

SERVICE MANUAL



T 187

AV Surround Sound Preamp Processor

T 187


AV Surround Sound Preamp Processor

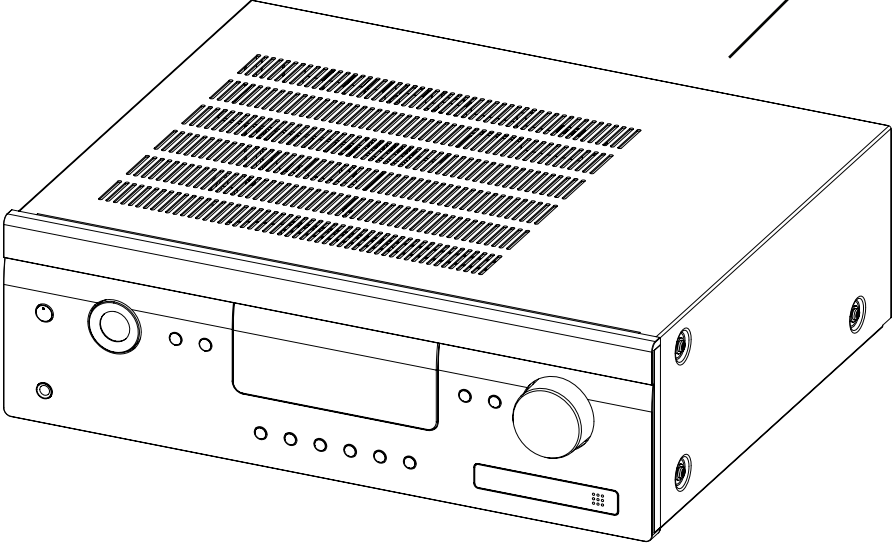
SAFETY INFORMATION

HDMI, the HDMI logo and High-Definition Multimedia Interface are trademarks or registered trademarks of HDMI Licensing LLC.DFDF

NAD ELECTRONICS INTERNATIONAL
633 GRANITE COURT, PICKERING, ON, CANADA L1W 3K1
MODEL T 187 AV SURROUND SOUND PREAMP PROCESSOR
POWER RATING 120V ~ 60Hz 2A
DESIGNED & ENGINEERED IN CANADA, CUSTOM
MANUFACTURED TO NAD SPECIFICATIONS IN CHINA

NAD ELECTRONICS INTERNATIONAL
MODEL T 187 AV SURROUND SOUND PREAMP PROCESSOR
POWER RATING 230V ~ 50Hz 1A
DESIGNED & ENGINEERED IN CANADA, CUSTOM
MANUFACTURED TO NAD SPECIFICATIONS IN CHINA

**CAUTION**
RISK OF ELECTRIC SHOCK
DO NOT OPEN
WARNING: SHOCK HAZARD - DO NOT OPEN
AVIS: RISQUE DE CHOC ELECTRIQUE - NE PAS OUVRIR



SERVICE SAFETY PRECAUTIONS

1. Replacing the fuses

CAUTION:

FOR CONTINUED PROTECTION AGAINST THE RISK OF FIRE REPLACE ONLY WITH SAME TYPE OF FUSE.

Reference Designator	Database Part Number	Description
F8001*AH ⚠	1601100002-902000	FUSE 5*20MM TIME-LAG 1.6A 250V "ROHS" "WALTER" TSD 1.6A 250V
F8001*C ⚠	1601100003-902000	FUSE 5*20MM TIME-LAG 1A 250V "ROHS" "WALTER" TSD1A250V
F8002*AH ⚠	1601100003-902000	FUSE 5*20MM TIME-LAG 1A 250V "ROHS" "WALTER" TSD1A250V
F8002*C ⚠	1601100005-902000	FUSE 5*20MM TIME-LAG 500MA 250VAC TSD UL/CSA/VDE/CCC "ROHS" "WALTER" TSD500MA250V
F8003	1601100006-902000	FUSE TIME-LAG 800MA 250VAC 5X20MM TSD UL/CSA/VDE/CCC WALTER (ROHS)
F8401	1601100005-902000	FUSE 5*20MM TIME-LAG 500MA 250VAC TSD UL/CSA/VDE/CCC "ROHS" "WALTER" TSD500MA250V

NOTE:

<*AH > : USA CANADIAN MODEL ONLY.

Parts marked with the symbol ⚠ are critical with regard to the risk of fire and electric shock.

CONTENTS

DESCRIPTION	PAGE
SPECIFICATIONS.....	4 - 6
REAR PANEL / FRONT PANEL VIEW	7
DISASSEMBLY INSTRUCTIONS	8
WIRING DIAGRAM	9
WIRING PARTS LIST.....	10
BLOCK DIAGRAM.....	11
SPECIAL KEYS.....	12
DETAILS & WAVEFORMS ON SYSTEM TEST & DEBUGGING.....	13 - 19
PCB LAYOUT	20 - 37
SCHEMATIC DIAGRAM.....	38 - 51
ELECTRICAL PARTS LIST	52 - 63
IC BLOCK DIAGRAM.....	64 - 75
EXPLODED VIEW.....	76a-76b
EXPLODED VIEW PARTS LIST	77 - 78
PACKING DIAGRAM.....	79
PACKING PARTS LIST.....	80
APPENDIX 1	81
APPENDIX 2	82 - 84

SPECIFICATIONS

PRE AMPLIFIER SECTION

Rated distortion	(Ext 7.1 1kHz 500mV input ,Pre-out 1V with 30kHz LPF, FL/C/FR) (Ext 7.1 1kHz 500mV input ,Pre-out 1V with 30kHz LPF, SL/SR/BL/BR)	$\leq 0.1 \%$ $\leq 0.1 \%$
S/N Ratio	(Ext 7.1 1kHz 500mV input ,Pre-out 1V with A-WTD, 1k Ω termination, FL/C/FR/SL/SR/BL/BR)	$\geq -85 \text{ dB}$
Frequency Response	(20 Hz - 20 kHz)	$0 \pm 1.0 \text{ dB}$
Channel Balance	(1 dB to -40 dB, 1 kHz) (-41 dB to -50 dB, 1 kHz)	$\leq 2 \text{ dB}$ $\leq 3 \text{ dB}$
Audio muting at 1 kHz		$\geq 55 \text{ dB}$
Subwoofer out, 500 mV in	(THD at 2V Pre-out, 100 Hz) (S/N at 2V Pre-out, 100 Hz) (Min. Vol. hum. 47 k Ω w/o filter) (Ext. 7.1 in 6 CH A-wtd)	$\leq 0.5 \%$ $\geq 70 \text{ dB}$ $\geq -56 \text{ dBV}$ $\geq -65 \text{ dBV}$
Crosstalk	(500 mV input, ref @ 1V out, 1 kHz)	$\geq -60 \text{ dB}$
Controls		
Bass	(at 500 mV in, ref @ 1V out, 100 Hz)	$\pm 10 \text{ dB} \pm 2$
Treble	(at 500 mV in, ref @ 1V out, 100 Hz)	$\pm 10 \text{ dB} \pm 2$
Dialog	(Vol. set at $\pm 6 \text{ dB}$, 2 kHz)	$\pm 4 \text{ dB} \pm 1$

DOLBY DIGITAL SECTION

Channel Difference	(FL ref. Track 30)	$\pm 1.2 \text{ dB}$
Frequency Response at Dolby config.2	SL Track 46 200 - 20 kHz SR Track 47 200 - 20 kHz C Track 44 200 - 20 kHz	$\pm 0.8 \text{ dB}$ $\pm 0.8 \text{ dB}$ $\pm 0.8 \text{ dB}$
Harmonic Distortion (1 V, Audio LPF, Dolby Config 1)	FL Track 65 997 Hz FR Track 67 997 Hz SL Track 68 997 Hz SR Track 69 997 Hz C Track 66 997 Hz	$\leq 0.08 \%$ $\leq 0.08 \%$ $\leq 0.08 \%$ $\leq 0.08 \%$ $\leq 0.08 \%$
S/N Ratio (31 for 100mV @ Pre-out, Track 35)	CCIR / ARM Audio LPF A-wtd	$\geq 65 \text{ dB}$ $\geq 70 \text{ dB}$ $\geq 70 \text{ dB}$

DOLBY PRO LOGIC II SECTION

Frequency Response

I/P mode : L, R	: 1 V in, 1V @ Pre-out,	Ch L/R	40 Hz	$0 \pm 2.0 \text{ dB}$
			20 kHz	$0 \pm 2.0 \text{ dB}$
I/P mode : L=R	: 1 V in, 1V @ Pre-out,	Ch /L/R	40 Hz	$0 \pm 2.0 \text{ dB}$
		Ch C	20 kHz	$0 \pm 2.0 \text{ dB}$
I/P mode : L=-R	: 1 V in, 1V @ Pre-out,	Ch SL/SR	40 Hz	$0 \pm 2.0 \text{ dB}$
			20 kHz	$0 \pm 2.0 \text{ dB}$

S/N Ratio (200 mV in, 100mV @ Pre-out, A-WTD w/ 1 k Ω termination)

I/P mode : L, R	: 1 kHz, Ch L/R	$\geq 65 \text{ dB}$
I/P mode : L=R	: 1 kHz, Ch C	$\geq 65 \text{ dB}$
I/P mode : L=-R	: 1 kHz, Ch SL/SR	$\geq 65 \text{ dB}$
THD	(2.2 V in, 100mV @ Pre-out, w/ 80 kHz LPF, 1kHz)	$\leq 0.2 \%$
MAX VOL	PLII Music mode, 1kHz, 1Vp-p, CD in,	$\geq 40 \text{ dB}$
NOISE	connect to T787 Ext 7.1, measure at T787 Spk out, with ref. to 1W S/N (L,R,C,SL,SR)	

DTS SECTION

Output Level (Vol 0 dB) :	FL/FR/C/SL/SR	Track 6	1 kHz	200 ± 10 mV
Channel Difference (FL ref) :	FL/FR/C/SL/SR	Track 6	1 kHz	0 ± 1.0 dB
Harmonic Distortion (Audio Filter) :	FL/FR/C/SL/SR	Track 10-14	1 kHz	≤ 0.08 %
Frequency Response (20 Hz to 20 kHz)		Track 26-30		0 +2/-1.5 dB
Subwoofer Output Level 1 kHz ref at pre-out (FL) Play		Track 10 charge to 15		12.5 ± 1.5 dB

NOISE MEASUREMENT

Surround mode noise (Preout) DVD input 1V (L only), volume @ -12 dB, Enhanced Stereo 1 mode, 100mV Preout output reference	20-20kHz A-WTD	-72 dB -75 dB
Surround mode noise (Subwoofer out) DVD input 1V (L only), volume @ -12 dB, Enhanced Stereo mode, 1V Preout output reference	20-20kHz 1 A-WTD	-75 dB -78 dB
Surround mode noise (Preout) DVD input 1V (L only), maximum volume, Enhanced Stereo 1 mode, 100mV Preout output reference	20-20kHz A-WTD	-48 dB -50 dB
Surround mode noise (Subwoofer out) DVD input 1V (L only), maximum volume @ -12dB, Enhanced Stereo 1 mode, 1V Preout output reference	20-20kHz A-WTD	-67 dB -72 dB

AM TUNER SECTION

Input level is expressed as the reading in open circuit of 75-ohm source impedance signal generator

Usable sensitivity	(1008 kHz)	≤ 55 dBμV
S/N Ratio	(5 mV in)	≥ 38 dB
THD	(5 mV in)	≤ 3 %
IF Rejection	(603 kHz)	≥ 40 dB
Image Rejection	(1404 kHz)	≥ 48 dB
Selectivity	(999 or 1017 kHz)	≥ 23 dB
Output	(1008 kHz)	230 -30/+60 mV
Loop sensitivity	(20 dB S/N)	
	(999/1000 kHz)	≤ 66 dB
	(603/600 kHz)	≤ 66 dB
	(1404/1400 kHz)	≤ 66 dB
Frequency Response	(100 - 1.8 kHz, 5 mV)	- 6 dB

FM TUNER SECTION

***C**

***AH**

Input level is expressed as the reading in open circuit of 75-ohm source impedance signal generator

Usable sensitivity	(98.1 MHz)		≤ 9 dBμv	≤ 9 dBμv
S/N Ratio	(60 dB, IHF wtd)	Mono	≥ 65 dB	≥ 65 dB
		Stereo	≥ 55 dB	≥ 55 dB
Frequency Response	(20 Hz - 15 kHz, 60 dB μ)		0 ± 3 dB	0 ± 3 dB
Channel Separation	(60 dB μ)	100 Hz	≥ 30 dB	≥ 30 dB
		1 k	≥ 30 dB	≥ 30 dB
		10 kHz	≥ 20 dB	≥ 20 dB
AM Suppression	(60 dB μ , 100% Mod. FM, 30% Mod. AM)		≥ 40 dB	≥ 40 dB
Image Rejection	(106.1 MHz)		-	≥ 75 dB

I.F. Rejection	(90.1 MHz)		$\geq 75 \text{ dB}$	-
THD (60 dB μ , L=R 75 kHz for AH, 40 kHz Dev for C)		Mono	$\leq 0.7 \%$	$\leq 0.7 \%$
		Stereo	$\leq 0.1 \%$	$\leq 0.1 \%$
Auto-Search Sensitivity		On	$\geq 24 \text{ dB}\mu$	$\geq 24 \text{ dB}\mu$
		Off	$\leq 15 \text{ dB}\mu$	$\leq 15 \text{ dB}\mu$
RDS decode Sensitivity			$\leq 33 \text{ dB}\mu$	-
Output level	(98.1 MHz)		$600 \pm 100 \text{ mV}$	$600 \pm 100 \text{ mV}$

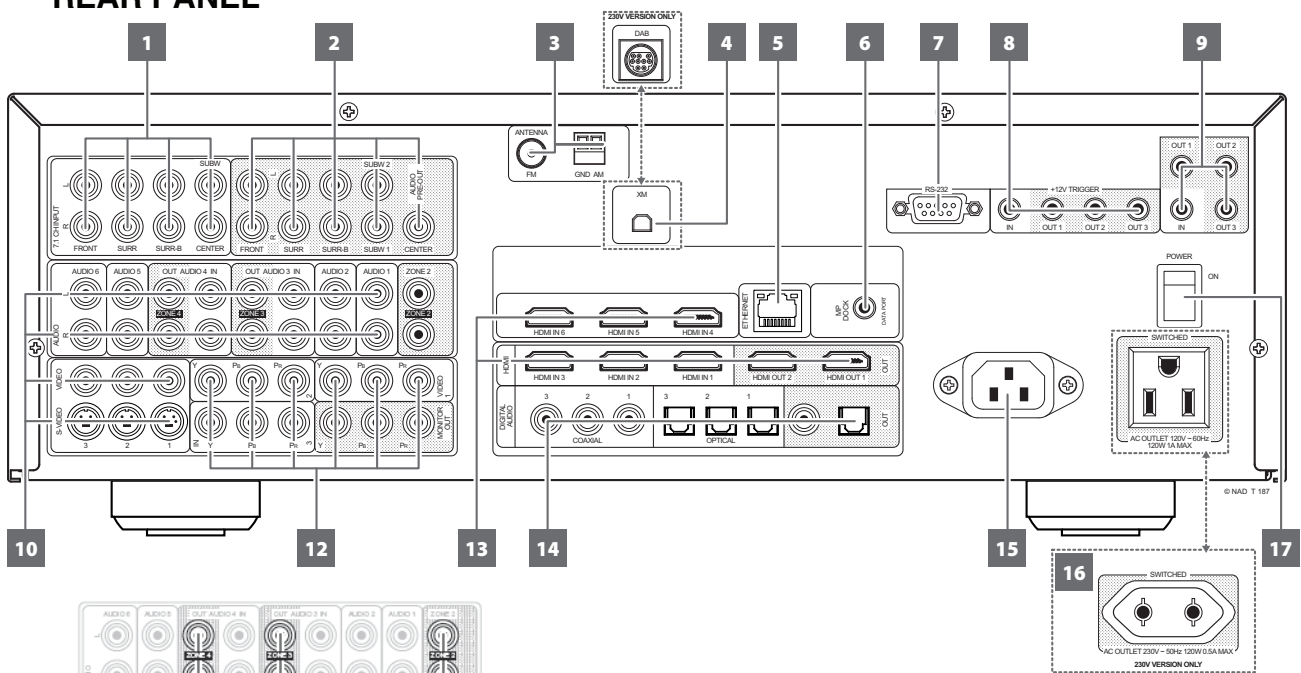
PHYSICAL SPECIFICATIONS

Dimensions (Width x Height x Depth)	435 x 150 x 385 mm (Gross)*
Net Weight	9.6 kg
Shipping Weight	13.5 kg

* Gross dimension includes feet, volume knob and extended rear panel terminals.

REAR PANEL / FRONT PANEL VIEW

REAR PANEL



1. 7.1 CHANNEL INPUT
2. AUDIO PRE-OUT
3. FM/AM ANTENNA TERMINAL
4. XM MODULE INPUT (120V version model only)
DAB MODULE INPUT (230V version model only)

5. ETHERNET/LOCAL AREA NETWORK (LAN) PORT

6. MP DOCK

7. RS 232

8. +12V TRIGGER OUT / IN

9. IR IN/IR OUT

10. AUDIO 1-6/VIDEO 1-3/S-VIDEO 1-3
AUDIO 3-4 OUT

11. ZONE 2-3-4

12. COMPONENT VIDEO INPUT 1-3
COMPONENT VIDEO OUT

13. HDMI (HDMI IN 1-6 HDMI OUT 1-2)

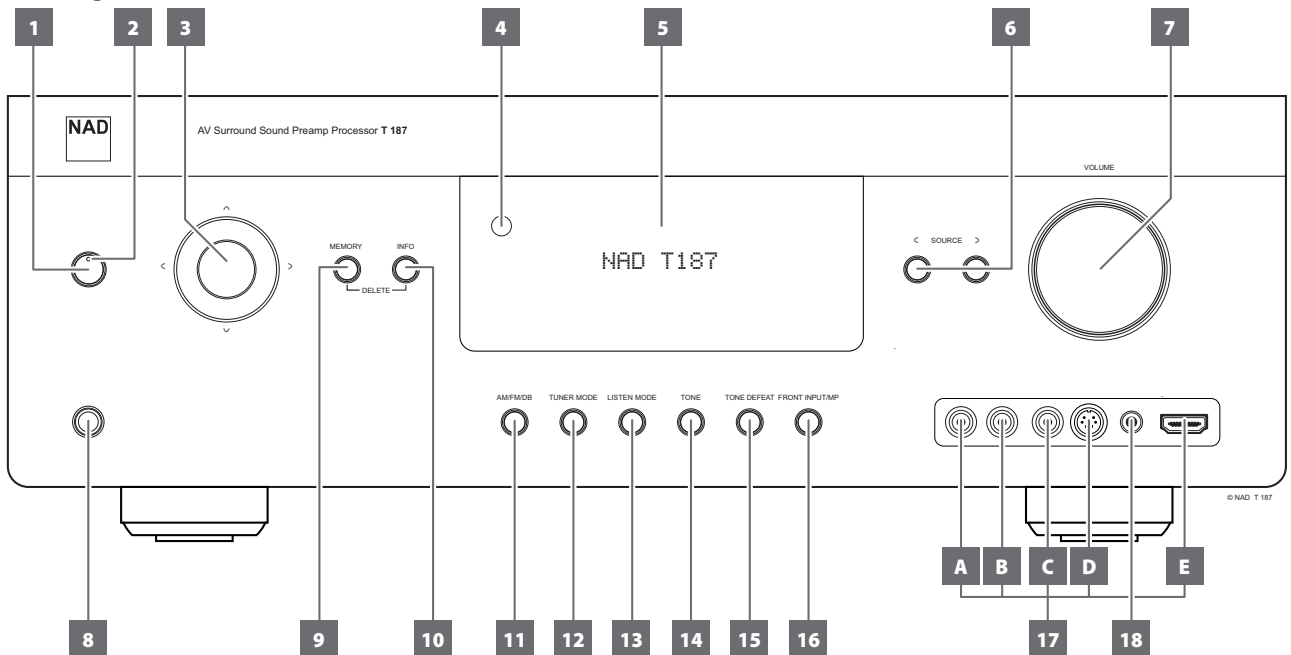
14. DIGITAL AUDIO (COAXIAL 1-3
OPTICAL 1-3)
DIGITAL AUDIO OUT (OPTICAL COAXIAL)

15. AC MAINS INPUT

16. SWITCHED AC OUTLET

17. POWER

FRONT PANEL



1. STANDBY BUTTON
2. STANDBY LED
3. NAVIGATION and ENTER BUTTONS
4. REMOTE SENSOR

5. VACUUM FLUORESCENT DISPLAY (VFD)

6. SOURCE

7. VOLUME

8. PHONES

9. MEMORY

10. INFO

11. AM/FM/DB

12. TUNER MODE

13. LISTEN MODE

14. TONE

15. TONE DEFEAT

16. FRONT INPUT/MP

17. FRONT INPUT PORTS

18. FRONT MP/MIC INPUT

DISASSEMBLY INSTRUCTIONS

1. Remove machine screws M4.0 x 8.0 (**x 6pcs**) from the side panels.
Remove tapping screw 3.0 x 8.0 (**x 3pcs**) from the back panel.
Refer to **Figure No. 1**.

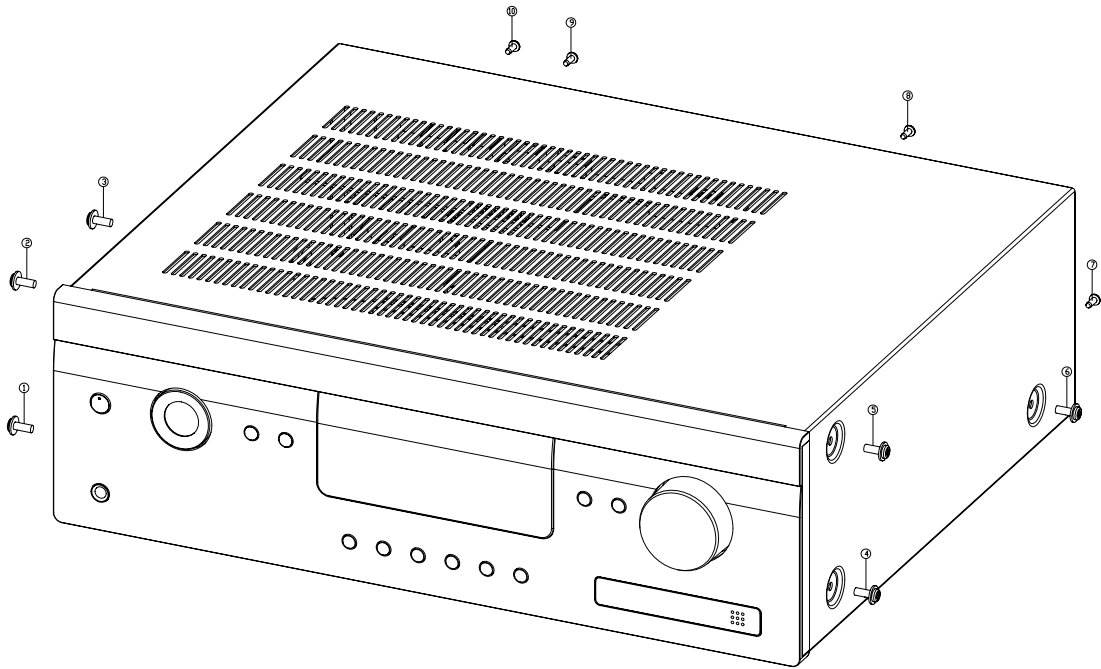


Figure No. 1

2. Pull both sides of the TOP COVER slightly outwards and tilt approx. 35 ° and then remove in the direction as indicated. Refer to **Figure No. 2**.

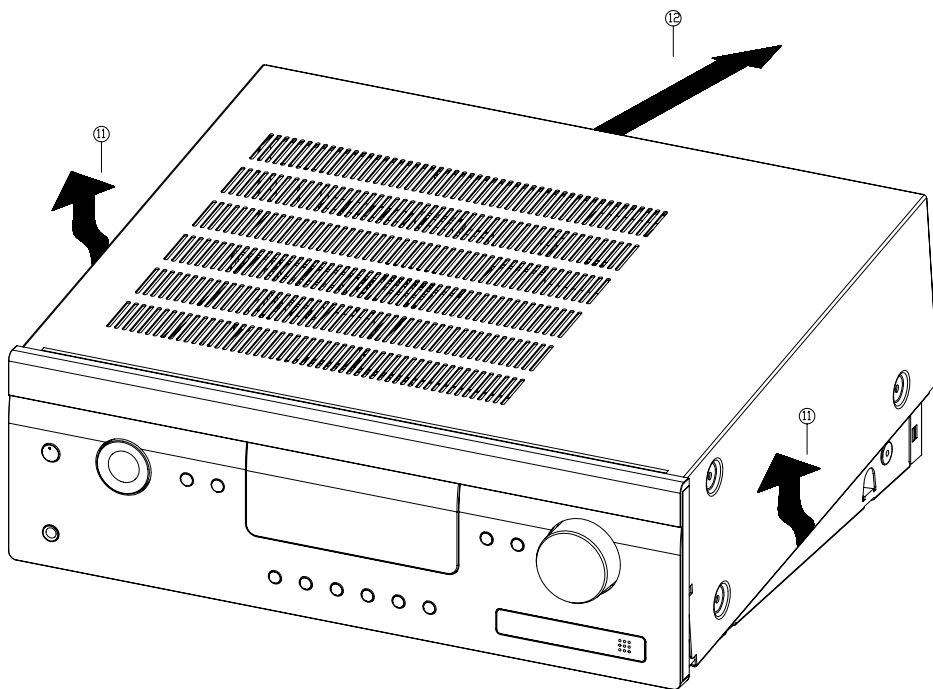
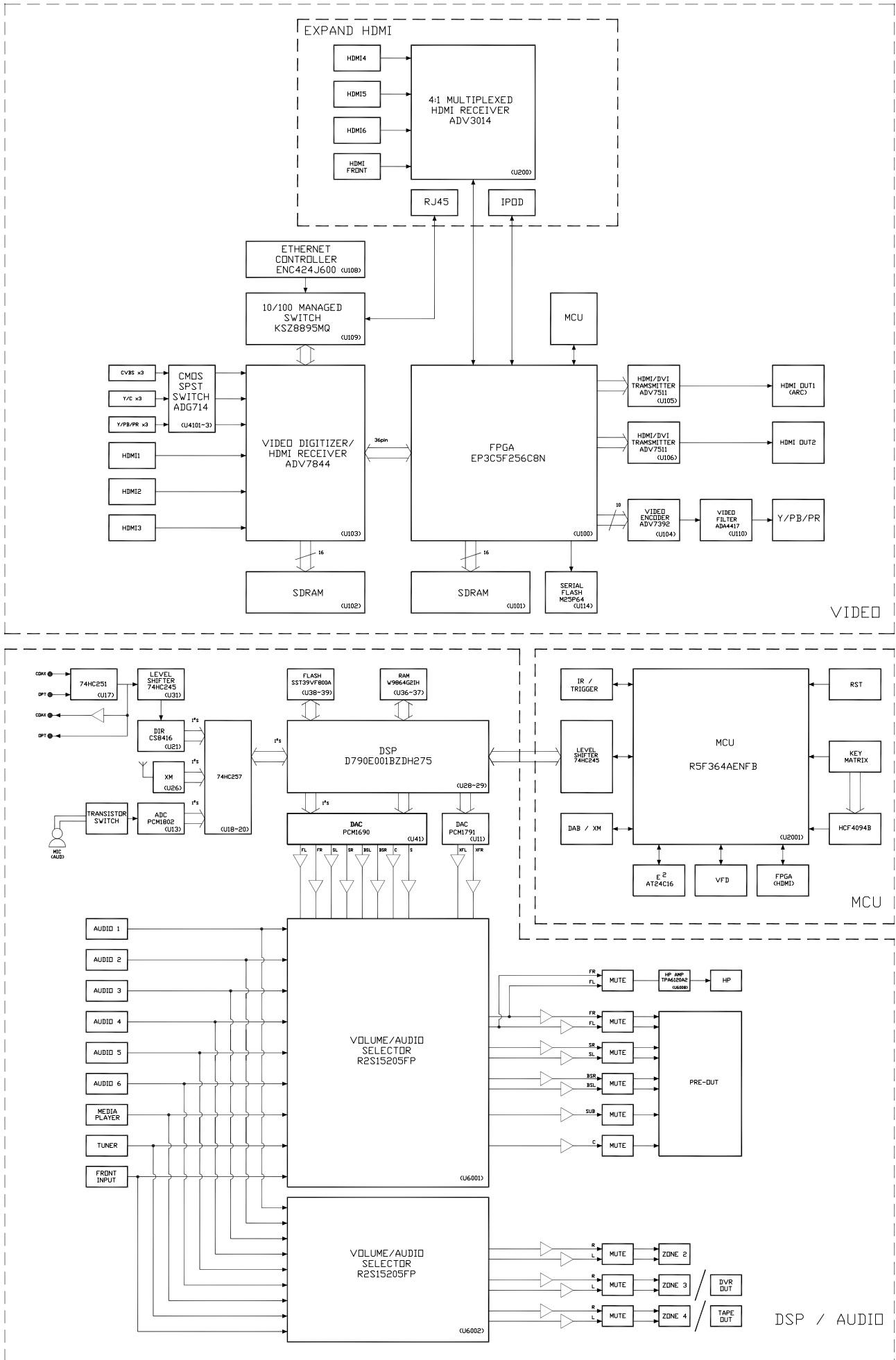


Figure No. 2

WIRING DIAGRAM PARTS LIST

Item	Database Part Number	Description	Remark
1	0600100367-902000	CABLE ASSY UL1007 AWG26 5PIN 2.5P L=400mm "ROHS"	PSU BD-J8002A
2	0600100153-902000	CABLE ASSY UL1672 AWG16 1PIN BLUE L=140mm FASTON 4.8mm "ROHS"	PSU BD-J8011A
3	0600100154-902000	CABLE ASSY UL1672 AWG16 1PIN BROWN L=140mm FASTON 4.8mm "ROHS"	PSU BD-J8012A
4	0600100150-902000	CABLE ASSY UL2854 AWG26 3PIN 2.5P L=110 "ROHS"	VOLUME BD- J6004C
5	0600100323-902000	CABLE ASSY UL2468 AWG26x1C 7PIN 2.5P L=240mm "ROHS"	VOLUME BD- J2016A
6	0600100392-902000	CABLE ASSY UL1007 AWG26 3PIN 2.5P L=230mm WHT/BLK "ROHS"	PCU BD-J8004A
7	0600100321-902000	CABLE ASSY UL1007 AWG24 2PIN 2.5P L=220mm "ROHS"	PCU BD-J8003A
8	0600100189-902000	CABLE ASSY UL2651 AWG28 20PIN L=120mm PCB MOUNT "ROHS"	KEY BD-J2002A
9	0600100067-902000	CABLE ASSY UL1533 AWG26 6PIN 2.5P L=200mm "ROHS"	F-INPUT BD- J2006A
10	0600100132-902000	CABLE ASSY UL1007 AWG26 6PIN 2.5P L=150mm "ROHS"	F-INPUT BD- J2005A
11	0600100146-902000	CABLE ASSY UL2854 AWG26 3PIN 2.5P L=310 "ROHS"	CONN#1-J9006A
12	06001000147-902000	CABLE ASSY UL2854/1533 AWG26 5PIN 2.5P L=230/320 "ROHS"	CONN#1- J9004A/J9005A
13	0600100158-902000	CABLE ASSY UL2854 AWG26 3PIN 2.5P L=230mm "ROHS"	CONN#1- J9008A/B
14	0600100352-902000	CABLE ASSY UL1007 AWG18 2PIN 3.96P L=220mm "ROHS"	PSU BD-J9009A
15	0600100148-902000	CABLE ASSY UL1007 AWG18 1PIN L=320MM W/ HEADER "ROHS"	CONN#1- JP9001A
16	0610100014-902000	CABLE ASSY FFC 11 PINS P1.25 L=280mm "ROHS"	TUNER-J6003A
17	0600100032-902000	CABLE ASSY UL1015 AWG16 1PIN GREEN/YELLOW L=100mm "ROHS"	1-CHASSIS GND 1-AC OUTLET GND
18	0610100013-902000	CABLE ASSY FFC 19 PINS P0.5 L=400mm BLACK/ WHITE "ROHS"	VM150X HDMI BD-J204
19	0600100356-902000	CABLE ASSY UL1007 AWG28 3PIN 2.5P L=370mm "ROHS"	F-HDMI BD- J9401A
20	0600100162-902000	CABLE ASSY UL1672 AWG18 1PIN BLUE L=80mm "ROHS"	1-INLET/PSU BD 1-OUTLET/ PSU BD
21	0600100163-902000	CABLE ASSY UL1672 AWG18 1PIN BROWN L=80mm "ROHS"	1-INLET/PSU BD 1-OUTLET/ PSU BD
22	0600100165-902000	CABLE ASSY UL2651 AWG28 26PIN L=450mm "ROHS"	TRIGGER MCU BD-J2301C
23	0600100148-902000	CABLE ASSY UL1007 AWG18 1PIN L=320MM W/ HEADER "ROHS"	DSP BD-J11
24	0601000366-902000	CABLE ASSY UL1007 AWG18 1PIN BLACK L=150mm W/ RING "ROHS"	F-INPUT BD- END

BLOCK DIAGRAM



SPECIAL KEYS

Function	Keys	Notes
Factory Reset	Source Down + Front/MP	
Toggle IR Channel	Source Down + Power	
System Info	Source Down + Source Up	
MIC Test	Source Down + Tone Defeat	
VFD Test	Source Down + Display	
PAL/NTSC	Source Down + Memory	
9k/10k	Source Up + Tuner Band	Must reselect AM before change takes effect.
XM 1kHz Test Tone	Tuner Band + Tuner Mode	XM must be selected first.
XM Signal Strength	Tuner Mode for 0.5 seconds	XM must be selected first.
XM Diagnostics Mode	Tuner Mode for 3 seconds	XM must be selected first.
Check DAB Module Version	Tuner Mode for 3 seconds	DAB must be selected first.
Enter Diagnostics Mode	Source Down + Enter	
Diagnostic Mode Down	Source Down + Cursor Right	
Diagnostic Mode Up	Source Down + Cursor Left	
Power Off All Zones	Power Toggle or Power Off for 3 seconds	

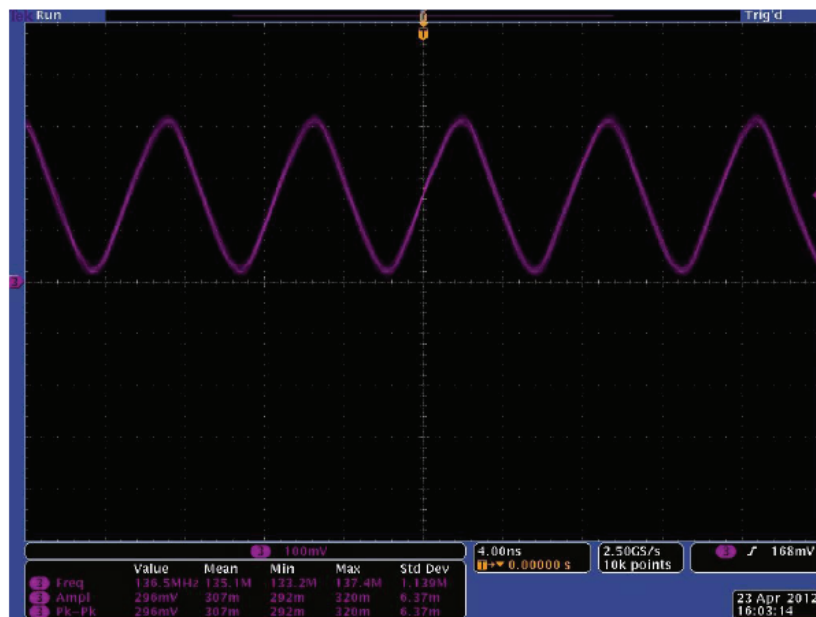
DETAILS & WAVEFORMS ON SYSTEM TEST & DEBUGGING (T187)

DSP Board (AM200)

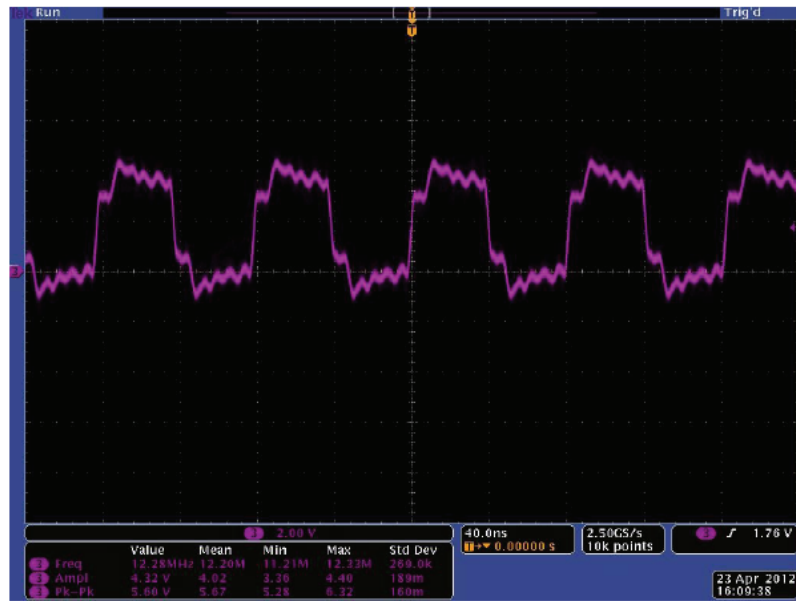
X1 Pin 3
(Oscillator
Output)



U36/U37 Pin 68
(SDRAM Clock)



U22 Pin 2/3/14
(Analog Input)



U22 Pin 2/3/14
(PCM Stereo Input)



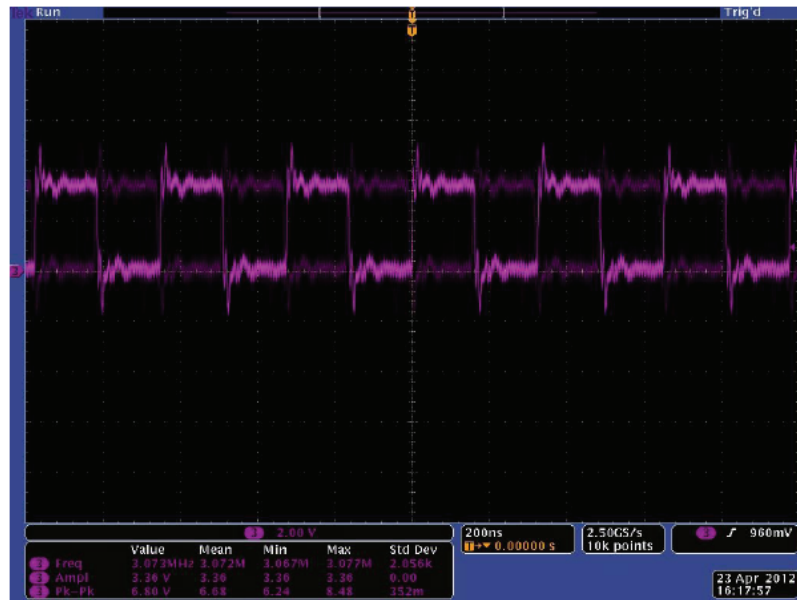
R167 Pin 1/2
(Analog Input)



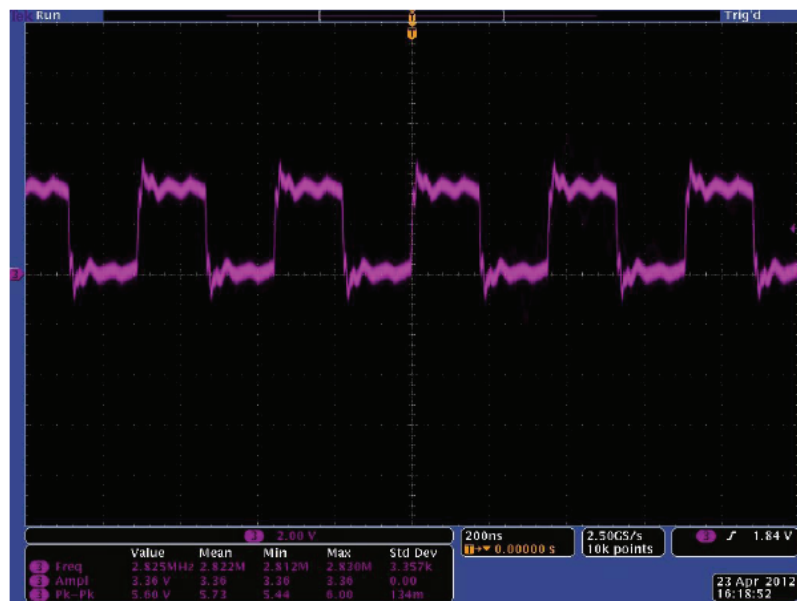
R167 Pin 1/2
(PCM Stereo
Input)



R168 Pin 1/2
(Analog Input)



R168 Pin 1/2
(PCM Stereo
Input)



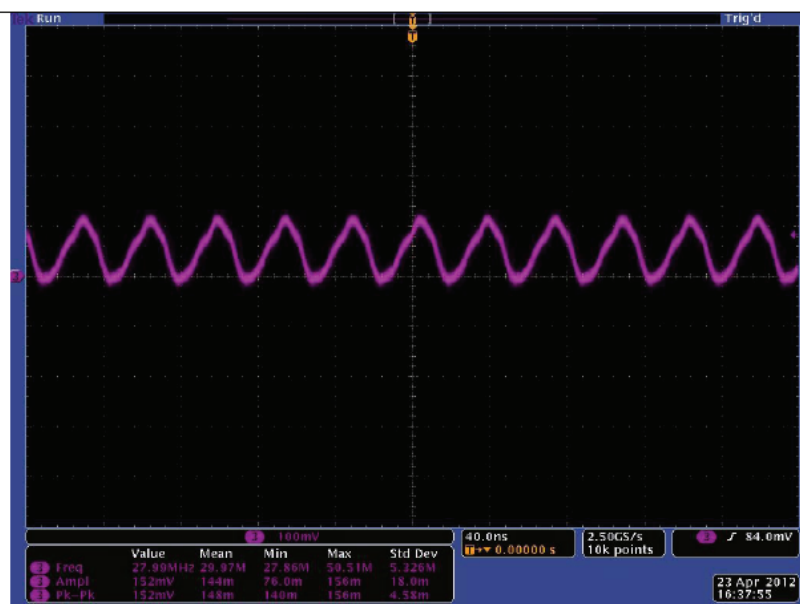
MCU Board

X2001A Pin3
(Oscillator
Output)

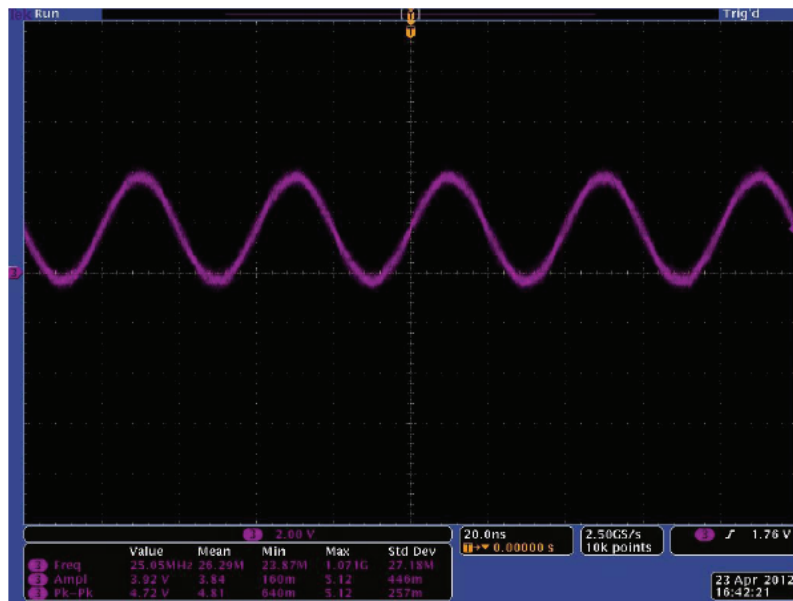


HDMI Board (VM150)

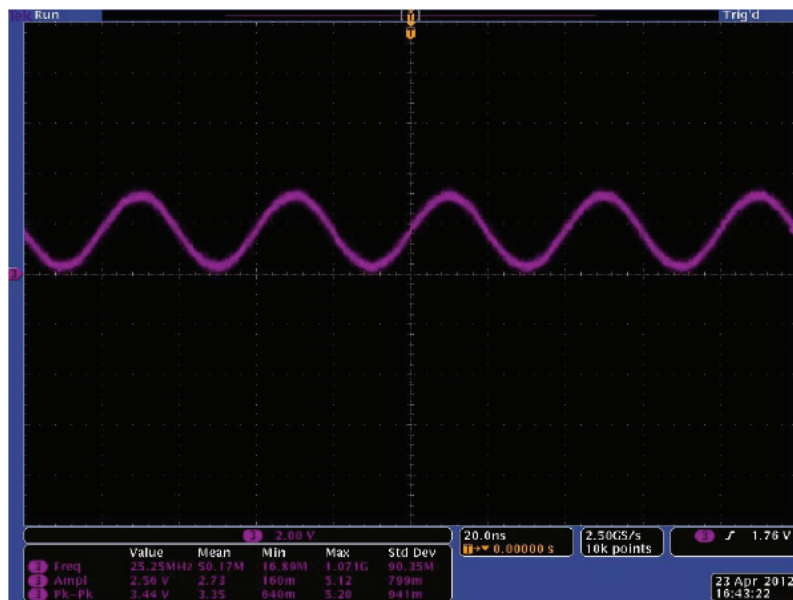
Y100 Pin 1/2
(Crystal Output)



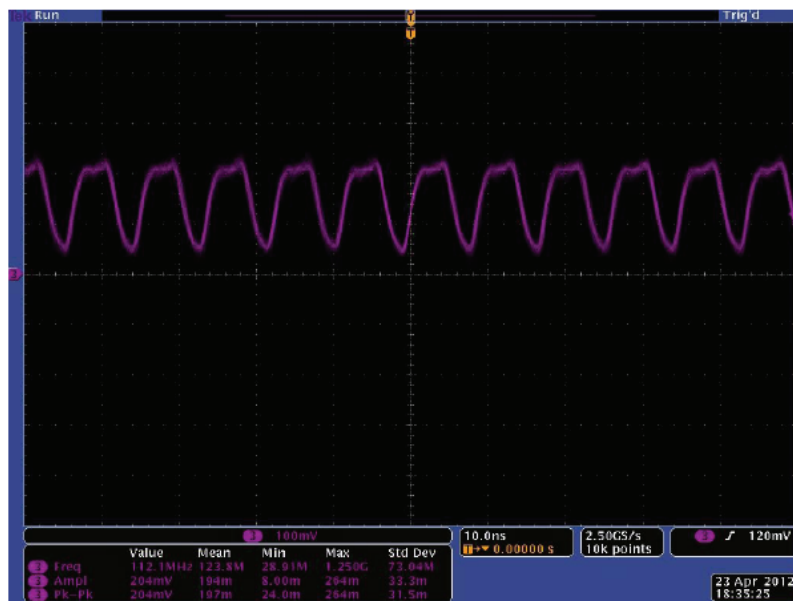
Y101 Pin 1/2
(Crystal Output)



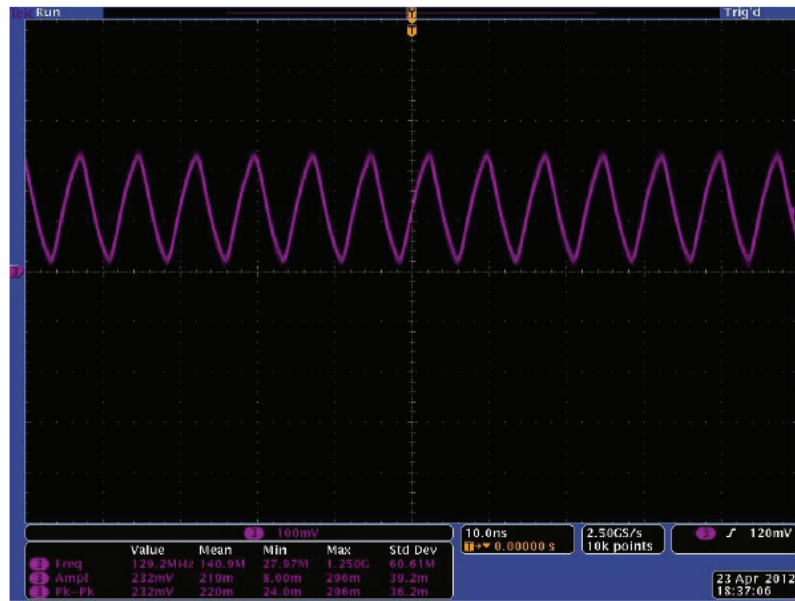
Y102 Pin 1/2
(Crystal Output)



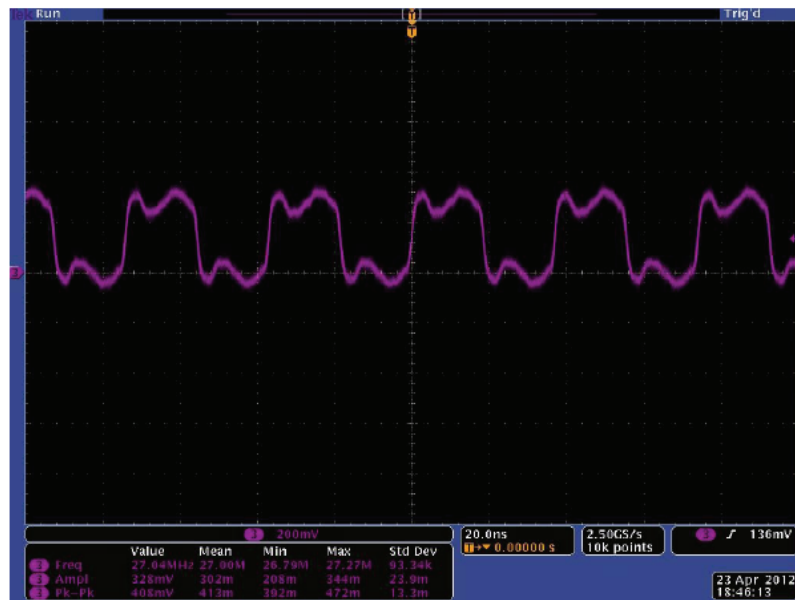
U102 Pin 45
(SDRAM Clock for ADV7844)



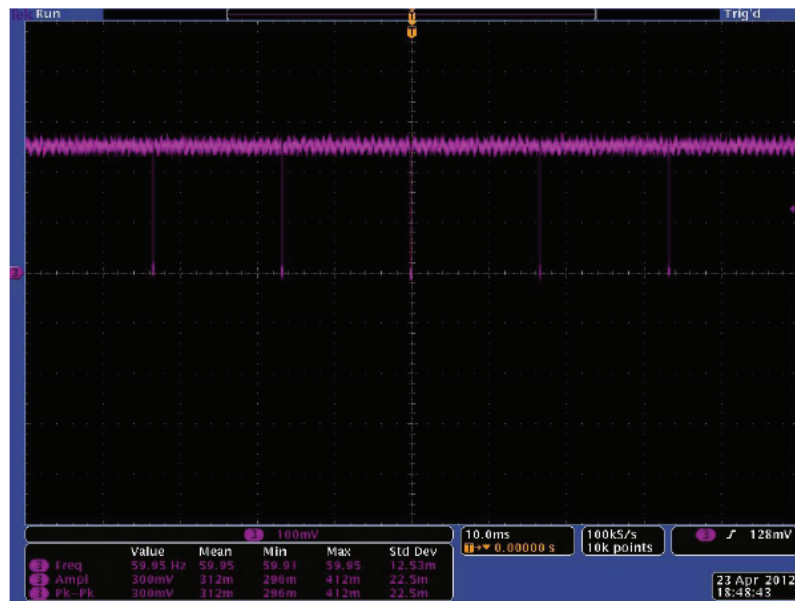
U101 Pin 45
(SDRAM Clock
for
EP4CE15F23C
8N)



U104 Pin 19
(Clock for Video
Encoder Data)



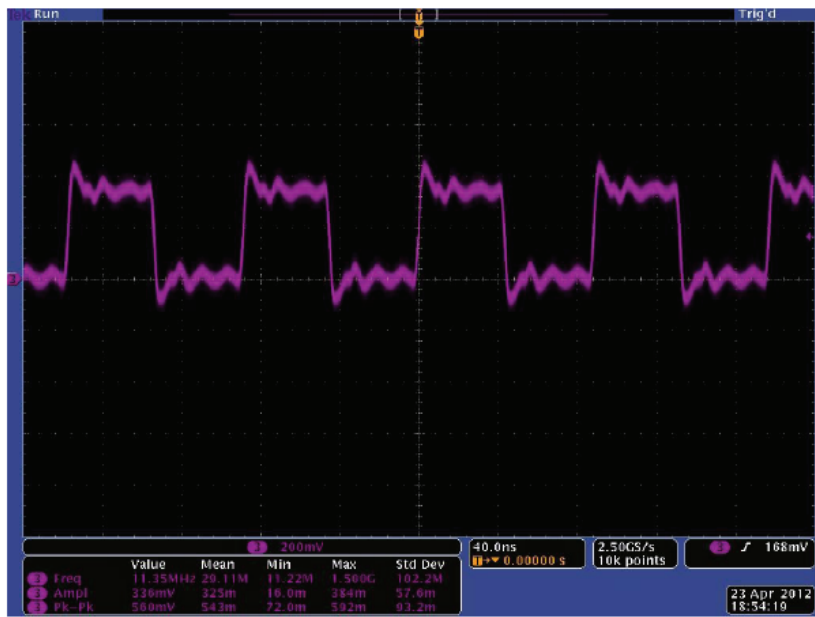
U104 Pin 32
(Video Encoder
VSYNC)



U104 Pin 33
(Video Encoder HSYNC)

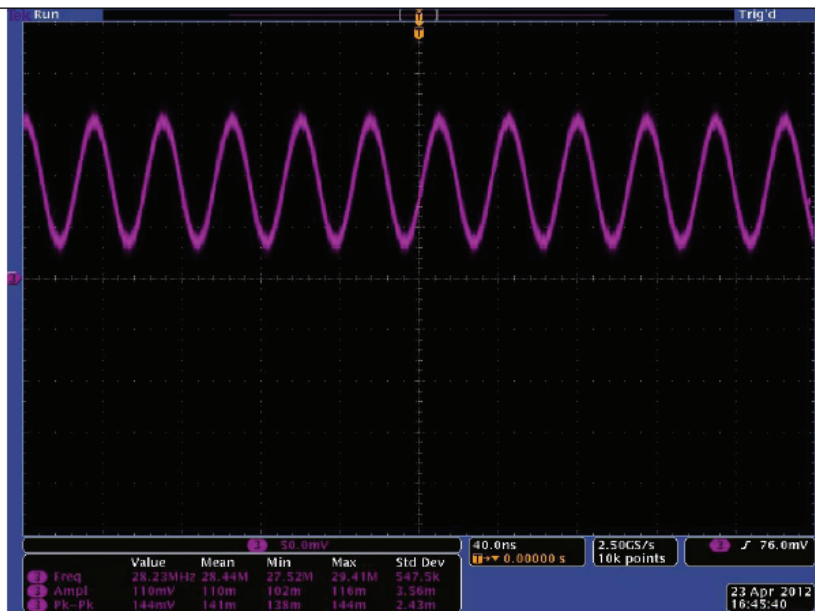


R142 Pin 2/15
(Audio Master Clock)

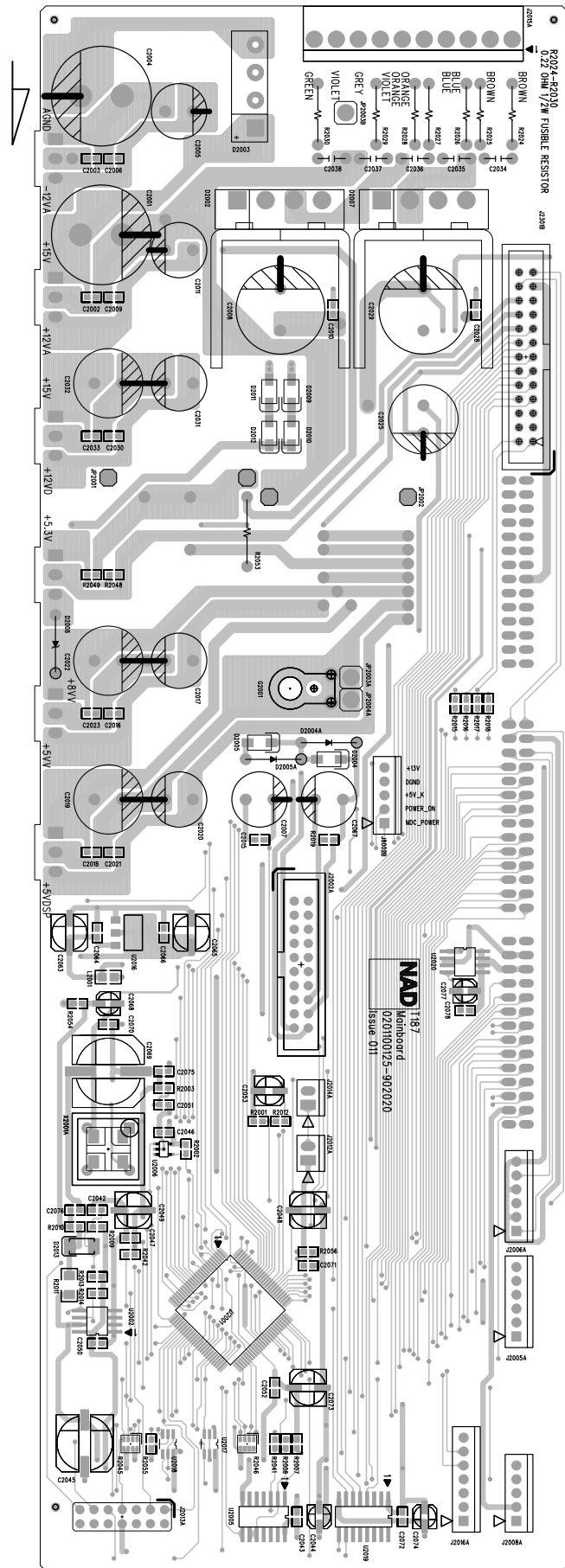


HDMI Extension Board (VM150x)

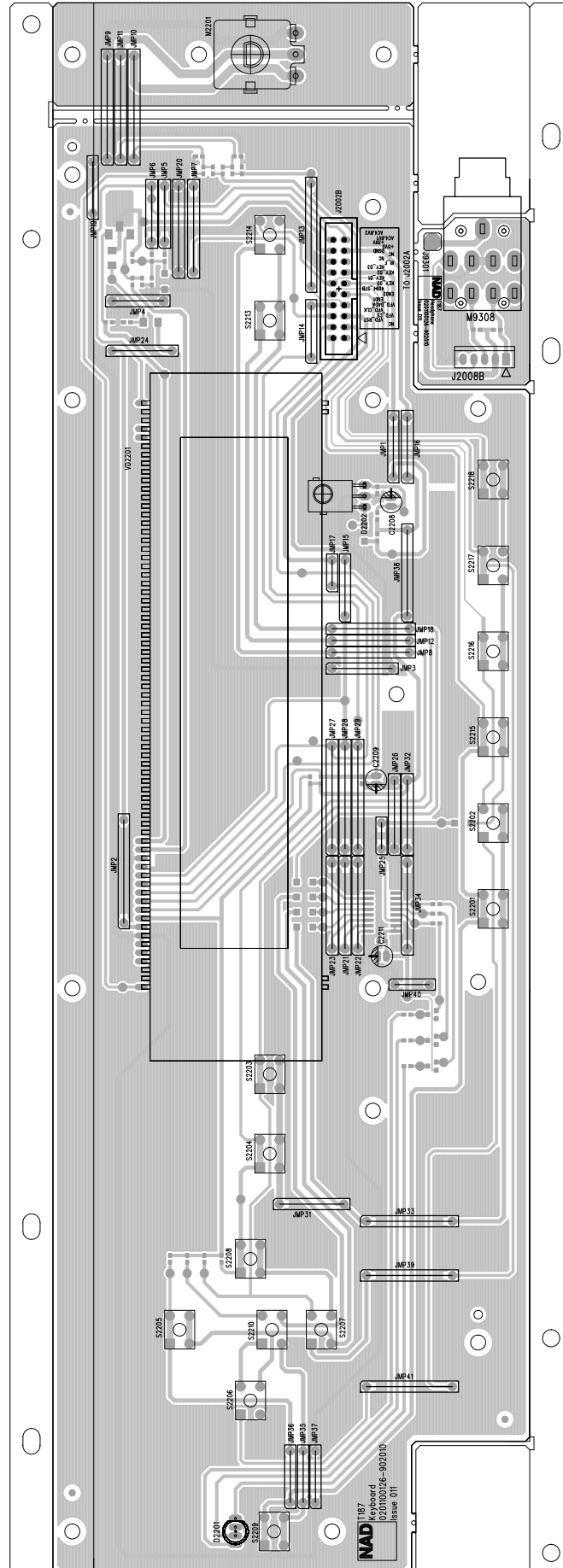
Y200 Pin 1/2
(Crystal Output)



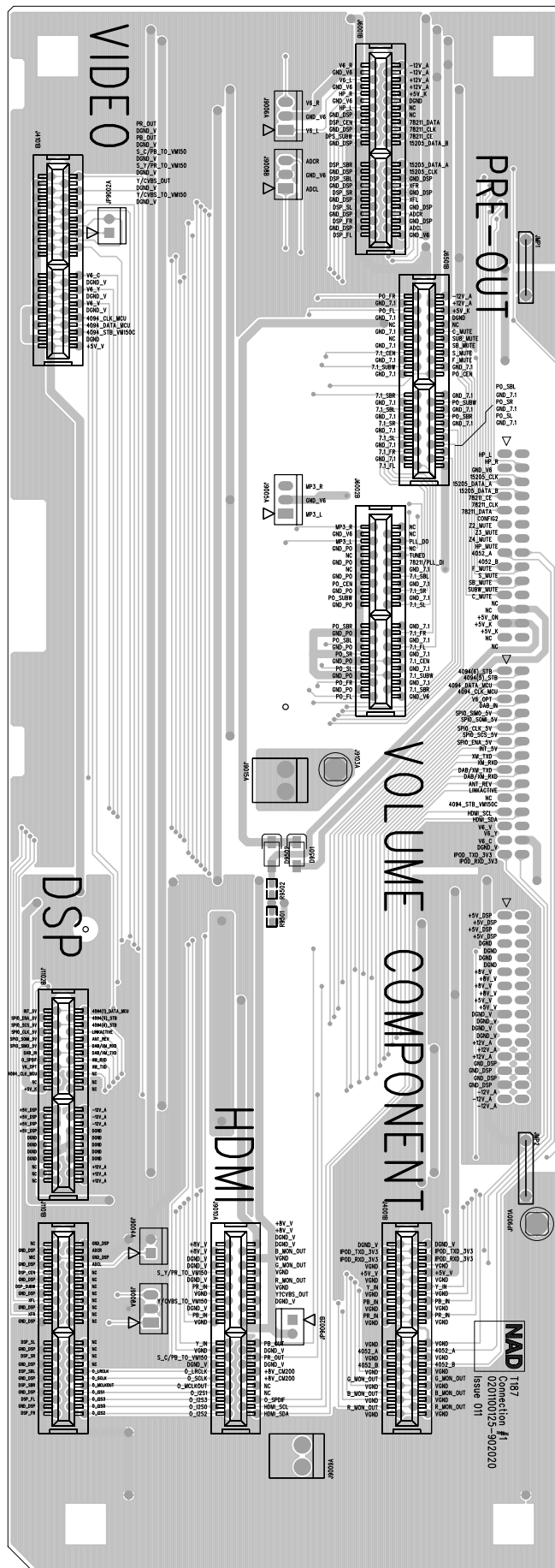
PCB LAYOUT MAIN BOARD - COMPONENT SIDE



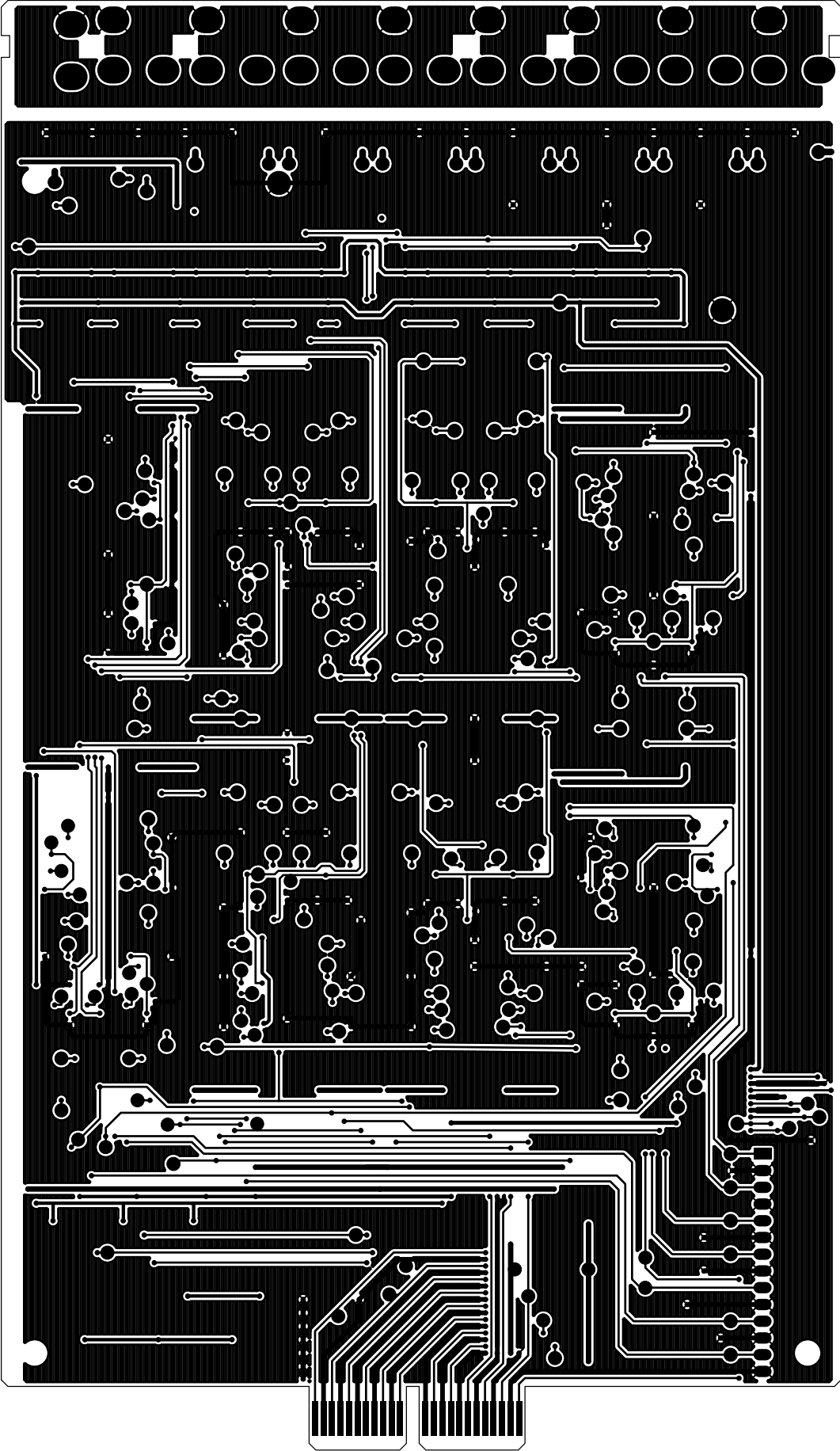
KEY BOARD & PHONE BOARD - COMPONENT SIDE



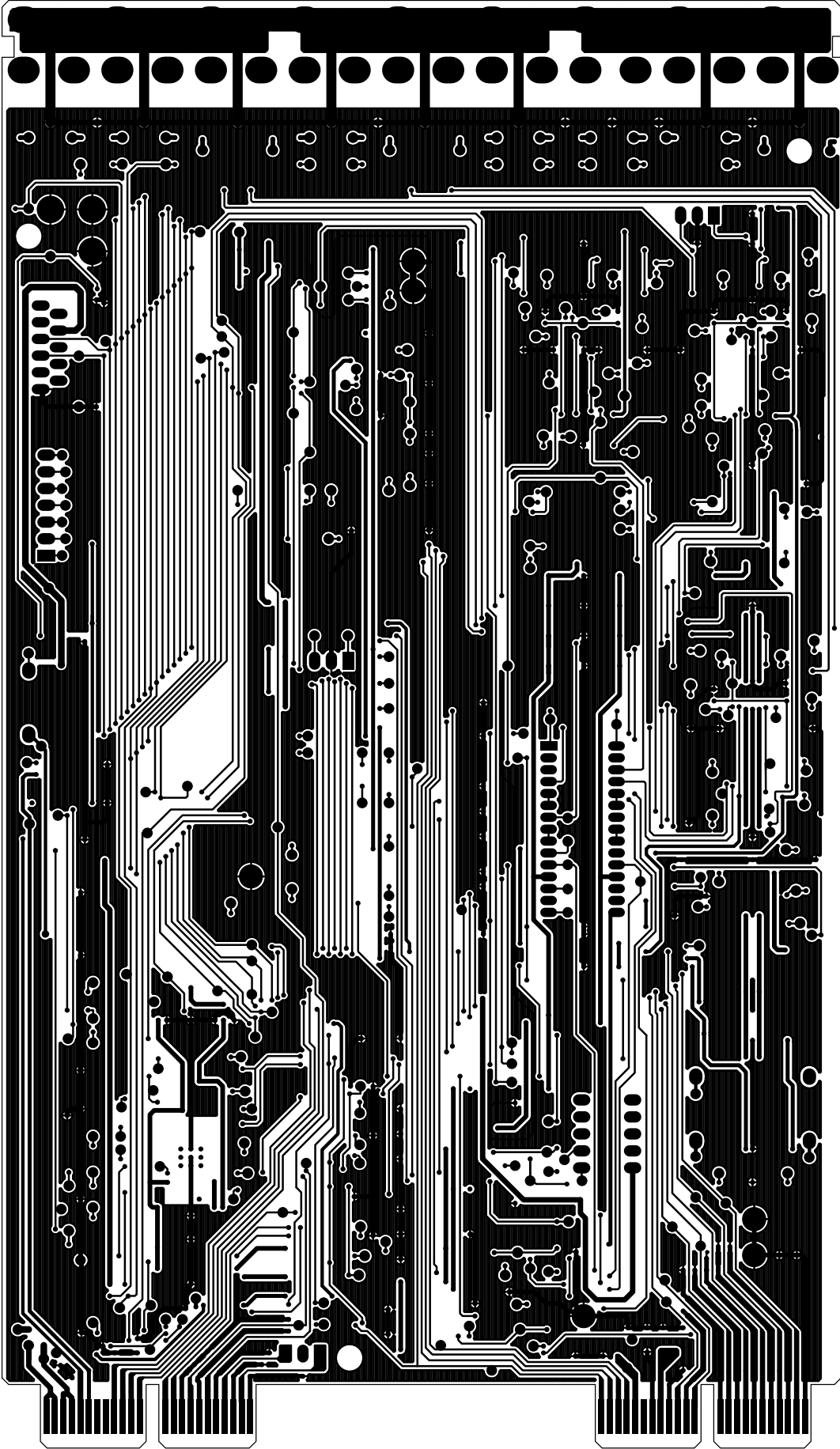
CONNECTION BOARD - COMPONENT SIDE



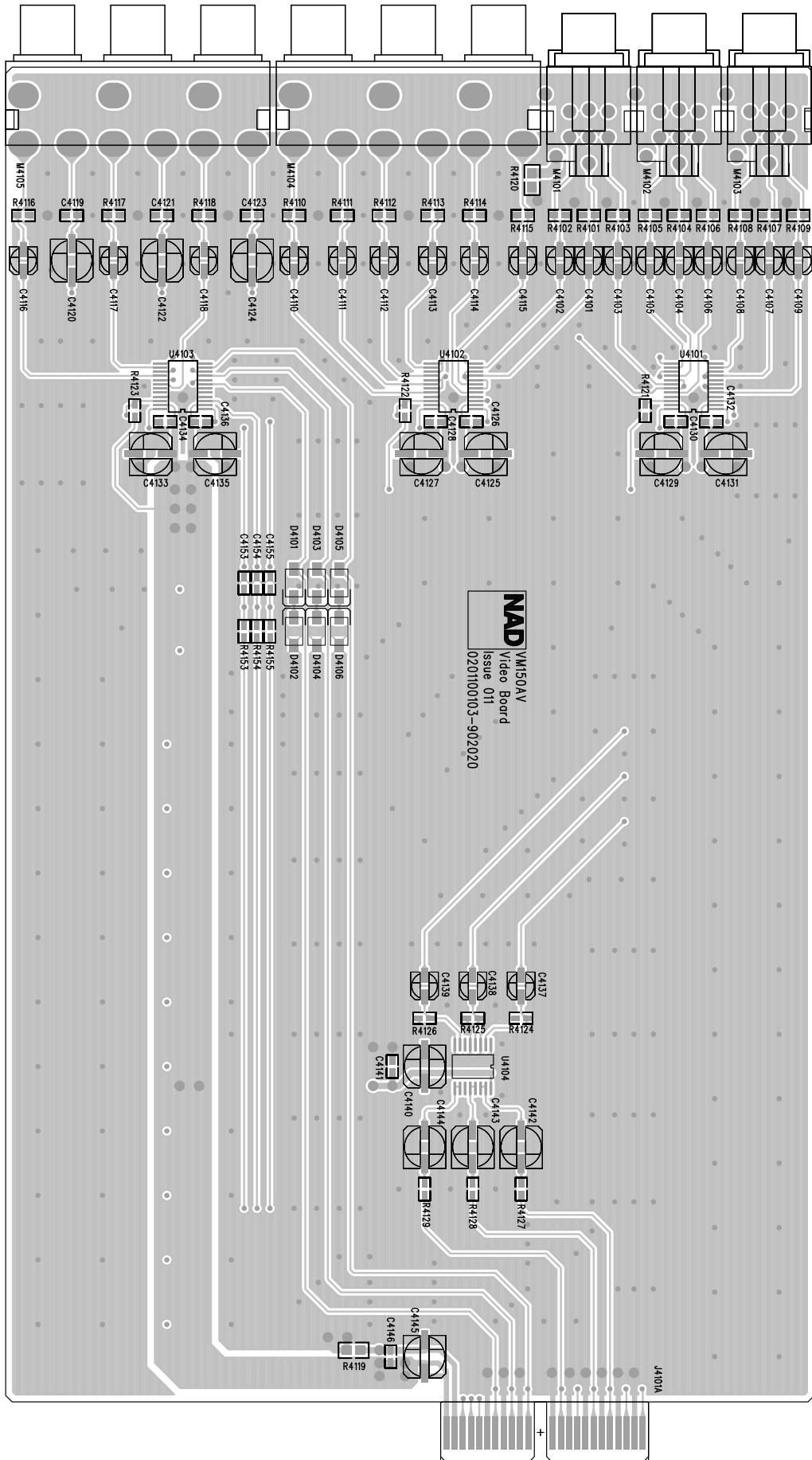
PRE-OUT BOARD - SOLDER SIDE



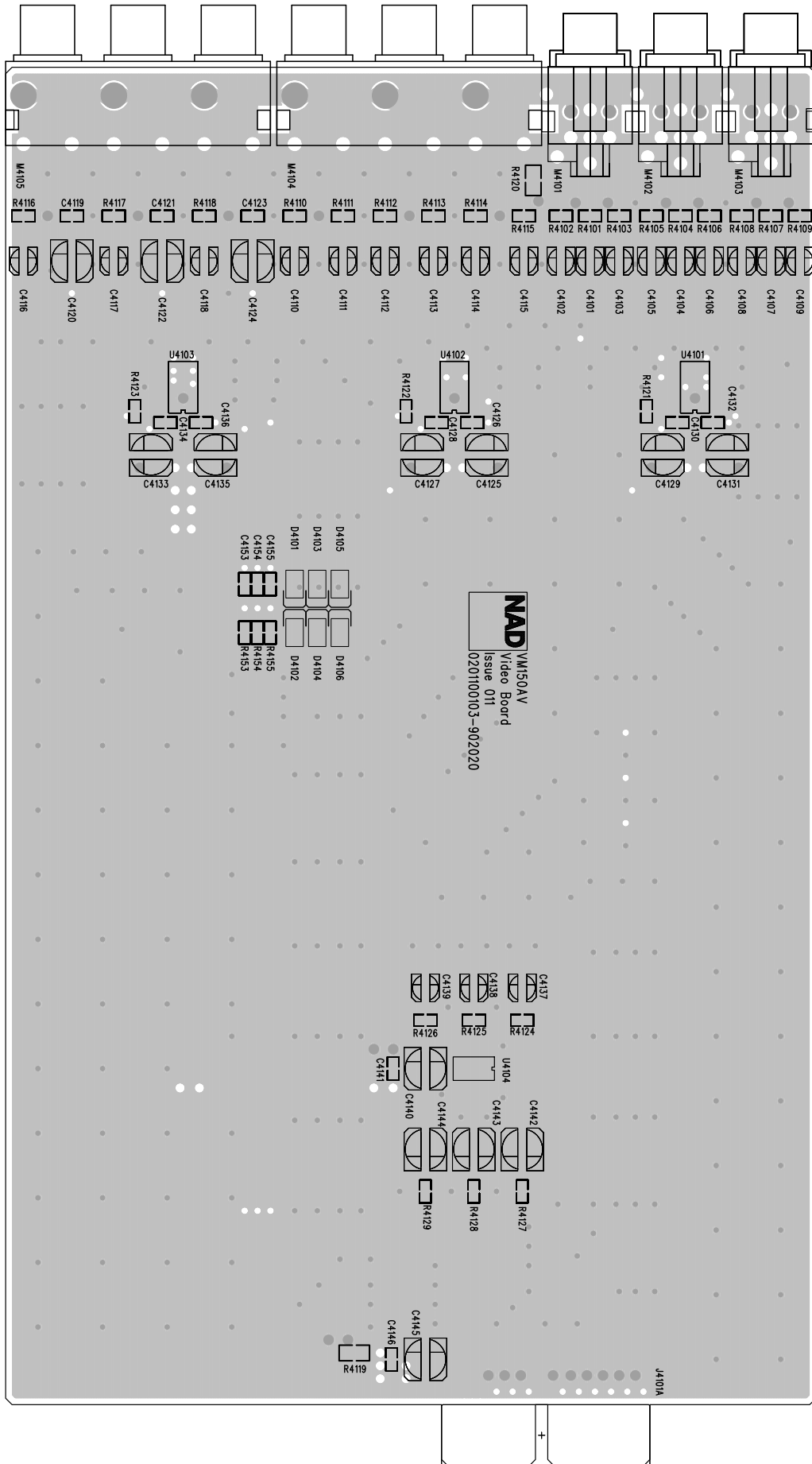
VOLUME BOARD - SOLDER SIDE



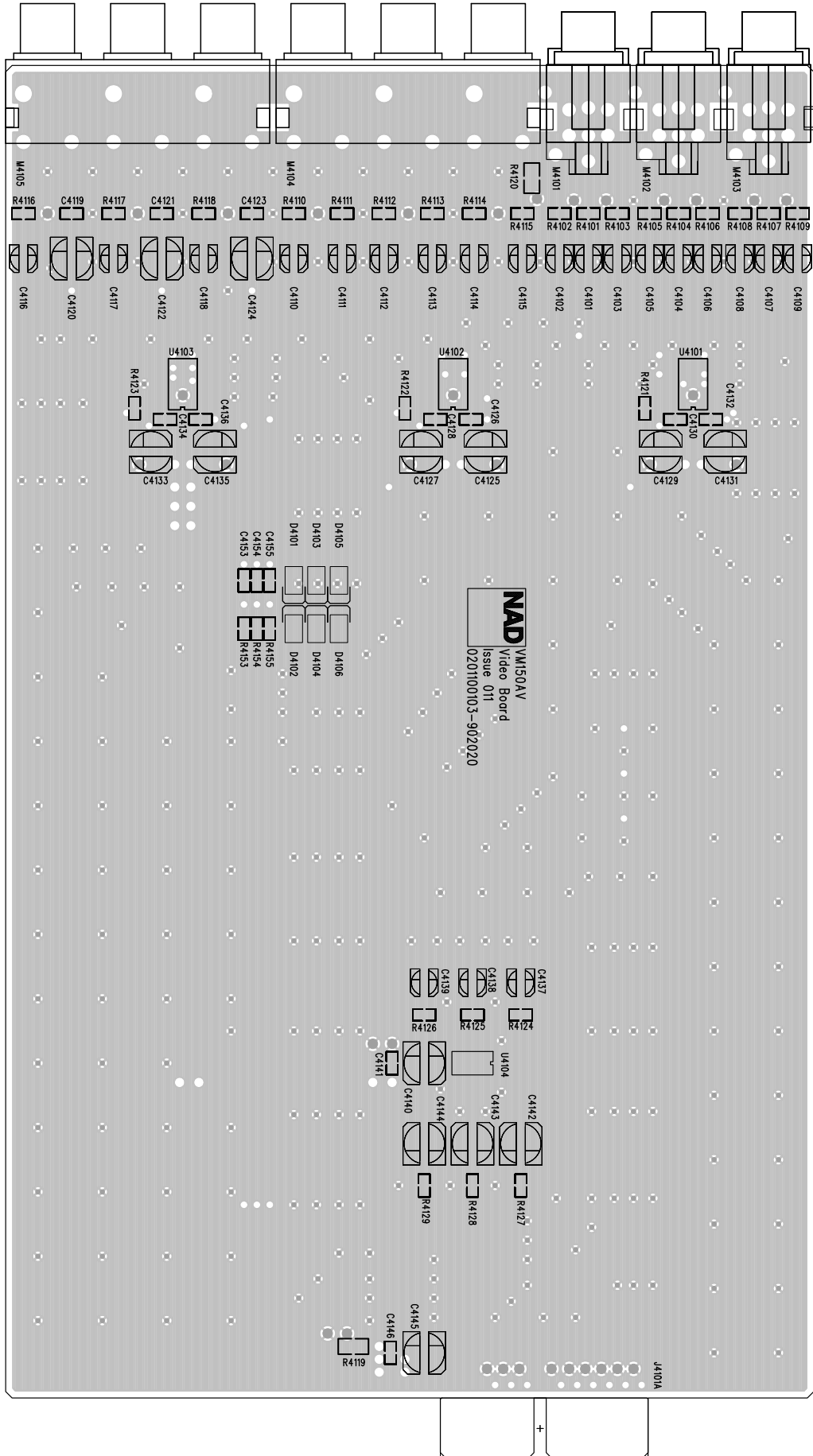
VM150AV ANALOG VIDEO BOARD - COMPONENT SIDE



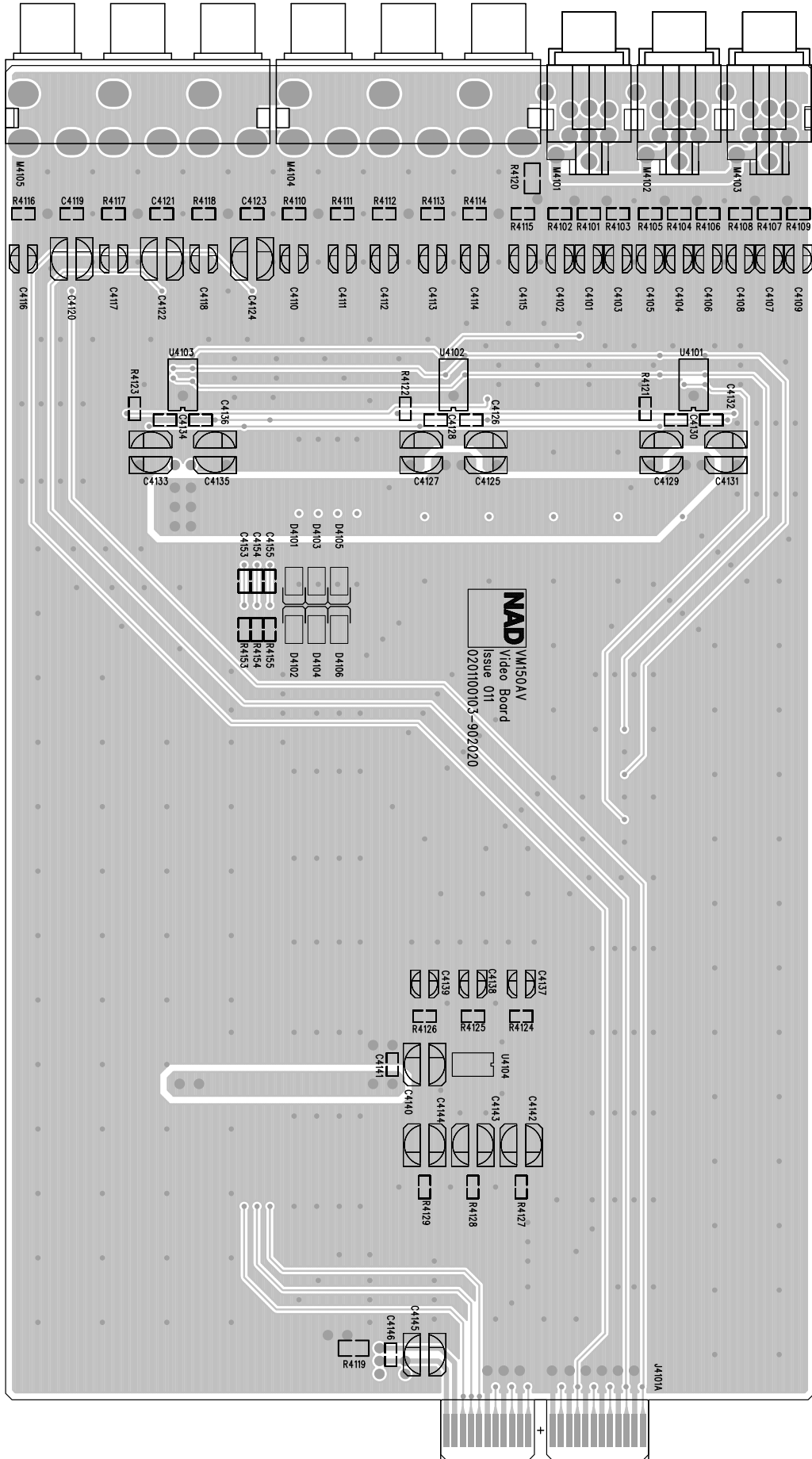
VM150AV ANALOG VIDEO BOARD - LAYER 2



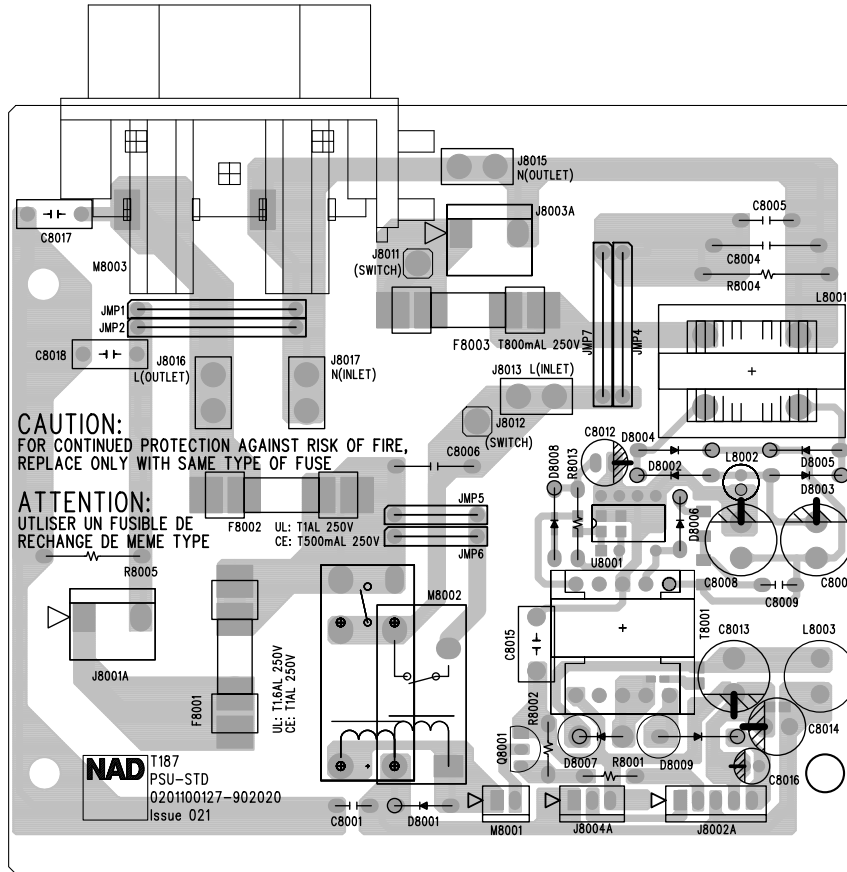
VM150AV ANALOG VIDEO BOARD - LAYER 3



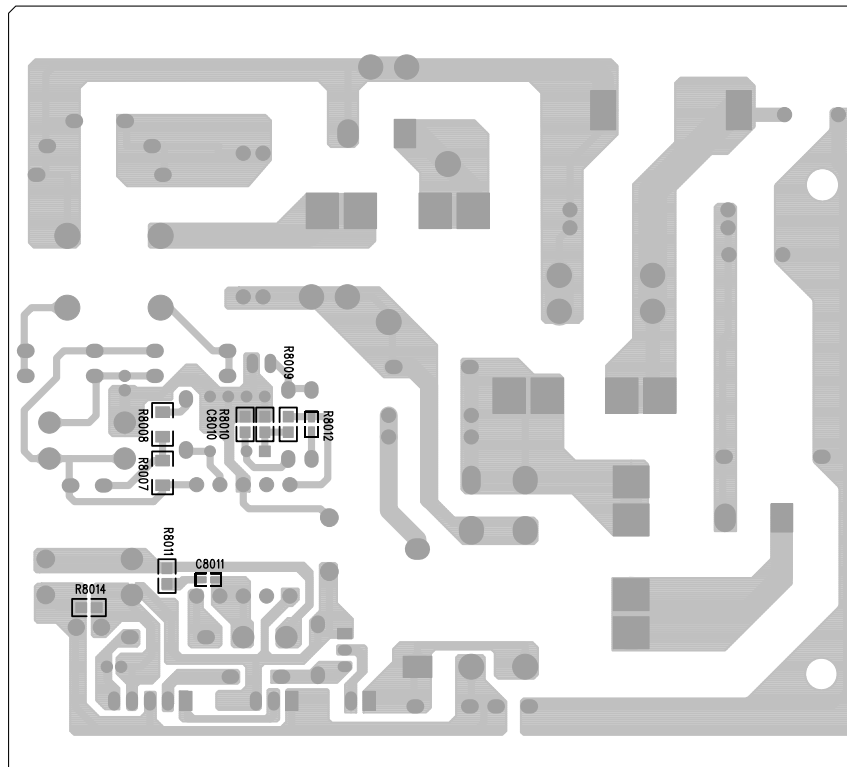
VM150AV ANALOG VIDEO BOARD - SOLDER SIDE



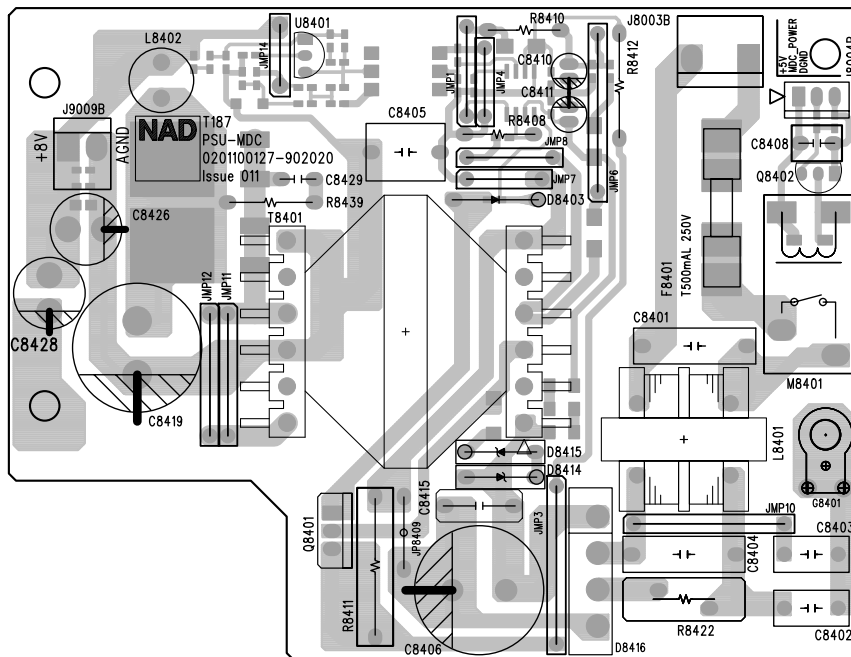
PSU-STD BOARD - COMPONENT SIDE



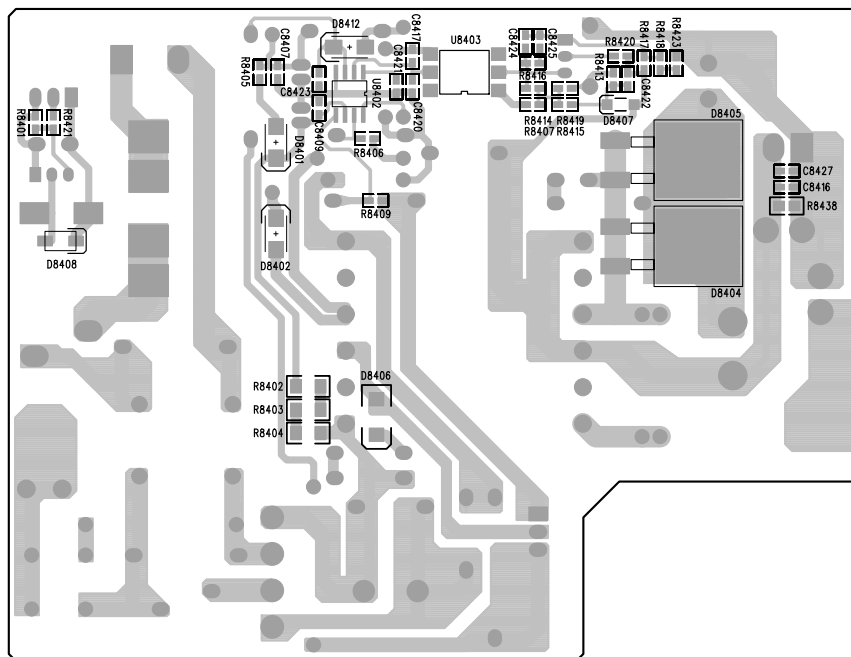
PSU-STD BOARD - SOLDER SIDE



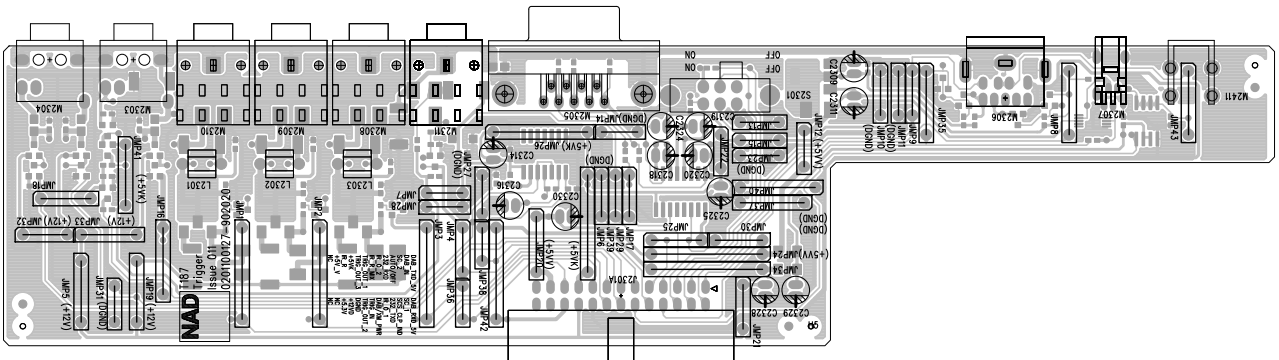
PSU-MDC BOARD - COMPONENT SIDE



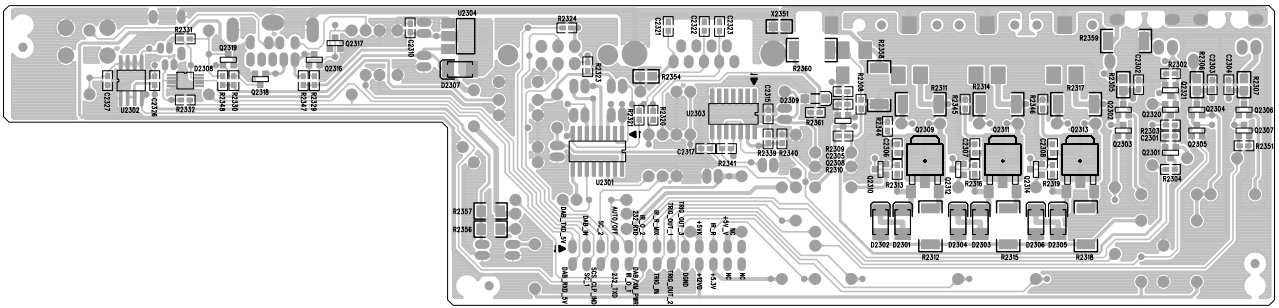
PSU-MDC BOARD - SOLDER SIDE



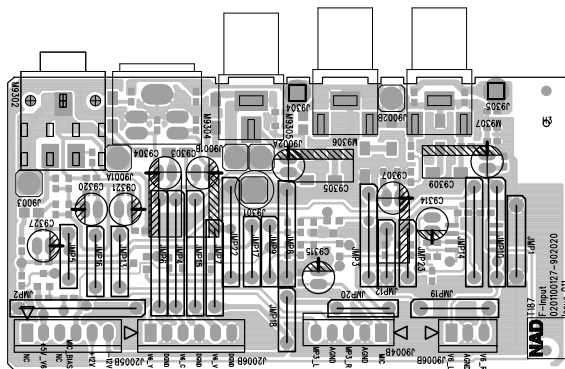
TRIGGER BOARD - COMPONENT SIDE



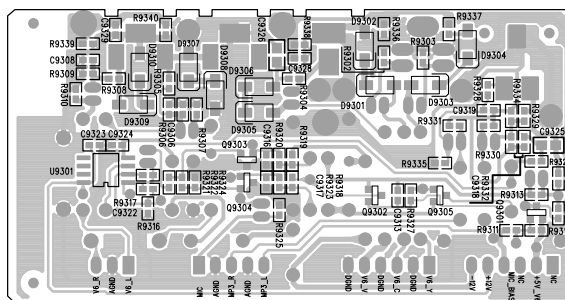
TRIGGER BOARD - SOLDER SIDE



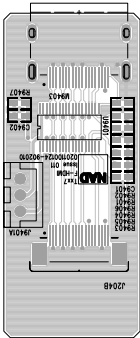
FRONT INPUT BOARD - COMPONENT SIDE



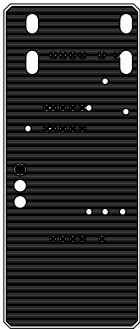
FRONT INPUT BOARD - SOLDER SIDE



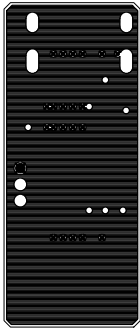
FRONT HDMI BOARD - COMPONENT SIDE



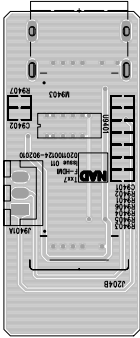
FRONT HDMI BOARD - LAYER 2



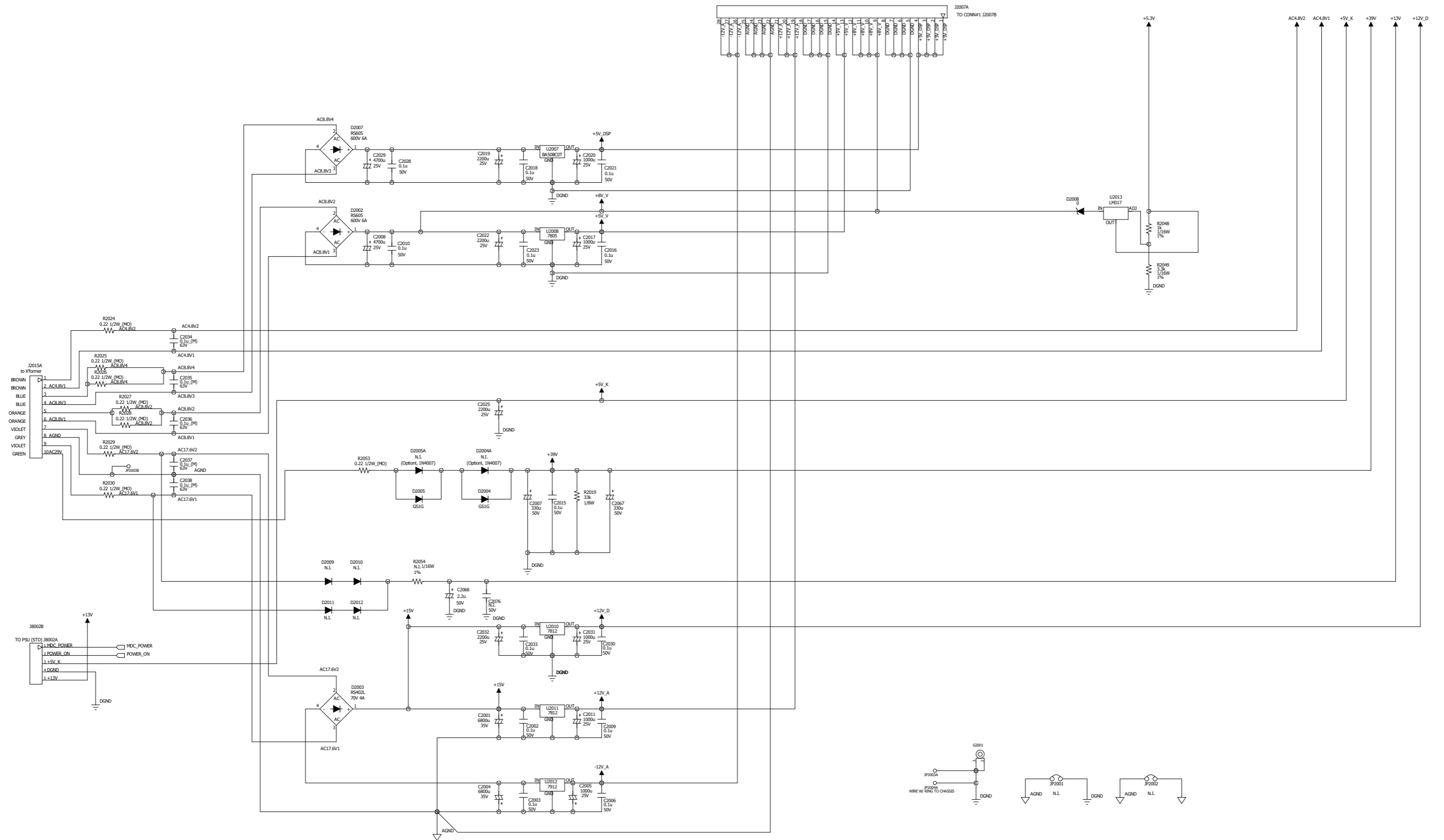
FRONT HDMI BOARD - LAYER 3



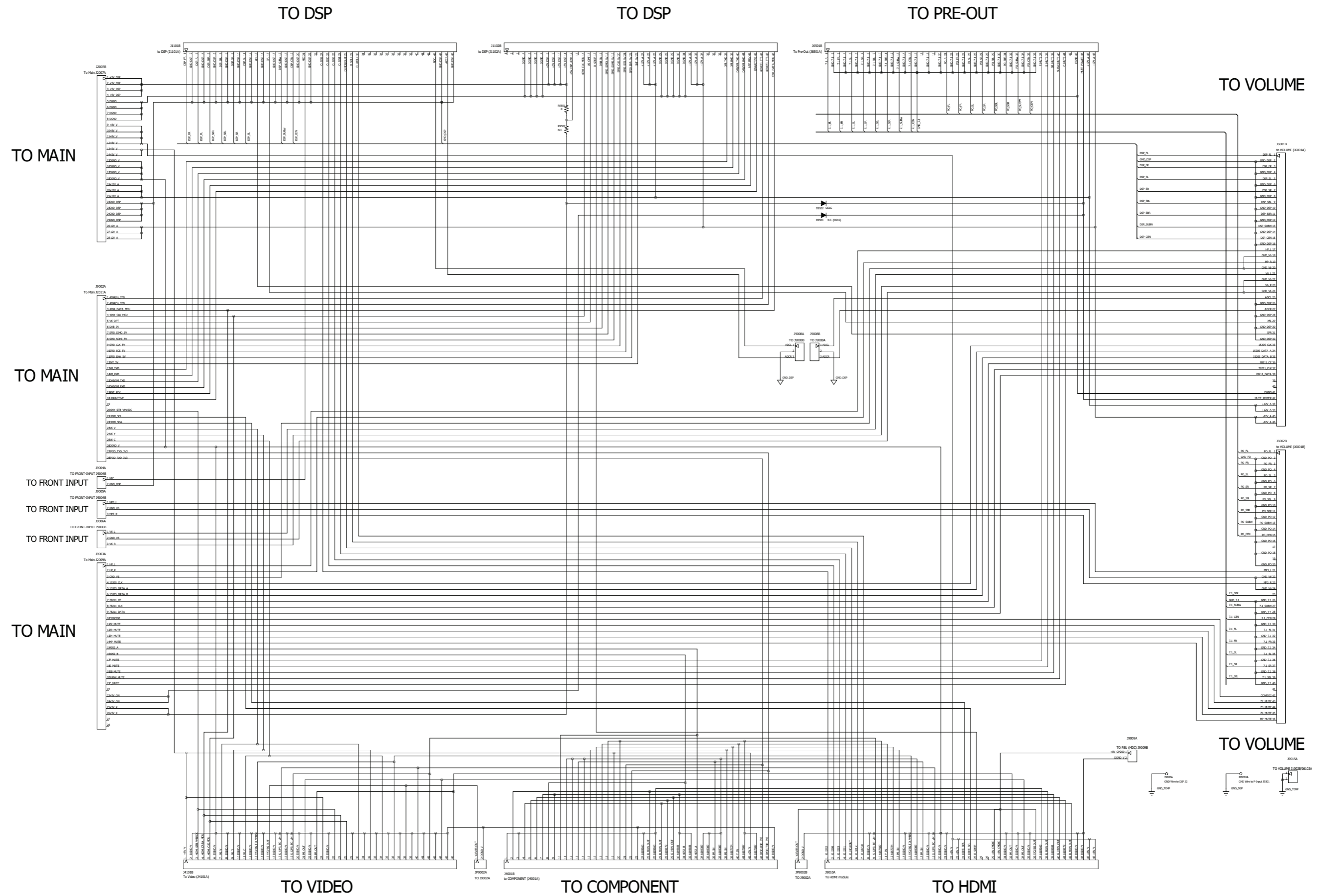
FRONT HDMI BOARD - SOLDER SIDE



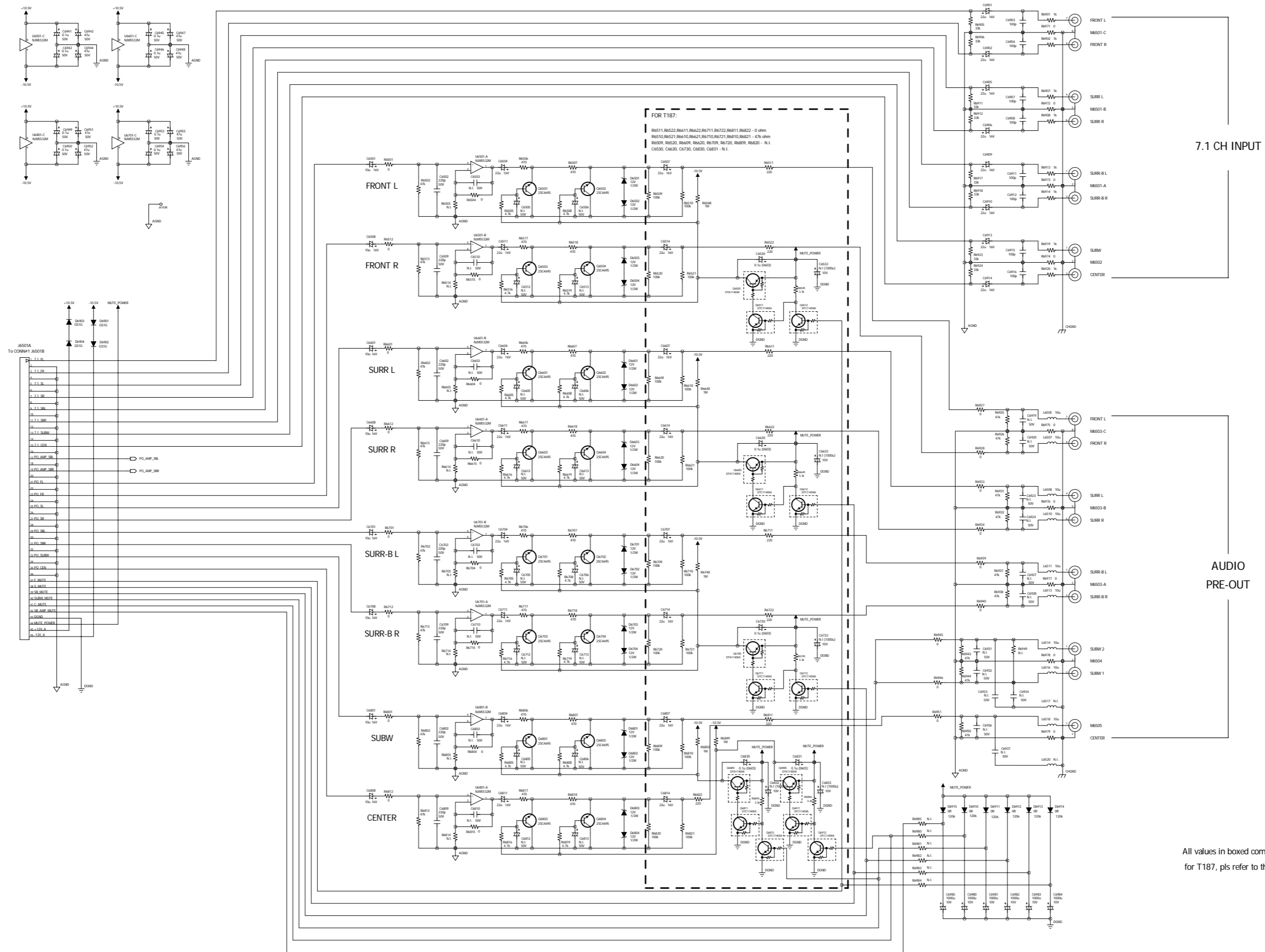
SCHEMATIC DIAGRAM MAIN BOARD (1)



CONNECTION BOARD

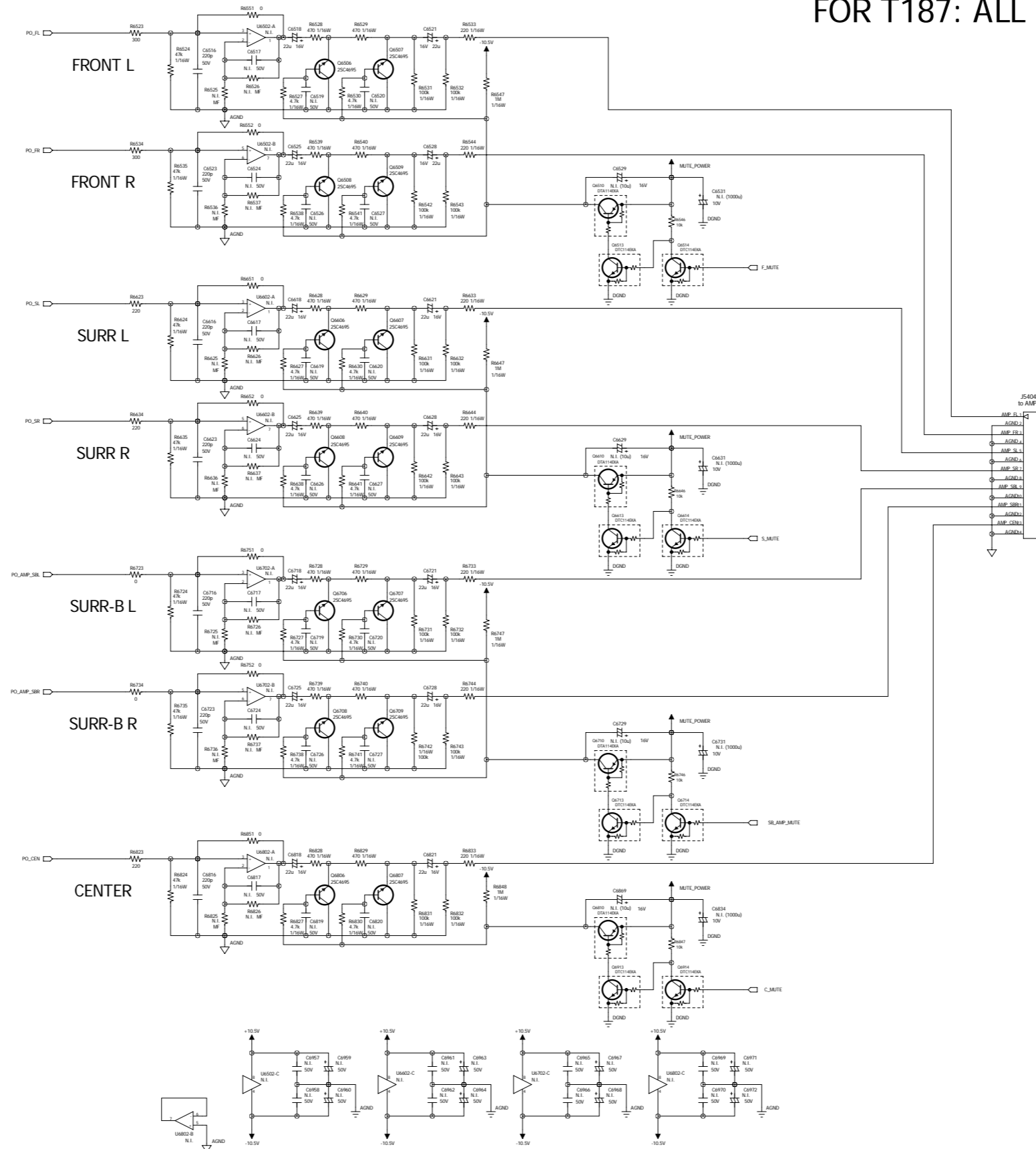


PRE-OUT BOARD (1)

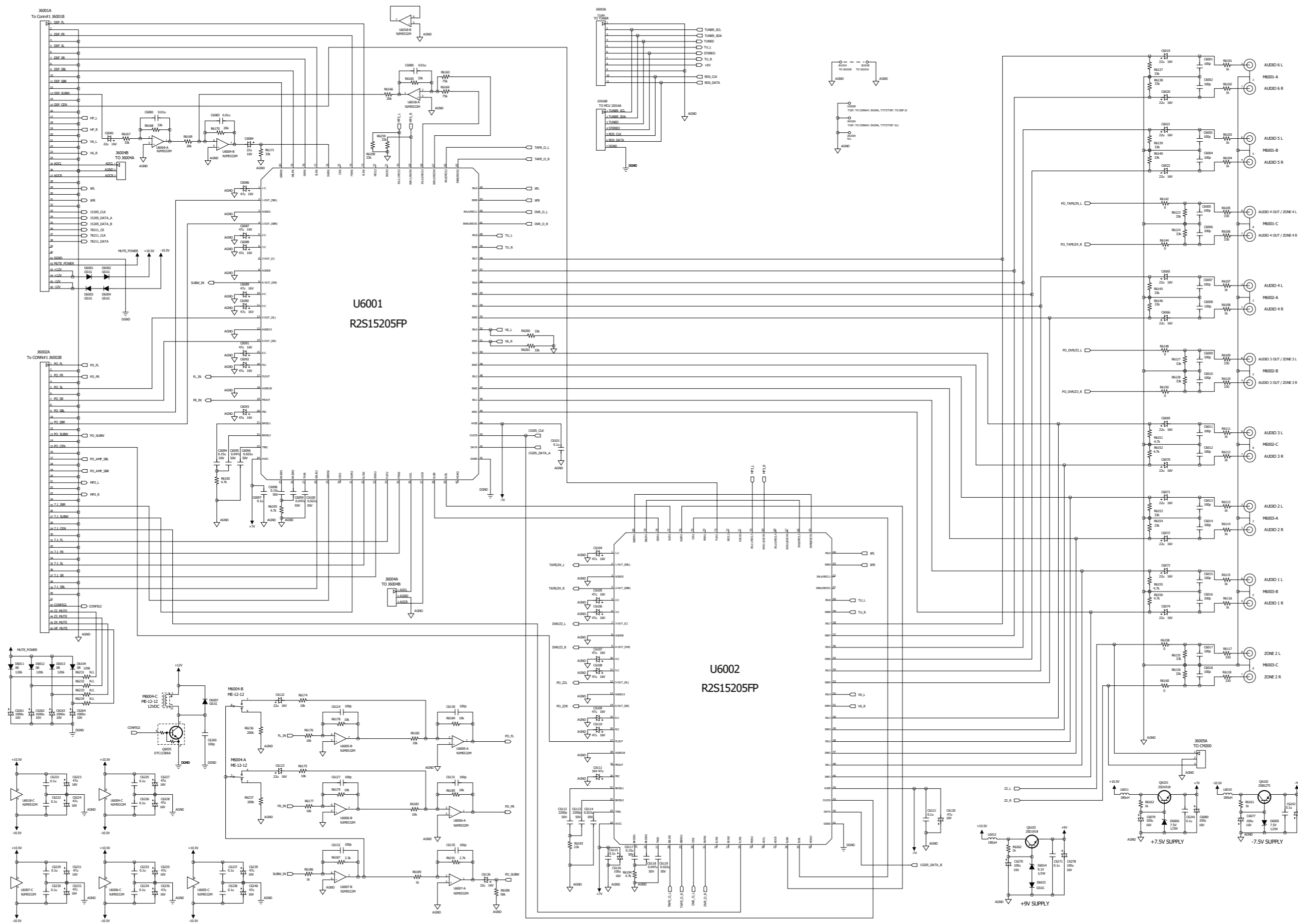


PRE-OUT BOARD (2)

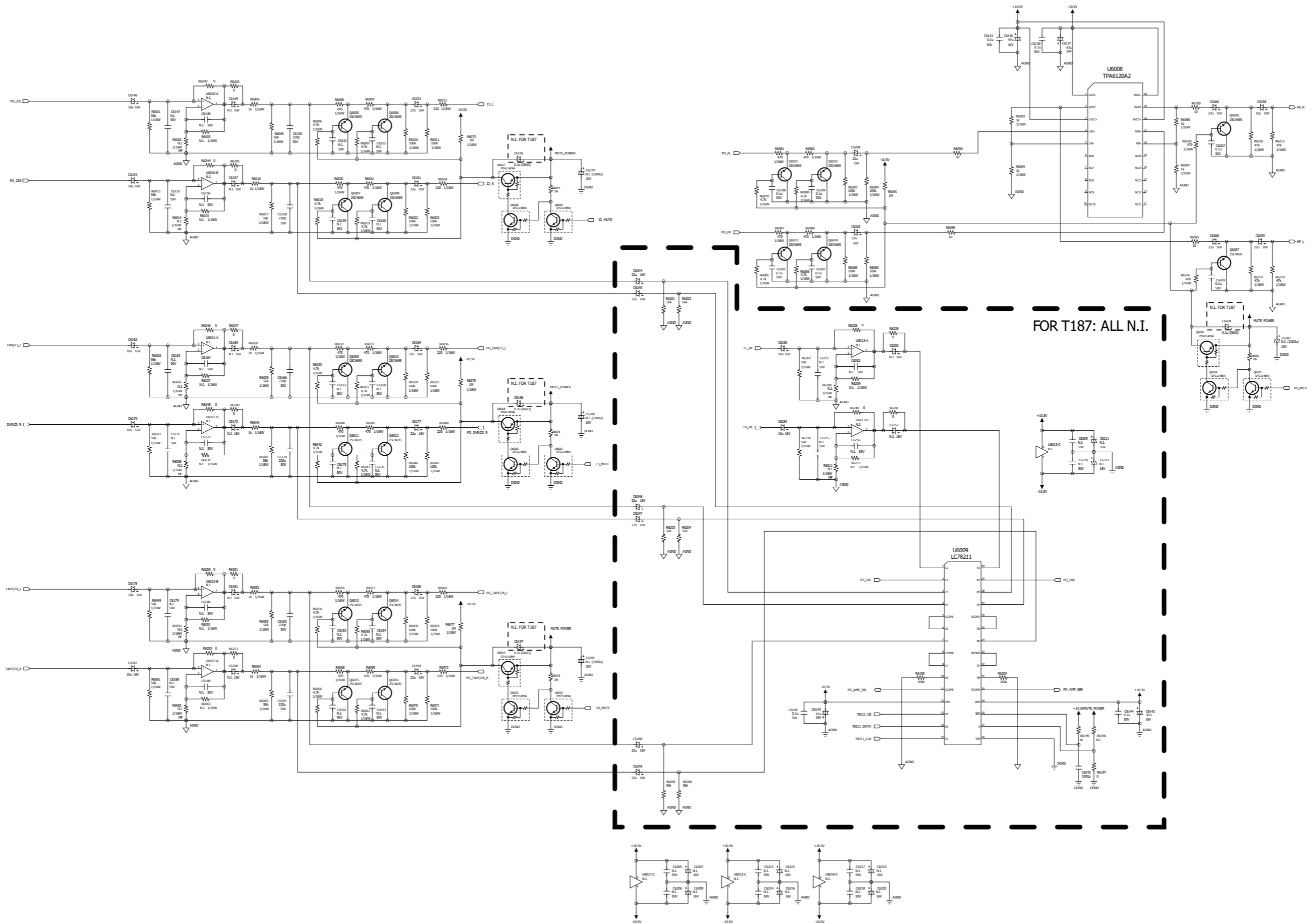
FOR T187: ALL N.I.



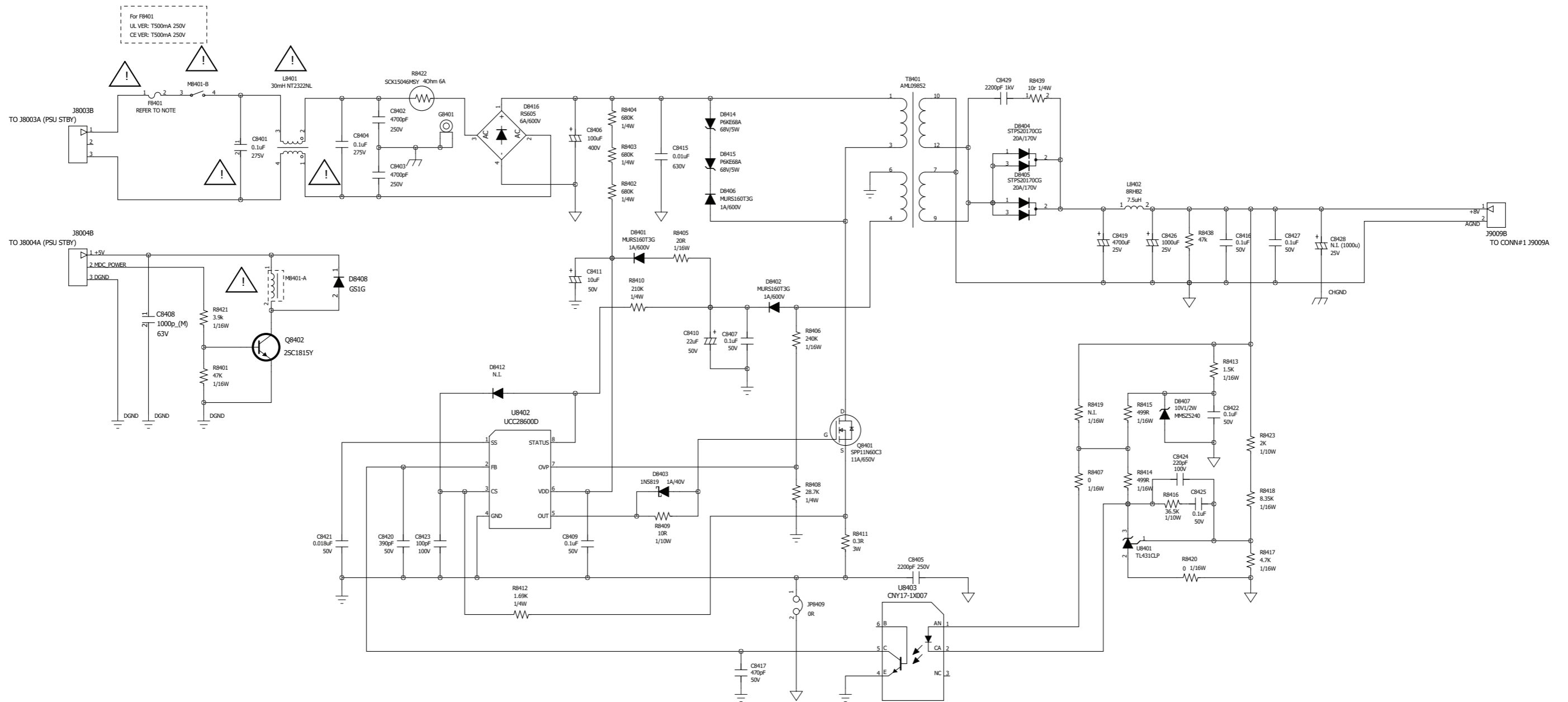
VOLUME BOARD (1)



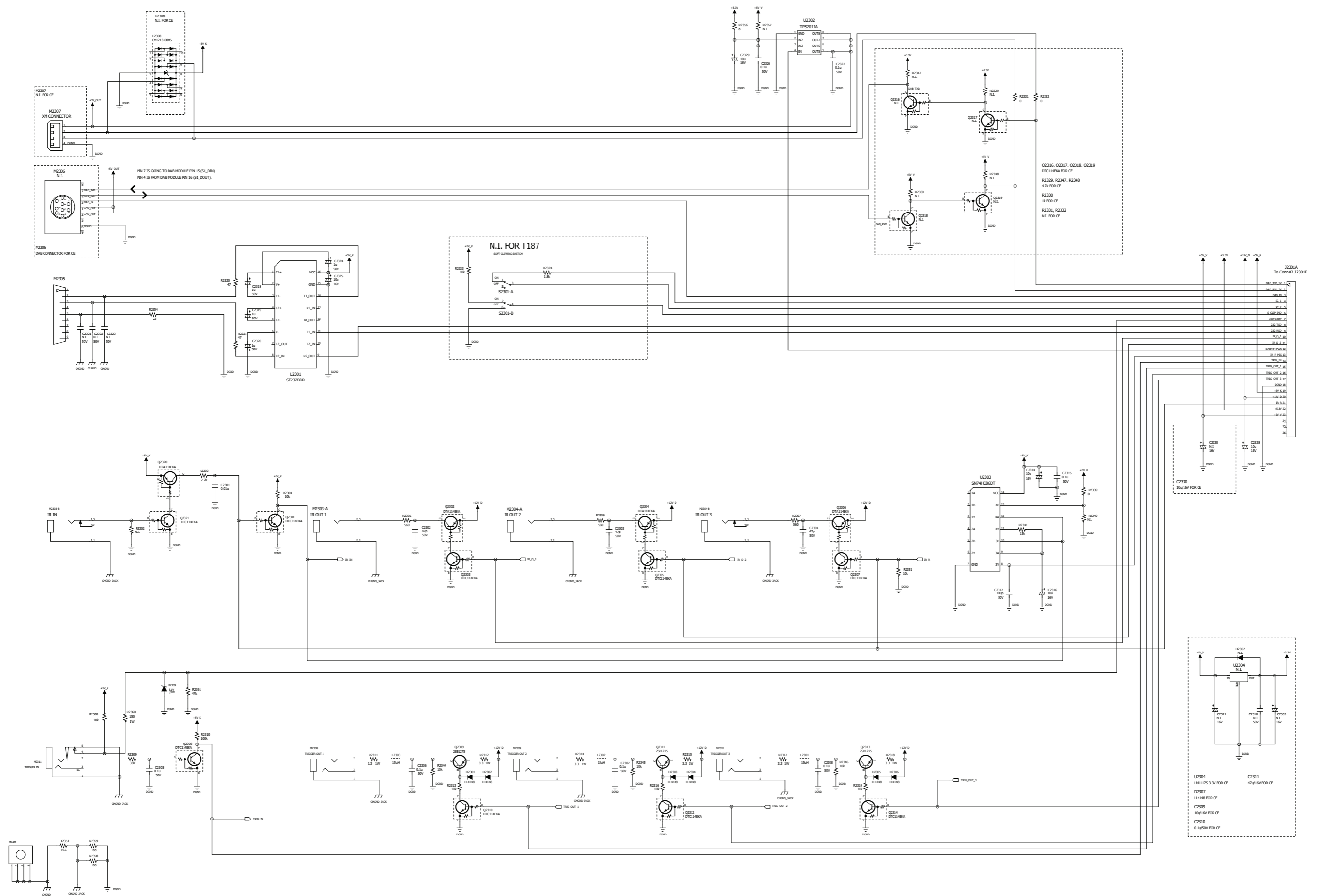
VOLUME BOARD (2)



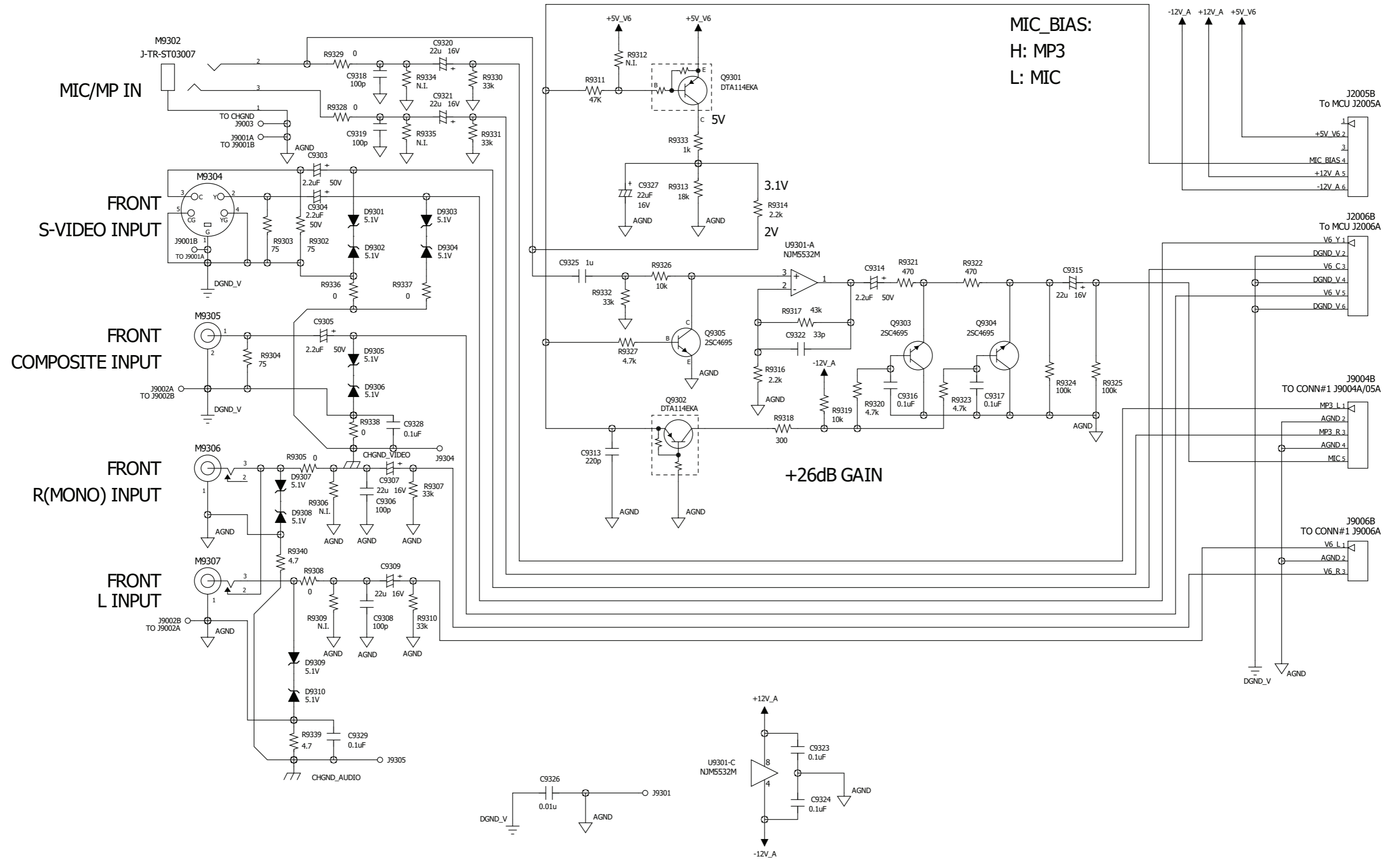
PSU-MDC BOARD



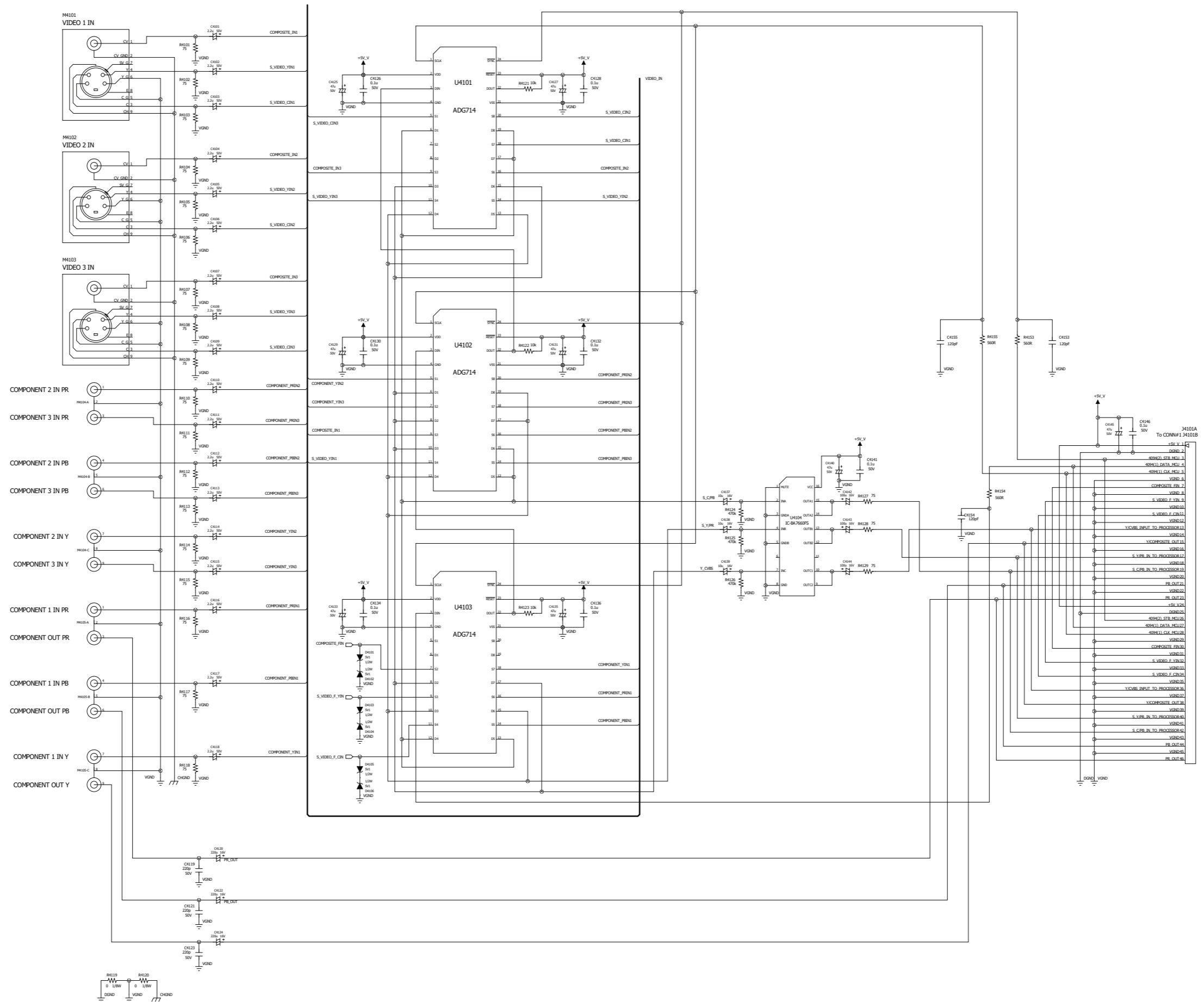
TRIGGER BOARD



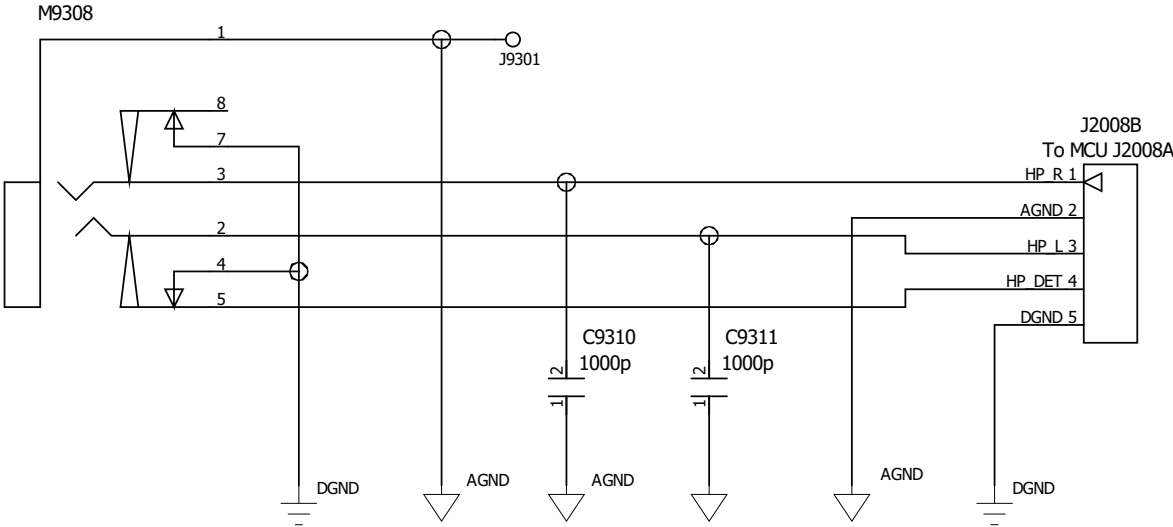
FRONT INPUT BOARD



VM150AV ANALOG VIDEO BOARD



HEADPHONE BOARD



ELECTRICAL PARTS LIST

<u>PCB ASSY</u>	<u>90ST187MAINAH-902 T187 SP MAIN AH BOARD ASSY</u>	
	<u>90ST187MAINCE-902 T187 SP MAIN CE BOARD ASSY</u>	
RESISTORS		
R2024 R2025 R2026 R2027 R2028 R2029 R2030 R2053	1123210228-902000	RES MO 1/2W 5% 0.22R
CAPACITORS		
C2001 C2004	1220001688-902000	CAP RAD ELEC 6800UF 20% 35V P=7.5MM 18*45MM 105°C
C2005 C2011 C2017 C2020 C2031	1220002108-902000	CAP RAD ELEC 1000UF 20% 25V P=5MM 10*20MM 105°C
C2019 C2022 C2025 C2032	1220002228-902000	CAP RAD ELEC 2200UF 20% 25V P=5MM 13*25MM 105°C
C2007 C2067	1220002337-902000	CAP RAD ELEC 330UF 20% 50V P=5MM 10*21MM 85°C
C2008 C2029	1220002478-902000	CAP RAD ELEC 4700UF 20% 25V P=7.5MM 16*30MM 105°C
C2034 C2035 C2036 C2037 C2038	1223001104-902000	CAP RAD BOX 0.1UF 5% 63V P=5MM 7.2X6.5X2.5(WXHXT)
DIODES		
D2003	1410100402-902000	DIODE BRIDGE RS402 4A/100V
D2002 D2007	1410100605-902000	DIODE BRIDGE RS605 6A/600V
SMD CAPACITORS		
C2002-2003 C2006 C2009-2010 C2015-2016 C2018 C2021 C2023 C2028 C2030 C2033 C2043 C2046-2047 C2050 C2052 C2064 C2066 C2070-2072 C2075 C2042	1231001104-902000	CAP SMD CER 0.1UF 20% 50V 0603 Y5V
C2044 C2074	1290003106-902000	CAP SMD ELEC 10UF 20% 16V 4*5.4MM
C2045	1290003108-902000	CAP SMD ELEC 1000UF 20% 10V 10*10MM
C2048-2049 C2063 C2065 C2073	1290003476-902000	CAP SMD ELEC 47UF 20% 50V 6.3*7.7MM
C2051	1231001102-902000	CAP SMD CER 1000PF 10% 50V 0603 X7R
C2053	1290003226-902000	CAP SMD ELEC 22UF 20% 16V 5*5.4MM
C2068	1290003225-902000	CAP SMD ELEC 2.2UF 20% 50V 4*5.4MM
C2069	1290001228-902000	CAP SMD ELEC 2200UF 20% 10V 12.5*13.5MM
SMD DIODES		
D2004-2005	1400100001-902000	DIODE GS1G M4 SMD DO-214AC 1A/400V
D2013	1400104148-902000	DIODE LL4148 SMD SOD80
SMD RESISTORS		
L2001	1141210000-902000	RES SMD 0805 1/8W 5% 0R
R2001 R2007 R2009	1160211003-902000	RES SMD 0603 1/16W 5% 100K
R2002 R2042 R2056	1160011002-902000	RES SMD 0603 1/16W 1% 10K

R2003 R2010 R2012 R2015-2016	1160210000-902000	RES SMD 0603 1/16W 5% 0R
R2041 *AH		
R2003 R2010 R2012 R2017 R2018	1160210000-902000	RES SMD 0603 1/16W 5% 0R
R2041 *CE		
R2011	1152011002-902000	RES SMD 1206 1/4W 1% 10K
R2013 R2014	1160214701-902000	RES SMD 0603 1/16W 5% 4.7K
R2019	1160213302-902000	RES SMD 0603 1/16W 5% 33K
R2045 R2046	1108221002-902000	RES SMD NTKW 0603 0.063W 1% 10K*4
R2048	1160011001-902000	RES SMD 0603 1/16W 1% 1K
R2049	1160013301-902000	RES SMD 0603 1/16W 1% 3.3K
R2055	1160214702-902000	RES SMD 0603 1/16W 5% 47K

ICS

U2001	1330105364-902000	IC R5F364AENFB SMD PLQP0100KB-A 16-BIT MCU 256K ROM 20K RAM
U2002	1300302416-902000	IC FT24C16A SMD 8-PIN SOIC TWO- WIRE SERIAL EEPROM 16K
U2005	1300174132-902000	IC SN74HC132DT SMD 14-PIN SOIC LOGIC QUAD NAND GATES W/ SCHMITT-TRIGGER
U2006	1300185302-902000	IC AME8530AEEVEFX29Z SMD SOT-25 MICROPOWER UP WATCH DOG TIMER 2.93V
U2016	1300111173-902000	IC LM1117S-3.3V-3L SMD SOT-223 LDO VREG 3.3V 1A
U2017 U2018	1300174145-902000	IC SN74LVC1T45 SMD SOT-23 SINGLE- BIT DUAL-SUPPLY VOLTAGE TRANS LATION
U2019	1300004050-902001	IC 74HC4050 SO16 HEX HIGH TO LOW LEVEL SHIFTER

CRYSTAL

X2001A	1502111105-902000	CRYSTAL OSCILLATOR 11.0592MHZ 5V 50PPM 15PF SMD
--------	-------------------	--

PCB ASSY

90ST187PSUAH0-902 T187 SP PSU AH BOARD ASSY

90ST187PSUCE0-902 T187 SP PSU CE BOARD ASSY

CAPACITORS

C8001	1223001102-902000	CAP RAD BOX 0.001UF 5% 63V P=5MM 7.2X6.5X2.5(WXHXT)
C8004	1227001104-902000	CAP RAD X2 0.1UF 10% 275VAC P=15MM 18X13.5X6MM(WXHXT)
C8006	1227001103-902000	CAP RAD CER Y2 0.01UF 20% 250VAC P=10MM D=16MM UL/CSA/VDE
C8007 C8008	1220001685-902000	CAP RAD ELEC 6.8uF 20% 400V P=5mm 10*16mm 105°C
C8009	1221002102-902000	CAP RAD CER 1000pF 1KV DISP CAP
C8012	1220001105-902000	CAP RAD ELEC 1UF 20% 50V P=2.5MM 4*7MM 85°C
C8013	1220007108-902000	CAP RAD ELEC 1000uF 20% 10V P=5mm 10*20mm 105°C LOW ESR
C8014	1220005477-902000	CAP RAD ELEC 470UF 20% 10V P=3.5MM 8*12MM 105°C LOW ESR
C8015	1227001681-902000	CAP RAD CER Y1/X1 680PF 20% 440VAC P=10MM JN UL/CSA/VDE
C8017 C8018	1227002102-902000	CAP RAD CER Y1/X1 1000PF 20% 440VAC P=10MM JN UL/CSA/VDE

RESISTORS

R8001	1111203901-902501	RES CF 1/8W 5% 3.9K
R8002	1111204702-902000	RES CF 1/8W 5% 47K
R8005*AH	1193203904-902000	RES CONDUCTIVE PATH 1/2W 5% 3.9M
R8013	1111208201-902000	RES CF 1/8W 5% 8.2K

DIDOES

D8007 D8009	1400100540-902000	DIODE SCHOTTKY SR540 DO-27 5A/40V
D8001 D8002 D8003 D8004 D8005	1400114007-902000	DIODE 1N4007 DO-41 1A/1000V T&R
D8006	1400100107-902000	DIODE FR107 DO-41 1A/1000V
D8008	1400114148-902000	DIODE 1N4148 DO-35 T&R

FUSES

F8001*AH	1601100002-902000	FUSE 5*20MM TIME-LAG 1.6A 250V UL/VDE/CUL
F8001*CE	1601100003-902000	FUSE 5*20MM TIME-LAG 1A 250V UL/VDE/CUL
F8002*AH	1601100003-902000	FUSE 5*20MM TIME-LAG 1A 250V UL/VDE/CUL
F8002*CE	1601100005-902000	FUSE 5*20MM TIME-LAG 500mA UL/VDE/CUL
F8003*AH	1601100006-902000	FUSE 5*20MM TIME-LAG 800mA 250V UL/VDE/CUL
F8003*CE	1601100005-902000	FUSE 5*20MM TIME-LAG 500mA UL/VDE/CUL

INDUCTORS

L8001	1500100004-902000	INDUCTOR CHOKE 10MH 30%
L8002	1500100055-902000	INDUCTOR RAD 1MH 10% 0.14A
L8003	1500100056-902000	INDUCTOR RAD 3.3UH 20% 6A

RELAYS

M8002*AH	1602100039-902000	RELAY 1P1T 5VDC 20A 220VAC UL/CUL
M8002*CE	1602100063-902000	RELAY 1P1T 5VDC 10A/250V TV5 UL/SEM KO/CQC

TRANSISTORS

Q8001	1410121815-902000	TRANS 2SC1815Y TO-92 NPN 150MA/50V
-------	-------------------	------------------------------------

TRANSFORMER

T8001	1501100082-902000	X'FORMER EE16 T787
-------	-------------------	--------------------

ICS

U8001	1300100623-902000	IC LNK623PG DIP-8C LINKSWITCH-CV
-------	-------------------	----------------------------------

JUMPERS

JMP1 - JMP8	1178500001-000000	JUMPER WIRE D=0.6MM ROLL
-------------	-------------------	--------------------------

SMD CAPACITORS

C8010	1201003105-902000	CAP SMD CER 1UF 10% 50V 0805 X7R
C8011	1231001102-902000	CAP SMD CER 1000PF 10% 50V 0603 X7R

SMD RESISTORS

R8007	1152212703-902000	RES SMD 1206 1/4W 5% 270K
R8008	1152213300-902000	RES SMD 1206 1/4W 5% 330R
R8009	1147002872-902001	RES SMD 0805 1/10W 1% 28.7K

C921-922 C927-934 C939	1220001106-902000	CAP RAD ELEC 10UF 20% 50V P=2MM 5*11MM 85°C "ROHS" "KSC" GS
C901 C903-904 C906-914	1220001107-902000	CAP RAD ELEC 100UF 20% 16V P=2MM 5*11MM 85°C "ROHS" "KSC" GS
C945-946	1220001159-902000	CAP RAD ELEC 15000UF 20% 63V P=10MM 35*61MM 105°C "ROHS" "KSC" HP
C969 C973	1220001688-902000	CAP RAD ELEC 6800UF 20% 35V P=7.5MM 18*45MM 105°C "ROHS" "KSC" SK
C951 C957 C961 C965 C967 C975 C978	1220002108-902000	CAP RAD ELEC 1000UF 20% 25V C971 P=5MM 10*20MM 105°C "ROHS" "KSC" SK
C959 C955 C963 C949 C992	1220002228-902000	CAP RAD ELEC 2200UF 20% 25V P=5MM 13*25MM 105°C "ROHS" "KSC" SK
C977	1220003225-902000	CAP RAD ELEC 2.2UF 20% 50V P=1.5MM 4*7MM 85°C "ROHS" "KSC" SS
C947 C953	1220003478-902000	CAP RAD ELEC 4700UF 20% 25V P=5MM 13*32MM 105°C "ROHS" "KSC" SK
C925-926 C937 C979	1220006476-902000	CAP RAD ELEC 47UF 20% 25V P=2MM 5*11MM 85°C "ROHS" "KSC" GS
C948 C950 C952 C954 C956 C958 C960 C962C964 C966 C968 C970 C972 C974 C976 C940-944	1221001104-902000	CAP RAD CER 0.1UF 20% 50V P=5MM Y5V "ROHS"
U911	1300007809-902001	CAP RAD BOX 0.1UF 5% 63V P=5MM 7.2X6.5X2.5(WXHXT) "ROHS"
U910	1300100317-902000	IC NJM7809A TO220F "ROHS" "JRC" NJM7809A
U905	1300107805-902000	IC LM317T TO-220 VREG ADJ 1.2-37V 1.5A "ROHS" "ST" LM317T
U907-908	1300107805-902000	IC NJM7805FA TO-220F REG +5V 1.5A "ROHS" "JRC" NJM7805FA
U909	1300107812-902000	IC NJM7812FA TO-200F REG +12V 1.5A "ROHS" "JRC" NJM7812FA
U906	1300107912-902000	IC NJM7912FA TO-200F REG -12V 1.5A "ROHS" "JRC" NJM7912FA
D912	1300407905-902001	IC 7905 TO-220F VOLT REG -5V "ROHS" "JRC" NJM7905FA
D911	1410100254-902000	DIODE BRIDGE BR254W 25A/400V "ROHS" "DC" BR254W
D909-910	1410100402-902000	DIODE BRIDGE RS402 4A/100V "ROHS" "DC" RS402
J901	1410100605-902000	DIODE BRIDGE RS605 6A/600V "ROHS" "DC" RS605
J803B	1701100019-902000	CONNECTOR FFC/FPC 11 PINS P1.25 ST W/LOCK "ROHS"
J903 J5106	1702100003-902000	HEADER 3 PINS 2.5MM ST "ROHS" "HENGTAI" ES-2.5-3P-01A
J5105	1702100010-902000	HEADER 3 PINS 3.96MM ST "ROHS" "HENGTAI" ES-3.96-3P-01A
J904A	1702100021-902000	HEADER 4PIN P=3.96MM ST "ROHS" "HENGTAI" ES-3.96-4P-01A (ROHS)
J204B J205B J401B J502B J551B	0600100283-902000	CABLE ASSY UL1533 AWG26 14PIN 2.5P L=280/260/240/220/200MM "ROHS"
J902	1702100035-902000	RECEPTACLE 28PIN (14X2) P=2.54MM ST "ROHS" "HENGTAI" DR-2.5-28P
J5111B	1702100072-902000	HEADER 8 PIN 3.96MM ST "ROHS" 2219S-08 SERIES
	0600100280-902000	CABLE ASSY UL2468 AWG26 12PIN 2.5P L=200MM "ROHS"

D6014	1400105239-902000	DIODE ZENER MMSZ5239B SMD SOD123 5% 9.1V 500MW
-------	-------------------	---

SMD TRANSISTORS

Q6005 Q6006 Q6007 Q6008 Q6009 Q6010 Q6011 Q6012 Q6013 Q6014 Q6015 Q6016 Q6021 Q6022 Q6023 Q6024 Q6026 Q6027 Q6017 Q6018 Q6019 Q6020	1410124695-902000	TRANS 2SC4695 SMD SOT-23 NPN 0.5A/20V
Q6025	1410100123-902000	TRANS DTC123EKAT146 SMD SMT3 NPN
Q6028-6035	1410100114-902000	TRANS DTC114EKA SMD SMT3 NPN 250MHZ HFE30
Q6101 Q6103	1410121918-902000	TRANS 2SD1918 SMD CPT3 NPN 1.5A/160V 80MHZ HFE 120-390
Q6102	1410121275-902000	TRANS 2SB1275 SMD CPT3 PNP 1.5A/160V 50MHZ HFE 82-180

SMD RESISTORS

D6011 D6012 D6013 D6104	1151210000-902000	RES SMD 1206 1/8W 5% 0R
R6001 R6005 R6013 R6017 R6025 R6029 R6037 R6041 R6049 R6053 R6061 R6065 R6188	1160215602-902000	RES SMD 0603 1/16W 5% 56K
R6004 R6016 R6028 R6040 R6052 R6064 R6093 R6094 R6097 R6098 R6101 R6102 R6103 R6104 R6107 R6108 R6111 R6112 R6113 R6114 R6115 R6116 R6161 R6162 R6262	1160211001-902000	RES SMD 0603 1/16W 5% 1K
R6006 R6007 R6018 R6019 R6030 R6031 R6042 R6043 R6054 R6055 R6066 R6067 R6079 R6080 R6085 R6086 R6151 R6152 R6155 R6156 R6192 R6194 R6195	1160214701-902000	RES SMD 0603 1/16W 5% 4.7K
R6008 R6009 R6020 R6021 R6032 R6033 R6044 R6045 R6056 R6057 R6068 R6069 R6081 R6082 R6087 R6088 R6254 R6256	1160214700-902000	RES SMD 0603 1/16W 5% 470R
R6010 R6011 R6022 R6023 R6034 R6035 R6046 R6047 R6058 R6059 R6070 R6071 R6083 R6084 R6089 R6090	1160211003-902000	RES SMD 0603 1/16W 5% 100K
R6012 R6024 R6036 R6048 R6060 R6072	1160212200-902000	RES SMD 0603 1/16W 5% 220R
R6073 R6075 R6077 R6091	1160211004-902000	RES SMD 0603 1/16W 5% 1M
R6074 R6076 R6078 R6092 R6174 R6175 R6176 R6177 R6178 R6179 R6182 R6183 R6184 R6185	1160011002-902000	RES SMD 0603 1/16W 1% 10K
R6095 R6100	1160210100-902000	RES SMD 0603 1/16W 5% 10R
R6096 R6099	1160210470-902000	RES SMD 0603 1/16W 5% 47R
R6105 R6106 R6109 R6110 R6117 R6118	1160013300-902000	RES SMD 0603 1/16W 1% 330R
R6123 R6124 R6127 R6128 R6135 R6136 R6137 R6138 R6139 R6140 R6145 R6146 R6153 R6154 R6258 R6259 R6260 R6261	1160213302-902000	RES SMD 0603 1/16W 5% 33K

R6142 R6144 R6148 R6150 R6158 R6160 R6242 R6243 R6244 R6245 R6246 R6247 R6248 R6249 R6250 R6251 R6252 R6253	1160210000-902000	RES SMD 0603 1/16W 5% 0R
R6163 R6164	1160017502-902000	RES SMD 0603 1/16W 1% 75K
R6165 R6167 R6168 R6171	1160013302-902000	RES SMD 0603 1/16W 1% 33K
R6166 R6169 R6170	1160012002-902000	RES SMD 0603 1/16W 1% 20K
R6186 R6189	1160011001-902000	RES SMD 0603 1/16W 1% 1K
R6187	1160013301-902000	RES SMD 0603 1/16W 1% 3.3K
R6191	1160012701-902000	RES SMD 0603 1/16W 1% 2.7K
R6193	1160212202-902000	RES SMD 0603 1/16W 5% 22K
R6213 R6214 R6255 R6257	1160214702-902000	RES SMD 0603 1/16W 5% 47K
R6236 R6237	1160212003-902000	RES SMD 0603 1/16W 5% 200K

SMD ICS

U6001 U6002	1300121520-902000	IC R2S15205FP SMD 80-PINS QFP 8 CH SW &TONE CTRL
U6004 U6005 U6006 U6007 U6018	1300105532-902000	IC NJM5532M SMD DMP8 AUDIO LOW NOISE OP-AMP
U6008	1300161202-902000	IC TPA6120A2DWP SMD 20-PIN SOIC HIGH FIDELITY HEADPHONE AMPLIFIER

PCB ASSY

90ST187KEYBD0-902

T187 SP KEYOARD ASSY

CAPACITORS

C2208	1220001105-902000	CAP RAD ELEC 1UF 20% 50V P=2.5MM 4*7MM 85°C
C2211	1220004476-902000	CAP RAD ELEC 47UF 20% 16V P=2.0MM 5*7MM 85°C

LED

D2201	1401100001-902000	LED RED-BLU-ORN DIA5.0X6MM COMMON CATHODE
-------	-------------------	---

IR

D2202	1420160382-902000	IR RX 37.9KHZ SHIELD
-------	-------------------	----------------------

ENCODER

M2201	1180010224-902000	ENCODER ROTATRY STD L=20MM VERT W/O CLICK W/ NUTX1
-------	-------------------	--

TACT SWITCHES

S2201-S2210 S2213-S2218	1600100002-902000	TACT SW 1P1T 50MA/12V VER H=5MM
-------------------------	-------------------	---------------------------------

VFD

VD2201	0751000001-902010	VFD 16BT130GINAK TXX5 R.1
--------	-------------------	---------------------------

SMD CAPACITORS

C2201-2204 C2207 C2210	1231001104-902000	CAP SMD CER 0.1UF 20% 50V 0603 Y5V
C2205-2206	1231001101-902000	CAP SMD CER 100PF 10% 50V 0603 X7R
C2212	1231001472-902000	CAP SMD CER 4700PF 10% 50V 0603 X7R

SMD DIODES

D2203	1400115234-902000	DIODE ZENER MM1Z5234B SMD SOD123 5% 6.2V 500MW
D2204-2209	1400104148-902000	DIODE LL4148 SMD SOD80

SMD TRANSISTORS

Q2201	1410121918-902000	TRANS 2SD1918 SMD CPT3 NPN 1.5A/160V 80MHZ HFE 120-390
Q2202-Q2204	1410200114-902000	TRANS DTA114EKAT146 SMD SMT3 PNP

SMD RESISTORS

R2201 R2237-R2239	1160211001-902000	RES SMD 0603 1/16W 5% 1K
R2202	1160214701-902000	RES SMD 0603 1/16W 5% 4.7K
R2203 R2211 R2234-2236	1160012201-902000	RES SMD 0603 1/16W 1% 2.2K
R2204	1160213302-902000	RES SMD 0603 1/16W 5% 33K
R2205 R2209	1160214700-902000	RES SMD 0603 1/16W 5% 470R
R2206 R2208	1152210220-902000	RES SMD 1206 1/4W 5% 22R
R2207 R2212-2216 R2230-2231	1160011002-902000	RES SMD 0603 1/16W 1% 10K
R2210	1160210100-902000	RES SMD 0603 1/16W 5% 10R
R2232-2233	1160211000-902000	RES SMD 0603 1/16W 5% 100R

IC

U2201	1300104094-902000	IC HEF4094BT SMD SO-16 8-STAGE SHIFT-AND-STORE BUS REGISTER
-------	-------------------	--

PCB ASSY**90ST187TRIGAH-902 T187 SP AH TRIGGER BOARD ASSY****90ST187TRIGCE-902 T187 SP CE TRIGGER BOARD ASSY****CAPACITOR**

C2314 C2316 C2325 C2328 C2329*AH	1220005106-902000	CAP RAD ELEC 10UF 20% 16V P=2.5MM 4*7MM 85°C
C2309 C2314 C2316 C2325 C2328 C2329 C2330*CE	1220005106-902000	CAP RAD ELEC 10UF 20% 16V P=2.5MM 4*7MM 85°C
C2311*CE	1220004476-902000	CAP RAD ELEC 47UF 20% 16V P=2.0MM 5*7MM 85°C
C2318 C2319 C2320 C2324	1220001105-902000	CAP RAD ELEC 1UF 20% 50V P=2.5MM 4*7MM 85°C

COILS

L2301-L2303	1500100016-902000	COIL 15UH 30% W/BEAD
-------------	-------------------	----------------------

JACKS

M2303 M2304	1703100002-902000	PHONE JACK D=3.5MM 2 POLE RT
M2305	1703100047-902000	DB9 FEMALE CONNECTOR PCB MOUNT RIGHT ANGLE
M2307*AH	1703100045-902000	XM 4 PINS SMALL CONNECTOR B TYPE 2.4MM PCB MOUNT MITSUMI(ROHS)
M2306*CE	1703100036-902000	DIN MINI JACK BLACK PCB MOUNT W/ COVER RIGHT ANGLE 9 PINS
M2308 M2309 M2310	1703100071-902000	PHONE JACK 1 RED PCB MOUNT 3.5MM RIGHT
M2311	1703100081-902000	PHONE JACK 1 RED PCB MOUNT 3.5MM RIGHT

SMD CAPACITORS

C2301	1231001103-902000	CAP SMD CER 0.01UF 10% 50V 0603 X7R
C2302 C2303 C2304	1231001470-902000	CAP SMD CER 47PF 10% 50V 0603 NPO

C2305 C2306 C2307 C2308 C2315 C2326 C2327 C2317	1231001104-902000 1231001101-902000	CAP SMD CER 0.1UF 20% 50V 0603 Y5V CAP SMD CER 100PF 10% 50V 0603 X7R
---	--	--

SMD DIODES

D2301 D2302 D2303 D2304 D2305 D2306 D2309	1400104148-902000 1400105231-902000	DIODE LL4148 SMD SOD80 DIODE ZENER MM1Z5231B SMD SOD123 5% 5.1V 500MW
--	--	---

SMD TRANSISTORS

Q2301 Q2303 Q2305 Q2307 Q2308 Q2310 Q2312 Q2314 Q2321*AH Q2301 Q2303 Q2305 Q2307 Q2308 Q2310 Q2312 Q2314 Q2316 Q2317 Q2318 Q2319 Q2321*CE Q2302 Q2304 Q2306 Q2320	1410100114-902000 1410100114-902000 1410200114-902000	TRANS DTC114EKA SMD SMT3 NPN 250MHZ HFE30 TRANS DTC114EKA SMD SMT3 NPN 250MHZ HFE30 TRANS DTA114EKAT146 SMD SMT3 PNP
Q2309 Q2311 Q2313	1410121275-902000	TRANS 2SB1275 SMD CPT3 PNP 1.5A/160V 50MHZ HFE 82-180

SMD RESISTORS

R2303 R2304 R2308 R2313 R2316 R2319 R2344 R2345 R2346 R2351 R2305 R2306 R2307 R2309 R2310 R2311 R2312 R2314 R2315 R2317 R2318 R2320 R2321 R2331 R2332 R2339*AH R2329 R2348 R2347*CE R2330*CE R2339*CE R2341 R2354 R2356 R2358 R2359 R2360 R2361	1160012201-902000 1160011002-902000 1147215600-902000 1160213302-902000 1160211003-902000 1194210339-902000 1160210470-902000 1160210000-902000 1160214701-902000 1160011001-902000 1160210000-902000 1160211502-902000 1147210220-902000 1151210000-902000 1194211000-902000 1194011500-902000 1160214702-902000	RES SMD 0603 1/16W 1% 2.2K RES SMD 0603 1/16W 1% 10K RES SMD 0805 1/10W 5% 560R RES SMD 0603 1/16W 5% 33K RES SMD 0603 1/16W 5% 100K RES SMD 2512 1W 5% 3.3R RES SMD 0603 1/16W 5% 47R RES SMD 0603 1/16W 5% 0R RES SMD 0603 1/16W 5% 4.7K RES SMD 0603 1/16W 1% 1K RES SMD 0603 1/16W 5% 0R RES SMD 0603 1/16W 5% 15K RES SMD 0805 1/10W 5% 22R RES SMD 1206 1/8W 5% 0R RES SMD 2512 1W 5% 100R RES SMD 2512 1W 1% 150R RES SMD 0603 1/16W 5% 47K
--	---	--

ICS

U2301 AND RECEIVERS U2302 U2303 U2304*CE D2308*AH	1300100232-902000 1300102011-902000 1300107486-902000 1300111173-902000 1300101213-902000	IC ST232 SMD SO-16 RS-232 DRIVERS IC TPS2011A SMD 8-PIN SOIC POWER DISTRIBUTION SWITCHES IC SN74HC86DT SMD 14-PIN SOIC LOGIC QUAD 2-INPUT EXCLUSIVE OR GATE IC LM1117S-3.3V-3L SMD SOT-223 LDO VREG 3.3V 1A "ROHS" "HTC" LM1117S- 3.3V-3L IC CM1213-08MR SMD MSOP-10 8-CHANNEL LOW CAPACITANCE ESD PROTECTION ARRAYS
--	---	---

PCB ASSY**90ST187CON1BD-902T187 SP CONNECTION # 1 BOARD ASSY****AMR SOCKETS**

J9010A, J1101B, J1102B, J4101B, J6001B, J6002B, J6501B	1703100046-902000	AMR SOCKET 46 PINS PCB MOUNT
---	-------------------	------------------------------

SMD DIODES

D9502	1400100001-902000	DIODE GS1G M4 SMD DO-214AC 1A/400V
-------	-------------------	---------------------------------------

SMD RESISTOR

R9501	1160210000-902000	RES SMD 0603 1/16W 5% 0R
-------	-------------------	--------------------------

PCB ASSY**90ST187HPHONE-902T187 SP HEADPHONE BOARD ASSY****PHONE JACK**

M9308	1703100006-902000	PHONE JACK D=6.3 1 PCB MOUNT GOLD W/ NUTX1/WASHERX1
-------	-------------------	--

SMD CAPACITORS

C9310-9311	1231001102-902000	CAP SMD CER 1000PF 10% 50V 0603 X7R
------------	-------------------	--

PCB ASSY**90ST187MDCPSU-902T187 SP PSU MDC BOARD ASSY****CAPACITORS**

C8401 C8404	1227001104-902000	CAP RAD X2 0.1UF 10% 275VAC P=15MM 18X13.5X6MM(WXHXT)
C8402 C8403	1227001472-902000	CAP RAD CER Y2 4700PF 20% 250VAC P=7.5MM JY UL/CSA/VDE
C8405	1227003222-902000	CAP RAD CER Y1/X1 2200PF 20% 440VAC P=10MM JN UL/CSA/VDE
C8406	1220011107-902000	CAP RAD ELEC 100UF 20% 400V P=7.5MM 18*30MM 105°C
C8408	1223001102-902000	CAP RAD BOX 0.001UF 5% 63V P=5MM 7.2X6.5X2.5(WXHXT)
C8410	1220003226-902000	CAP RAD ELEC 22UF 20% 50V P=2MM 5*11MM 105°C LOW ESR
C8411	1220006106-902000	CAP RAD ELEC 10UF 20% 50V P=2MM 5*11MM 105°C LOW ESR
C8415	1222001103-902000	CAP RAD POLY 0.01UF 10% 630V P=10MM 11.5X9X5MM(WXHXT)
C8419	1220002478-902000	CAP RAD ELEC 4700UF 20% 25V P=7.5MM 16*30MM 105°C
C8426	1220008108-902000	CAP RAD ELEC 1000UF 20% 50V P=5MM 13*25MM 105°C LOW ESR
C8429	1221004222-902000	CAP RAD CER 2200PF 10% 1000V P=5MM Y5P

DIODES

D8415	1400100668-902000	DIODE P6KE68A DO-15 68V 5W TRAN SIENT VOLTAGE SUPPRESSOR
D8416	1410100605-902000	DIODE BRIDGE RS605 6A/600V

FUSE

F8401	1601100005-902000	FUSE 5*20MM TIME-LAG 500MA 250VAC TSD UL/CSA/VDE/CCC
-------	-------------------	---

INDUCTORS

L8401	1500100076-902000	INDUCTOR CHOKE 1MH 3.6A
L8402	1500100075-902000	INDUCTOR RAD 1UH 20% 10A

RELAY

M8401	1602100003-902000	RELAY 1P1T 5VDC 10A TV-5
-------	-------------------	--------------------------

TRANSISTORS

Q8401	1430101660-902000	MOSFET STP16NK60Z TO-220 14A/600V N-CH
Q8402	1410121815-902000	TRANS 2SC1815Y TO-92 NPN 150MA/50V

RESISTORS

R8411	1126210039-902000	RES MO 3W 5% 0.3R
R8411	0217100001-902000	FIBRE HIGH TEMP. TUBE WHITE ID=1.0
R8412	1122001691-902000	RES MF 1/4W 1% 1.69K
R8422	1400115056-902000	THERMISTOR NTC 4 OHM 6A UL /CUL/ TUV/CSA

TRANSFORMER

T8401	1501100081-902000	X'FORMER RM12-1 T787 PSU MDC
-------	-------------------	------------------------------

IC

U8401	1300100431-902000	IC TL431C TO-92 ADJ SHUNT REGULATOR
-------	-------------------	-------------------------------------

SMD CAPACITORS

C8407 C8409 C8416 C8422 C8425 C8427	1231003104-902000	CAP SMD CER 0.1UF 10% 50V 0603 X7R
C8417	1231001471-902000	CAP SMD CER 470PF 5% 50V 0603 NPO
C8420	1231001391-902000	CAP SMD CER 390PF 5% 50V 0603 NPO
C8421	1231001183-902000	CAP SMD CER 0.018UF 10% 50V 0603 X7R
C8423	1231002101-902000	CAP SMD CER 100PF 10% 50V 0603 NPO
C8424	1231002221-902000	CAP SMD CER 220PF 5% 100V 0603 NPO

DIODES

D8401 D8402 D8406	1400101603-902000	DIODE ULTRAFAST MURS160T3G SMD SMB 1A/600V
D8403	1400205819-902000	DIODE SCHOTTKY 1N5819 DO-41 1A/40V
D8404 D8405	1400120170-902000	DIODE SCHOTTKY STPS20170CG SMD D2PAK 20A/170V
D8407	1400105240-902000	DIODE ZENER MMSZ5240B SMD SOD123 5% 10V 500MW
D8408	1400100001-902000	DIODE GS1G M4 SMD DO-214AC 1A/400V
D8414	1400100668-902000	DIODE P6KE68A DO-15 68V 5W TRANSIENT VOLTAGE SUPPRESSOR

SMD RESISTORS

R8401	1160214702-902000	RES SMD 0603 1/16W 5% 47K
R8402 R8403 R8404	1152016803-902000	RES SMD 1206 1/4W 1% 680K
R8405	1160010200-902000	RES SMD 0603 1/16W 1% 20R
R8406	1160202403-902000	RES SMD 0603 1/16W 5% 240K
R8407, R8420	1160210000-902000	RES SMD 0603 1/16W 5% 0R
R8408	1122002872-902000	RES MF 1/4W 1% 28.7K
R8409	1167010100-902000	RES SMD 0603 1/10W 1% 10R
R8410	1122002103-902000	RES MF 1/4W 1% 210K
R8413	1160211501-902000	RES SMD 0603 1/16W 5% 1.5K
R8414 R8415	1160014990-902000	RES SMD 0603 1/16W 1% 499R

R8416	1167013652-902000	RES SMD 0603 1/10W 1% 36.5K
R8417	1160014701-902000	RES SMD 0603 1/16W 1% 4.7K
R8418	1160018251-902000	RES SMD 0603 1/16W 1% 8.25K
R8421	1160203901-902001	RES SMD 0603 1/16W 5% 3.9K
R8423	1167012001-902000	RES SMD 0603 1/10W 1% 2K
R8438	1147214702-902000	RES SMD 0805 1/10W 5% 47K
R8439	1122000100-902000	RES MF 1/4W 1% 10R

ICS

U8402	1300128600-902000	IC UCC28600D SMD 8-PIN SOIC QUASI-RESONANT FLYBACK GREEN-MODE CONTROLLER
U8403	1300117100-902000	IC CNY17-1X007 SMD 6-PIN OPTOCOUPLER

PCB ASSY

90ST187VM150A-902 T187 SP VM150AV ANALOG VIDEO BOARD ASSY

JACKS

M4101-4103	1703100018-902000	RCA JACK 1 YELLOW & S-VIDEO PCB MOUNT W/COVER
M4104-4105	1703100069-902000	RCA JACK 6 G-BL-R/G-BL-R PCB MOUNT GOLD W/ SHIELD

SMD CAPACITORS

C4101-4118	1290003225-902000	CAP SMD ELEC 2.2UF 20% 50V 4*5.4MM
C4119 C4121 C4123	1231001221-902000	CAP SMD CER 220PF 10% 50V 0603 X7R
C4120 C4122 C4124	1290006227-902000	CAP ELEC SMD 220UF 20% 16V 6.3X7.7MM
C4125 C4127 C4129 C4131 C4133 C4135 C4140 C4145	1290003476-902000	CAP SMD ELEC 47UF 20% 50V 6.3*7.7MM
C4126 C4128 C4130 C4132 C4134 C4136 C4141 C4146	1231001104-902000	CAP SMD CER 0.1UF 20% 50V 0603 Y5V
C4137-4139	1290003106-902000	CAP SMD ELEC 10UF 20% 16V 4*5.4MM
C4142-4144	1290001107-902000	CAP SMD ELEC 100UF 20% 16V 6.3*5.5MM
C4153 C4154 C4155	1231001121-902000	CAP SMD CER 120PF 5% 50V 0603 NPO

SMD DIODES

D4101 D4102 D4103D4104 D4105 D4106	1400105231-902000	DIODE ZENER MM1Z5231B SMD SOD123 5% 5.1V 500MW
------------------------------------	-------------------	--

SMD RESISTORS

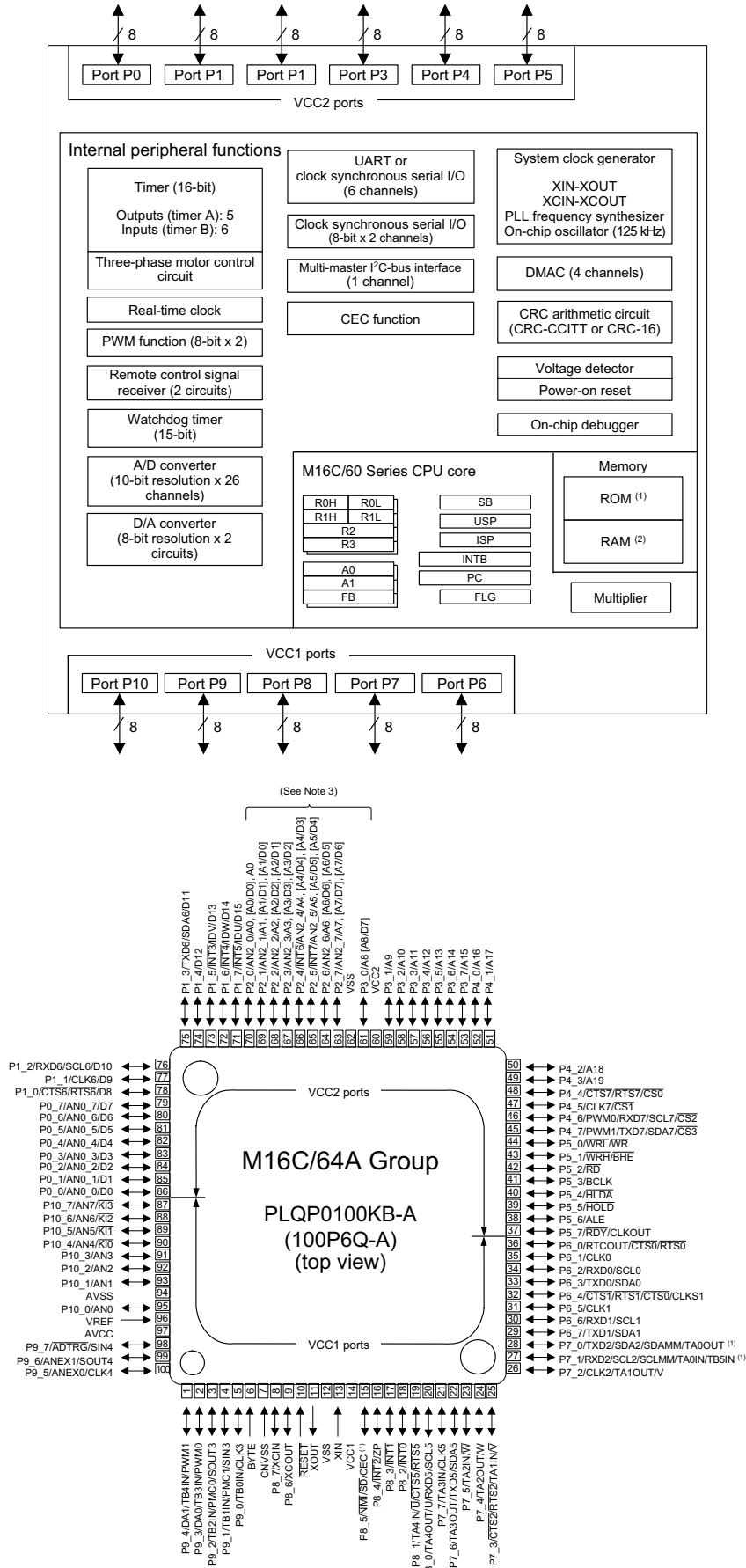
R4101-4118 R4127-4129	1160210750-902000	RES SMD 0603 1/16W 5% 75R
R4119-4120	1141210000-902000	RES SMD 0805 1/8W 5% 0R
R4121-4123	1160011002-902000	RES SMD 0603 1/16W 1% 10K
R4124-4126	1160214703-902000	RES SMD 0603 1/16W 5% 470K
R4153 R4154 R4155	1160015600-902000	RES SMD 0603 1/16W 1% 560R

ICS

U4101-4103	1300100714-902000	IC ADG714BRUZ SMD 24-PIN TSSOP SERIALY CONTROLLED OCTAL SPST SWITCHES
U4104	1300107660-902000	IC BA7660FS SMD SSOP-A16PIN VIDEO 3-CHANNELL 75 OHM DRIVER

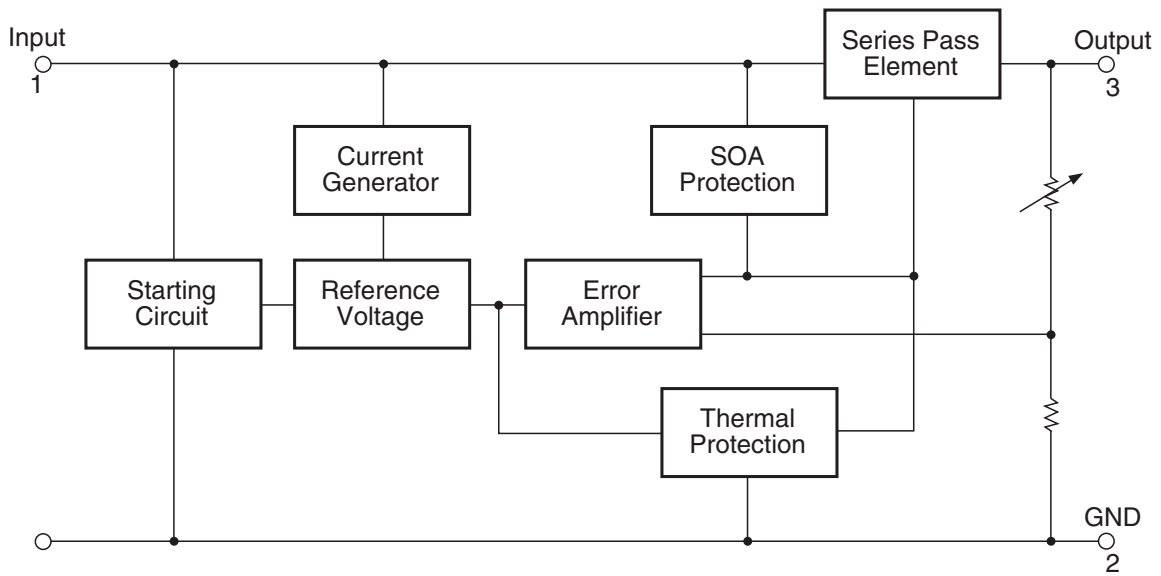
IC BLOCK DIAGRAM

MAIN - U2001

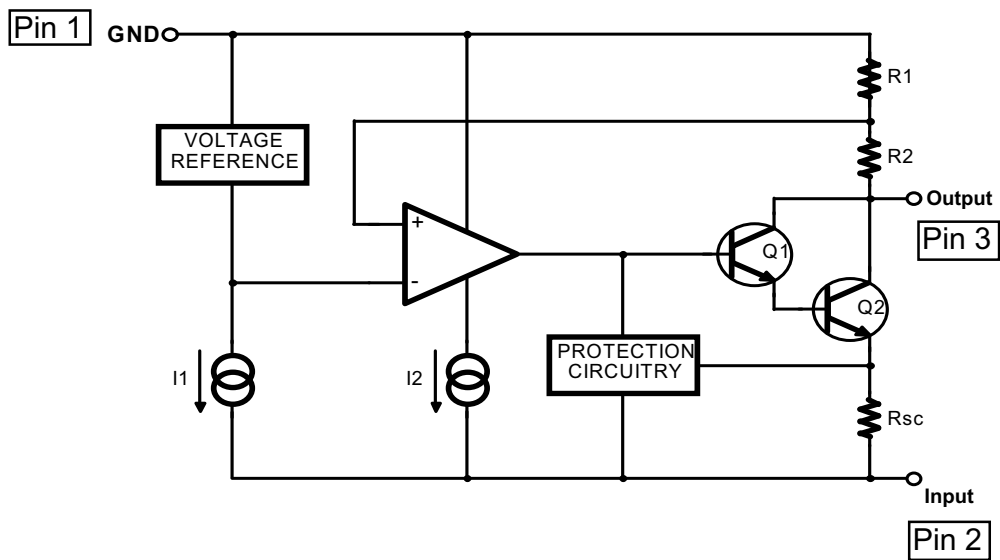


- Notes:
1. N-channel open drain output.
 2. Check the position of Pin 1 by referring to appendix 1, Package Dimensions.
 3. Pin names in brackets [] represent a single functional signal. They should not be considered as two separate functional signals.

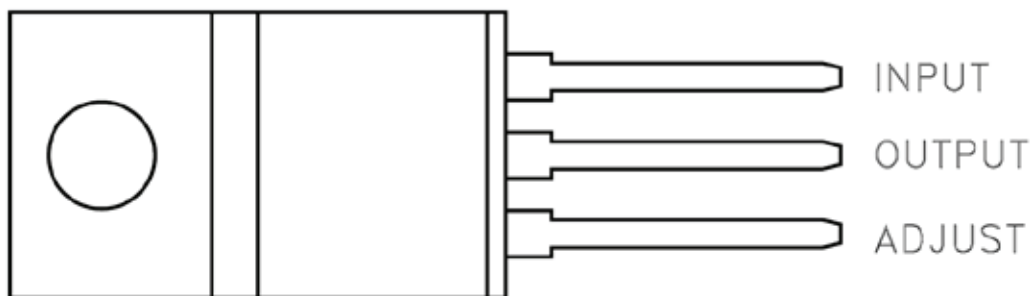
MAIN - U2008 U2010 U2011



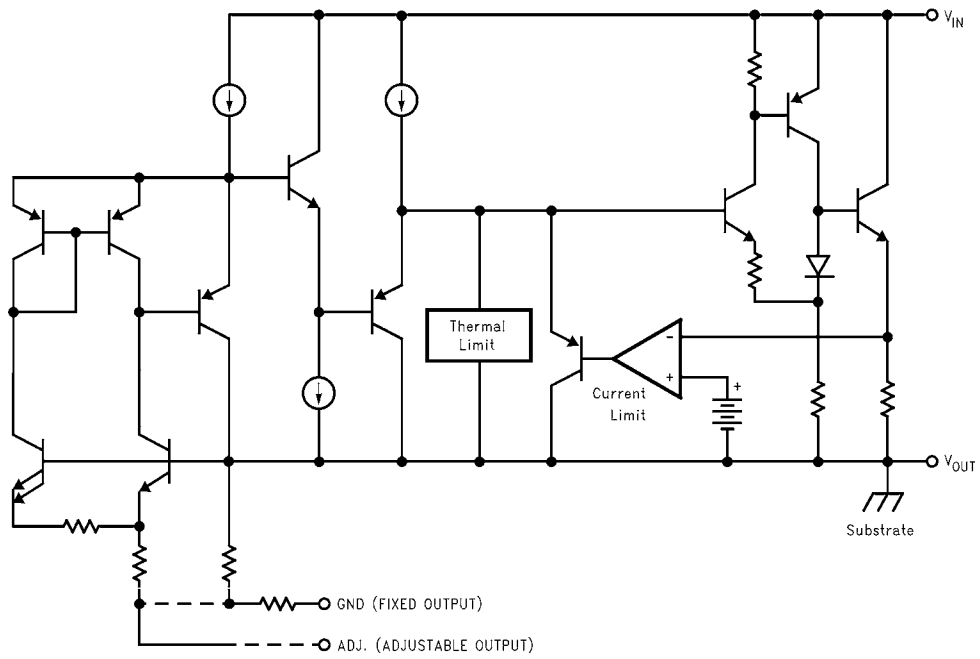
MAIN - U2012



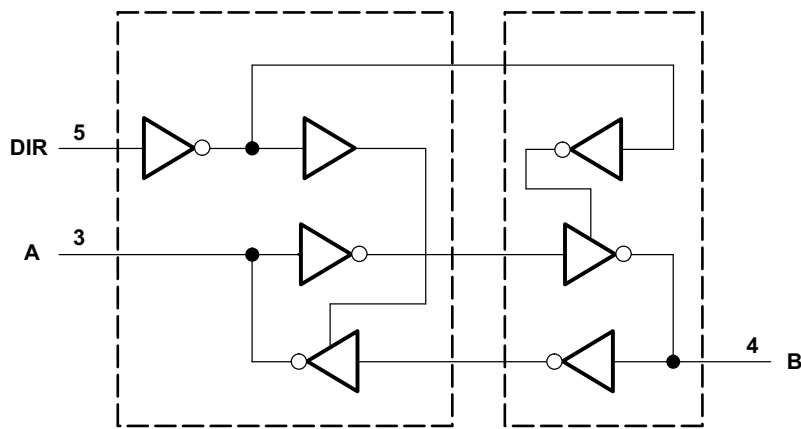
MAIN - U2013



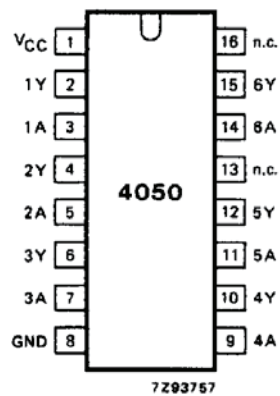
MAIN - U2016



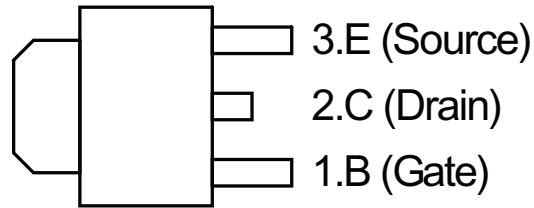
MAIN - U2017 U2018



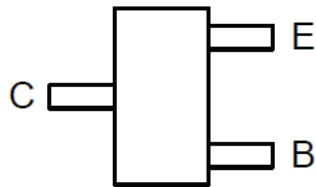
MAIN - U2019



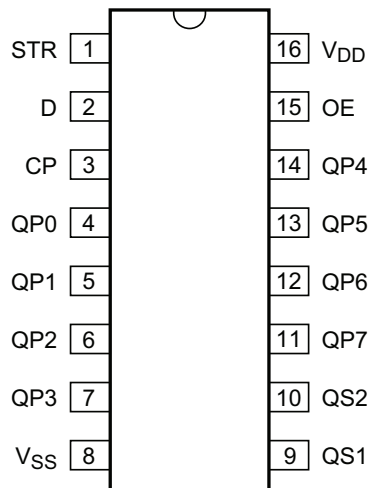
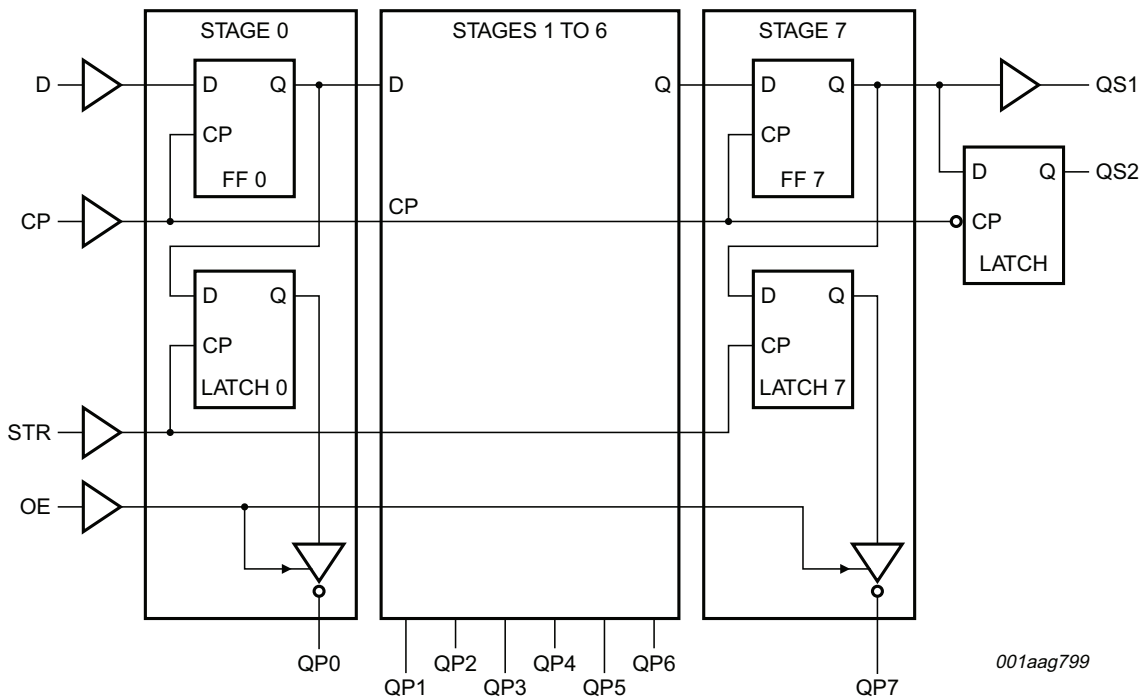
KEYBOARD - Q2201



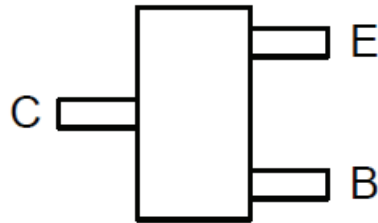
KEYBOARD - Q2203~2204



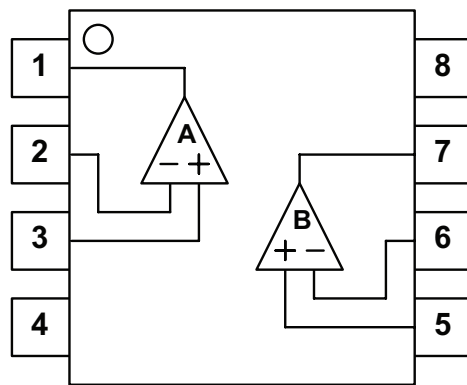
KEYBOARD - U2201



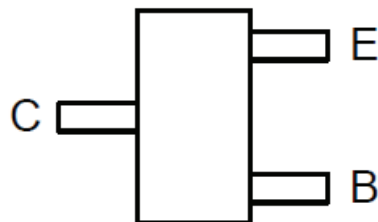
**PRE-OUT - Q6501~6504 Q6601~6604 Q6701~6704 Q6801~6804
 Q6505 Q6605 Q6705 Q6805 Q6905 Q6511 Q6512
 Q6611 Q6612 Q6711 Q6712 Q6811 Q6812
 Q6911 Q6912**



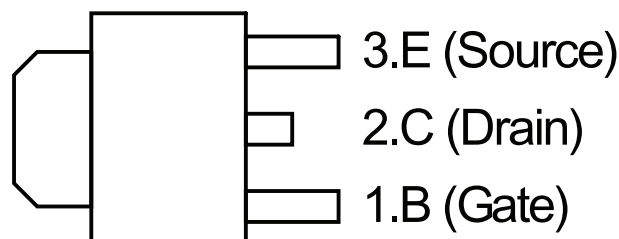
PRE-OUT - U6501 U6601 U6701 U6801



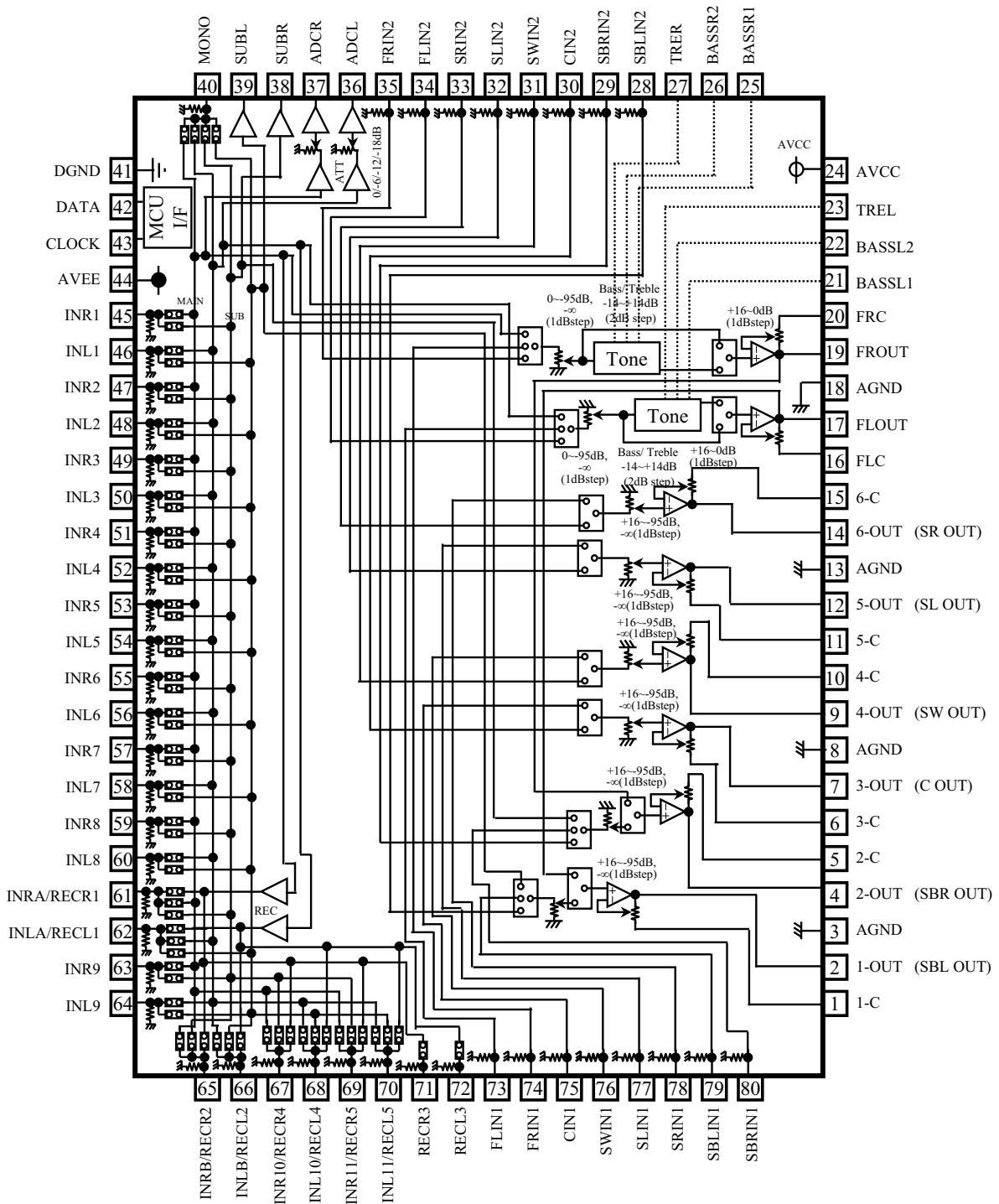
**VOLUME - Q6005~6016 Q6021~6024 Q6026~6027 Q6017~6020
 Q6025 Q6028~6035**



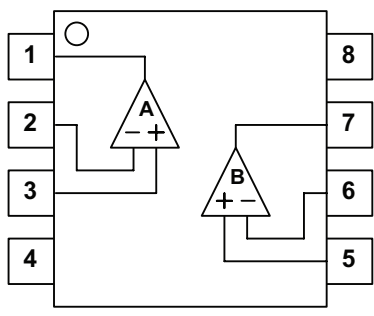
VOLUME - Q6101 Q6103 Q6102



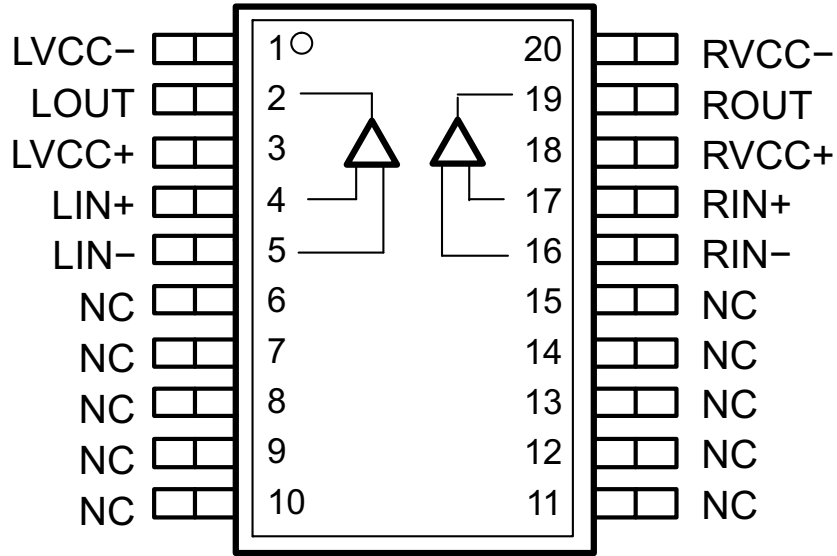
VOLUME - U6001 U6002



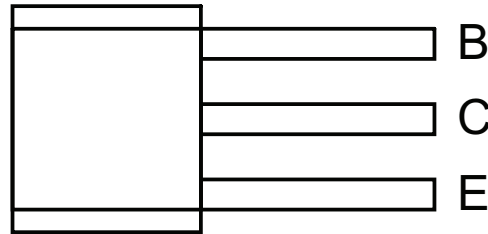
VOLUME - U6004 U6005 U6006 U6007 U6008



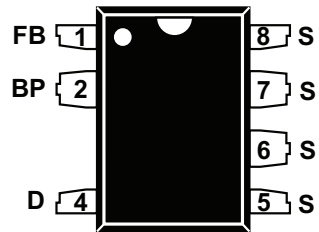
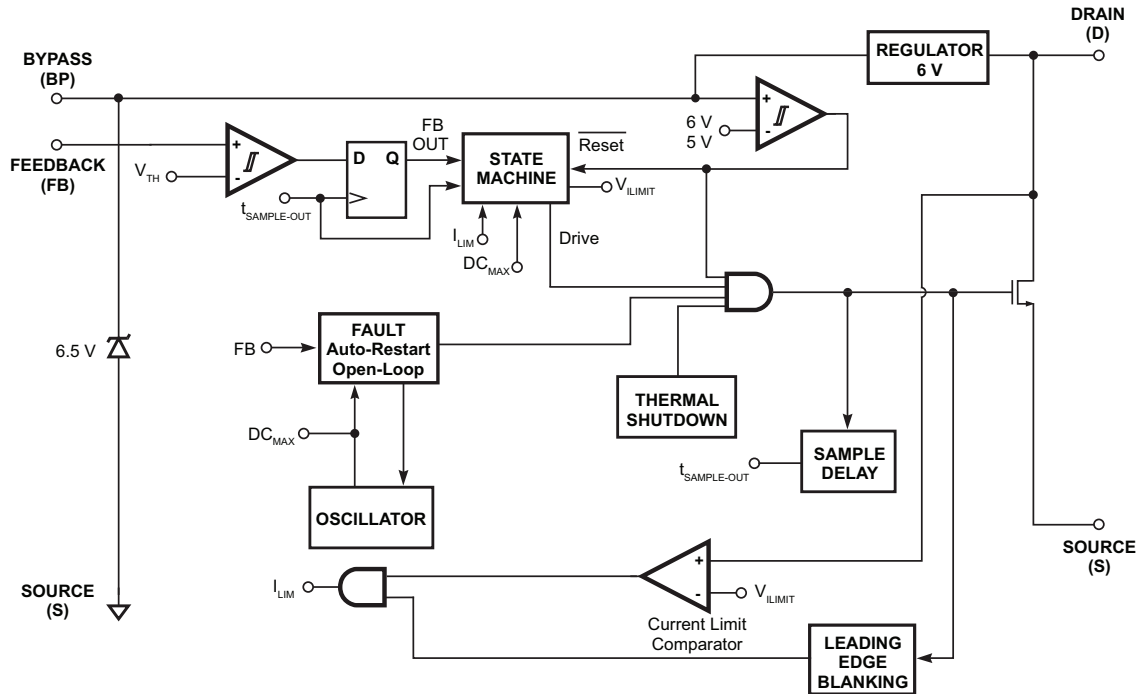
VOLUME - U6008



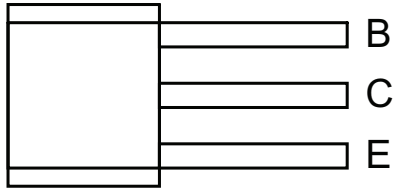
PSU-STD - Q8001



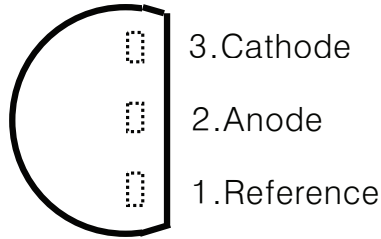
PSU-STD - U8001



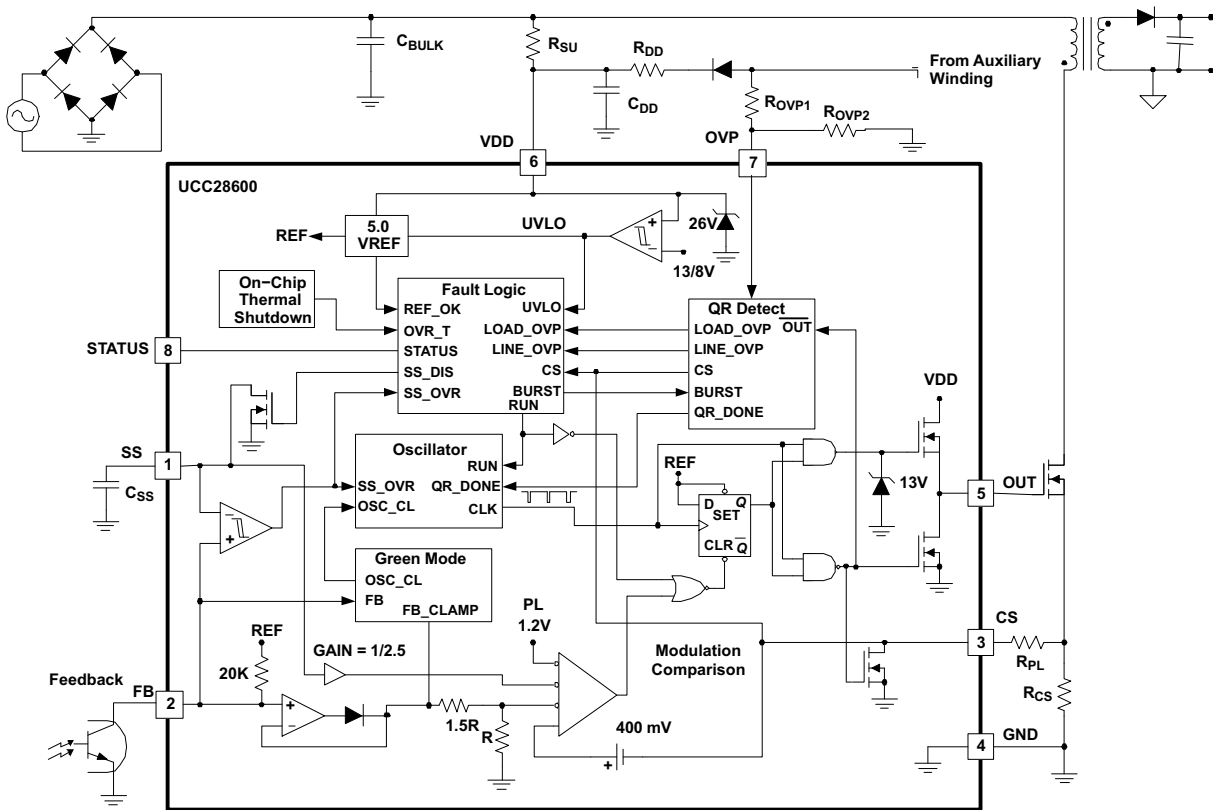
PSU-MDC - Q8402



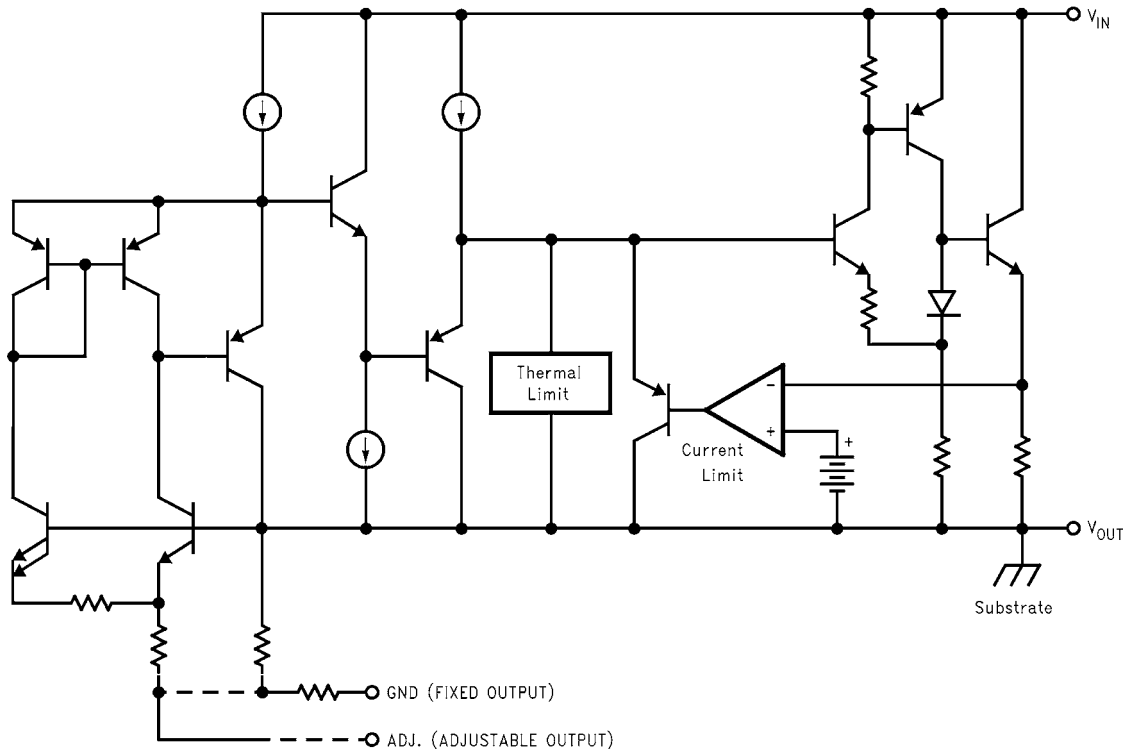
PSU-MDC - U8401



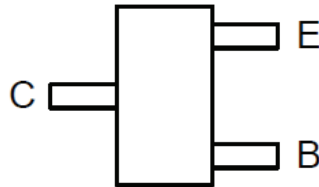
PSU-MDC - U8402



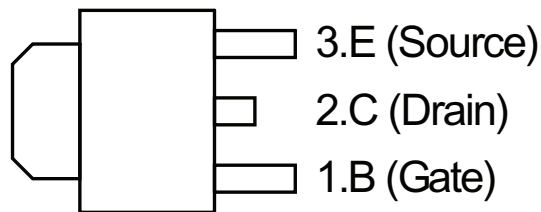
PSU-MDC - U8403



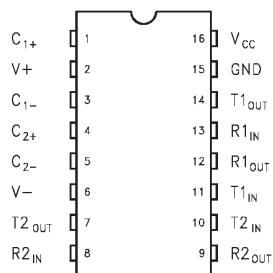
**TRIGGER - Q2301 Q2303 Q2305 Q2307 Q2308 Q2310
 Q2312 Q2314 Q2316 Q2317 Q2318 Q2319 Q2321
 Q2302 Q2304 Q2306 Q2320**



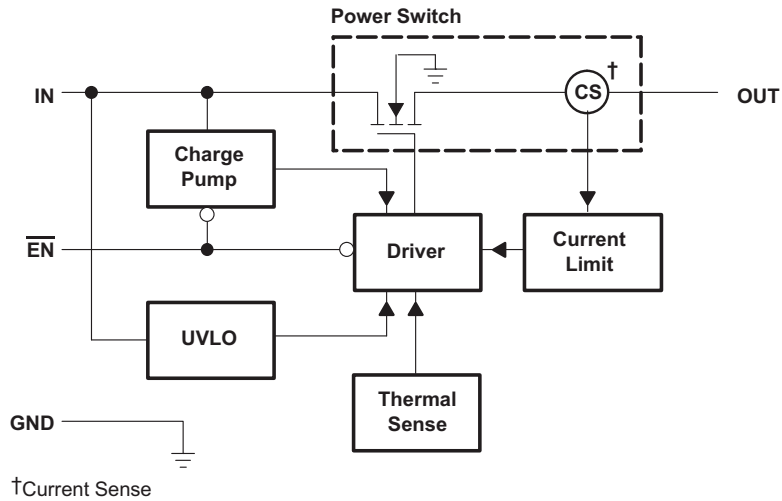
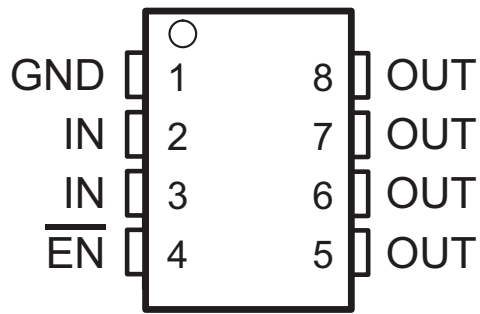
TRIGGER - Q2309 Q2311 Q2313



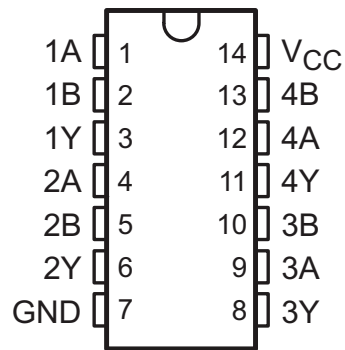
TRIGGER - U2301



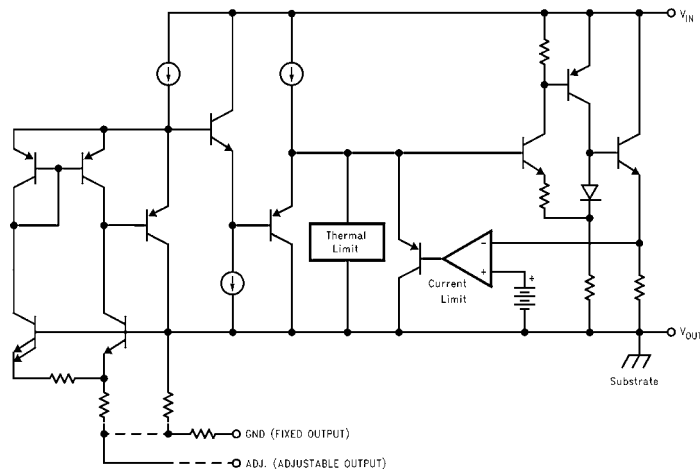
TRIGGER - U2302



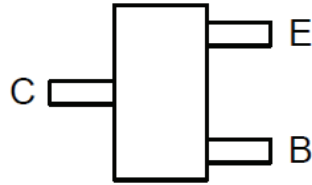
TRIGGER - U2303



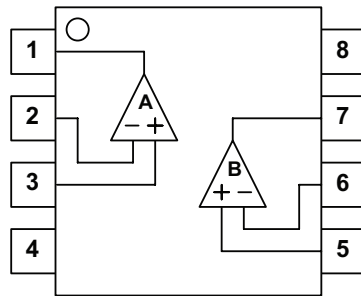
TRIGGER - U2304



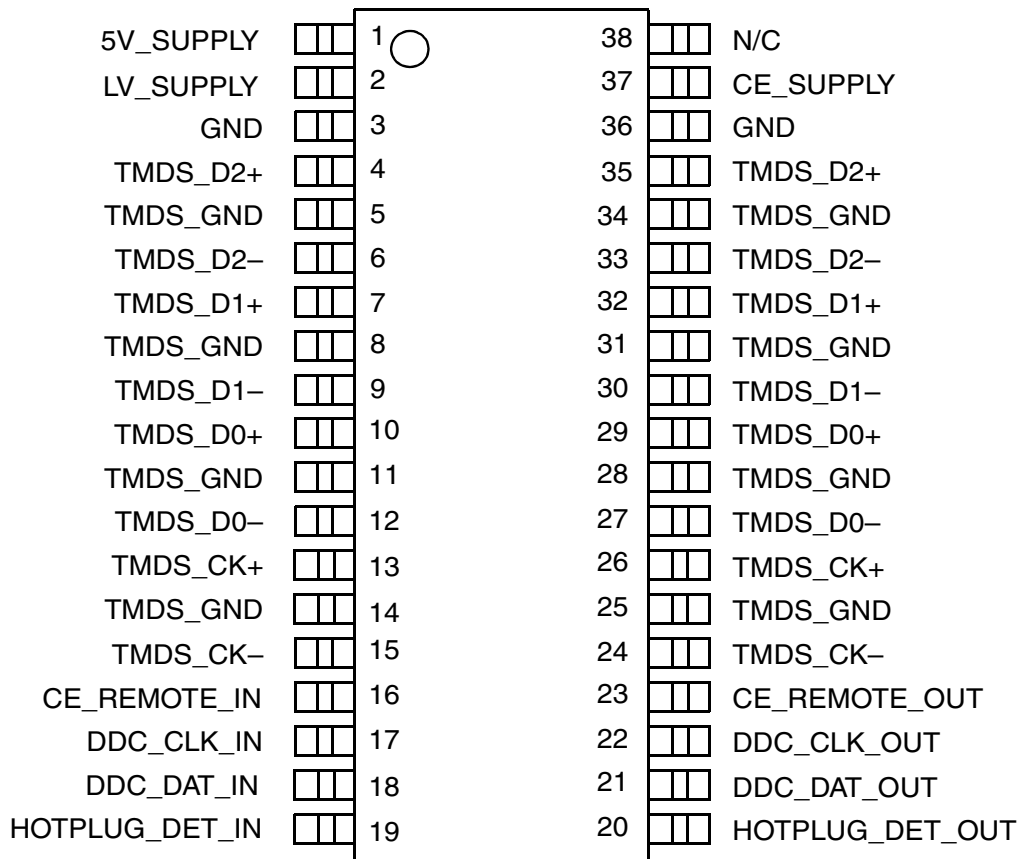
F-INPUT - Q9301 Q9302 Q9303 Q9304 Q9305



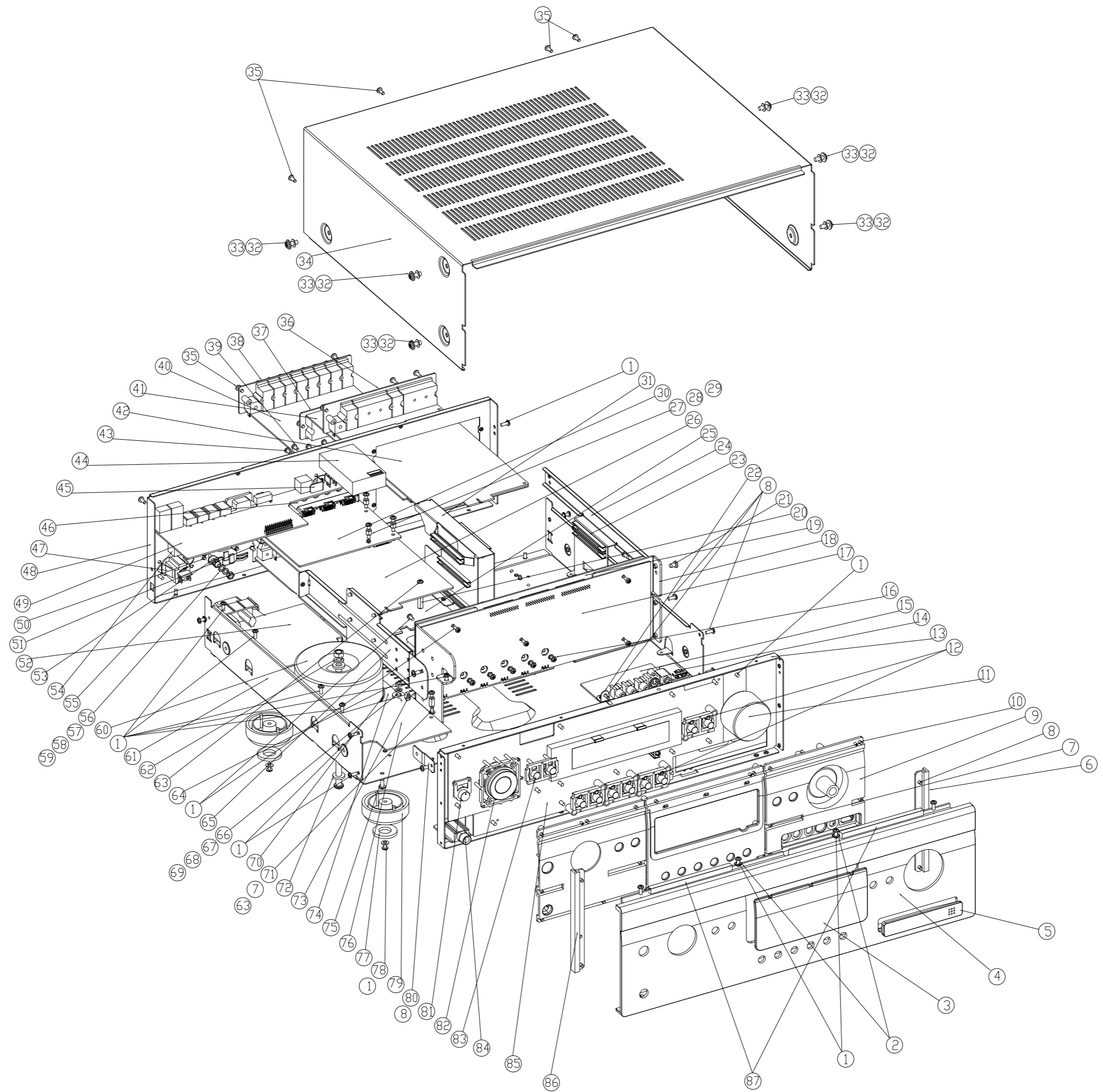
F-INPUT - U9301



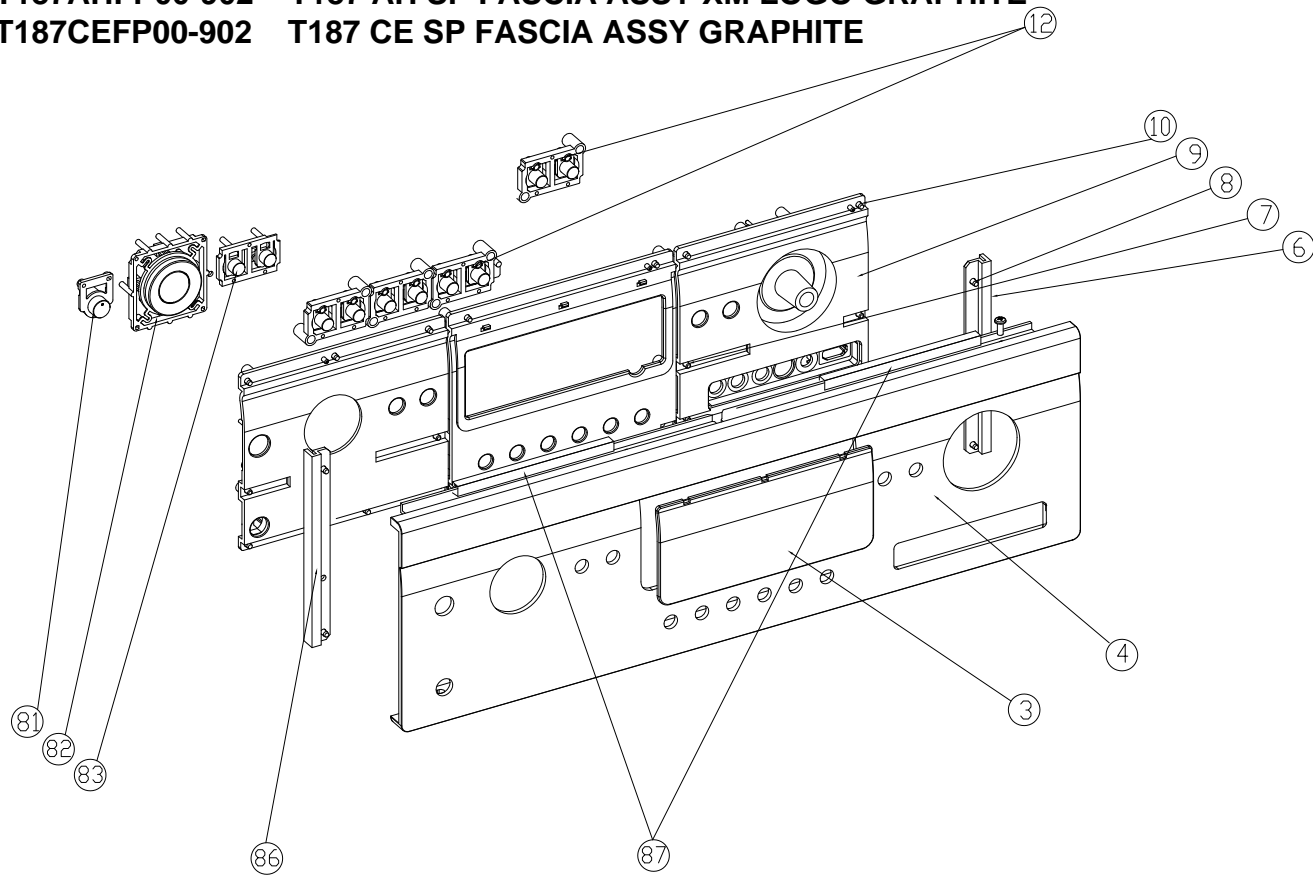
F-HDMI - U9401



EXPLODED VIEW



90ST187AHFP00-902 T187 AH SP FASCIA ASSY XM LOGO GRAPHITE
90ST187CEFP00-902 T187 CE SP FASCIA ASSY GRAPHITE



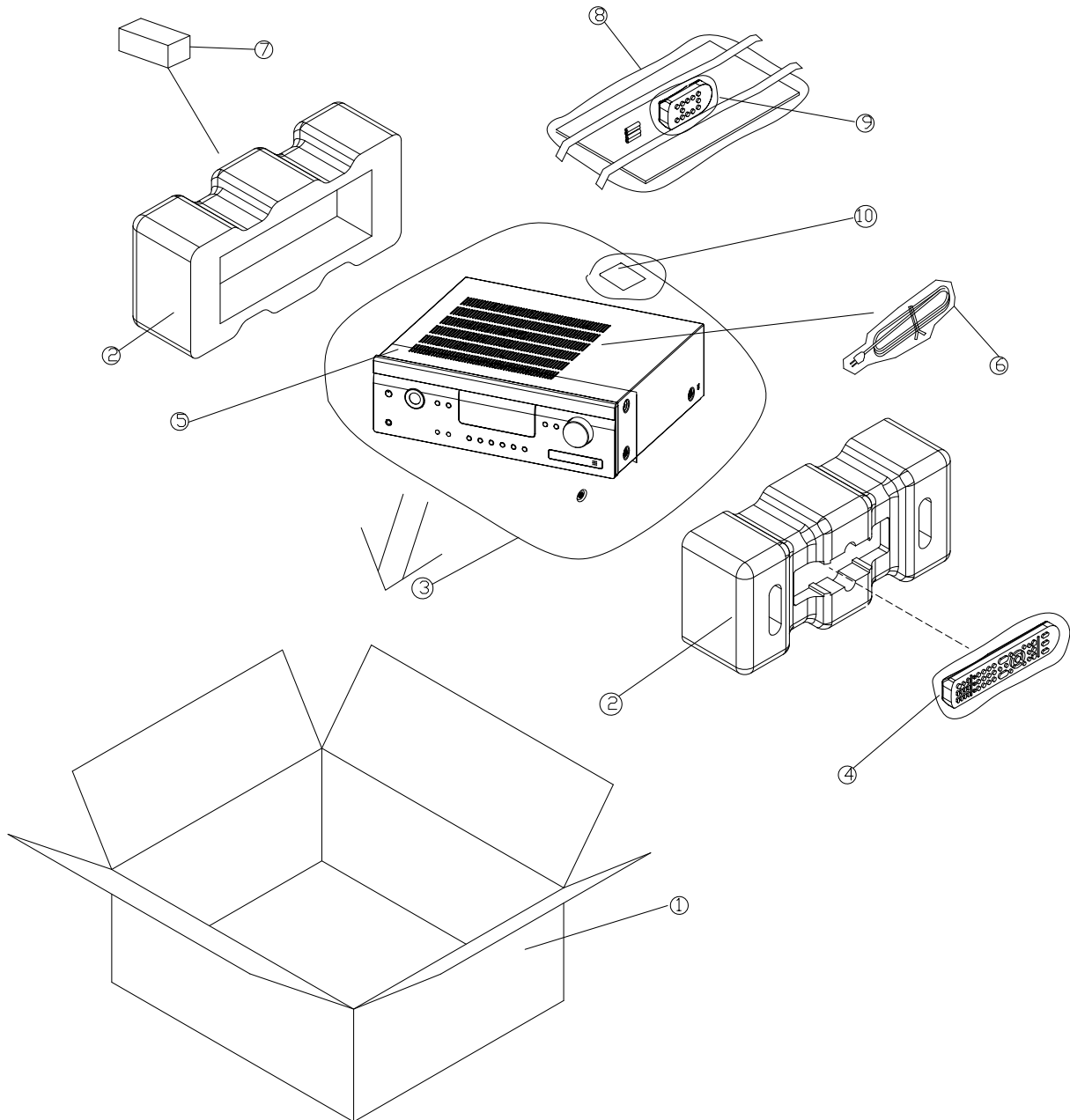
EXPLODED VIEW PARTS LIST

ITEM	PART NO.	DESC.	QTY
1	1800301001-902000	SCREW M3 X 8MM TAPTITE + BH / TYPE B NI "ROHS"	53
2	1820321002-902000	WASHER EXTERNAL TOOTH ID3.2XOD6.5X0.4THK NI PLT "ROHS"	4
3	0202100093-902000 (AH)	DISPLAY LENS TINT RED COLOR XM LOGO "ROHS" T187	1
	0202100092-902000 (C)	DISPLAY LENS TINT RED COLOR "ROHS" T187	1
4	0335100101-902000	FASCIA ALU GRAPHITE "ROHS" T187	1
5	0202100117-902000	VIDEO COVER GRPAHITE "ROHS" T787	1
6	0330100100-902000	SIDE CAP - RIGHT ALU GRAPHITE "ROHS" T187	1
7	1800301002-902000	SCREW M3 X 6MM M/C +P/H NI "ROHS"	5
8	1800301006-902000	SCREW M3 X 6MM TAPTITE +P/H TYPE B NI "ROHS"	16
9	0202100124-902000	PLASTIC INNER PANEL GRAPHITE "ROHS" T187	1
10	1800301023-902000	SCREW M3 X 5MM TAPTITE +B/H TYPE B NI "ROHS"	13
11	0330100090-902000	ALUMINIUM VOLUME KNOB ASSY GRAPHITE "ROHS" T757	1
12	0202100137-902000	INPUT BUTTON 2 KEYS A BLACK "ROHS" TXX7	4
13	0330100125-902000	SUBFASCIA "ROHS" T187	1
14	677T787AH0000-902	PCB MI ASSY T787 AH F-HDMI CONNECTOR BOARD "ROHS"	1
15	631T187AH0000-902	PCB MI ASSY T187 AH F-INPUT BOARD "ROHS"	1
16	1800301021-902000	SCREW M3 X 8MM M/C +P/H NI "ROHS"	6
17	601T187AH0000-902	PCB MI ASSY T187 AH MAIN BOARD "ROHS"	1
	601T187CE0000-902	PCB MI ASSY T187C MAIN BOARD "ROHS"	1
18	0330100023-902000	MAIN BRACKET ALUMINUM "ROHS" T175	1
19	638T187AH0000-902	PCB MI ASSY T187AH CONNECTION # 1 BOARD "ROHS"	1
20	1810301005-902000	STANDOFF M3X5.5X9.5MM HEX M-F CU "ROHS"	2
21	1800401010-902000	SCREW M4 X 8MM TAPTITE +C/H TYPE-B BLK "ROHS"	1
22	0330100114-902000	L-SHAPE BRACKET SINGLE M3 THREAD "ROHS"	1
23	1840001003-902000	PCB CARD GUIDE "ROHS" "KANG YANG" CG-250	12
24	0330100060-902000	PCB GUIDE BRACKET - RIGHT "ROHS" T175	1
25	618AM200ZAH00-902	PCB MI ASSY AM200Z AH DSP BOARD "ROHS"	1
26	633VM15000000-902	PCB MI ASSY VM150 HDMI BOARD "ROHS"	1
27	1800301036-902000	SCREW M3 X 4MM M/C +P/H NI "ROHS"	3
28	1810301003-902000	NUT HEX M3 X 5.2 X 2.4MM NI "ROHS"	2
29	1810301014-902000	STANDOFF M3X5.5X5+7MM HEX F-M CU "ROHS"	3
30	633VM150X0000-902	PCB MI ASSY VM150X HDMI EXPANDER BOARD "ROHS"	1
31	0330100058-902000	PCB GUIDE BRACKET - CENTER "ROHS" T175	1
32	1820421001-902000	WASHER PVC ID4.2XOD8.2X0.5MM "ROHS"	6
33	1800401001-902000	SCREW M4 X 8MM M/C +WASHER HEAD BLK "ROHS"	6
34	0335100074-902010	TOP COVER PPG GREY R.1 "ROHS" T175	1
35	1800301004-902000	SCREW M3 X 8 MM TAPTITE +B/H TYPE B BLK "ROHS"	55
36	0335100023-902000	PANEL - PRE-OUT "ROHS" T775	1
37	0335100022-902000	PANEL - VOLUME "ROHS" T775	1
38	0335100091-902000	PANEL - COMPONENTS+S-VIDEO "ROHS" T7X7	1
39	1800261002-902000	SCREW M2.6 X 6MM M/C +K/H BLK "ROHS"	6
40	674T187AH0000-902	PCB MI ASSY VM150AV ANALOG VIDEO BOARD"ROHS"	1
41	614T187AH0000-902	PCB MI ASSY T187 AH VOLUME BOARD "ROHS"	1
42	624T187AH0000-902	PCB MI ASSY T187 AH PRE-OUT BOARD "ROHS"	1
43	1800301015-902000	SCREW M3 X 6MM M/C +P/H BLK "ROHS"	2
44	0781000003-902000 (AH)	AM/FM TUNER MODULE "ROHS" "KWANG SUNG" KST-MT104MS0-80S	1
	0781000004-902000 (C)	AM/FM TUNER MODULE "ROHS" "KWANG SUNG" KST-MT104MS1-80	1
45	0330100061-902000	DIN JACK MOUNTING BRACKET "ROHS" TXX5	1
46	0335100089-902010	PANEL - VM150X R.1 "ROHS" T7X7	1

47	1703100032-902000	AC OUTLET 3 PINS US POLARIZED SS-6B-1-NY (ROHS)	1
	1703100031-902000	AC OUTLET EURO CEE 7 2.5A/250V A302D0060P(ROHS)	1
48	0335100120-902000	REAR PANEL SPRAY BLACK AH "ROHS" T187	1
	0335100121-902000	REAR PANEL SPRAY BLACK CE "ROHS" T187	1
49	630T187AH0000-902	PCB MI ASSY T187 AH TRIGGER BOARD "ROHS"	1
	647T187CE0000-902	PCB MI ASSY T187C TRIGGER BOARD "ROHS"	1
50	1800301005-902000	SCREW M3 X 8MM TAPTITE +SMALL K/H TYPE B BLK "ROHS"	2
51	0335100088-902000	PANEL - DIGITAL & HDMI VM150 "ROHS" TXX7	1
52	603T187AH0000-902	PCB MI ASSY T187 AH PSU BOARD "ROHS"	1
	604T187CE0000-902	PCB MI ASSY T187C PSU BOARD "ROHS"	1
53	1703100029-902000	AC SOCKET IEC 10A 250V JR-101 (ROHS)	1
54	1600100003-902000	SWITCH ROCKER 1P1T BLK/BLK 10A/250VAC TV-5 UL/CSA/VDE/SEMKO "ROHS" "RASTAR" RF-1003-BB2-0	1
55	1800301020-902000	SCREW M3 X 6MM TAPTITE +B/H TYPE B BLK "ROHS"	6
56	1800401008-902000	SCREW M4 X 14MM M/C +WASHER HEAD BLK "ROHS"	1
57	1810401001-902000	NUT HEX M4 X 7 X 3.2MM NI "ROHS"	2
58	1820401001-902000	WASHER SPRING I/D 4 X O/D 7 X 1 THK NI "ROHS"	2
59	1820421002-902000	WASHER EXT TEETH ID4.2 X OD 8.2 X 0.4MM THK NI "ROHS"	1
60	1501100052-902000 (AH)	X'FORMER PW TOROIDAL 120V T175 HD (W/ BOLTX1/NUTX1/DISHX1/RUBBER WASHERX2) ISS1 "ROHS" "ARROW" AT4.531.0100	1
	1501100053-902000 (C)	X'FORMER PW TOROIDAL 230V T175 HD (W/ BOLTX1/NUTX1/DISHX1/RUBBER WASHERX2) ISS1 "ROHS" "ARROW" AT4.531.0100/2	1
61	0335100029-902010	BOTTOM CHASSIS R.1 "ROHS" T175	1
62	1820651001-902000	WASHER SPRING I/D 6.5XO/D10.5X2.0MM THK NI "ROHS"	1
63	1800301013-902000	SCREW M3 X 6MM M/C +WASHER HEAD NI "ROHS"	4
64	1800351021-902000	SCREW M3.5 X 5mm TAPTITE +B/H TYPE B NI "ROHS"	1
65	0330100059-902000	PCB GUIDE BRACKET - LEFT "ROHS" T175	1
66	1810501003-902000	SCREW M5 X 12MM HEX HEAD NI "ROHS"	4
67	1810501004-902000	NUT HEX M5 X 8 X 3.4MM NI "ROHS"	4
68	1820561001-902000	WASHER STEEL ID5.6 X O/D12 X 1MM THK NI "ROHS"	8
69	1820521001-902000	WASHER SPRING I/D 5.2 X O/D 8 X 1.2 THK ZINC PLT "ROHS"	4
70	0203100004-902000	RUBBER TRANSFORMER INSULATOR ID40 X OD110 X 1.2MM THK "ROHS"	1
71	1810301017-902000	STANDOFF M3X4.8X11mm HEX F-F CU "ROHS"	1
72	1820651002-902000	WASHER STEEL ID6.5 X OD14 X 0.8 MM BLK "ROHS"	1
73	1840001001-902000	PCB SUPPORTER H=9.6MM PCB HOLE 4MM "ROHS" "ADMAC" CS-0610	2
74	0330100050-902000	TRANSFORMER BRACKET "ROHS" T175	1
75	1800351001-902000	SCREW M3.5 X 8.0MM TAPTITE +B/H TYPE B NI "ROHS"	5
76	678T187AH0000-902	PCB MI ASSY T187AH PSU MDC BOARD "ROHS"	1
77	0203100001-902000	RUBBER FOOT I/D14 X O/D26 X 3 PORON HH-48C (ROHS)	4
78	1820351001-902000	WASHER STEEL I/D 3.5 X O/D 8.0 X 0.4MM THK ZN "ROHS"	4
79	0202100090-902000	PLASTIC FOOT OD50 X 16MM "ROHS" T7XX7	4
80	0330100024-902000	SIDE MOUNTING BRACKET "ROHS" T175	2
81	0851000001-902010	POWER BUTTON ASSY ALU GRAPHITE R1 "ROHS"	1
82	0851000003-902000	CURSOR BUTTON ALU GRAPHITE "ROHS" VISO FIVE GENERIC	1
83	0202100138-902000	INPUT BUTTON 2 KEYS B BLACK "ROHS" TXX7	1

84	622T187AH0000-902	PCB MI ASSY T187 AH KEYBOARD "ROHS"	1
85	657T787AH0000-902	PCB MI ASSY T787 AH HEADPHONE BOARD "ROHS"	1
86	0330100099-902000	SIDE CAP - LEFT ALU GRAPHITE "ROHS" T187	1
87	0216100002-902000	FOAM 100X7X8MM BLACK (UL GRADE) W/ NITTO 500 "ROHS"	2

PACKING DIAGRAM



PACKING PARTLIST

ITEM	PART NO.	DESCRIPTION	QTY
1	0511000049-902000	MASTER CARTON 2-PLY KK "ROHS" T187	1
2	0541000004-902000	POLYFOAM ENDCAP LEFT/RIGHT "ROHS" T175	2
3	0531000001-902000	POLYBAG 06HDPE W/WARNING MAIN UNIT 600 X 600 MM "ROHS"	1
4	0771000009-902000	REMOTE CONTROLLER NAD HTR-8 "ROHS" "XINGHUOYUAN"	1
5	0551000003-902000	PROTECTIVE COVER "ROHS" T175	1
6	0604100006-902000(CE)	AC CORD CE 3 PINS 16A 250V L=2M H05VV-F 3G 1.0 CT-12 "ROHS" "I-SHENG" SP-022+IS-14	1
	0604100005-902000(AH)	AC CORD UL/CSA 3PINS 13A 125V L=2M 16/3 60C CT-12 "ROHS" "I-SHENG" SP-301+IS-14	1
7	0761000001-902000	NEW MICROPHONE SET WITH PACKING "ROHS" "AUDYSSEY" ACM1H	1
8	0531000005-902000	POLYBAG 05HDPE MANUAL 230 X 330MM W/WARNING "ROHS"	1
9	0811000010-902000	CD OWNER'S MANUAL "ROHS" T187	1
	0771000008-902000	REMOTE CONTROLLER NAD ZR-7 W/BATTERY "ROHS" "KIE"	1
	0841000001-902000	FM WIRE ANTENNA L=2700MM TRANSPARENCE W/Y-TERMINALS "ROHS"	1
	0841000002-902000	ANTENNA AM LOOP ASSY W/STAND "ROHS" S0160BL-04	1
	0431000027-902000	GENERIC QUICK START MANUAL A3 "ROHS" TXX7	1
	0421000001-902010	CARD WARRANTY NAD MODELS R.1 "ROHS"	1
	1604100001-902000	BATTERY AA 1.5V 2PCS/PACK "ROHS" "ZHAONENG" R6 AA	2
	1701100005-902000	ANTENNA ADAPTER 300 TO 75 OHM "ROHS" "GREATEST" AJ2010	1
10	0551000002-902000	DESSICANT BAG 20G NON-DMF "ROHS"	1

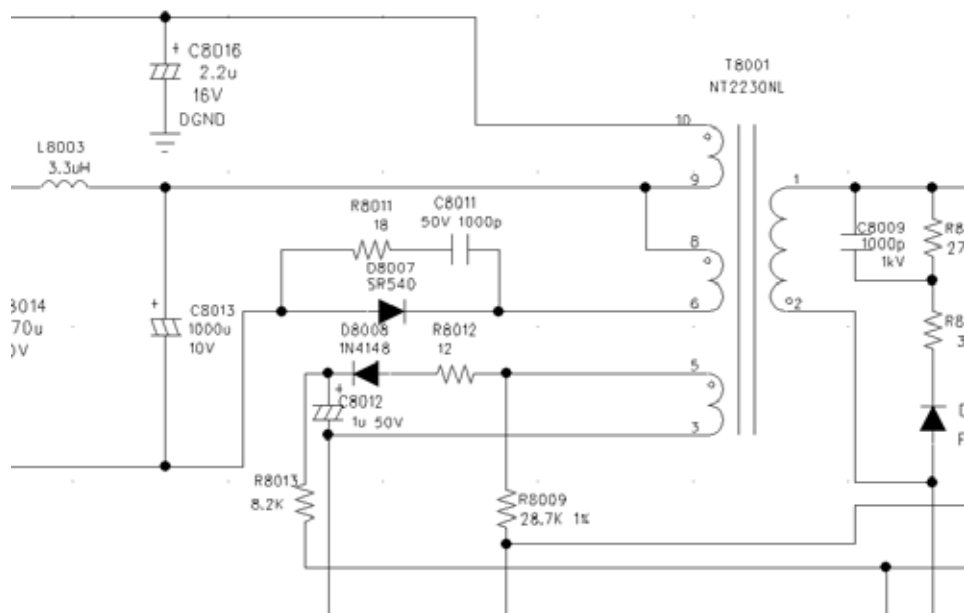
APPENDIX 1

For the following serial range, there are modifications to the standby PSU board:

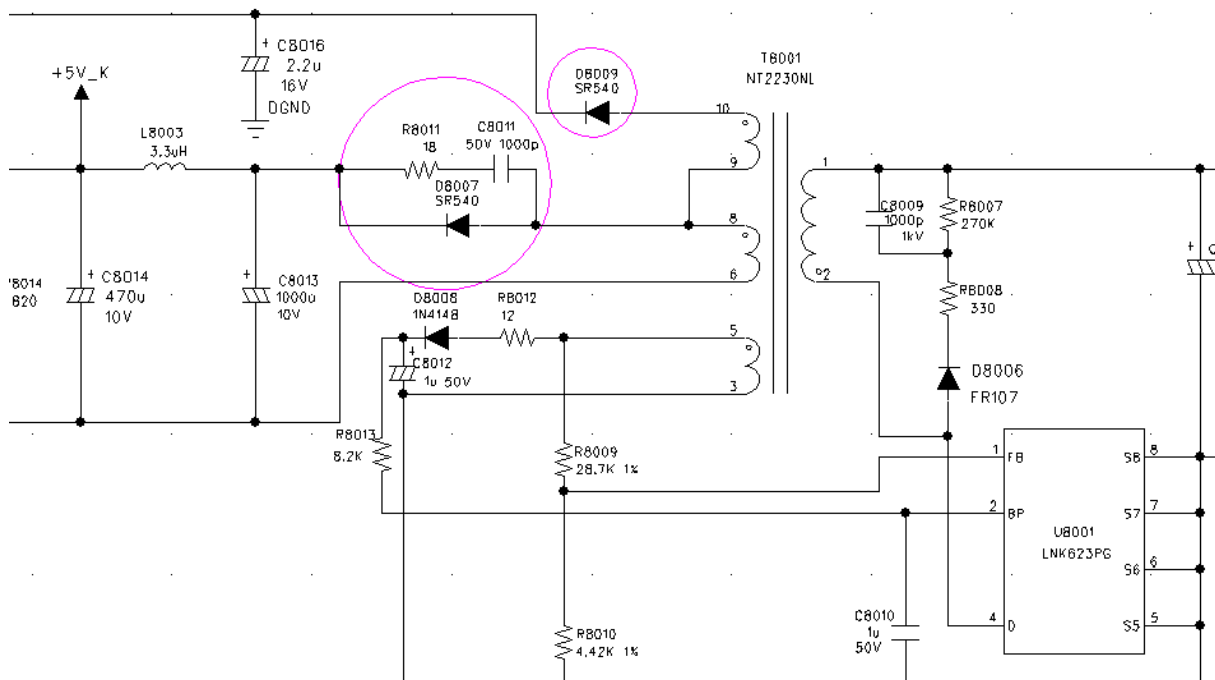
Model	SO#	Serial No.	PCB version
T187	#90200384	K1YT187G01001- K1YT187G01100	0201100127-902010 Issue 011
	#90200386	K1YT187G01101- K1YT187G01200	

The purpose is to make the MCU to detect power down correctly, details as follow:

ORIGINAL CONNECTION:



MODIFIED CONNECTION:



APPENDIX 2

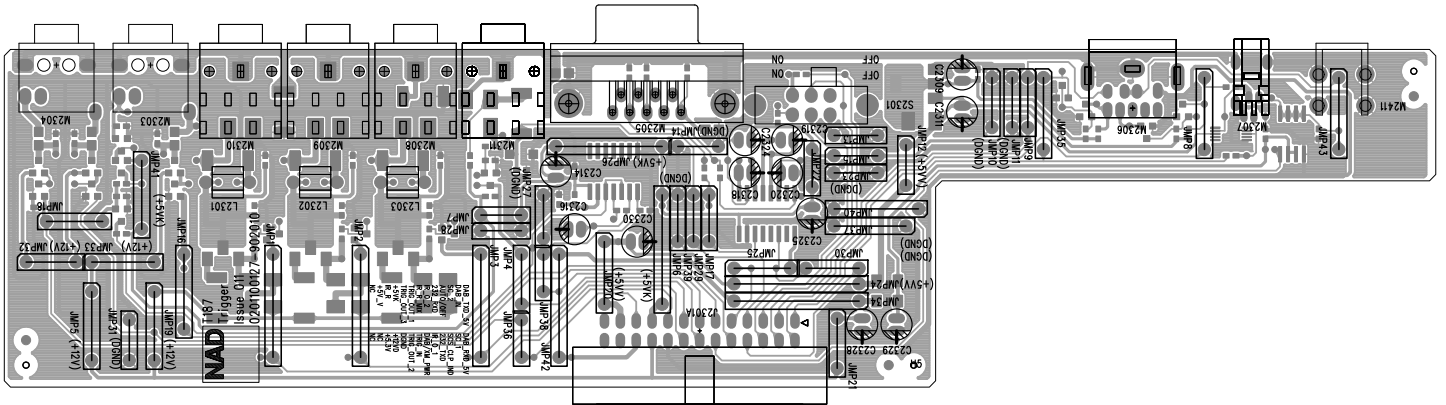
For the following serial range, the trigger PCB version is 0201100127-902010 Issue 011.

Model	SO#	Serial No.	PCB version
T187	#90200384	K1YT187G01001- K1YT187G01100	0201100127-902010 Issue 011
	#90200386	K1YT187G01101- K1YT187G01200	

Schematic and PCB layout are shown in the following pages.

APPENDIX 2

TRIGGER BOARD - COMPONENT SIDE



TRIGGER BOARD - SOLDER SIDE

