

TEAC



SERVICE MANUAL

DV-3500

DVD Player



CONTENTS

1 SPECIFICATIONS	2
2 DISASSEMBLY	3
3 EXPLODED VIEWS AND PARTS LIST	4
4 PC BOARDS AND PARTS LIST	6
5 BLOCK DIAGRAM	9
6 WIRING DIAGRAM	10
7 OSCILLOGRAMS	11

NOTES

- PC boards shown are viewed from parts side.
- The parts with no reference number or no parts number in the exploded views are not supplied.
- As regards the resistors and capacitors, refer to the circuit diagrams contained in this manual.
- ⚠ Parts marked with this sign are safety critical components. They must be replaced with identical components - refer to the appropriate parts list and ensure exact replacement.

1 SPECIFICATIONS

DVD Player

Signal system: NTSC / PAL

Laser: Semiconductor laser, wavelength 650 nm

Frequency range:

DVD : 4 Hz to 22 kHz (fs:48kHz)

4 Hz to 44 kHz (fs:96kHz)

CD/VCD : 4 Hz to 20 kHz

Signal-to-noise rating (DVD): 106 dB

Audio dynamic range (DVD): 106 dB

Harmonic distortion (DVD): 0.002%

Wow and flutter:

Below measurable level (less than $\pm 0.001\%$ (W.PEAK))

Operating conditions:

Temperature: 5°C to 35°C

Operation status: Horizontal

Outputs

Video output:

RCA jack x 1

1.0 V (p-p), 75 Ω , negative sync.

S-video output:

Mini DIN 4-pin x 1

(Y) 1.0 V (p-p), 75 Ω , negative sync.,

(C) 0.286 V (p-p) 75 Ω

Audio output (digital audio):

RCA jack x 1, 1.15 V (p-p), 75 Ω

OPTICAL digital jack x 1

Audio output (analog audio):

RCA jack x1, 2.0 Vrms (1 kHz, 0 dB)

AV connector output:

SCART jack x1

General

Power supply: AC 230V, 50 Hz

Power consumption: 14 W

Weight: 3.6 kg

External dimensions (W x H x D):

435 x 70 x 276 mm

Accessories

Remote Control Unit x 1

Owner's manual x 1

AV Cable (RCA) x 1

- Design and specifications are subject to change without notice.
- Weight and dimensions are approximate.

Type of Discs That Can be Played on This System

This player can playback discs bearing any of the following marks:

 DVDs 12cm or 8cm disc See Note 1, 2, 3.	 Video CDs 12cm or 8cm disc (version up to 2.0) See Note 2.	 Audio CDs, MP3 12cm or 8cm disc See Note 4.
--	---	---

Note 1

DVD players and discs are designed with region numbers that dictate the regions in which a disc can be played. If the region number on the disc you want to play does not match the region number of your DVD player, you will not be able to play the disc. In that case, error message will appear on the screen.

The region code is printed on the rear panel of this unit.

Discs having following region code can be played with this unit :



Note 2

The specific playback functionality for some DVD and video CD discs is determined by the disc manufacturer. Because this DVD player plays disc data in accordance with the disc manufacturer's guidelines, some functions may not be available on some discs. Be sure to read the instructions provided with the disc. The PROHIBIT icon "⊘" displayed during DVD player operation indicates that such manufacturer imposed restrictions apply.

Note 3

The audio on a DVD disc recorded in MPEG version 2.0 format maybe cannot be played (MPEG-2 is an image only format).

Note 4

File names of MP3 should be alphanumeric characters. This unit cannot display symbols and full-size or 2 bytes-wide characters (such as Japanese, Chinese, etc.) correctly.

Also, be sure to use the extension ".mp3".

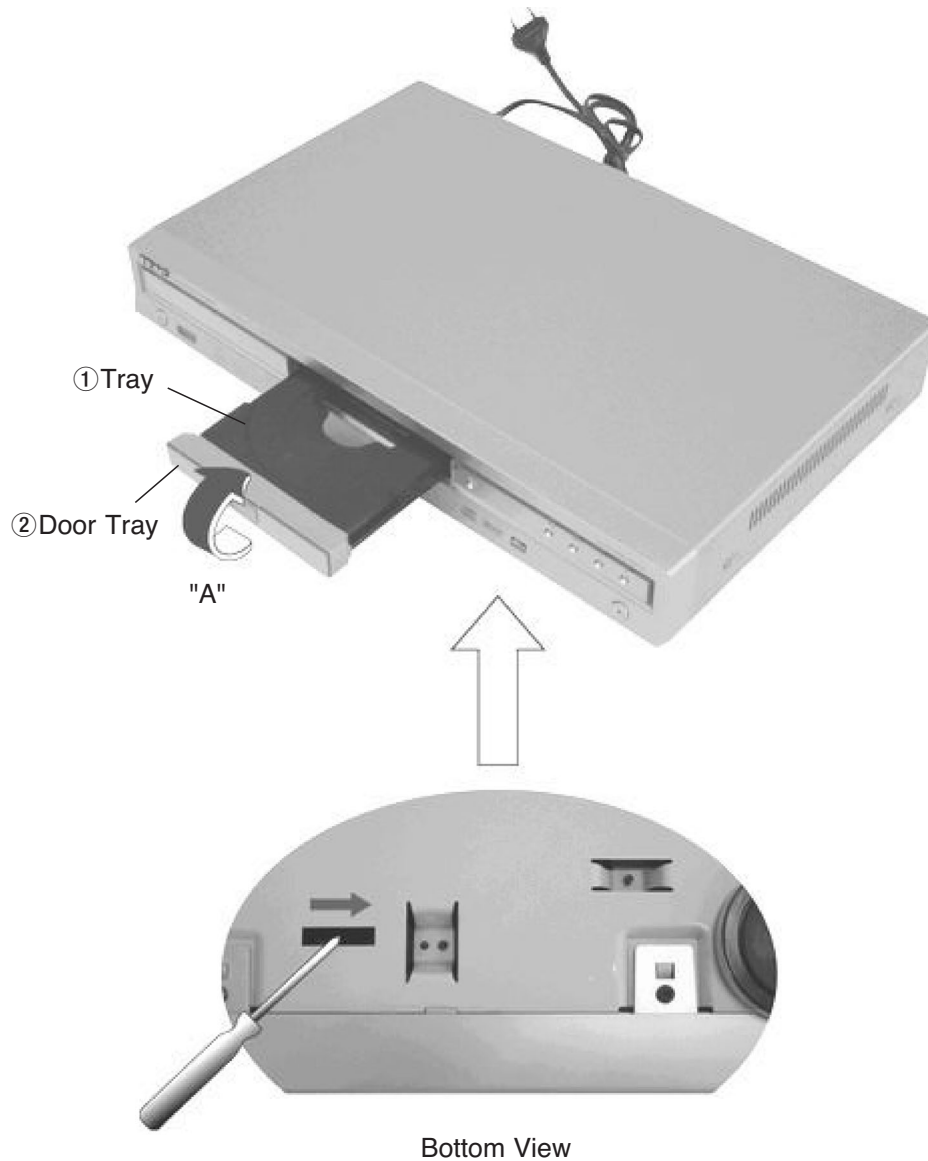
When more than 200 MP3 files are recorded on the disc, the unit might not be able to play it correctly.

2 DISASSEMBLY

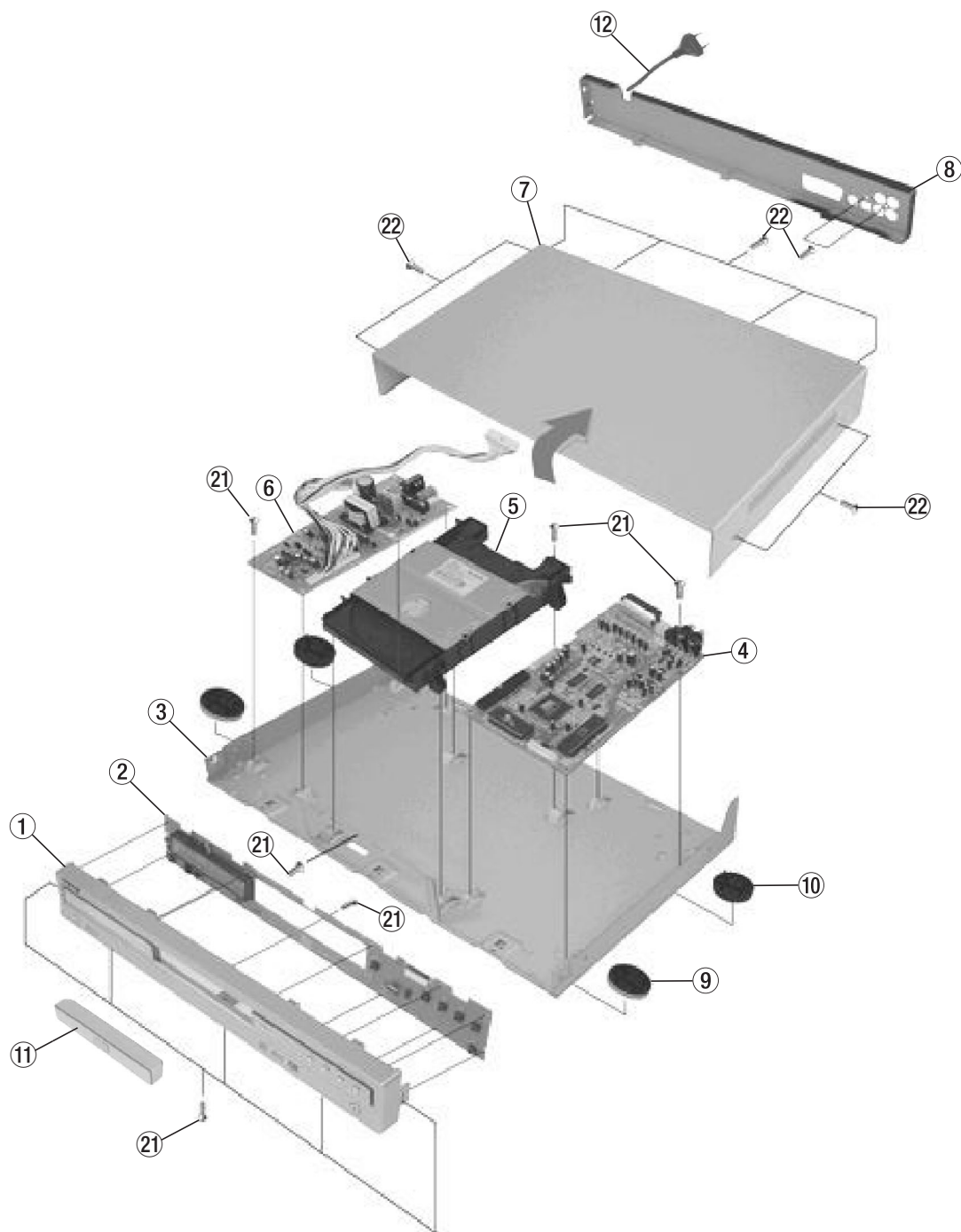
Door Tray Removal

1. Supply Power and open Tray ①.
2. Disassemble the Door Tray ② in direction off arrow "A".
3. Close Tray ① and power off.

Note : If Tray doesn't open, insert a sharp point into emergency hole, and then push the tap in the hole in direction of arrow, After then open tray manually.



3 EXPLODED VIEWS AND PARTS LIST



EXPLODED VIEW

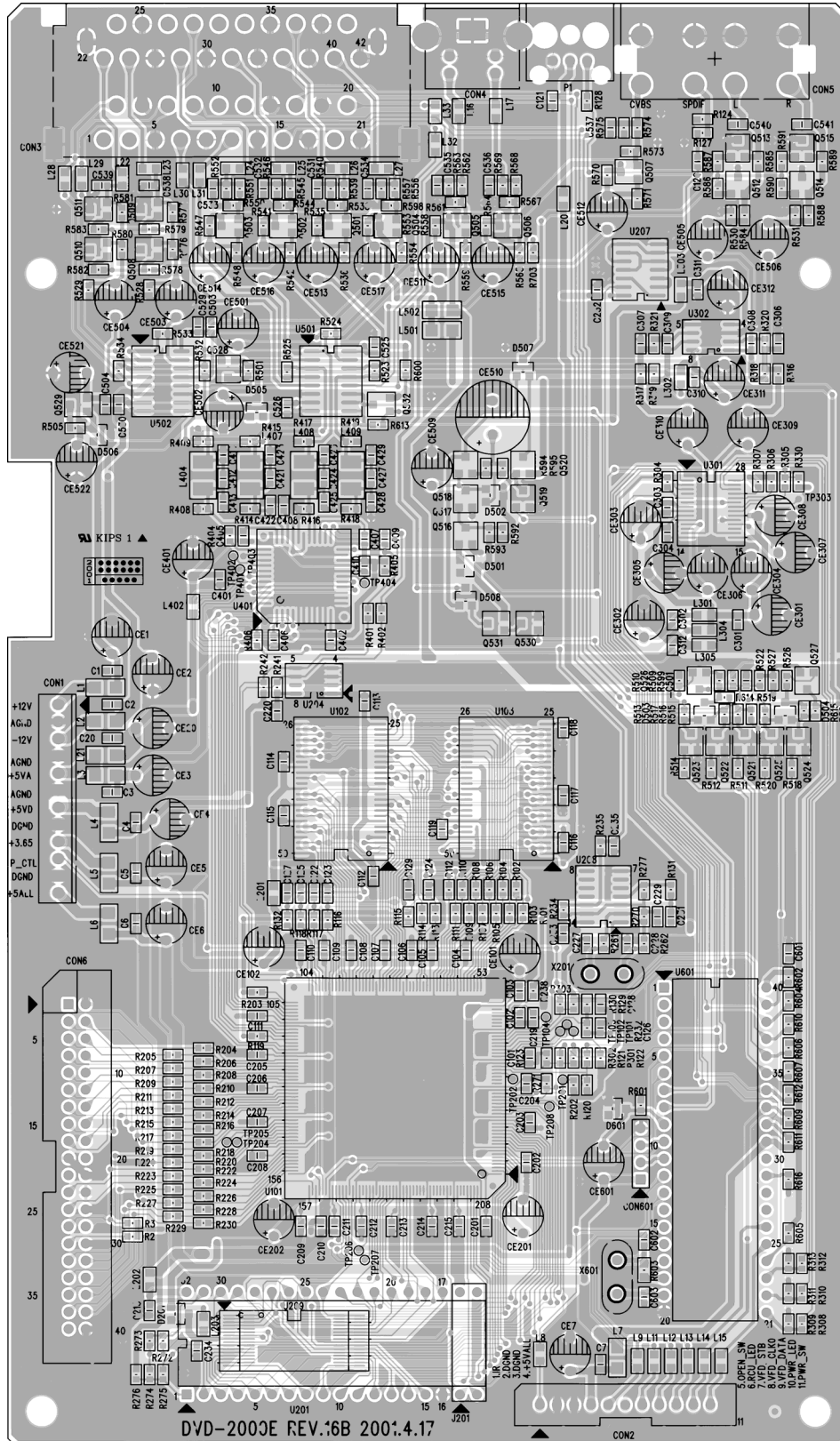
REF. NO.	PARTS NO.	DESCRIPTION	REMARKS
1	9A09626720	COVER, FRONT ASSY	
2	9A09627020	FRONT PCB ASSY	
3	9A09626820	BOTTOM FRAME ASSY	
4	9A09626920	MAIN PCB ASSY	
5	9A09636100	DVD LOADER, RL-A700	
6	9A09627120	SMPS PCB ASSY	
7	9A09636400	COVER, TOP	
8	9A09636000	PANEL, REAR	
9	9A09635400	FOOT, FRONT	
10	9A09635500	FOOT, REAR	
11	9A09635300	DOOR, TRAY	
12	 9A09635800	CORD, POWER	
21	9A09636200	SCREW, 3X6 BIND BK	
22	9A09636300	SCREW, 3X6 BIND ZN	

INCLUDED ACCESSORIES

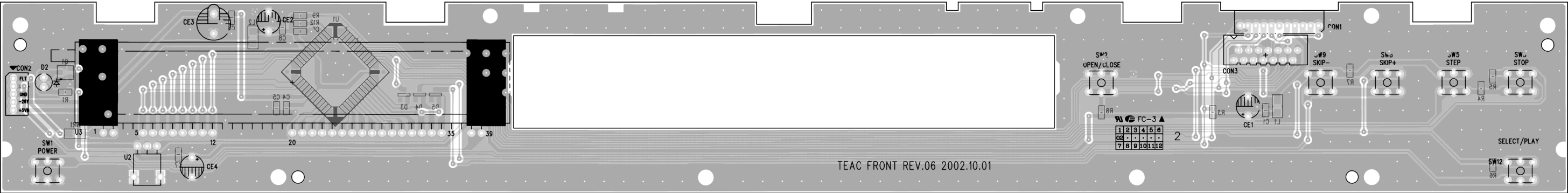
REF. NO.	PARTS NO.	DESCRIPTION	REMARKS
	9A09428100	OWNER'S MANUAL, EFN	
	9A09428200	OWNER'S MANUAL, DIS	
	9A09635900	REMOTE CONTROL UNIT, RC-867	
	9A09635200	BATTERY, AAA	
	9A09636500	CORD, VIDEO	

4 PC BOARDS AND PARTS LIST

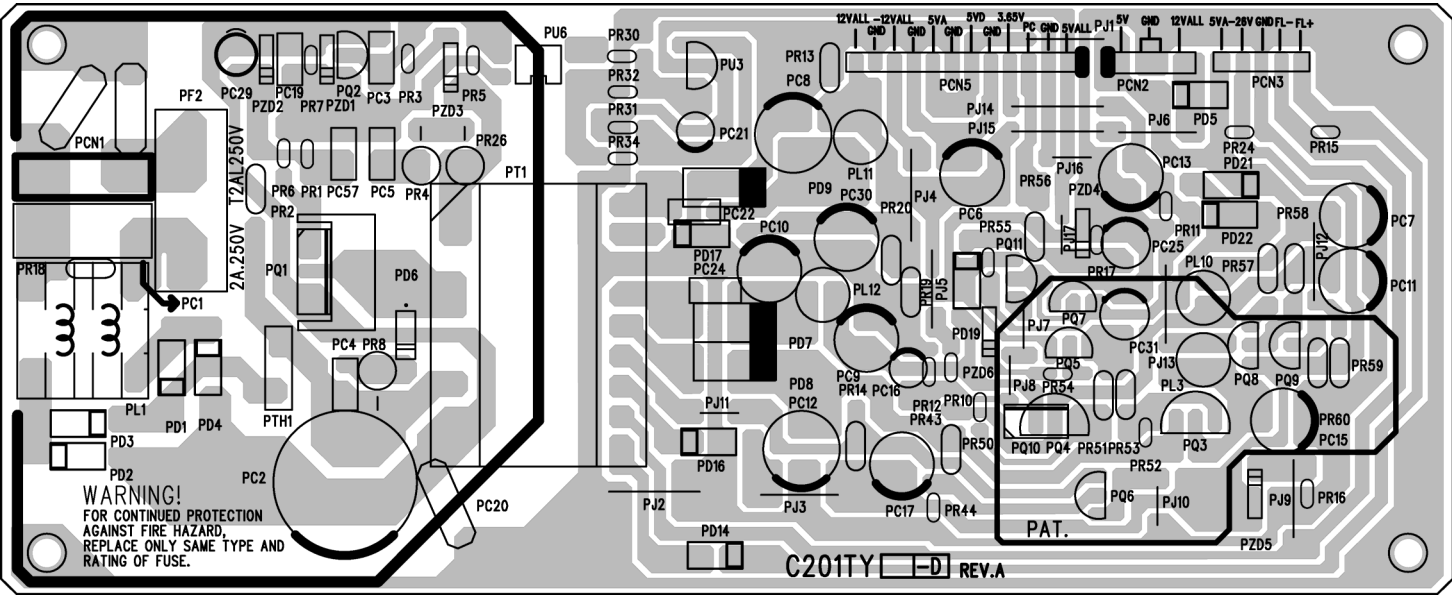
MAIN PCB



FRONT PCB



SMPS PCB



MAIN PCB ASSY

REF. NO.	PARTS NO.	DESCRIPTION
	9A09626920	MAIN PCB ASSY
	9A09635700	MAIN PCB
CON1	9A09632300	CONNECTOR, 12PIN
CON2	9A09636800	CONNECTOR, 11PIN
CON4	9A09630000	CONNECTOR, MINI DIN
CON5	9A09632000	CONNECTOR, RCA W-Y, R-B
CON6	9A09629800	CONNECTOR, BOX HEADER
CON105	9A09639100	CONNECTOR, SINGLE SCART
D501	9A09629900	ZENER DIODE, 3.9V 350MW
D502	9A09631900	DIODE, KDS226
D507, D508	9A09631800	DIODE, KDS184
D601	9A09632500	DIODE, RLS4148
L1-L6	9A09632700	POWER BEAD, CHIP
L8, L9	9A09633700	FERRITE BEAD, CHIP
L11-L17	9A09633700	FERRITE BEAD, CHIP
L20	9A09633700	FERRITE BEAD, CHIP
L21	9A09632700	POWER BEAD, CHIP
L22-L27	9A09633700	FERRITE BEAD, CHIP
L201, L202	9A09633700	FERRITE BEAD, CHIP
L301-L305	9A09633700	FERRITE BEAD, CHIP
L402	9A09633700	FERRITE BEAD, CHIP
L404	9A09636900	INDUCT, 15UH
L407-L409	9A09636900	INDUCT, 15UH
L501	9A09632700	POWER BEAD, CHIP
P1	9A09635000	OPTICAL CONNECTOR, TOTX178A
Q501-Q515	9A09629700	TR, BC847A
Q516, Q517	9A09632200	TR, KRC107S
Q518	9A09632100	TR, KRA107S
Q519	9A09632200	TR, KRC107S
Q520	9A09632100	TR, KRA107S
Q521, Q522	9A09629700	TR, BC847A
Q524	9A09629700	TR, BC847A
Q526, Q527	9A09629700	TR, BC847A
Q530	9A09632200	TR, KRC107S
Q531	9A09632100	TR, KRA107S
U101	9A09631200	IC, ES4318
U102, U103	9A09627300	IC, 16M-SDRAM
U201	9A09637000	SOCKET, 32PIN DIP
U201	9A09629600	IC, EPROM 512KX8
U204	9A09629500	IC, EEPROM 2KBIT
U207	9A09644600	IC, 74HCU04
U208	9A09644700	IC, 74HC04
U301	9A09632800	IC, PCM1716
U302	9A09632600	IC, NJM4560
U401	9A09629400	IC, ADV7170
U601	9A09637100	SOCKET, 40PIN DIP
U601	9A09637200	IC, 80C52
X201	9A09631400	X-TAL, 27MHZ HC-49/S
X601	9A09631300	X-TAL, 11.0592MHZ HC-49/S

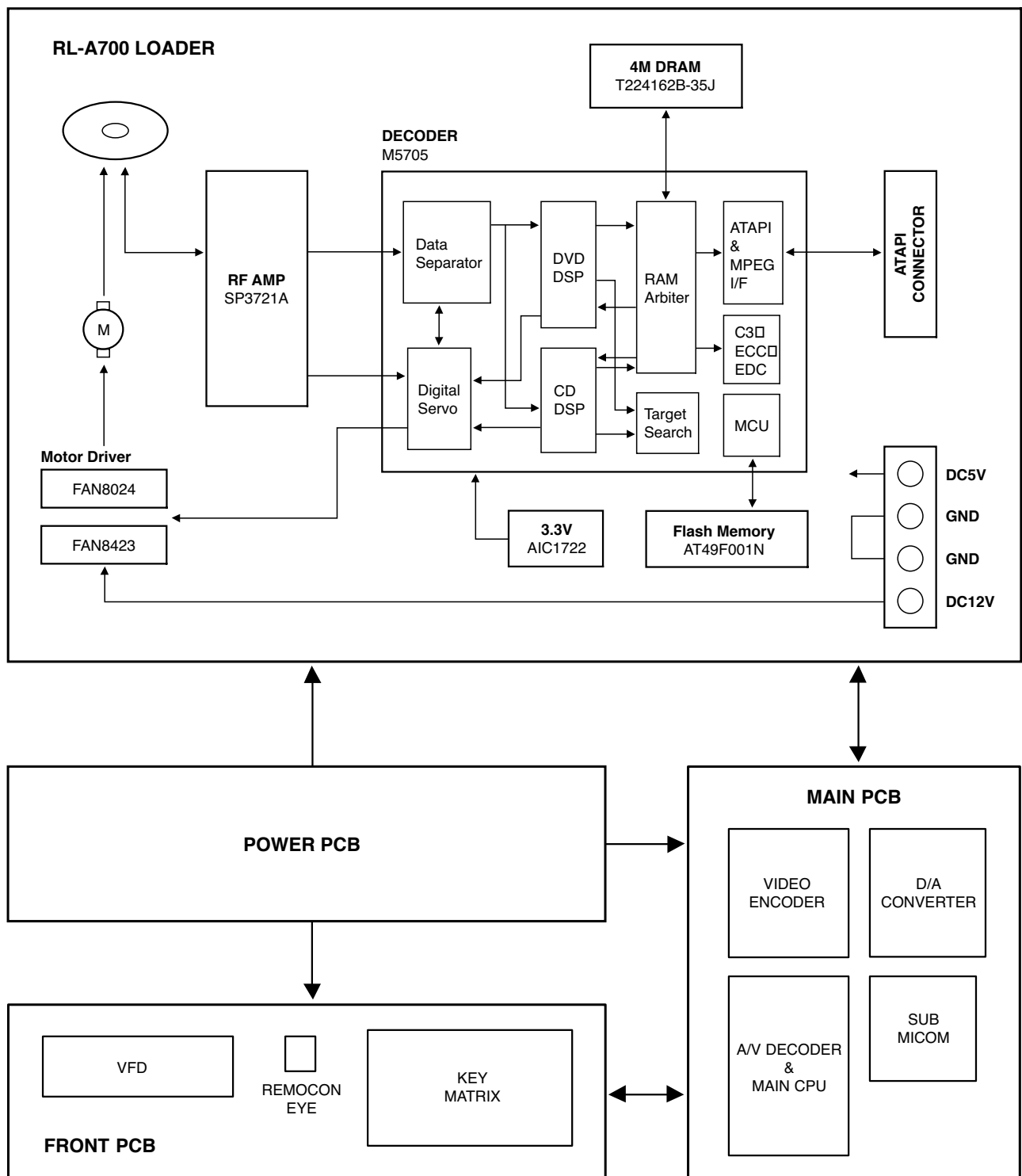
FRONT PCB ASSY

REF. NO.	PARTS NO.	DESCRIPTION
	9A09627020	FRONT PCB ASSY
	9A09635600	FRONT PCB REV.06
D2	9A09633800	LED, RED
D3-D5	9A09632500	DIODE, RLS4148
L1, L2	9A09632700	POWER BEAD, CHIP
Q1	9A09632200	TR, KRC107S
SW1-SW3	9A09627200	TACT SW
SW5, SW8	9A09627200	TACT SW
SW9, SW12	9A09627200	TACT SW
U1	9A09636700	IC, UPD16311GC
U2	9A09635100	INFRARED RECEIVER, TSOP1838
U3	9A09631600	VFD DISPLAY

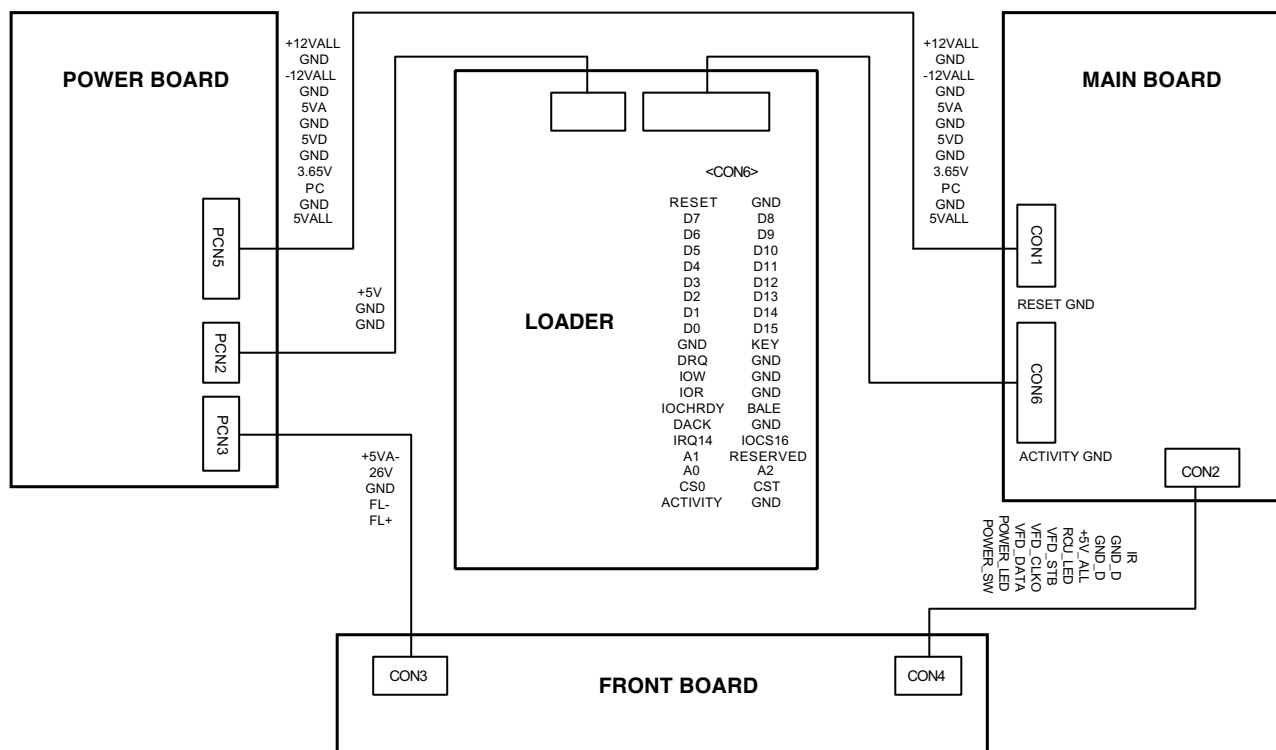
SMPS PCB ASSY

REF. NO.	PARTS NO.	DESCRIPTION
	9A09627120	SMPS PCB ASSY
	9A09641600	PCB, C201TY
	9A09644500	RUBBER, BAR (9T)
PC1	9A09638700	C, 104 275V AC
PC2	9A09638400	CE, 47UF 400V
PC4	9A09638600	CC, 471K 1KV
PC20	9A09638500	C, 332M 250V
PC22	9A09638600	CC, 471K 1KV
PCN1	9A09643900	CONNECTOR, 2PIN
PCN3	9A09643800	CONNECTOR, 5PIN
PD1-4	9A09642300	DIODE, 1N4007
PD5	9A09642000	DIODE, FR103
PD6	9A09642100	DIODE, FR107
PD7, PD8	9A09642600	DIODE, SR306
PD9	9A09642200	DIODE, FR304
PD14	9A09642000	DIODE, FR103
PD16, PD17	9A09642000	DIODE, FR103
PD19	9A09642500	DIODE, SB240
PD21, PD22	9A09642300	DIODE, 1N4007
PF2	9A09643600	FUSE, 250V T2.0A
PF2	9A09643700	FUSE HOLDER
PL1	9A09643500	LINE FILTER, 40MH UU1116
PL3	9A09643300	CHOKE, PEAKING 10UH
PL10, PL11	9A09643300	CHOKE, PEAKING 10UH
PQ1	9A09642900	FET, IRF830A
PQ1	9A09644400	HEATSINK, 28MM
PQ2	9A09642700	TR, KSP2222ATA
PQ3, PQ4	9A09642800	TR, KSA928A
PQ5-PQ9	9A09642700	TR, KSP2222ATA
PR4	9A09641400	R, MOR 680 2W
PR8	9A09641300	R, MOR 47K 2W
PR26	9A09641200	R, MOR 300 2W
PR31, PR34	9A09641100	R, MF 2.4K 1/8W 1%
PT1	9A09643400	TRANS, EE2828
PTH1	9A09643200	THERMISTOR, 5D-9
PU3	9A09643000	SHUNT REG, KA431
PU6	9A09643100	PHOTOCOUPLER, TCET1103
PZD1	9A09641800	ZENER DIODE, 1N5242
PZD2	9A09641900	ZENER DIODE, 1N5252
PZD3-5	9A09641700	ZENER DIODE, 1N5234
ZD6	9A09642400	DIODE, 1N4148

5 BLOCK DIAGRAM

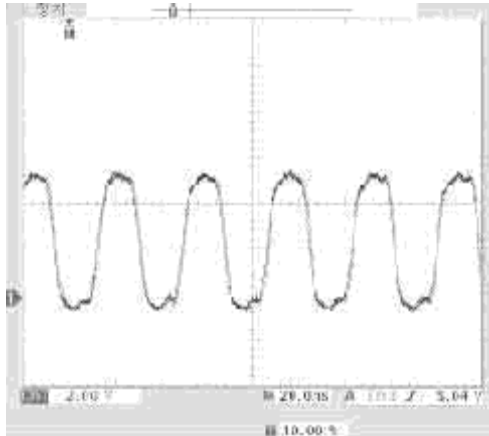


6 WIRING DIAGRAM

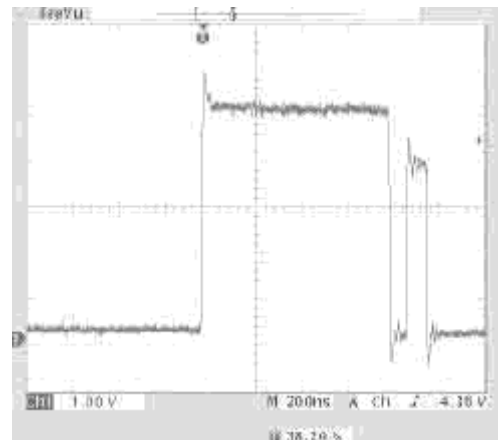


7 OSCILLOGRAMS

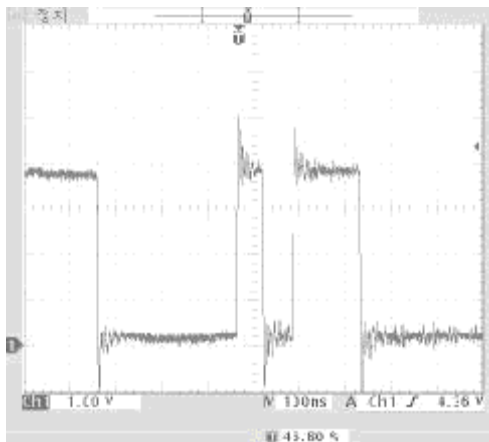
1. 27MHz



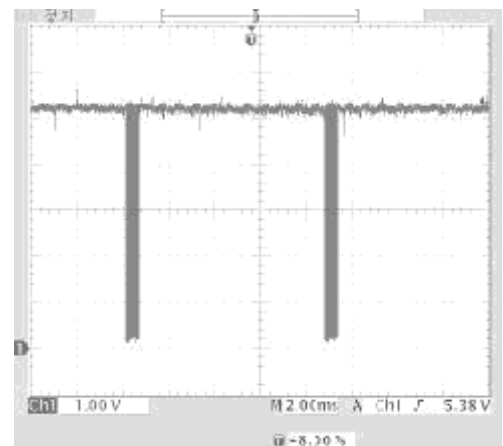
2. ROM- DATA-BUS



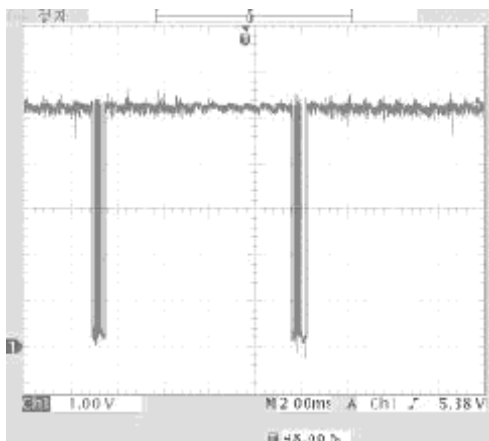
3. RAM-DATA-BUS



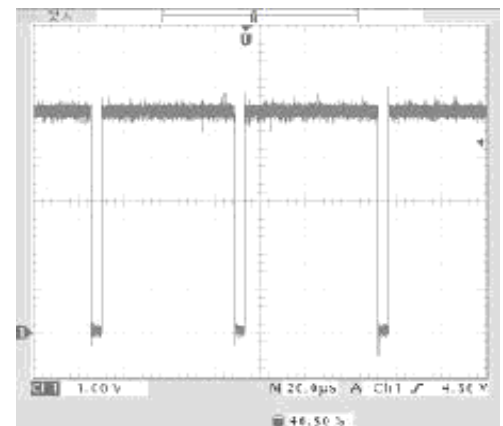
4. I2C-CLK



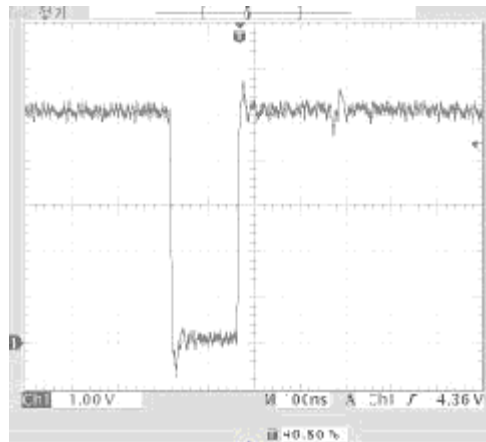
5. I2C-DATA



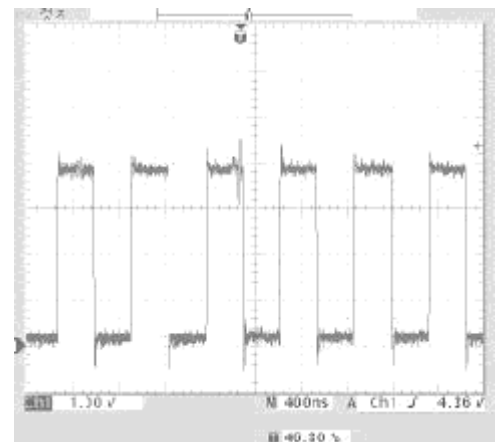
6. HSYNC



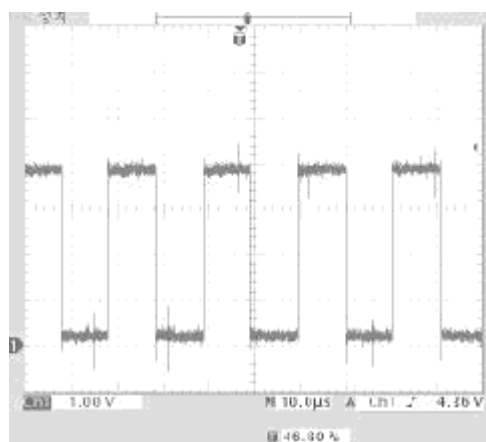
7. VSYNC



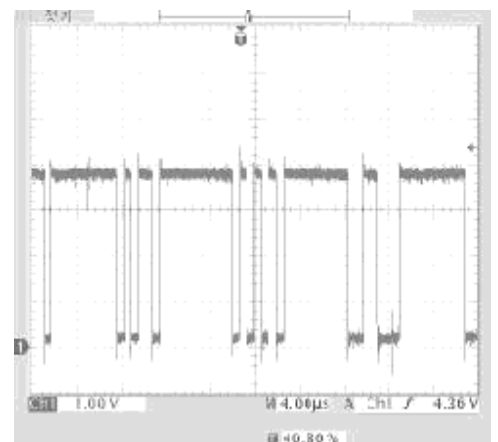
8. BCLK-DVD



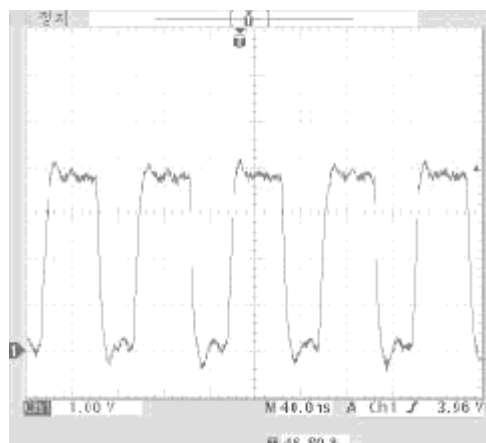
9. LRCK-DVD



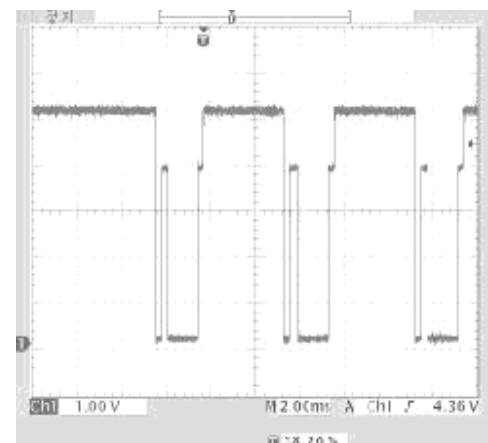
10. TSD0



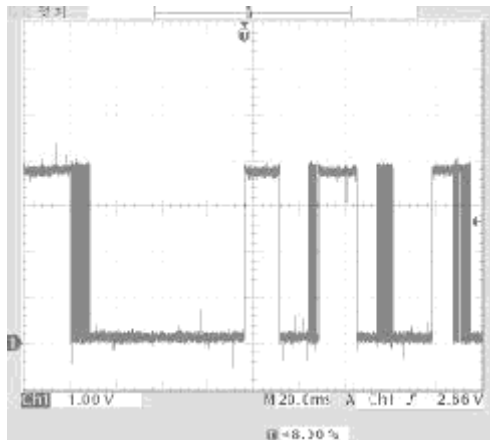
11. MCLK



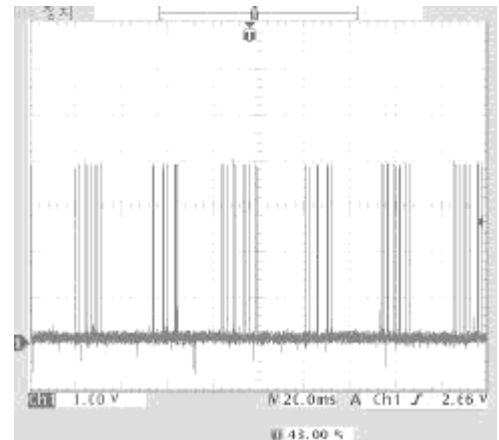
12. HOST-DATA



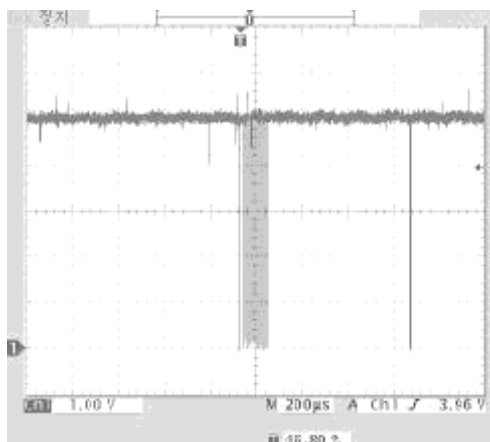
13. HOST-CLK



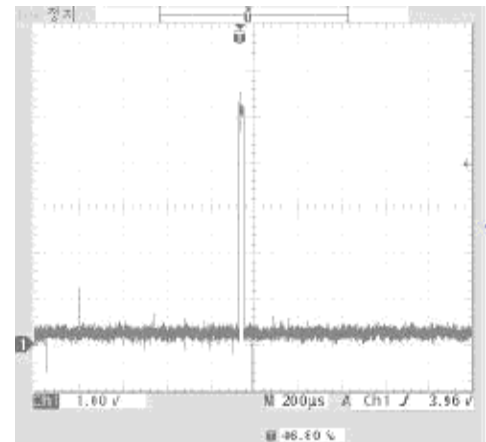
14. HOST-CS



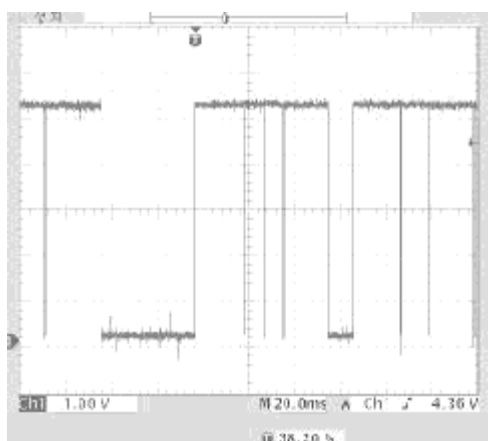
15. MC-DACO



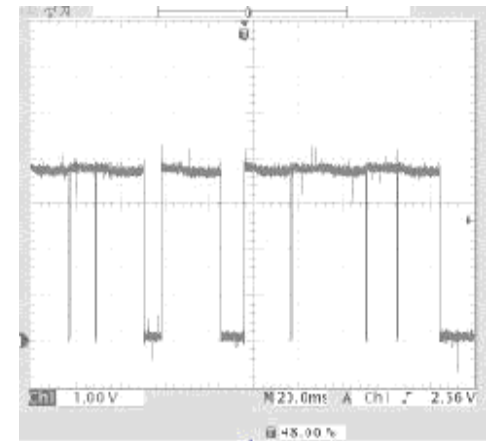
16. MD-DACO



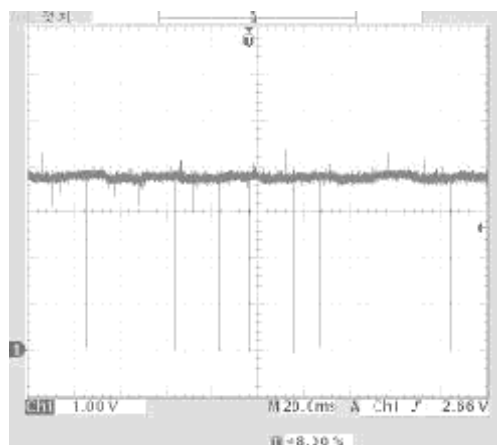
17. VFD-DATA



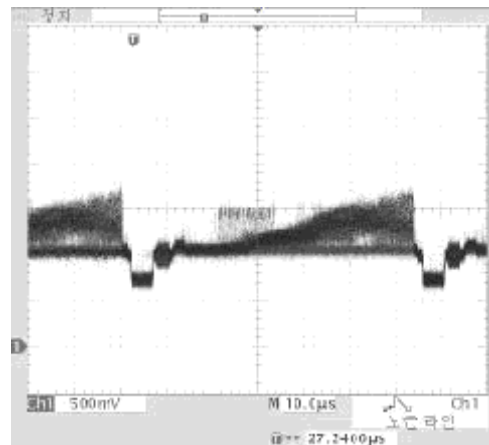
18. VFD-STB



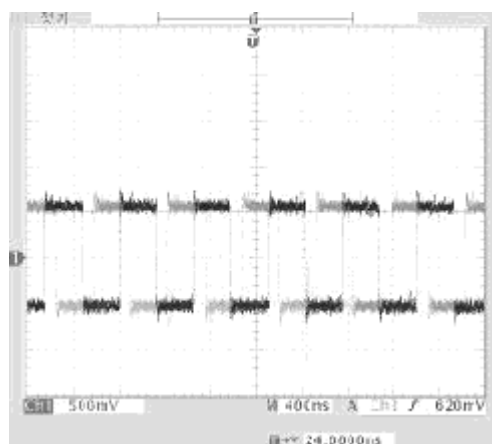
19. VFD-CLK



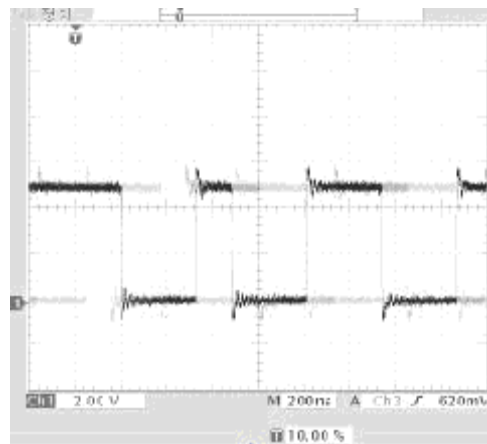
20. COMPOSITE-OUT



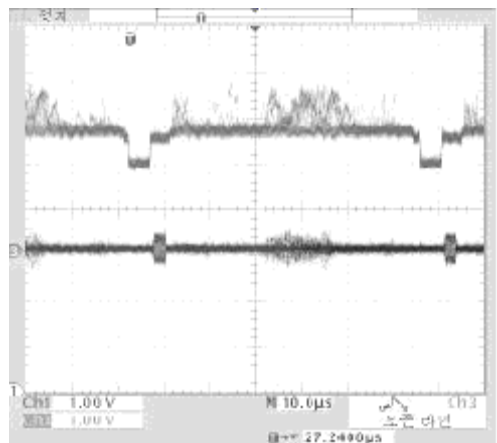
21. COXIAL-OUT



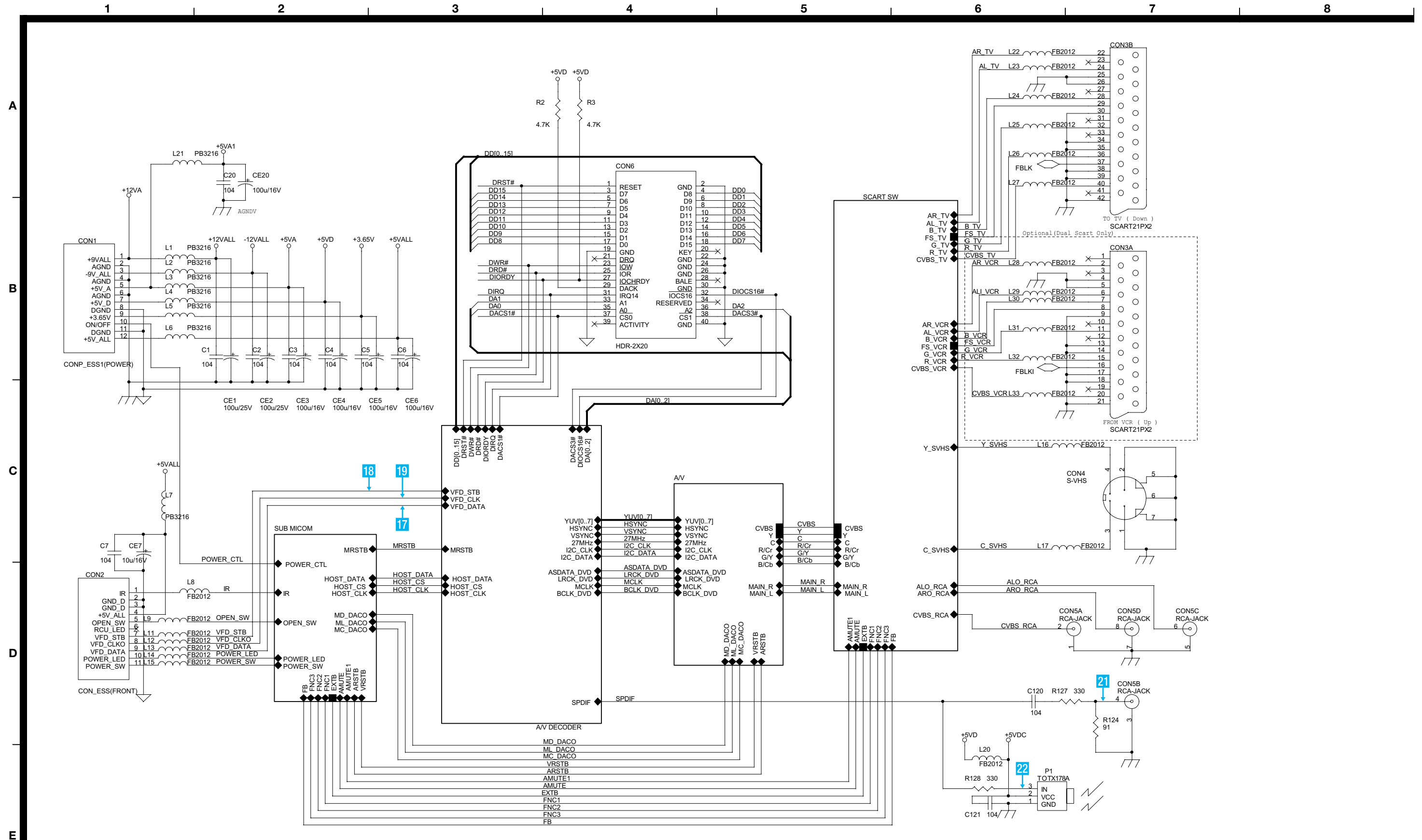
22. OPTICAL-OUT



23. S-VIDEO



TEAC SCHEMATIC DIAGRAM DV-3500 MAIN PCB (Main Block) [Europe]



DV-3500

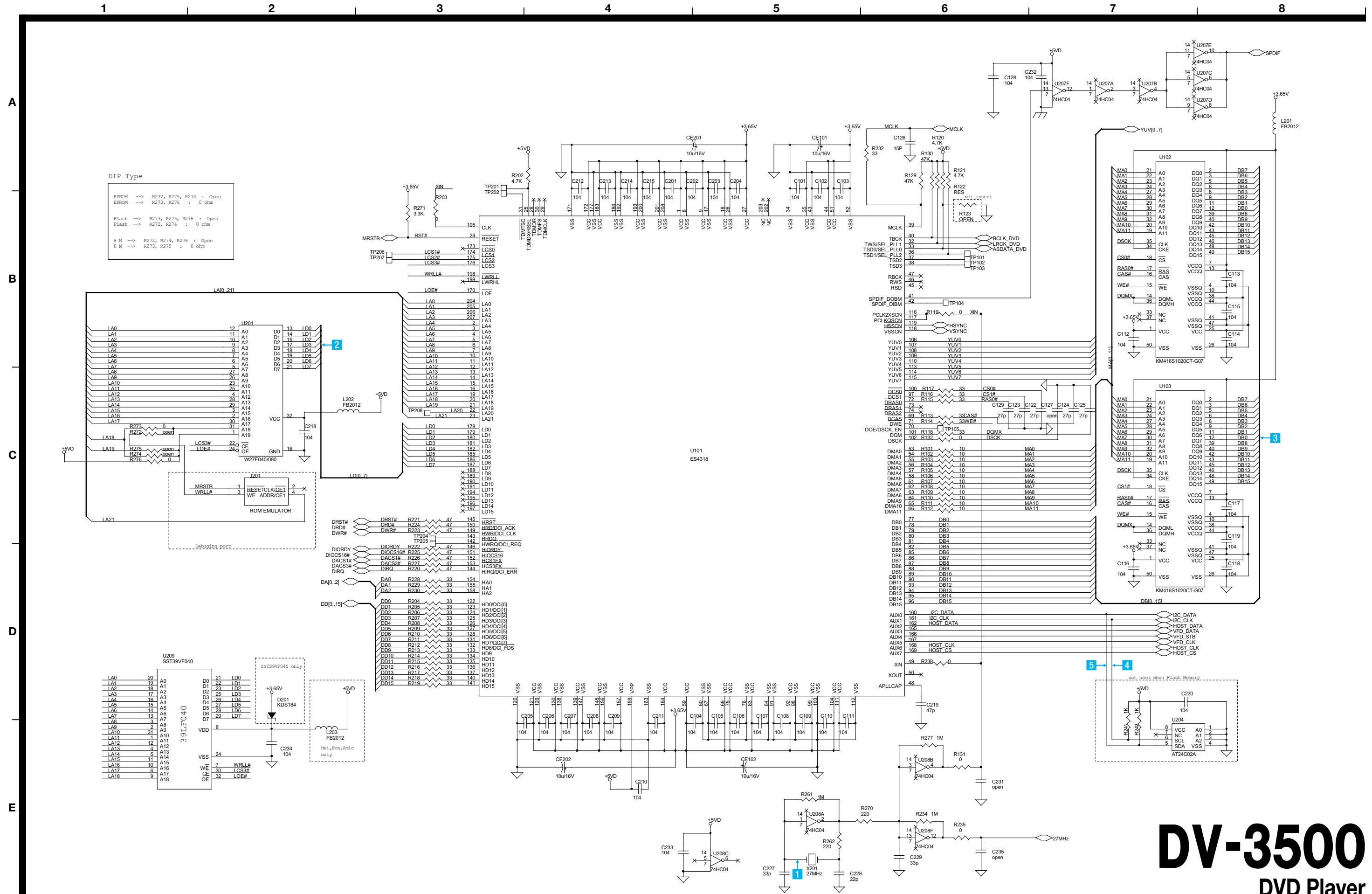
DVD Player

1 st Issue; October 2002

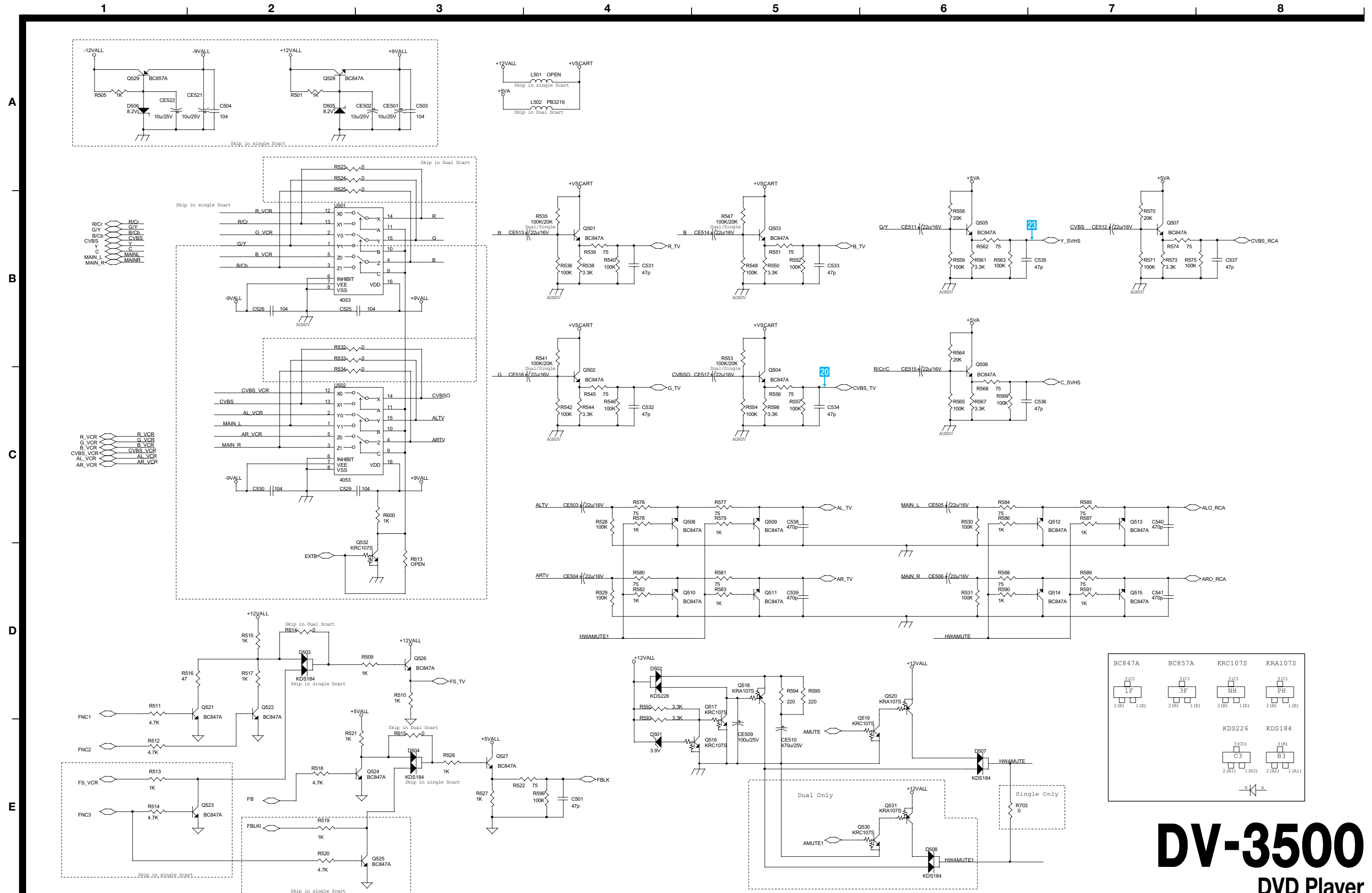
Submicom Circuit



TEAC SCHEMATIC DIAGRAM DV-3500 MAIN PCB (AV Decoder Circuit) [Europe]



TEAC SCHEMATIC DIAGRAM DV-3500 MAIN PCB (Scart SW Circuit) [Europe]



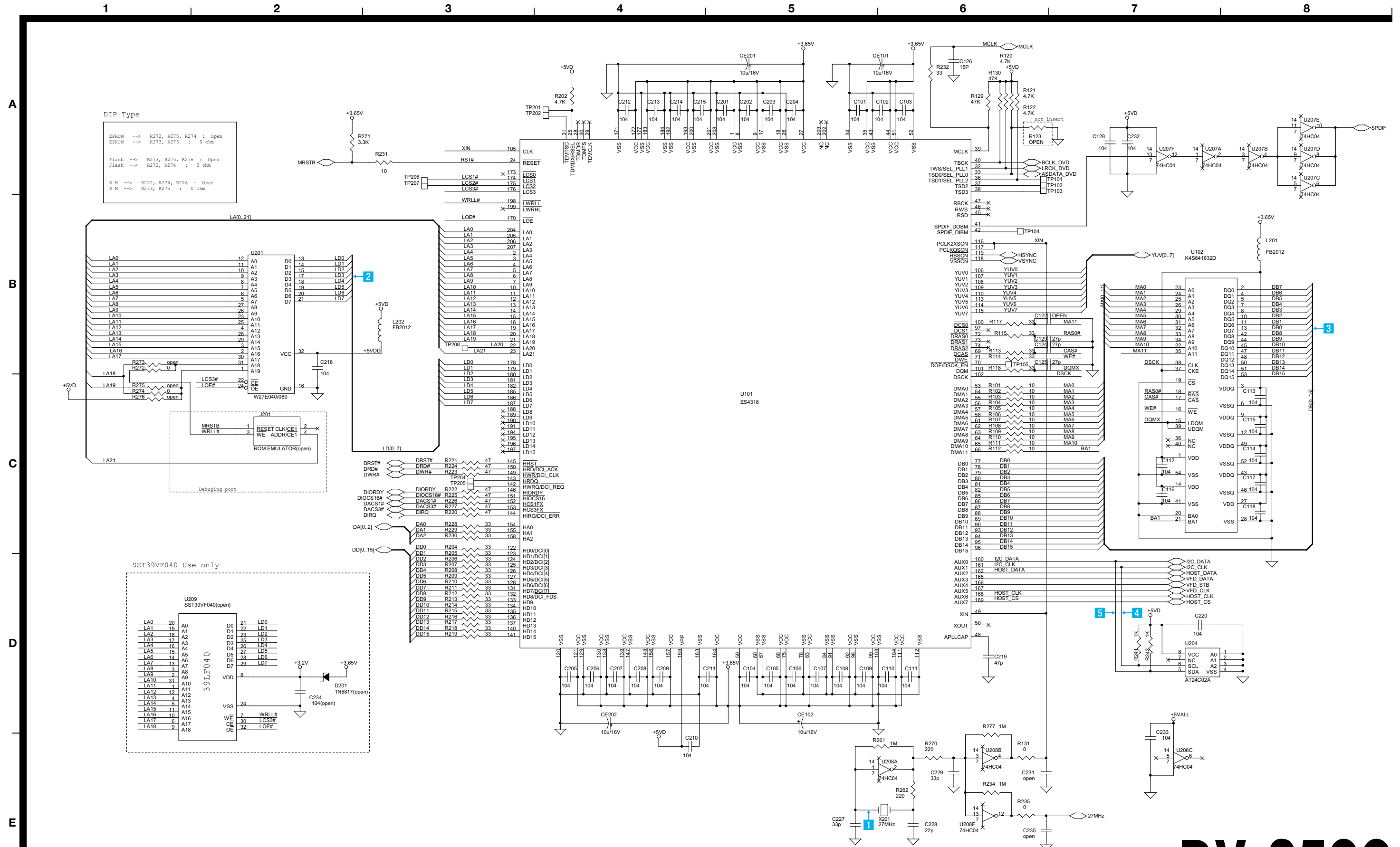
DV-3500

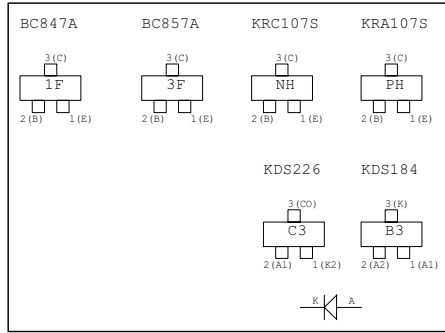
DVD Player

1 st Issue; October 2002

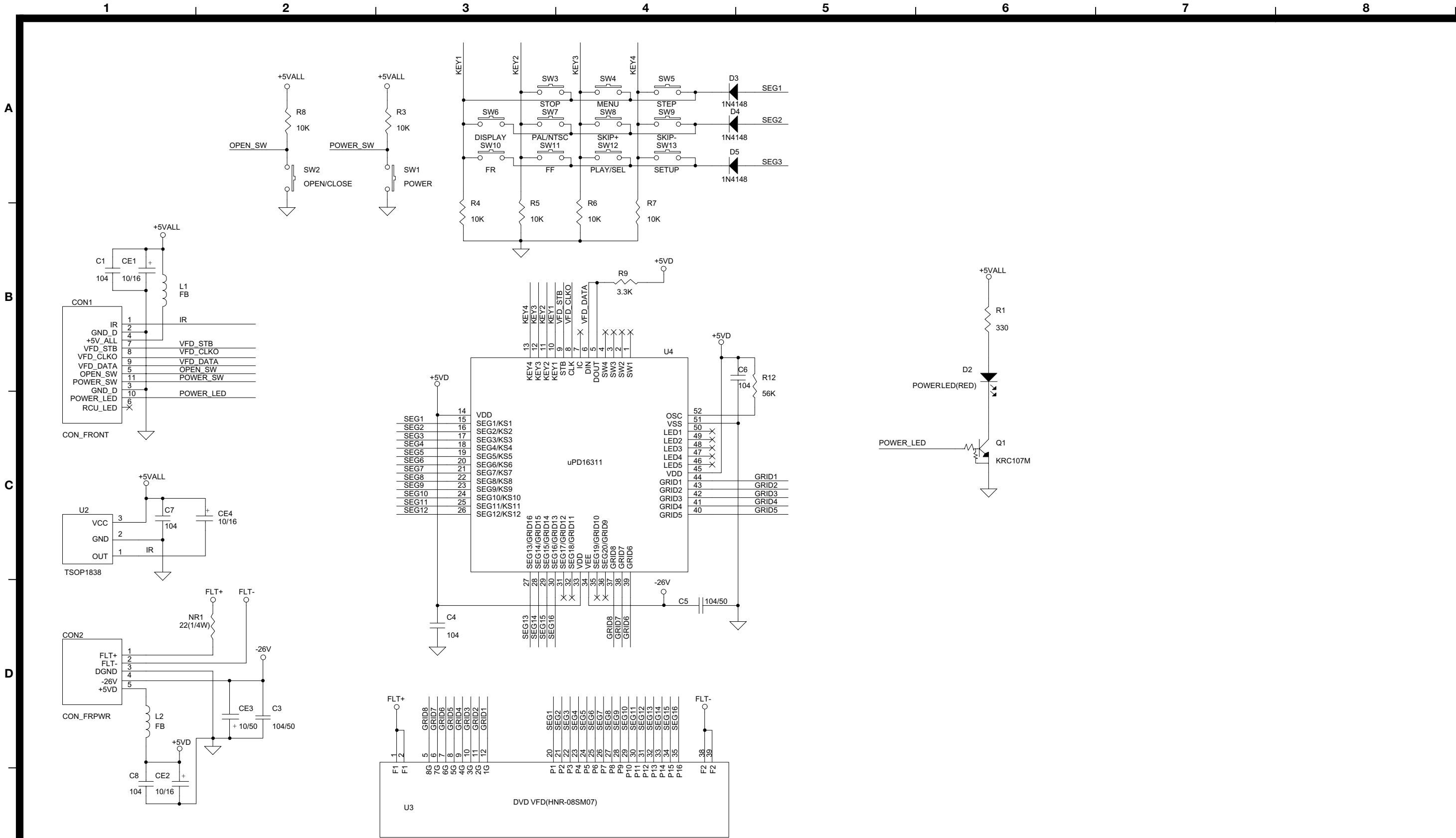


TEAC SCHEMATIC DIAGRAM DV-3500 MAIN PCB (AV Decoder Circuit) [USA]





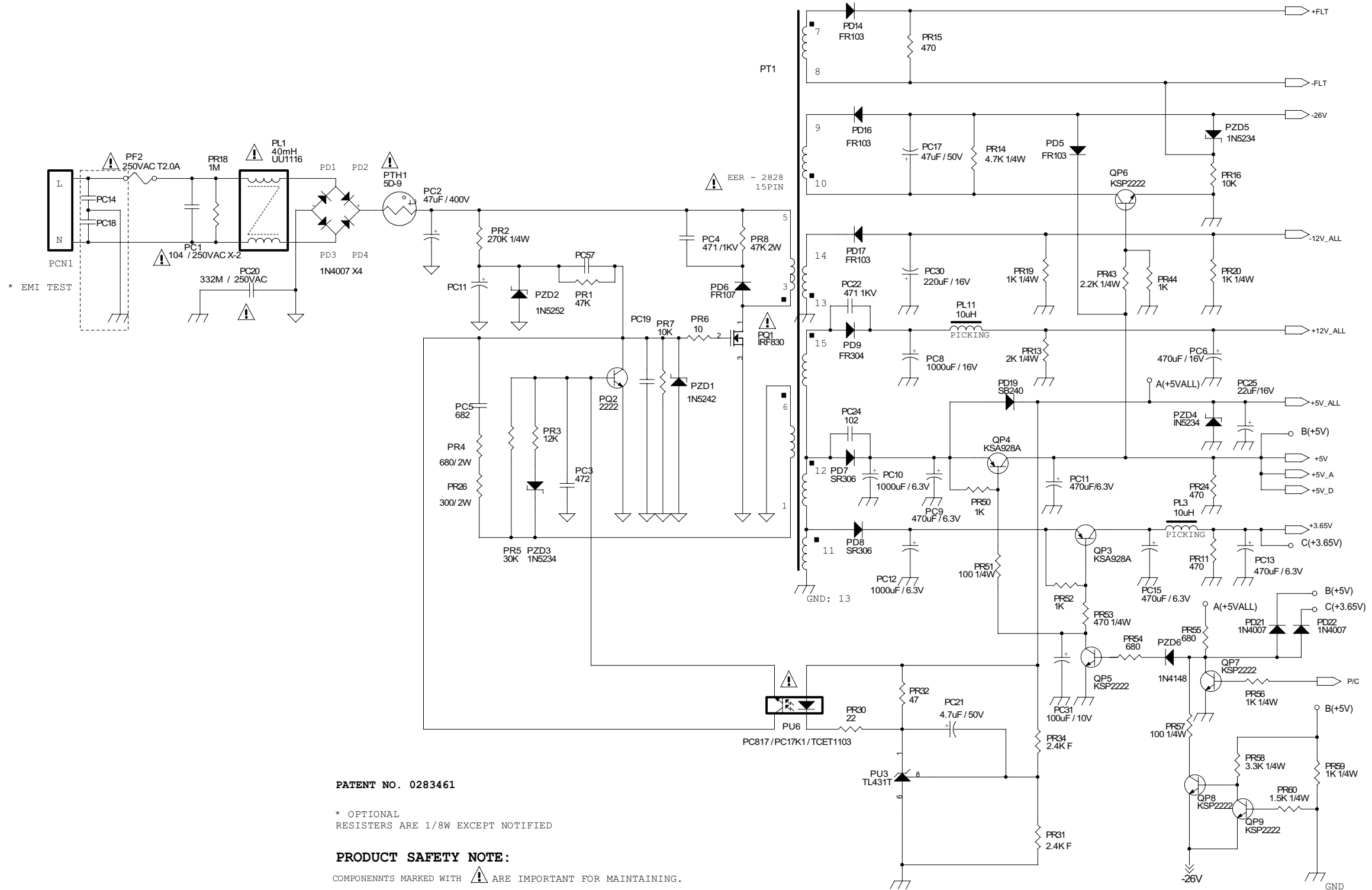
TEAC SCHEMATIC DIAGRAM DV-3500 FRONT PCB



TEAC SCHEMATIC DIAGRAM DV-3500 SMPS PCB

A
B
C
D
E

1 2 3 4 5 6 7 8



PATENT NO. 0283461

* OPTIONAL
RESISTERS ARE 1/8W EXCEPT NOTIFIED

PRODUCT SAFETY NOTE:

COMPONENTS MARKED WITH ⚠ ARE IMPORTANT FOR MAINTAINING.
THE SAFETY OF THE SET AND SHOULD BE REPLACED ONLY WITH TYPES IDENTICAL
TO THOSE IN THE ORIGINAL OR SPECIFIED ONE IN THE PARTS LIST.
DON'T DEGRADE THE SAFETY OF THE SET THROUGH IMPROPER SERVICING.

INSTRUCTIONS FOR SERVICE PERSONNEL
BEFORE RETURNING APPLIANCE TO THE CUSTOMER, MAKE LEAKAGE-
CURRENT OR RESISTANCE MEASUREMENTS TO DETERMINE THAT EXPOSED
PARTS ARE ACCEPTABLY INSULATED FROM THE SUPPLY CIRCUIT.