DVD PLAYER

DVD-S520/DV-S5450

SERVICE MANUAL

IMPORTANT NOTICE

This manual has been provided for the use of authorized YAMAHA Retailers and their service personnel.
It has been assumed that basic service procedures inherent to the industry, and more specifically YAMAHA Products, are already known and understood by the users, and have therefore not been restated.

WARNING: Failure to follow appropriate service and safety procedures when servicing this product may result in personal injury, destruction of expensive components, and failure of the product to perform as specified. For these reasons, we advise all YAMAHA product owners that any service required should be performed by an authorized YAMAHA Retailer or the appointed service representative.

IMPORTANT: The presentation or sale of this manual to any individual or firm does not constitute authorization, certification or recognition of any applicable technical capabilities, or establish a principle-agent relationship of any form.

The data provided is believed to be accurate and applicable to the unit(s) indicated on the cover. The research, engineering, and service departments of YAMAHA are continually striving to improve YAMAHA products. Modifications are, therefore, inevitable and specifications are subject to change without notice or obligation to retrofit. Should any discrepancy appear to exist, please contact the distributor's Service Division.

WARNING: Static discharges can destroy expensive components. Discharge any static electricity your body may have accumulated by grounding yourself to the ground buss in the unit (heavy gauge black wires connect to this buss).

IMPORTANT: Turn the unit OFF during disassembly and part replacement. Recheck all work before you apply power to the unit.

■ CONTENTS

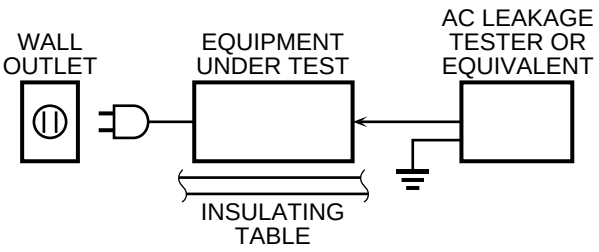
100795

YAMAHA
YAMAHA CORPORATION
P.O.Box 1, Hamamatsu, Japan

■ TO SERVICE PERSONNEL

1. Critical Components Information
   Components having special characteristics are marked ⚠ and must be replaced with parts having specifications equal to those originally installed.
2. Leakage Current Measurement (For 120V Models Only)
   When service has been completed, it is imperative to verify that all exposed conductive surfaces are properly insulated from supply circuits.

- Meter impedance should be equivalent to 1500 ohm shunted by 0.15μF.
- Leakage current must not exceed 0.5mA.
- Be sure to test for leakage with the AC plug in both polarities.



THE DVD PLAYER SHOULD NOT BE ADJUSTED OR REPAIRED BY ANYONE EXCEPT PROPERLY QUALIFIED SERVICE PERSONNEL.

■ WARNINGS

WARNING: CHEMICAL CONTENT NOTICE!

The solder used in the production of this product contains LEAD. In addition, other electrical/electronic and /or plastic (where applicable) components may also contain traces of chemicals found by the California Health and Welfare Agency (and possibly other entities) to cause cancer and/or birth defects or other reproductive harm.

DO NOT PLACE SOLDER, ELECTRICAL/ELECTRONIC OR PLASTIC COMPONENTS IN YOUR MOUTH FOR ANY REASON WHATSOEVER!

Avoid prolonged, unprotected contact between solder and your skin! When soldering, do not inhale solder fumes or expose eyes to solder/flux vapor!

If you come in contact with solder or components located inside the enclosure of this product, wash your hands before handling food.

WARNING: Laser Safety

This product contains a laser beam component. This component may emit invisible, as well as visible radiation, which may cause eye damage. To protect your eyes and skin from laser radiation, the following precautions must be used during servicing of the unit.

1) When testing and/or repairing any component within the product, keep your eyes and skin more than 30 cm away from the laser pick-up unit at all times. Do not stare at the laser beam at any time.

2) Do not attempt to readjust, disassemble or repair the laser pick-up, unless noted elsewhere in this manual.

3) CAUTION: Use of controls, adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

Laser Emitting conditions:

1) When the Top Cover is removed and the "POWER" SW is turned to the "ON" position, the laser component will emit a beam for several seconds to detect if a disc is present. During this time (5 - 10 sec.) the laser may radiate through the lens of the laser pick-up unit. Do not attempt any servicing during this period!
   If no disc is detected, the laser will stop emitting the beam. When a disc is loaded, you will not be exposed to any laser emissions.

2) The laser power level can be adjusted with the VR on the pick-up PWB. However, this level has been set by the factory prior to shipping from the factory. Do not adjust this laser level control unless instruction is provided elsewhere in this manual.
   Adjustment of this control can increase the laser emission level from the device.

Laser Diode Properties

Type:	Semiconductor laser GaAlAs
Wave length:	650 nm (DVD)
	780 nm (VCD/CD)
Output Power:	7 mW (DVD)
	10 mW (VCD/CD)
Beam divergence:	60 degree

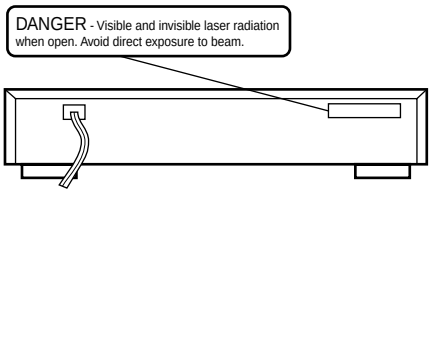
Output value is determined by CFR CHAPTER1, SUBCHAPTER J

VARO!	:	AVATTAESSA JA SUOJALUKITUS OHITETTAESSA OLET ALTTIINA NÄkymÄTTÖMÄLLE LASER-SÄTEILYLLE. ÄLÄ KATSO SÄTEESEEN.
VARNING!	:	OSYNLIG LASERSTRÅLNING NÄR DENNA DEL ÄR ÖPPNAD OCH SPÄRREN ÄR URKOPPLAD. BETRAKTA EJ STRÅLEN.

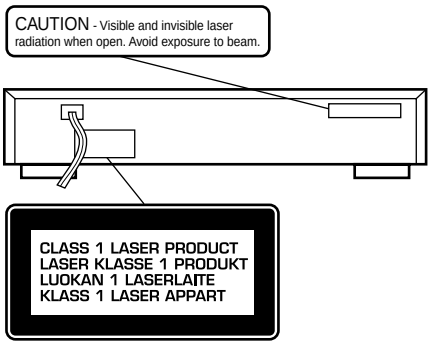
WARNING

The use of optical instruments with this product will increase eye hazard.
Repair handling should take place as much as possible with a disc loaded inside the player

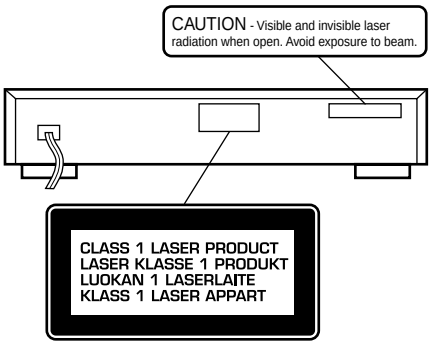
U, C models



R, A, T, P models



B, G models



WARNING LOCATION: REAR PANEL

CAUTION VISIBLE AND INVISIBLE LASER RADIATI ON WHEN OPEN. AVOID EXPOSURE TO BEAM
ADVARSEL SYNLIG OG USYNLIG LASERSTRÅLING VED ÅBNING UNDGÅ UDSÆTTELSE FOR STRÅLING
ADVARSEL SYNLIG OG USYNLIG LASERSTRÅLING NÅR DEKSEL ÅPNES UNNGÅ EKSPONERING FOR STRÅLEN
VARNING SYNLIG OCH OSYNLIG LASERSTRÅLNING NÄR DENNA DEL ÄR ÖPPNAD BETRAKTA EJ STRÅLEN
VARO! AVATT AESSA OLET ALTTIINA NÄKYVÄLLE JA NÄKYMÄTTÖMÄLLE LASER SÄTEILYLLE. ÄLÄ KATSO SÄTEESEEN
VORSICHT SICHTBARE UND UNSICHTBARE LASERSTRAHLUNG WENN ABDECKUNG GEÖFFNET NICHT DEM STRAHL AUSSETSEN
DANGER VISIBLE AND INVISIBLE LASER RADIATI ON WHEN OPEN. AVOID DIRECT EXPOSURE TO BEAM
ATTENTION RAYONNEMENT LASER VISIBLE ET INVISIBLE EN CAS D'OUVERTURE EXPOSITION DANGEREUSE AU FAISCEAU

Warning for power supply

The primary side of the power supply including the heatsink carries live mains voltage when the player is connected to the mains even when the player is switched off !
This primary area is not shielded so it is possible to touch copper tracks and/or components when servicing the player. Service personnel have to take precautions to prevent touching this area or components in this area .
The primary side of the power supply has been indicated with a lightening stroke and a stripe-marked print on the printed wiring board

Note:
The screws on the DVD mechanism (position 18-1 in on the exploded view drawing) may never be touched, removed or re-adjusted.
Handle the DVD mechanism with care when the unit has to be exchanged!
The DVD mechanism is very sensitive for dropping or giving shocks.

■ PREVENTION OF ELECTRO STATIC DISCHARGE

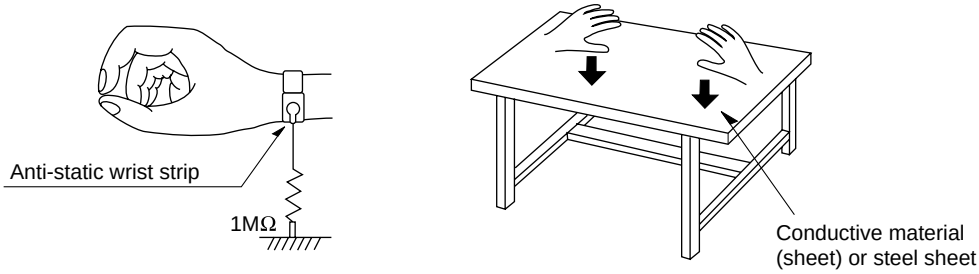
The laser diode in the traverse unit (optical pickup) may be damaged due to static electricity from clothes or the human body. Use caution to prevent electrostatic damage when servicing or handling the laser diode.

1. Grounding for electrostatic damage prevention

Some devices, such as the DVD player, use an optical pickup (laser diode) that will be damaged by static electricity in the working environment. Only attempt service after ensuring that all grounding procedures have been completed.

1. Worktable grounding
   Put a grounded conductive material (sheet) or iron sheet on the area where the optical pickup is placed.

2. Human body grounding
   Use an anti-static wrist strap to discharge the static electricity from your body.



2. Handling of the optical pickup

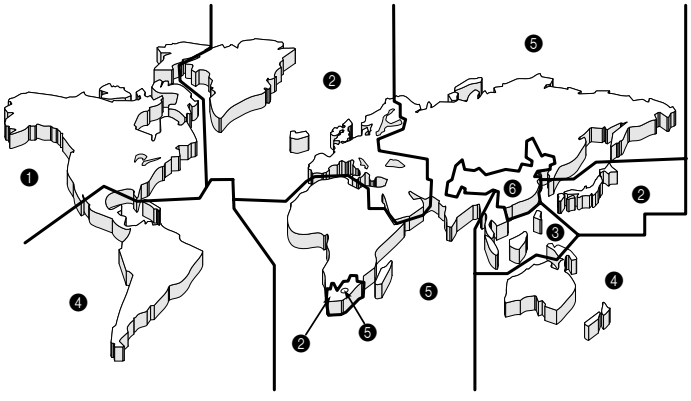
1. To prevent damage to the optical pickup replacement parts during transportation and before installation, both ends of the laser diode are short-circuited. After installing the new part, remove the short circuit according to the correct procedure in this service manual.
2. Do not use a tester to check the laser diode in the optical pickup. The power supply in the tester will damage the laser diode.

3. Handling Precautions for the Traverse Unit (Optical Pickup)

1. Handle the traverse unit (optical pickup) gently, as it is an extremely high-precision assembly.
2. When replacing the optical pickup, install the flexible cable and cut its short land with wire cutters. See the optical pickup replacement procedure in this service manual. Before replacing the traverse unit, remove the shorting pin for preventing static electricity damage and install the new unit. Reconnect the connector as quickly as possible.
3. The flexible cable lines may break if an excessive force is applied to it. Use caution when handling the cable.
4. The semi-fixed resistor for laser power adjustment should not be adjusted. Do not turn the resistor.

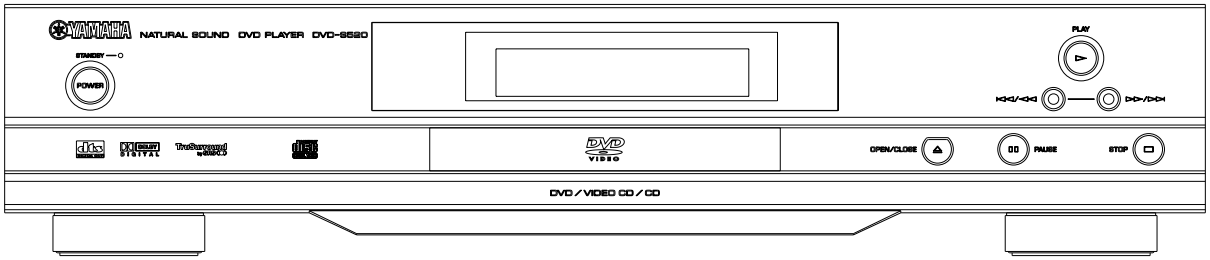
■ LOCALE MANAGEMENT INFORMATION

Locale Management Information : This DVD player is designed and manufactured to respond to the Locale Management Information that is recorded on the DVD disc. If the Locale number described on the DVD disc does not correspond to the Locale number of this DVD player, this DVD player cannot play this disc.

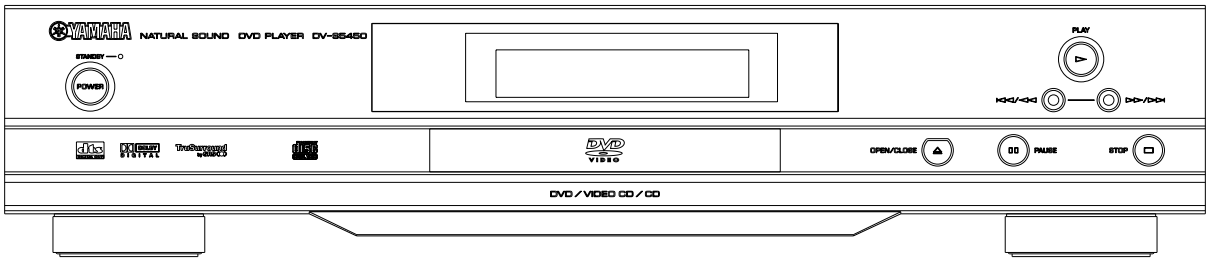


■ FRONT PANELS

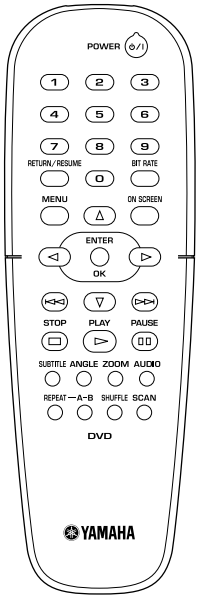
DVD-S520



DV-S5450

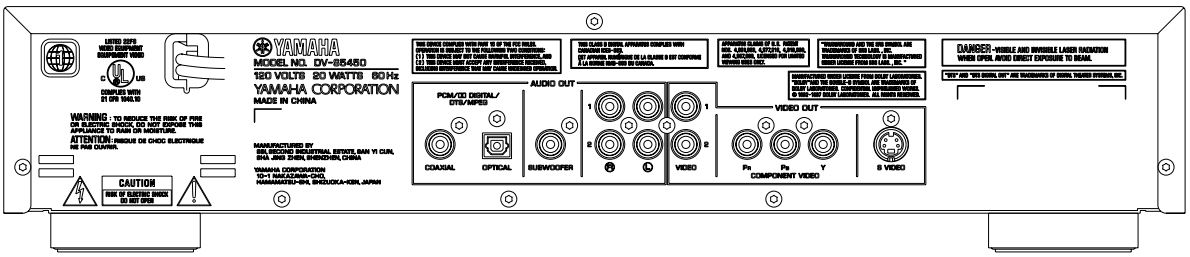


■ REMOTE CONTROL TRANSMITTER

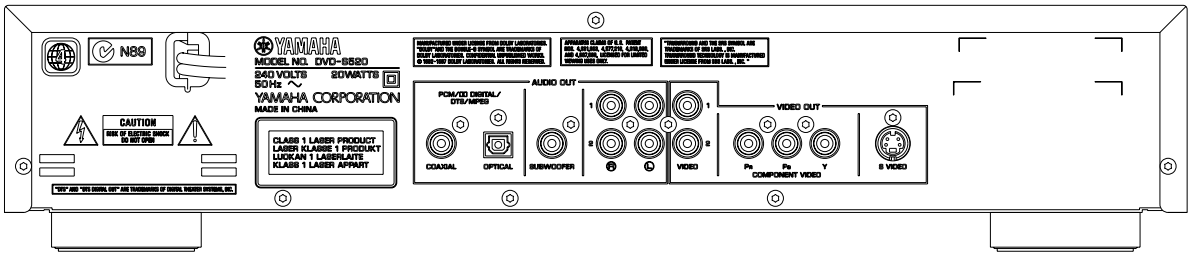


■ REAR PANELS

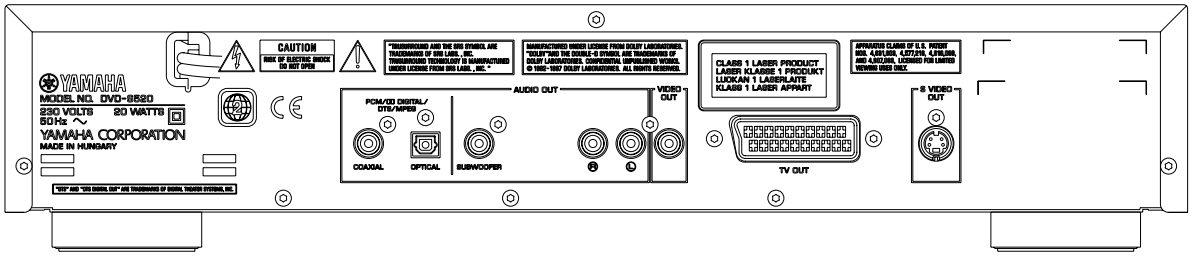
DVD-S520 U, C models



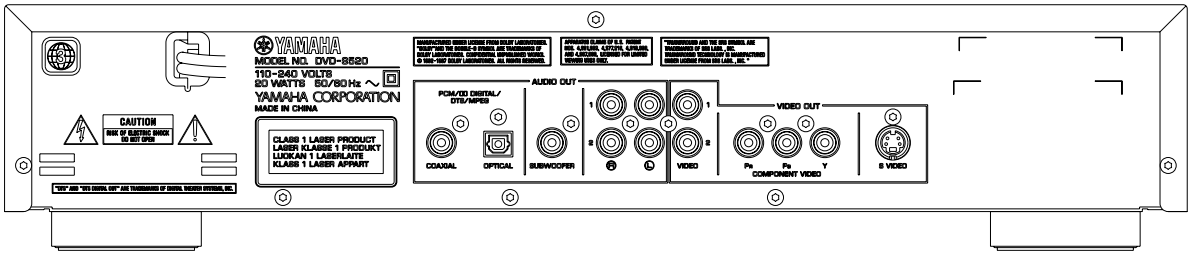
DVD-S520 A model



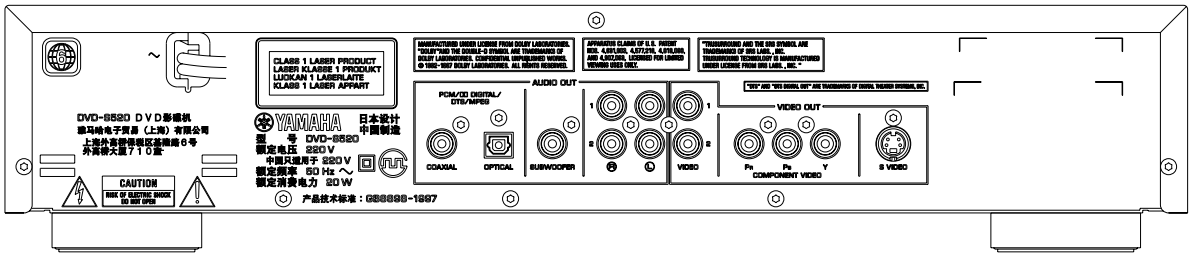
DVD-S520 B, G models



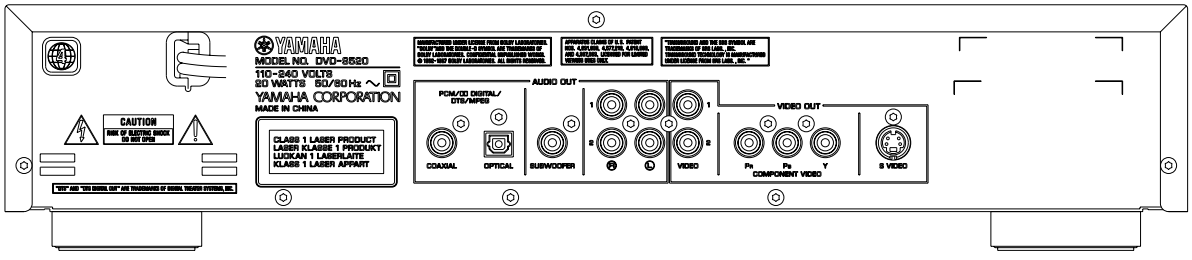
DVD-S520 R model



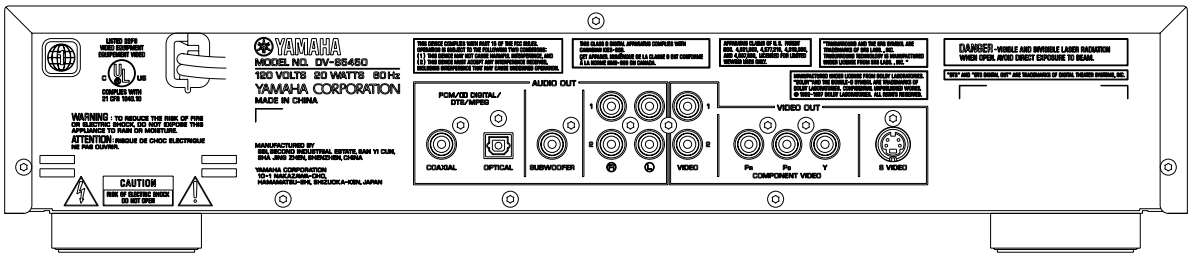
DVD-S520 T model



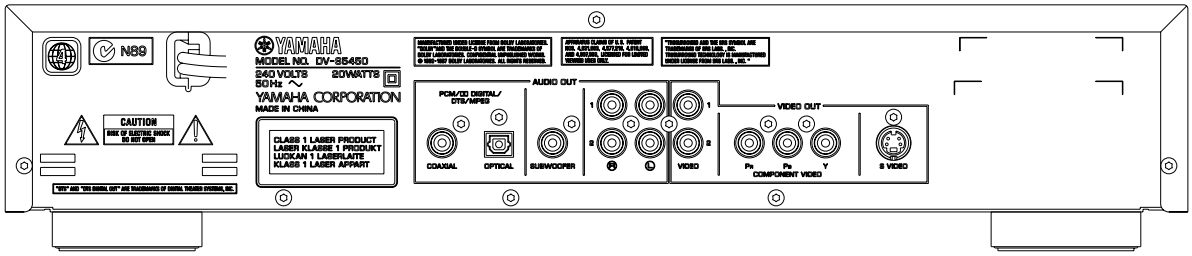
DVD-S520 P model



DV-S5450 U model



DV-S5450 A model



■ SPECIFICATIONS

PLAYBACK SYSTEM

DVD Video
Video CD & SVCD
CD (CD Recordable and CD Rewritable)
DVD+RW
MP3

OPTICAL READOUT SYSTEM

Lasertype	Semiconductor AlGaAs
Numerical Aperture	0.60 (DVD)
	0.45 (VCD/CD)
Wavelength	650 nm (DVD)
	780 nm (VCD/CD)

DVD DISC FORMAT

Medium	Optical Disc	
Diameter	12cm (8cm)	
Playing time	One layer	2.15 h*
(12cm)	Dual layer	4 h*
	Two side	4.30 h*
	Single	layer
	Two side	8 h*
	Dual layer	

VIDEO FORMAT

DA Converter	10 bits
Signal handling	Components
Digital Compression	MPEG2 for DVD
	MPEG1 for VCD

TV STANDARD	**(PAL/50Hz)**	**(NTSC/60Hz)**
Number of lines	625	525
Playback	Multistandard	(PAL/NTSC)

DVD

Horizontal Resolution	720 pixels	720 pixels
Vertical Resolution	576 lines	480 lines

VCD

Horizontal Resolution	352 pixels	352 pixels
Vertical Resolution	288 lines	240 lines

VIDEO PERFORMANCE

Video output	1 Vpp into 75 ohm
S-Video output	Y: 1 Vpp into 75 ohm
	C: 0.3 Vpp into 75 ohm
Component video output	Y: 1 Vpp into 75 ohm (U, C, A, R, T, P)
	P_B/C_B P_R/C_R:0.7Vpp into 75 ohm (U, C, A, R, T, P)
RGB (SCART) output	0.7 Vpp into 75 ohm (B, G)
Black Level Shift	On/Off
Video Shift	Left/Right

AUDIO FORMAT

Digital	MPEG	Compressed Digital
	DTS/Dolby Digital	
	PCM	16, 20, 24 bits
		fs, 44.1, 48, 96 kHz

Analog Sound Stereo
Dolby Pro Logic downmix from Dolby Digital multi-channel sound
3D Sound (TruSurround) for virtual 5.1 channel sound on 2 speakers

AUDIO PERFORMANCE

DA Conver ter	24 bits	
DVD	fs 96 kHz	2 Hz 44 kHz
	fs 48 kHz	2 Hz 22 kHz
Video CD	fs 44.1 kHz	2 Hz 20 kHz
CD	fs 44.1 kHz	2 Hz 20 kHz
Signal-Noise (1kHz)		95 dB
Dynamic Range (1kHz)		95 dB
Harmonic Distortion and Noise (1kHz)		0.0035 %
MPEG MP3		MPEG Audio L3

CONNECTIONS

Y Output	Cinch (green) (U, C, A, R, T, P)
P_B/C_B Output	Cinch (blue) (U, C, A, R, T, P)
P_R/C_R Output	Cinch (red) (U, C, A, R, T, P)
SCART	Euroconnector (B, G)
S-Video Output	Mini DIN, 4 pins
Video Output	Cinch (yellow)
Audio L+R output	Cinch (white/red)
Subwoofer output	Cinch (black)
Digital Output	1 coaxial, 1 optical
	IEC958 for CDDA / LPCM
	IEC1937 for MPEG1/2, Dolby Digital and DTS

GENERAL

Dimensions(w x h x d)		435 x 91 x 314 mm (17-1/8" x 3-5/8" x 12-9/16")
Weight		Approx. 3.3 Kg (7 lbs. 4.5 oz.)
Finish	DVD-S520	Black color (U, C, A, B, G, P) Gold color (R, G, T) Titan color (G, B)
	DV-S5450	Black color (U, A) Silver color (U)
Power supply		120 V, 60 Hz (U, C) 230 V, 50 Hz (B, G) 240 V, 50 Hz (A) 110–240 V, 50/60 Hz (R) 220 V, 50 Hz (T)
Power consumption		20 W
Standby power consumption (reference data)		5 W

PACKAGE CONTENTS

DVD-Video Player, Remote Control & Batteries, Owner's Manual, Audio/Video cable (U, C, A, R, T), Audio cable (B, G), Video cable (B, G)

GENERAL FUNCTIONALITY

Stop / Play / Pause
Fast Forward / Backward
Time Search
Step Forward / Backward
Slow Motion
Title / Chapter / Track Select
Skip Next / Previous
Repeat (Chapter / Title / All) or (Track / All)
A-B Repeat
Shuffle
Scan
New enhanced user graphical interface
Zoom (xl.33, x2. x4) with picture enhancement
Smart Picture for convenient personal colour setting
NTSC/PAL Conversion
Screen Saver (Dim 75% after 15 min.)
3D Sound (TruSurround)
Audio and video bit rate indicator

DVD FUNCTIONALITY

Multi-angle Selection
Audio Selection (1 out of maximum 8 languages)
Subtitles Selection (1 out of maximum 32 languages)
Aspect Ratio conversion (16:9, 4:3 Letterbox, 4:3 Pan Scan)
Parental Control and Child Lock
Disc Menu support (Title Menu and Access Control)
Resume (5 discs) after stop / standby
Programming Titles/chapters with Favourite Track Selection

VIDEO CD FUNCTIONALITY

Playback Control for VCD 2.0 discs
Child Lock
Resume (5 discs) after stop / standby
Programming Tracks with Favourite Track Selection

AUDIO CD FUNCTIONALITY

Time Display (Total / Track)
Full audio functionality with remote control
Programming with Favourite Track Selection

MP3 FUNCTIONALITY

Time Display (Track)
Album and Track Selection
Repeat (Disc / Album / Track)

* typical playing time for movie with 2 spoken languages and 3 subtitle languages.

Specifications subject to change without prior notice

U ..... U.S.A. model
G ..... Europe model
A ..... Australia model
T ..... China model
C ..... Canada model
B ..... British model
R ..... General model
P ..... South America model

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■ DISASSEMBLY PROCEDURES

See exploded view for item numbers.

Top Cover 32
⇒ Remove 7 screws 33.
⇒ Lift cover at rear side to remove.

mounting ↑ ↓ demounting

Front panel ass'y
⇒ open tray.
⇒ remove cover tray 19.
⇒ remove 2 screws 35 (front panel 1 → frame).
⇒ unlock front panel from frame by releasing successively 6 snaps (on the left, on the bottom and on the right) with taking care to avoid breaking snaps.
⇒ remove 2 connectors (on mono board and on P.S.U.).
⇒ put front panel ass'y.

DVD MODULE
⇒ Remove tray of DVD Mechanism.
⇒ Remove connections to Mono board.
⇒ remove 4 screws 35
⇒ demount module.

DVD MONO Board 18-2
⇒ Remove flex connections to turntable motor and sledge motor.
⇒ remove 4 screws (mono board 18-2 → DVD mechanism 18-1)
⇒ remove carefully flex connection to OPU and wire connection to tray motor.
⇒ demount board.

A/ V board 52
⇒ remove flex connections to Mono board.
⇒ remove 8* screws 35, 36 * 7 screws (B, G model).
⇒ release snaps of 2 spacers.
⇒ demount board.

Power supply unit 55
⇒ remove connections.
⇒ remove 2 screws 35 (board → frame).
⇒ release snaps of 2 spacers (board → frame).
⇒ demount board.

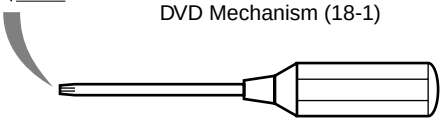
Display board 53
⇒ Remove 7 screws 36 (board → front), pay attention to earth spring.
⇒ demount board.

Standby board
⇒ Remove 2 screws 36 (board → front).
⇒ demount board.

When disassembling, use the special screw driver with tip shape in figure.

T10 2.7 mm for screws with 33, 35 and 36

T6 1.7 mm for removing MONO board (18-2) from DVD Mechanism (18-1)



● The way to remove tray

1. Push left end of the lever under the tray toward the right by using screwdriver, move the tray by pulling it forward. (Fig. 1)
2. While lifting up the lever (①), move the left side of the tray by pulling it forward (②). (Fig. 2)
3. While lifting up the tray (③), remove the tray by pulling it forward (④). (Fig. 2)

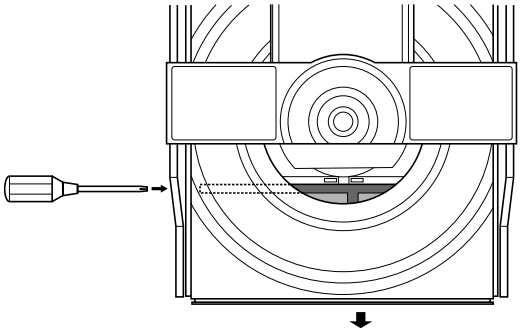


Fig. 1

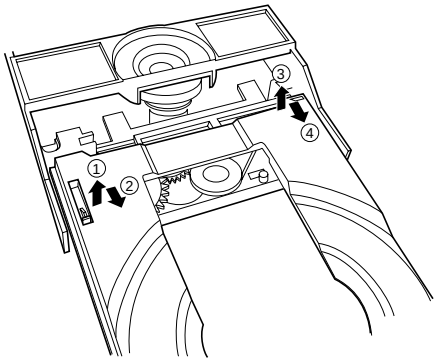


Fig. 2

■ SERVICE POSITION

See figure 1 for the service position

1. Remove the cables from the cable tie housing.
2. Remove 4 screws that mount the DVD module to the bottom frame.
3. Move the DVD module backward slightly and flip the module over, so that the component side of the board faces upwards, and the module is in the service position.

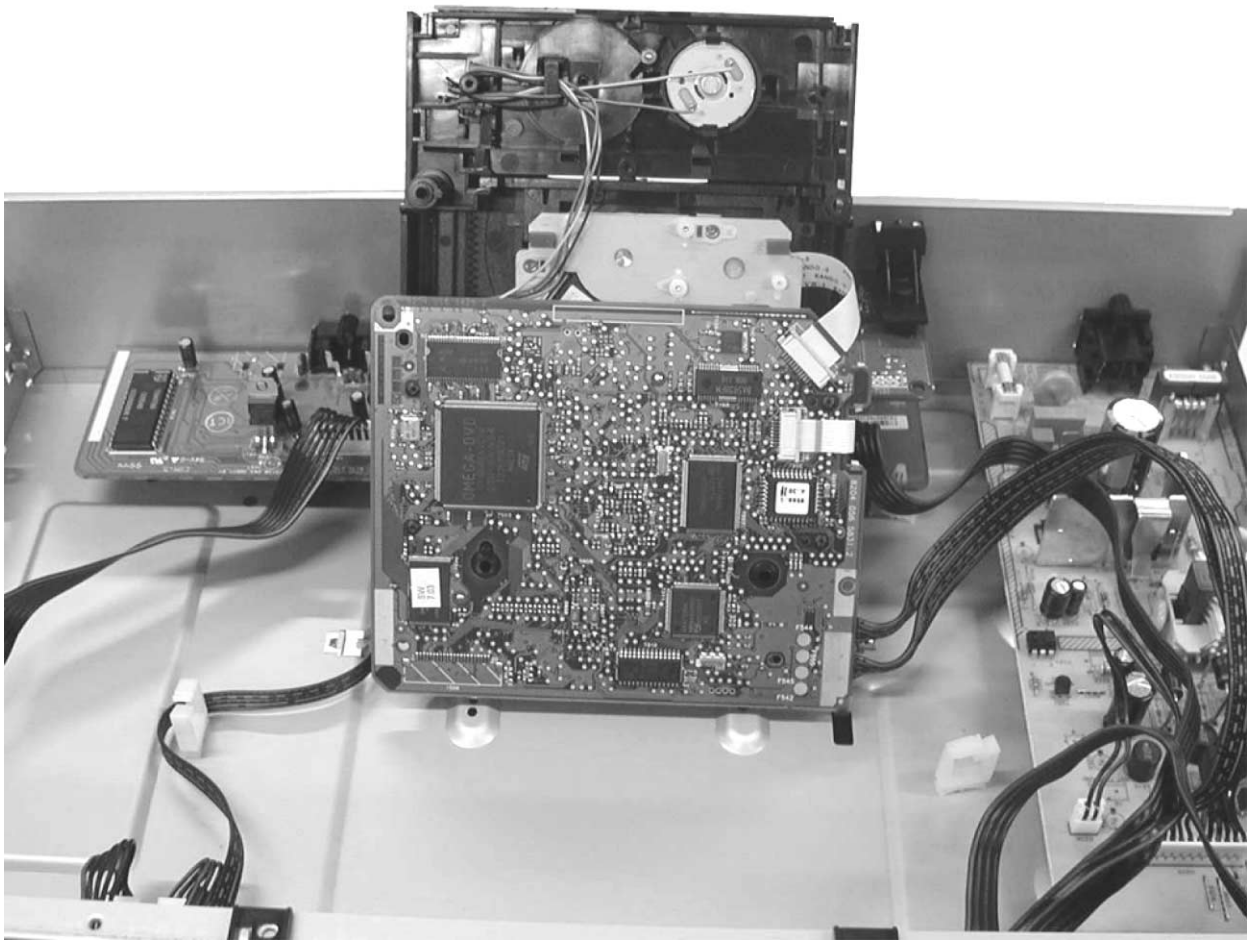


Fig. 1

■ SERVICE HINTS

Diagnostic software

In chapter “Diagnostic software”, some tests are refering to the SCART functionality.
These tests are for sets with RGB-output.

For sets without RGB-output, no SCART connector is mounted.
In these sets, the SCART tests will automatically be skipped.

■ DIAGNOSTIC SOFTWARE : SCRIPT INTERFACES

1. DEALER SCRIPT

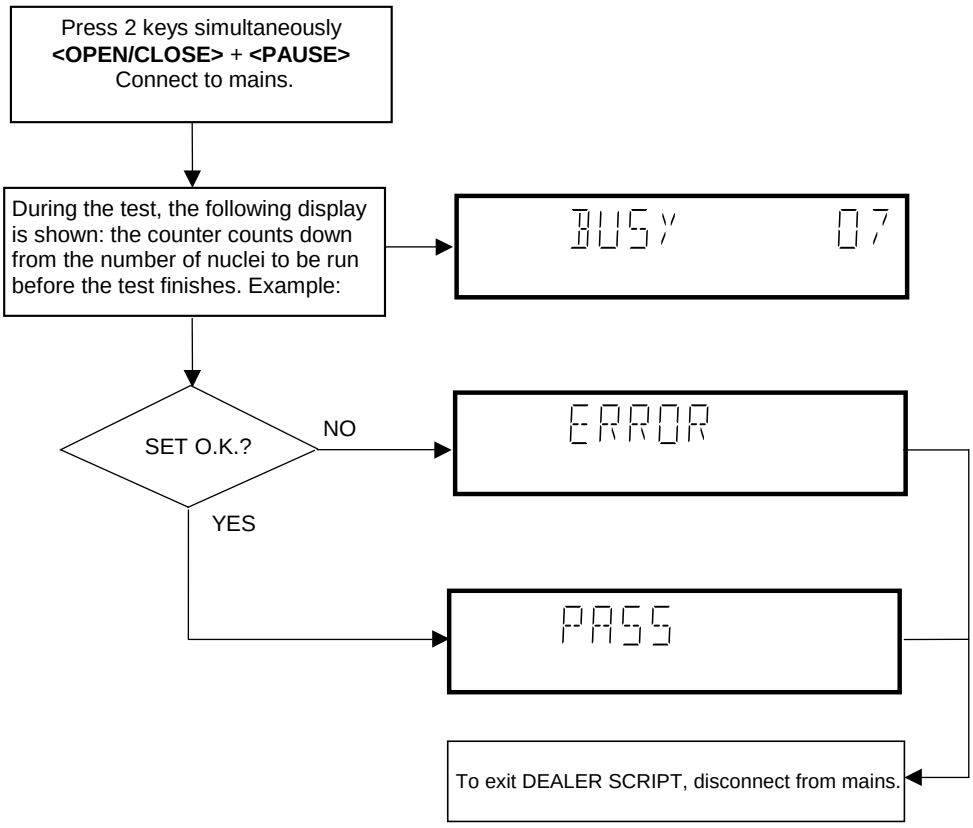
1.1 Purpose of Dealer Script

The dealer script can give a diagnosis on a standalone DVD player; no other equipment is needed to perform a number of hardware tests to check if the DVD player is faulty. The diagnosis is simply a "error" or "pass" message; no indication is given of faulty hardware modules. Only tests within the scope of the diagnostic software will be executed hence only faults within this scope can be detected.

1.2 Contents of Dealer Script

The dealer script executes all diagnostic nuclei that do not need any user interaction and are meaningful on a standalone DVD player.
The nuclei called in the dealer script are the following (the number after each nucleus name corresponds with the number being on the local display when the nucleus is executed during the dealer script):

Nucleus		Description
VideoColSetupComm	9	Checks the I2C interface with the RGB video processor on the Audio/Video board (only for DVD players with RGB video processor).
VideoScartSwComm	8	Checks the I2C interface with the scart switch on the Audio/Video board
PapChksFl	7	Calculate and verify checksum of FLASH memory.
PapDramWrR	6	Pattern test of all locations in the DRAM(s).
PapI2cDisp	5	Checks the I2C interface with the slave processor on the display PCB.
PapS2bEcho	4	Checks the I2C interface to the basic engine.
PapI2cNvram	3	Checks the I2C interface with the NVRAM.
PapNvramWrR	2	Pattern test of all locations in the NVRAM
CompSdramWrR	1	Pattern test of all locations in the SDRAM(s).



2. PLAYER SCRIPT

2.1 Purpose of Player Script

The Player script will give the opportunity to perform a test that will determine which of the DVD player's modules are faulty, to read the error log and error bits and to perform an endurance loop test. To successfully perform the tests, the DVD player must be connected to a TV set to check the output of a number of nuclei. For DVDv2b a multi-channel amplifier, a set of 6 boxes and an external video source are necessary to test. To be able to check results of certain nuclei, the player script expects some interaction of the user (i.e. to approve a test picture or a test sound). Some nuclei (e.g. nuclei that test functionality of the Basic Engine module) require that the DVD player itself is opened, to enable the user to observe moving parts and approve their movement visually. Only tests within the scope of the diagnostic software will be executed hence only faults within this scope can be detected.

2.2 Contents of Player Script

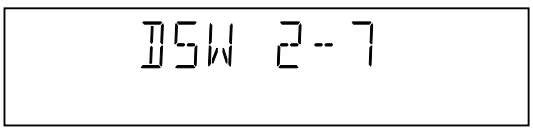
The player script contains all nuclei that are useful on a DVD player that is connected to a TV-set and help to determine which module of the DVD player is faulty, as well as to read out the contents of the error logs.

2.3 Structure of Player Script

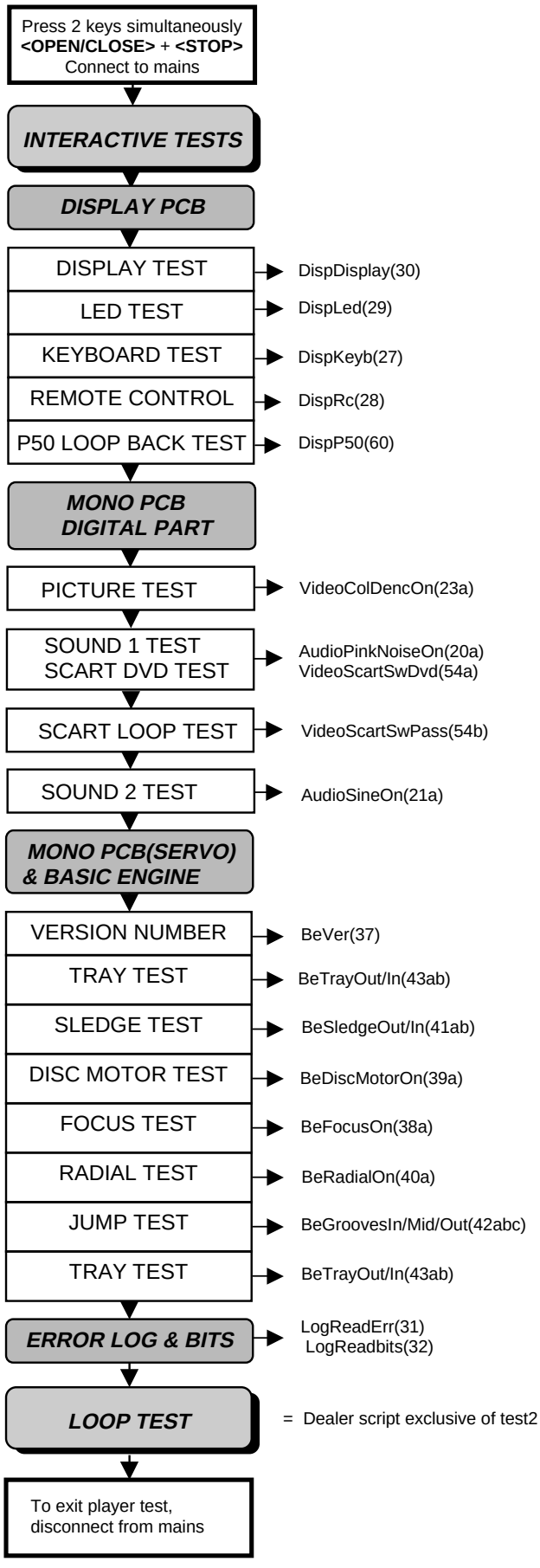
The player script consists of a set of nuclei testing the three hardware modules in the DVD player: the Display PWB, the Digital PWB and the Basic Engine.
Nuclei run by the player test need some user interaction; in the next paragraph this interaction is described. The player test is done in two phases:

1. Interactive tests: this part of the player test depends strongly on user interaction and input to determine nucleus results and to progress through the full test. Reading the error log and error bits information can be useful to determine any errors that occurred recently during normal operation of the DVD player.
2. The loop test will loop through the list of nuclei indefinitely, till the NEXT key is pressed. The list of nuclei is as follows:
   - VideoColSetupComm
   - VideoScartSwComm
   - PapChksFlash
   - PapI2cNvram
   - CompSdramWrR
   - PapS2bEcho
   - PapI2cDisp

For DSW version 1.6 and above. the DSW version number will be displayed on the local display. Press NEXT to continue to the display test.
The display should look like the following:



2.4 Survey



■ INTERACTIVE TESTS

1. DISPLAY PCB

1.1 DISPLAY TEST

The display test is performed by nucleus DispDisplay. By putting a series of test patterns on the local display, the local display is tested. To step through all different patterns, the user must either press PLAY (pattern is ok) or PAUSE (pattern was incorrect) to proceed to the next pattern. The display of patterns is continued in a cyclic manner until the user presses NEXT. If the user presses NEXT before all display patterns are tested, the DispDisplay nucleus will return TRUE (display test successful).

1.2 LED TEST

The LED(s) on the DVD player is (are) tested by nucleus DispLed. The user must check if the LED(s) is (are) lighted; if it is, press PLAY, if it is not, press PAUSE. By pressing NEXT the script will proceed to the next test. If the user presses NEXT before PLAY or PAUSE, the DispLed nucleus will return TRUE (LED test successful).

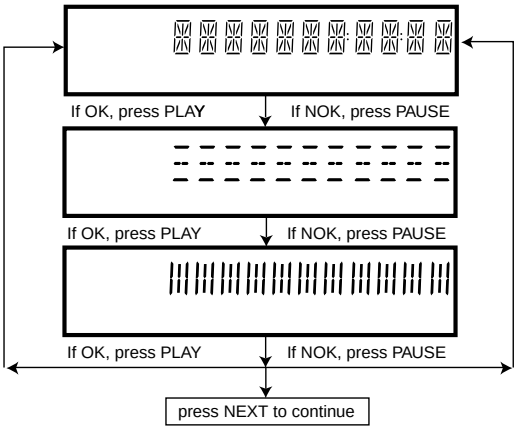


Figure 1

1.3 KEYBOARD TEST

The keyboard of the DVD player is tested by nucleus DispKeyb. The user is expected to press all keys on the local keyboard once. The code of the key pressed is shown on the local display (1 hexadecimal digit) immediately followed by a (hexadecimal) number indicating how many times that key has been pressed. Example of the local display during this test:

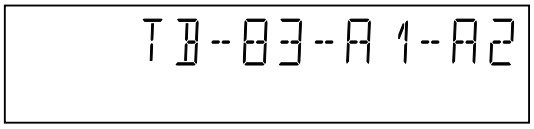


Figure 2

The key-codes displayed on the local display will scroll from right to left when the display gets full, the text "tb-" will remain on display.

key id.	key
0	PLAY ▷
1	NEXT ▷▷/▷▷|
2	PREVIOUS |◁◁/◁◁
3	PAUSE ▯▯
4	STOP ▭
5	OPEN/CLOSE ⏏
A	POWER (B,G models)

Figure 3

If any keys are detected more than once (due to hardware error), the key-code is displayed twice (or more), with the second digit increased by 1.
If the user does not press all keys minimally once (in any order), the DispKeys nucleus will return FALSE and cause an error in the overall result of the player script.
The user can leave the keyboard test by pressing the NEXT key on the local display of the DVD player for at least one full second.
The result of the keyboard test is shown on local display as follows:

Figure 4

Or

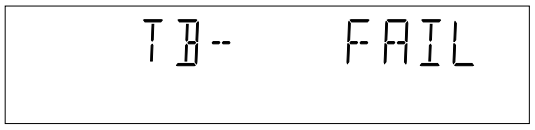


Figure 5

Pressing NEXT on the local keyboard again will proceed to the next text.

1.4 REMOTE CONTROL TEST

The remote control of the DVD player is tested by nucleus DispRc. The user must press any key on the remote control just once. The codes of the key pressed will be shown on the local display in hexadecimal format. Example:

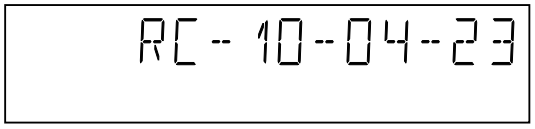


Figure 6

In this example 23 is the hexidecimal code of the pressed RC key. The user can leave the remote-control test by pressing NEXT on the local keyboard of the DVD player. The remote control test is successful if a code was received before the user pressed the NEXT key; pressing the NEXT key before pressing a key on the remote control gives an error in the remote control test (note that the remote control test will also fail if a key on the remote control was pressed but no code was received). The remote control test does not check upon the contents of the received code, that is it will not be checked if the received code matches the key pressed. If desired, the user can manually check this code by using a code-table for the remote control key-codes.

RC Key id	Hexadecimal code
POWER ⏻/ I	**C**
1	**1**
2	**2**
3	**3**
4	**4**
5	**5**
6	**6**
7	**7**
8	**8**
9	**9**
RETURN/RESUME	**83**
0	**0**
BIT RATE	**EF**
MENU	**54**
CURSOR UP △	**58**
ON SCREEN	**82**
CURSOR LEFT ◁	**5A**
OK	**5C**
CURSOR RIGHT ▷	**5B**
PREVIOUS ⏮	**21**
CURSOR DOWN ▽	**21**
NEXT ⏭	**20**
STOP ▭	**31**
PLAY ▷	**2C**
PAUSE ▯▯	**30**
SUBTITLE	**4B**
ANGLE	**85**
ZOOM	**F7**
AUDIO	**4E**
REPEAT	**1D**
A/B REPEAT	**3B**
SHUFFLE	**1C**
SCAN	**2A**

Figure 7

After pressing NEXT, the result of the remote control test is displayed on the local display of the DVD player as follows:

Figure 8

Or

Figure 9

Pressing NEXT on the local keyboard again will proceed to the next test.

1.5 P50 Loop-Back Test

For the P50 loop-back test, the user must first press a key to decide if the test is to be performed.
The display will show the following message:

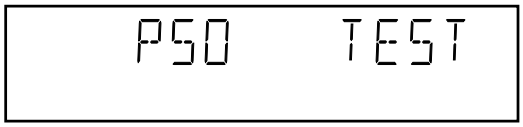


Figure 10

If the user presses PAUSE, the P50 test will be skipped.
If the user presses PLAY, the P50 test is performed and the result is displayed as follows:

Test successfull:

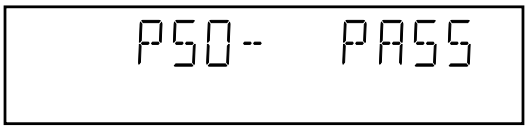


Figure 11

Test fails:

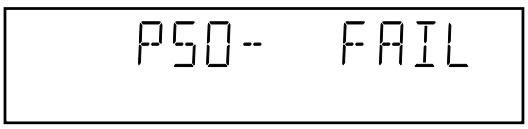


Figure 12

Press the NEXT key to continue to the next text

2 MONO PCB DIGITAL PART

2.1 PICTURE TEST

The picture test is performed by putting a predefined picture (colour bar) on the display (nucleus

VideoColDencOn) and asking the user for confirmation. The display shows the following message:

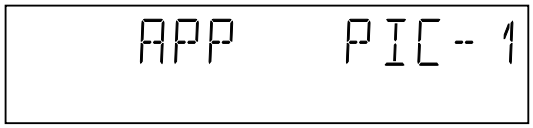


Figure 13

By pressing PLAY, the user confirms the test; pressing PAUSE will indicate the picture was invisible or incorrect. Pressing NEXT will proceed to the next test

2.2 SOUND 1 & SCART DVD TEST

The first soundtest is performed by starting a pink noise sound that needs confirmation from the user (nucleus AudioPinkNoiseOn); the display shows the following message very shortly:

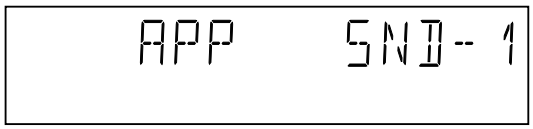


Figure 14

This sound will only be audible from version cut3.1 of Sti5505(item7503 on mono board) onwards. After starting up sound 1, SCART loop-trough will be simultaneously active during this test. SCART loop-trough will be measured with the aid of an external video source.
When entering the SCART loop-trough, the local display indicates:

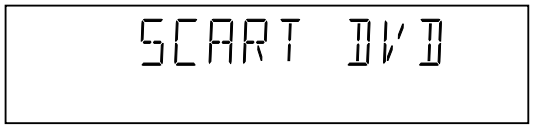


Figure 15

On the TV screen, a colour bar (generated by nucleus VideoColDencOn) is visual and the internally generated pinknoise is audible. By pressing PLAY, the user confirms the test; pressing PAUSE will indicate the sound was inaudible or incorrect. Pressing NEXT will proceed to the next test; if the user presses NEXT without pressing PLAY or PAUSE first, the result of this test will be TRUE (sound ok). By pressing the NEXT button, there will be switched over to the external source, this must become now visible on the TV screen (using the SCART). The local display indicates:

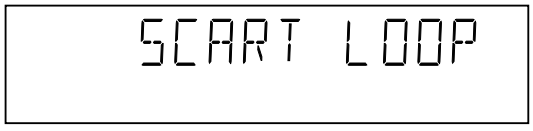


Figure 16

The internally generated colour bar is still available on the CVBS and Y/C outputs. And the pinknoise-signal is still available on the cinch audio outputs. By pressing the PREV button, the internal generated colour bar becomes visual again.
The test can be left by pressing the NEXT key for more than one second.

2.3 SOUND 2 TEST

The second soundtest is performed by producing a sine sound (nucleus AudioSineOn). The signal can be stopped by pressing the STOP-key. The display shows the following message:

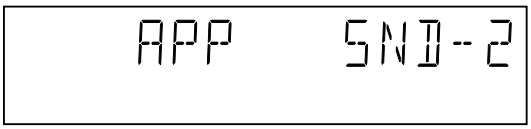


Figure 17

By pressing PLAY, the user confirms the test; pressing PAUSE will indicate that something went wrong. To proceed NEXT, press the STOP key first, press the NEXT key second and wait five seconds.

3 BASIC ENGINE

note) Basic engine means DVD mechanism.

3.1 VERSION NUMBER

In the basic engine tests, the version number of the Basic Engine will be shown first, as the following example:

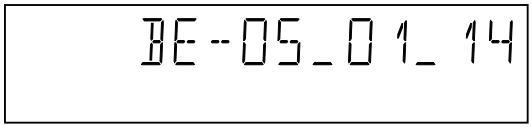


Figure 18

By pressing the NEXT key, the Basic Engine tests are started.

3.2 TRAY TEST

First, the tray is tested. The purpose of this test is also to give the user the opportunity to put a disc in the tray of the DVD player. Some tests on the Basic Engine require that a disc (e.g. DVD MPTD test disc) is present in the player. At the end of the Basic Engine tests, this tray test will be repeated solely to enable the user to remove the disc in the tray. The local display looks as follows:

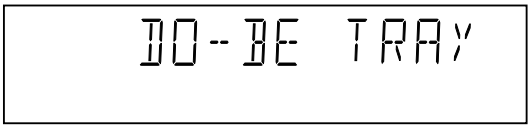


Figure 19

By pressing PLAY or PAUSE, the user can toggle the position of the tray. Note that this test will not contribute to

the test result of the Basic Engine. Pressing NEXT will proceed to the next test, after the tray has been closed (by the software) if it was open.

3.3 SLEDGE TEST(visual test)

The second Basic Engine test tests the sledge; the user can move the sledge as many times as desired by using PLAY (nucleus BeSledgeOut) and PAUSE (nucleus BeSledgeIn).

Pressing NEXT on the local keyboard proceeds to the next test.

Note that this test will not contribute to the test result of the Basic Engine. The local display looks as follows during the sledge test:

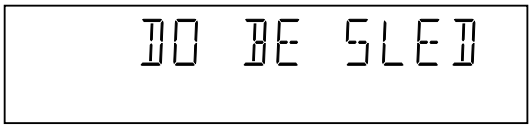


Figure 20

3.4 DISC MOTOR TEST(visual test)

The third Basic Engine test tests the disc motor (nucleus BeDiscMotorOn); the local display looks as follows:

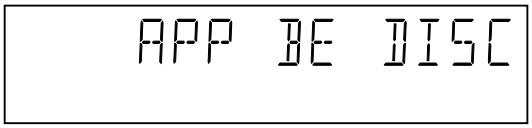


Figure 21

By pressing PLAY, the user confirms that the disc motor is running; pressing PAUSE indicates the disc motor does not work. Pressing NEXT proceeds to the next test, after a reset of the disc motor (nucleus BeDiscMotorOff). If the user presses NEXT before pressing PLAY or PAUSE, the result of this test will be TRUE (disc motor is running).

3.5 FOCUS TEST(visual test)

The fourth Basic Engine test tests the focussing; first focussing is turned on by calling nucleus BeFocusOn. The display looks as follows:

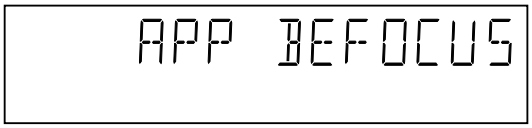


Figure 22

By pressing PLAY, the user confirms that the focussing was succesful; pressing PAUSE indicates a focussing failure.

Pressing NEXT proceeds to the next test after a reset of the focussing (nucleus BeFocusOff); if NEXT is pressed before PLAY or PAUSE, the result of this test will be TRUE (focus successful).

3.6 RADIAL TEST(visual & listening test)

The fifth Basic Engine test tests the radial functionality (nucleus BeRadialOn); the local display looks as follows:

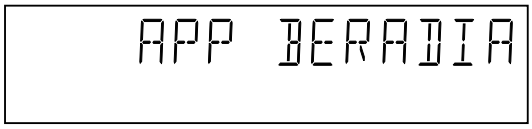


Figure 23

By pressing PLAY, the user confirms that the radial function worked; pressing PAUSE indicates the function does not work.

Pressing NEXT proceeds to the next test, after a reset of the radial (nucleus BeRadialOff). If the user presses NEXT before pressing PLAY or PAUSE, the result of this test will be TRUE (radial successful).

3.7 JUMP TEST(listening test)

The sixth and last Basic Engine test tests the jumping by calling nuclei BeGroovesIn, BeGroovesMid and BeGroovesOut.

During this test, the local display looks as follows:

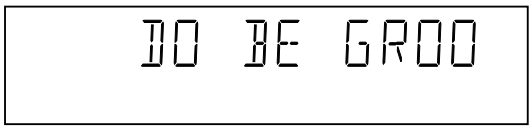


Figure 24

The user can switch between the three different types of groove settings by pressing PLAY (forward to next nucleus in the list In-Mid-Out) or PAUSE (backward in the list In-Mid-Out).

This is done in a cyclic manner; note that this test will not contribute to the test result of the Basic Engine. Pressing NEXT proceeds to the next test, after the disc motor has been shut off with a call to nucleus BeDiscMotorOff.

3.8 TRAY TEST

As a last action for the Basic Engine tests, the tray test is repeated. The local display looks as follows:

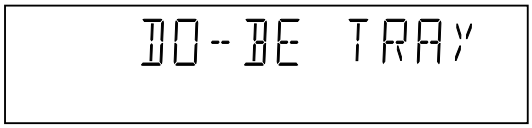


Figure 25

This test is meant to give the user the opportunity to remove the disc in the tray. The tray position can be toggled using the PLAY and PAUSE key. The tray will be closed (by the software, if it is open) before proceeding to the next test when the user presses the NEXT key.

3.9 ERROR LOG

Reading the error log and error bits information can be useful to determine any errors that occurred recently during normal operation of the DVD player. Reading the error log is done by nucleus LogReadErr. The display during the errorlog readout looks as follows :

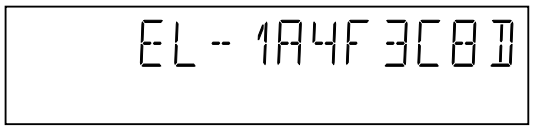


Figure 26

By pressing PLAY or PAUSE, the user can move forward or backward (respectively) through the logged error codes. The highlighted number indicates which errorcode is currently on display (in the example above, errorcode number 4 is displayed). If "0000" is displayed at all positions, the error log is empty. Display of the logged errors is done in a cyclic manner.
The errorcode with the lowest highlighted number is the most recent. By pressing NEXT on the local keyboard, the user can proceed to the next test.

3.10 ERROR BITS

Reading the error bits is done by nucleus LogReadBits. The display during the errorbits readout looks as follows:

Figure 27

Only the set errorbits will be shown by their (decimal) number.
Refer to the appropriate documentation for the explanation of each bit number. If the display only shows "EB-0", no error bits were set. By pressing NEXT, the user can continue to the next test.
See table below:

Error log / bits table	Read ERROR LOG in player script	Read ERROR BITS in player script
Basic engine errors	Value:	Value:
Command to the Basic Engine not allowed in this state or unknown command	150101	8
Parameter(s) from the command to the Basic Engine is not valid	150102	7
Sledge could not be moved to the inner home position	150103	6
Focus failure	150104	5
Turntable motor speed could not be reached within timeout	150105	4
Radial servo could not get on track on the disc	150106	3
PLL could not lock in the accessing or tracking state	150107	2
Subcode or sector information could not be read	150108	1
requested subcode could not be found	150109	16
Tray could not be closed or opened completely	15010A	15
TOC could not be read within timeout	15010B	14
The requested seek on the disc could not be executed	15010C	13
A requested lead-in is not on the disc	15010D	12
A non existing burst cutting area is requested	15010E	11
S2b communication error	1501F0	10
S2b communication error	1501F1	9
S2b communication error	1501F3	24
S2b communication error	1501F4	23
S2b communication error	1501F5	22
Digital PWB errors		
Communication error with the Sti 5505	90000	32
Communication error with the Sti 5505	90001	31
Disply processor errors		
Communication error with the display processor	190000	40

4. LOOP TEST

At the start of the loop test, the display will show the result of the interactive player test:

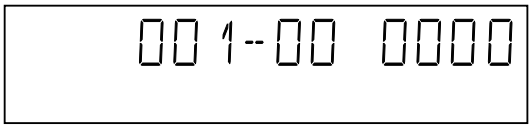


Figure 28

The left side of the display contains a 3-digit code, which can have a value between 000 and 111. These values are to be interpreted as follows:

Displayed Value	Indication for each module		
	Basic Engine	Mono PCB	Display PCB
000	ok	ok	ok
001	ok	ok	faulty
010	ok	faulty	ok
011	ok	faulty	faulty
100	faulty	ok	ok
101	faulty	ok	faulty
110	faulty	faulty	ok
111	faulty	faulty	faulty

Figure 29

The loop test will perform the same nuclei as the dealer test, but it will loop through the list of nuclei indefinitely. The display of the DVD player will display not only the three digits indicating correct/faulty modules and the last found error code (as mentioned, faults are detected as far as they can be within the scope of the diagnostic software), but also a loop counter indicating how many times the loop has been gone through.
Example:

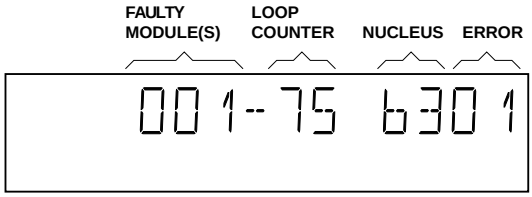


Figure 30

The number after the hyphen indicates the number of times the loop test has been performed; the 4 digits at the right side of the display show the last error that was found when running the loop test: the leftmost two digits of this code indicate which nucleus resulted in a fault; the rightmost two digits refer to the faultcode within that nucleus. For further explanation of this error code, see list of error codes below.

ERROR CODES LOOP TEST

ERROR CODE	NUCLEUS NUMBER	ERROR DESCRIPTION
0601	6	Calculated checksum of FLASH is not correct
0901	9	The DVD DRAM is faulty
1104	11	I2C bus busy before start
1102		NVRAM access time-out
1103		No NVRAM Acknowledge
1104		NVRAM reply time-out
1201	12	I2C bus busy
1202		I2C bus not working
1203		Slave controller not responding
1204		Slave response is not correct
1301	13	Parity error from basic engine to serial
1302		Parity error from serial to basic engine
1303		No communication between serial and basic engine
1304		Communication time-out error
1601	16	The SDRAM is faulty
5201	52	I2C bus busy
5202		Error sending I2C command to COLOR SETUP IC
5203		Colour setup IC not responding
5204		Colour setup IC response is not correct
5401	54	I2C bus busy
5402		Error sending I2C command to SCART SWITCH IC
5403		SCART Switch is not responding
5403		SCART Switch response is not correct

Figure 31

5. Servicing DVD module and MONO board

5.1 Reset of Virgin Mode

After the player has been powered up for test by the dealer, it would have gone through the Virgin Mode. It is possible to reset the settings made during that mode before the delivery of player to the customer. This can be done as shown in the following diagram:

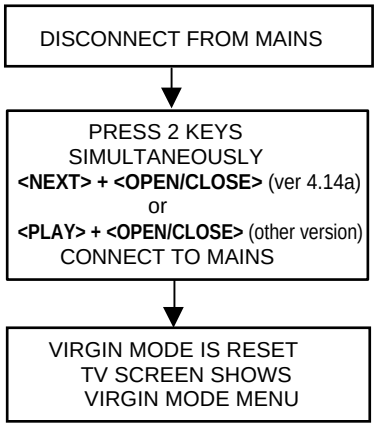


Figure 32

5.2 Trade Mode

When the player is in Trade Mode, the player cannot be controlled by means of the front key buttons, but only by means of the remote control.

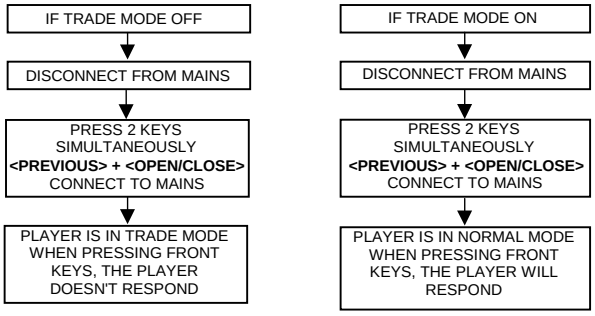


Figure 33

■ TEST INSTRUCTIONS

1 AV Board

These test instructions can be used for all versions of the AV board which has the following outputs:

- Audio L/R
- 5.1 Audio output
- Subwoofer output
- Optical / Coaxial digital output
- CVBS
- Y/G_vid,U/B_vid,V/R_vid output
- S-video
- Scart output

1.1 General

- All the waveforms measurement carried out in these test instruction will be base on the testpoint indicated in the AV board schematic diagram in the Service manual.
- Impedance of the measuring-equipment should be > 1MΩ
- Most of the tests can be done using either the Diagnostic software " Player script" which can be found in the chapter "Diagnostic Software description and troubleshooting" or the Menu interface using the Service PC with a terminal emulation program (e.g. Window Hyperterminal) where it is possible to control the execution of the Diagnostic Nuclei
- Setup for the measurement will be done in set level with all modules connected as shown in the Wiring Block diagram.

1.2 General Start-Up Measurement

Supply Check:

Before starting the measurement,ensure that all power supply are connected to the AV board.

Pin nbr	Supply
1010-9	-5V (-Vcc)
1010-10	+5V
1010-11	+5V

The supply currents can be measured using a Tektronics AM503B current probe or equivalent.

Supply	Power consumption (AVG)
+5VA	+5V ± 3% I = 200mA
+5Vvid	+5V ± 3% I = 200mA
-5V	-5V ± 3% I = 200mA

Clock Check

Ensure the present of the clock to the DAC

Clock Name	Testpoint	Frequency
PCM_CLK	TP10	11.2896MHz ± 0.02% tolerance

Audio Mute Check

Measure the Audio mute voltage input at pin 12 of connector 1010

Status	Value
AudioMuteOn	4.7V ± 10%
AudioMuteOff	-8V ± 10%

To toggle between ON and OFF,use the following commands:

Ref.#	Command Name	Remarks
19a	AudioMuteOn	Audio Mute On
19b	AudioMuteOff	Audio Mute Off

1.3 Audio DAC And Amplifier

Ensure that the Audio mute signal is OFF
To check the DAC and buffer amplifier,send the following commands:

Ref.#	Command Name	Remarks	Audio output
21a	AudioSineOn	Audio Sine signal ON	Sine,1Khz on stereo
----	Press stop button	Audio Sine signal OFF	No waveform
20a	AudioPinkNoise On	Audio Pinknoise ON	Pink Noise on 6 channels
20b	AudioPinkNoise Off	Audio Pinknoise OFF	No waveform

The audio signal (sine or pink noise) will also be present on the digital output (SPDIF).This can be checked by connecting digital signal to an amplifier with digital input.
Check the I2S and audio signal at the following testpoints:

Name	Testpoint
LRCLK	TP8
SCLK	TP9
PCM_CLK	P10
PCM_OUT0	TP7
PCM_OUT1	TP27
PCM_OUT2	TP28
SPDIF	TP11
Front L/R out-Audio cinch	TP13
H/P L/R out	TP20
Analog out -Audio cinch	TP25

All waveforms can be refer to the waveform diagram in the chapter “Diagnostic software description and troubleshooting”.

1.4 Video Output And Buffer Amplifier

Check DC output-level at all video cinch output : 1.0V DC 10% Generate a color bar using the following software commands:

Ref.#	Command Name	Remarks
23a	VideoColDencOn	Colour DENC ON
61a	VideoColOutRGB	RGB Colourbar
61b	VideoColOutYUV	YUV Colourbar
23b	VideoColDencOff	Colourbar DENC OFF

Check the video outputs at the following testpoints:

Name	Testpoint
B_VID	TP1
G_VID	TP2
R_VID	TP3
CVBS out	TP14
S-Video-C out	TP15
S-Video-Y out	TP16
Y out	TP17
U out	TP18
V out	TP19

All waveforms can be refer to the waveform diagram in the chapter “Diagnostic Software description and troubleshooting”.

1.5 Play And 16/9 Detection

Check DC voltage at S-Video-chroma output (pin 4) with a 6K8 ohm load and Scart connector (pin 8) and change the 0/6/12 input (1010-8) using the following commands:

Ref.#	Command Name	Remarks	Chroma output
25a	VideoScartLo	Sends out 0V ±0.5V	<0.1V
25b	VideoScartMi	Sends out 6V ±10%	2.0V ± 10% with load
			5.0V ± 10% without load
25c	VideoScartHi	Sends out 12V ±10%	<0.1V

1.6 Kill Circuit

To check the functionality of the Kill circuitry,the audio outputs has to be present by the following command:

Ref.#	Command Name	Remarks	Audio output
21a	AudioPinkNoise On	Audio Pinknoise ON	Pink Noise on 6 channels

Check the audio outputs at the audio cinch of the AV board :PinkNoise
Activate the Kill circuit by using the following command:

Ref.#	Command Name	Remarks
19a	AudioMuteOn	Audio Mute On

Check the audio outputs at the audio cinch of the AV board : No waveform
Switch off the kill circuit by using the following command:

Ref.#	Command Name	Remarks
19b	AudioMuteOff	Audio Mute Off

Check the audio outputs at the audio cinch of the AV board :PinkNoise

2. Display board

2.1 Introduction

These test instructions are written for all versions of the display PCB.

The contents of the PCB can be split up into next blocks:

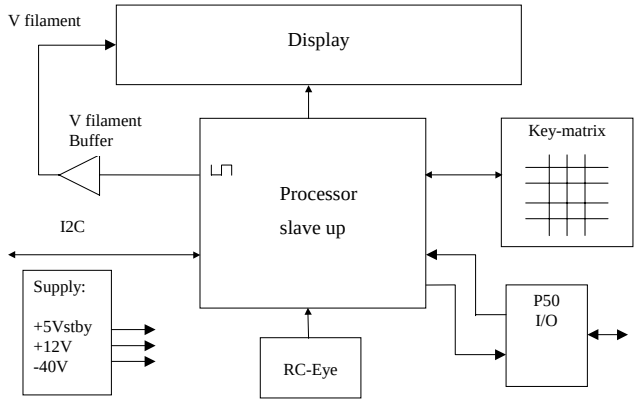


Figure 1

2.2 Functionality description:

The essential component of the display PCB is the µP (slave).

This slave works on an 8MHz resonator and has a reset circuit that is triggered by the +5Vstby. After the reset pulse, the standby control line will release the reset of the host µP. This host µP will then initialize the slave. In addition, when going to stand-by, the slave will put the host µP in reset. When the slave receives the right IR or key code to leave the standby mode, the reset of the host µP will be released.

Other slave functions are:

- Square signal generator to generate the filament voltage, which is required for an AC FTD.
- Generating the grid and segment scanning for the FTD.
- Generating a scanning grid for the keys (separated from display scanning).
- Having inputs for RC (RC5 and RC6) and P50 (P50 controller is built in).

2.3 Reset

Check next reset timing with an oscilloscope at pin 10 of the microprocessor.

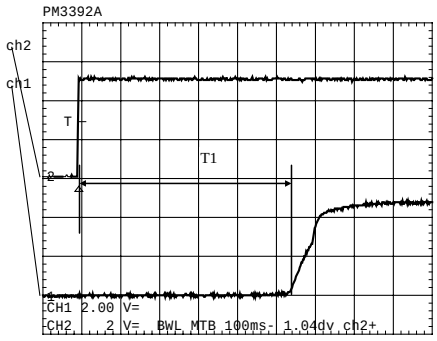


Figure 2

Timing: 400msec < T1 > 700msec.

CH1: +5Vstby voltage at power on.

CH2: Voltage at pin 10.

2.4 Display steering

Check next timing and level for all grid-lines (G1 r G14).

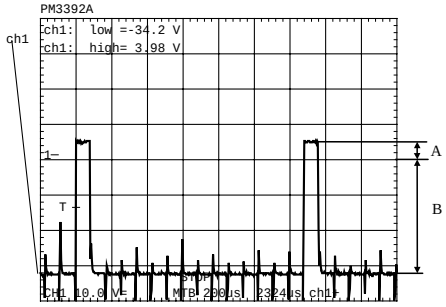


Figure 3

1. Check level A: +4V5 +/-10% for grid lines 1 => 11
2. Check level A: +4V0 +/-10% for grid lines 12 => 14
3. Check level B: -33V +/-10%
4. Check timing and levels of segment-lines P1 => P10:

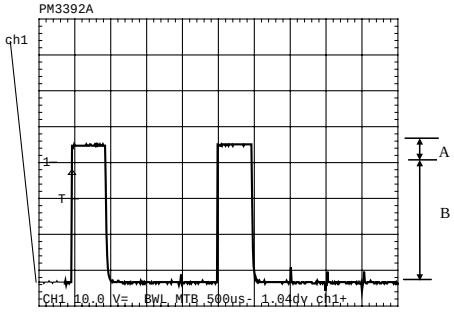


Figure 4

Level A:+4V5 +/-10%

Level B:-33V +/-10%

The data on these segment lines depend on the characters that are displayed.

The characters can be set by sending I2C commands to the display.

See the Slave URS how to send a display command.

2.5 Key-matrix

Connect a extra 10kpull-up resistor to pin 36 en 37 of the µP and check next matrix scanning at these pins.

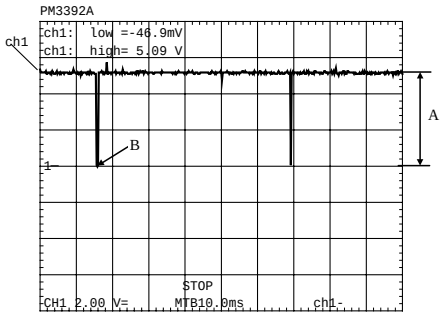


Figure 5

Level A: 5.0V +/-7%
Level B: 0V +/-200mV
Check matrix scanning from pin 26 until 33 of the µP.
The results should be the same as the diagram above.

2.6 I.R. receiver

Check at pin 23 of the µP if this line switches from low (< 0.3V) to high (> 4.5V), while pressing a key on a Philips RC5 or RC6 remote control.

2.7 Karaoke interface

The karaoke interface (4 lines) is a single direction communication.
This means that it consists of four µP output lines.
The interface can be checked by setting or resetting these output-ports via the I2C bus.
Send next command via the I2C bus:

Address	: 0x70
Command byte	: 0x24
Data byte	: xxxxabcd
Where	: a = Karaoke reset.
	: b = Karaoke data.
	: c = Karaoke clock.
	: d = Karaoke strobe.

2.8 P50 interface

P50 is a bi-directional serial interface, which is used for communication between video equipment. For European sets, this communication goes via pin 10 of the scart-bus. In other regions, it can be a cinch bus at the back of the set.

1. Keep the µP in reset by short-circuiting emitter and collector of transistor 7108, via resistor 3100 and 3104 transistor 7101 is switched on.
2. Check the voltage at the P50 output connector 1118-5: < 200mV.

When the reset is released the µP output-pin becomes low and transistor 7101 is switched off.

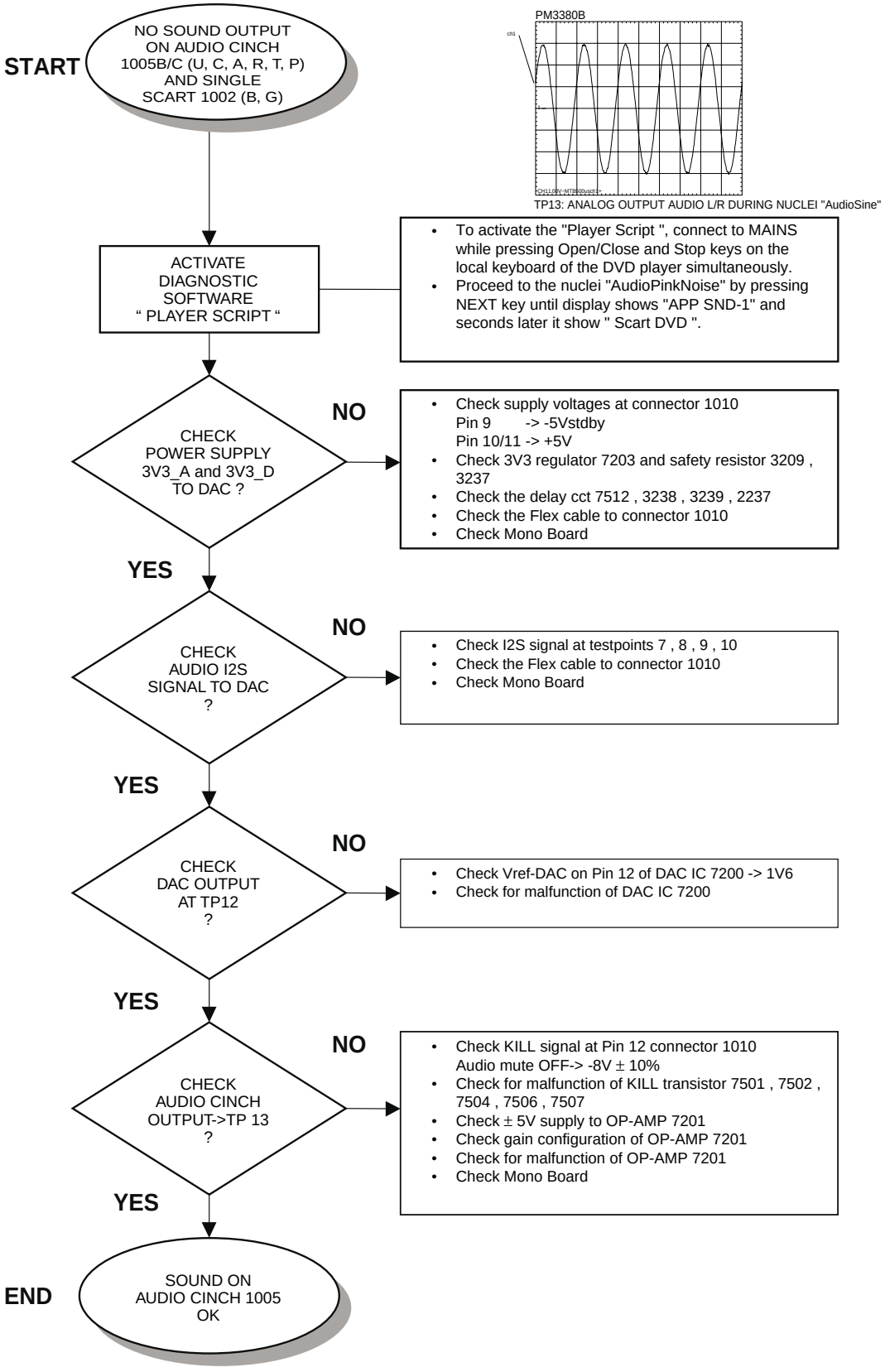
1. Check the voltage at the P50 output connector 1118-5: 4.9V +/-5%.
2. Check also the µP P50 input (µP pin 20): 5V +/-5%.
3. Connect the P50 line (connector 1118-5) to ground.
4. Check again the µP P50 input (µP pin 20): <0.3V.

■ TROUBLESHOOTING

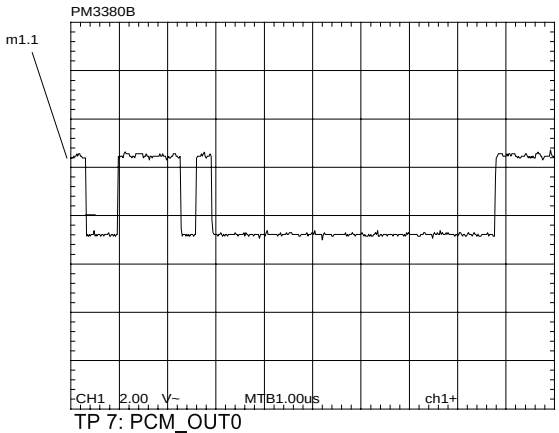
1. TROUBLESHOOTING AV BOARD

Testing of AV board can be done using diagnostic software “PLAYER SCRIPT”.
MONO board is used to generate a sound with the sound tests SND-1 and SND-2 or a VIDEO signal with the picture PIC-1. See description in the chapter of “DIAGNOSTIC SOFTWARE: SCRIPT INTERFACES”.

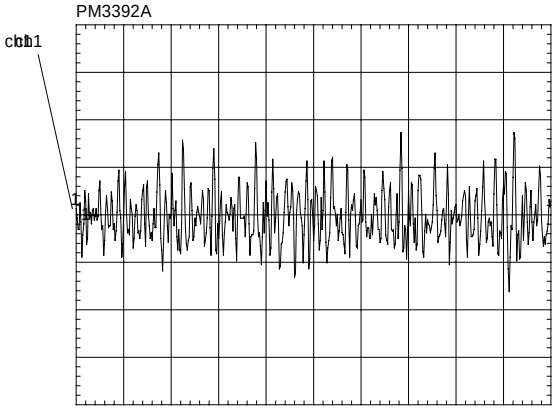
AUDIO PART OF AV BOARD (ANALOG)



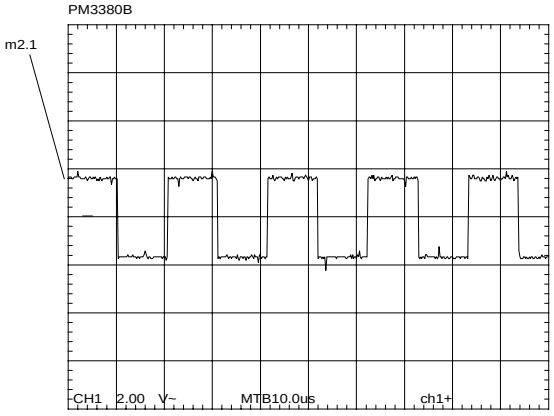
AUDIO WAVEFORM MEASUREMENT



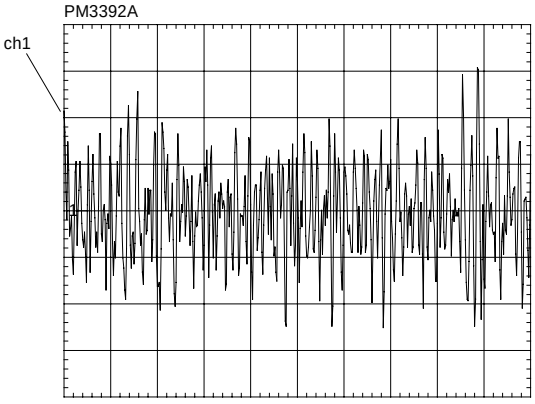
TP 7: PCM_OUT0



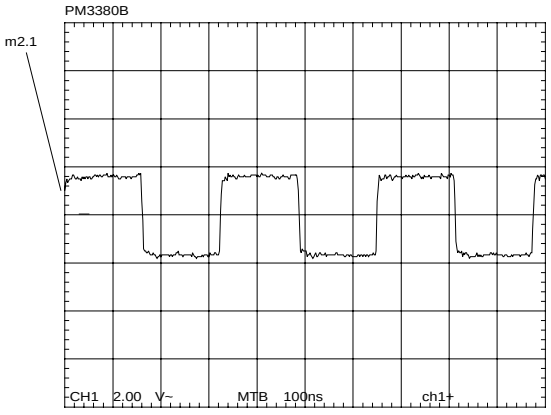
TP24 : ANALOG OUT DAC (PINK NOISE)



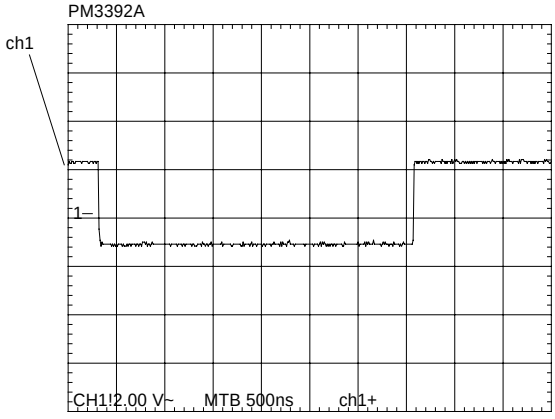
TP8: LRCLK



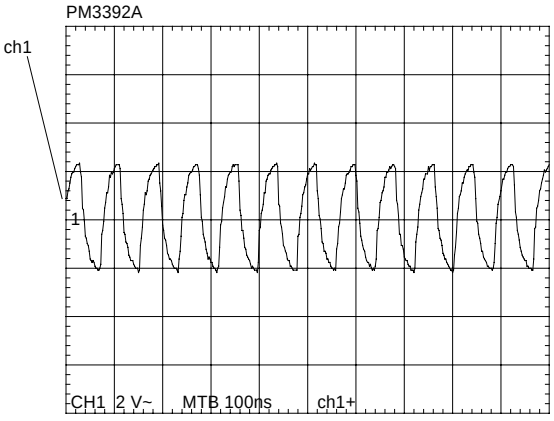
TP25 : ANALOG OUT AUDIO CINCH (PINK NOISE)



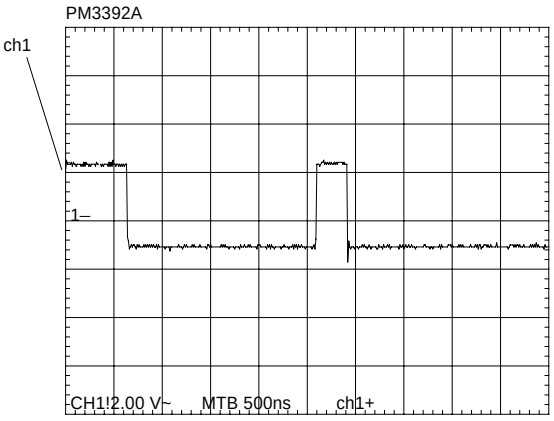
TP9: SCLK



TP27: PCM_OUT 1

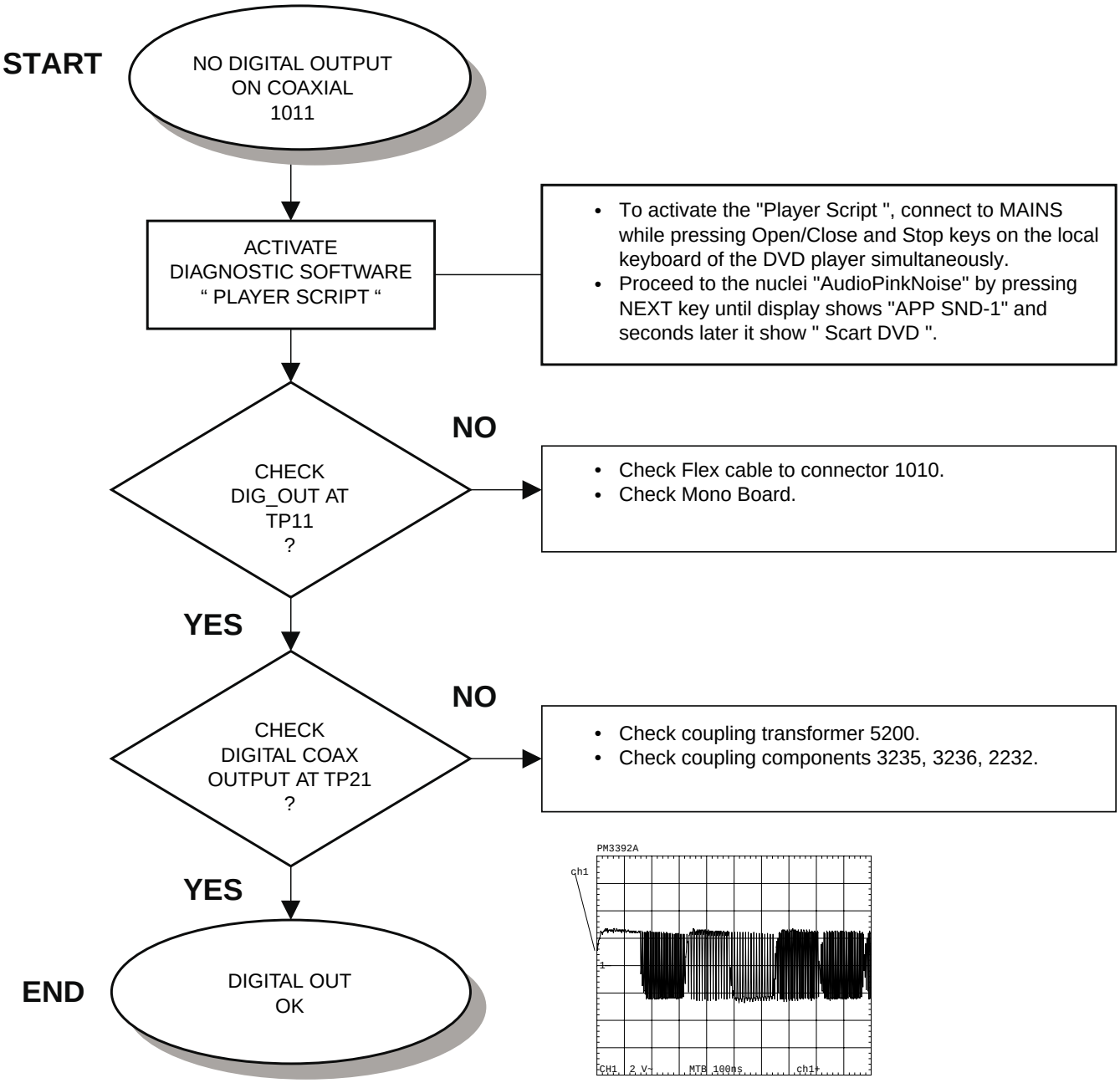


TP10: PCM_CLK

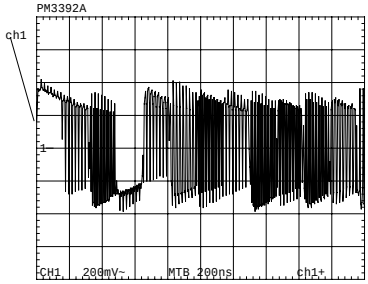


TP28 : PCM_OUT 2

AUDIO PART OF AV BOARD (DIGITAL)

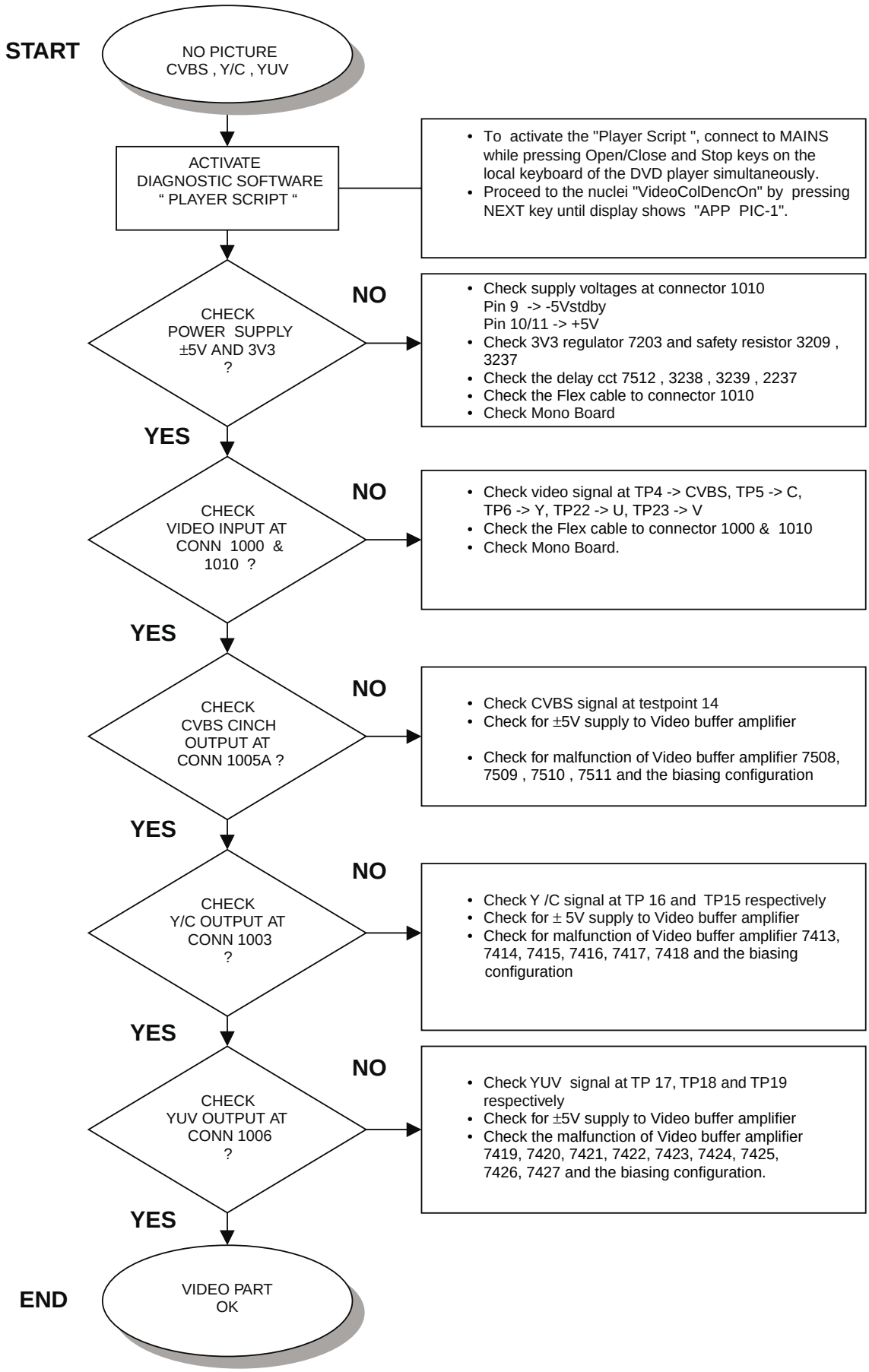


TP 11: DIG_OUT

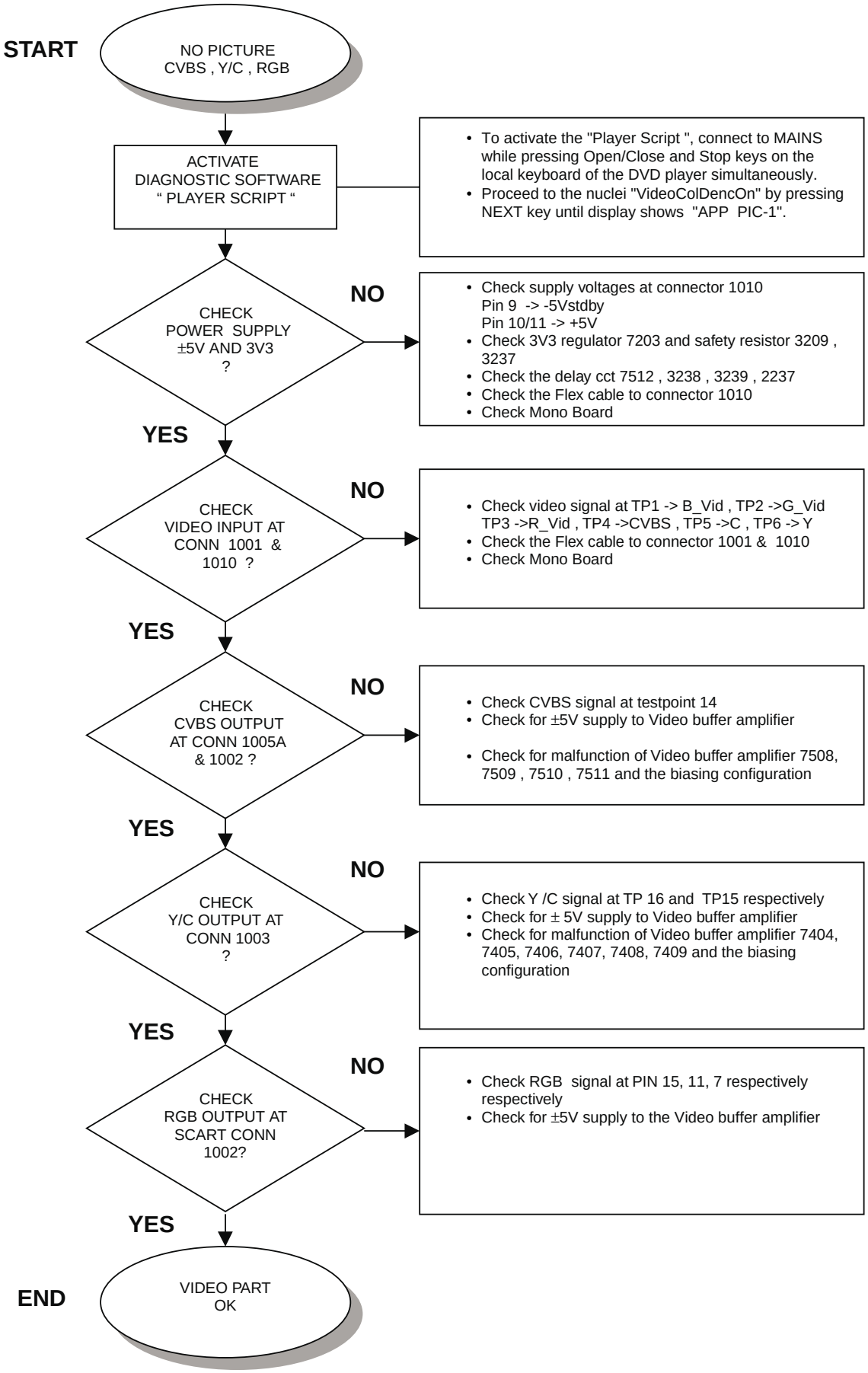


TP 21: DIGITAL OUT

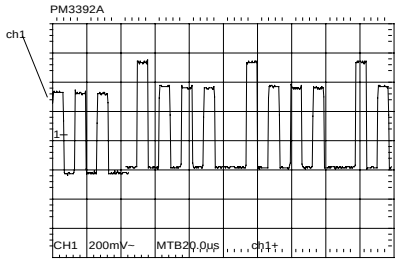
VIDEO PART OF AV BOARD (U, C, A, R, T, P)



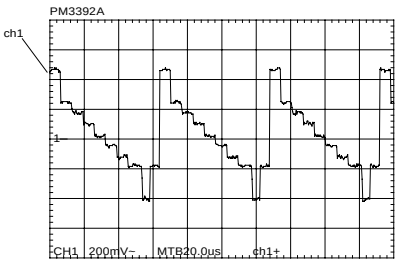
VIDEO PART OF AV BOARD (G, B)



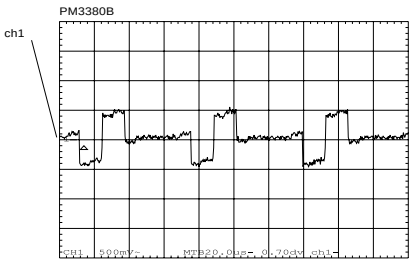
VIDEO WAVEFORM MEASUREMENT



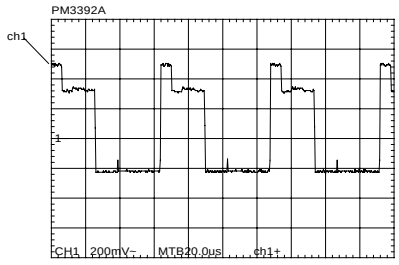
TP 1 : VIDEO B



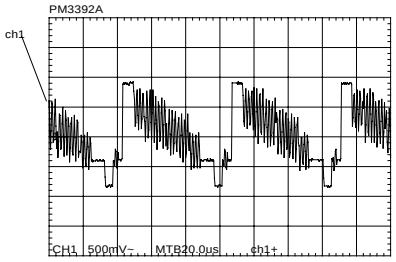
TP 6 : Y_ENC



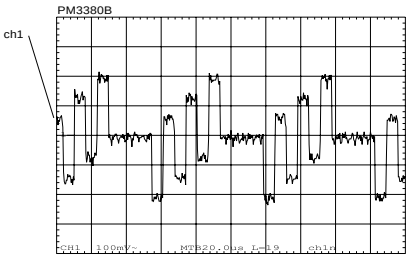
TP 19 : V_VID OUT



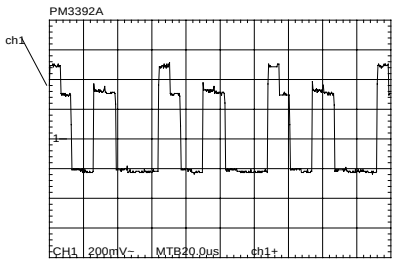
TP 2 : VIDEO G



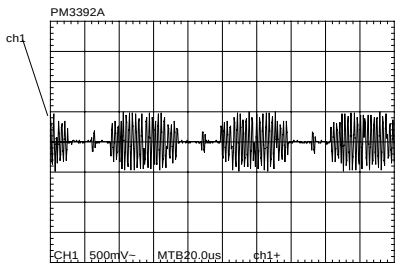
TP 14 : CVBS_OUT



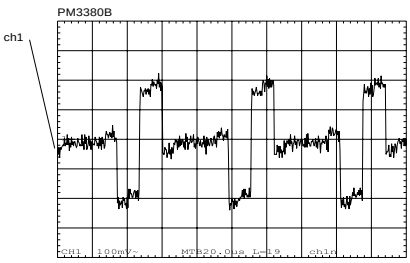
TP 22 : U_ VID



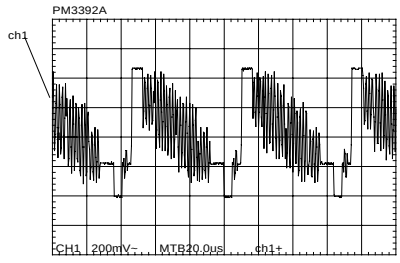
TP 3 : VIDEO R



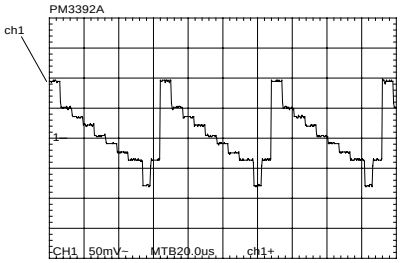
TP 15 : C_OUT



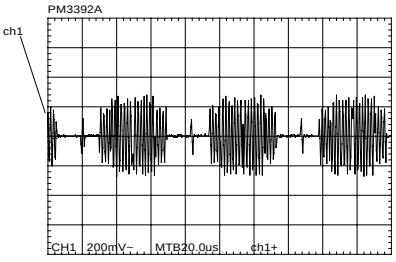
TP 23 : V_ VID



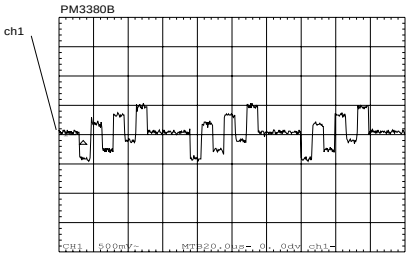
TP 4 : CVBS



TP 16 /17 : Y_OUT

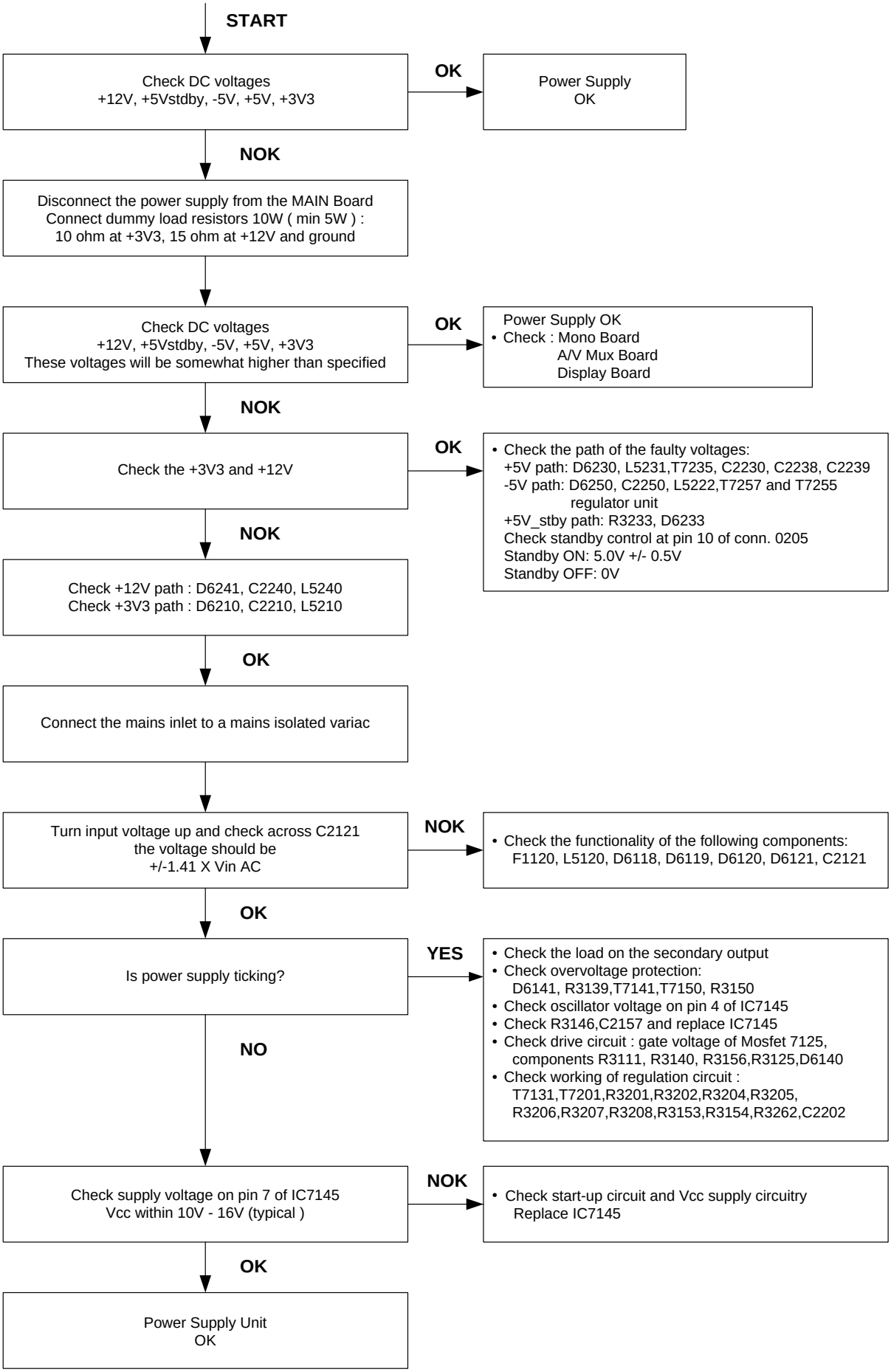


TP 5: C_ENC



TP 18 : U_VID OUT

2. TROUBLESHOOTING POWER SUPPLY UNIT VFM (B, G)



■ TECHNICAL SPECIFICATIONS DVD MODULE

1.1 Connections

1.1.1 Connector 1600: Supply input connector.

1. +3V3stby
2. +3V3stby
3. +5V
4. +5Vstby
5. +6Vstby
6. GND
7. GND
8. GND
9. -8Vstby (-5V,on new PSU)
10. Standby control line
11. +12Vstby
12. GND

1.1.2 Connector 1603: A/V 1 connector.

1. P50
2. Blue Video / U
3. Green Video / Y
4. GND
5. Red Video /V
6. CVBS
7. GND
8. Slow blanking scart
9. -8Vstby (-5V,on new PSU)
10. +5V
11. +5V
12. Audio mute
13. GND
14. I2S data0 out
15. I2S wordselect
16. I2S bitclock
17. GND
18. I2S systemclock
19. Center_on
20. Kar_bypass
21. SPDIF out
22. GND

1.1.3 Connector 1604: A/V 2 connector.

1. GND
2. Hor. sync.
3. GND
4. I2S data 2 out
5. GND
6. I2S data 1 out
7. -8Vstby (-5V,on new PSU)
8. I2C clock
9. +12Vstby
10. I2C data
11. +6Vstby
12. +3V3
13. GND
14. C video
15. GND
16. Y video

1.1.4 Connector 1501: I2C interface connector.

1. I2C clock
2. GND
3. I2C data
4. Standby control line
5. P50

1.1.5 Connector 1602: Service connector.

1. TXD
2. Service activation
3. RXD
4. Reserved for RTS
5. 5: GND
6. CTS
7. +5V

1.1.6 Connector 1507: Karaoke connector.

1. GND
2. ADC_SCLK
3. ADC_LRCLK
4. ADC_DATA
5. ADC_PCMCLK
6. +5V
7. -8V stby (-5V,on new PSU)
8. N/C

1.2 Signal specifications

This the specification of all signals as described under “Connections”
H = +5V ±0.5V
h = 3V3 ±0.3V
L = 0V ±0.5V
l = 0V ±0.3V

	:
Stby	: I f the set supports a “standby” function, all supply voltages marked with “stby”
	: have to stay on during standby.
Standby control line	: H Standby mode
	: L On mode.
P50	: Connection between front and A/V board, and can be used as P50 signal line.
	: The signal is not connected to the module electronics.
Slow blanking scart	: This signal switches between
	: 0V (220output impedance)
	: 12Vstby/2 (455Ω output impedance)
	: 12vstby (690Ω output impedance)
Audio mute	: Can be used for audio mute transistors during stop or power On/ Off.
	: Mute on : +5Vstby
	: Mute off: -8Vstby via a 10kresistor.
I2S data0 out	: I2S front data output.
	: Level h / l
I2S wordselect / I2Sbitclock	: I2S timing signals
	: Level h / l
I2S systemclock	: 256xFS audio systemclock.
	: Level H / L

Kar_bypass	:	Bypasses the karaoke chip on the A/V board.
	:	Bypass activeH
	:	Bypass offL
Center_on	:	Switches the center audio to the scart output.
	:	Center to scarth
	:	L/R to scartl
Karaoke	:	I2S inputh / l
	:	PCMCLK outputh / l
SPDIF out	:	Digital audio output levelH / L
Hor. Sync	:	Video Horizontal synchronisation Levelh / l
I2S data1 out	:	I2S surround data output.
	:	Level: h / l.
I2S data2 out	:	I2S center/sub data output.
	:	Level h / l.
I2C clock / I2C data	:	I2C databus
	:	Level: h / l
TXD / RXD / RTS / CTS	:	Service UART to be connected direct to PC serial input.
	:	Output levelsH / L
	:	Input levelsRS232 compliant
Service activation	:	Signal openNormal module start-up
	:	Signal tied to GND Module start-up in service mode.
Vreserved	:	Is now configured for +6V stby & is only an inter-connection via the monoboard and not used by any IC's on the module.However,there's an on board 47uF/16V elco and a 100nF/16V X7R connected to this pin.

1.3 Performance:

1.3.1 Digital output

CDDA/LPCM	:	according IEC60958
MPEG1 is converted to LPCM	:	
MPEG2, AC3 audio.MP3	:	according IEC1937
DTS.	:	according IEC61937 amendment 1.
	:	Digital output level is 0V / 5V with GND as reference. To meet the standards a decouple circuit is necessary.

1.3.2 I2S output

Accuracy	:	Up to 24bit.
Sample rate	:	44.1kHz / 48kHz / 96KHz
Standard	:	Philips I2S output
Number of I2S outputs	:	3 (6 channel: Front / Surround / Center-Bass)
Deemphasis	:	Already processed in module.
Audio source streams	:	CDDA / MPEG1 / LPCM / MPEG2 / AC3
	:	No DTS decoding.
Audio processing	:	Dolby Pro Logic (multichannel downmix on front output)
	:	3D sound.

1.3.3 Analog output

The module has no analog audio ouput.	:	The analog audio specification will be determined by the external DAC circuit.

1.3.4 Video.

Standards	:	The video output standard will follow the source material.
	:	The OSD standard is switchable between PAL or NTSC.
Outputs	:	The module has 6 analog outputs (4formats): Y/C ; CVBS ; RGB / YUV
Specification.	:	The output complies fully according PQR3 IMS except
	:	Output load>1k(to GND / Cap. load <47pF.
	:	Level0.5Vpp with 100% white
	:	Sync level300mV (PAL), 286mV (NTSC) from blanking level
	:	Some specification points are significantly better then PQR3
	:	SNR on all video outputs is better then 60dB.
	:	Video bandwidth >5MHz (±3dB)

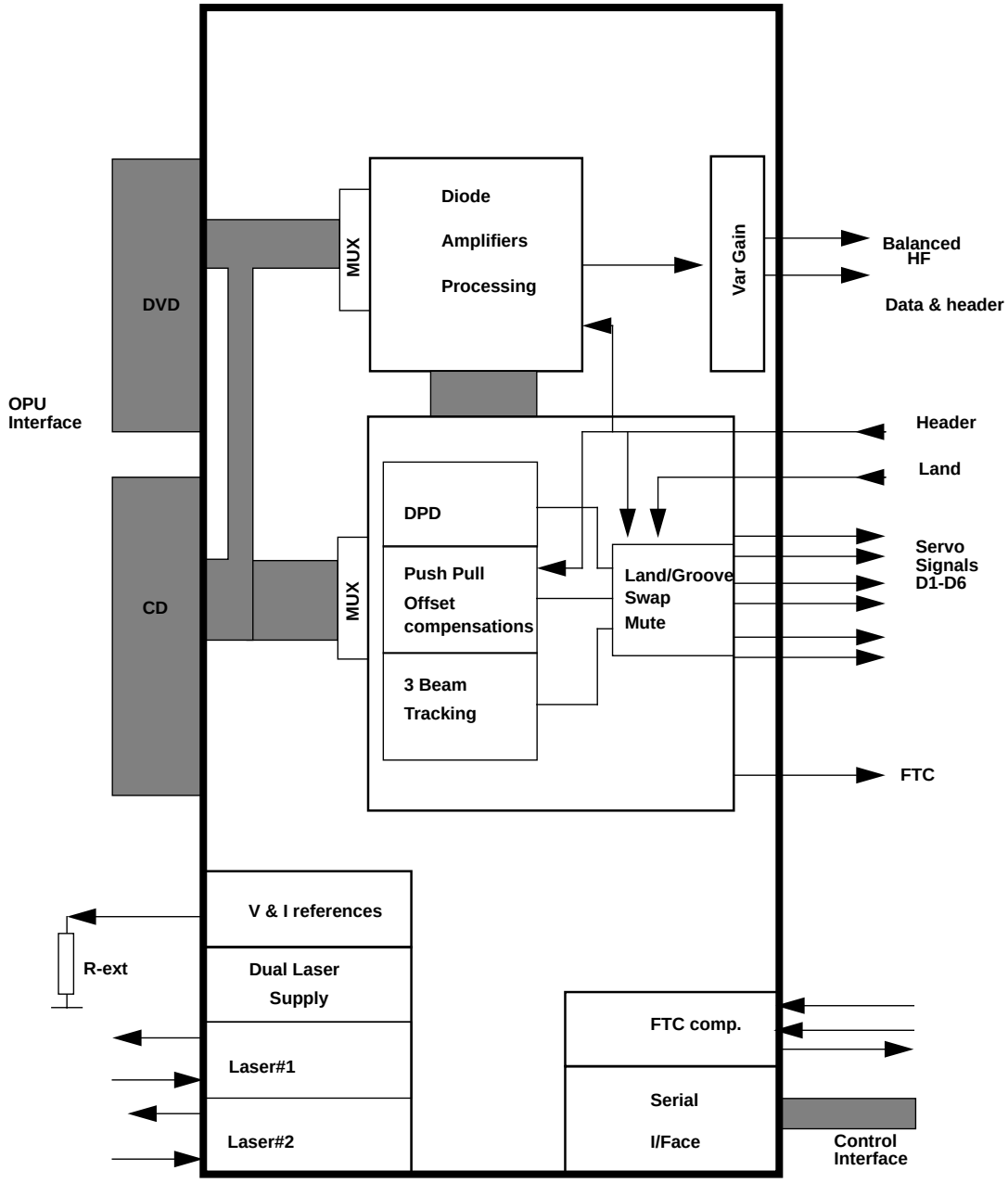
■ LIST OF ABBREVIATIONS

B	Buffered Video input Blue from DVD monoboard
BC_AUX	Blue or Chroma input from AUX-scart
BC_TV	Blue or Chroma output to TV-scart
C_ENC	Buffered Chroma input from DVD monoboard
CVBS	Buffered Composite video input from DVD monoboard
DC_OFF	Control signal to switch off -5Vstby and +12Vstby during standby
DIG_OUT	Digital out
FBIN_AUX	Fast blanking input from AUX-scart
FBOUT_TV	Fast blanking output to TV-scart
G	Buffered Video input Green from DVD monoboard
GIN_AUX	Video input Green from AUX-scart
GOUT_TV	Video output Green to TV-scart
HP_L	Audio output left to headphone and audio scart switch TEA6420
HP_R	Audio output right to headphone and audio scart switch TEA6420
KILL	Kill control signal for audio outputs and for soft mute of DAC
LIN_AUX	Audio input left from AUX-scart
LIN_TV	Audio input left from TV-scart
LOUT_AUX	Audio output left to AUX-scart
LOUT_TV	Audio output left to TV-scart
LRCLK	Left/Right clock
PCM_CLK	Audio system clock for DAC
PCM_OUT0	Audio serial output data
R	Buffered Video input Red from DVD monoboard
RCIN_TV	Red or Chroma input from TV-scart
RCOUT_TV	Red or Chroma output to TV-scart
RIN_AUX	Audio input right from AUX-scart
RIN_TV	Audio input right from TV-scart
ROUT_AUX	Audio output right to AUX-scart
ROUT_TV	Audio output right to TV-scart
SCL	I2C bus clock
SCLK	Audio serial bit clock
SDA	I2C bus data
SELECT	Control signal for video scart switches; high = TV ,low = AUX
SELECT_HIGH	Control signal for switching fast blanking and slow blanking signals; high = TV,.low = AUX
SLB_AUX	Slow blanking control signal from AUX-scart
SLB_TV	Slow blanking control signal to TV-scart
STANDBY	Control signal from STI5505 used to swith off -5Vstby and +12Vstby during standby.
STEREO_L	Audio cinch output left
STEREO_R	Audio cinch output right
Y_ENC	Buffered Luma input from DVD monoboard
YCVBSIN_AUX	Luma or CVBS input from AUX-scart
YCVBSIN_TV	Luma or CVBS input from TV-scart
YCVBSOUT_AUX	Luma or CVBS output to AUX-scart
YCVBSOUT_TV	Luma or CVBS output to TV-scart
0/6/12	Scart switch control signal A/V board. 0V : loop through (AUX to TV), 6V : play 16:9 format, 12V : play 4:3 format

■ IC DESCRIPTIONS

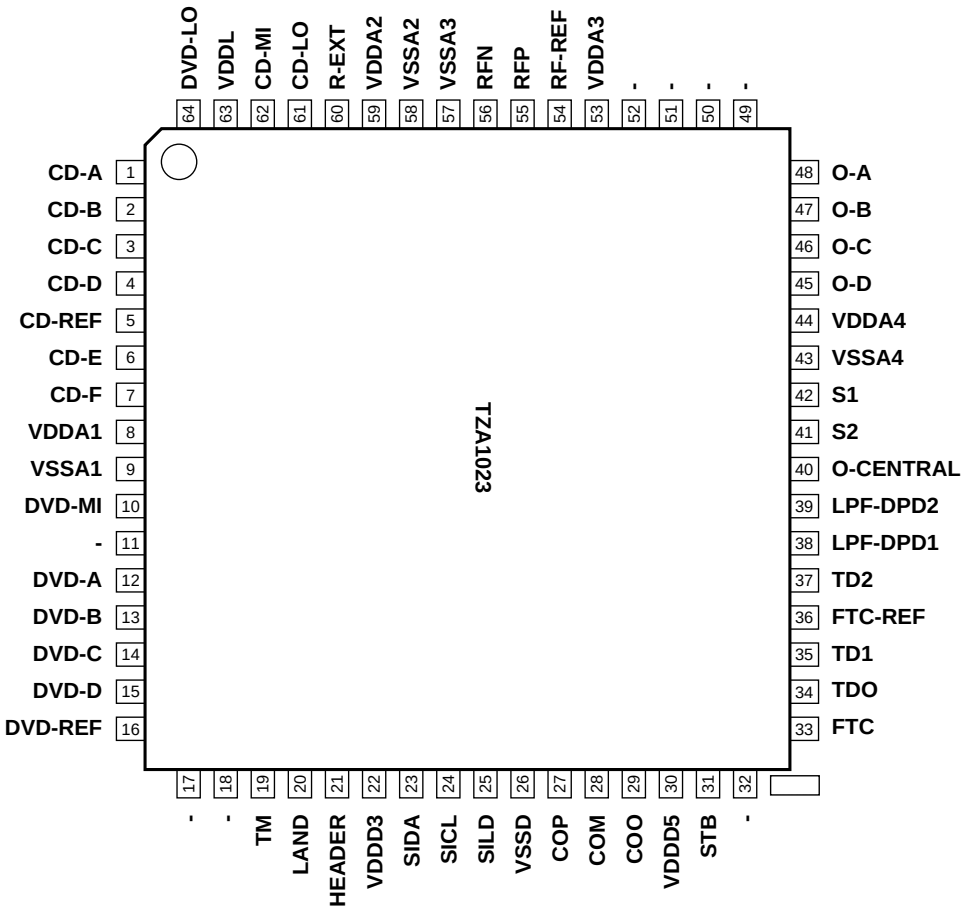
TZA1033

DVDALAS2plus Advanced Analog DVD Signal Processor and Laser Supply



TZA1033

DVDALAS2plus Advanced Analog DVD Signal Processor and Laser Supply



Pin description

Name	Pin	Description
CD-A	1	CD pick up input A
CD-B	2	CD pick up input B
CD-C	3	CD pick up input C
CD-D	4	CD pick up input D
CD-REF	5	CD pick up reference voltage
CD-E	6	CD pick up input E
CD-F	7	CD pick up input F
DVD-A	12	DVD pick up input A
DVD-B	13	DVD pick up input B
DVD-C	14	DVD pick up input C
DVD-D	15	DVD pick up input D
DVD-ref	16	DVD pick up reference voltage
O-A	48	Servo current output for Focus-A
O-B	47	Servo current output for Focus-B
O-C	46	Servo current output for Focus-C
O-D	45	Servo current output for Focus-D

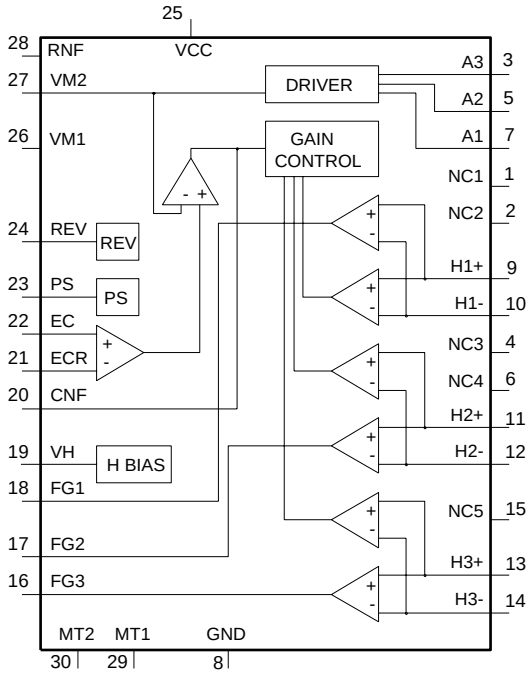
TZA1033

DVDALAS2plus Advanced Analog DVD Signal Processor and Laser Supply

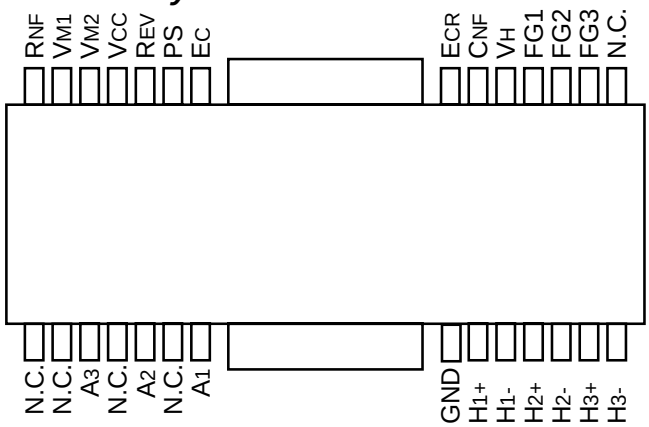
Name	Pin	Description
O-central	40	Test pin for offset cancelation
TD2	37	Internally connected
FTC-ref	36	Servo output voltage reference input
S1	42	Servo current output for radial tracking
S2	41	Servo current output for radial tracking
TD1	35	Internally connected
FTC	33	Fast track count voltage output
RFP	55	pos. RF output signal
RFN	56	neg. RF output signal
RF-REF	54	DC Reference signal input RF
LPF-DPD1	38	DPD Low pass bandwidth capacitor, channel pos
LPF-DPD2	39	DPD Low pass bandwidth capacitor, channel neg
Land	20	Land/groove toggle input
HEADER	21	Header detector window input
CD-MI	62	CD laser monitor input
DVD-MI	10	DVD laser monitor input
CD-LO	61	CD laser output
DVD-LO	64	DVD laser output
COP	27	Positive input FTC comparator
COM	28	Inverting input FTC comparator
COO	29	FTC comparator output
SIDA	23	Serial host interface data input
SICL	24	Serial host interface clock input
SILD	25	Serial host interface load
VDDA1	8	Analog Supply voltage 1 (RF input)
VDDA2	59	Analog Supply voltage 2 (RF internal)
VDDA3	53	Analog Supply voltage 3 (RF output stage)
VDDA4	44	Analog Supply voltage 4 (Servo)
VDDD5	30	Digital Supply voltage (5V dig core)
VDDD3	22	Digital Supply voltage (3V I/O pads and FTC comp.)
VDDL	63	Supply voltage for laser
VSSA1	9	Analog Ground 1
VSSA2	58	Analog Ground 2
VSSA3	57	Analog Ground 3
VSSA4	43	Analog Ground 4
VSSD	26	Digital ground
R-EXT	60	Reference current input (Connect 12k1 to VSSA4)
STB	31	Standby input
TM	19	Test mode input
TDO	34	Test data out

BA6856FP

3 Phase motor driver for DVD players



Terminal lay-out

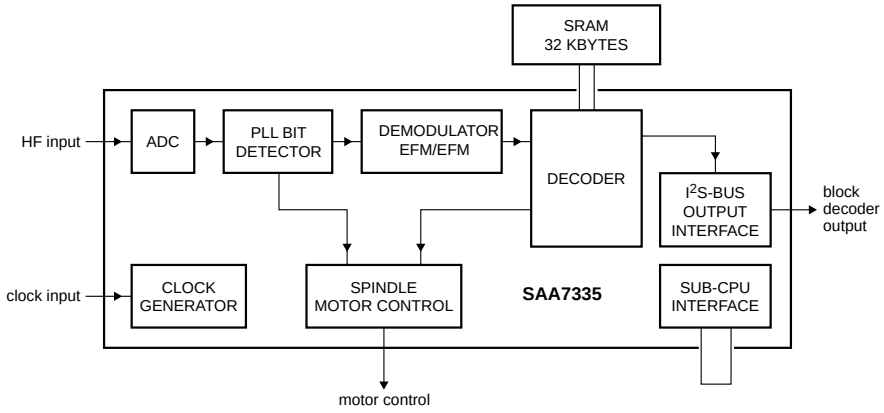


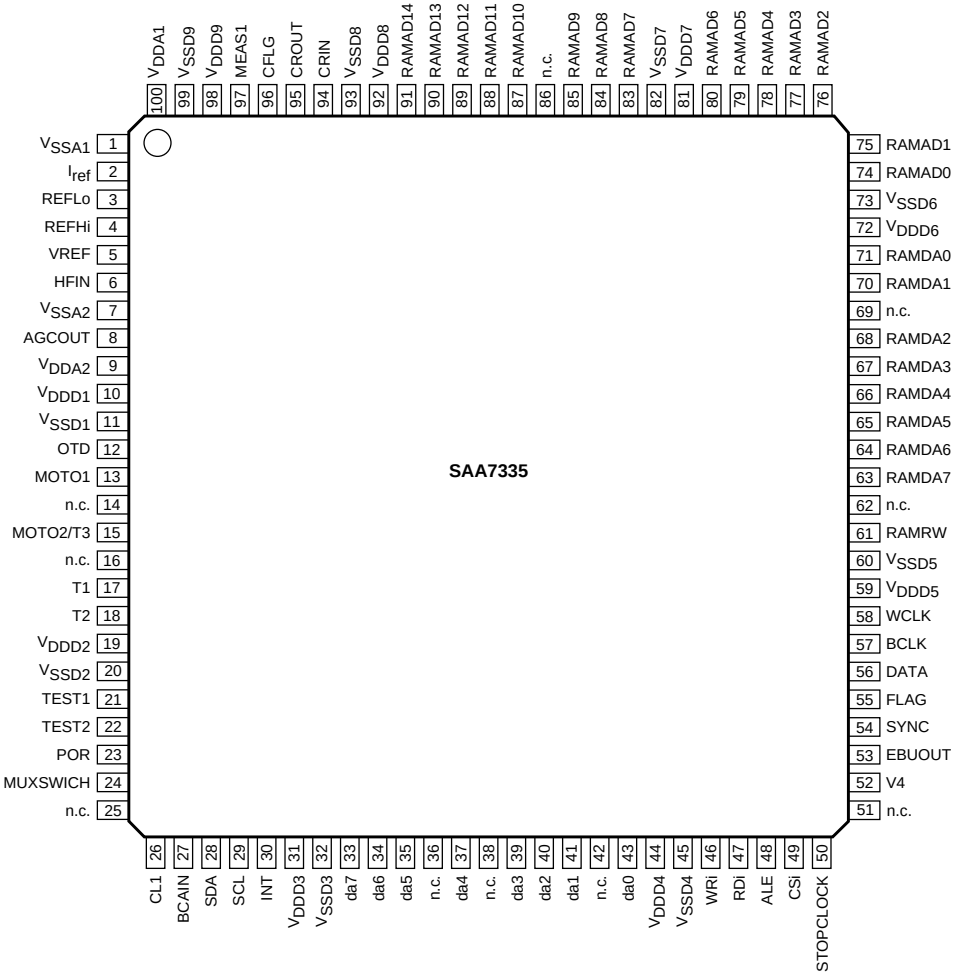
Pin description

PIN No	PIN NAME	DESCRIPTION
1	N.C.	Not connected
2	N.C.	Not connected
3	A3	Output 3 for motor
4	N.C.	Not connected
5	A2	Output 2 for motor
6	N.C.	Not connected
7	A1	Output 1 for motor
8	GND	Ground
9	H1+	Hall input Amp1. positive input
10	H1-	Hall input Amp1. negative input
11	H2+	Hall input Amp2. positive input
12	H2-	Hall input Amp2. negative input
13	H3+	Hall input Amp3. positive input
14	H3-	Hall input Amp3. negative input
15	N.C.	Not connected
16	FG3	FG3 signal output terminal
17	FG2	FG2 signal output terminal
18	FG1	FG1 signal output terminal
19	VH	Hall Bias
20	CNF	Capacitor connection pin for phase compensation
21	ECR	Torque control standard voltage input terminal
22	EC	Torque control voltage input terminal
23	PS	POWER SAVE switch
24	REV	Reverse terminal
25	VCC	Power supply for signal division
26	VM2	Power supply 2 for driver
27	VM1	Power supply 2 for driver
28	RNF	Power supply for driver division

SAA7335

DSP for CD and DVD-ROM system





SAA7335

DSP for CD and DVD-ROM system

Pin description

SYMBOL	PIN	TYPE	DESCRIPTION
VSSA1	1	supply	analog ground 1
Iref	2	I	analog current reference input for ADC
REFLo	3	I	analog low reference input for ADC
REFHi	4	I	analog high reference input for ADC
VREF	5	I	analog negative input
HFIN	6	I	analog positive input
VSSA2	7	supply	analog ground 2
AGCOUT	8	O	analog test pin output
VDDA2	9	supply	analog supply voltage 2
VDDD1	10	supply	digital supply voltage 1
VSSD1	11	supply	digital ground 1
OTD	12	I	off track detect input
MOTO1	13	O	3-state motor control output
n.c.	14	–	not connected, reserved
MOTO2/T3	15	I/O	motor control output/tachometer 3 input
n.c.	16	–	not connected, reserved
T1	17	I	tachometer 1 input
T2	18	I	tachometer 2 input
VDDD2	19	supply	digital supply voltage 2
VSSD2	20	supply	digital ground 2
TEST1	21	I	test input 1
TEST2	22	I	test input 2
POR	23	I	power-on reset input
MUXSWICH	24	I	use clock multiplier input
n.c.	25	–	not connected, reserved
CL1	26	O	divided clock output
BCAIN	27	I	BCA input
SDA	28	I/O	sub-CPU I 2 C-bus serial data input/output
SCL	29	I	sub-CPU I 2 C-bus serial clock input
INT	30	O	sub-CPU interrupt output (open-drain)
VDDD3	31	supply	digital supply voltage 3
VSSD3	32	supply	digital ground 3
da7	33	I/O	sub-CPU data bus bit 7 input/output (parallel)
da6	34	I/O	sub-CPU data bus bit 6 input/output (parallel)
da5	35	I/O	sub-CPU data bus bit 5 input/output (parallel)
n.c.	36	–	not connected, reserved
da4	37	I/O	sub-CPU data bus bit 4 input/output (parallel)
n.c.	38	–	not connected, reserved
da3	39	I/O	sub-CPU data bus bit 3 input/output (parallel)
da2	40	I/O	sub-CPU data bus bit 2 input/output (parallel)
da1	41	I/O	sub-CPU data bus bit 1 input/output (parallel)
n.c.	42	–	not connected, reserved
da0	43	I/O	sub-CPU data bus bit 0 input/output (parallel)
VDDD4	44	supply	digital supply voltage 4
VSSD4	45	supply	digital ground 4
WRi	46	I	sub-CPU write enable input (active LOW)
RDi	47	I	sub-CPU read enable input (active LOW)
ALE	48	I	sub-CPU address latch enable input
CSi	49	I	sub-CPU chip select input (active HIGH)
STOPCLOCK	50	O	stop clock output

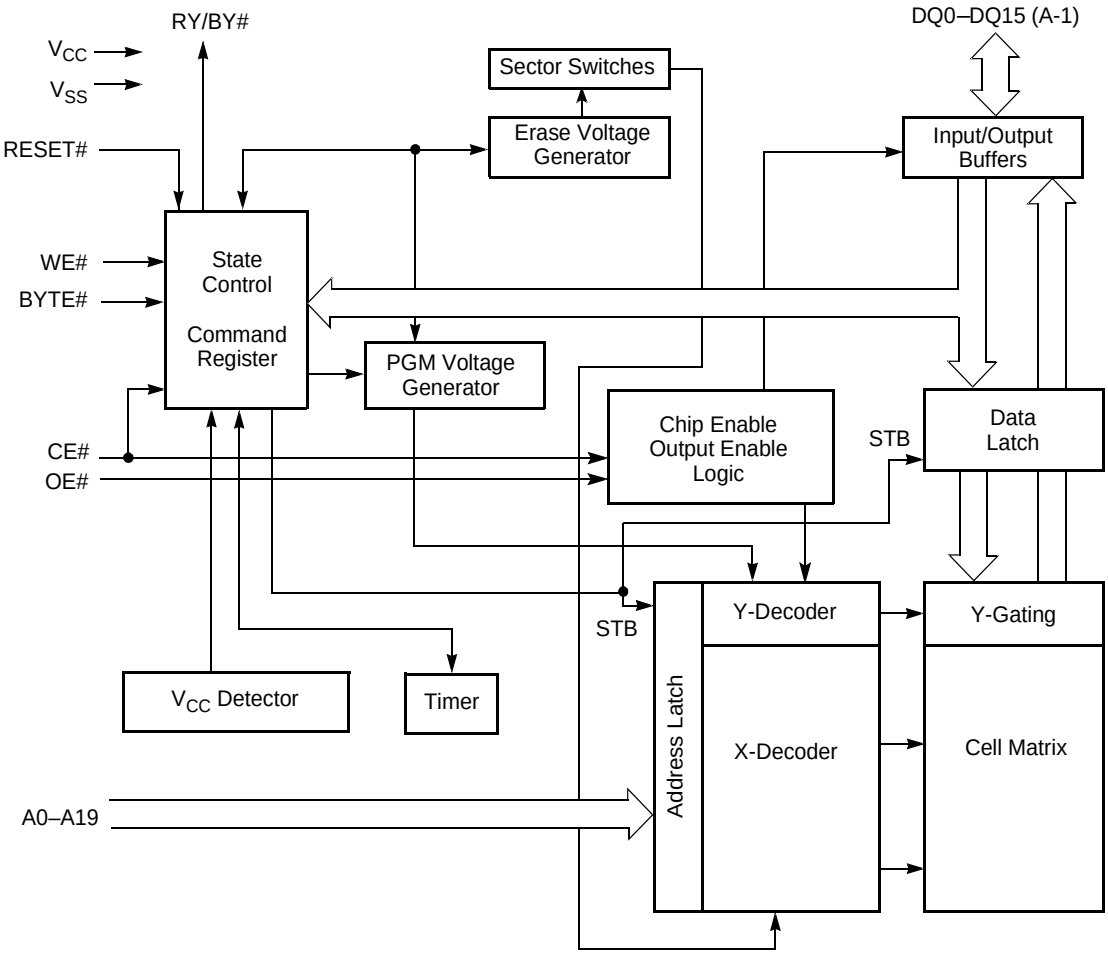
SAA7335

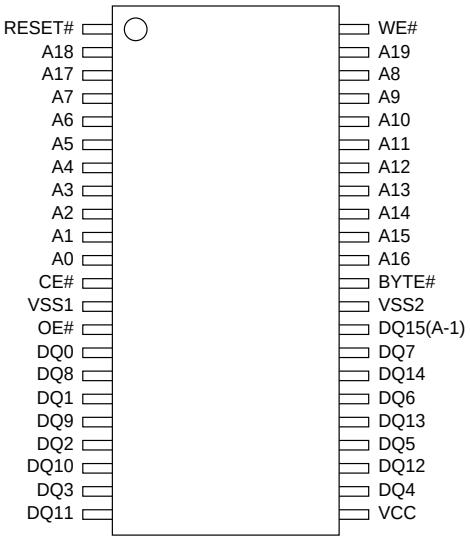
DSP for CD and DVD-ROM system

SYMBOL	PIN	TYPE	DESCRIPTION
n.c.	51	–	not connected, reserved
V4	52	O	serial subcode output (for CD)
EBUOUT	53	O	digital audio output
SYNC	54	O	I^2 S-bus sector sync output
FLAG	55	O	I^2 S-bus correction flag output
DATA	56	O	I^2 S-bus serial data output
BCLK	57	I/O	I^2 S-bus bit serial clock input/output
WCLK	58	I/O	I^2 S-bus word clock input/output
VDDD5	59	supply	digital supply voltage 5
VSSD5	60	supply	digital ground 5
RAMRW	61	O	RAM read/write control output
n.c.	62	–	not connected, reserved
RAMDA7	63	I/O	RAM data bus bit 7 input/output
RAMDA6	64	I/O	RAM data bus bit 6 input/output
RAMDA5	65	I/O	RAM data bus bit 5 input/output
RAMDA4	66	I/O	RAM data bus bit 4 input/output
RAMDA3	67	I/O	RAM data bus bit 3 input/output
RAMDA2	68	I/O	RAM data bus bit 2 input/output
n.c.	69	–	not connected, reserved
RAMDA1	70	I/O	RAM data bus bit 1 input/output
RAMDA0	71	I/O	RAM data bus bit 0 input/output
VDDD6	72	supply	digital supply voltage 6
VSSD6	73	supply	digital ground 6
RAMAD0	74	O	RAM address bit 0 output
RAMAD1	75	O	RAM address bit 1 output
RAMAD2	76	O	RAM address bit 2 output
RAMAD3	77	O	RAM address bit 3 output
RAMAD4	78	O	RAM address bit 4 output
RAMAD5	79	O	RAM address bit 5 output
RAMAD6	80	O	RAM address bit 6 output
VDDD7	81	supply	digital supply voltage 7
VSSD7	82	supply	digital ground 7
RAMAD7	83	O	RAM address bit 7 output
RAMAD8	84	O	RAM address bit 8 output
RAMAD9	85	O	RAM address bit 9 output
n.c.	86	–	not connected, reserved
RAMAD10	87	O	RAM address bit 10 output
RAMAD11	88	O	RAM address bit 11 output
RAMAD12	89	O	RAM address bit 12 output
RAMAD13	90	O	RAM address bit 13 output
RAMAD14	91	O	RAM address bit 14 output
VDDD8	92	supply	digital supply voltage 8
VSSD8	93	supply	digital ground 8
CRIN	94	I	analog crystal input
CROUT	95	O	analog crystal output
CFLG	96	O	correction statistics output
MEAS1	97	O	front-end telemetry output
VDDD9	98	supply	digital supply voltage 9
VSSD9	99	supply	digital ground 9
VDDA1	100	supply	analog supply voltage 1

Am29LV160BT

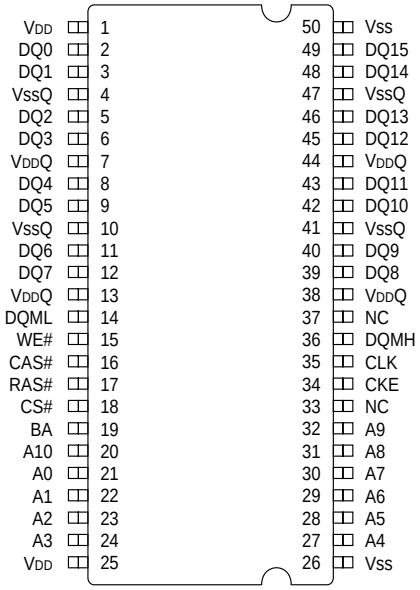
16 MB (2 M x 8-bit / 1 M x 16-bit) CMOS 3.0 Volt-only Sector Erase Flash Memory

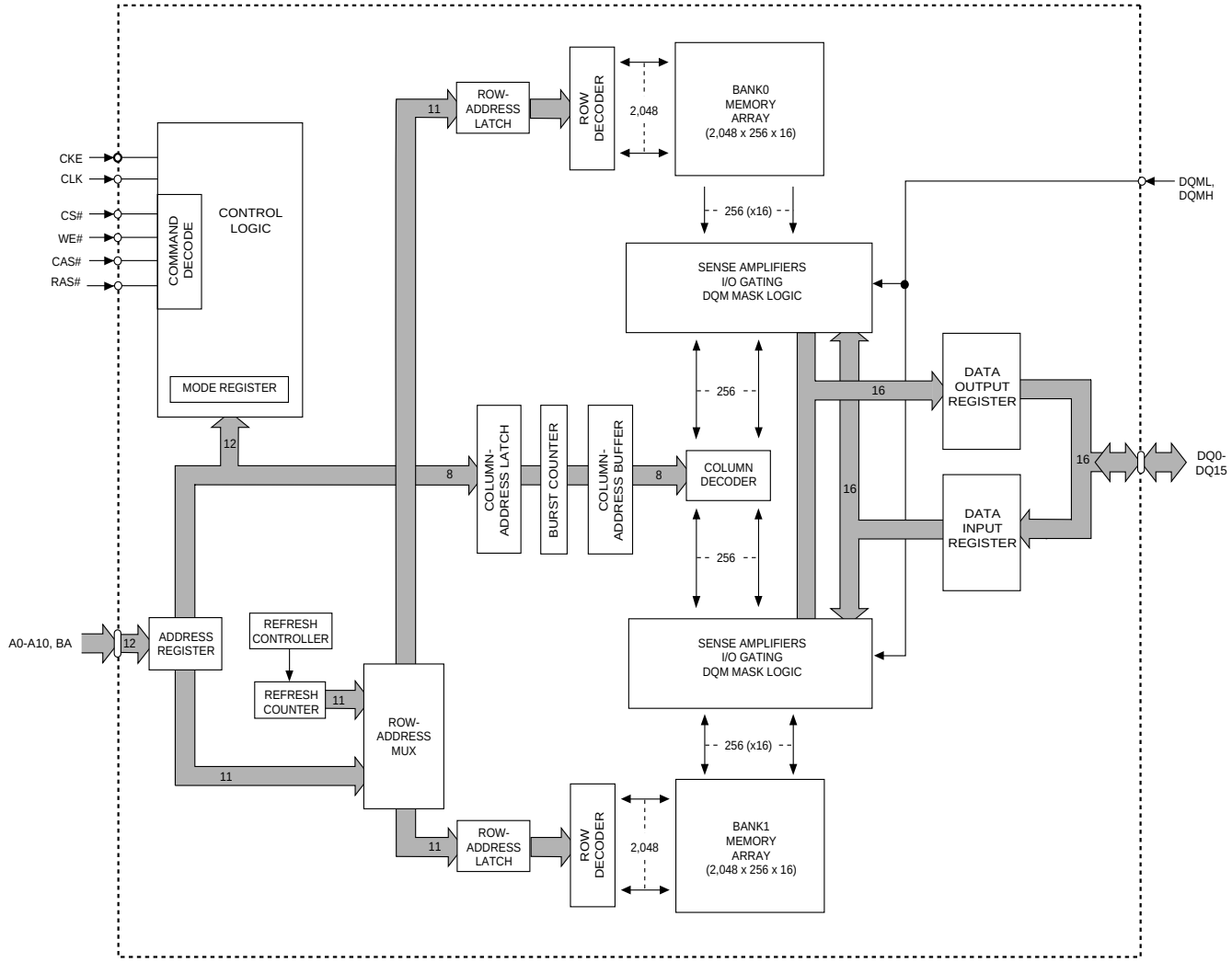




MT48LC1M16A1TG S

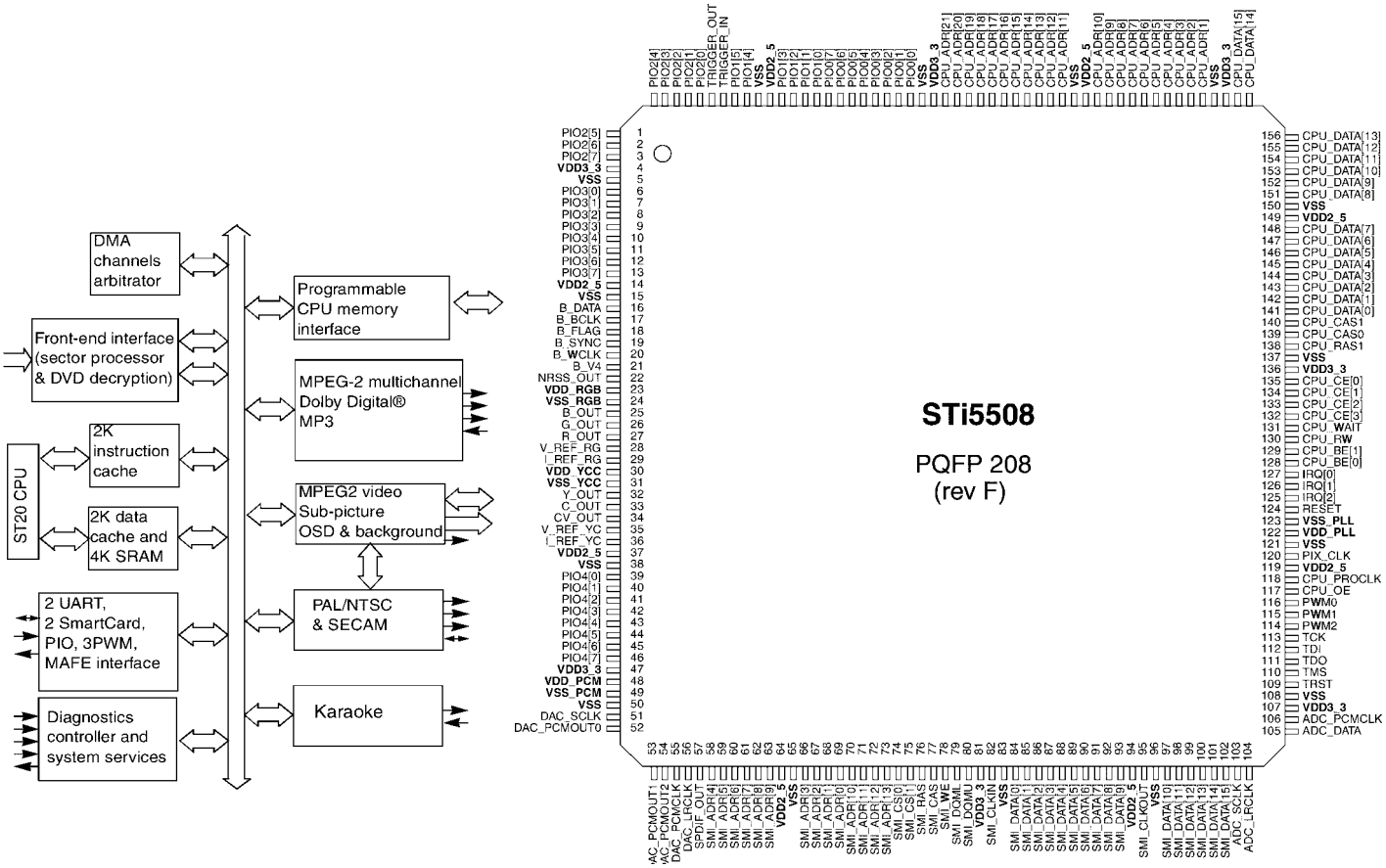
Synchronous DRAM





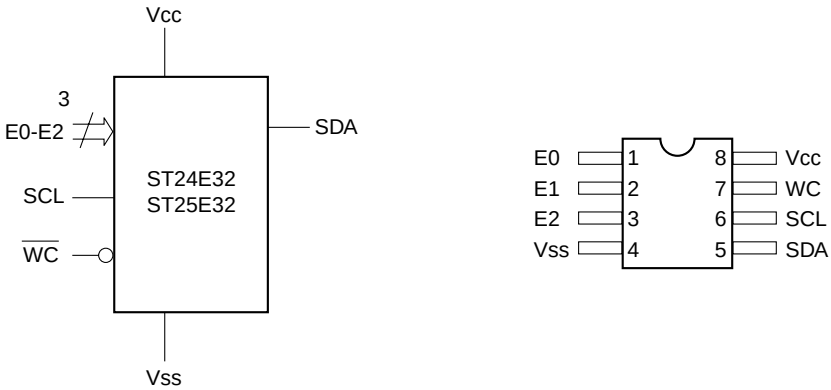
STi5508

DVD host processor with enhanced audio features

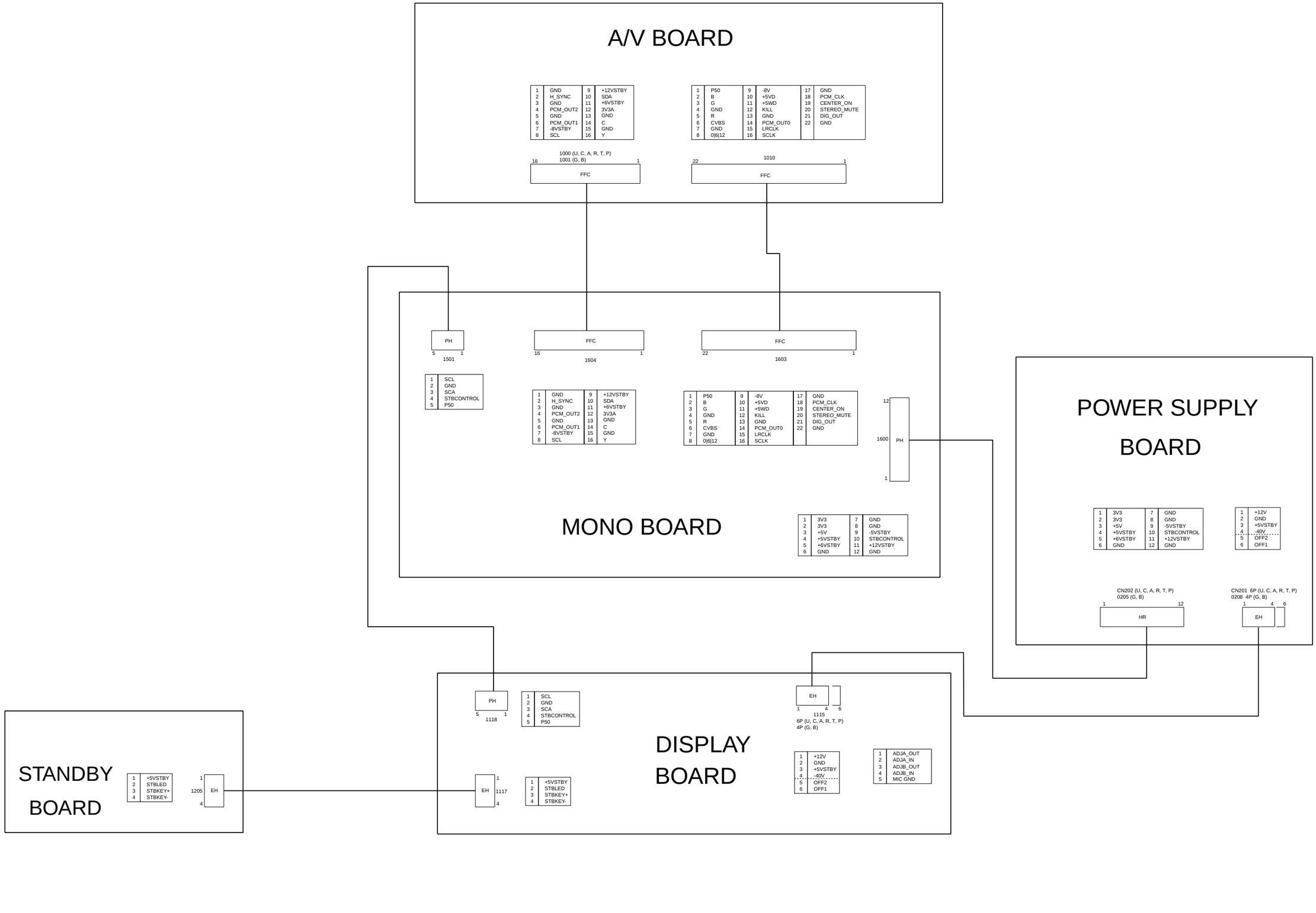


ST24E32 / ST25E32

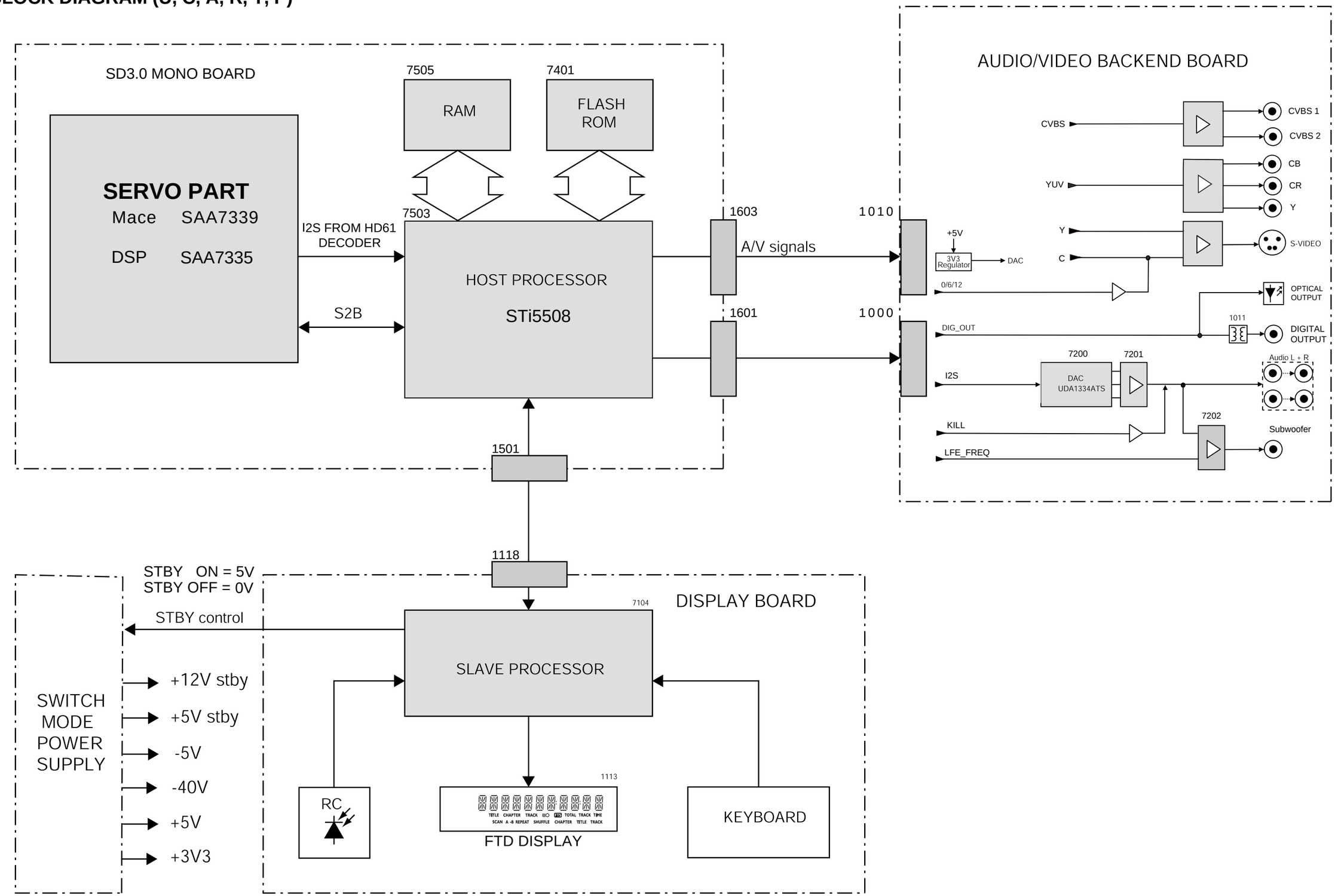
32k serial I²C EEPROM with extended addressing



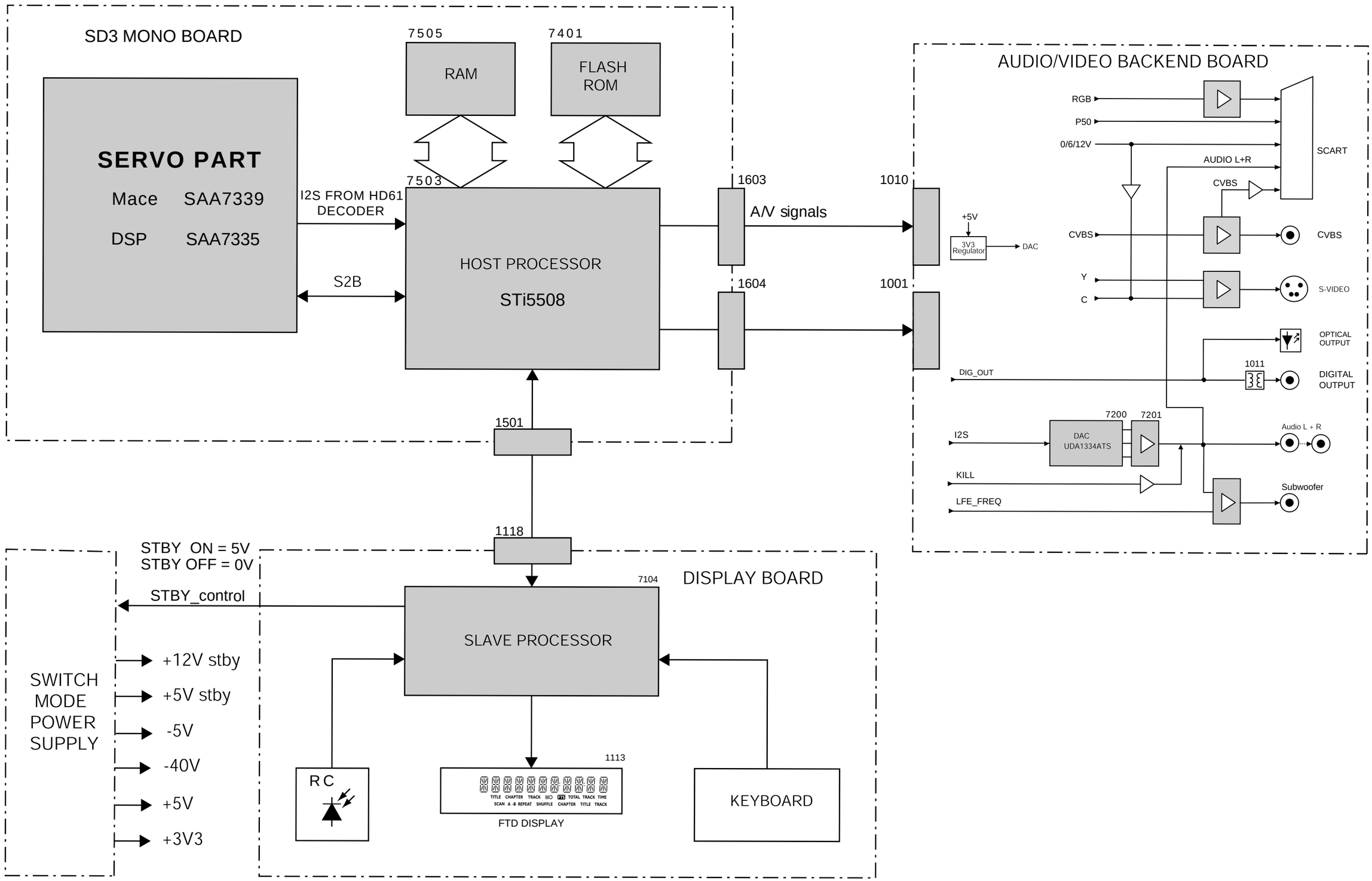
■ WIRING DIAGRAM



■ BLOCK DIAGRAM (U, C, A, R, T, P)

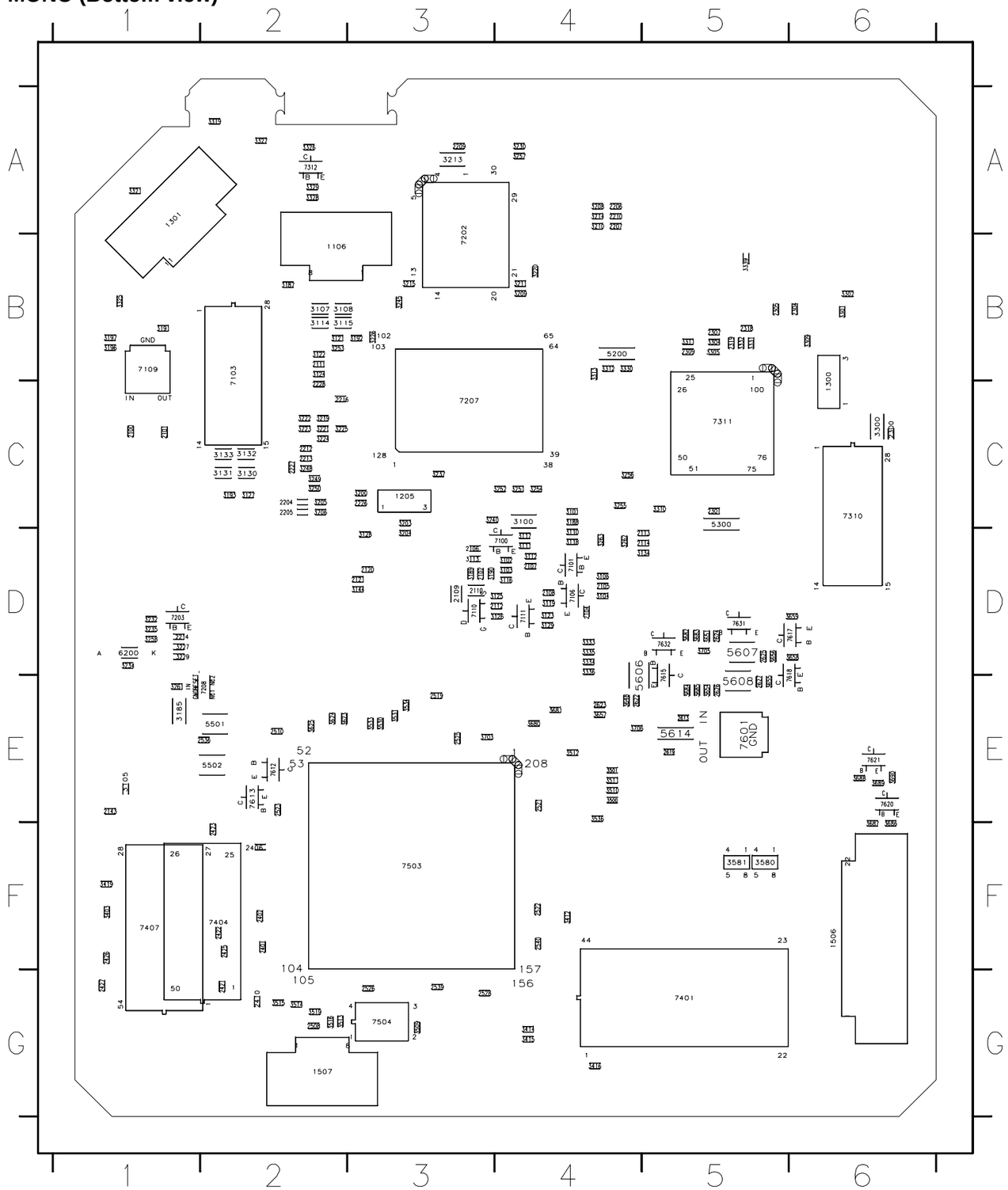


■ BLOCK DIAGRAM (B, G)



■ PRINTED CIRCUIT BOARD

MONO (Bottom view)



The first digit of a component indicates the component type.

1XXX : Connector
2XXX : Capacitor
3XXX : Resistor
4XXX : SMD jumper
5XXX : Coil
6XXX : Diode
7XXX : Transistor, FET, IC
9XXX : Wire jumper

1106	B2	3113	D3	3321	A1	7401	G5
1205	C3	3114	B2	3325	B1	7404	F2
1300	C6	3115	B2	3326	A2	7407	F1
1301	A1	3116	D4	3327	A2	7503	F3
1506	F6	3117	D4	3328	A2	7504	G3
1507	G2	3118	D4	3329	A2	7601	E5
2100	C1	3119	D4	3330	B4	7612	E2
2101	C1	3121	B2	3331	B5	7613	E2
2102	D3	3122	B2	3332	B5	7615	E5
2104	D4	3123	D4	3333	D4	7617	D6
2105	D4	3124	B2	3334	D4	7618	E6
2106	D3	3125	D4	3335	D4	7620	E6
2107	D4	3126	D4	3336	D4	7621	E6
2108	D4	3127	C2	3339	B5	7631	D5
2109	D3	3128	D3	3403	F1	7632	D5
2110	D3	3129	D4	3412	F4		
2111	B2	3130	C2	3414	G4		
2112	D4	3131	C2	3415	G4		
2113	D5	3132	C2	3416	G4		
2114	D5	3133	C2	3419	F1		
2120	D3	3134	D5	3500	E4		
2121	D3	3144	D3	3501	E4		
2143	E1	3185	E1	3509	G3		
2204	C2	3187	B2	3510	E4		
2205	C2	3188	C4	3511	E4		
2206	A4	3189	D3	3512	E4		
2207	A4	3190	D3	3513	G2		
2209	A3	3191	B1	3514	G2		
2210	A4	3192	B3	3515	G2		
2212	C2	3193	C2	3516	G2		
2213	C2	3196	B1	3519	G2		
2214	D1	3197	B1	3530	E3		
2216	C2	3200	C3	3531	E3		
2226	C3	3203	C3	3533	E3		
2227	C2	3204	D3	3534	E3		
2228	C2	3205	C2	3536	E4		
2300	C6	3206	C2	3580	F5		
2301	C5	3208	A4	3581	F5		
2304	B6	3209	B4	3623	E2		
2305	B5	3210	A4	3624	E2		
2307	B5	3211	B4	3625	E2		
2309	B5	3213	A3	3648	E4		
2318	B5	3214	A4	3651	D5		
2319	B5	3215	B3	3654	E5		
2401	F2	3219	C2	3655	E5		
2402	F2	3220	B4	3656	D5		
2406	F2	3221	C2	3657	E4		
2410	G2	3222	C2	3658	D6		
2421	G2	3223	C2	3659	D6		
2422	F2	3224	C2	3680	E4		
2423	F2	3225	C2	3681	E4		
2425	F2	3226	B3	3682	D5		
2426	F1	3227	D1	3683	D5		
2427	G1	3229	D1	3684	E5		
2508	G2	3230	A4	3685	E5		
2510	E2	3232	D1	3686	F6		
2519	E3	3234	D1	3687	F6		
2521	E4	3235	D1	3688	E6		
2522	F4	3237	C3	3689	E6		
2523	E2	3240	C3	3690	E6		
2525	E3	3245	B3	3703	E3		
2526	G3	3248	C2	3705	D5		
2528	G3	3249	C2	3706	E4		
2536	E2	3250	C2	5200	B4		
2539	G3	3251	C4	5300	C5		
2540	F4	3252	C4	5501	E2		
2613	E5	3253	B2	5502	E2		
2619	E5	3254	C4	5606	E4		
2622	E4	3255	C4	5607	D5		
2623	E4	3256	C4	5608	E5		
2624	D5	3257	A4	5614	E5		
2625	D5	3258	D1	6200	D1		
2626	E5	3261	E1	7100	D4		
2627	E5	3262	D4	7101	D4		
3100	C4	3263	D4	7103	B2		
3101	C4	3300	C6	7106	D4		
3102	D4	3301	B6	7109	B1		
3103	D4	3302	B6	7110	D3		
3104	D4	3304	B5	7111	D4		
3105	E1	3305	B5	7202	B3		
3106	D4	3309	B6	7203	D1		
3107	B2	3310	C5	7207	C3		
3108	B2	3311	B5	7208	E2		
3110	D4	3312	B4	7310	C6		
3111	D4	3313	B4	7311	C5		
3112	D4	3319	A2	7312	A2		

MONO BOARD only
The second digit of a component indicates the number of the schematic diagram.
E.g. IC7503 is on the schematic diagram 5.
E.g. R3100 is on the schematic diagram 1.

■ PRINTED CIRCUIT BOARD

MONO (Detailed bottom view 1/2)

MONO BOARD only
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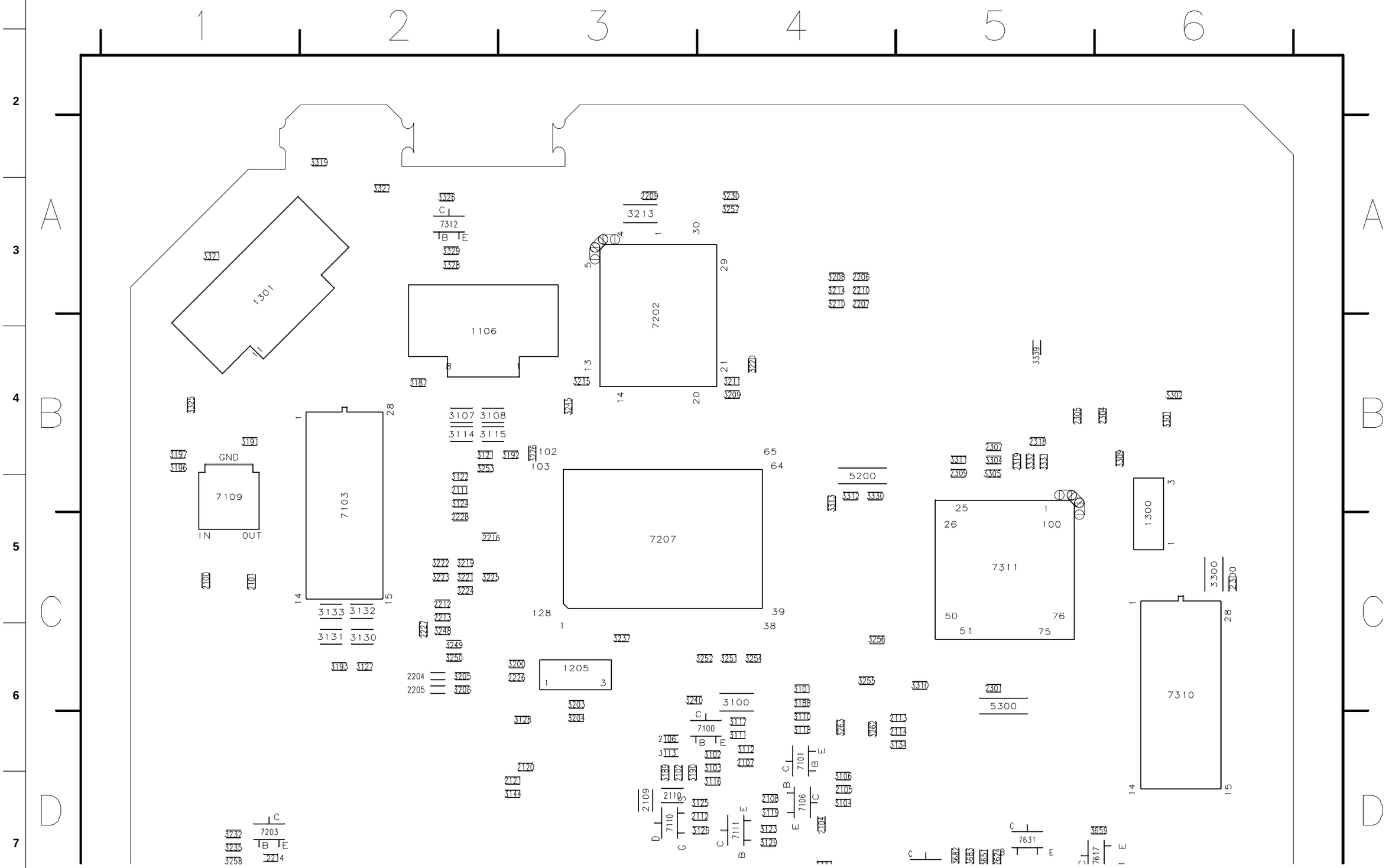
E.g. R3100 is on the schematic diagram 1.

The first digit of a component indicates the component type.

1XXX : Connector	4XXX : SMD jumper	7XXX : Transistor, FET, IC
2XXX : Capacitor	5XXX : Coil	9XXX : Wire jumper
3XXX : Resistor	6XXX : Diode	



■ PRINTED CIRCUIT BOARD

MONO (Detailed bottom view 2/2)

MONO BOARD only
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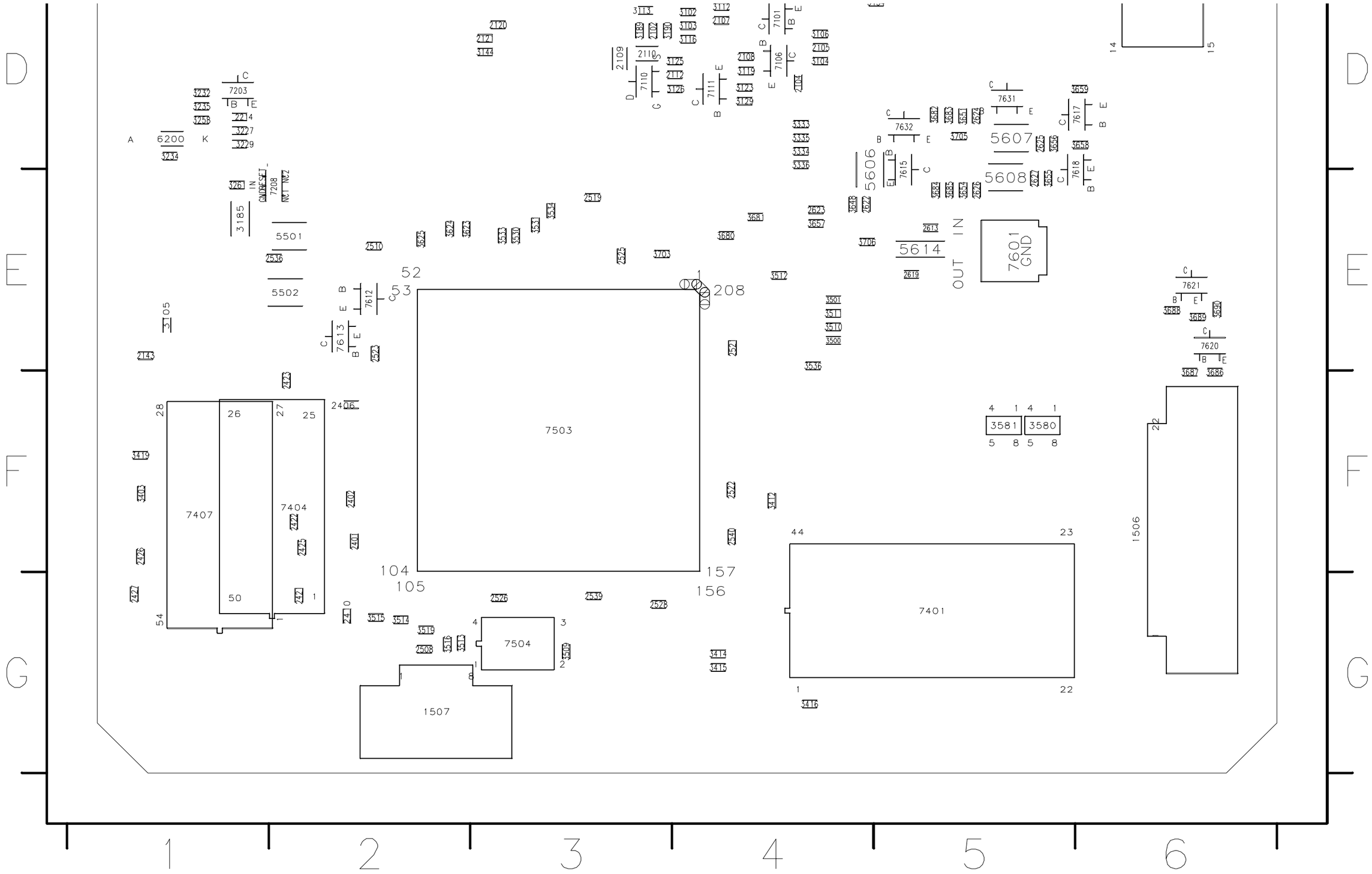
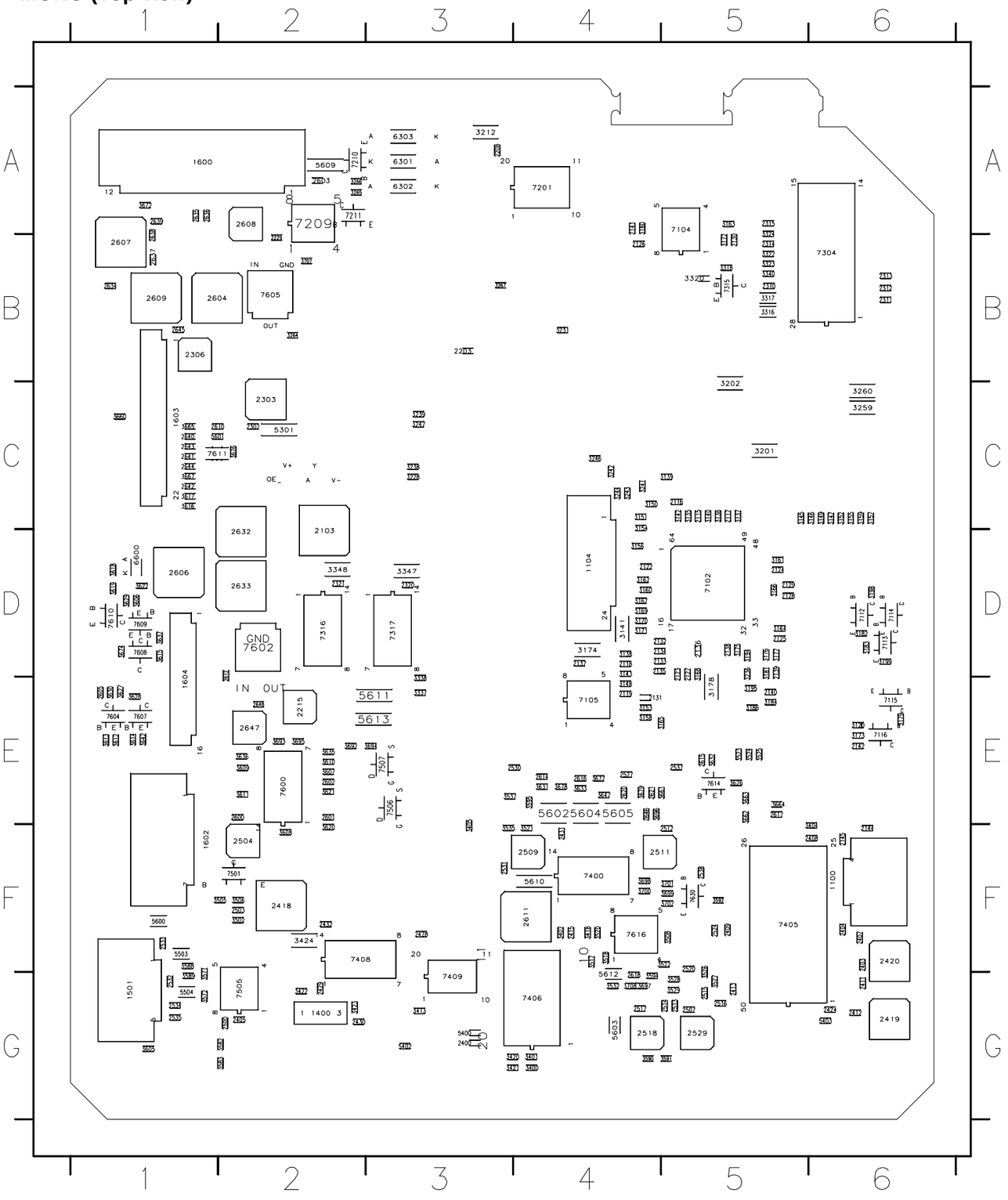
2XXX : Capacitor	5XXX : Coil	9XXX : Wire jumper
3XXX : Resistor	6XXX : Diode	



■ PRINTED CIRCUIT BOARD

MONO (Top view)



The first digit of a component indicates the component type.

1XXX : Connector
2XXX : Capacitor
3XXX : Resistor
4XXX : SMD jumper
5XXX : Coil
6XXX : Diode
7XXX : Transistor, FET, IC
9XXX : Wire jumper

1100	F6	2524	F5	3173	E6	3590	G4	7112	D6						
1104	D4	2527	E4	3174	D4	3591	G5	7113	D6						
1400	G2	2529	G5	3175	D5	3592	F5	7114	D6						
1501	G1	2530	E4	3176	D5	3594	G4	7115	E6						
1600	A1	2531	F3	3177	D5	3595	E4	7116	E6						
1602	F1	2532	G1	3178	E5	3605	G1	7201	A4						
1603	C1	2533	F1	3179	E6	3606	D1	7209	A2						
1604	E1	2534	G1	3180	A4	3607	E2	7210	A2						
2103	D2	2535	G1	3181	D5	3608	F2	7211	A2						
2115	C5	2537	E5	3182	D6	3609	E2	7304	B6						
2116	C5	2538	F5	3183	D6	3610	E2	7315	B5						
2117	C5	2600	E2	3184	E5	3611	E2	7316	D2						
2118	D4	2601	E2	3186	E5	3612	E1	7317	D3						
2119	E4	2602	E2	3194	D5	3613	E1	7400	F4						
2122	D4	2603	A2	3195	E5	3614	E1	7405	F5						
2123	D5	2604	B1	3198	D6	3615	D1	7406	G4						
2124	D5	2605	E1	3199	D6	3616	C1	7408	F2						
2125	D5	2606	D1	3201	C5	3617	C1	7409	G3						
2126	B4	2607	B1	3202	C5	3618	D1	7501	F2						
2127	D5	2608	A2	3212	A3	3619	D1	7505	G2						
2128	D5	2609	B1	3228	C3	3620	F2	7506	E3						
2129	D5	2610	C1	3231	B4	3621	E2	7507	E3						
2130	B5	2611	F4	3236	D5	3622	D1	7600	E2						
2131	E4	2612	D2	3238	C3	3626	E5	7602	D2						
2132	D4	2614	E4	3239	C3	3627	E1	7604	E1						
2133	D4	2615	E5	3241	C4	3628	E1	7605	B2						
2134	D4	2616	E4	3242	C4	3629	D1	7607	E1						
2135	D4	2617	E5	3243	C4	3630	E1	7608	D1						
2136	D5	2618	G4	3244	C4	3631	E4	7609	D1						
2137	D4	2620	E4	3246	C4	3632	E5	7610	D1						
2138	D5	2621	E4	3247	C3	3633	E4	7611	C1						
2139	D5	2632	D2	3259	C6	3635	E2	7614	E5						
2140	E5	2633	D2	3260	C6	3636	E2	7616	F4						
2141	A4	2634	B1	3264	B2	3637	D1	7630	F5						
2142	E6	2635	A1	3265	A2	3642	E1								
2144	F6	2636	A1	3266	A2	3647	E4								
2145	F6	2637	B1	3267	B3	3660	C1								
2203	B3	2638	B1	3316	B5	3661	E5								
2208	A3	2639	A1	3317	B5	3662	E5								
2215	E2	2640	C1	3318	B5	3663	E5								
2229	B2	2641	C1	3320	B5	3664	E5								
2302	C2	2642	C1	3322	B5	3665	C1								
2303	C2	2643	C1	3323	B5	3667	C1								
2306	B1	2644	C1	3324	A5	3672	A1								
2310	B5	2645	B1	3337	E3	3674	D1								
2311	B6	2646	E4	3338	E3	3676	C2								
2312	B6	2647	E2	3340	B5	3677	E4								
2313	B6	2648	E2	3347	D3	3678	E4								
2314	B5	3120	E6	3348	D2	3679	E4								
2315	A5	3135	C5	3400	G4	3692	E2								
2320	D3	3136	C5	3401	G4	3693	E2								
2321	D2	3137	C5	3402	F4	3694	E3								
2400	G3	3138	D4	3404	F6	3695	E2								
2403	F6	3139	C5	3405	F3	3696	E4								
2404	F6	3140	C5	3413	G3	3697	G4								
2405	G2	3141	D4	3418	F4	3698	F4								
2407	F6	3142	C5	3420	G3	3699	F5								
2408	F6	3143	D4	3421	G3	3700	F4								
2409	F5	3145	C5	3422	G2	3701	F5								
2411	G6	3146	C6	3423	G2	3702	F5								
2412	G6	3147	C6	3424	F2	3707	B2								
2413	G5	3148	E4	3502	F2	3708	G4								
2415	F4	3149	C6	3505	F2	5301	C2								
2418	F2	3150	C4	3506	F2	5400	G3								
2419	G6	3151	C4	3508	F5	5402	G3								
2420	F6	3152	C6	3517	F4	5403	G6								
2424	G6	3153	E4	3518	F4	5503	F1								
2428	F3	3154	C4	3520	F4	5504	G1								
2429	G2	3155	C6	3521	F4	5600	F1								
2430	G2	3156	D4	3522	F5	5601	C1								
2431	F4	3157	C6	3523	E5	5602	E4								
2432	F2	3158	E4	3524	E5	5603	G4								
2500	G2	3159	C6	3525	E5	5604	E4								
2503	F2	3160	D4	3526	G5	5605	E4								
2504	F2	3161	D5	3527	G5	5609	A2								
2507	G5	3162	D4	3528	G5	5610	F4								
2509	F4	3163	A5	3529	G5	5611	E3								
2511	F4	3164	D5	3532	G4	5612	G4								
2512	F5	3165	E5	3535	F3	5613	E3								
2513	G5	3166	D5	3537	E3	6301	A3								
2514	G5	3167	D4	3571	G1	6302	A3								
2515	G5	3168	D5	3572	G1	6303	A3								
2516	G5	3169	D4	3582	G2	6600	D1								
2517	G4	3170	D4	3583	G2	7102	D5								
2518	G4	3171	D4	3588	F1	7104	A5								
2520	F5	3172	B5	3589	G1	7105	E4								

MONO BOARD only
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■ PRINTED CIRCUIT BOARD

MONO (Detailed top view 1/2)

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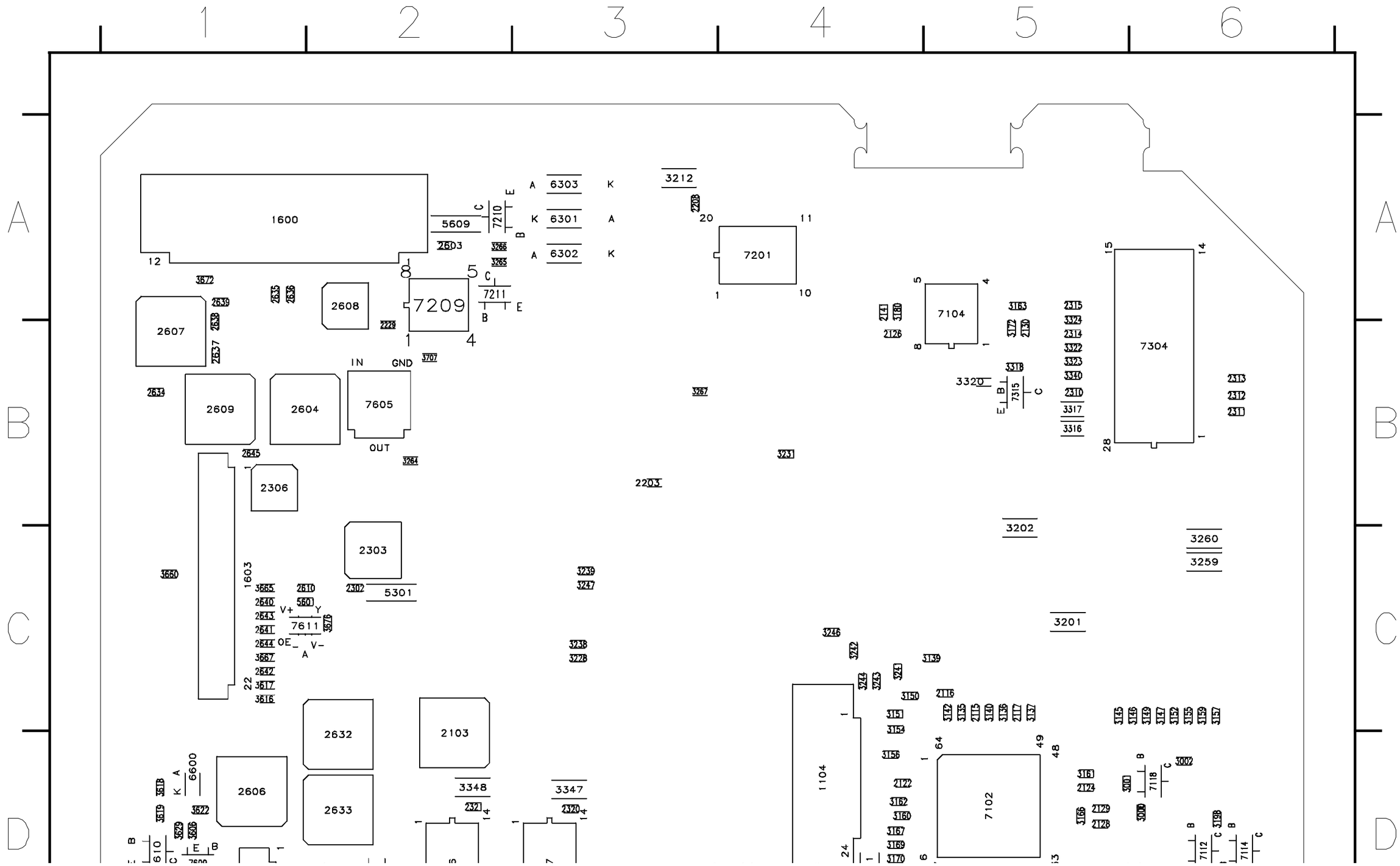

■ PRINTED CIRCUIT BOARD

MONO (Detailed top view 2/2)

MONO BOARD only
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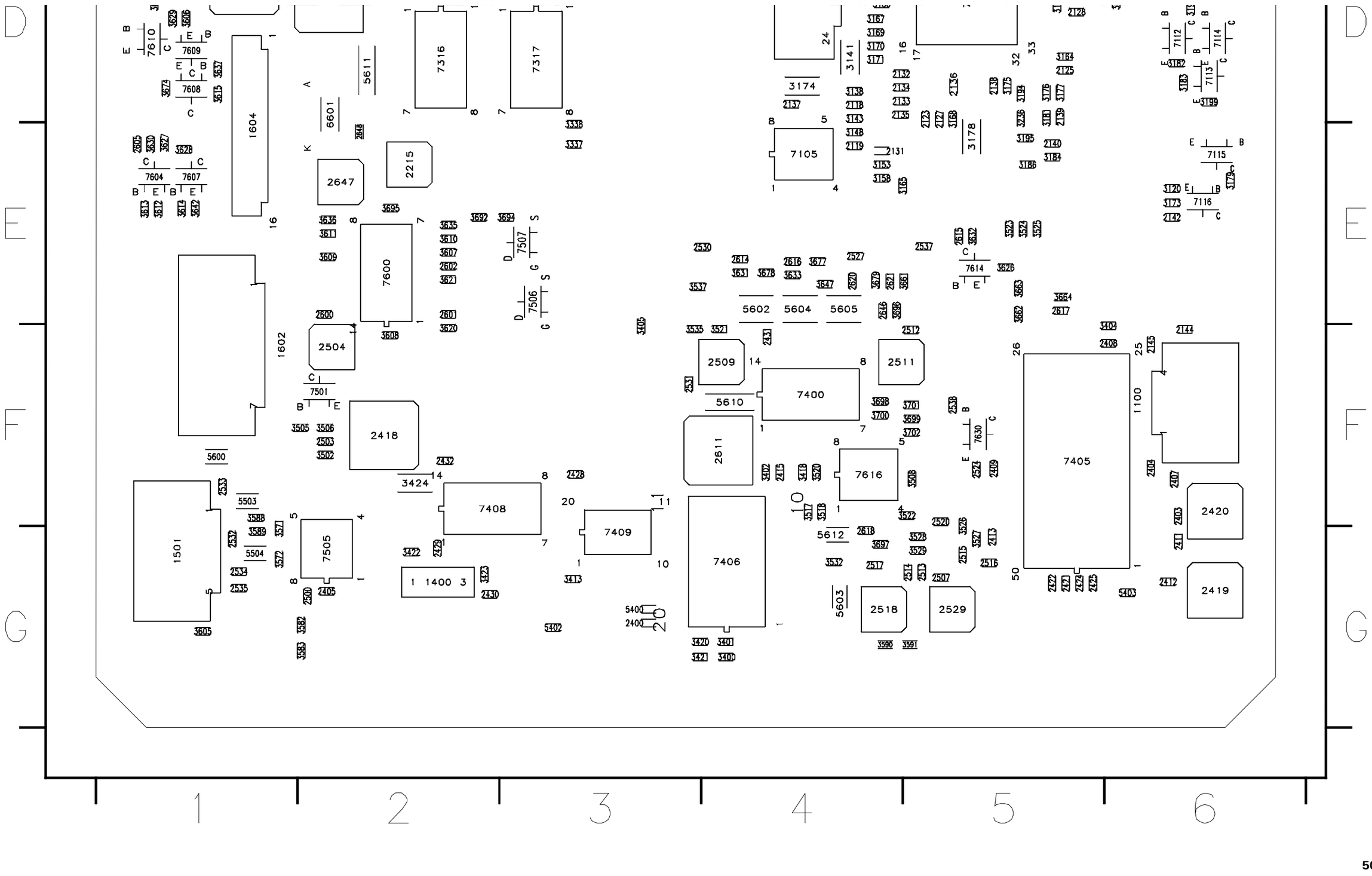
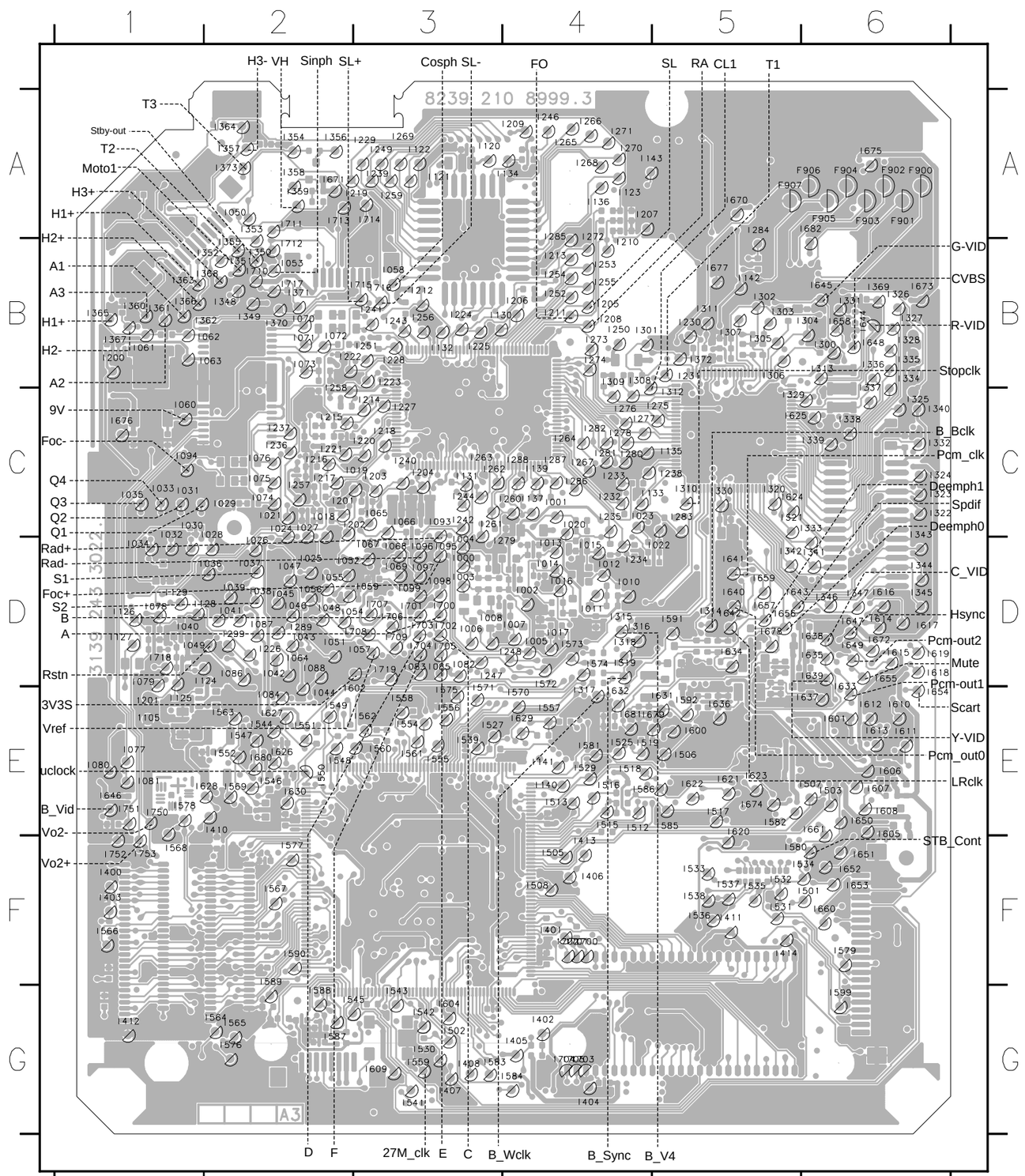
The first digit of a component indicates the component type.
1XXX : Connector 4XXX : SMD jumper 7XXX : Transistor, FET, IC
2XXX : Capacitor 5XXX : Coil 9XXX : Wire jumper
3XXX : Resistor 6XXX : Diode



TEST POINT OVERVIEW



The first digit of a component indicates the component type.

1XXX : Connector 4XXX : SMD jumper 7XXX : Transistor, FET, IC
2XXX : Capacitor 5XXX : Coil 9XXX : Wire jumper
3XXX : Resistor 6XXX : Diode

1105	E1	1059	D2	1226	D2	1322	C6	1533	F5	1628	E2
1201	F1	1060	C1	1227	C3	1323	C6	1534	F6	1629	E4
1605	B6	1061	B1	1228	B3	1324	C6	1535	F5	1630	E2
1606	B6	1062	B1	1229	A3	1325	C6	1536	F5	1631	E5
1607	B6	1063	B1	1230	B5	1326	B6	1537	F5	1632	E4
1608	C6	1064	D2	1231	B5	1327	B6	1538	F5	1633	E6
1700	F4	1065	C3	1232	C4	1328	B6	1539	E3	1634	D5
1701	F4	1066	C3	1233	C4	1329	C6	1541	G3	1635	D6
1702	F4	1067	D3	1234	D4	1330	C5	1542	G3	1636	E5
1703	G4	1068	D3	1235	C4	1331	B6	1543	G3	1637	E6
1704	G4	1069	D3	1236	C2	1332	C6	1544	E2	1638	D6
1705	G4	1070	B2	1237	C2	1333	D6	1545	G2	1639	D6
F900	A6	1071	B2	1238	C4	1334	C6	1546	E2	1640	D5
F900	A6	1072	B2	1239	A3	1335	B6	1547	E2	1641	D5
F901	A6	1073	B2	1240	C3	1336	B6	1548	E2	1642	D5
F901	A6	1074	C2	1241	B3	1337	C6	1549	E2	1643	D5
F902	A6	1075	C2	1242	C3	1338	C6	1550	E2	1644	B6
F902	A6	1076	C2	1243	B3	1339	C6	1551	E2	1645	B6
F903	A6	1077	E1	1244	C3	1340	C6	1552	E2	1646	E1
F903	A6	1078	D1	1246	A4	1341	D6	1554	E3	1647	D6
F904	A6	1079	D1	1247	D3	1342	D5	1555	E3	1648	B6
F904	A6	1080	E1	1248	D4	1343	D6	1556	E3	1649	D6
F905	A6	1081	E1	1249	A3	1344	D6	1557	E4	1650	E6
F905	A6	1082	D3	1250	B4	1345	D6	1558	E3	1651	F6
F906	A6	1083	D3	1251	B3	1346	D6	1559	G3	1652	F6
F906	A6	1084	E2	1252	B4	1347	D6	1560	E3	1653	F6
F907	A5	1085	D3	1253	B4	1348	B2	1561	E3	1654	E6
F907	A5	1086	D2	1254	B4	1349	B2	1562	E3	1655	D6
1000	D3	1087	D2	1255	B4	1350	B2	1563	E2	1656	D5
1001	C4	1088	D2	1256	B3	1351	B2	1564	G2	1657	D5
1002	D4	1093	C3	1257	C2	1352	B2	1565	G2	1658	B6
1003	D3	1094	C1	1258	C2	1353	B2	1566	F1	1659	D5
1004	D3	1095	D3	1259	A3	1354	A2	1567	F2	1660	F6
1005	D4	1096	D3	1260	C4	1355	B2	1568	E1	1661	E6
1006	D3	1097	D3	1261	C3	1356	A2	1569	E2	1670	A5
1007	D4	1098	D3	1262	C3	1357	A2	1570	E4	1671	A2
1008	D3	1099	D3	1263	C3	1358	A2	1571	E3	1672	D6
1010	D4	1120	A3	1264	C4	1359	A2	1572	D4	1673	B6
1011	D4	1121	A3	1265	A4	1360	B1	1573	D4	1674	E5
1012	D4	1122	A3	1266	A4	1361	B1	1574	D4	1675	A6
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1014	D4	1124	D1	1268	A4	1363	B1	1576	G2	1677	B5
1015	D4	1125	D1	1269	A3	1364	A2	1577	F2	1678	D5
1016	D4	1126	D1	1270	A4	1365	B1	1578	E1	1679	E5
1017	D4	1127	D1	1271	A4	1366	B1	1579	F6	1680	E2
1018	C2	1128	D1	1272	B4	1367	B1	1580	F6	1681	E4
1019	C3	1129	D1	1273	B4	1368	B2	1581	E4	1682	B6
1020	C4	1130	B3	1274	B4	1369	B6	1582	E5	1700	D3
1021	C2	1131	C3	1275	C5	1370	B2	1583	G3	1701	D3
1022	C5	1132	B3	1276	C4	1371	B2	1584	G4	1702	D3
1023	C4	1133	C4	1277	C4	1372	B5	1585	E5	1703	D3
1024	C2	1134	A4	1278	C4	1373	A2	1586	E5	1704	D3
1025	D2	1135	C4	1279	C3	1400	F1	1587	G2	1705	D3
1026	D2	1136	A4	1280	C4	1401	F4	1588	G2	1706	D3
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1029	C1	1140	E4	1283	C5	1404	G4	1591	D5	1709	D3
1030	D1	1141	E4	1284	B5	1405	G4	1592	E5	1710	B2
1031	C1	1142	B5	1285	B4	1406	F4	1599	G6	1711	A2
1032	D1	1143	A4	1286	C4	1407	G3	1600	E5	1712	B2
1033	C1	1200	B1	1287	C4	1408	G3	1601	E6	1713	A2
1034	D1	1201	C2	1288	C4	1410	E2	1602	D3	1714	A3
1035	C1	1202	C2	1289	D2	1411	F5	1604	G3	1715	B3
1036	D2	1203	C3	1299	D2	1412	G1	1605	E6	1716	B3
1037	D2	1204	C3	1300	B6	1413	F4	1606	E6	1717	B2
1038	D2	1205	B4	1301	B4	1414	F5	1607	E6	1718	D1
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1040	D2	1207	A4	1303	B5	1502	G3	1609	G3	1750	E1
1041	D2	1208	B4	1304	B6	1503	E6	1610	E6	1751	E1
1042	D2	1209	A4	1305	B5	1505	F4	1611	E6	1752	F1
1043	D2	1210	B4	1306	B5	1506	E5	1612	E6	1753	F1
1044	E2	1211	B4	1307	B5	1507	E6	1613	E6		
1045	D2	1212	B3	1308	C4	1508	F4	1614	D6		
1046	D2	1213	B4	1309	C4	1512	E4	1615	D6		
1047	D2	1214	C3	1310	C5	1513	E4	1616	D6		
1048	D2	1215	C2	1311	B5	1515	E4	1617	D6		
1049	D2	1216	C2	1312	B4	1516	E4	1618	D6		
1050	A2	1217	C2	1313	B6	1517	E5	1619	D6		
1051	D2	1218	C3	1314	D5	1518	E4	1620	F5		
1052	D2	1219	A2	1315	D4	1519	E4	1621	E5		
1053	B2	1220	C3	1316	D4	1525	E4	1622	E5		
1054	D2	1221	C2	1317	E4	1527	E3	1623	E5		
1055	D2	1222	B2	1318	D4	1529	E4	1624	C5		
1056	D2	1223	B3	1319	D4	1530	G3	1625	C6		
1057	D3	1224	B3	1320	C5	1531	F5	1626	E2		
1058	B3	1225	B3	1321	C5	1532	F5	1627	E2		

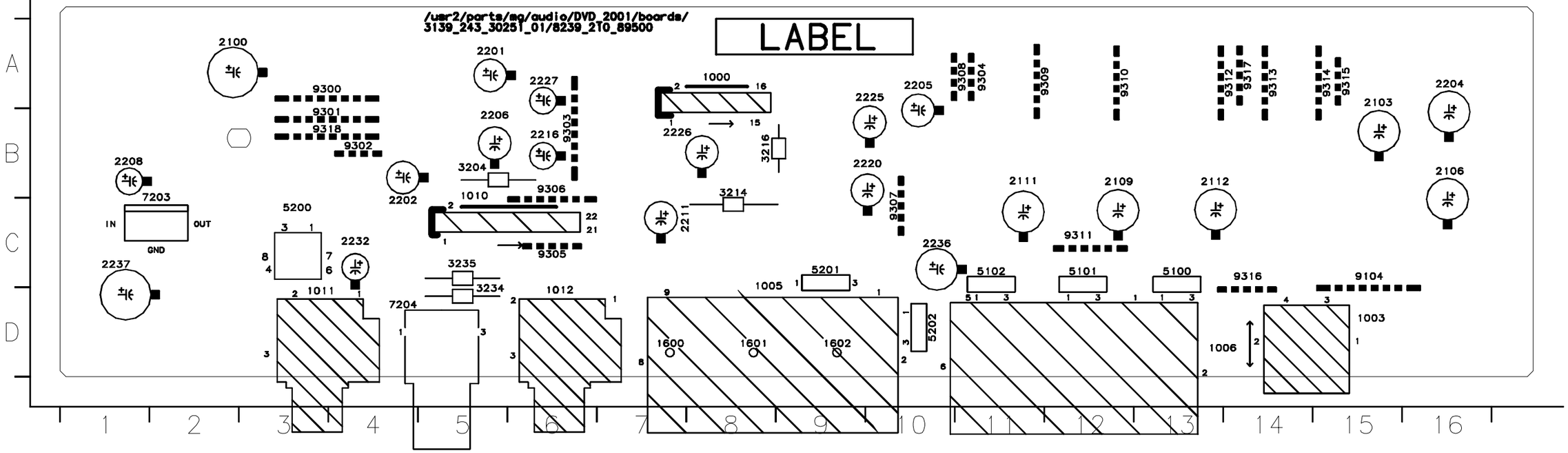
The first digit of a component indicates the component type.

1XXX : Connector	4XXX : SMD jumper	7XXX : Transistor, FET, IC
2XXX : Capacitor	5XXX : Coil	9XXX : Wire jumper
3XXX : Resistor	6XXX : Diode	

■ PRINTED CIRCUIT BOARD

AV (Component side) (U, C, A, R, T, P)

1000 A8, 1003 D15, 1005 C8, 1006 D13, 1010 B5, 1011 D3, 1012 D6, 1600 D7, 1601 D8, 1602 D9, 2100 A2, 2101 A2, 2103 A15, 2106 B16, 2109 B12, 2111 B11, 2112 B13, 2201 A5, 2202 C4, 2204 A16, 2205 A10, 2206 B5, 2208 B1, 2211 C7, 2216 B6, 2220 B10, 2225 A10, 2226 B7, 2227 A6, 2232 C4, 2236 C10, 2237 C1, 3204 B5, 3214 B8, 3216 B8, 3234 D5, 3235 C5, 5100 C13, 5101 C12, 5102 C11, 5200 C3, 5201 C9, 5202 D10, 7100 A2, 7203 B2, 7204 D4, 9104 C15, 9300 A3, 9301 B3, 9302 B4, 9303 B6, 9304 A11, 9305 C6, 9306 B6, 9307 C10, 9308 A11, 9309 A12, 9310 A12, 9311 C12, 9312 A14, 9313 A14, 9314 A15, 9315 A15, 9316 C14, 9317 A14, 9318 B3



■ PRINTED CIRCUIT BOARD

AV (Overview bottom side) (U, C, A, R, T, P)

The first digit of a component indicates the component type.

1XXX : Connector	4XXX : SMD jumper	7XXX : Transistor, FET, IC
2XXX : Capacitor	5XXX : Coil	9XXX : Wire jumper
3XXX : Resistor	6XXX : Diode	

2102 C3
2104 D2
2105 D3
2107 D4
2108 D5
2110 D6
2200 A12
2203 B13
2207 A12
2209 C15
2210 B10
2212 D10
2213 C10
2214 C10
2215 D9
2217 B7
2218 C9
2219 B8
2221 B8
2222 D11
2223 B8
2224 B9
2228 D9
2229 B10
2230 D8
2231 D12
2233 D13
2234 D14
2235 D14
2238 A8
2239 C8
2240 C11
2241 B12
3100 B15
3101 B3
3102 B3
3103 C2
3104 C2
3105 C2
3106 D3
3107 B2
3108 B2
3110 C3
3111 D4
3112 D3
3113 B3
3114 D3
3115 C2
3116 B1
3117 D2
3118 B1
3119 D2
3120 C1
3121 C1
3122 C1
3123 C1
3124 B4
3125 C4
3126 C4
3127 B5
3128 B5
3129 B5
3130 B5
3131 C5
3132 B5
3133 C5
3134 C4
3135 C5
3136 B6
3137 B6
3138 B6
3139 B6
3140 B6
3141 C6
3142 C6
3143 C6
3144 C5
3145 B3
3146 B3
3147 B4
3148 B4
3149 B3
3150 B3
3151 C3
3152 C3
3153 A14
3154 A14
3202 C10
3203 C10
3205 B10
3206 C10
3207 B7
3208 B11
3209 C15
3210 D10
3211 C10
3212 D9
3213 C9
3215 B7
3217 B8
3218 C8
3219 B9
3220 B7
3221 A8
3222 B8
3223 C10
3224 A8
3225 C9
3226 D9
3227 C9
3228 C9
3229 C8
3230 A11
3231 A10
3232 A10
3233 D8
3236 C14
3237 C16
3238 C15
3239 C15
3240 B7
3241 C7
3242 C8
3243 C7
3244 C7
3245 C8
3246 C6
3247 C6
3248 C7
3249 C7
3250 D11
4100 A15
4103 D4
4105 D5
4107 D6
4201 B13
4300 A13
4301 B14
4302 B14
4303 C13
4304 C12
4305 A11
4306 B11
4307 B10
4308 A9
4309 C4
4310 B11
4311 C2
4312 D11
4313 B10
4314 D7
4315 C7
4316 B10
4318 C9
6100 D3
6101 D2
6102 C4
6103 C5
6104 C6
6201 C8
6203 C7
6204 C8
7200 B12
7201 B10
7202 B8
7410 C3
7411 C3
7412 C3
7413 C3
7414 C3
7415 B2
7416 C2
7417 C2
7418 B1
7419 C4
7420 B5
7421 C5
7422 B5
7423 B6
7424 C6
7425 B6
7426 B4
7427 B4
7501 D10
7502 C10
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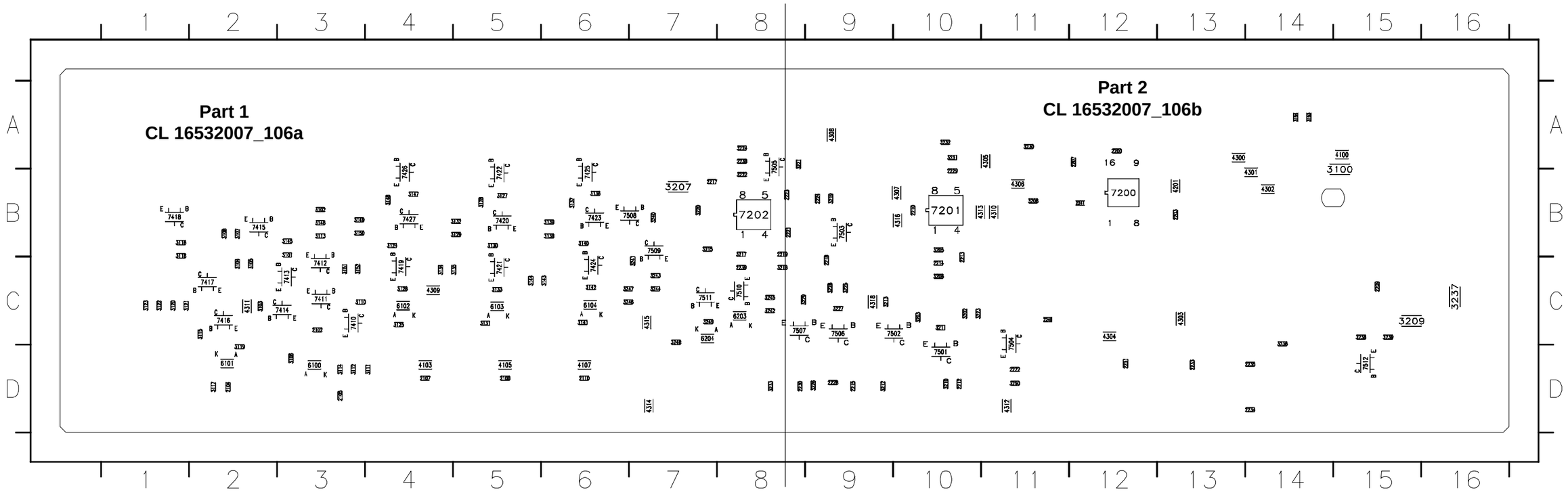
7508 B7
7509 B7
7510 C8
7511 C7
7512 D15

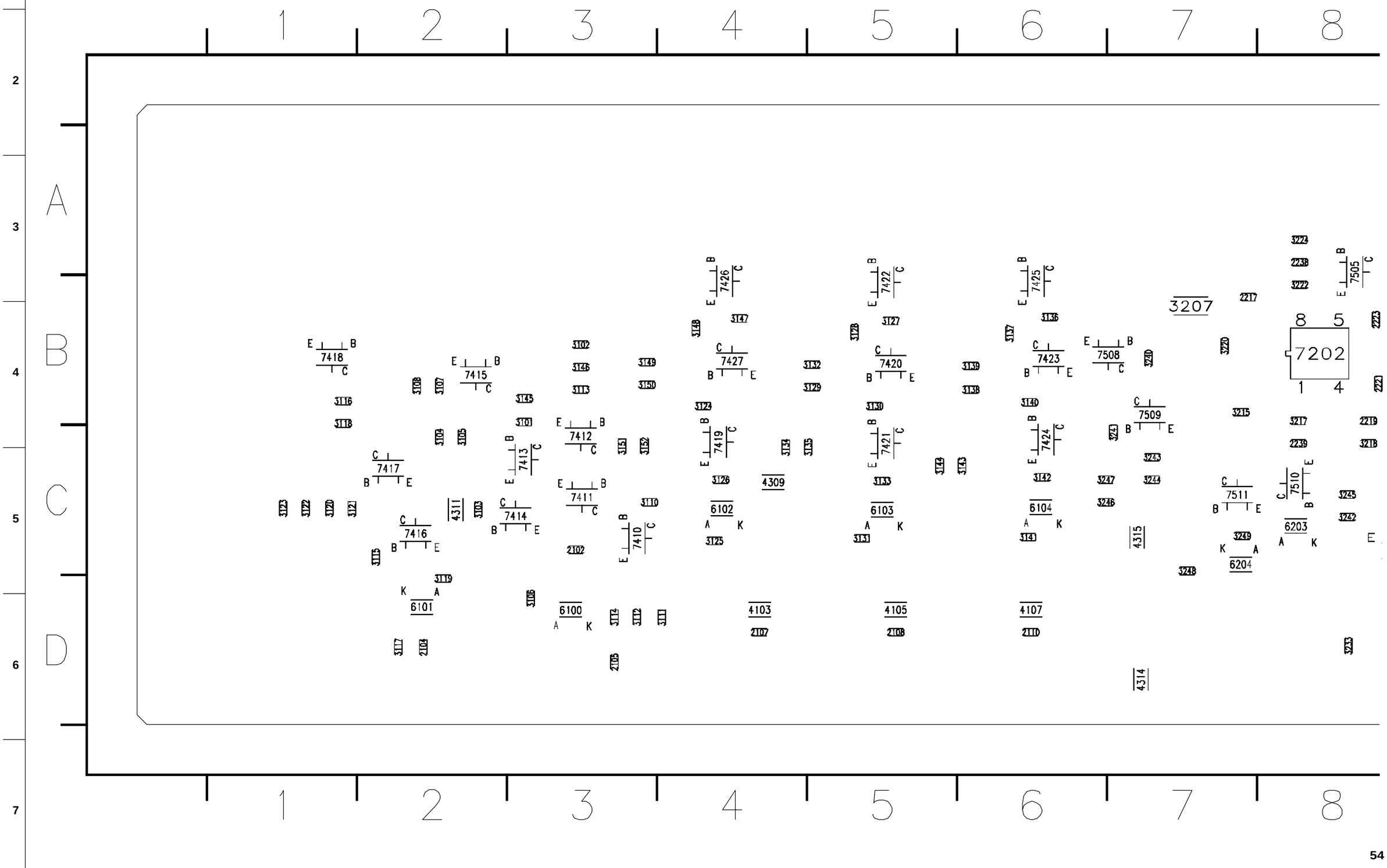


■ PRINTED CIRCUIT BOARD

AV (Part 1 bottom side) (U, C, A, R, T, P)

The first digit of a component indicates the component type.

1XXX : Connector	4XXX : SMD jumper	7XXX : Transistor, FET, IC
2XXX : Capacitor	5XXX : Coil	9XXX : Wire jumper
3XXX : Resistor	6XXX : Diode	

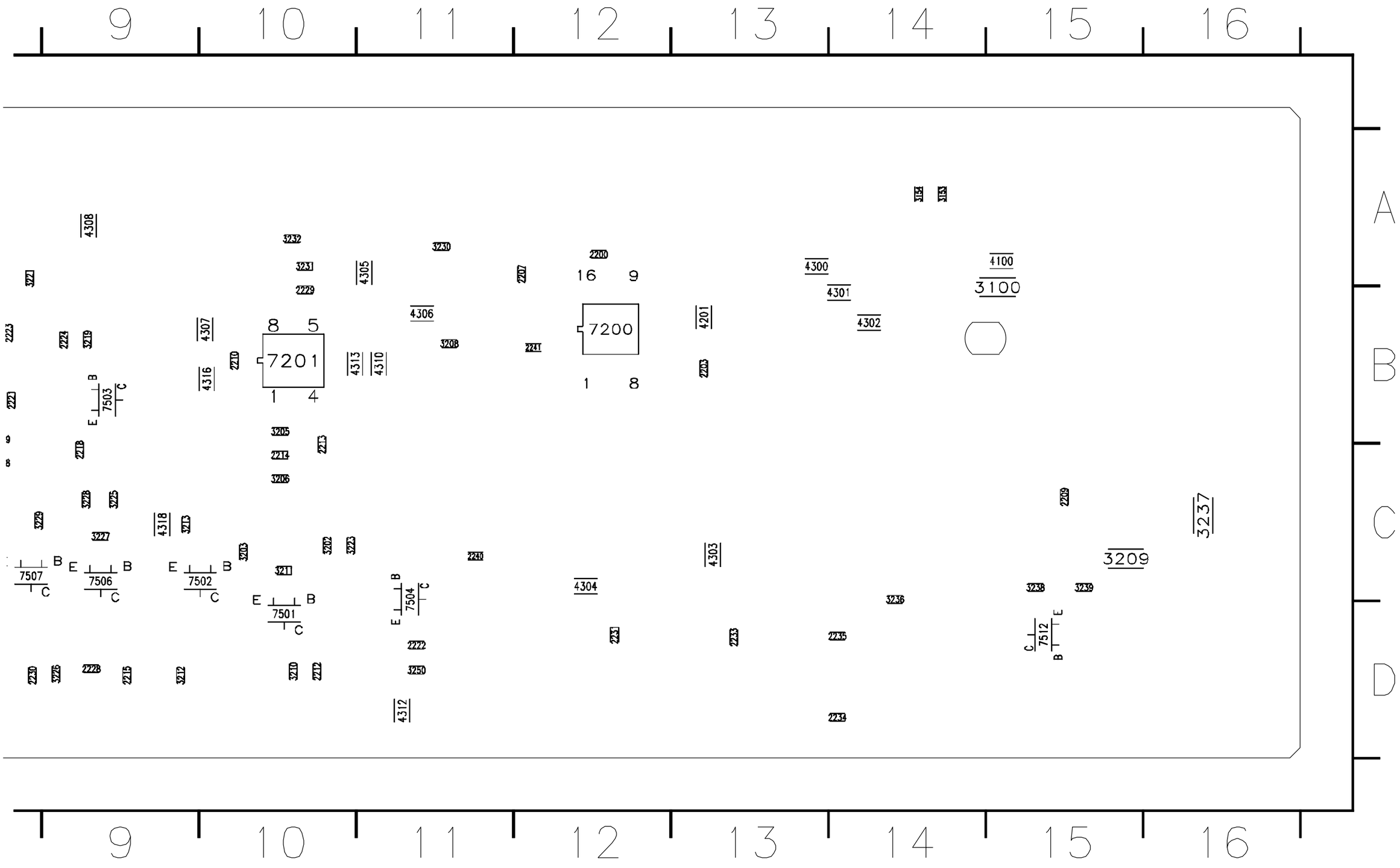


■ PRINTED CIRCUIT BOARD

AV (Part 2 bottom side) (U, C, A, R, T, P)

The first digit of a component indicates the component type.

1XXX : Connector	4XXX : SMD jumper	7XXX : Transistor, FET, IC
2XXX : Capacitor	5XXX : Coil	9XXX : Wire jumper
3XXX : Resistor	6XXX : Diode	



The first digit of a component indicates the component type.

1XXX : Connector	4XXX : SMD jumper	7XXX : Transistor, FET, IC
2XXX : Capacitor	5XXX : Coil	9XXX : Wire jumper
3XXX : Resistor	6XXX : Diode	

■ PRINTED CIRCUIT BOARD

AV (Component side) (B, G)

1001 A8
1002 D12
1003 C15
1004 B13
1005 D8

1010 B5
1011 D1
1012 D4
1013 B10
2100 A1

2101 A3
2103 B14
2104 B11
2105 C11
2108 A16

2109 B12
2114 C16
2201 A6
2202 B5
2204 A16

2205 B9
2206 B5
2208 B1
2211 C8
2216 B6

2220 C4
2225 C5
2226 B8
2227 A7
2232 C2

2236 D9
2237 B2
2242 B3
3143 A14
3144 A14

3145 A15
3149 A11
3159 A16
3203 C9
3204 B6

3221 D6
3223 C4
3228 B10
3229 D14
3234 C3

3235 C3
3251 B9
5200 C1
7100 A2
7203 B1

7204 D3
9300 A4
9301 B4
9302 B4
9303 B4

9304 C4
9305 B6
9306 C6
9307 B7
9309 A9

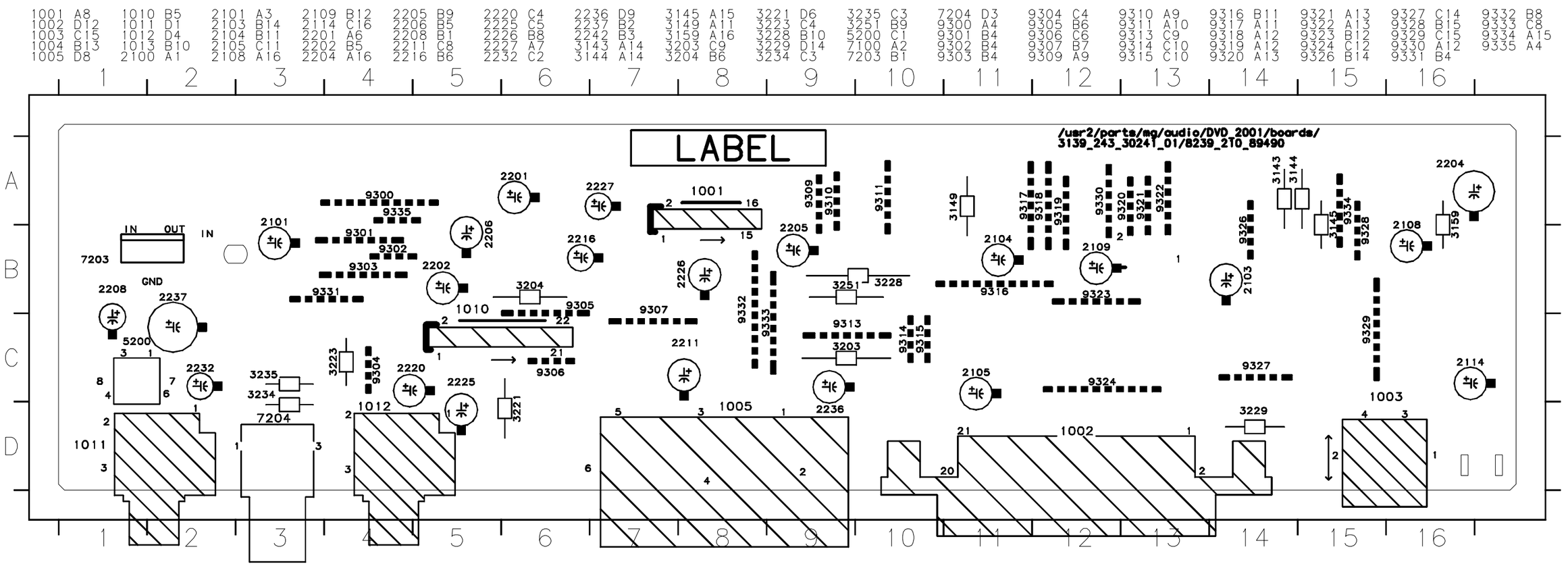
9310 A9
9311 A10
9313 C9
9314 C10
9315 C10

9316 B11
9317 A11
9318 A12
9319 A12
9320 A13

9321 A13
9322 A13
9323 B12
9324 C12
9326 B14

9327 C14
9328 B15
9329 C15
9330 A12
9331 B4

9332 B8
9333 C8
9334 A15
9335 A4



■ PRINTED CIRCUIT BOARD

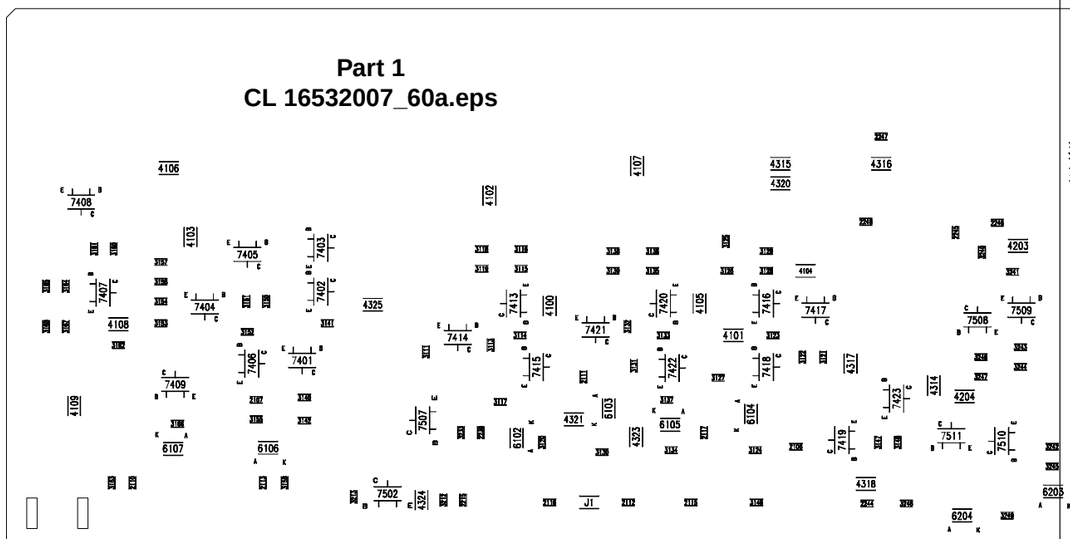
AV (Overview bottom side) (B, G)

The first digit of a component indicates the component type.

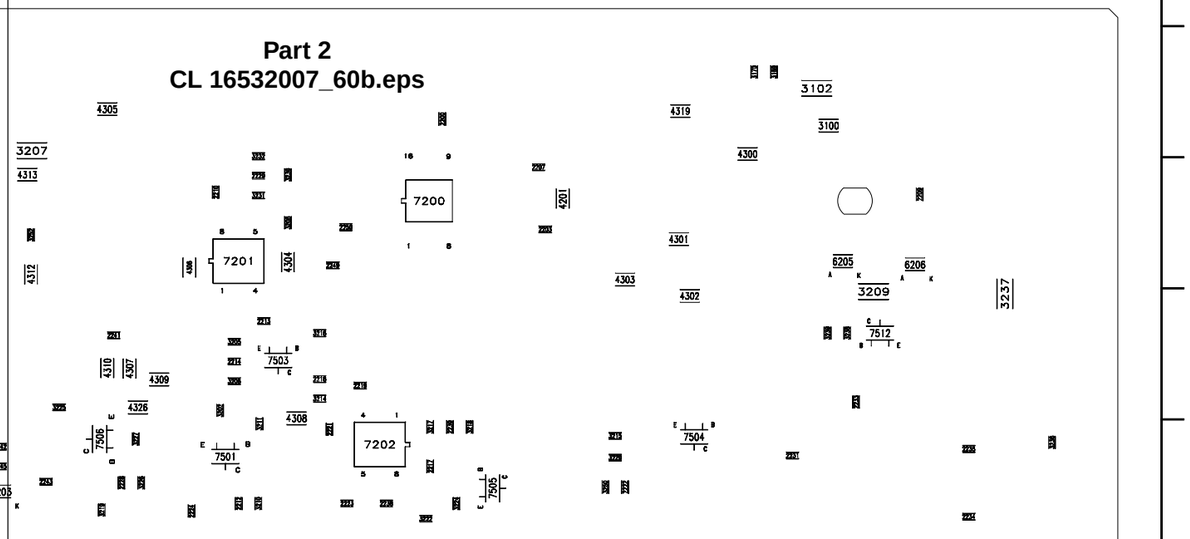
1XXX : Connector	4XXX : SMD jumper	7XXX : Transistor, FET, IC
2XXX : Capacitor	5XXX : Coil	9XXX : Wire jumper
3XXX : Resistor	6XXX : Diode	

J1 D4
2106 D6
2107 C2
2110 D1
2111 C4
2112 D5
2113 D2
2115 D5
2116 D4
2117 D5
2200 A11
2203 B12
2207 B12
2209 B15
2210 B10
2212 D10
2213 C10
2214 C10
2215 D4
2217 D11
2218 C10
2219 C11
2221 D10
2222 D13
2223 D11
2224 D9
2228 D9
2229 B10
2230 D4
2231 D14
2233 C15
2234 D15
2235 D15
2238 D11
2239 D11
2240 B8
2241 C9
2243 D8
2244 D7
2245 B7
2246 B8
2247 A7
2248 B7
2249 B11
2250 B11
3100 A14
3102 A14
3111 C3
3113 C4
3114 C4
3115 B4
3116 B4
3117 C4
3118 B4
3119 B4
3120 D4
3121 C6
3122 C6
3123 C6
3124 D6
3125 B6
3126 B6
3127 C5
3128 B6
3129 B6
3130 D5
3131 C5
3132 C5
3133 C5
3134 D5
3135 B5
3136 B5
3137 C5
3138 B5
3139 B5
3140 C2
3141 C2
3142 D2
3146 D6
3147 D7
3148 D7
3150 C2
3151 C2
3152 C2
3153 C1
3154 C1
3155 C2
3156 B1
3157 B1
3158 D2
3160 B1
3161 B1
3162 C1
3163 D1
3164 B1
3165 B1
3166 D1
3167 C1
3168 C1
3169 A14
3170 A14
3202 C10
3205 C10
3206 C10
3207 A8
3208 B10
3209 C15
3210 D10
3211 D10
3212 D3
3213 D3
3214 C10
3215 D13
3216 C10
3217 D11
3218 D12
3219 D9
3220 D13
3222 D11
3224 D11
3225 C8
3226 D9
3227 D9
3230 B10
3231 B10
3232 A10
3233 D3
3236 D16
3237 C16
3238 C14
3239 C14
3240 B7
3241 B8
3242 D8
3243 C8
3244 C8
3245 D8
3246 C7
3247 C7
3248 D7
3249 D8
3250 D13
3252 B8
4100 C4
4101 C6
4102 B4
4103 B1
4104 B6
4105 C5
4106 B1
4107 B1
4108 C1
4109 C1
4201 B12
4203 B8
4204 C7
4300 A14
4301 B13
4302 C13
4303 B13
4304 B10
4305 A9
4306 B9
4307 C9
4308 C10
4309 C9
4310 C9
4312 B8
4313 B8
4314 C7
4315 B6
4316 C7
4317 C6
4318 D7
4319 A13
4320 B6
4321 C4
4323 D5
4324 D3
4325 C3
4326 C9
6102 D4
6103 C5
6104 C6
6105 D5
6106 D2
6107 D1
6203 D8
6204 D7
6205 B14
6206 B15
7200 B11
7201 B10
7202 D11
7205 B9
7401 C2
7402 C2
7403 B2
7404 C2
7405 B2
7406 C2
7407 C1
7408 B1
7409 C1
7413 C4
7414 C3
7415 C4
7416 C6
7417 C6
7418 C6
7419 C6
7420 C5
7421 C5
7422 C5
7423 C7
7501 D10
7502 D3
7503 C10
7504 D13
7505 D12
7506 D9
7507 D3
7508 C7
7509 C8
7510 D8
7511 D7
7512 C15

Part 1
CL 16532007_60a.eps



Part 2
CL 16532007_60b.eps

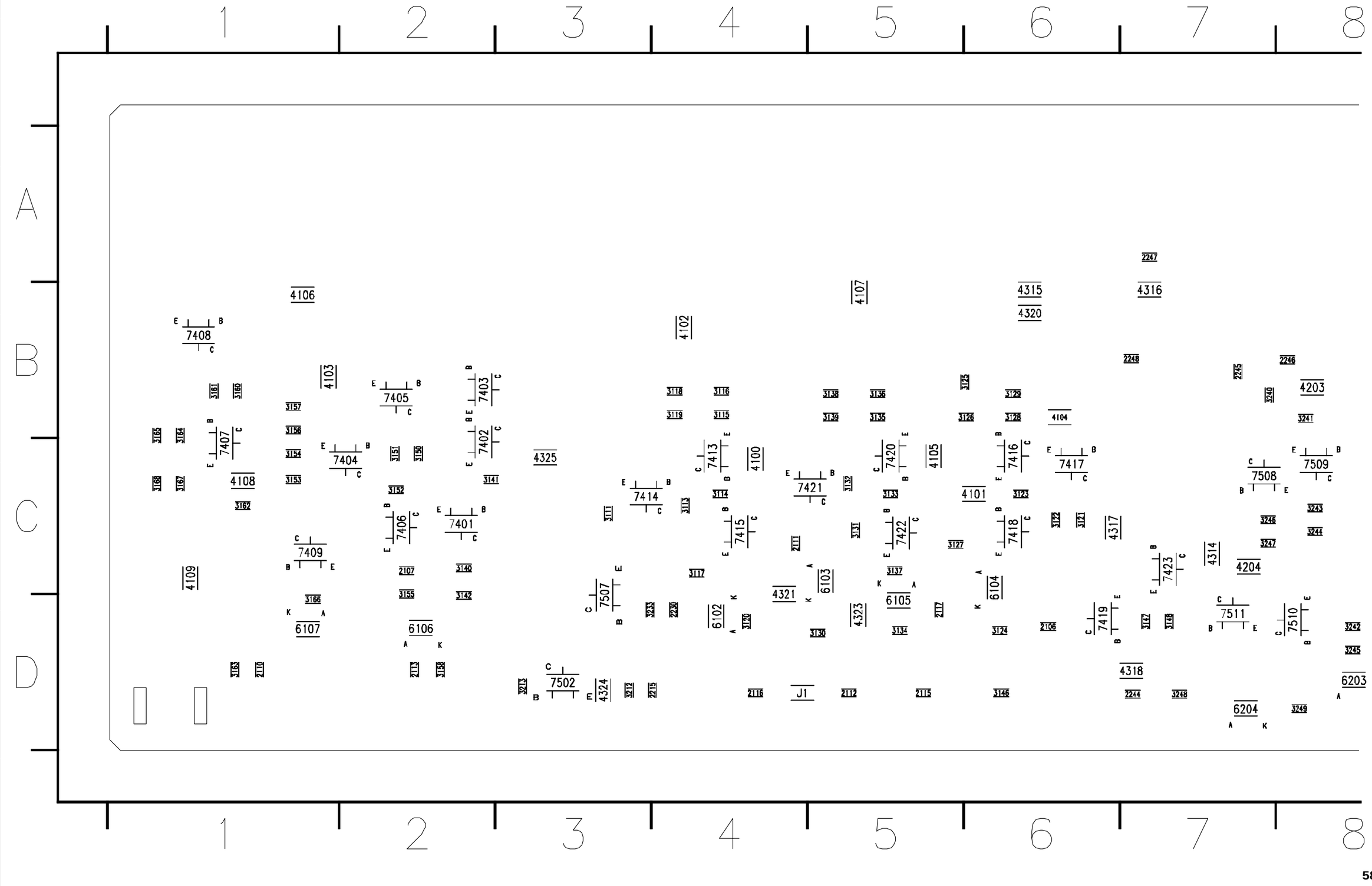


The first digit of a component indicates the component type.

1XXX : Connector	4XXX : SMD jumper	7XXX : Transistor, FET, IC
2XXX : Capacitor	5XXX : Coil	9XXX : Wire jumper
3XXX : Resistor	6XXX : Diode	

■ PRINTED CIRCUIT BOARD

AV (Part 1 bottom side) (B, G)

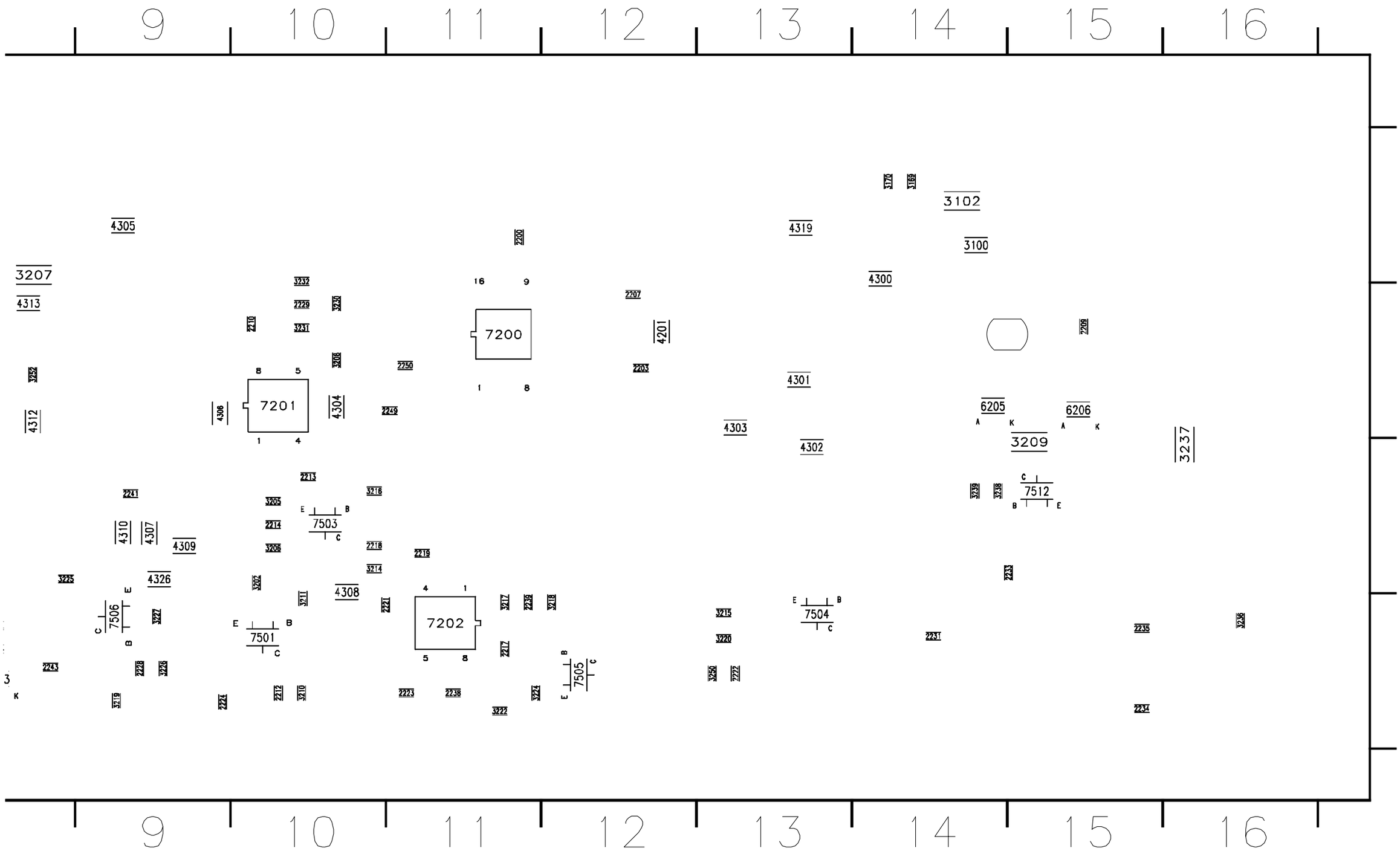


■ PRINTED CIRCUIT BOARD

AV (Part 2 bottom side) (B, G)

The first digit of a component indicates the component type.

1XXX : Connector	4XXX : SMD jumper	7XXX : Transistor, FET, IC
2XXX : Capacitor	5XXX : Coil	9XXX : Wire jumper
3XXX : Resistor	6XXX : Diode	



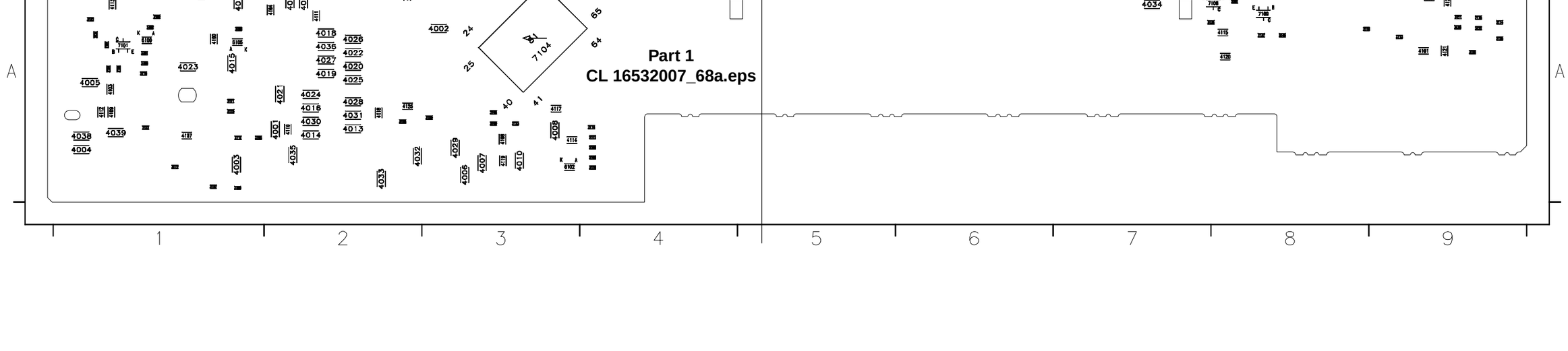
The first digit of a component indicates the component type.

1XXX : Connector	4XXX : SMD jumper	7XXX : Transistor, FET, IC
2XXX : Capacitor	5XXX : Coil	9XXX : Wire jumper
3XXX : Resistor	6XXX : Diode	

■ PRINTED CIRCUIT BOARD

DISPLAY (Compornent side)

1001 A1 1100 A9 1101 A9 1102 A8 1106 A9 1107 A8 1108 A9 1109 A8 1110 A7 1112 A9 1113 A4 1115 A8 1117 A1 1118 A1 2106 A9 2123 A9 2124 A9 2126 A1 2129 A6 2130 A6 7105 A9 7106 A9 7110 A2 7112 A6 9201 A1 9202 A8



DISPLAY (Overview bottom side)

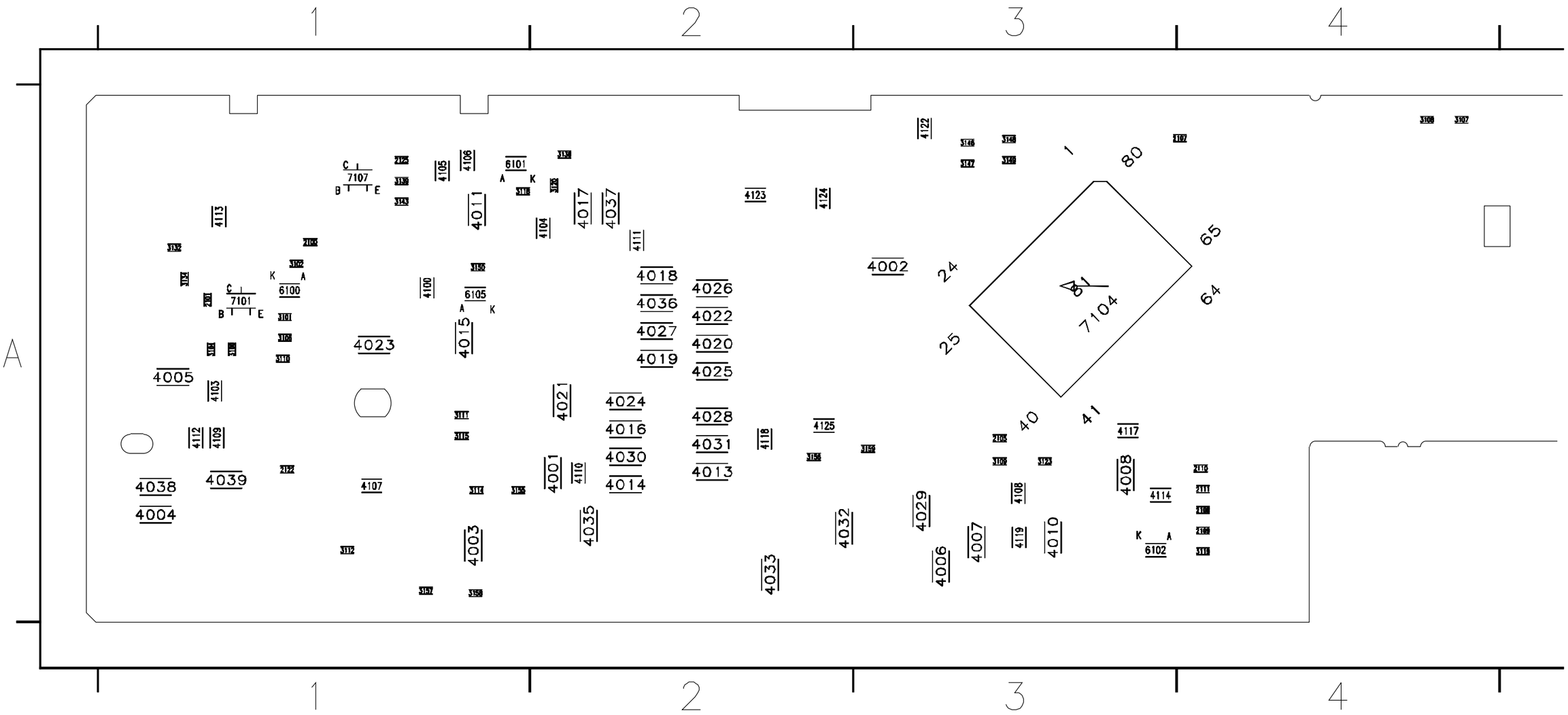
2100 A1 2101 A1 2105 A3 2107 A4 2108 A4 2109 A4 2110 A4 2111 A4 2114 A9 2115 A9 2116 A8 2122 A1 2125 A1 2128 A8 2201 A8 3100 A1 3101 A1 3102 A1 3103 A7 3104 A1 3105 A7 3106 A1 3107 A4 3108 A4 3109 A3 3110 A1 3111 A1 3112 A1 3113 A9 3114 A1 3115 A1 3118 A1 3119 A4 3120 A2 3121 A9 3122 A9 3123 A3 3125 A9 3130 A9 3132 A1 3133 A8 3134 A1 3135 A9 3136 A7 3137 A8 3138 A2 3139 A1 3140 A8 3142 A8 3143 A1 3144 A9 3146 A3 3147 A3 3148 A3 3149 A3 3150 A1 3155 A1 3156 A2 3157 A1 3158 A1 3159 A3 4001 A2 4002 A3 4003 A1 4004 A1 4005 A1 4006 A3 4007 A3 4008 A3 4010 A3 4011 A1 4012 A8 4013 A2 4014 A2 4015 A1 4016 A2 4017 A2 4018 A2 4019 A2 4020 A2 4021 A2 4022 A2 4023 A1 4024 A2 4025 A2 4026 A2 4027 A2 4028 A2 4029 A3 4030 A2 4031 A2 4032 A2 4033 A2 4034 A7 4035 A2 4036 A2 4037 A2 4038 A1 4039 A1 4100 A1 4101 A9 4102 A9 4103 A1 4104 A2 4105 A1 4106 A1 4107 A1 4108 A3 4109 A1 4110 A2 4111 A2 4112 A1 4113 A1 4114 A3 4115 A8 4117 A3 4118 A2 4119 A3 4120 A8 4121 A9 4122 A3 4123 A2 4124 A2 4125 A2 4126 A9 6100 A1 6101 A1 6102 A3 6104 A9 6105 A1 7101 A1 7104 A3 7107 A1 7108 A8 7109 A8

■ PRINTED CIRCUIT BOARD

DISPLAY (Part 1 bottom side)

The first digit of a component indicates the component type.

1XXX : Connector	4XXX : SMD jumper	7XXX : Transistor, FET, IC
2XXX : Capacitor	5XXX : Coil	9XXX : Wire jumper
3XXX : Resistor	6XXX : Diode	

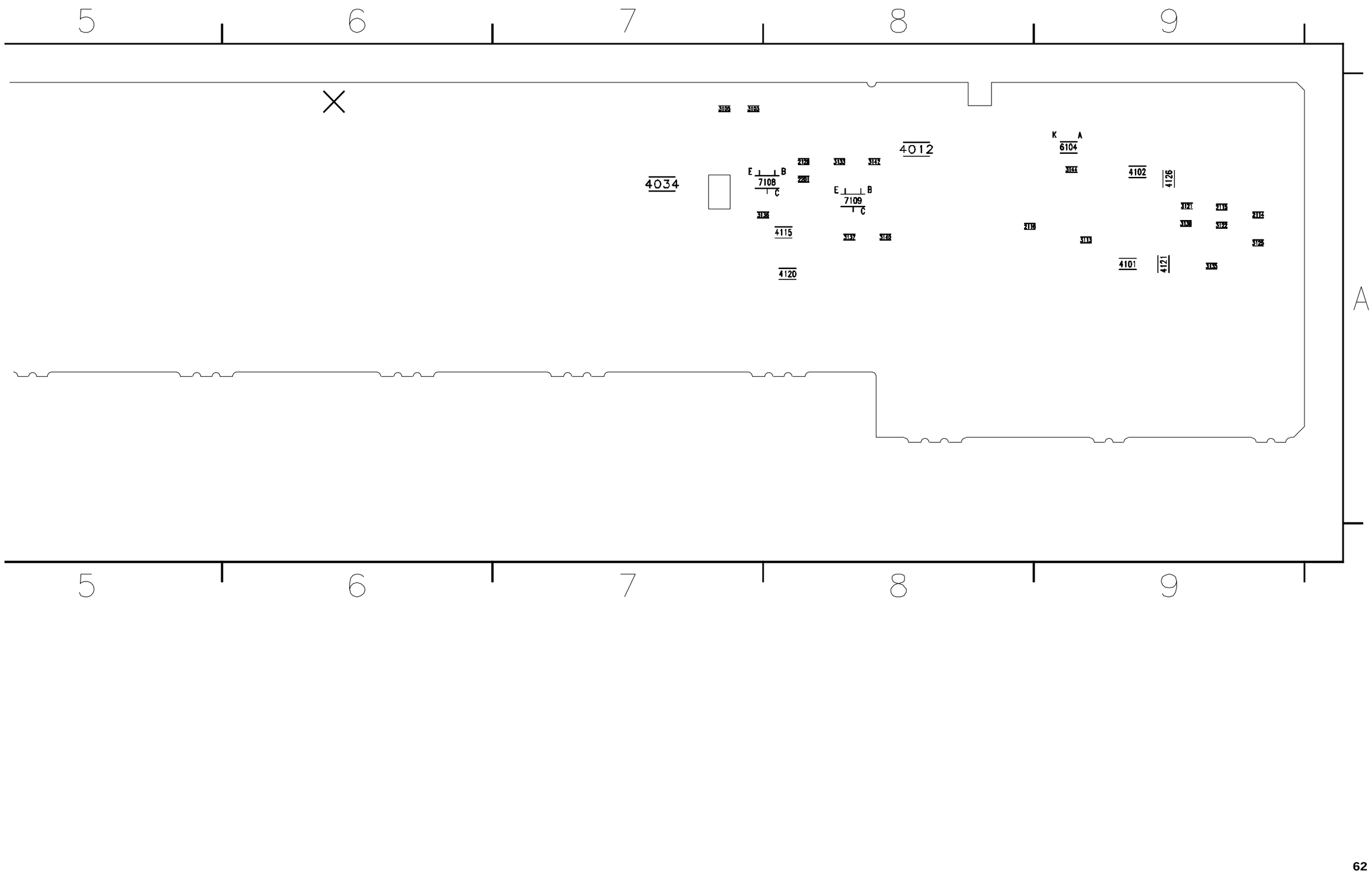


The first digit of a component indicates the component type.

1XXX : Connector	4XXX : SMD jumper	7XXX : Transistor, FET, IC
2XXX : Capacitor	5XXX : Coil	9XXX : Wire jumper
3XXX : Resistor	6XXX : Diode	

■ PRINTED CIRCUIT BOARD

DISPLAY (Part 2 bottom side)



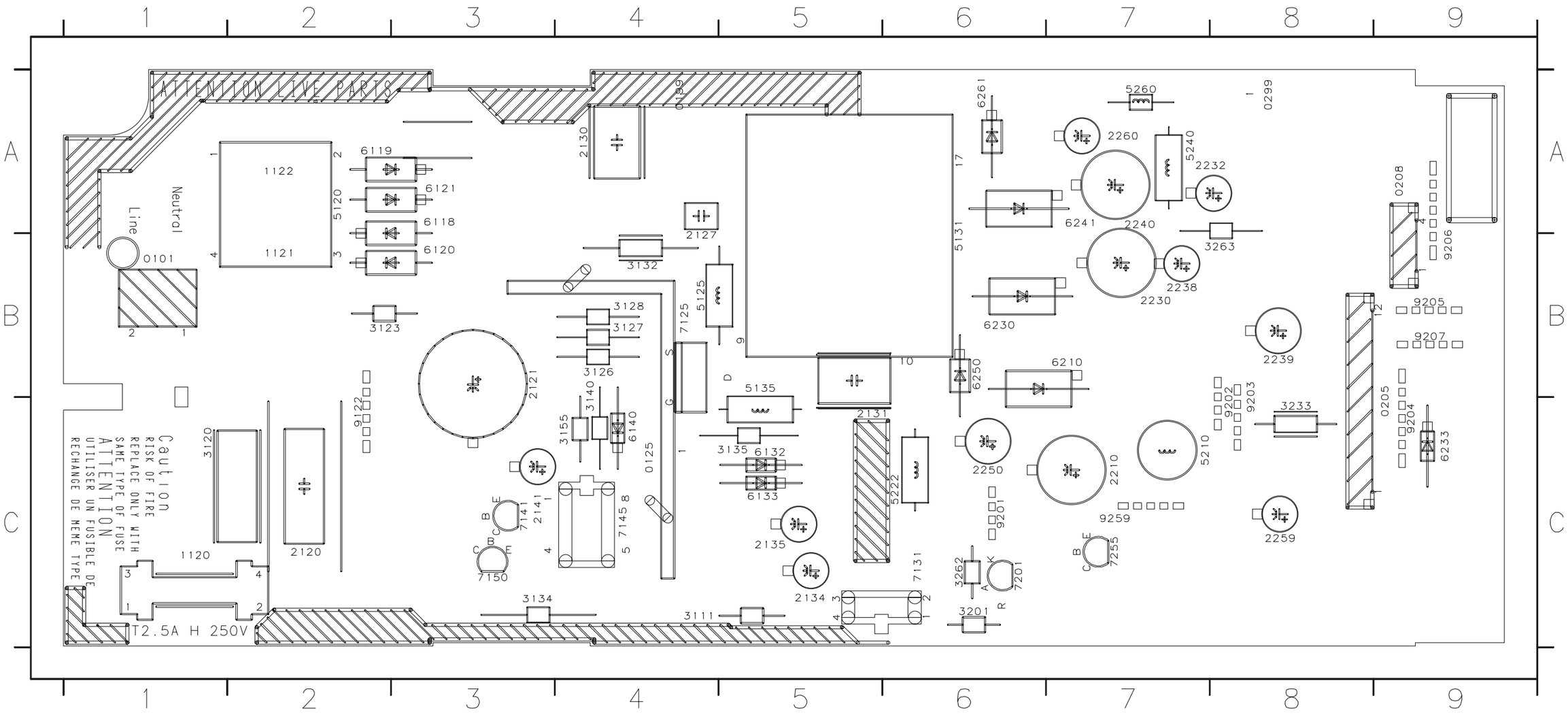
■ PRINTED CIRCUIT BOARD

POWER (Component side) (B, G)

The first digit of a component indicates the component type.

1XXX : Connector	4XXX : SMD jumper	7XXX : Transistor, FET, IC
2XXX : Capacitor	5XXX : Coil	9XXX : Wire jumper
3XXX : Resistor	6XXX : Diode	

0101 B1 0209 A9 2121 B3 2130 A4 2135 C5 2232 A8 2240 A7 2259 C8 3111 C4 3123 B2 3133 A3 3201 C6 5120 A2 5210 C7 5260 A7 6120 B3 6128 A4 6211 C6 6241 A7 7125 B4 7201 C6 7259 C8 9203 B8 9259 C7
0125 C4 0299 A8 2122 C2 2131 C5 2141 C3 2233 A8 2241 A6 2260 A7 3112 C5 3126 B4 3134 C3 3232 B8 5121 B2 5222 C6 6110 C3 6121 A3 6132 C5 6230 B6 6250 B6 7131 C6 7233 A8 9122 C2 9204 C9
0199 A4 1120 C1 2123 B3 2132 C5 2210 C7 2236 B6 2250 C6 2261 A7 3120 C1 3127 B4 3135 C5 3233 C8 5125 B4 5230 B7 6111 C3 6122 C3 6133 C5 6231 B6 6259 C7 7141 C3 7236 B7 9125 B4 9205 B9
0205 C9 2119 B2 2127 B4 2133 C5 2211 B7 2238 B7 2251 B6 2263 A6 3121 C3 3128 B4 3140 B4 3262 C6 5131 B6 5231 B7 6118 A3 6123 B3 6140 C4 6233 C9 6260 A6 7145 C4 7237 B8 9201 C6 9206 B9
0208 A9 2120 C2 2129 C4 2134 C5 2230 B7 2239 B8 2253 C7 3105 C1 3122 B2 3132 B4 3155 C4 3263 B8 5135 B5 5240 A7 6119 A2 6127 A4 6210 B7 6240 B6 6261 A6 7150 C3 7255 C7 9202 C8 9207 B9



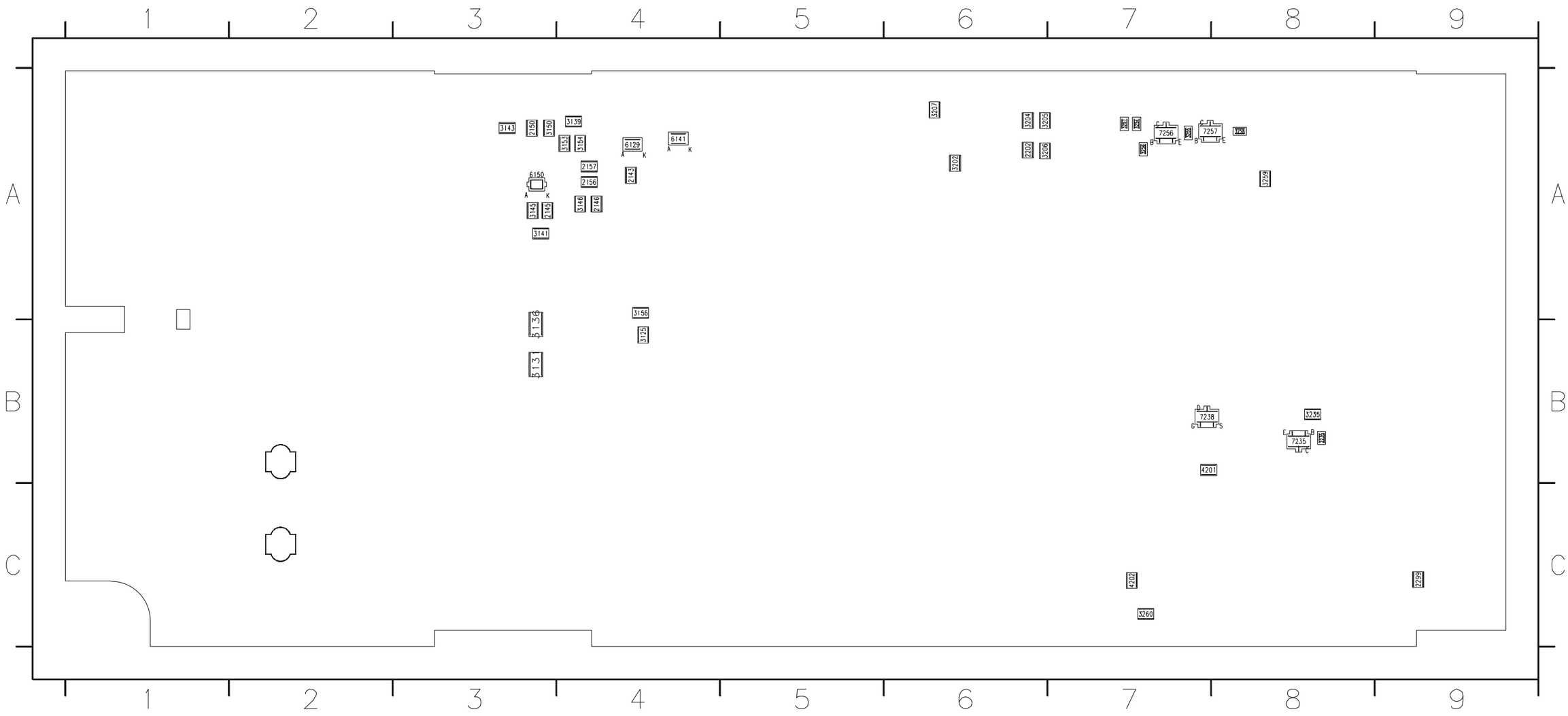
■ PRINTED CIRCUIT BOARD

POWER (Bottom side) (B, G)

The first digit of a component indicates the component type.

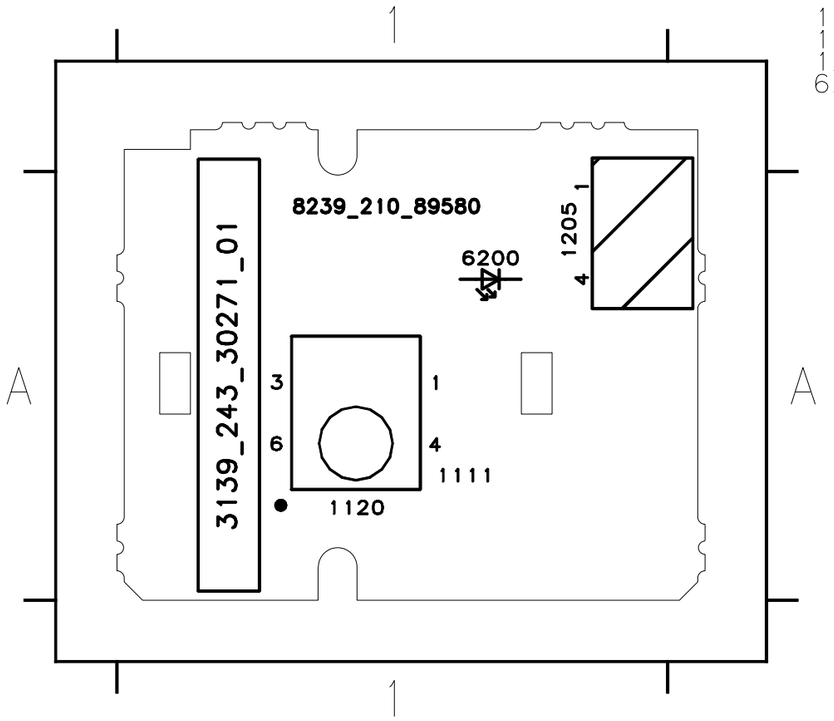
1XXX : Connector	4XXX : SMD jumper	7XXX : Transistor, FET, IC
2XXX : Capacitor	5XXX : Coil	9XXX : Wire jumper
3XXX : Resistor	6XXX : Diode	

2142 A3 2146 A4 2156 A4 2202 A6 2235 B8 3125 B4 3137 A5 3143 A3 3150 A3 3156 A4 3204 A6 3207 A6 3235 B8 3241 B8 3255 A7 3258 A8 4201 B7 6141 A4 7238 B7
2143 A4 2150 A3 2157 A4 2203 A6 2262 B8 3131 B3 3139 A4 3145 A3 3153 A4 3202 A6 3205 A6 3208 A6 3236 B8 3253 A7 3256 A7 3259 A8 4202 C7 6150 A3 7256 A7
2145 A3 2152 A4 2201 A6 2234 B8 2299 C9 3136 B3 3141 A3 3146 A4 3154 A4 3203 A6 3206 A6 3234 B8 3237 B8 3254 A7 3257 A7 3260 C7 6129 A4 7235 B8 7257 A7

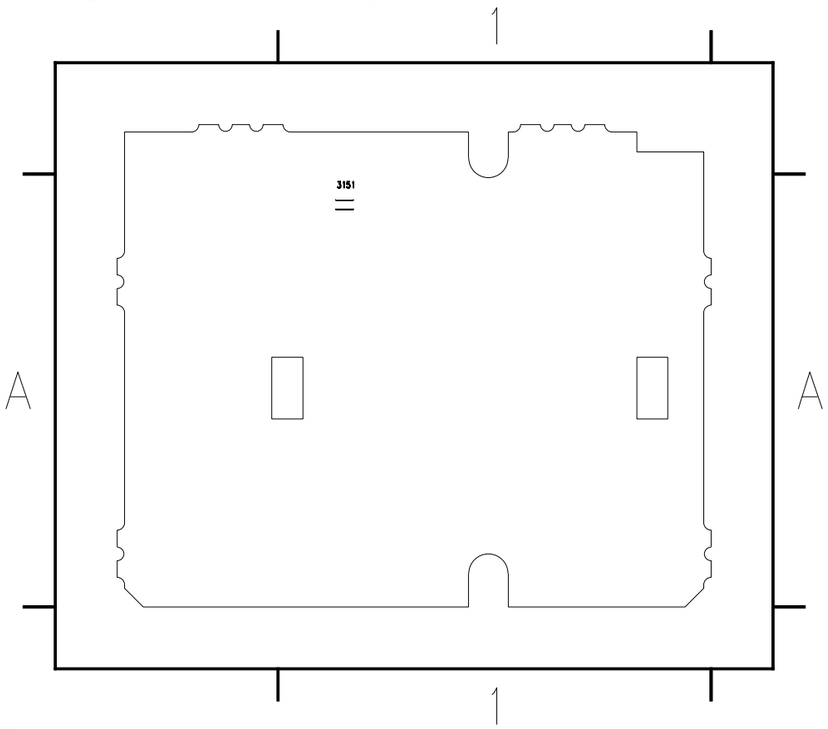


■ PRINTED CIRCUIT BOARD

STANDBY (Component side)

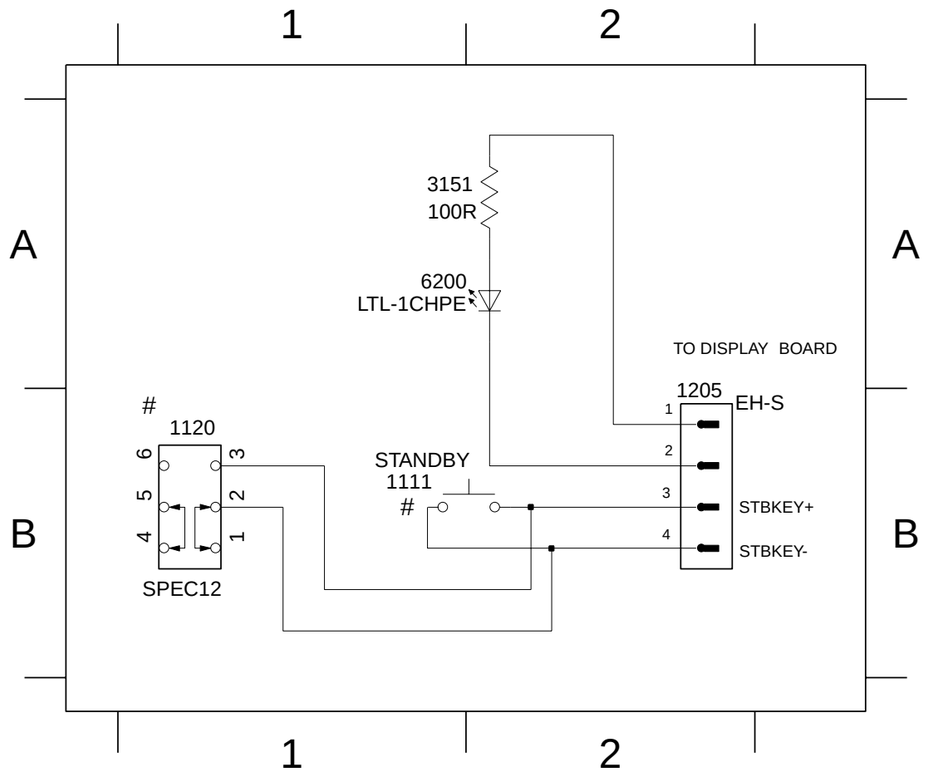


Layout Bare Board Standby (Component Side)



■ SCHEMATIC DIAGRAM

STANDBY



1111 B1
1120 B1
1205 B2
3151 A1
6200 A1
F236 A2
F237 A1
F238 B1
F239 B2
F240 B2

DIVERSITY

#	MODEL USING MECH SWITCH SW	MODEL USING TACT SWITCH SW
1120	YES	
1111		YES

The first digit of a component indicates the component type.

1XXX : Connector	4XXX : SMD jumper	7XXX : Transistor, FET, IC
2XXX : Capacitor	5XXX : Coil	9XXX : Wire jumper
3XXX : Resistor	6XXX : Diode	

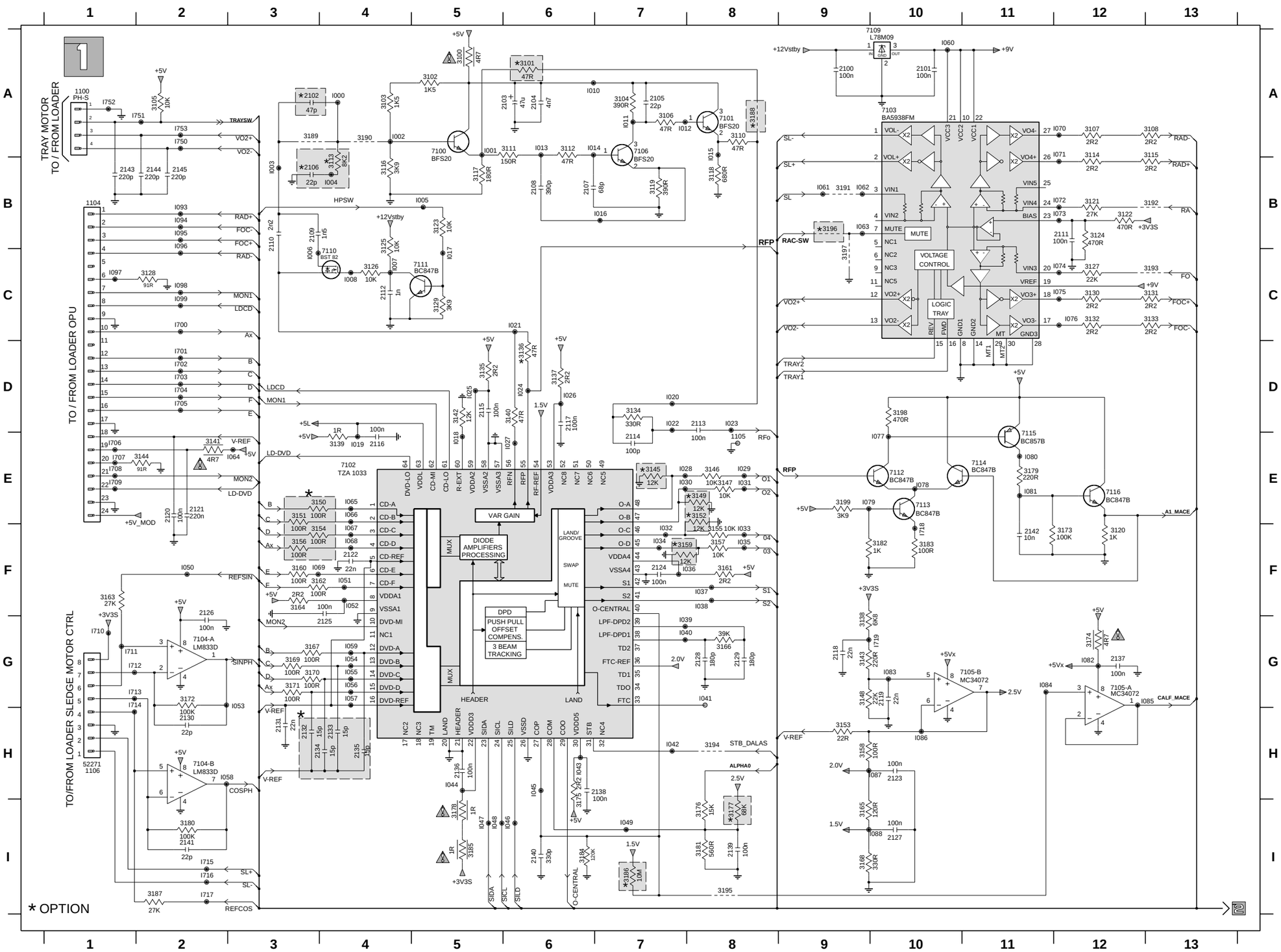
■ SCHEMATIC DIAGRAM

MONO 1/6 (SERVO DALAS)

MONO BOARD only
The second digit of a component indicates the number of the schematic diagram.
E.g. IC7503 is on the schematic diagram 5.
E.g. R3100 is on the schematic diagram 1.

The first digit of a component indicates the component type.

1XXX : Connector	4XXX : SMD jumper	7XXX : Transistor, FET, IC
2XXX : Capacitor	5XXX : Coil	9XXX : Wire jumper
3XXX : Resistor	6XXX : Diode	



1100 A1	3168 I9	I069 F3
1104 B1	3169 G3	I070 A12
1105 E8	3170 G3	I071 A12
1106 H1	3171 G3	I072 B12
2100 A9	3172 G2	I073 B12
2101 A10	3173 F12	I074 C12
2102 A3	3174 G12	I075 C12
2103 A6	3175 I6	I076 C12
2104 A6	3176 I8	I077 E10
2105 A7	3177 I8	I078 E10
2106 B3	3178 I5	I079 E9
2107 B6	3179 E11	I080 E11
2108 B6	3180 I2	I081 E11
2109 B3	3181 I8	I082 G12
2110 B3	3182 F10	I083 G10
2111 B12	3183 F10	I084 G11
2112 C4	3184 I6	I085 G13
2113 D8	3185 I5	I086 H10
2114 E7	3186 I7	I087 H10
2115 D5	3187 I2	I088 I10
2116 E4	3188 A8	I093 B2
2117 D6	3189 A3	I094 B2
2118 G9	3190 A4	I095 B2
2119 G10	3191 B9	I096 B2
2120 E2	3192 B13	I097 C1
2121 E2	3193 C13	I098 C2
2122 F4	3194 H8	I099 C2
2123 H10	3195 I8	I700 C2
2124 F7	3196 B9	I701 D2
2125 G4	3197 C9	I702 D2
2126 F2	3198 D10	I703 D2
2127 I10	3199 E9	I704 D2
2128 G8	7100 A5	I705 D2
2129 G8	7101 A8	I706 E1
2130 H2	7102 E4	I707 E1
2131 H3	7103 A10	I708 E1
2132 H3	7104-A G2	I709 E1
2133 H4	7104-B H2	I710 G1
2134 H4	7105-A G12	I711 G1
2135 H4	7105-B G10	I712 G1
2136 H5	7106 A7	I713 G1
2137 G12	7109 A10	I714 G1
2138 H7	7110 C4	I715 I2
2139 I8	7111 C5	I716 I2
2140 I6	7112 E10	I717 I2
2141 I2	7113 E10	I718 F10
2142 F11	7114 E11	I719 G10
2143 B1	7115 D11	I750 A2
2144 B2	7116 E12	I751 A2
2145 B2	I000 A4	I752 A1
3100 A5	I001 A5	I753 A2
3101 A6	I002 A4	
3102 A5	I003 B3	
3103 A4	I004 B4	
3104 A7	I005 B5	
3105 A2	I006 C3	
3106 A7	I007 C4	
3107 A12	I008 C4	
3108 A13	I010 A6	
3110 A8	I011 A7	
3111 A6	I012 A7	
3112 A6	I013 A6	
3113 B4	I014 A6	
3114 B12	I015 A8	
3115 B13	I016 B7	
3116 B4	I017 C5	
3117 B5	I018 E5	
3118 B8	I019 E4	
3119 B7	I020 D7	
3120 F12	I021 C6	
3121 B12	I022 D7	
3122 B12	I023 D8	
3123 B5	I024 D6	
3124 B12	I025 D5	
3125 B4	I026 D6	
3126 C4	I027 E6	
3127 C12	I028 E7	
3128 C2	I029 E8	
3129 C5	I030 E7	
3130 C12	I031 E8	
3131 C13	I032 F7	
3132 C12	I033 F8	
3133 C13	I034 F7	
3134 D7	I035 F8	
3135 D5	I036 F8	
3136 D6	I037 F8	
3137 D6	I038 F8	
3138 G9	I039 G7	
3139 E4	I040 G7	
3140 D6	I041 G8	
3141 E2	I042 H7	
3142 D5	I043 H6	
3143 G9	I044 H5	
3144 E2	I045 H6	
3145 E7	I046 I6	
3146 E8	I047 I5	
3147 E8	I048 I5	
3148 G9	I049 I7	
3149 E8	I050 F2	
3150 E3	I051 F4	
3151 E3	I052 F4	
3152 E8	I053 H3	
3153 H9	I054 G4	
3154 F3	I055 G4	
3155 F8	I056 G4	
3156 F3	I057 G4	
3157 F8	I058 H2	
3158 H9	I059 G4	
3159 F7	I060 A10	
3160 F3	I061 B9	
3161 F8	I062 B9	
3162 F3	I063 B9	
3163 F1	I064 E3	
3164 F3	I065 E4	
3165 I9	I066 E4	
3166 G8	I067 F4	
3167 G3	I068 F4	

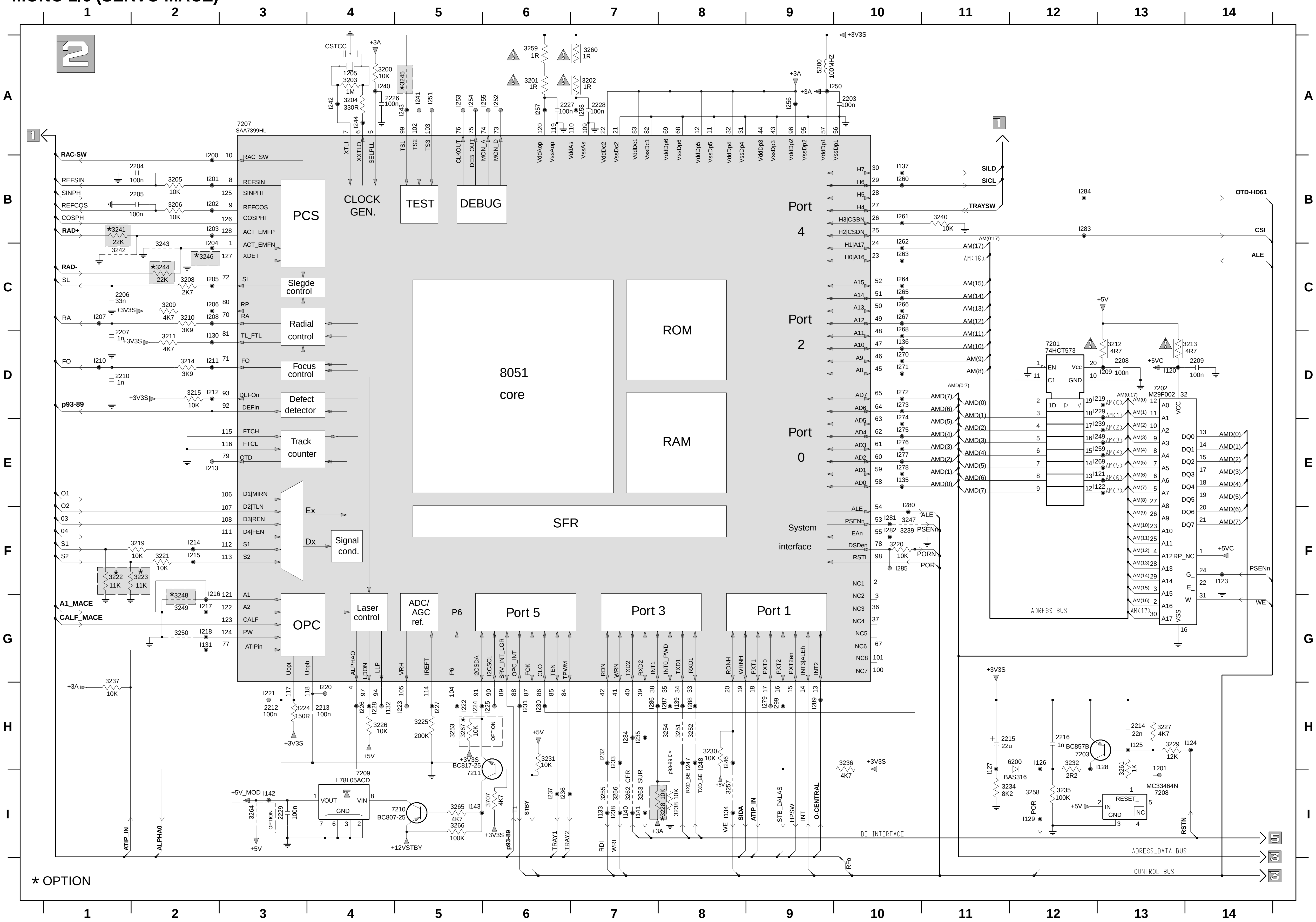
MONO BOARD only
The second digit of a component indicates the number of the schematic diagram.
E.g. IC7503 is on the schematic diagram 5.
E.g. R3100 is on the schematic diagram 1.

The first digit of a component indicates the component type.

1XXX : Connector	4XXX : SMD jumper	7XXX : Transistor, FET, IC
2XXX : Capacitor	5XXX : Coil	9XXX : Wire jumper
3XXX : Resistor	6XXX : Diode	

■ SCHEMATIC DIAGRAM

MONO 2/6 (SERVO MACE)



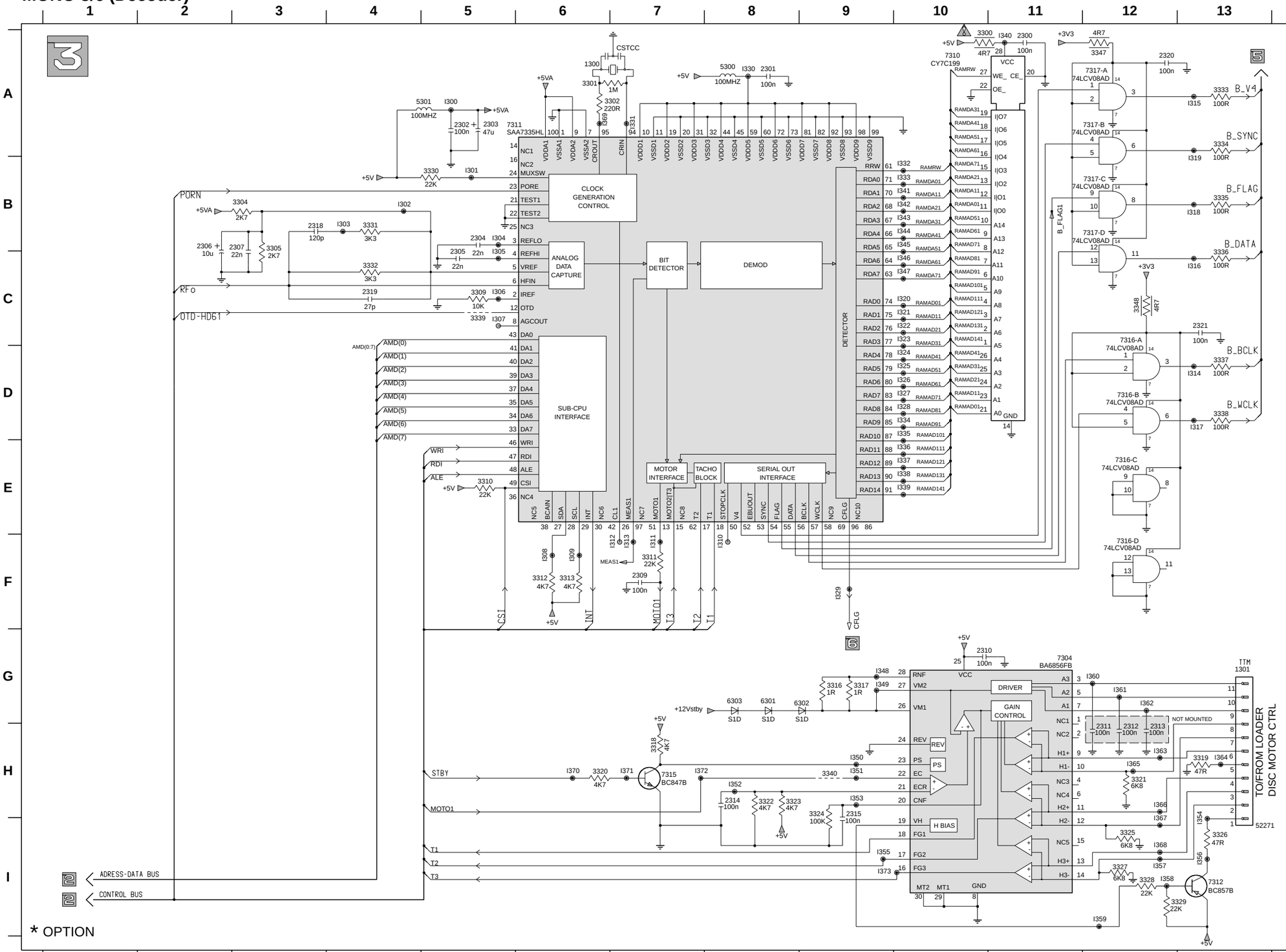
1201 I13
1205 A4
2203 A10
2204 B2
2205 B2
2206 C1
2207 D1
2208 D13
2209 D14
2210 D1
2212 H3
2213 H4
2214 H13
2215 H11
2216 H12
2226 A4
2227 A6
2228 A7
2229 I3
3200 A4
3201 A6
3202 A7
3203 A4
3204 A4
3205 B2
3206 B2
3208 C2
3209 C2
3210 C2
3211 D2
3212 D13
3213 D14
3214 D2
3215 D2
3219 F2
3220 F10
3221 F2
3222 F1
3223 F2
3224 H3
3225 H5
3226 H4
3227 H13
3228 I8
3229 H13
3230 H8
3231 H6
3232 H12
3234 I11
3235 I12
3236 H10
3237 H1
3238 I8
3239 F10
3240 B11
3241 B1
3242 C1
3243 C2
3244 C2
3245 A5
3246 C2
3247 F10
3248 G2
3249 G2
3250 G2
3251 H8
3252 H8
3253 H5
3254 H8
3255 I7
3256 I7
3257 I8
3258 I12
3259 A6
3260 A7
3261 H13
3262 I7
3263 I7
3264 I3
3265 I5
3266 I5
3267 H5
3707 I6
5200 A9
6200 H12
7201 D12
7202 D13
7203 H12
7207 A3
7208 I13
7209 I4
7210 I5
7211 I5
I120 D13
I121 E13
I122 E13
I123 F14
I124 H14
I125 H13
I126 H12
I127 H11
I128 H13
I129 I12
I130 D2
I131 G2
I132 H4
I133 I7
I134 I8
I135 E10
I136 D10
I137 B10
I139 H8
I140 I7
I141 I7
I142 I3
I143 I5
I200 B2
I201 B2
I202 B2
I203 B2
I204 C2
I205 C2
I206 C2
I207 C1
I208 C2
I209 D13
I210 D1
I211 D2
I212 D2
I213 E2
I214 F2
I215 F2
I216 G2
I217 G2
I218 G2
I219 D13
I220 H4
I221 H3
I222 H5
I223 H5
I224 H5
I225 H6
I226 H4
I227 H5
I228 H4
I229 D13
I230 H6
I231 H6
I232 H7
I233 H7
I234 H7
I235 H7
I236 I6
I237 I6
I238 I7
I239 E13
I240 A4
I241 A5
I242 A4
I243 A5
I244 A4
I246 H8
I247 H8
I248 H8
I249 E13
I250 A10
I251 A5
I252 A6
I253 A5
I254 A5
I255 A6
I256 A9
I257 A6
I258 A7
I259 E13
I260 B10
I261 B10
I262 C10
I263 C10
I264 C10
I265 C10
I266 C10
I267 C10
I268 D10
I269 E13
I270 D10
I271 D10
I272 D10
I273 D10
I274 E10
I275 E10
I276 E10
I277 E10
I278 E10
I279 H9
I280 F10
I281 F10
I282 F10
I283 B12
I284 B12
I285 F10
I286 H7
I287 H8
I288 H8
I289 H9
I299 H9

■ SCHEMATIC DIAGRAM

MONO 3/6 (Decoder)

MONO BOARD only
The second digit of a component indicates the number of the schematic diagram.
E.g. IC7503 is on the schematic diagram 5.
E.g. R3100 is on the schematic diagram 1.

The first digit of a component indicates the component type.
1XXX : Connector 4XXX : SMD jumper 7XXX : Transistor, FET, IC
2XXX : Capacitor 5XXX : Coil 9XXX : Wire jumper
3XXX : Resistor 6XXX : Diode



■ SCHEMATIC DIAGRAM

MONO 4/6 (Memory)

MONO BOARD only
The second digit of a component indicates the number of the schematic diagram.
E.g. IC7503 is on the schematic diagram 5.
E.g. R3100 is on the schematic diagram 1.

The first digit of a component indicates the component type.

1XXX : Connector	4XXX : SMD jumper	7XXX : Transistor, FET, IC
2XXX : Capacitor	5XXX : Coil	9XXX : Wire jumper
3XXX : Resistor	6XXX : Diode	

4 MEMORY PART

SYSTEM DATA Bus → 5
SYSTEM ADDRESS Bus → 5
RAM/ROM Interface → 5
SDRAM Interface → 5

7401 Am29LV160BT
7407 MT48LC4M16A2TG
7404 MT48LC1M16A1TG BOTTOM
7405 MT48LC1M16A1TG TOP
7406 PCF8584T
7409 74LVC245APW
7400-A 74LVC00AD
7400-B 74LVC00AD
7400-C 74LVC00AD
7400-D 74LVC00AD
7408-A 74HC04D
7408-B 74HC04D
7408-C 74HC04D
7408-D 74HC04D
7408-E 74HC04D
7408-F 74HC04D

OPTION

* remove res 3571 & 3572 on pg.5

* OPTION

OPTION

1400 I11
2400 G3
2401 B9
2402 B10
2403 B12
2404 B13
2405 B3
2406 B9
2407 B10
2408 B12
2409 B13
2410 B9
2411 B10
2412 B12
2413 B13
2415 G6
2418 G9
2419 G13
2420 G13
2421 B5
2422 B5
2423 B5
2424 B5
2425 B6
2426 B6
2427 B6
2428 G5
2429 I10
2430 I11
2431 G8
2432 H12
3400 I2
3401 I2
3402 G6
3403 F8
3404 F11
3405 E1
3412 E2
3413 E1
3414 E1
3415 F1
3416 F1
3418 H8
3419 B4
3420 G1
3421 G2
3422 G11
3423 H11
3424 H11
5400 G2
5402 G9
5403 G13
7400-A G6
7400-B H6
7400-C H7
7400-D G7
7401 B2
7404 C8
7405 C12
7406 G2
7407 C5
7408-A H10
7408-B H11
7408-C H12
7408-D I11
7408-E H12
7408-F I13
7409 G4
I400 C4
I401 E2
I402 E2
I403 E8
I404 F2
I405 G3
I406 H2
I407 H2
I408 I2
I410 E11
I411 G10
I412 G14
I413 H7
I414 B3

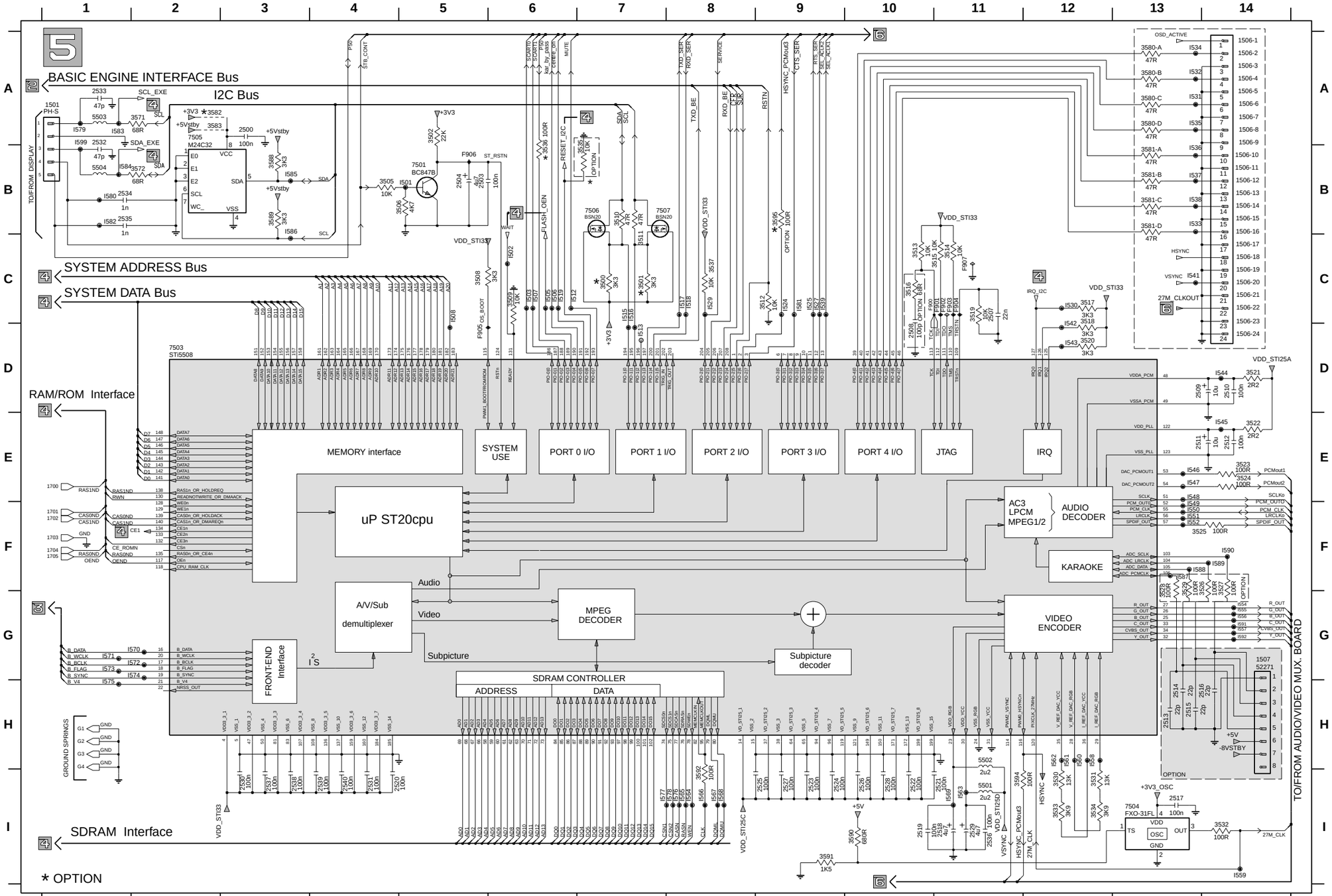
■ SCHEMATIC DIAGRAM

MONO 5/6 (STI 5508)

MONO BOARD only
The second digit of a component indicates the number of the schematic diagram.
E.g. IC7503 is on the schematic diagram 5.
E.g. R3100 is on the schematic diagram 1.

The first digit of a component indicates the component type.

1XXX : Connector	4XXX : SMD jumper	7XXX : Transistor, FET, IC
2XXX : Capacitor	5XXX : Coil	9XXX : Wire jumper
3XXX : Resistor	6XXX : Diode	



Project	Loc. 7503	Remarks	Digital YUV Option	Karaoke Option	PLL_CLK chip Option	PLL Rework Issue
SD3.0	Sti5508/Cut 1.6	Replace 5505	Insert Conn 1506 & R-pk 3580/1	Insert Conn 1507, res 3526-9 & caps 2513-6	As is	Remove 3521; replace 2510 w. jumper
SD3.0	Sti5508/Cut 2.0	Replace 5505	Insert Conn 1506, R-pk 3580/1 & R3707	Insert Conn 1507, res 3526-9 & caps 2513-6	Don't Insert 7616, 5612, 3696-99, 3703, 2618 & 2646	No Rework

G1 H1
G2 H1
G3 H1
G4 H1
1501 A1
1506-1 A14
1506-10 B14
1506-11 B14
1506-12 B14
1506-13 B14
1506-14 B14
1506-15 B14
1506-16 B14
1506-17 C14
1506-18 C14
1506-19 C14
1506-2 A14
1506-20 C14
1506-21 C14
1506-22 C14
1506-23 C14
1506-24 D14
1506-3 A14
1506-4 A14
1506-5 A14
1506-6 A14
1506-7 A14
1506-8 A14
1506-9 A14
1507 G14
1700 E1
1701 F1
1702 F1
1703 F1
1704 F1
1705 F1
2500 A3
2503 B5
2504 B5
2507 C11
2508 D10
2509 D13
2510 D14
2511 E13
2512 E14
2513 H13
2514 H13
2515 H13
2516 H14
2517 I13
2518 I11
2519 I10
2520 I5
2521 I11
2522 I10
2523 I9
2524 I9
2525 I9
2526 I10
2527 I9
2528 I10
2529 I11
2530 I3
2531 I4
2532 A1
2533 A1
2534 B1
2535 B1
2536 I11
2537 I3
2538 I3
2539 I4
2540 I4
3500 C7
3501 C7
3502 A5
3505 B4
3506 B5
3508 C5
3509 C6
3510 B7
3511 C7
3512 C9
3513 C10
3514 C11
3515 C11
3516 C10
3517 C12
3518 D12
3519 C11
3520 D12
3521 D14
3522 E14
3523 E14
3524 E14
3525 F13
3526 F14
3527 F14
3528 F13
3529 F13
3530 I12
3531 I12
3532 I14
3533 I12
3534 I12
3535 B7
3536 B6
3537 C8
3571 A2
3572 B2
3580-A A13
3580-B A13
3580-C A13
3580-D A13
3581-A B13
3581-B B13
3581-C B13
3581-D B13
3582 A2
3583 A2
3588 B3
3589 B3
3592 I8
3594 I11
3595 B9
5501 I11
5502 H11
5503 A1
5504 B1
7501 B5
7503 D2
7504 I13
7505 A2
7506 B7
7507 B8
F900 C10
F901 C11
F902 C11
F903 C11
F904 C11
F905 D5
F906 B5
F907 C11
I501 B5
I502 C6
I503 C6
I505 C6
I506 C6
I507 C6
I508 C5
I513 D7
I515 C7
I516 C7
I517 C8
I518 C8
I519 C6
I524 C9
I525 C9
I527 C9
I529 C8
I530 C12
I531 A13
I532 A13
I533 B13
I534 A13
I535 A13
I536 B13
I537 B13
I538 B13
I539 C9
I541 C13
I542 C12
I543 D12
I546 E13
I547 E13
I548 E13
I549 F13
I550 F13
I551 F13
I552 F13
I554 G14
I555 G14
I556 G14
I557 G14
I558 H12
I559 I14
I560 H12
I561 H12
I562 H12
I563 I11
I564 I8
I565 I8
I566 I8
I567 I8
I568 I8
I569 I11
I570 G2
I571 G1
I572 G2
I573 G1
I574 G2
I575 H1
I576 I8
I577 I7
I578 I8
I579 A1
I580 B1
I581 C9
I582 B1
I583 A1
I584 B1
I585 B3
I586 B3
I587 F13
I588 F13
I589 F14
I590 F14
I591 G14
I592 G14
I599 A1

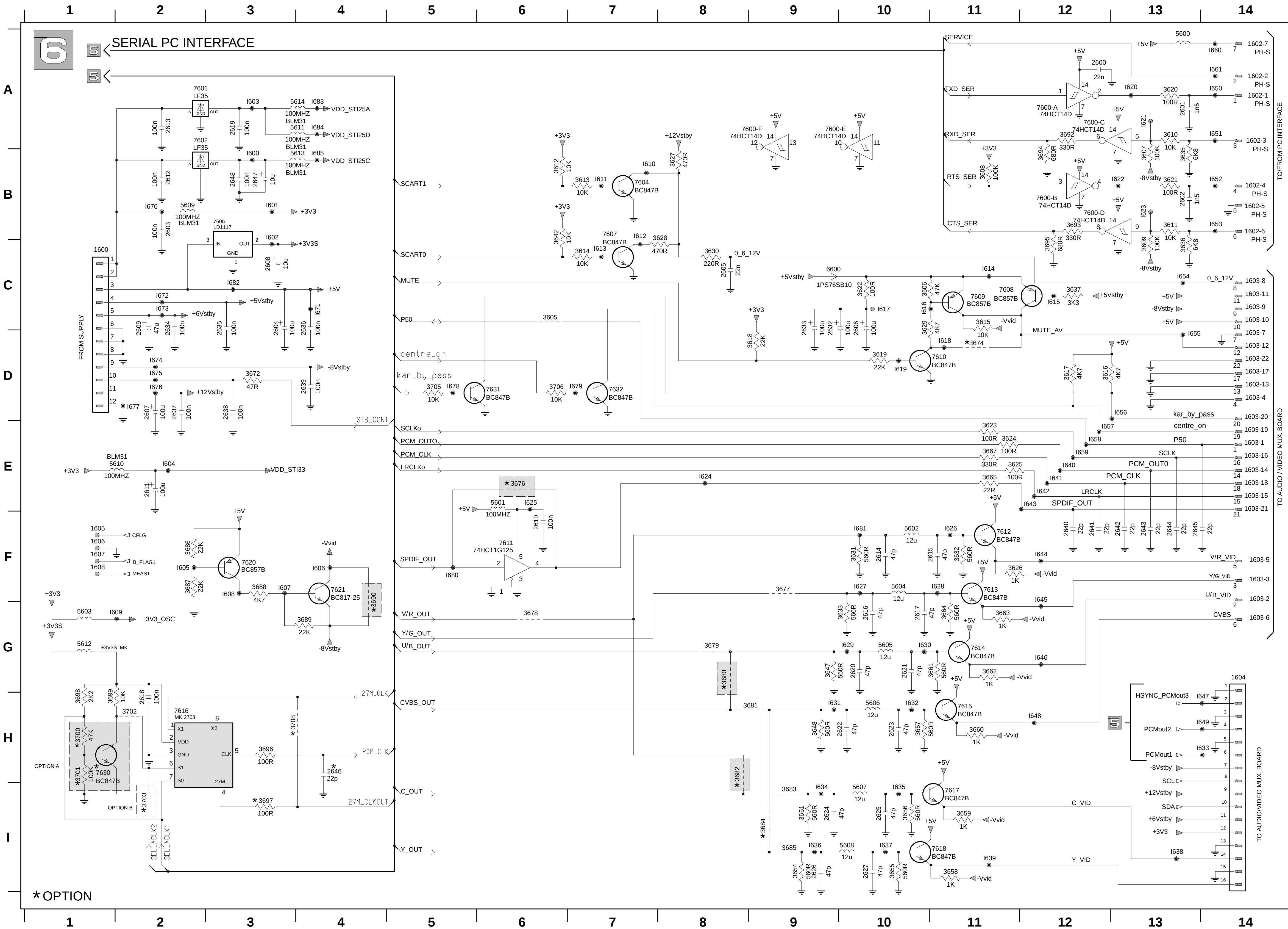
■ SCHEMATIC DIAGRAM

MONO 6/6 (Service interface and Back-end)

MONO BOARD only
The second digit of a component indicates the number of the schematic diagram.
E.g. IC7503 is on the schematic diagram 5.
E.g. R3100 is on the schematic diagram 1.

The first digit of a component indicates the component type.

1XXX : Connector	4XXX : SMD jumper	7XXX : Transistor, FET, IC
2XXX : Capacitor	5XXX : Coil	9XXX : Wire jumper
3XXX : Resistor	6XXX : Diode	



The components in the "Option A" block ie. x'tor 7630, res. 3700, 3701 are not required anymore.
It was originally used in the Gapfiller project.

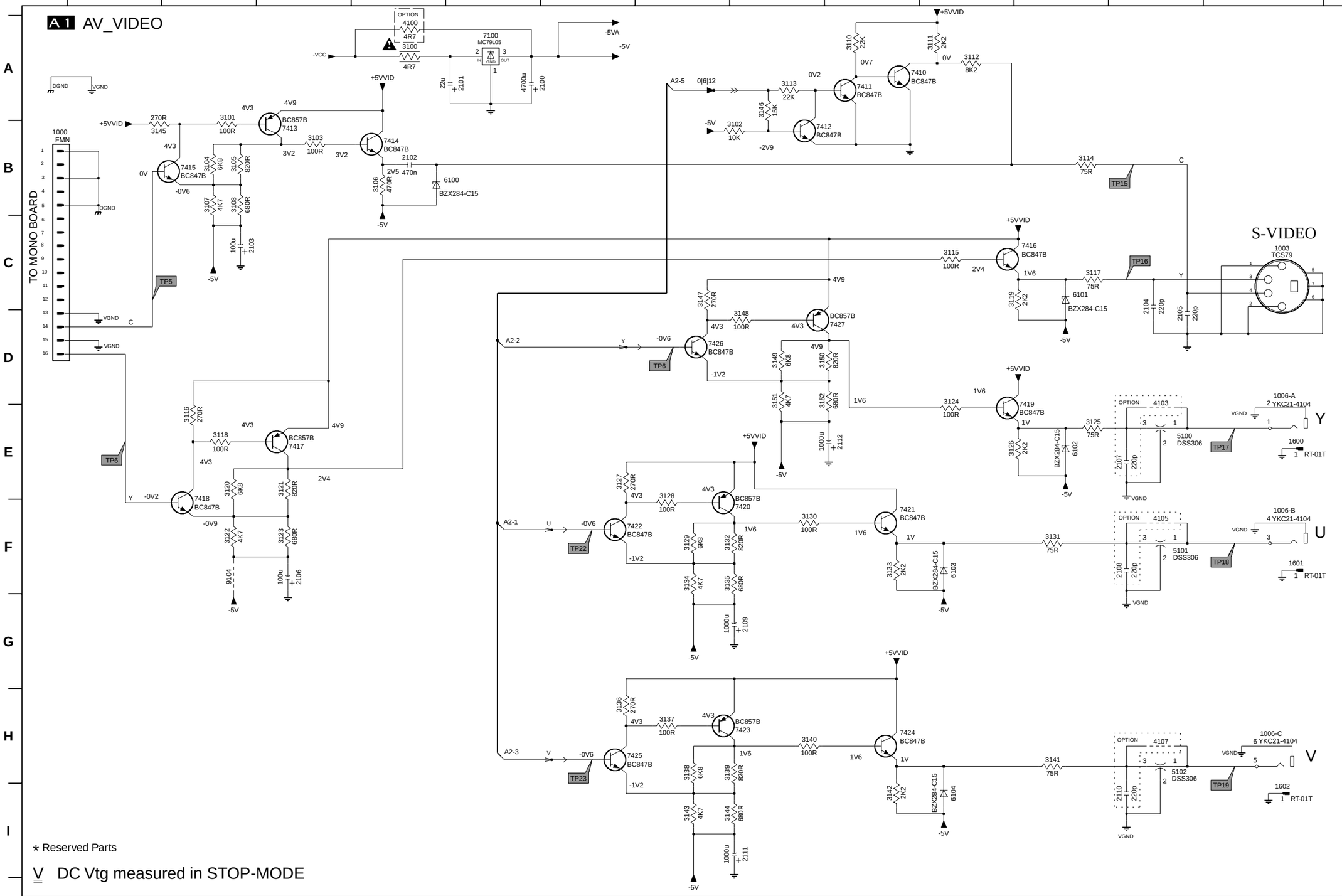
1600 C1
1602-1 A14
1602-2 A14
1602-3 A14
1602-4 B14
1602-5 B14
1602-6 B14
1602-7 A14
1603-1 E14
1603-10 C14
1603-11 C14
1603-12 D14
1603-13 D14
1603-14 E14
1603-15 E14
1603-16 E14
1603-17 D14
1603-18 E14
1603-19 E14
1603-2 F14
1603-20 D14
1603-21 E14
1603-22 D14
1603-3 F14
1603-4 D14
1603-5 F14
1603-6 G14
1603-7 D14
1603-8 C14
1603-9 C14
1604 G14
1605 F1
1606 F1
1607 F1
1608 F1
2600 A12
2601 A13
2602 B13
2603 B2
2604 C3
2605 C8
2606 C10
2607 D2
2608 C3
2609 C2
2610 F6
2611 E2
2612 B2
2613 A2
2614 F10
2615 F11
2616 G10
2617 G10
2618 H2
2619 A3
2620 G10
2621 G10
2622 H10
2623 H10
2624 I9
2625 I10
2626 I9
2627 I10
2632 C9
2633 C9
2634 C2
2635 C3
2636 C4
2637 D2
2638 D3
2639 D4
2640 F12
2641 F12
2642 F13
2643 F13
2644 F13
2645 F13
2646 H4
2647 B3
2648 B3
3605 C6
3606 C10
3607 B13
3608 B11
3609 C13
3610 A13
3611 B13
3612 B6
3613 B7
3614 C7
3615 C11
3616 D12
3617 D12
3618 D9
3619 D10
3620 A13
3621 B13
3622 C10
3623 E11
3624 E11
3625 E11
3626 F11
3627 B8
3628 C8
3629 C10
3630 C8
3631 F10
3632 F11
3633 G10
3635 B13
3636 C13
3637 C12
3642 B6
3647 G9
3648 H9
3651 I9
3654 I9
3655 I10
3656 I10
3657 H10
3658 I11
3659 I11
3660 H11
3661 G11
3662 G11
3663 G11
3664 G11
3665 E11
3667 E11
3672 D3
3674 D11
3676 E6
3677 F9
3678 G6
3679 G8
3680 G8
3681 H9
3682 H8
3683 I9
3684 I9
3685 I9
3686 F2
3687 F2
3688 F3
3689 G4
3690 F4
3692 A12
3693 B12
3694 B12
3695 C12
3696 H3
3697 I3
3698 H1
3699 H1
3700 H1
3701 H1
3702 H2
3703 I2
3705 D5
3706 D6
3708 H3
5600 A13
5601 E6
5602 F10
5603 G1
5604 F10
5605 G10
5606 H10
5607 I10
5608 I10
5609 B2
5610 E2
5611 A4
5612 G1
5613 B4
5614 A4
6600 C9
7600-A A12
7600-B B12
7600-C A12
7600-D B12
7600-E A10
7600-F A9
7601 A2
7602 A2
7604 B7
7605 B3
7607 B7
7608 C11
7609 C11
7610 D11
7611 F6
7612 F11
7613 F11
7614 G11
7615 H11
7616 H2
7617 I11
7618 I11
7620 F3
7621 F4
7630 H1
7631 D6
7632 D7
I600 B3
I601 B3
I602 B3
I603 A3
I604 E2
I605 F2
I606 F4
I607 F3
I608 F3
I609 G2
I610 B7
I611 B7
I612 B7
I613 C7
I614 C11
I615 C12
I616 C10
I617 C10
I618 D11
I619 D10
I620 A13
I621 A13
I622 B13
I623 B13
I624 E8
I625 E6
I626 F11
I627 F10
I628 F11
I629 G10
I630 G10
I631 H9
I632 H10
I633 H14
I634 I9
I635 I10
I636 I9
I637 I10
I638 I13
I639 I11
I640 E12
I641 E12
I642 E12
I643 E12
I644 F12
I645 F12
I646 G12
I647 H14
I648 H12
I649 H14
I650 A14
I651 A14
I652 B14
I653 B14
I654 C13
I655 D13
I656 D13
I657 E12
I658 E12
I659 E12
I660 A14
I661 A14
I670 B2
I671 C4
I672 C2
I673 C2
I674 D2
I675 D2
I676 D2
I677 D2
I678 D5
I679 D7
I680 F5
I681 F10
I682 C3
I683 A4
I684 A4
I685 B4

■ SCHEMATIC DIAGRAM

AV (U, C, A, R, T, P) 1/2

The first digit of a component indicates the component type.

1XXX : Connector	4XXX : SMD jumper	7XXX : Transistor, FET, IC
2XXX : Capacitor	5XXX : Coil	9XXX : Wire jumper
3XXX : Resistor	6XXX : Diode	



1000 B1
1003 C13
1006-A D13
1006-B F13
1006-C H13
1600 E13
1601 F13
1602 I13
2100 A5
2101 A5
2102 B4
2103 C2
2104 C12
2105 D12
2106 F3
2107 E12
2108 F12
2109 G8
2110 I12
2111 I8
2112 E9
3100 A4
3101 A2
3102 B8
3103 B3
3104 B2
3105 B2
3106 B4
3107 B2
3108 B2
3110 A9
3111 A10
3112 A10
3113 A8
3114 B11
3115 C10
3116 E2
3117 C11
3118 E2
3119 C10
3120 E2
3121 E3
3122 F2
3123 F3
3124 D10
3125 E11
3126 E10
3127 E6
3128 E7
3129 F7
3130 F8
3131 F11
3132 F7
3133 F9
3134 F7
3135 F7
3136 H6
3137 H7
3138 H7
3139 H7
3140 H8
3141 H11
3142 I9
3143 I7
3144 I7
3145 B1
3146 A8
3147 C7
3148 D8
3149 D8
3150 D8
3151 D8
3152 D8
3153 A6
3154 A6
4100 A4
4103 E12
4105 F12
4107 H12
5100 E12
5101 F12
5102 H12
6100 B5
6101 C11
6102 E11
6103 F10
6104 I10
7100 A5
7410 A9
7411 A9
7412 B8
7413 B3
7414 B4
7415 B2
7416 C11
7417 E3
7418 F2
7419 E11
7420 F8
7421 F9
7422 F6
7423 H8
7424 H9
7425 H6
7426 D7
7427 D9
9104 F2

* Reserved Parts

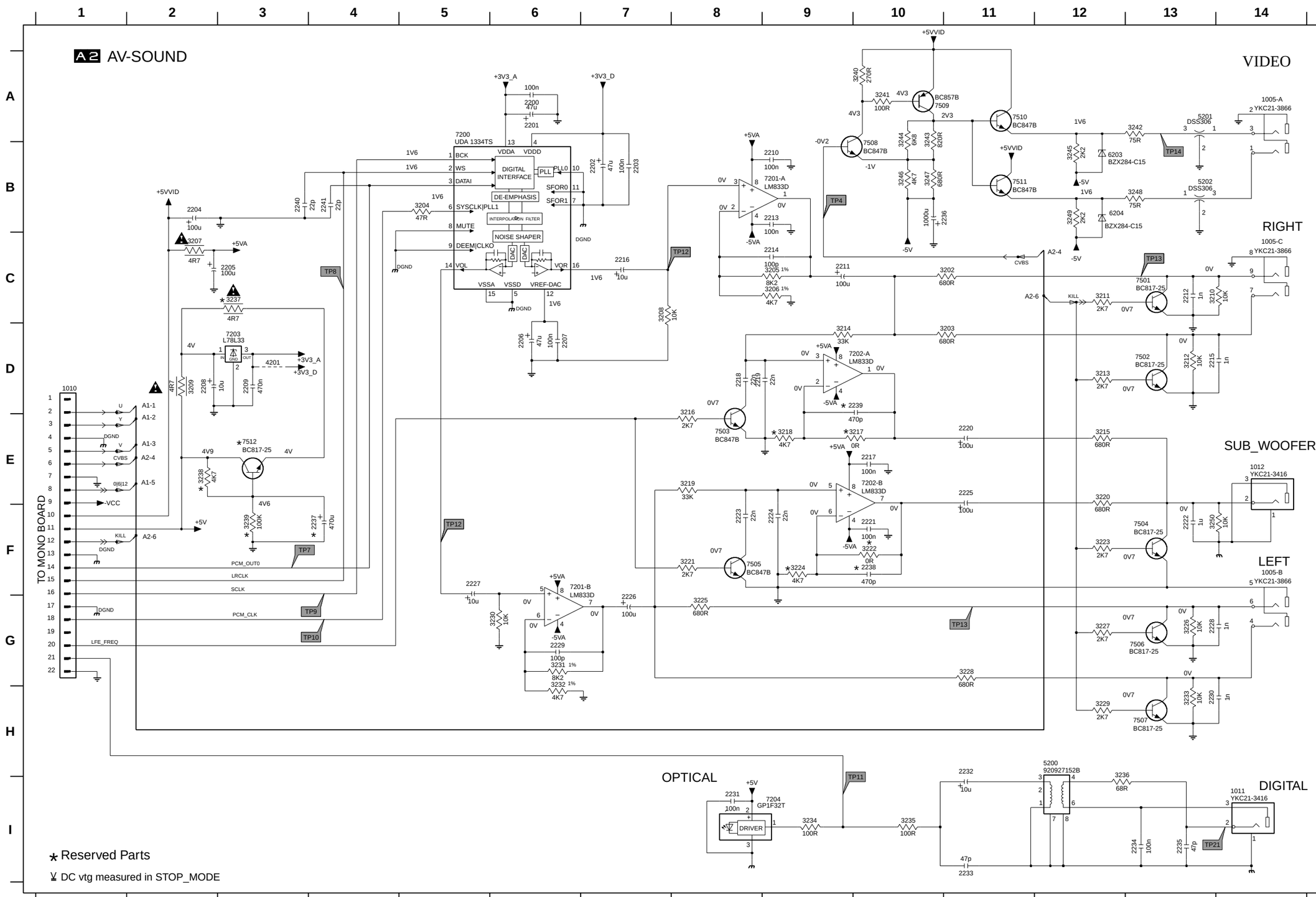
V DC Vtg measured in STOP-MODE

■ SCHEMATIC DIAGRAM

AV (U, C, A, R, T, P) 2/2

The first digit of a component indicates the component type.

1XXX : Connector	4XXX : SMD jumper	7XXX : Transistor, FET, IC
2XXX : Capacitor	5XXX : Coil	9XXX : Wire jumper
3XXX : Resistor	6XXX : Diode	



1005-A A14	7505 F8
1005-B F14	7506 G13
1005-C C14	7507 H13
1010 D1	7508 B10
1011 I14	7509 A10
1012 E14	7510 A11
2200 A6	7511 B11
2201 A6	7512 E3
2202 B7	
2203 B7	
2204 B2	
2205 C3	
2206 D6	
2207 D6	
2208 D2	
2209 D3	
2210 B9	
2211 C9	
2212 C13	
2213 B9	
2214 C9	
2215 D13	
2216 C7	
2217 E10	
2218 D8	
2219 D8	
2220 E11	
2221 F10	
2222 F13	
2223 F8	
2224 F9	
2225 E11	
2226 G7	
2227 F5	
2228 G13	
2229 G6	
2230 H13	
2231 I8	
2232 H11	
2233 I11	
2234 I13	
2235 I13	
2236 B10	
2237 F4	
2238 F10	
2239 D10	
2240 B3	
2241 B4	
3202 C11	
3203 D11	
3204 B5	
3205 C9	
3206 C9	
3207 C2	
3208 C7	
3209 D2	
3210 C13	
3211 C12	
3212 D13	
3213 D12	
3214 D9	
3215 E12	
3216 E8	
3217 E10	
3218 E9	
3219 E8	
3220 E12	
3221 F8	
3222 F10	
3223 F12	
3224 F9	
3225 G8	
3226 G13	
3227 G12	
3228 G11	
3229 H12	
3230 G6	
3231 G6	
3232 H6	
3233 H13	
3234 I9	
3235 I10	
3236 I12	
3237 C3	
3238 E2	
3239 F3	
3240 A10	
3241 A10	
3242 A13	
3243 A10	
3244 A10	
3245 B12	
3246 B10	
3247 B10	
3248 B13	
3249 B12	
3250 F13	
4201 D3	
5200 H12	
5201 A13	
5202 B13	
6203 B12	
6204 B12	
7200 A5	
7201-A B9	
7201-B F6	
7202-A D9	
7202-B E10	
7203 D3	
7204 I9	
7501 C13	
7502 D13	
7503 E8	
7504 F13	

■ SCHEMATIC DIAGRAM

AV (B, G) 1/2

The first digit of a component indicates the component type.

1XXX : Connector	4XXX : SMD jumper	7XXX : Transistor, FET, IC
2XXX : Capacitor	5XXX : Coil	9XXX : Wire jumper
3XXX : Resistor	6XXX : Diode	

A 1 AV_VIDEO

SCART

S-VIDEO

TO MONO BOARD

* Reserved

⊻ DC vtg measured in STOP_MODE

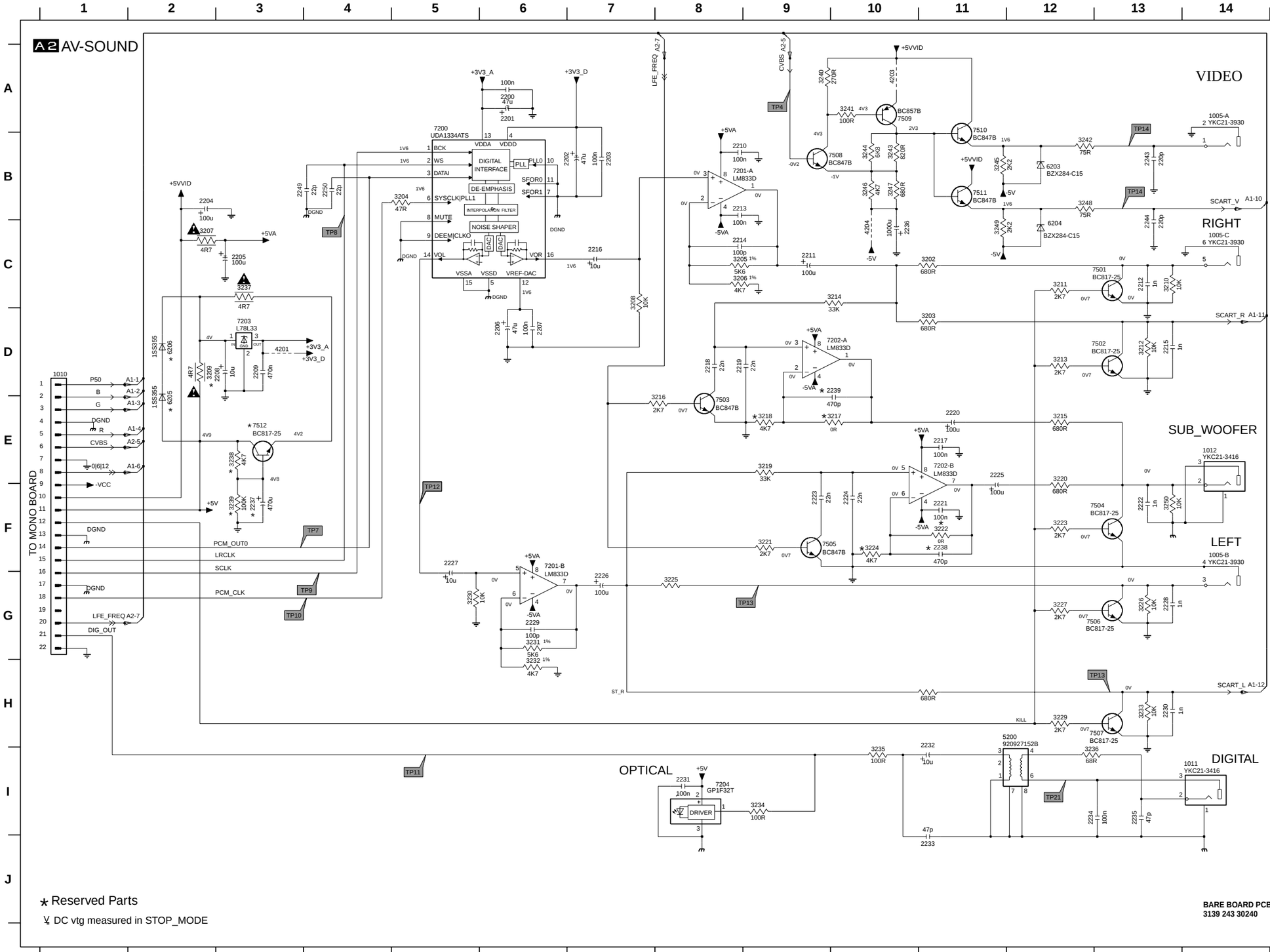
1001 B1
1002 B14
1003 H13
1004 A14
2100 B3
2101 B4
2103 B8
2104 E8
2105 D12
2106 D12
2107 F5
2108 F4
2109 G8
2110 H12
2111 B11
2112 C13
2113 H12
2114 I4
2115 C11
2116 C11
2117 D11
3100 A3
3102 B3
3111 A7
3113 A7
3114 A8
3115 B8
3116 B7
3117 B9
3118 B8
3119 B7
3120 A10
3121 C7
3122 C7
3123 D8
3124 D10
3125 D7
3126 D7
3127 D9
3128 D7
3129 D7
3130 B12
3131 F7
3132 F7
3133 F8
3134 F10
3135 F7
3136 F7
3137 F9
3138 G7
3139 G7
3140 C5
3141 C4
3142 C5
3143 C3
3144 D3
3145 D2
3146 D13
3147 E12
3148 E12
3149 F11
3150 E2
3151 E3
3152 E4
3153 F3
3154 F4
3155 F5
3156 F3
3157 F4
3158 H11
3159 H2
3160 G2
3161 H3
3162 H4
3163 H11
3164 H3
3165 H4
3166 H5
3167 H3
3168 H4
3169 B4
3170 B4
4100 A8
4101 C8
4102 B7
4103 E4
4104 E7
4105 F8
4106 F3
4107 G7
4108 G4
4109 I3
6102 B10
6103 B11
6104 D10
6105 F10
6106 F5
6107 H5
7100 A5
7401 C5
7402 C4
7403 D4
7404 E4
7405 E3
7406 E5
7407 H4
7408 H3
7409 H5
7413 A8
7414 A7
7415 A9
7416 C8
7417 D7
7418 D9
7419 D11
7420 F8
7421 F7
7422 F9
7423 F12

■ SCHEMATIC DIAGRAM

AV (B, G) 2/2

The first digit of a component indicates the component type.

1XXX : Connector	4XXX : SMD jumper	7XXX : Transistor, FET, IC
2XXX : Capacitor	5XXX : Coil	9XXX : Wire jumper
3XXX : Resistor	6XXX : Diode	



∗ Reserved Parts

⏚ DC vtg measured in STOP_MODE

1005-A A14
1005-B F14
1005-C C14
1010 D1
1011 I14
1012 E14
1013 B1
2200 A6
2201 A6
2202 B7
2203 B7
2204 B2
2205 C3
2206 D6
2207 D6
2208 D3
2209 D3
2210 B8
2211 C9
2212 C13
2213 B8
2214 C8
2215 D13
2216 C7
2217 E11
2218 D8
2219 D8
2220 E11
2221 F11
2222 F13
2223 F9
2224 F10
2225 E11
2226 G7
2227 F5
2228 G13
2229 G6
2230 H13
2231 I8
2232 H11
2233 J11
2234 I12
2235 I13
2236 C10
2237 F3
2238 F11
2239 D10
2240 G10
2241 G10
2242 C1
2243 B13
2244 C13
2245 B1
2246 B1
2247 C1
2248 C1
2249 B3
2250 B4
3202 C11
3203 D11
3204 B5
3205 C8
3206 C8
3207 C2
3208 C7
3209 D2
3210 C13
3211 C12
3212 D13
3213 D12
3214 C10
3215 E12
3216 E8
3217 E10
3218 E9
3219 E9
3220 E12
3221 F9
3222 F11
3223 F12
3224 F10
3225 G8
3226 G13
3227 G12
3228 H11
3229 H12
3230 G5
3231 G6
3232 H6
3233 H13
3234 I9
3235 I10
3236 I12
3237 C3
3238 E3
3239 F3
3240 A9
3241 A10
3242 B12
3243 B10
3244 B10
3245 B11
3246 B10
3247 B10
3248 B12
3249 C11
3250 F13
3251 D12
3252 G11
4201 D3
4203 A10
4204 C10
5200 H11
6203 B12
6204 C12
6205 E2
6206 D2
7200 A5
7201-A B8
7201-B F6
7202-A D9
7202-B E11
7203 D3
7204 I8
7205-A D11

■ SCHEMATIC DIAGRAM

DISPLAY

The first digit of a component indicates the component type.

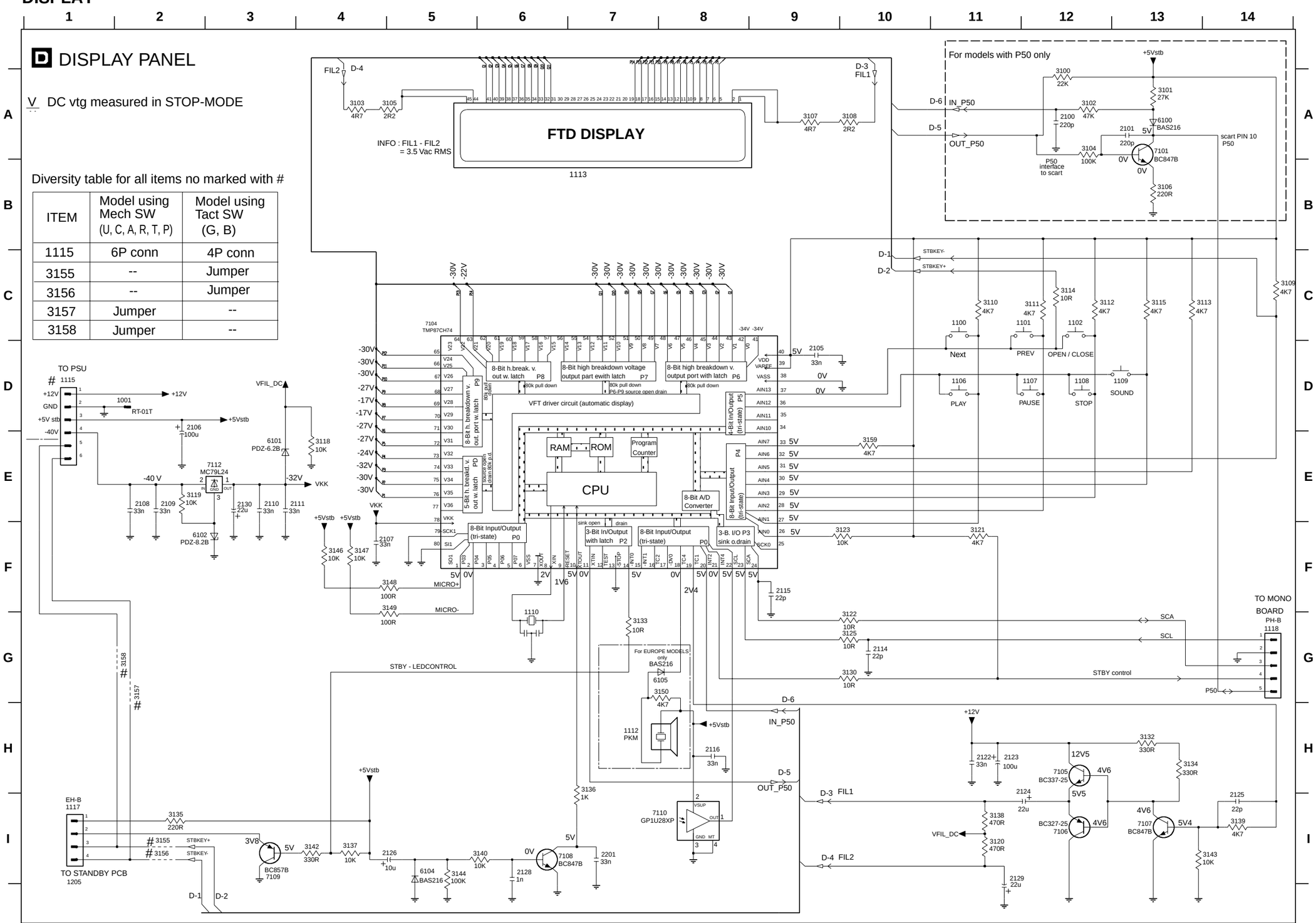
1XXX : Connector
2XXX : Capacitor
3XXX : Resistor
4XXX : SMD jumper
5XXX : Coil
6XXX : Diode
7XXX : Transistor, FET, IC
9XXX : Wire jumper

DISPLAY PANEL

V DC vtg measured in STOP-MODE

Diversity table for all items no marked with #

ITEM	Model using Mech SW (U, C, A, R, T, P)	Model using Tact SW (G, B)
1115	6P conn	4P conn
3155	--	Jumper
3156	--	Jumper
3157	Jumper	--
3158	Jumper	--



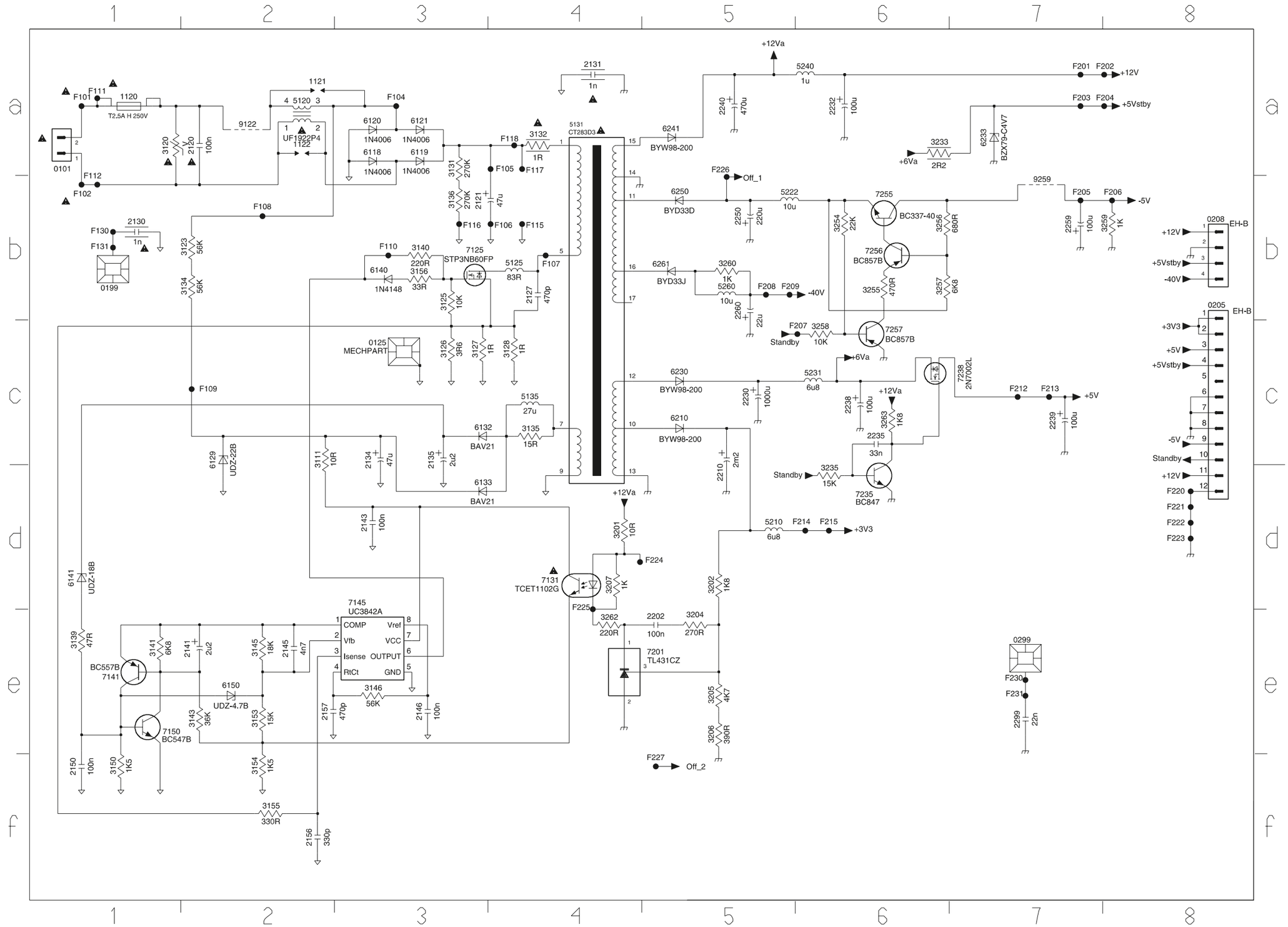
1001 D2
1100 C11
1101 C12
1102 C12
1106 D11
1107 D12
1108 D12
1109 D13
1110 G6
1112 H7
1113 A7
1115 D1
1117 I1
1118 G14
2100 A12
2101 A13
2105 D9
2106 D2
2107 F4
2108 E2
2109 E2
2110 E3
2111 E4
2114 G10
2115 F9
2116 H8
2122 H11
2123 H11
2124 I12
2125 I14
2126 I5
2128 I6
2129 I11
2130 E3
2201 I7
3100 A12
3101 A13
3102 A12
3103 A4
3104 A12
3105 A5
3106 B13
3107 A9
3108 A10
3109 C14
3110 C11
3111 C12
3112 C12
3113 C14
3114 C12
3115 C13
3118 E4
3119 E2
3120 I11
3121 F11
3122 G10
3123 F10
3125 G10
3130 G10
3132 H13
3133 G7
3134 H13
3135 I2
3136 H7
3137 I4
3138 I11
3139 I14
3140 I6
3142 I4
3143 I14
3144 I5
3146 F4
3147 F4
3148 F5
3149 F5
3150 G8
3155 I2
3156 I2
3157 G2
3158 G2
3159 E10
6100 A13
6101 E3
6102 F2
6104 I5
6105 G8
7101 A13
7104 C5
7105 H12
7106 I12
7107 I13
7108 I6
7109 I3
7110 I8
7112 E3
F102 D5
F103 D5
F108 A5
F109 A9
F119 C7
F120 C7
F121 C7
F122 C8
F123 C8
F124 C8
F125 C5
F129 C7
F130 C7
F131 C7
F132 C8
F133 C8
F137 D5
F138 D5
F139 D5
F140 H8
F141 D5
F142 D9
F143 A12
F144 A12
F145 G8
F146 D3
F147 E3
F148 D1
F149 D5
F150 E5
F151 E5
F152 E9
F153 C5
F154 E5
F155 E9
F156 E5
F157 E9
F158 E5
F159 E9
F160 E9
F161 E9
F162 I6
F163 I7
F164 H6
F165 A13
F166 A13
F167 B13
F168 F1
F169 F1
F183 I1
F184 I1
F186 E9
F203 D2
F205 E1
F208 G13
F209 G13
F210 G13
F228 D1
F233 D9
F234 I1
F235 I1
F241 G14
F242 G14

■ SCHEMATIC DIAGRAM

POWER (B, G)

The first digit of a component indicates the component type.

1XXX : Connector	4XXX : SMD jumper	7XXX : Transistor, FET, IC
2XXX : Capacitor	5XXX : Coil	9XXX : Wire jumper
3XXX : Resistor	6XXX : Diode	



PARTS LIST

■ ELECTRICAL PARTS

■ **WARNING**

Components having special characteristics are marked ⚠ and must be replaced with parts having specifications equal to those originally installed.

- For the parts No. of the chip carbon resistors, refer to last page of ELECTRICAL PARTS LIST.

ABBREVIATIONS IN THIS LIST ARE AS FOLLOWS:

C.A.EL.CHP	: CHIP ALUMI.ELECTROLYTIC CAP
C.CE	: CERAMIC CAP
C.CE.ARRAY	: CERAMIC CAP ARRAY
C.CE.CHP	: CHIP CERAMIC CAP
C.CE.ML	: MULTILAYER CERAMIC CAP
C.CE.M.CHP	: CHIP MULTILAYER CERAMIC CAP
C.CE.SAFTY	: RECOGNIZED CERAMIC CAP
C.CE.TUBLR	: CERAMIC TUBULAR CAP
C.CE.SMI	: SEMI CONDUCTIVE CERAMIC CAP
C.EL	: ELECTROLYTIC CAP
C.MICA	: MICA CAP
C.ML.FLM	: MULTILAYER FILM CAP
C.MP	: METALLIZED PAPER CAP
C.MYLAR	: MYLAR FILM CAP
C.MYLAR.ML	: MULTILAYER MYLAR FILM CAP
C.PAPER	: PAPER CAPACITOR
C.PLS	: POLYSTYRENE FILM CAP
C.POL	: POLYESTER FILM CAP
C.POLY	: POLYETHYLENE FILM CAP
C.PP	: POLYPROPYLENE FILM CAP
C.TNTL	: TANTALUM CAP
C.TNTL.CHP	: CHIP TANTALUM CAP
C.TRIM	: TRIMMER CAP
CN	: CONNECTOR
CN.BS.PIN	: CONNECTOR,BASE PIN
CN.CANNON	: CONNECTOR,CANNON
CN.DIN	: CONNECTOR,DIN
CN.FLAT	: CONNECTOR,FLAT CABLE
CN.POST	: CONNECTOR,BASE POST
COIL.MX.AM	: COIL,AM MIX
COIL.AT.FM	: COIL,FM ANTENNA
COIL.DT.FM	: COIL,FM DETECT
COIL.MX.FM	: COIL,FM MIX
COIL,OUTPT	: OUTPUT COIL
DIOD.ARRAY	: DIODE ARRAY
DIODE.BRG	: DIODE BRIDGE
DIODE.CHP	: CHIP DIODE
DIODE.VAR	: VARACTOR DIODE
DIOD.Z.CHP	: CHIP ZENER DIODE
DIODE.ZENR	: ZENER DIODE
DSCR.CE	: CERAMIC DISCRIMINATOR
FER.BEAD	: FERRITE BEADS
FER.CORE	: FERRITE CORE
FET.CHP	: CHIP FET
FL.DSPLY	: FLUORESCENT DISPLAY
FLTR.CE	: CERAMIC FILTER
FLTR.COMB	: COMB FILTER MODULE
FLTR.LC.RF	: LC FILTER,EMI
GND.MTL	: GROUND PLATE
GND.TERM	: GROUND TERMINAL
HOLDER.FUS	: FUSE HOLDER
IC.PRTCT	: IC PROTECTOR
JUMPER.CN	: JUMPER CONNECTOR
JUMPER.TST	: JUMPER,TEST POINT
L.DTCT	: LIGHT DETECTING MODULE
L.EMIT	: LIGHT EMITTING MODULE
LED.DSPLY	: LED DISPLAY
LED.INFRD	: LED,INFRARED
MODUL.RF	: MODULATOR,RF
PHOT.CPL	: PHOTO COUPLER
PHOT.INTR	: PHOTO INTERRUPTER
PHOT.RFLCT	: PHOTO REFLECTOR
PIN.TEST	: PIN,TEST POINT
PLST.RIVET	: PLASTIC RIVET
R.ARRAY	: RESISTOR ARRAY
R.CAR.	: CARBON RESISTOR
R.CAR.CHP	: CHIP RESISTOR
R.CAR.FP	: FLAME PROOF CARBON RESISTOR
R.FUS	: FUSABLE RESISTOR
R.MTL.CHP	: CHIP METAL FILM RESISTOR
R.MTL.FLM	: METAL FILM RESISTOR
R.MTL.OXD	: METAL OXIDE FILM RESISTOR
R.MTL.PLAT	: METAL PLATE RESISTOR
RSNR.CE	: CERAMIC RESONATOR
RSNR.CRYS	: CRYSTAL RESONATOR
R.TW.CEM	: TWIN CEMENT FIXED RESISTOR
R.WW	: WIRE WOUND RESISTOR
SCR.BND.HD	: BIND HEAD B-TITE SCREW
SCR.BW.HD	: BW HEAD TAPPING SCREW
SCR.CUP	: CUP TITE SCREW
SCR.TERM	: SCREW TERMINAL
SCR.TR	: SCREW,TRANSISTOR
SUPRT.PCB	: SUPPORT,P.C.B.
SURG.PRTCT	: SURGE PROTECTOR
SW.TACT	: TACT SWITCH
SW.LEAF	: LEAF SWITCH
SW.LEVER	: LEVER SWITCH
SW.MICRO	: MICRO SWITCH
SW.PUSH	: PUSH SWITCH
SW.RT.ENC	: ROTARY ENCODER
SW.RT.MTR	: ROTARY SWITCH WITH MOTOR
SW.RT	: ROTARY SWITCH
SW.SLIDE	: SLIDE SWITCH
TERM.SP	: SPEAKER TERMINAL
TERM.WRAP	: WRAPPING TERMINAL
THRMST.CHP	: CHIP THERMISTOR
TR.CHP	: CHIP TRANSISTOR
TR.DGT	: DIGITAL TRANSISTOR
TR.DGT.CHP	: CHIP DIGITAL TRANSISTOR
TRANS	: TRANSFORMER
TRANS.PULS	: PULSE TRANSFORMER
TRANS.PWR	: POWER TRANSFORMER ASS'Y
TUNER.AM	: TUNER PACK,AM
TUNER.FM	: TUNER PACK,FM
TUNER.PK	: FRONT-END TUNER PACK
VR	: ROTARY POTENTIOMETER
VR.MTR	: POTENTIOMETER WITH MOTOR
VR.SW	: POTENTIOMETER WITH ROTARY SW
VR.SLIDE	: SLIDE POTENTIOMETER
VR.TRIM	: TRIMMER POTENTIOMETER

Note) Those parts marked with "#" are not included in the P.C.B. ass'y.

P. C. B. MONO

Schm Ref.	PART NO.	Description			Remarks
*	AAX29590	P.C.B.	MONO(UCARTP)		3139 247 10111
*	AAX29600	P.C.B.	MONO(GB)		3139 247 10161
1104	AAX22180	CON	BMH 24P FFC		2422 025 15963
1106	AAX22190	CON	BMH 8P FFC		2422 025 16158
1205	AAX23320	RSNR.CRYS	8.467MHz		2422 540 98428
1300	AAX23310	RSNR.CRYS	6MHz		2422 540 98426
1301	AAX22360	CON	11P FEMALE		4822 267 51454
1603	AAX22210	CON	BMV 22P FFC		2422 025 16389
1604	AAX22200	CON	BMV 16P FFC		2422 025 16388
2100	US135100	C.CE.CHP	0.1uF	16V	4822 126 14305
2101	US135100	C.CE.CHP	0.1uF	16V	4822 126 14305
2103	UF037470	C.EL.CHP	47uF	16V	4822 124 80151
2104	US063470	C.CE.CHP	4700pF	50V	4822 126 13193
2105	US061220	C.CE.CHP	22pF	50V	4822 122 33761
2107	US061680	C.CE.CHP	68PF	50V	4822 126 13956
2108	US062390	C.CE.CHP	390PF	50V	4822 126 14315
2109	US063150	C.CE.M.CHP	1500pF	50V	2020 552 95697
2110	US063220	C.CE.CHP	2200pF	50V	2222 861 15222
2111	US135100	C.CE.CHP	0.1uF	16V	4822 126 14305
2112	US063100	C.CE.CHP	1000pF	50V	5322 126 11578
2113	US135100	C.CE.CHP	0.1uF	16V	4822 126 14305
2114	US062100	C.CE.CHP	100pF	50V	4822 122 31765
2115	US135100	C.CE.CHP	0.1uF	16V	4822 126 14305
2116	US135100	C.CE.CHP	0.1uF	16V	4822 126 14305
2117	US135100	C.CE.CHP	0.1uF	16V	4822 126 14305
2118	US044220	C.CE.CHP	0.022uF	25V	4822 126 14494
2119	US044220	C.CE.CHP	0.022uF	25V	4822 126 14494
2120	US135100	C.CE.CHP	0.1uF	16V	4822 126 14305
2121	US135220	C.CE.CHP	0.22uF	16V	4822 126 13879
2122	US044220	C.CE.CHP	0.022uF	25V	4822 126 14494
2123	US135100	C.CE.CHP	0.1uF	16V	4822 126 14305
2124	US135100	C.CE.CHP	0.1uF	16V	4822 126 14305
2125	US135100	C.CE.CHP	0.1uF	16V	4822 126 14305
2126	US135100	C.CE.CHP	0.1uF	16V	4822 126 14305
2127	US135100	C.CE.CHP	0.1uF	16V	4822 126 14305
2128	US062180	C.CE.CHP	180pF	50V	4822 126 14508
2129	US062180	C.CE.CHP	180pF	50V	4822 126 14508
2130	US061220	C.CE.CHP	22pF	50V	4822 122 33761
2131	US044220	C.CE.CHP	0.022uF	25V	4822 126 14494
2136	US135100	C.CE.CHP	0.1uF	16V	4822 126 14305
2137	US135100	C.CE.CHP	0.1uF	16V	4822 126 14305
2138	US135100	C.CE.CHP	0.1uF	16V	4822 126 14305
2139	US135100	C.CE.CHP	0.1uF	16V	4822 126 14305
2140	US062330	C.CE.CHP	330P	50V	4822 126 14241
2141	US061220	C.CE.CHP	22pF	50V	4822 122 33761
2142	US064100	C.CE.CHP	0.01uF	50V	5322 126 11583
2143	US062220	C.CE.CHP	220pF	50V	4822 126 13883
2144	US062220	C.CE.CHP	220pF	50V	4822 126 13883
2145	US062220	C.CE.CHP	220pF	50V	4822 126 13883
2203	US135100	C.CE.CHP	0.1uF	16V	4822 126 14305
2204	US135100	C.CE.CHP	0.1uF	16V	4822 126 14305
2205	US135100	C.CE.CHP	0.1uF	16V	4822 126 14305
2206	US034330	C.CE.CHP	0.033uF	16V	4822 126 14549
2207	US063100	C.CE.CHP	1000pF	50V	5322 126 11578
2208	US135100	C.CE.CHP	0.1uF	16V	4822 126 14305
2209	US135100	C.CE.CHP	0.1uF	16V	4822 126 14305
2210	US063100	C.CE.CHP	1000pF	50V	5322 126 11578
2212	US135100	C.CE.CHP	0.1uF	16V	4822 126 14305
2213	US135100	C.CE.CHP	0.1uF	16V	4822 126 14305
2214	US044220	C.CE.CHP	0.022uF	25V	4822 126 14494
2215	UF017220	C.EL.CHP	22uF	6.3V	4822 124 23237
2216	US063100	C.CE.CHP	1000pF	50V	5322 126 11578
2226	US135100	C.CE.CHP	0.1uF	16V	4822 126 14305

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Schm Ref.	PART NO.	Description			Remarks
2227	US135100	C.CE.CHP	0.1uF	16V	4822 126 14305
2228	US135100	C.CE.CHP	0.1uF	16V	4822 126 14305
2229	US135100	C.CE.CHP	0.1uF	16V	4822 126 14305
2300	US135100	C.CE.CHP	0.1uF	16V	4822 126 14305
2301	US135100	C.CE.CHP	0.1uF	16V	4822 126 14305
2302	US135100	C.CE.CHP	0.1uF	16V	4822 126 14305
2303	UF017470	C.EL.CHP	47uF	6.3V	4822 124 80349
2304	US044220	C.CE.CHP	0.022uF	25V	4822 126 14494
2305	US044220	C.CE.CHP	0.022uF	25V	4822 126 14494
2306	UF037100	C.EL.CHP	10uF	16V	4822 124 23002
2307	US044220	C.CE.CHP	0.022uF	25V	4822 126 14494
2309	US135100	C.CE.CHP	0.1uF	16V	4822 126 14305
2310	US135100	C.CE.CHP	0.1uF	16V	4822 126 14305
2314	US135100	C.CE.CHP	0.1uF	16V	4822 126 14305
2315	US135100	C.CE.CHP	0.1uF	16V	4822 126 14305
2318	US062120	C.CE.CHP	120PF	50V	5322 122 33861
2319	US061270	C.CE.CHP	27PF	50V	4822 126 11669
2320	US135100	C.CE.CHP	0.1uF	16V	4822 126 14305
2321	US135100	C.CE.CHP	0.1uF	16V	4822 126 14305
2401	US135100	C.CE.CHP	0.1uF	16V	4822 126 14305
2402	US135100	C.CE.CHP	0.1uF	16V	4822 126 14305
2403	US135100	C.CE.CHP	0.1uF	16V	4822 126 14305
2404	US135100	C.CE.CHP	0.1uF	16V	4822 126 14305
2405	US135100	C.CE.CHP	0.1uF	16V	4822 126 14305
2406	US135100	C.CE.CHP	0.1uF	16V	4822 126 14305
2407	US135100	C.CE.CHP	0.1uF	16V	4822 126 14305
2408	US135100	C.CE.CHP	0.1uF	16V	4822 126 14305
2409	US135100	C.CE.CHP	0.1uF	16V	4822 126 14305
2410	US135100	C.CE.CHP	0.1uF	16V	4822 126 14305
2411	US135100	C.CE.CHP	0.1uF	16V	4822 126 14305
2412	US135100	C.CE.CHP	0.1uF	16V	4822 126 14305
2413	US135100	C.CE.CHP	0.1uF	16V	4822 126 14305
2418	UF038100	C.EL.CHP	100uF	16V	4822 124 12095
2419	UF017470	C.EL.CHP	47uF	6.3V	4822 124 80349
2420	UF017470	C.EL.CHP	47uF	6.3V	4822 124 80349
2500	US135100	C.CE.CHP	0.1uF	16V	4822 126 14305
2503	US135100	C.CE.CHP	0.1uF	16V	4822 126 14305
2504	UF066470	C.EL.CHP	4.7uF	50V	3198 030 74780
2507	US044220	C.CE.CHP	0.022uF	25V	4822 126 14494
2509	UF037100	C.EL.CHP	10uF	16V	4822 124 23002
2510	US135100	C.CE.CHP	0.1uF	16V	4822 126 14305
2511	UF037100	C.EL.CHP	10uF	16V	4822 124 23002
2512	US135100	C.CE.CHP	0.1uF	16V	4822 126 14305
2513	US061220	C.CE.CHP	22pF	50V	4822 122 33761
2514	US061220	C.CE.CHP	22pF	50V	4822 122 33761
2515	US061220	C.CE.CHP	22pF	50V	4822 122 33761
2516	US061220	C.CE.CHP	22pF	50V	4822 122 33761
2517	US135100	C.CE.CHP	0.1uF	16V	4822 126 14305
2518	UF066470	C.EL.CHP	4.7uF	50V	3198 030 74780
2519	US135100	C.CE.CHP	0.1uF	16V	4822 126 14305
2520	US135100	C.CE.CHP	0.1uF	16V	4822 126 14305
2521	US135100	C.CE.CHP	0.1uF	16V	4822 126 14305
2522	US135100	C.CE.CHP	0.1uF	16V	4822 126 14305
2523	US135100	C.CE.CHP	0.1uF	16V	4822 126 14305
2524	US135100	C.CE.CHP	0.1uF	16V	4822 126 14305
2525	US135100	C.CE.CHP	0.1uF	16V	4822 126 14305
2526	US135100	C.CE.CHP	0.1uF	16V	4822 126 14305
2527	US135100	C.CE.CHP	0.1uF	16V	4822 126 14305
2528	US135100	C.CE.CHP	0.1uF	16V	4822 126 14305
2529	UF066470	C.EL.CHP	4.7uF	50V	3198 030 74780
2530	US135100	C.CE.CHP	0.1uF	16V	4822 126 14305
2531	US135100	C.CE.CHP	0.1uF	16V	4822 126 14305
2532	US061470	C.CE.CHP	47pF	50V	4822 122 33777

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Schm Ref.	PART NO.	Description		Remarks
2533	US061470	C.CE.CHP	47pF 50V	4822 122 33777
2534	US063100	C.CE.CHP	1000pF 50V	5322 126 11578
2535	US063100	C.CE.CHP	1000pF 50V	5322 126 11578
2536	US135100	C.CE.CHP	0.1uF 16V	4822 126 14305
2537	US135100	C.CE.CHP	0.1uF 16V	4822 126 14305
2538	US135100	C.CE.CHP	0.1uF 16V	4822 126 14305
2539	US135100	C.CE.CHP	0.1uF 16V	4822 126 14305
2540	US135100	C.CE.CHP	0.1uF 16V	4822 126 14305
2600	US044220	C.CE.CHP	0.022uF 25V	4822 126 14494
2601	US063150	C.CE.CHP	1500pF 50V	4822 126 14247
2602	US063150	C.CE.CHP	1500pF 50V	4822 126 14247
2603	US135100	C.CE.CHP	0.1uF 16V	4822 126 14305
2604	UF038100	C.EL.CHP	100uF 16V	4822 124 12095
2605	US044220	C.CE.CHP	0.022uF 25V	4822 126 14494
2606	UF038100	C.EL.CHP	100uF 16V	4822 124 12095
2607	UF038100	C.EL.CHP	100uF 16V	4822 124 12095
2608	UF037100	C.EL.CHP	10uF 16V	4822 124 23002
2609	UF037470	C.EL.CHP	47uF 16V	4822 124 80151
2610	US135100	C.CE.CHP	0.1uF 16V	4822 126 14305
2611	UF038100	C.EL.CHP	100uF 16V	4822 124 12095
2614	US061470	C.CE.CHP	47pF 50V	4822 122 33777
2615	US061470	C.CE.CHP	47pF 50V	4822 122 33777
2616	US061470	C.CE.CHP	47pF 50V	4822 122 33777
2617	US061470	C.CE.CHP	47pF 50V	4822 122 33777
2618	US135100	C.CE.CHP	0.1uF 16V	4822 126 14305
2620	US061470	C.CE.CHP	47pF 50V	4822 122 33777
2621	US061470	C.CE.CHP	47pF 50V	4822 122 33777
2622	US061470	C.CE.CHP	47pF 50V	4822 122 33777
2623	US061470	C.CE.CHP	47pF 50V	4822 122 33777
2624	US061470	C.CE.CHP	47pF 50V	4822 122 33777
2625	US061470	C.CE.CHP	47pF 50V	4822 122 33777
2626	US061470	C.CE.CHP	47pF 50V	4822 122 33777
2627	US061470	C.CE.CHP	47pF 50V	4822 122 33777
2632	UF038100	C.EL.CHP	100uF 16V	4822 124 12095
2633	UF038100	C.EL.CHP	100uF 16V	4822 124 12095
2634	US135100	C.CE.CHP	0.1uF 16V	4822 126 14305
2635	US135100	C.CE.CHP	0.1uF 16V	4822 126 14305
2636	US135100	C.CE.CHP	0.1uF 16V	4822 126 14305
2637	US135100	C.CE.CHP	0.1uF 16V	4822 126 14305
2638	US135100	C.CE.CHP	0.1uF 16V	4822 126 14305
2639	US135100	C.CE.CHP	0.1uF 16V	4822 126 14305
2641	US061220	C.CE.CHP	22pF 50V	4822 122 33761
2647	UF037100	C.EL.CHP	10uF 16V	4822 124 23002
2648	US135100	C.CE.CHP	0.1uF 16V	4822 126 14305
5200	AAX22070	COIL	BLM31P500SPT	4822 157 11717
5300	AAX22070	COIL	BLM31P500SPT	4822 157 11717
5301	AAX22070	COIL	BLM31P500SPT	4822 157 11717
5402	AAX22050	COIL	BLM11P600SPT	4822 157 11499
5403	AAX22050	COIL	BLM11P600SPT	4822 157 11499
5501	AAX22110	COIL	2.2uH NL322522T	4822 157 70299
5502	AAX22110	COIL	2.2uH NL322522T	4822 157 70299
5503	AAX22130	COIL	BLM21A601SPT	4822 157 71206
5504	AAX22130	COIL	BLM21A601SPT	4822 157 71206
5600	AAX22130	COIL	BLM21A601SPT	4822 157 71206
5601	AAX22050	COIL	BLM11P600SPT	4822 157 11499
* 5602	AAX29690	COIL	12uH	4822 157 70651
5603	AAX22130	COIL	BLM21A601SPT	4822 157 71206
* 5604	AAX29690	COIL	12uH	4822 157 70651
* 5605	AAX29690	COIL	12uH	4822 157 70651
* 5606	AAX29690	COIL	12uH	4822 157 70651
* 5607	AAX29690	COIL	12uH	4822 157 70651
* 5608	AAX29690	COIL	12uH	4822 157 70651
5609	AAX22070	COIL	BLM31P500SPT	4822 157 11717

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Schm Ref.	PART NO.	Description		Remarks
5610	AAX22070	COIL	BLM31P500SPT	4822 157 11717
5611	AAX22070	COIL	BLM31P500SPT	4822 157 11717
5612	AAX22050	COIL	BLM11P600SPT	4822 157 11499
6200	AAX22630	DIODE.CHP	BAS316	4822 130 11397
6301	AAX22690	DIODE.CHP	S1D	9322 128 69685
6302	AAX22690	DIODE.CHP	S1D	9322 128 69685
6303	AAX22690	DIODE.CHP	S1D	9322 128 69685
* 6600	AAX29900	DIODE.CHP	RB501V-40	9322 154 46685
6601	AAX22690	DIODE.CHP	S1D	9322 128 69685
7100	AAX22750	TR.CHP	BFS20	5322 130 42718
7101	AAX22750	TR.CHP	BFS20	5322 130 42718
7102	AAX21880	IC	TZA1033HL	9352 637 37518
7103	AAX21620	IC	BA5938FM	4822 209 17229
7104	AAX21660	IC	LM833D	4822 209 30095
7105	AAX21690	IC	MC34072D	4822 209 32073
7106	AAX22750	TR.CHP	BFS20	5322 130 42718
7109	AAX21580	IC	AN78M09	4822 209 15083
7110	AAX22760	TR.CHP	BST72A	5322 130 60803
7111	AAX22740	TR.CHP	BC847B	4822 130 60511
7112	AAX22740	TR.CHP	BC847B	4822 130 60511
7113	AAX22740	TR.CHP	BC847B	4822 130 60511
7114	AAX22740	TR.CHP	BC847B	4822 130 60511
7115	AAX22730	TR.CHP	BC856B	4822 130 60373
7116	AAX22740	TR.CHP	BC847B	4822 130 60511
7201	AAX21860	IC	74HCT573	9351 869 80118
* 7202	AAX29470	IC	AM29F002T	3104 123 85860
7203	AAX22730	TR.CHP	BC856B	4822 130 60373
* 7207	AAX29480	IC	SAA7399HL	4822 209 17231
7208	AAX21780	IC	MC33464N-45A	9322 139 67685
* 7209	AAX29490	IC	L78L05ACD	4822 209 90927
* 7210	AAX29930	TR.CHP	BC807-25	5322 130 60845
7211	AAX22780	TR.CHP	BC817-25	4822 130 42804
7304	AAX21600	IC	BA6856FP	4822 209 16877
7310	AAX21590	IC	CY7C199-15C	4822 209 15899
* 7311	AAX29530	IC	SAA7335HL	9352 622 13557
7312	AAX22730	TR.CHP	BC856B	4822 130 60373
7315	AAX22740	TR.CHP	BC847B	4822 130 60511
* 7316	AAX29520	IC	74LVC08AD	9352 500 20118
* 7317	AAX29520	IC	74LVC08AD	9352 500 20118
7404	AAX21800	IC	MT48LC1M16A1TG-7S	9322 144 59668
7405	AAX21800	IC	MT48LC1M16A1TG-7S	9322 144 59668
7501	AAX22740	TR.CHP	BC847B	4822 130 60511
* 7503	AAX29500	IC	STI5508	9322 159 29671
* 7504	AAX30380	RSNR.CRYS	OSC XTL SM 27MHZ	12722 171 08709
7505	AAX21850	IC	M24C32-WMN6TNKSA	9322 156 81668
* 7506	AAX29940	TR.CHP	BSN20	5322 130 63289
* 7507	AAX29940	TR.CHP	BSN20	5322 130 63289
7600	AAX21740	IC	PC74HCT14T	5322 209 71568
7604	AAX22740	TR.CHP	BC847B	4822 130 60511
7605	AAX21630	IC	LD1117DT33	4822 209 17398
7607	AAX22740	TR.CHP	BC847B	4822 130 60511
7608	AAX22730	TR.CHP	BC856B	4822 130 60373
7609	AAX22730	TR.CHP	BC856B	4822 130 60373
7610	AAX22740	TR.CHP	BC847B	4822 130 60511
* 7611	AAX29510	IC	74HCT1G125	9352 456 80115
7612	AAX22740	TR.CHP	BC847B	4822 130 60511
7613	AAX22740	TR.CHP	BC847B	4822 130 60511
7614	AAX22740	TR.CHP	BC847B	4822 130 60511
7615	AAX22740	TR.CHP	BC847B	4822 130 60511
7616	AAX21840	IC	SM MK2703STR	9322 151 71668
7617	AAX22740	TR.CHP	BC847B	4822 130 60511
7618	AAX22740	TR.CHP	BC847B	4822 130 60511
7620	AAX22730	TR.CHP	BC856B	4822 130 60373

* New Parts

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	Schm Ref.	PART NO.	Description		Remarks
	7621	AAX22780	TR.CHP	BC817-25	4822 130 42804
	7631	AAX22740	TR.CHP	BC847B	4822 130 60511
	7632	AAX22740	TR.CHP	BC847B	4822 130 60511
*		AAX29570	P.C.B.	AV(UCARTP)	3139 248 80881
	1000	AAX22220	CN	BMV 16P FFC	2422 025 16525
	1003	AAX22350	JACK.DIN	4P MDIN	4822 267 10994
	1005	AAX22240	JACK.PIN	6P	2422 026 05047
	1006	AAX22250	JACK.PIN	3P	2422 026 05049
	1010	AAX22230	CN	BMV 22P FFC	2422 025 16526
*	1011	AAX30050	JACK.PIN	2P YKC21-3416	4822 267 31729
*	1012	AAX30050	JACK.PIN	2P YKC21-3416	4822 267 31729
*	2100	UJ729470	C.EL	4700uF 10V	
	2102	UB445470	C.CE.M.CHP	0.47uF 16V	3198 017 44740
	2103	UR848100	C.EL	100uF 25V	4822 124 40207
	2104	US062220	C.CE.CHP	220pF 50V	4822 126 13883
	2105	US062220	C.CE.CHP	220pF 50V	4822 126 13883
	2106	UR848100	C.EL	100uF 25V	4822 124 40207
	2109	UR819100	C.EL	1000uF 6.3V	
	2111	UR819100	C.EL	1000uF 6.3V	
	2112	UR819100	C.EL	1000uF 6.3V	
	2200	US135100	C.CE.CHP	0.1uF 16V	4822 126 14305
	2201	UR837470	C.EL	47uF 16V	4822 124 80231
	2202	UR837470	C.EL	47uF 16V	4822 124 80231
	2203	US135100	C.CE.CHP	0.1uF 16V	4822 126 14305
	2204	UR848100	C.EL	100uF 25V	4822 124 40207
	2205	UR828100	C.EL	100uF 10V	4822 124 41584
	2206	UR837470	C.EL	47uF 16V	4822 124 80231
	2207	US135100	C.CE.CHP	0.1uF 16V	4822 126 14305
	2208	UR837100	C.EL	10uF 16V	4822 124 11947
	2209	UB445470	C.CE.M.CHP	0.47uF 16V	3198 017 44740
	2210	US135100	C.CE.CHP	0.1uF 16V	4822 126 14305
	2211	UR828100	C.EL	100uF 10V	4822 124 41584
	2212	US063100	C.CE.M.CHP	1000pF 50V	3198 016 31020
	2213	US135100	C.CE.CHP	0.1uF 16V	4822 126 14305
	2214	US062100	C.CE.CHP	100pF 50V	4822 122 31765
	2215	US063100	C.CE.M.CHP	1000pF 50V	3198 016 31020
	2216	UR837100	C.EL	10uF 16V	4822 124 11947
	2217	US135100	C.CE.CHP	0.1uF 16V	4822 126 14305
	2218	US044220	C.CE.CHP	0.022uF 25V	4822 126 14494
	2219	US044220	C.CE.CHP	0.022uF 25V	4822 126 14494
	2220	UR828100	C.EL	100uF 10V	4822 124 41584
	2221	US135100	C.CE.CHP	0.1uF 16V	4822 126 14305
	2222	US126100	C.CE.CHP	1uF 10V	3198 017 41050
	2223	US044220	C.CE.CHP	0.022uF 25V	4822 126 14494
	2224	US044220	C.CE.CHP	0.022uF 25V	4822 126 14494
	2225	UR828100	C.EL	100uF 10V	4822 124 41584
	2226	UR828100	C.EL	100uF 10V	4822 124 41584
	2227	UR837100	C.EL	10uF 16V	4822 124 11947
	2228	US063100	C.CE.M.CHP	1000pF 50V	3198 016 31020
	2229	US062100	C.CE.CHP	100pF 50V	4822 122 31765
	2230	US063100	C.CE.M.CHP	1000pF 50V	3198 016 31020
	2231	US135100	C.CE.CHP	0.1uF 16V	4822 126 14305
	2232	UR837100	C.EL	10uF 16V	4822 124 11947
	2233	US061470	C.CE.CHP	47pF 50V	4822 122 33777
	2234	US135100	C.CE.CHP	0.1uF 16V	4822 126 14305
	2235	US061470	C.CE.CHP	47pF 50V	4822 122 33777
	2236	UR819100	C.EL	1000uF 6.3V	
	2237	UR838470	C.EL	470uF 16V	4822 124 80195
	3112	HX610400	R.MTL.CHP	8.2KΩ 1/16W	4822 117 12902
	3205	HX610400	R.MTL.CHP	8.2KΩ 1/16W	4822 117 12902
	3231	HX610400	R.MTL.CHP	8.2KΩ 1/16W	4822 117 12902

* New Parts

	Schm Ref.	PART NO.	Description		Remarks
	3234	HV755100	R.CAR.FP	100Ω 1/4W	
	3235	HV755100	R.CAR.FP	100Ω 1/4W	
	3204	HV754470	R.CAR.FP	47Ω 1/4W	
	3216	HV756270	R.CAR.FP	2.7KΩ 1/4W	
*	3214	HV457330	R.CAR.FP	33KΩ 1/4W	ERDS2FJ333
	3208	HX609130	R.MTL.CHP	100K 1/10W	4822 117 13632
	3230	HX609130	R.MTL.CHP	100K 1/10W	4822 117 13632
	3239	HX609130	R.MTL.CHP	100K 1/10W	4822 117 13632
	5100	AAX22140	COIL	DSS306	4822 242 10756
	5101	AAX22140	COIL	DSS306	4822 242 10756
	5102	AAX22140	COIL	DSS306	4822 242 10756
	5200	AAX22120	COIL	100uH	4822 157 70601
	5201	AAX22140	COIL	DSS306	4822 242 10756
	5202	AAX22140	COIL	DSS306	4822 242 10756
	6100	AAX22640	DIODE.CHP	UDZ15B	4822 130 11522
	6101	AAX22640	DIODE.CHP	UDZ15B	4822 130 11522
	6102	AAX22640	DIODE.CHP	UDZ15B	4822 130 11522
	6103	AAX22640	DIODE.CHP	UDZ15B	4822 130 11522
	6104	AAX22640	DIODE.CHP	UDZ15B	4822 130 11522
	6203	AAX22640	DIODE.CHP	UDZ15B	4822 130 11522
	6204	AAX22640	DIODE.CHP	UDZ15B	4822 130 11522
	7200	AAX21900	IC	UDA1334TS/NI	9352 640 74118
	7201	AAX21660	IC	LM833D	4822 209 30095
	7202	AAX21660	IC	LM833D	4822 209 30095
	7203	AAX21610	IC	LF33CV	4822 209 16978
	7204	AAX22270	L.EMIT	GP1F32T	4822 130 10845
	7410	AAX22740	TR.CHP	BC847B	4822 130 60511
	7411	AAX22740	TR.CHP	BC847B	4822 130 60511
	7412	AAX22740	TR.CHP	BC847B	4822 130 60511
	7413	AAX22730	TR.CHP	BC856B	4822 130 60373
	7414	AAX22740	TR.CHP	BC847B	4822 130 60511
	7415	AAX22740	TR.CHP	BC847B	4822 130 60511
	7416	AAX22740	TR.CHP	BC847B	4822 130 60511
	7417	AAX22730	TR.CHP	BC856B	4822 130 60373
	7418	AAX22740	TR.CHP	BC847B	4822 130 60511
	7419	AAX22740	TR.CHP	BC847B	4822 130 60511
	7420	AAX22730	TR.CHP	BC856B	4822 130 60373
	7421	AAX22740	TR.CHP	BC847B	4822 130 60511
	7422	AAX22740	TR.CHP	BC847B	4822 130 60511
	7423	AAX22730	TR.CHP	BC856B	4822 130 60373
	7424	AAX22740	TR.CHP	BC847B	4822 130 60511
	7425	AAX22740	TR.CHP	BC847B	4822 130 60511
	7426	AAX22740	TR.CHP	BC847B	4822 130 60511
	7427	AAX22730	TR.CHP	BC856B	4822 130 60373
	7501	AAX22780	TR.CHP	BC817-25	4822 130 42804
	7502	AAX22780	TR.CHP	BC817-25	4822 130 42804
	7503	AAX22740	TR.CHP	BC847B	4822 130 60511
	7504	AAX22780	TR.CHP	BC817-25	4822 130 42804
	7505	AAX22740	TR.CHP	BC847B	4822 130 60511
	7506	AAX22780	TR.CHP	BC817-25	4822 130 42804
	7507	AAX22780	TR.CHP	BC817-25	4822 130 42804
	7508	AAX22740	TR.CHP	BC847B	4822 130 60511
	7509	AAX22730	TR.CHP	BC856B	4822 130 60373
	7510	AAX22740	TR.CHP	BC847B	4822 130 60511
	7511	AAX22740	TR.CHP	BC847B	4822 130 60511
	7512	AAX22780	TR.CHP	BC817-25	4822 130 42804
*		AAX29580	P.C.B.	AV(GB)	3139 248 80891
	1001	AAX22220	CN	BMV 16P FFC	2422 025 16525
*	1002	AAX29760	TERM.SCART	21P	2422 025 12352
	1003	AAX22350	JACK.DIN	4P MDIN	4822 267 10994
	1005	AAX22300	JACK.PIN	3P YKC21-3930	4822 265 11566

* New Parts

P. C. B. AV

	Schm Ref.	PART NO.	Description		Remarks
*	1010	AAX22230	CN	BMV 22P FFC	2422 025 16526
*	1011	AAX30050	JACK.PIN	2P YKC21-3416	4822 267 31729
*	1012	AAX30050	JACK.PIN	2P YKC21-3416	4822 267 31729
	2101	UJ729470	C.EL	4700uF 10V	
	2103	UR819100	C.EL	1000uF 6.3V	
	2104	UR819100	C.EL	1000uF 6.3V	
	2105	UR848100	C.EL	100uF 25V	4822 124 40207
	2106	US135100	C.CE.CHP	0.1uF 16V	4822 126 14305
	2107	UB445470	C.CE.M.CHP	0.47uF 16V	3198 017 44740
	2108	UR848100	C.EL	100uF 25V	4822 124 40207
	2109	UR819100	C.EL	1000uF 6.3V	
	2110	US062220	C.CE.CHP	220pF 50V	4822 126 13883
	2111	US044220	C.CE.CHP	0.022uF 25V	4822 126 14494
	2112	US062100	C.CE.CHP	100pF 50V	4822 122 31765
	2113	US062220	C.CE.CHP	220pF 50V	4822 126 13883
	2114	UR848100	C.EL	100uF 25V	4822 124 40207
	2115	US062220	C.CE.CHP	220pF 50V	4822 126 13883
	2116	US062220	C.CE.CHP	220pF 50V	4822 126 13883
	2117	US062220	C.CE.CHP	220pF 50V	4822 126 13883
	2200	US135100	C.CE.CHP	0.1uF 16V	4822 126 14305
	2201	UR837470	C.EL	47uF 16V	4822 124 80231
	2202	UR837470	C.EL	47uF 16V	4822 124 80231
	2203	US135100	C.CE.CHP	0.1uF 16V	4822 126 14305
	2204	UR828100	C.EL	100uF 10V	4822 124 41584
	2205	UR848100	C.EL	100uF 25V	4822 124 40207
	2206	UR837470	C.EL	47uF 16V	4822 124 80231
	2207	US135100	C.CE.CHP	0.1uF 16V	4822 126 14305
	2208	UR837100	C.EL	10uF 16V	4822 124 11947
	2209	UB445470	C.CE.M.CHP	0.47uF 16V	3198 017 44740
	2210	US135100	C.CE.CHP	0.1uF 16V	4822 126 14305
	2211	UR848100	C.EL	100uF 25V	4822 124 40207
	2212	US063100	C.CE.M.CHP	1000pF 50V	3198 016 31020
	2213	US135100	C.CE.CHP	0.1uF 16V	4822 126 14305
	2214	US062100	C.CE.CHP	100pF 50V	4822 122 31765
	2215	US063100	C.CE.M.CHP	1000pF 50V	3198 016 31020
	2216	UR837100	C.EL	10uF 16V	4822 124 11947
	2217	US135100	C.CE.CHP	0.1uF 16V	4822 126 14305
	2218	US044220	C.CE.CHP	0.022uF 25V	4822 126 14494
	2219	US044220	C.CE.CHP	0.022uF 25V	4822 126 14494
	2220	UR848100	C.EL	100uF 25V	4822 124 40207
	2221	US135100	C.CE.CHP	0.1uF 16V	4822 126 14305
	2222	US126100	C.CE.CHP	1uF 10V	3198 017 41050
	2223	US044220	C.CE.CHP	0.022uF 25V	4822 126 14494
	2224	US044220	C.CE.CHP	0.022uF 25V	4822 126 14494
	2225	UR848100	C.EL	100uF 25V	4822 124 40207
	2226	UR848100	C.EL	100uF 25V	4822 124 40207
	2227	UR837100	C.EL	10uF 16V	4822 124 11947
	2228	US063100	C.CE.M.CHP	1000pF 50V	3198 016 31020
	2229	US062100	C.CE.CHP	100pF 50V	4822 122 31765
	2230	US063100	C.CE.M.CHP	1000pF 50V	3198 016 31020
	2231	US135100	C.CE.CHP	0.1uF 16V	4822 126 14305
	2232	UR837100	C.EL	10uF 16V	4822 124 11947
	2233	US061470	C.CE.CHP	47pF 50V	4822 122 33777
	2234	US135100	C.CE.CHP	0.1uF 16V	4822 126 14305
	2235	US061470	C.CE.CHP	47pF 50V	4822 122 33777
	2236	UR819100	C.EL	1000uF 6.3V	
	2237	UR838470	C.EL	470uF 16V	4822 124 80195
	2243	US062220	C.CE.CHP	220pF 50V	4822 126 13883
	2244	US062220	C.CE.CHP	220pF 50V	4822 126 13883
	2249	US061220	C.CE.CHP	22pF 50V	4822 122 33761
	3142	HX610400	R.MTL.CHP	8.2KΩ 1/16W	4822 117 12902
	3205	HX610400	R.MTL.CHP	8.2KΩ 1/16W	4822 117 12902
	3231	HX610400	R.MTL.CHP	8.2KΩ 1/16W	4822 117 12902

* New Parts

	Schm Ref.	PART NO.	Description		Remarks
	3239	HX609130	R.MTL.CHP	100K 1/10W	4822 117 13632
	3145	HV757100	R.CAR.FP	10KΩ 1/4W	
	3159	HV755100	R.CAR.FP	100Ω 1/4W	
	3234	HV755100	R.CAR.FP	100Ω 1/4W	
	3235	HV755100	R.CAR.FP	100Ω 1/4W	
	3204	HV754470	R.CAR.FP	47Ω 1/4W	
	3203	HV755680	R.CAR.FP	680Ω 1/4W	
	3228	HV755680	R.CAR.FP	680Ω 1/4W	
	3144	HV757150	R.CAR.FP	15KΩ 1/4W	
*	3143	HV457220	R.CAR.FP	22KΩ 1/4W	ERD25TVJ220
	3221	HV756270	R.CAR.FP	2.7KΩ 1/4W	
	3223	HV756270	R.CAR.FP	2.7KΩ 1/4W	
	3229	HV756270	R.CAR.FP	2.7KΩ 1/4W	
	3149	HV457470	R.CAR.FP	47KΩ 1/4W	ERDS2FJ473
	5200	AAX22120	COIL	100uH	4822 157 70601
	6102	AAX22640	DIODE.CHP	UDZ15B	4822 130 11522
	6103	AAX22640	DIODE.CHP	UDZ15B	4822 130 11522
	6104	AAX22640	DIODE.CHP	UDZ15B	4822 130 11522
	6105	AAX22640	DIODE.CHP	UDZ15B	4822 130 11522
	6106	AAX22640	DIODE.CHP	UDZ15B	4822 130 11522
	6107	AAX22640	DIODE.CHP	UDZ15B	4822 130 11522
	6203	AAX22640	DIODE.CHP	UDZ15B	4822 130 11522
	6204	AAX22640	DIODE.CHP	UDZ15B	4822 130 11522
	7200	AAX21900	IC	UDA1334TS/NI	9352 640 74118
	7201	AAX21660	IC	LM833D	4822 209 30095
	7202	AAX21660	IC	LM833D	4822 209 30095
	7203	AAX21610	IC	LF33CV	4822 209 16978
	7204	AAX22270	L.EMIT	GP1F32T	4822 130 10845
	7401	AAX22740	TR.CHP	BC847B	4822 130 60511
	7402	AAX22740	TR.CHP	BC847B	4822 130 60511
	7403	AAX22740	TR.CHP	BC847B	4822 130 60511
	7404	AAX22730	TR.CHP	BC856B	4822 130 60373
	7405	AAX22740	TR.CHP	BC847B	4822 130 60511
	7406	AAX22740	TR.CHP	BC847B	4822 130 60511
	7407	AAX22730	TR.CHP	BC856B	4822 130 60373
	7408	AAX22740	TR.CHP	BC847B	4822 130 60511
	7409	AAX22740	TR.CHP	BC847B	4822 130 60511
	7413	AAX22730	TR.CHP	BC856B	4822 130 60373
	7414	AAX22740	TR.CHP	BC847B	4822 130 60511
	7415	AAX22740	TR.CHP	BC847B	4822 130 60511
	7416	AAX22730	TR.CHP	BC856B	4822 130 60373
	7417	AAX22740	TR.CHP	BC847B	4822 130 60511
	7418	AAX22740	TR.CHP	BC847B	4822 130 60511
	7419	AAX22730	TR.CHP	BC856B	4822 130 60373
	7420	AAX22730	TR.CHP	BC856B	4822 130 60373
	7421	AAX22740	TR.CHP	BC847B	4822 130 60511
	7422	AAX22740	TR.CHP	BC847B	4822 130 60511
	7423	AAX22740	TR.CHP	BC847B	4822 130 60511
	7501	AAX22780	TR.CHP	BC817-25	4822 130 42804
	7502	AAX22780	TR.CHP	BC817-25	4822 130 42804
	7503	AAX22740	TR.CHP	BC847B	4822 130 60511
	7504	AAX22780	TR.CHP	BC817-25	4822 130 42804
	7505	AAX22740	TR.CHP	BC847B	4822 130 60511
	7506	AAX22780	TR.CHP	BC817-25	4822 130 42804
	7507	AAX22780	TR.CHP	BC817-25	4822 130 42804
	7508	AAX22740	TR.CHP	BC847B	4822 130 60511
	7509	AAX22730	TR.CHP	BC856B	4822 130 60373
	7510	AAX22740	TR.CHP	BC847B	4822 130 60511
	7511	AAX22740	TR.CHP	BC847B	4822 130 60511
	7512	AAX22780	TR.CHP	BC817-25	4822 130 42804

* New Parts

P. C. B. DISPLAY & P. C. B. VFM & P. C. B. POWER

	Schm Ref.	PART NO.	Description		Remarks
*		AAX29610	P.C.B.	DISPLAY(UCARTP)	3139 248 80951
*		AAX29620	P.C.B.	DISPLAY(GB)	3139 248 80961
*	2	AAX30160	HOLDER		3139 244 01321
	1100	AAX22420	SW		4822 276 13775
	1101	AAX22420	SW		4822 276 13775
	1102	AAX22420	SW		4822 276 13775
	1106	AAX22420	SW		4822 276 13775
	1107	AAX22420	SW		4822 276 13775
	1108	AAX22420	SW		4822 276 13775
	1109	AAX22420	SW		4822 276 13775
	1110	AAX23300	RSNR.CRYS	8MHz CSTS	2422 540 98423
	1111	AAX22420	SW	(GB)	4822 276 13775
*	1113	AAX30360	FL.DSPLY	11-MT-126GNYK (UCARTP)	3139 240 50051
*	1113	AAX30370	FL.DSPLY	HNV-11SS28T DV (GB)	3139 240 50061
*	1115	AAX29720	CN	6P (UCART)	2422 025 12482
	1115	AAX22320	CN	4P (GB)	4822 267 10565
	1117	AAX22320	CN	4P	4822 267 10565
	1118	AAX22340	CN	5P B5B-PH-K	4822 267 10637
	1120	AAX22400	SW	2P 100mA 30V (UCARTP)	2422 128 02939
	1205	AAX22330	CN	4P	4822 267 10567
	2105	US034330	C.CE.CHP	0.033uF 16V	4822 126 14549
	2106	UR848100	C.EL	100uF 25V (UCARTP)	4822 124 40207
*	2107	UD114470	C.CE.M.CHP	0.047uF 50V	3198 024 44730
*	2108	UD114470	C.CE.M.CHP	0.047uF 50V	3198 024 44730
*	2109	UD114470	C.CE.M.CHP	0.047uF 50V	3198 024 44730
*	2110	UD114470	C.CE.M.CHP	0.047uF 50V	3198 024 44730
*	2111	UD114470	C.CE.M.CHP	0.047uF 50V	3198 024 44730
	2114	US061220	C.CE.CHP	22pF 50V	4822 122 33761
	2115	US061220	C.CE.CHP	22pF 50V	4822 122 33761
	2116	US034330	C.CE.CHP	0.033uF 16V	4822 126 14549
	2122	US034330	C.CE.CHP	0.033uF 16V	4822 126 14549
	2123	UR848100	C.EL	100uF 25V (UCARTP)	4822 124 40207
	2124	UR857220	C.EL	22uF 35V	3198 028 42290
	2125	US061220	C.CE.CHP	22pF 50V	4822 122 33761
	2126	UR837100	C.EL	10uF 16V	4822 124 11947
	2128	US063100	C.CE.CHP	1000pF 50V	5322 126 11578
	2129	UR857220	C.EL	22uF 35V	3198 028 42290
	2130	UR867470	C.EL	47uF 50V	4822 124 41751
	2201	US034330	C.CE.CHP	0.033uF 16V	4822 126 14549
S	3102	HX609650	R.MTL.CHP	47KΩ 1/10W (GB)	4822 117 12925
	3104	HX609130	R.MTL.CHP	100K 1/10W (GB)	4822 117 13632
	3144	HX609130	R.MTL.CHP	100K 1/10W	4822 117 13632
	6100	AAX22630	DIODE.CHP	BAS316 (GB)	4822 130 11397
*	6101	AAX29920	DIOD.Z.CHP	UDZ6.2B TE-17	9965 000 04709
*	6102	AAX29910	DIOD.Z.CHP	UDZS8.2B	4822 130 10837
	6104	AAX22630	DIODE.CHP	BAS316	4822 130 11397
	6200	AAX21910	LED	LTL-16KPE-P	4822 130 82978
	7101	AAX22740	TR.CHP	BC847B (GB)	4822 130 60511
	7104	AAX21530	IC	TMP87CH74F	3104 123 94532
*	7105	AAX29960	TR	BC337-25	4822 130 40981
	7106	AAX22850	TR	BC327	4822 130 40854
	7107	AAX22740	TR.CHP	BC847B	4822 130 60511
	7108	AAX22740	TR.CHP	BC847B	4822 130 60511
	7109	AAX22730	TR.CHP	BC856B	4822 130 60373
*	7110	AAX30210	L.DTCT	GP1U28XP	4822 130 10165
	7112	AAX21670	IC	MC79L24ACP	4822 209 31257
* ⚠		AAX30410	P.S.U.	230V (GB)	3122 427 22572
* ⚠	0101	AAX29730	CN	B2P3-VH	4822 265 20723
	0120	AAX22960	HOLDER.FUS	2P	4822 265 11253
*	0205	AAX29710	CN	12P BMV P=2.5mm	2422 025 08333
	0208	AAX22320	CN	4P	4822 267 10565

* New Parts

	Schm Ref.	PART NO.	Description		Remarks
	1120	AAX22950	FUSE	2.5A 250V	4822 253 30383
* ⚠	2120	AAX30300	C.CE.SAFTY	0.1uF 275V	4822 121 10711
*	2121	AAX29640	C.EL	47uF 400V	2222 151 90048
	2127	AAX23250	C.CE.SAFTY	470pF 1KV	4822 122 50116
* ⚠	2130	AAX30310	C.CE.SAFTY	1000pF 250V	4822 126 13841
* ⚠	2131	AAX30310	C.CE.SAFTY	1000pF 250V	4822 126 13841
	2134	UR867470	C.EL	47uF 50V	
	2135	UR866220	C.EL	2.2uF 50V	4822 124 22652
	2141	UR866220	C.EL	2.2uF 50V	4822 124 22652
	2143	AAX22490	C.CE.CHP	0.1uF 50V	4822 126 14585
	2145	AAX22520	C.CE.CHP	4700pF 63V	5322 126 10223
	2146	AAX22490	C.CE.CHP	0.1uF 50V	4822 126 14585
	2150	AAX22490	C.CE.CHP	0.1uF 50V	4822 126 14585
	2156	AAX22500	C.CE.CHP	330pF 63V	5322 122 31863
	2157	AAX22510	C.CE.CHP	470pF 50V	5322 122 32268
	2202	AAX22490	C.CE.CHP	0.1uF 50V	4822 126 14585
	2210	UR829220	C.EL	2200uF 10V	2020 012 93728
	2230	UR839100	C.EL	1000uF 16V	066840
	2232	UR838100	C.EL	100uF 16V	4822 124 81021
	2235	US034330	C.CE.CHP	0.033uF 16V	4822 126 14549
	2238	UR838100	C.EL	100uF 16V	4822 124 81021
	2239	UR838100	C.EL	100uF 16V	4822 124 81021
	2240	UR848470	C.EL	470uF 25V	
	2250	UR838220	C.EL	220uF 16V	4822 124 41545
	2259	UR838100	C.EL	100uF 16V	4822 124 81021
	2260	UR867220	C.EL	22uF 50V	4822 124 81151
*	2299	AAX29890	C.CE.CHP	0.022uF 63V	5322 122 32654
	3111	HV754100	R.CAR.FP	10Ω 1/4W	
* ⚠	3120	AAX30010	S.ABSOEBER	DC 1MA/423V S	2322 595 90023
	3153	HV757150	R.CAR.FP	15KΩ 1/4W	
	3233	HL313220	R.MTL.OXD	2.2Ω 1W	
⚠	3132	HL213100	R.MTL.OXD	1Ω 1W	
⚠	3201	HV754100	R.CAR.FP	10Ω 1/4W	
	3135	HV754150	R.CAR.FP	15Ω 1/4W	
	3155	HV755330	R.CAR.FP	330Ω 1/4W	ERDS2FJ331
	3140	HV755560	R.CAR.FP	560Ω 1/4W	ERDS2FJ561
*	3263	HV75618	R.CAR.FP	1.8KΩ 1/4W	4822 116 52249
*	3123	HV457560	R.CAR.FP	56KΩ 1/4W	ERDS2FJ563
*	3134	HV457560	R.CAR.FP	56KΩ 1/4W	ERDS2FJ563
	3127	HV753100	R.MTL.OXD	1Ω 1/4W	
	3128	HV753100	R.MTL.OXD	1Ω 1/4W	
	3262	HV755220	R.CAR.FP	220Ω 1/4W	ERDS2FJ221
⚠	5120	AAX23620	COIL	LINE FILTER	4822 157 11846
	5125	AAX22040	COIL	100mH	4822 157 11411
*	5131	AAX29990	TRANS		3128 138 39631
*	5135	AAX29700	COIL	27uH	4822 157 70698
*	5210	AAX29670	COIL	LHL08 S	2422 535 94638
*	5222	AAX29680	COIL	47uH	4822 156 20966
*	5231	AAX29670	COIL	LHL08 S	2422 535 94638
	5240	AAX22100	COIL	1uH 4x9.8	4822 157 51195
	5260	AAX22060	COIL	10uH 2.3x3.4	4822 157 11517
*	6118	AAX29790	DIODE	1N4006	4822 130 31603
*	6119	AAX29790	DIODE	1N4006	4822 130 31603
*	6120	AAX29790	DIODE	1N4006	4822 130 31603
*	6121	AAX29790	DIODE	1N4006	4822 130 31603
*	6129	AAX29830	DIODE	PDZ22B	9340 548 67115
*	6132	AAX29780	DIODE	BAV21	4822 130 30842
*	6133	AAX29780	DIODE	BAV21	4822 130 30842
	6140	AAX22560	DIODE	1N4148	4822 130 30621
	6141	AAX22540	DIODE	UDZ18B	4822 130 11152
	6150	AAX22530	DIODE	UDZ4.7B	4822 130 11148
	6210	AAX22550	DIODE	BYW98-200-C1	4822 130 11584
*	6230	AAX29810	DIODE	BYW95C	4822 130 41602

* New Parts

P. C. B. POWER

	Schm Ref.	PART NO.	Description		Remarks
*	6233	AAX29800	DIODE	BZX79-B4V7	4822 130 34174
	6241	AAX22550	DIODE	BYW98-200-C1	4822 130 11584
	6250	AAX22580	DIODE	BYD33D	4822 130 42488
	6261	AAX22590	DIODE	BYD33J	4822 130 42606
	7125	AAX21500	FET	STP3NB60FP	4822 130 11417
* ⚠	7131	AAX30080	PHOTO.CPL	TCET1102-G	9322 149 04682
⚠	7141	AAX22880	IC	BC557B	4822 130 44568
	7145	AAX21820	IC	UC3842A	9322 145 88682
*	7150	AAX29970	TR	BC547	4822 130 44257
	7201	AAX21710	IC	TL431CLPST	4822 209 81397
	7235	AAX22870	TR	BC847	4822 130 42705
*	7238	AAX29450	FET	IRLML2803	5322 130 11197
	7255	AAX22860	TR	BC337	4822 130 40855
*	7256	AAX29980	TR	BC857C	5322 130 42756
*	7257	AAX29980	TR	BC857C	5322 130 42756
		RD350000	R.CAR.CHP	0Ω 1/10W	
⚠		RD353100	R.CAR.CHP	1Ω 1/10W	
⚠		RD353220	R.CAR.CHP	2.2Ω 1/10W	
⚠		RD353470	R.CAR.CHP	4.7Ω 1/10W	
		RD354330	R.CAR.CHP	33Ω 1/10W	
		RD354470	R.CAR.CHP	47Ω 1/10W	
		RD355100	R.CAR.CHP	100Ω 1/10W	
		RD355390	R.CAR.CHP	390Ω 1/10W	
		RD356100	R.CAR.CHP	1KΩ 1/10W	
		RD357220	R.CAR.CHP	22KΩ 1/10W	
		RD357360	R.CAR.CHP	36KΩ 1/10W	
		HX611040	R.CAR.CHP	0Ω 1/16W	
*		HX610750	R.CAR.CHP	1Ω 1/16W	
		NX703320	R.CAR.CHP	2.2Ω 1/16W	ERJ3GEYJ2R2
*		HX611160	R.CAR.CHP	10Ω 1/16W	
		HX610090	R.CAR.CHP	22Ω 1/16W	ERJ3GEYJ220
*		HX611150	R.CAR.CHP	47Ω 1/16W	
*		AAX06470	R.CAR.CHP	68Ω 1/16W	ERJ3GEYJ680
		AAX15900	R.CAR.CHP	75Ω 1/16W	ERJ3RED750
*		HX610900	R.CAR.CHP	100Ω 1/16W	
		AAX15800	R.CAR.CHP	150Ω 1/16W	ERJ3GEYF151
*		HX610960	R.CAR.CHP	220Ω 1/16W	1305810918
*		HX611120	R.CAR.CHP	270Ω 1/16W	
		HX610170	R.CAR.CHP	330Ω 1/16W	ERJ3GEYJ331
*		HX610890	R.CAR.CHP	470Ω 1/16W	
*		HX611010	R.CAR.CHP	560Ω 1/16W	1305810927
*		HX610910	R.CAR.CHP	1kΩ 1/16W	
*		HX611090	R.CAR.CHP	1.5kΩ 1/16W	
		HX610110	R.CAR.CHP	2.2KΩ 1/16W	4822 050 12202
*		HX611140	R.CAR.CHP	2.7kΩ 1/16W	
*		HX610980	R.CAR.CHP	3.3kΩ 1/16W	
		AAX17770	R.CAR.CHP	3.9KΩ 1/16W	VRSCY1JB392F
*		HX611080	R.CAR.CHP	4.7kΩ 1/16W	
*		HX611030	R.CAR.CHP	6.8kΩ 1/16W	
*		HX610920	R.CAR.CHP	10kΩ 1/16W	
*		HX610780	R.CAR.CHP	12kΩ 1/16W	
*		HX610950	R.CAR.CHP	15KΩ 1/16W	
*		HX611110	R.CAR.CHP	22kΩ 1/16W	
*		HX611130	R.CAR.CHP	27kΩ 1/16W	
		AAX17750	R.CAR.CHP	33KΩ 1/16W	VRSCY1JB333F
*		AAX06590	R.CAR.CHP	39KΩ 1/16W	ERJ3RBD393
*		HX611070	R.CAR.CHP	1MΩ 1/16W	

* New Parts

Schm Ref.	PART NO.	Description		Remarks

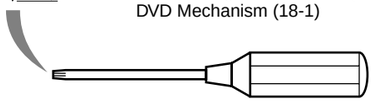
* New Parts

■ EXPLODED VIEW

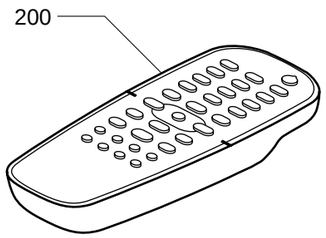
When disassembling, use the special screw driver with tip shape in figure.

T10 2.7 mm for screws with 33, 35 and 36

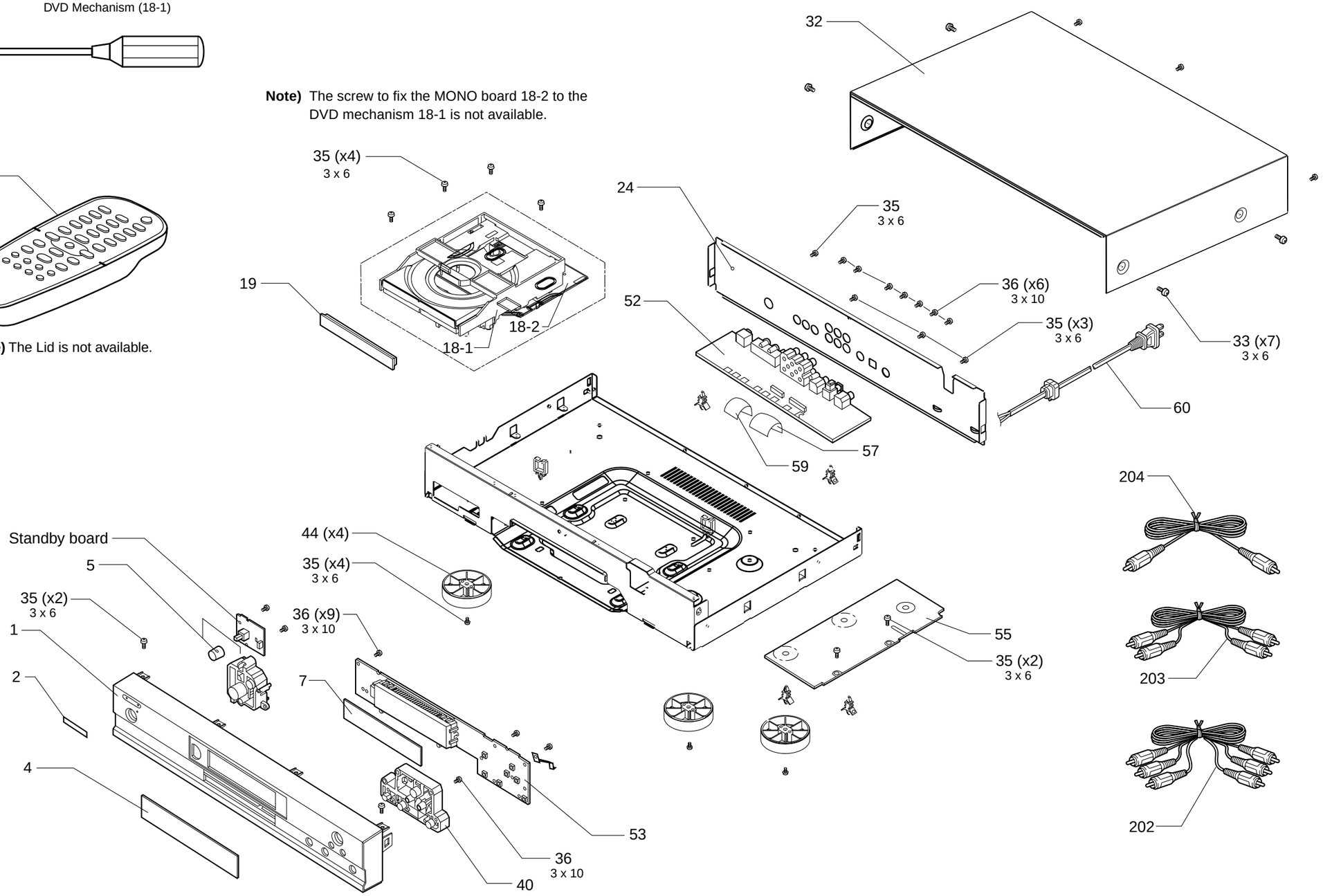
T6 1.7 mm for removing MONO board (18-2) from DVD Mechanism (18-1)



Note) The screw to fix the MONO board 18-2 to the DVD mechanism 18-1 is not available.



Note) The Lid is not available.



■ MECHANICAL PARTS

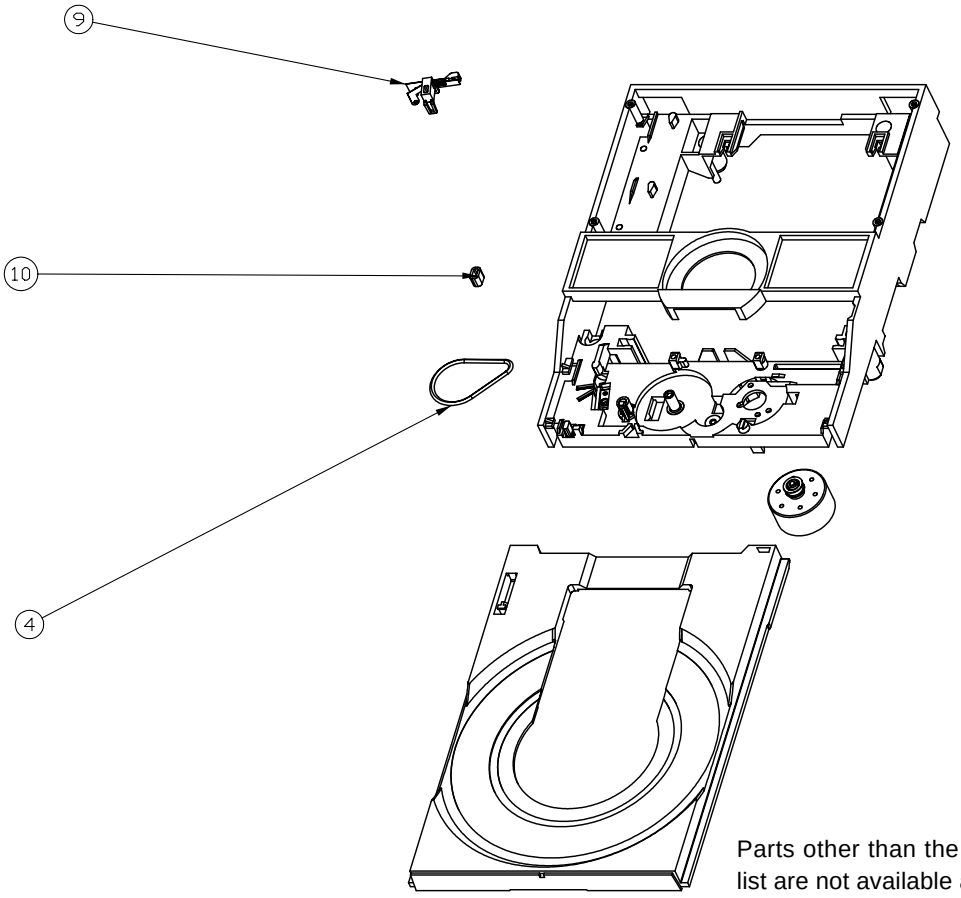
	Ref. No.	PART NO.	Description		Remarks	Markets
*	1	AAX30140	FRONT PANEL	S520BL	3139 247 54561	UCAP
*	1	AAX30150	FRONT PANEL	S520BL	3139 247 54571	GB
*	1	AAX30090	FRONT PANEL	S520GD	3139 247 54351	RT
*	1	AAX30110	FRONT PANEL	S520GD	3139 247 54441	G
*	1	AAX30130	FRONT PANEL	S520TI	3139 247 54491	G
*	1	AAX30120	FRONT PANEL	S5450BL	3139 247 54461	UA
*	1	AAX30100	FRONT PANEL	S5450SI	3139 247 54391	U
	2	AAX22900	BADGE YAMAHA	S520BL/TI,S5450SI	3139 240 00061	
	2	AAX22910	BADGE YAMAHA	S520GD,S5450BL	3139 240 00071	
*	4	AAX29630	WINDOW	GRAYSMOKE	3139 244 01631	
	5	AAX22920	BUTTON/POWER	S520BL	3139 247 52381	UCAR
	5	AAX22930	BUTTON/POWER	S520GD	3139 247 52701	RT
	5	AAX22940	BUTTON/POWER	S5450BL	3139 247 52711	UA
*	5	AAX30030	BUTTON/POWER	S5450SI	3139 247 54411	U
	5	AAX22430	BUTTON/STANDBY	S520BL	3139 247 52391	GB
	5	AAX22440	BUTTON/STANDBY	S520GD	3139 247 52401	G
*	5	AAX29770	BUTTON/STANDBY	S520TI	3139 247 54511	G
*	7	AAX30060	FL FILTER		3139 243 10131	
			DVD MODULE	SD3.0 NON EURO	3139 248 70841	not available
			DVD MODULE	SD3.0 EURO	3139 248 70381	not available
	18-1	AAX21470	DVD MECHANISM (BASIC ENGINE)	VAL6011/04	9305 023 61104	
*	18-2	AAX29590	P.C.B. ASS'Y	MONO BOARD	3139 247 10111	UCARTP
*	18-2	AAX29600	P.C.B. ASS'Y	MONO BOARD	3139 247 10161	GB
	19	AAX23100	COVER TRAY	S520BL	3139 247 52451	
	19	AAX23110	COVER TRAY	S520GD	3139 247 52461	
*	19	AAX30190	COVER TRAY	S520TI	3139 247 54501	
	19	AAX23130	COVER TRAY	S5450BL	3139 247 52731	
*	19	AAX30180	COVER TRAY	S5450SI	3139 247 54401	
*	24	AAX30260	REAR PANEL	S520	3139 247 54531	UC
*	24	AAX30230	REAR PANEL	S520	3139 247 54361	R
*	24	AAX30240	REAR PANEL	S520	3139 247 54371	T
*	24	AAX30270	REAR PANEL	S520	3139 247 54541	A
*	24	AAX30220	REAR PANEL	S520	3139 247 54331	GB
*	24	AAX30280	REAR PANEL	S520	3139 247 54551	P
*	24	AAX30250	REAR PANEL	S5450	3139 247 54471	U
*	24	AAX30290	REAR PANEL	S5450	3139 247 54581	A
	32	AAX22820	TOP COVER	S520BL,S5450BL	3139 247 50341	
	32	AAX22830	TOP COVER	S520GD	3139 247 52481	
	32	AAX22840	TOP COVER	S520TI,S5450SI	3139 247 52491	
	33	AAX23640	PAN HEAD TORX S-TITE SCREW	3x6 ZN-BL	4822 502 13988	
	33	AAX23650	PAN HEAD TORX S-TITE SCREW	3x6 NI	2511 077 01039	
	35	AAX23640	PAN HEAD TORX S-TITE SCREW	3x6 ZN-BL	4822 502 13988	
	36	AAX23630	PAN HEAD TORX P-TITE SCREW	3x10 ZN-BL	4822 502 14109	
	40	AAX23330	BUTTON/CONTROL	S520BL	3139 247 52421	
	40	AAX23340	BUTTON/CONTROL	S520GD	3139 247 52431	
*	40	AAX30400	BUTTON/CONTROL	S520TI	3139 247 54521	
	40	AAX23360	BUTTON/CONTROL	S5450BL	3139 247 52721	
*	40	AAX30390	BUTTON/CONTROL	S5450SI	3139 247 54421	
	44	AAX23270	FOOT ASS'Y	S520BL,S5450SI	3139 247 50750	UCAP
	44	AAX23280	FOOT ASS'Y	S520BL,S520TI	3139 247 51261	GB
	44	AAX23290	FOOT ASS'Y	S520GD	3139 247 51461	G
*	44	AAX30350	FOOT ASS'Y	S520GD	3139 247 51451	RT
*	44	AAX30340	FOOT ASS'Y	S5450BL	3139 247 51220	U
*	52	AAX29570	P.C.B. ASS'Y	AV	3139 248 80881	UCARTP
*	52	AAX29580	P.C.B. ASS'Y	AV	3139 248 80891	GB
*	53	AAX29610	P.C.B. ASS'Y	DISPLAY	3139 248 80951	UCARTP
*	53	AAX29620	P.C.B. ASS'Y	DISPLAY	3139 248 80961	GB
* ⚠	55	AAX30430	POWER SUPPLY UNIT	VFM 2001 US 120V	3139 248 70421	UC
* ⚠	55	AAX30420	POWER SUPPLY UNIT	VFM WR	3122 427 22600	ARTP
* ⚠	55	AAX30410	POWER SUPPLY UNIT	VFM EURO 230V	3122 427 22572	GB

* New Parts

	Ref. No.	PART NO.	Description		Remarks	Markets
	57	AAX22990	FLEXIBLE FOIL CONNECTION	FFC 22P 130mm	3139 110 34220	
	59	AAX23000	FLEXIBLE FOIL CONNECTION	FFC 16P 130mm	3139 110 34230	
⚠	60	V2363800	POWER CORD ASS'Y			UC
⚠	60	VZ542500	POWER CORD ASS'Y			RTP
⚠	60	V2296800	POWER CORD ASS'Y			A
⚠	60	VN363700	POWER CORD ASS'Y			G
⚠	60	VV437300	POWER CORD ASS'Y			B

	Ref. No.	PART NO.	Description		Remarks	Markets
			ACCESSORY			
*	200	AAX30200	REMOTE CONTROL TRANSMITTER	RC19133004/01H	3139 228 89671	
	202	AAX23450	AUDIO/VIDEO CORD	YE/RD/WH 1.5m 1pc	2422 076 00304	UCARTP
	203	AAX21980	AUDIO CORD	RD/WH 1.5m 1pc	3103 308 92611	GB
	204	AAX22970	VIDEO CORD	YE 1.5m 1pc	3104 108 45432	GB

■ DVD MECHANISM ASS'Y

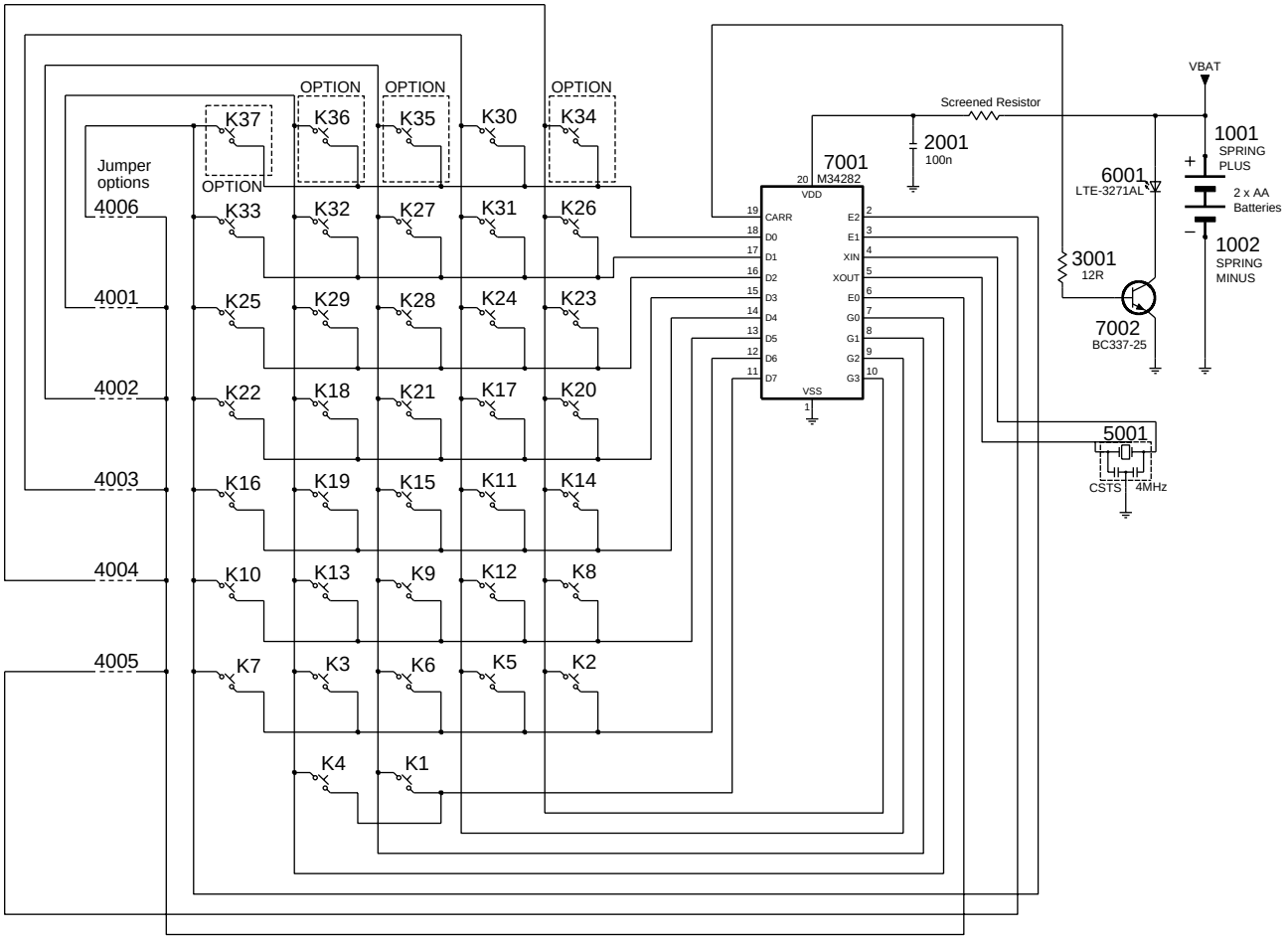


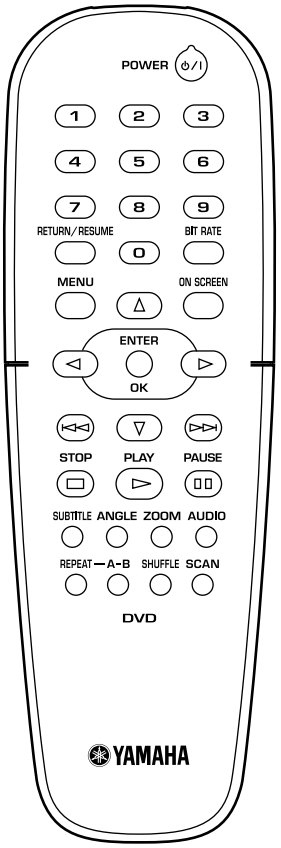
Parts other than the following parts list are not available as spare parts.

	Ref. No.	PART NO.	Description		Remarks	Markets
*		AAX21470	DVD MECHANISM (BASIC ENGINE)		9305 023 61102	
*	4	AAX23070	BELT/DRIVING		4822 358 10266	
*	9	AAX22410	SWITCH/OTHERS		3139 198 80010	
*	10	AAX23210	RING	TULE	4822 532 13097	
*			TRAY		3139 194 00270	not available
*			MOTOR	DC <=37.5W	3139 197 50060	not available

* New Parts

■ REMOTE CONTROL TRANSMITTER





Protocol Type: RC6 Mode 0

Key No.	RC Key id	Hexadecimal code
1	POWER ⏻/ I	**C**
2	1	**1**
3	2	**2**
4	3	**3**
5	4	**4**
6	5	**5**
7	6	**6**
8	7	**7**
9	8	**8**
10	9	**9**
11	RETURN/RESUME	**83**
12	0	**0**
13	BIT RATE	**EF**
14	MENU	**54**
15	CURSOR UP △	**58**
16	ON SCREEN	**82**
17	CURSOR LEFT ◁	**5A**
18	OK	**5C**
19	CURSOR RIGHT ▷	**5B**
20	PREVIOUS ⏮	**21**
21	CURSOR DOWN ▽	**21**
22	NEXT ⏭	**20**
23	STOP □	**31**
24	PLAY ▷	**2C**
25	PAUSE ▯▯	**30**
26	SUBTITLE	**4B**
27	ANGLE	**85**
28	ZOOM	**F7**
29	AUDIO	**4E**
30	REPEAT	**1D**
31	A/B REPEAT	**3B**
32	SHUFFLE	**1C**
33	SCAN	**2A**

DVD-S520/DV-S5450

YAMAHA