DVD Receiver

LX2600D/97

Service
Service
Service

Service Manual

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CLASS 1
LASER PRODUCT

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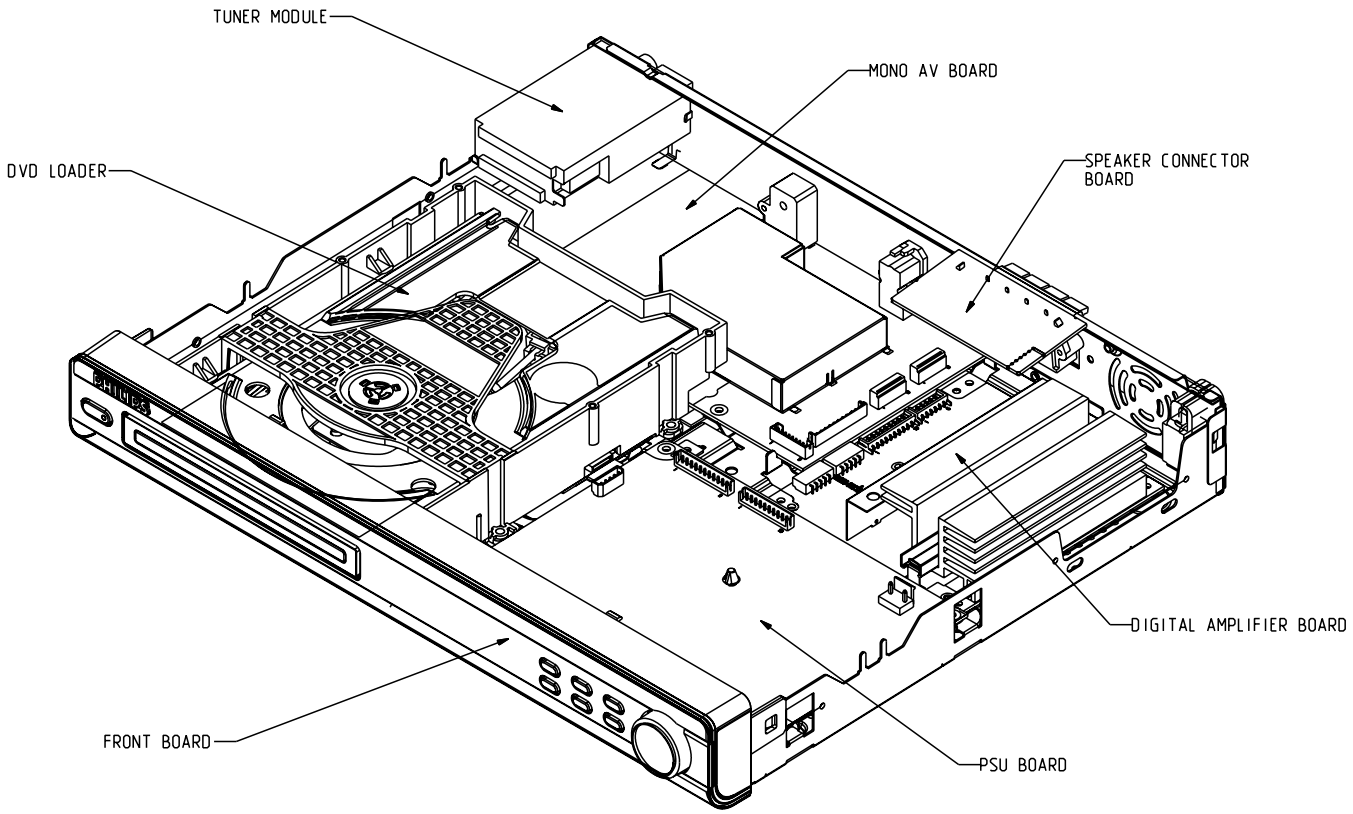
GB 3139 785 30890

Version 1.0

PHILIPS

LOCATION OF PC BOARDS



VERSION VARIATIONS:

Features & Board in used:	LX2600D					
	/97					
Progressive Scan						
Voltage Selector						
Aux-In						
TV-In						
Line-Out	x					
Composite (CVBS) Output	x					
S-Video Output	x					
Component (Pr/Y/Pb) Outputs	x					
SCART Output						

SPECIFICATIONS

GENERAL:

Mains voltage : 230v / 97
Mains frequency : 50Hz
Power consumption : < 2W at Standby
< 80W 1/8 P_{rated}
Dimension centre unit : 360 x 54 x 316mm

TUNER:

FM

Tuning range : 87.5-108MHz
Grid : 50kHz
IF frequency : 10.7MHz ± 25kHz
Aerial input : 75οημ coaxial
26 dB Quieting Sensitivity : 20dB
Selectivity at S9/300kHz : > 25dB
IF rejection : > 60dB
Image rejection : > 25dB
Distortion at RF=1mV, dev. 75kHz : < 3%
-3dB Limiting point : 23.5dBf
Crosstalk at RF=1mV, dev. 40kHz : > 18dB

MW

Tuning range : 530-1700kHz
Grid : 10kHz
IF frequency : 450kHz ± 1kHz
Aerial input : Frame aerial
26 dB Quieting Sensitivity : < 4.0mV/M
Selectivity at S9/300kHz : > 20dB
IF rejection : > 45dB
Image rejection : > 28dB
Distortion at RF=50mV, m=80% : < 5%

AMPLIFIER:

Stereo mode (DIN) : 25W + 25W RMS [1)]
Frequency response ±3dB : 100Hz-20kHz
Hum (min, volume) : 200nW
Residue noise (min, volume) : 40nW
Output sensitivity
Line out : 700mV ± 2dB at 47kοημσ

COMPACT DISC/VCD/DVD:

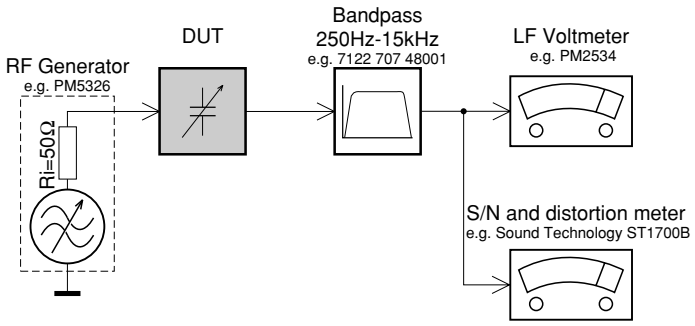
Video Decoding : MPEG-2 / MPEG-1
Video DAC : 12 Bits
Signal System : PAL / NTSC
Video Format : 4:3 / 16:9
Video S/N : > 56 dB
CBVS out [2)]
CVBS level : 1.0 ± 0.1V_{p-p}
Luminance S/N ratio : > 55dB
S-Video out [2)]
Y level : 1.0 ± 0.1V_{p-p}
Y S/N ratio : > 60dB
C level (burst) : 286mV_{p-p} +1/-4 dB

[1)] with 1kHz & 10% THD

[2)] Output terminals terminated with 75Ω

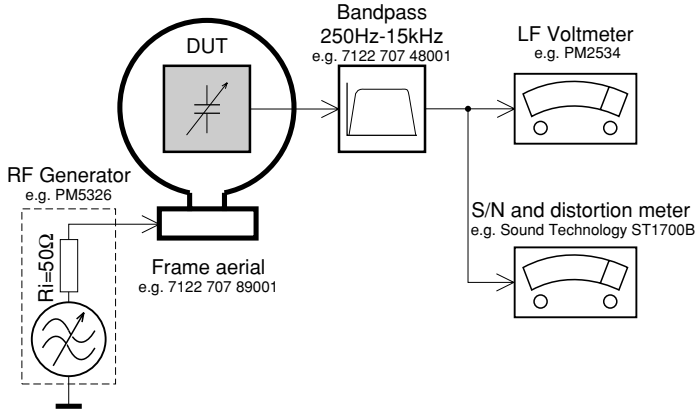
MEASUREMENT SETUP

Tuner FM



Use a bandpass filter to eliminate hum (50Hz, 100Hz) and disturbance from the pilottone (19kHz, 38kHz).

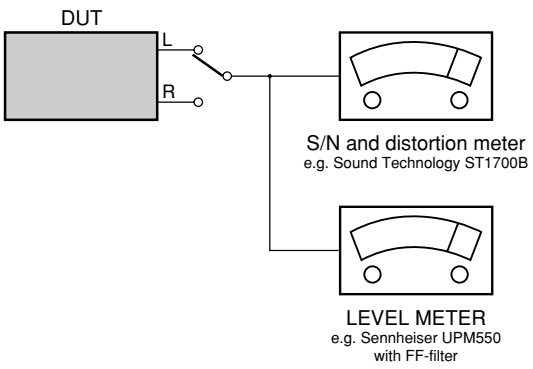
Tuner AM (MW,LW)



To avoid atmospheric interference all AM-measurements have to be carried out in a Faraday´s cage.
Use a bandpass filter (or at least a high pass filter with 250Hz) to eliminate hum (50Hz, 100Hz).

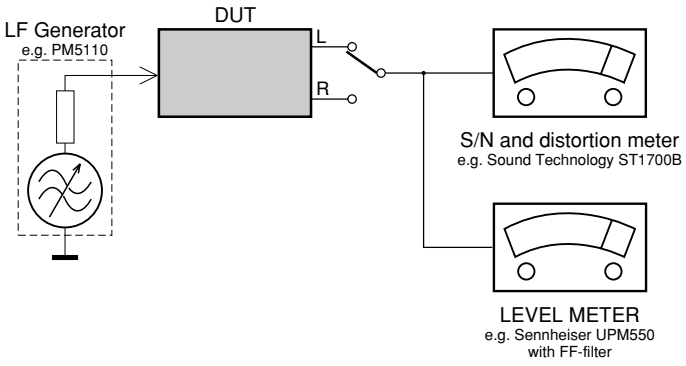
CD

Use Audio Signal Disc SBC429 4822 397 30184
(replaces test disc 3)



Recorder

Use Universal Test Cassette **CrO2** SBC419 4822 397 30069
or Universal Test Cassette **Fe** SBC420 4822 397 30071



SERVICE AIDS

Service Tools:

Universal Torx driver holder 4822 395 91019
Torx bit T10 150mm 4822 395 50456
Torx driver set T6 - T20 ..... 4822 395 50145
Torx driver T10 extended 4822 395 50423
Allen key set (1.5, 2, 2.5, 3, 4, 5, 6, 8mm) 5322 395 10754

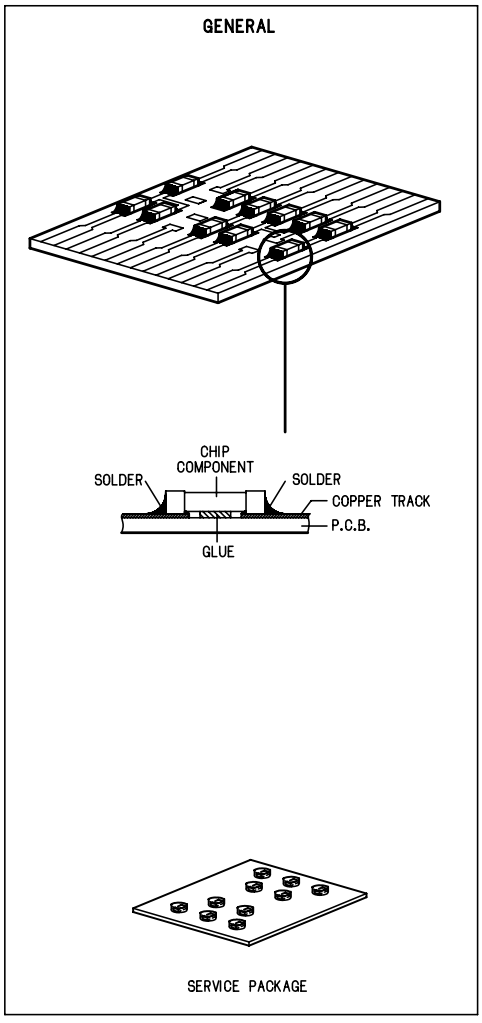
Compact Disc:

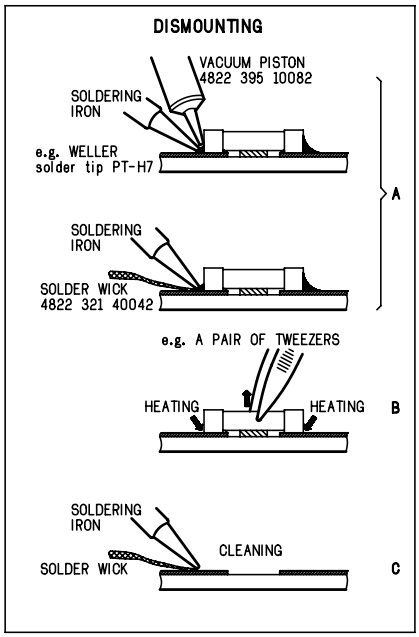
SBC426/426A Test disc 5 + 5A 4822 397 30096
SBC442 Audio Burn-in Test disc 1kHz 4822 397 30155
SBC429 Audio Signals disc 4822 397 30184
SBC444/444A 4822 397 30245
CD-RW Printed Audio Test Disc 7104 099 96611
Dolby Pro-logic Test Disc 4822 395 10216

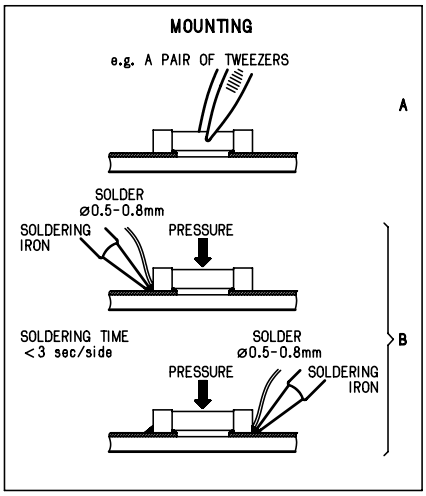
ESD Equipment:

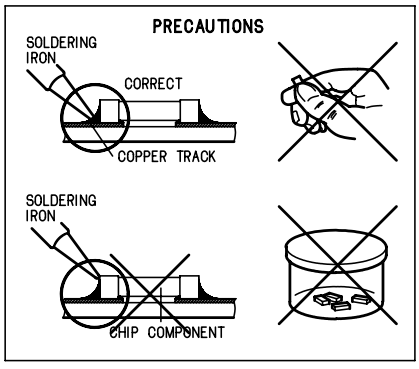
Anti-static table mat - large 1200x650x1.25mm ... 4822 466 10953
Anti-static table mat - small 600x650x1.25mm 4822 466 10958
Anti-static wristband 4822 395 10223
Connector box (1MΩ) 4822 320 11307
Extension cable
(to connect wristband to conn. box) 4822 320 11305
Connecting cable
(to connect table mat to conn. box) 4822 320 11306
Earth cable (to connect product to mat or box) 4822 320 11308
Complete kit ESD3
(combining all above products) 4822 320 10671
Wristband tester 4822 344 13999

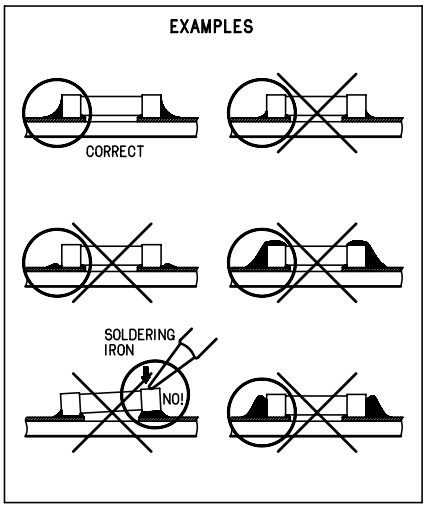
HANDLING CHIP COMPONENTS











ESD

(GB) WARNING

All ICs and many other semi-conductors are susceptible to electrostatic discharges (ESD). Careless handling during repair can reduce life drastically.
When repairing, make sure that you are connected with the same potential as the mass of the set via a wrist wrap with resistance. Keep components and tools also at this potential.

(NL) WAARSCHUWING

Alle IC's en vele andere halfgeleiders zijn gevoelig voor electrostatische ontladingen (ESD).
Onzorgvuldig behandelen tijdens reparatie kan de levensduur drastisch doen verminderen. Zorg ervoor dat u tijdens reparatie via een polsband met weerstand verbonden bent met hetzelfde potentiaal als de massa van het apparaat.
Houd componenten en hulpmiddelen ook op ditzelfde potentiaal.

(F) ATTENTION

Tous les IC et beaucoup d'autres semi-conducteurs sont sensibles aux décharges statiques (ESD).
Leur longévité pourrait être considérablement écourtée par le fait qu'aucune précaution n'est prise à leur manipulation.
Lors de réparations, s'assurer de bien être relié au même potentiel que la masse de l'appareil et enfiler le bracelet serti d'une résistance de sécurité.
Veiller à ce que les composants ainsi que les outils que l'on utilise soient également à ce potentiel.

(D) WARNUNG

Alle ICs und viele andere Halbleiter sind empfindlich gegenüber elektrostatischen Entladungen (ESD).
Unsorgfältige Behandlung im Reparaturfall kan die Lebensdauer drastisch reduzieren.
Veranlassen Sie, dass Sie im Reparaturfall über ein Pulsarmband mit Widerstand verbunden sind mit dem gleichen Potential wie die Masse des Gerätes.
Bauteile und Hilfsmittel auch auf dieses gleiche Potential halten.

(I) AVVERTIMENTO

Tutti IC e parecchi semi-conduttori sono sensibili alle scariche statiche (ESD).
La loro longevità potrebbe essere fortemente ridatta in caso di non osservazione della più grande cautione alla loro manipolazione.
Durante le riparazioni occorre quindi essere collegato allo stesso potenziale che quello della massa dell'apparecchio tramite un braccialetto a resistenza.
Assicurarsi che i componenti e anche gli utensili con quali si lavora siano anche a questo potenziale.

(GB)

Safety regulations require that the set be restored to its original condition and that parts which are identical with those specified, be used.

(NL)

Veiligheidsbepalingen vereisen, dat het apparaat bij reparatie in zijn oorspronkelijke toestand wordt teruggebracht en dat onderdelen, identiek aan de gespecificeerde, worden toegepast.

(F)

Les normes de sécurité exigent que l'appareil soit remis à l'état d'origine et que soient utiliséés les piéces de rechange identiques à celles spécifiées.

(D)

Bei jeder Reparatur sind die geltenden Sicherheitsvorschriften zu beachten. Der Original zustand des Geräts darf nicht verändert werden; für Reparaturen sind Original-Ersatzteile zu verwenden.

(I)

Le norme di sicurezza esigono che l'apparecchio venga rimesso nelle condizioni originali e che siano utilizzati i pezzi di ricambio identici a quelli specificati.

"After servicing and before returning set to customer perform a leakage current measurement test from all exposed metal parts to earth ground to assure no shock hazard exist. The leakage current must not exceed 0.5mA."

"Pour votre sécurité, ces documents doivent être utilisés par des spécialistes agréés, seuls habilités à réparer votre appareil en panne".

(GB) Warning !

Invisible laser radiation when open.
Avoid direct exposure to beam.

(S) Varning !

Osynlig laserstrålning när apparaten är öppnad och spärren är urkopplad. Betrakta ej strålen.

(SF) Varoitus !

Avatussa laitteessa ja suojalukituksen ohitettaessa olet alttiina näkymättömälle laserisäteilylle. Älä katso säteeseen!

(DK) Advarse !

Usynlig laserstråling ved åbning når sikkerhedsafbrydere er ude af funktion. Undgå udsaettelse for stråling.

DISMANTLING INSTRUCTIONS

Dismantling of the Front Panel assembly

1) Open the Tray and remove the tray cover assembly and remove it as shown in figure 1.

   Note: The Tray can be manually open by inserting a minus screw driver (approximately 9mm) and push lever in the direction shown in figure 2.

Figure 1

2) Loosen the 5 screws to dismantle the Top Cover
   - 2 screws on each side (pos 293)
   - 3 screws on the Rear Panel (pos 288).

3) Uncatch 4 catches C2 (2x on side & 2x on the bottom) to slide the Front Panel assembly as per figure 4.

Figure 2

Dismantling of the Tuner Module, Loader Mechanism & Mono AV board

1) Loosen 2 screws A (pos 281) to remove the Tuner Module as per figure 3.

2) With the tray cover assembly already removed, loosen 4 screws D (pos 278) to remove the Loader Mechanism as per figure 4.

3) Loosen 2 screws C (pos 283 & 286) on the rear and 2 screws G (see figure 3 and 4) to remove the Mono AV board.

Dismantling of the PSU, Speaker Connector and Amplifier boards

1) Loosen 4 screws E (pos 280) and 1 catch C1 to remove the PSU board as per figure 4.

2) Loosen 2 screws B (pos 281) to remove the Speaker Connector board as per figure 3.
   Remove the Speaker Connector board try to prevent being block by Z as per figure 5.

3) Loosen 4 screws F (pos 279) to remove the Amplifier board as per figure 4.

2-1

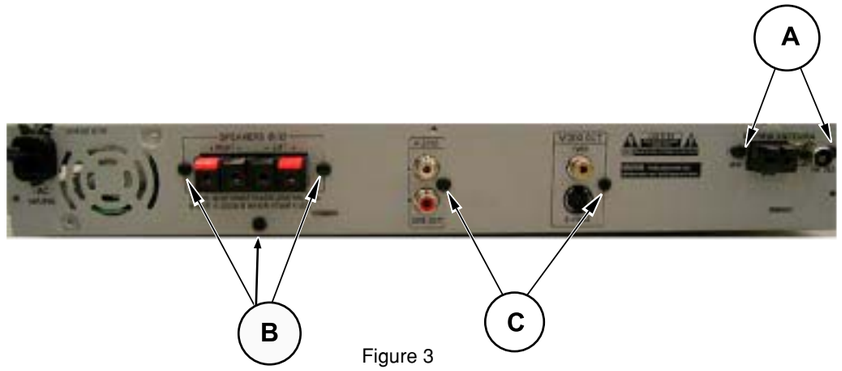
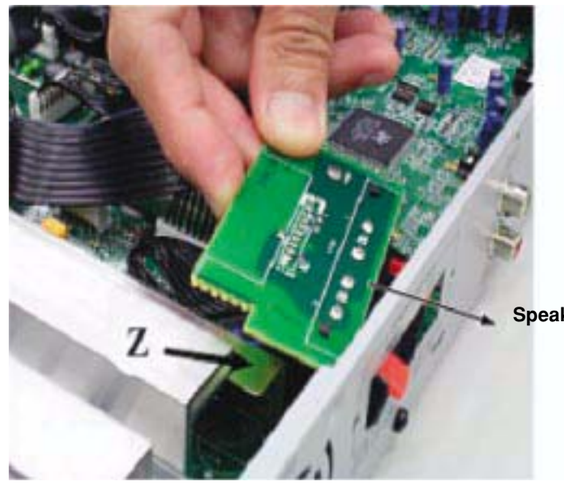


Figure 3



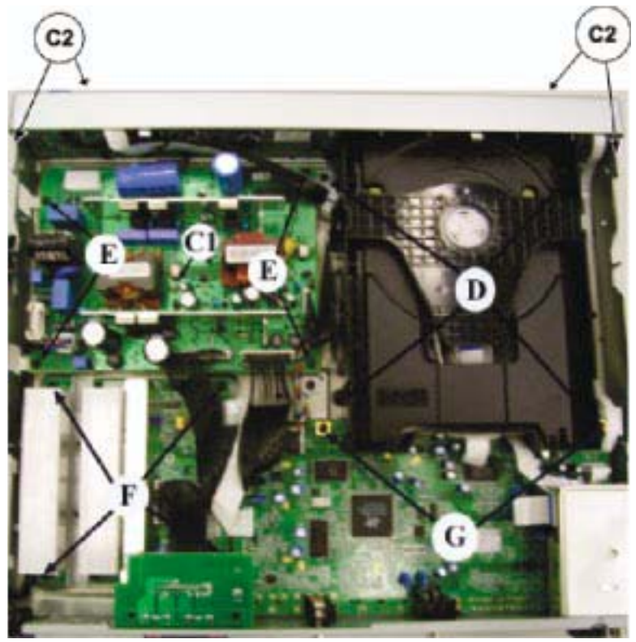


Figure 4

Service positions

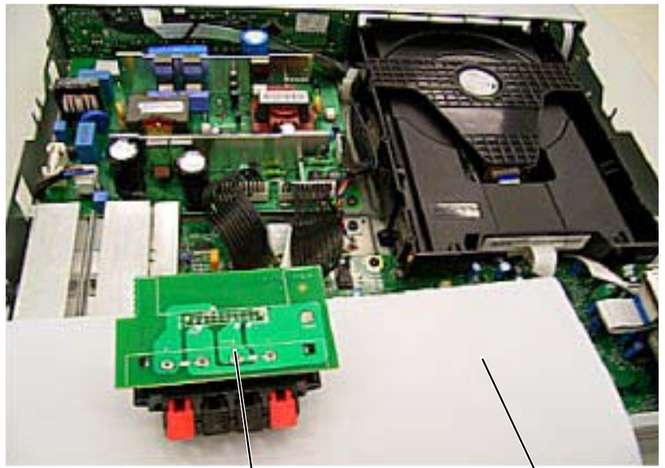


Figure 5

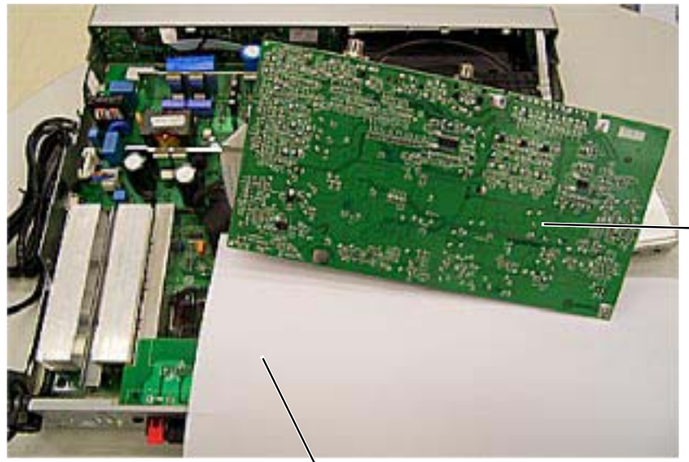


Figure 6

2-2

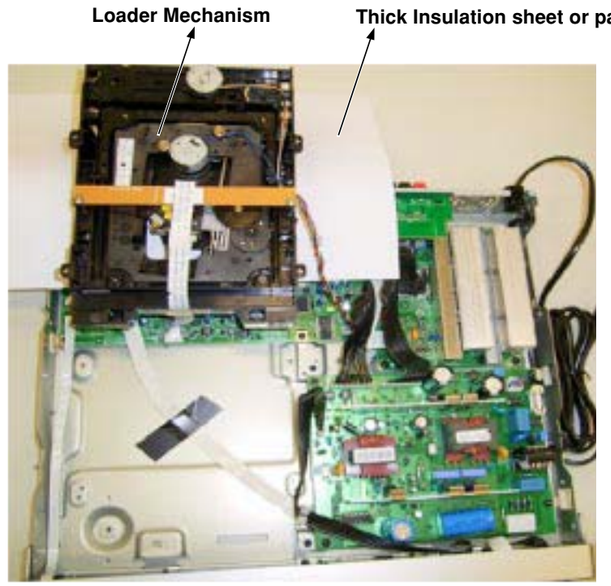


Figure 7

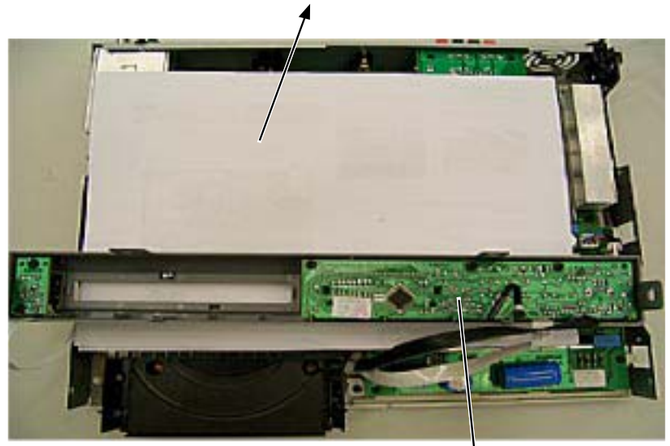
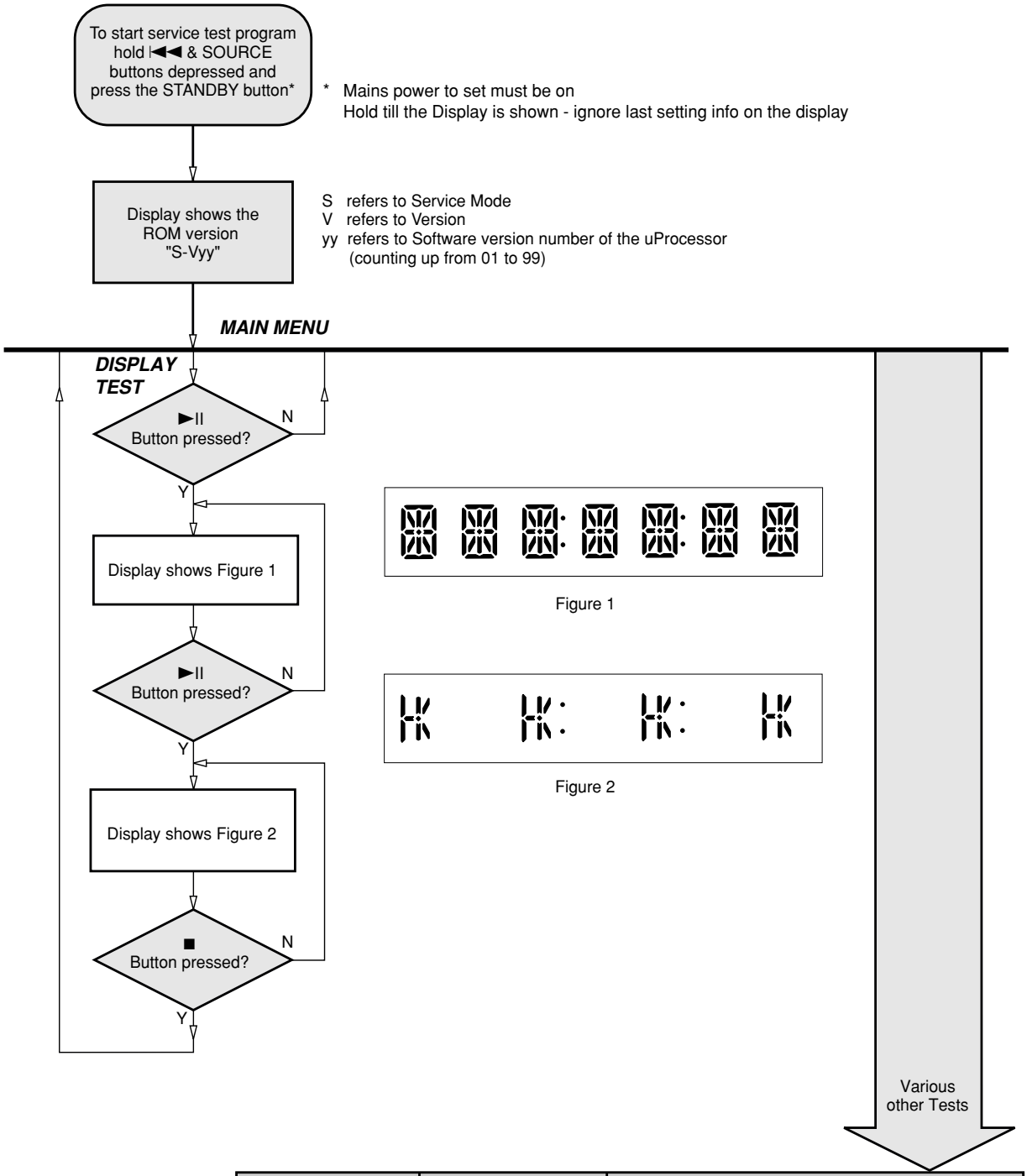


Figure 8

SERVICE TEST PROGRAM



TEST	*Activated with*	*ACTION*
EEPROM FORMAT TEST	I◄◄	Load default data. Display shows "NEW" for 1 second. ***Caution!*** ***All presets from the customer will be lost!!***
ROTARY ENCODER TEST	SOURCE / VOLUME Knob	Display shows value for 2 seconds. Values increases or decreases in steps of 1 until 0 (Min.) or 40 (Max.) is reached.
LEAVE SERVICE TEST PROGRAM	Disconnect mains cord	

Procedure to change Tuner Grid

During the standby mode, hold the SOURCE and PLAY buttons down and press the STANDBY button.
The display will show the new tuning grid "GRID 9" or "GRID 10".
Note: Repeating the same action will toggle back to its previous tuning grid setting.

Region code chage is done as follows:

1) Power up the set and open tray in DVD mode.

2) Press <9999> follow by <X> buttons on the Remote control.
   where x = numeric 1 to 6 denoting the regions below:
   1 = USA
   2 = Europe
   3 = Asia Pacific
   4 = Australia, New Zealand, Latam
   5 = Russia, India
   6 = China

Reprogramming of DVD version Matrix

After repair of the Mono AV board the customer setting and region code may lost.
Reprogramming will put the set back in the state in which it has left the factory, ie. with the default setting and the allowed region code.

To reprogram do as follow:
1) Put the set in Stop mode with tray open
2) Press the following buttons on the Remote Control:
   <9> <9> <9> <9> <AUDIO> <5> ..... for LX2600D/ 97 (Tuner - Non -Cenelac)
   <9> <9> <9> <9> <AUDIO> <6> ..... for LX2610D/93 (Tuner Non- -Cenelac)

* Note: Please make sure the right tuner is used.

Procedure for check Software version

1) Power up the set and open tray in DVD mode.
2) Press OSD button on the Remote control.
3) The TV screen will shows:
   SERVO:nnnnnnnn REG:r
   LX3600D-yymmdd-Vxx
   where
   nnnnnnnn = servo version number
   r = region number
   yymmdd = software date in year, month, day format
   xx = version number
   SSS = stroke version eg: / 97 or /93

Procedure to upgrade software

1) Power up the set and open tray in DVD mode.

2) Place upgrade CD-ROM onto tray and close.

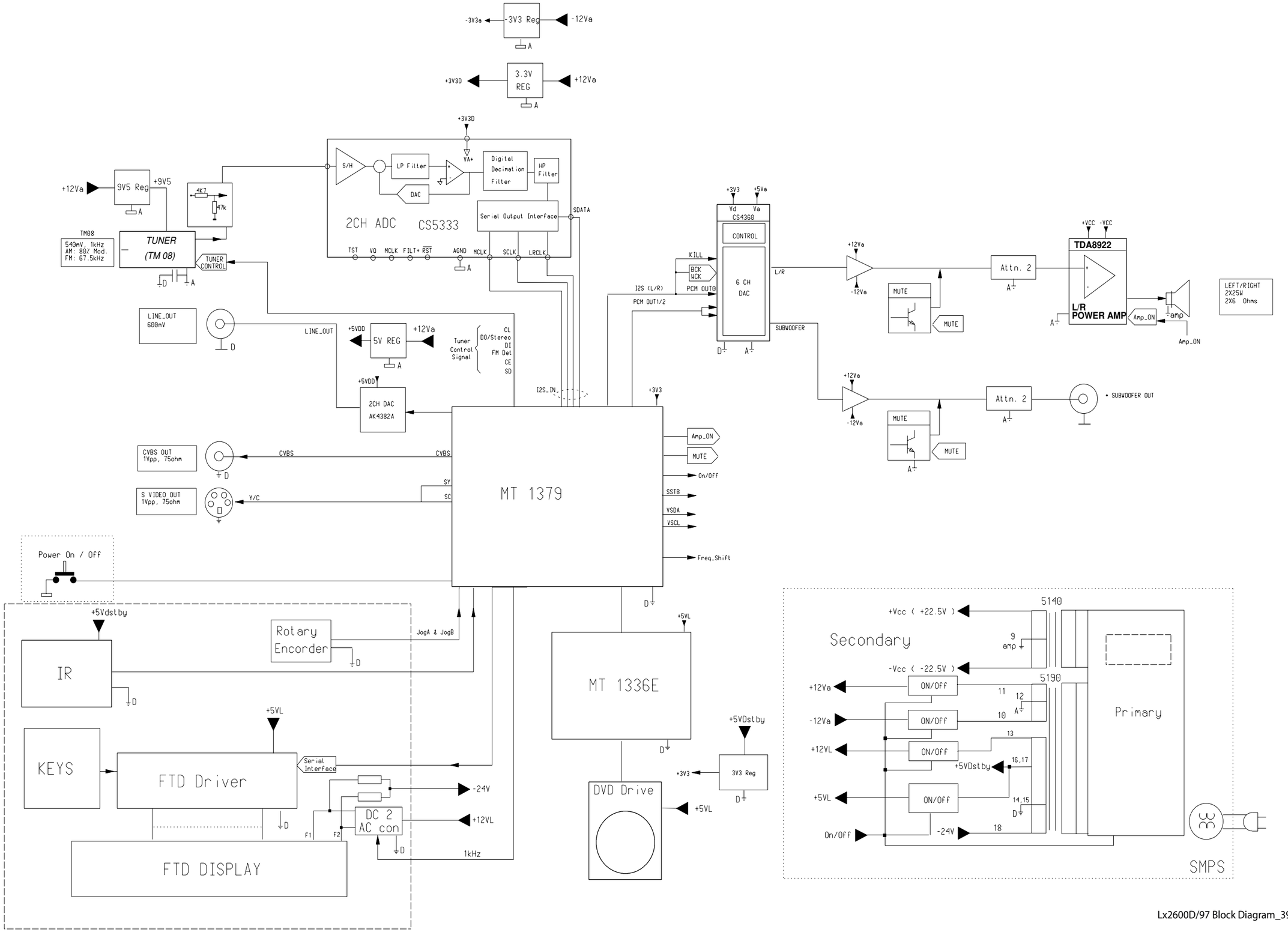
3) The set will response and display the following:
   - LOAD [After the disc is read, the tray will open for you to remove the disc]
   - ERASE 0 -> ERASE F ..... -> ERASE 0
   - WRITE F ..... -> WRITE 0
   - UPG END [only for a short moment, if unsuccessful ERROR is displayed]
   - DISC
   - LOAD [Tray will close indicating that the upgrade process is completed]

4) Unplug the set to disconnect the mains supply.

5) The whole process should last for about 5 minutes. Remove the upgrade CD-ROM and unplug the Mains supply.

4-1

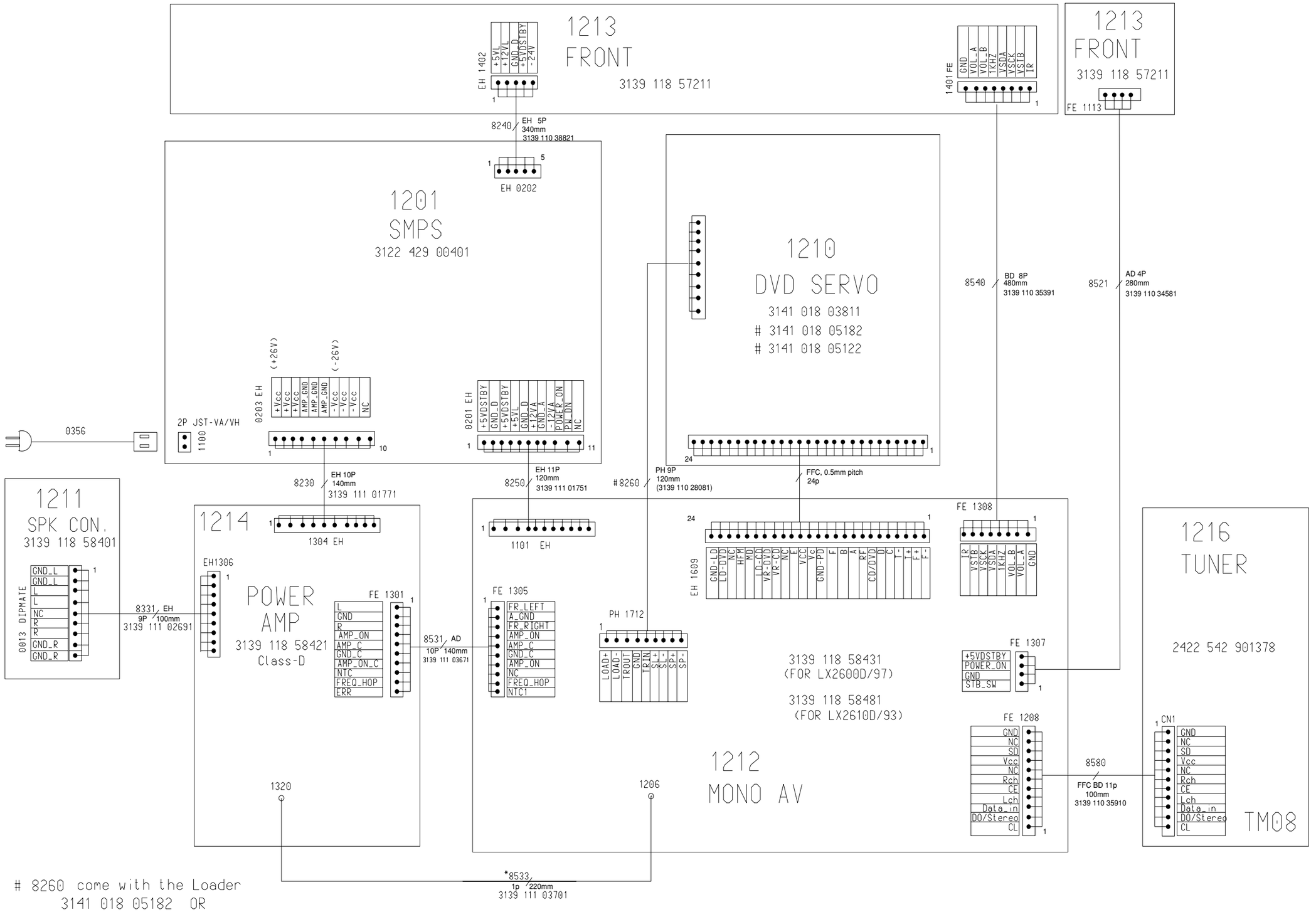
SET BLOCK DIAGRAM



Lx2600D/97 Block Diagram_39331_HY_wk443.2

4-2

WIRING DIAGRAM



8260 come with the Loader
3141 018 05182 OR
3141 018 05122

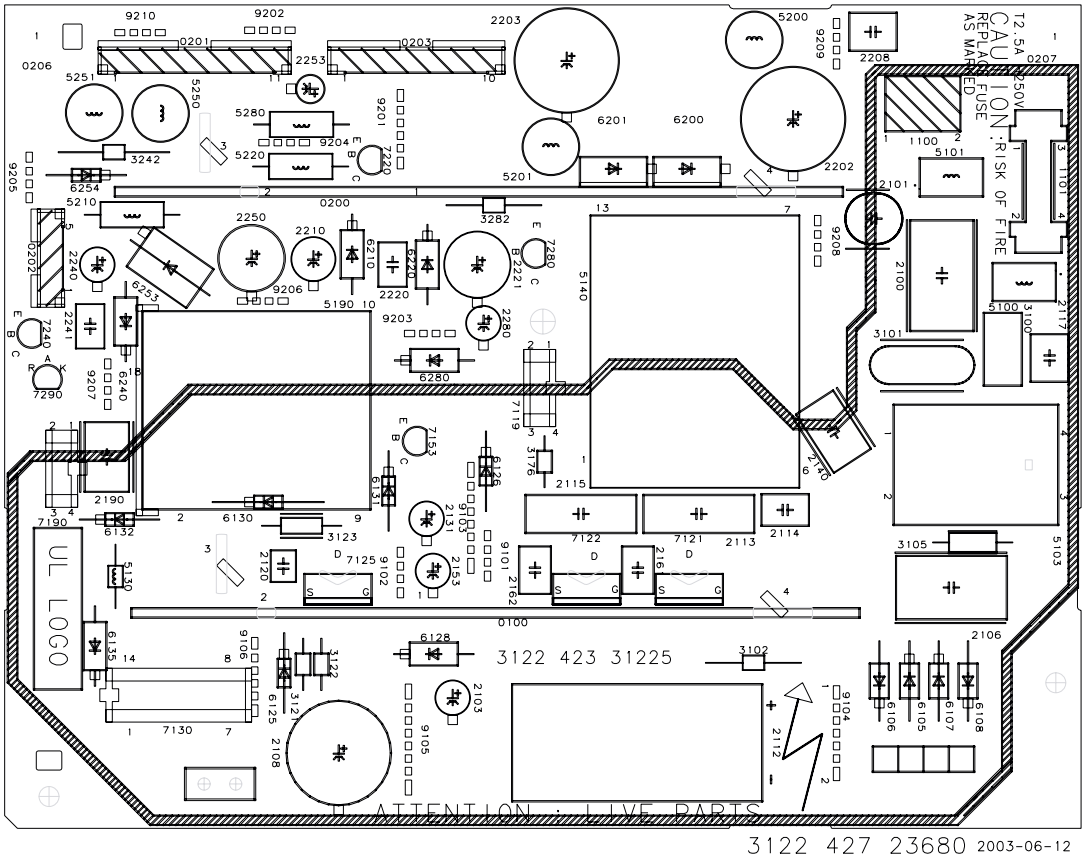
* PROVISION

PSU BOARD

(For Information only)

It is not recommended for component repair on this board but to replace the board when it becomes defective.
Therefore no service parts list is published in this chapter.

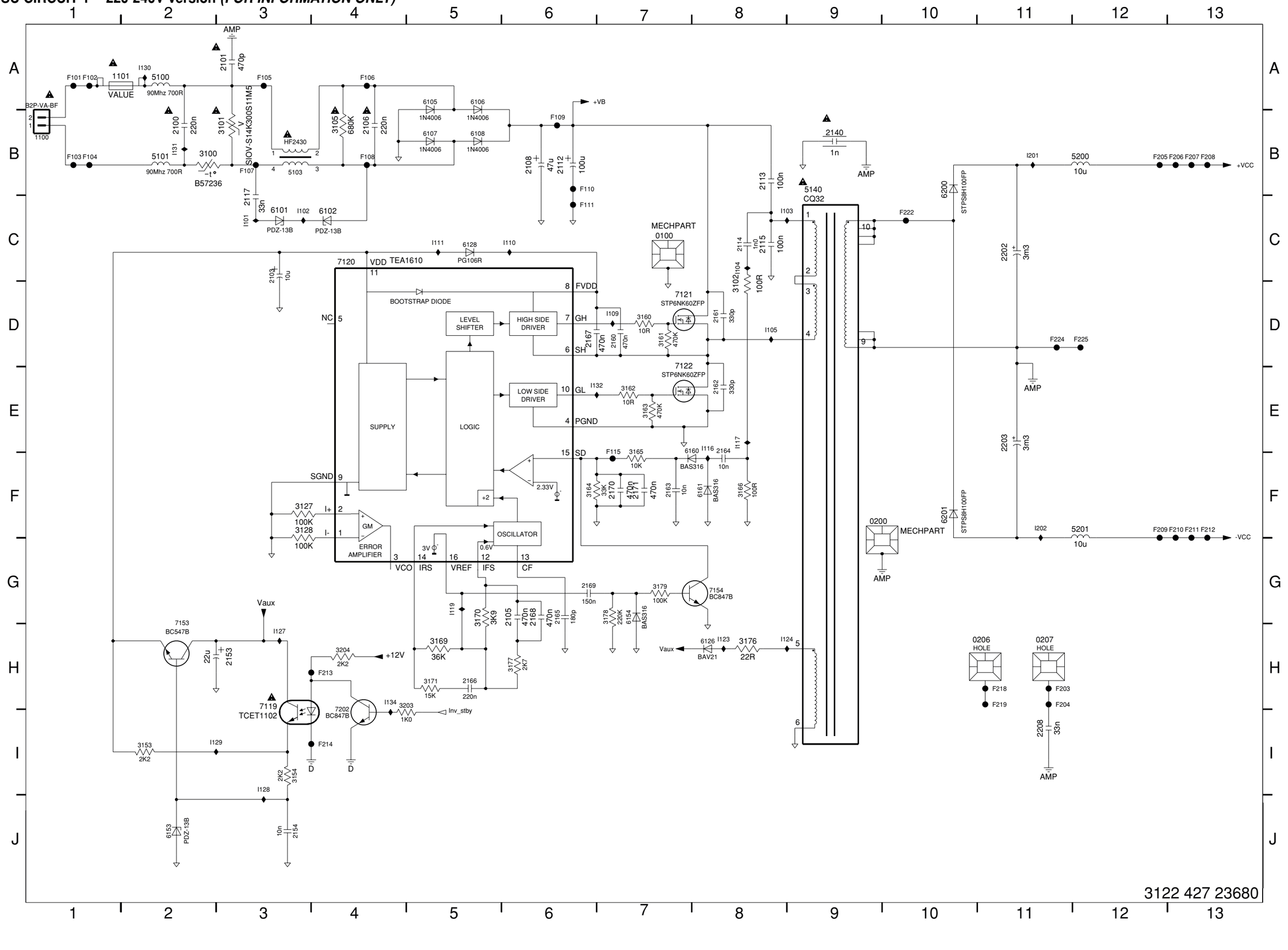
The only service part available for replacement is:
PSU Board 220V-240V 3122 429 00191



3122 427 23680 2003-06-12

5-2

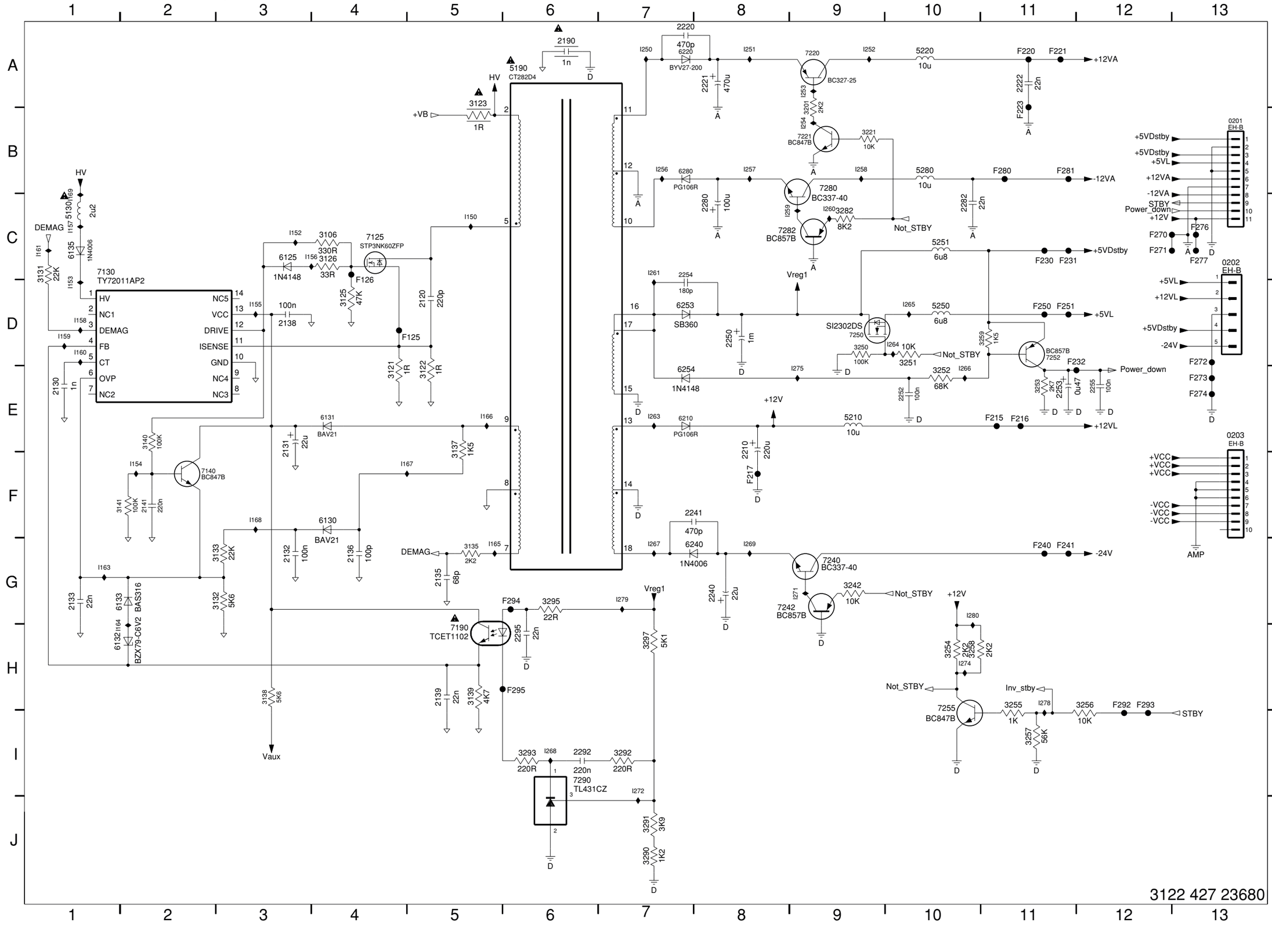
PSU CIRCUIT 1 - 220-240V version *(FOR INFORMATION ONLY)*



3122 427 23680

5-3

PSU CIRCUIT 2 - 220-240V version *(FOR INFORMATION ONLY)*



FRONT BOARDS

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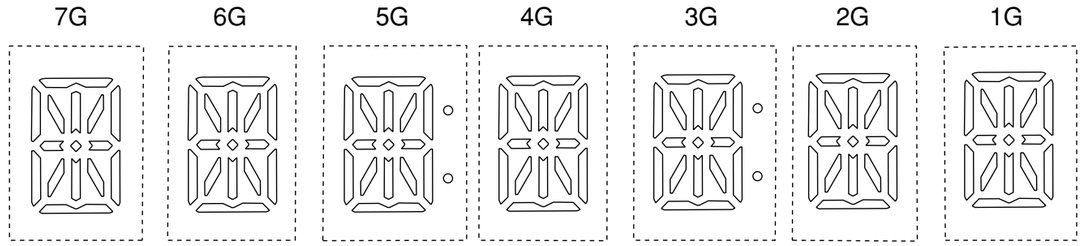
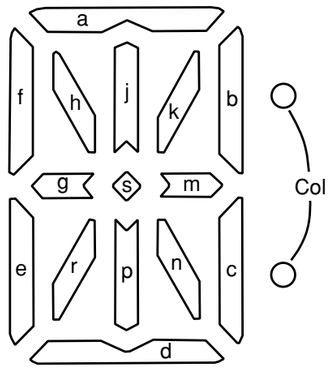
6-1

FTD DISPLAY PIN CONNECTIONS





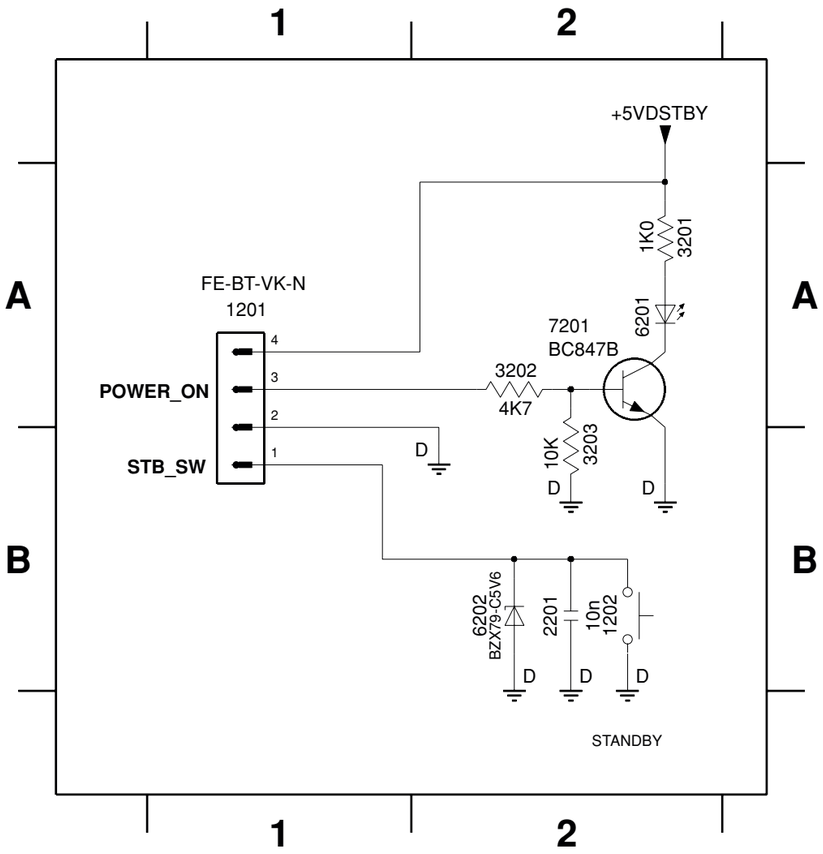
(1G-7G)

	7G	6G	5G	4G	3G	2G	1G
P1	a	a	a	a	a	a	a
P2	j , p	j , p	j , p	j , p	j , p	j , p	j , p
P3	h	h	h	h	h	h	h
P4	k	k	k	k	k	k	k
P5	b	b	b	b	b	b	b
P6	f	f	f	f	f	f	f
P7	m	m	m	m	m	m	m
P8	g	g	g	g	g	g	g
P9	c	c	c	c	c	c	c
P10	e	e	e	e	e	e	e
P11	r	r	r	r	r	r	r
P12	n	n	n	n	n	n	n
P13	d	d	d	d	d	d	d
P14	-	-	col	-	col	-	-
P15	s	s	s	s	s	s	s

FTD DISPLAY PIN NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
FUNCTION	F1	F2	NP	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	P11	P12	P13	P14	P15	NC	NC	NC	NC	7G	6G	5G	4G	3G	2G	1G	NP	F2	F2

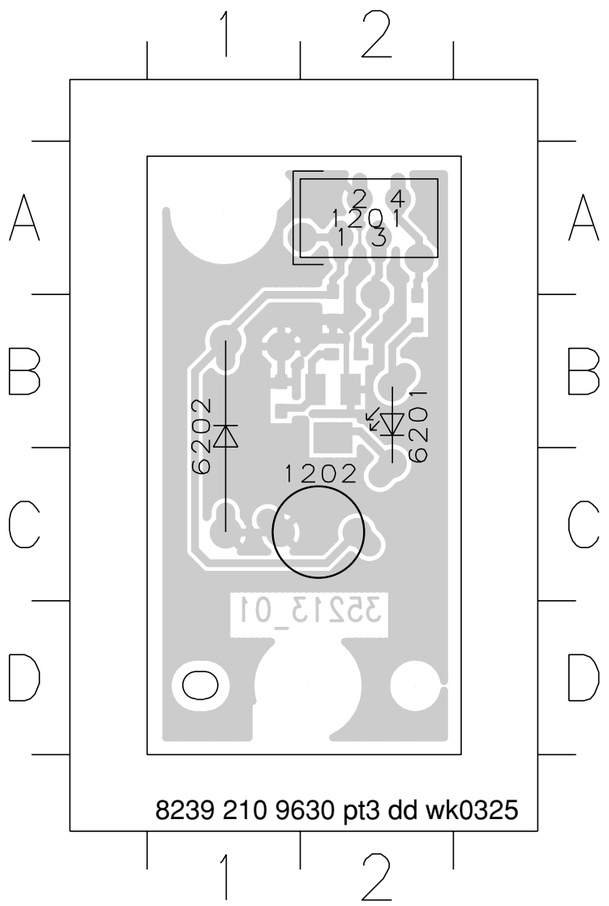
FRONT STANDBY PART - CIRCUIT DIAGRAM

1201 A1 2201 B2 3202 A2 6201 A2 7201 A2
1202 B2 3201 A2 3203 B2 6202 B2

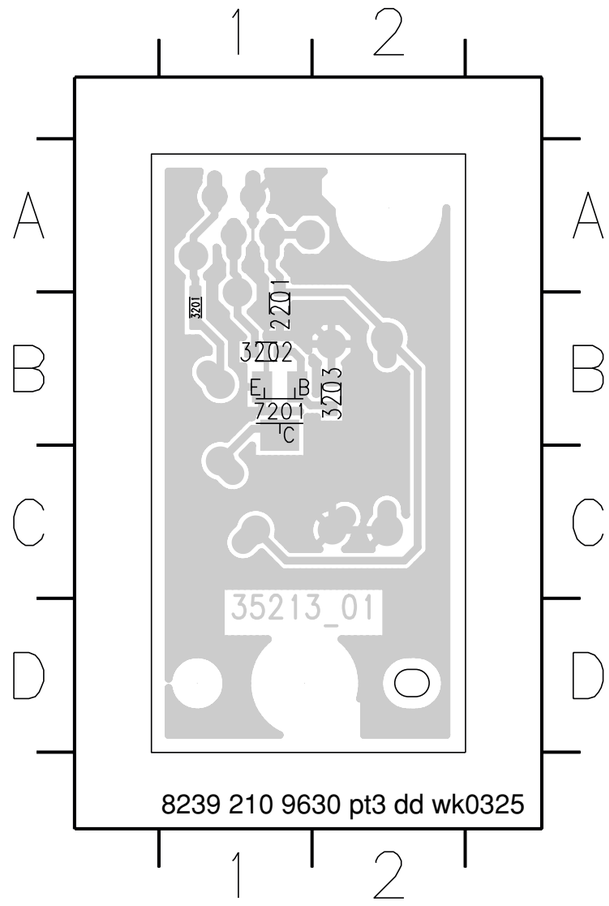


FRONT STANDBY PART - COMPONENT & CHIP LAYOUT

1201 A2 6201 B2
1202 C2 6202 B1



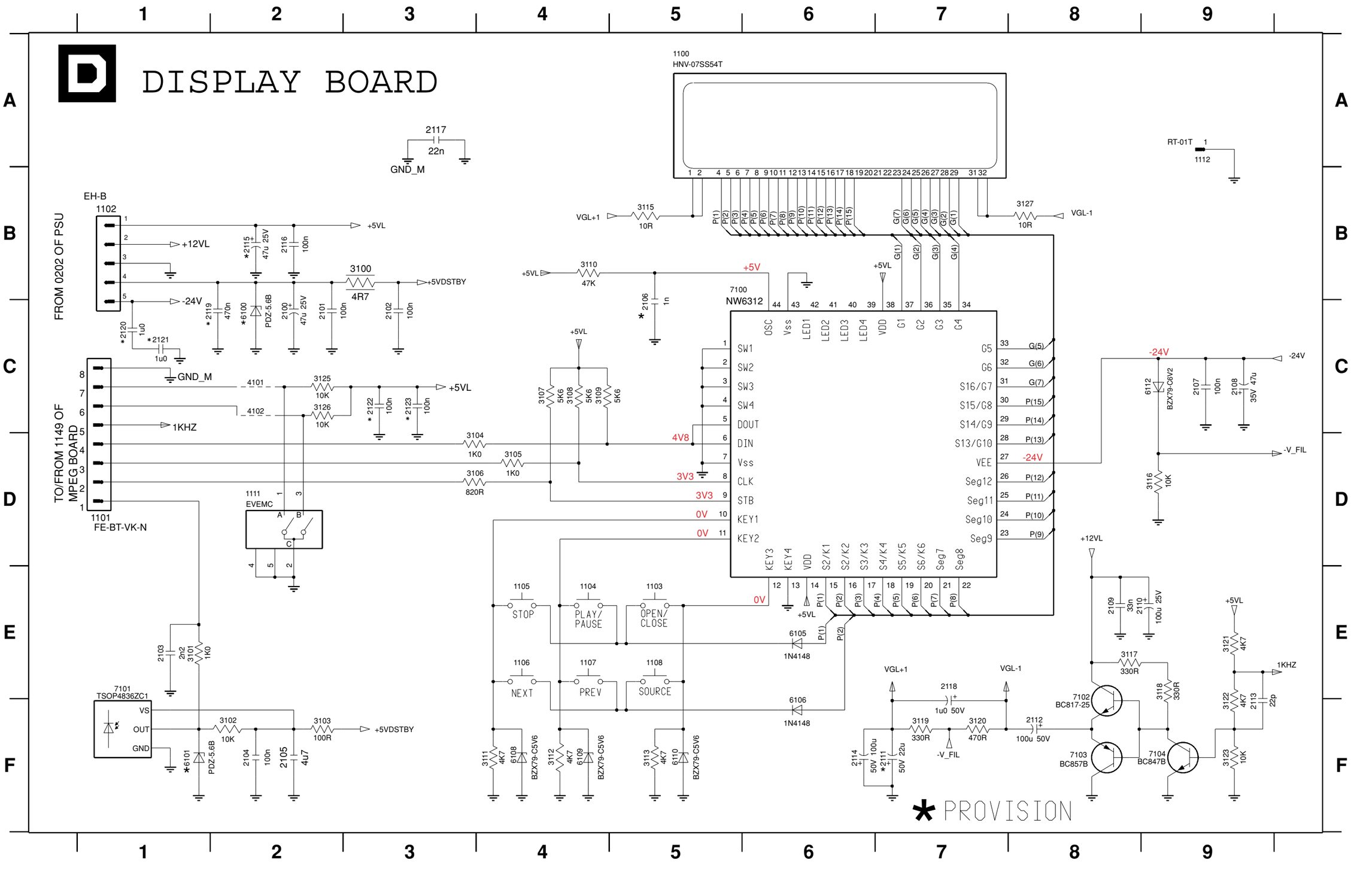
2201 B1 3203 B2
3201 B1 7201 B1
3202 B1



6-3

FRONT DISPLAY PART - CIRCUIT DIAGRAM

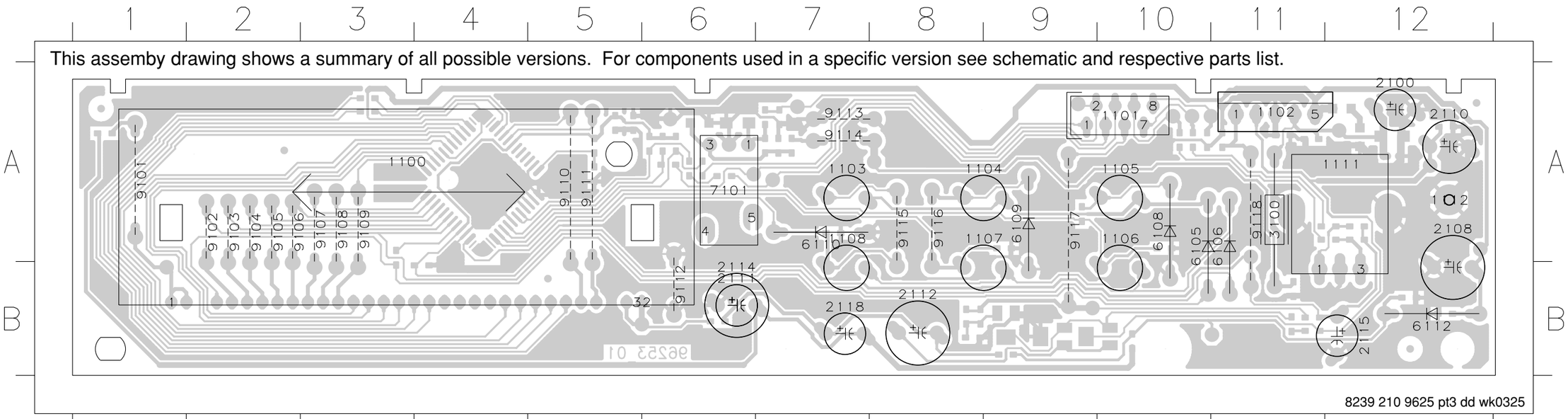
1100 A5	1103 E5	1106 E4	1111 D2	2101 C2	2104 F2	2107 C9	2110 E9	2113 F9	2116 B2	2119 C2	2122 C3	3101 E1	3104 D3	3107 C4	3110 B4	3113 F5	3117 E8	3120 F7	3123 F9	3127 B8	6100 C2	6106 F6	6110 F5	7101 E1	7104 F9
1101 D1	1104 E4	1107 E4	1112 A9	2102 C3	2105 F2	2108 C9	2111 F7	2114 F6	2117 A3	2120 C1	2123 C3	3102 F2	3105 D4	3108 C4	3111 F4	3115 B5	3118 E9	3121 E9	3125 C2	4101 C2	6101 F1	6108 F4	6112 C9	7102 F8	
1102 B1	1105 E4	1108 E5	2100 C2	2103 E1	2106 C5	2109 E8	2112 F8	2115 B2	2118 E7	2121 C1	3100 B3	3103 F2	3106 D3	3109 C4	3112 F4	3116 D9	3119 F7	3122 F9	3126 C2	4102 C2	6105 E6	6109 F4	7100 B6	7103 F8	



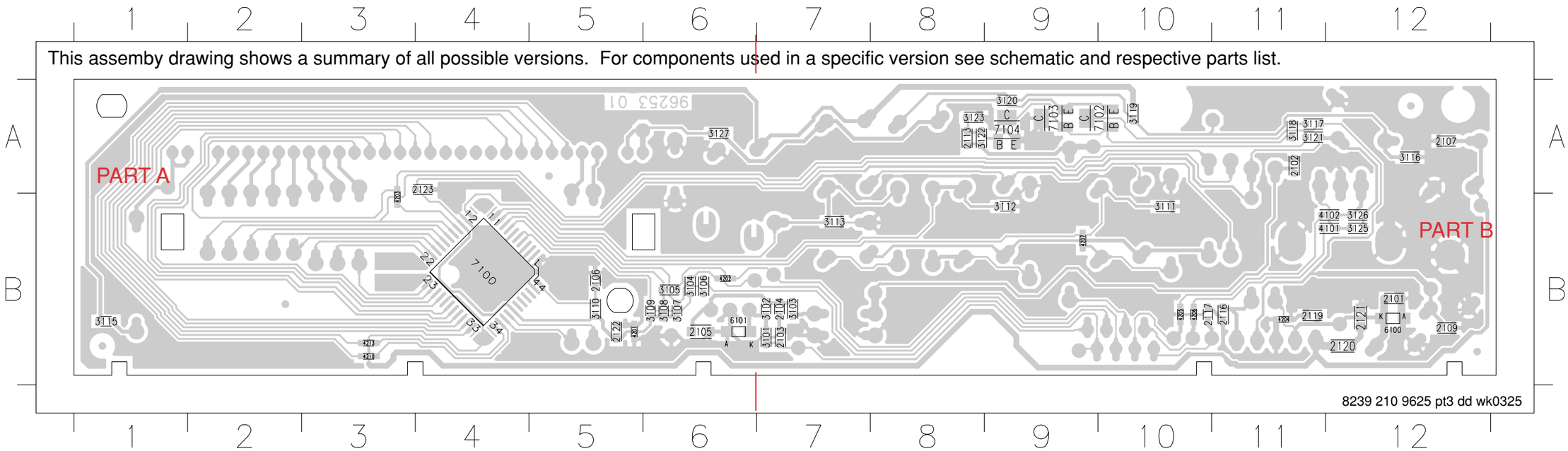
6-4

FRONT DISPLAY PART - COMPONENT & CHIP LAYOUT

1100 A3	1105 A10	1112 A12	2112 B8	6105 A10	6112 B12	9104 A2	9109 A3	9114 A7
1101 A10	1106 A10	2100 A12	2114 B6	6106 A11	7101 A6	9105 A2	9110 A5	9115 A8
1102 A11	1107 A8	2108 A12	2115 B12	6108 A10	9101 A1	9106 A2	9111 A5	9116 A8
1103 A7	1108 A7	2110 A12	2118 B7	6109 A9	9102 A2	9107 A3	9112 B6	9117 A9
1104 A8	1111 A12	2111 B6	3100 A11	6110 A7	9103 A2	9108 A3	9113 A7	9118 A11



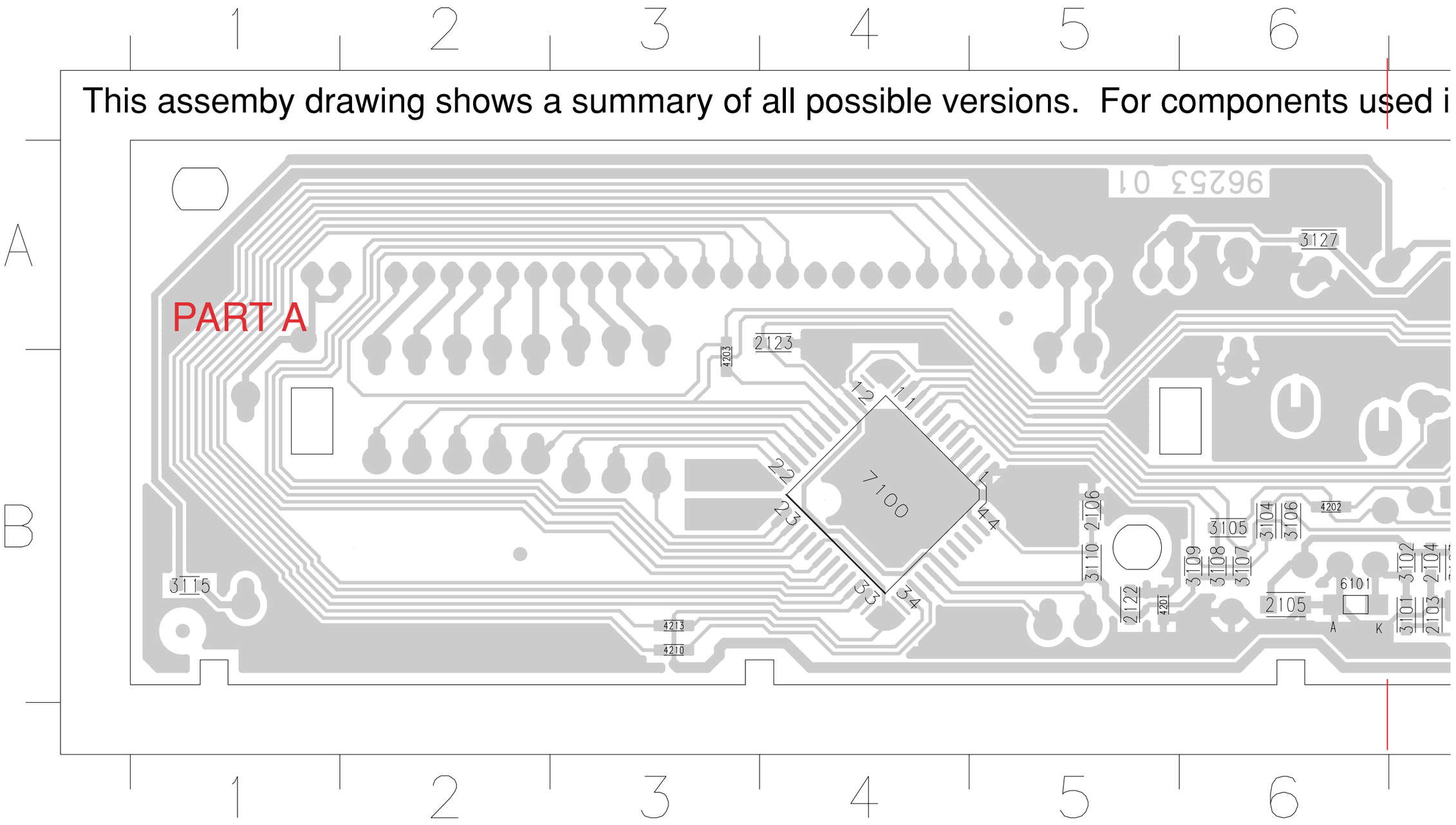
2101 B12	2106 B5	2117 B10	2123 A4	3105 B6	3110 B5	3116 A12	3121 A11	3127 A6	4203 B3	4210 B3	7102 A1C
2102 A11	2107 A12	2119 B11	3101 B7	3106 B6	3111 B10	3117 A11	3122 A8	4101 B12	4204 B11	4213 B3	7103 A9
2103 B7	2109 B12	2120 B12	3102 B7	3107 B6	3112 B9	3118 A11	3123 A8	4102 B12	4205 B1C	6100 B12	7104 A9
2104 B7	2113 A8	2121 B12	3103 B7	3108 B6	3113 B7	3119 A1C	3125 B12	4201 B5	4206 B1C	6101 B6	
2105 B6	2116 B11	2122 B5	3104 B6	3109 B6	3115 B1	3120 A9	3126 B12	4202 B6	4207 B9	7100 B4	



6-5

FRONT DISPLAY PART - CHIP LAYOUT PART A

This assemby drawing shows a summary of all possible versions. For components used i

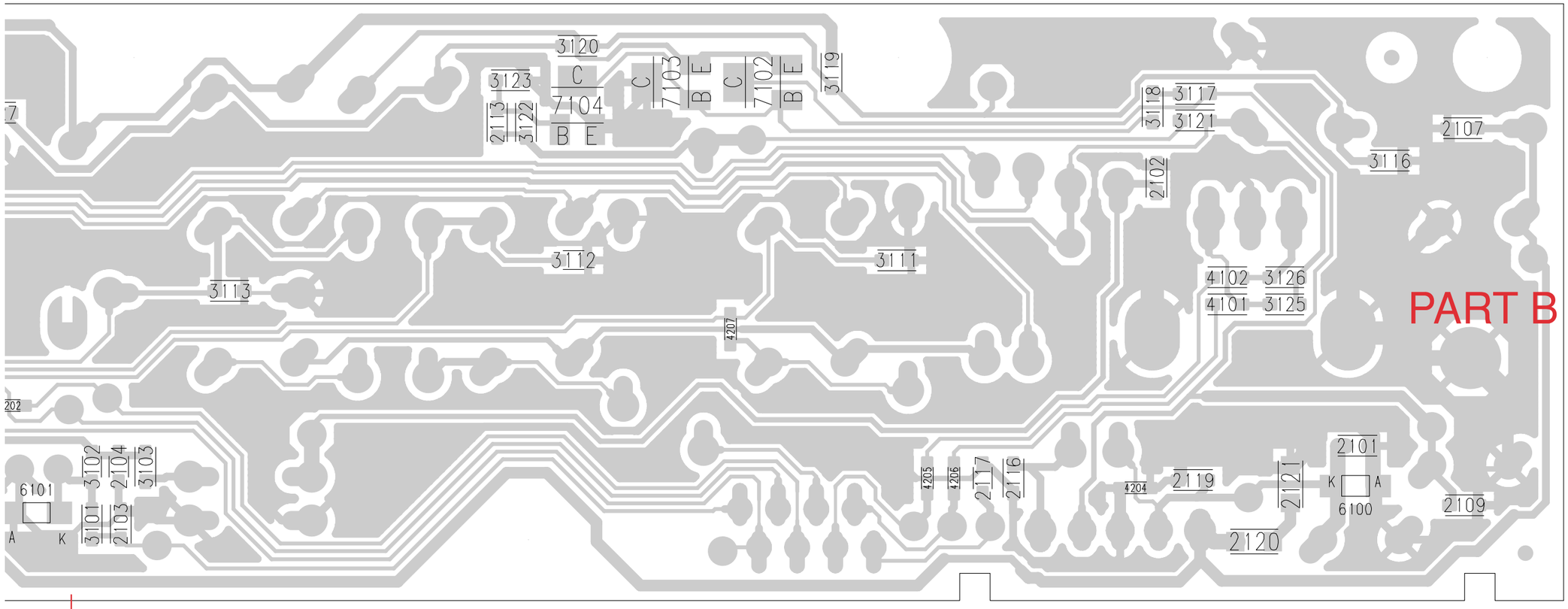


6-6

FRONT DISPLAY PART - CHIP LAYOUT PART B

7 8 9 10 11 12

ts used in a specific version see schematic and respective parts list.



A

B

8239 210 9625 pt3 dd wk0325

7 8 9 10 11 12

ELECTRICAL PARTS LIST - FRONT BOARDS

MISCELLANEOUS

1101	4822 265 11515	CONN. BM V 8P F
1103	4822 276 13775	Tach Switch
1104	4822 276 13775	Tach Switch
1105	4822 276 13775	Tach Switch
1106	4822 276 13775	Tach Switch
1107	4822 276 13775	Tach Switch
1108	4822 276 13775	Tach Switch
1111	2422 129 16975	Rotary Encoder 12P
1201	4822 267 10733	CON BM V 4P F
1202	4822 276 13775	Tach Switch

RESISTORS

3100	4822 052 10478	4R70 5% 0,33W

DIODES

6105	4822 130 30621	1N4148
6106	4822 130 30621	1N4148
6108	4822 130 34173	BZX79-C5V6
6109	4822 130 34173	BZX79-C5V6
6110	4822 130 34173	BZX79-C5V6
6112	4822 130 34167	BZX79-B6V2
6201	9322 179 76676	LED VS LTL-816EELC
6202	4822 130 34173	BZX79-C5V6

TRANSISTORS & INTEGRATED CIRCUITS

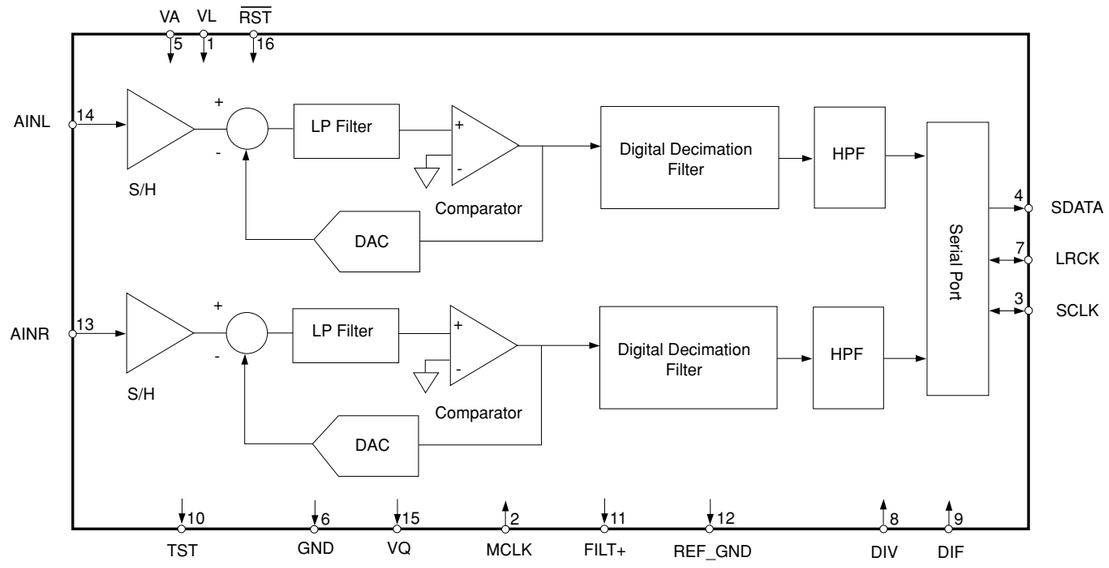
7100	9322 186 03671	UPD16312GB-3B4
7101	9322 185 95667	IR RECEIVER TSOP4836
7102	4822 130 42804	BC817-25
7103	4822 130 60373	BC856B
7104	5322 130 60159	BC846B
7201	5322 130 60159	BC846B

Note: Only the parts mentioned in this list are normal service spare parts.

AV BOARD

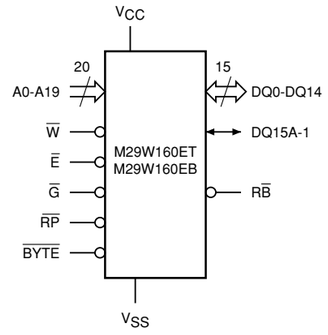
TABLE OF CONTENTS

CS5333 Internal Block diagram



M29W160ET Internal Block diagram

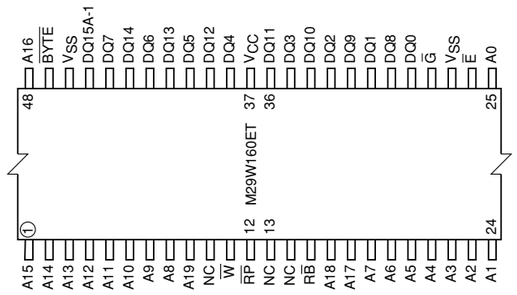
Logic Diagram



Signal Name

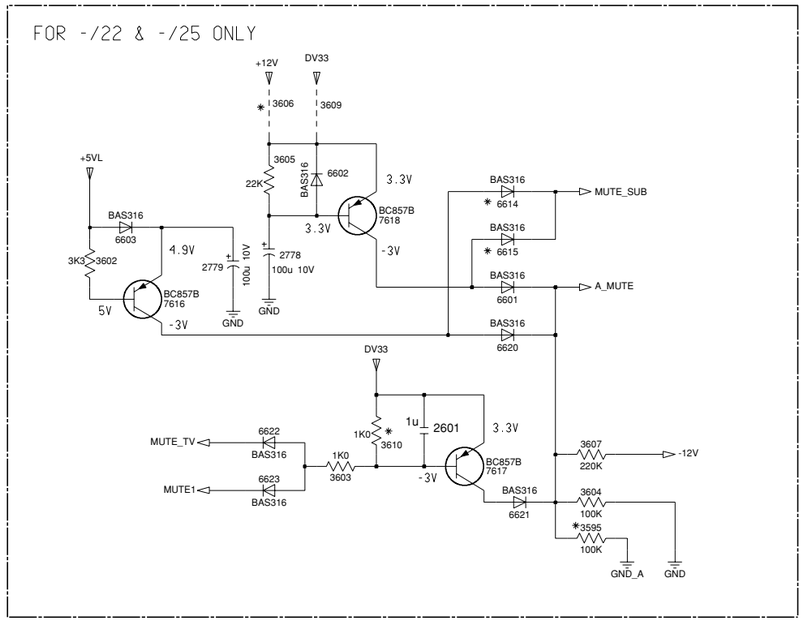
A0-A19	Address Inputs
DQ0-DQ7	Data Inputs/Outputs
DQ8-DQ14	Data Inputs/Outputs
DQ15A-1	Data Input/Output or Address Input
$\overline{E}$	Chip Enable
$\overline{G}$	Output Enable
$\overline{W}$	Write Enable
$\overline{RP}$	Reset/Block Temporary Unprotect
$\overline{RB}$	Ready/Busy Output
$\overline{BYTE}$	Byte/Word Organization Select
V_{CC}	Supply Voltage
V_{SS}	Ground
NC	Not Connected Internally

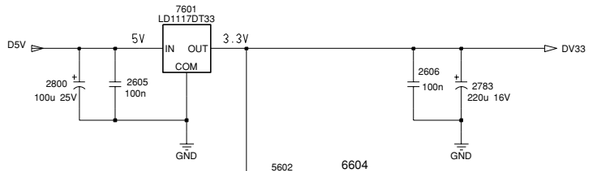
Pin Connection

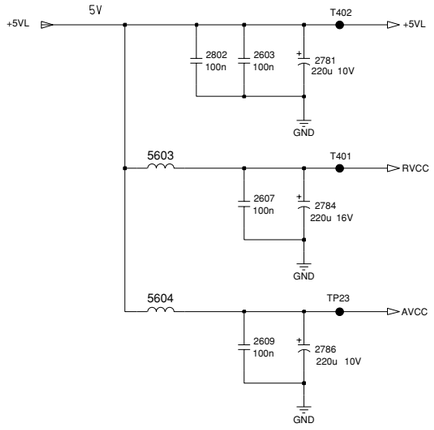


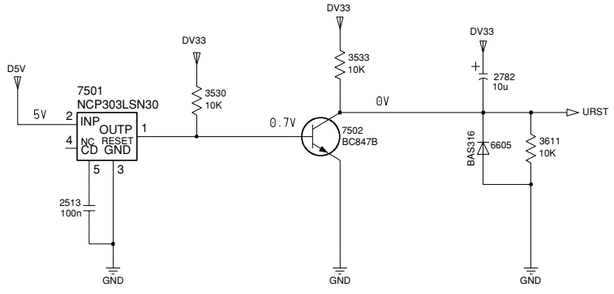
7-2

RESET, POWER SUPPLY & LINE-OUT MUTING CIRCUIT









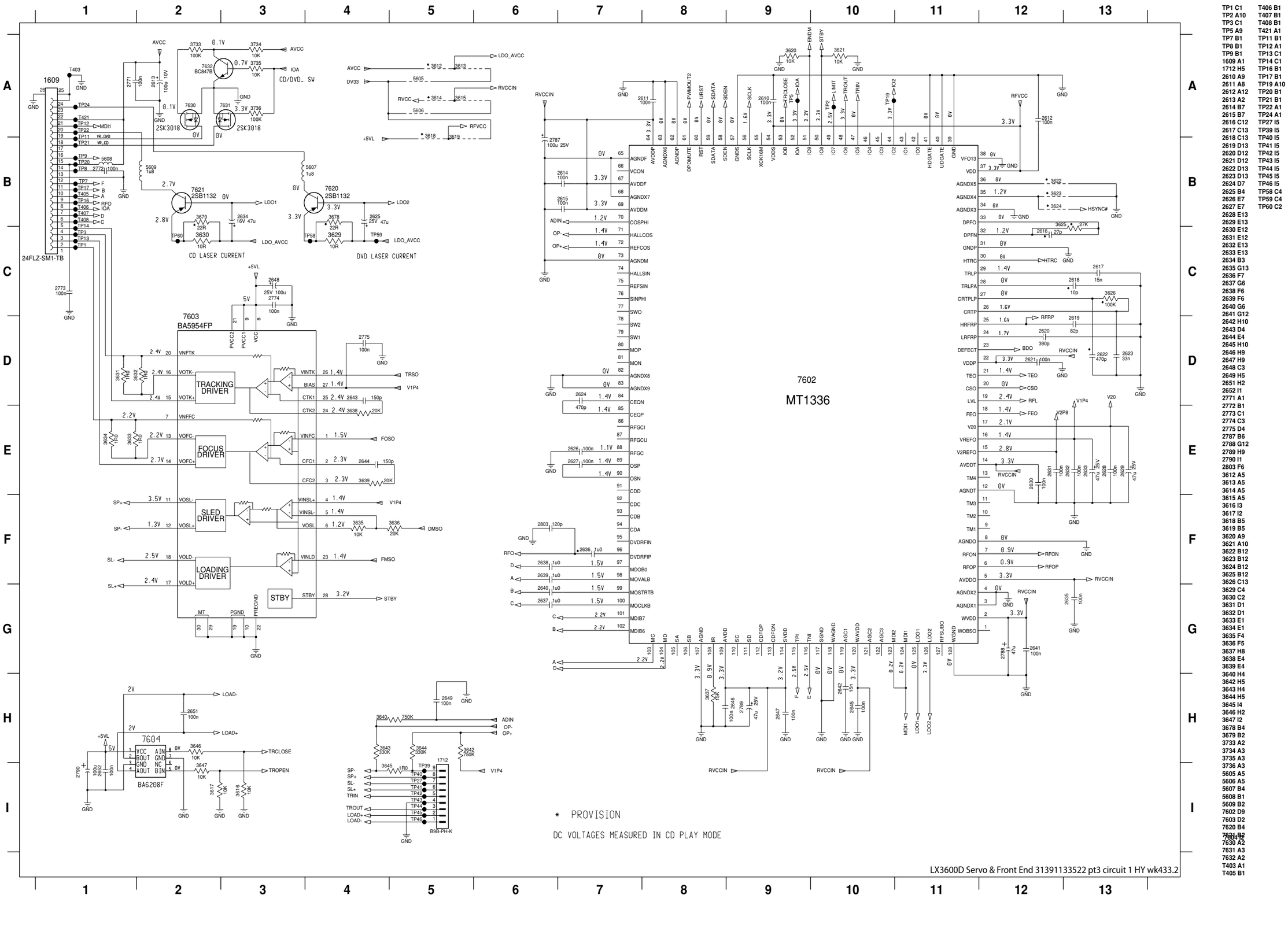
* PROVISION

DC VOLTAGES MEASURED IN CD PLAY MODE

LX3600D Reset,power suppply,muting 31391133522 pt3 circuit 2 HY wk433.2

7-3

SERVO & FRONT-END CIRCUIT



TP1 C1
TP2 A10
TP3 C1
TP5 A9
TP7 B1
TP8 B1
TP9 B1
1609 A1
1712 H5
2610 A9
2611 A8
2612 A12
2613 A2
2614 B7
2615 B7
2616 C12
2617 C13
2618 C13
2619 D13
2620 D12
2621 D12
2622 D13
2623 D13
2624 D7
2625 B4
2626 E7
2627 E7
2628 E13
2629 E13
2630 E12
2631 E12
2632 E13
2633 E13
2634 B3
2635 G13
2636 F7
2637 G6
2638 F6
2639 F6
2640 G6
2641 G12
2642 H10
2643 D4
2644 E4
2645 H10
2646 H9
2647 H9
2648 C3
2649 H5
2651 H2
2652 I1
2771 A1
2772 B1
2773 C1
2774 C3
2775 D4
2787 B6
2788 G12
2789 H9
2790 I1
2803 F6
3612 A5
3613 A5
3614 A5
3615 A5
3616 I3
3617 I2
3618 B5
3619 B5
3620 A9
3621 A10
3622 B12
3623 B12
3624 B12
3625 B12
3626 C13
3629 C4
3630 C2
3631 D1
3632 D1
3633 E1
3634 E1
3635 F4
3636 F5
3637 H8
3638 E4
3639 E4
3640 H4
3642 H5
3643 H4
3644 H5
3645 I4
3646 H2
3647 I2
3678 B4
3679 B2
3733 A2
3734 A3
3735 A3
3736 A3
5605 A5
5606 A5
5607 B4
5608 B1
5609 B2
7602 D9
7603 D2
7620 B4
7621 B2
7630 A2
7631 A3
7632 A2
T403 A1
T405 B1
T406 B1
T407 B1
T408 B1
T421 A1
TP11 B1
TP12 A1
TP13 C1
TP14 C1
TP16 B1
TP17 B1
TP19 A10
TP20 B1
TP21 B1
TP22 A1
TP24 A1
TP27 I5
TP39 I5
TP40 I5
TP41 I5
TP42 I5
TP43 I5
TP44 I5
TP45 I5
TP46 I5
TP58 C4
TP59 C4
TP60 C2

7-4

MPEG DECODER CIRCUIT

DC VOLTAGES MEASURED IN CD PLAY DPL II MODE

* PROVISION

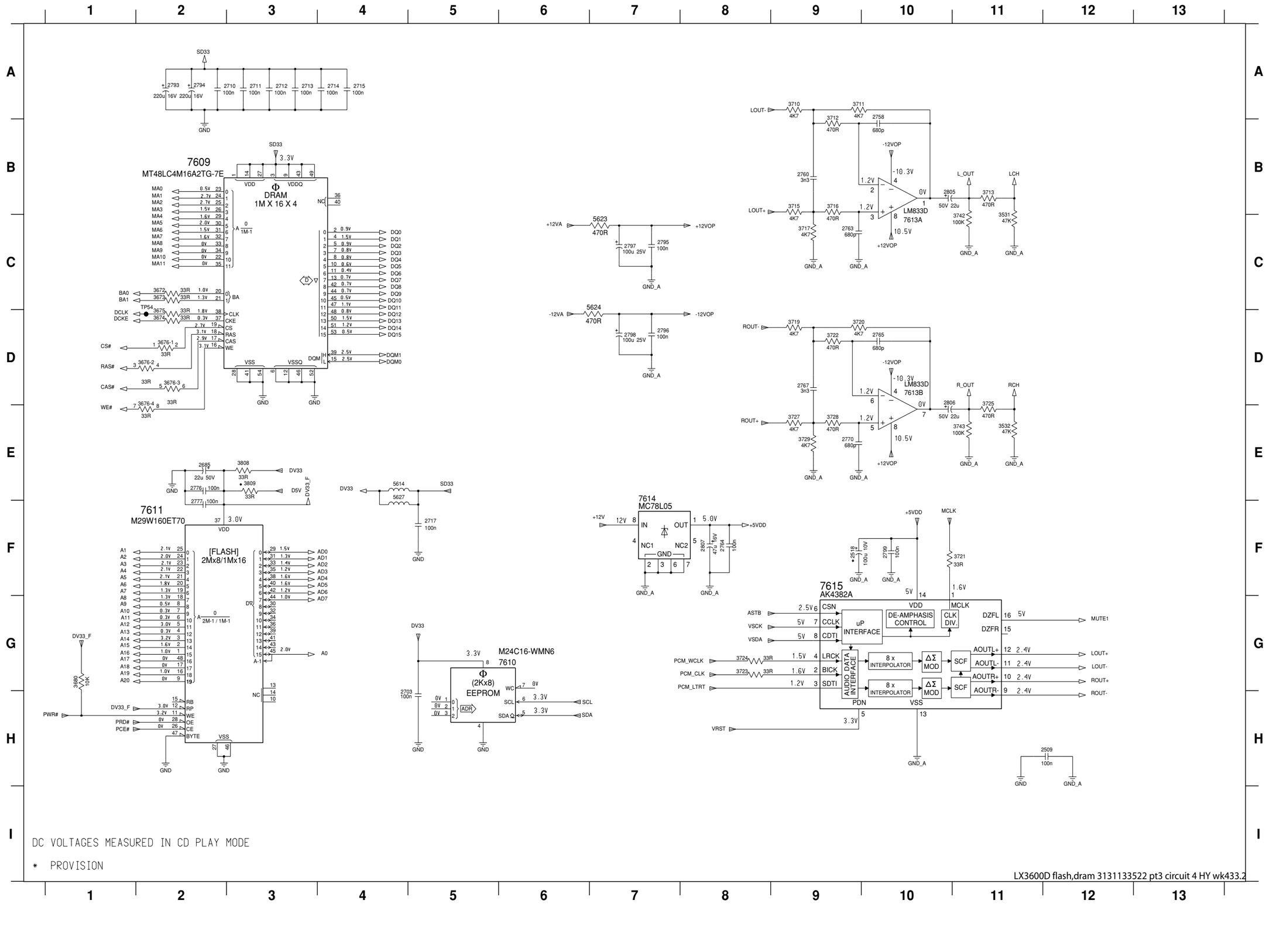
7606
MT1379

7605
74HCU04D

LX3600D Mpeg decoder 31391133522 pt3 circuit 3 HY wk433.2

7-5

FLASH, DRAM, LINE-OUT DAC & PRE-AMPLIFIER CIRCUIT



DC VOLTAGES MEASURED IN CD PLAY MODE

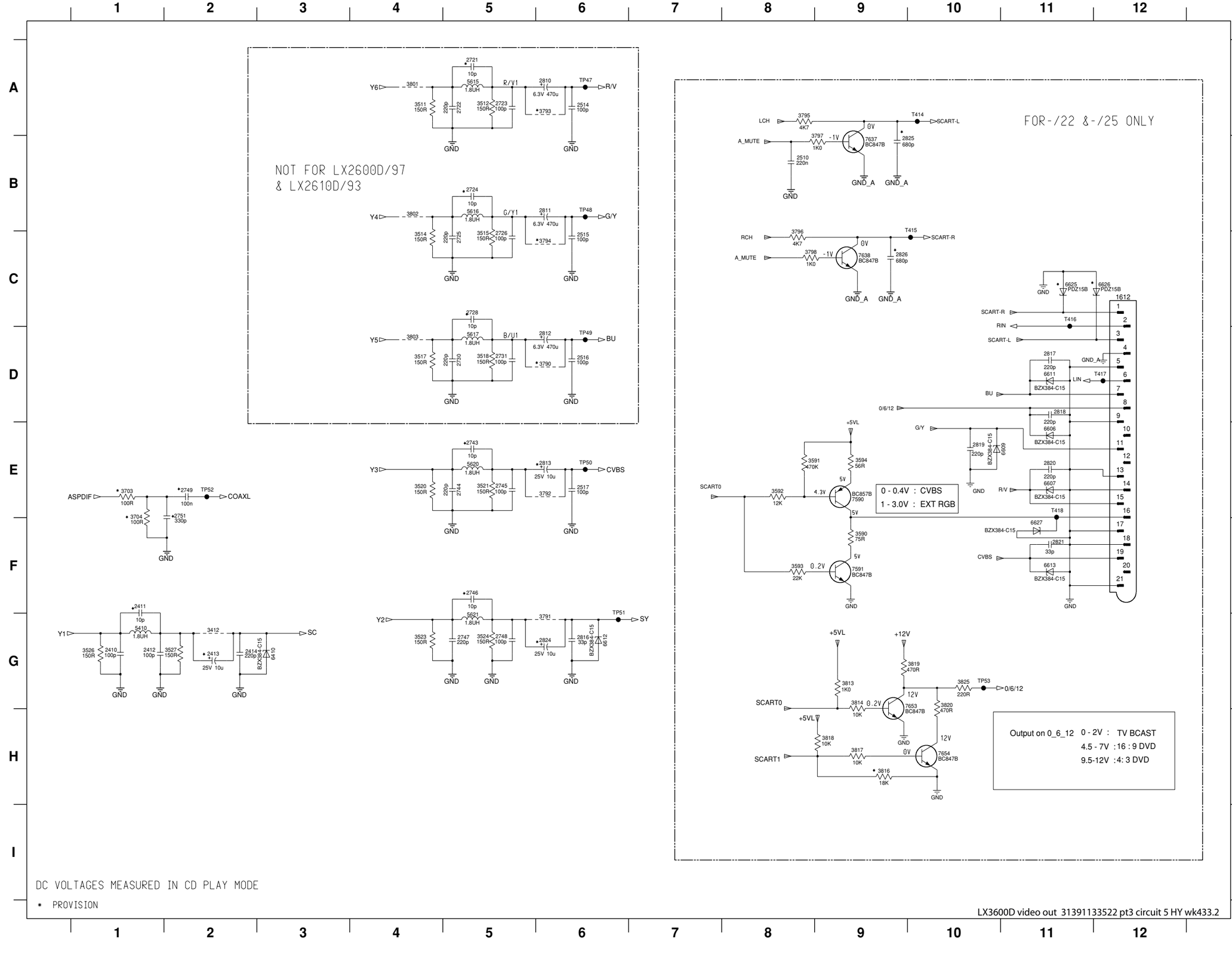
* PROVISION

LX3600D flash,dram 3131133522 pt3 circuit 4 HY wk433.2

2509 H12
2518 F9
2685 E2
2703 G4
2710 A3
2711 A3
2712 A3
2713 A3
2714 A4
2715 A4
2717 F5
2758 A10
2760 B9
2763 C9
2764 F8
2765 D10
2767 D9
2770 E9
2776 E2
2777 F2
2793 A2
2794 A2
2795 C7
2796 D7
2797 C7
2798 D7
2799 F10
2805 B10
2806 D10
2807 F8
3531 B11
3532 E11
3672 C2
3673 C2
3674 D2
3675 D2
3676-1 D2
3676-2 D2
3676-3 D2
3676-4 E2
3680 G1
3710 A9
3711 A9
3712 B9
3713 B11
3715 B9
3716 B9
3717 C9
3719 D9
3720 D9
3721 F11
3722 D9
3723 G8
3724 G8
3725 E11
3727 E9
3728 E9
3729 E9
3742 B11
3743 E11
3808 E3
3809 E3
5614 E4
5623 C7
5624 C7
5627 E4
7609 B2
7610 G6
7611 F2
7613A C10
7613B D10
7614 F7
7615 F9
TP54 C2

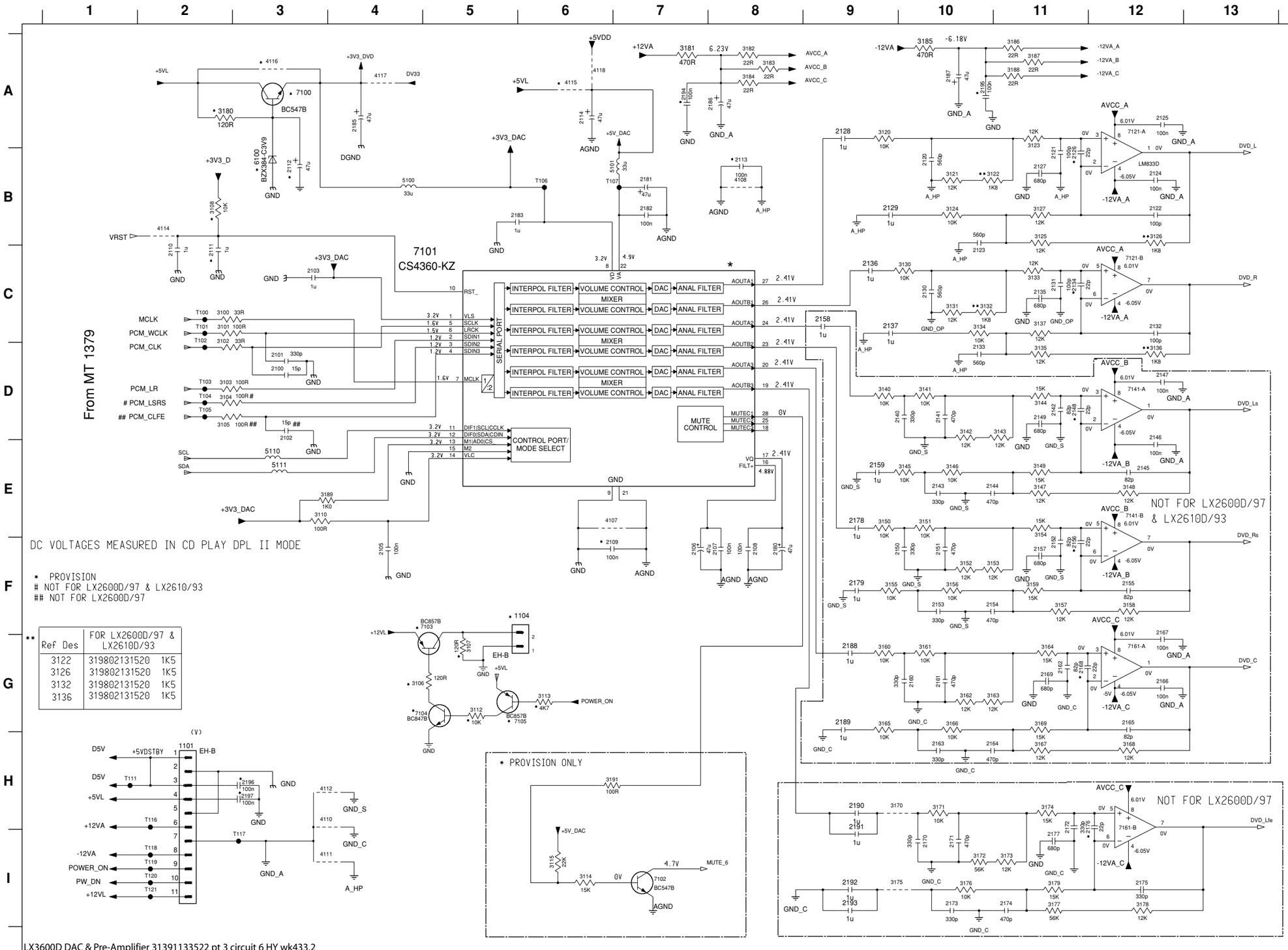
7-6

SCART & VIDEO OUT CIRCUIT



7-7

DAC & PRE-AMPLIFIER CIRCUIT



**

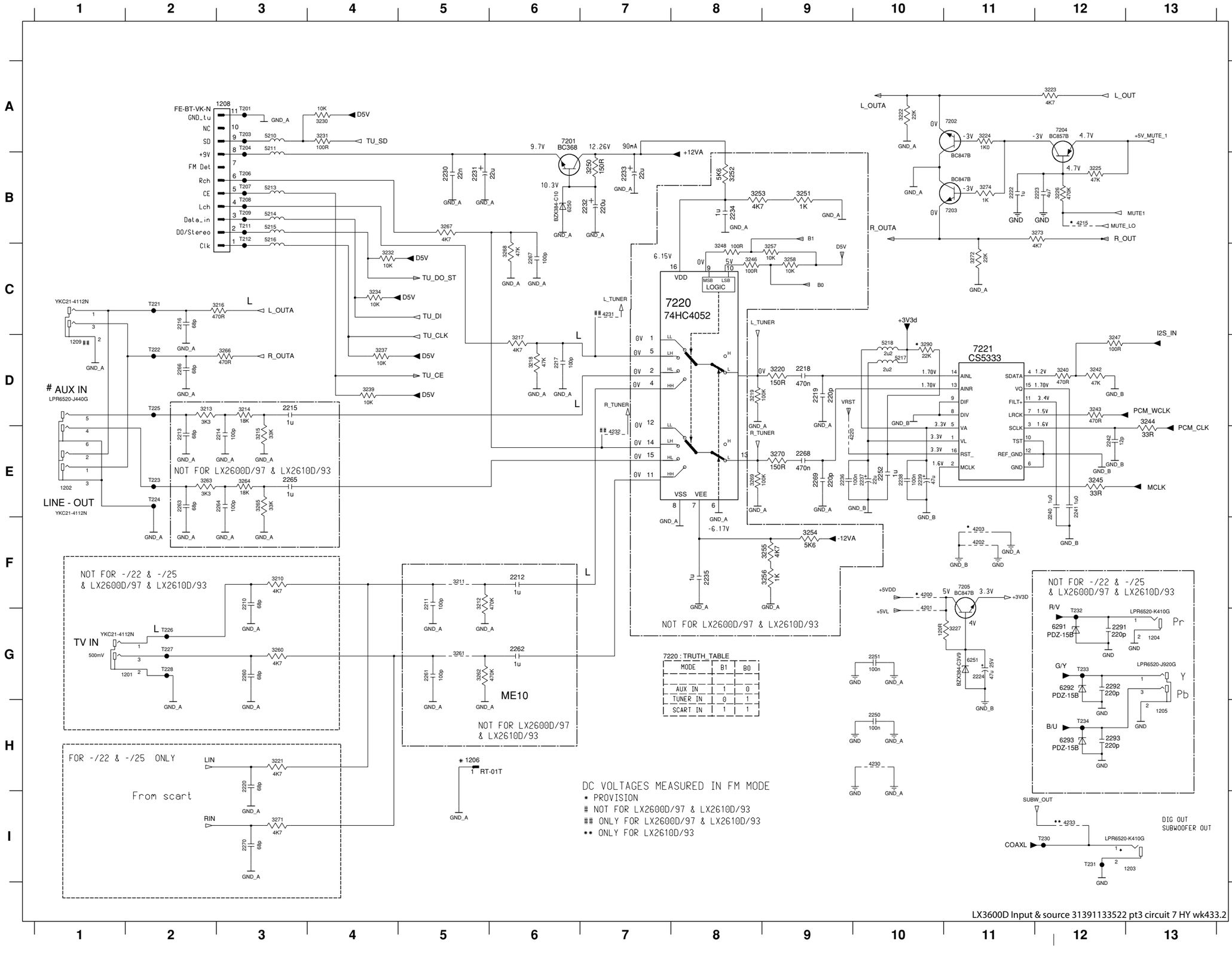
Ref Des	FOR LX2600D/97 & LX2610D/93
3122	319802131520 1K5
3126	319802131520 1K5
3132	319802131520 1K5
3136	319802131520 1K5

LX3600D DAC & Pre-Amplifier 31391133522 pt 3 circuit 6 HY wk433.2

1101 H2	3130 C10
1104 F6	3131 C10
2100 D3	3132 C10
2101 D3	3133 C11
2102 D3	3134 C10
2103 C3	3135 D11
2105 F4	3136 D12
2106 F7	3137 C11
2107 F8	3140 D9
2108 F8	3141 D10
2109 F6	3142 D10
2110 C2	3143 D11
2111 C2	3144 D11
2112 B3	3145 E10
2113 B8	3146 E10
2114 A6	3147 E11
2120 B10	3148 E12
2121 B11	3149 E11
2122 B12	3150 E9
2123 C10	3151 E10
2124 B12	3152 F10
2125 A12	3153 F10
2126 B11	3154 E11
2127 B11	3155 F9
2128 A9	3156 F10
2129 B9	3157 F11
2130 C10	3158 F12
2131 C11	3159 F11
2132 C12	3160 G9
2133 D10	3161 G10
2134 C11	3162 G10
2135 C11	3163 G10
2136 C9	3164 G11
2137 C9	3165 G9
2140 D10	3166 G10
2141 D10	3167 H11
2142 D11	3168 H12
2143 E10	3169 G11
2144 E10	3170 H9
2145 E12	3171 H10
2146 D12	3172 I10
2147 D12	3173 I10
2148 D11	3174 H11
2149 D11	3175 I9
2150 F10	3176 I10
2151 F10	3177 I11
2152 F11	3178 I12
2153 F10	3179 I11
2154 F10	3180 A2
2155 F12	3181 A7
2156 F11	3182 A8
2157 F11	3183 A8
2158 C9	3184 A8
2159 E9	3185 A10
2160 G10	3186 A11
2161 G10	3187 A11
2162 G11	3188 A11
2163 H10	3189 E3
2164 H10	3191 H6
2165 G12	4107 E6
2166 G12	4108 B8
2167 F12	4110 H3
2168 G11	4111 I3
2169 G11	4112 H3
2170 H10	4114 B2
2171 H10	4115 A6
2172 H11	4116 A3
2173 I10	4117 A4
2174 I10	4118 A6
2175 I12	5100 B4
2176 H11	5101 B7
2177 H11	5110 E3
2178 E9	5111 E3
2179 F9	6100 B3
2180 F8	7100 A3
2181 B7	7101 C5
2182 B7	7102 I7
2183 B5	7103 F4
2185 A4	7104 G5
2186 A8	7105 G6
2187 A10	7121-A A12
2188 G9	7121-B C12
2189 G9	7141-A D12
2190 H9	7141-B E12
2191 H9	7161-A G12
2192 I9	7161-B H12
2193 I9	T100 C2
2194 A7	T101 C2
2195 A10	T102 C2
2196 H3	T103 D2
2197 H3	T104 D2
3100 C2	T105 D2
3101 C2	T106 B6
3102 D2	T107 B6
3103 D2	T111 H1
3104 D2	T116 H2
3105 D2	T117 I3
3106 G4	T118 I2
3107 G5	T119 I2
3108 B2	T120 I2
3110 E3	T121 I2
3112 G5	
3113 G6	
3114 I6	
3115 I6	
3120 A9	
3121 B10	
3122 B10	
3123 A11	
3124 B10	
3125 B11	
3126 B12	
3127 B11	

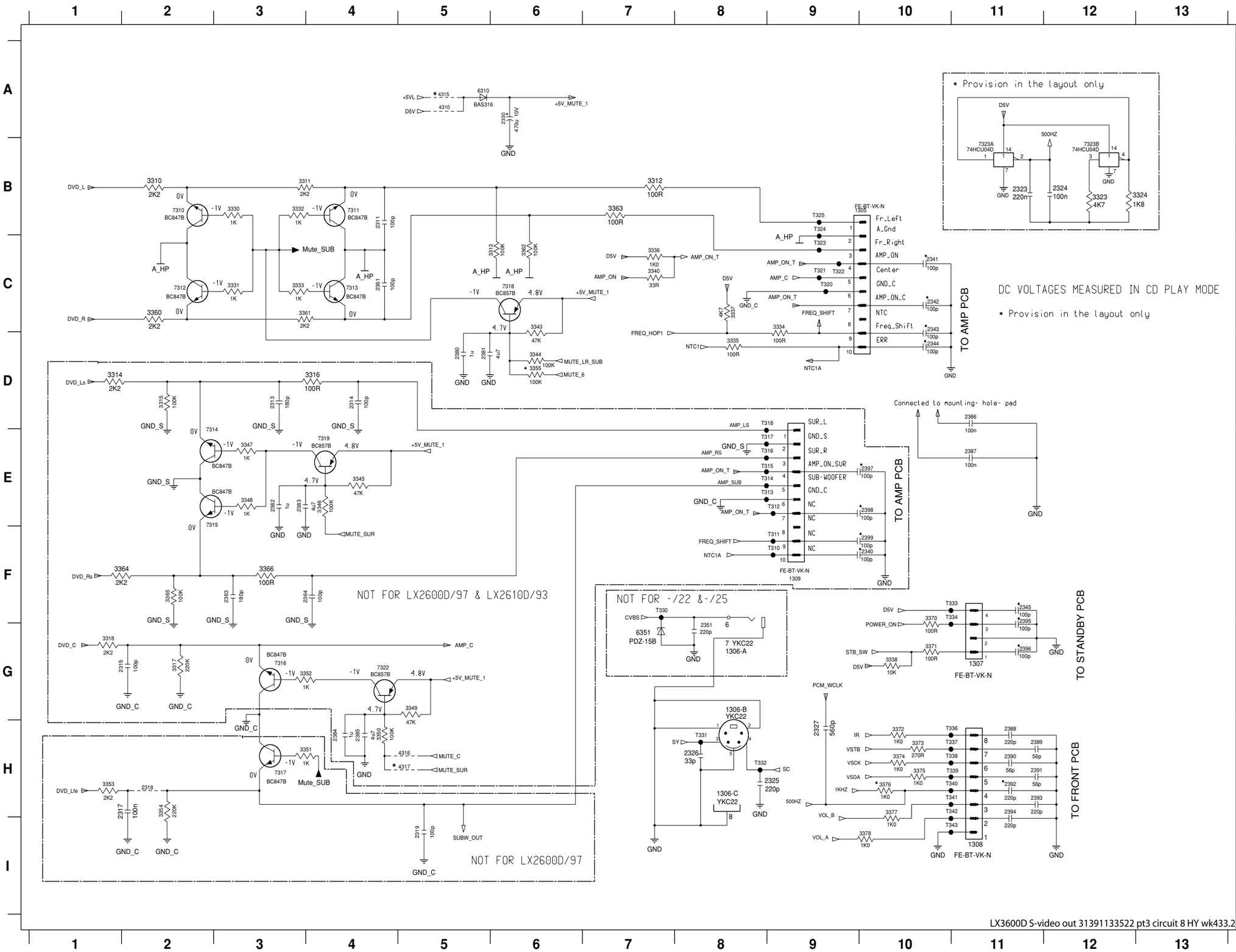
7-8

INPUT & SOURCE SELECTION CIRCUIT



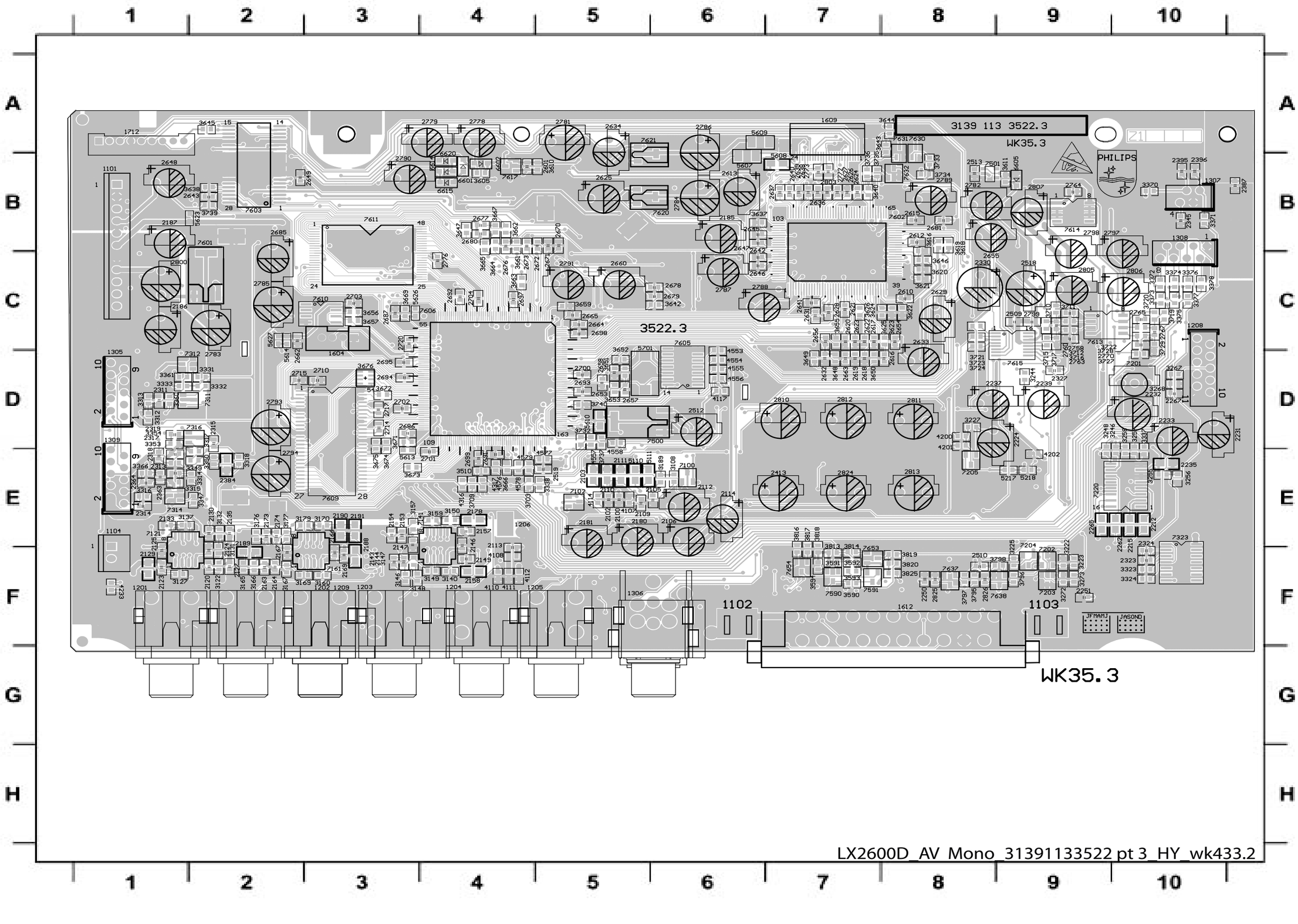
7-9

MUTING (6-CHANNEL) & S-VIDEO OUT CIRCUIT



7-10

PCB 3139 113 3522 pt3 TOP VIEW - Use by LX2600D/97



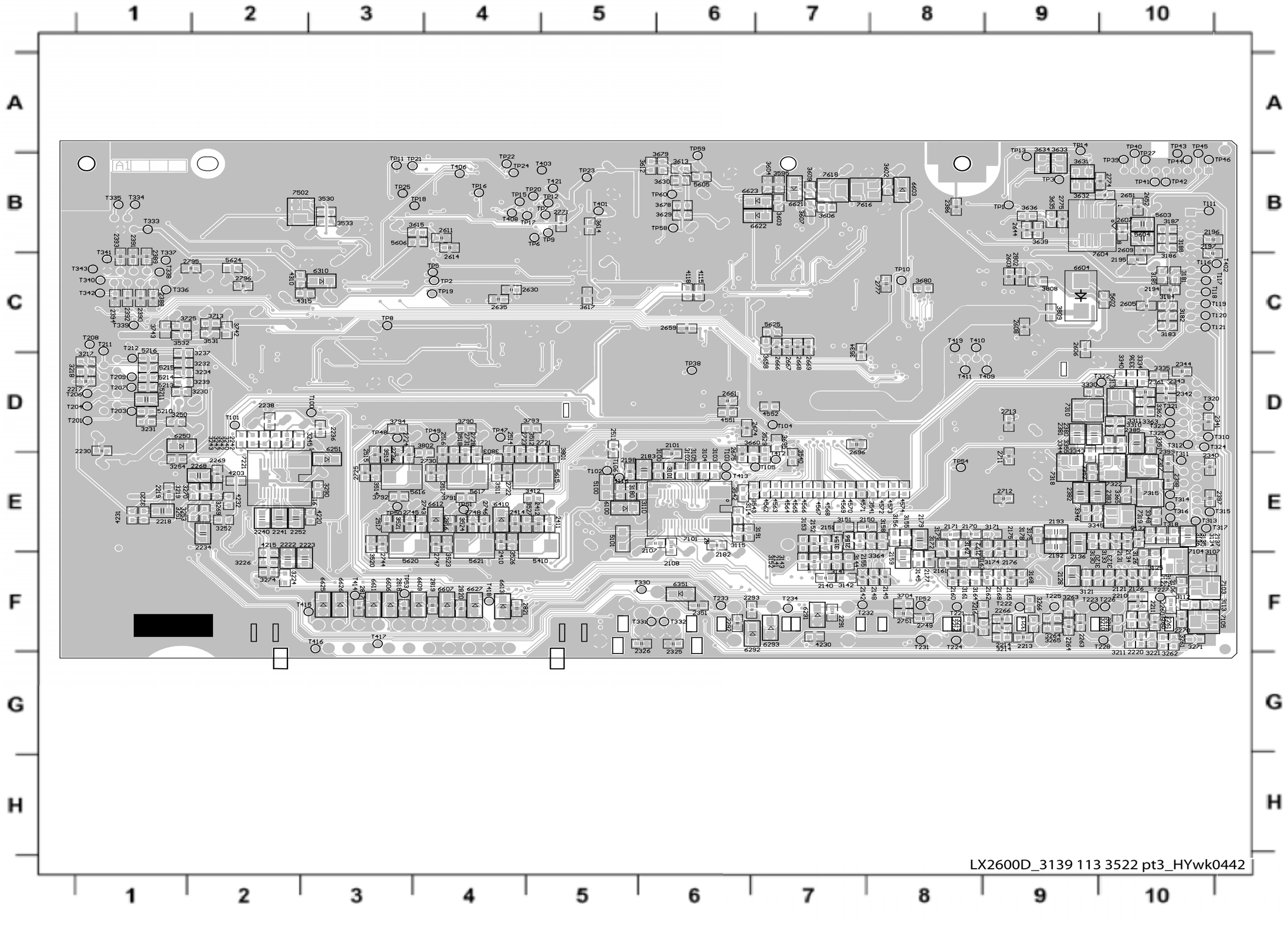
7-11

PCB 31311352 pt3 TOP VIEW MAPPING

1101	B1	2384	E2	2767	C10	3361	D1	3816	F7
1102	F6	2387	B10	2770	D10	3366	E1	3817	F7
1103	F9	2395	B10	2772	B7	3370	B10	3818	F7
1104	F1	2396	B10	2773	B7	3371	B10	3819	F7
1201	F1	2413	E6	2776	C4	3372	C10	3820	F7
1202	F2	2509	C9	2778	A4	3373	C10	3825	F7
1203	F3	2510	F8	2779	A4	3374	C10	4107	E5
1204	F4	2512	D6	2781	A5	3375	C10	4108	F4
1205	F5	2513	B8	2782	B8	3376	C10	4110	F4
1206	E4	2518	C9	2783	C2	3377	C10	4111	F4
1208	D10	2519	E5	2784	B6	3378	C10	4112	F4
1305	D1	2601	B4	2785	C2	3510	E4	4114	E5
1306	F6	2610	C8	2786	B6	3590	F7	4117	D6
1307	B10	2612	B8	2787	C6	3591	F7	4200	D8
1308	C10	2613	B6	2788	C6	3592	F7	4201	E8
1309	E1	2615	B8	2789	B8	3593	F7	4202	E9
1604	C3	2616	D7	2790	B3	3594	F7	4233	F1
1609	B7	2617	C7	2791	C5	3605	B4	4316	E4
1612	F7	2618	D7	2793	D2	3610	B4	4317	E4
1712	A1	2619	D7	2794	E2	3611	B8	4553	D6
2100	E5	2620	C7	2797	C9	3616	C8	4554	D6
2102	E5	2621	C7	2798	C9	3618	B8	4555	D6
2103	E5	2622	C7	2799	C9	3619	B8	4556	D6
2105	E5	2623	C7	2800	C1	3620	C8	4557	E5
2106	F6	2624	B7	2803	B7	3621	C8	4558	E5
2109	E5	2625	B5	2805	C9	3622	C8	4576	E4
2110	E5	2626	B7	2806	C9	3623	C7	4577	E5
2111	E5	2627	B7	2807	B9	3624	C7	4578	E4
2112	E6	2628	C7	2810	D7	3625	C7	4579	E4
2113	F4	2629	C8	2811	D8	3626	C7	5110	E5
2114	E6	2631	C7	2812	D7	3637	B6	5111	E5
2120	F2	2632	D7	2813	E8	3638	B2	5217	E8
2123	F1	2633	D8	2824	E7	3640	B7	5218	E9
2124	F2	2634	B5	2825	F8	3642	C5	5607	B6
2125	F1	2636	B7	2826	F8	3643	A7	5608	B6
2127	F2	2637	B7	3108	E6	3644	A7	5609	A6
2129	F1	2638	B7	3122	F2	3645	A2	5610	D5
2130	E2	2639	B7	3127	F1	3646	C8	5613	E3
2133	E1	2640	B7	3131	F2	3647	B4	5614	C2
2135	E2	2641	C7	3132	E2	3648	D7	5623	B2
2143	F3	2642	C6	3137	E1	3649	D7	5626	C3
2144	F3	2643	B2	3140	F4	3650	D7	5627	C2
2146	F4	2645	B6	3146	F3	3651	D5	5701	D5
2147	F3	2646	C6	3147	F3	3652	D5	6601	B4
2149	F4	2647	B6	3148	F3	3653	D5	6602	B4
2153	F3	2648	B1	3149	F4	3655	C7	6605	B9
2154	F3	2649	B2	3150	E4	3656	C3	6614	B4
2157	E4	2653	D5	3157	E3	3657	C3	6615	B4
2158	F4	2654	C7	3159	E4	3659	C5	6620	B4
2163	F2	2655	B8	3160	F3	3661	B4	7100	E6
2164	F2	2656	C7	3165	F2	3662	B4	7102	E5
2166	F3	2657	D5	3166	F2	3663	C4	7121	F1
2167	F2	2658	D5	3167	F2	3664	B4	7141	F4
2169	F3	2660	C5	3169	F2	3665	B4	7161	F3
2173	F2	2662	C2	3170	E3	3666	E4	7201	D10
2174	F2	2663	D7	3176	F2	3667	B4	7202	F9
2178	E4	2664	C5	3177	F2	3669	C3	7203	F9
2180	F5	2665	C5	3179	E2	3671	E3	7204	F9
2181	F5	2670	B5	3189	E6	3672	D3	7205	E8
2185	B6	2671	B5	3222	F9	3673	E3	7220	E9
2186	C1	2672	B4	3223	F9	3674	E3	7311	D1
2187	B1	2673	B4	3225	F8	3675	E3	7312	D1
2188	F3	2676	B4	3227	D8	3676	D3	7314	E1
2189	F2	2677	B4	3244	D9	3703	E4	7316	D2
2190	E3	2678	C5	3246	E9	3709	E4	7323	F10
2191	E3	2679	C5	3248	E9	3710	C9	7500	D5
2212	E10	2680	B4	3255	E10	3711	C9	7501	B8
2215	E9	2681	B8	3256	E10	3712	C9	7590	F7
2224	E8	2685	C2	3257	E10	3715	C9	7591	F7
2231	D10	2686	D3	3258	E9	3716	C9	7601	C2
2232	D10	2687	C3	3267	D10	3717	C9	7602	C7
2233	E10	2691	E4	3268	D10	3719	C10	7603	B2
2235	E10	2692	C4	3272	F9	3720	C10	7605	D6
2237	D8	2693	D5	3273	F9	3721	C8	7606	D4
2239	D9	2694	D3	3312	D1	3722	C10	7609	E3
2250	F8	2695	D3	3313	D1	3723	C8	7610	C3
2251	F9	2697	C4	3314	E2	3724	D8	7611	C3
2262	E9	2698	C5	3315	E1	3727	D10	7613	C9
2265	E9	2699	E4	3316	E1	3728	C10	7614	B9
2267	D10	2700	D5	3317	E2	3729	D10	7615	D8
2311	D1	2701	E4	3318	E2	3732	E5	7617	B4
2313	E1	2702	D3	3323	F10	3733	B8	7620	B5
2314	E1	2703	C3	3324	F10	3734	B8	7621	B5
2315	E2	2704	C4	3331	D2	3735	B7	7630	B8
2317	E1	2710	D3	3332	D2	3736	B7	7631	B8
2318	E1	2714	D3	3333	D1	3737	E5	7632	B7
2319	D1	2715	D2	3337	E10	3739	B2	7637	F8
2323	F10	2717	D3	3338	E4	3740	D5	7638	F8
2324	F10	2720	D3	3347	E2	3795	F8	7653	F7
2327	D9	2758	C9	3349	E2	3796	F8	7654	F7
2330	C8	2760	C9	3350	E2	3797	F8		
2345	B10	2763	C9	3353	E1	3798	F8		
2363	E1	2764	B9	3354	E1	3813	F7		
2364	E1	2765	C10	3360	D1	3814	F7		

7-12

PCB 3139 113 3522 pt3 BOTTOM VIEW - Use by LX2600D/97



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PCB 3139 113 3522 pt3 BOTTOM VIEW MAPPING

2101	D6	2393	B1	3142	E7	3511	D4	5213	D1	2216	E9	2743	E4	3232	C2	3695	D7	7317	D10
2107	E6	2394	C1	3143	E7	3512	D5	5214	C1	2217	C1	2744	E3	3234	C2	3704	E8	7318	D9
2108	E6	2397	D10	3144	E7	3514	D3	5215	C1	2218	E1	2745	E4	3237	C2	3713	C2	7319	E10
2121	E10	2398	D10	3145	E8	3515	D3	5216	C1	2219	D1	2746	E4	3239	C2	3725	C2	7322	D10
2122	E10	2399	D10	3151	E7	3517	D4	5410	E5	2220	F10	2747	E4	3240	D2	3742	C2	7602	B3
2126	E10	2410	E4	3152	E7	3518	D4	5602	C9	2222	E2	2748	E4	3242	D2	3743	C1	7604	B9
2128	E9	2411	E6	3153	E7	3520	E3	5603	B10	2223	E3	2749	F8	3243	D2	3790	D4	7616	B7
2131	E10	2412	E6	3154	E7	3521	E3	5604	B10	2230	D1	2751	E8	3245	D3	3791	D4	7618	B7
2132	E10	2414	E4	3155	E8	3523	E4	5605	B6	2234	E2	2771	B5	3247	D2	3792	D3		
2134	E10	2511	D5	3156	E8	3524	E4	5606	B4	2236	D3	2774	B9	3250	D2	3793	D5		
2136	E9	2514	D4	3158	E8	3526	E4	5615	D5	2238	D2	2775	B9	3251	E2	3794	D3		
2137	E10	2515	D3	3161	E8	3527	E5	5616	D3	2240	E2	2777	C8	3252	E2	3801	D5		
2140	E7	2516	D4	3162	E8	3529	D7	5617	D4	2241	E2	2796	B2	3253	E2	3802	D4		
2141	E7	2517	E8	3163	E8	3530	B3	5620	E4	2242	D2	2796	C2	3254	D2	3803	D4		
2142	E7	2603	C9	3164	E8	3531	C2	5621	E4	2252	E3	2802	C9	3260	F10	3808	C9		
2145	E8	2605	C10	3168	E9	3532	C2	5624	B2	2260	E10	2816	E4	3261	F10	3809	C9		
2148	E7	2606	C9	3171	E8	3533	B3	5625	C7	2261	F10	2817	E3	3262	F10	4115	C6		
2150	E7	2607	B10	3172	E8	3534	C7	6100	E5	2263	F9	2818	E3	3263	E9	4116	D5		
2151	E7	2608	C9	3173	E8	3540	D7	6250	D2	2264	F9	2819	E4	3264	F9	4118	C6		
2152	E7	2609	B10	3174	E8	3541	D7	6251	D3	2266	F9	2820	E4	3265	F9	4203	D2		
2155	E7	2611	B4	3175	E9	3542	D6	6291	F7	2268	D2	2821	E4	3266	E9	4215	E2		
2156	E7	2614	B4	3178	E9	3543	D6	6292	F6	2269	D2	3100	D6	3269	D2	4220	E3		
2159	E8	2630	C4	3180	D5	3595	B7	6293	F7	2270	F10	3101	D6	3270	D2	4230	F7		
2160	E8	2635	C4	3181	C10	3602	B8	6310	C3	2291	E7	3102	D6	3271	F10	4231	E1		
2161	E8	2644	B9	3182	C10	3603	B7	6351	E6	2292	F6	3103	D6	3274	E2	4232	E2		
2162	E8	2651	B9	3183	C10	3604	B7	6410	E4	2293	E6	3104	D6	3290	D3	4310	C3		
2165	E9	2652	B10	3184	C10	3606	B7	6603	B8	2325	F6	3105	D6	3310	D10	4315	C3		
2168	E9	2659	C6	3185	C10	3607	B7	6604	C9	2326	F6	3106	E10	3311	D10	4551	D6		
2170	E8	2661	D6	3186	B10	3609	B7	6606	E3	2340	D10	3107	E10	3330	D9	4552	D7		
2171	E8	2666	C7	3187	B10	3612	B6	6607	E4	2341	D10	3110	D6	3334	C10	4562	D7		
2172	E8	2667	C7	3188	B10	3613	B6	6609	E4	2342	D10	3112	E10	3335	C10	4563	D7		
2175	E9	2668	C7	3191	E6	3614	B5	6611	E3	2343	D10	3113	E10	3336	C10	4564	D7		
2176	E9	2669	C7	3210	F10	3615	B4	6612	E4	2344	C10	3114	E6	3340	C10	4565	D7		
2177	E8	2674	D6	3211	F10	3617	C5	6613	E4	2351	E6	3115	E6	3343	D9	4566	D7		
2179	E8	2675	D6	3212	F10	3629	B6	6621	B7	2361	D10	3120	E9	3344	D9	4567	D7		
2182	E6	2696	D7	3213	F9	3630	B6	6622	B6	2380	D9	3121	E9	3345	E9	4568	D7		
2183	D6	2711	D9	3214	F9	3631	B9	6623	B6	2381	D9	3123	E9	3346	E9	4569	D7		
2192	E9	2712	D9	3215	F8	3632	B9	6625	E3	2382	D9	3124	E10	3348	E10	4570	D7		
2193	E9	2713	D9	3216	E8	3633	B9	6626	E3	2383	D9	3125	E10	3351	D10	4571	D7		
2194	C10	2721	D5	3217	C1	3634	B9	6627	E4	2385	D10	3126	E10	3352	D9	4572	D8		
2195	B10	2722	D4	3218	C1	3635	B9	7101	E6	2386	B8	3130	E9	3355	D10	4573	D8		
2196	B10	2723	D4	3219	D2	3636	B9	7103	E10	2388	C1	3133	E9	3362	D10	4574	D8		
2197	B10	2724	D4	3220	E1	3638	B9	7104	E10	2389	B1	3134	E10	3363	D10	5100	D5		
2198	D5	2725	D3	3221	F10	3658	C7	7105	F10	2390	C1	3135	E10	3364	E7	5101	E5		
2210	E10	2726	D3	3224	E2	3660	D6	7221	D2	2391	B1	3136	E10	3365	D10	5210	D1		
2211	E10	2728	D4	3226	E2	3678	B6	7310	D9	2392	C1	3141	E7	3412	D5	5211	D1		
2213	F9	2730	D4	3230	D2	3679	B6	7313	D10										
2214	F9	2731	D4	3231	D1	3680	C8	7315	D10										

ELECTRICAL PARTS LIST - MONO AV BOARD

MISCELLANEOUS

1202	2422 026 04754	Socket Cinch (Audio & Line-out)
1208	4822 267 11039	CON BM V 11P F
1305	4822 267 10729	CON BM V 10P F
1306	2422 033 00468	Socket Combi (Video out & S-video)
1307	4822 267 10733	CON BM V 4P F
1308	4822 265 11515	CONN. BM V 8P F
1609	2422 025 17075	CON BM H 24P F

RESISTORS

3676	3198 031 13390	33R 5%

COILS & FILTERS

5100	3198 018 63390	Fixed Ind 33V 5% 1008
5101	3198 018 63390	Fixed Ind 33V 5% 1008
5110	4822 157 71206	Fixed Ind 600R 100MHz 0805
5111	4822 157 71206	Fixed Ind 600R 100MHz 0805
5210	2422 549 44607	Fixed Ind 600R 100MHz 0603
5211	4822 157 71206	Fixed Ind 600R 100MHz 0805
5213	2422 549 44607	Fixed Ind 600R 100MHz 0603
5214	2422 549 44607	Fixed Ind 600R 100MHz 0603
5215	2422 549 44607	Fixed Ind 600R 100MHz 0603
5216	2422 549 44607	Fixed Ind 600R 100MHz 0603
5217	3198 018 52280	Fixed Ind 10% 0603
5218	3198 018 52280	Fixed Ind 10% 0603
5410	3198 018 41880	Fixed Ind 5% 1210
5602	4822 157 11499	Fixed Ind 60R 100MHz 0603
5603	2422 549 45186	Fixed Ind 60R 100MHz 0805
5604	2422 549 45186	Fixed Ind 60R 100MHz 0805
5605	4822 051 30008	0R JUMPER 0603
5606	4822 051 30008	0R JUMPER 0603
5607	3198 018 41880	Fixed Ind 5% 1210
5608	2422 549 45186	Fixed Ind 60R 100MHz 0805
5609	3198 018 41880	Fixed Ind 5% 1210
5610	2422 549 45186	Fixed Ind 60R 100MHz 0805
5613	4822 157 11499	Fixed Ind 60R 100MHz 0603
5614	4822 157 11499	Fixed Ind 60R 100MHz 0603
5620	3198 018 41880	Fixed Ind 5% 1210
5621	3198 018 41880	Fixed Ind 5% 1210
5623	4822 051 30471	470R 5% 0,062W
5624	4822 051 30471	470R 5% 0,062W
5625	4822 157 11499	Fixed Ind 60R 100MHz 0603
5626	4822 157 11499	Fixed Ind 60R 100MHz 0603
5627	4822 157 11499	Fixed Ind 60R 100MHz 0603
5701	2422 543 01393	X'tal Resonator 27MHz

DIODES

6250	4822 130 11551	BZX384-C10
6251	4822 130 11564	BZX384-C3V9
6310	4822 130 11397	BAS316
6351	4822 130 11522	PDZ15B
6410	4822 130 11522	BZX384-C15
6604	9322 128 69685	S1D
6605	4822 130 11397	BAS316
6612	4822 130 11522	BZX384-C15

TRANSISTORS & INTEGRATED CIRCUITS

7101	9965 000 12490	CS4360-KZ
7121	4822 209 30095	LM833D
7201	5322 130 44647	BC368
7202	5322 130 60159	BC847B
7203	5322 130 60159	SM BC847B
7204	4822 130 60373	BC857B
7205	5322 130 60159	BC847B
7221	9322 190 52668	CS5333-KZ
7310	5322 130 60159	BC847B
7311	5322 130 60159	BC847B
7312	5322 130 60159	BC847B
7313	5322 130 60159	BC847B
7318	4822 130 60373	BC857B
7500	4822 209 17398	LD1117DT33
7501	9322 165 15685	NCP303LSN30
7502	5322 130 60159	BC847B
7601	4822 209 17398	LD1117DT33
7602	3141 018 51841	MT1336E(C)
7603	9322 187 63668	BA5954FP(RHM0)
7604	3141 018 51660	BA6208F
7605	5322 209 11517	PC74HCU04T
7606	3141 018 51831	MT1379BE
7609	9322 205 53668	A2V64S40DTP-7
7609	9322 166 67668	MT48LC4M16A2TG-7E(MRN0)R
7609	9322 199 38671	IS42S16400A
7610	4822 209 17226	M24C08-WMN6
7611	3139 110 53771	FLASH + EMBEDDED SW
7613	4822 209 30095	LM833D
7614	4822 209 33411	MC78L05ACD
7615	9322 177 09685	AK4382AVT
7630	3141 018 51690	2SK3018
7631	3141 018 51690	2SK3018
7632	5322 130 60159	BC846B

AMPLIFIER BOARD

TABLE OF CONTENTS

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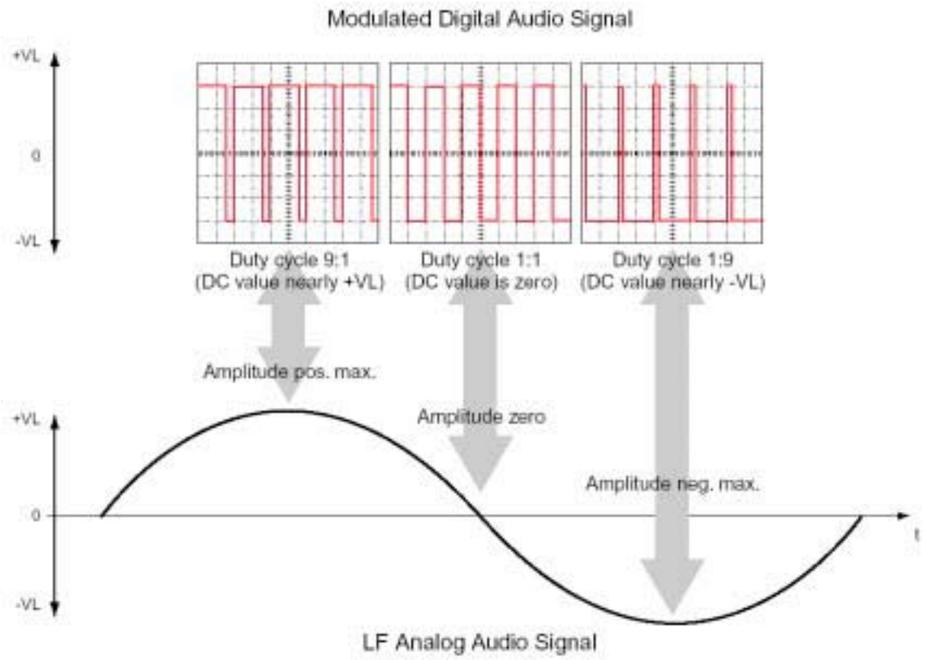
6-channel class-D amplifier

Basic operation of a class-D amplifier

Basically, the output stage of a class-D amplifier outputs a continuous square wave swinging between positive and negative power supplies with a fixed frequency (“clock” frequency) far beyond the audible range. The duty cycle of this square wave is modulated with the audio signal. The output is followed by a low-pass filter which eliminates the clock frequency and allows only the audio signal going to the speaker. See simplified drawing below.



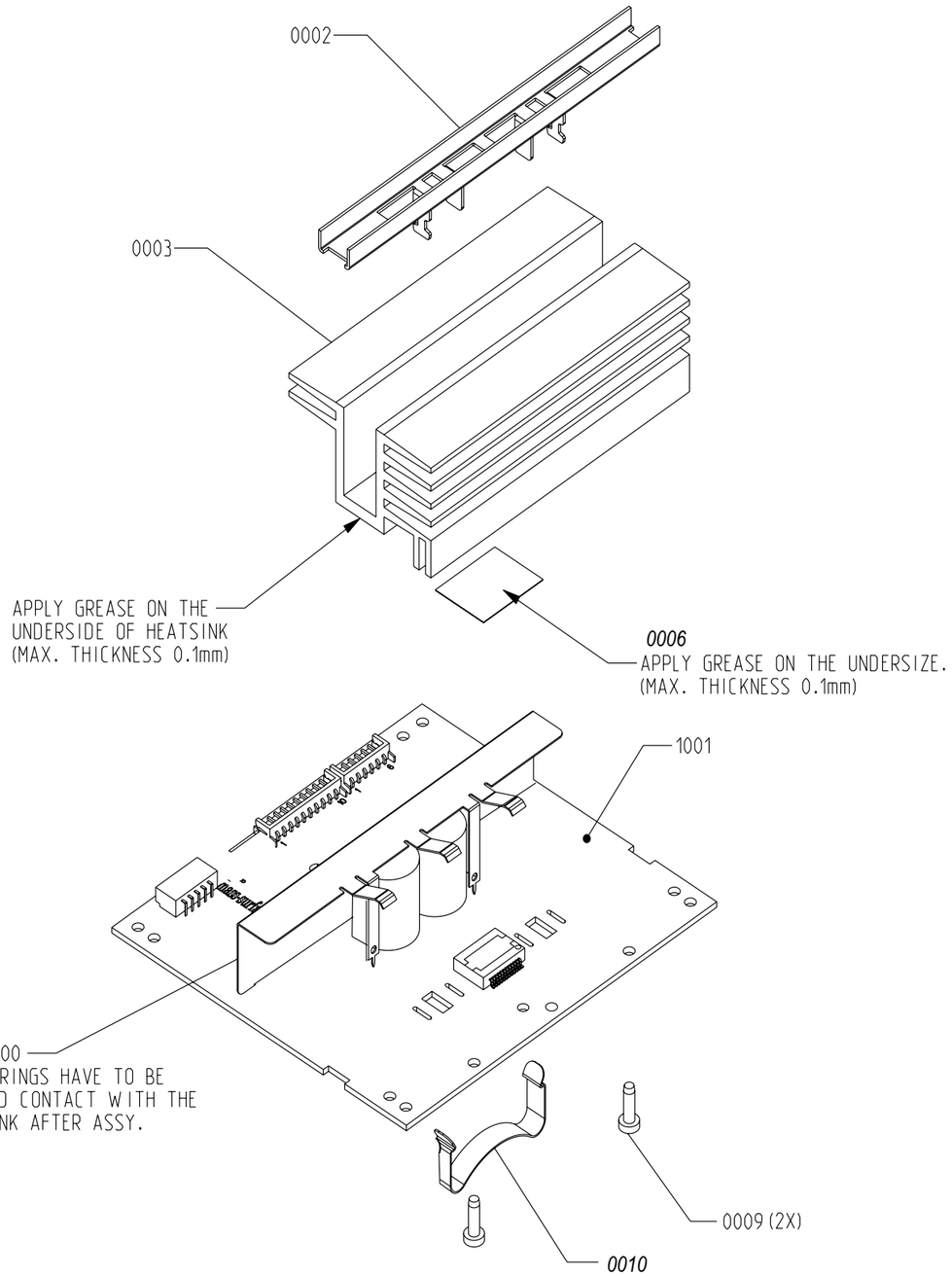
Compared to a conventional power amplifier the benefits of the Class-D amplifier are:

- higher effiency
- lower power dissipation
- smaller heatsink required
- smaller mains transformer required

The main disadvantage of this concept is:

- The amplifier is operating with a high-frequency square wave at high amplitude and currents. This requires special precautions to prevent excessive electromagnetic ratiation (EMC).

MECHANICAL EXPLODED VIEW



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TECHNICAL REMARKS

8-3

CLASS D AMPLIFIER BOARD - CIRCUIT DIAGRAM PART 1

CLASS D AMPLIFIER (PART 1)

△ 1301: 1 = LEFT (SUR_L)
3 = RIGHT (SUR_R)
5 = CENTER (SUBW)

✱ 1302: 1 = LEFT
3 = RIGHT
5 = CENTER

1305 & 1303: 1 = SUR_L
3 = SUR_R
5 = SUBW

Diversity identification jumpers

4501	*Single Ended*
4502	*Bridge Tied Load*
4511	*TDA8920*
4512	*TDA8924*
4521	*6ch output*
4522	*4ch output*

△ for 100w bridge version
✱ for single-ended version
for 100W single-ended version only
P Provision only

Note : Some values may varies, see respective parts list for correct value.

Clock Generator

Power Supply

DC-Detection

3139_113_3526 pt3 HY wk0444

1301 B1 6715 I11
1302 B2 7600-1 F7
1303 D2 7600-2 F9
1304 G1 7600-3 F8
1305 D1 7600-4 G7
1309 G1 7600-5 F10
1312 G2 7600-6 G6
1320 I5 7602 E9
1331 D2 7607 E10
1400 H6 7608 F9
1600 E8 7710 H11
1601 G8 7716 I11
2400 H3
2401 H4
2402 H4
2403 H3
2404 H4
2405 H4
2406 H3
2407 H3
2408 A3
2409 A3
2410 A4
2411 D4
2412 D3
2413 D3
2414 D3
2415 F3
2416 F3
2417 F4
2418 F3
2419 I2
2420 D3
2421 F3
2422 F4
2423 I7
2425 A4
2500 B6
2501 C6
2502 D6
2600 G7
2601 E9
2602 E7
2603 E9
2604 E11
2605 E7
2606 F6
2607 G9
2608 F11
2611 F5
2700 I10
3400 B5
3401 B5
3402 B5
3403 B5
3404 B5
3405 C5
3406 C5
3407 C5
3408 C5
3409 C5
3410 E5
3411 D5
3412 E5
3413 E5
3414 A5
3415 A5
3416 A5
3417 A5
3418 A5
3419 A5
3420 I2
3421 B5
3422 I2
3423 A5
3424 D5
3425 E5
3426 E5
3600 E6
3601 E6
3602 E7
3603 E9
3604 F6
3605 F9
3606 F6
3607 F6
3608 F8
3609 F7
3610 F11
3700 G9
3701 H9
3703 H11
3709 H9
3712 H9
3713 H11
3716 H9
3718 H9
3721 H10
3722 I11
4400 B5
4410 F3
4501 A9
4502 B9
4511 B9
4512 B9
4521 B9
4522 C9
5400 G3
5401 H3
6600 F6
6713 H11
6714 H11

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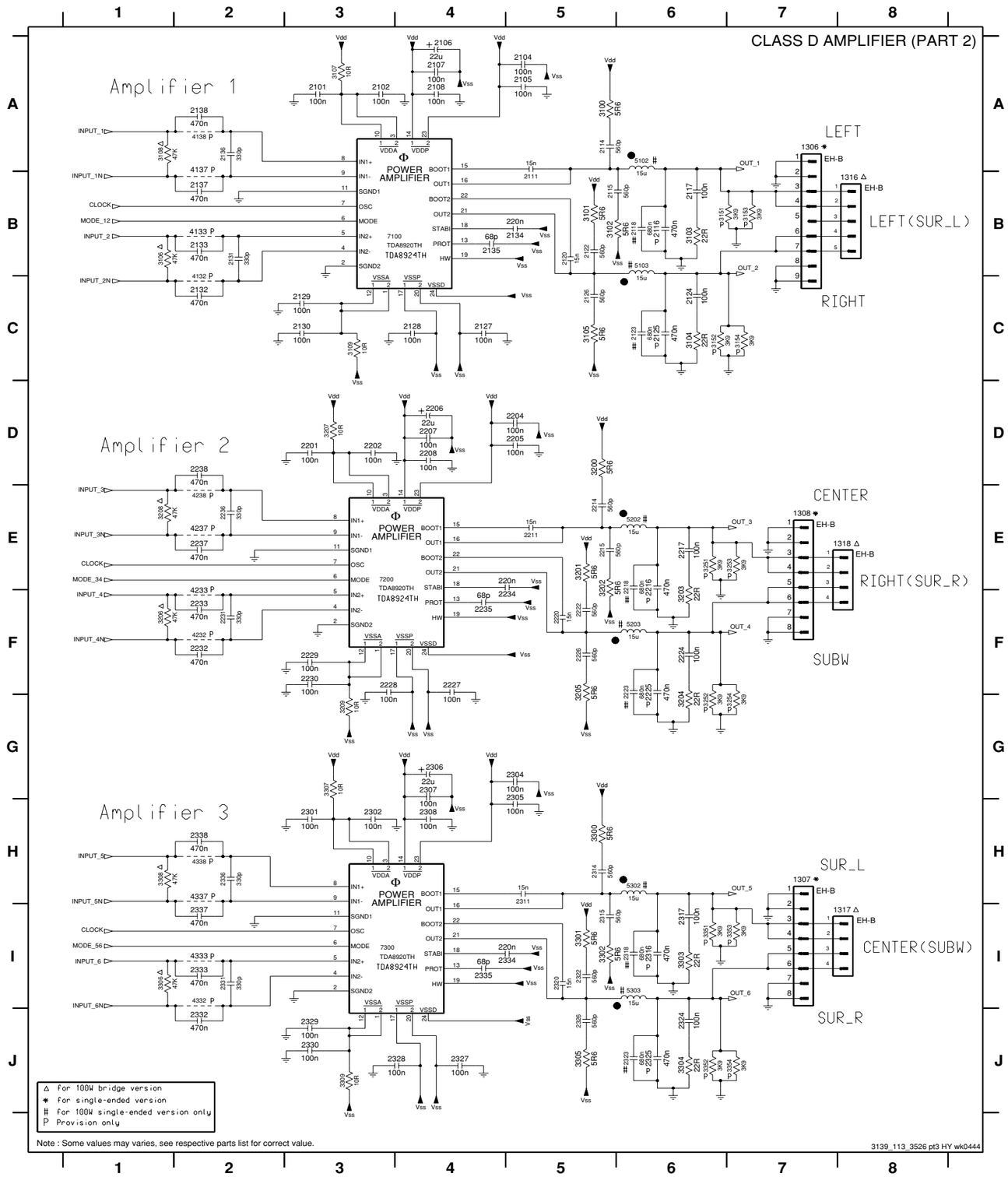
CLASS D AMPLIFIER BOARD - CIRCUIT DIAGRAM PART 2



1306 A7
1307 H7
1308 E7
1316 B8
1317 I7
1318 E7
2101 A3
2102 A3
2104 A5
2105 A5
2106 A4
2107 A4
2108 A4
2111 B5
2114 A5
2115 B5
2116 B6
2117 B6
2118 B6
2120 B5
2122 B5
2123 C6
2124 C6
2125 C6
2126 C5
2127 C4
2128 C4
2129 C3
2130 C3
2131 B2
2132 C2
2133 B2
2134 B5
2135 B4
2136 A2
2137 B2
2138 A2
2201 D3
2202 D3
2204 D5
2205 D5
2206 D4
2207 D4
2208 D4
2211 E5
2214 E5
2215 E5
2216 E6
2217 E6
2218 E6
2220 F5
2222 F5
2223 F6
2224 F6
2225 F6
2226 F5
2227 F4
2228 F3
2229 F3
2230 F3
2231 F2
2232 F2
2233 F2
2234 F5
2235 F4
2236 E2
2237 E2
2238 D2
2301 H3
2302 H3
2304 G5
2305 H5
2306 G4
2307 G4
2308 H4
2311 H5
2314 H5
2315 I5
2316 I6
2317 I6
2318 I6
2320 I5
2322 I5
2323 J6
2324 J6
2325 J6
2326 J5
2327 J4
2328 J4
2329 J3
2330 J3
2331 I2
2332 J2
2333 I2
2334 I5
2335 I4
2336 H2
2337 I2
2338 H2
3100 A5
3101 B5
3102 B5
3103 B6
3104 C6
3105 C5
3106 B1
3107 A3
3108 A1
3109 C3
3151 B6
3152 C6
3153 B7
3154 C7
3200 D5
3201 E5
3202 E5
3203 F6
3204 G6
3205 F5
3206 F1
3207 D3
3208 E1
3209 G3
3251 E6
3252 G6
3253 E7
3254 G7
3300 H5
3301 I5
3302 I5
3303 I6
3304 J6
3305 J5
3306 I1
3307 G3
3308 H1
3309 J3
3351 I6
3352 J6
3353 I7
3354 J7
4132 C2
4133 B2
4137 A2
4138 A2
4232 F2
4233 E2
4238 E2
4237 E2
4332 I2
4333 I2
4337 H2
4338 H2
5102 A6
5103 B6
5202 E6
5203 F6
5302 H6
5303 I6
7100 B4
7200 E3
7300 I3

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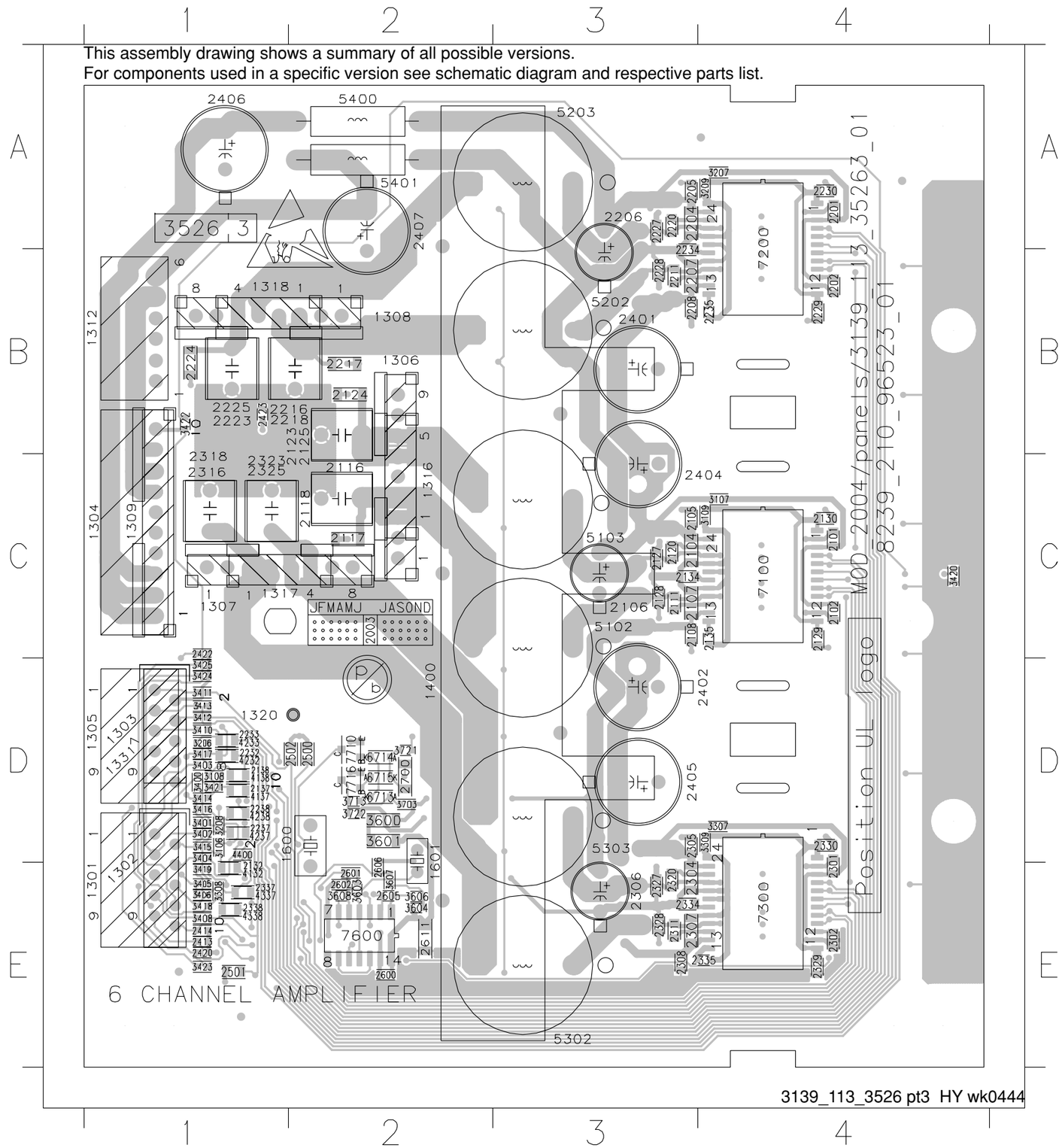
CLASS D AMPLIFIER BOARD - TOP VIEW LAYOUT

This assembly drawing shows a summary of all possible versions.
For components used in a specific version see schematic diagram and respective parts list.



1301	E1	6713	D2	2101	C4	2501	E1	4238	D1
1302	E1	6714	D2	2102	C4	2502	D2	4337	E1
1303	D1	6715	D2	2104	C3	2600	E2	4338	E1
1304	C1	7100	C4	2105	C3	2601	E2	4400	D1
1305	D1	7200	A4	2107	C3	2602	E2	6713	D2
1306	B2	7300	E4	2108	C3	2605	E2	6714	D2
1307	C1	7600	E2	2111	C3	2606	E2	6715	D2
1308	B2	7710	D2	2117	C2	2611	E2	7100	C4
1309	C1	7716	D2	2120	C3	2700	D2	7200	A4
1312	B1			2124	B2	3106	D1	7300	E4
1316	C2			2127	C3	3107	C4	7600	E2
1317	C1			2128	C3	3108	D1	7710	D2
1318	B1			2129	C4	3109	C4	7716	D2
1320	D1			2130	C4	3206	D1		
1331	D1			2132	E1	3207	A4		
1400	D2			2134	C3	3208	D1		
1600	D1			2135	C4	3209	A4		
1601	D2			2137	D1	3307	D4		
2104	C3			2138	D1	3308	E1		
2106	C3			2201	A4	3309	D4		
2107	C3			2202	B4	3400	D1		
2116	C2			2204	A3	3401	D1		
2117	C2			2205	A3	3402	D1		
2118	C2			2207	B3	3403	D1		
2123	B2			2208	B3	3404	D1		
2124	B2			2211	B3	3405	E1		
2125	B2			2217	B2	3406	E1		
2204	A3			2220	A3	3408	E1		
2206	A3			2224	B1	3410	D1		
2207	B3			2227	A3	3411	D1		
2216	B1			2228	B3	3412	D1		
2217	B2			2229	B4	3413	D1		
2218	B2			2230	A4	3414	D1		
2223	B1			2232	D1	3415	D1		
2224	B1			2233	D1	3416	D1		
2225	B1			2234	B3	3417	D1		
2304	D3			2235	B4	3418	E1		
2306	E3			2237	D1	3419	E1		
2307	E3			2238	D1	3420	C4		
2316	C1			2301	E4	3421	D1		
2318	C1			2302	E4	3422	B1		
2323	C1			2304	E3	3423	E1		
2325	C1			2305	D3	3424	D1		
2401	B3			2307	E3	3425	D1		
2402	D4			2308	E3	3600	D2		
2404	C4			2311	E3	3601	D2		
2405	D3			2320	E3	3603	E2		
2406	A1			2327	E3	3604	E2		
2407	A2			2328	E3	3606	E2		
2611	E2			2329	E4	3607	E2		
2700	D2			2330	D4	3608	E2		
3600	D2			2334	E3	3703	D2		
3601	D2			2335	E4	3713	D2		
5102	C3			2337	E1	3721	D2		
5103	C3			2338	E1	3722	D2		
5202	B3			2413	E1	4132	E1		
5203	A3			2414	E1	4137	D1		
5302	E3			2420	E1	4138	D1		
5303	D3			2422	C1	4232	D1		
5400	A2			2423	B1	4233	D1		
5401	A2			2500	D2	4237	D1		

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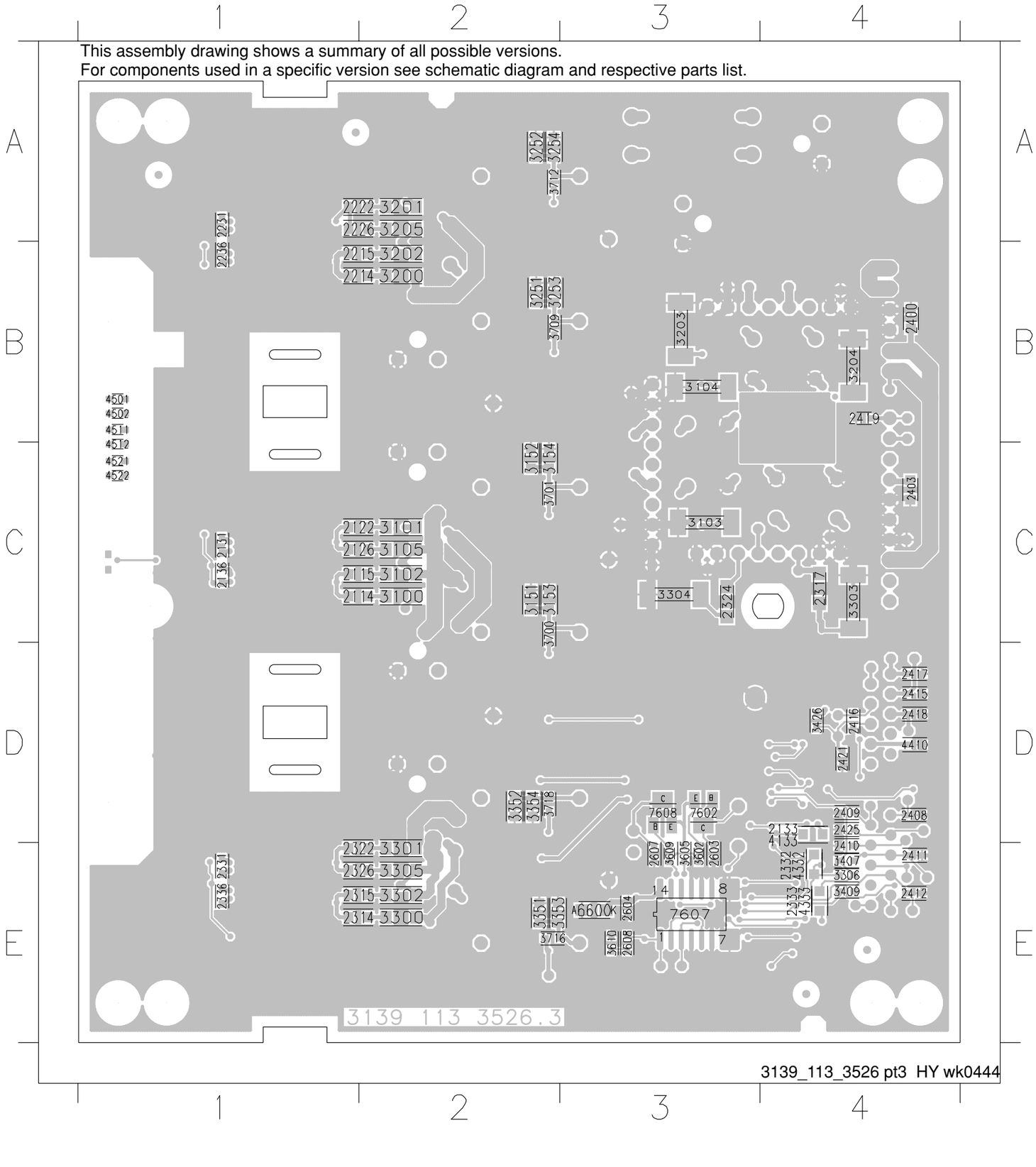
CLASS D AMPLIFIER BOARD - BOTTOM VIEW LAYOUT

This assembly drawing shows a summary of all possible versions.
For components used in a specific version see schematic diagram and respective parts list.



2114	C1	3254	A2
2115	C1	3300	E2
2122	C1	3301	E2
2126	C1	3302	E2
2131	C1	3303	C4
2133	D4	3304	C3
2136	C1	3305	E2
2214	B1	3306	E4
2215	B1	3351	E2
2222	A1	3352	D2
2226	A1	3353	E2
2231	A1	3354	D2
2236	B1	3407	E4
2314	E1	3409	E4
2315	E1	3426	D4
2317	C4	3602	E3
2322	E1	3605	E3
2324	C3	3609	E3
2326	E1	3610	E3
2331	E1	3700	C2
2332	E4	3701	C2
2333	E4	3709	B2
2336	E1	3712	A2
2400	B4	3716	E2
2403	C4	3718	D2
2408	D4	4133	D4
2409	D4	4332	E4
2410	E4	4333	E4
2411	E4	4410	D4
2412	E4	4501	B1
2415	D4	4502	B1
2416	D4	4511	B1
2417	D4	4512	C1
2418	D4	4521	C1
2419	B4	4522	C1
2421	D4	6600	E3
2425	D4	7602	D3
2603	E3	7607	E3
2604	E3	7608	D3
2607	E3		
2608	E3		
3100	C2		
3101	C2		
3102	C2		
3103	C3		
3104	B3		
3105	C2		
3151	C2		
3152	C2		
3153	C2		
3154	C2		
3200	B2		
3201	A2		
3202	B2		
3203	B3		
3204	B4		
3205	A2		
3251	B2		
3252	A2		
3253	B2		

ELECTRICAL PARTS LIST - AMPLIFIER BOARD

MISCELLANEOUS

0010	3104 211 29861	SPRING 6 CHANNEL
1302	4822 267 10729	CON BM V 10P F
1600	2422 540 98514	RES CER 602KHZ7 CSB600F1 B
1601	2422 540 98568	RES CER 700KHZ CSBLA* B

CAPACITORS

2104	2222 601 55649	100V 100nF 10%
2106	2020 021 91431	100V 22uF 20%
2106	2020 021 91431	100V 22uF 20%
2107	2222 601 55649	100V 100nF 10%
2114	2238 600 15619	100V 560pF 10%
2115	2238 600 15619	100V 560pF 10%
2116	4822 121 51252	50V 470nF 10%
2117	2222 601 55649	100nF 10% 100V
2122	2238 600 15619	100V 560pF 10%
2124	2222 601 55649	100V 100nF 10%
2125	4822 121 51252	50V 479nF 10%
2126	2238 600 15619	100V 560pF 10%

COIL & FILTERS

5102	2422 536 00733	Ind Fixed 22uF 20%
5103	2422 536 00733	Ind Fixed 22uF 20%
5400	4822 157 11411	BEAD 100MHZ 80R
5401	4822 157 11411	BEAD 100MHZ 80R

DIODES

6600	3198 020 55680	BZX384-C5V6
6713	4822 130 11397	BAS316
6714	4822 130 11397	BAS316
6715	4822 130 11397	BAS316

TRANSISTORS & INTEGRATED CIRCUITS

7100	9352 753 45518	TDA8922BTH/N2
7600	5322 209 11517	74HCU04D
7602	5322 130 60159	BC846B
7607	5322 209 14477	HEF4013BT
7608	4822 130 60373	BC857B
7710	5322 130 60159	BC847B
7716	4822 130 60373	BC857B

Note: Only the parts mentioned in this list are normal service spare parts.

SPEAKER CONNECTOR BOARD

TABLE OF CONTENTS

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ELECTRICAL PARTS LIST - SPEAKER CONNECTOR BOARD

MISCELLANEOUS

1712	4822 267 31176	SOCKET CLICK H 4P F

Note: Only the parts mentioned in this list are normal service spare parts.

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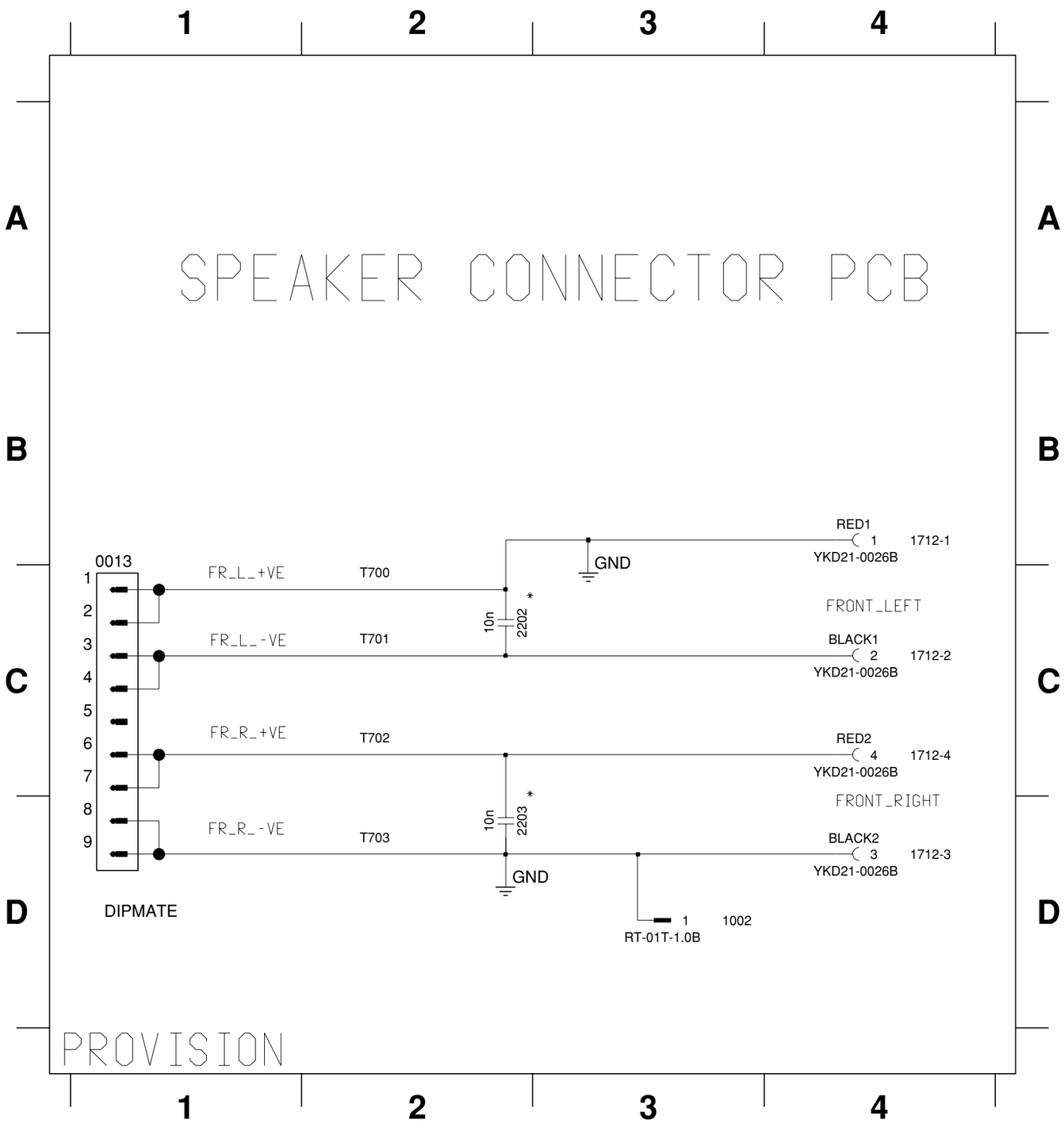
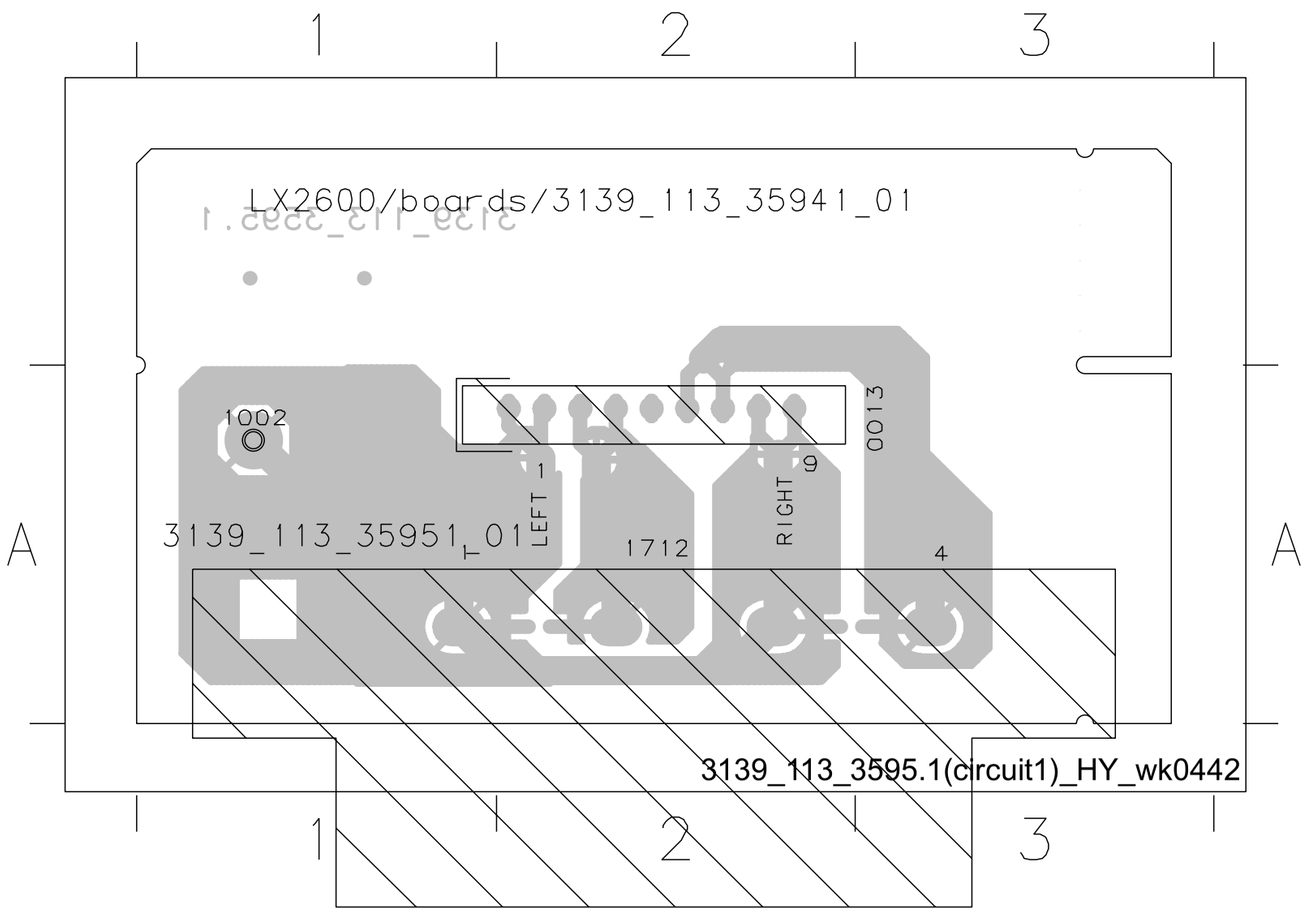
CIRCUIT DIAGRAM

0013 C1	1712-1 B4	1712-3 D4	2202 C2	T700 C2	T702 C2
1002 D3	1712-2 C4	1712-4 C4	2203 D2	T701 C2	T703 D2



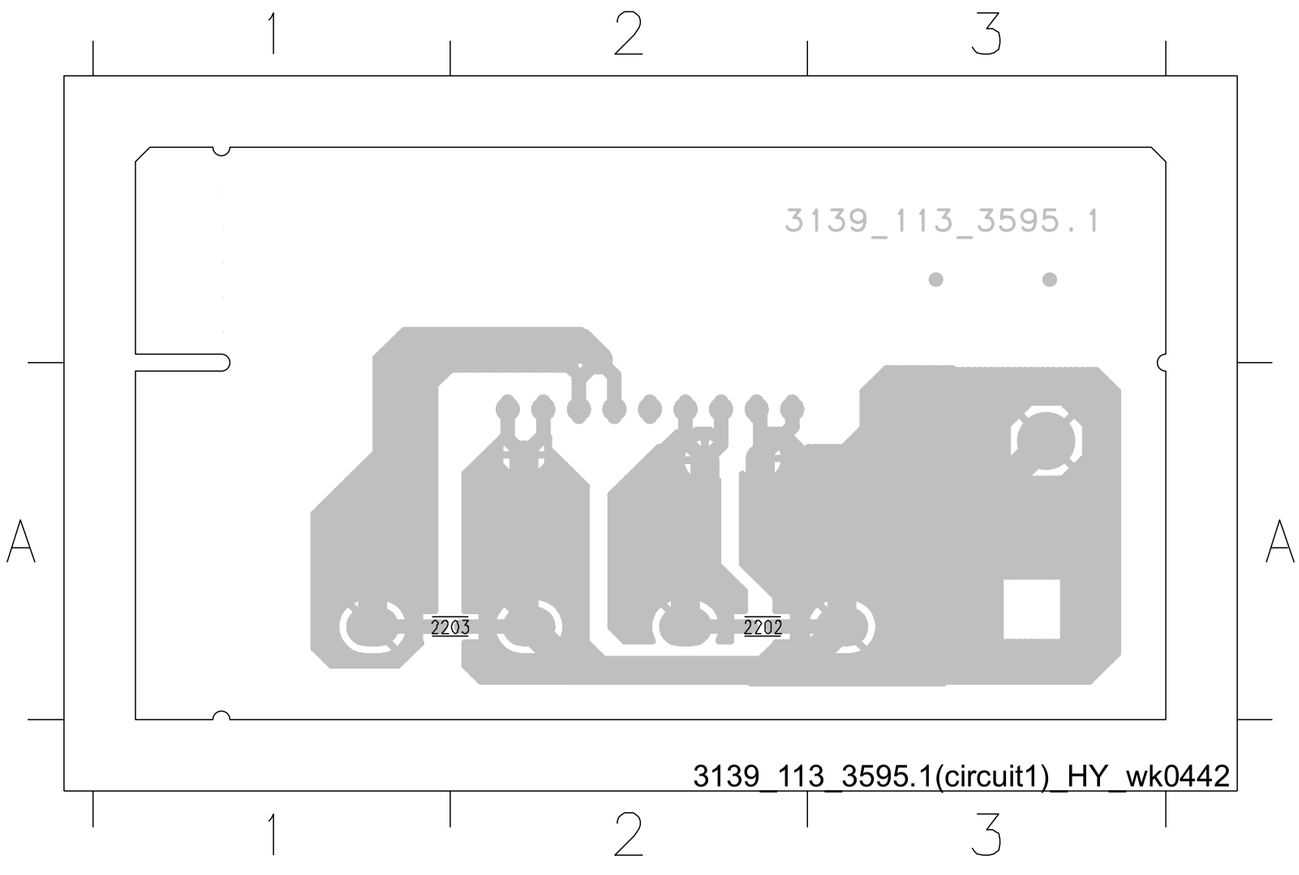
COMPONENT LAYOUT

0013 A3
1002 A1
1712 A2



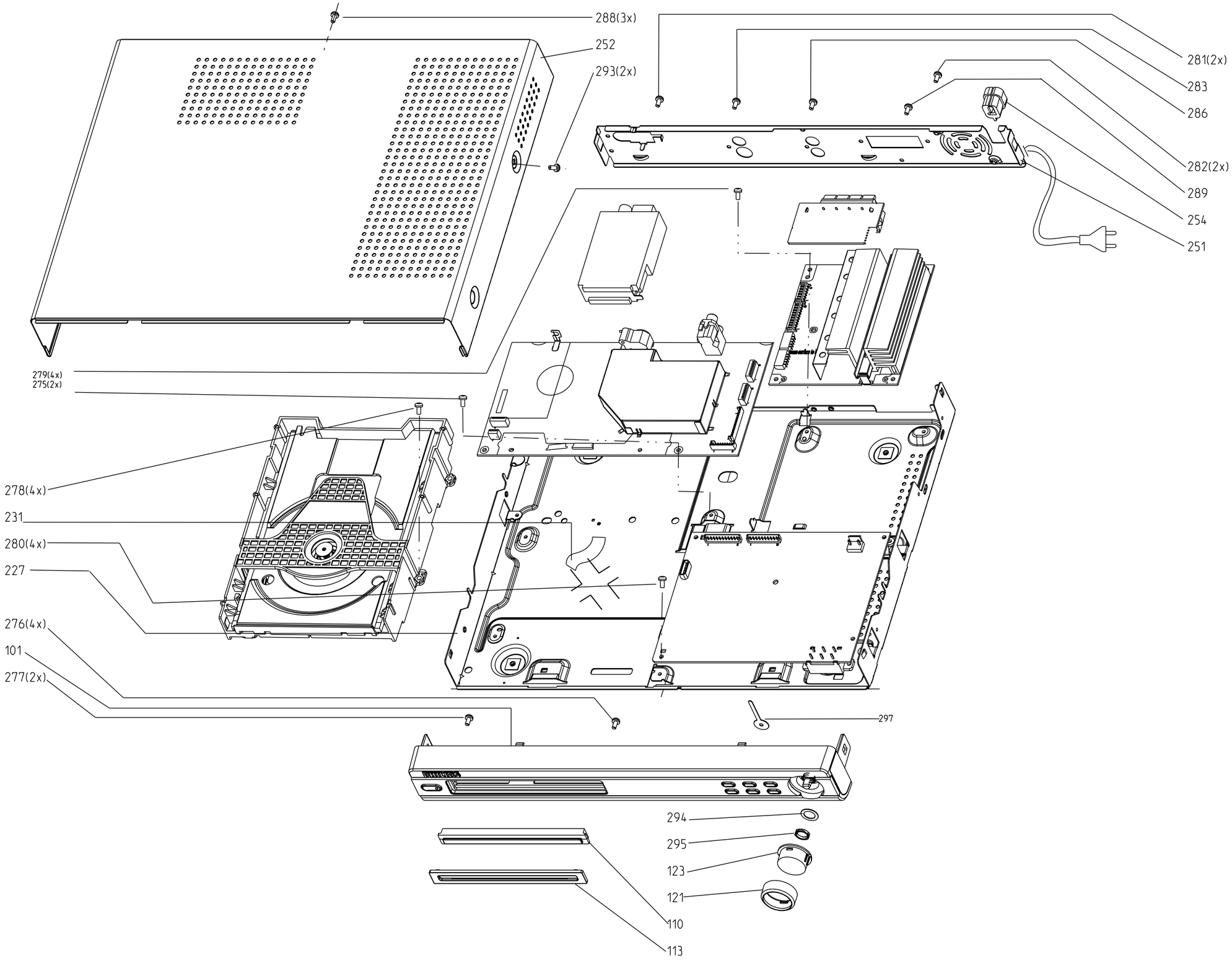
CHIP LAYOUT

2202 A2
2203 A1



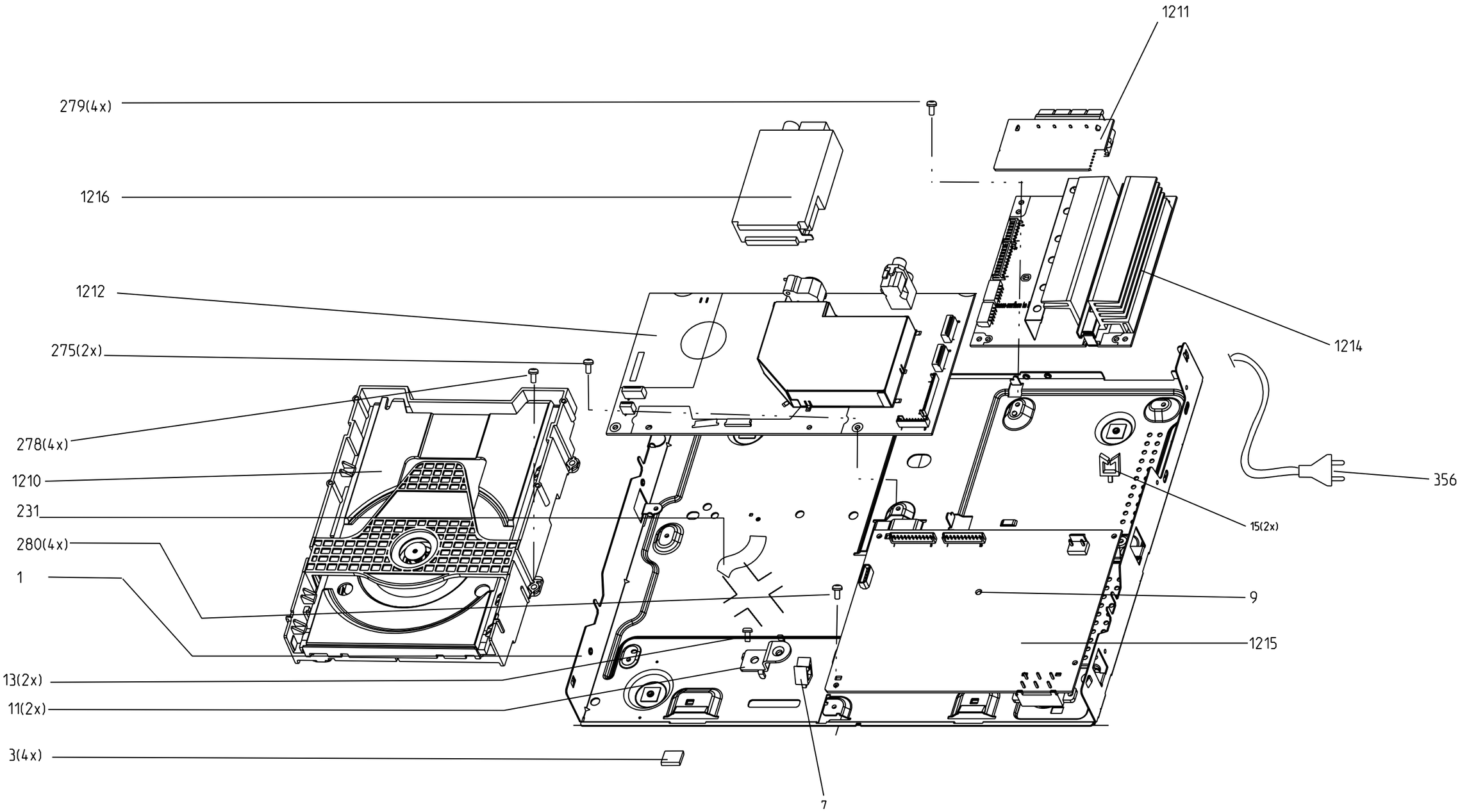
10-1

MAIN ENCASING EXPLODED VIEW



10-2

MAIN ENCASING EXPLODED VIEW



MAIN ENCASING & ACCESSORIES PARTS LIST

0101	3139 257 51731	CABINET FRONT ASSY
0110	3139 257 51811	COVER TRAY DVD
0113	3139 254 01461	LENS ORN COVER TRAY
0121	3139 254 01411	KNOB VOLUME
0123	3143 027 60431	KNOB VOLUME ASSY
0254	4822 532 60948	BUSH

FRONT CABINET ASSEMBLY PARTS LIST

0001	3139 257 51711	CABINET FRONT
0003	3139 247 51831	BADGE PHILIPS ASSY
0009	3139 257 51831	BUTTON PWR/STDBY
0011	3139 114 79541	LIGHTGUIDE STANDBY
0013	3139 257 51821	BUTTON SET CONTROL
0019	3139 257 51741	WINDOW DISPLAY
0021	3139 254 01441	WINDOW DISPLAY RIGHT

BOTTOM PLATE ASSEMBLY PARTS LIST

0003	3139 243 10080	CUSHION FOOT
0007	2422 015 19894	SADDLE WIRE NY6/6 NT 9.9MM B
0009	8204 055 76161	SPACER LOCKING KGLS-4S B
0015	2422 015 16901	SADDLE MINI CLAMP TYPE B 11.8

FINAL EQUIPMENT ASSEMBLY PARTS LIST

0351	2422 076 00546	CABLE FM AERIAL
0352	2422 549 45813	ANTENNA AM LOOP
0352	2422 549 45386	ANTENNA AM LOOP
0353	3139 238 04751	REMOTE CONTROL
0356	2422 070 98231	MAIN CORD
0356	4822 321 11462	MAINS CORD 20/21" (JST PLUG)
0364	3103 308 92610	CABLE AUDIO
0365	4822 263 21206	P50 ADAPTOR

ELECTRICAL ASSEMBLY PARTS LIST

1210	3141 018 05122	DVD LOADER A97SL-F (CABLE)
1210	3141 018 05182	DVD LOADER A97SL-S (CABLE)
1211	3139 118 58401	PCBAS SPK CONNECTOR
1212	3139 118 58431	PCBAS MONO AV
1213	3139 118 57202	PCBAS FRONT
1215	3122 429 00401	PSU DVD-RECEIVER
1216	2422 542 90138	TUNNER A+F ENG06703Q USA B

SET WIRING ASSEMBLY PARTS LIST

8521	3139 110 34580	Flex Cable 4P 28cm AD
8531	3139 111 03671	Flex Cable 10P 140cm AD
8540	3139 110 35390	Flex Cable 8P 480cm BD
8580	3139 110 35911	Flex Cable 11P 100cm BD

Note: Only the parts mentioned in this list are normal service spare parts.