



SERVICE MANUAL

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MODEL : M55 AH

SERVICE MANUAL

M55

DIGITAL DISC PLAYER

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M55



M55

DIGITAL DISC PLAYER

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NAD ELECTRONICS INTERNATIONAL
TORONTO

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SECTION 1

SUMMARY

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PRODUCT SAFETY SERVICING GUIDELINES FOR VIDEO PRODUCTS

CAUTION : DO NOT ATTEMPT TO MODIFY THIS PRODUCT IN ANY WAY. NEVER PERFORM CUSTOMIZED INSTALLATIONS WITHOUT MANUFACTURER'S APPROVAL. UNAUTHORIZED MODIFICATIONS WILL NOT ONLY VOID THE WARRANTY, BUT MAY LEAD TO YOUR BEING LIABLE FOR ANY RESULTING PROPERTY DAMAGE OR USER INJURY.

SERVICE WORK SHOULD BE PERFORMED ONLY AFTER YOU ARE THOROUGHLY FAMILIAR WITH ALL OF THE FOLLOWING SAFETY CHECKS AND SERVICING GUIDELINES. TO DO OTHERWISE, INCREASES THE RISK OF POTENTIAL HAZARDS AND INJURY TO THE USER.

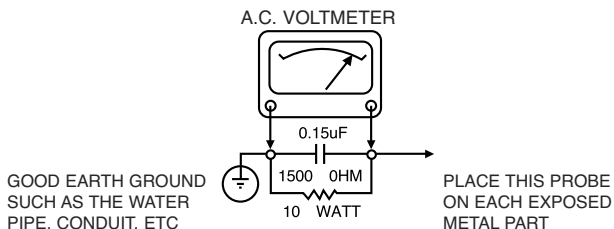
WHILE SERVICING, USE AN ISOLATION TRANSFORMER FOR PROTECTION FROM A.C. LINE SHOCK.

SAFETY CHECKS

AFTER THE ORIGINAL SERVICE PROBLEM HAS BEEN CORRECTED, A CHECK SHOULD BE MADE OF THE FOLLOWING.

SUBJECT : FIRE & SHOCK HAZARD

1. BE SURE THAT ALL COMPONENTS ARE POSITIONED IN SUCH A WAY AS TO AVOID POSSIBILITY OF ADJACENT COMPONENT SHORTS. THIS IS ESPECIALLY IMPORTANT ON THOSE MODULES WHICH ARE TRANSPORTED TO AND FROM THE REPAIR SHOP.
2. NEVER RELEASE A REPAIR UNLESS ALL PROTECTIVE DEVICES SUCH AS INSULATORS, BARRIERS, COVERS, SHIELDS, STRAIN RELIEFS, POWER SUPPLY CORDS, AND OTHER HARDWARE HAVE BEEN REINSTALLED PER ORIGINAL DESIGN. BE SURE THAT THE SAFETY PURPOSE OF THE POLARIZED LINE PLUG HAS NOT BEEN DEFEATED.
3. SOLDERING MUST BE INSPECTED TO DISCOVER POSSIBLE COLD SOLDER JOINTS, SOLDER SPLASHES OR SHARP SOLDER POINTS. BE CERTAIN TO REMOVE ALL LOOSE FOREIGN PARTICLES.
4. CHECK FOR PHYSICAL EVIDENCE OF DAMAGE OR DETERIORATION TO PARTS AND COMPONENTS. FOR FRAYED LEADS, DAMAGED INSULATION (INCLUDING A.C. CORD), AND REPLACE IF NECESSARY FOLLOW ORIGINAL LAYOUT, LEAD LENGTH AND DRESS.
5. NO LEAD OR COMPONENT SHOULD TOUCH A RECEIVING TUBE OR A RESISTOR RATED AT 1 WATT OR MORE. LEAD TENSION AROUND PROTRUDING METAL SURFACES MUST BE AVOIDED.
6. ALL CRITICAL COMPONENTS SUCH AS FUSES, FLAMEPROOF RESISTORS, CAPACITORS, ETC. MUST BE REPLACED WITH EXACT FACTORY TYPES. DO NOT USE REPLACEMENT COMPONENTS OTHER THAN THOSE SPECIFIED OR MAKE UNRECOMMENDED CIRCUIT MODIFICATIONS.
7. AFTER RE-ASSEMBLY OF THE SET ALWAYS PERFORM AN A.C. LEAKAGE TEST ON ALL EXPOSED METALLIC PARTS OF THE CABINET, (THE CHANNEL SELECTOR KNOB, ANTENNA TERMINALS, HANDLE AND SCREWS) TO BE SURE THE SET IS SAFE TO OPERATE WITHOUT DANGER OF ELECTRICAL SHOCK. DO NOT USE A LINE ISOLATION TRANSFORMER DURING THIS TEST USE AN A.C. VOLT-METER, HAVING 5000 OHMS PER VOLT OR MORE SENSITIVITY, IN THE FOLLOWING MANNER; CONNECT A 1500 OHM 10 WATT RESISTOR, PARALLELED BY A .15 MFD. 150.V A.C TYPE CAPACITOR BETWEEN A KNOWN GOOD EARTH GROUND (WATER PIPE, CONDUIT, ETC.) AND THE EXPOSED METALLIC PARTS, ONE AT A TIME. MEASURE THE A.C. VOLTAGE ACROSS THE COMBINATION OF 1500 OHM RESISTOR AND .15 MFD CAPACITOR. REVERSE THE A.C. PLUG AND REPEAT A.C. VOLTAGE MEASUREMENTS FOR EACH EXPOSED METALLIC PART. VOLTAGE MEASURED MUST NOT EXCEED 75 VOLTS R.M.S. THIS CORRESPONDS TO 0.5 MILLIAMPS A.C ANY VALUE EXCEEDING THIS LIMIT CONSTITUTES A POTENTIAL SHOCK HAZARD AND MUST BE CORRECTED IMMEDIATELY.



SUBJECT: GRAPHIC SYMBOLS



THE LIGHTNING FLASH WITH APOWHEAD SYMBOL, WITHIN AN EQUILATERAL TRIANGLE, IS INTENDED TO ALERT THE SERVICE PERSONNEL TO THE PRESENCE OF UNINSULATED "DANGEROUS VOLTAGE" THAT MAY BE OF SUFFICIENT MAGNITUDE TO CONSTITUTE A RISK OF ELECTRIC SHOCK.



THE EXCLAMATION POINT WITHIN AN EQUILATERAL TRIANGLE IS INTENDED TO ALERT THE SERVICE PERSONNEL TO THE PRESENCE OF IMPORTANT SAFETY INFORMATION IN SERVICE LITERATURE.

SUBJECT : X-RADIATION

1. BE SURE PROCEDURES AND INSTRUCTIONS TO ALL SERVICE PERSONNEL COVER THE SUBJECT OF X-RADIATION. THE ONLY POTENTIAL SOURCE OF X-RAYS IN CURRENT T.V. RECEIVERS IS THE PICTURE TUBE. HOWEVER, THIS TUBE DOES NOT EMIT X-RAYS WHEN THE HIGH VOLTAGE IS AT THE FACTORY SPECIFIED LEVEL. THE PROPER VALUE IS GIVEN IN THE APPLICABLE SCHEMATIC. OPERATION AT HIGHER VOLTAGES MAY CAUSE A FAILURE OF THE PICTURE TUBE OR HIGH VOLTAGE SUPPLY AND, UNDER CERTAIN CIRCUMSTANCES, MAY PRODUCE RADIATION IN EXCESS OF DESIRABLE LEVELS.
2. ONLY FACTORY SPECIFIED C.R.T. ANODE CONNECTORS MUST BE USED. DEGAUSSING SHIELDS ALSO SERVE AS X-RAY SHIELD IN COLOR SETS, ALWAYS RE-INSTALL THEM.
3. IT IS ESSENTIAL THAT SERVICE PERSONNEL HAVE AVAILABLE AN ACCURATE AND RELIABLE HIGH VOLTAGE METER. THE CALIBRATION OF THE METER SHOULD BE CHECKED PERIODICALLY AGAINST A REFERENCE STANDARD, SUCH AS THE ONE AVAILABLE AT YOUR DISTRIBUTOR.
4. WHEN THE HIGH VOLTAGE CIRCUITRY IS OPERATING PROPERLY THERE IS NO POSSIBILITY OF AN X-RADIATION PROBLEM. EVERY TIME A COLOR CHASSIS IS SERVICED, THE BRIGHTNESS SHOULD BE RUN UP AND DOWN WHILE MONITORING THE HIGH VOLTAGE WITH A METER TO BE CERTAIN THAT THE HIGH VOLTAGE DOES NOT EXCEED THE SPECIFIED VALUE AND THAT IT IS REGULATING CORRECTLY. WE SUGGEST THAT YOU AND YOUR SERVICE ORGANIZATION REVIEW TEST PROCEDURES SO THAT VOLTAGE REGULATION IS ALWAYS CHECKED AS A STANDARD SERVICING PROCEDURE. AND THAT THE HIGH VOLTAGE READING BE RECORDER ON EACH CUSTOMER'S INVOICE.
5. WHEN TROUBLESHOOTING AND MAKING TEST MEASUREMENTS IN A PRODUCT WITH A PROBLEM OF EXCESSIVE HIGH VOLTAGE, AVOID BEING UNNECESSARILY CLOSE TO THE PICTURE TUBE AND THE HIGH VOLTAGE SUPPLY. DO NOT OPERATE THE PRODUCT LONGER THAN IS NECESSARY TO LOCATE THE CAUSE OF EXCESSIVE VOLTAGE.
6. REFER TO HV. B+ AND SHUTDOWN ADJUSTMENT PROCEDURES DESCRIBED IN THE APPROPRIATE SCHEMATIC AND DIAGRAMS (WHERE USED).

SUBJECT: IMPLOSION

1. ALL DIRECT VIEWED PICTURE TUBES ARE EQUIPPED WITH AN INTEGRAL IMPLOSION PROTECTION SYSTEM, BUT CARE SHOULD BE TAKEN TO AVOID DAMAGE DURING INSTALLATION, AVOID SCRATCHING THE TUBE. IF SCRATCHED REPLACE IT.
2. USE ONLY RECOMMENDED FACTORY REPLACEMENT TUBES.

SUBJECT : TIPS ON PROPER INSTALLATION

1. NEVER INSTALL ANY PRODUCT IN A CLOSED-IN RECESS, CUBBY-HOLE OR CLOSELY FITTING SHELF SPACE. OVER OR CLOSE TO HEAT DUCT, OR IN THE PATH OF HEATED AIR FLOW.
2. AVOID CONDITIONS OF HIGH HUMIDITY SUCH AS: OUTDOOR PATIO INSTALLATIONS WHERE DEW IS A FACTOR, NEAR STEAM RADIATORS WHERE STEAM LEAKAGE IS A FACTOR, ETC.
3. AVOID PALCEMENT WHERE DRAPERIES MAY OBSTRUCT REAR VENTING. THE CUSTOMER SHOULD ALSO AVOID THE USE OF DECORATIVE SCARVES OR OTHER COVERINGS WHICH MIGHT OBSTRUCT VENTILATION.
4. WALL AND SHELF MOUNTED INSTALLATIONS USING A COMMERCIAL MOUNTING KIT. MUST FOLLOW THE FACTORY APPROVED MOUNTING INSTRUCTIONS A PRODUCT MOUNTED TO A SHELF OR PLATFORM MUST RETAIN ITS ORIGINAL FEET (OR THE EQUIVALENT THICKNESS IN SPACERS) TO PROVIDE ADEQUATE AIR FLOW ACROSS THE BOTTOM, BOLTS OR SCREWS USED FOR FASTENERS MUST NOT TOUCH ANY PARTS OR WIRING. PERFORM LEAKAGE TEST ON CUSTOMIZED INSTALLATIONS.
5. CAUTION CUSTOMERS AGAINST THE MOUNTING OF A PRODUCT ON SLOPING SHELF OR A TILTED POSITION, UNLESS THE PRODUCT IS PROPERLY SECURED.
6. A PRODUCT ON A ROLL-ABOUT CART SHOULD BE STABLE ON ITS MOUNTING TO THE CART. CAUTION THE CUSTOMER ON THE HAZARDS OF TRYING TO ROLL A CART WITH SMALL CASTERS ACROSS THRESHOLDS OR DEEP PILE CARPETS.
7. CAUTION CUSTOMERS AGAINST THE USE OF A CART OR STAND WHICH HAS NOT BEEN LISTED BY UNDERWRITERS LABORATORIES, INC. FOR USE WITH THEIR SPECIFIC MODEL OF TELEVISION RECEIVER OR GENERICALLY APPROVED FOR USE WITH T.V.'S OF THE SAME OR LARGER SCREEN SIZE.
8. CAUTION CUSTOMERS AGAINST THE USE OF EXTENSION CORDS, EXPLAIN THAT A FOREST OF EXTENSIONS SPROUTING FROM A SINGLE OUTLET CAN LEAD TO DISASTROUS CONSEQUENCES TO HOME AND FAMILY.

SERVICING PRECAUTIONS

CAUTION : Before servicing the DVD covered by this service data and its supplements and addends, read and follow the SAFETY PRECAUTIONS. **NOTE :** if unforeseen circumstances create conflict between the following servicing precautions and any of the safety precautions in this publication, always follow the safety precautions.

Remembers Safety First:

General Servicing Precautions

1. Always unplug the DVD AC power cord from the AC power source before:
 - (1) Removing or reinstalling any component, circuit board, module, or any other assembly.
 - (2) Disconnection or reconnecting any internal electrical plug or other electrical connection.
 - (3) Connecting a test substitute in parallel with an electrolytic capacitor.
Caution : A wrong part substitution or incorrect polarity installation of electrolytic capacitors may result in an explosion hazard.
2. Do not spray chemicals on or near this DVD or any of its assemblies.
3. Unless specified otherwise in this service data, clean electrical contacts by applying an appropriate contact cleaning solution to the contacts with a pipe cleaner, cotton-tipped swab, or comparable soft applicator. Unless specified otherwise in this service data, lubrication of contacts is not required.
4. Do not defeat any plug/socket B+ voltage interlocks with which instruments covered by this service manual might be equipped.
5. Do not apply AC power to this DVD and/or any of its electrical assemblies unless all solid-state device heat sinks are correctly installed.
6. Always connect test instrument ground lead to the appropriate ground before connection the test instrument positive lead. Always remove the test instrument ground lead last.

Insulation Checking Procedure

Disconnect the attachment plug from the AC outlet and turn the power on. Connect an insulation resistance meter(500V) to the blades of the attachment plug. The insulation resistance between each blade of the attachment plug and accessible conductive parts (Note 1) should be more than 1M-ohm.

Note 1 : Accessible Conductive Parts including Metal panels, Input terminals, Earphone jacks, etc.

Electrostatically Sensitive (ES) Devices

Some semiconductor (solid state) devices can be damaged easily by static electricity. Such components commonly are called Electrostatically Sensitive (ES) Devices. Examples of typical ES devices are integrated circuits and some field effect transistors and semiconductor chip components.

The following techniques should be used to help reduce the incidence of component damage caused by static electricity.

1. Immediately before handling any semiconductor component or semiconductor-equipped assembly, drain off any electrostatic charge on your body by touching a known earth ground. Alternatively, obtain and wear a commercially available discharging wrist strap device, which should be removed for potential shock reasons prior to applying power to the unit under test.
2. After removing an electrical assembly equipped with ES devices, place the assembly on a conductive surface such as aluminum foil, to prevent electrostatic charge buildup or exposure of the assembly.
3. Use only a grounded-tip soldering iron to solder or unsolder ES devices.
4. Use only an anti-static solder removal device. Some solder removal devices not classified a "anti-static" can generate electrical charges sufficient to damage ES devices.
5. Do not use freon-propelled chemicals. These can generate electrical charge sufficient to damage ES devices.
6. Do not remove a replacement ES device from its protective package until immediately before you are ready to install it. (Most replacement ES devices are packaged with leads electrically shorted together by conductive foam, aluminum foil, or comparable conductive material).
7. Immediately before removing the protective material from the leads of a replacement ES device, touch the protective material to the chassis or circuit assembly into which the device will be installed.

Caution : Be sure no power is applied to the chassis or circuit, and observe all other safety precautions.

8. Minimize bodily motions when handling unpackaged replacement ES devices. (Normally harmless motion such as the brushing together of your clothes fabric or the lifting of your foot from a carpeted floor can generate static electricity sufficient to damage an ES device.)

IMPORTANT M55 & M5 MECHANISM INSTALLATION NOTES

INSTRUCTION FOR HANDLING 02-55598-00 FOR M55 & M5 AS WELL AS OPTICAL BLOCK

Electrostatic breakdown of the laser diode in the optical system block may occur due to a potential difference caused by electrostatic charge accumulated on clothing, human body, etc. A ground must be provided as follows to prevent any electrostatic charge during unpacking or repair work.

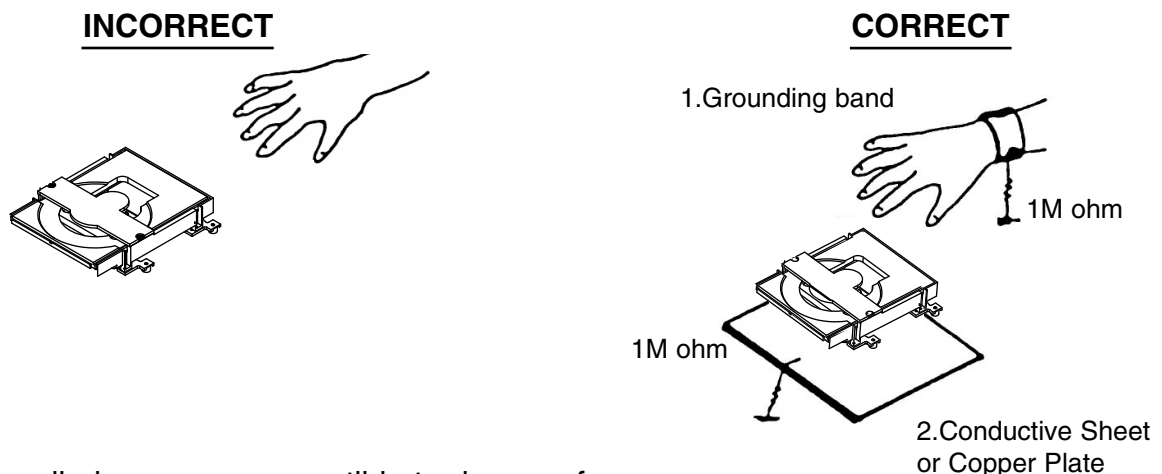
1. Ground for Human Body

Be sure to wear a ground band (1M ohm) that is properly to remove any static electricity that may be charged on the body.

2. Ground for Work Bench

Be sure to place a conductive sheet (1M ohm) or copper plate with proper grounding on the work bench or other surface on which the pick-up is to be placed.

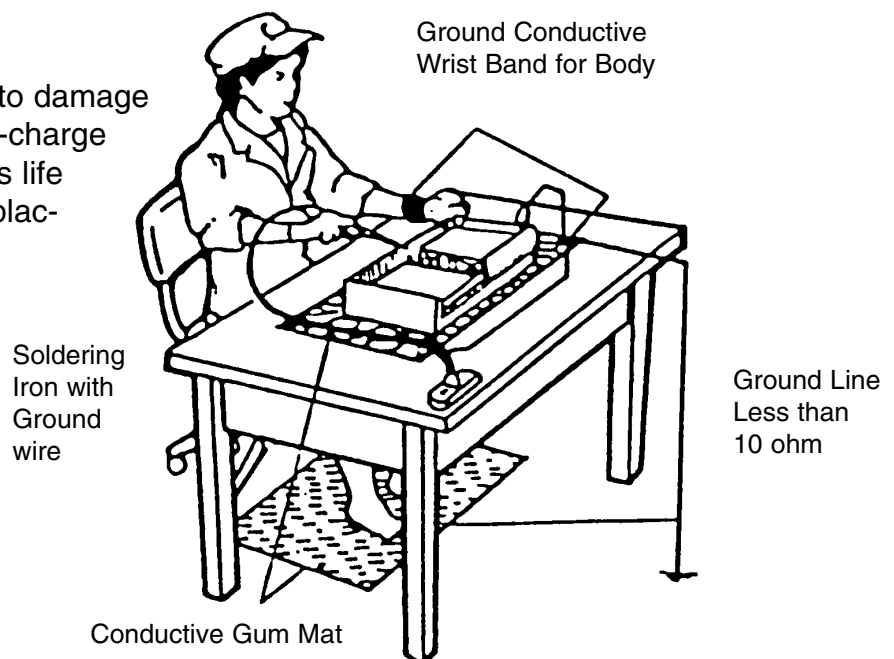
3. Because the static electricity charge on the clothing does not discharge through the body grounding band, do not let clothing get in contact with the pick-up unit.



NOTE: Laser diodes are so susceptible to damage from static electricity that even if a static discharge does not ruin the diode, it can shorten its life or cause it to work improperly.

Caution:

Laser diodes are extremely susceptible to damage from static electricity. Even if a static discharge does not ruin the diode, it can shorten its life or cause it to work improperly. When replacing the pick-up, use a conductive mat, a grounded soldering iron, and so on, to protect the laser diode from static damage.



SPECIFICATIONS

• GENERAL

Power requirements:	AC 100-240 V , 50/60 Hz
Power consumption:	45W
Dimensions (Approx.):	435 x 100 x 300 mm (W x H x D) without foot
Weight (Approx.):	8.6 kg
Operating temperature:	5 °C to 35 °C (41 °F to 95 °F)
Operating humidity:	5 % to 90 %

• OUTPUTS

VIDEO OUT:	1 Vp-p 75 Ω , sync negative, RCA jack x 1/ SCART (TO TV)
AUDIO OUT:	2.0 Vrms (1 KHz, 0 dB), 600 Ω , RCA jack (L, R) x 1/ SCART (TO TV)
DIGITAL OUT (COAXIAL):	0.5 V (p-p), 75 Ω , RCA jack x 1

• System

Laser:	Semiconductor laser, wavelength 650 nm
Signal system:	PAL / NTSC
Frequency response:	DVD (PCM 96 kHz): 8 Hz to 44 kHz DVD (PCM 48 kHz): 8 Hz to 22 kHz CD: 8 Hz to 20 kHz
Signal-to-noise ratio:	More than 100 dB (ANALOG OUT connectors only)
Harmonic distortion:	Less than 0.008%
Dynamic range:	More than 85 dB (DVD/CD)

• Accessories

Video cable (1), Audio cable (1), Remote control (1), Batteries (2)

SECTION 2 CABINET & MAIN CHASSIS

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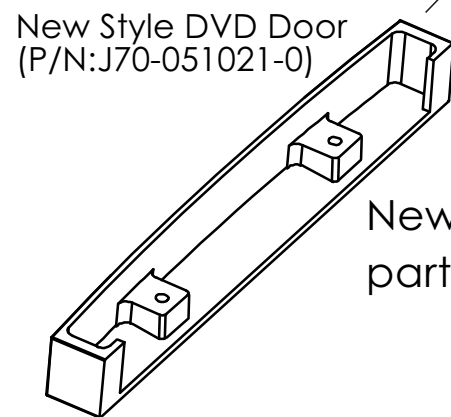
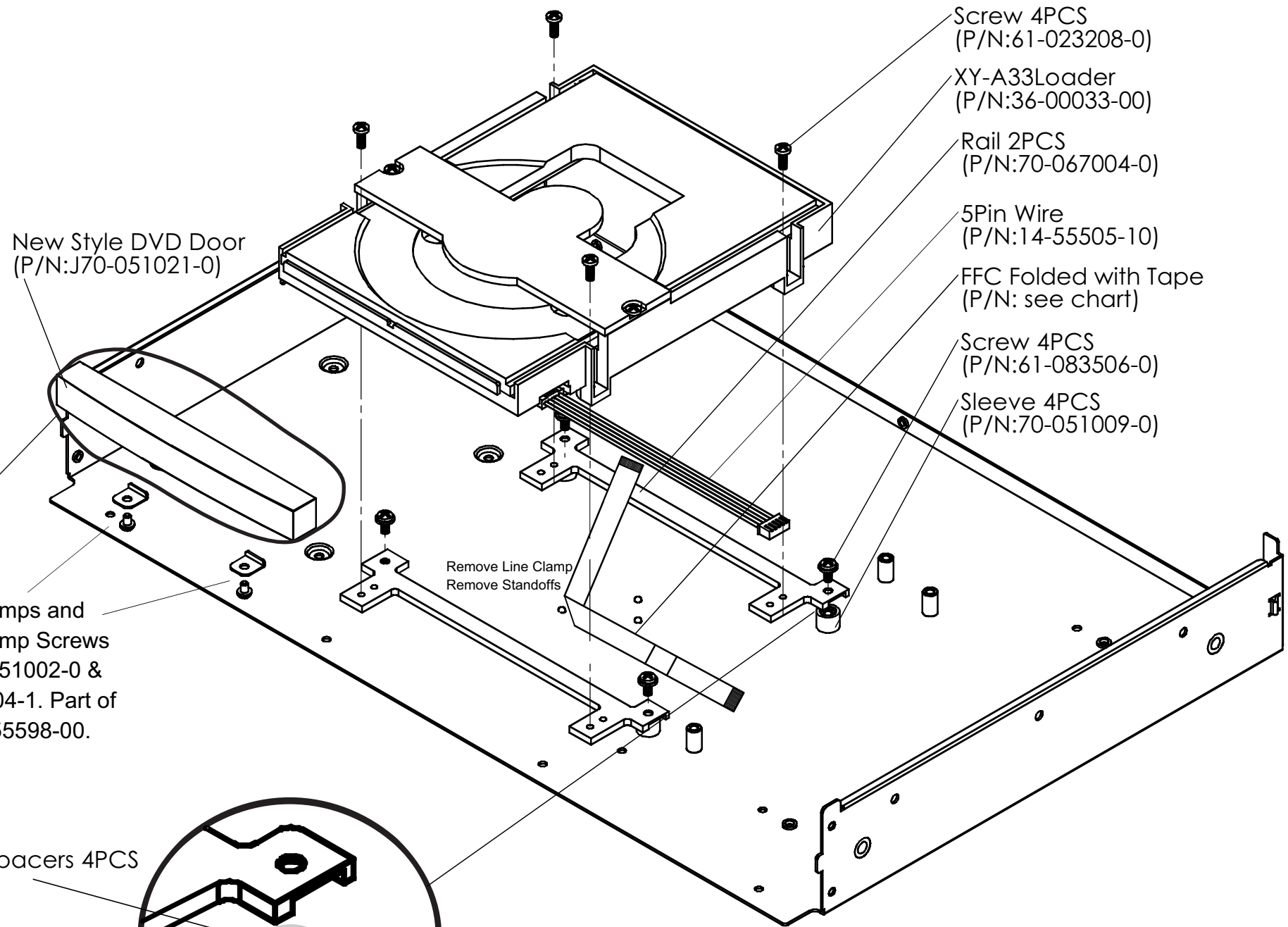
2.Exploded view parts list

REF.NO.	PART NO.	DESCRIPTION	Qty.	REF.NO.	PART NO.	DESCRIPTION	Qty.
C001	67-051004-1	Chassis	1	R002	17-07002-02	AC Inlet	1
C002	01-55501-20	Decode Board(C Version)	1	R003	11-01101-03	Rocker Switch	1
	01-55501-10	Decode Board(AH Version)	1				
C003	01-55505-00	RS232 Board	1				
C004	01-55502-20	Video Board(C Version)	1	T001	67-051002-0	Top Cover New PN 67-051002-1	1
	01-55502-10	Video Board(AH Version)	1	T002	86-018002-1	Expanded Rubber	2
C005	01-55506-20	Scart Board(C Version)	1	T003	76-046001-0	Screw Washer	4
C006	68-051002-1	Shielding Box(down)	1				
C007	01-55503-00	PSU Board	1				
C008	68-051001-1	Shielding Box(up)	1	RS01	66-010010-0	Bracket	2
C009	85-051001-0	Snap Bushing	2				
				SC01	66-010010-0	Bracket	2
				SC02	66-051003-0	Scart Bracket	1
C013	66-051002-0	DVD Door Clamp	2				
C014	70-051001-1	DVD Door	1				
C015	37-08836-00	Loader	1	P001	70-051005-0	Heatsink	2
C016	69-051003-0	Loader Clamp 1	4				
C017	69-051004-0	Loader Clamp 2	2				
C018	68-051003-0	Loader Cover	1	FP01	65-051011-0	IR Bracket	1
C019	83-043001-0	Foot Assembly	4	FP02	23-55559-00	VFD	1
				FP03	75-051001-0	Display Bracket	1
F001	70-051004-0	Fascia2	1				
F002	70-051002-0	Ring Cursor	1				
F003	76-051001-0	VFD window	1	S001	61-023206-1	Self Taping Screw (BTB3X6)	7
F004	77-051001-1	Cursor Holder	1	S002	61-022506-6	Machine Screw (MB2.5X6-Ni)	2
F005	87-048002-0	Input Button Pad	4	S003	86-004002-0	Washer (Φ3)	2
F006	87-048003-0	Power Button Pad	2	S004	61-023218-0	Self Taping Screw (BTB3X18)	2
F007	86-046001-0	Led Lens Gum	1	S005	61-224512-1	Hex Head Screw (M4X12)	6
F008	76-008001-0	Led Lens	1	S006	61-224508-1	Hex Head Screw (M4X8)	7
F009	70-048013-0	Power Button	1	S007	61-063106-0	Self Taping Screw (STF3X6)	2
F010	92-048001-0	Spring for Button	6	S008	61-023106-2	Self Taping Screw (STB3X6)	C:23
F011	70-048012-1	Input Button	2		61-023106-2	Self Taping Screw (STB3X6)	AH:18
F012	70-051006-1	Stop-Menu Button	2	S009	61-024108-1	Self Taping Screw (STB4X8)	4
F013	70-051007-0	Enter Button	1	S010	61-373506-0	Machine Screw (MB3X6W.S-Ni)	10
F014	92-051001-0	Spring for Cursor	4	S011	61-023508-0	Machine Screw (MB3X8)	6
F015	01-55504-00	FPP	1	S012	61-023106-1	Self Taping Screw (STB3X6-Ni)	6
F016	70-061003-1	Fascia1	1	S013	61-246508-0	Machine Screw (MB6X8-Cr)	4
F017	86-046002-0	Fascia Padding	2	S014	62-010302-2	Nut(M3)	2
F018	67-051005-2	Subfacia painted black	1	S015	63-023504-1	Machine Screw (MB3X4-Ni)	2
F019	86-010004-0	3mm Rubber Pad	3	S016	61-083108-0	Self Taping Screw (STPW3X8)	4
				S017	61-073108-0	Self Taping Screw (STO3X8)	2
R001	67-051003-2	Rear Panel (C Version)	1	S018	61-023208-0	Self Taping Screw (BTB3X8)	7
	67-051005-2	Rear Panel (AH Version)	1				

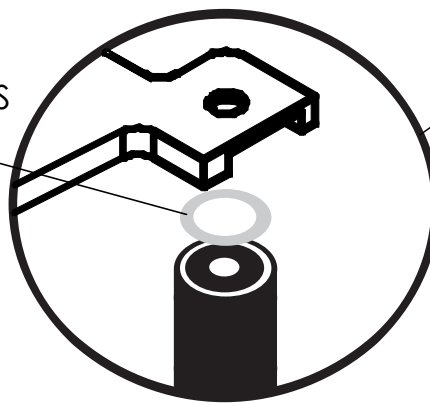
New XY-A33 Loader and Rail Assembly, Part Number 02-55598-00 for the M55 (may include either J36-00313-00 or J37-00313-00 traverse)

New XY-A33 Loader and Rail Assembly, Part Number 02-55598-00 (complement of parts)			
Quantity	Description	Part Number	Comments
1	XY-A33Loader	36-00033-00	without traverse
4	Loader Screws	61-023208-0	attached to loader
2	Rail Black	70-067004-0	attached to loader
1	5Pin Wire M5 & M55	14-55505-10	attached to loader
2	Door Clamp	66-051002-0	attached to loader
2	Door Clamp Screws	63-023504-1	attached to loader
1	DVD Door	J70-051021-0	attached to loader
4	Sleeve Black	70-051009-0	powder coated
4	Height Adjustment Spacers	63-110603-0	use to fine adjust height
4	Rail Screws	61-083506-0	machine screw black
1	FFC M5 with Tape	14-50524-10*	210mm M5 folded 96°
1	FFC M55 with Tape	14-55524-30	180mm M55 folded 96°
2+1	4.7 ohm SMD	07-90479-00	R477 & R478 (1 extra)
1	6Pin Wire short	14-55506-11	traverse to decoder board

*M5 FFC with tape 195mm folded 96° part number 14-50524-30



Height Adjustment Spacers 4PCS
(P/N:63-110603-0)



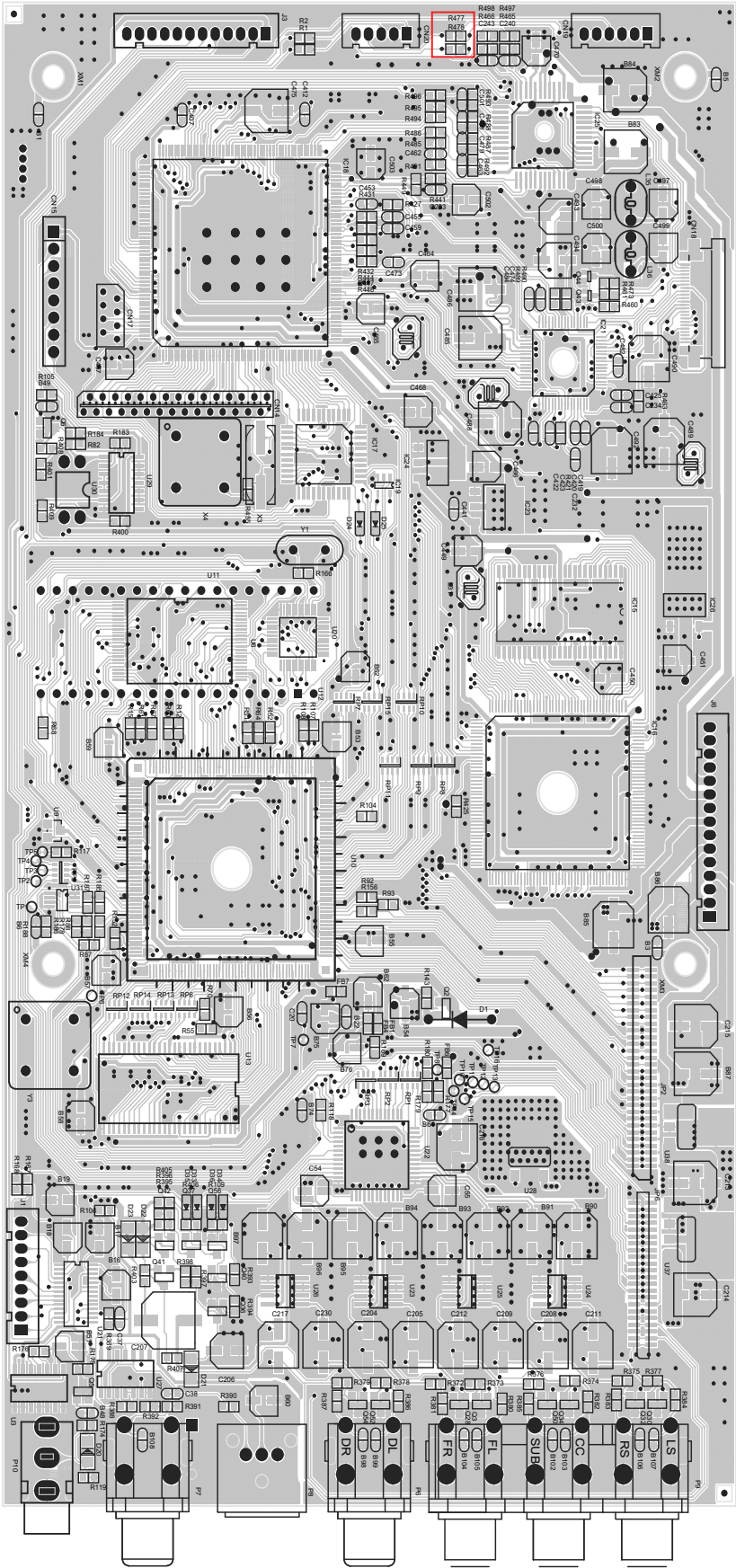
New 5Pin Wire (P/N:14-55505-10) For XY-A33 Loader
(part of kit #02-55598-00)

NOTE: Connector at the loader end is reversed from Decoder end.



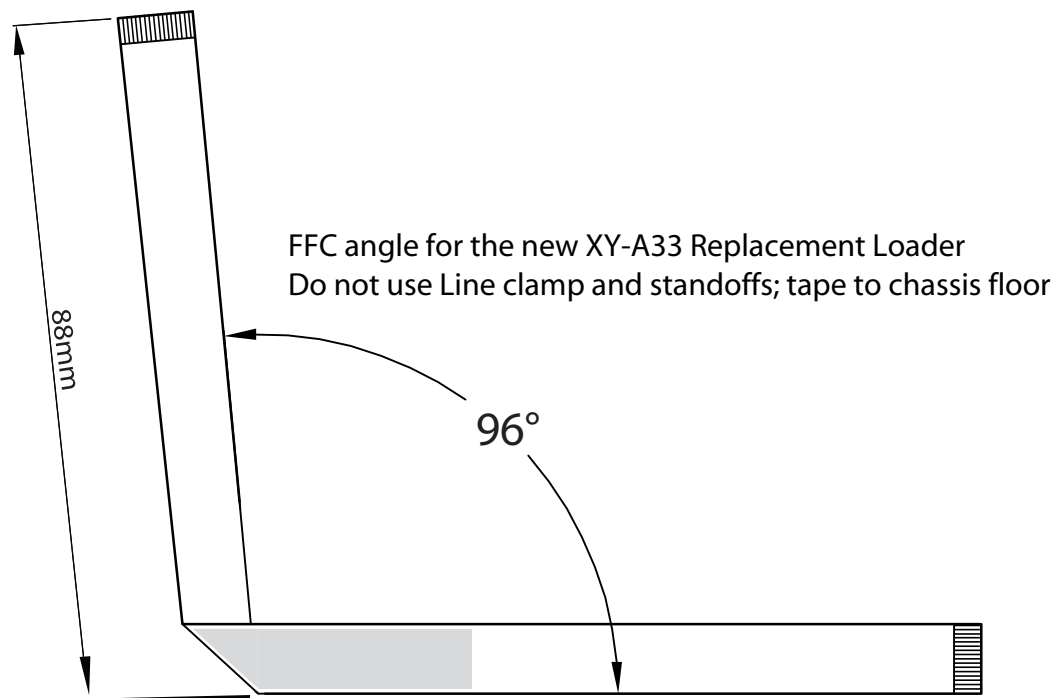
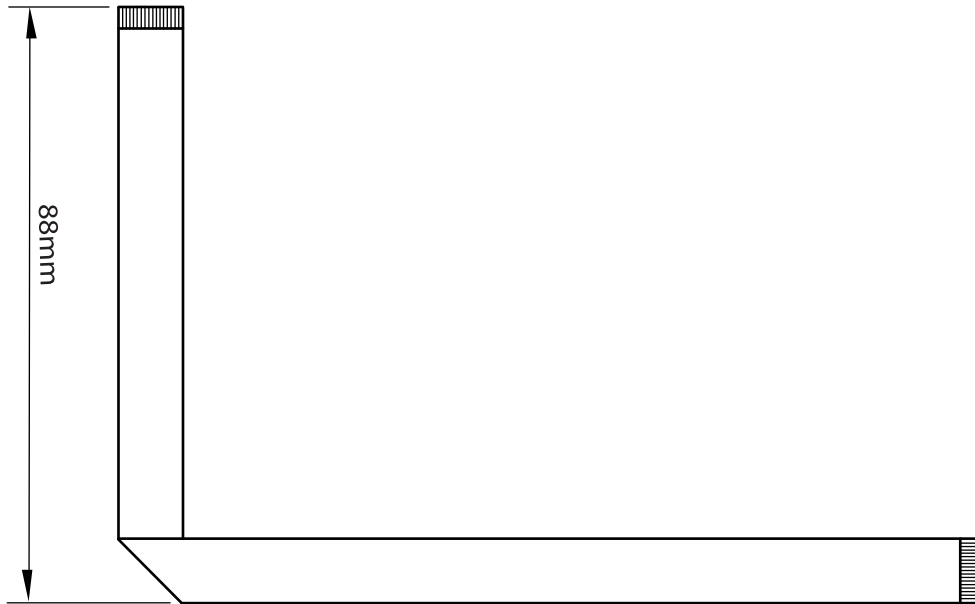
DECODE BOARD TOP

When installing the kit 02-55598-00 change R477 and R478 to 4.7Ohms.
This is to slow down the motion of the DVD tray.

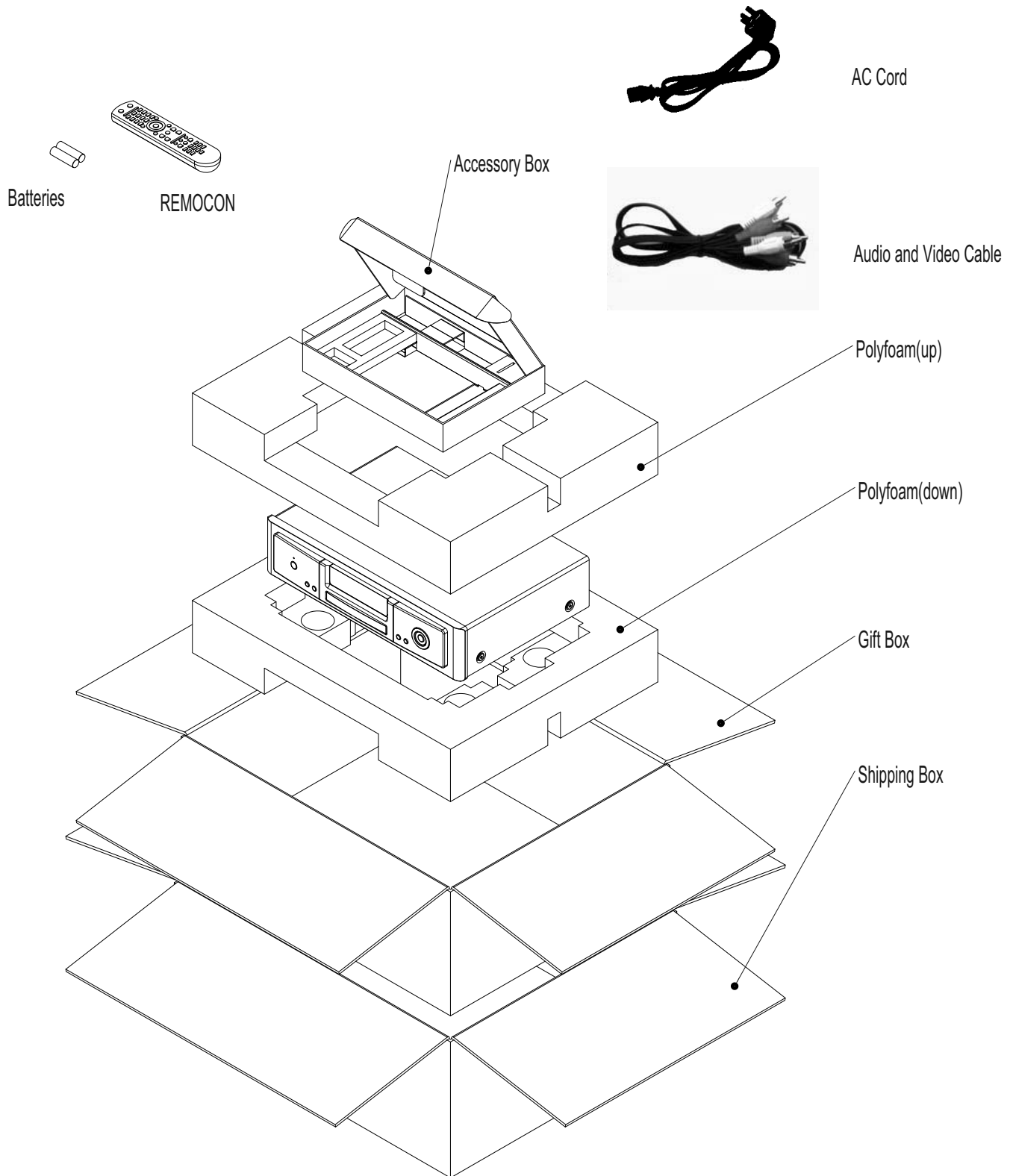


New and Old FFC Bend Angle M55

Remove and Discard Line Clamp & FFC & Standoffs
For original Loader (production loader) use 90° angle
Use double sided tape to affix the FFC to the chassis floor



3.Packing accessory section



SECTION 3

ELECTRICAL

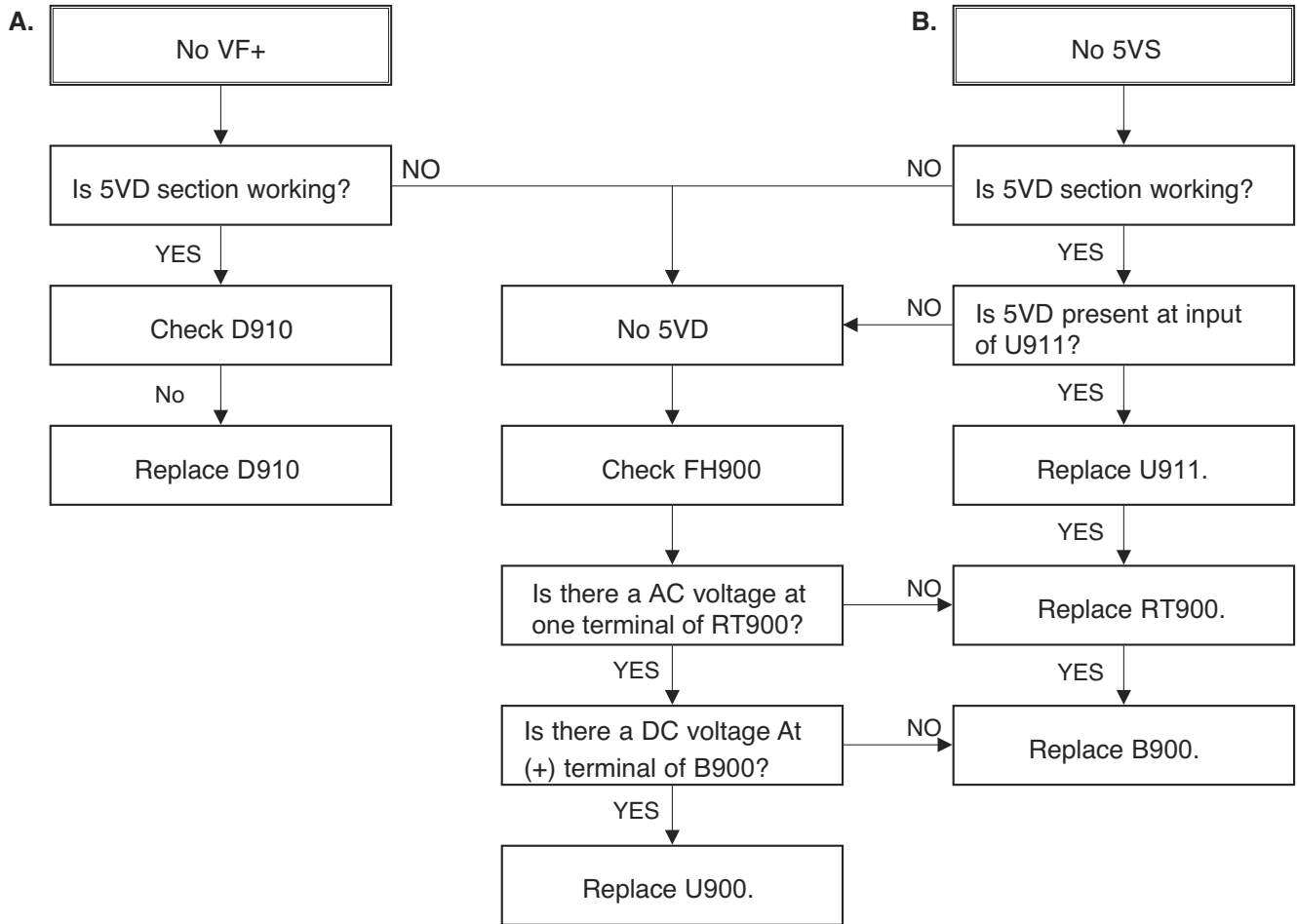
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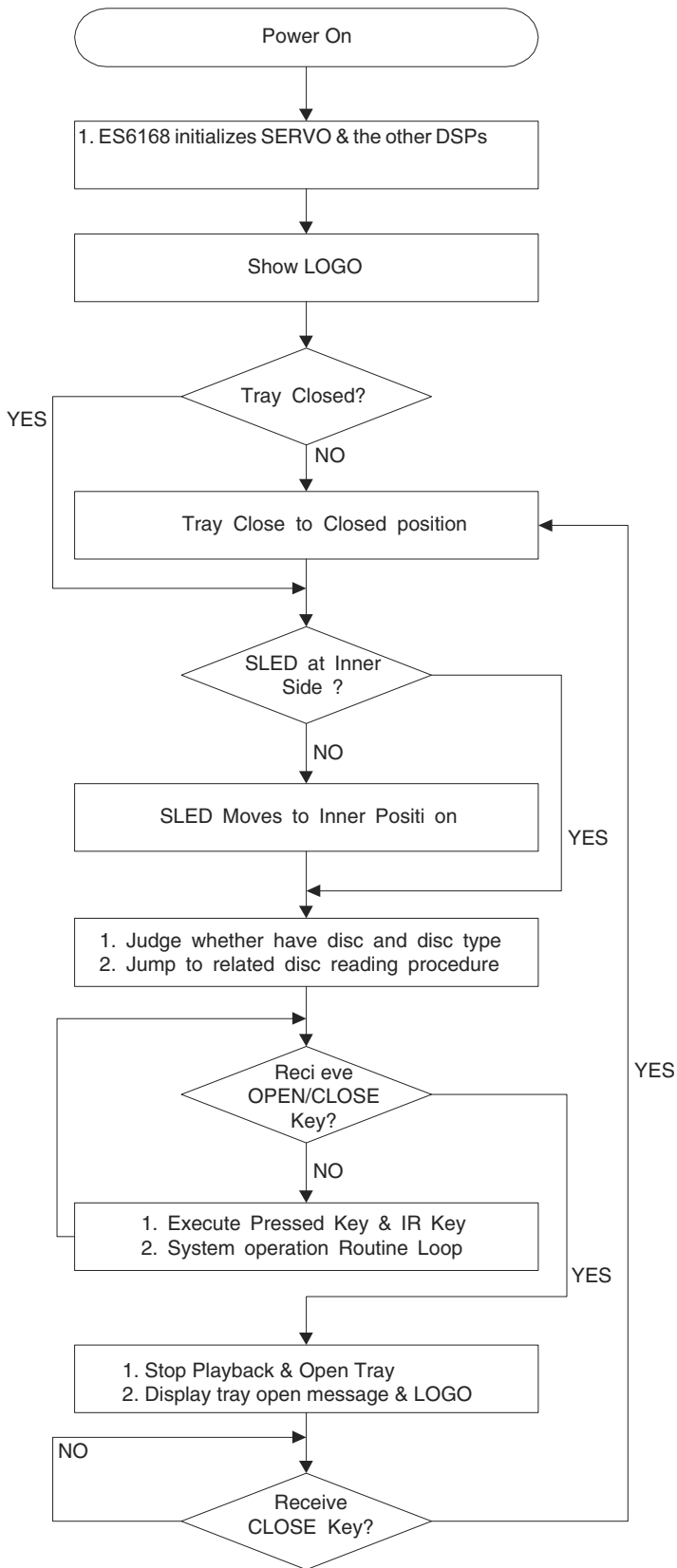
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2. KEY P.C.BOARD.....	3-59
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4. VIDEO P.C.BOARD.....	3-62
5. RS232 P.C.BOARD.....	3-64
6. SCART P.C.BOARD.....	3-65

ELECTRICAL TROUBLESHOOTING GUIDE

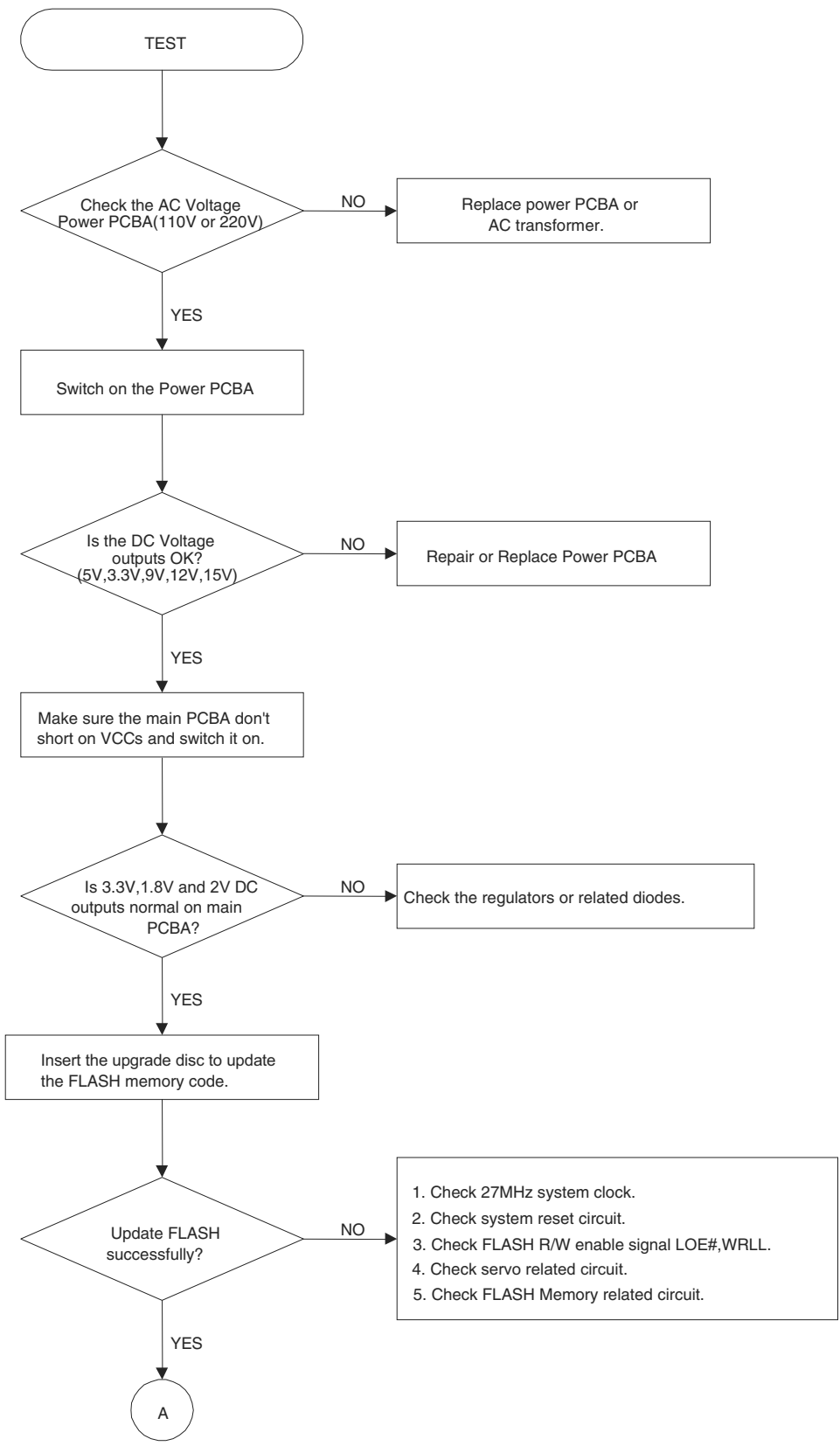
1. Power check flow

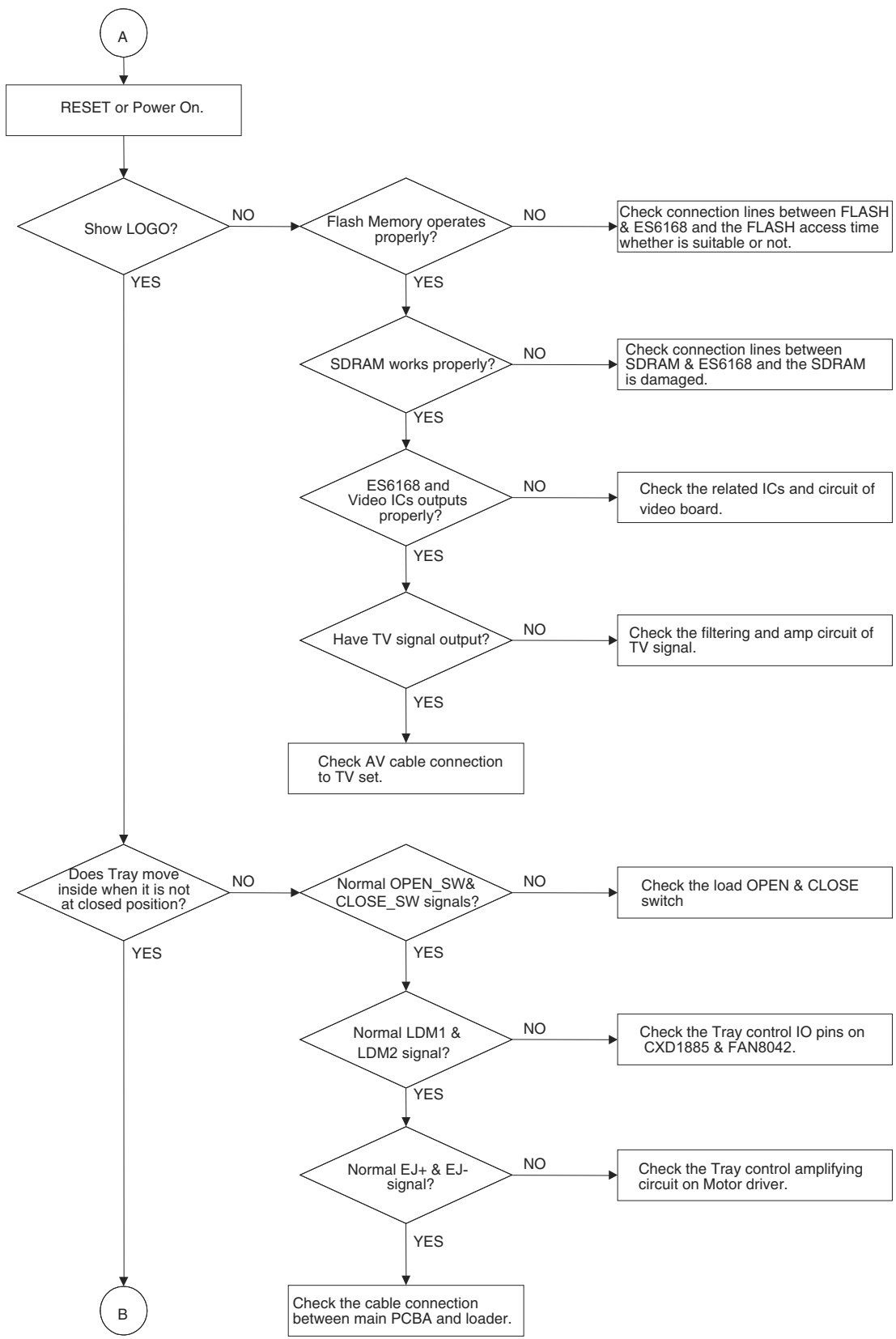


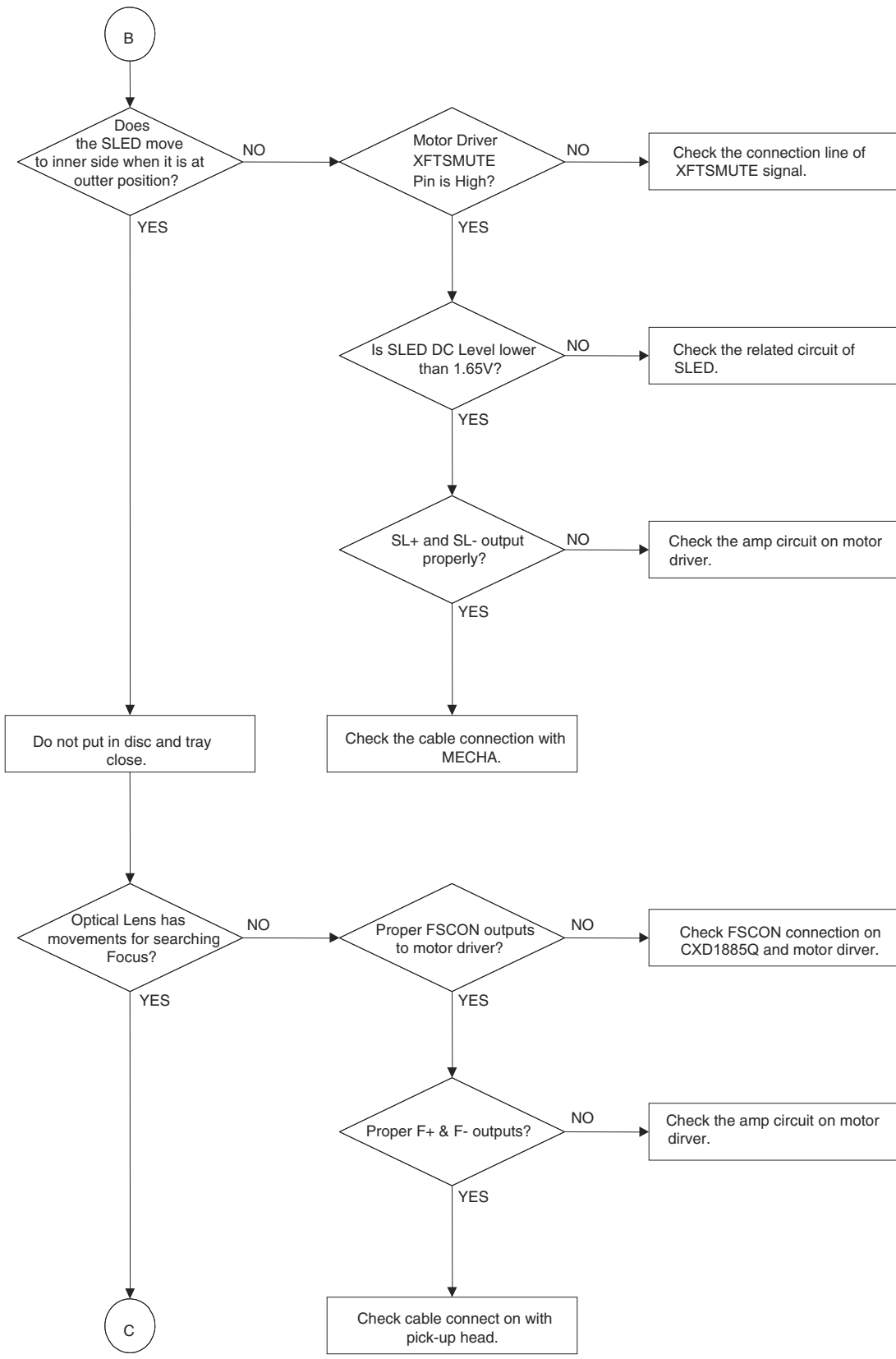
2. System operation flow

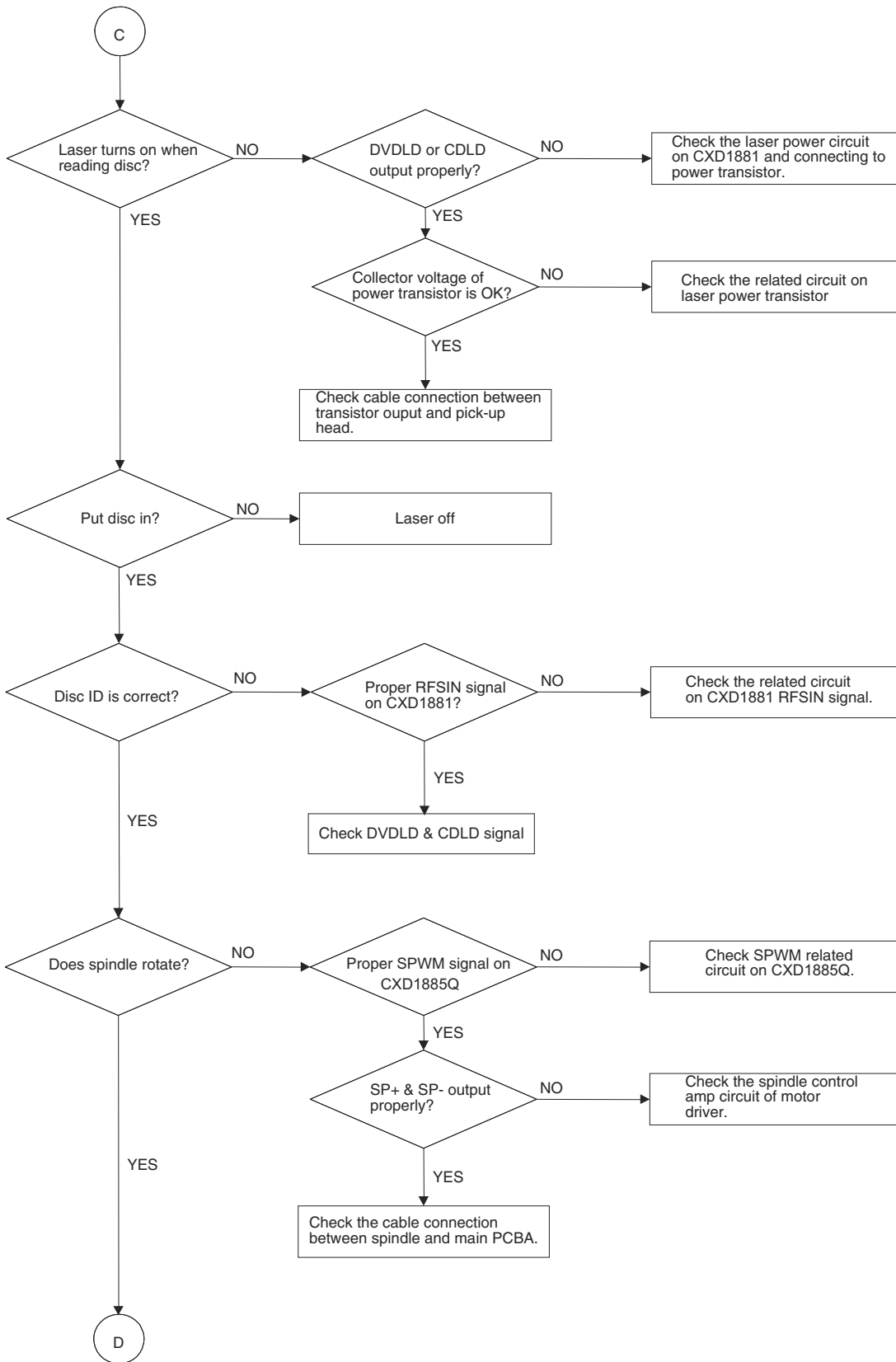


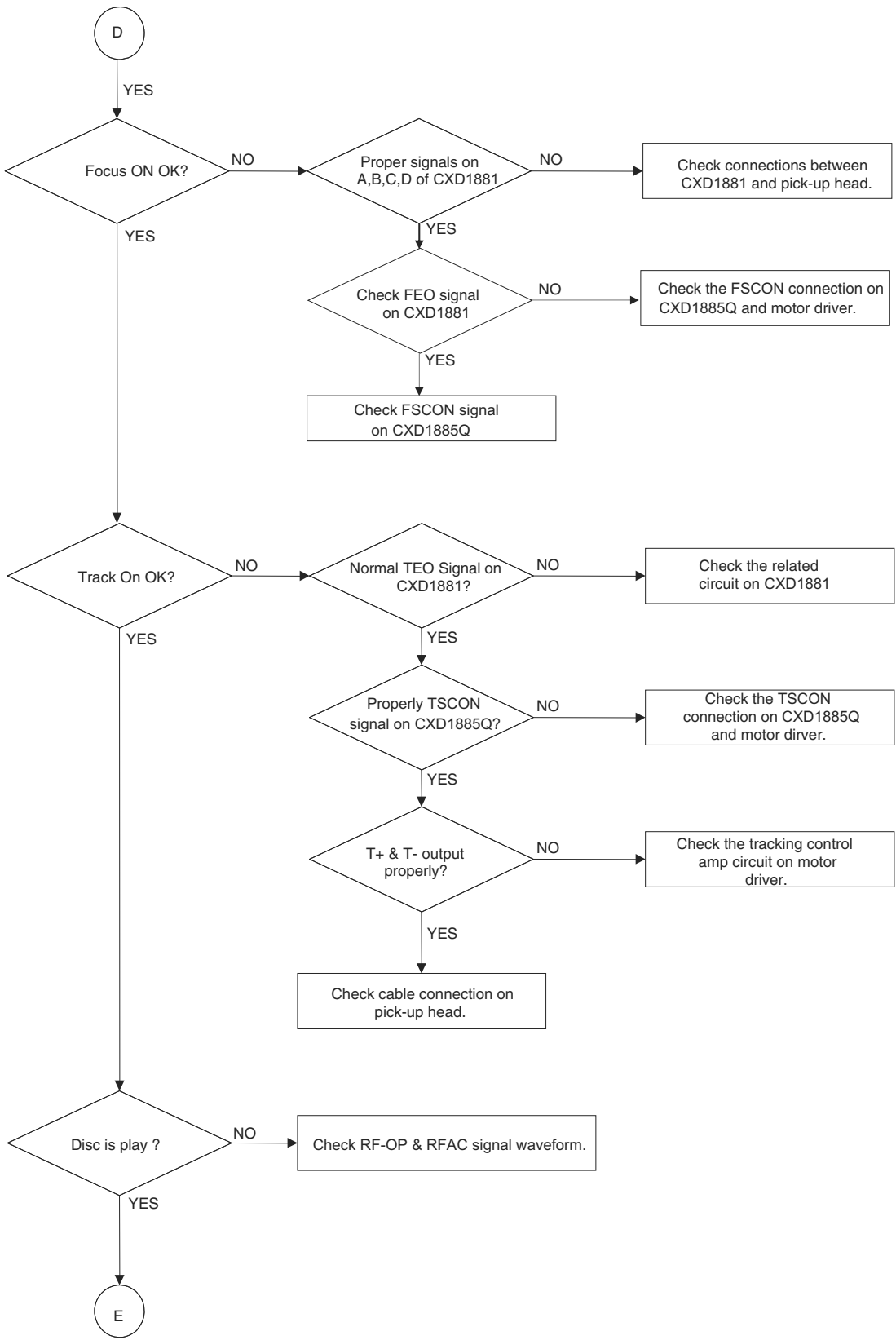
3. Test & debug flow

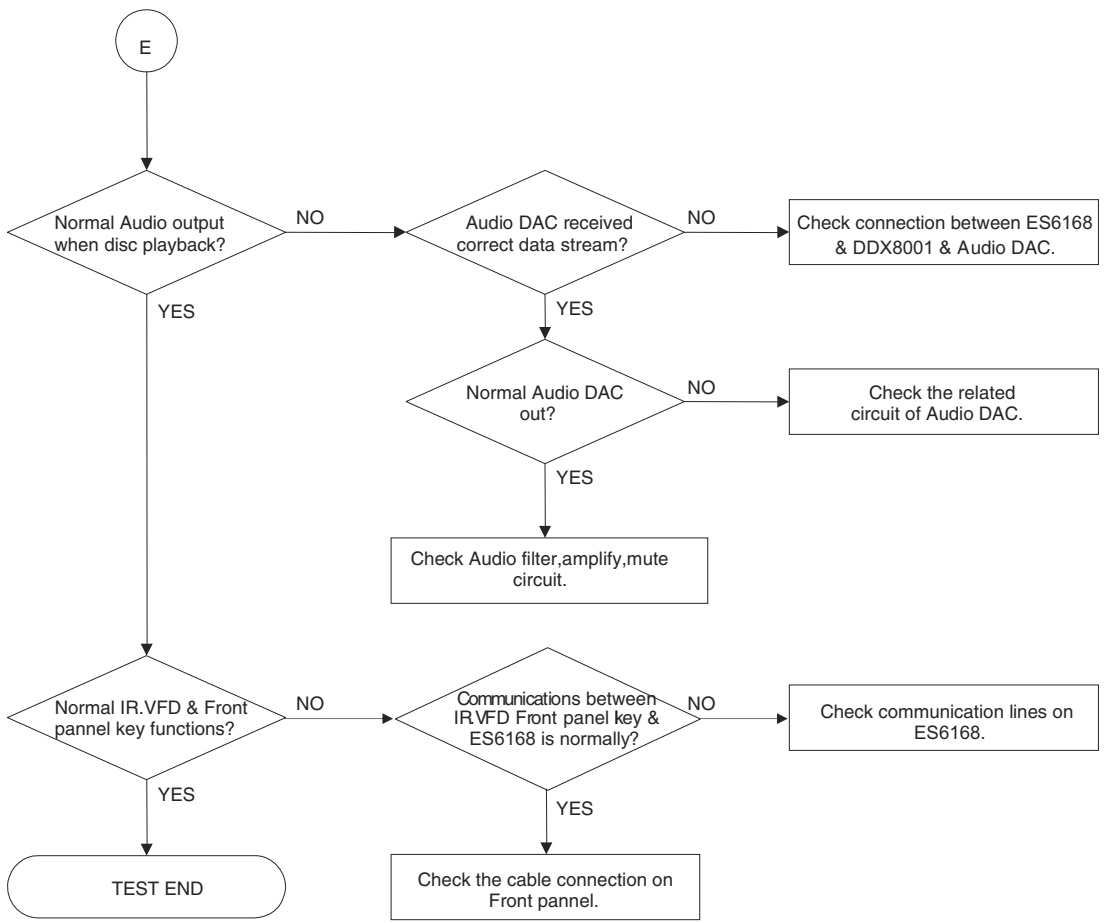












DETAILS AND WAVEFORMS ON SYSTEM TEST AND DEBUGGING

1.SYSTEM 27MHz CLOCK, RESET, FLASH R/W SIGNAL.

1) ES6168F main clock is at 27MHz(pin49)

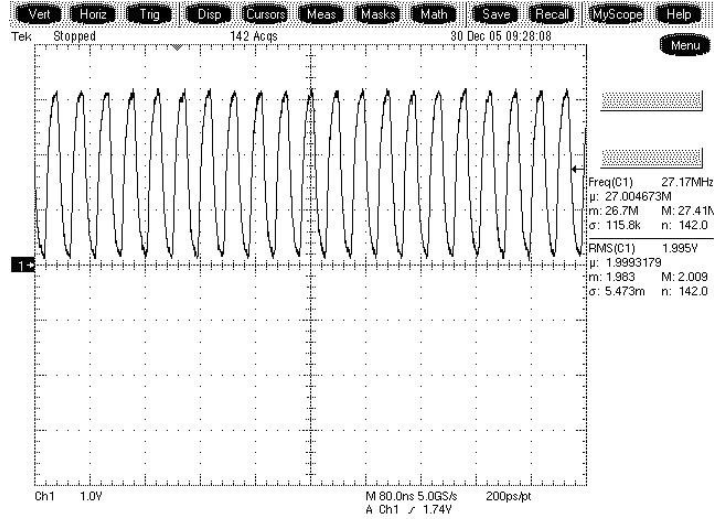
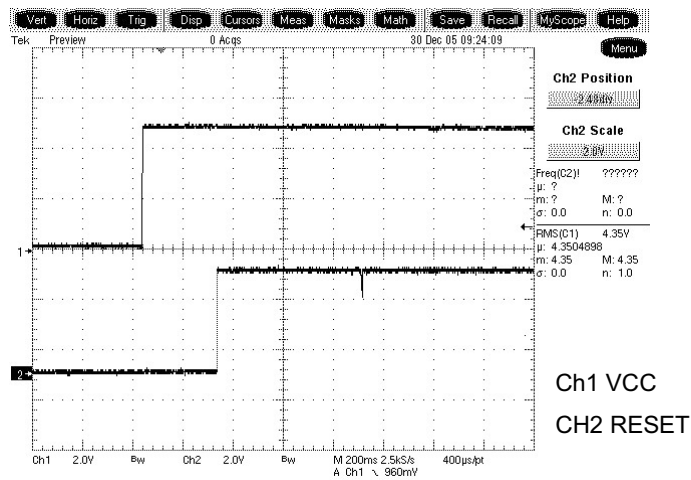


FIG 1-1

2) ES6168F(pin24) reset is low active.



FI1-2

2. SDRAM CLOCK

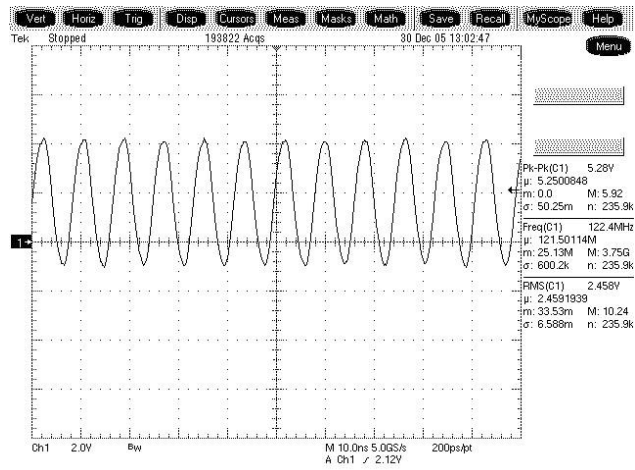


FIG 2-1

3. TRAY OPEN/CLOSE SIGNAL

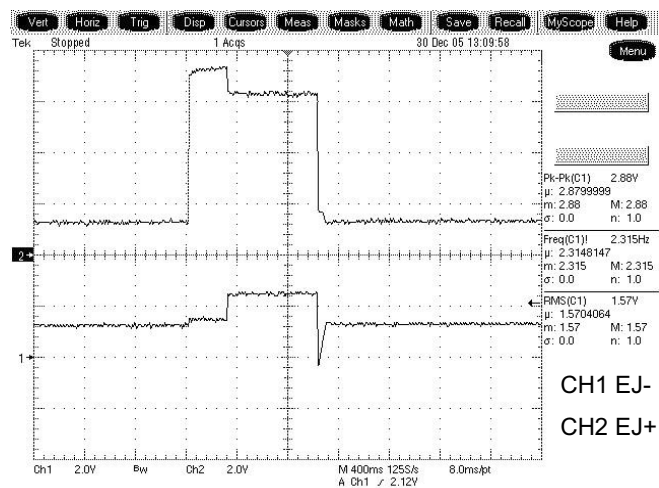


FIG 3-1

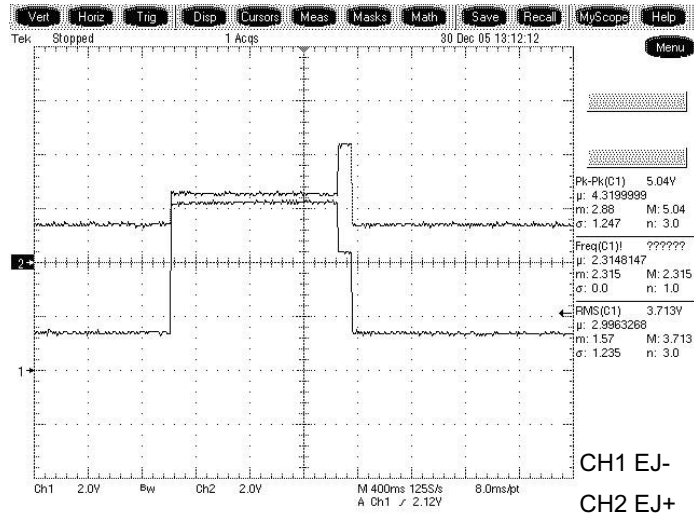


FIG 3-2

4. SLED CONTROL RELATED SIGNAL(NO DISC CONDITION)

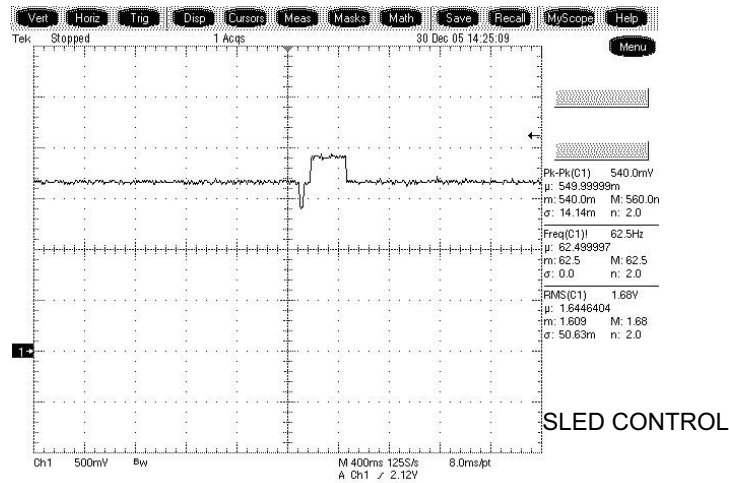


FIG 4-1

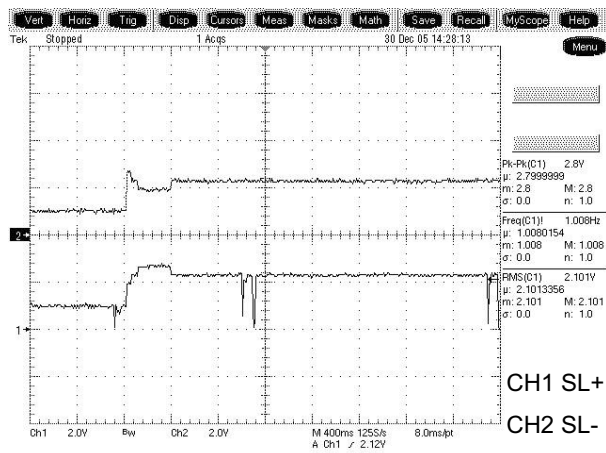


FIG 4-2

5. LENS CONTROL RELATED SIGNAL(NO DISC CONDITION)

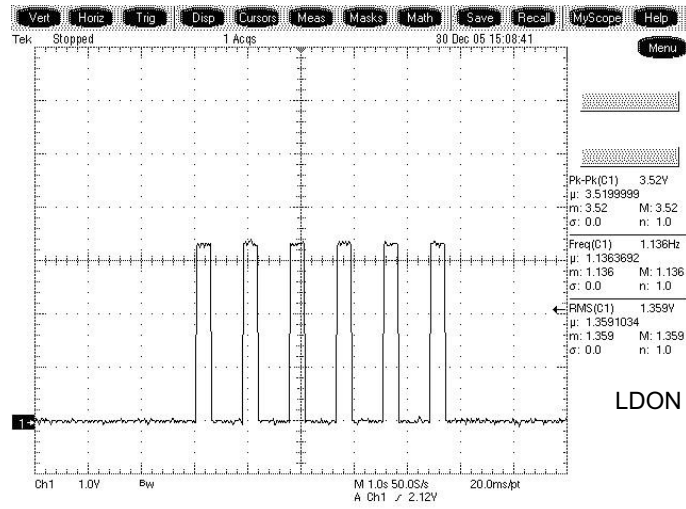


FIG 5-1

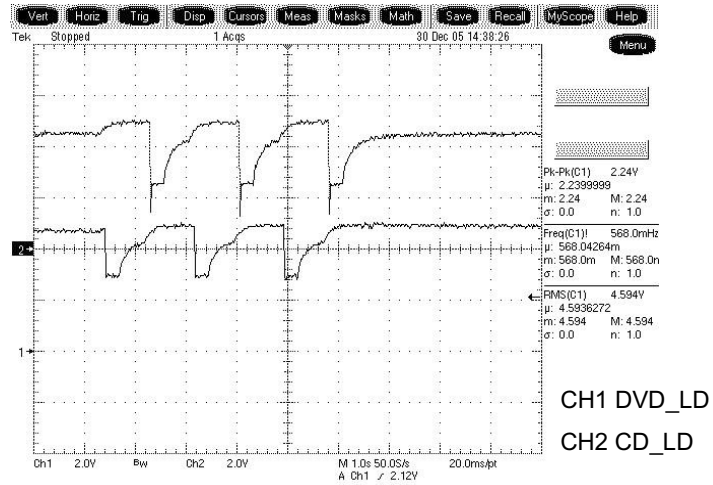


FIG 5-2

6. FOCUS CONTROL RELATED SIGNAL(NO DISC CONDITION)

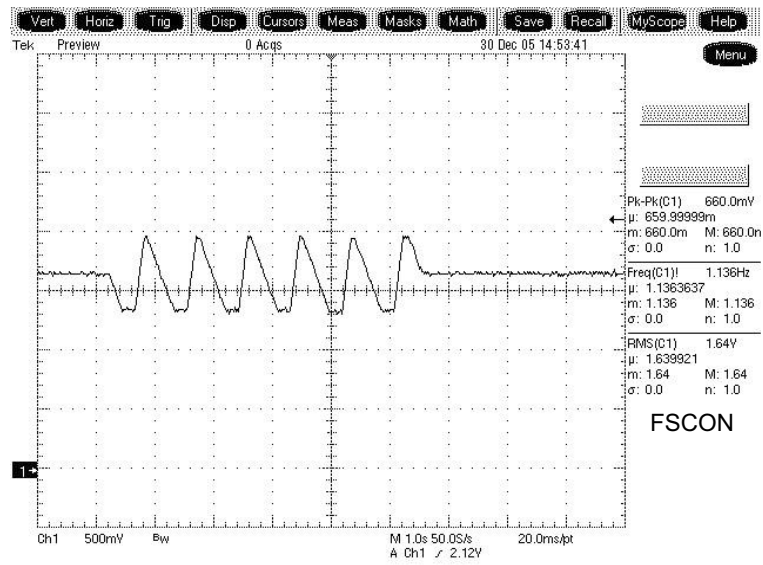


FIG 6-1

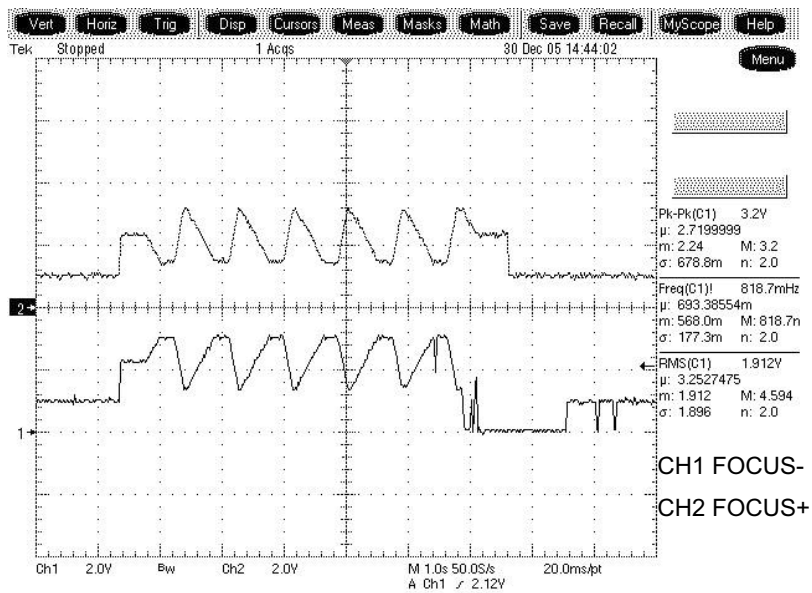


FIG 6-2

7. SPINDLE CONTROL WAVEFORM

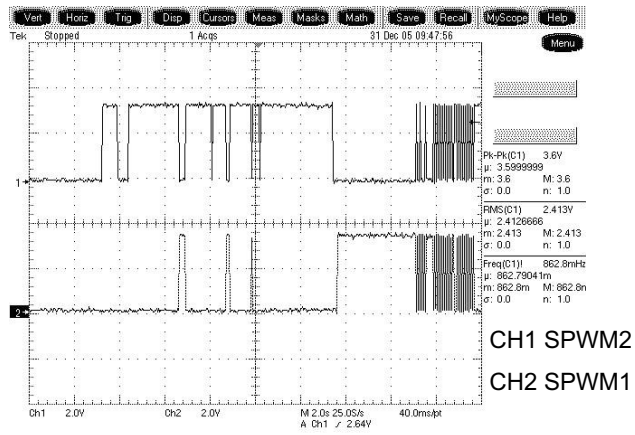


FIG 7-1(DVD)

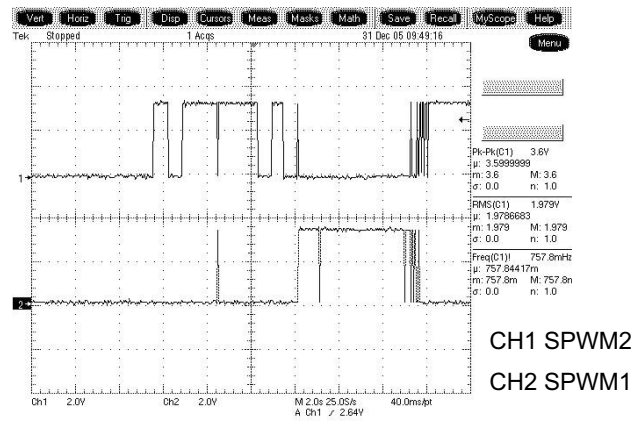


FIG 7-2(CD)

8. FOCUS ON WAVEFORM(FSCON)

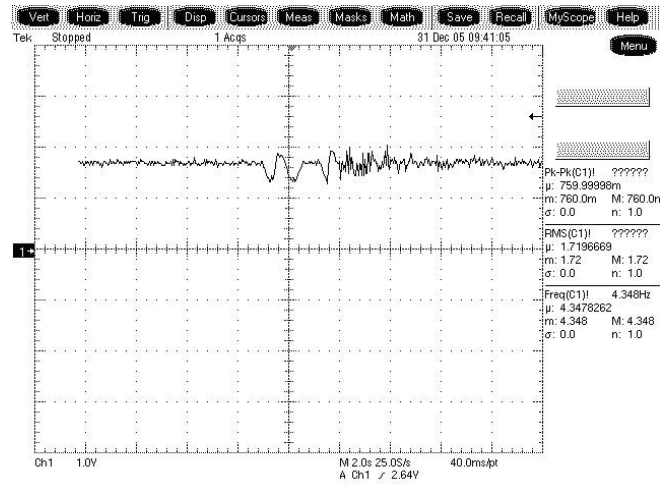


FIG 8-1(CD)

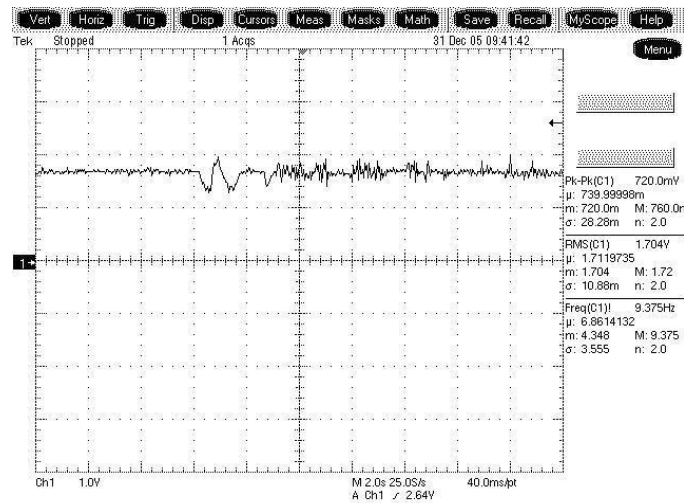


FIG 8-2 (DVD)

9. ES6168F AUDIO OPTICALAND COAXIALOUTPUT (SPDIF)

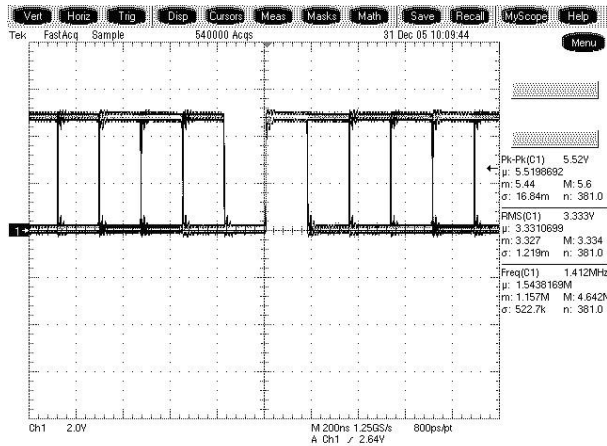


FIG 9-1

10. ES6168F VIDEO OUTPUT WAVEFORM(10 STEP)

1) CVBS

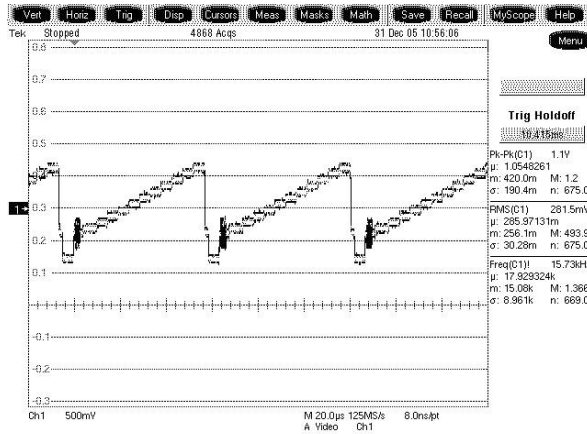


FIG 10-1

2) COMPOSITE Y

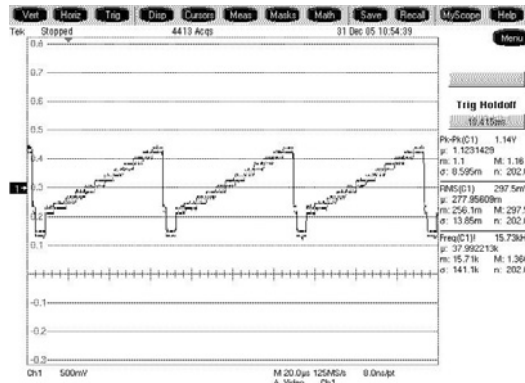


FIG 10-2(480I)

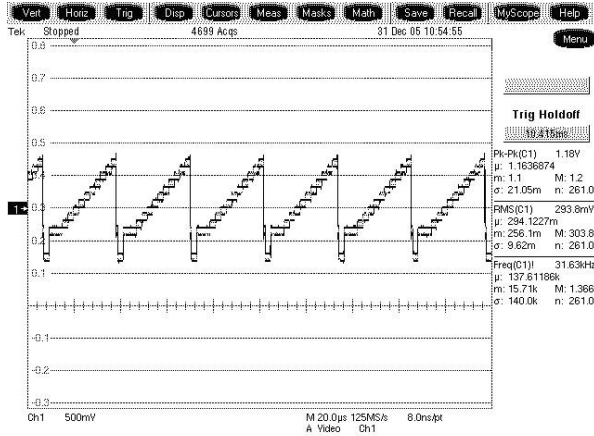


FIG 10-2(480P)

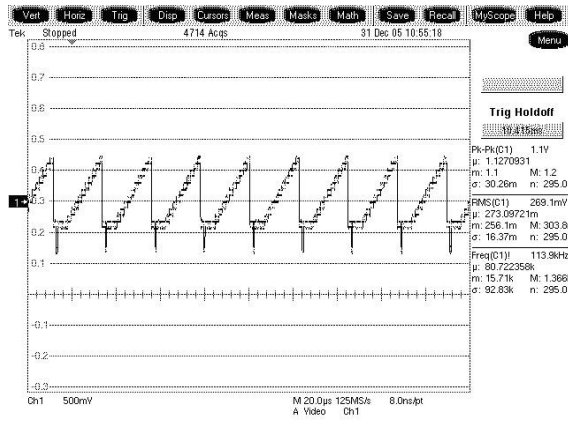


FIG 10-3(720P)

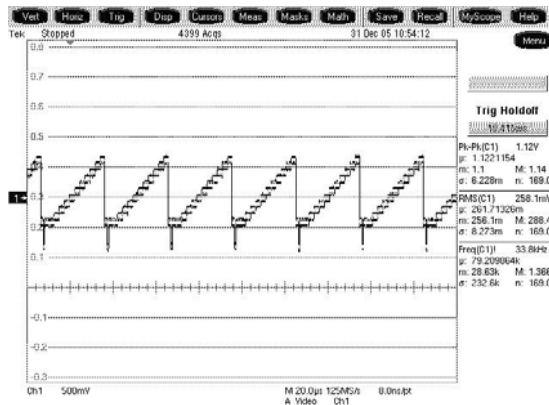


FIG 10-4(1080I)

11.RF WAVEFORM

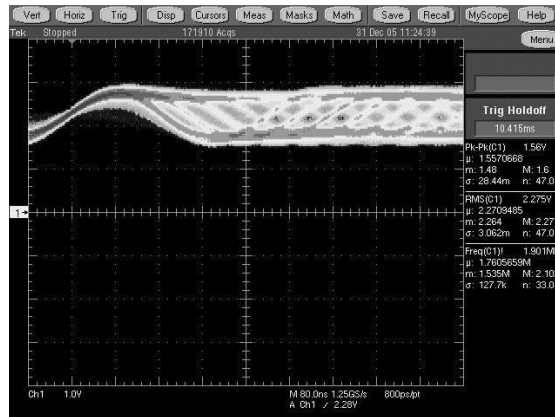


FIG11-1(CD)

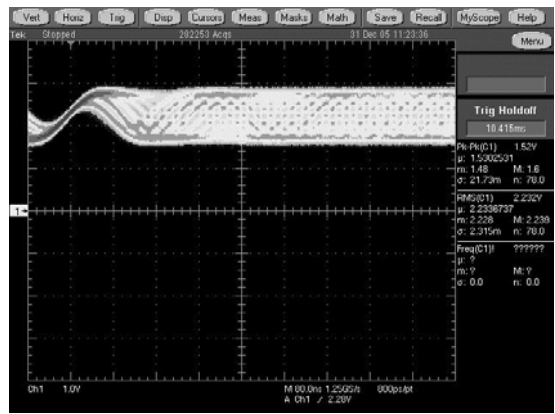


FIG11-1(DVD)

12.HDMI

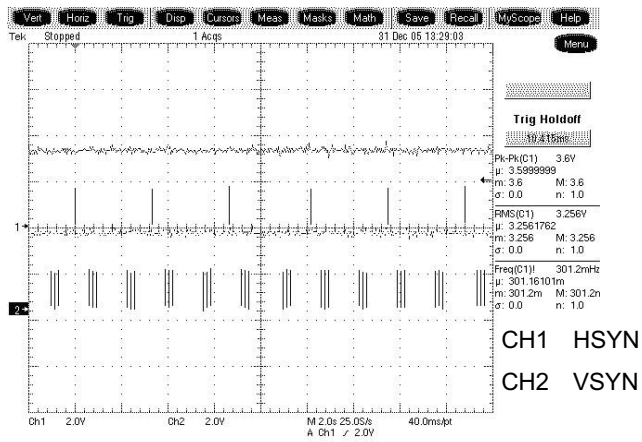


FIG12-1(480I)

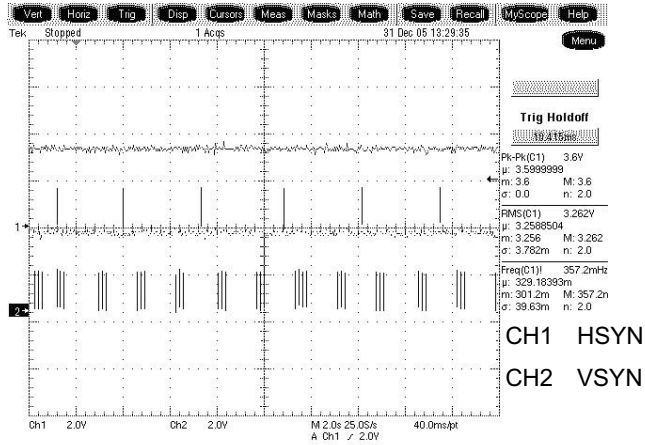


FIG12-1(480P)

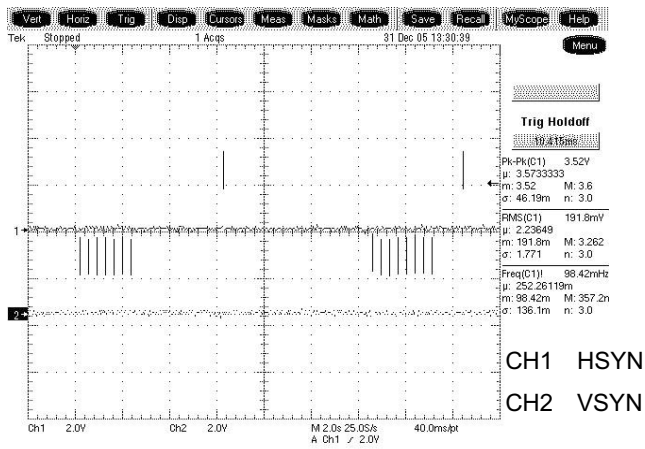


FIG12-1(720P)

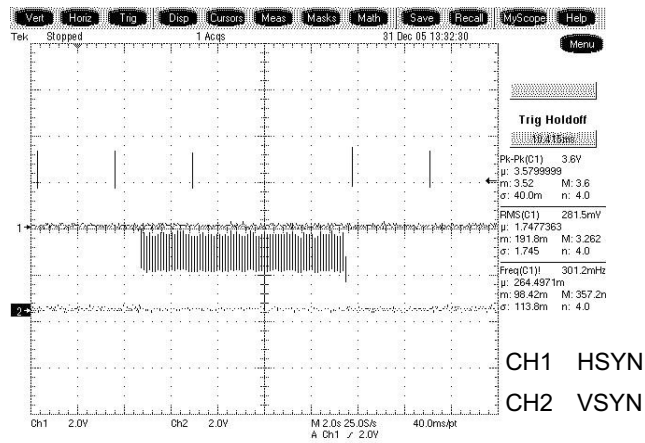


FIG12-2(1080I)

13. ES6168F AUDIO OUTPUT TO AUDIO DAC

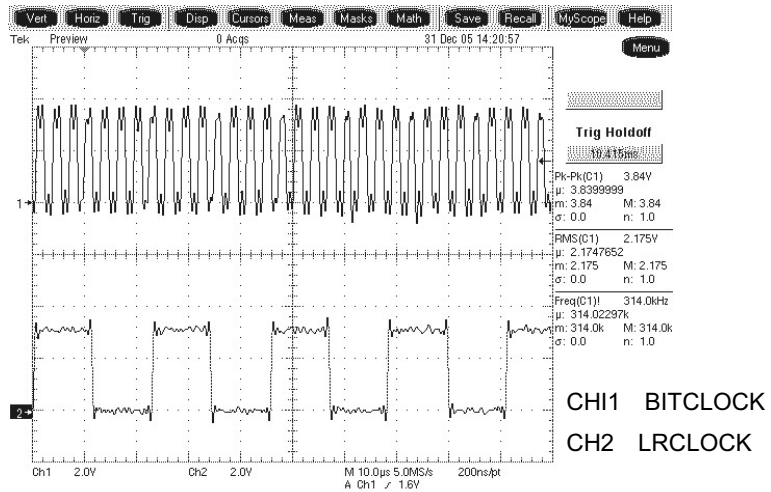


FIG 31-1

14. AUDIO OUTPUT (1KHZ 0DB)

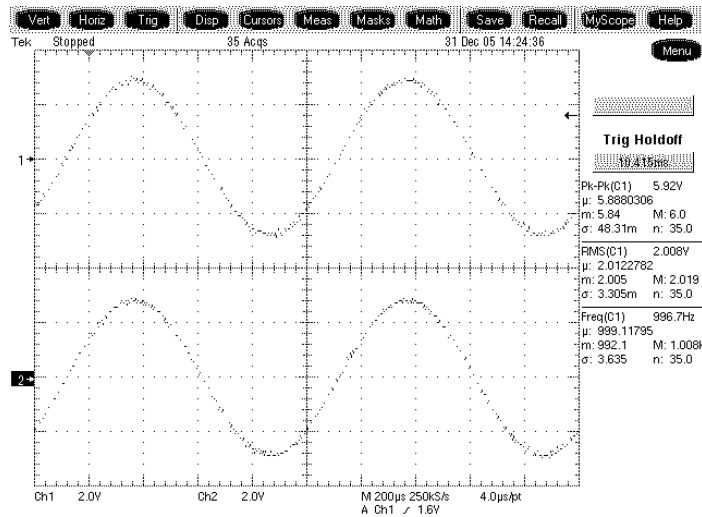
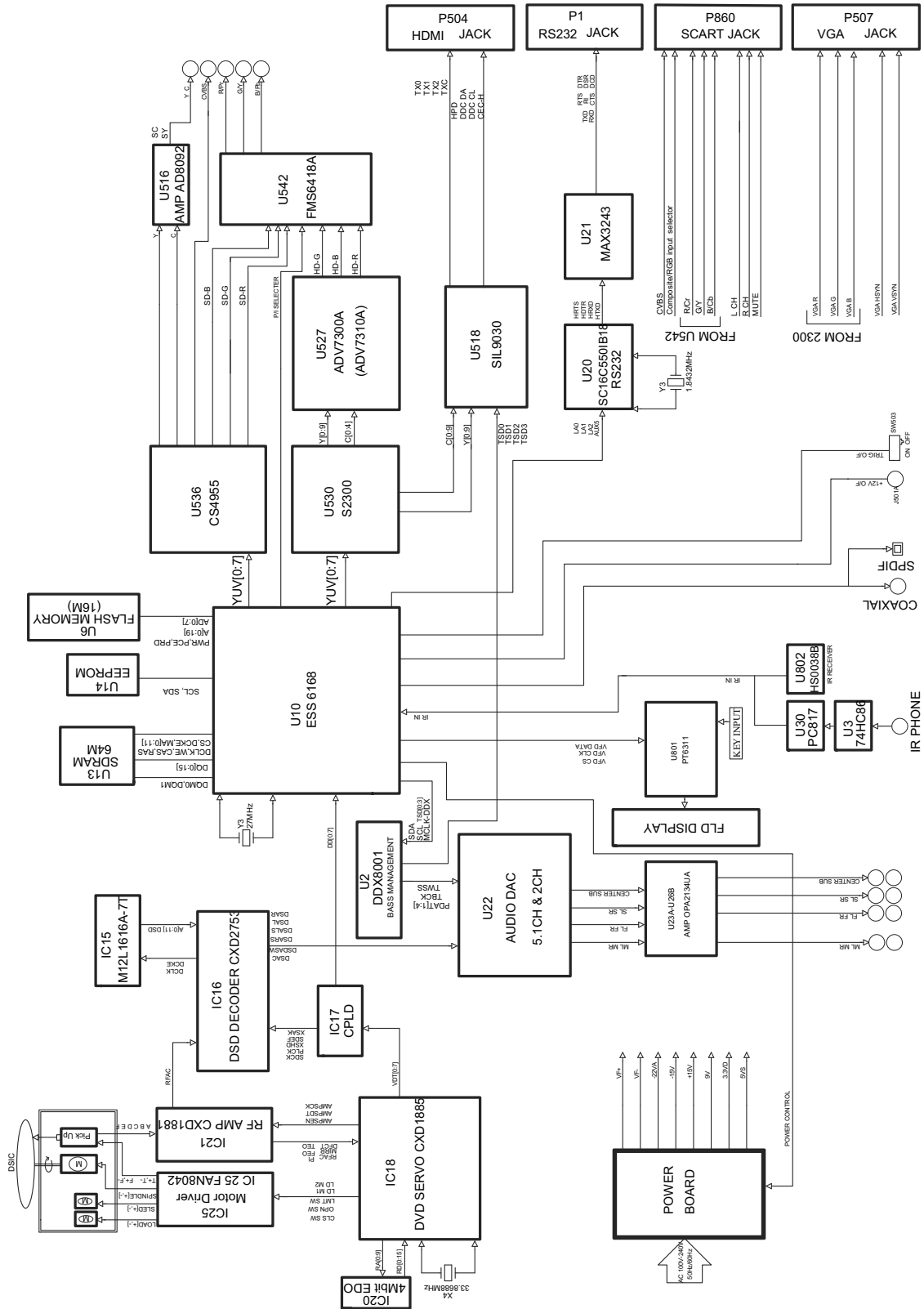


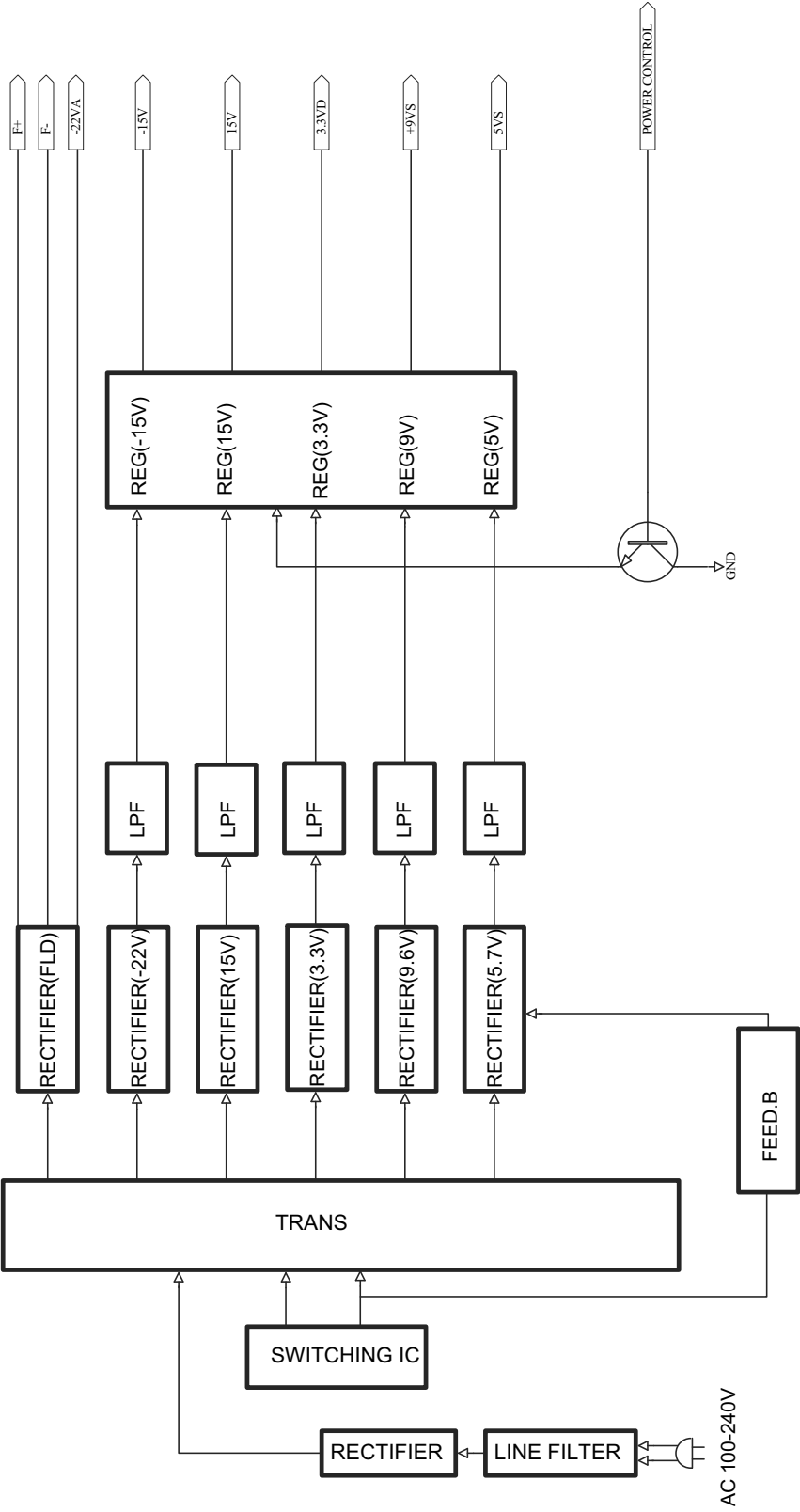
FIG 14-1

Block Diagram

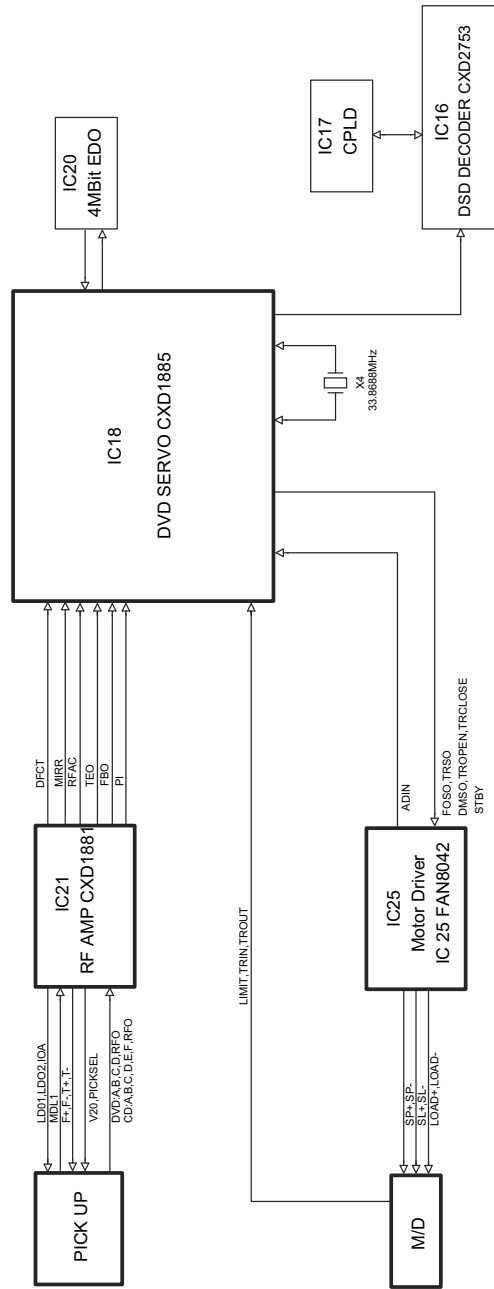
1.OVERALL Block Diagram



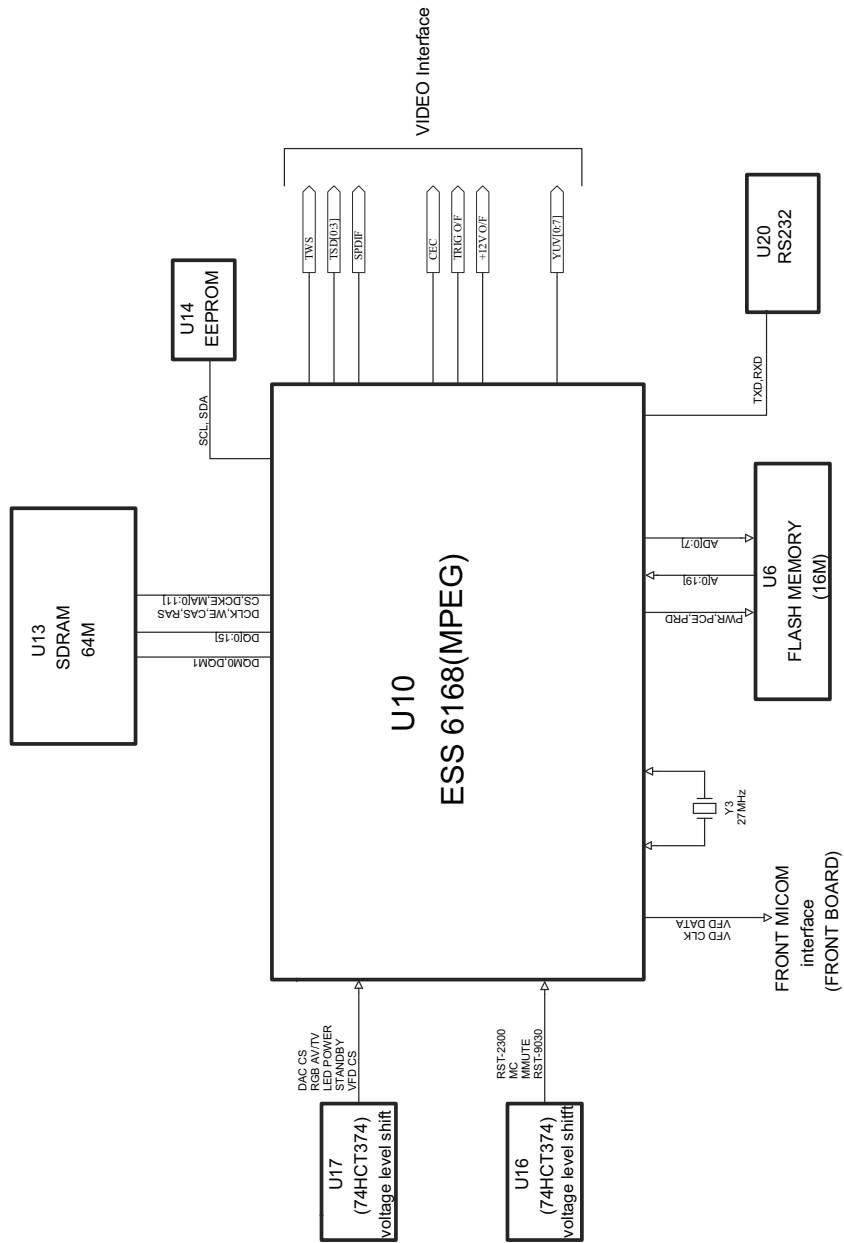
2.POWER(SMPS)BLOCK DIAGRAM



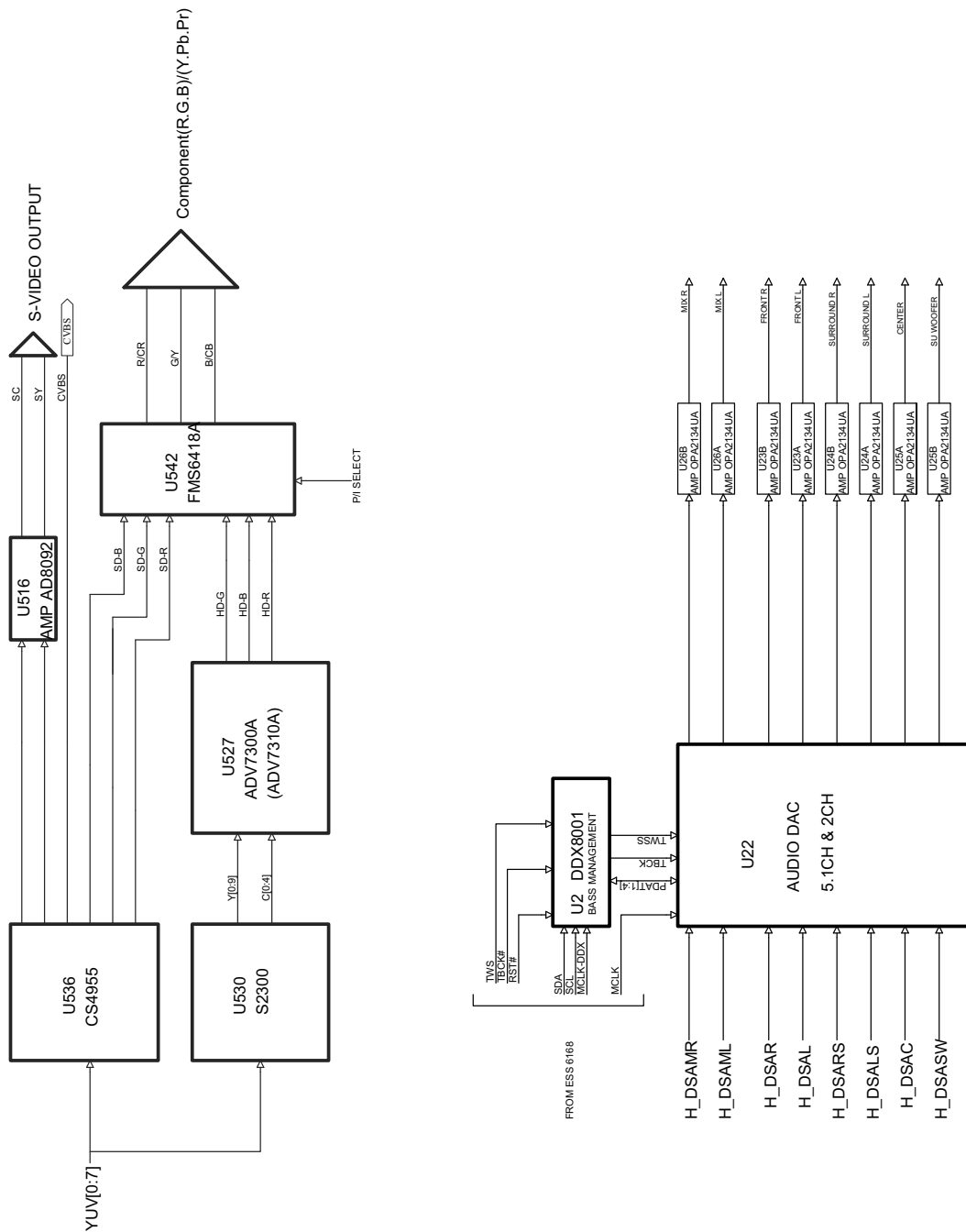
3.SERVO Block Diagram



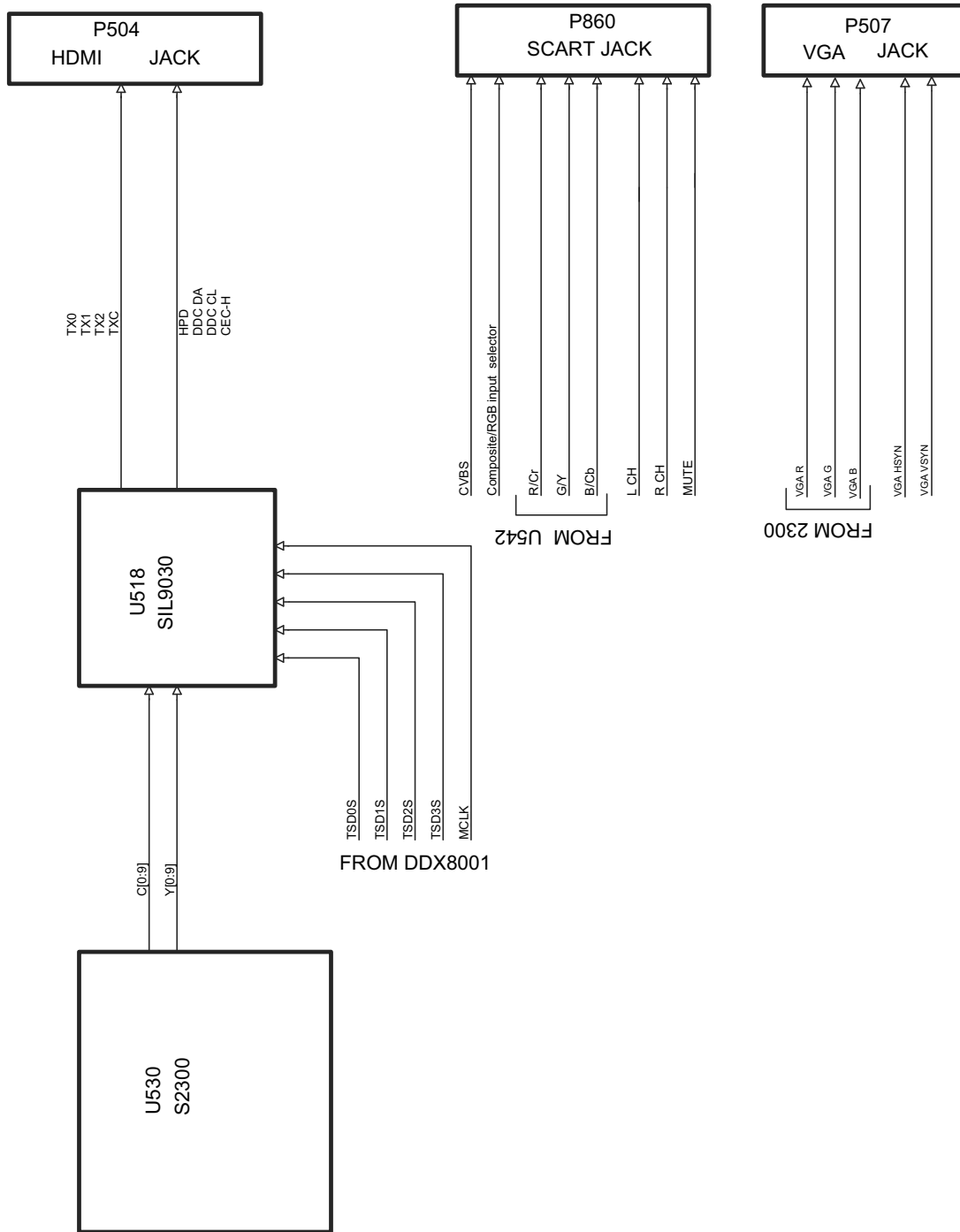
4.MPEG & MEMORY Block Diagram



5.VIDEO & AUDIO Block Diagram

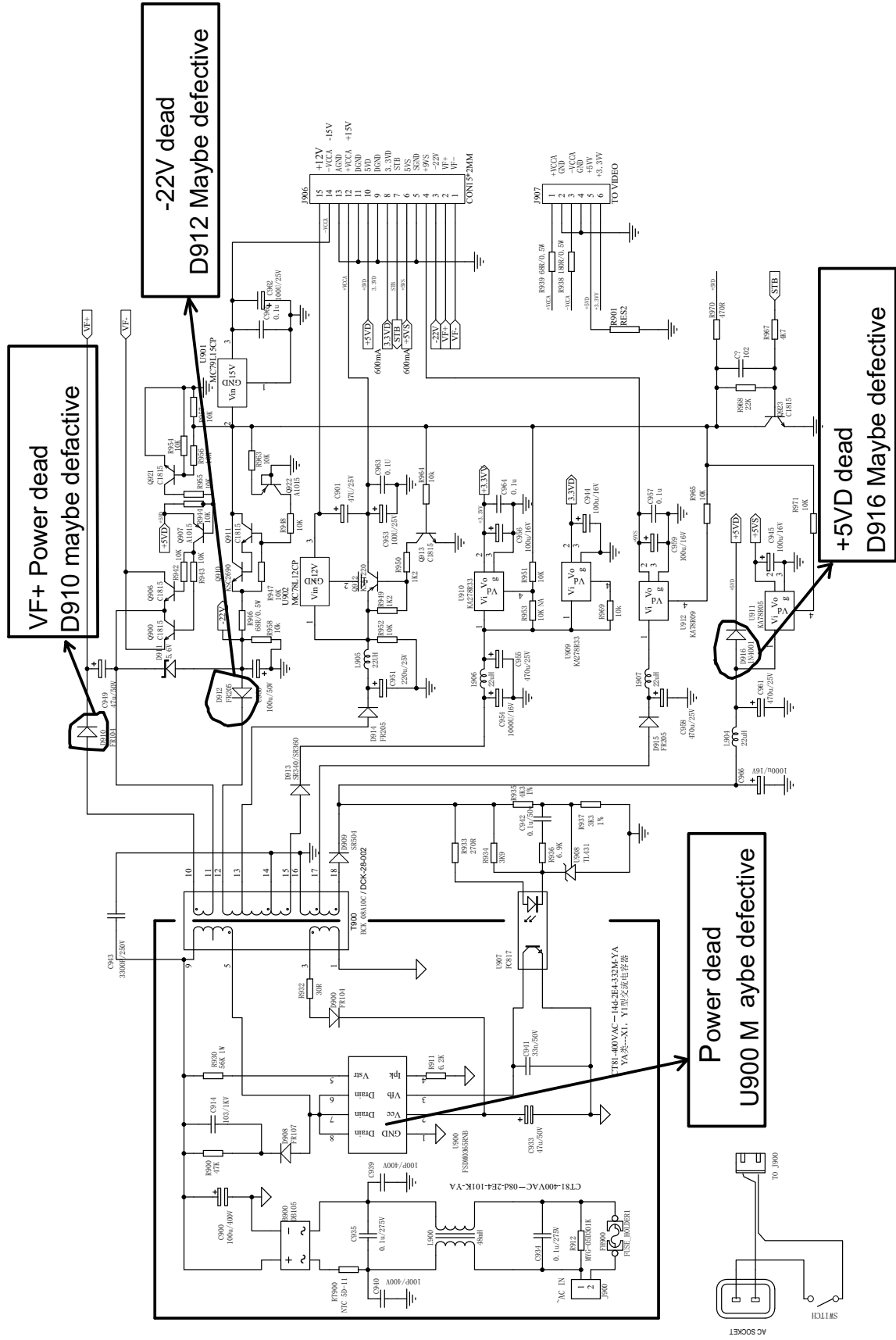


6. GENSIS.SCART & DVI BLOCK DIAGRAM

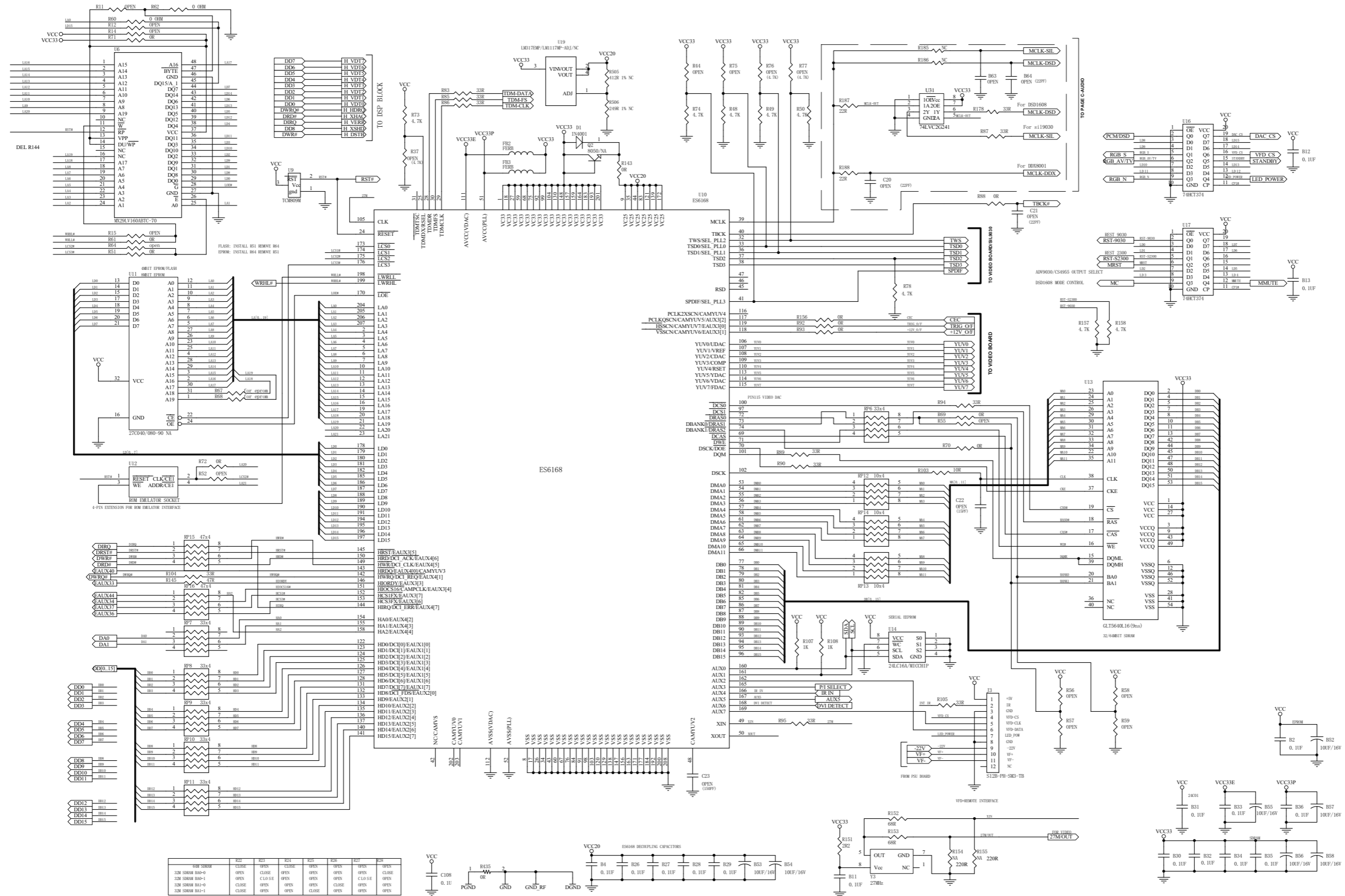


CIRCUIT DIAGRAMS

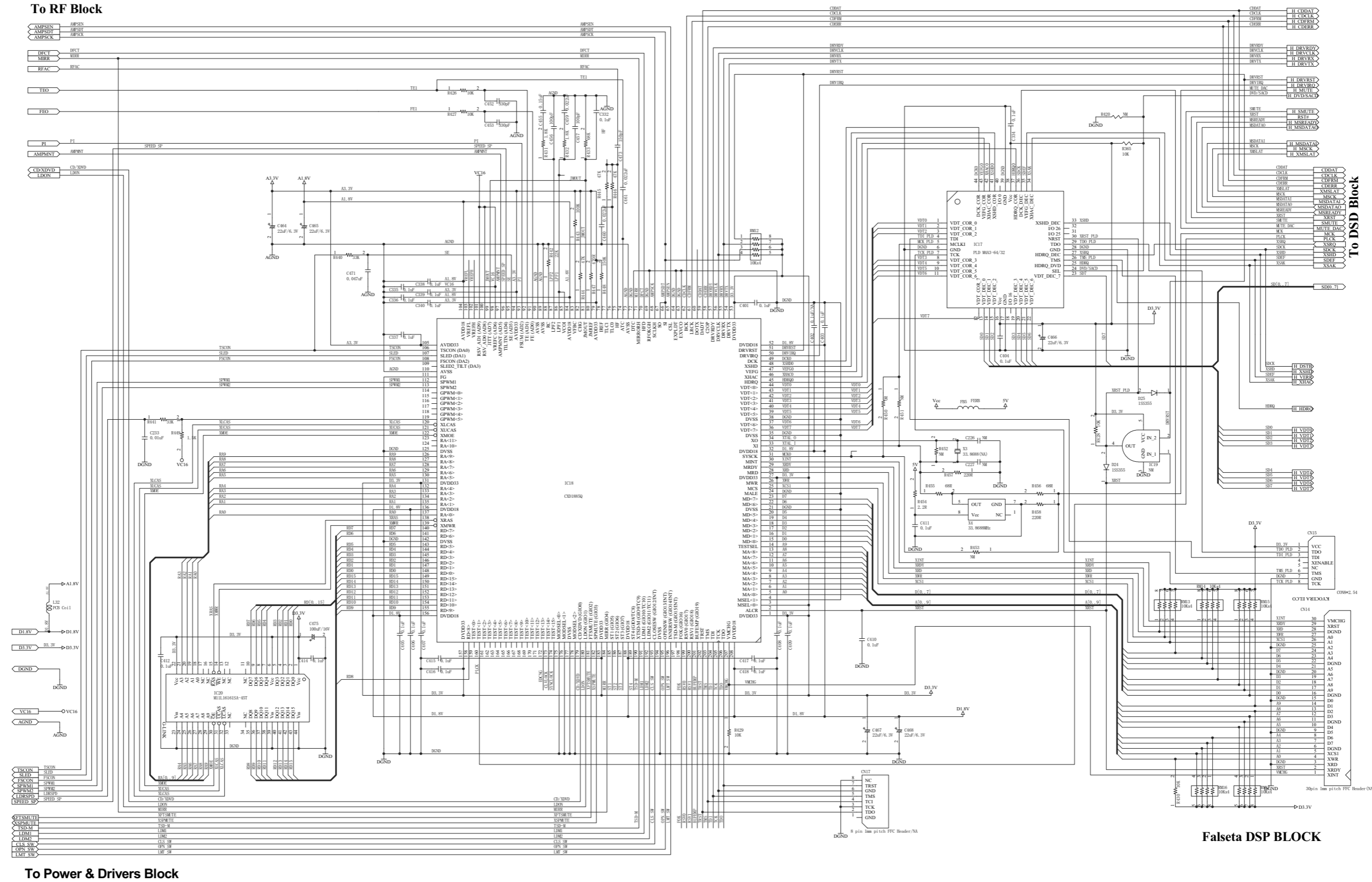
1. POWER(SMPS) CIRCUIT DIAGRAM



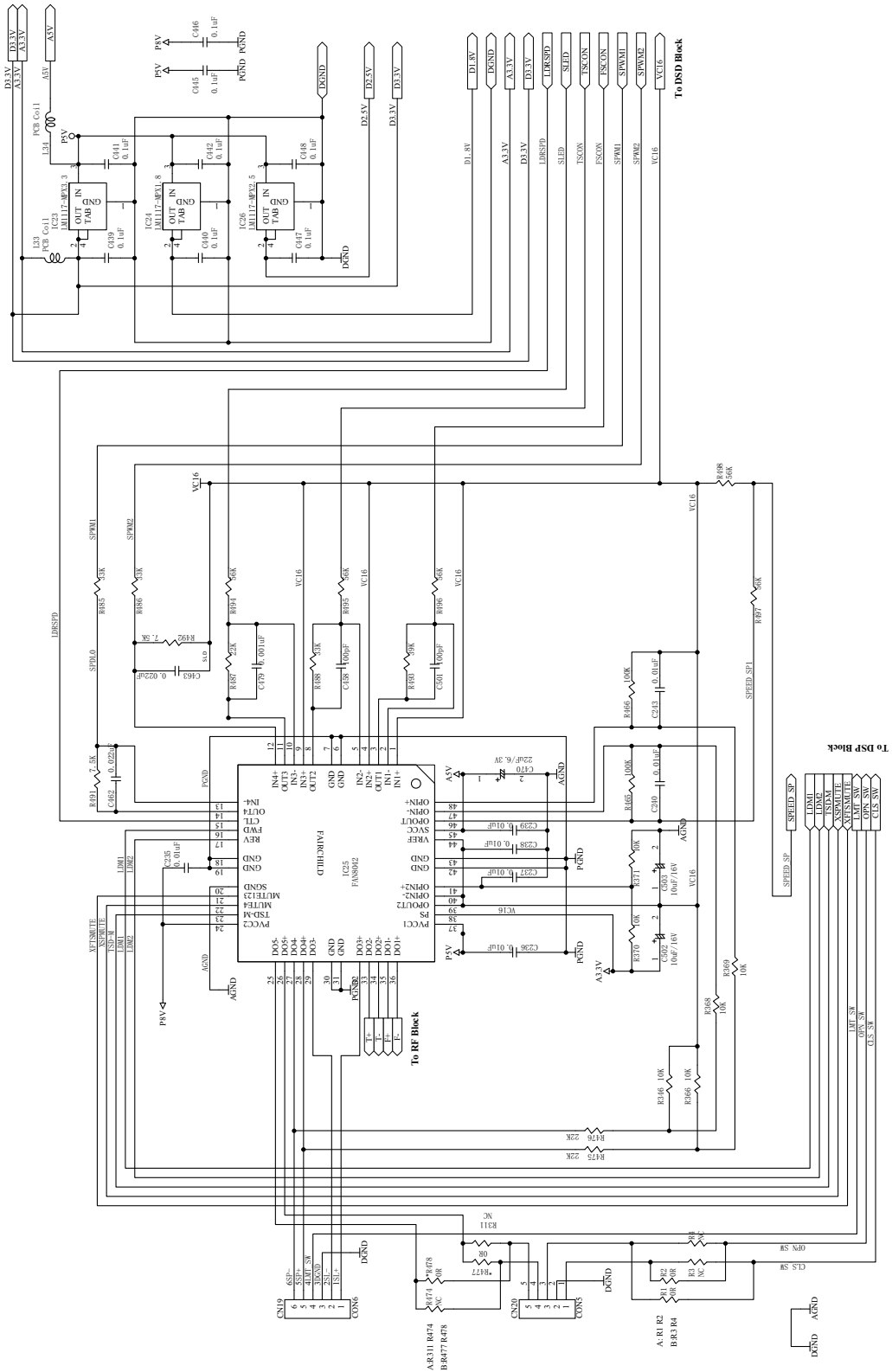
2.SYSTEM CIRCUIT DIAGRAM



3.DSP CIRCUIT DIAGRAM

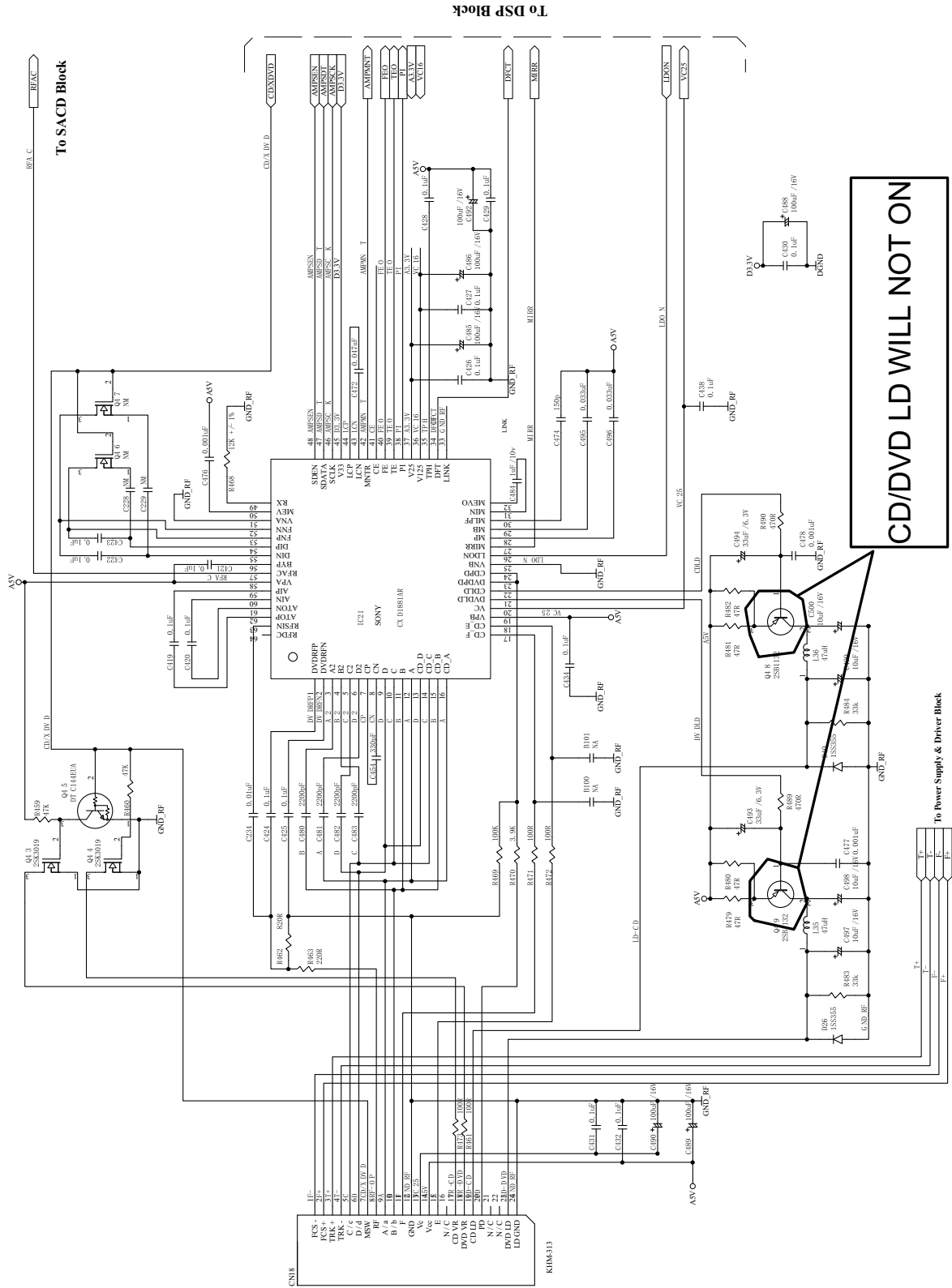


4.H-POWER & DRIVER CIRCUIT DIAGRAM



*Note; R477 and R478 are 4.7Ohm when using new XY-A33 Loader.

5. RF CIRCUIT DIAGRAM



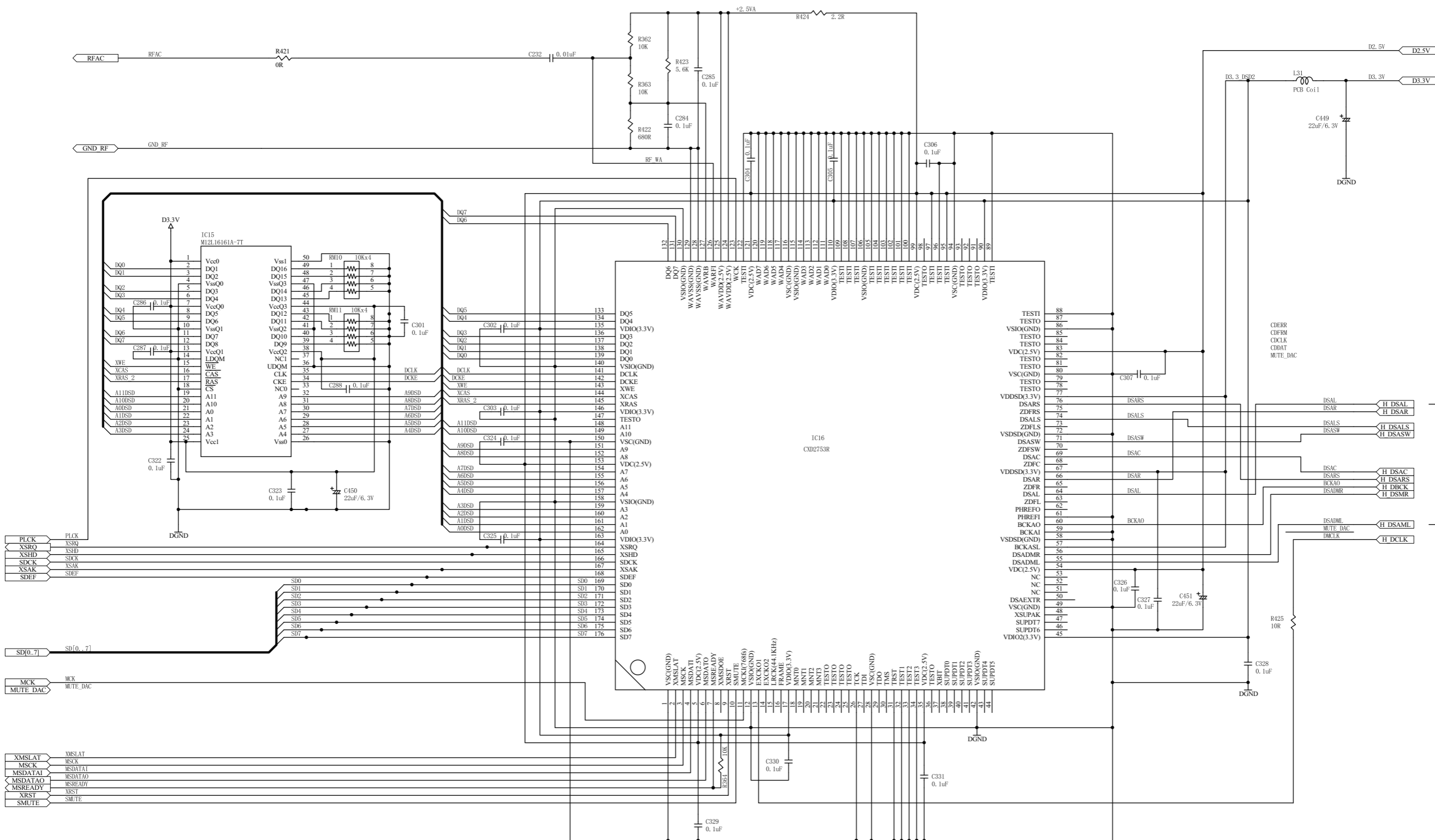
6.DSD CIRCUIT DIAGRAM

To RF Block

To Power & Drivers Block

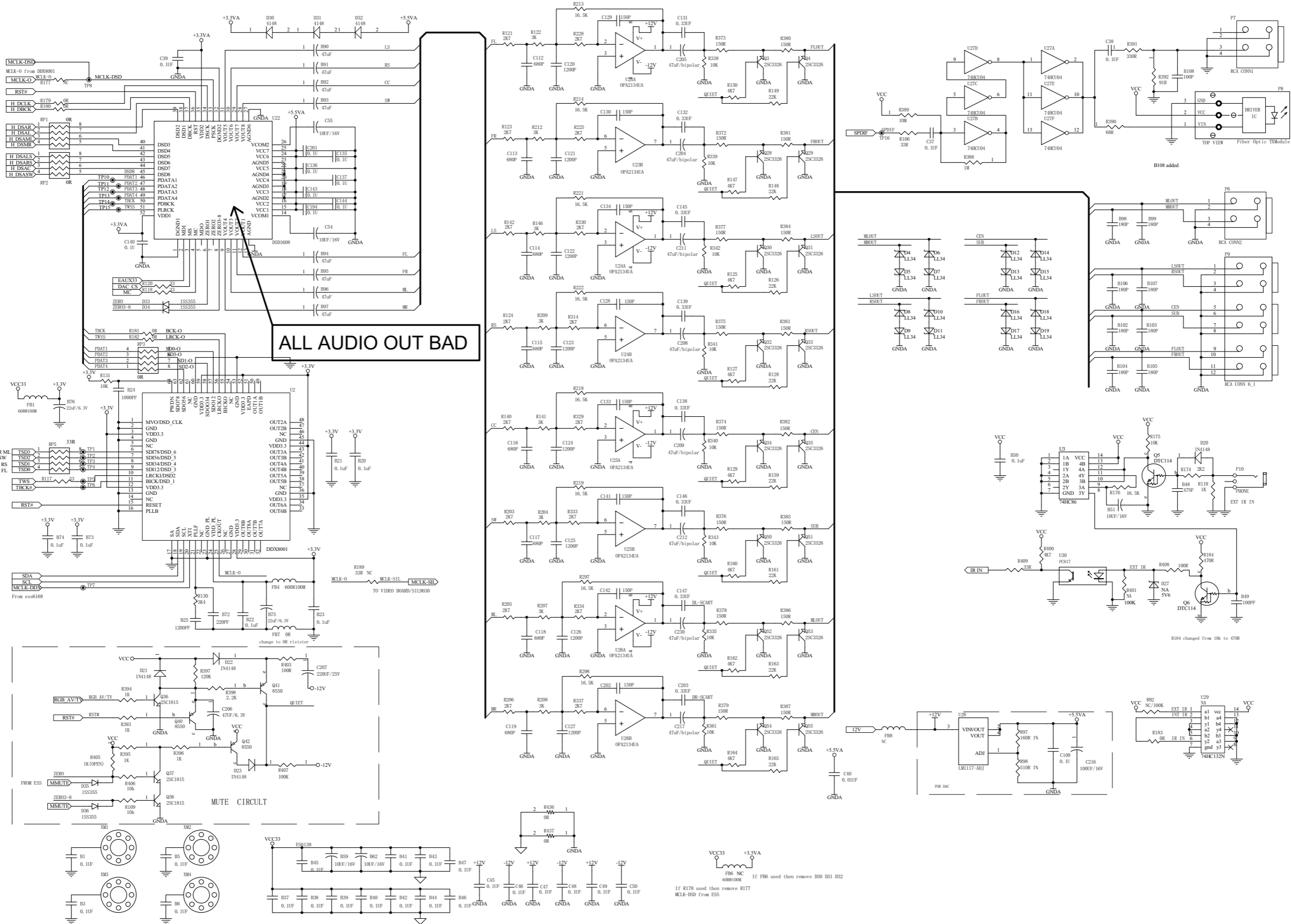
To Audio DAC

To DSP Block

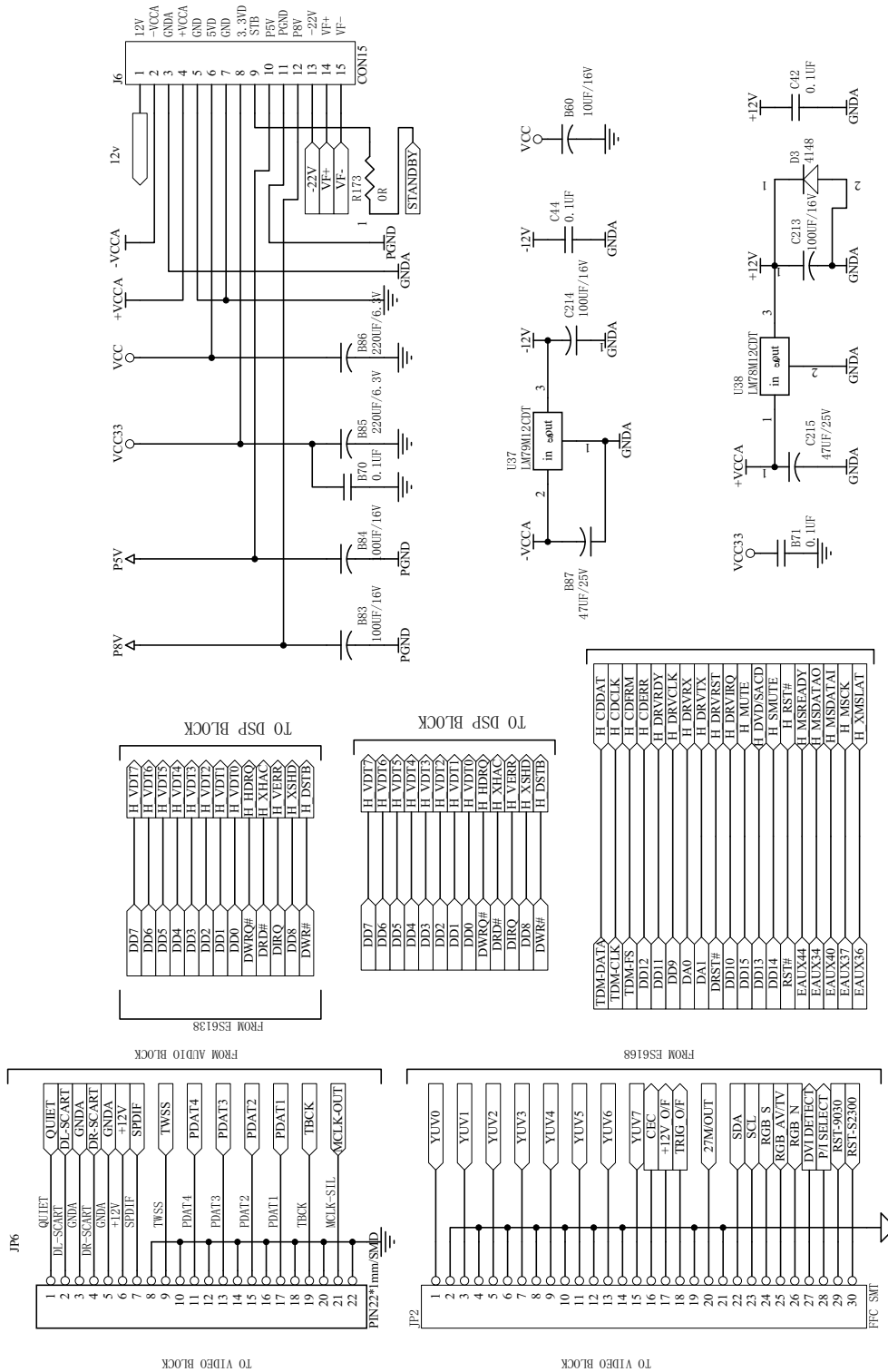


Falseta DSD Block

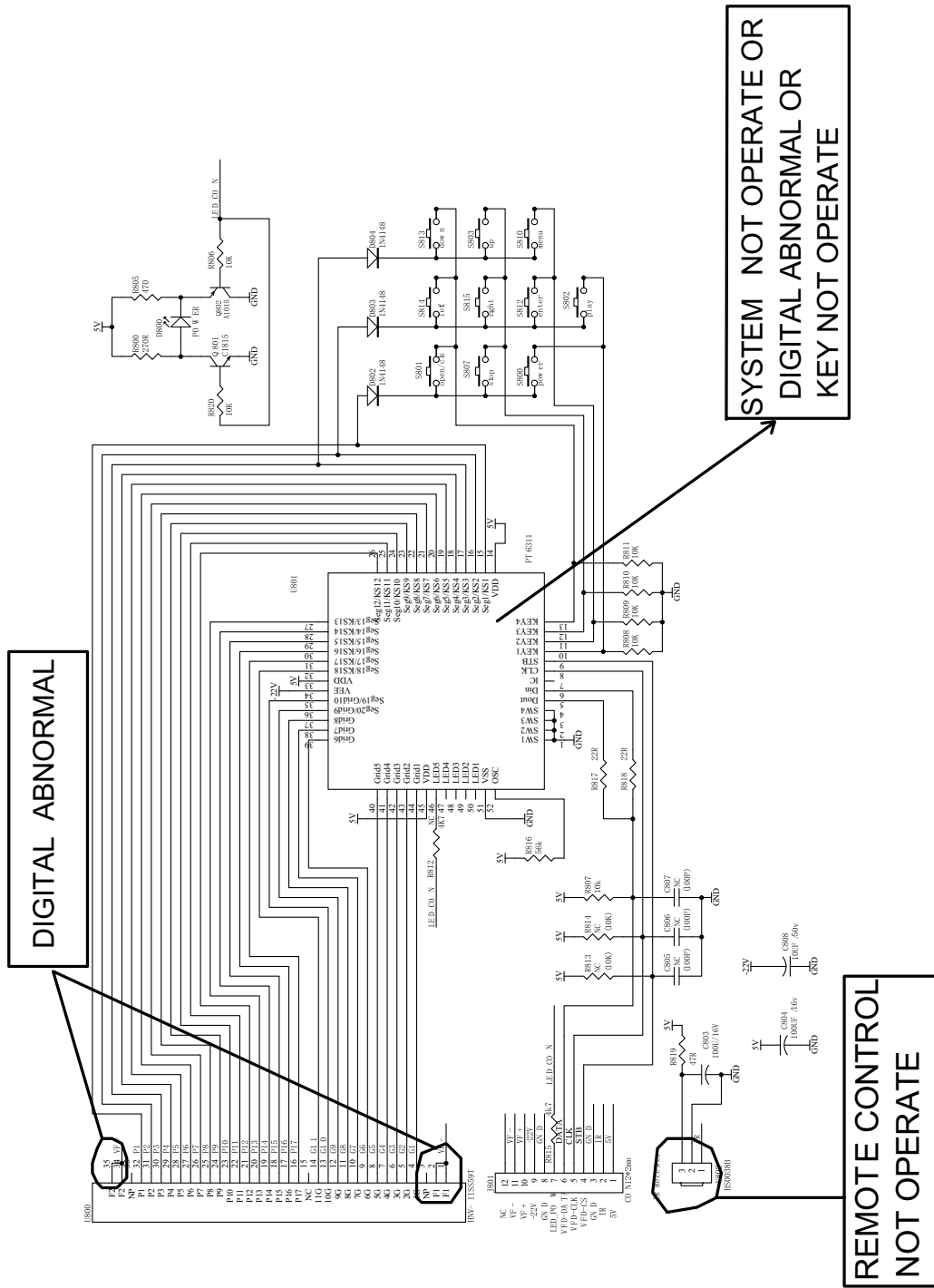
7.AUDIO CIRCUIT DIAGRAM



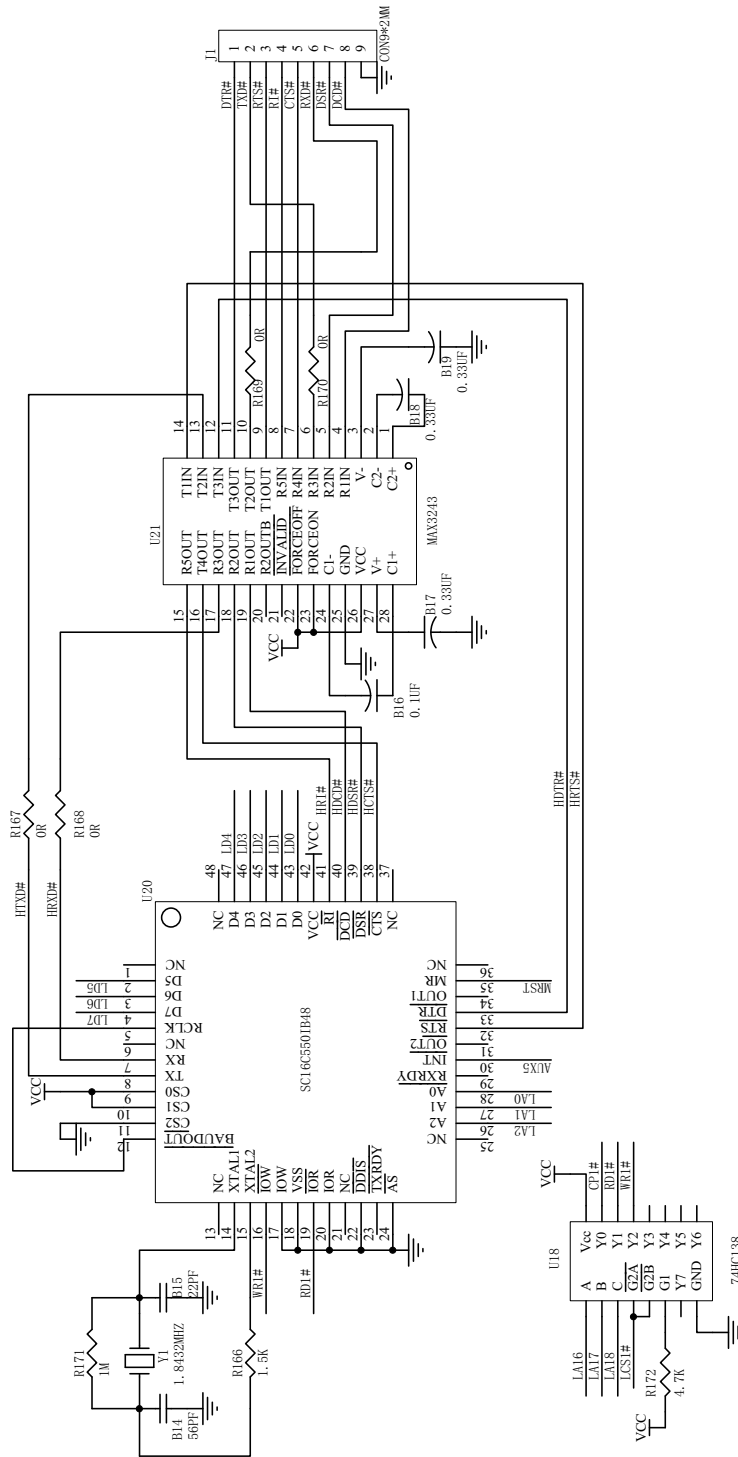
8.CONNECT CIRCUIT DIAGRAM



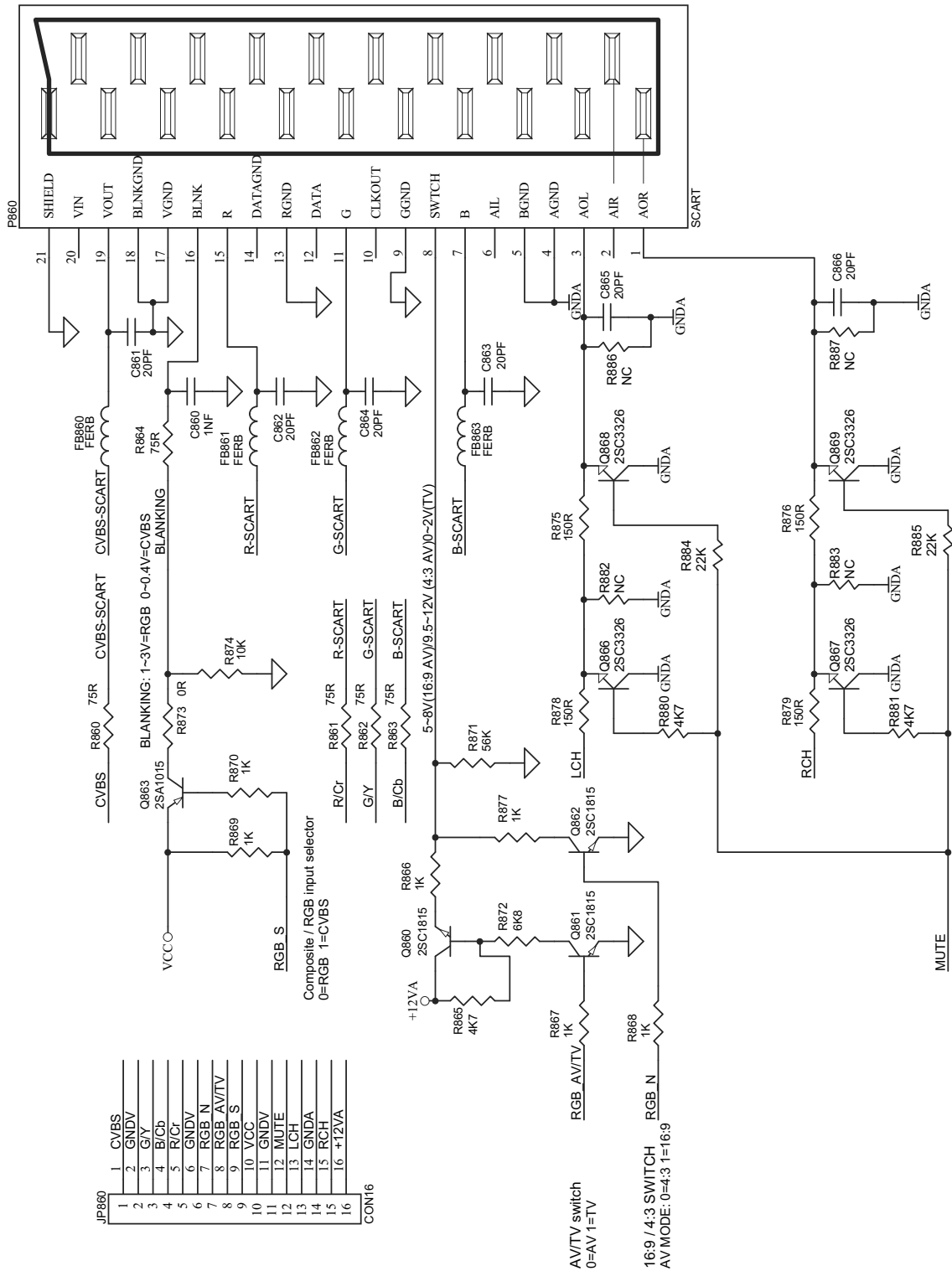
9.TIMER CIRCUIT DIAGRAM



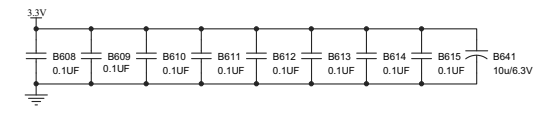
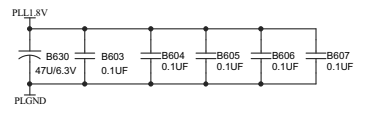
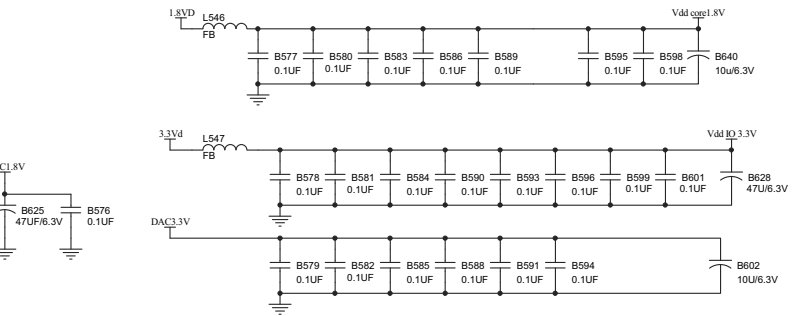
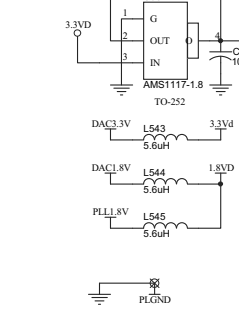
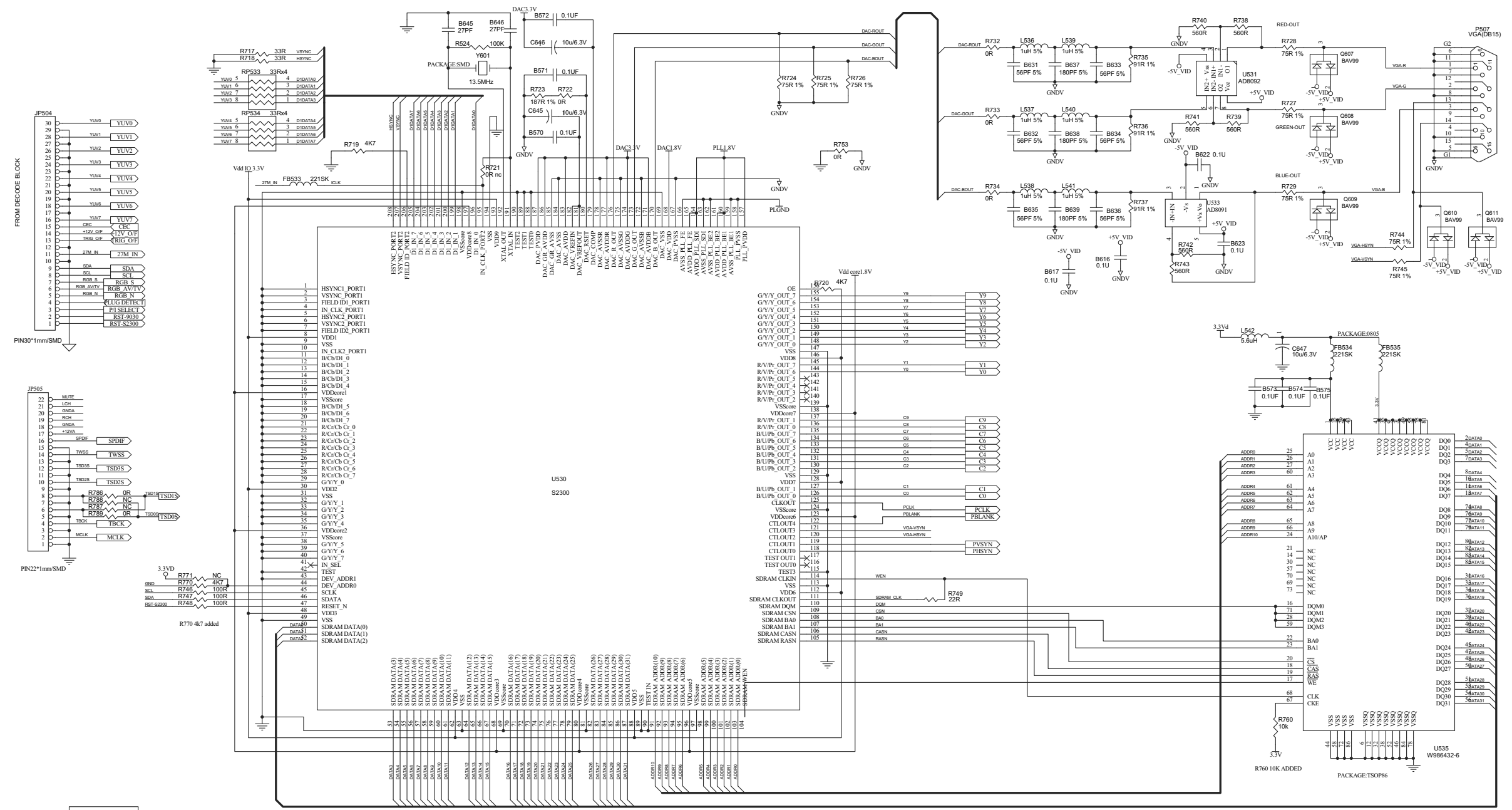
10.RS232 CIRCUIT DIAGRAM



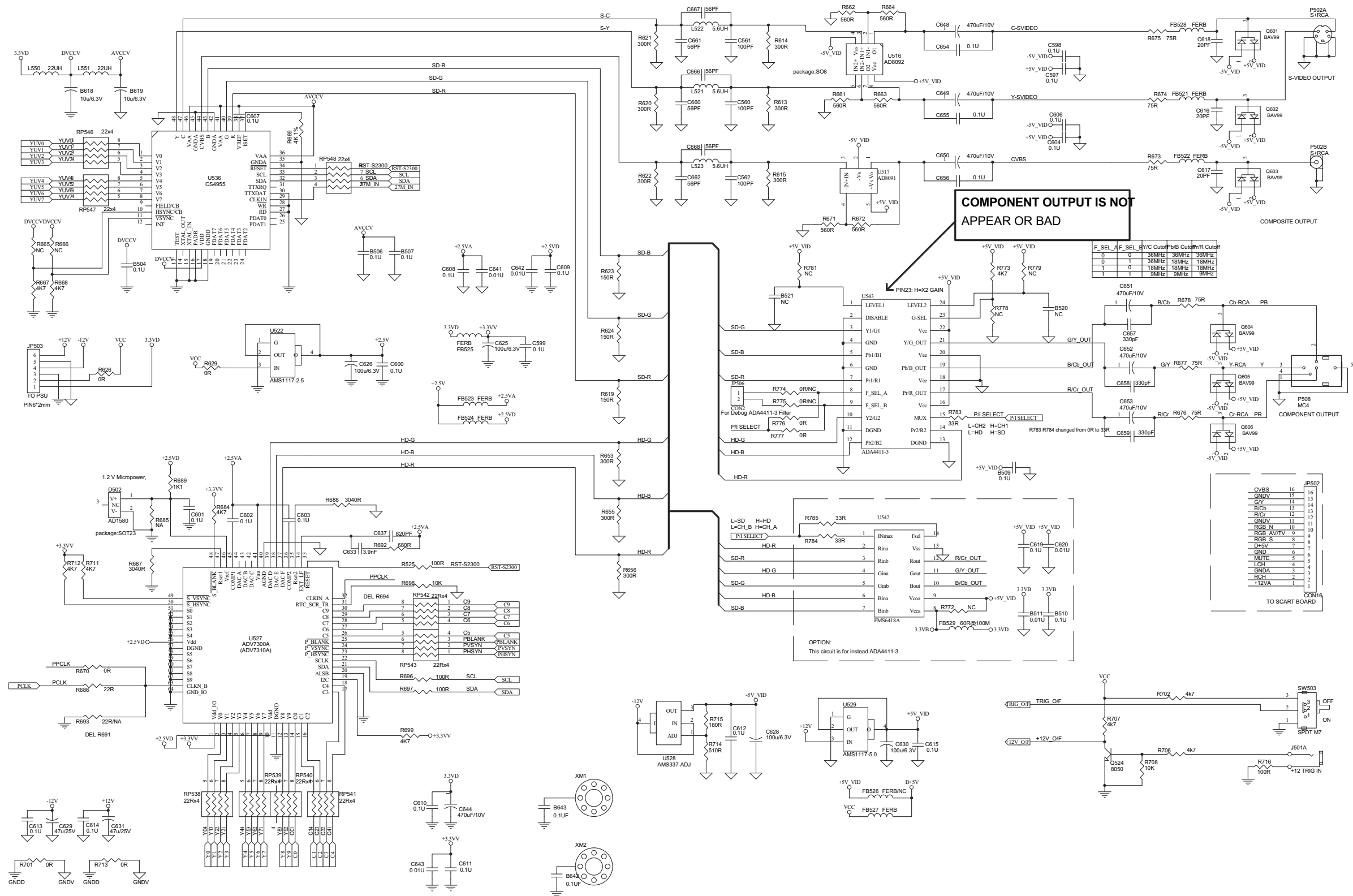
11.SCART CIRCUIT DIAGRAM



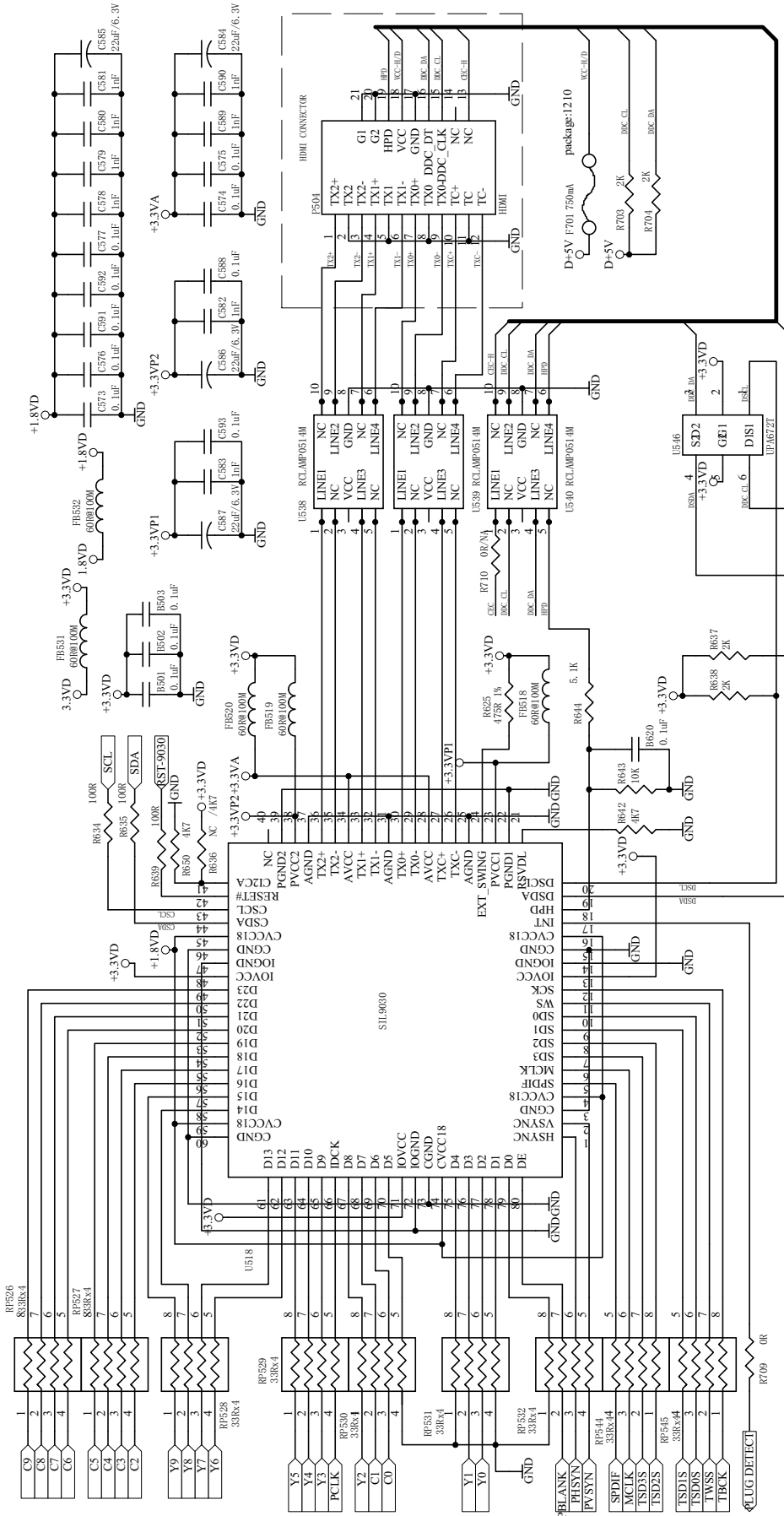
12.FIL2300 CIRCUIT DIAGRAM



13.K-VIDEO CIRCUIT DIAGRAM



14.DVI CIRCUIT DIAGRAM



MODE PIN NO	STOP	PLAY
U2 (DDX8001)		
58	0	1.1
59	3.2	3.2
60	0	0
61	NC	NC
62	0	1.1
63	0	1.1
64	3.2	3.2

MODE PIN NO	STOP	PLAY
U23 (OPA2134UA)		
1	0	0
2	0	0
3	0	0
4	-12	-12
5	0	0
6	0	0
7	0	0
8	12	12

MODE PIN NO	STOP	PLAY
U24 (OPA2134UA)		
1	0	0
2	0	0
3	0	0
4	-12	-12
5	0	0
6	0	0
7	0	0
8	12	12

MODE PIN NO	STOP	PLAY
U25 (OPA2134UA)		
1	0	0
2	0	0
3	0	0
4	-12	-12
5	0	0
6	0	0
7	0	0
8	12	12

MODE PIN NO	STOP	PLAY
U26 (OPA2134UA)		
1	0	0
2	0	0
3	0	0
4	-12	-12
5	0	0
6	0	0
7	0	0
8	12	12

MODE PIN NO	STOP	PLAY
U14 (24LC16A)		
1	0	0
2	0	0
3	0	0
4	-12	-12
5	0	0
6	0	0
7	0	0
8	12	12

MODE PIN NO	STOP	PLAY
U18 (74HC138)		
1	1.78	1.92
2	0.6	0.4
3	1.8	0.9
4	3.1	3.1
5	3.1	3.1
6	3.1	3.1
7	NC	NC
8	0	0
9	NC	NC
10	NC	NC
11	NC	NC
12	NC	NC
13	4.86	4.86
14	4.86	4.86
15	4.86	4.86
16	4.86	4.86

MODE PIN NO	STOP	PLAY
U16 (74HC374)		
1	0	0
2	NC	NC
3	0.3	0.36
4	0.26	0.35
5	4.87	4.87
6	0	0
7	0.55	0.55
8	1.2	0.6
9	0	0
10	0	0
11	4.87	4.87
12	0	0
13	0.5	0.5
14	0.47	0.37
15	0	0
16	3.3	3.3
17	0.71	0.56
18	0.64	0.4
19	4.8	4.8
20	4.8	4.8

MODE PIN NO	STOP	PLAY
U17 (74HC374)		
1	0	0
2	4.8	4.8
3	0.4	0.5
4	0.36	0.56
5	4.8	4.8
6	4.8	4.8
7	0.43	0.55
8	0.55	0.55
9	4.5	4.5
10	0	0
11	4.87	4.87
12	4.87	0
13	0.55	0.55
14	0.7	0.4
15	NC	NC
16	NC	NC
17	0.5	0.5
18	0.5	0.5
19	NC	NC
20	4.8	4.8

MODE PIN NO	STOP	PLAY
U31 (74LVC2G241)		
1	0	0
2	1.3	1.3
3	1.4	1.4
4	0	0
5	1.3	1.3
6	1.4	1.4
7	3.1	3.1
8	3.1	3.1

MODE PIN NO	STOP	PLAY
Q36 (2SC3326)		
E	0	0
C	0	0
B	0.7	-12

MODE PIN NO	STOP	PLAY
Q56 (2SC1815)		
E	0	0
C	0	0.3
B	0.7	0

MODE PIN NO	STOP	PLAY
Q3 (2SC3326)		
E	0	0
C	0	0
B	0.7	-12

MODE PIN NO	STOP	PLAY
Q4 (2SC3326)		
E	0	0
C	0	0
B	0.7	-12

MODE PIN NO	STOP	PLAY
Q28 (2SC3326)		
E	0	0
C	0	0
B	0.7	-12

MODE PIN NO	STOP	PLAY
Q32 (2SC3326)		
E	0	0
C	0	0
B	0.7	-12

MODE PIN NO	STOP	PLAY
Q54 (2SC3326)		
E	0	0
C	0	0
B	0.7	-12

MODE PIN NO	STOP	PLAY
Q33 (2SC3326)		
E	0	0
C	0	0
B	0.7	-12

MODE PIN NO	STOP	PLAY
Q55 (2SC3326)		
E	0	0
C	0	0
B	0.7	-12

MODE PIN NO	STOP	PLAY
Q34 (2SC3326)		
E	0	0
C	0	0
B	0.7	-12

MODE PIN NO	STOP	PLAY
Q50 (2SC3326)		
E	0	0
C	0	0
B	0.7	-12

MODE PIN NO	STOP	PLAY
Q35 (2SC3326)		
E	0	0
C	0	0
B	0.7	-12

MODE PIN NO	STOP	PLAY
Q51 (2SC3326)		
E	0	0
C	0	0
B	0.7	-12

MODE PIN NO	STOP	PLAY
Q52 (2SC3326)		
E	0	0
C	0	0
B	0.7	-12

MODE PIN NO	STOP	PLAY
Q35 (2SC3326)		
E	0	0
C	0	0
B	0.7	-12

MODE PIN NO	STOP	PLAY
Q43 (2SK3019)		
E	0	0
C	0	0
B	4.8	4.8

MODE PIN NO	STOP	PLAY
Q44 (2SK3019)		
E	0	0
C	0.16	0.16
B	0	0

MODE PIN NO	STOP	PLAY
Q2 (8050)		
E	2.3	2.3
C	3.16	3.16
B	3.16	3.16

MODE PIN NO	STOP	PLAY
Q40 (8550)		
E	4.4	4.4
C	0	0
B	4	4

MODE PIN NO	STOP	PLAY
Q41 (8550)		
E	4.79	4.79
C	-12	4.1
B	4.4	4.4

MODE PIN NO	STOP	PLAY
Q5 (DTC114)		
E	0	0
C	4.8	4.8
B	0	0

MODE PIN NO	STOP	PLAY
Q6 (DTC114)		
E	0	0
C	0	0
B	4.8	4.8

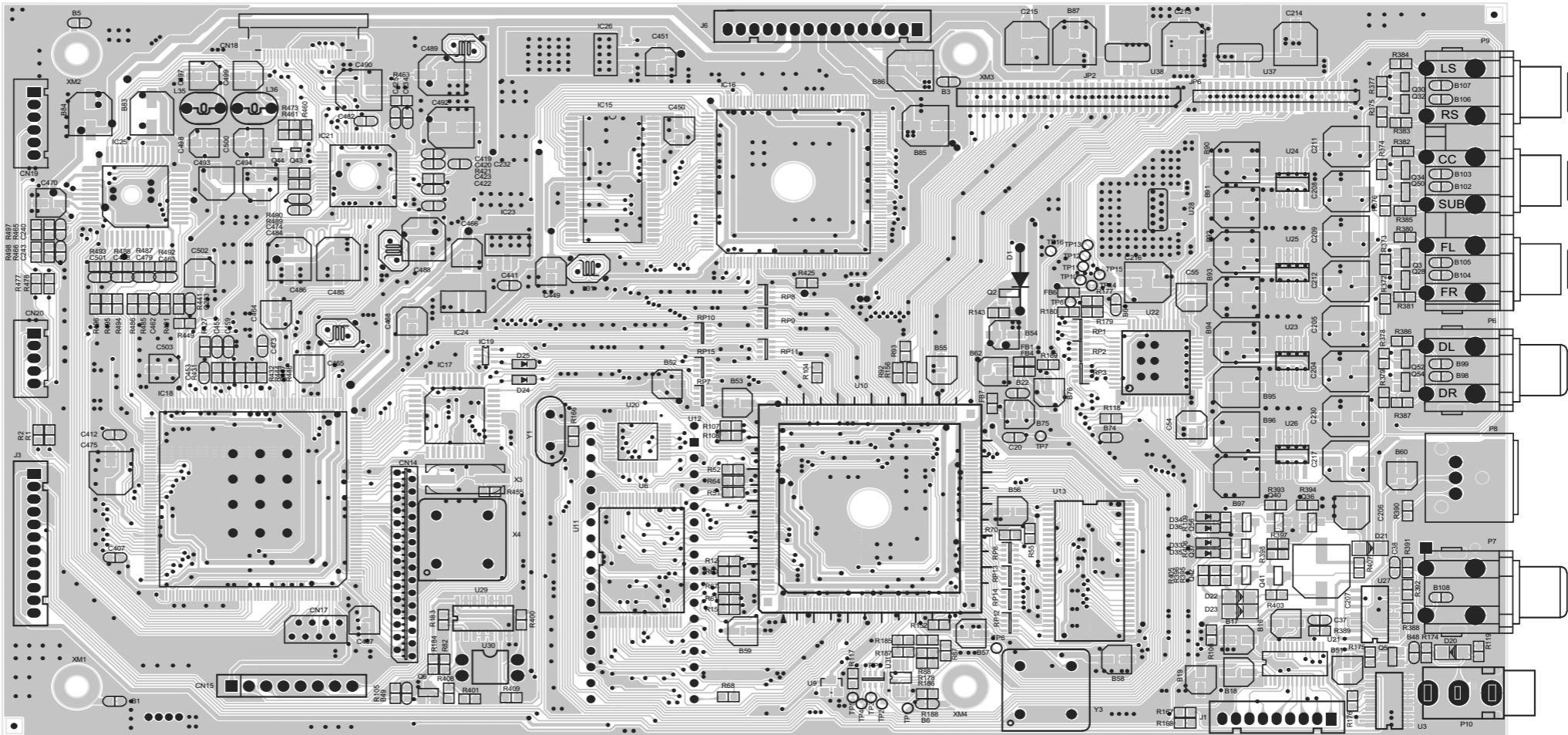
MODE PIN NO	STOP	PLAY
Q45 (DTC114)		
E	0	0
C	4.8	4.8
B	0	0

MODE PIN NO	STOP	PLAY
U28 (LM1117-ADJ)		
1	4	4
2	5.2	5.2
3	11.9	11.9
4	5.2	5.2

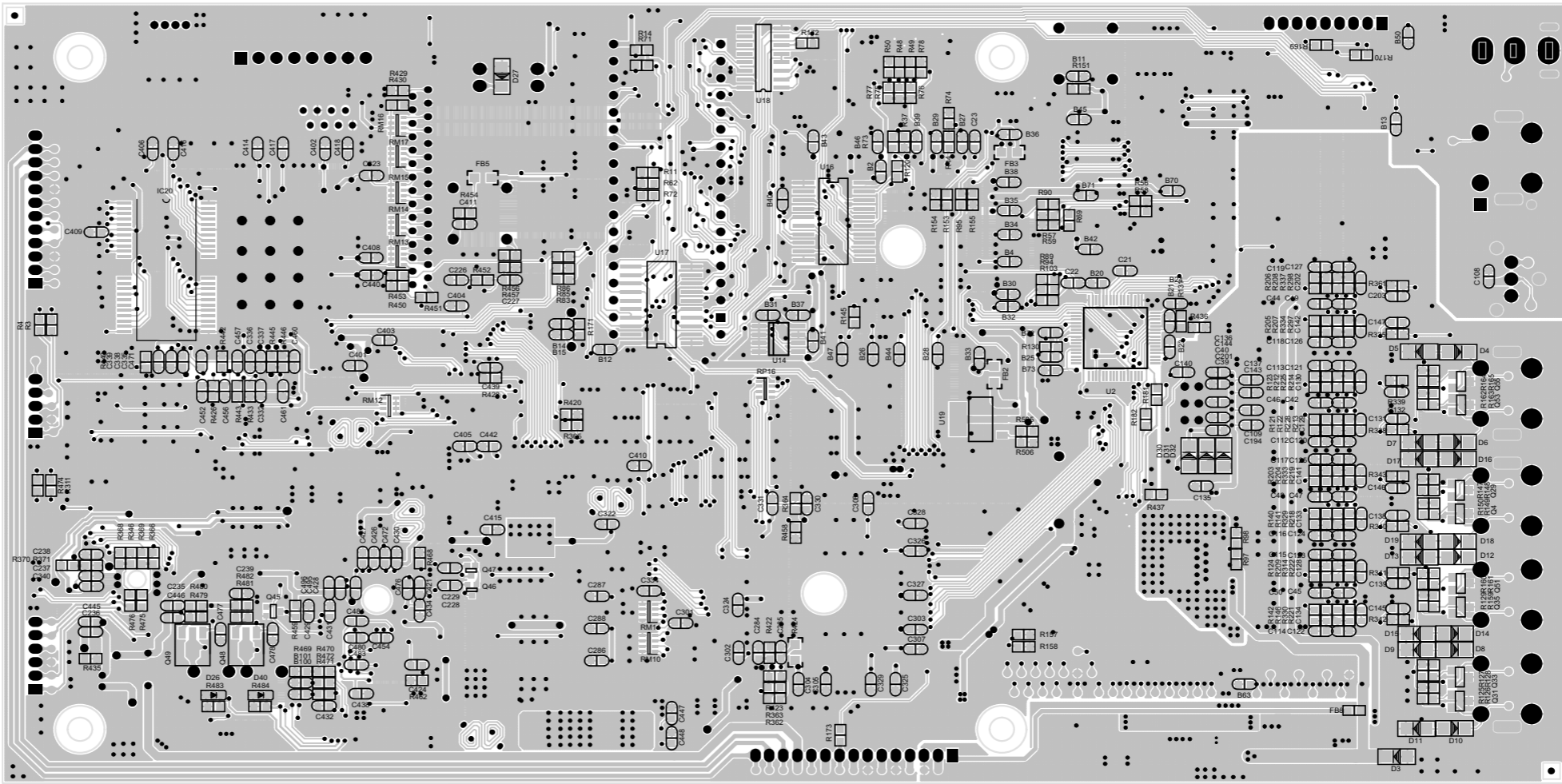
MODE PIN NO	STOP	PLAY
IC24 (LM1117-MP*1.8)		
1	0	0
2	1.78	1.78
3	4.95	4.95
4	1.78	1.78

1.DECODE P.C.BOARD

TOP VIEW

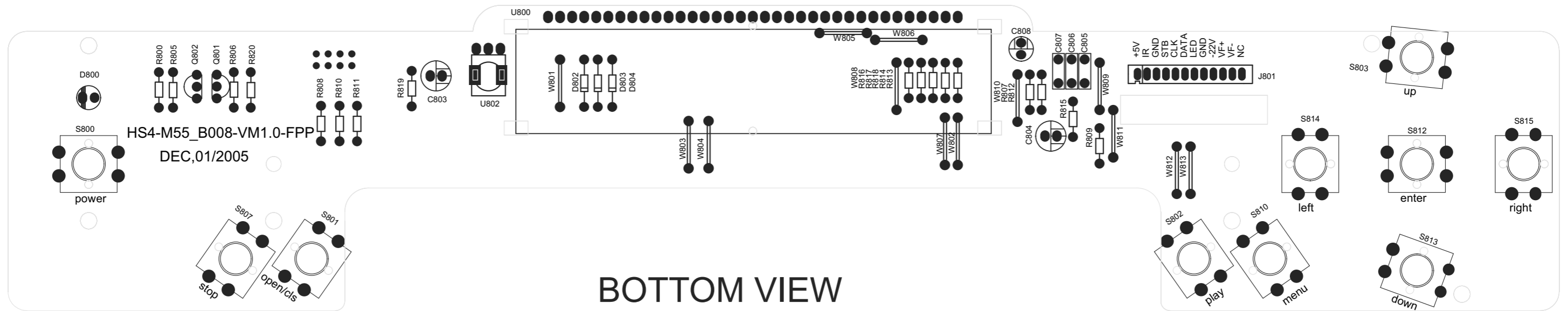


BOTTOM VIEW

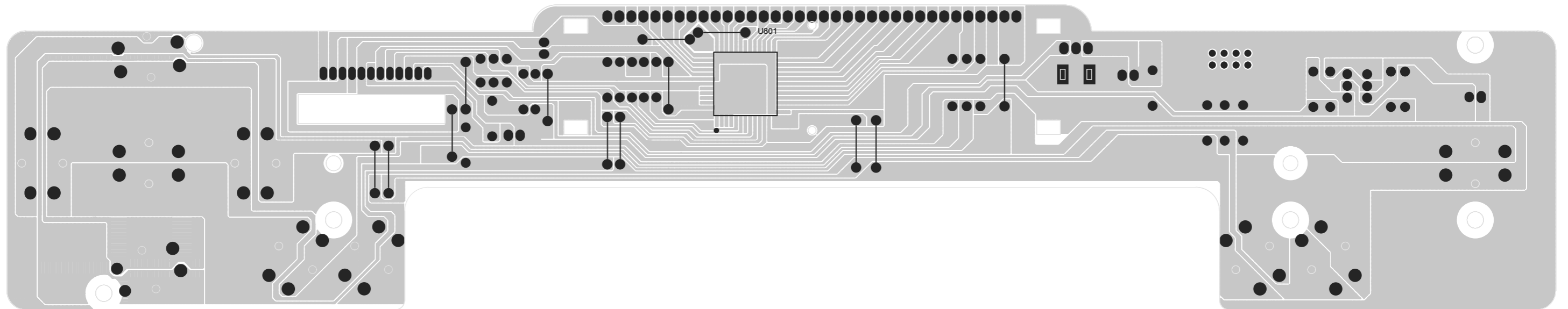


2.KEY P.C.BOARD

TOP VIEW

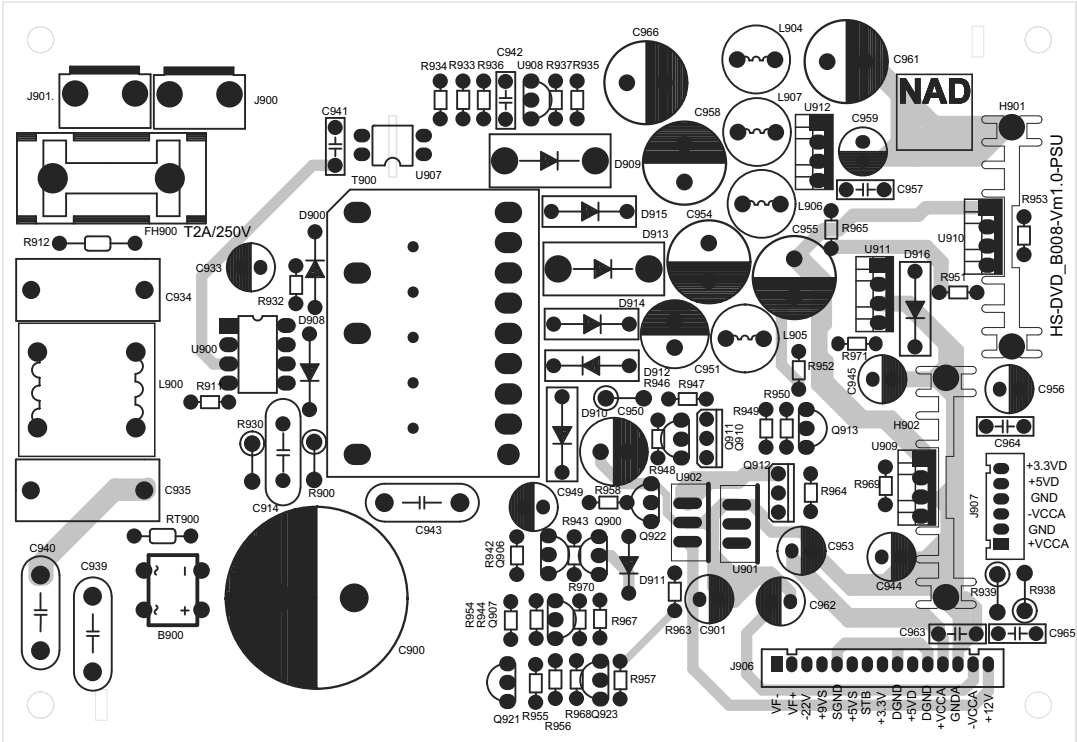


BOTTOM VIEW

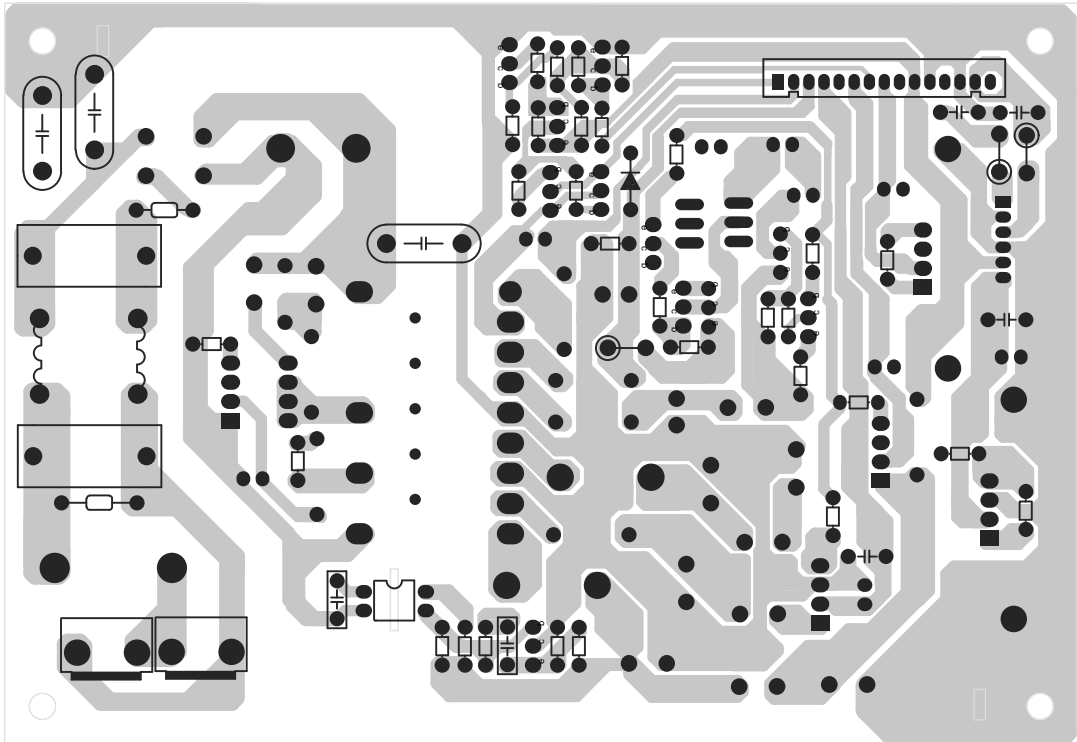


3.SMPS P.C.BOARD

TOP VIEW

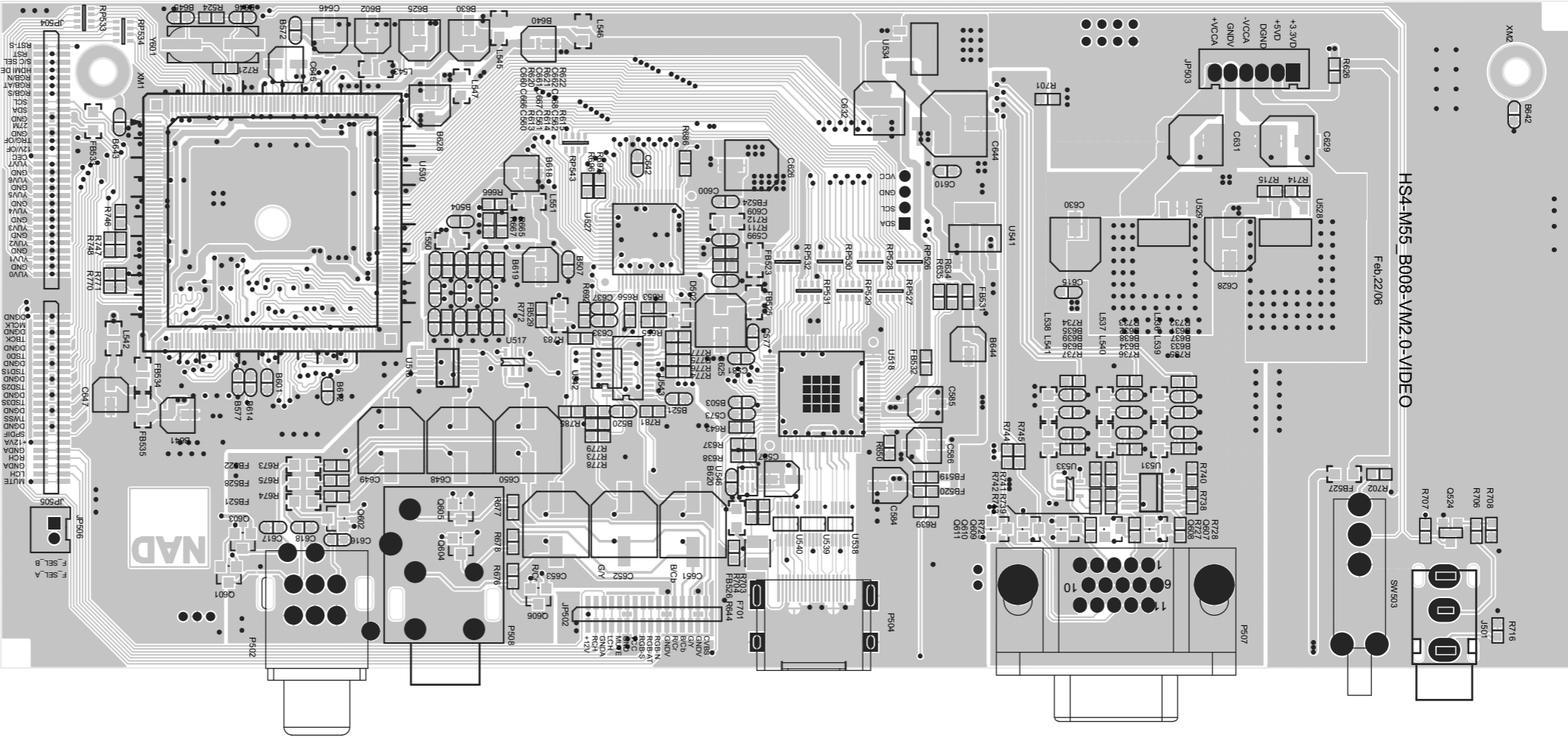


BOTTOM VIEW

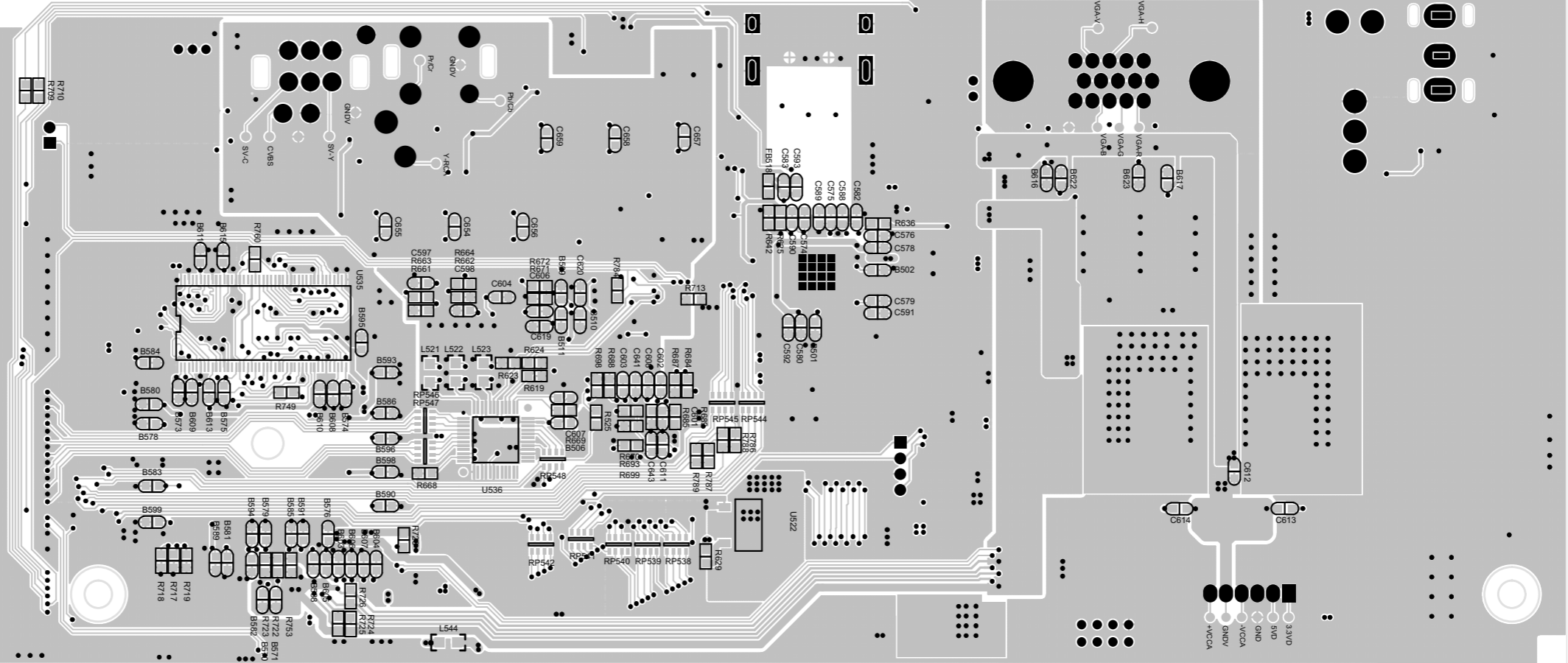


4.VIDEO P.C.BOARD

TOP VIEW

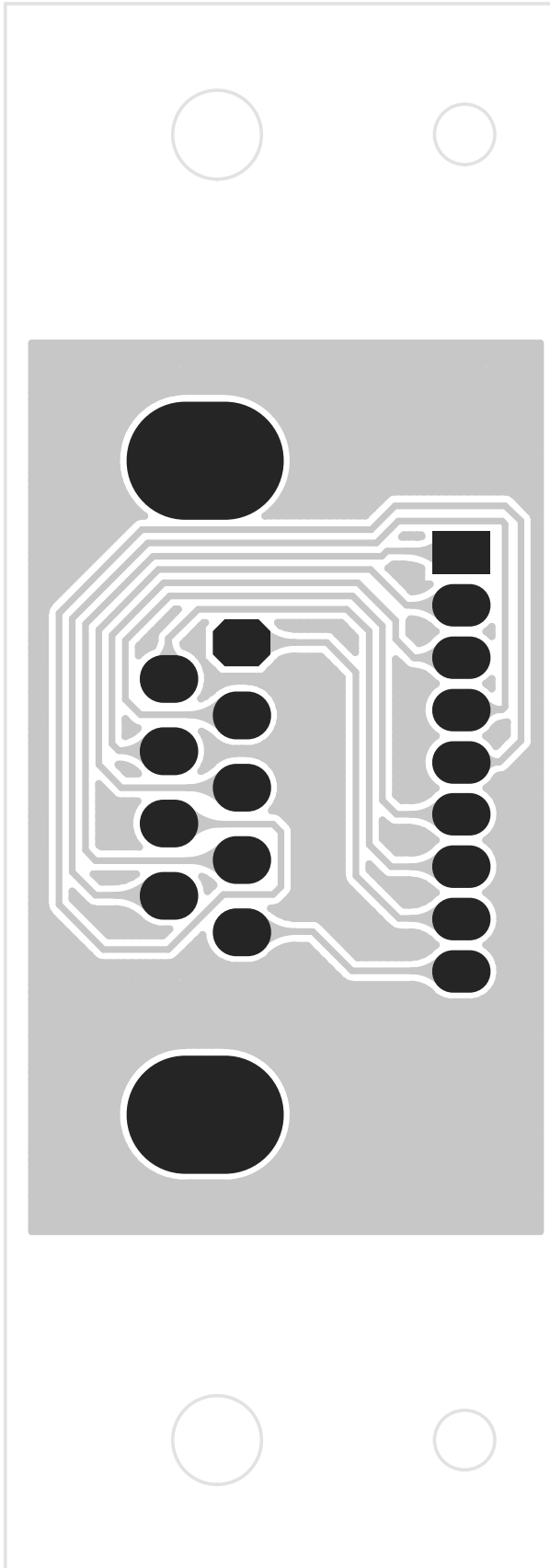


BOTTOM VIEW

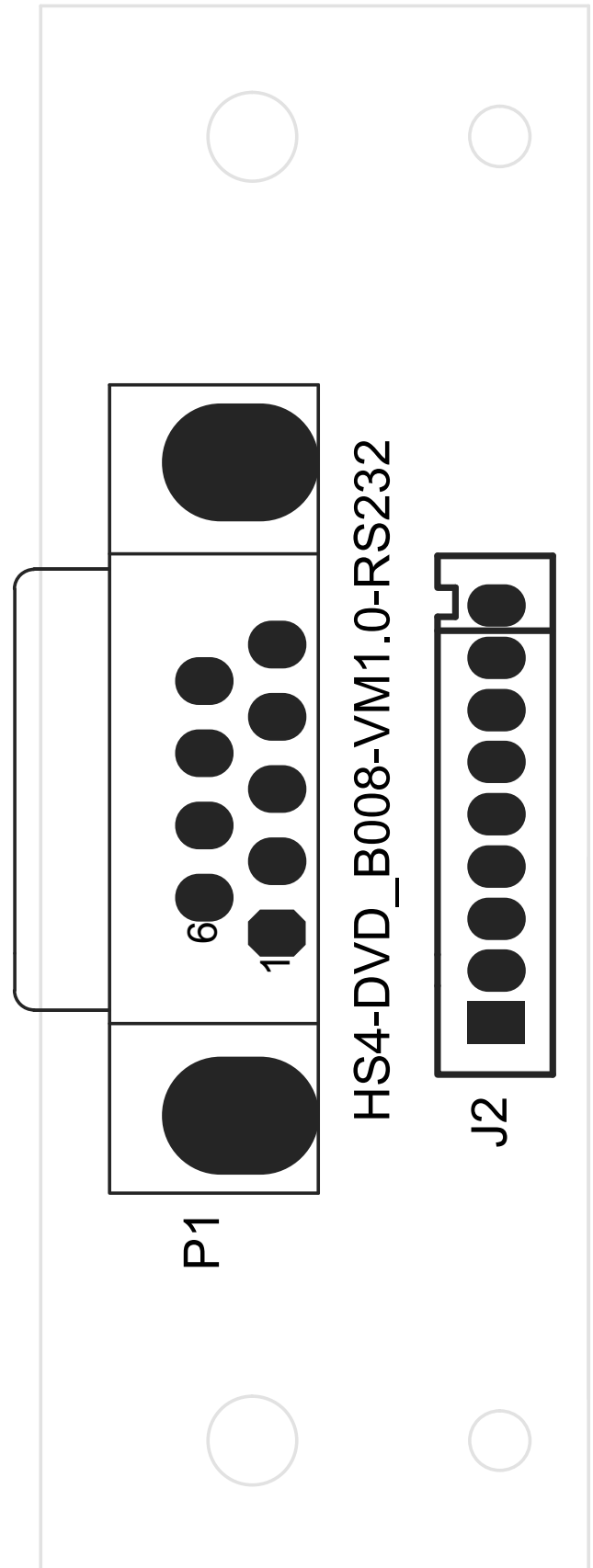


5.RS232 P.C.BOARD

TOP VIEW

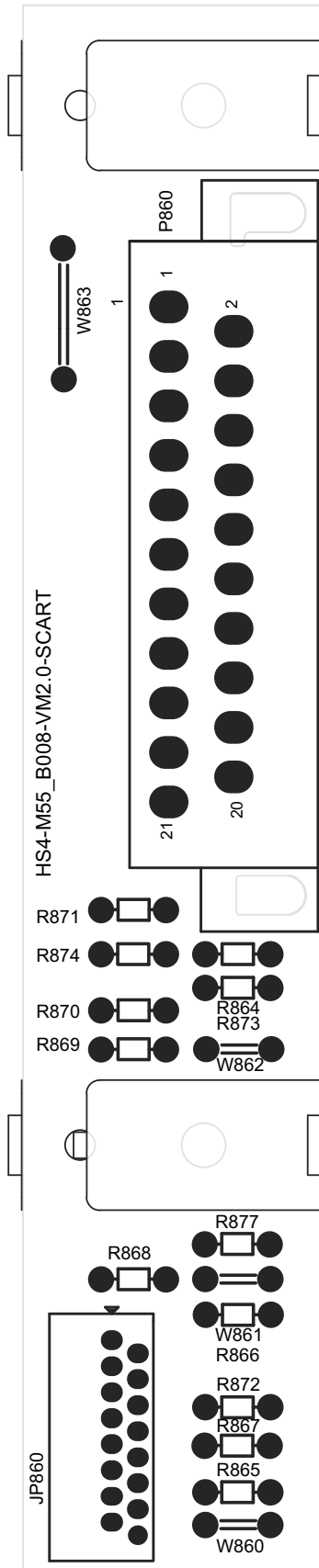


BOTTOM VIEW

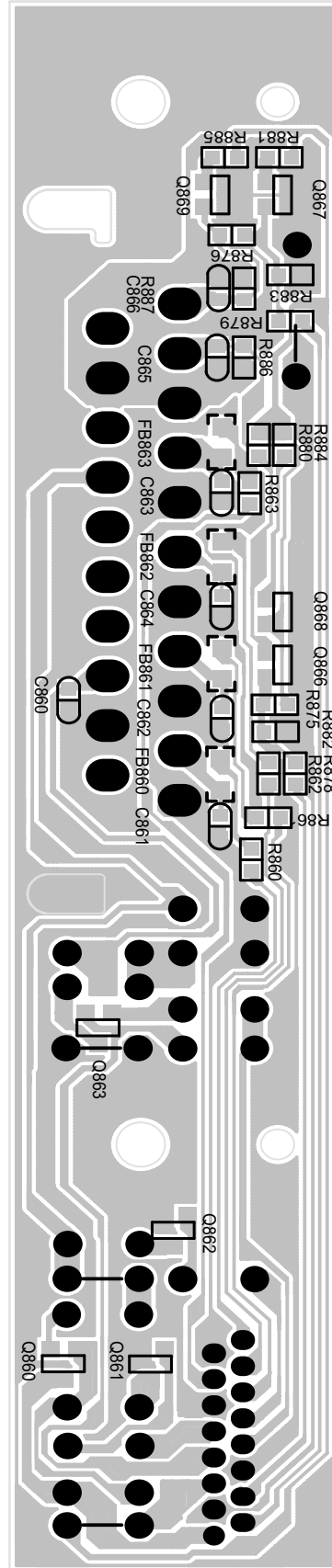


6.SCART P.C.BOARD

TOP VIEW

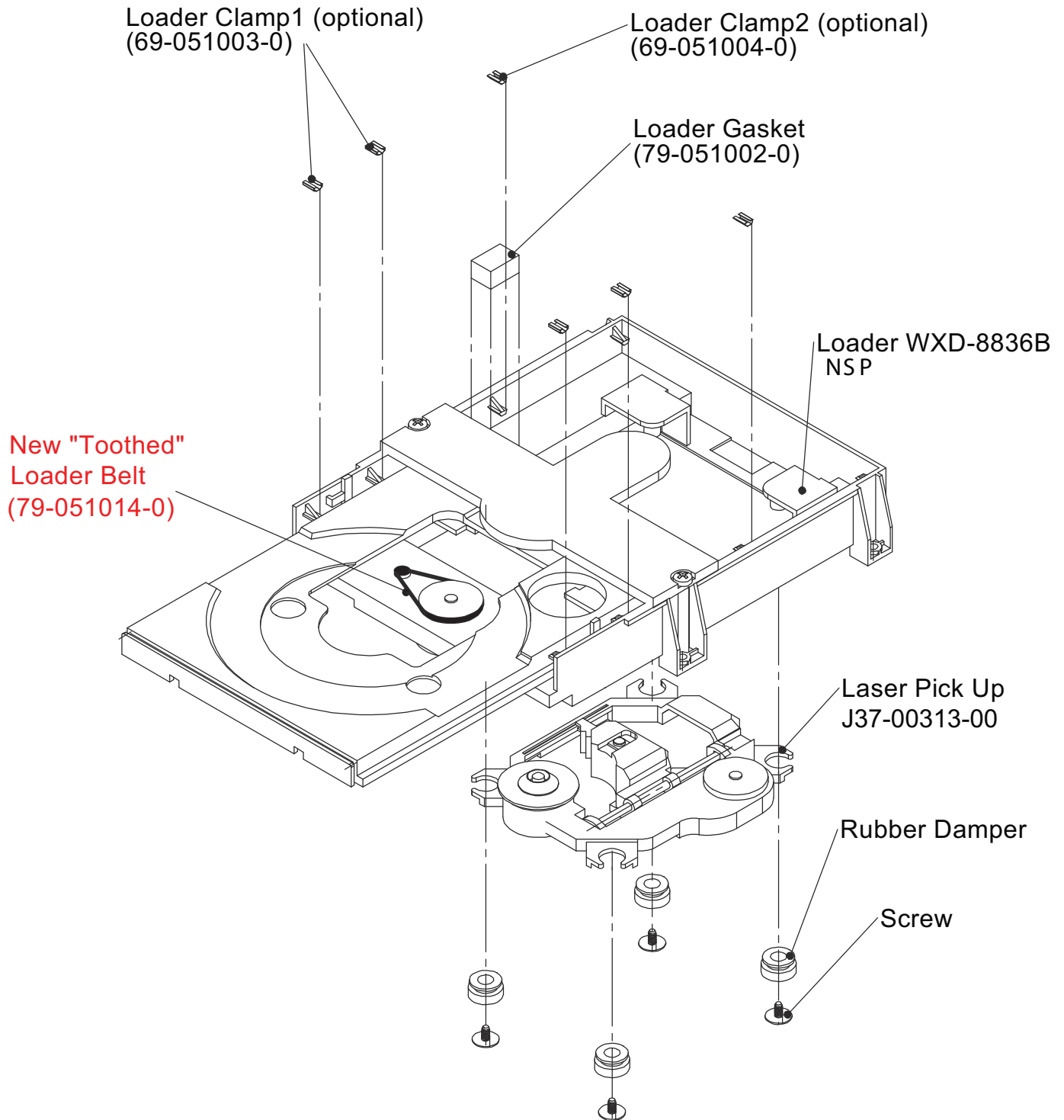


BOTTOM VIEW



SECTION 4 MECHANISM (original type)

Mechanism Assembly (36-55313-00) NLA



Original 5Pin Wire (P/N:14-55505-00) For original WXD-8836B Loader
NOTE: Connector at the loader end is same side as Decoder end.



SECTION 5

REPLACEMENT PARTS LIST

MODEL: M55 (NAD)

	P/N	Description	Part Type	Designator	Footprint	Remark
DECODE BOARD		C/BC VERSION P/N:01-55501-20		AH VERSION P/N:01-55501-10		
Diode						
	33-40352-01	Switch Diode	1SS352	D24, D25, D26, D33, D34, D35, D36, D40	D0805	
	33-44148-11	Switch Diode	LL4148	D20, D21, D22, D23, D3, D30, D31, D32	DL-35	
	33-24001-02	Rectifier Diode	1N4001	D1	Pitch=10mm	
	33-24001-00	Rectifier Diode	1N4001		DO-41	
	33-11200-11	Zener Diode	12V, 1/2W	D4, D5, D6, D7, D8, D9, D10, D11, D12, D13, D14, D15, D16, D17, D18, D19	LL34	
	33-15609-01	Zener Diode	5V6, 1/2W	D27	Pitch=6mm	
	33-15609-00	Zener Diode	5V6, 1/2W		DO-35	
Transistor						
	31-03019-01	Transistor	2SK3019	Q43, Q44	SC-75A	
	31-01815-01	Transistor	2SC1815	Q36, Q37, Q56	SC-59	
	31-01015-01	Transistor	2SA1015	Q40, Q41, Q42	SC-59	
	31-00114-05	Transistor	DTC114EKA	Q5, Q6	SC-59	
	31-00144-05	Transistor	DTC144EUA	Q45	SC-70	
	31-03326-01	Transistor	2SC3326A	Q3, Q4, Q28, Q29, Q30, Q31, Q32, Q33, Q34, Q35, Q50, Q51, Q52, Q53, Q54, Q55	SC-59	
	31-01201-01	Transistor	2SA1201Y/2SB1132Q	Q48, Q49	SC-62	
ICS						
	03-01608-01	AUDIO D/A	DSD1608PAH	U22	TQFP52	
	03-29160-71	FLASH MEMORY	MX29LV160ABTC-70 MX29LV160CBTC-70 M29W160EB-70N6	U6	TSOP48	
	03-29160-70	FLASH MEMORY	MX29LV160ABTC-70 MX29LV160CBTC-70 M29W160EB-70N6		TSOP48	
	03-01117-03	Linear Regulator	LM1117DTX-ADJ	U28	TO252	
	03-01881-01	RF AMP	CXD1881BR	IC21	QFP64M	
	03-01885-01	SERVO DSP	CXD1885Q	IC18	LQFP208	
	03-02753-01	SACD DECODE	CXD2753R	IC16	QUAD176	
	03-06168-01	MPEG DECODE	ES6168FA	U10	FQFP208	
	03-08042-01	MOTO DRIVER	FAN8042	IC25	QFP48	
	03-00640-70	SDRAM	GLT5640L16-7TS/, IS42S16400B-7T/, W986416DH-7	U13	TSOP54	
	03-16161-45	DRAM	M11L16161SA-45T	IC20	TSOP44 (II)	
	03-16161-70	SDRAM	M12L16161A-7T	IC15	TSOP50 (II)	
	03-02134-00	AUDIO AMPLIFIER	OPA2134UA	U23, U24, U25, U26	SO8	
	03-06432-10	CPLD	M4A3-64/32-10VC	IC17	TQFP44	
	03-02416-02	EEPROM	24LC16A	U14	SO8	
	03-00809-02	RESET	TCM809MENB	U9	SOT-23B	
	03-07812-01	Regulator	LM78M12CDT	U38	TO252	
	03-07912-01	Regulator	LM79M12CDT	U37	TO252	
	03-01117-18	Regulator	LM1117MPX-1.8/AMS1117-1.8	IC24	SOT223	
	03-01117-25	Regulator	LM1117MPX-2.5AMS1117-2.5	IC26	SOT223	
	03-01117-33	Regulator	LM1117MPX-3.3/AMS1117-3.3	IC23	SOT223	
	03-00004-02	6-Inverter	MM74HCU04M/74HCU04D	U27	SOIC14	
	03-00511-00	Fiber Optic Transmitter	GP1FAV31TK0F	P8	DIP6	
	03-03243-01	RS232 Transceivers	MAX3243CUI	U21	TSSOP28	
	03-00138-01	3-to-8 Line Decoder	MM74HCT138M	U18	SOIC16	
	03-00374-01	D-Type Flip-Flop,	CD74HCT374M	U16, U17	SOIC20	
	03-07486-02	Quad 2-Input Exclusive OR Gate	74HC86	U3	SOIC14	
	03-74241-01	Dual Buffer/Driver	74LVC2G241	U31	TSSOP8	
	03-16550-48	Universal Asynchronous Receiver/Transmitter	SC16C550IB48	U20	LQFP48	
	03-00817-00	Photo Coupler	PC817B	U30	DIP4	
	03-08001-01	DDX Multi-channel Digital Audio Processor	DDX8001	U2	TQFP64	
Capacitor						
	26-22051-00	Ceramic Chip Capacitor	22pF, 50V, ±5%, NPO	B15	0603	
	26-56051-00	Ceramic Chip Capacitor	56pF, 50V, ±5%, NPO	B14	0603	
	26-10151-00	Ceramic Chip Capacitor	100pF, 50V, ±5%, NPO	C456, C457, C458, C501, B49, B108	0603	
	26-15151-00	Ceramic Chip Capacitor	150pF, 50V, ±5%, NPO	C128, C129, C130, C133, C134, C141, C142, C202, C473, C474	0603	
	26-18151-00	Ceramic Chip Capacitor	180pF, 50V, ±5%, NPO	B98, B99, B102, B103, B104, B105, B106, B107	0603	

	P/N	Description	Part Type	Designator	Footprint	Remark
	26-22151-00	Ceramic Chip Capacitor	220pF, 50V, ±5%, NPO	B72	0603	
	26-33151-00	Ceramic Chip Capacitor	330pF, 50V, ±5%, NPO	C452, C453, C454	0603	
	26-68151-00	Ceramic Chip Capacitor	680pF, 50V, ±5%, NPO	C112, C113, C114, C115, C116, C117, C118, C119	0603	
	26-10251-10	Ceramic Chip Capacitor	1nF, 50V, ±5%, NPO	C476, C477, C478, C479, B24	0603	
	26-12251-10	Ceramic Chip Capacitor	1.2nF, 50V, ±5%, NPO	C120, C121, C122, C123, C124, C125, C126, C127, B25	0603	
	26-22251-00	Ceramic Chip Capacitor	2.2nF, 50V, ±10%, X7R	C480, C481, C482, C483	0603	
	26-10351-00	Ceramic Chip Capacitor	0.01uF, 50V, ±10%, X7R	C232, C233, C234, C235, C236, C237, C238, C239, C240, C243, C40	0603	
	26-22351-00	Ceramic Chip Capacitor	0.022uF, 50V, ±10%, X7R	C459, C460, C461, C462, C463	0603	
	26-33351-00	Ceramic Chip Capacitor	0.033uF, 50V, ±10%, X7R	C495, C496	0603	
	26-47351-00	Ceramic Chip Capacitor	0.047uF, 50V, ±10%, X7R	C471, C472, B48	0603	
	26-10451-00	Ceramic Chip Capacitor	0.1uF, 50V, +80-20%, Y5V	B1, B2, B3, B4, B5, B6, B11, B12, B13, B20, B21, B22, B23, B26, B27, B28, B29, B30, B31, B32, B33, B34, B35, B36, B37, B38, B39, B40, B41, B42, B43, B44, B45, B46, B47, B50, B70, B71, B73, B74, C37, C38, C39, C42, C44, C45, C46, C47, C48, C49, C50, C108, C109, C135, C136, C137, C140, C143, C144, C194, C201, C284, C285, C286, C287, C288, C301, C302, C303, C304, C305, C306, C307, C322, C323, C324, C325, C326, C327, C328, C329, C330, C331, C332, C334, C335, C336, C337, C338, C339, C340, C401, C403, C404, C405, C406, C407, C408, C409, C410, C411, C412, C414, C415, C416, C417, C418, C419, C420, C421, C422, C423, C424, C425, C426, C427, C428, C429, C430, C431, C432, C434, C438, C439, C440, C441, C442, C445, C446, C447, C448	0603	
	26-15451-00	Ceramic Chip Capacitor	0.15uF, 50V, +80-20%, Y5V	C455	0603	
	26-33421-00	Ceramic Chip Capacitor	0.33uF, 25V, +80-20%, Y5V	C131, C132, C138, C139, C145, C146, C147, C203	0603	
	26-10521-00	Ceramic Chip Capacitor	1uF, 25V, +80-20%, Y5V	C484	0603	
	06-33851-01	Chip Alu Electrolytic Capacitor	VSS Series, 0.33uF, 50V, ±20%	B17, B18, B19	4×5.4	
	06-10851-01	Chip Alu Electrolytic Capacitor	VSS Series, 0.1uF, 50V, ±20%	B16	4×5.4	
	06-10011-09	Chip Alu Electrolytic Capacitor	VSS Series, 10uF, 16V, ±20%	B51, B52, B53, B54, B55, B56, B57, B58, B59, B60, B62, C54, C55, C497, C498, C499, C500, C502, C503	4×5.4	
	06-22060-01	Chip Alu Electrolytic Capacitor	VSS Series, 22uF, 6.3V, ±20%	C449, C450, C451, C464, C465, C466, C467, C468, C470, B75, B76	4×5.4	
	06-33060-00	Chip Alu Electrolytic Capacitor	VSS Series, 33uF, 6.3V, ±20%	C493, C494	5×5.4	
	06-47060-01	Chip Alu Electrolytic Capacitor	VSS Series, 47uF, 6.3V, ±20%	C206	5×5.4	
	06-47021-07	Chip Alu Electrolytic Capacitor	VSS Series, 47uF, 25V, ±20%	C215, B87, B90, B91, B92, B93, B94, B95, B96, B97	6.3×5.4	
	06-10111-11	Chip Alu Electrolytic Capacitor	VSS Series, 100uF, 16V, ±20%	C213, C214, C216, C475, C485, C486, C488, C489, C490, C492, B83, B84	6.3×5.4	
	06-22160-01	Chip Alu Electrolytic Capacitor	VSS Series, 220uF, 6.3V, ±20%	B85, B86	6.3×5.4	
	06-22121-05	Chip Alu Electrolytic Capacitor	VSS Series, 220uF, 25V, ±20%	C207	8×10.5	
	06-47011-06	Chip Alu Electrolytic Capacitor(Bipolar)	VNP Series, 47uF, bipolar, 10V, ±20%	C204, C205, C208, C209, C211, C212, C217, C230	6.3×7.7	
Resistor						
	07-90000-00	Chip Resistor	0Ω, ±5%	R1, R2, R51, R60, R61, R62, R69, R70, R71, R72, R92, R93, R112, R143, R156, R167, R168, R169, R170, R173, R179, R180, R181, R182, R183, R421, R435, R436, R437, R450, FB7 (R477, R478 4.7 Ohm XY-A33 LOADER)	0603	
	07-90229-00	Chip Resistor	2.2Ω, ±5%	R454, R151	0603	
	07-90229-01	Chip Resistor	2.2Ω, ±5%	R424	0805	
	07-90100-00	Chip Resistor	10Ω, ±5%	R103, R425	0603	
	07-90220-00	Chip Resistor	22Ω, ±5%	R187 R188	0603	
	07-90330-00	Chip Resistor	33Ω, ±5%	R83, R85, R86, R87, R89, R90, R94, R95, R104, R105, R106, R117, R118, R120, R178, R409, RP5	0603	
	07-90470-00	Chip Resistor	47Ω, ±5%	R145, R479, R480, R481, R482	0603	
	07-90680-00	Chip Resistor	68Ω, ±5%	R390, R455, R456, R152, R153	0603	
	07-90910-00	Chip Resistor	91Ω, ±5%	R392	0603	
	07-90101-00	Chip Resistor	100Ω, ±5%	R403, R408, R461, R471, R472, R473	0603	

	P/N	Description	Part Type	Designator	Footprint	Remark
	07-90151-00	Chip Resistor	150Ω, ±5%	R372, R373, R374, R375, R376, R377, R378, R379, R380, R381, R382, R383, R384, R385, R386, R387	0603	
	07-91600-00	Chip Resistor	160Ω, ±1%	R97	0603	
	07-90221-00	Chip Resistor	220Ω, ±5%	R457, R458, R463	0603	
	07-90331-00	Chip Resistor	330Ω, ±5%	R391	0603	
	07-90471-00	Chip Resistor	470Ω, ±5%	R184, R447, R489, R490	0603	
	07-95100-00	Chip Resistor	510Ω, ±1%	R98	0603	
	07-90681-00	Chip Resistor	680Ω, ±5%	R422	0603	
	07-90821-00	Chip Resistor	820Ω, ±5%	R462	0603	
	07-90102-00	Chip Resistor	1KΩ, ±5%	R107, R108, R119, R393, R394, R395, R396	0603	
	07-90152-00	Chip Resistor	1.5KΩ, ±5%	R166, R449	0603	
	07-90182-00	Chip Resistor	1.8KΩ, ±5%	R431, R432	0603	
	07-90222-00	Chip Resistor	2.2KΩ, ±5%	R174, R398	0603	
	07-92701-00	Chip Resistor	2.7KΩ, ±1%	R121, R123, R124, R140, R142, R203, R205, R206, R225, R228, R314, R329, R330, R333, R334, R337	0603	
	07-93001-00	Chip Resistor	3KΩ, ±1%	R122, R141, R146, R204, R207, R208, R209, R212	0603	
	07-93401-00	Chip Resistor	3.4KΩ, ±1%	R130	0603	
	07-90392-00	Chip Resistor	3.9KΩ, ±5%	R470	0603	
	07-90472-00	Chip Resistor	4.7KΩ, ±5%	R48, R49, R50, R73, R74, R78, R82, R125, R127, R129, R147, R150, R157, R158, R160, R162, R164, R172, R400	0603	
	07-90562-00	Chip Resistor	5.6KΩ, ±5%	R423	0603	
	07-90752-00	Chip Resistor	7.5KΩ, ±5%	R491, R492	0603	
	07-90103-00	Chip Resistor	10KΩ, ±5%	R109, R131, R175, R335, R338, R339, R340, R341, R342, R343, R346, R361, R362, R363, R364, R365, R366, R368, R369, R370, R371, R401, R406, R426, R427, R428, R429, R430	0603	
	07-91202-00	Chip Resistor	12KΩ, ±1%	R468	0603	
	07-91652-00	Chip Resistor	16.5KΩ, ±1%	R176, R213, R214, R218, R219, R221, R222, R297, R298	0603	
	07-90223-00	Chip Resistor	22KΩ, ±5%	R126, R128, R148, R149, R159, R161, R163, R165, R442, R475, R476, R487	0603	
	07-90333-00	Chip Resistor	33KΩ, ±5%	R440, R441, R483, R484, R485, R486, R488	0603	
	07-90393-00	Chip Resistor	39KΩ, ±5%	R493	0603	
	07-90473-00	Chip Resistor	47KΩ, ±5%	R444, R445, R446, R459, R460	0603	
	07-90563-00	Chip Resistor	56KΩ, ±5%	R494, R495, R496, R497, R498	0603	
	07-90683-00	Chip Resistor	68KΩ, ±5%	R433	0603	
	07-90104-00	Chip Resistor	100KΩ, ±5%	R407, R443, R465, R466, R469	0603	
	07-90124-00	Chip Resistor	120KΩ, ±5%	R397	0603	
	07-90154-00	Chip Resistor	150KΩ, ±5%	R448	0603	
	07-90105-00	Chip Resistor	1MΩ, ±5%	R171, R388	0603	
	07-90106-00	Chip Resistor	10MΩ, ±5%	R389	0603	
	07-90000-10	Chip Resistor Network	0Ω×4, ±5%	RP1, RP2, RP3	0603×4	
	07-90100-10	Chip Resistor Network	10Ω×4, ±5%	RP12, RP13, RP14	0603×4	
	07-90330-10	Chip Resistor Network	33Ω×4, ±5%	RP6, RP7, RP8, RP9, RP10, RP11	0603×4	
	07-90470-10	Chip Resistor Network	47Ω×4, ±5%	RP15, RP16	0603×4	
	07-90103-10	Chip Resistor Network	10KΩ×4, ±5%	RM10, RM11, RM12, RM13, RM14, RM15, RM16, RM17	0603×4	
Inductor						
	08-02470-00	Inductor	47UH, LGB-S0608-470K	L35, L36	Pitch=5mm	
	08-04119-00	Chip Bead	CBG201209U110	FB2, FB3, FB5	0805-FB	
	08-04600-00	Chip Bead	CBG160808U600	FB1, FB6	0603-FB	
	08-04601-00	Chip Bead	CBG160808U601	FB4	0603-FB	
Connector						
	13-22005-00	Connector Socket	PH 2.0A-5A	CN20	DIP	
	13-22006-00	Connector Socket	PH 2.0A-6A	CN19	DIP	
	13-22009-00	Connector Socket	PH 2.0A-9A	J1	DIP	
	13-22012-00	Connector Socket	PH 2.0A-12A	J3	DIP	
	13-22014-00	Connector Socket	PH 2.0A-14A	J6	DIP	
	13-21022-01	FPC Connector SMD	LDFPC1,0B-SMT-22P	JP6	SMD22*1.0mm	
	13-21030-00	FPC Connector SMD	LDFPC1,0B-SMT-30P	JP2	SMD30*1.0mm	
	13-12508-01	Connector	8PIN*2.54mm	CN15	DIP	
	13-20524-00	FPC Connector SMD	24PIN, 0.5mm	CN18	SMD24*0.5mm	

	P/N	Description	Part Type	Designator	Footprint	Remark
	17-01001-14	RCA	AV-8.4-14PB	P7		
	17-01002-08	2RCA	AV2-8.4-13	P6		
	17-01006-03	6RCA	AV6-8.4-13	P9		
	17-07001-00	TRIG	PY301-030-100	P10		
Crystal						
	04-11841-00	Crystal	1.8432M, FL=30PPM, CL=15pF, HC-49U	Y1		
	04-22702-00	Quartz Oscillator	27.000MHZ, FL=50PPM, CL=15pF	Y3	DIP-8	
	04-23382-00	Quartz Oscillator	33.8688M, FL=50PPM, CL=15pF	X4	DIP-8	
.1 VIDEO BOARD C/BC VERSION P/N:01-55502-20 AH VERSION P/N:01-55502-10						
Capacitor						
	26-20051-00	Ceramic Chip Capacitor	20pF, 50V, ±5%, NPO	C616, C617, C618	0603	
	26-27051-00	Ceramic Chip Capacitor	27pF, 50V, ±5%, NPO	B645, B646	0603	
	26-56051-00	Ceramic Chip Capacitor	56pF, 50V, ±5%, NPO	B631, B632, B633, B634, B635, B636, C660, C661, C662, C666, C667, C668	0603	
	26-10151-00	Ceramic Chip Capacitor	100pF, 50V, ±5%, NPO	C560, C561, C562	0603	
	26-18151-00	Ceramic Chip Capacitor	180pF, 50V, ±5%, NPO	B637, B638, B639	0603	
	26-33151-00	Ceramic Chip Capacitor	330pF, 50V, ±5%, NPO	C657, C658, C659	0603	
	26-82151-00	Ceramic Chip Capacitor	820pF, 50V, ±5%, NPO	C637	0603	
	26-10251-10	Ceramic Chip Capacitor	1nF, 50V, ±5%, NPO	C578, C579, C580, C581, C582, C583, C589, C590	0603	
	26-39251-00	Ceramic Chip Capacitor	3.9nF, 50V, ±10%, X7R	C633	0603	
	26-10351-00	Ceramic Chip Capacitor	0.01uF, 50V, ±10%, X7R	C620, C641, C642, C643, B511	0603	
	26-10451-00	Ceramic Chip Capacitor	0.1uF, 50V, +80-20%, Y5V	C573, C574, C575, C576, C577, C588, C591, C592, C593, C597, C598, C599, C600, C601, C602, C603, C604, C606, C607, C608, C609, C610, C611, C612, C613, C614, C615, C619, C654, C655, C656, B501, B502, B503, B504, B506, B507, B508, B509, B510, B570, B571, B572, B573, B574, B575, B576, B577, B578, B579, B580, B581, B582, B583, B584, B585, B586, B588, B589, B590, B591, B593, B594, B595, B596, B598, B599, B601, B603, B604, B605, B606, B607, B608, B609, B610, B611, B612, B613, B614, B615, B620, B622, B623, B642, B643	0603	
	06-10060-01	Chip Alu Electrolytic Capacitor	VSS Series, 10uF, 6.3V, ±20%	C645, C646, C647, B602, B618, B619, B640, B641	4×5.4	
	06-22060-01	Chip Alu Electrolytic Capacitor	VSS Series, 22uF, 6.3V, ±20%	C584, C585, C586, C587	4×5.4	
	06-47060-01	Chip Alu Electrolytic Capacitor	VSS Series, 47uF, 6.3V, ±20%	B625, B628, B630	5×5.4	
	06-47021-07	Chip Alu Electrolytic Capacitor	VSS Series, 47uF, 25V, ±20%	C629, C631	6.3×5.4	
	06-10160-01	Chip Alu Electrolytic Capacitor	VSS Series, 100uF, 6.3V, ±20%	C625, C626, C628, C630, C632	6.3×5.4	
	06-47111-06	Chip Alu Electrolytic Capacitor	VSS Series, 470uF, 10V, ±20%	C644, C648, C649, C650, C651, C652, C653	8×10.5	
Resistor						
	07-90000-00	Chip Resistor	0Ω, ±5%	R626, R629, R670, R701, R709, R713, R722, R732, R733, R734, R753, R786, R787, R788, R789	0603	
	07-90220-00	Chip Resistor	22Ω, ±5%	R686, R746, R749	0603	
	07-90330-00	Chip Resistor	33Ω, ±5%	R717, R718, R784, R785	0603	
	07-97509-00	Chip Resistor	75Ω, ±1%	R673, R674, R675, R676, R677, R678, R724, R725, R726, R727, R728, R729, R744, R745	0603	
	07-99109-00	Chip Resistor	91Ω, ±1%	R735, R736, R737	0603	
	07-90101-00	Chip Resistor	100Ω, ±5%	R525, R639, R696, R697, R634, R635, R716, R747, R748	0603	
	07-91500-00	Chip Resistor	150Ω, ±1%	R619, R623, R624	0603	
	07-90181-00	Chip Resistor	180Ω, ±5%	R715	0603	
	07-91870-00	Chip Resistor	187Ω, ±1%	R723	0603	
	07-93000-00	Chip Resistor	300Ω, ±1%	R613, R614, R615, R620, R621, R622, R653, R655, R656	0603	
	07-95100-00	Chip Resistor	510Ω, ±1%	R714	0603	
	07-95600-00	Chip Resistor	560Ω, ±1%	R661, R662, R663, R664, R671, R672, R738, R739, R740, R741, R742, R743	0603	
	07-96800-00	Chip Resistor	680Ω, ±1%	R692	0603	
	07-90112-00	Chip Resistor	1K1Ω, ±5%	R689	0603	
	07-90202-00	Chip Resistor	2KΩ, ±5%	R637, R638, R703, R704	0603	
	07-93011-00	Chip Resistor	3.01KΩ, ±1%	R687, R688	0603	
	07-94021-00	Chip Resistor	4.02KΩ, ±1%	R669	0603	

	P/N	Description	Part Type	Designator	Footprint	Remark
	07-90472-00	Chip Resistor	4.7K Ω , \pm 5%	R642, R650, R667, R668, R684, R699, R702, R706, R707, R711, R712, R719, R720, R770	0603	
	07-90512-00	Chip Resistor	5.1K Ω , \pm 5%	R644	0603	
	07-90103-00	Chip Resistor	10K Ω , \pm 5%	R643, R698, R708, R760	0603	
	07-90104-00	Chip Resistor	100K Ω , \pm 5%	R524	0603	
	07-94750-00	Chip Resistor	475 Ω , \pm 1%	R625	0603	
	07-90220-01	Chip Resistor Network	22 Ω X4	RP538, RP539, RP540, RP541, RP542, RP543, RP546, RP547, RP548	0603x4	
	07-90330-10	Chip Resistor Network	33 Ω X4	RP526, RP527, RP528, RP529, RP530, RP531, RP532, RP533, RP534, PR544, RP545	0603x4	
	07-00075-03	Circuit Protector	microSMD075	F701	1210-RES	
Inductor						
	08-04109-01	INDUCTOR	1 μ H, \pm 10%	L536, L537, L538, L539, L540, L541	0805	
	08-04569-00	INDUCTOR	5.6 μ H, \pm 10%	L521, L522, L523, L542, L543, L544, L545	0805	
	08-04220-01	INDUCTOR	22 μ H, \pm 10%	L550, L551	0805	
	08-04119-00	FILTER BEAD	CBG201209U110T	FB521, FB522, FB523, FB524, FB525, FB527, FB528, FB533, FB534, FB535, L546, L547	0805	
	08-04609-00	FILTER BEAD	CBW160808U600T	FB518, BP519, FB520, FB529, FB531, FB532	0603	
ICS						
	03-08091-01	VIDEO AMPLIFIER	AD8091AR/EL8100IS	U517, U533	SOIC8	
	03-08092-01	VIDEO AMPLIFIER	AD8092AR/EL8201IS	U516, U531	SOIC8	
	03-07310-01	VIDEO ENCODE	ADV7310KST	U527	LQFP64	
	03-04955-01	VIDEO ENCODE	CS4955-CQZ	U536	TQFP48	
	03-00337-01	Regulator	LM337IMP	U528	SOT223	
	03-01117-18	Regulator	LM1117MPX-1.8/AMS1117-1.8	U534	SOT223	
	03-01117-25	Regulator	LM1117MPX-2.5/AMS1117-2.5	U522	SOT223	
	03-01117-01	Regulator	LM1117MPX-5.0/AMS1117-5.0	U529	SOT223	
	33-40099-01	Small Signal Diode	BAV99	Q601, Q604, Q606, Q607, Q608, Q609, Q610, Q611	SOT23	
	31-00672-01	Transistor	UPA672T	U546	SC70	
	03-00514-01	ESD Protection	RCLAMP0514M	U538, U539, U540	MSOP-10L	
	03-02300-01	Digital Video Format Converter	S2300	U530	PQFP208	
	03-06418-01	Triple Video Driver	FMS6418A	U542	TSSOP14	
	03-09030-01	HDMI DRIVER	SIL9030	U518	TQFP80	
	03-86432-60	SDRAM	W986432DH-6/ HY57V653220B-6/ HY57V643220DT-6	U535	TSOP86	
	03-01580-01	1.2V Micropower	AD1580	D502	SOT23	
Crystal						
	04-11352-01	Crystal SMD	13.500MHz, FL=50ppm, CL=14pF	Y601	HC-49U/SM	
Transistor						
	31-01815-01	TRANSISTOR	2SC1815	Q524	SC-59	
Connector						
	17-01003-03	RCA	AV3-8.4-13PB	P508	DIP	
	17-01001-18	CONNECTOR	HSW-AV1/BP-2	P502	DIP	
	17-08119-00	HDMI SOCKET	HMR43-AK5200	P504	SMD	
	11-05102-00	Slide Switch	5M, SERIES, SPDT, M7	SW503	DIP	
	17-07001-00	TRIG	PY301-030-100	J501	DIP	
	13-21016-05	FPC Connector SMD	LDFPC1,0B-SMT-16P/ 1.0-15-16PB	JP502(C/BC version)	SMD16*1.0mm	
	13-21022-01	FPC Connector SMD	LDFPC1,0B-SMT-22P/ 1.0-15-22PB	JP505	SMD22*1.0mm	
	13-21030-00	FPC Connector SMD	LDFPC1,0B-SMT-30P/ 1.0-15-30PB	JP504	SMD30*1.0mm	
	13-22006-00	Connector Socket	PH 2.0A-6A	JP503	DIP	
	17-08015-00	VGA SOCKET	DB15	P507		
.1 PSU BOARD P/N 01-55503-00						
Diode						
	33-24004-03	Rectifier Diode	1N4004	D916	Pitch=10mm	
	33-24004-00	Rectifier Diode	1N4004		DO-41	
	33-20104-00	Fast-Recovery Rectifier Diode	FR104	D900, D910	Pitch=10mm	
	33-20107-00	Fast-Recovery Rectifier Diode	FR107	D908	Pitch=10mm	
	33-20205-00	Fast-Recovery Rectifier Diode	FR205	D912, D914, D915	Pitch=12mm	
	33-20360-00	Schottky Barrier Rectifier Diode	SR360	D913	Pitch=12mm	
	33-20540-00	Schottky Barrier Rectifier Diode	SR540	D909	Pitch=12mm	
	33-15609-02	Zener	5.6V, 0.5W	D911	Pitch=7.5mm	
	33-15609-00	Zener	5.6V, 0.5W		DO-35	
	33-30162-00	Rectifier Bridge	DB105	B900	BRIDGE	

	P/N	Description	Part Type	Designator	Footprint	Remark
Transistor						
	31-01815-00	Transistor	2SC1815-GR	Q900, Q906, Q911, Q913, Q921, Q923	TO-92	
	31-01015-00	Transistor	2SA1015-GR	Q907, Q922	TO-92	
	31-01220-00	Transistor	KSA1220AYSTU	Q912	TO-126	
	31-02690-00	Transistor	KSC2690AYASTU	Q910	TO-126	
ICS						
	03-00431-00	REGULATOR	TL431/AE431/KA431	U908	TO-92	
	03-00817-00	Photo Coupler	PC817B	U907	DIP4	
	03-07805-10	REGULATOR	KA78R05	U911	TO-220F-4L	
	03-27833-00	REGULATOR	KA278R33	U909, U910	TO-220F-4L	
	03-07809-10	REGULATOR	KA78R09	U912	TO-220F-4L	
	03-07915-00	REGULATOR	KA7915	U901	TO-220	
	03-00365-00	Green Mode Fairchild Power Switch	FSDM0365RN	U900	DIP8	
Capacitor						
	05-82142-00	High Voltage Ceramic Capacitor	820PF, 400V(X1), 250V(Y1), ±20%	C939, C940	Pitch=10mm	
	05-10313-01	High Voltage Ceramic Capacitor	0.01UF, 1KV, ±20%	C914	Pitch=5mm	
	05-33242-00	High Voltage Ceramic Capacitor	3300PF, 400V(X1), 250V(Y1), ±20%	C943	Pitch=10mm	
	05-10422-00	High Voltage Ceramic Capacitor	0.1uF, 275V(X2), ±5%	C934, C935	Pitch=15mm	
	25-33361-01	Metallized Polyester Film Capacitor	0.033uF, 63V, ±5%	C941	Pitch=5mm	
	25-10461-07	Metallized Polyester Film Capacitor	0.1uF, 63V, ±5%	C942, C957, C963, C964, C965	Pitch=5mm	
Capacitor						
	06-47051-06	Alu Electrolytic Capacitor	47uF, 50V, ±20%	C933, C949	Pitch=2.5mm 6.3×11	
	06-10211-04	Alu Electrolytic Capacitor	1000uF, 16V, ±20%	C954, C966	Pitch=5mm 10×16	
	06-10111-12	Alu Electrolytic Capacitor	100uF, 16V, ±20%	C944, C945, C956, C959	Pitch=2.5mm 6.3×11	
	06-10121-04	Alu Electrolytic Capacitor	100uF, 25V, ±20%	C953, C962	Pitch=2.5mm 6.3×11	
	06-10151-02	Alu Electrolytic Capacitor	100uF, 50V, ±20%	C950	Pitch=3.5mm 8×11.5	
	06-22121-01	Alu Electrolytic Capacitor	220uF, 25V, ±20%	C951	Pitch=3.5mm 8×11.5	
	06-47121-03	Alu Electrolytic Capacitor	470UF, 25V, ±20%	C955, C958, C961	Pitch=5mm 10×16	
	06-10142-00	Alu Electrolytic Capacitor	100uF, 400V, ±20%	C900	Pitch=10mm 22×30	
Resistor						
	07-10300-00	Carbon Film Resistor	30Ω, 1/6W, ±5%	R932	Pitch=5mm	
	07-10271-00	Carbon Film Resistor	270Ω, 1/6W, ±5%	R933	Pitch=5mm	
	07-10471-00	Carbon Film Resistor	470Ω, 1/6W, ±5%	R970	Pitch=5mm	
	07-10122-00	Carbon Film Resistor	1.2KΩ, 1/6W, ±5%	R949, R950	Pitch=5mm	
	07-10392-00	Carbon Film Resistor	3.9KΩ, 1/6W, ±5%	R934	Pitch=5mm	
	07-10472-00	Carbon Film Resistor	4.7KΩ, 1/6W, ±5%	R967	Pitch=5mm	
	07-10622-00	Carbon Film Resistor	6.2KΩ, 1/6W, ±5%	R911	Pitch=5mm	
	07-10682-00	Carbon Film Resistor	6.8KΩ, 1/6W, ±5%	R936	Pitch=5mm	
	07-10103-00	Carbon Film Resistor	10KΩ, 1/6W, ±5%	R942, R943, R944, R947, R948, R952, R953, R954, R955, R956, R957, R958, R963, R964, R965, R969, R971	Pitch=5mm	
	07-10223-00	Carbon Film Resistor	22KΩ, 1/6W, ±5%	R968	Pitch=5mm	
	07-20473-20	Metal Film Resistor	47KΩ, 1W, ±5%	R900	Pitch=5mm	
	07-20563-20	Metal Film Resistor	56KΩ, 1W, ±5%	R930	Pitch=5mm	
	07-23301-00	Metal Film Resistor	3.3KΩ, 1/6W, ±1%	R937	Pitch=5mm	
	07-24301-00	Metal Film Resistor	4.3KΩ, 1/6W, ±1%	R935	Pitch=5mm	
	07-50680-11	Fusible Resistor	68Ω, 1W, ±5%	R938, R939, R946	Pitch=5mm	
	07-70050-02	NTC	NTC, 5D-11	RT900	Pitch=7.5mm	
	07-70301-00		MYG-05D301K	R912	Pitch=7.5mm	
Inductor						
	22-00025-10	FILTER INDUCTOR	48mH,LCL-25A	L900		
	08-02220-01	INDUCTOR	LGB-S0810-220K, 22uH	L904, L905, L906, L907	Pitch=5mm	
Fuse						
	20-12202-00	Fuse	T2AL/250V			
	20-20000-01	Fuse Holder	HF-003-1	FH900		
Transfomet						
	18-55530-00	Transformer	BCK-28-001 / BCK-08A12	T900		

	P/N	Description	Part Type	Designator	Footprint	Remark
Connector						
	14-55514-00	2mm*14pin Wire	LD2.0A-14Y, LD2.0A-14D, UL2468 26AWG, L=275±5mm	J906		
	14-55506-00	2mm*6pin Wire	LD2.0A-6Y, LD2.0A-6D, UL2468 26AWG, L=80±5mm	J907		
	13-23903-01	Connector Socket	VH 3.96A-3A	J900		
Metal Parts						
	70-051005-1	Heatsink	6063 T5, BLACK			
	61-023508-0	Machine Screw	MB3×8	radiator		
	62-010302-2	Nut	M3	radiator		
.1 FPP BOARD P/N 01-55504-00						
Diode						
	33-50565-01	LED	5, blue and orange	D800		
	33-44148-03	DIODE	IN4148	D802, D803, D804	Pitch=10mm	
	33-44148-00	DIODE	IN4148		DO-35	
Transistor						
	31-01815-00	TRANSISTOR	2SC1815-GR	Q801	TO-92	
	31-01015-00	TRANSISTOR	2SA1015-GR	Q802	TO-92	
ICS						
	03-00038-00	IR Sensor	HS0038B	U802		
	03-16311-01	VFD DRIVER	PT6311 or NEC	U801	QFP52	
Capacitor						
	06-10051-03	Alu Electrolytic Capacitor	CD110, 10uF, 50V, ±20%	C808	Pitch=2.5mm 5× 11	
	06-10111-04	Alu Electrolytic Capacitor	CD110, 100uF, 16V, ±20%	C803, C804	Pitch=2.5mm 6.3 ×11	
Resistor						
	07-10220-01	Carbon Film Resistor	22 , 1/6W, ±5%	R817, R818	Pitch=7.5mm	
	07-10470-01	Carbon Film Resistor	47 , 1/6W, ±5%	R819	Pitch=7.5mm	
	07-10271-01	Carbon Film Resistor	270 , 1/6W, ±5%	R800	Pitch=7.5mm	
	07-10471-01	Carbon Film Resistor	470 , 1/6W, ±5%	R805	Pitch=7.5mm	
	07-10472-01	Carbon Film Resistor	4K7 , 1/6W, ±5%	R815	Pitch=7.5mm	
	07-10103-01	Carbon Film Resistor	10K , 1/6W, ±5%	R806, R807, R808, R809, R810, R811, R820	Pitch=7.5mm	
	07-10563-01	Carbon Film Resistor	56K , 1/6W, ±5%	R816	Pitch=7.5mm	
VFD						
	23-55559-00	VFD	HNV-11SS59T	U800	VFD 35PIN	
Switch						
	11-04101-08	Tact Switch	IT-1103AA-1160	S800, S801, S802, S803, S810, S807, S812, S813, S814, S815		
Connector						
	14-55512-00	2mm*12pin Wire	LD2.0A-12Y, LD2.0A-12D, UL2468 26AWG, L=130±5mm	J801		
Link						
	21-06101-00	Link	L=10mm	W801, W802, W803, W804, W805, W806, W807, W808, W809, W810, W811, W812, W813		
Metal Parts						
	65-051011-0	IR Bracket	TIN PLATE T=0.3mm			
PLASTIC PARTS						
	75-051001-0	Display Bracket	ABS BLACK			
.1 RS232 BOARD P/N 01-55505-00						
Connector						
	14-55509-00	2mm*9pin WIRE	LD2.0A-9Y, LD2.0A-9D, UL2468 26AWG, L=90±5mm	J2	DIP2mm*9pin	
	17-08009-00	RS232 Socket	RS232 RS232/FS	P1	DB9/F	
Metal Parts						
	66-010010-0	BRACKET 6	SECC-N4 T=1.00			
	61-023106-0	Self Taping Screw	STB3×6	bracket 6(2)		
.1 SCARTS BOARD P/N 01-55506-21 (only use in C/BC version)						
Transistor						
	31-01815-01	TRANSISTOR	2SC1815	Q860, Q861, Q862	SOT23	
	31-01015-01	TRANSISTOR	2SA1015	Q863	SOT23	

	P/N	Description	Part Type	Designator	Footprint	Remark
	31-03326-01	TRANSISTOR	2SC3326	Q866, Q867, Q868, Q869	SOT23	
Resistor						
	07-90000-01	RESISTOR	0Ω	FB860, FB861, FB862, FB863, FB863	0805	
	07-97509-00	RESISTOR	75 Ω , ±1%	R860, R861, R862, R863	0603	
	07-90151-00	RESISTOR	150 Ω , ±5%	R875, R876, R878, R879	0603	
	07-90472-00	RESISTOR	4K7 Ω , ±5%	R880, R881	0603	
	07-90223-00	RESISTOR	22K Ω , ±5%	R884, R885		
	07-10102-00	Carbon Film Resistor	1KΩ, 1/6W, ±5%	R866, R867, R868, R869, R870, R877	Pitch=5mm	
	07-10472-00	Carbon Film Resistor	4K7Ω, 1/6W, ±5%	R865	Pitch=5mm	
	07-10682-00	Carbon Film Resistor	6K8Ω, 1/6W, ±5%	R872	Pitch=5mm	
	07-10103-00	Carbon Film Resistor	10KΩ, 1/6W, ±5%	R874	Pitch=5mm	
	07-10563-00	Carbon Film Resistor	56KΩ, 1/6W, ±5%	R871	Pitch=5mm	
	07-27509-00	Metal Film Resistor	75Ω, 1/6W, ±1%	R864	Pitch=5mm	
Connector						
	13-21016-00	Connector	PD05-161 / 1.0-11-16PW	JP860	DIP16	
	17-10021-00	Scart Connector	D-21-3	P860	DIP21	
Link						
	21-06101-00	Link	L=10mm	W863	Pitch=10mm	
	21-06500-00	Link	L=5mm	R873, W860, W861, W862	Pitch=5mm	
Metal Parts						
	66-010010-0	BRACKET 6	SECC-N4 T=1.00			
	66-051003-0	Scart Bracket	TIN PLATE T=0.5mm			
	61-023106-0	Self Taping Screw	STB3×6	bracket 6(2)		
MISC and Mechanical Parts						
	14-55501-00	WIRE	250(8), 187(8), UL1672 20AWG , L=90±5mm	from AC inlet to power button		
	14-55502-00	WIRE	LD3.96A-3Y, 187(8), UL1672 20AWG , L=250±5mm; 250(8), UL1672 20AWG , L=280±5mm	from psu board to AC inlet and power button		
	14-55505-00	WIRE	LD2.0A-5Y, UL2468 26AWG L=120±5mm	from mechanism to decode board		
	14-55506-11	WIRE	LD2.0A-6Y, UL2468 26AWG L=125±5mm	from mechanism to decode board		
	14-55516-00	FFC	16PIN, 1mm, 50±3mm	from video board to SCART board		
	14-55522-00	FFC	22PIN, 1mm, 75±3mm	from video board to decode board		
	14-55530-00	FFC	30PIN, 1mm, 75±3mm	from video board to decode board		
	14-55524-10	FFC	24PIN, 0.5mm, 210±3mm	from laser pick up to decode board 14-55524-10	opposite side	
	▲ 17-07002-02	AC Inlet	6102-3300			
	▲ 15-10125-00	AC Cord(AH Version)				
	▲ 15-10250-00	AC Cord(C Version)				
	▲ 15-10250-03	AC CORD (CHINESE Version)	X-CCC			
Switch						
	▲ 11-01101-03	Rocker Switch	RF-1003-BB2, TV-5			
Mechanism						
		36-55313-00				
	J37-00313-00	LASER PICK UP	KHM313AAA(Q Version)			
	37-08836-00	LOADER NSP	WXD-8836B			
Metal Parts						
	70-051003-1	Fascia1	6063 T5			
	70-051004-0	Fascia2	Kirksite #5, painting&printing			
	S67-051001-1	Subfascia	SECC-N4 T=1.6mm			
	S65-051001-1	Subfascia	SECC-N4 T=1.6mm			
	81-046008-0	SECC	SECC-N4 1219×471×1.6			
	67-051002-0	Top Cover	SECC-N4 T=2.0mm			
	S67-051003-0	Rear Panel C	SECC-N4 T=1.6mm			
	S67-051006-0	Rear Panel	SECC-N4 T=1.6mm			
	S80-051003-0	Rear Panel C	SECC-N4 T=1.6mm			
	S65-051003-0	Rear Panel C	SECC-N4 T=1.6mm			
	81-051001-0	SECC	SECC-N4 1219×456×1.6			
	S67-051004-1	Chassis	SECC-N4 T=1.0mm			
	S65-051004-1	Chassis	SECC-N4 T=1.0mm			
	81-001004-0	SECC	SECC-N4 1219×530×1.0			
	S67-051005-0	Rear Panel AH	SECC-N4 T=1.6mm			
	S80-051005-0	Rear Panel AH	SECC-N4 T=1.6mm			
	S65-051005-0	Rear Panel AH	SECC-N4 T=1.6mm			

	P/N	Description	Part Type	Designator	Footprint	Remark
	81-051001-0	SECC	SECC-N4 1219×456×1.6			
	68-051001-1	Shielding Box(UP)	Stainless Steel T=0.5mm			
	68-051002-1	Shielding Box(DOWN)	Stainless Steel T=0.5mm			
	S68-051003-0	Loader Cover	Stainless Steel T=0.5mm			
	70-051001-1	DVD Door	Aluminum			
	66-051002-0	Clamper	SECC-N4 T=0.8mm			
	70-051002-0	Ring Cursor	Kirksite			
	S70-051006-1	Stop-Menu Button	Kirksite			
	S70-048012-1	Input Button	Kirksite			
	S70-048013-0	Power Button	Kirksite			
	70-051007-0	Enter Button	Kirksite			
	(69-009001-0)	Spacer Support 1				
	(S69-051001-0)	Spacer Support	Y12			
	69-051002-2	Spacer	Alu			
	83-043001-0	Foot Assembly				
	92-048001-0	Spring for Button				
	92-051001-0	Spring for Cursor	65Mn			
Plastic Parts						
	77-051001-1	Cursor Holder				
	76-051001-0	VFD window	PMMA			
	76-008001-0	LED Lens				
	86-046001-0	LED Lens Gum	3M Double Side Adhesive			
	85-051001-0	SNAP BUSHING	NB-16A			
	75-051002-0	Line Clamp	FR-4, T=1.0mm			
	85-051002-0	PCB Space	RCA-3			
Fasteners						
	61-373506-0	Machine Screw	MB3×6-W.S-Ni	audio board(4), video board(2), power supply board(4)		
	61-023106-1	Self Taping Screw	STB3×6-Ni	power Sheilding box(6)		
	61-023206-0	Self Taping Screw	BTB3×6	keyboard(4), vfd window(3)		
	61-246508-0	Machine Screw	MB6X8	top cover(4)		
	61-073108-0	Self Taping Screw	STO3×8	AC inlet(2)		
	61-023208-0	Self Taping Screw	BTB3×8	rear panel(7)		
	61-023106-0	Self Taping Screw	STB3×6	rear panel(5), SCART bracket(1), HDMI(1), load cover 4), bottom cover(4), RS232 board(2), SCARTboard(2)		
	61-023508-0	Machine Screw	MB3×8	power Sheilding box(4)		
	61-083108-0	Self Taping Screw	STPW3×8	mechanism(4)		
	61-024108-0	Self Taping Screw	STB4×8	foot(4)		
	61-063106-0	Self Taping Screw	STF3×6	front bracket(4)		
	S61-023504-1	Machine Screw	MB3×4-Ni	load door(2)		
	61-023218-0	Self Taping Screw	BTB3×18	Cursor Holder(2)		
	61-224508-1	Machine Screw	GB/T70.1, 4×8	panel1(7)		
	61-224512-1	Machine Screw	GB/T70.1, 4X12	panel2(6)		
	S61-022506-6	Machine Screw	MB2.5×6-Ni	round key(2)		
Accessories						
	S87-048002-0	Button Pad	NWC White			
	S87-048003-0	Power pad	NWC White			
	84-001003-0	Cable Tie	YJ-100			
	86-017010-0	Adhesive Bonded Fabric	8×90, 0.5mm			
	86-051001-0	Adhesive Bonded Fabric	8×66, 0.5mm	load cover		
	86-051002-0	Adhesive Bonded Fabric	8×22, 0.5mm	load cover		
	86-010004-0	3mm Rubber Pad	10×25×3mm	front bracket(3)		
	86-004002-0	Washer	φ3x1			
	86-018002-1	Expanded Rubber	110x25x0.5mm			
	86-046002-0	Padding	FR-4, 20×4×1mm	panel1(2)		
	76-046001-0	Screw Washer	Teflon White, Φ6×Φ11.5×0.5	top cover screw(4)		
Packing						
	S88-051001-0	Gift Box	585×475×227mm	five layer, white		
	S88-051002-0	Shipping Box	610×500×257mm	five layer, yellow		
	89-051001-0	EPE Polyfoam	EPE, White			
	89-051002-0	EPE Polyfoam	EPE, White			
	89-048003-0	M3 Little Polyfoam A	EPE, white, 28-30g			
	87-051001-0	Non-woven bag	NWC White, L580xW310xH53(M71)			
	90-001001-0	Polybag	630×440mm			
	S88-043003-0	Accessories Box	three layer, white			
	88-043004-0	Box Sheet	three layer, yellow			
	90-009001-1	Manu Polybag	240×370mm			
	90-001013-0	AC Cord Polybag	105×280mm			
	94-051001-0	Serial No. Label	53×10mm			
	94-009004-0	FDA Label	30×7mm			

	P/N	Description	Part Type	Designator	Footprint	Remark
	94-009005-0	Garentee Card				
	S94-051003-0	Lable	53×10mm			
	94-051004-0	Barcode Label	C version, 117×155mm			
	94-051005-0	Barcode Label	AH version, 117×155mm			
	S94-051006-0	Barcode Label	chinese version, 117×155mm			
	94-051014-0	Barcode Label	C version, 117×155mm			
	94-051015-0	Barcode Label	Ah version , 117×155mm			
	S94-051016-0	Barcode Label	chinese version, 117×155mm			
	94-014006-0	CCC LABEL	15mmx11.8mm			
	30-05000-00	Desiccant	50g 90×110			
Accessories						
	S30-45550-01	Instruction Manual 1				
	S30-45550-02	Instruction Manual 2				
	S30-45550-03	Instruction Manual				
	S30-15550-00	Remote Control	M55			
	30-22100-00	Batteries	AALR6			
	30-75600-00	Audio and Video Cord				