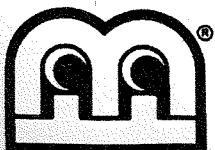


OWNER'S GUIDE
AND
TECHNICAL REFERENCE MANUAL



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INTRODUCTION

The Pub Time Premier is an electronically scored dart game which provides traditional play, with the convenience of the players' scores being displayed on a video monitor.

Premier offers the following features:

- The Solo Challenger - the darter within the game.
- Built in diagnostic tests to assure proper operation.
- Bookkeeping feature to tell the operator the number of coins dropped through each coin mech, the number of times each game was played, and the number of times each game was played with Solo Challenger.
- Built in advertising screens to display 12 operator customized screens by using the keyboard system to:

access the individual screens.
 choose from four border types.
 use large and small characters.
 designate blinking lines.
 create graphic characters.
 define punctuation.
 alter the display timing of the 12 screens.

- Fully configurable game menu that allows selection of the games, game options, and pricing for each game.
- Coin mechs can be configured, too, for coins needed for credits and credits received for coins entered.
- The bullseye configuration is displayed on all games that score the bullseye. The display shows split or solid bull point values.
- Optional Stat-Pak (tm) that provides the player with stat and feat information required for most league play.
- Built in wiring is included for an external TV monitor used with the optional External Video Kit (part # F60032-5000).

PROPRIETARY

THE INFORMATION CONTAINED HEREIN IS THE EXCLUSIVE PROPERTY OF MERIT INDUSTRIES INCORPORATED AND SHALL NOT BE USED, DISCLOSED OR REPRODUCED IN WHOLE OR IN PART WITHOUT THE EXPRESS WRITTEN PERMISSION OF MERIT INDUSTRIES INCORPORATED.

FCC WARNING:

THIS EQUIPMENT COMPLIES WITH THE REQUIREMENTS IN PART 15 OF FCC RULES FOR A CLASS A COMPUTING DEVICE. OPERATION OF THIS EQUIPMENT IN A RESIDENTIAL AREA MAY CAUSE UNACCEPTABLE INTERFERENCE TO RADIO AND TV RECEPTION REQUIRING THE OPERATOR TO TAKE WHATEVER STEPS ARE NECESSARY TO CORRECT THE INTERFERENCE.

DOCUMENT STATUS:

This official release of the Pub Time Premier Edition Owner's Guide and Technical Reference Manual refers to **Program reference 2478-00**.

This manual provides the owner/operator with all the information to install, test and maintain the unit.

Although designed to be troublefree, additional assistance is available from your distributor or from MERIT INDUSTRIES, INC. (1-800-445-9353 OR IN PA 215-639-4700).

LIMITED WARRANTY FOR COIN OPERATED DART MACHINES

Merit Industries, Inc., warrants its coin operated dart machines to be free from defects in material and workmanship for a period of six months from the date of delivery or seven months from the date of shipment from its facilities, whichever occurs first. The warranty covers all electrical components (except fuses and light bulbs), printed circuit boards, power supplies, display devices including video monitors, molded target components and matrix switches.

Failure due to misuse, vandalism, excessive or intentional abuse, operation outside specified conditions (including but not limited to improper electrical power source), fire, water damage, acts of God, acts of war and civil unrest, are specifically excluded.

Merit products are carefully inspected and thoroughly tested prior to packing and shipment. Any damage discovered upon receipt of goods, whether obvious or concealed, must be reported immediately to the delivering carrier and claims made directly to them. Merit assumes no responsibility for damages once the product has left its facilities, and any disputes regarding transportation damage must be resolved with the shipping company(s).

Merit will repair or replace, at its option, any component, part or subassembly that fails under warranty, provided that the failed item is returned, shipping charges prepaid, to Merit's repair facility and Merit is notified of the failure within the warranty period. Merit reserves the right to request the serial numbers of the item and/or game which has failed, and copies of sales invoices, bills of lading or other documents as required to determine the validity of the warranty coverage.

Merit's obligation shall be limited to repair or replacement, as stated above, and shall specifically exclude any liability for consequential damage or loss of earnings.

Merit may, at its discretion, provide replacement parts under warranty prior to receiving defective items without incurring any ongoing obligation to extend such accommodations.

The above terms and conditions constitute the sole obligation, written or implied, of Merit Industries under its warranty coverage.

SECTION 1 - SITE PREPARATION

1.1 General Information

In determining the location for you Pub Time Premier Edition, considerations should be given to the location of a suitable electrical outlet. Since the game is a computerized device, it should have a separate circuit if at all possible. If a circuit is not available, care should be taken to provide a clean and constant voltage of 115-120VAC at 60 hertz (standard AC line). As a basic guideline, never connect the unit to a circuit that also supplies power to freezers, coolers or other high power consuming and electrical noise generating equipment.

The area should be prominently located to attract attention, but should not be located where games would be interrupted by employees or customers walking through the playing area.

A shooting line (enclosed with each game) should be placed 8 feet from the face of the target. Both sides of the bottom of the cabinet have a line for measuring the 8 foot distance.

1.2 Safety Precautions

1.2.1 Assembly Advisory

WHENEVER POSSIBLE, THIS EQUIPMENT SHOULD BE ASSEMBLED BY TWO PEOPLE ON LOCATION. TRANSPORTING AN ASSEMBLED GAME CAN RESULT IN DAMAGE OR MISALIGNMENT OF INTERNAL PARTS CAUSED BY EXCESSIVE STRESS ON THE CABINET.

1.2.2 Free-Standing Game Advisory

IF A GAME IS NOT PLACED AGAINST A WALL, A REAR STABILIZER IS RECOMMENDED. Order Merit Part #F60078-0000. ADJUST THE LEG LEVELERS, AT THE BOTTOM OF THE GAME, SO THAT THE GAME IS BOTH LEVEL AND STABLE. FAILURE TO DO SO MAY RESULT IN INJURY.

1.2.3 Qualified Service Advisory

REPAIRS OR ADJUSTMENTS SHOULD ONLY BE PERFORMED BY QUALIFIED SERVICE PERSONNEL OR PERSONAL INJURY AND/OR DAMAGE TO THE MACHINE MAY RESULT.

SECTION 2 - UNIT ASSEMBLY

2.1 Inspect and Inventory Parts

Inspect the shipping carton(s) prior to unpacking for evidence of mishandling, waterstains or other damage prior to or during transit. If any damage is apparent, notify the carrier and your distributor of such conditions.

Inventory all parts to insure that the assembly can be accomplished. If any parts are missing, contact your distributor for immediate replacement.

2.2 Putting the Sections Together

1. Remove the (2) wooden shipping cleats and insert the leveling feet into the holes on the bottom of the target base. Adjust the four (4) leveling feet to compensate for an uneven floor.

Note: Refer to Section 1.2.2 concerning a Free Standing Game Advisory.

2. Remove (4) Black Bolts, (4) Washers and (4) Nuts from the hardware bag.

Note: A spare washer is included in the hardware bag and will be used in a later assembly step.

3. Using two people, lift the Target section onto the cabinet base. See Figure 2-1.
4. Line up the holes in the cabinet base with the holes in the Target section and insert the bolts through the holes. See Figure 2-1.
5. Unlock and open the coin box door. Locate the bolts described in #4 inside the base. Slide a washer and thread a nut on each bolt. Tighten the nuts on the left side of the cabinet and the nut in the right rear corner of the cabinet. See Figure 2-1.

6. Remove the nut in the front right corner of the cabinet. Connect the braided ground wire from the top of the keyboard mounting bracket into both rejector mounts. Slip the braid and the spare flat washer over the carriage bolt in the right front of the cabinet base. Replace the nut - tighten securely. Refer to Figure 2-2.
7. Unlock and open the Target section door. See Figure 2-3.
8. Remove (2) Black Bolts, (2) Silver Bolts, (4) Washers and (4) Nuts from the bag of hardware. The two bolts for the top of the hood are silver in color.
9. Temporarily remove the light cord (and the ultrasonic sensor cable if you have this option) from the mating hole in the Lighting Hood section.
10. Using two people, place the Lighting Hood on the top of the Target Section so that the fluorescent light is above the dart target. See Figure 2-3.
11. Line up the holes in the Lighting Hood with the holes in the Target Section and insert the bolts through the holes. See Figure 2-3.
12. Feed the light cable through the large mating hole in the top of the Target section. If your game is equipped with the ultrasonic sensor option, route the sensor cable through the mating hole with the light cord.
13. Slide a washer and thread a nut on each bolt and tighten the nuts. See Figure 2-3.

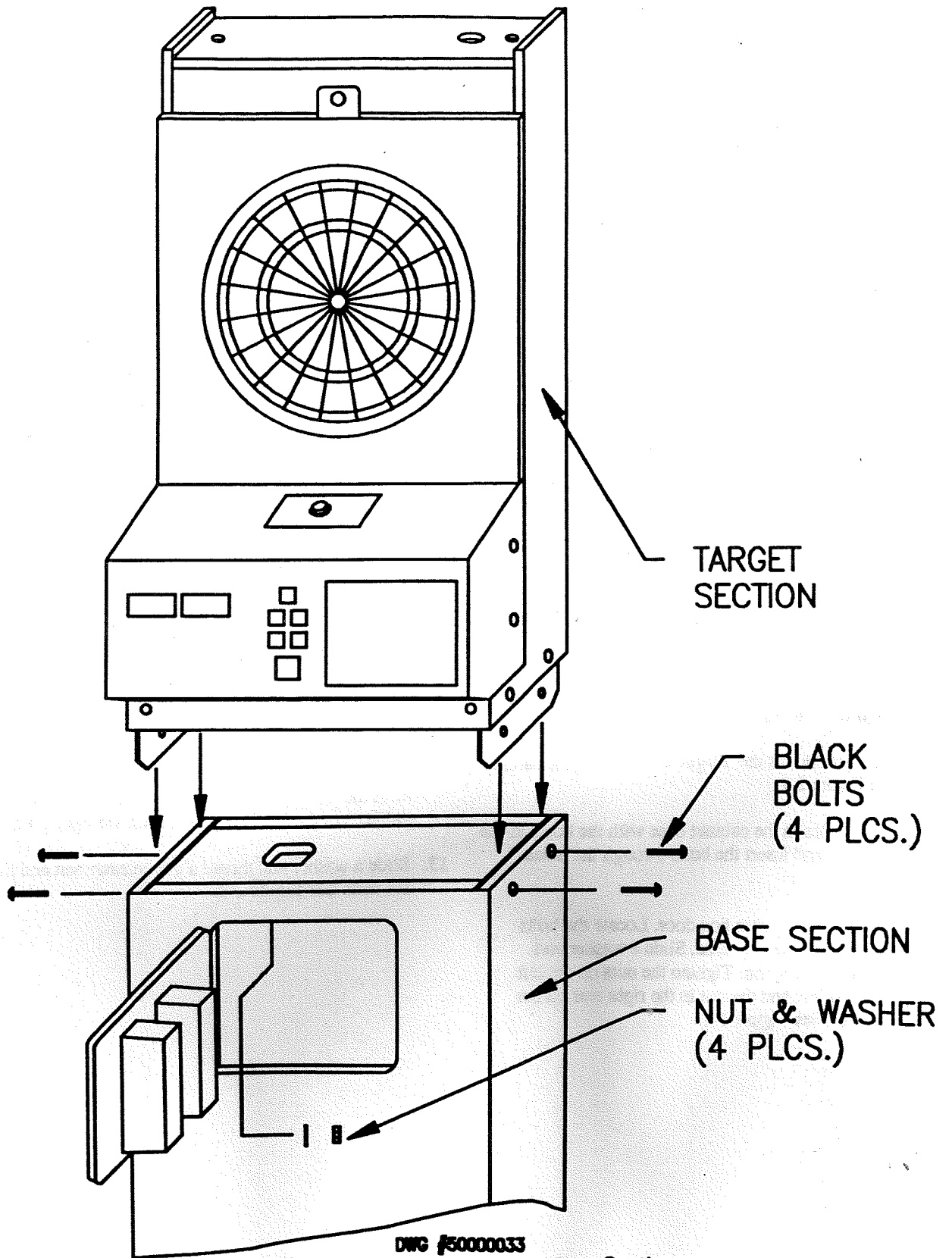
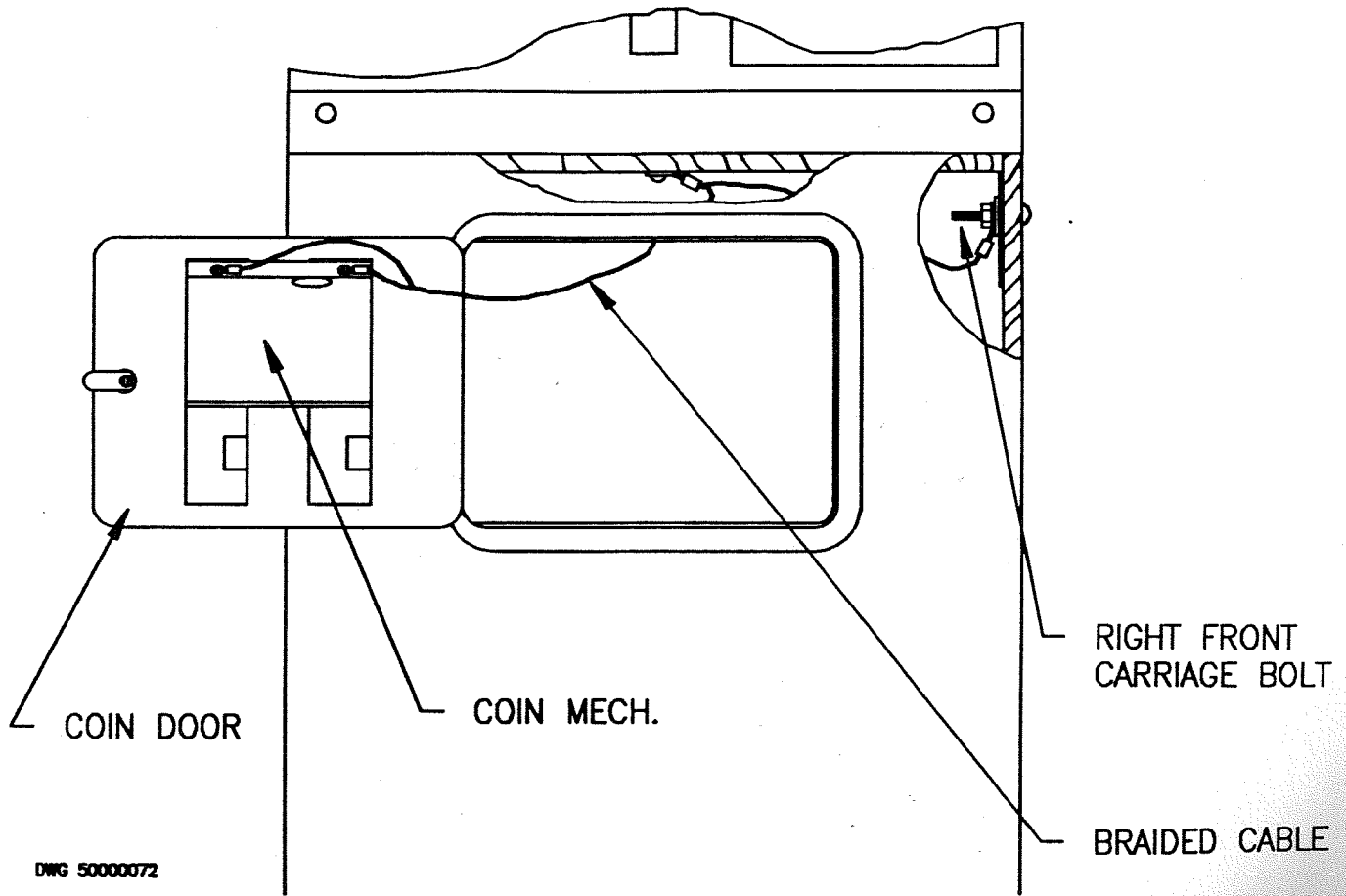


Figure 2-1 Target Section to Base Section



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Figure 2-2 Coin Mech Grounding Braid

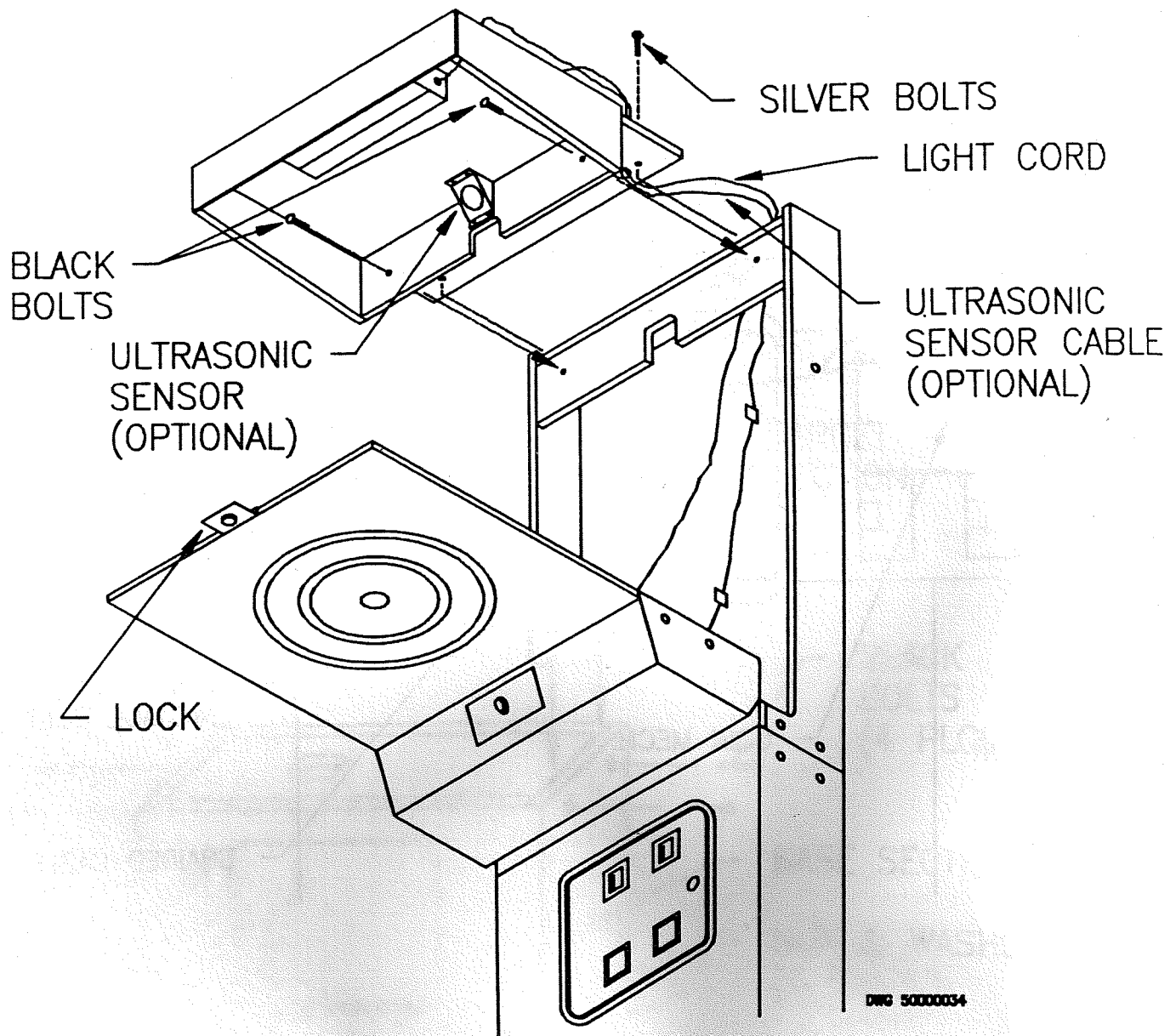


Figure 2-3 - Target Section With Lighting Hood

2.3 Hooking Up the Inside Cables

2.3.1 Coin Mech Connection

1. Unlock and open the target section door. Locate the nine (9) pin plug on the wiring harness. See Figure 2-4.
2. Slide the coin mech wiring harness through the opening in the center of the target section.
3. Open the dual coin mech door and locate the nine (9) pin receptacle on the end of the coin mech wiring harness which is attached to each coin mech.
4. Plug in the connectors. They are keyed connectors and connect only one way.

2.3.2 Ultrasonic/Microphone Connection (Optional)

If your PubTime dart game is equipped with this option, follow these steps. If it is NOT equipped with this option, go to Section 2.3.3.

1. With the target section door open, connect J5 on the DRT-950 board to the 4-pin connector of J2 on the RDP-17 board and the 3-pin connector of J2 on the RDP-15 board.
2. Connect the cable from the transducer to the 6-pin connector of J1 on the RDP-17 board.
3. Connect the piezo electric strip to J1 on the RDP-15 board. Then, connect the power supply to J3 on the RDP-17 board.
4. Route the #5 microphone cable through the mating hole in the target section to the base section. With the coin mech door open, pull the cable down into the base and connect the 3-pin connector to the microphone's printed circuit board on the right side of the base.

2.3.3 Fluorescent Light Connection

1. Locate the fluorescent light cable (a white lamp cord type wire with a three (3) pin connector on the end) which goes through the large holes in the lighting hood and target sections.
2. Plug the three (3) pin connector of the fluorescent light cable into the three (3) pin receptacle running from the power supply. See Figure 2-5.

2.3.4 Video Keyboard Connection

1. Following the coin mech harness, feed the video keyboard ribbon cable up through the hole in the center of the target section. Rest the keyboard on the shelf next to the coin box.
2. Unlock and open the target section door. Find the ribbon cable and plug it into connector J6 on the DRT-950 board. See Figure 2-6.

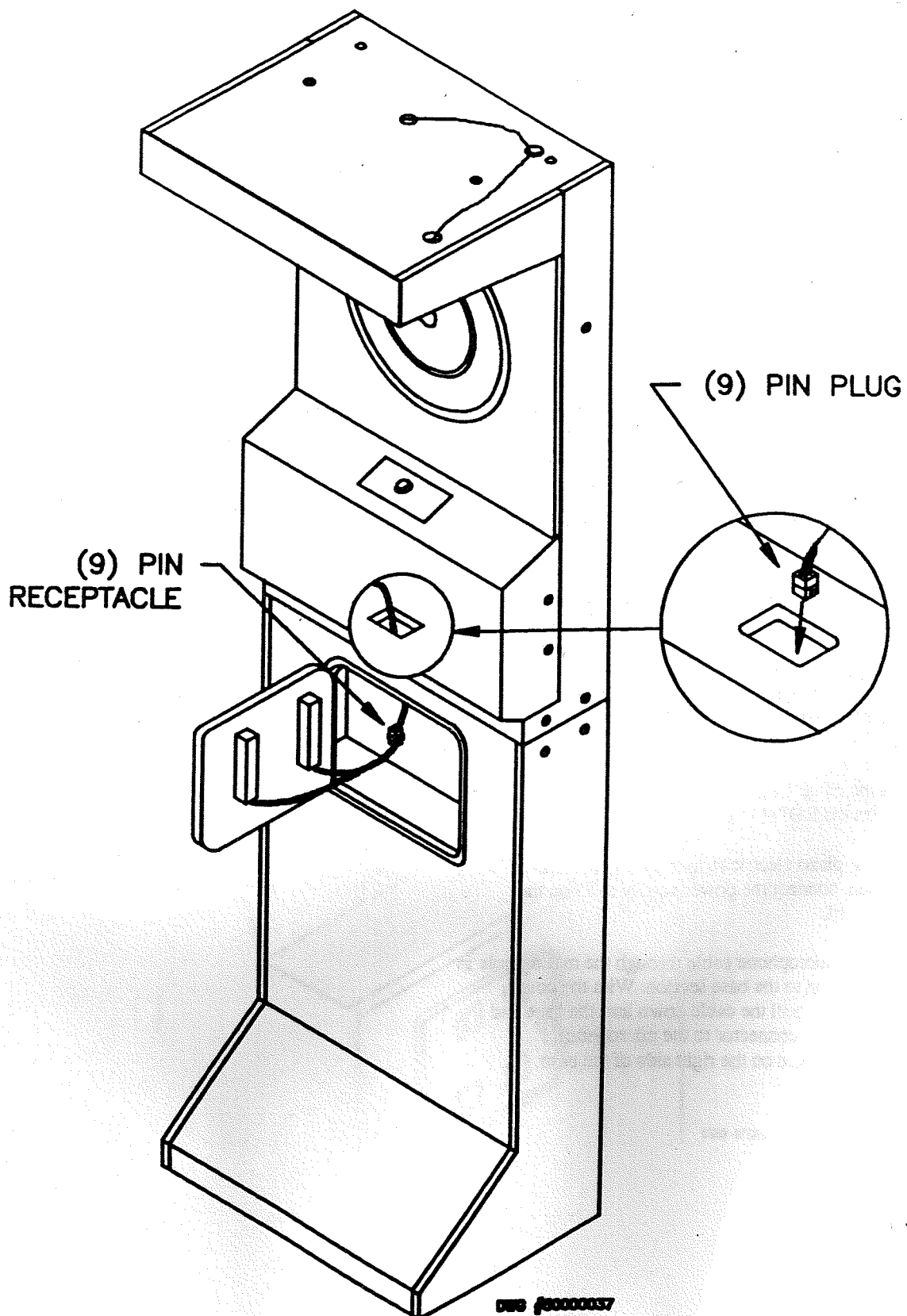
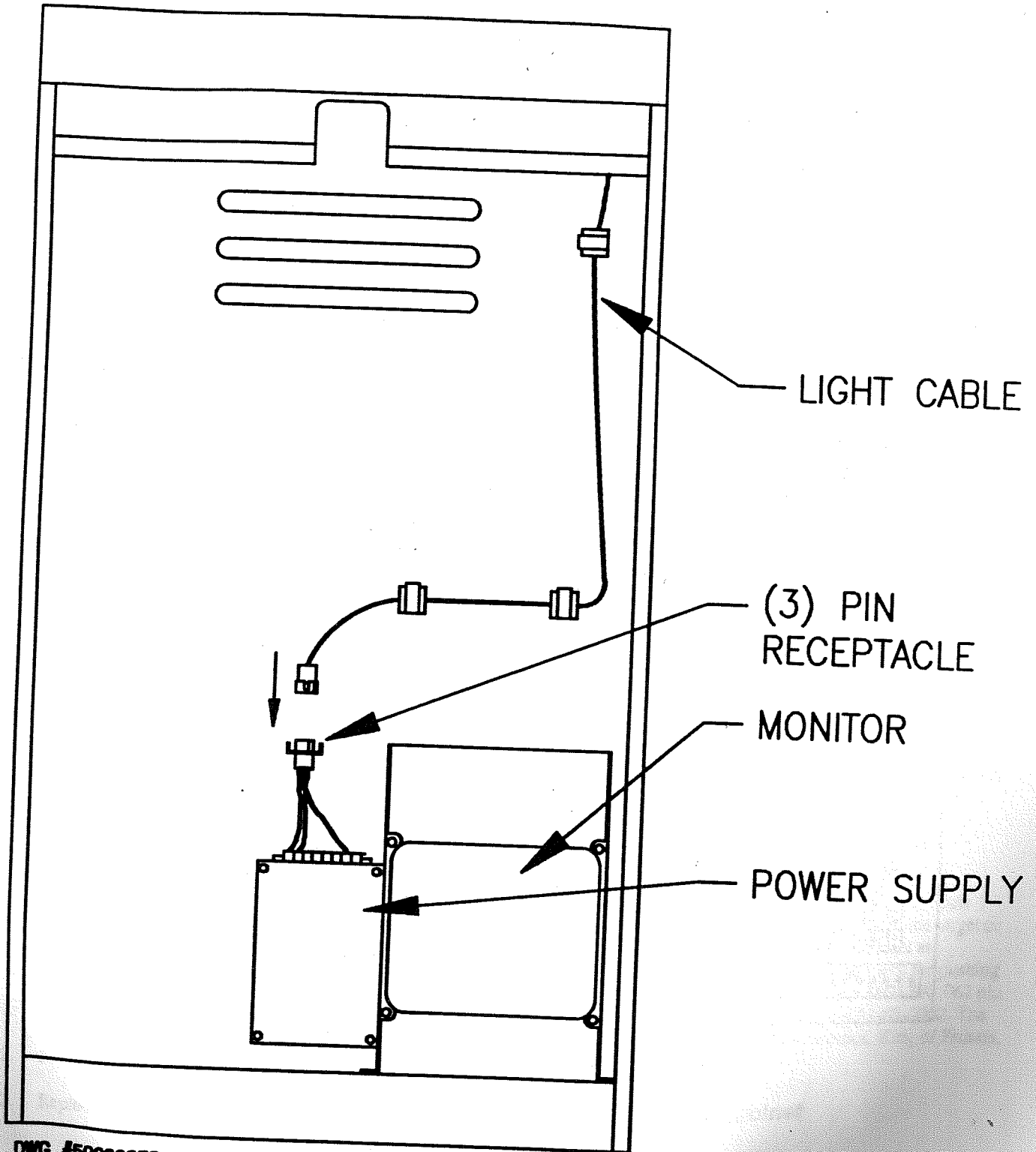


Figure 2-4- Coin Mech Cable Connections



2-5 - Light Connections

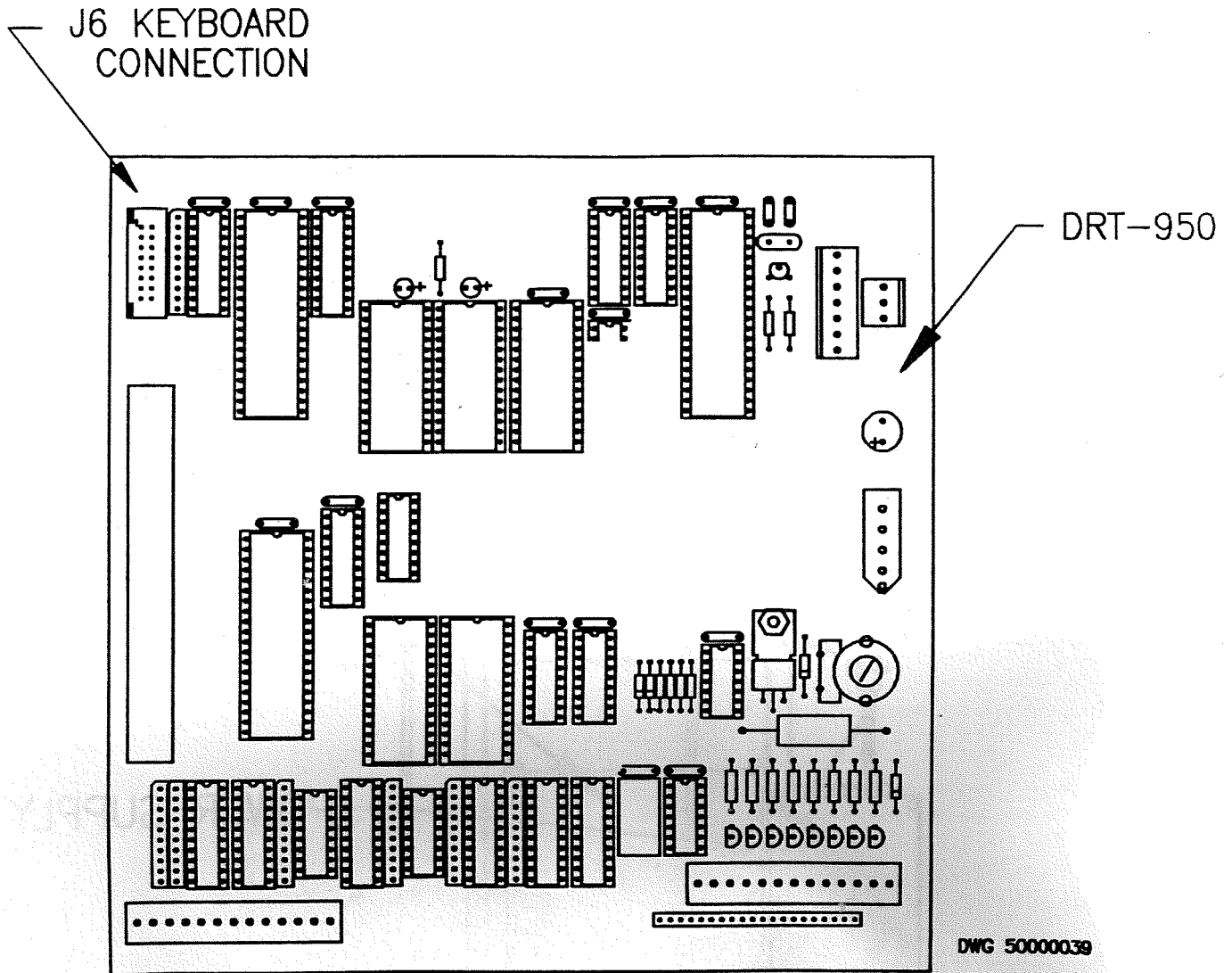


Figure 2-6 - Connections to DRT-950 Board

SECTION 3 - MAINTENANCE

3.1 Warranty Service

The **PREMIER EDITION** is warranted by Merit Industries, Inc. in accordance with the Warranty Statement found on page vii of this manual.

Should a problem occur, service and troubleshooting must be performed by a qualified service technician familiar with microprocessor based equipment. In order to quickly process equipment in need of repair (when a qualified technician is not available) it should be returned to your distributor and not directly to Merit Industries, Inc. Following this procedure will return your equipment to operation in the shortest time possible.

3.2 Bulb Replacement

To replace the light bulbs for **REMOVE DARTS & THROW DARTS**:

1. Unlock and open the Target Section door.
2. Remove the DRT-950 board, held in by two screws.
3. Locate the defective bulb.
4. Twist lamp socket counter-clockwise to remove.
5. Remove and replace with a new **GE #79** bulb.

To replace the light bulbs for the pushbutton switches:

1. Unlock and open the Target Section door.
2. Locate and remove the defective bulb.
3. Replace with a new **GE #555** bulb.

To replace the Fluorescent Bulb:

1. Remove the plastic bulb cover.
2. Remove and replace with a new 'F15T 8 CW' bulb.
3. Replace the plastic bulb cover.

3.3 Target Maintenance

3.3.1 Stuck Segments

Stuck segments can be caused by constant, excess pressure on the target matrix switch. If a stuck segment occurs, it may be caused by the overtightening of the wing nuts which secure the matrix switch back board assembly or by broken dart tips lodged between the target segments and the target spider.

Excess pressure may be checked by opening the Target section door of the cabinet and insuring that the wing nuts are only lightly finger tightened. It may be necessary to loosen the matrix switch back board assembly and reseal it, insuring that the alignment is correct and that the wing nuts are only lightly finger tight.

Dart tips may sometimes break or be accidentally pushed into the cavity behind a target segment. If a broken tip becomes wedged between the back of a segment and the rubber target backing mat (causing a stuck segment) it will be necessary to remove the matrix switch back board assembly.

3.3.2 Removing Target Switch

Unlock and open the Target Section door and remove the four wing nuts. Disconnect the switch tail from the logic board. Carefully remove the Target Panel board and clean out the broken dart tips.

3.3.3 Removing Broken Tips

Tips which are visibly broken off in a segment are best removed by pulling them out from the front of the target or by pushing them out from the back of the target as described in the previous section. A handy tool for pushing out tips from the back of the segment is a **MOLEX .062** pin extractor. The **MOLEX** part number is a 11-03-0002. The tool can be ordered from Time Electronics, King of Prussia, PA (215)-337-0900.

3.4 Cleaning the Cabinet

The cabinet, Lexan display panel and front base decal should all be cleaned with a damp cloth and mild detergent. The Lexan display panel may be cleaned with a solution for Plexiglass or acrylic surfaces.

SECTION 4 - TEST MODES

4.1 General Information

Merit's Pub Time Premier Edition Darts has built in test functions which enable the operator to individually test each aspect of the game's operation, without actually playing all of the games. To utilize the **TEST** mode, the game must be in the **ATTRACT** mode or **GAME SELECT** mode.

To **ENTER** the **TEST** Mode, open the coin mech door and press the **TEST** button which is located on the left side of the keyboard mounting brackets. The following display showing the main menu of the **TEST** mode will appear on the video monitor:

TEST MODE

- GAME SELECT MOVES POINTER
- TEST BUTTON SELECTS TEST

→ **BOOKKEEPING**
 GAME MENU-PRICING
 COIN SETUP
 ADVERTISING SCREENS
 TARGET TEST
 BUTTON TEST
 LAMP TEST
 SCREEN ADJUST
 SOUND TEST
 ULTRASONIC-MICROPHONES
 PROGRAM VERSIONS

- PUSH PLAYER CHANGE TO EXIT

To **SELECT A TEST**, press the **GAME SELECT** button. As this button is pressed, the video monitor will display which test from the **TEST** mode listing is being activated. After the desired test is chosen, press the **TEST** button to enter the test. To exit that test and return to the test mode listing, press the **TEST** button again.

To **EXIT** the **TEST** mode and return to the **ATTRACT** mode, press the **PLAYER CHANGE** button

4.2 Test Descriptions

4.2.1 Bookkeeping

The first listing on the test menu is the Bookkeeping mode. Refer to section 6.5 for detailed information on Bookkeeping.

4.2.2 Custom Games Section

While in the custom game mode, the **GAME SELECT** button selects which game position to customize. After the position is selected, press the **PLAYER CHANGE** button to select the desired game. The player **START** buttons (1-4) select the options for the game. Target Segment 1 increases the price per game. Target Segment 3 resets the default menu.

- GAME SELECT MOVES POINTER
- PLAYER CHANGE CHANGES GAME

→ 301 1 CR
 301 MASTERS 1 CR
 301 DBL IN-OUT 1 CR
 301 TEAM 1 CR
 501 MASTERS 2 CR
 501 DBL IN-OUT 2 CR
 HI-SCORE 1 CR
 SHANGAI 1 CR
 CRICKET 2 CR
 CUT-THROAT CRICKET 2 CR
 TEAM CRICKET 2 CR

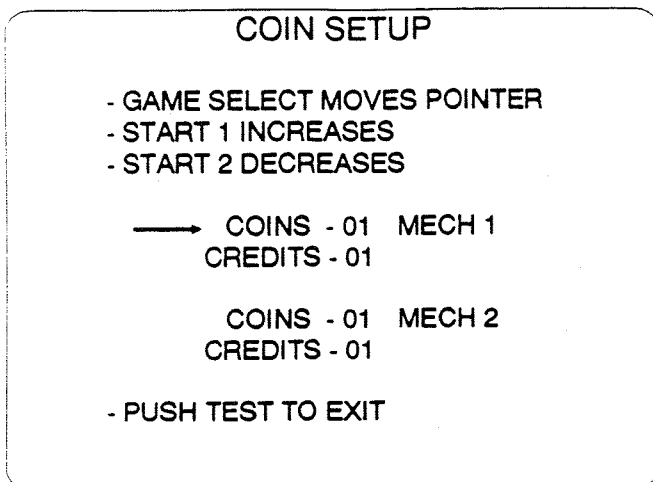
- GAME OPTIONS

START 1 DBL OUT
 START 2 MASTERS
 START 3 DBL IN-OUT
 START 4 TEAM

- SEGM 1 SELECTS CR PER PLYR
- SEGM 3 RESTORES ORIG MENU

4.2.3 Coin Set-Up

This section allows the operator to set up each coin mech or bill validator for coins per credit and credits per coin. This screen will give the following display:



Use the **GAME SELECT** button to move the pointer to select which option is to be changed. The **START 1** button will increase the number, and the **START 2** button will decrease the number.

EXAMPLE #1 - If a one dollar coin acceptor were to be installed in Mech 2, move the pointer to **CREDITS** of Mech 2 and press the **START 1** button three (3) times. The **CREDITS** would display 04. The game would give four credits for the one dollar coin.

EXAMPLE #2 - If a bill validator was to be installed in Mech 1 and you wanted to give a bonus credit for inserting a \$1 bill, move the pointer to Mech 1, **COINS**. Press the **START 1** button three (3) times so that the **COINS** would display 04. Move the pointer to the **CREDITS** and press the **START 1** button four (4) times so that the **CREDITS** would display 05. The game would give five credits for every four coin pulses generated by a \$1 bill.

4.2.4 Advertising Screens

Refer to Section 5.1 for detailed information on the Advertising Screens.

4.2.5 Target Test

As each target segment is pressed, a tone will be heard. The segment name will be displayed on the video monitor and a second tone will sound when closure opens.

4.2.6 Button Test

As each button is pressed, the button name will be displayed on the video monitor. The position of the DIP switches are displayed at the bottom of the screen (0=off, 1=on). The state of the switch displayed changes as the switch changes.

4.2.7 Lamp Test

Press any button to step through each lamp. While each lamp is lit, the video monitor will simultaneously display the name of each lamp being tested.

4.2.8 Screen Adjust

A monitor alignment grid will be displayed on the video monitor. By referring to the monitor technical manual (enclosed in the game), alignment adjustments may be made as desired.

4.2.9 Sound Test

When this test is selected, press the **TEST** button to activate the sound. Volume adjustments may be made via the volume pot at location R7 on the DRT-950 board.

4.2.10 Ultrasonic/Microphone Test

If your game has this option and DIP Switch #1 position 4 is set to "ON", the microphone will be tested. If DIP Switch #1, position 5 is set to "ON", the ultrasonic device will be tested. After entering the test mode, press **GAME SELECT** to select the Ultrasonic/Microphone test and press the **TEST** button. The **PLAYER/CHANGE** indicator will flash if someone is detected in front of the game. Moving to the side of the game and tapping on the face of the target section where the microphones are located will illuminate the **GAME SELECT** lamp. Pressing the **TEST** button will exit this test and return to the Test Menu.

4.2.11 Program Version

This mode will display the current program version.

SECTION 5 - ADVERTISING SCREENS

5.1 Features

The keyboard supplied with your Premier Edition dart game allows up to 12 custom advertising screens to be entered and edited. These screens will be displayed in the **ATTRACT** mode.

The keyboard system has the following features:

- 12 individual screens
- 4 border types
- Large and small characters
- Blinking lines
- Graphic Characters
- Punctuation
- Variable Display Timing

5.2 Screen Layout

The screen can be laid out in any way desired to achieve a number of effects. A full set of alphabetic, numeric, punctuation and graphic characters are available in both large and small sizes. Screens can be entered as text, just graphic characters or a mixture of both. A number of desirable effects are also achieved by mixing large and small characters into a screen. Lines of characters can be highlighted by using the blinking feature, giving a strong visual effect.

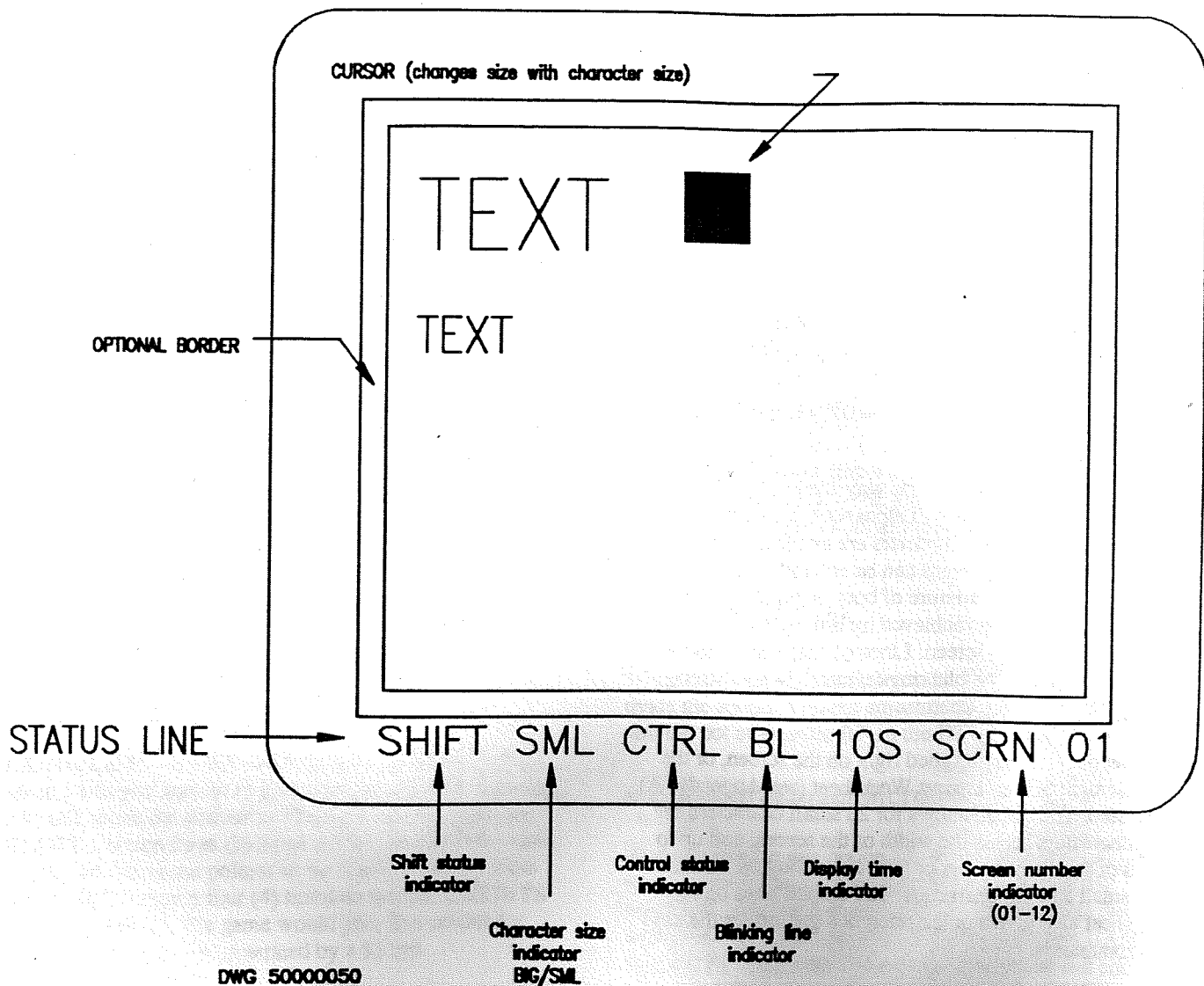
Screen layouts can be designed right on the screen, or the Advertisement Screen Layout Worksheet (see Appendix A) can be used. The screen allows for 23 small characters or 11 big characters across the width of the screen, and up to 19 lines of small characters or less, depending on the mixture of small and big characters. The dashed lines on the layout sheet also give a quick reference section for the keyboard commands.

5.3 Keyboard Mode

To enter the keyboard mode, the game must be in the idle mode, which means all games are finished. The keyboard must be connected to the game board at the keyboard connector J6 and is activated by pressing the **TEST** button located in the cash box compartments. Then select the "Advertising Screen" option. Press the **TEST** button again to enter the edit mode. Once activated, the cursor (solid block with smiling face) will be displayed in the upper left hand corner of the screen and the status line will appear on the bottom of the screen.

The status line will give the current character size and current screen number. See Figure 5-1. If any information as previously entered on screen 1, it will be displayed now.

The screen displays can now be changed or entered. As each character key is pressed, the character will be displayed on the screen where the cursor was and the cursor will move to the right, one character. At the end of the line the cursor will go the beginning of the next line. When all of the desired information has been entered, either move to the next screen or exit the keyboard mode by pressing the **TEST** button again.



DWG 50000050

Fig 5-1 Advertising Screen in Edit Mode

5.4 Key Descriptions

5.4.1 Black Keys

The black keys are standard alphabetic characters that will be displayed on the screen when both the **SHIFT** and **CNTL** indicators in the status line are off.

5.4.2 Red Keys

The Red keys are the number, punctuation and graphic characters that will be displayed when the **SHIFT** is on. To use the red keys, press the red **SHIFT** button. The word **SHIFT** will be displayed on the status line indicating the red keys are selected. To turn the red keys off, press the **SHIFT** key again. Note the shift indicator will stay on until the **SHIFT** key is pressed or until the **CNTL** key is pressed.

5.4.3 Blue Keys

The blue keys are the special function keys, described as follows:

CONTROL- Turns on the control indicator and waits for the next command key press (see section 5.5)

ON/OFF- Currently not in use.

SPACE - Puts a blank space at the cursor in either character size.

BORDER - Change the border type, selecting from 4 borders.

F1 - Currently not in use.

F2 - Currently not in use.

LEFT ARROW - Moves the cursor one character to the left.

RIGHT ARROW - Moves the cursor one character to the right.

UP ARROW - Moves the cursor up one line.

DOWN ARROW - Moves the cursor down one line.

RETURN- Moves the cursor from the current line to the first character of the next line down.

HOME- Moves the cursor to the upper left hand corner of the screen.

5.5 Control Functions

5.5.1 Blinking

A whole line can be made to blink by moving the cursor to the desired line and then pressing the **CNTL** key, followed by the **T** key. The status line will then display a **BL** when blinking is activated. Blinking can be turned off by the same key sequence. Note: the line will not blink in keyboard mode, only when displayed in the idle mode.

5.5.2 Previous Screen

To move to the previous screen, press the **CNTL** key followed by the **B** key. The screen number will be reduced by 1 and the previous screen text will appear. Note: if the previous screen function is used on screen 1, screen 12 will be displayed.

5.5.3 Next Screen

To move to the next screen, press the **CNTL** key followed by the **F** key. The screen number will be increased by 1 and the next screen text will appear. Note: that if the next screen function is used on screen 12, screen 1 will be displayed.

5.5.4 Erase Screen

The current screen can be erased by pressing the **CNTL** key followed by the **E** key. The entire screen will be erased including the border. The cursor will be displayed in the upper left hand corner of the screen.

5.5.5 Center Line

To center the current line, press the **CNTL** key followed by the **P** key. The line will be adjusted to the center of the screen and the cursor will be displayed in the left column of the screen.

5.5.6 Character Size

The character size can be changed only if the cursor is on the first character of the line. The status line will display the current size of the characters on the line with **BIG** or **SML**. Note: Changing the size of a line after text has been entered on the line will erase the text on that line.

5.5.7 Screen Timing

The amount of time the screen will be displayed during idle mode can be varied from 10, 20 or 30 seconds. To change the screen display time, press the **CNTL** key followed by the **S** key. The time indicated in the bottom line will change from 10S to 20S to 30S and then recycle.

SECTION 6 - GAMES

6.1 Game Play

1-COIN UP: After inserting coins, the video monitor will show the number of credits available for game play.

2-GAME SELECTION: After coins have been deposited, the **GAME SELECT** button will be lit. As the **GAME SELECT** is pressed, the video monitor will show which game from the game selection listing is up for game play and each game's price.

- **GAME DESCRIPTION:** If a description of the rules for a game is desired, the **PLAYER CHANGE** button may be pressed and the video monitor will show a complete description of the game rules for the game that is selected. When in this mode, the **GAME SELECT** button may still be used to show game selections. When pressed, the next game and description of game rules will be displayed on the video monitor. To exit this mode, press the **PLAYER CHANGE** button and the video monitor will go back to the Game Select listing.

3- PLAYER SELECT/START: After a game has been selected, the number of players can be selected by one of the buttons marked one through four. After the desired button has been pressed, the game will start. These buttons will be lit according to the amount of credits available.

- **CHANGING THE NUMBER OF PLAYERS AFTER A GAME HAS BEEN STARTED:** If no darts have been thrown after a game has been started, the number of players may be changed by selecting the desired number of players and pressing the appropriate start button. The game will start over with the reselected number of players.
- **RESELECTING A DIFFERENT GAME AFTER A GAME HAS ALREADY BEEN STARTED:** If no darts have been thrown after a game has been started, a player may choose a different game by pressing the **SELECT** button. After the **SELECT** button has been pressed, the video screen will show the game listing at which point a new game can be selected and started as described in item #3 above.

4- CREDITS LEFT OVER: Any unused credits will be saved for use in the next game.

6.2 Game Selections

DEFAULT MENU

301
 301 MASTERS
 301 DBL IN-OUT
 301 TEAM
 501 MASTERS
 501 DBL IN-OUT
 HI-SCORE
 SHANGHAI
 CRICKET
 CUT-THROAT CRICKET
 TEAM CRICKET

6.3 Game Instructions

301: Each player will start with a score of 301 points. Each dart thrown will decrease the player's score provided it was a scoring dart. Players must try to reach zero points exactly. If a player goes below zero, he will "BUST" and retain his score from the beginning of the round.

301 DBL OUT: Plays the same as 301 except player must reach ZERO by scoring a double on his last dart.

301 MASTERS: Plays the same as 301 except players must reach zero by scoring a "DOUBLE", a "TRIPLE" or a "BULLSEYE" on their last dart.

301 DBL IN/OUT: Same as 301 except players can not begin scoring until they score a "DOUBLE". A "DOUBLE" is obtained by scoring a dart in the outer most ring of the target. Players must reach zero by scoring a "DOUBLE" on their last dart. **NOTE:** If the game is set-up with a Split Bullseye, the inner bullseye segment will count as a "DOUBLE". Refer to section 6.4 for dip switch settings.

301 TEAM: Same rules as 301 only players 1 and 3 and players 2 and 4 are teams. Freeze-out rule is in effect so that when a frozen player goes out, the other team will win. A player is frozen if his teammate's score is greater than the sum of the other team's score.

501: Plays the same as 301 except players start with 501.

501 DBL OUT: Plays the same as 301 DBL OUT except players start with 501.

501 MASTERS: Plays the same as 301 MASTERS except players start with 501.

501 DBL IN/OUT: Plays the same as 301 DBL In/Out except players start with 501.

501 TEAM: Plays the same as 301 TEAM except players start with 501.

701: Plays the same as 301 except players start with 701.

701 DBL OUT: Plays the same as 301 DBL OUT except players start with 701.

701 MASTERS : Plays the same as 301 MASTERS except players start with 701.

701 DBL IN/OUT: Plays the same as 301 DBL In/Out except players start with 701.

701 TEAM: Plays the same as 301 TEAM except players start with 701.

HI-SCORE: Players start with a zero score. After seven rounds, the player with the highest score, wins.

SHANGHAI: Players start with a zero score. Each round, players try to hit consecutive numbers from 1-20. A "SHANGHAI" (three consecutive numbers in one round; one each of a "SINGLE", a "DOUBLE and a "TRIPLE") is an automatic winner. Otherwise the highest score after seven rounds or the first player to reach 20, wins the game.

CRICKET: Players shoot at 15-20 and the bullseye. A number is CLOSED by scoring three MARKS in that number. TRIPLES score three MARKS, DOUBLES score two MARKS and SINGLES score one MARK. Additional hits on a closed number will score points only if the opponent is still open on that number. The first player to close all six numbers, the bullseye and has the highest score, wins the game.

CUT-THROAT CRICKET: The same as Cricket except additional hits on a closed number will give points to an opponent who has not closed that number. the first player to close all seven numbers and has the lowest score is the winner.

TEAM CRICKET: Plays the same as CRICKET except that both players on one team must have the same number closed for additional hits to score.

6.4 Dip Switch Options

Options and game play features are switch selectable via two eight position DIP switches. See Figure 6-1 and Figure 6-2.

DIP SWITCH #1		DIP SWITCH #2			
POSITION 1 -	ON	Clearing the NVRAM will clear all user screens and current books and reset the Custom Coin setup to the factory setting.	POSITION 1 -	ON	Allows '01 and Cricket games to be stopped after a certain number of rounds.
	OFF	All user screens, books and custom game set-up will remain in RAM on power-up.		OFF	'01 and Cricket games play until a winner is determined by game rules.
POSITION 2 -	ON	Target alarm will sound if darts are detected in the ATTRACT mode.	POSITION 2 -	ON	Adds 5 rounds to '01 and Cricket games if round limits are enabled.
	OFF	No target alarm will sound.		OFF	Adds no extra rounds if limits are enabled.
POSITION 3 -	ON	All games listed may be played for "FREE" without credits.	POSITION 3 -	NOT USED	
	OFF	Coins must be inserted and credits added for game play.	POSITION 4 -	ON	Allows the base round limit to be set to 10 rounds in Hi-Score.
POSITION 4 -	ON	Detects darts that hit the front of the game, outside of the target. Must have RDP-15 board installed to be enabled.		OFF	Allows the base round limit to be set to 7 rounds in Hi-Score.
	OFF	Does not detect those darts.	POSITION 5 -	ON	Enables alternate team rules. In '01, if a frozen player goes out, that turn is treated as a bust instead of a loss. In Cricket, both team members have to close all of the numbers and have the highest score.
POSITION 5 -	ON	Performs automatic player change when darts are removed from target. Must have RDP-17 board installed to be enabled.		OFF	Follows standard team rules. In '01, if a player busts, the opposing team wins. In Cricket, only one team member needs all numbers closed to win.
	OFF	Does not perform automatic player change when darts are removed from target.	POSITION 6 -	ON	Displays the game statistics for 301, 501, Hi-Score and Cricket.
POSITION 6 -	ON	Bullseye split for Cricket.		OFF	Does not display game statistics.
	OFF	Bullseye solid for Cricket.	POSITION 7 -	ON	Solo Challenger requires extra charge.
POSITION 7 -	ON	Scores 50 points for solid Cricket bullseye.		OFF	Solo Challenger requires no extra charge.
	OFF	Scores 25 points for solid Cricket bullseye.	POSITION 8 -	NOT USED	
POSITION 8 -	ON	Scores other games with split bullseye.			
	OFF	All other games have solid bullseye.			

DIP SWITCH #1

Clear NVRAM on power-up
 Target Alarm Enabled
 Free Play Enabled
 Miss Dart Detector Enabled
 Auto Player Change Enabled
 Split Bullseye for Cricket
 Single Cricket Bull Score
 Split Bullseye Other Games

	OFF	ON
1	NO	YES
2	NO	YES
3	NO	YES
4	NO	YES
5	NO	YES
6	NO	YES
7	25	50
8	NO	YES

FIGURE 6-1 - DIP SWITCH #1- DEFAULT SETTINGS

DIP SWITCH #2

Round Limits Enabled
 Extended Round Limits
 Not Used
 Hi-Score Round Limit
 Alternate Team Rules Enabled
 Display Game Statistics
 Solo Challenger requires additional credits
 Not Used

	OFF	ON
1	NO	YES
2	NO	YES
3	--	--
4	7	10
5	NO	YES
6	NO	YES
7	NO	YES
8	--	--

FIGURE 6-2 - DIP SWITCH #2- DEFAULT SETTINGS

6.5 Bookkeeping Feature

This feature shows the operator the number of coins which were deposited through each coin mech. It also shows the number of times each game has been played as well as the number of times each game was played with Solo Challenger. To utilize this feature, the game must be in the **ATTRACT Mode** or **GAME SELECT Mode**.

To enter this mode:

1. Unlock and open coin door.
2. Press **TEST** button located inside the cashbox.
3. When the **TEST** Menu appears, press the **TEST** button again.
4. To **CLEAR BOOKS**, press the **PLAYER CHANGE** button on the front panel of the game.
5. To **EXIT**, press the **TEST** button and you will return to the **TEST Mode Menu**. Press **PLAYER CHANGE** to return to the **ATTRACT Mode** or **GAME SELECT Mode**.

SECTION 7 - ADDITIONAL FEATURES

7.1 Stat-Pak™

The Stat-Pak™ provides the player with all the stat and feat information required for most league stat-keeping. At the end of a game of '01', High Score, Count-Up and Cricket the stats will be displayed on screen.

The game keeps track of:

- Points per dart average
- Hat Tricks (3 Bullseyes in one turn)
- LoTons (100-149 points in one turn)
- HiTons (150-180 points in one turn- not including hat tricks.)
- 6,7,8,9 Dart Out and 4th Round Out (301)
- 9,10,11,12 Dart Out and 5th Round Out (501)
- 12,13,14,15 Dart Out and 6th Round Out (701)

Cricket stats include:

- Marks per round average

The game stats will be displayed on the monitor until a new game has been started. This gives the league scorekeepers plenty of time to copy the information.

7.2 External TV/Monitor

Wiring diagrams are included in this manual which will allow for an external TV/Monitor to be added to your game. A kit with all required parts is available from Merit Industries (Part# F60032-5000 External Video Kit). An alternate method is presented which does not require the kit.

7.3 Instructions For Kit #F60032-5000 (External TV/ Monitor)

Included with the kit are the following items:

- (1) DRT-952 External Video Adapter (See Figure 7-1)
- (4) Threaded Standoff (See Figure 7-2)
- (1) Interface Cable (See Figure 7-2)

Suggested additional items:

- (1 or 2) "F" Female to RCA plug adapter (Radio Shack Cat# 278-252).
- (1 pkge) Cable Clamps (Radio Shack Cat# 278-1631) and wood screws. (See Figure 7-1).

The following items must be supplied at the installation site:

A television with a 75 ohm coaxial cable input for its VHF signal input. If the television does not have a 75 ohm input, a matching transformer will be required to convert the 300 ohm VHF input to 75 ohms. (Available from Radio Shack catalog #15-1140). (See Figure 7-3 and 7-4).

A 75 ohm coaxial cable is necessary to connect the dart game to the video monitor/TV location. The cable requires an RCA phono type plug at the end connected to the DRT-952's RF modulator. The end that connects to the monitor/TV requires an "F" type connector. A pre-fabricated 75 ohm cable that has "F" connectors at both ends can be made to conform to the cable needed by using a Female "F" to RCA phono plug adapter (Available from Radio Shack catalog #278-252) at the end connected to the DRT-952. (See Figure 7-1).

If the monitor/TV displaying game information/advertising is to be used to receive commercial broadcasts or cable channels, an A/B switch (Available from Radio Shack catalog # 15-1249) should be installed on the monitor/TV to allow selectable access to the game and the other source of broadcast/cable signals. (See Figure 7-5, 7-6 and 7-7)

To install the kit:

1. Turn off the game and disconnect it from all AC power. Unlock and lower the front panel to view the internal monitor and power supply.
2. Insert and secure the four standoffs in the four threaded holes in the monitor chassis (as indicated by Figure 7-2).
3. Install the DRT-952 video adaptor board on the four standoffs and press down carefully until all four standoffs "lock" the board securely to the chassis. (See Figure 7-2).
4. Connect the Interface Cable of the kit to J1 on the DRT-952 board and route it and connect to J8 on the DRT-950 board. (See Figure 7-2 and 7-8)
5. Connect the external video cable end (with "F" female to RCA phono plug adaptor RS cat #278-252) to the female RCA phono jack on the RF modulator of the DRT-952 board. After routing the external cable through the top hole in the video cabinet, secure the cable inside the cabinet with cable clamps (Radio Shack cat #64-3028) and screws to provide strain relief for the external cable. Connect the external cable end with the "F" connector to the 75 ohm coaxial VHF input of the monitor/TV. (See Figure 7-2 and 7-3).
6. Reconnect the game to AC power and power it up. Connect the monitor/TV to AC power and power it up. Set the tuner on the monitor/TV to channel 3 and set the jumper on the DRT-952 board to the channel 3 position or set the tuner on the monitor/TV to channel 4 and the jumper on the DRT-952 board to the channel 4 position. Select the setup that provides the best possible display. (See Figure 7-1).
7. If the advertising screens have not been setup, review the information in Section 5 of this manual. If a problem exists, refer to the tests in section 4 and section 8 for troubleshooting hints.
8. Before closing up the front panel, make sure all wiring is safe from binding and pinching or coming in contact with sharp edges of the chassis. If necessary, use wire ties (Radio Shack cat#278-1631) to secure and dress all wire bundles.

7.4 Installation of Ext. TV/Monitor and RF Modulator

If an operator decides to use an external TV/Monitor and does not wish to use Kit #F60032-5000, the operator must use an external RF Modulator such as:

- Radio Shack Catalog Number 15-1273, RF Modulator (for Computer or Video games) which converts line-level signal to VHF for TV. (See Figure 7-9 and 7-10).

Suggested additional items:

- (1) Molex Header Receptacle (7Pin) CN6100 (See Figure 7-8).
- (4) MolexHeaderPin.125"CN6130 (See Figure 7-8)
- (1) 6 foot VCR/Audio Cable (Radio Shack cat#15-1535) (See Figure 7-8).
- (1 pkg) Cable Clamps (Radio Shack cat# 278-1631) and wood screws

The following items must be supplied at the site:

(1) 75 ohm coaxial cable with male "F" connectors at both ends. The length of the cable is determined by the distance from the game to the TV/Monitor.

A TV/Monitor with a 75 ohm coaxial cable input. If the TV/Monitor does not have a 75 ohm coaxial input, a matching transformer will be required to convert the 300 ohm input to 75 ohms (Available from Radio Shack cat#15-1140). (See Figure 7-3 and 7-4)

If the TV/Monitor displaying game information/advertising is to be used to receive commercial broadcasts or cable channels, a games/TV switch (Available from Radio Shack cat#'s 15-1255, 15-1268 or 15-1269 depending on the type of installation) should be installed on the TV/Monitor to allow selectable access to the game and the other source of broadcast/cable signals. (See Figure 7-9, 7-6 and 7-7).

Installation:

1. Turn off the game and disconnect it from all AC power. Unlock and lower the front panel to view the internal monitor and power supply.
2. Remove one RCA plug from the 6 foot VCR/audio Cable and strip back the outer insulation jacket of the cable about 3/4 of an inch. Separated the shield mesh from the center conductor and twist them into a tight bundle.

3. Strip back the insulation jacket on the center conductor of the cable about 1/4 of an inch. Using a soldering iron and 60/40 Rosin core solder, lightly tin the shield bundle and the exposed center conductor.
4. Crimp a Molex Header Pin (.125") onto the tinned shield bundle and crimp a Molex Pin on the tinned center conductor lead.
5. Insert the center conductor pin into the fourth square hole of the Molex 7 Pin Header Receptacle (Pin 4 of J8 on the DRT-950). (See Figure 7-8)
6. Insert the shield bundle pin into the third square hole of the Molex 7 Pin Header Receptacle (Pin 3 of J8 on the DRT-950). Make sure that the center conductor and the shield bundle do not short together. (See Figure 7-8).
7. Route the Molex Connector end of the cable to J8 of the DRT-950 and plug it over the pins of J8 so that the center conductor is on pin 4 of J8 and the shield bundle is on pin 3 of J8. (See Figure 7-8).
8. Route the other end of the VCR/audio cable to the RF Modulator and insert the cable's RCA plug into the RCA jack labeled line in on the RF modulator. Use the cable clamps (cat# 278-1631) and screws to secure the cable to the inside of the game cabinet and to provide adequate strain relief. (See Figure 7-10).
9. Connect the 75 ohm coaxial cable from the "F" connector labeled VHF out of the RF Modulator to the 75 ohm coaxial input on the monitor/TV. (See Figure 7-10).
10. Reconnect the game, the RF modulator and the monitor to AC power and power all three units up. Set the slide switch on the RF modulator to channel 3 and the tuner on the TV/Monitor to channel 3 or set the slide switch to channel 4 and the tuner to channel 4. Select the setup that provides the best possible display.
11. If the advertising screens have not been set up, review the information in Section 5 of this manual. If a problem exists, refer to the tests in Section 4 and Section 8 for troubleshooting hints.
12. Before closing up the front panel, make sure all wiring is safe from binding and pinching or coming in contact with sharp edges of the chassis. If necessary, use wire ties (Radio Shack cat# 278-1631) to secure and dress all wire bundles.

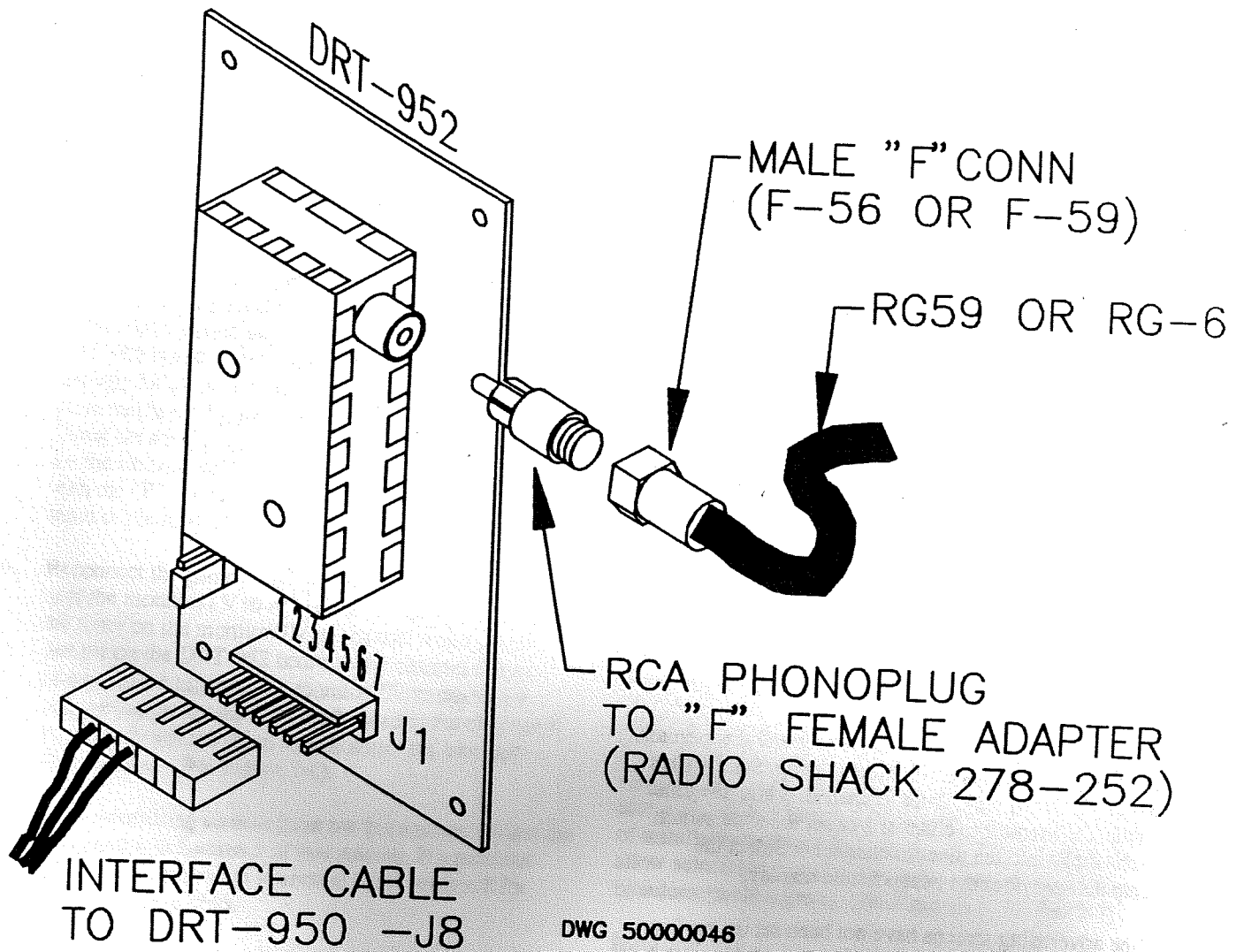


FIGURE 7-1 DRT-952

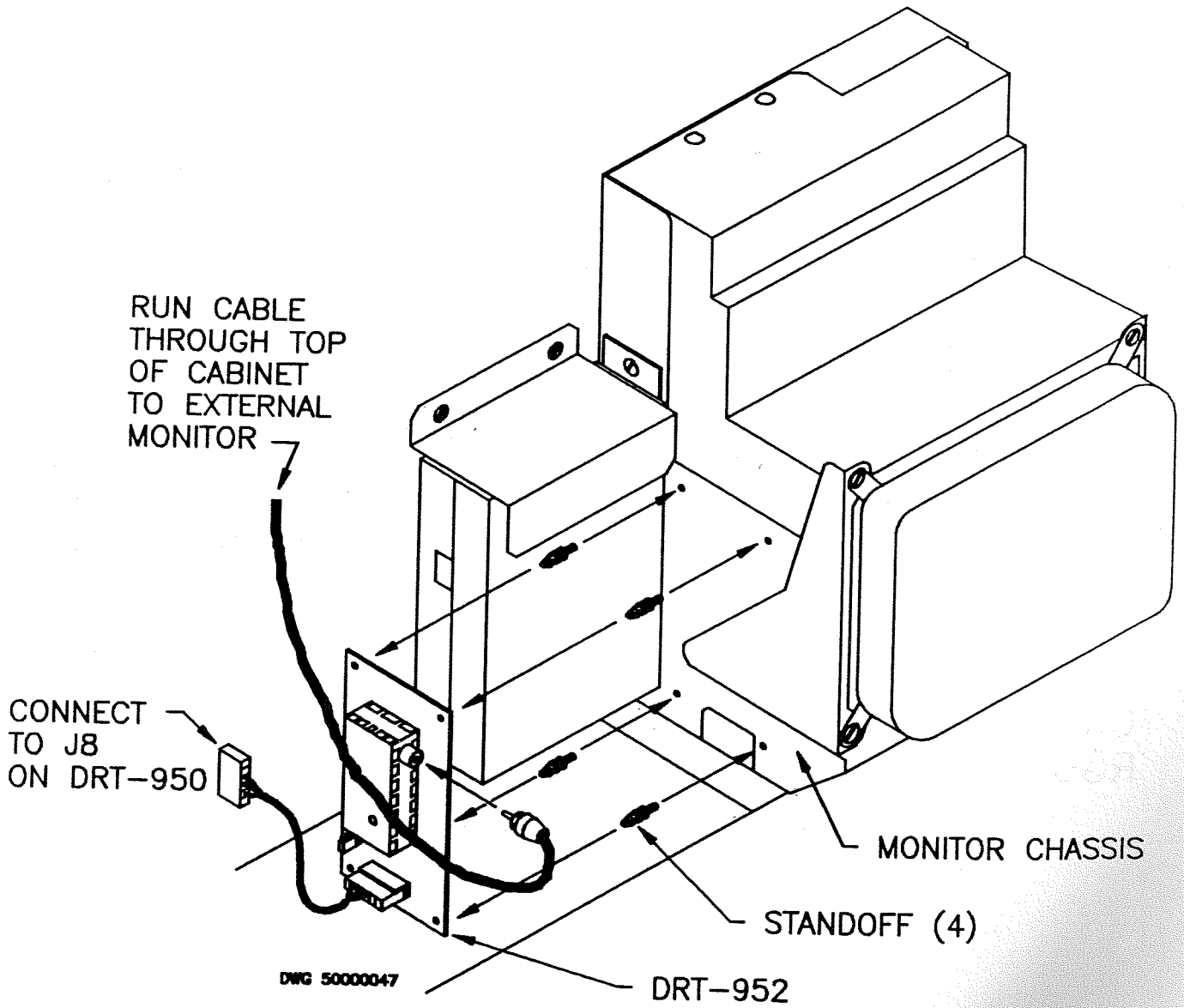


FIGURE 7-2 MOUNTING THE DRT-952

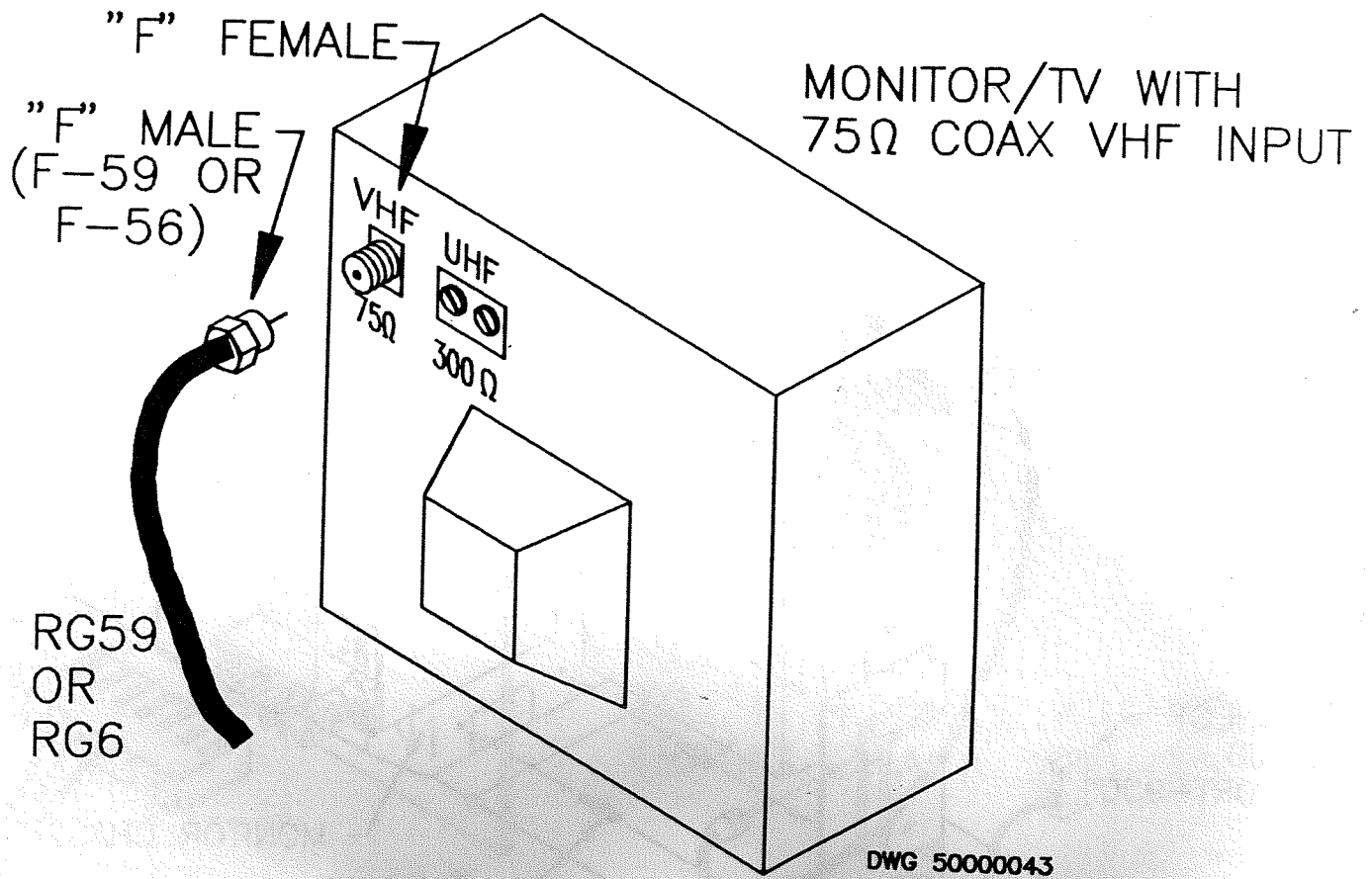


FIGURE 7-3 75 OHM INPUT

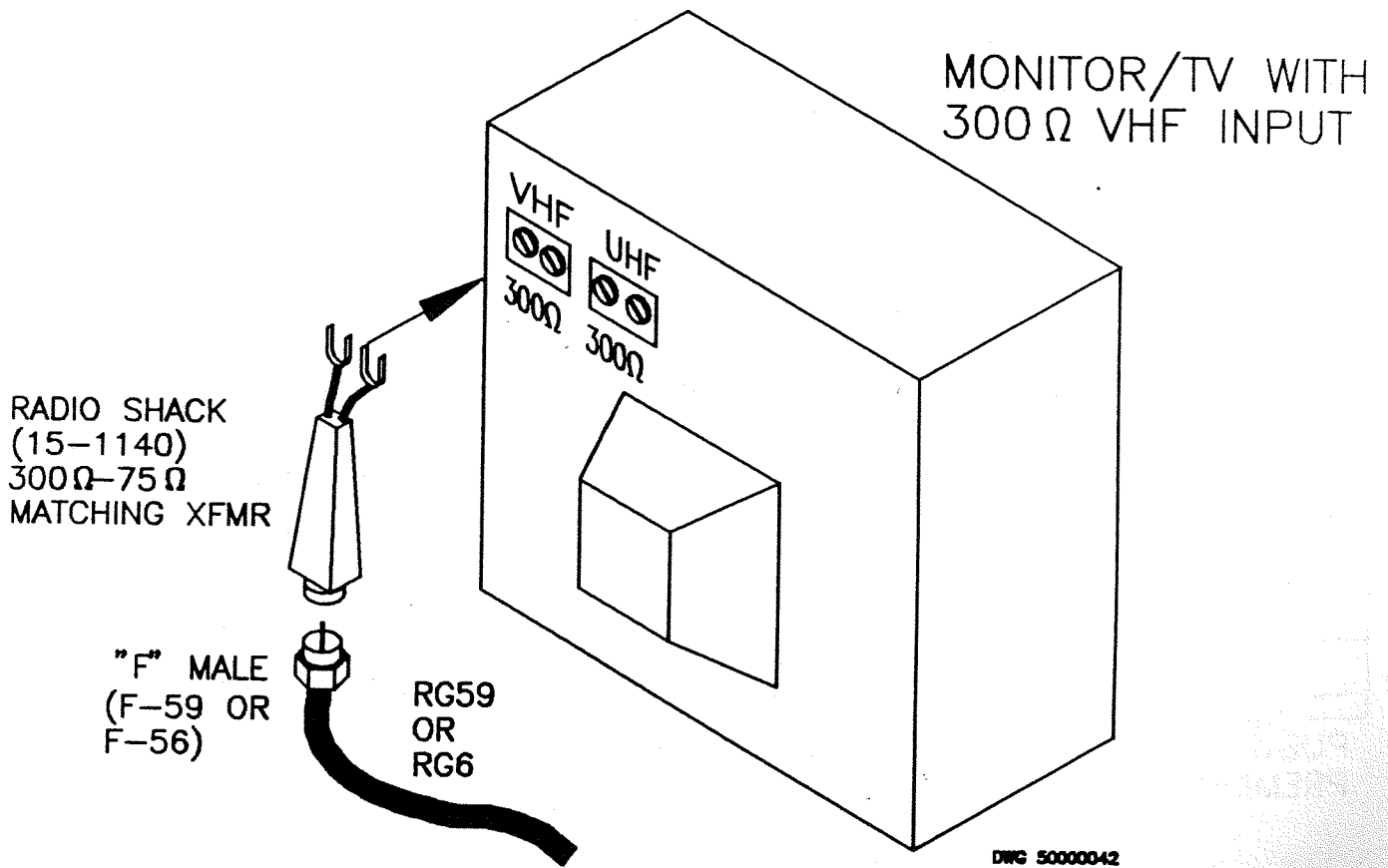
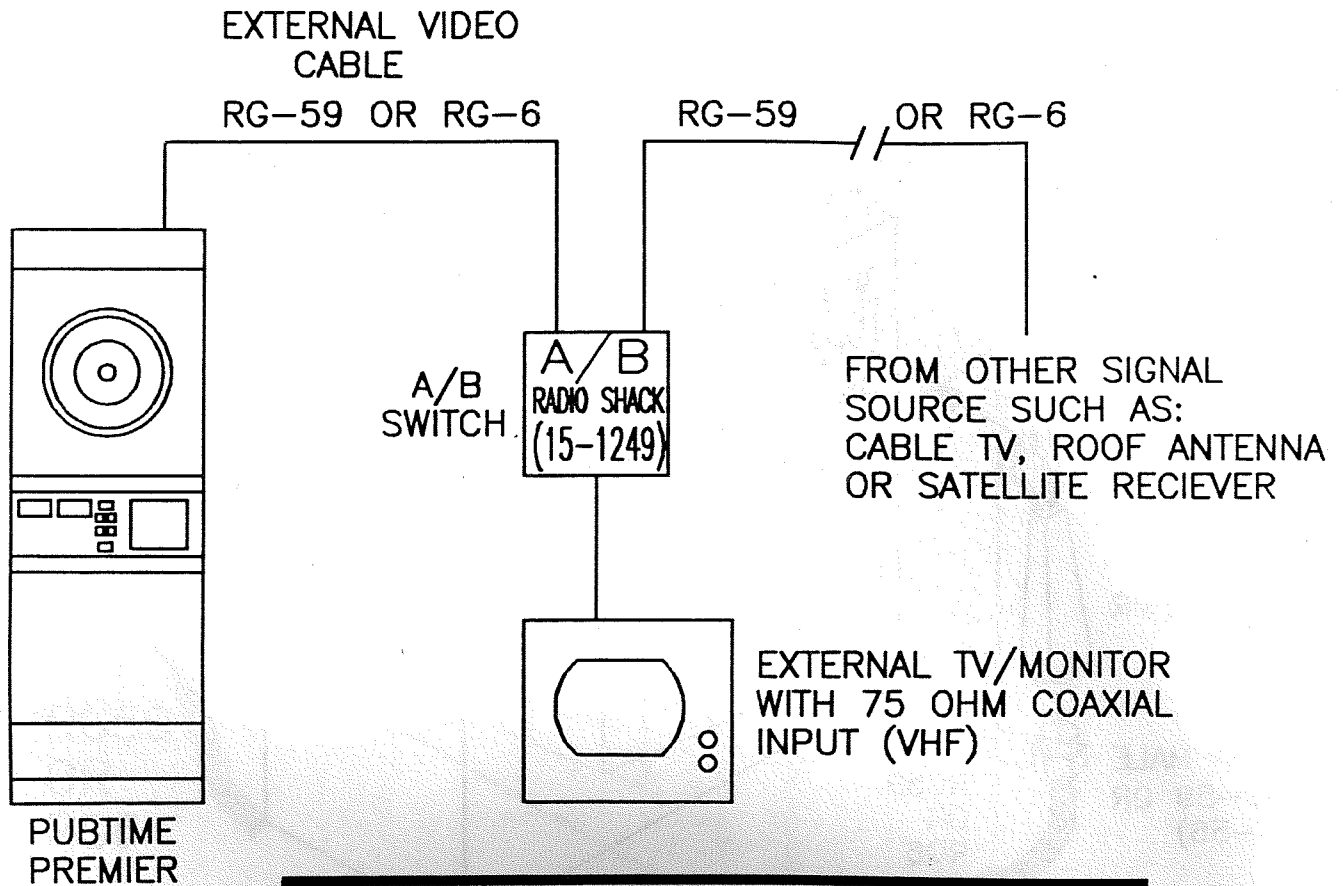


FIGURE 7-4 300 OHM CONVERSION



**ADDING PUBTIME PREMIER WITH TV/MONITOR
TO AN EXISTING SYSTEM USING
DRT-952 BOARD KIT (F60032-5000)**

DWG 5000048

FIGURE 7-5 STANDARD HOOK UP

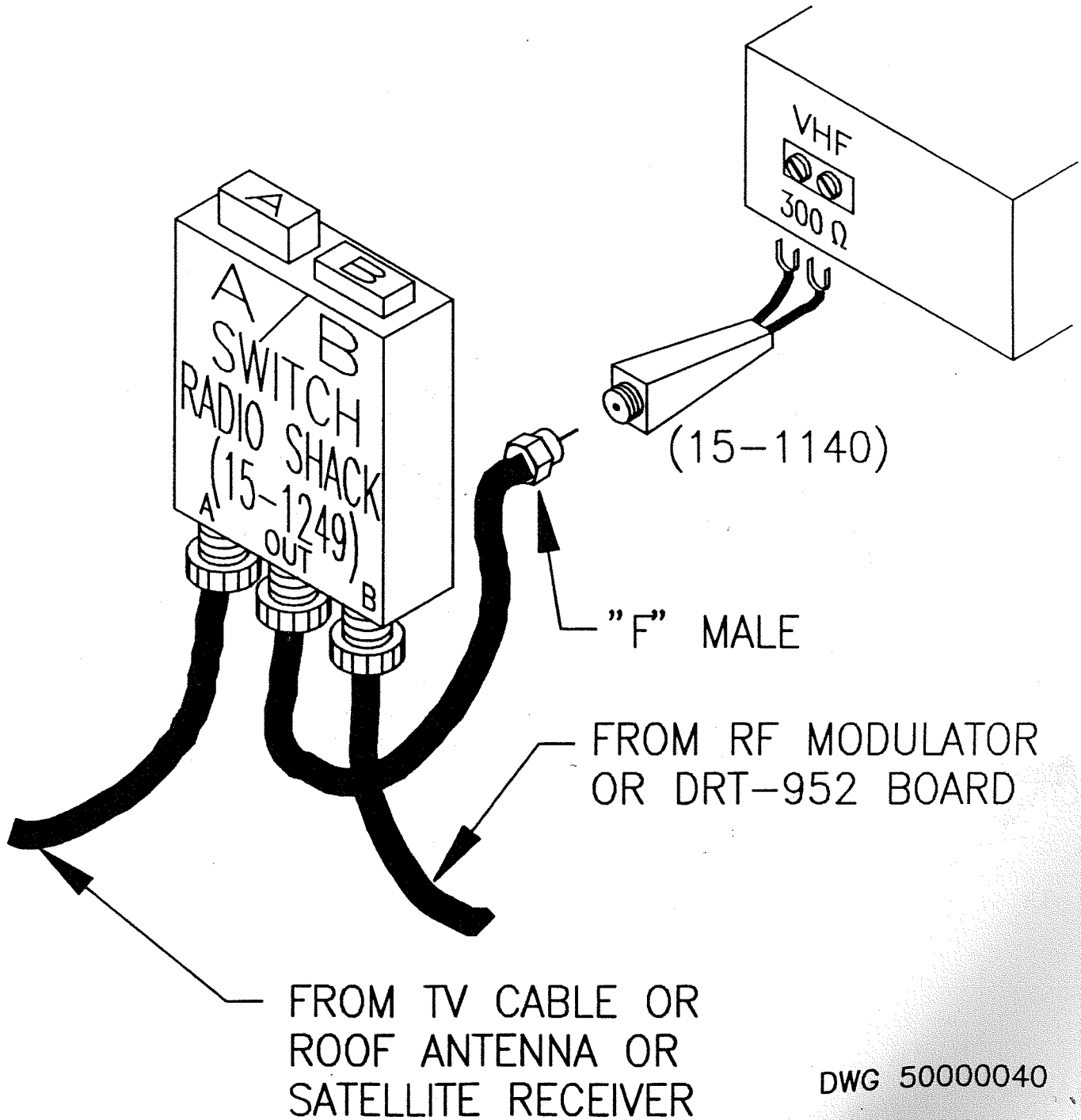
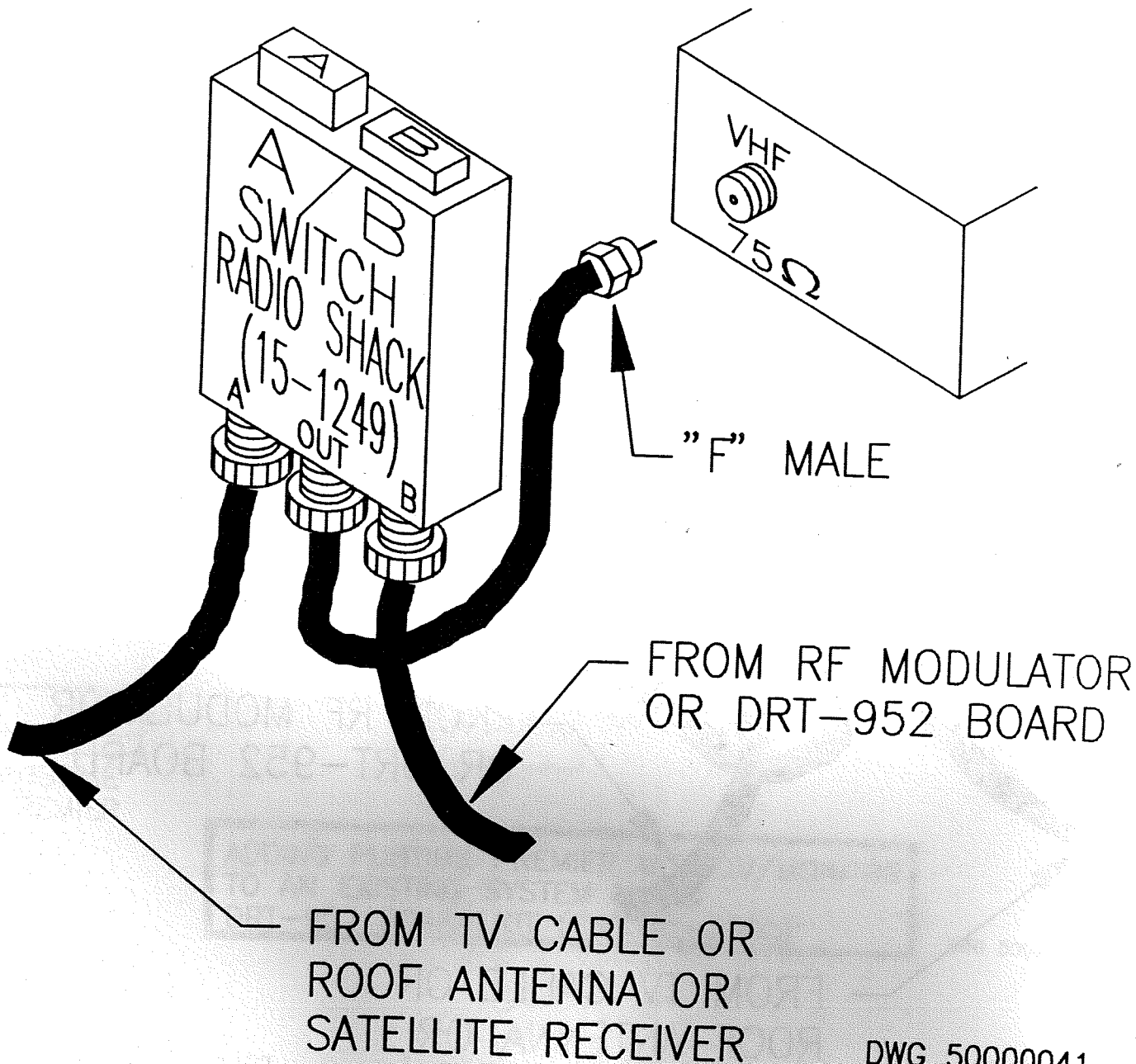


FIGURE 7-6 A/B SWITCH TO 300 OHM INPUT



DWG 50000041

FIGURE 7-7 A/B SWITCH TO 75 OHM INPUT

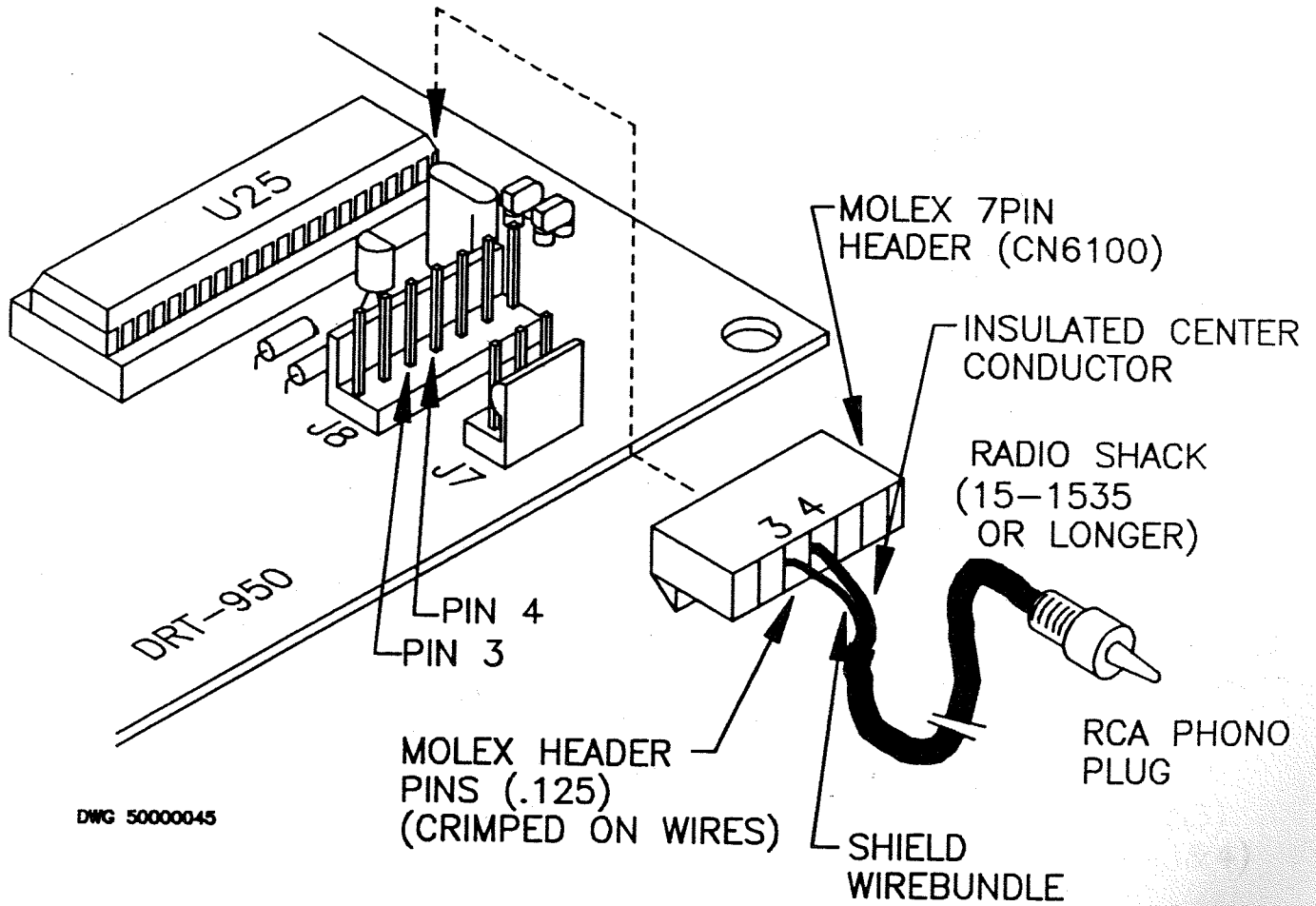


FIGURE 7-8 DRT-950 BOARD

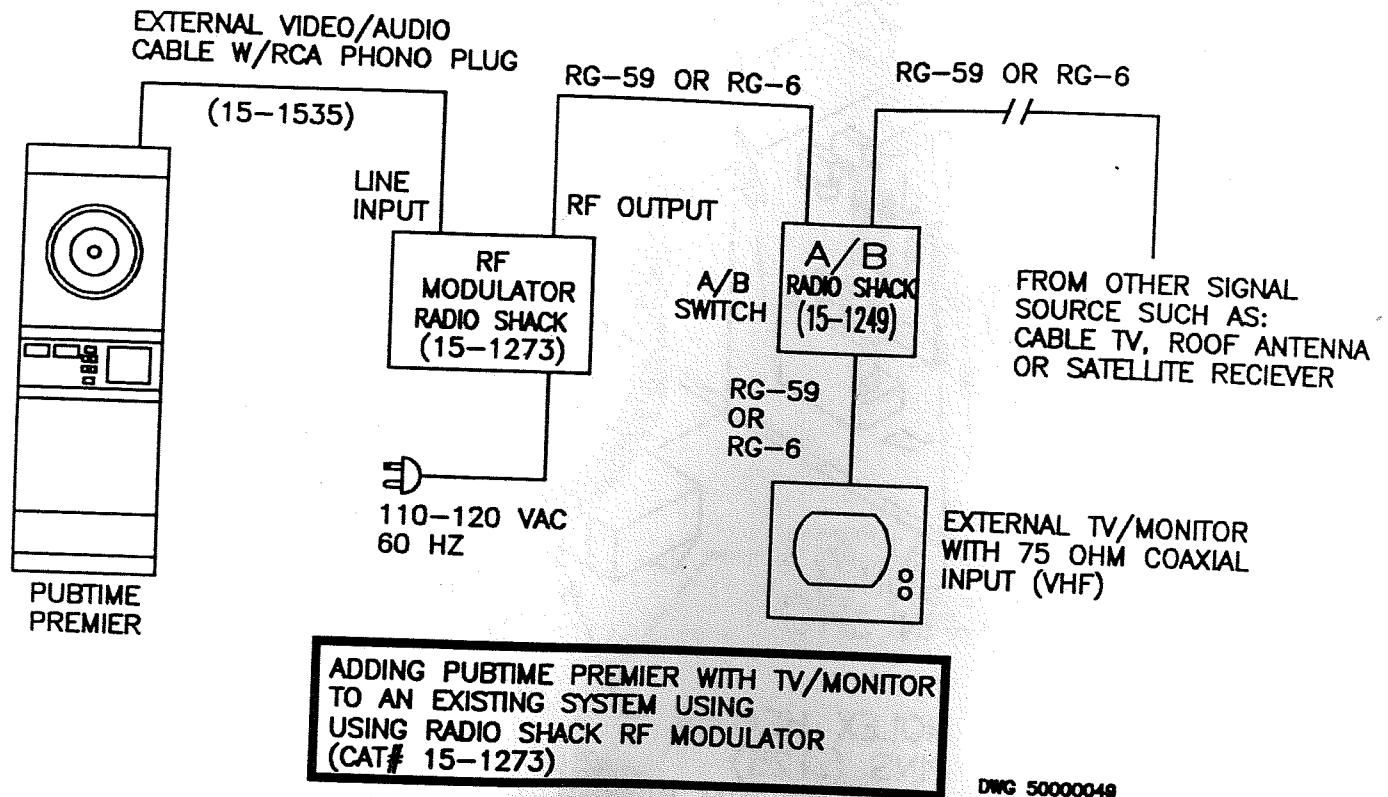


FIGURE 7-9 RF MODULATOR HOOK UP

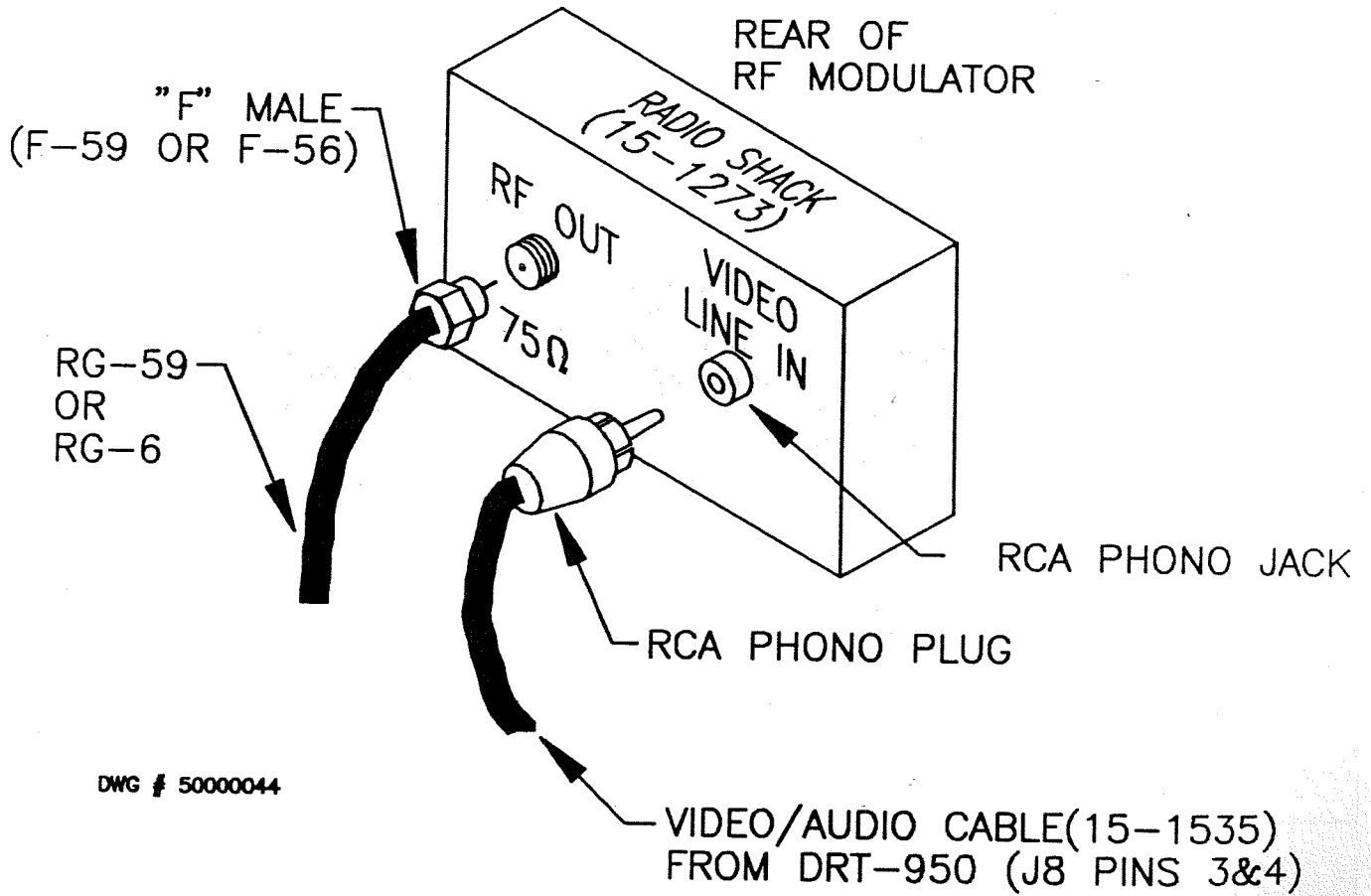


FIGURE 7-10 RF MODULATOR

SECTION 8 - TROUBLESHOOTING GUIDE

PROBLEM	ACTION
No sound, video or overhead light.	Check AC outlet for power. Check for blown fuse.
Sound and video function but no overhead light.	Check for proper connection of overhead lamp wiring. Check fluorescent tube. Check lamp starter.
No power up sound or video display, but overhead lamp turns on.	Check all connections to power supply, AC input, +5V and +12V outputs. +5V output must be adjusted to +5.1V. Check power connections to DRT-950 board. Voltage on DRT-950 board must be +5.1V DC.
Power-up sound and overhead lamp function, but no video display.	Check proper connection of power and video to the monitor J7 and P5. Properly adjust brightness and contrast (see monitor documentation). Replace monitor or DRT-950 board as necessary.
No sound	Adjust volume control R7 on DRT-950 board. Check the connections to and the integrity of the speaker. Check for the presence of +12V from the power supply. Replace the DRT-950 or the speaker as necessary.
RAM reset on every power-up	Check for correct DIP switch settings. Check integrity of DIP switches. Replace the DRT-950 board as necessary.
No lamps light.	Check proper connection of lamp connector J2. Check black ground wire loop to each lamp. Check +5V at the power supply. Check and replace U14 if necessary.

PROBLEM	ACTION
Individual lamps do not light.	<p>Check the bulb.</p> <p>Check the wire from lamp connector J2 for the lamp not working.</p> <p>Check lamp socket contacts.</p> <p>Check for +5V on the output of the transistor for the lamp.</p> <p>Replace the transistor, the resistor or U14 as necessary.</p>
No buttons or coin inputs work.	<p>Check proper connection of switch connector J4.</p> <p>Check green ground wire loop to each switch.</p> <p>Check each switch for a possible short.</p> <p>Replace U11 if necessary.</p>
Coin Switch or button not working.	<p>Check that the switch is properly seated in the button unit.</p> <p>Check that the button operates freely.</p> <p>Check the wire from the switch connector J4 to the normally open contact.</p> <p>Check the switch for a possible short.</p>
Coin jam display	<p>Check the coin switch mechanism for a possible jammed coin.</p> <p>Check the actual coin switch for a jammed lever.</p> <p>Check the switch wiring connects to the normally open contact.</p>
Stuck Segment display	<p>Check that the wing nuts holding the target back board are finger tight and that the board is not jammed on the 7 retaining screws.</p> <p>Check for broken tips wedged between a segment and the spider.</p> <p>Check for broken tips stuck behind a segment.</p>

PROBLEM	ACTION
<p>No missed darts detected, auto player change not working.</p> <div data-bbox="250 453 553 625" style="border: 1px solid black; padding: 5px; width: fit-content;"> <p style="text-align: center;">NOTE: AUTOMATIC PLAYER CHANGE OPTION MUST BE INSTALLED.</p> </div>	<p>Check for correct DIP switch settings.</p> <p>RDP-17, RDP-15 have not been properly connected to the DRT-950 board.</p> <p>Check the +5V at the power supply and its connection to the DRT-950 board.</p>
<p>Player change works, but no missed darts are detected.</p>	<p>Check for correct DIP switch settings.</p> <p>Check connections to the RDP-15 board.</p> <p>The piezo electric strip is not properly attached. Replace if necessary.</p>
<p>Only some missed darts are detected.</p>	<p>Check connections to the RDP-15 board.</p> <p>The piezo electric strip is not properly attached. Replace if necessary.</p>
<p>Automatic player change does not work.</p>	<p>Check for correct DIP switch settings.</p> <p>Is the cable from the ultrasonic transducer connected correctly to the RDP-17 board?</p> <p>Check connections at the ultrasonic transducer. Both connections must be properly seated.</p> <p>Replace the RDP-17 board.</p>

SECTION 9 - PUB TIME PREMIER SPARE PARTS LIST

LAMPS & SWITCHES

SW1610	SWITCH YELLOW SQ. "1 PLAYER" (6V BULB)
SW1611	SWITCH YELLOW SQ. "2 PLAYER" (6V BULB)
SW1612	SWITCH YELLOW SQ. "3 PLAYER" (6V BULB)
SW1613	SWITCH YELLOW SQ. "4 PLAYER" (6V BULB)
SW1635	SWITCH RED RECT. "GAME SELECT" (6V BULB)
SW1621	SWITCH RED SQ/2 "PLAYER/CHANGE" (6V BULB)
LB1155	BULB FOR SWITCHES & MECHS (GE#555 10 PAK)
LB1126	BULB FOR LIGHT BOARD (GE#79 10 PAK)
SK3010	SOCKET FOR LIGHT BOARD
LB2100	15" FLUORESCENT TUBE
EC6050	15" FLUORESCENT FIXTURE 60 HZ

DECALS

GL8033-0A	MARQUEE (OVERHEAD) LEXAN PANEL (BLACK)
GL4089-0A	TARGET DECAL (BLACK)
GL8004	INSTRUCTION DECAL (BLACK)
GL2500-0A	CONTROL PANEL DECAL (BLACK)
GL2448	LOWER FRONT DECAL (BLACK)
GL8032-0A	MARQUEE (OVERHEAD) LEXAN PANEL (BEIGE)
GL4083-0A	TARGET DECAL (BEIGE)
GL8003	INSTRUCTION DECAL (BEIGE)
GL2510-0A	CONTROL PANEL DECAL (BEIGE)
GL8005-0A	LOWER FRONT DECAL (BEIGE)

TARGET ASSEMBLIES STANDARD SIZE 15-1/2" DIAMETER TARGETS

SB1495	WHITE SPIDER W/ RED & BLUE SEGMENTS
SB1499	GRAY SPIDER W/ RED, BLACK, CREAM & GREEN SEGMENTS
SB1486	WHITE SPIDER W/ RED & BLACK SEGMENTS

CATCH RINGS

DS2002	CATCH RING KIT - FOR 15-1/2" TARGET (BEIGE)
DS2001	CATCH RING KIT - FOR 15-1/2" TARGET (BLACK)

TARGET SPIDERS

DS0070-0A	15-1/2" SPIDER (WHITE)
DS0072-0A	15-1/2" SPIDER (GRAY)

**TARGET SEGMENTS
SEGMENTS FOR STANDARD (15-1/2" DIA.) TARGETS**

PIES

DS0030-0B	BLUE PIE
DS0031-0B	RED PIE
DS0032-0B	BLACK PIE
DS0033-0B	CREAM PIE

TRIPLES

DS0040-0A	BLUE TRIPLE
DS0041-0A	RED TRIPLE
DS0042-0A	BLACK TRIPLE
DS0043-0A	GREEN TRIPLE

BLOCKS

DS0050	BLUE BLOCK
DS0051	RED BLOCK
DS0052	BLACK BLOCK
DS0053	CREAM BLOCK

DOUBLES

DS0060	BLUE DOUBLE
DS0061	RED DOUBLE
DS0062	BLACK DOUBLE
DS0063	GREEN DOUBLE

BULLSEYES

DS0010-0A	BLUE INNER BULLSEYE
DS0011-0A	RED INNER BULLSEYE
DS0012-0A	BLACK INNER BULLSEYE
DS0020-0A	RED OUTER BULLSEYE

MATRIX SWITCHES

SA8704-0A	MATRIX SWITCH & WOOD ASSEMBLY (15-1/2" TARG)
HW8012-0A	GUM RUBBER SHEET (FOR USE WITH THE ABOVE)

ELECTRICAL COMPONENTS

EC9346-0A	VIDEO MONITOR (BOARD & TUBE ONLY)
SA8050-0C	VIDEO MONITOR (WITH CHASSIS)
SA2701	MAIN LOGIC BOARD
EC7526	SWITCHING POWER SUPPLY 5V @11A, 12V @2A
HW8149	COIN DOOR W/DUAL COIN MECHS
SB1416	POWER CORD, SWITCH & FUSE ASSEMBLY
SA4900-0C	KEYBOARD ASSEMBLY
F60032-5000	EXTERNAL TV ADAPTER KIT

DARTS, TIPS & ACCESORIES

DT1100	WHITE DART TIP 1/4" (500 PER BAG)
DT1101	BLACK DART TIP 1/4" (500 PER BAG)
SB1662	BAR DARTS RED (3 PER SET)
SB1663	BAR DARTS BLUE (3 PER SET)
SB1664	BAR DARTS YELLOW (3 PER SET)
SB1665	BAR DARTS GREEN (3 PER SET)
SB1666	BAR DARTS ORANGE (3 PER SET)
SB1673	BAR DARTS BLACK (3 PER SET)
GL4075	"THE BULL STARTS HERE" THROW LINE

CABINET PARTS

WD2810-0P	CABINET HOOD
WD2809-0P	CABINET MIDDLE SECTION
WD2808-0P	CABINET BASE
MW1537-0F	DOOR SUPPORT BRACKET - RIGHT
MW1538-0F	DOOR SUPPORT BRACKET - LEFT
MW1534-0C	DOOR HINGE
MW1535-0G	DOOR HINGE BRACKET
MW4125	SWITCH PANEL BRACKET
HW8004-0C	LARGE RUBBER TREAD

**APPENDIX A. - ADVERTISEMENT SCREEN
LAYOUT WORKSHEET**

Advertisement Screen Layout Worksheet

BORDER AREA

1																								
2																								
3																								
4																								
5																								
6																								
7																								
8																								
9																								
10																								
11																								
12																								
13																								
14																								
15																								
16																								
17																								
18																								
19																								

SHIFT SML CTRL BL 10S SCR N 01
 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23

QUICK REFERENCE

TURN ON KEYBOARD:

- 1) PRESS **TEST**
- 2) SELECT "ADVERTISING SCREEN"
- 3) PRESS **TEST** AGAIN

CHANGING SCREENS:

- 1) GOING FROM 1 TO 12, **CONTROL** + **F**
- 2) GOING FROM 12 TO 1, **CONTROL** + **B**

ERASING

- 1) SCREEN **CONTROL** + **E**
- 2) LINE—MOVE CURSOR TO COL. 1 OF LINE, PRESS **BIG/SML**

CHANGING CHARACTER SIZE:

- 1) MOVE CURSOR TO COL. 1 OF LINE
- 2) PRESS **BIG/SML**

CHANGING BORDER (ANYTIME) PRESS **BORDER**

TURN OFF KEYBOARD:

- 1) PRESS **TEST**
- 2) PRESS **PLAYER CHANGE**

CENTERING A LINE:

- 1) MOVE CURSOR TO LINE
- 2) PRESS **CONTROL** + **P**

BLINKING LINES IDLE MODEL:

- 1) MOVE CURSOR TO LINE
- 2) PRESS **CONTROL** + **T**

CHANGE THING:

- 1) PRESS **CONTROL** + **S**

APPENDIX B. - ADDENDUM TO VIDEO DART GAMES EQUIPPED WITH TRIPOLE MONITORS

ADDENDUM TO MERIT VIDEO DART GAMES
EQUIPPED WITH TRIPOLE MONITORS

INTRODUCTION

The Tripole model T250-02 is a 9" monochrome (amber) monitor designed for high quality display of alphanumeric dot characters.

The monitor in your video dart game comes to you already factory adjusted. In the event that at some time in its operational life it requires adjustment, refer to the information below and Figure #1 to accomplish readjustment.

EXTERNAL CONTROLS

BRIGHTNESS - Rotating this control will increase or decrease the light intensity of characters on the display.

NOTE: This control is used in conjunction with the sub-brightness control. Refer to page 2 for information on adjustment.

CONTRAST - Rotating this control will increase or decrease the difference between light and dark areas on the screen.

INTERNAL CONTROLS

VERTICAL HEIGHT [VR102] - Rotating this control increases or decreases the vertical height of the display area on the screen.

VERTICAL HOLD [VR101] - Rotating this control will increase or decrease the vertical stability of the displayed image on the screen.

VERTICAL LINEARITY [VR103] - Rotating this control will increase or decrease the vertical size of the displayed image.

SUB-BRIGHTNESS [VR203] - Rotating this control will increase or decrease the light intensity of characters on the screen. Used with the Brightness control to establish an upper limit of brightness intensity. Refer to page 2 for information on adjustment.

HORIZONTAL WIDTH [L201] - Rotating this control will increase or decrease the horizontal size of the display area on the screen.

FOCUS [VR204] - Rotating this control will increase or decrease the sharpness in the definition of the displayed image.

HORIZONTAL HOLD [VR202] - Rotating this control will increase or decrease the horizontal stability of the displayed image on the screen.

HORIZONTAL LINEARITY [L202] - Rotating this control will increase or decrease the width at the left side of the screen.

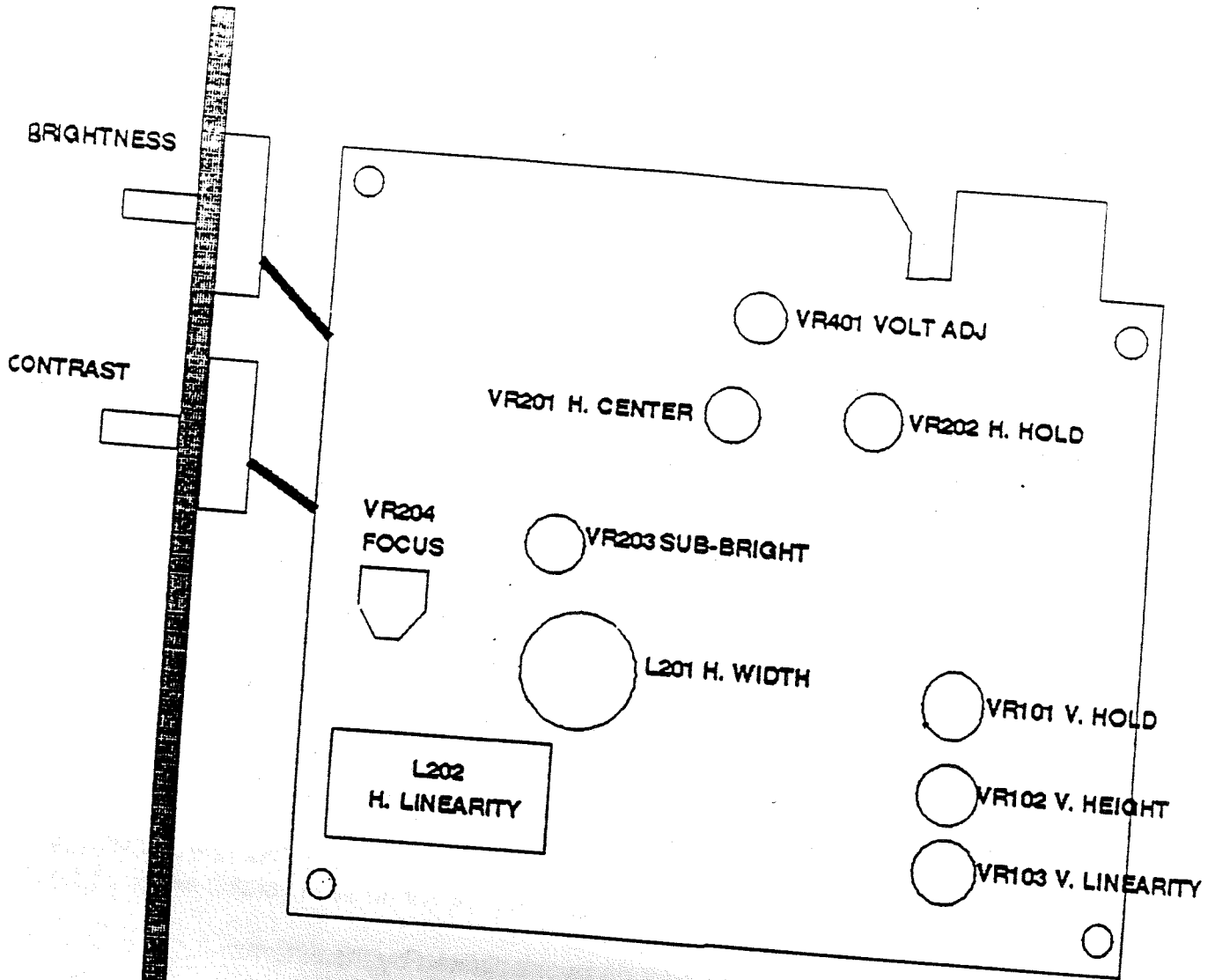
HORIZONTAL CENTER [VR201] - Rotating this control will shift the displayed image to the right or left along the horizontal axis.

VOLTAGE ADJUST [VR401] - Rotating this control will increase or decrease the filament voltage to the CRT and will result in an overall change in picture quality. This control is best left to a qualified technician.

SUB-BRIGHTNESS AND BRIGHTNESS CONTROL ADJUSTMENTS:

The Sub-Brightness and Brightness controls are interactive to one another. The purpose of the two controls is to insure that the brightness is not increased to the point that the CRT phosphor coating will be scarred by the electron beam. To adjust the two controls, follow these steps while referring to Figure #1:

- 1 - With power on to the game, the target section door open and the metal screen removed from the monitor's printed circuit board, turn the external brightness control so that the screen image is at its maximum brightness.
- 2 - Using the small screwdriver, adjust the sub bright control so that the brightness of the displayed image is decreased and provides the best image for the lighting conditions in the area.
- 3 - Put the metal screen back over the board and monitor.
- 4 - You have now insured that your monitor can not be over adjusted by the external brightness control and cause damage to the CRT.



INTERNAL AND EXTERNAL CONTROLS FOR TRIPOLE MONITOR

FIGURE #1

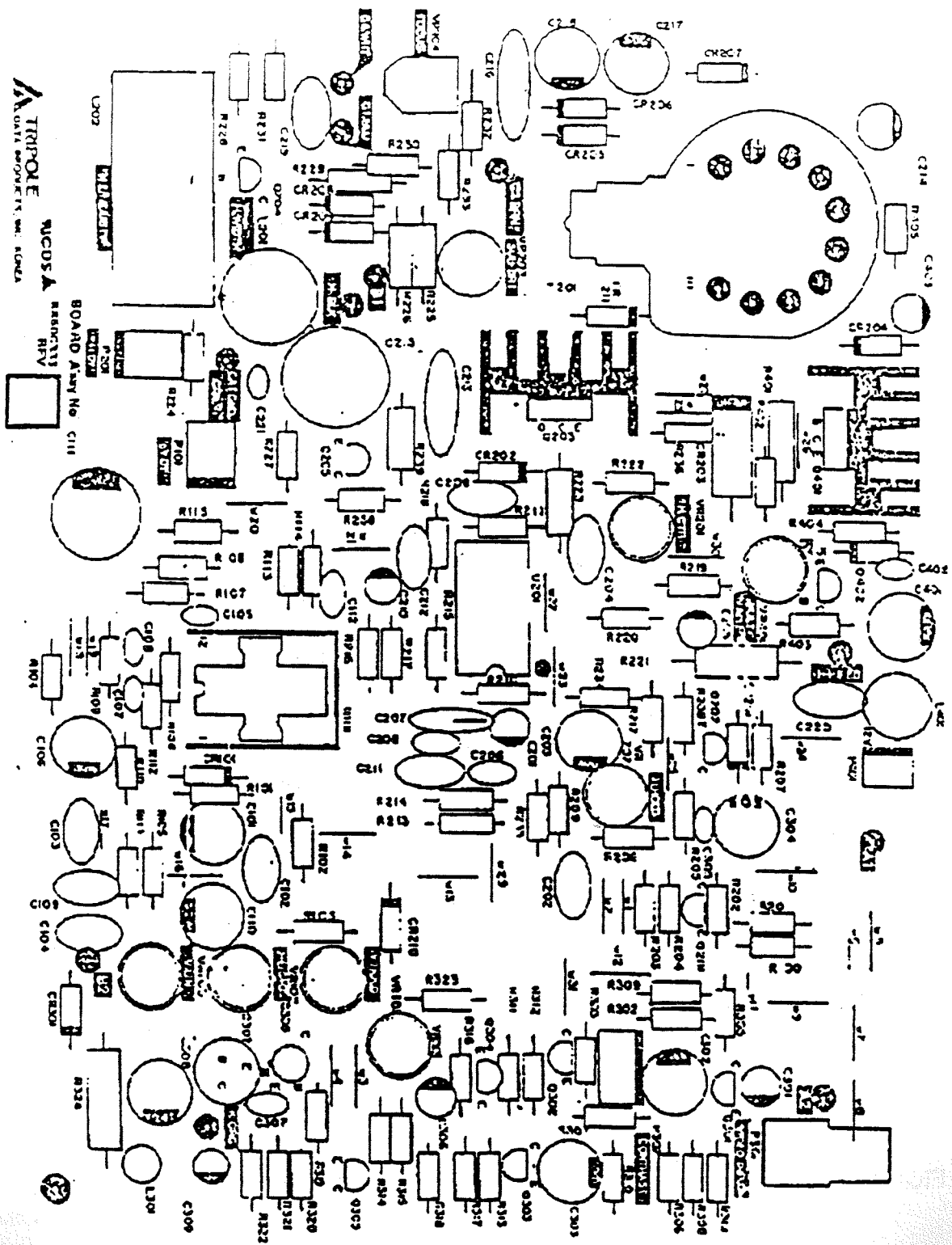


FIGURE #2 - MAIN MONITOR PC BOARD COMPONENT LAYOUT

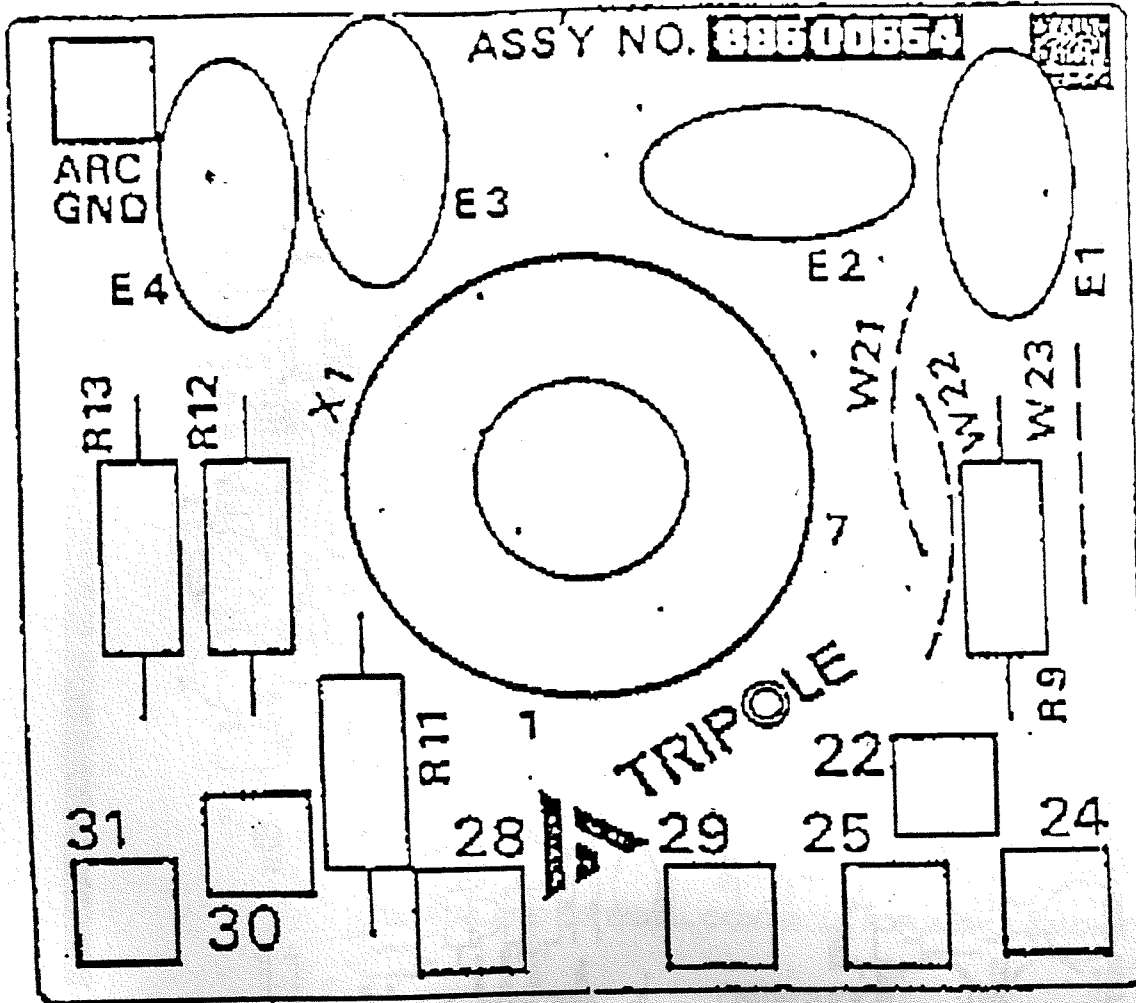


FIGURE #3 - CRT PC BOARD LAYOUT

CIRCUIT DESIGNATION	MFR'S PART NO	DESCRIPTION
	90401389	ASSY MONITOR KIT W/CRT AND MOUNTING BRKT.
	20101390	9" AMBER CRT
	66101391	MOUNTING BRACKET LEFT SIDE
	66101392	MOUNTING BRACKET RIGHT SIDE
	88600123	DEFLECTION YOKE COIL ASSEMBLY
	88501438	CRT SOCKET BOARD ASSEMBLY
	8850033	MAIN MONITOR BOARD ASSEMBLY
SEMICONDUCTORS		
Q203	22500056	TRANSISTOR NPN DARLINGTON/BU806/BU184
Q401	22501098	TRANSISTOR NPN DARLINGTON/TIP120
Q306	22100589	TRANSISTOR NPN /BSX20
Q204,402	22100055	TRANSISTOR NPN/KSC1008
Q304,305	22000727	TRANSISTOR PNP/KSA733
CR301	23001400	DIODE 1N4002
CR101,201,202,208,209 210,211	23100287	DIODE 1N4148
CR204,206	23100854	DIODE 1N4935
CR207	23101094	DIODE 1N4936
CR205	23100042	DIODE G1818/MR818/PLR818
CR203	23100040	DIODE G1854/MR854/PFR854
CR401	23200843	DIODE ZENER 1N751A
U101	21500095	IC TDA1170N/TDA1170LN
U102	21501326	IC TDA1180P
INDUCTORS & COILS		
L401	25201856	CHOKE COIL 8uH
L301	25100208	COIL FIXED 4.7 uH 10% 150 mA
L202	25101857	COIL VARIABLE
L201	25401858	COIL VARIABLE
CAPACITORS		
C101,307	14100013	CAP CER 100pF 10% 50V
C108	14100462	CAP CER 470pF 10% 50V
C305,402	14000275	CAP CER 0.1 uF 2% 50V
C306,403	16100627	CAP ELC 1 uF 20% 50V
C214	16101150	CAP ELC 10 uF 20% 100V
C218	16100450	CAP ELC 10 uF 20% 160V
C101,106,110,302,303	16100022	CAP ELC 100 uF 20% 25V
C111,203,304,401	16100027	CAP ELC 1000 uF 20% 16V
C201,309	16100735	CAP ELC 22uF 20% 16V

CAPACITORS (CONTINUED)

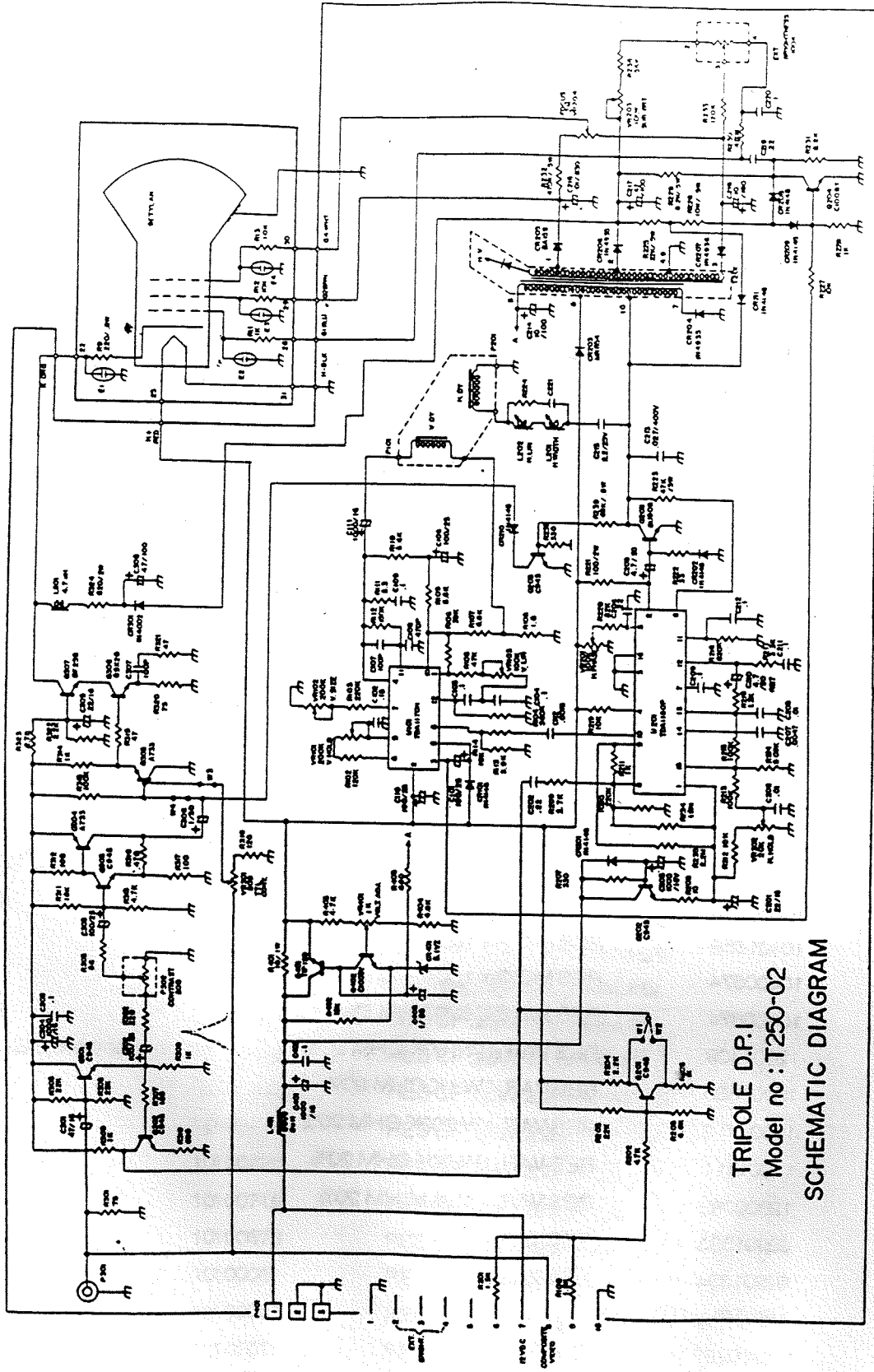
CIRCUIT DESIGNATION	MFR'S PART NO.	DESCRIPTION
C205,210	1610028	CAP ELC 4.7 uF 20% 50V
C301	16100314	CAP ELC 47 uF 20% 16V
C217,308	16101861	CAP ELC 47 uF 20% 100V
C215	16601854	CAP ELC 2.2 uF 20% 25V
C112	15100981	CAP PF .0015 uF 10% 100V
C206,208	15100979	CAP PF .01 uF 10% 100V
C103,104,109,209,211, 212,220	15101295	CAP PF .1 uF 10% 100V
C102	15101371	CAP PF .15 uF 10% 100V
C202,204,219	15101321	CAP PF .22 uF 10% 100V
C207	15201408	CAP PP .0047 uF 10% 200V
C216	15201139	CAP PP .01 uF 5% 630V
C213	15201855	CAP PP .027 uF 10% 400V

RESISTORS

R108	10100705	RES CF .25W 1 OHM 5%
R216	10101065	RES CF .25W 1.2K OHM 5%
R100,201	10101067	RES CF .25W 1.5K OHM 5%
R234	10101327	RES CF .25W 1.5M OHM 5%
R208	10100902	RES CF .25W 10 OHM 5%
R312,317	10100062	RES CF .25W 100 OHM 5%
R213,215,315	10100080	RES CF .25W 100K OHM 5%
R114,212,219,227	10100064	RES CF .25W 10K OHM 5%
R102,233	10100075	RES CF .25W 120K OHM 5%
R112	10100074	RES CF .25W 150K OHM 5%
R307	10100137	RES CF .25W 180 OHM 5%
R311,402	10100619	RES CF .25W 18K OHM 5%
R206,211,228,308,309,314	10100535	RES CF .25W 1K OHM 5%
R204,R322	10100063	RES CF .25W 2.2K OHM 5%
R235	10100714	RES CF .25W 2.2M OHM 5%
R209,323	10100620	RES CF .25W 2.7K OHM 5%
R302	10100716	RES CF .25W 220 OHM 5%
R103,210	10100573	RES CF .25W 220K OHM 5%
R203,305,306	10100061	RES CF .25W 22K OHM 5%
R111	10100083	RES CF .25W 3.3 OHM 5%
R217	10100071	RES CF .25W 3.3K OHM 5%
R113	10100711	RES CF .25W 3.9K OHM 5%
R222	10100059	RES CF .25W 33 OHM 5%

RESISTORS (CONTINUED)

CIRCUIT DESIGNATION	MFR'S PART NO.	DESCRIPTION
R1 06	101 00078	RES CF .25W 39K OHM 5%
R202,313,403	101 00072	RES CF .25W 4.7K OHM 5%
R319,321	101 01 071	RES CF .25W 47 OHM 5%
R 316	101 00058	RES CF .25W 470 OHM 5%
R230	101 00079	RES CF .25W 470K OHM 5%
R1 05	101 00065	RES CF .25W 47K OHM 5%
R1 09,110	101 00616	RES CF .25W 5.6K OHM 5%
R303	101 00706	RES CF .25W 56 OHM 5%
R1 04	101 00476	RES CF .25W 560K OHM 5%
R236	101 00081	RES CF .25W 56K OHM 5%
R1 07,205,404	101 00914	RES CF .25W 6.8K 5%
R310,405	101 00918	RES CF .25W 680 OHM 5%
R301,320	101 01 403	RES CF .25W 75 OHM 5%
R231	101 01 076	RES CF .25W 8.2K OHM 5%
R218	101 00948	RES CF .25W 820K OHM 5%
R220	101 01 329	RES CF .25W 82K OHM 5%
R226	101 00943	RES CF .25W 10K OHM 5%
R225	101 01 342	RES CF .25W 22K OHM 5%
R232	101 01 357	RES CF .25W 470K OHM 5%
R223	101 01 344	RES CF .25W 47K OHM 5%
R239	101 00950	RES CF .25W 68K OHM 5%
R229	101 01 348	RES CF .25W 8.2K OHM 5%
R214	10501 082	RES MF .25W 9.09K OHM 1%
R401	10401 859	RES MO 1W 10 OHM 5%
R221	10400574	RES MO 2W 100 OHM 5%
R324	10400874	RES MO 2W 820 OHM 5%
VR1 03,201,203	12001 409	RES VAR .1W 100K OHM 20%
VR401	12001 860	RES VAR .1W 1K OHM 20%
VR1 01,102	12001 410	RES VAR .1W 200K OHM 20%
VR202	12001 411	RES VAR .1W 20K OHM 20%
VR204	12000089	RES VAR .2W 2M OHM 20%
EXT. BRIGHTNESS	88901 393	RES VAR
EXT. CONTRAST	88901 394	RES VAR
MISCELLANEOUS		
E1,2,3,4	45600289	SPARK GAP 1000V
P301	31801 440	CONN JACK PHONO RCA PCB MTG

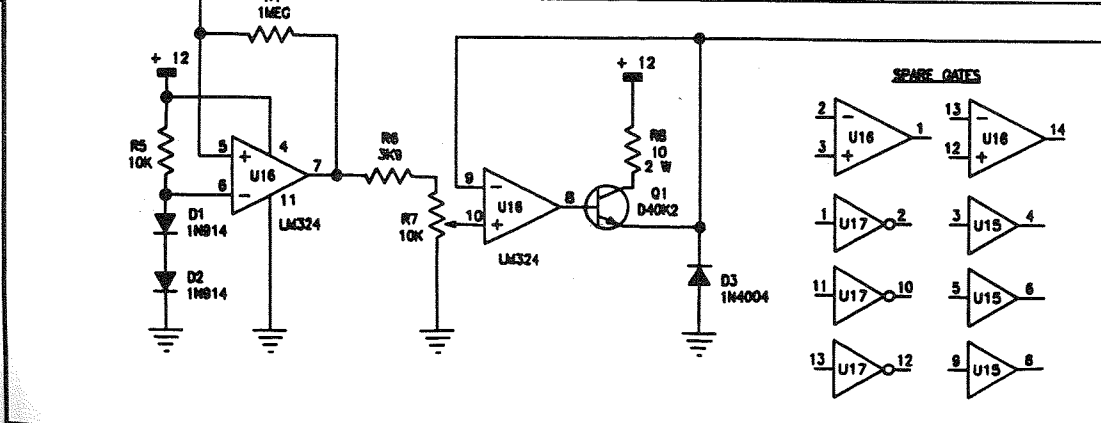
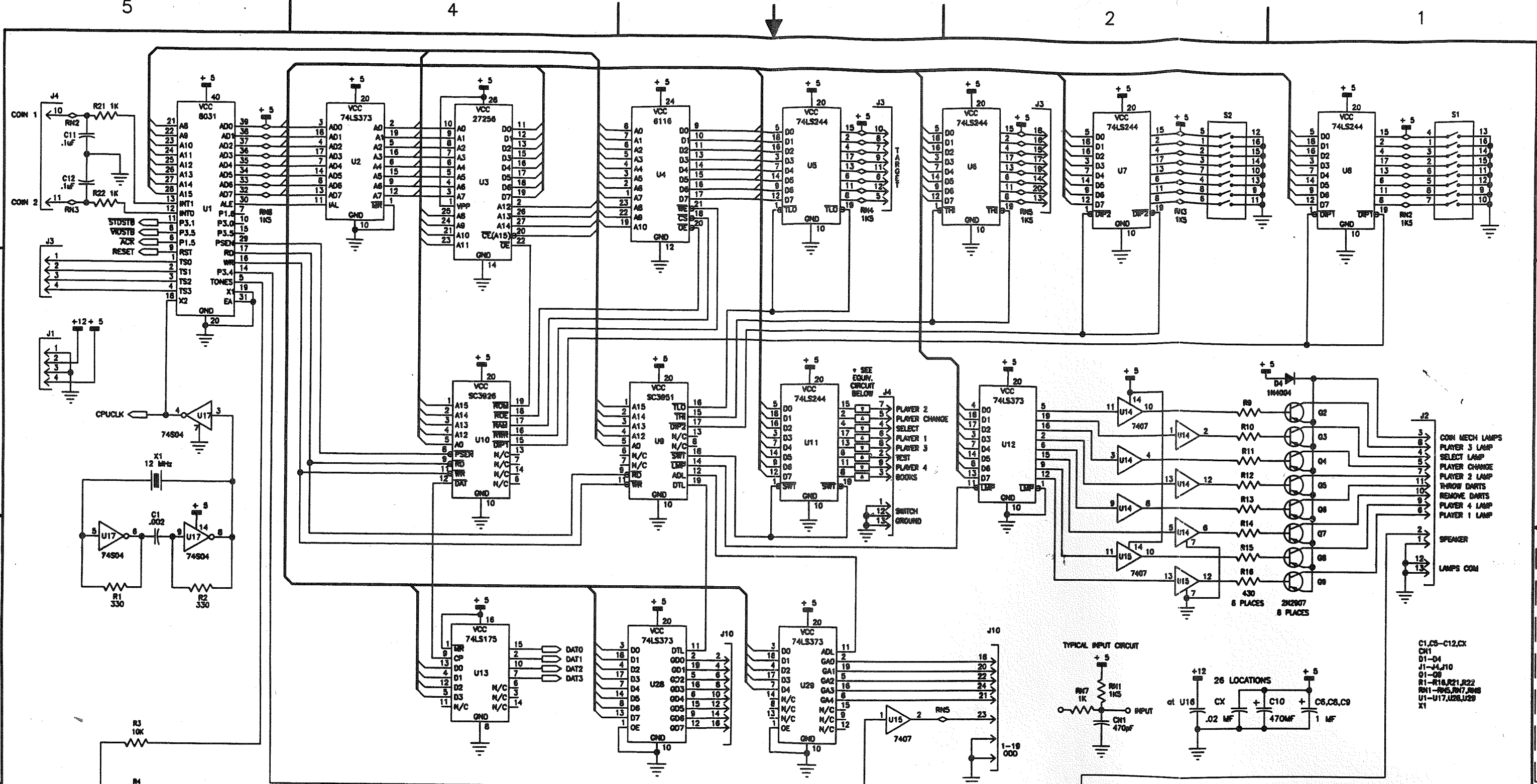


TRIPOLE D.P.I.
Model no : T250-02
SCHEMATIC DIAGRAM

APPENDIX C. - SCHEMATICS

Listed below are the schematics included in this manual.

DRAWING NO.	DESCRIPTION	PAGE
2500/0097	DRT-950 SCHEMATIC (SHEET 1 OF 2)	C-2
	DRT-950 SCHEMATIC (SHEET 2 OF 2)	C-3
2500/0099	PUB TIME PREMIER EDITION INTERCONNECTION DIAGRAM	C-4



ZONE	LTR	ECN. NO.	DESCRIPTION	CHK	DATE	APPROVED
D			ADD R21,R22,CN1,RN7-RN9,C11,C12	KPR	2/13/89	JJM 2/13/89
C			CORR. U29; C5 & C7 TO CX	KPR	7/12/88	
B			ADD U28, U29, J9, J10	KPR	6/30/88	
A			SEE ECO #194		6/10/88	
			INITIAL RELEASE		2/19/88	
REVISIONS						

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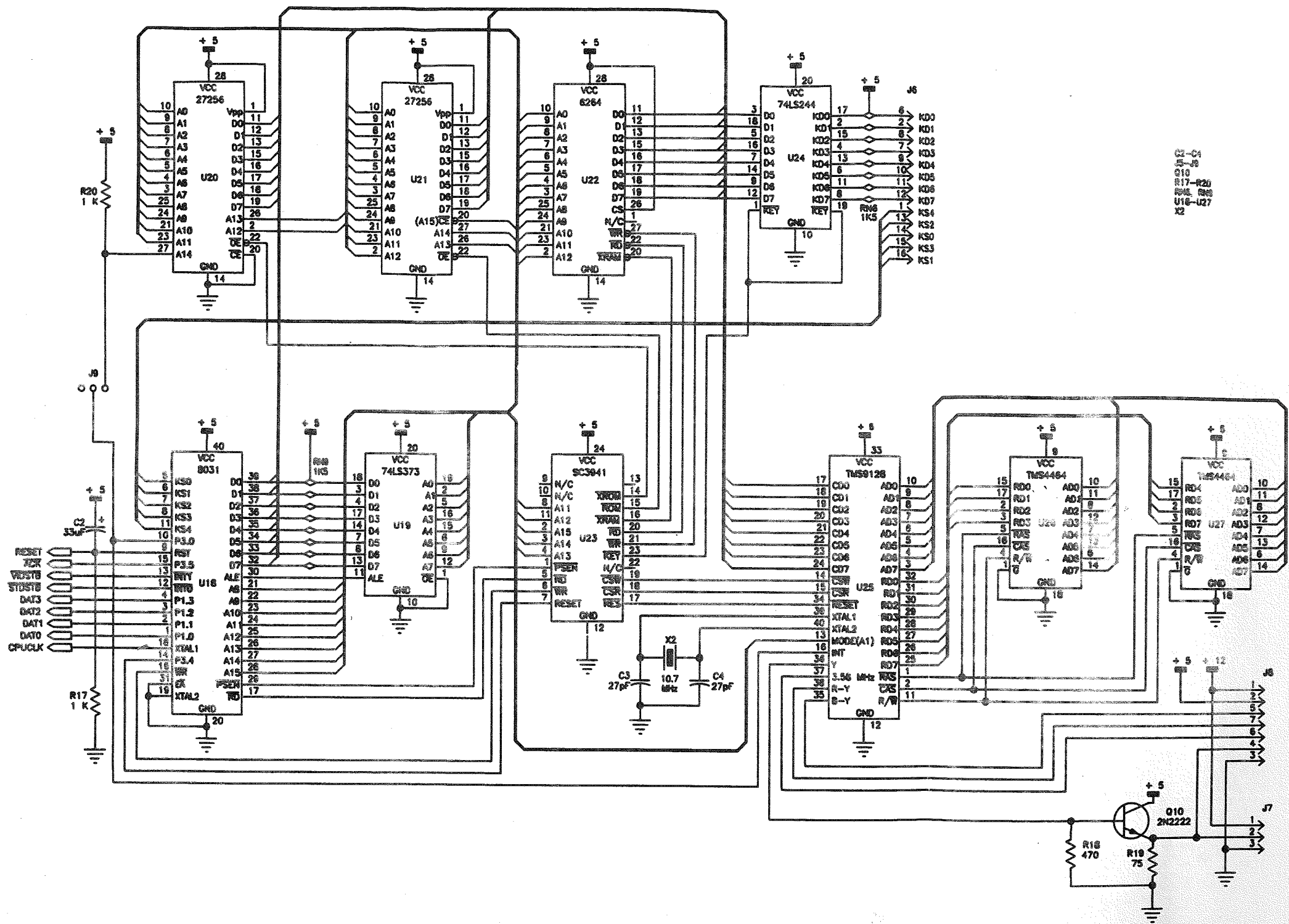
TITLE: **DRT-950 SCHEMATIC**

SIZE B	CODE IDENT NO.	DWG NO. 2500/0097
SCALE	NTS	WEIGHT
SHEET 1 OF 2		

DO NOT SCALE THIS PRINT

A B C D

DWG NO. 2500/0097



CONNECTION LIST FOR J5 EUROCARD CONNECTOR

REV	a ROW SIGNAL	PIN	c ROW SIGNAL	REV	
ALL	GROUND	1	+ 5 VOLTS	ALL	
		2			
	N/C		3		CPUCLK
			4		+ 12 VOLTS
			5		
			6		N/C
			7		
			8		
-A	U9 PIN 12	9	U9 PIN 13	BCD	
ALL		10	U9 PIN 19	-A	
		11	U10 PIN 14		
		12	D0		
		13	D1		
		14	D2		
		15	D3		
		16	D4		
		17	D5		
		18	D6		
		19	D7		
		20	N/C		
		21	ALE		
		22	PSEN		
		23	A15		
		24	A14		
		25	A13		
		26	A12		
		27	A11		
	28	A10			
	29	A9			
	30	A8			
	31	+ 5 VOLTS			
	32				

DWG NO. 2500/0097

ZONE	LTR	ECN. NO.	DESCRIPTION -- SEE ECN	CHK	DATE	APPROVED
	D		SEE SHEET 1		2/13/89	JWH 2/17/89
	C		SEE SHEET 1		7/12/88	
	B		ADD J9 & J5 LIST		7/5/88	
	-		INITIAL RELEASE		2/19/88	

REVISIONS

merit industries, inc.

TITLE: DRT-950 SCHEMATIC

SIZE: B

CODE IDENT NO.: 2500/0097

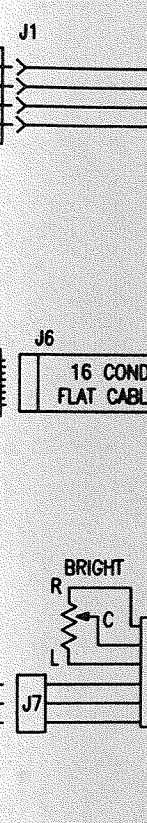
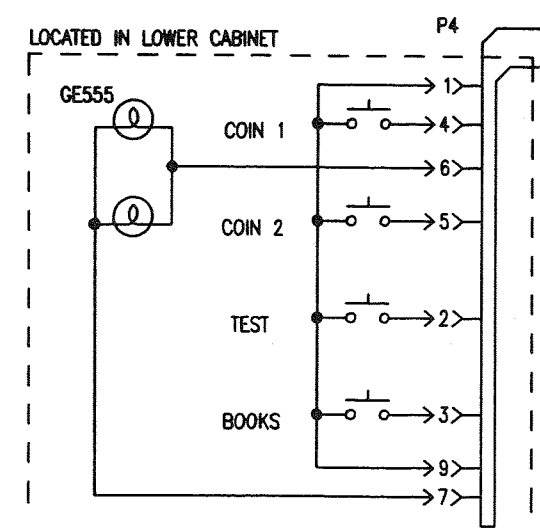
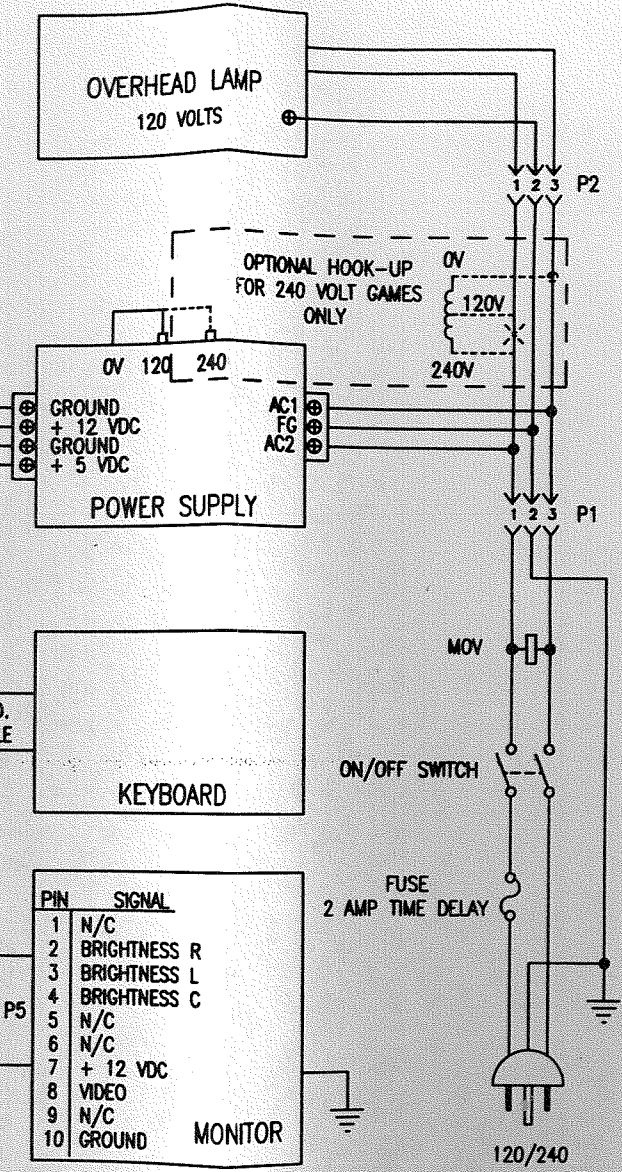
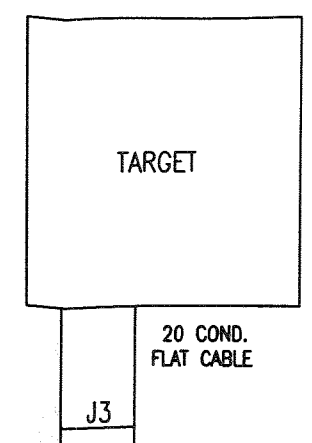
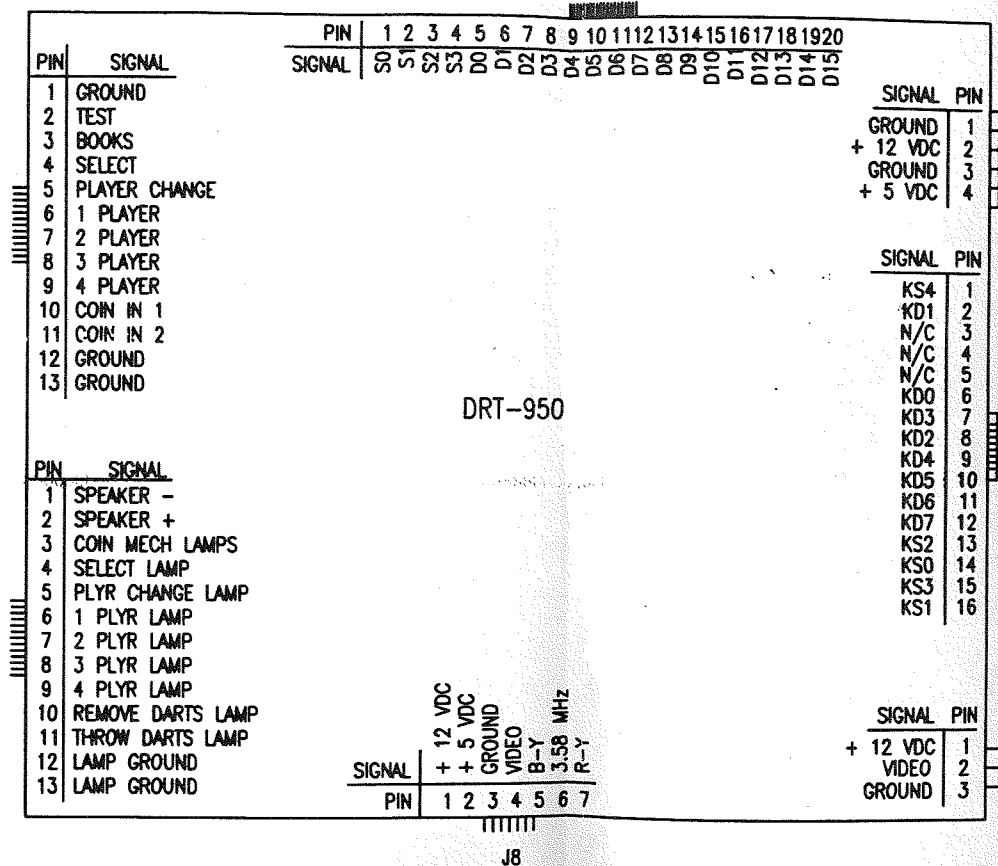
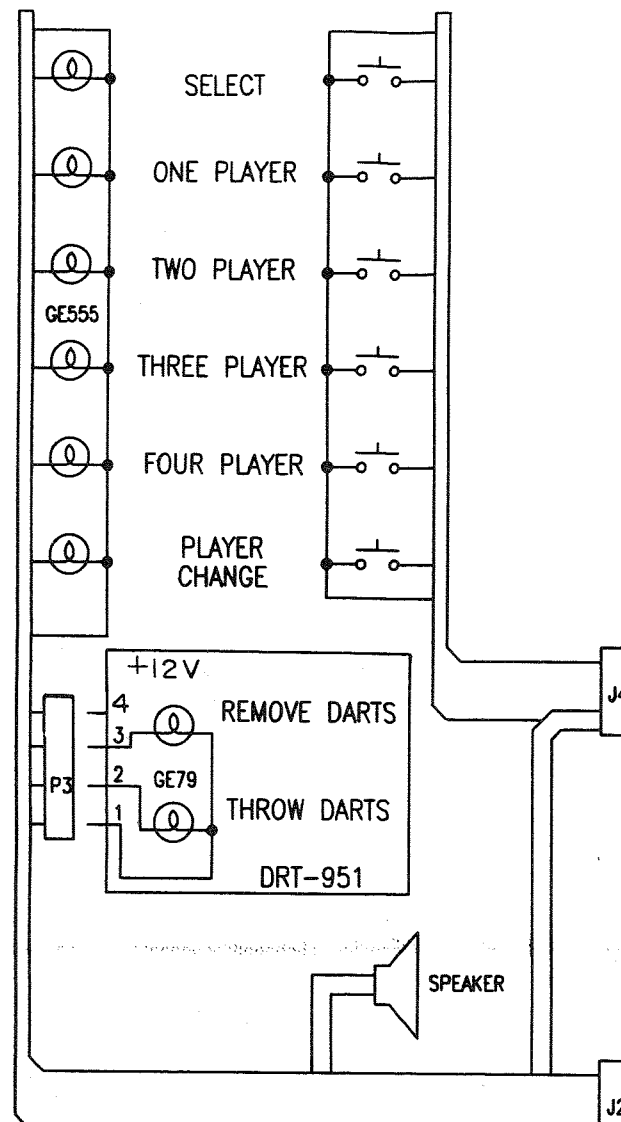
DWG NO.: 2500/0097

SCALE: NTS

WEIGHT: SHEET 2 OF 2

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A	B	C	D						
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ZONE	LTR	ECN. NO.	DESCRIPTION	CHK	DATE	APPROVED
2D	B		OVERHEAD LAMP GND WAS OPTIONAL NOW STANDARD		8-31-88	<i>[Signature]</i>
C1,C2	A		ADD 240 VOLT CONNECTIONS	PR	4/8/88	<i>[Signature]</i>
			INITIAL RELEASE		3/25/88	

merit industries, inc.

TITLE: PUB TIME PREMIER EDITION INTERCONNECTION DIAGRAM

SIZE: B CODE IDENT NO.: DWG NO. 2500/0099

SCALE: WEIGHT: SHEET 1 OF 1

DO NOT SCALE THIS PRINT

DWG NO. 2500/0099

ADDENDUM

MANUAL TITLE : PUB TIME™ PREMIER WITH SOLO CHALLENGER™

DATE: JULY 30, 1991

PM#: PM1040-0B

ADDENDUM#: ADDENDUM #1

PROGRAM#: 2478-00

AFFECTED PAGES: PAGE 4-2

DESCRIPTION OF CHANGES:

The PUB TIME™ PREMIER WITH SOLO CHALLENGER™ game may be equipped with one coin mech and one bill acceptor instead of two coin mechs. When the bill acceptor is installed, the game recognizes it as coin mech #1. The credits on coin mech #1, therefore, must be set to 4 to accommodate the one dollar bill acceptor. Follow the steps listed below when a bill acceptor is installed or when the NVRAM has been cleared and the custom coin setup has been reset to the factory default settings (DIP switch #1, position 1).

1. Press the **TEST** button to enter the test mode.
2. Press the **GAME SELECT** button two times to select the **COIN SETUP** test.
3. Press the **TEST** button again to enter the **COIN SETUP** test.
4. Use the **GAME SELECT** button to move the pointer to the **CREDITS** of Mech 1.
5. Press the **START 1** button three times to increment the credits to 4. The game will now give 4 credits for each one dollar bill deposited in the bill acceptor.
6. Press the **TEST** button again to exit the **COIN SETUP** test and return to the test mode listing.
7. Press the **PLAYER CHANGE** button to exit the test mode.