the bracket just inside your games coin door.

- Volume:

Adjust the game volume as desired. **DO NOT** place any unnecessary pressure on the volume control knob.



SELF-TEST

The Self-Test mode is a special mode for checking game switches and computer functions. It is the easiest and best way to check for proper operation of the entire game.

You may begin a Self-Test at any time after the power to the game is on by sliding the Self-Test switch to the "ON" position. Now that the game is in the Self-Test mode, it will act as follows:

- ° The Self Test will take about five (5) seconds to perform. The following check list will appear on the screen.

| | |
|--|-----|
| RAM OK _____ | A. |
| ROM OK _____ | B. |
| I/O OK _____ | C. |
| 1ST 1 COIN 1 CREDIT _____(COIN 1)_____ | D.* |
| 2ND 1 COIN 1 CREDIT _____(COIN 2)_____ | D.* |
| MYSHIP 3 _____ | E.* |
| RANK 0 _____ | F. |
| UPRIGHT _____ | G. |
| SOUND 00 _____ | H. |
| 1ST BONUS 50000 PTS _____ | I.* |
| 2ND BONUS 150000 PTS _____ | I.* |
| EVERY BONUS 150000 PTS _____ | I.* |

- A. RAM Test: If "OK" appears, RAM is normal.
- B. ROM Test: If "OK" appears, ROM is normal.
- C. I/O Test: If "OK" appears, I/O is normal.
- D. Game Fee Indicator: If 1 coin/1 game appears, the game fee is normal.
- E. Number of Fighters: If "3" appears, the number of Fighters is normal.
- F. Rank: If "0" appears, rank is normal.
- G. Table Specification: If "TABLE" appears for the Cocktail Table model and for the Upright Model, "UPRIGHT" appears, model specification is normal.
- H. Sound Test: A sound should appear when the control lever, firing button and the start button is pushed.
- I. Bonus Points: This game has been set for the first 50,000 points, then 150,000 points and for every 150,000 points thereafter.

* By using the OPTION SWITCH; "D", "E", and "I" are operator-adjustable.

When finished with the Self-Test mode, slide the Self-Test switch back to the "OFF" position and normal game functions will now return to the monitor screen.

CROSS HATCH PATTERN

Turn "ON" the Self-Test switch, push the Service button, and a cross hatch pattern will appear. Push the button one more time and the Self-Test mode will appear. Use this pattern when making adjustments to the monitor.

ADJUSTING GAME FEE, BONUS POINTS, ETC.

This is accomplished by using the various switches located on the games Logic P.C. Board. See the OPTION SWITCH SETTINGS tables and switch location information in this instruction sheet.

Turn the power switch "OFF" and then proceed to set the Option Switches.

After setting the option switches, again perform the Self-Test.

The settings of these switches are only read by the game on "POWER-UP".

| <u>G A P L U S</u> | | | | | | | | | | | | |
|---|--------------------------|----------|---|---------|-------------|-------------|-------------|-------------|-------------|--------------------------|-------------|-------------|
| <u>OPTION SWITCH SETTINGS - DIP SWITCH "A"</u> | | | | | | | | | | | | |
| //////////////////////////////////////VARIOUS GAME PLAY OPTIONS////////////////////////////////////// | | | | | | | | | | | | |
| NUMBER OF FIGHTERS GAME BEGINS WITH | | | | | <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> |
| * | 3 | FIGHTERS | | | OFF | OFF | | | | NOT | | |
| | 2 | FIGHTERS | | | OFF | ON | | | | USED | | |
| | 4 | FIGHTERS | | | ON | OFF | | | | OFF | | |
| | 5 | FIGHTERS | | | ON | ON | | | | OFF | | |
| COIN #1 - NUMBER OF COINS PER CREDIT | | | | | <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> |
| * | 1 | COIN | 1 | CREDIT | | | OFF | OFF | | OFF | | |
| | 1 | COIN | 2 | CREDITS | | | OFF | ON | | OFF | | |
| | 2 | COINS | 1 | CREDIT | | | ON | OFF | | OFF | | |
| | 3 | COINS | 1 | CREDIT | | | ON | ON | | OFF | | |
| SOUND | | | | | <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> |
| * | SOUND IN ATTRACT MODE | | | | | | | | | OFF | OFF | |
| | NO SOUND IN ATTRACT MODE | | | | | | | | | ON | OFF | |
| COIN #2 - NUMBER OF COINS PER CREDIT | | | | | <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> |
| * | 1 | COIN | 1 | CREDIT | | | | | | OFF | OFF | OFF |
| | 1 | COIN | 2 | CREDITS | | | | | | OFF | OFF | ON |
| | 2 | COINS | 1 | CREDIT | | | | | | OFF | ON | OFF |
| | 3 | COINS | 1 | CREDIT | | | | | | OFF | ON | ON |
| * INDICATES FACTORY RECOMMENDED SETTINGS | | | | | | | | | | PART NO. M051-00A87-B007 | | |

| G A P L U S | | | | | | | | | | | | |
|--|---|--|--|-------------|-------------|-------------|-------------|-------------|--------------------------|-------------|-------------|--|
| OPTION SWITCH SETTINGS - DIP SWITCH "B" | | | | | | | | | | | | |
| //////////////////////////////////////VARIOUS GAME PLAY OPTIONS////////////////////////////////////// | | | | | | | | | | | | |
| SELF-TEST MODE | | | | <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> | |
| * | NORMAL TEST | | | OFF ON | | | | | | | | |
| "RANK" = DIFFICULTY LEVEL OF 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> | |
| EASIEST LEVEL OF PLAY 1 <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> PROGRESSIVELY MORE DIFFICULT LEVELS OF PLAY </div> <div style="width: 45%; text-align: center;"> * 0 STANDARD LEVEL OF PLAY 2 3 4 5 6 7 </div> </div> | | | | OFF | OFF | ON | | | | | | |
| | | | | OFF | OFF | OFF | | | | | | |
| | | | | OFF | ON | OFF | | | | | | |
| | | | | OFF | ON | ON | | | | | | |
| | | | | ON | OFF | OFF | | | | | | |
| | | | | ON | OFF | ON | | | | | | |
| | | | | ON | ON | OFF | | | | | | |
| | | | | ON | ON | ON | | | | | | |
| ** | ROUND ADVANCE | | | <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> | |
| * | NORMAL ADVANCE | | | OFF ON | | | | | | | | |
| BONUS SHIPS AWARDED AT: | | | | <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> | |
| 1st @ 100,000; 2nd @ 300,000 & every 600,000 | | | | OFF OFF OFF | | | | | | | | |
| 1st @ 150,000; 2nd @ 400,000 | | | | OFF OFF ON | | | | | | | | |
| 1st @ 150,000; 2nd @ 400,000 & every 900,000 | | | | OFF ON OFF | | | | | | | | |
| 1st @ 100,000; 2nd @ 300,000 & every 300,000 | | | | OFF ON ON | | | | | | | | |
| 1st @ 50,000; 2nd @ 200,000 & every 300,000 | | | | ON OFF OFF | | | | | | | | |
| 1st @ 50,000; 2nd @ 150,000 & every 600,000 | | | | ON OFF ON | | | | | | | | |
| 1st @ 50,000; 2nd @ 150,000 & every 300,000 | | | | ON ON OFF | | | | | | | | |
| * | 1st @ 30,000; 2nd @ 150,000 & every 600,000 | | | ON ON ON | | | | | | | | |
| ** BY TURNING "ON" THE OPTION SWITCH WHILE "PARSEC" IS BEING INDICATED ON THE SCREEN, YOU CAN ADVANCE THROUGH THE "ROUNDS". PUSH THE ONE PLAYER CONTROL LEVER FORWARD (PLAYER NUMBER ONE UP SWITCH IS "ON") TO INDICATE THE NUMBER. THE INDICATED ROUND NUMBER WILL APPEAR ON THE MONITOR SCREEN WHEN THE OPTION SWITCH IS TURNED "OFF". | | | | | | | | | | | | |
| * INDICATES FACTORY RECOMMENDED SETTINGS | | | | | | | | | PART NO. M051-00A87-B007 | | | |

THIS TAG TO BE TYPESET AND REPRODUCED IN BLACK INK ON HEAVY WHITE 8" x 11" CARD STOCK

TOLERANCE = ± 1/2"

GAME PLAY

With the eight-way joystick, maneuver your fighter and fire your missiles using the firing button to shoot down "GAPLUS".

"GAPLUS" comes in different varieties. Depending upon the variety and the flight pattern, the number of points received will vary. Also, when "GAPLUS" is in formation, the number of points received will vary. The following indicates the number of points each "GAPLUS" is worth at different times.

| | When in Formation | When Attacking |
|------------------|-------------------|----------------|
| (a) Queen Gaplus | 100 | 400 |
| (b) Ad Gaplus | 100 | 400 |
| (c) Cap Gaplus | 100 | 300 |
| (d) Lute Gaplus | 100 | 200 |
| (e) Zako Gaplus | 100 | 100 |

Destroy all "GAPLUSES" and the round will clear. The "QUEEN GAPLUS" possesses the BLASTER HEAD. When the QUEEN GAPLUS is shot down, the Blaster Head will connect onto the player's fighter enabling it to power up!!!

° PHALANX ATTACK:

The tractor beam will swallow up the enemy and reform them to the good side as your fighter's ally. Result...multi-missile attacking capability.

° HYPER ATTACK:

Moving at lightening speed, the player's fighter will fire off missiles in the multiples of two.

° CYCLONE ATTACK:

The cyclone beam will draw in the enemy and smash them apart!!! Points received will double each time, 200, 400,... 6,400!

When throwing off his beam, the player's fighter can only move right and left. Also, when the Blaster Head is mounted onto the fighter's plane, he will become invincible.

When the Blaster Head is connected onto the Queen Gaplus and it is hit once, the Queen will change colors. You must hit it one more time to destroy the Queen.

Challenging Stage:

- ° The Challenging Stages are in Rounds 3, 8, 13, 18, During this stage, the enemy will continually fly about the screen. At the top of the screen, Gaplus will form a letter or a bar across the screen. When all the Gapluses leave the screen, the following bonus points are given.
- ° The number of Gapluses to form a letter x 100
- ° The number of Gapluses to form a bar x 200

Also, if the letters are completed, the following

- ° "B O N U S" --- Bonus points of 10,000
- ° "G A P L U S" --- Bonus points of 0 - 5,000
(Push the firing button to stop the rotating number located under your total score and then your grand total will appear.)
- ° "D O U B L E" --- Bonus points will double.
- ° "T R I P L E" --- Bonus points will triple.

Star Flash:

- ° A flash will appear on the screen and at the same time a star will appear attacking the player's fighter. When the star approaches the fighter, it will split up into four parts. The fighter must fire his missiles at all four parts.

"Bean Curd" (Tofu) Attack:

- ° When Gaplus peels off from the formation and is hit, his ghost (looking like a Bean Curd) will fall from the sky. The fighter must shoot it down.

If the player's fighter is touched by: Gaplus, missiles, star flash or the bean curd; it is a miss. The Blaster Head will disintegrate when a miss is made.

During the Phalanx Attack when Gaplus has become the fighter's ally, if Gaplus is touched by a missile or bean curd it is not a miss.

As bonus points are added up, a bonus ship will be awarded. The Queen Gaplus will bring down parts of the fighter's plane (three in all). When all three are put together, one bonus ship is added on.

The Best players to date can enter their initials on the screen by using the joystick to select a letter and then pushing the FIRE button.

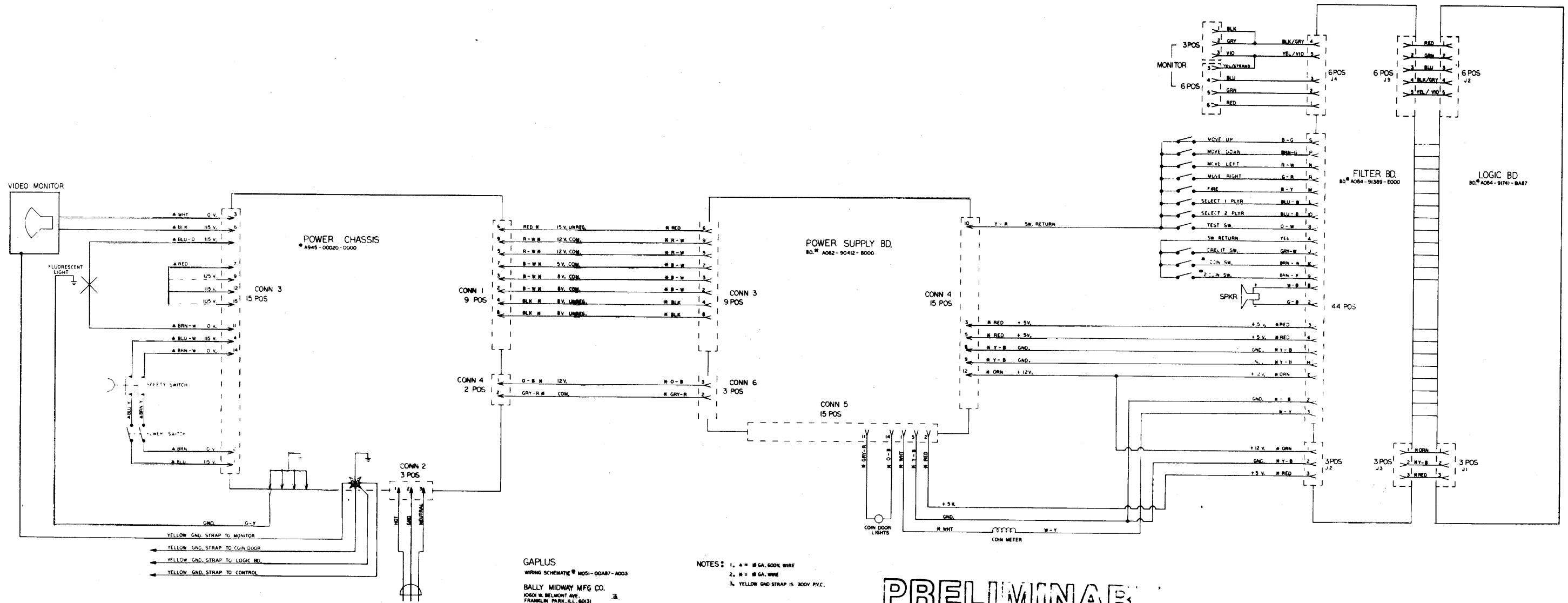
BALLY/MIDWAY'S GAPLUS
U.R. #0A87
PROGRAMED PART NUMBERS

UNPROGRAMED LOGIC BD. A082-91741-BA87
PROGRAMED GAPLUS LOGIC BD. A084-91741-BA87

| POS. | MIDWAY PART NUMBER |
|-------------|---------------------------|
| 8N | 0A87-00803-0003 |
| 3E | 0A87-00803-0004 |
| 3F | 0A87-00803-0005 |
| 1D | 0A87-00803-0006 |
| 2D | 0A87-00803-0007 |
| 1C | 0A87-00803-0008 |
| 4F | 0A87-00803-0009 |
| 8G | 0A87-00803-0010 |
| 7B0 | 0A87-00803-0011 |
| 9C1 | 0A87-00803-0012 |
| 9D2 | 0A87-00803-0013 |
| 9E3 | 0A87-00803-0014 |
| 9L4 | 0A87-00803-0015 |
| 6N5 | 0A87-00803-0016 |
| 6M6 | 0A87-00803-0017 |
| 6L | 0A87-00803-0018 |
| 5N | 0A87-00803-0019 |
| 5L | 0A87-00803-0020 |
| 5M | 0A87-00803-0021 |
| 5K | 0A87-00803-0022 |

PRELIMINARY

| | | |
|---------|------------------------|--|
| | | |
| 6/29/84 | RELEASE FOR PRODUCTION | |



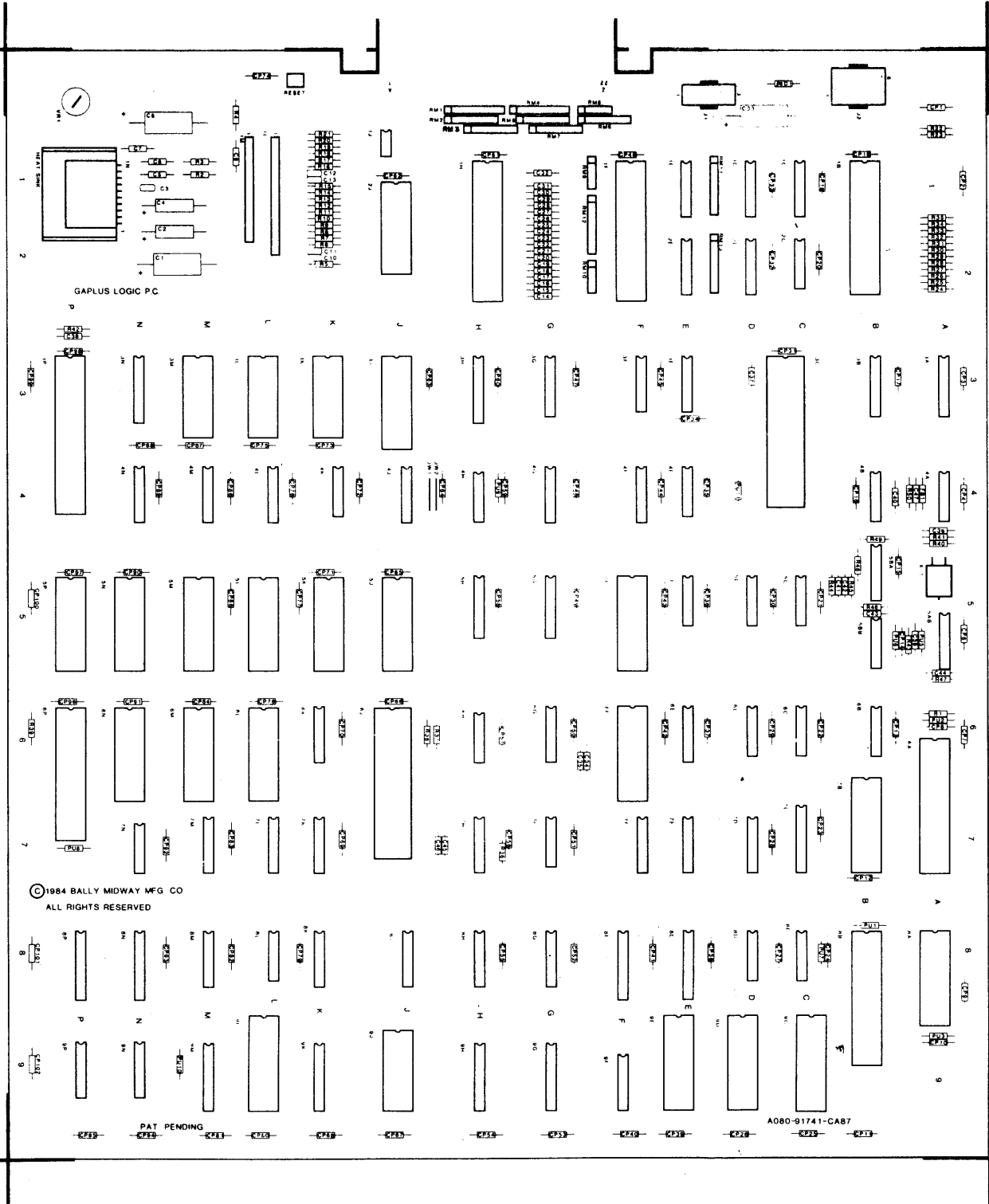
GAPLUS
 WIRING SCHEMATIC # M051-00A87-0003
 BALLY MIDWAY MFG CO.
 10601 N. BELMONT AVE.
 FRANKLIN PARK, ILL. 60131

NOTES: 1. #14 - 18 GA. 600K WIRE
 2. #16 - 18 GA. WIRE
 3. YELLOW GND STRAP IS 300V PVC.

PRELIMINARY

DESIGNATION LIST

Table with 4 columns: DESIGNATION NO., DESCRIPTION, DESIGNATION NO., DESCRIPTION. Lists various components like resistors, capacitors, ICs, and sockets with their respective designations and descriptions.



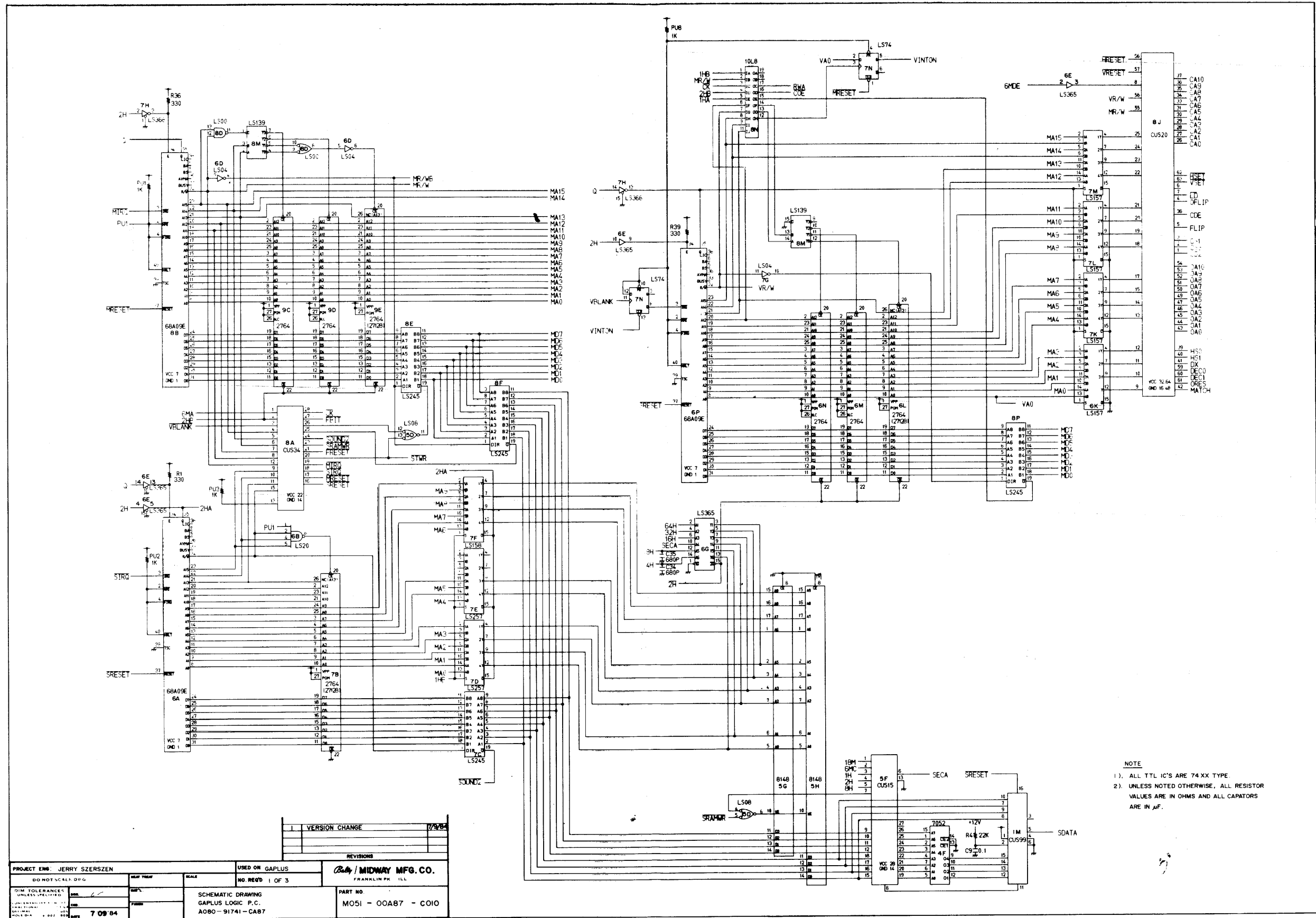
CROSS REFERENCE LIST

Table with 4 columns: DESCRIPTION, QTY, DESIGNATION NO., PART NUMBER. Provides a cross-reference between the component descriptions in the Designation List and the specific part numbers used in the assembly.

© 1984 BALLY MIDWAY MFG CO
ALL RIGHTS RESERVED

PAT PENDING
A080-91741-CAB7

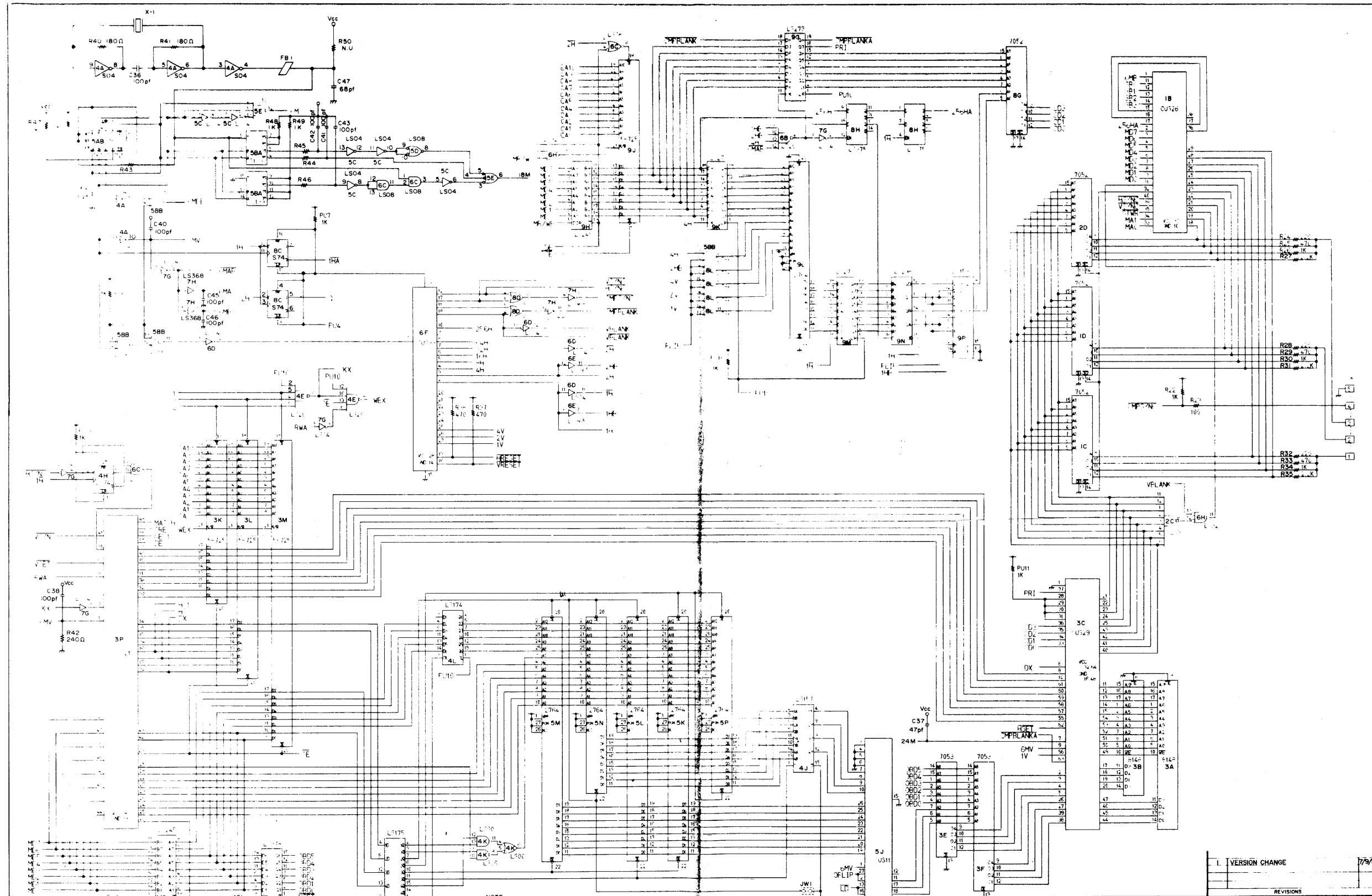
Technical drawing information block including: DIM TOLERANCES (UNLESS OTHERWISE SPECIFIED), GAPTUS logo, date 7/10/84, Bally MIDWAY MFG CO logo, drawing title ASS'Y DRAWING GAPLUS LOGIC P.C., A084-91741-CAB7, and revision information (PART NO. M051-00A87-C009).



NOTE
 1). ALL TTL IC'S ARE 74 XX TYPE.
 2). UNLESS NOTED OTHERWISE, ALL RESISTOR VALUES ARE IN OHMS AND ALL CAPACITOR VALUES ARE IN μ F.

| VERSION CHANGE | | REVISIONS | |
|----------------|--|-----------|--------|
| 1 | | | 7/9/84 |

| | | | |
|-----------------------------|---|---|--|
| PROJECT ENG: JERRY SZERSZEN | USED ON GAPLUS | Midway MFG. CO. FRANKLIN, PA. U.S.A. | |
| DO NOT SCALE DRAWING | NO. REV'D 1 OF 3 | PART NO. MO51 - 00A87 - CO10 | |
| DATE: 7 09 84 | SCHEMATIC DRAWING GAPLUS LOGIC P.C. A080 - 91741 - CAB7 | | |

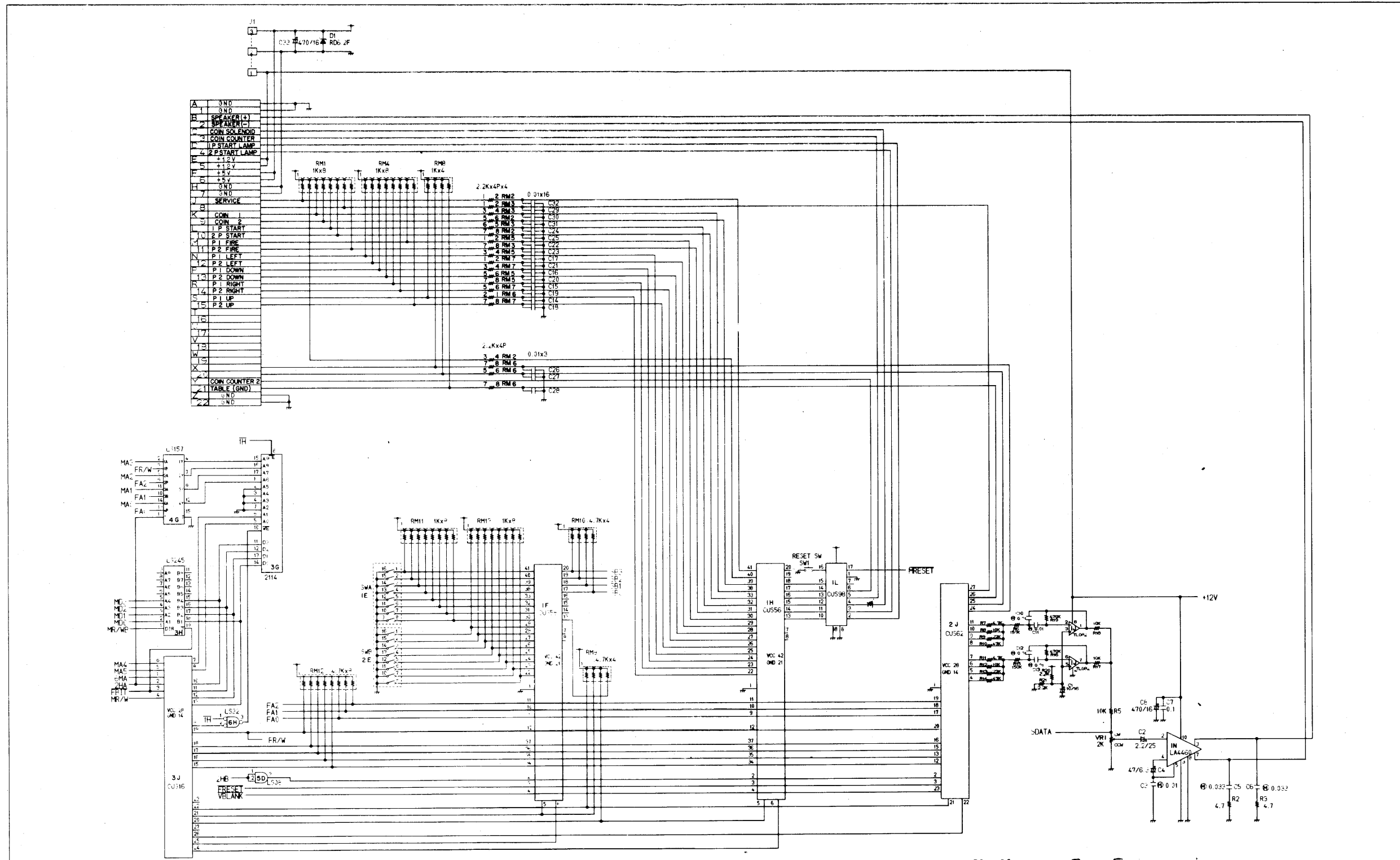


NOTE
 1) WHEN ROM LOCATION 5P IS USED, JW1 IS OMITTED JW2 MUST BE JUMPED.
 2) ALL TTL IC'S ARE 74XX TYPE.
 3) UNLESS NOTED OTHERWISE, ALL RESISTOR VALUES ARE IN OHMS AND ALL CAPATORS ARE IN μ F.

| | | | | |
|---|--------------|-----------------|----------------------------|-----------|
| PROJECT ENG JERRY SZERSZEN | | USED ON GAPLUS | | REVISIONS |
| DO NOT SCALE DRAWING | DATE 7/08/84 | NO REQ'D 2 OF 3 | | |
| Schematic Drawing GAPLUS LOGIC P.C. AO80-91741-CAB7 | | | PART NO M051-00A87-CO10 | |

1. VERSION CHANGE 7/9/84

Relco / MIDWAY MFG. CO.



- NOTE
- 1) ALL TTL IC'S ARE 74XX TYPE.
 - 2) UNLESS NOTED OTHERWISE, ALL RESISTOR VALUES ARE IN OHMS AND ALL CAPATORS ARE IN μ F.
 - 3) $\text{\textcircled{M}}$ DENOTES POLYESTER FILM CAP.

PRELIMINARY

| VERSION | CHANGE | DATE |
|---------|--------|--------|
| 1 | | 7/9/84 |

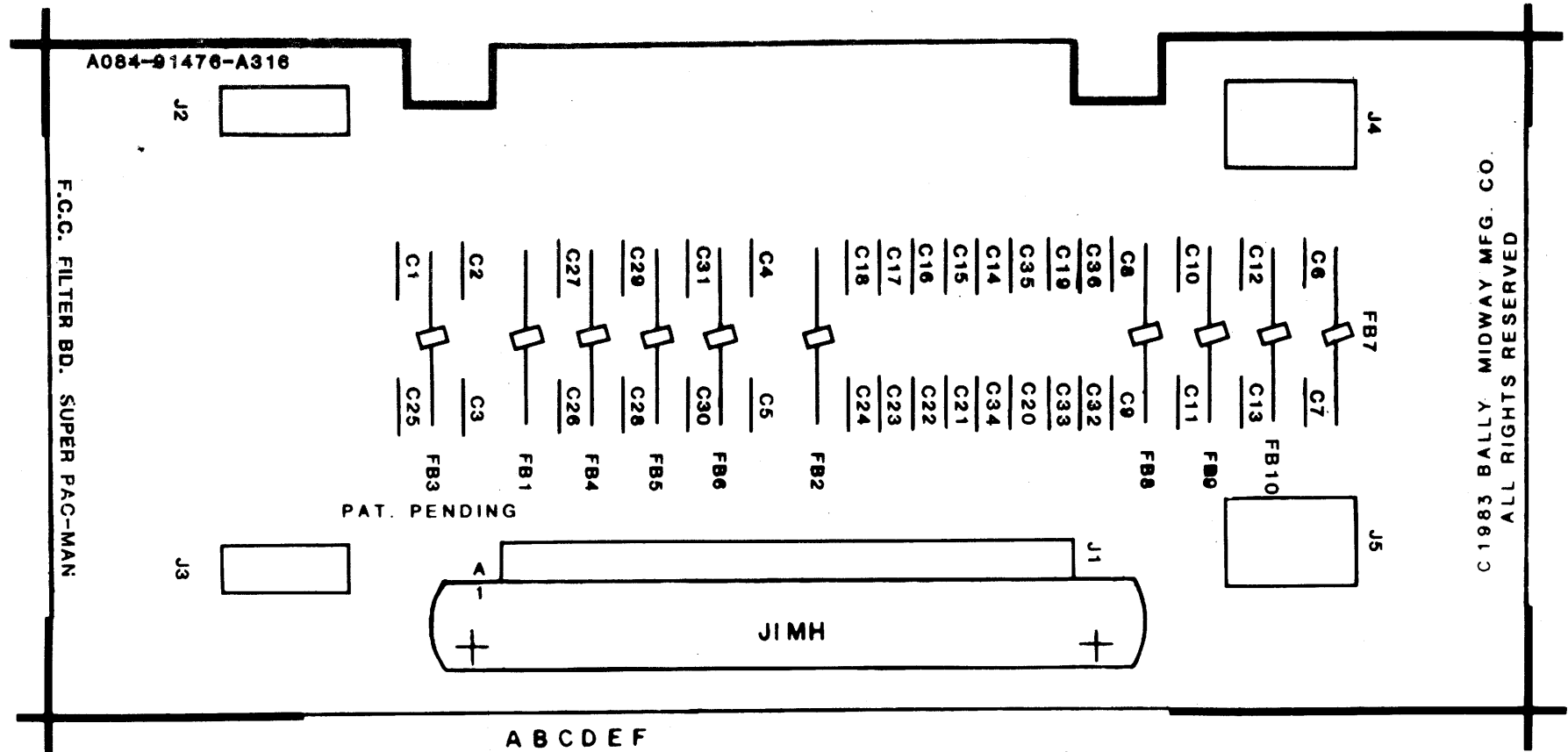
| | | | |
|---------------------------------|-------|-------------------|---------------------|
| PROJECT ENG: JERRY SZERSZEN | SCALE | USED ON GAPLUS | REVISIONS |
| DO NOT SCALE DVP | | NO REQ'D 3 OF 3 | |
| DWG TOLERANCES UNLESS SPECIFIED | | | |
| DATE: 7/09/84 | | SCHMATIC DRAWING | PART NO |
| | | GAPLUS LOGIC P.C. | M051 - 00A87 - C010 |
| | | A080-91741-CAB7 | |

MIDWAY MFG. CO.

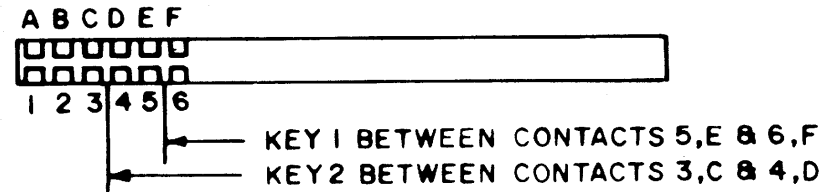
DESIGNATION NO. DESCRIPTION

| | |
|------------|------------------------------|
| C1 - C5 | 390pf 50V. AX. CER. |
| C6, C7 | 470pf " " " |
| C8 - C13 | 100pf " " " |
| C14-C24 | .01µf " " " |
| C25 | 390pf " " " |
| C26-C29 | .01µf " " " |
| C30, C31 | 390pf " " " |
| C32-C36 | .01µf " " " |
| FBI - FBIO | FERRITE BEAD |
| J1 | P.C. EDGE CONN. |
| J2, J3 | 3 PIN HEADER |
| J4, J5 | 6 PIN HEADER |
| JIMH | (2) P.C. EDGE CONN. KEY |
| " | (2) 6-32 X 10 SLOT PAN SCREW |
| " | (2) WSH. 6 145-.250-.032 |
| " | (1) BRKT. - CONN. FIN. |
| - | (1) INSULATED GND. STRAP |
| - | (1) 8-32 X 5 SLOT PAN SCREW |
| - | (1) 8-32 NUT HEX |

A080-91476-A316 F.C.C. FILTER BD. SUPER PAC-MAN



© 1983 BALLY MIDWAY MFG. CO. ALL RIGHTS RESERVED



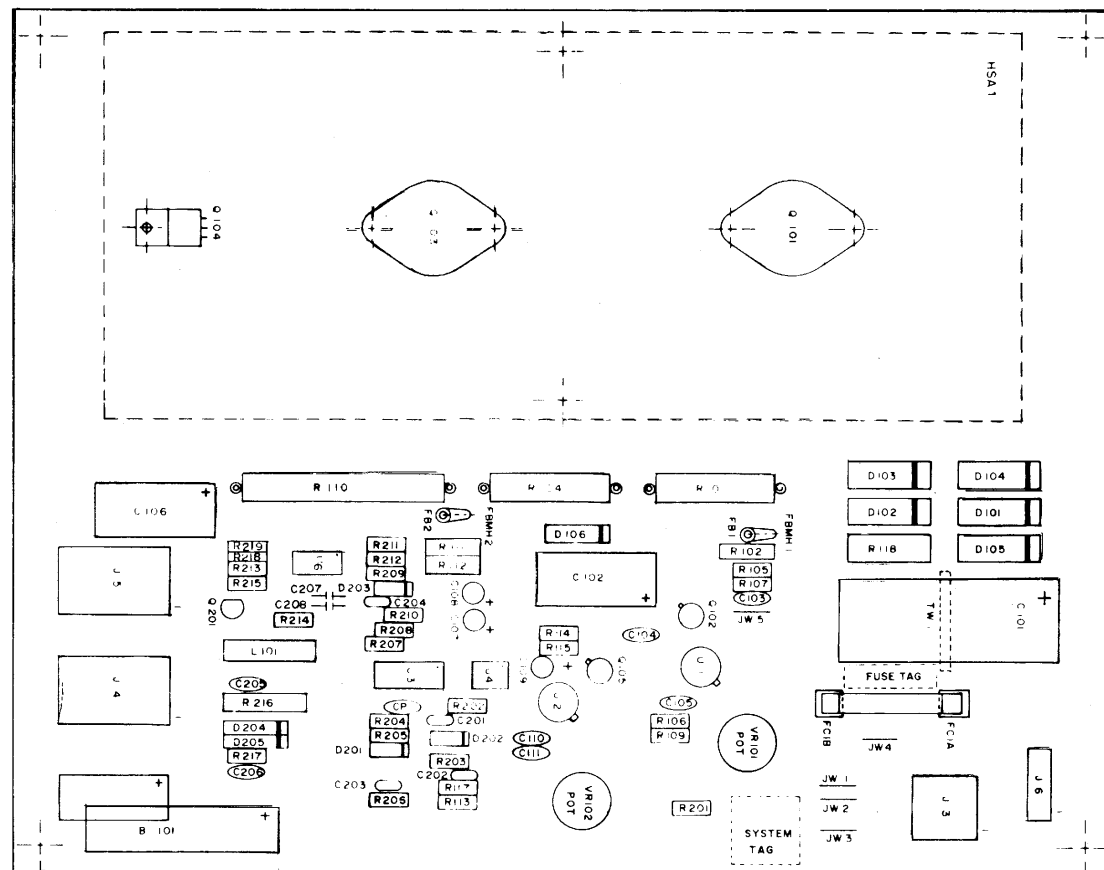
| DESCRIPTION | Q'TY | DESIGNATION NO. | PART NO. |
|--------------------------|------|---------------------------|-----------------|
| 100pf 50V. AX. CER. | 6 | C8 - C13 | 0789-00800-1800 |
| 390pf " " " | 8 | C1 - C5, C25, C30, C31 | 0316-00800-0002 |
| 470pf " " " | 2 | C6, C7 | 0550-00800-0200 |
| .01µf " " " | 20 | C14-C24, C26-C29, C32-C36 | 0550-00800-0300 |
| FERRITE BEAD | 10 | FBI - FBIO | 0316-00804-0002 |
| P.C. EDGE CONN | 1 | J1 | 0017-00021-0418 |
| 3 PIN HEADER | 2 | J2, J3 | 0017-00021-0443 |
| 6 PIN HEADER | 2 | J4, J5 | 0017-00021-0424 |
| P.C. EDGE CONN. KEY | 2 | JIMH | 0017-00021-0396 |
| 6-32 X 10 SLOT PAN SCREW | 2 | " | 0017-00101-0574 |

| DESCRIPTION | Q'TY | DESIGNATION NO. | PART NO. |
|---------------------------------|------|-----------------|-----------------|
| WSH. 6 145-.250-.032 | 2 | JIMH | 0017-00104-0002 |
| BRKT. - CONN. FIN. | 1 | " | 0866 00118-00XF |
| INSULATED GND. STRAP | 1 | - | 3000-17143-0700 |
| 8-32 X 5 SLOT PAN SCREW | 1 | - | 0017-00101-0595 |
| 8-32 NUT HEX | 1 | - | 0017-00103-0008 |
| F.C.C. FILTER BD. SUPER PAC-MAN | 1 | A080-91476-A316 | A080-91476-A316 |

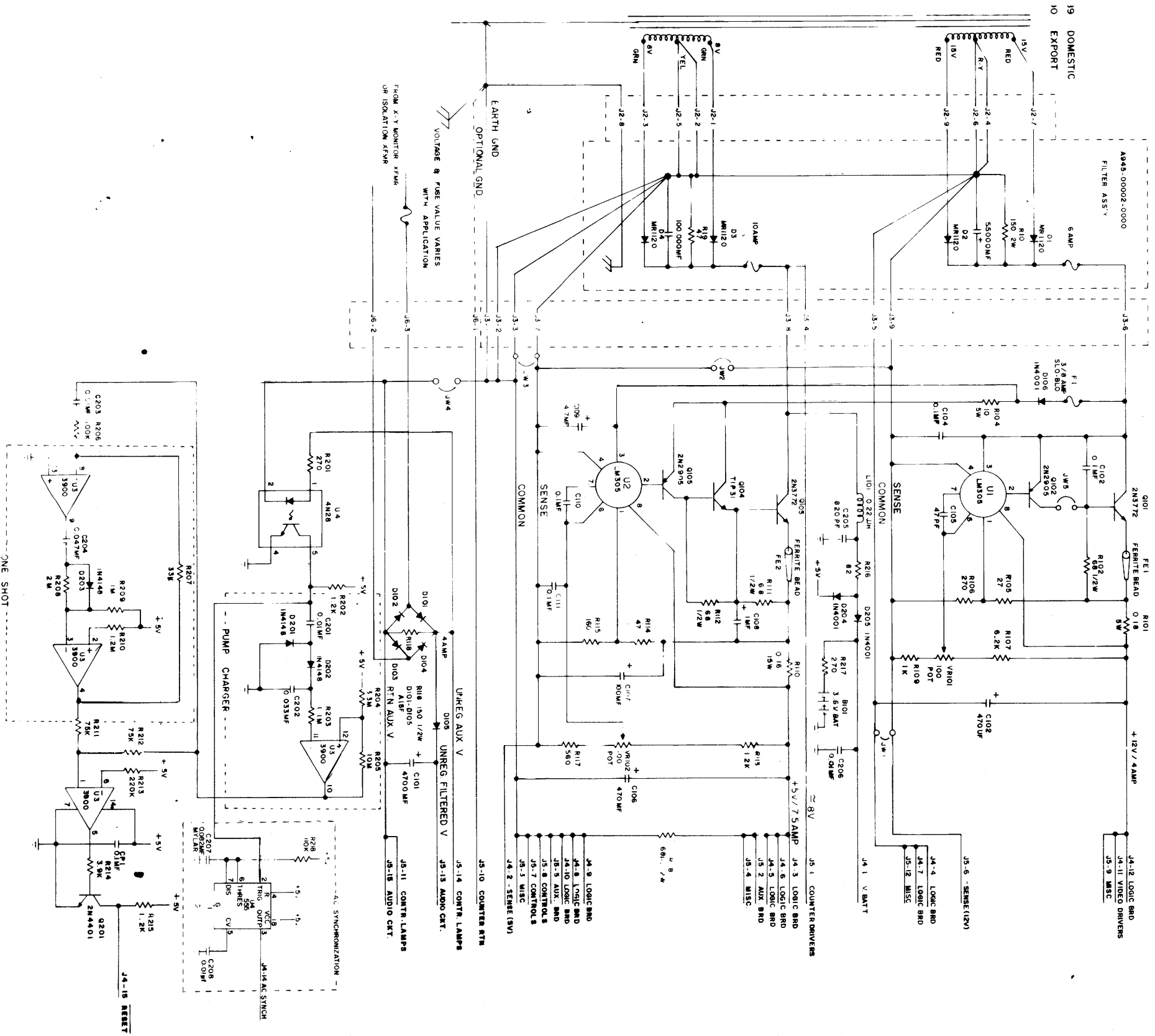
| REVISIONS | |
|-----------|--|
| | |
| | |
| | |

| | | | | | |
|---|--|-------------|--|-------------------------------------|--|
| PROJECT ENG: L. DEKKER | | SCALE: FULL | | BALLY MIDWAY MFG. CO. FRANKLIN, PA. | |
| HEAT TREAT | | MATERIAL | | PART NO | |
| DATE: 02/08/83 | | FINISH | | M051-00316-A026 | |
| ASSEMBLY DRAWING F.C.C. FILTER BD SUPER PAC-MAN A084-91476-A316 | | | | | |

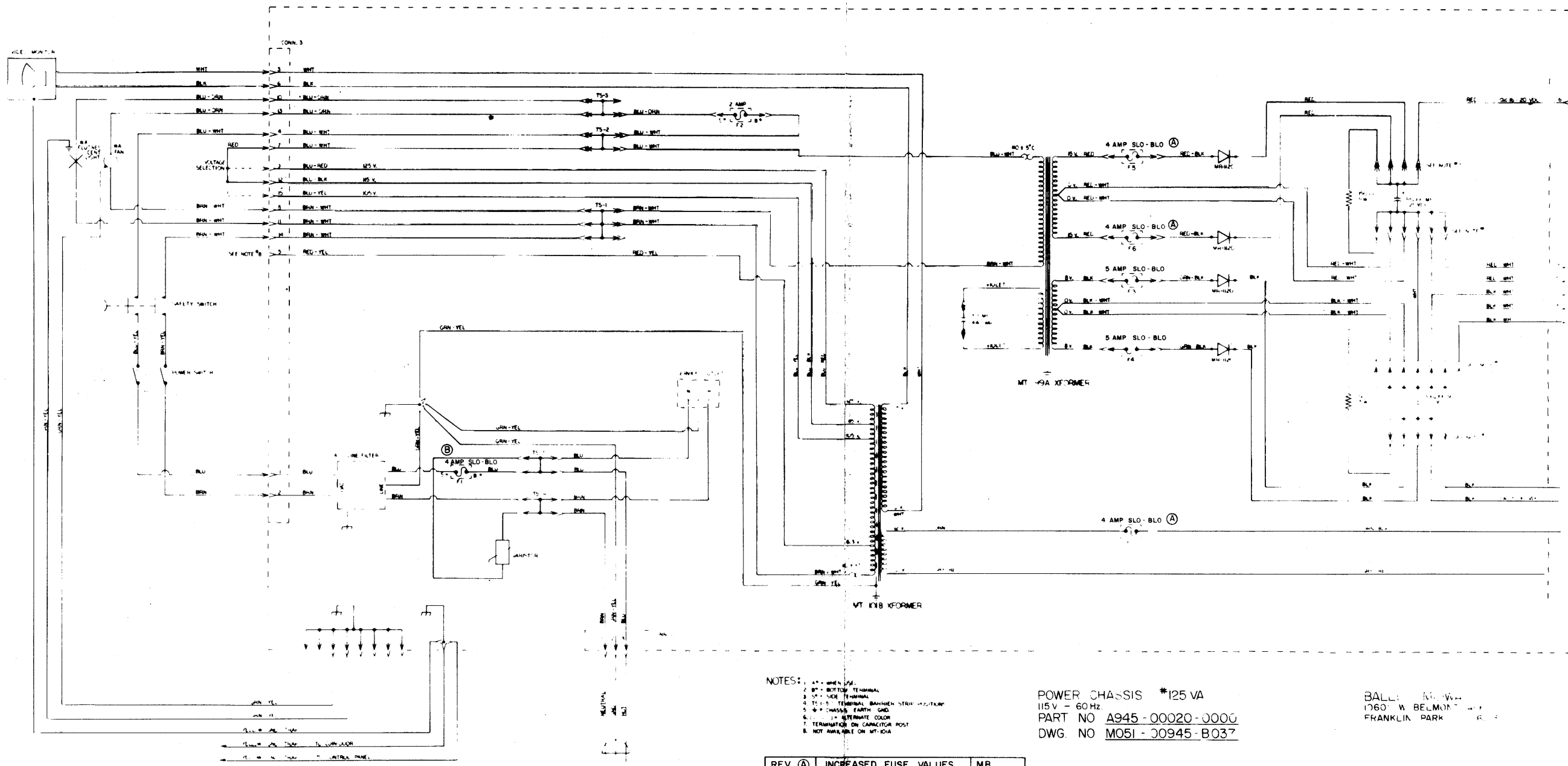
| DESIGNATION # | DESCRIPTION | DESIGNATION # | DESCRIPTION | DESIGNATION # | DESCRIPTION | DESCRIPTION | Q'ty | DESIGNATION # | PART # | DESCRIPTION | Q'ty | DESIGNATION # | PART # |
|---------------|------------------------|---------------|----------------|---------------|--------------------------------|------------------|------|-----------------------|-----------------|----------------------------------|------|---------------|------------------|
| C101 | 4700uf AX. ELECT | R117 | 560ohm 1/4W 5% | U1 | LM305 REG. | 47pf AX. CER. | 1 | C105 | 0945-00811-0100 | LM305 REG | 2 | U1,2 | 0945-00811-0100 |
| C102 | 470uf AX. ELECT | R118 | 150ohm 2W | U2 | LM305 REG | 820pf AX. CER. | 1 | C205 | 0945-00816-0400 | 555 | 1 | U6 | 0929-00810-4500 |
| C103 | .1uf AX. CER. | R201 | 270ohm 1/4W 5% | U3 | LM3900 | .01uf AX. CER. | 2 | C206,208 | 0945-00816-0100 | LM3900 | 1 | U3 | 0945-00813-0200 |
| C104 | 47pf AX. CER. | R202 | 1.2K 1/4W 5% | U4 | 4N28 | .01uf MYLAR | 2 | C201,203 | 0945-00816-0200 | 4N28 | 1 | U4 | 0945-00813-0300 |
| C105 | 470uf AX. ELECT. | R203 | 1.1M 1/4W 5% | U6 | 555 | .033uf MYLAR | 1 | C202 | 0945-00816-0500 | | | | |
| C106 | 100uf RD. TANT. | R204 | 3.3M 1/4W 5% | | | .047uf MYLAR | 1 | C204 | 0945-00816-0300 | | | | |
| C107 | 1uf RD. TANT. | R205 | 10M 1/4W 5% | | | 0.082uf AX. CER. | 1 | C207 | 0945-00816-1900 | A15F RECTIFIER | 5 | D101 '05 | 0945-00804-0200 |
| C108 | 4.7uf RD. TANT. | R206 | 100K 1/4W 5% | L101 | 22uH INDUCTOR | .1uf AX. CER. | 5 | C103,104,110,111, CP1 | 0945-00811-0200 | | | | |
| C109 | .1uf AX. CER. | R207 | 33K 1/4W 5% | | | 1uf RAD. TANT. | 1 | C108 | 0945-00811-0300 | 1N4001 | 3 | D106,204,205 | 0945-00804-0300 |
| C110 | .1uf AX. CER. | R208 | 2M 1/4W 5% | | | 4.7uf RAD. TANT. | 1 | C109 | 0945-00811-0400 | 1N4148 | 3 | D201-203 | 0945-00804-0500 |
| C111 | .01uf MYLAR | R209 | 1M 1/4W 5% | B101 | BATTERY 3.6VDC 60DEG-C | 100uf RAD. TANT. | 1 | C107 | 0945-00811-0500 | | | | |
| C201 | .033uf MYLAR | R210 | 1.2M 1/4W 5% | | | 470uf AX. ELECT. | 2 | C102,106 | 0945-00816-0600 | 2N2905 | 2 | Q102,105 | 0945-00808-0300 |
| C202 | .01uf MYLAR | R211 | 75K 1/4W 5% | F1 | 3 BA S BLO FUSE | 470uf AX. ELECT. | 1 | C101 | 0945-00811-0700 | 2N4401 | 1 | Q201 | 0945-00804-0400 |
| C203 | .047uf MYLAR | R212 | 75K 1/4W 5% | | | | | | | | | | |
| C204 | 820pf AX. CER. | R213 | 220K 1/4W 5% | | | | | | | | | | |
| C205 | .01uf AX. CER. | R214 | 3.9K 1/4W 5% | FC1A,1B | FUSE CLIP | | | | | | | | |
| C206 | 0.082uf MYLAR | R215 | 1.2K 1/4W 5% | | | .16ohm 15W 5% | 1 | R110 | 0945-00815-0100 | BATTERY 3.6VDC 60DEG C | 1 | B101 | 0017-00003-0377 |
| C207 | | R216 | 82ohm 1W 10% | | | 18ohm 5W 5% | 1 | R101 | 0945-00815-0200 | FUSE 3/8A S BLO | 1 | F1 | 0945-00808-0400 |
| | | R217 | 270ohm 1/4W 5% | FE1,2 | FERRITE BEAD | 6.8ohm 1/2W 5% | 1 | R111 | 0062-047D3-1XXX | FUSE CLIP | 2 | FC1A,1B | 0017-00003-0214 |
| | | R218 | 110K 1/4W 5% | | | 10ohm 5W 5% | 1 | R104 | 0945-00812-0100 | TIE WRAP | 1 | TW1 | 0945-00814-0300 |
| | | R219 | 68ohm 1/2W 5% | | | 27ohm 1/4W 5% | 1 | R105 | 0062-068B3-1XXX | FERRITE BEAD | 2 | FB1,2 | 0017-00009-0221 |
| | | | | | | 47ohm 1/4W 5% | 1 | R114 | 0062-086B3-1XXX | FERRITE MOUNTING HDW | 2 | FBMH1,2 | 0017-00033-0135 |
| | | VR101,102 | 100ohm POT | TW1 | TIE WRAP | 68ohm 1/2W 5% | 3 | R102,112,219 | 0062-098D3-1XXX | | | | |
| | | | | | | 82ohm 1W 10% | 1 | R216 | 0062-104F5-1XXX | | | | |
| CP1 | .1uf AX. CER. | | | J3 | 9PIN P.C. MOUNT CONN.(MALE) | 150ohm 2W 5% | 1 | R118 | 0945-00812-0200 | 22uH INDUCTOR | 1 | L101 | 0945-00814-0200 |
| | | | | J4 | 15PIN P.C. MOUNT CONN.(FEMALE) | 160ohm 1/4W 5% | 1 | R115 | 0062-124B3-1XXX | FUSE TAG | 1 | | |
| | | D101 | A15F | J5 | 15PIN P.C. MOUNT CONN.(MALE) | 270ohm 1/4W 5% | 3 | R106,201,217 | 0062-138B3-1XXX | SYSTEM TAG | 1 | | |
| | | D102 | A15F | J6 | 3PIN P.C. MOUNT CONN.(MALE) | 560ohm 1/4W 5% | 1 | R117 | 0062-162B3-1XXX | SYSTEM TAG | 1 | | |
| | | D103 | A15F | | | 1K 1/4W 5% | 1 | R109 | 0062-179B3-1XXX | P.C.B. | 1 | | |
| R101 | 18ohm 5W W/RES. SPACER | D104 | A15F | LB1 | FUSE TAG | 1.2K 1/4W 5% | 3 | R113,202,215 | 0062-183B3-1XXX | | | | |
| R102 | 68ohm 1/2W 5% | D105 | A15F | LB2 | SYSTEM TAG | 3.9K 1/4W 5% | 1 | R214 | 0062-207B3-1XXX | | | | |
| R104 | 10ohm 5W W/RES. SPACER | D201 | 1N4001 | | | 6.2K 1/4W 5% | 1 | R107 | 0062-217B3-1XXX | | | | |
| R105 | 27ohm 1/4W 5% | D202 | 1N4148 | HSA1 | HEAT SINK ASS'Y 1 | 33K 1/4W 5% | 1 | R207 | 0062-251B3-1XXX | | | | |
| R106 | 270ohm 1/4W 5% | D203 | 1N4148 | | | 75K 1/4W 5% | 2 | R211,212 | 0062-269B3-1XXX | HEAT SINK ASS'Y | 1 | HSA1 | A945-00008-0000 |
| R107 | 6.2K 1/4W 5% | D204 | 1N4001 | MHSA1 | MOUNTING HARD WARE(HEAT SINK) | 100K 1/4W 5% | 1 | R206 | 0062-275B3-1XXX | (SEE HS ASS'Y DRAWING "X" NOTE") | | | |
| | | D205 | 1N4001 | | | 110K 1/4W 5% | 1 | R218 | 0062-277B3-1XXX | 4-40 X 10 SLT RND | 2 | MH HSA1A,2A. | 0017-00101-00727 |
| | | | | | | 220K 1/4W 5% | 1 | R213 | 0062-291B3-1XXX | 4-40 HEX NUT | 2 | MH HSA1E,2E. | 0017-00103-0002 |
| | | | | | | 1M 1/4W 5% | 1 | R209 | 0062-323B3-1XXX | WSH 4-120-.250-018 | 4 | MH HSA1B,1D | 0017-00104-0071 |
| | | | | | | 1.1M 1/4W 5% | 1 | R203 | 0062-325B3-1XXX | | | | |
| | | | | | | 1.2M 1/4W 5% | 1 | R210 | 0062-327B3-1XXX | | | | |
| | | | | | | 2M 1/4W 5% | 1 | R208 | 0062-337B3-1XXX | 3PIN P.C. MOUNT CONN. (MALE) | 1 | J6 | 0017-00021-0440 |
| | | | | | | 3.3M 1/4W 5% | 1 | R204 | 0062-347B3-1XXX | 9PIN P.C. MOUNT CONN (MALE) | 1 | J3 | 0017-00021-0425 |
| | | | | | | 10M 1/4W 5% | 1 | R205 | 0062-371B3-1XXX | 15PIN P.C. MOUNT CONN (FEMALE) | 1 | J4 | 0017-00021-0440 |
| | | | | | | | | | | 15PIN P.C. MOUNT CONN (MALE) | 1 | J5 | 0017-00021-0440 |
| | | Q102 | 2N2905 | JW1-5 | JUMPER WIRE | | | | | | | | |
| | | Q105 | 2N2905 | | | | | | | | | | |
| | | Q201 | 2N4401 | FBMH1,2 | FERRITE BEAD MOUNTING HARDWARE | 100ohm POT | 2 | VR101,102 | 0945-00814-0030 | 22 AWG T & R BARE 2.5" | 5 | JW1-5 | 0151-00087-0000 |



| PROJ. ENG.: L. DEKKER | | SIGNED BY: SATAN'S HOLLOW | | MIDWAY MFG. CO. | |
|-------------------------------|---------------|---------------------------|--------------------------|-----------------|--|
| DO NOT SCALE DWG | DATE: 5/17/82 | FULL | NO REVD | FRANKLIN PK ILL | |
| ASSEMBLY DRAWING I25VA PWRSPY | | | PART NO: M051-00945-D006 | | |
| A082-90412-D000 | | | | | |



| | | |
|------------------------|------------------|--------------------|
| PROJECT ENG. L. DEKNER | SATANS HOLLOW | MIDWAY MFG. CO. |
| DATE: 5-3-92 | PER: [Signature] | POWER SUPPLY 125VA |
| | | W/CKT SUPPORT |
| | | A082-90412-D000 |
| | | M051-00945-D007 |



- NOTES:
1. * - WHEN FUL
 2. BT - BOTTOM TERMINAL
 3. ST - SIDE TERMINAL
 4. TC - TERMINAL BAR/CHASSIS STRIP TERMINAL
 5. CH - CHASSIS EARTH-GND
 6. AL - ALTERNATE COLOR
 7. TERMINATION ON CAPACITOR POST
 8. NOT AVAILABLE ON MT-10A

POWER CHASSIS *125 VA
 115V - 60 Hz
 PART NO A945-00020-0000
 DWG. NO M051-00945-B037

BALL: M. W. W.
 1760 W BELMONT
 FRANKLIN PARK

| | | |
|----------|---|---------------|
| REV. (A) | INCREASED FUSE VALUES WAS 3 AMP - NOW 4 AMP ADDED PART NO. (UL) | MR 3-15-83 |
| REV. (B) | INCREASED FUSE VALUE WAS 3 AMP - NOW 4 AMP | MB 3-24-83 |