ATARI®

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RETAIL DEMONSTRATOR

FIELD SERVICE MANUAL

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LIST OF ILLUSTRATIONS

OVERSIZED SCHEMATIC PACKAGE
(Included Separately)

INTRODUCTION

The Home Computer Retail Demonstrator Field Service Manual is a reference guide for you, the service technician. This manual was designed to enable you to repair and maintain the demonstrator by performing major module swapouts. It is assumed that the manual will be used in conjunction with ATARI repair service training.

The manual is organized in six sections:

- **Theory of Operation** - Overview of how the demonstrator works.
- **Installation Procedure** - Step-by-step instructions for installation of demonstrator.
- **Symptom Checklist and Testing Procedures** - Checklist for identifying major module deficiencies for swapout.
- **Parts List** - List of the parts and assemblies used in the demonstrator.
- **Service Center Listings** - ATARI, Pioneer and Sony service centers to which defective interface boards, video disks and monitors should be sent.
- **Service Bulletins** - Section to be used to hold Field Change Orders, Upgrade Bulletins and Tech Tips.

SECTION 1

THEORY OF OPERATION

OVERVIEW

The ATARI Home Computer Retail Demonstrator includes a Pioneer video disk player, a Sony monitor and an ATARI interface board, which makes it possible for the customer's ATARI 800™ computer to send video signals to the monitor and to run the control program for the video disk. The computer demonstrator also contains ATARI power-supply and regulator/audio boards and two five inch speakers. The retailer provides an ATARI 810™ Disk Drive and an ATARI 850™ Interface Module, as well as the 800 Computer. He also displays an ATARI 825™ 80-Column Printer, but it is not functional. Figure 1-1 illustrates the functional flow of the demonstrator.

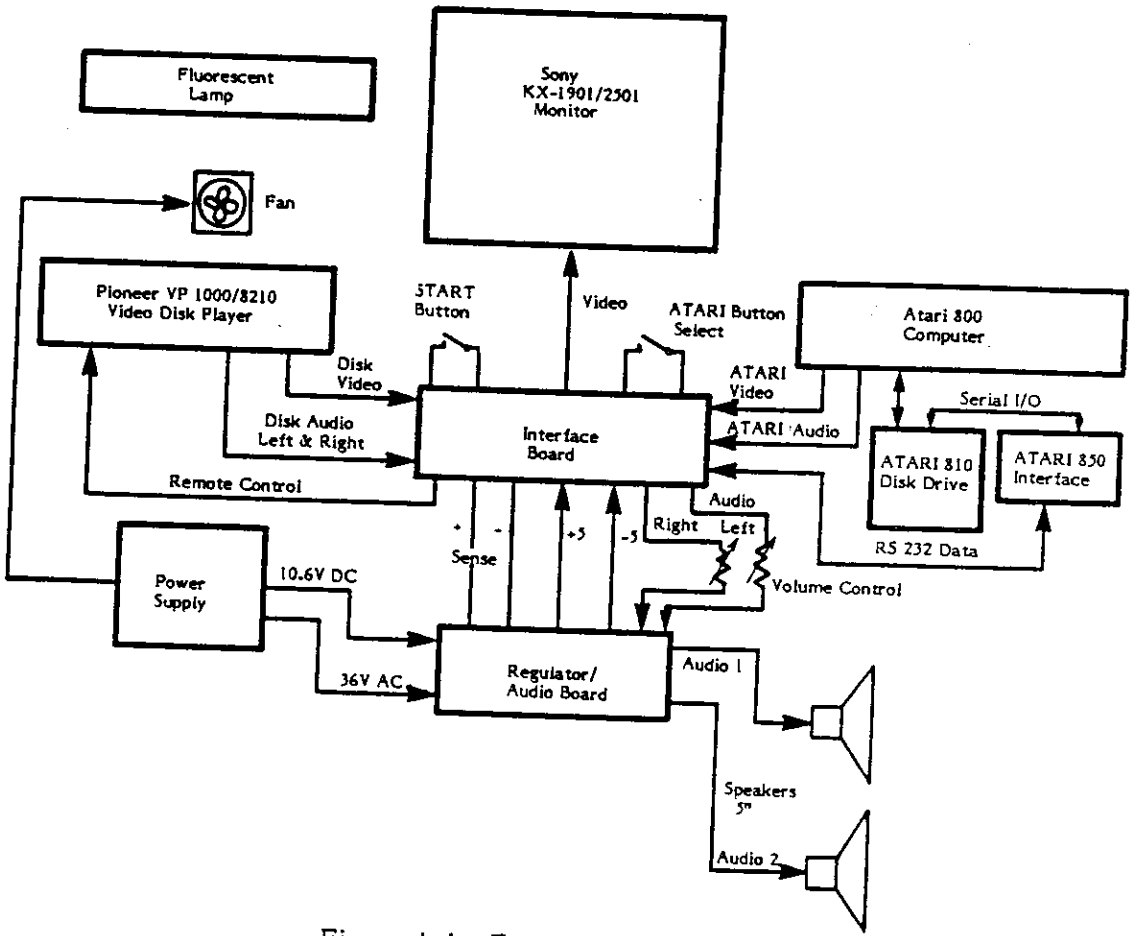


Figure 1-1. Functional Block Diagram

MAJOR ASSEMBLIES

A video disk player, video monitor and ATARI interface board are the major interactive assemblies in the ATARI Home Computer Retail Demonstrator. An ATARI power supply assembly and regulator/audio board are also included. The retailer provides a complete ATARI 800 Computer System. Two five-inch speakers, two fluorescent lamp fixtures and three switches/controls are also found in the system. For the location of each assembly in the cabinet refer to Figure 1-2. A brief discussion of the Theory of Operation of each follows.

- Video Disk Player (Pioneer VP1000 or 8210)

  The video disk player uses a laser beam to decode information written on a video disk. It converts this information into the proper video and audio signals needed for an NTSC television system. In the Home Computer Demonstrator these signals are all routed to the interface board.

  Video information passes through the Video Out jack on the rear panel of the video player to the interface board; audio information passes through the left and right audio jacks to connect with the interface board as well.

  Remote control signals are sent to the video disk player from the interface board to control its operation. This remote control jack is also located on the rear panel of the video disk player. The video player plugs directly into a 110 volt AC line.

- Video Monitor (Sony KX-1901)

  This is a color video monitor with no tuners. It displays video information from the video player and the 800 computer. No audio signals pass to the monitor; they are sent to the regulator/audio board. The interface board connects to the monitor by a coaxial cable inserted in the Video Input jack on the rear panel of the monitor. The power cord plugs into a 110 volt AC terminal strip.

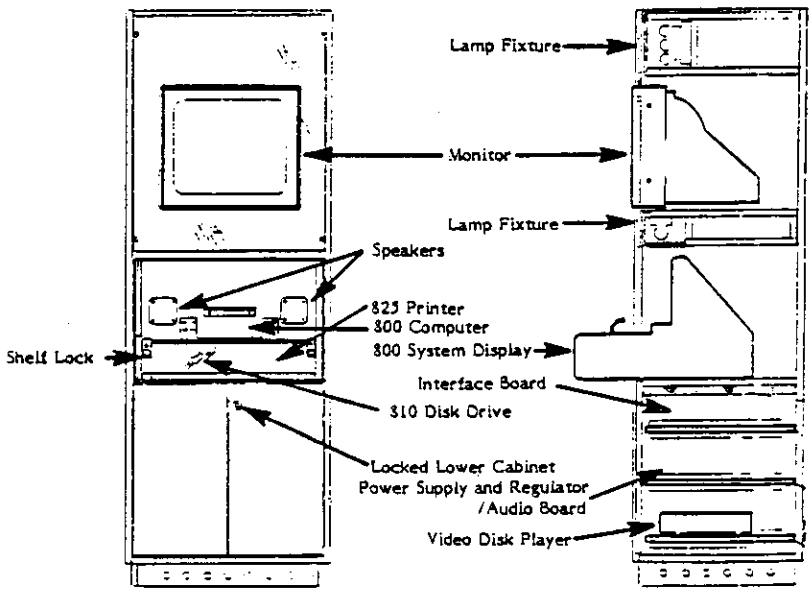


Figure 1-2. Assembly Locations

- ATARI Interface Board

The interface board is the heart of the retail demonstrator. It consists of an analog section, for handling the video and audio information, and a digital section, for processing data and RS232 signals. The board is responsible for the following functions:

Switching the video display to read from either the ATARI computer or the video player at the proper time and sending this signal to the monitor. (While it is switching, it generates a black screen so that a rolling picture is not displayed until sync is established.)

Mixing the audio signals and sending them out to the regulator/audio board.

Converting the RS232 serial data from the 850 to parallel data. This is read by a 6502 microprocessor that controls the various circuits on the board. If the computer program commands a video disk display, then control information is coded and sent to the remote control input jack on the video disk player.

Monitoring the "START" button with an on-board Proximity Detect circuit. When someone presses the switch, the interface board starts the control program running, taking the display out of the Attract mode and turning on the sound. This control program is designed to interact with the consumer through the 800 Computer keyboard.

Allowing computer control for demonstration purposes. When pressed, an ATARI Select button beneath the plexiglass shelf releases the computer from running the control program for the video disk. Other ATARI disks or cartridges may then be demonstrated.

The interface board receives its power from the regulator/audio board (+ and - 5 volts DC).

- ATARI Power Supply and Regulator/Audio Board

The ATARI power supply is used to convert the line voltage of 120 volts AC to the proper voltage level required by the regulator/audio board assembly. These voltages are 10.6 volts DC and 36 volts AC. It is also the power source for the 110V AC fan used to cool the 800 System.

The ATARI Regulator/Audio board provides the + and - 5 volts DC required by the interface board and it carries the audio signals to the speakers. The 10.6 volts DC coming from the power supply is fed through a 5 volt regulator to the interface board. Two + and - SENSE lines connect to the +5V and ground on the interface board. These are monitored by the voltage regulator to eliminate reduced voltage at the interface board due to voltage loss in the wiring harness. This voltage can be adjusted through variable resistor R8 on the regulator/audio board. The 36 volts AC from the power supply is first rectified and then sent through a -5 volt regulator to the interface board.

The two audio inputs are run through individual amplifiers and sent out to the speakers. These amplifiers have an effective gain of 2.2.

- ATARI 800 Computer System (provided by retail owner from shelf stock)

  800 Computer (48K)
  810 Disk Drive
  850 Interface Module
  825 Printer

  The 9 volts AC from the 800 Computer power adaptor runs directly to the interface board where it goes through a relay before returning to the 800. The 810 and 850 power adaptors feed their modules directly from 110 volt AC lines.

  The 800, 810, and 850 are connected to each other by the serial I/O cables supplied with the peripherals. The 850 Interface Module is connected to the interface board through RS232, Port #1. The 800 Computer connects to the interface board through the 5-pin, DIN connector located on the right side of the computer.

  The 800 Computer provides the computer video and audio signals to the interface board, which sends the signals to the monitor and speakers. The computer also runs the control program for the video disk display. When powered up, the 800 downloads the control program from the 810 diskette into RAM. During execution, data is sent to and from the interface board via the 850 RS232 Port.

  The 825 80 - Column Printer is for display purposes only; it is not functional.

- Speakers, Lamp Fixtures, Switches

  There are two five-inch speakers that receive their audio signals directly from the regulator/audio board described above. Two fluorescent lamp fixtures and a fan, normal 110 volt AC appliances, are included.

  There are two push-button switches and one potentiometer used with the home computer demonstrator. The external push-button switch is located directly above the 800 Computer with a START lable under it. This is connected to the Proximity Detect Circuit on the interface board. When pressed, it begins the display program.

  A push button, located inside the locked, plexiglass display case on the left rear side of the cabinet, is connected to the interface board's ATARI Select circuit. When pressed, you can use the computer for demonstration purposes. To return to the video disk display you must unplug the retail demonstrator from the wall, plug it in again and reboot the system with the control program disk.

  The potentiometer located next to the ATARI Select button is connected between the interface board and the regulator/audio board and controls the volume of the speakers.

SECTION 2

INSTALLATION PROCEDURES

Equipment Requirements

You require stubby flat- and phillips-head screwdrivers for installation of the ATARI Home Computer Retail Demonstrator.

DO NOT PLUG THE DEMONSTRATOR UNIT INTO AN ELECTRICAL OUTLET UNTIL YOU ARE SPECIFICALLY INSTRUCTED TO DO SO BY THE DIRECTIONS.

Video Disk Player

The video disk player is shipped separately. Remove the disk player from the carton and read the accompanying instruction booklet thoroughly before you do anything else. To open the lid of the video disk you must plug it in. After removing the shipping screw and lens cap, insert the video disk (shiny side down). Close the lid and unplug the disk player.

Slide the bottom shelf out of the lower cabinet (See Figure 2-1). Place the video disk player on it and connect the Right and Left Audio jacks, the Remote Control line and the Video Out cable, as illustrated in Figure 2-2. Be sure the Video Out cable is connected to the correct jack; there are several in close proximity.

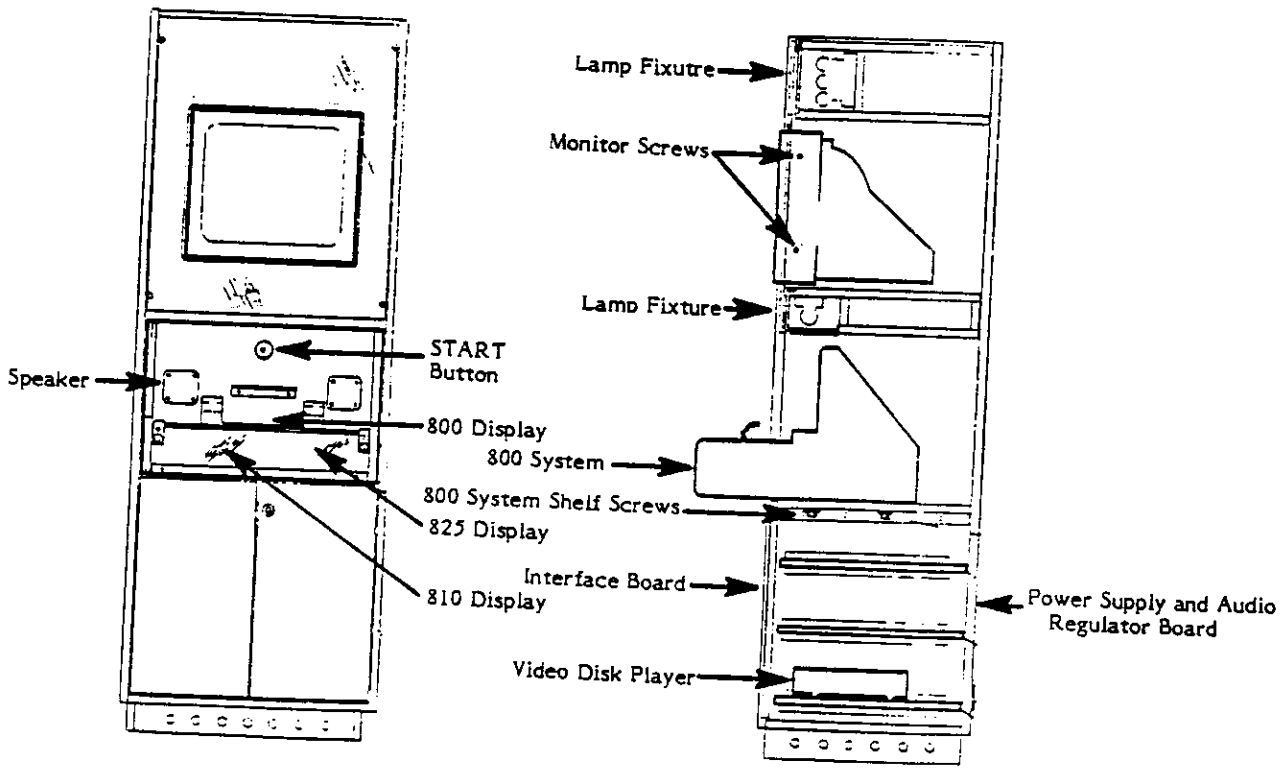


Figure 2-1. Assembly Locations

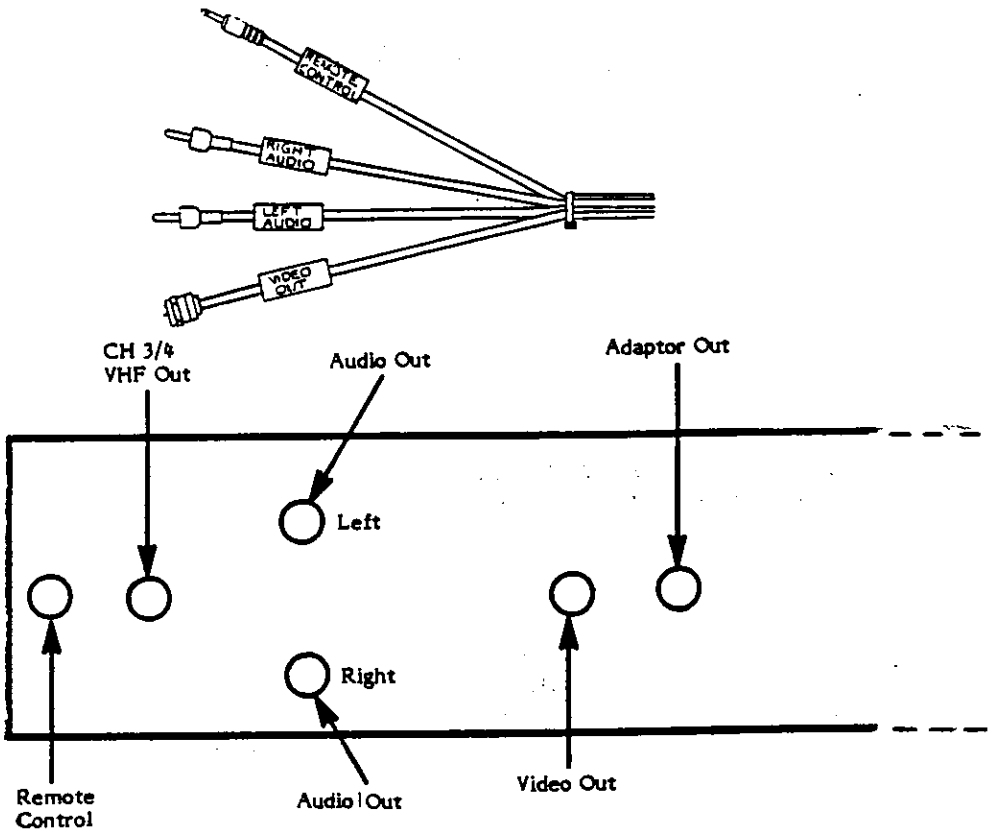


Figure 2-2. Connecting the Video Disk Player

Plug the video disk power cord into the four-outlet, electrical junction at the back of the cabinet. Slide the shelf carefully back into position.

Power Supply and Regulator/Audio Boards

Pull the middle shelf out of the lower cabinet carefully (Refer to Figure 2-1). The boards should be attached to the shelf as illustrated in Figure 2-3. The harness connections should all be in place. If you are in doubt, see Figure 2-4, Harness Installation. Slide the shelf back in.

BE CERTAIN THAT + AND - SENSE LINES ARE CORRECTLY CONNECTED OR SERIOUS DAMAGE COULD OCCUR (See Wiring Diagram Page 1, Schematic Package).

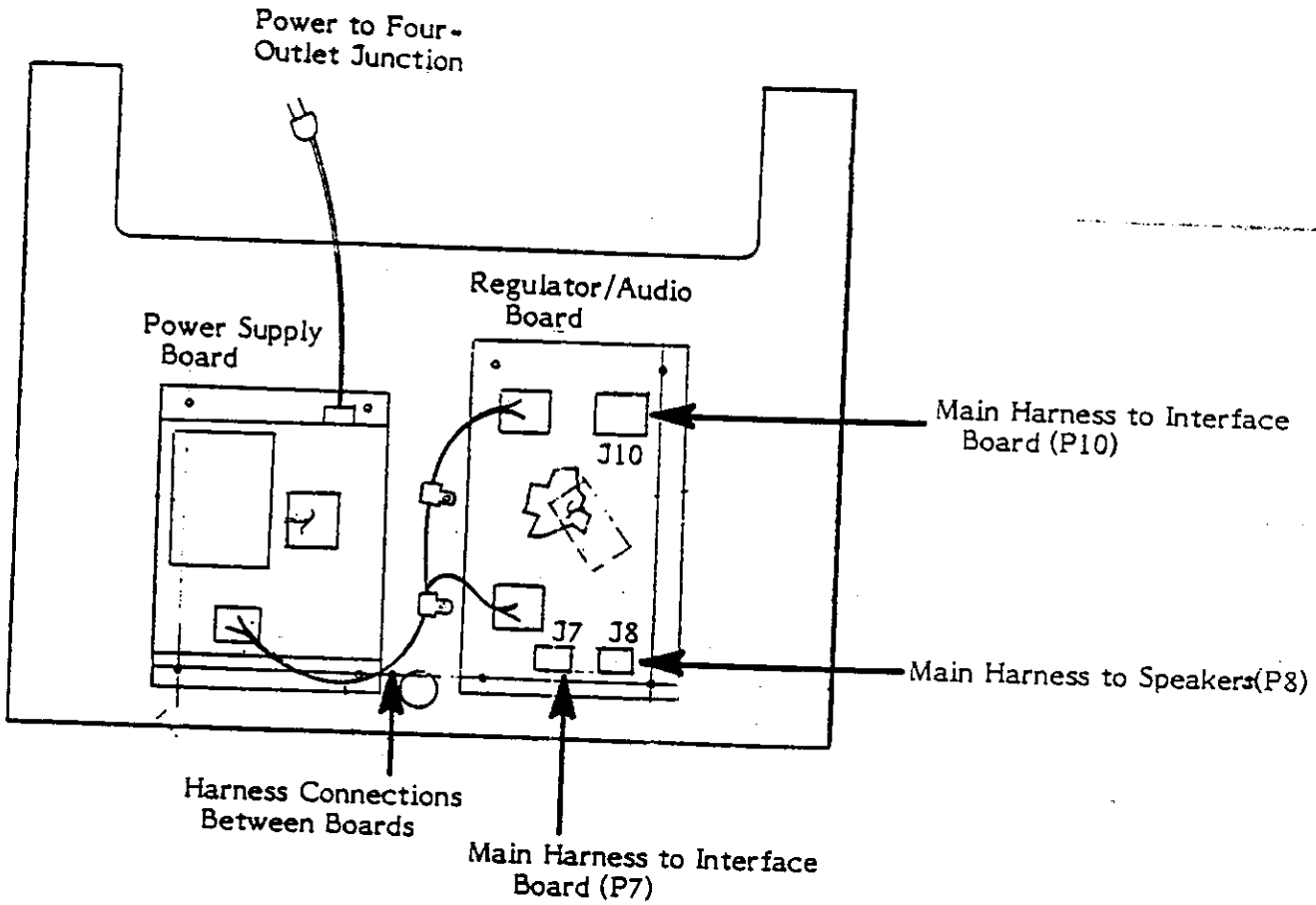


Figure 2-3. Power Supply and Regulator/Audio Board

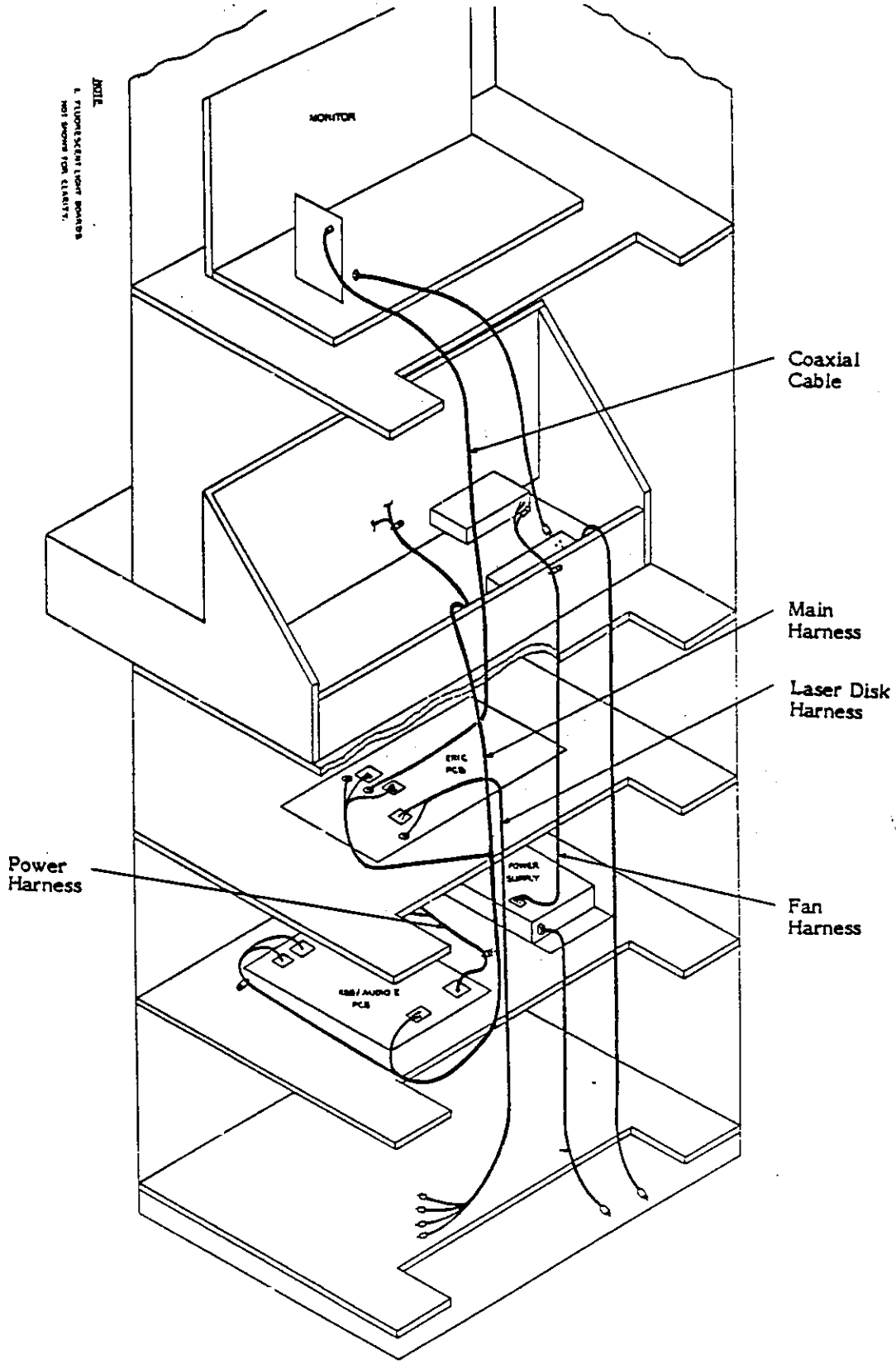


Figure 2-4. Harness Installation

Interface Board

Pull the top shelf out of the lower cabinet carefully. The board should be attached to the shelf as illustrated in Figure 2-5. Make sure that the harness and the jacks are securely connected. They should already be in place. If you are in doubt of the order of connection, refer to the Wiring Diagram, page 1 of the Schematic Package, and to Figure 2-4, Harness Installation. Check to see that the monitor's RF cable is plugged into the interface board at J5. Slide interface board shelf carefully back into place.

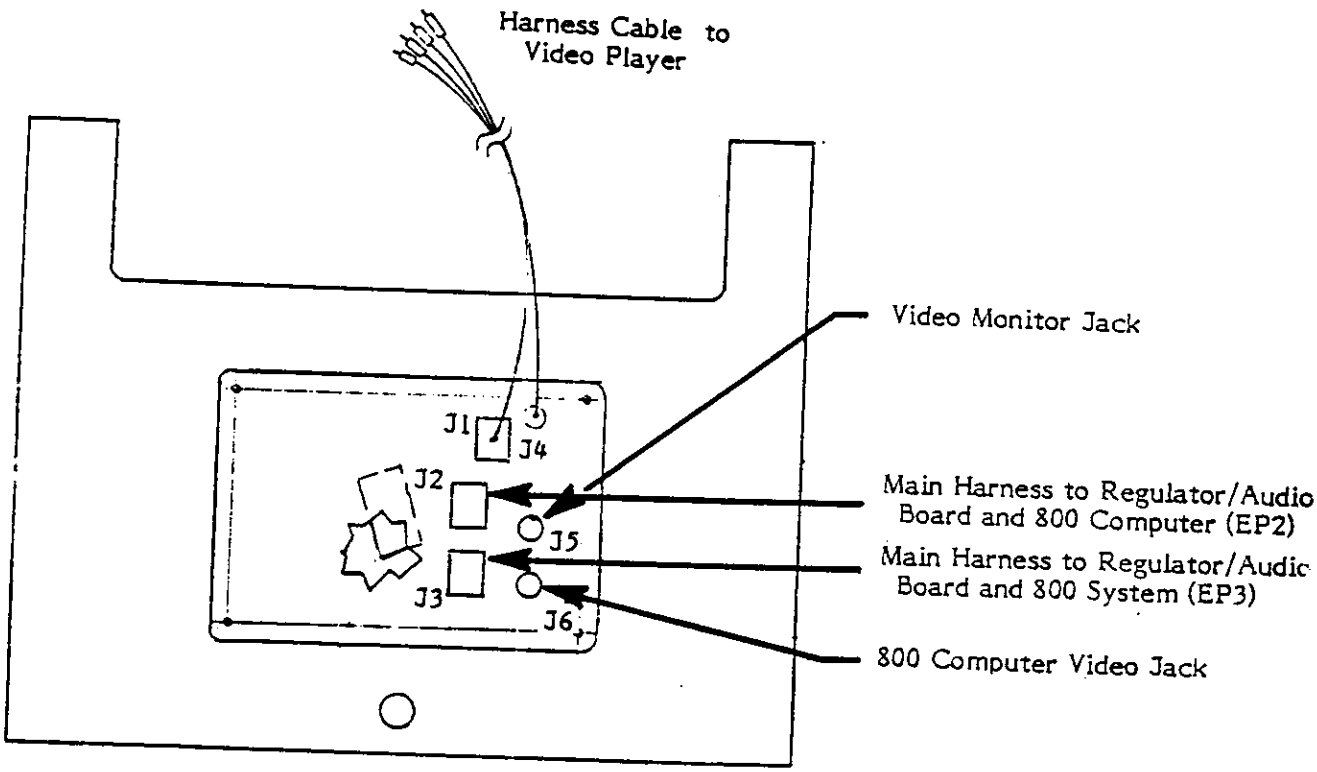


Figure 2-5. Interface Board

800 Computer System

Remove the four screws holding the 800 Computer System shelf in place (refer to Figure 2-1 for location). Use the lower cabinet doors as support blocks for sliding this shelf out and giving access to the five-outlet, electrical junction at the rear of the cabinet. This junction should be plugged into the four-outlet, electrical junction at the bottom of the cabinet. Make sure that the monitor is plugged into the upper junction as well.

Set the ATARI 810 Disk Drive and the 850 Interface Module under the glass shelf; plug their power adaptors into the electrical junction. Run the I/O cable included with the disk drive to the ATARI 850 Interface Module. The harness on this shelf includes a 9 - pin connector. Plug this into Port 1 of the 850. Set the 850 at the back of the shelf to the right. Plug the I/O cable that came with the 850 into one of the 850 I/O jacks and then run it up through the hole in the back of the console board to plug it into the 800 Computer's peripheral jack.

Plug the monitor cable into the monitor jack on the right side of the 800 Computer. The power plug for the 800 will already be in the retail demonstrator; connect it. Take the 800 Computer power adaptor and plug it into the harness jack located behind the shelf. Plug the other end into the five-outlet, electrical strip. There is no connection for the 800 RF cable. Slip it back through the hole on the right side of the console board. Turn the 800 Computer ON.

Turn the 800 Computer ON. Insert the BASIC cartridge. Place the computer on the plexiglass shield that fits over all of the computer's cable connections on the right side. Put the black metal shield under the plexiglass shield and slide the lip of the metal shield over the back edge of the glass shelf. Slide the glass shelf back into position.

Insert the ATARI 825 80-Column Printer under the glass shelf on the right side. Do not connect. The 825 is for display purposes only. Slide the 800 system shelf back and put the four screws in place.

Monitor

A plexiglass shield held in place by two screws covers the screen of the monitor. The monitor itself is secured to the frame of the retail demonstrator by four screws run through a metal frame and into the sides of the monitor's cabinet. The monitor is framed by an opaque border, which is held in place by four corner screws (Refer to Figure 2-1). The shield, the opaque frame and the monitor should all be screwed into place when the unit arrives.

ATARI Select Switch and Volume Control

Inside of the locked shelf, behind the 810 Disk Drive on the left side, are the ATARI Select Switch and the Volume Control (See Figure 2-6). By pressing the push-button ATARI Select Switch the ATARI Select circuit activates on the interface board. This replaces the video disk player's video output with the video output of the 800 Computer. The Volume Control, located to the left of the ATARI Select switch, is connected between the interface board and the regulator/audio board, controlling the volume of the speakers.

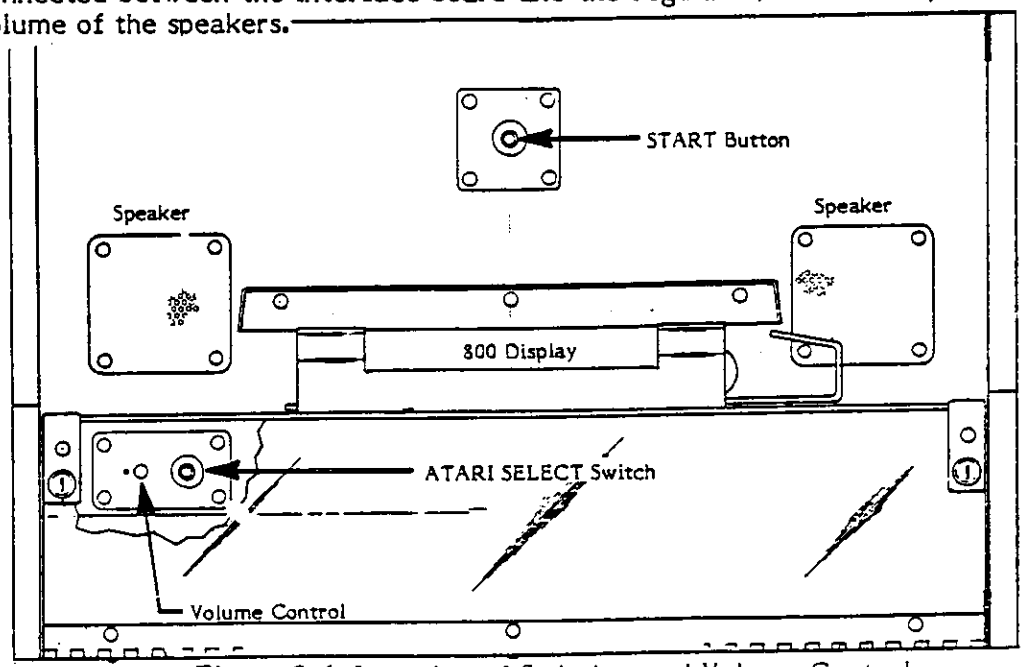


Figure 2-6. Location of Switches and Volume Control

Fluorescent Lamp Fixtures

Remove all tape attached to fixtures. The two lamp fixtures are normal 110 volt AC appliances and plug into the four-outlet, electrical junction at the bottom rear of the retail demonstrator.

POWER - UP SEQUENCE

BEFORE PLUGGING IN THE RETAIL DEMONSTRATOR:

- Put the control program diskette into the 810 Disk Drive.
- Turn the 810 Disk Drive ON.
- Turn the 800 Computer ON.
- Turn the 850 Interface Module ON.
- Turn both Monitor On/Off switches, located at opposite ends of the control panel, ON.
- Turn the video disk player ON with the video disk inserted.

PLUG IN THE RETAIL DEMONSTRATOR.

The monitor screen is blue while the program loads. When loaded, the screen turns black and then displays the ATARI logo above a "Press Start Button" prompt.

When the START button is pressed, the screen again turns black. The interface board selects the proper remote signals for the correct frame sequence on the video disk. The video and sound are then begun and continue until a specified frame in the program is reached, where they freeze, waiting for input from the consumer.

If no input is received after several seconds, the screen turns black and the ATARI logo (Attract Mode) is displayed. If a key is pressed, two responses are possible. If the wrong key is pressed, an "Oops" message appears; if correct, the screen turns black while searching for the proper response frame. When located, the proper message is returned to the screen or, at the end of a program, the Attract Mode returns.

Program Execution

The video disk should be spinning at all times. If power drops out or there is an error in program execution, the video disk stops spinning and the power to the 800 Computer switches OFF. If so, the monitor shows a black screen. The interface board automatically resets the video disk, after a delay of approximately 20 seconds. After the same time delay, the interface board switches the power to the 800 Computer back ON and the system reboots itself with the control program diskette.

To determine if the interface board has terminated power to the 800 and reset the video player, look at the interface board. Two red LEDs are lit when this is the case. (Two green LEDs remain lit on the interface board at all times to verify that voltage is coming to the board.)

Pressing RESET on the computer reboots the 810 diskette while a routine is running, but it will NOT reset the video player. Pressing START while a routine is running has no effect.

The ATARI Select button inside the locked shelf interrupts the RS232 communications and makes the monitor and 800 System available for demonstration of other diskette or cartridge programs. When pressed, a black screen appears with the message "Operator Interrupt." After the cartridge door is opened and closed, the normal 800 Computer blue screen appears. Once the ATARI select button has been pressed, the only way to return to the video disk display is to unplug the demonstrator from the wall and follow the Power-Up Sequence on page 2-7.

POWER-DOWN SEQUENCE

To power-down the retail demonstrator unit, unplug it from the wall or floor outlet. If this is not done, the video disk player will continue to spin and the monitor will remain on.

SECTION 3

SYMPTOM CHECKLIST AND TESTING PROCEDURES

Equipment Needed

- Digital volt/ohmmeter
- Barrel Connector

Symptom Checklist

Since all major assemblies run through the interface board, check first to see if the green LEDS are lit on this board. These LEDs indicate that the board is receiving + and - 5 volts DC. If they are not lit, check the Regulator/Audio Board (See page 3-5). There is also an isolated red LED on the interface board that, if lit, indicates that the board failed and should be replaced.

Below is a list of failure symptoms and the possibly defective modules, listed in order of their probability of failure. Use the testing procedures that are referenced by page number to diagnose the modules.

No Video

- Audio Normal:

  Monitor, page 3-3
  Interface Board, page 3-6
  Cables, page 3-3
  Video Disk Player, page 3-6

- No Audio:

  Interface Board, page 3-6
  Connectors and Harness, page 3-3
  Regulator/Audio Board, page 3-4
  Power Supply Assembly, page 3-4
  Video Disk Player, page 3-6
  800 Computer System, page 3-4

No Black Screen When Searching or Switching

- Interface Board, page 3-6

No Attract Mode or Incorrect Video and Audio

- 850 Interface Board Harness, page 3-3
- 800 Computer System, page 3-4
- Interface Board, page 3-6

No 800 Display

- 800 Computer System, page 3-4
- Interface Board, page 3-6

No Video Disk Display

- Video Disk Player, page 3-6
- Interface Board, page 3-6

No Audio (Video Normal)

- Volume Control, page 3-7
- Connections and Harness, page 3-3
- Speakers, page 3-7
- Regulator/Audio Board, page 3-4
- Interface Board, page 3-6

No 800 Audio

- 800 Computer, page 3-4
- Interface Board, page 3-6
- Audio Input Line (replace)

No Video Disk Audio

- Video Disk Player, page 3-6
- Interface Board, page 3-6
- Video Disk Audio Cable, Left and Right (replace)
- Video Disk (replace)

Faulty Program Sequence

- 800 Computer System, page 3-4
- Video Disk Player, page 3-6
- Interface Board, page 3-6
- Harness and Connections, page 3-3

Start Button on Rear Panel

- Press START button on 800 Computer, page 3-7
- Press SYSTEM RESET (Listen for 850 boot), page 3-7
- Run the Power-Up Sequence again, page 2-7
- Interface Board, page 3-6

ATARI Select Button Does Not Work

- Interface Board, page 3-6
- 800 Computer System, page 3-4
- ATARI Select Button defective (replace)
- Harness, page 3-3

Video or Audio Problems During 800 Display Sequence Only

- 800 Computer System, page 3-4
- Interface Board, page 3-6
- Inputs and Harness, page 3-3
- Control Program (replace)

Video or Audio Problems During Video Disk Player Sequence

- Video Disk Player, page 3-6
- Interface Board, page 3-6
- Inputs and Harness, page 3-3
- Video Disk, page 3-6

No Reset Occurs When an Error is Encountered in Program

- Interface Board, page 3-6
- 800 Computer System, page 3-4
- Harness (RS232 Communications), page 3-3

Testing Procedures

Monitor

Test the monitor by connecting it directly to the ATARI 800 Computer or the video disk player. Disconnect the monitor output plug (P5) and the video input plug of the 800 (P6), or the video disk player (P4), from the interface board. Connect (P5) to (P6) or (P4) with the barrel connector.

Check that all adjustments on the front panel of the monitor are correct and that the RGB button is not selected.

If video problems still occur, replace the monitor. Defective monitors are serviced by the manufacturer, Sony, and should be sent directly to the nearest service center, (See page 5-3 for the listing of Sony Service Centers).

Harnesses, Cables, and Connectors

Check for the proper placement of connectors and cables by referring to the Wiring Diagram (Page 1, Schematic Package), and Figure 2-4. Harness Installation. Make sure all connections are tight.

Perform a continuity check on the suspected harness lines, using an ohmmeter. BE SURE POWER IS OFF.

Check ground connections between modules.

Replace defective harness or cable.

800 Computer System

To test the 800 Computer System, press the ATARI Select button located at the left rear of the locked display compartment. This will disconnect the RS232 communications between the 850 Interface Module and the interface board to display the video output from the computer on the monitor.

Use the diagnostic procedures described in the ATARI 800, 810, and 850 Field Service Manuals to test the 800 System.

To test whether the 850's RS232 handler is being booted in, turn off the 810 and power-up the computer. A high-pitched squeal indicates that it is booting properly.

When you finish the preceding test procedures, power-up the retail demonstrator from the beginning (see page 2-7) to re-establish RS232 communications.

Regulator/Audio Board and Power Supply

Connect a digital voltmeter between ground and +5V regulated (See Page 2, Schematic Package). This voltage should be between 5 and 5.5 volts DC. If it is greater than 5.5 volts, check for dirty connectors or an open line between the regulator board and the interface board.

Connect a digital voltmeter between ground and +5 volts on the interface board. Adjust R8 on the regulator board (See Figure 3-1 for location) to get a reading of +5 volts DC.

If there is no +5 volts, connect the voltmeter between ground and 10.3 volts DC test points on the regulator board (See Page 3, Schematic Package for test points). If this voltage is correct, replace the regulator/audio board. If not, check the power supply fuses. If the fuses are sound, replace the power supply board.

Connect the voltmeter between ground and -5 volts DC test points on the regulator board (See Page 2, Schematic Package for test points). If there is no -5 volts, check the 36 volt AC input from the power supply. If this voltage is correct, replace the regulator/audio board. If there is no 36 volts AC present, replace the fuse or the power supply board.

If both input voltages are missing, check the power harness and connectors for secure connections.

Check to see that the audio amps (Q5 and Q7) are receiving 10.6 volts DC at pin number 5 (See Page 3, Schematic Package).

If either board must be replaced, return it to the nearest ATARI Regional Service Center for repair. See page 5-1 for a listing of ATARI Service Centers.

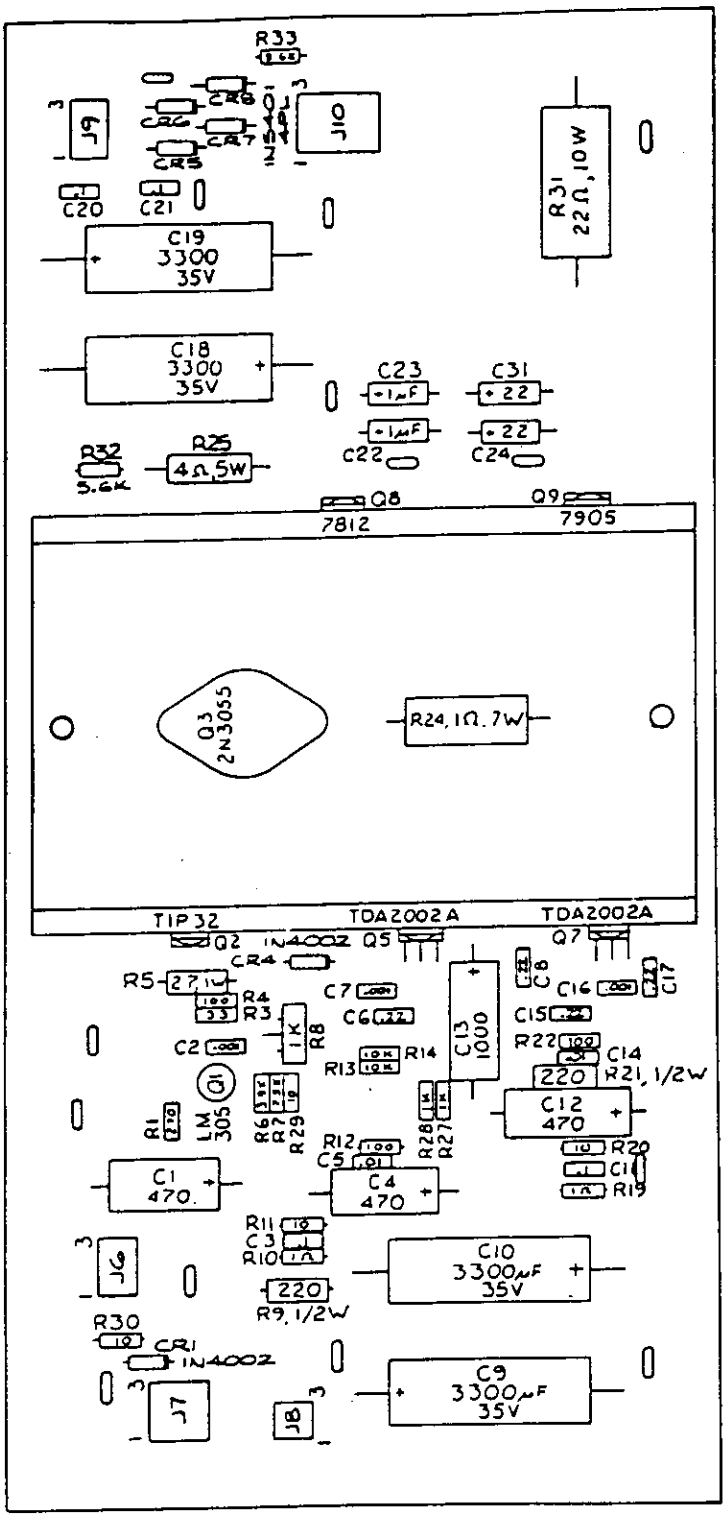


Figure 3-1. Regulator/Audio Board Silkscreen

Video Disk Player

Turn the video disk player and the 800 Computer power OFF.

Unplug the Remote Control cable from the rear panel of the disk player.

Disconnect the monitor output plug (P5) and the video disk input plug (P4) from the interface board and plug them together, using the barrel connector.

Turn the video disk player power ON and press the Play button.

Press the Search key, then press the Frame key. Enter the frame numbers to get the corresponding program sections. Below are some of these program sections with their corresponding frame numbers:

Color Bars/Tone - 1
Introduction - 3489
Computer Equipment - 12035
Home Entertainment - 33157
Conclusions - 42185
Color Bars - 44934

The screen goes black while searching for the frame number. When the frame is reached, it is reproduced in the "Still" mode. Press Play to continue this program section.

Perform several searches. When you are satisfied that the video player is responding correctly, use the VP1000 or VP8210 Operating Instructions booklet to test the other functions of the player. The Operating Instructions also include a troubleshooting matrix for the player.

If a certain part of the program is not reproduced properly, the video disk is probably faulty. Replace it.

If the video player needs to be swapped out, return the defective player to the nearest Pioneer Service Center. A listing of Pioneer Service Corp. locations may be found on page 5-2.

Interface Board

Look at the green LEDs on the interface board located at CR4 and CR5 (See Page 6, Schematic Package). They should be lit to indicate receiving the + and - 5 volts DC from the regulator/audio board. If they are not lit, double-check the voltages with a digital voltmeter.

There are three "watchdog" circuits on this board, indicated by the red LEDs. When lit, the LEDs indicate a failure in one of three modules. If the red LED located at CR1 on the board is lit, the interface board itself is defective and should be replaced.

The other two side-by-side, red LEDs "watch" the circuits for the 800 Computer (CR3) and the video disk player (CR2). When the interface board is resetting the system both CR2 and CR3 light for approximately 30 seconds. If CR2 and CR3 remain lit for longer than the 30 second Reset period, replace the interface board. If this does not remedy the problem, the 800 Computer, the disk player, or the harness may be defective. In no case during proper operation should only one of these two LEDs be lit.

During the course of the program, if an error is encountered, the interface board will Reset the system. Such a Reset shuts off the power to the 800 Computer and sends a Reset signal to the video disk player simultaneously. Because of the normal delay cycle in the video disk player, the two red LEDs are on for about 30 seconds. When the video player starts up again, the interface board turns on the 800 Computer's power, thus rebooting the control program. The red LEDs then go out. These LEDs should not be lit at any other time.

Check the security of the connections and the proper placement of video inputs and outputs (See Figures 2-2, 2-3 and 2-4).

Until more information is available on the interface board, it should be swapped out, after eliminating other modules from the list of possible failures, and returned to the nearest ATARI Regional Service Center for repair (See page 5-1 for a list of these).

Volume Control

Use an ohmmeter to check the proper operation of the 10K potentiometer. BE SURE POWER IS OFF.

Replace defective potentiometer.

Speakers

If both speakers are not working, check the suspect harness and regulator/audio board. If these are not the cause, replace the defective speaker.

Fan

If the fan is not working, check its connection on the power supply board.

Replace the fan or the power supply board.

Fluorescent Lamps

Make sure the lamp fixture power cord is plugged in.

Replace defective lamp bulbs.

START Button

If you suspect that the demonstrator's START button is defective, press the START button on the 800 Computer. If the program runs, replace the demonstrator's START button. If it still does not begin, check the Remote Control Cable from the disk player to the interface board. If the cable appears to be sound and all connections are tight, turn off the 810 Disk Drive and press SYSTEM RESET on the 800 Computer. Listen for the 850 Interface Module to boot. A high-pitched squeal indicates that it is booting properly. If it is not booting properly, replace it with another 850 from shelf stock. Repair of the 850 follows established warranty procedures.

If neither the 800 Computer, 850 Interface Module or the Remote Control Cable to the interface board are defective, run through the Power-Up Sequence again. If the problem persists, check the interface board for possible failures, following the procedures described on page 3-6.

SECTION 4

HCD RETAIL DEMONSTRATOR

PARTS LIST

PART NUMBER	DESCRIPTION
FC100153	810 Diskette
FA100154	PCB Assy., interface board
FC100155	Fan 110V AC
FC100156	Fan Bracket
FA100157	Fan Harness
FC100203	Fluorescent Lamp Bulb 24" 20 Watts
FA100158	Laser Disk Harness Assy.
FC100159	Laser Disk Player
FA100160	Main Harness Assy.
FA100161	Monitor Assy.
FC100162	Monitor Cable
FC100163	Potentiometer
FA100164	Power Harness Assy.
FA100165	Power Supply Assy.
FC100166	Push Button Switch
FA100167	Regulator/Audio PCB Assy.
FC100168	Speaker 5"
FC100169	Laser Disk

SECTION 5

SERVICE CENTERS

ATARI REGIONAL SERVICE CENTERS

CALIFORNIA
1312 Crossman Avenue
Sunnyvale, CA 94086

PHONE:

Inside California (800) 672-1451
Outside California (800) 538-1604

NEW JERSEY
12B World's Fair Drive
Somerset, New Jersey 08873

PHONE:

Inside New Jersey (800) 942-7794
Outside New Jersey (800) 526-3906

ILLINOIS
5400 Newport Drive
Suite #1
Rolling Meadows, IL 60008

PHONE:

Inside Illinois (800) 942-7370
Outside Illinois (800) 323-4139

TEXAS
2109 E. Division Street
Arlington, Texas 76011

PHONE:

Inside Texas (800) 772-5462
Outside Texas (800) 433-5140

PIONEER SERVICE CORP. LOCATIONS

ATLANTA
6270 McDonough Dr.
Suite D
Norcross, GA 30093
(404) 447-9318

BOSTON
51 Morgan Drive
Norwood, MA 02062
(617) 769-7630

CHICAGO*
737 Fargo Ave.
Elk Grove Village, IL 60007
(312) 593-2960

DALLAS*
1875 Walnut Hill Lane
Irving, TX 75062
(214) 258-0200

DETROIT
30948 Industrial Blvd.
Unit 9
Livonia, MI 48150
(313) 261-9710

HOUSTON
5201 Mitchelldale
Suite B-13
Houston, TX 77092
(713)688-0485

LOS ANGELES*
4880 W. Rosecrans Ave.
Hawthorne, CA 90250
(213) 679-8141

NEW YORK/NEW JERSEY*
75 Oxford Dr.
Moonachie, NJ 07074
(201) 440-8100

SAN FRANCISCO
1745 Adrian Rd.
Burlingame, CA 94010
(415) 692-1551

SEATTLE
643 Industry Drive
Tukwila, WA 98188
(206) 575-1291

WASHINGTON, D.C.
7950 Woodruff Ct.
Bay 18, Ravensworth
Industrial Park
Springfield, VA 22151
(703) 321-7490

CANADA
Video Disk Service Corp.
1815 Meyerside Dr. Unit 5
Mississauga, Ontario
L4W2P5
(416) 677-0061

*Distribution Center

FREE PICK-UP AND DELIVERY SERVICE:

Pioneer also provides free pick-up and delivery in selected areas for products brought in to dealers for warranty adjustments or repair. Each of the seven factory service facilities have this service available and it is anticipated that the distribution centers will have this service in the near future.

SONY FACTORY SERVICE CENTERS

WESTERN REGION
18022 Cowan Street
Irvine, CA 92714
TEL: (714) 754-7669
Manager: CHUCK WOOD

2865 W. Olympic Blvd
Los Angeles, CA 90006
TEL: (213) 381-3796
Manager: MARIO SALGADO

751 Camino Plaza
San Bruno, CA 94066
TEL: (415) 871-2810
Manager: JOHN AZIZI

515 South Michigan Street
Seattle, WA 98108
TEL: (206) 762-6500
Manager: BILL YOUNG

8975 Complex Drive
San Diego, CA 92123
TEL: (714) 279-2724
Manager: ERNEST MIXON

SOUTHWESTERN REGION
401 Preston Valley Shopping Ctr.
Dallas, TX 75230
TEL: (214) 661-3537
Manager: R. RIEKE

5247 Richmond Avenue
Houston, TX 77027
TEL: (713) 783-8761
Manager: JAMES GIBSON

MIDWESTERN REGION
7540 Caldwell Avenue
Niles, IL 60648
TEL: (312) 647-0900
Manager: JOE BONSANTO

14315 West 100th Street
Lenexa, KS 66215
TEL: (913) 888-2622
Manager: LEWIS MILLER

SOUTHEASTERN REGION
3904 North 29th Street
Hollywood, FL 33020
TEL: (305) 920-5600
Manager: BILLY WOODFIN

120 Interstate North Pkwy, East
Suite 410: Atlanta, GA 30339
TEL: (404) 953-5871
Manager: JERL BUSH

EASTERN REGION
356 University Avenue
128 Westwood Industrial Center
Westwood, MA 02090
TEL: (617) 329-5130
Manager: STEVE SNYDER

EAST-CENTRAL REGION
24201 Indoplex Circle
Farmington Hills, MI 48018
TEL: (313) 477-1900
Manager: WILLIAM LEWIS

12380 Plaza Drive
Parma, Ohio 44130
TEL: (216) 433-4680
Manager: RUSS METHOD

Three Parkway Center
Pittsburgh, PA 15220
TEL: (412) 922-4417
Manager: JAMES SULLIVAN

MID-ATLANTIC REGION
10360 Drummond Road
Philadelphia, PA 19154
TEL: (215) 637-0850
Manager: GEORGE HUETE

1358 Holton Lane
Langley Park, MD 20783
TEL: (301) 439-3500
Manager: LYNELL COOPER

SECTION 6

SERVICE BULLETINS

This section is to be used by you to file the three classifications of service bulletins that are periodically released by the Manager of Technical Support.

The following are brief descriptions of each classification:

FIELD CHANGE ORDER

A Field Change Order describes mandatory hardware or software changes to ATARI Computer products and instructs how to implement these changes. The changes must be performed on all units serviced or repaired.

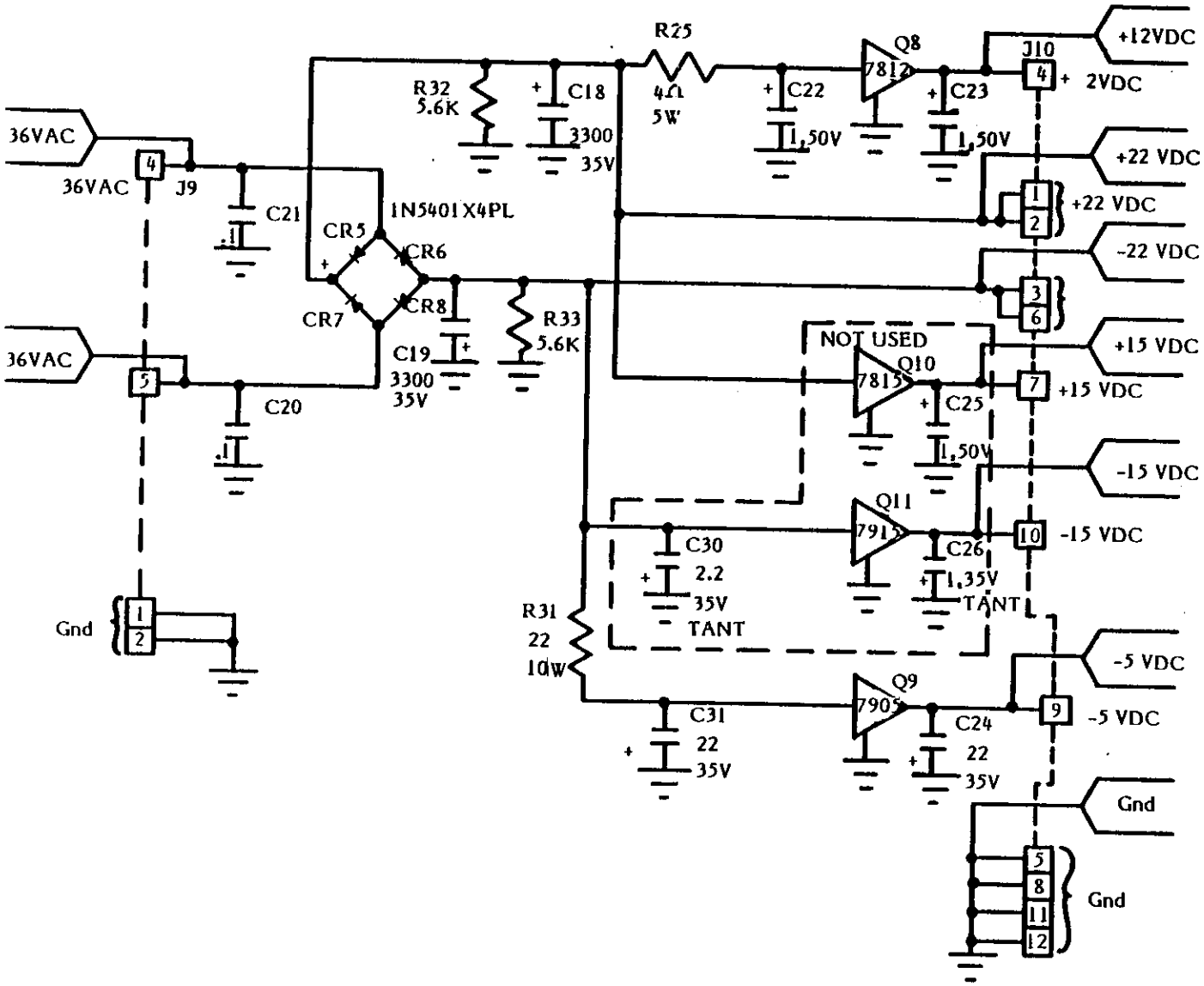
UPGRADE BULLETIN

An Upgrade Bulletin describes product improvements or modifications that the consumer may wish to purchase. These bulletins allow you to modify the customer's unit to add capabilities which may not have been available when the unit was originally manufactured.

TECH TIP

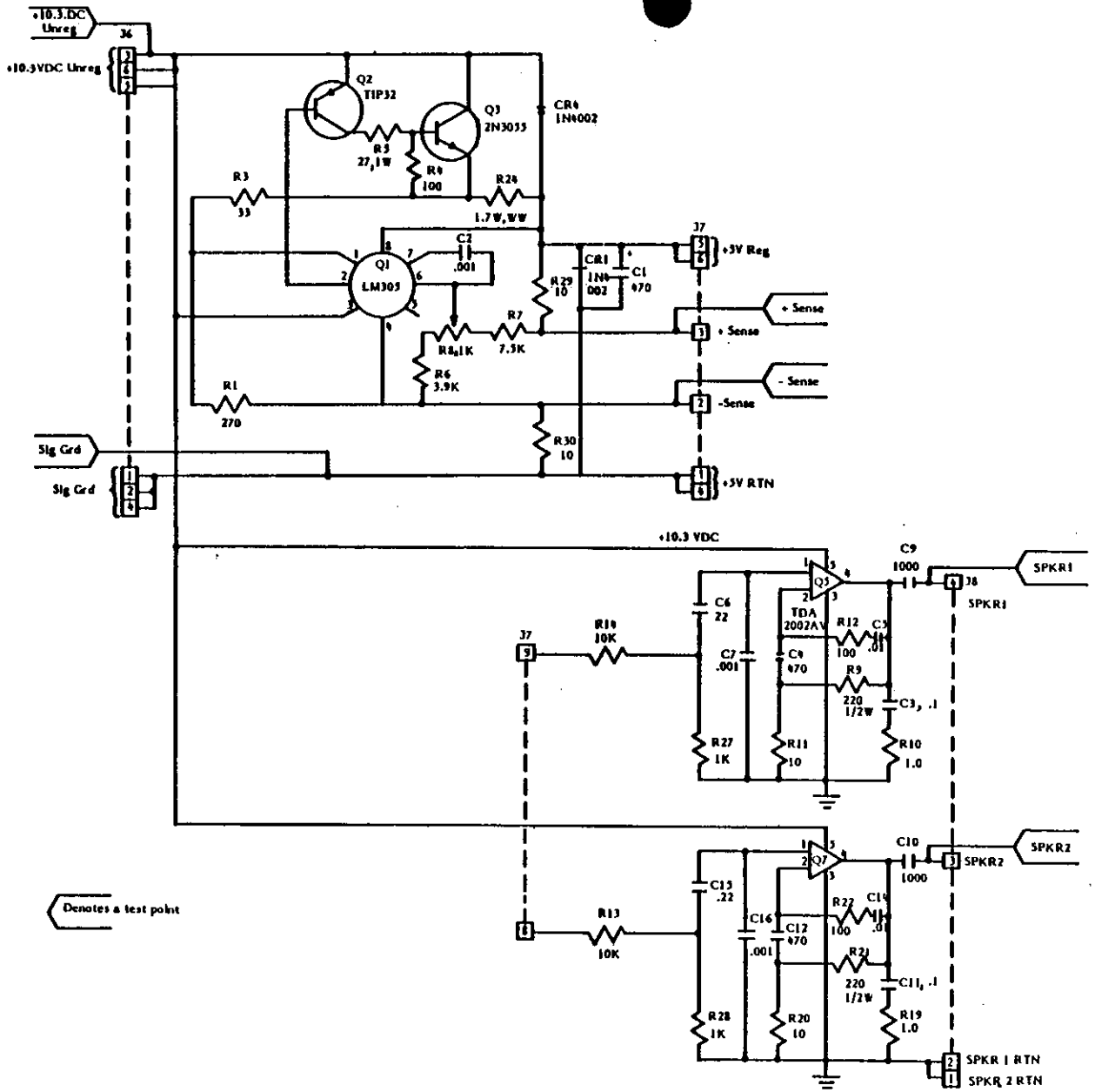
A Tech Tip is a document of a general nature which transmits routine service or repair information. By communicating methods developed since you attended training classes, Tech Tips aid to continuously improve repair skills and increase knowledge of ATARI Computer Products.

Other times, Tech Tips alert you to units that have been modified and are now standard for ATARI Manufacturing, but are different from many existing units and require different repair techniques.

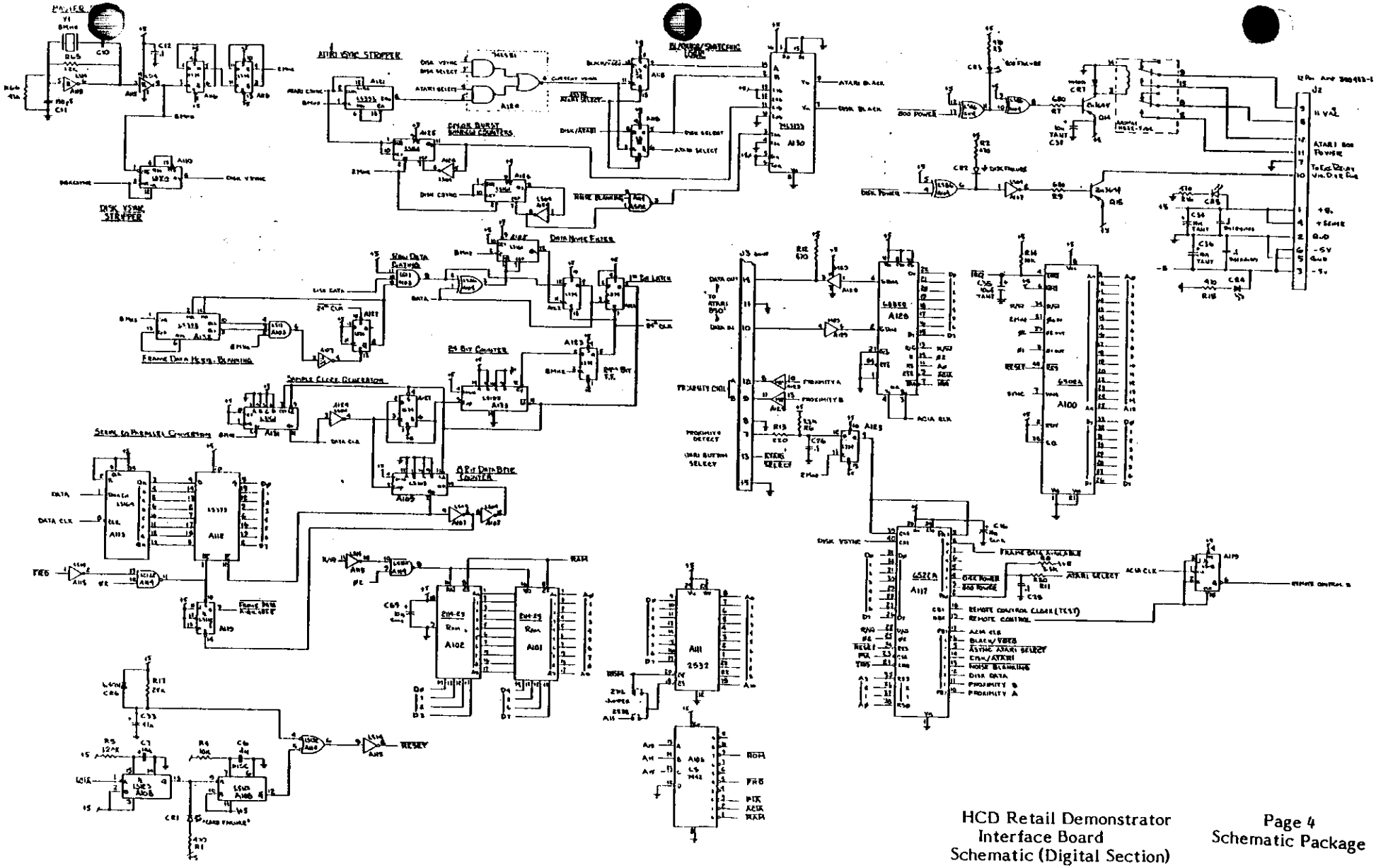


LAST DES	NOT USED
C31	C25,26,30,27-29
CR8	CR2,3
Q11	Q10,11,4,6
R33	R2,15-18,23,26

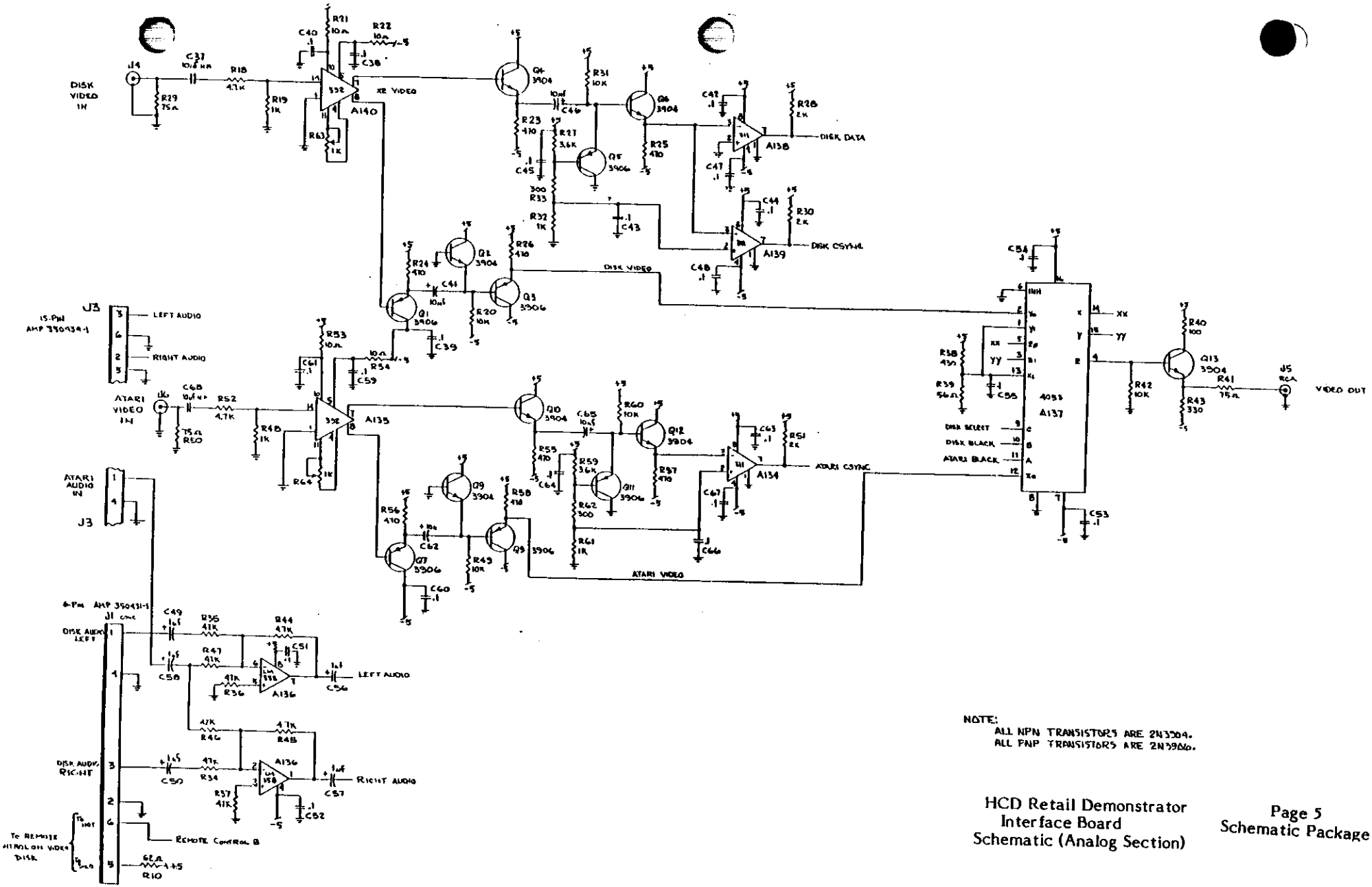
Audio/Regulator Board
Schematic



Audio/Regulator Board
Schematic (Continued)

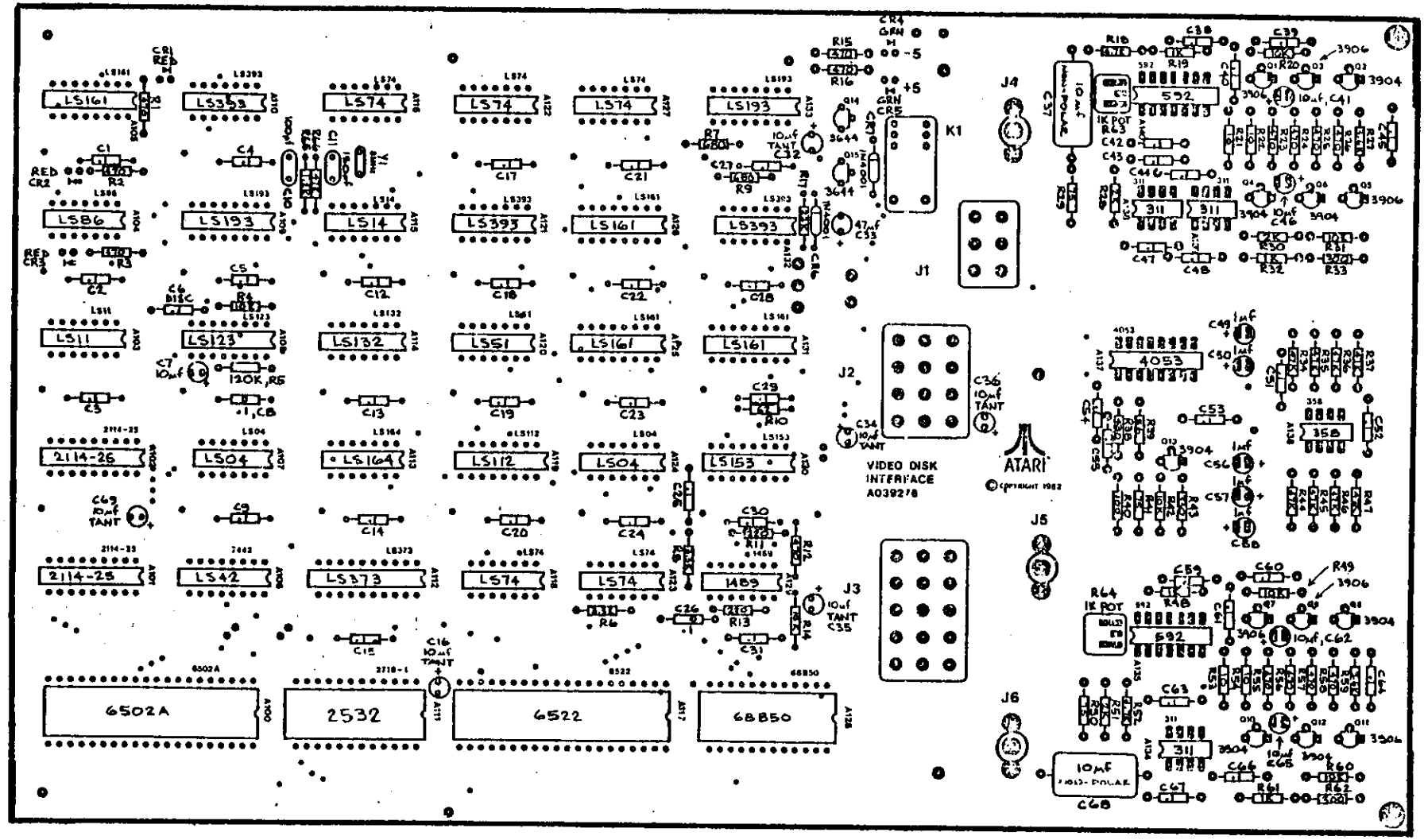


HCD Retail Demonstrator
Interface Board
Schematic (Digital Section)

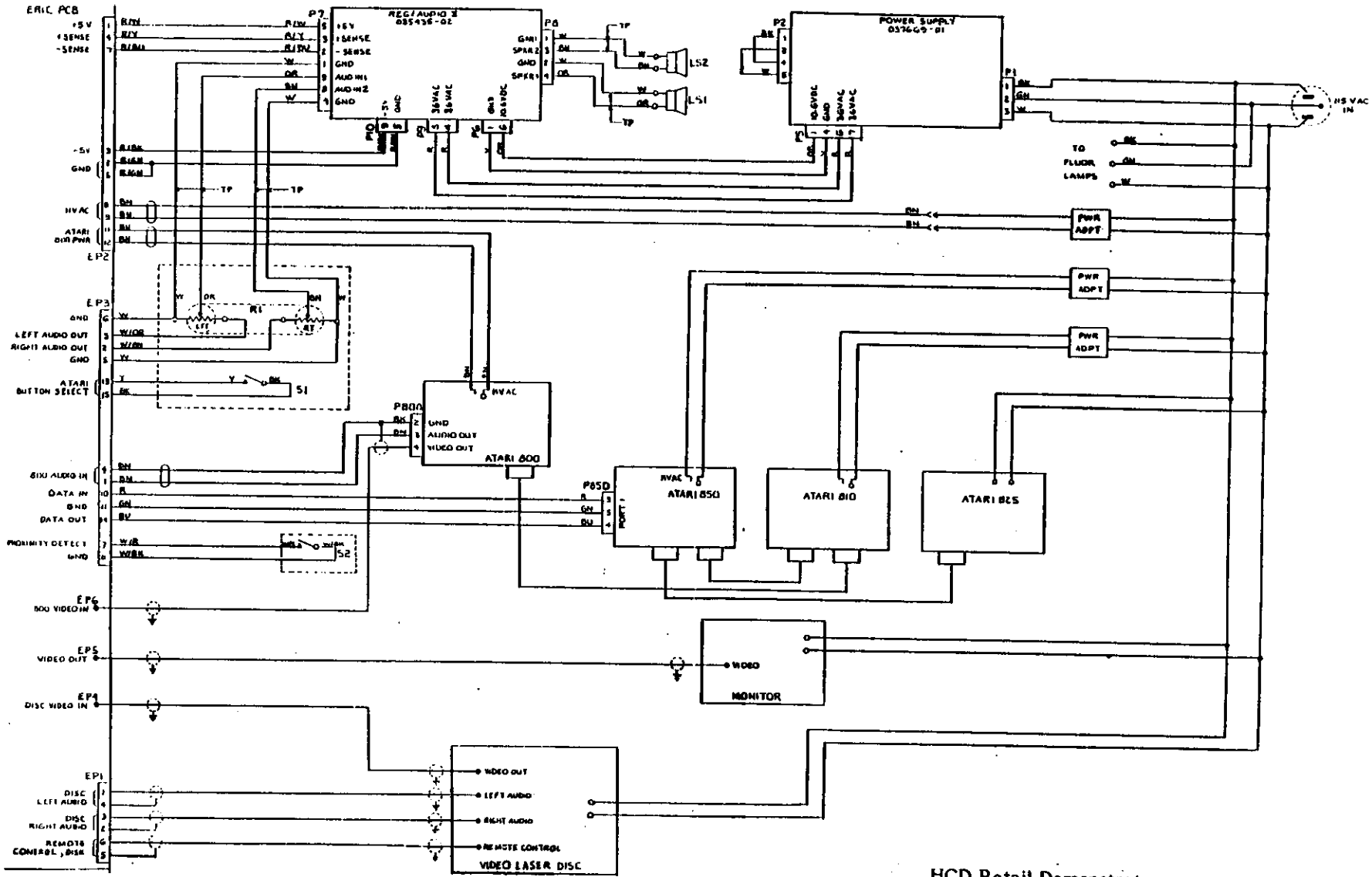


NOTE:
ALL NPN TRANSISTORS ARE 2N3904.
ALL PNP TRANSISTORS ARE 2N3906.

HCD Retail Demonstrator
Interface Board
Schematic (Analog Section)



Interface Board Silkscreen



HCD Retail Demonstrator
Wiring Diagram

Page 1
Schematic Package