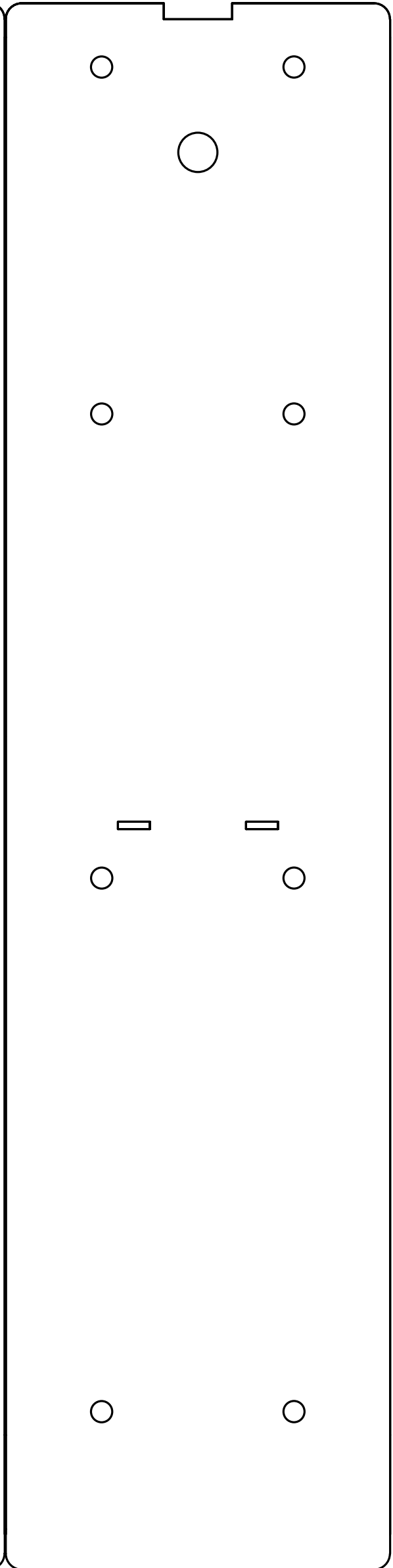
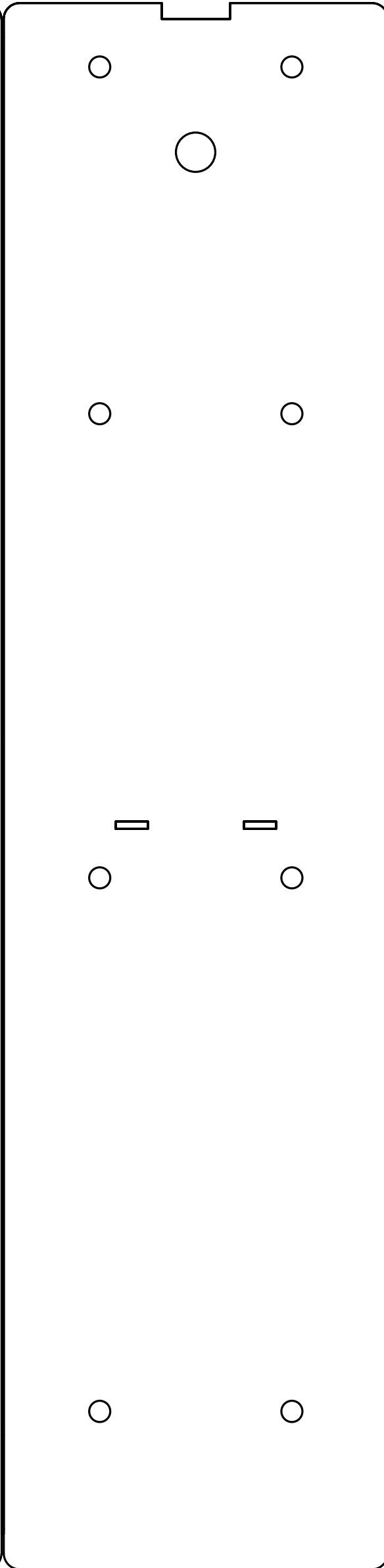
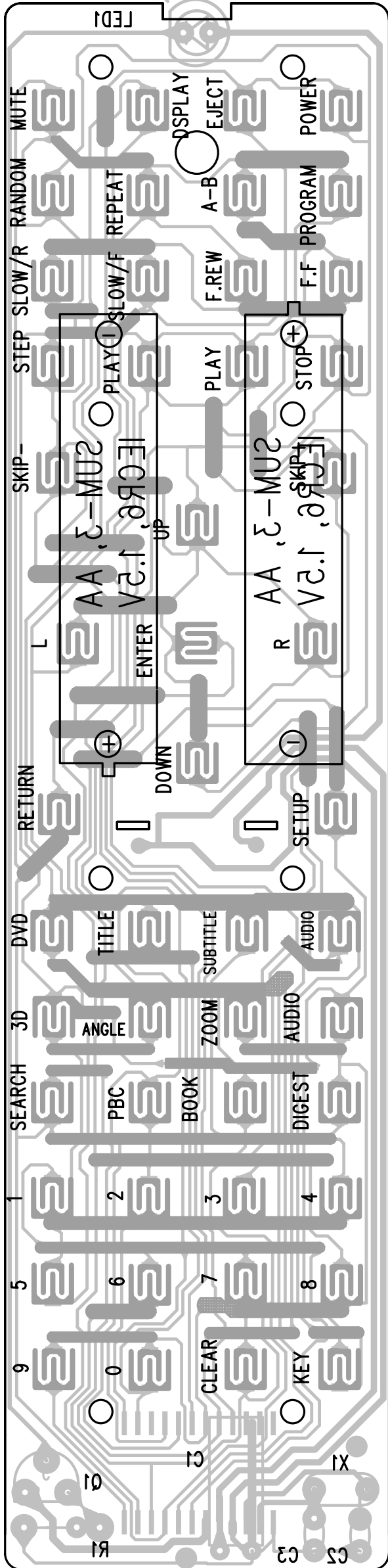
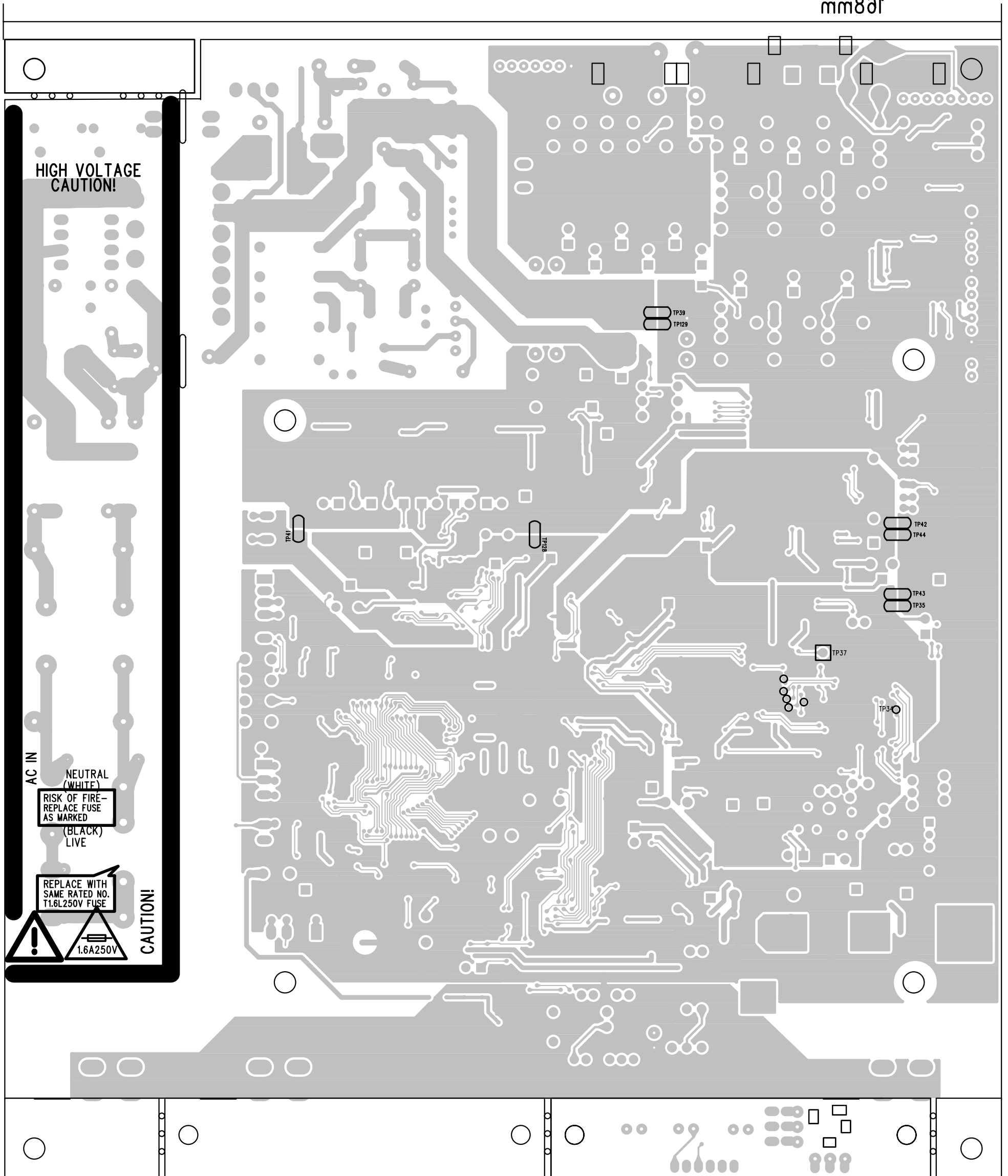


DRAFT



mm801



**HIGH VOLTAGE
CAUTION!**

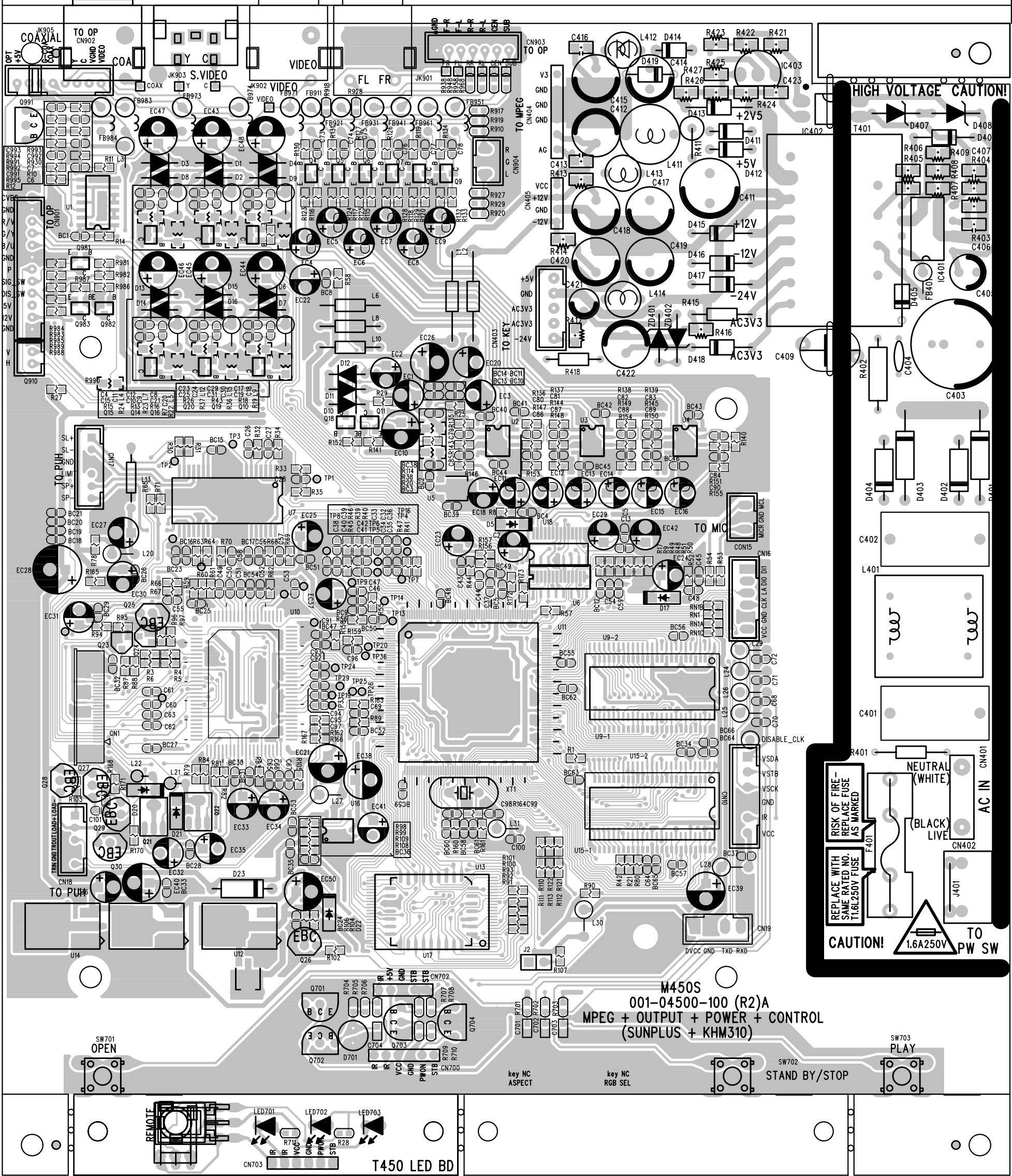
AC IN
NEUTRAL
(WHITE)
**RISK OF FIRE—
REPLACE FUSE
AS MARKED**
(BLACK)
LIVE

REPLACE WITH
SAME RATED NO.
T1.6L250V FUSE

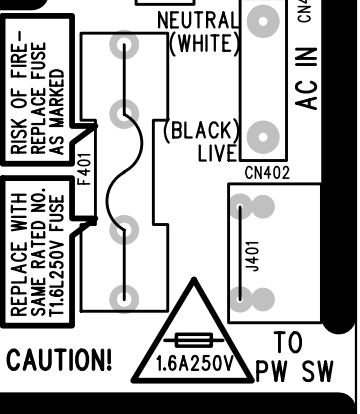
1.6A250V

CAUTION!

168mm



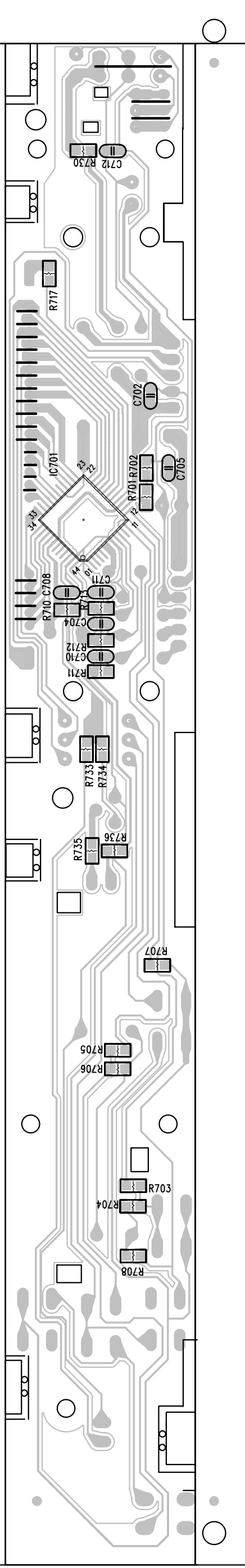
HIGH VOLTAGE CAUTION!



M450S
001-04500-100 (R2)A
MPEG + OUTPUT + POWER + CONTROL
(SUNPLUS + KHM310)

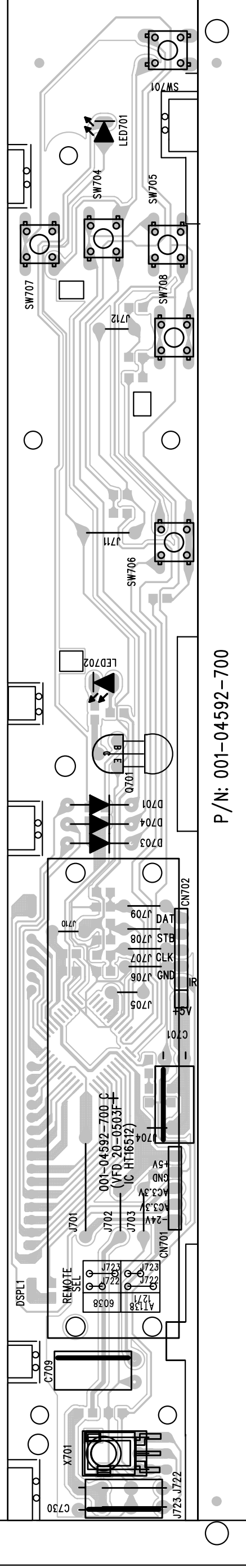
119M0.8CS

DRAFT



238.0Metr

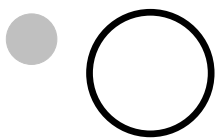
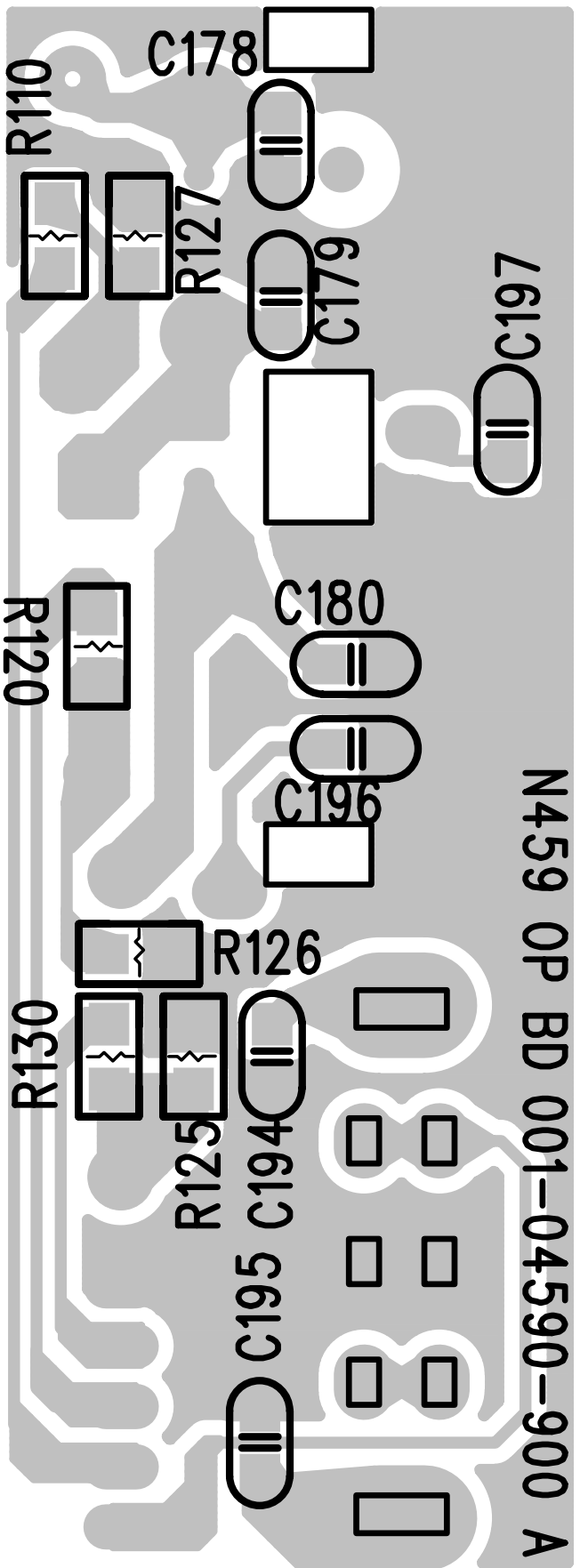
DRAFT

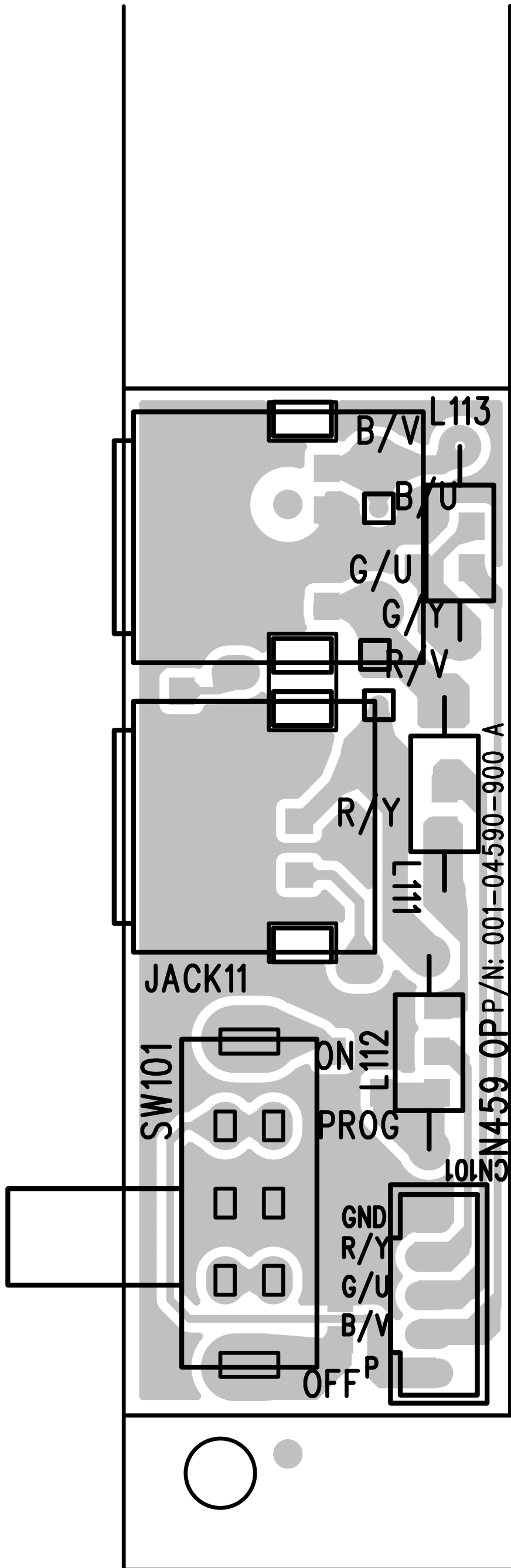


P/N: 001-04592-700

TONIC ELECTRONIC LTD.
MODEL: T459
TITLE: KEY CONTROL BD.
P/N: 001-04592-700
LAYER: COMPONENT SIDE (TOP)

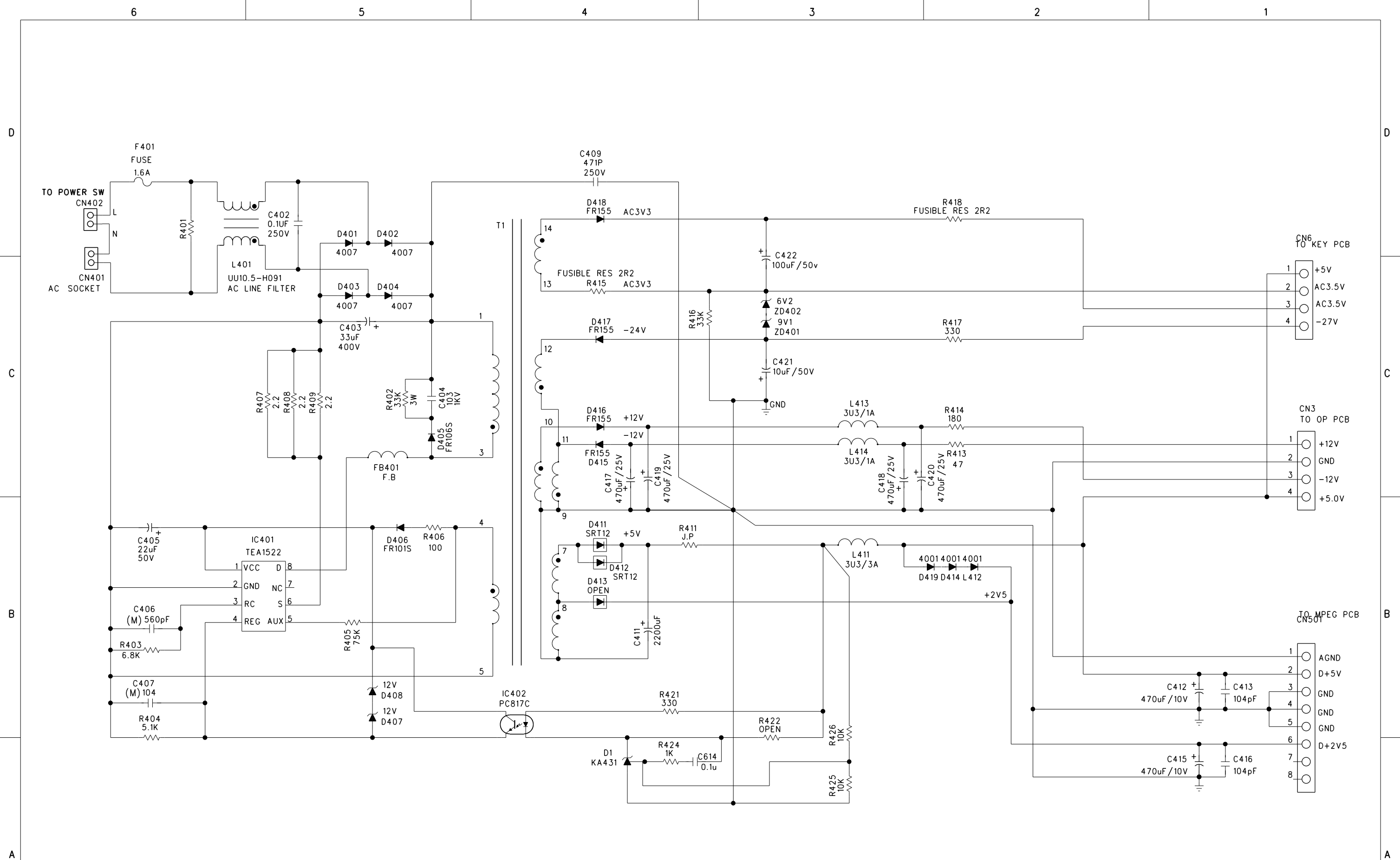
DRAFT





N459 OPP/N: 001-04590-900 A

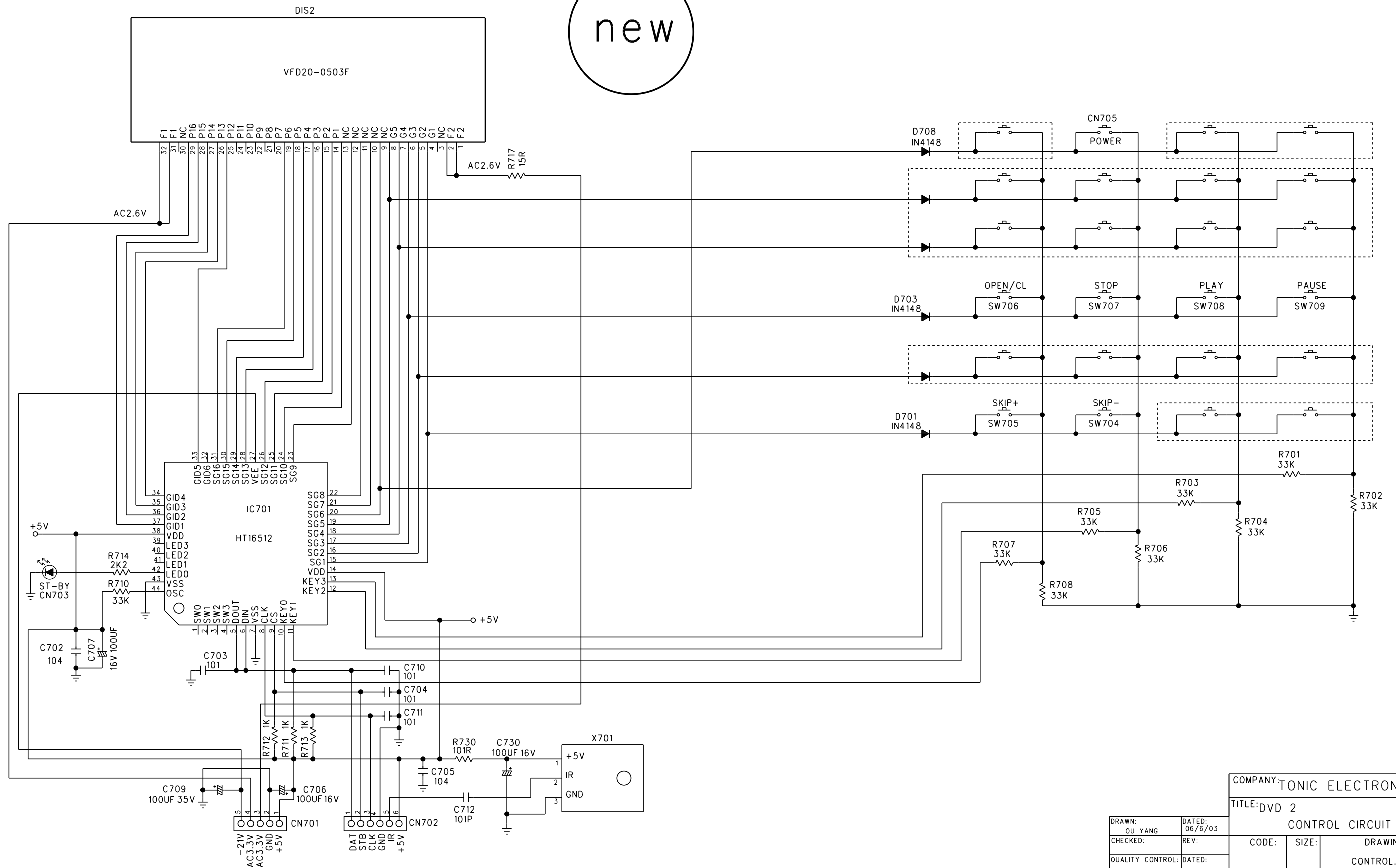
DRAFT



DESIGNED:	CHECKED:	APPROVED:	MOOLE:
			T449/T450/T459/T460
			TITLE:
			POWER SUPPLY
			TONIC ELECTRONICS LTD.
DATED:			

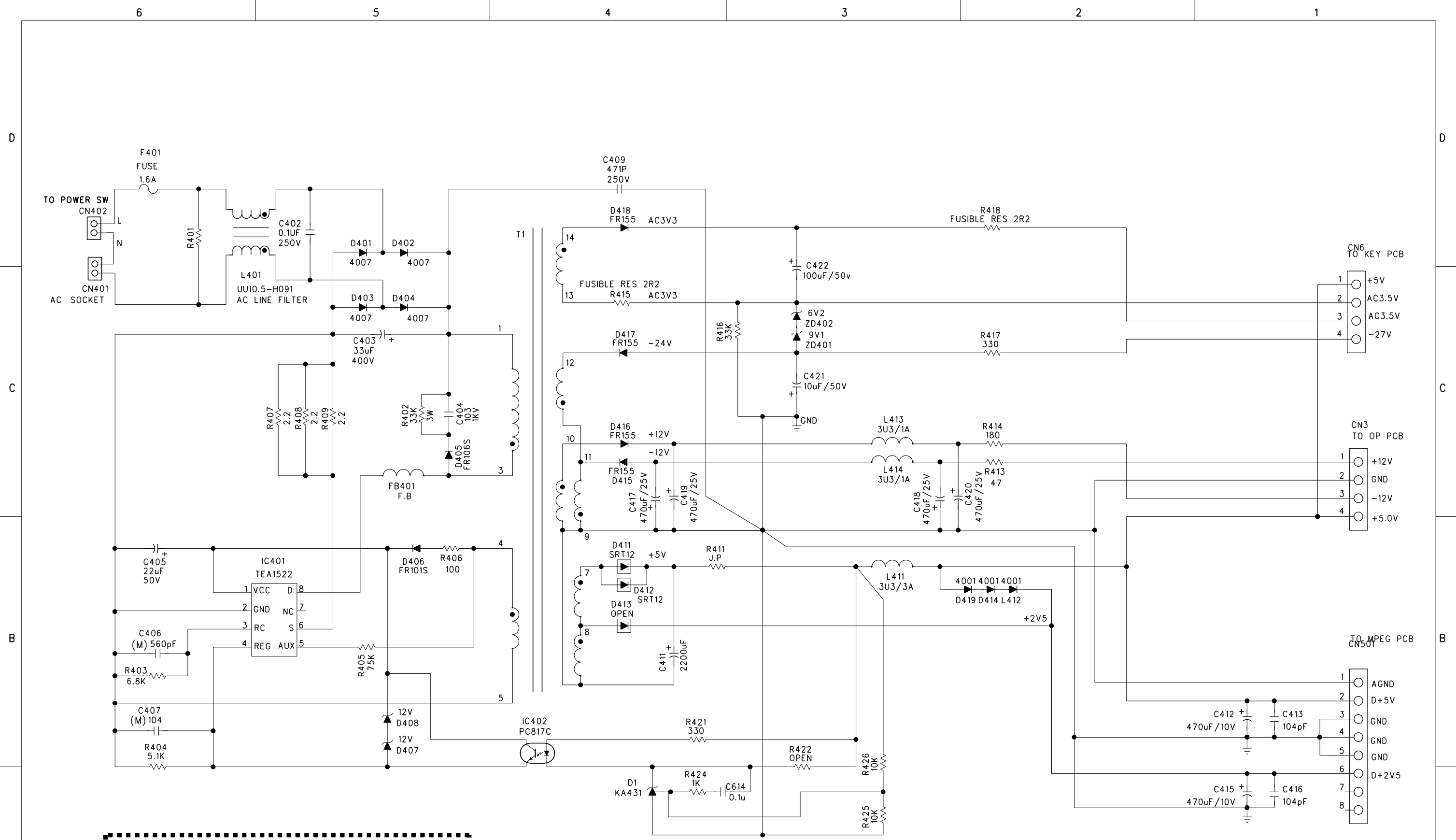
REVISION RECORD			
LTR	ECO NO.	APPROV	DATE

new



COMPANY: TONIC ELECTRONIC LTD.			
TITLE: DVD 2			
CONTROL CIRCUIT			
CODE:	SIZE:	DRAWING NO:	
		CONTROL.SCH	
SCALE:	SHEET: 1 OF 1		

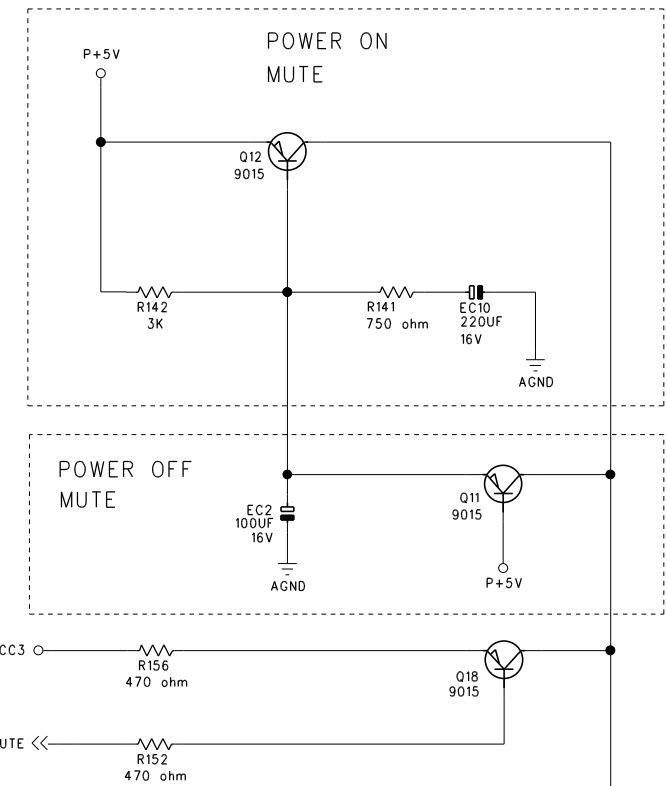
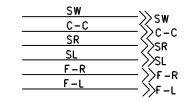
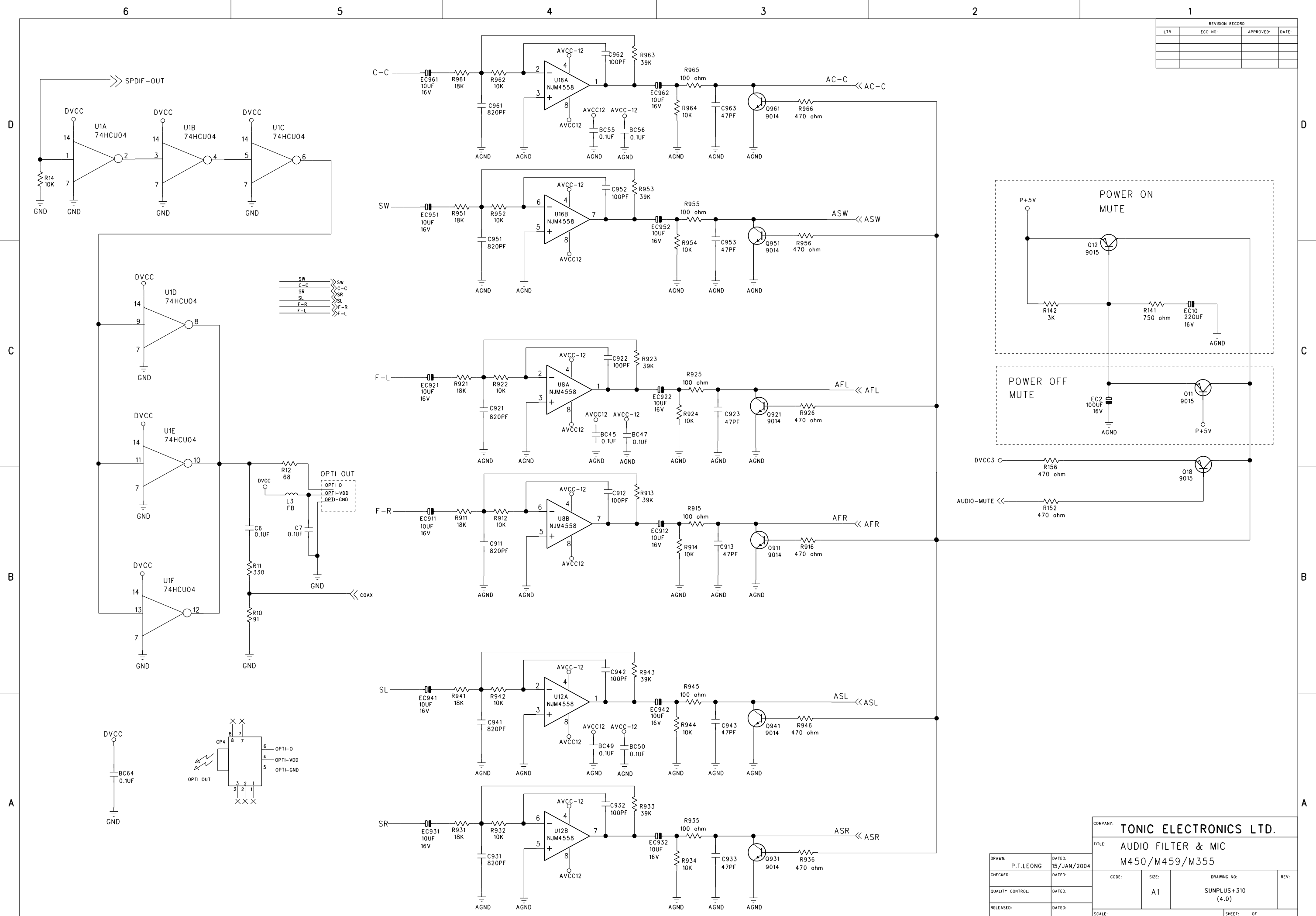
DRAWN: OU YANG	DATED: 06/6/03
CHECKED:	REV:
QUALITY CONTROL:	DATED:
RELEASED:	DATED:



DRAFT

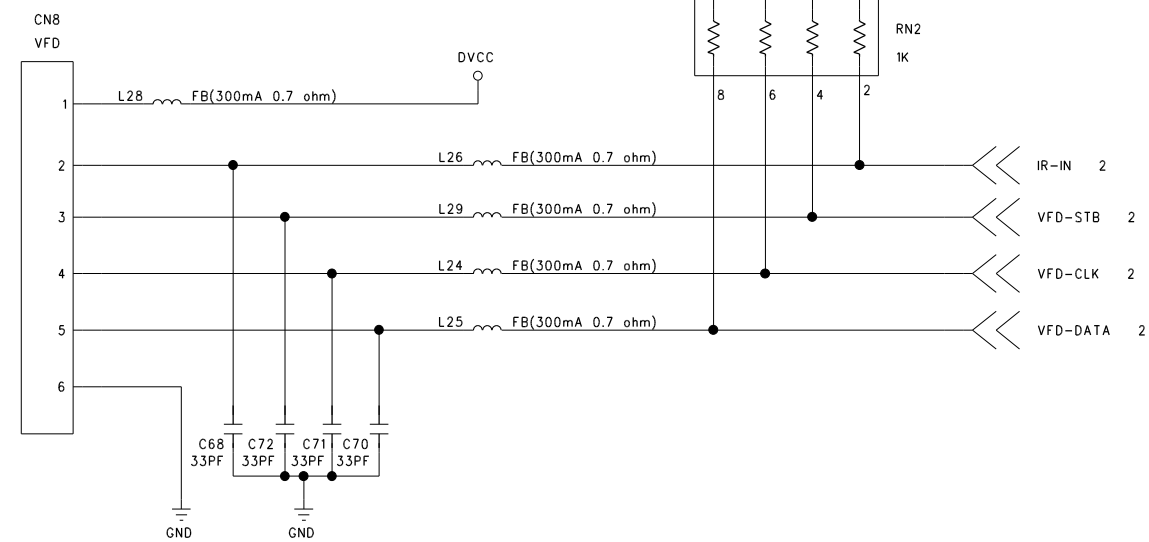
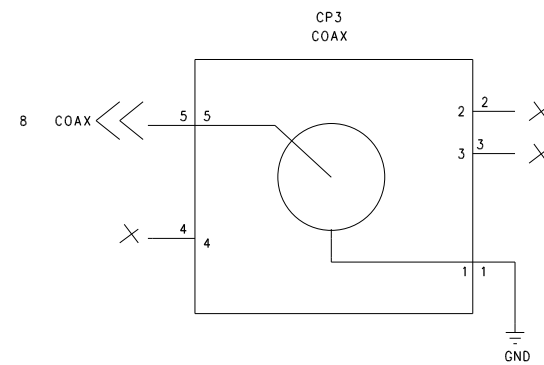
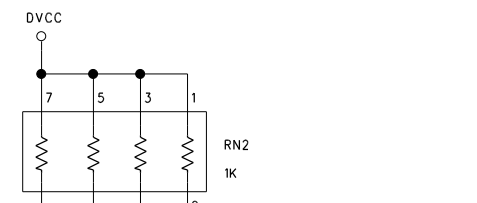
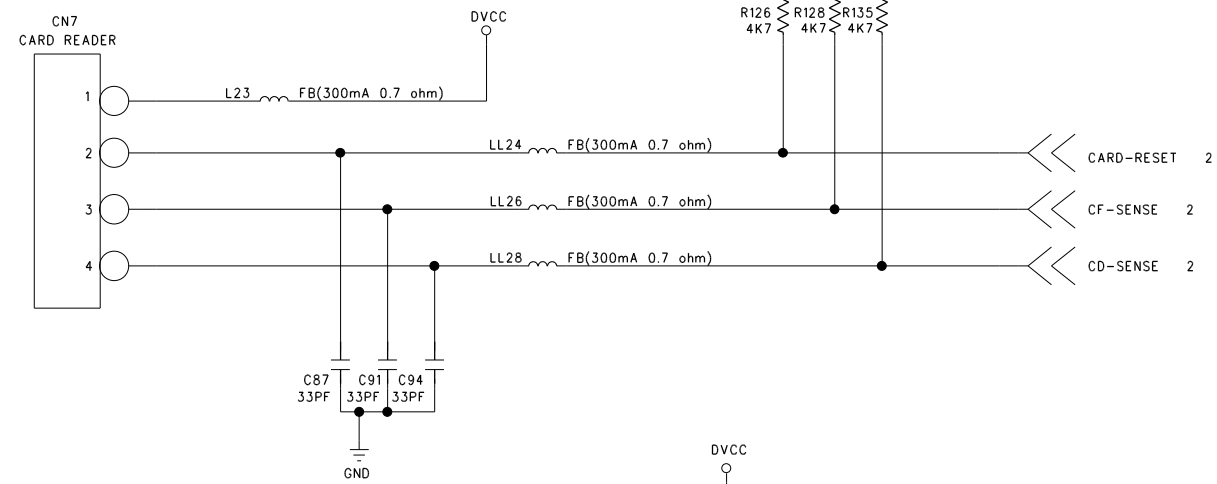
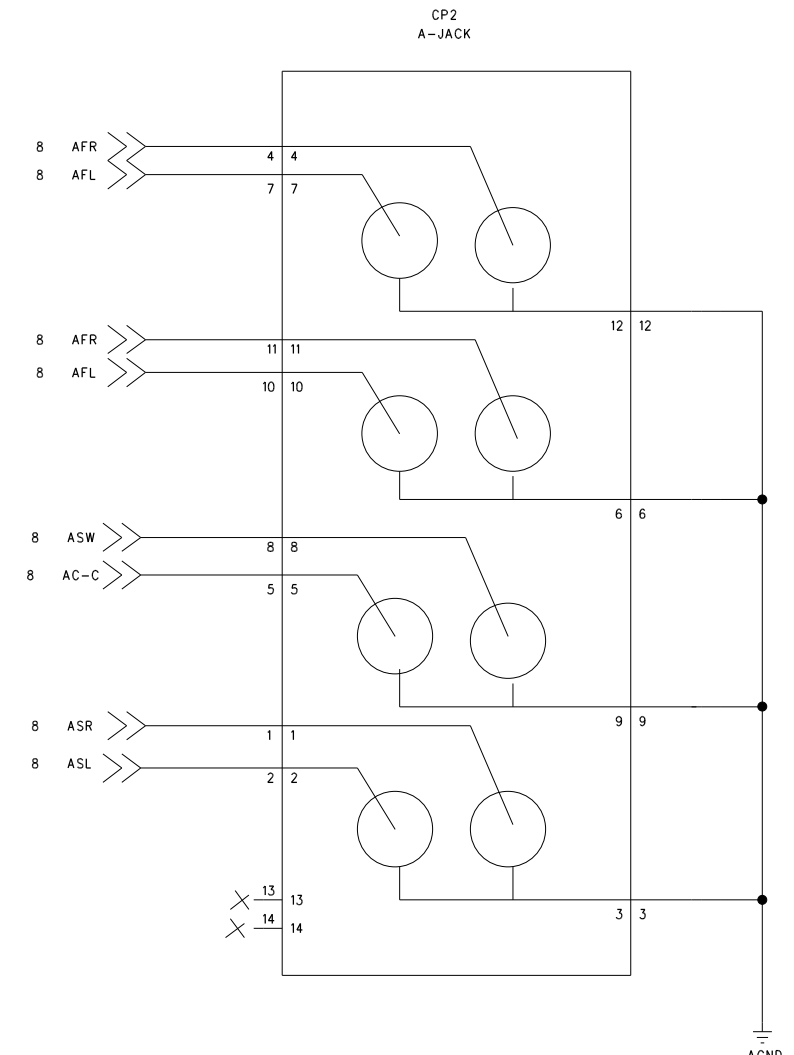
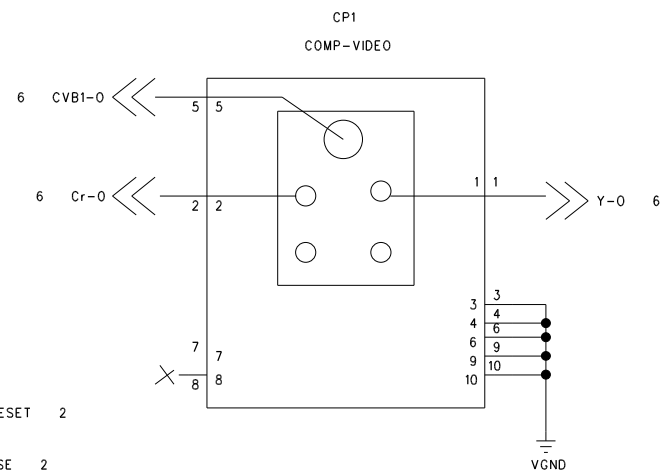
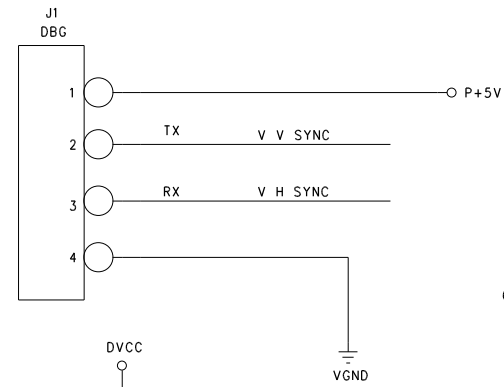
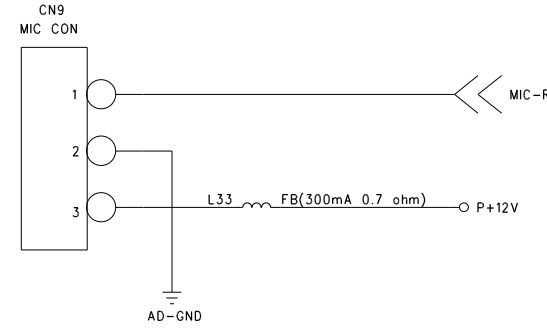
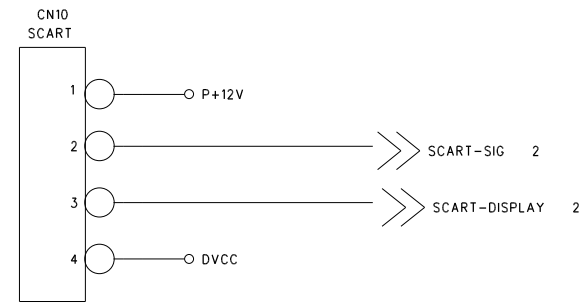
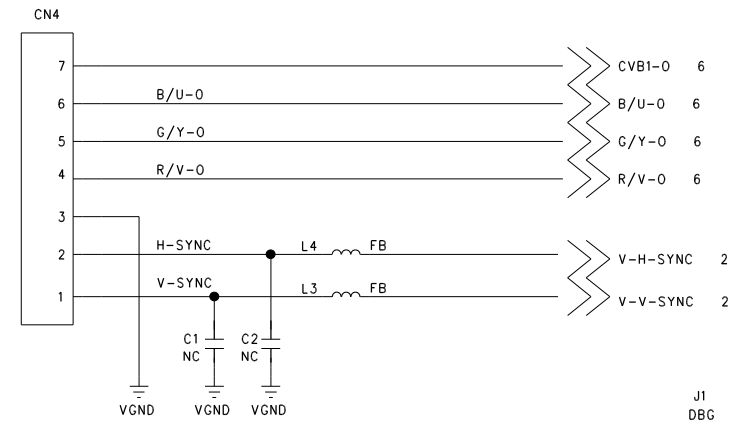
DESIGNED:	CHECKED:	APPROVED:	MOOLE: T449/T450/T459/T460
			TITLE: POWER SUPPLY
DATED:			TONIC ELECTRONICS LTD.

REVISION RECORD			
LTR	ECO NO:	APPROVED:	DATE:



DRAWN: P.T.LEONG		DATED: 15/JAN/2004		COMPANY: TONIC ELECTRONICS LTD.	
CHECKED:		DATED:		TITLE: AUDIO FILTER & MIC	
QUALITY CONTROL:		DATED:		M450/M459/M355	
RELEASED:		DATED:		CODE: A1	DRAWING NO: SUNPLUS+310 (4.0)
SCALE:				SHEET: OF	

REVISION RECORD			
LTR	ECO NO:	APPROVED:	DATE:



DRAFT

DRAWN: P.T.LEONG		DATED: 15/JAN/2004		COMPANY: TONIC ELECTONICS LTD.	
CHECKED:		DATED:		TITLE: CONNECTOR	
QUALITY CONTROL:		DATED:		M450/M459/M355	
RELEASED:		DATED:		CODE:	SIZE: A1
				DRAWING NO: SUNPLUS+310 (4.0)	
				SCALE:	SHEET: OF

6

5

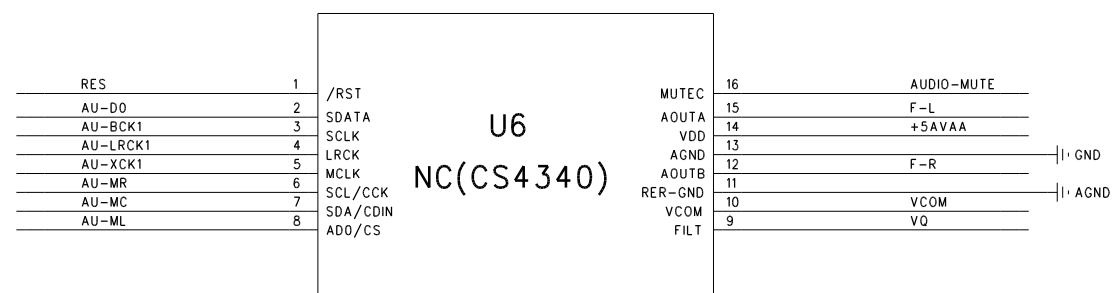
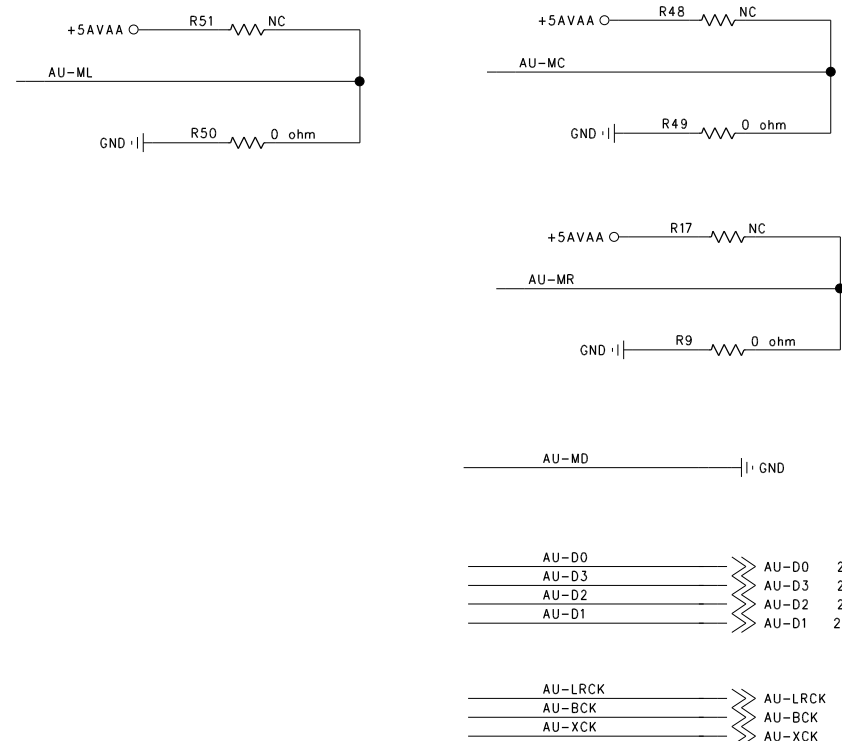
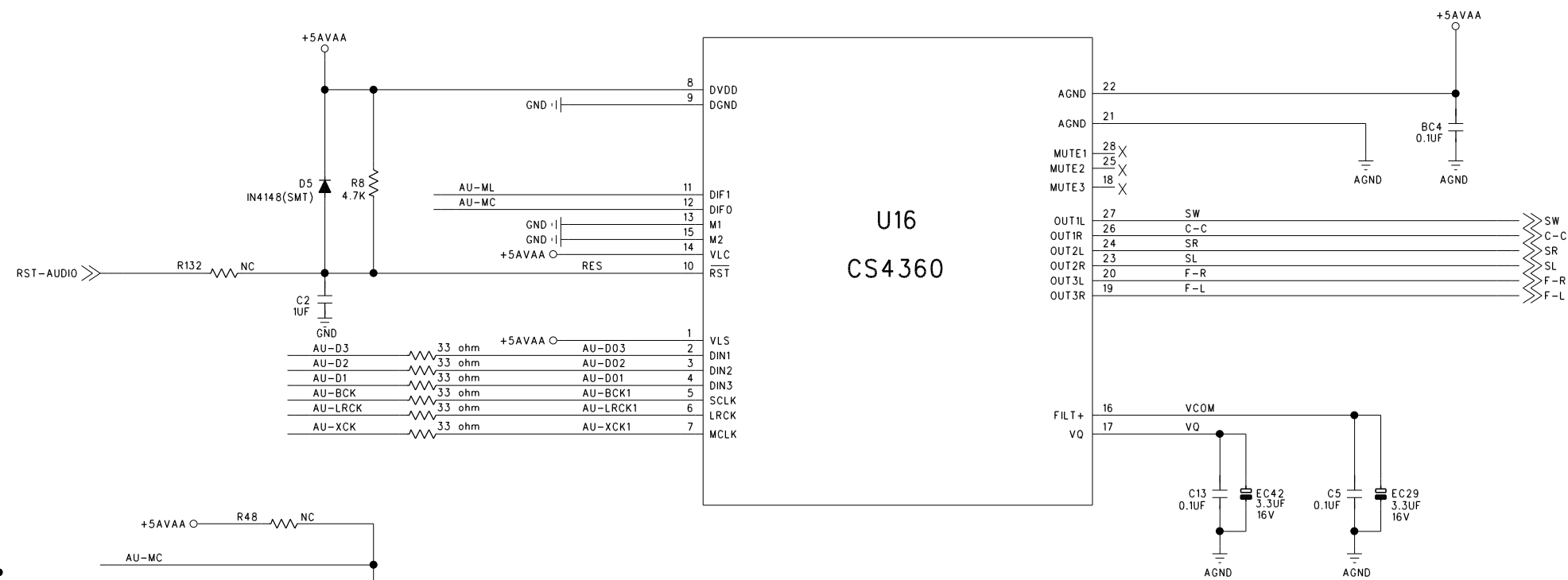
4

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1

REVISION RECORD			
LTR	ECO NO:	APPROVED:	DATE:

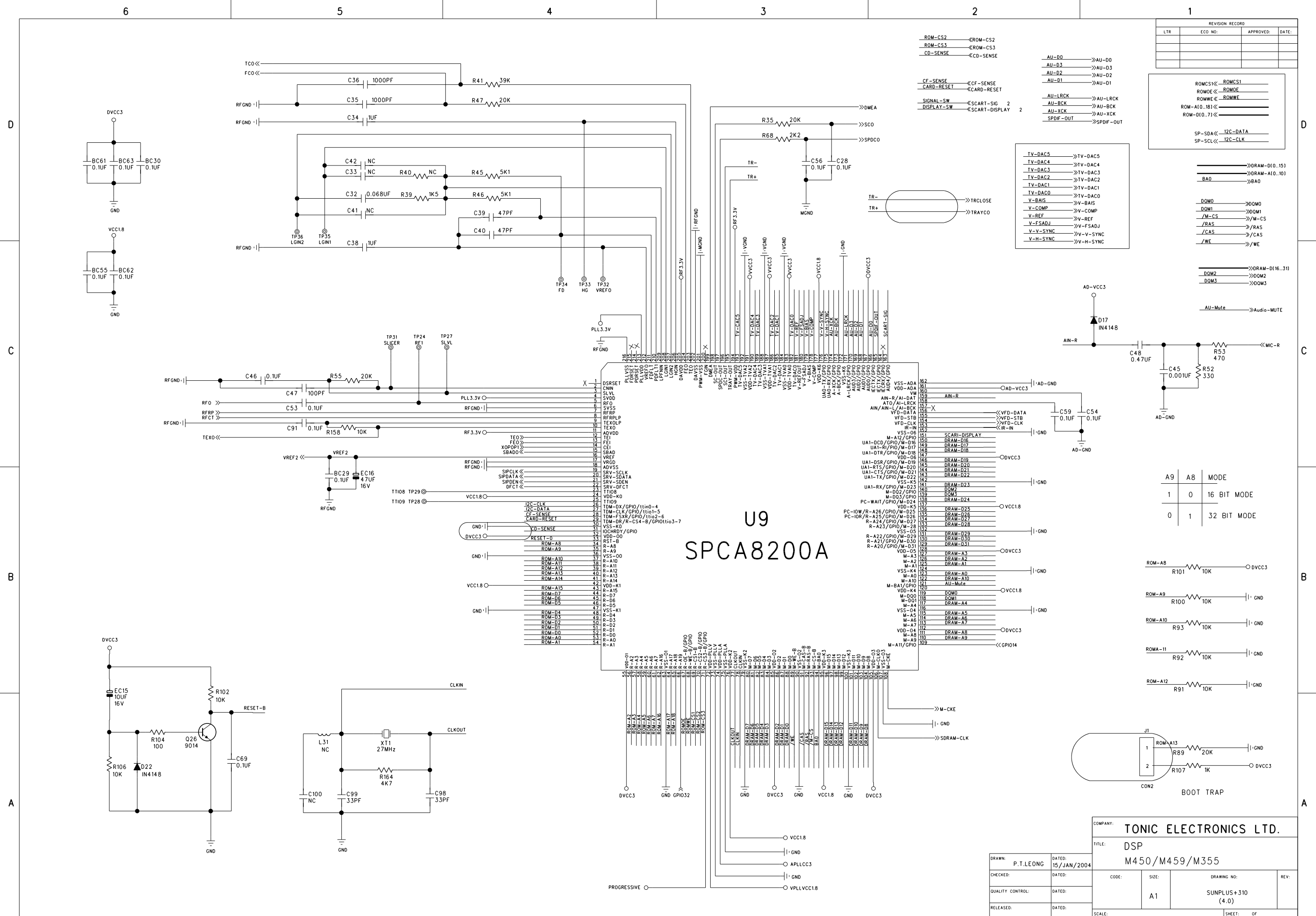


CS4360 FORMAT SETTING (AU-ML)
 0:16 BITS, RIGHT JUSTIFIED
 1:24 BITS, I2S

CS4340 FORMAT SETTING (AU-ML)
 0:24 BITS, RIGHT JUSTIFIED
 1:24 BITS, I2S

AUDIO FORMAT:
 ML, MC=00=> RJ 24 BIT
 ML, MC=01=> RJ 20 BIT
 ML, MC=10=> I2S 16 BIT
 ML, MC=11=> I2S 24 BIT

DRAWN: P.T.LEONG		DATED: 15/JAN/2004		COMPANY: TONIC ELECTRONICS LTD.	
CHECKED:		DATED:		TITLE: AUDIO DAC	
QUALITY CONTROL:		DATED:		M450/M459/M355	
RELEASED:		DATED:		CODE:	SIZE: A1
				DRAWING NO: SUNPLUS+310 (4.0)	
				SCALE:	SHEET: OF



REVISION RECORD			
LTR	ECO NO:	APPROVED:	DATE:

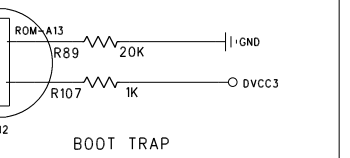
ROMCS1	ROMCS1
ROMOE	ROMOE
ROMWE	ROMWE
ROM-A10..18)	
ROM-D10..7)	
SP-SDA	I2C-DATA
SP-SCL	I2C-CLK

TV-DAC5	TV-DAC5
TV-DAC4	TV-DAC4
TV-DAC3	TV-DAC3
TV-DAC2	TV-DAC2
TV-DAC1	TV-DAC1
TV-DAC0	TV-DAC0
V-BAIS	V-BAIS
V-COMP	V-COMP
V-REF	V-REF
V-FSADJ	V-FSADJ
V-V-SYNC	V-V-SYNC
V-H-SYNC	V-H-SYNC

DRAM-D10..15)	
DRAM-A10..10)	
BA0	
DOM0	DOM0
DOM1	DOM1
M-CS	M-CS
RAS	RAS
CAS	CAS
WE	WE
DRAM-D16..31)	
DOM2	DOM2
DOM3	DOM3
AU-Mute	Audio-MUTE

A9	A8	MODE
1	0	16 BIT MODE
0	1	32 BIT MODE

ROM-A8	R101	10K	VCC1.8
ROM-A9	R100	10K	GND
ROM-A10	R93	10K	GND
ROM-A11	R92	10K	GND
ROM-A12	R91	10K	GND



COMPANY: **TONIC ELECTRONICS LTD.**

TITLE: **DSP**

M450/M459/M355

DRAWN: P.T.LEONG	DATED: 15/JAN/2004	CODE:	SIZE:	DRAWING NO:	REV:
CHECKED:	DATED:	A1		SUNPLUS+310	
QUALITY CONTROL:	DATED:			(4.0)	
RELEASED:	DATED:	SCALE:		SHEET: OF	

6

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2

1

REVISION RECORD			
LTR	ECO NO:	APPROVED:	DATE:

D

D

C

C

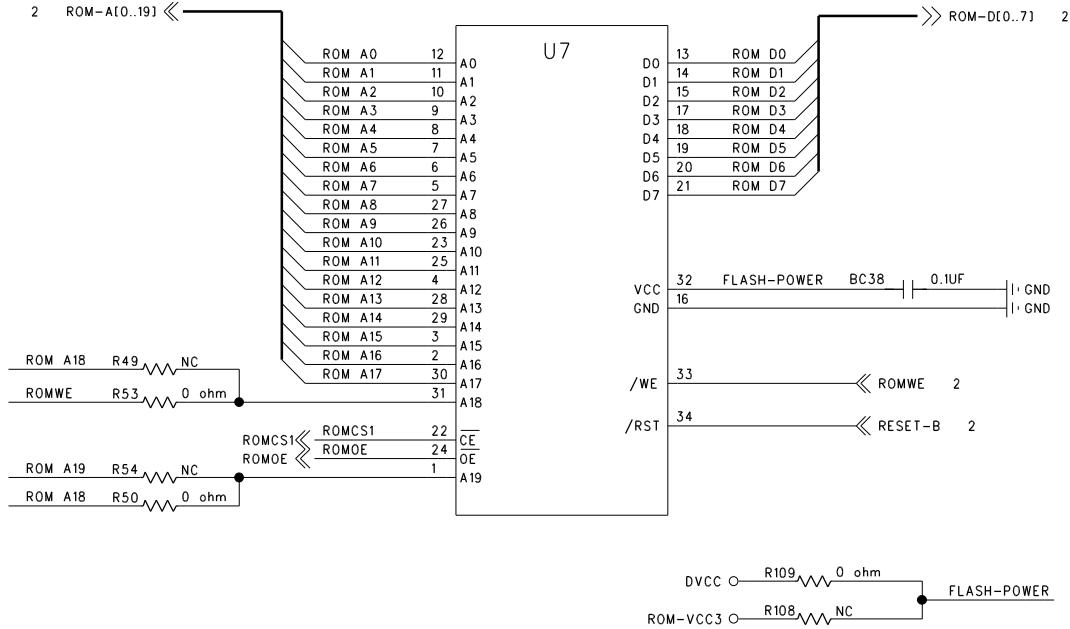
B

B

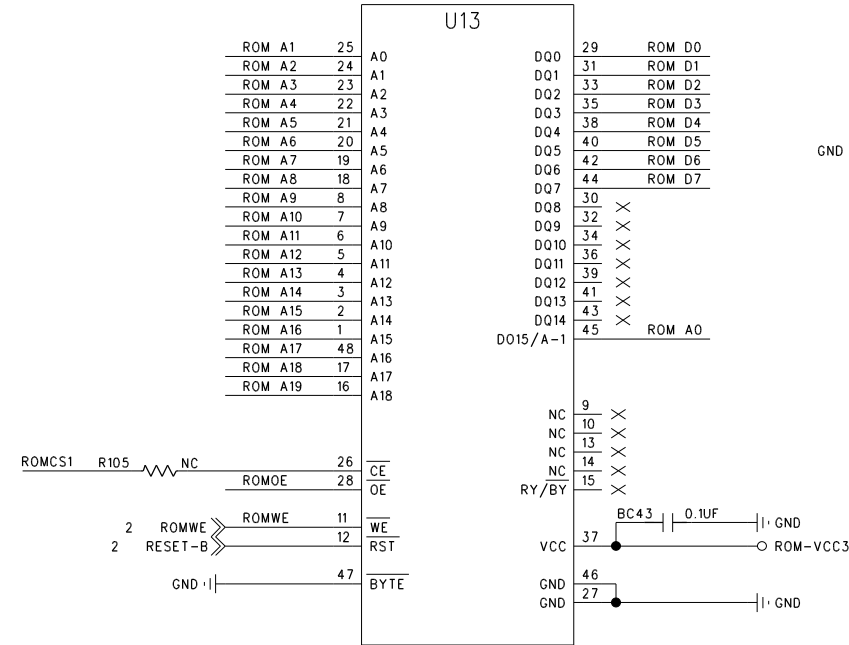
A

A

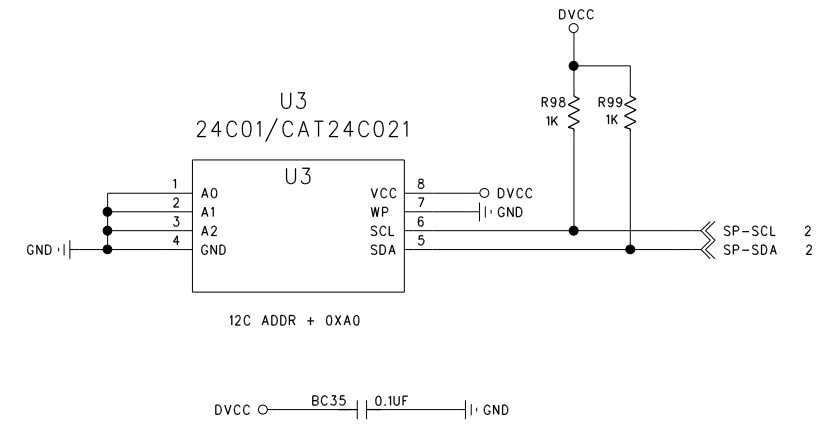
U7
AM27C040/AM27C080/FLASH MX29F040



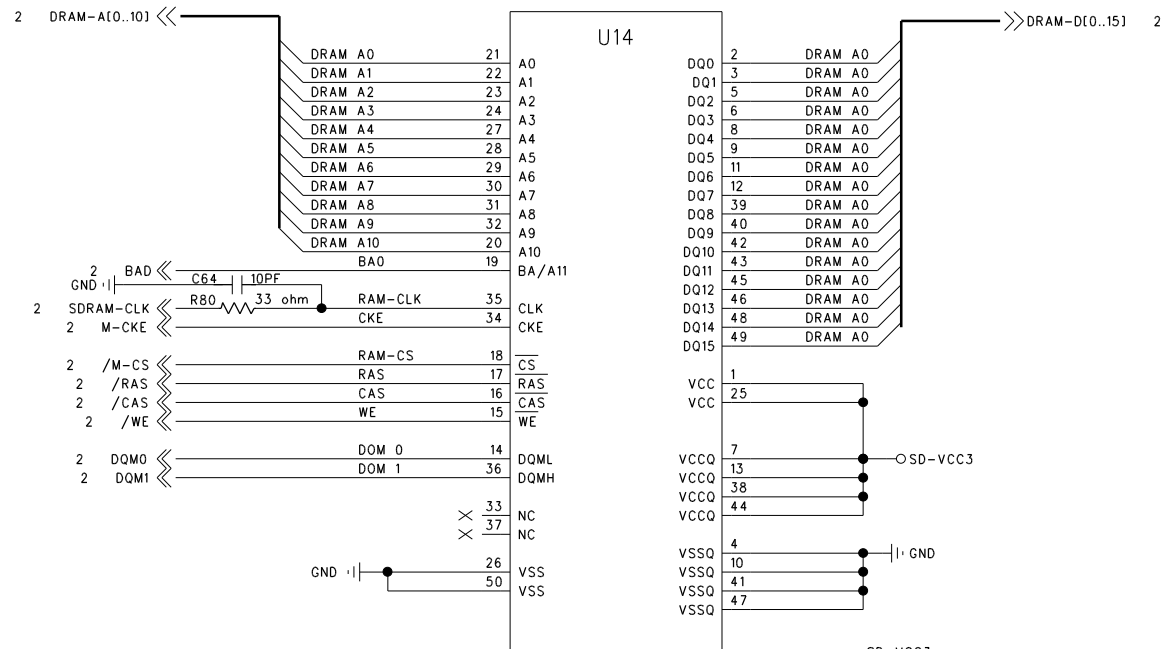
U13
MX29LV800T/B,MX29F800T/B



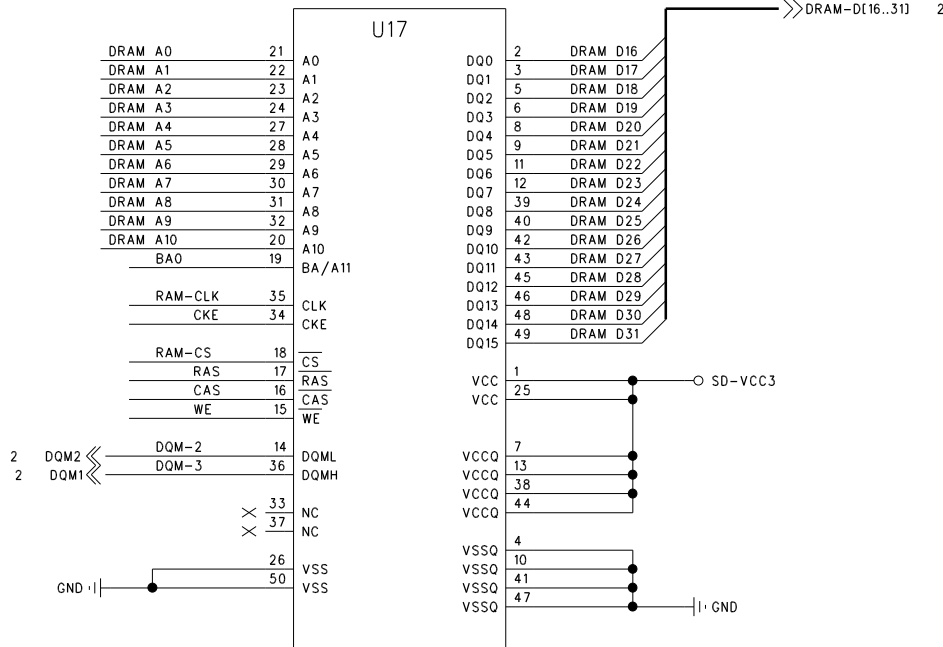
U3
24C01/CAT24C021



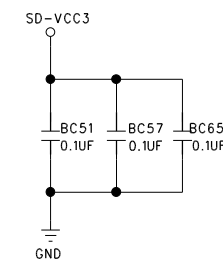
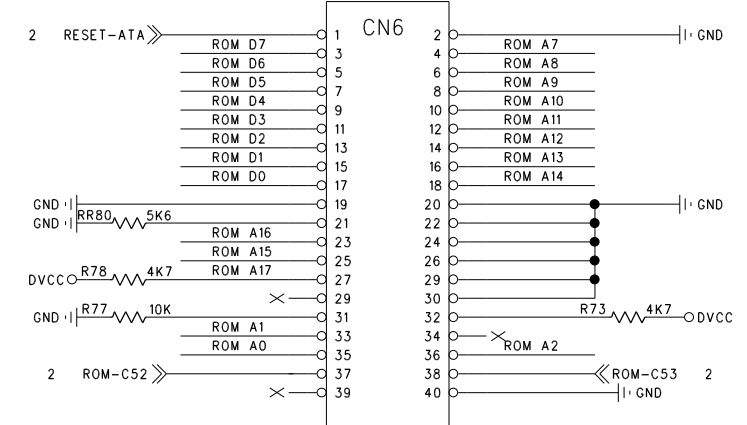
U14
SDRAM 512KX16X2



U17
SDRAM 512KX16X2

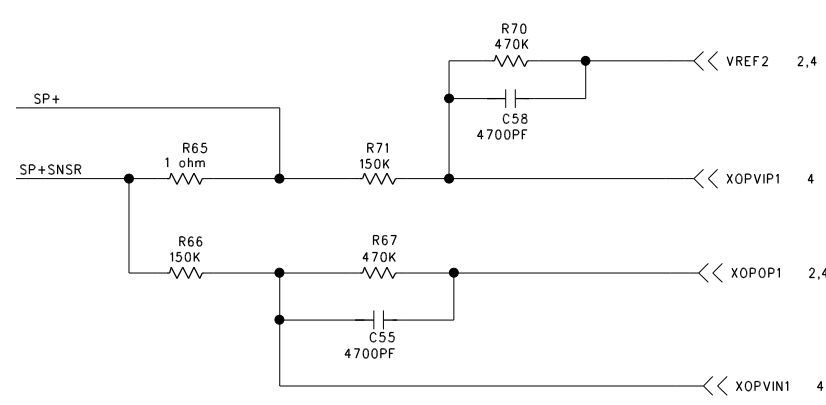
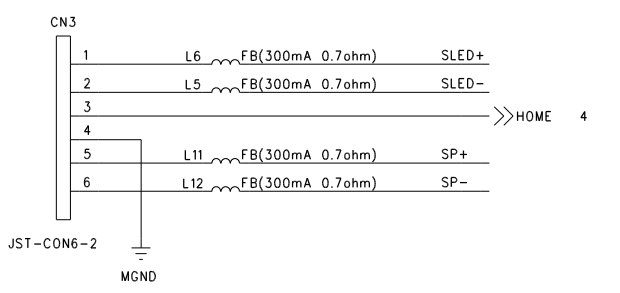
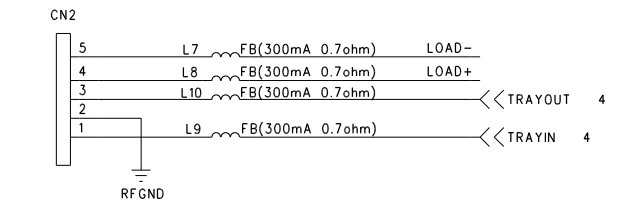
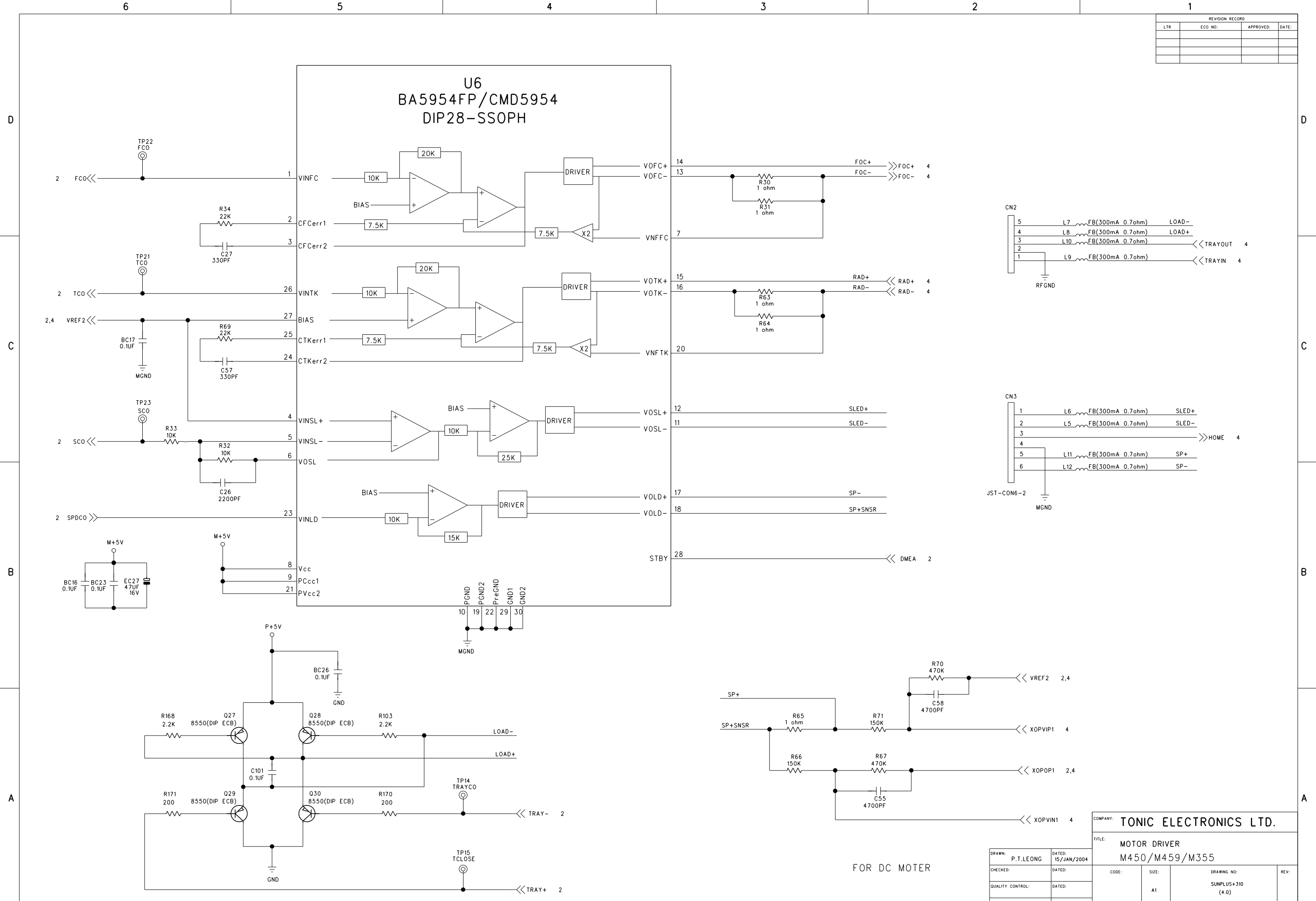


CN6
CON40-0.5



COMPANY: TONIC ELECTRONICS LTD.	
TITLE: ROM/FLSH/MEMORY M450/M459/M355	
DRAWN: P.T.LEONG	DATED: 15/JAN/2004
CHECKED:	DATED:
QUALITY CONTROL:	DATED:
RELEASED:	DATED:
CODE:	SIZE: A1
DRAWING NO: SUNPLUS+310 (4.0)	REV:
SCALE:	SHEET: OF

REVISION RECORD			
LTR	ECO NO:	APPROVED:	DATE:

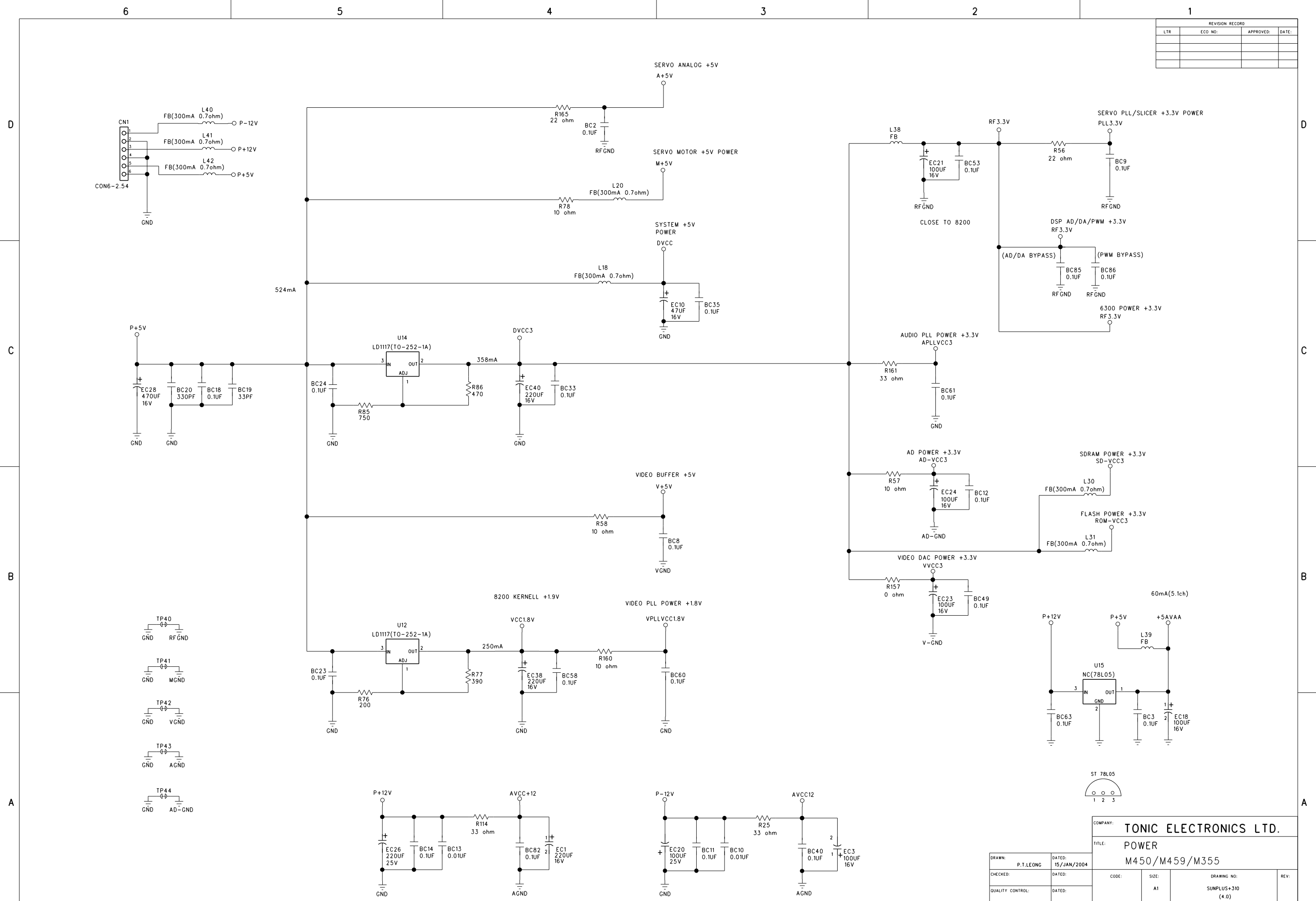


COMPANY: TONIC ELECTRONICS LTD.

TITLE: MOTOR DRIVER M450/M459/M355

DRAWN: P.T.LEONG	DATED: 15/JAN/2004	CODE:	SIZE: A1	DRAWING NO: SUNPLUS+310 (4.0)	REV:
CHECKED:	DATED:	SCALE:	SHEET: OF		
QUALITY CONTROL:	DATED:				
RELEASED:	DATED:				

REVISION RECORD			
LTR	ECO NO:	APPROVED:	DATE:



COMPANY: TONIC ELECTRONICS LTD.	
TITLE: POWER	
M450/M459/M355	
DRAWN: P.T.LEONG	DATED: 15/JAN/2004
CHECKED:	DATED:
QUALITY CONTROL:	DATED:
RELEASED:	DATED:
CODE:	SIZE: A1
DRAWING NO: SUNPLUS+310 (4.0)	REV:
SCALE:	SHEET: OF

REVISION RECORD			
LTR	ECO NO:	APPROVED:	DATE:

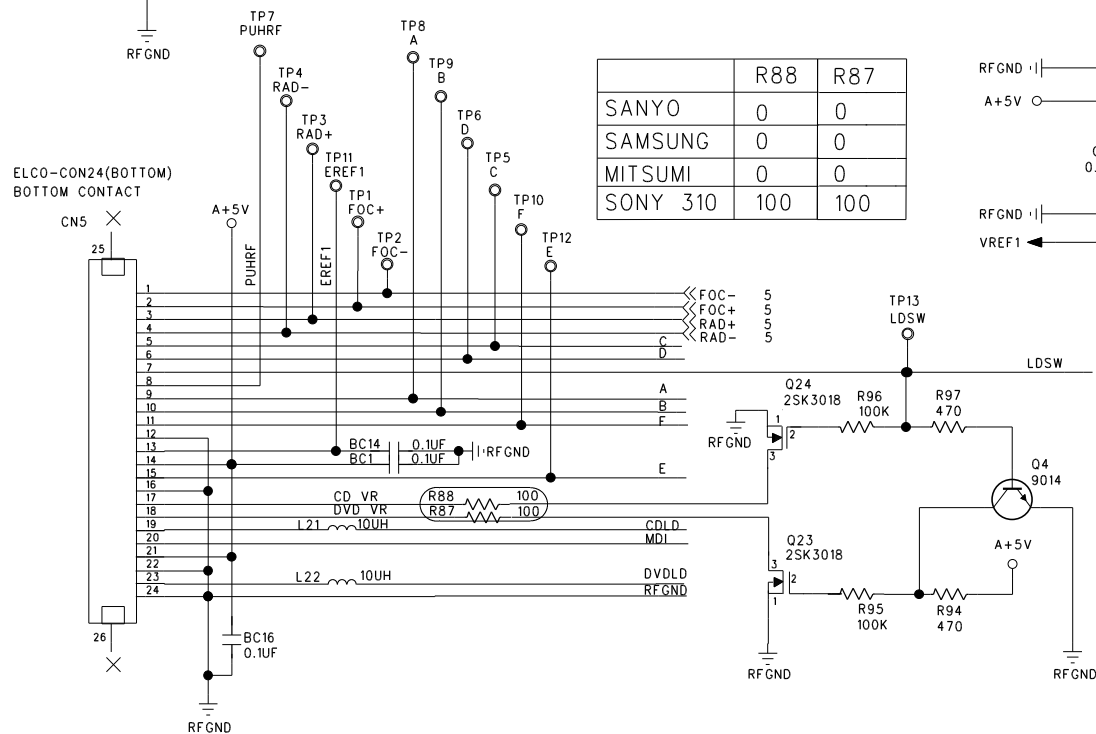
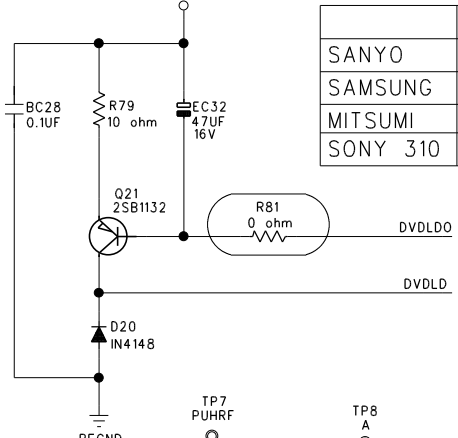
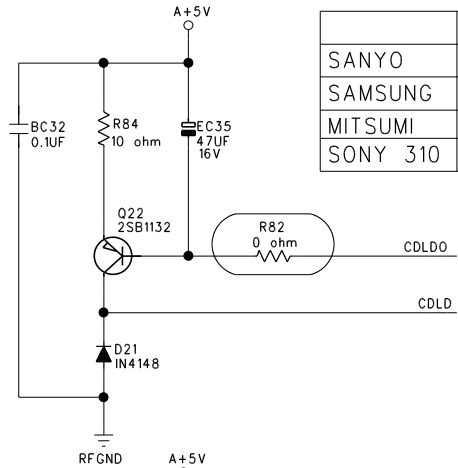
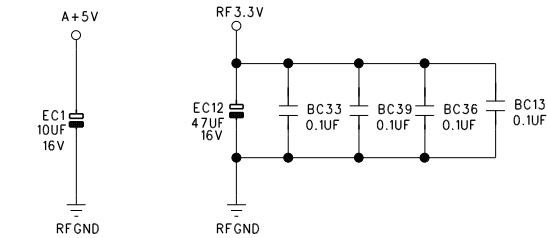
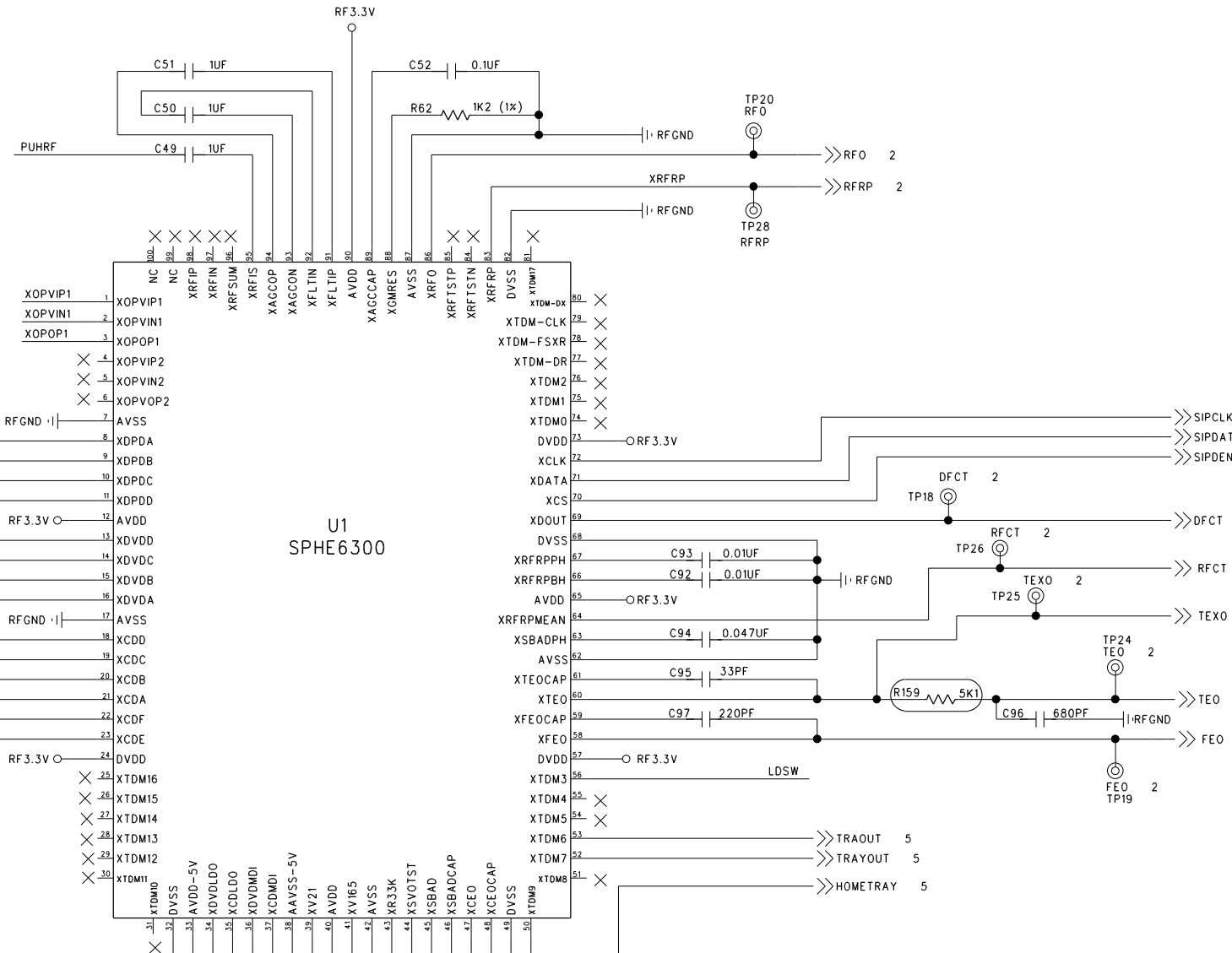
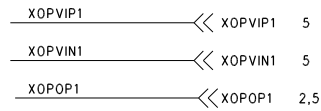
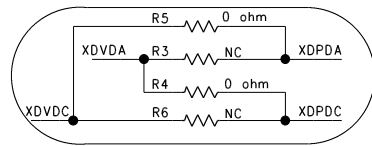
	R5	R3	R4	R6
SANYO	0	NC	0	NC
SAMSUNG	0	NC	0	NC
MITSUMI	NC	0	NC	0
SONY 310	0	NC	0	NC

	R82
SANYO	1K
SAMSUNG	1K
MITSUMI	1K
SONY 310	0

	R81
SANYO	0
SAMSUNG	0
MITSUMI	1K
SONY 310	0

	R88	R87
SANYO	0	0
SAMSUNG	0	0
MITSUMI	0	0
SONY 310	100	100

	R159
SANYO	12K
SAMSUNG	12K
MITSUMI	12K
SONY 310	5K1



DRAWN: P.T.LEONG	DATED: 15/JAN/2004
CHECKED:	DATED:
QUALITY CONTROL:	DATED:
RELEASED:	DATED:

COMPANY: TONIC ELECTRONICS LTD.			
TITLE: SERVO M450/M459/M355			
CODE:	SIZE: A1	DRAWING NO: SUNPLUS+310 (4.0)	REV:
SCALE:	SHEET: OF		

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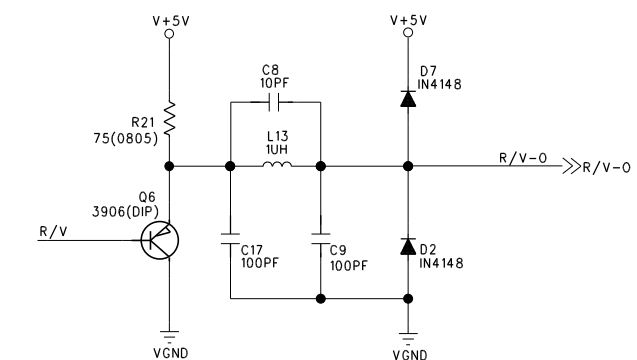
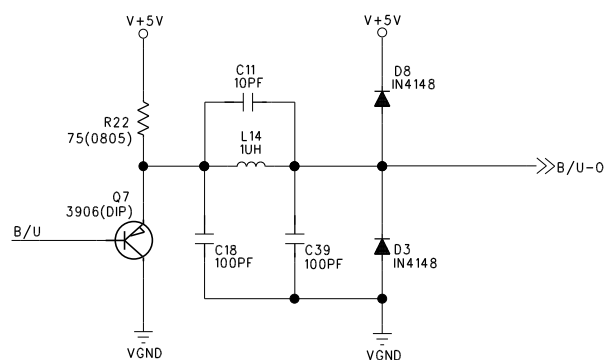
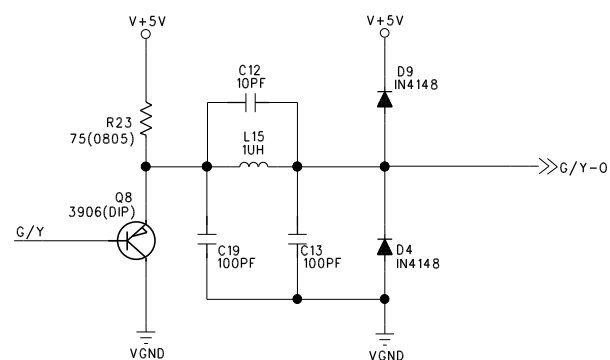
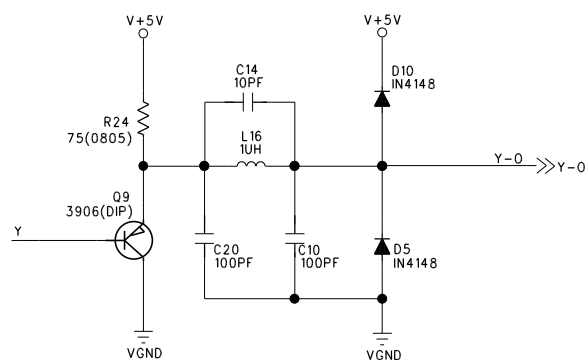
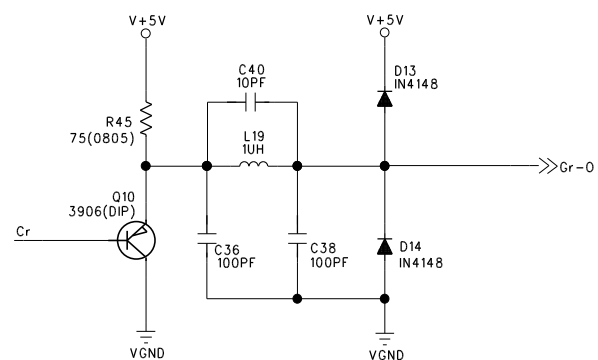
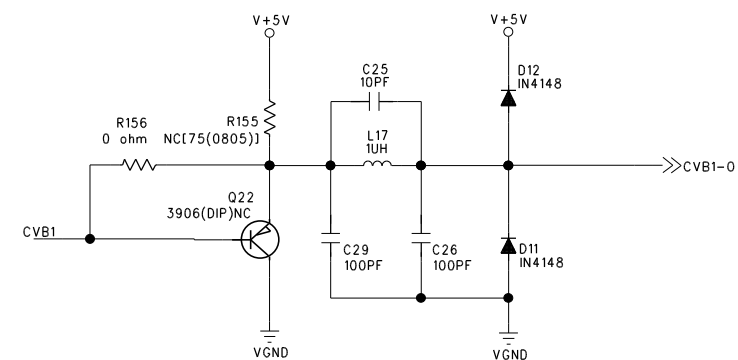
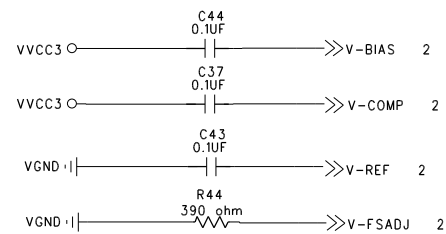
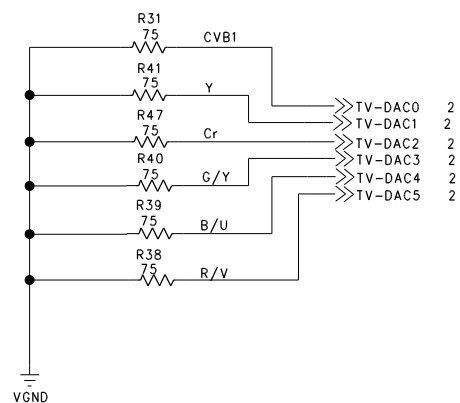
4

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1

REVISION RECORD			
LTR	ECO NO:	APPROVED:	DATE:



COMPANY: TONIC ELECTRONICS LTD.

TITLE: VIDEO BUFFER
M450/M459/M355

DRAWN: P.T.LEONG	DATED: 15/JAN/2004
CHECKED:	DATED:
QUALITY CONTROL:	DATED:
RELEASED:	DATED:

CODE:	SIZE: A1	DRAWING NO: SUNPLUS+310 (4.0)	REV:
SCALE:		SHEET: OF	

TONIC ELECTRONICS LTD.

DVD PLAYER SPECIFICATION (Revised on February 5, 2002)

FOR ALL DVD PLAYER MODEL USE ** (Revised on June 28, 2002)

APPROVAL BY: MR. S.L.TO

DATE: June 28, 2002

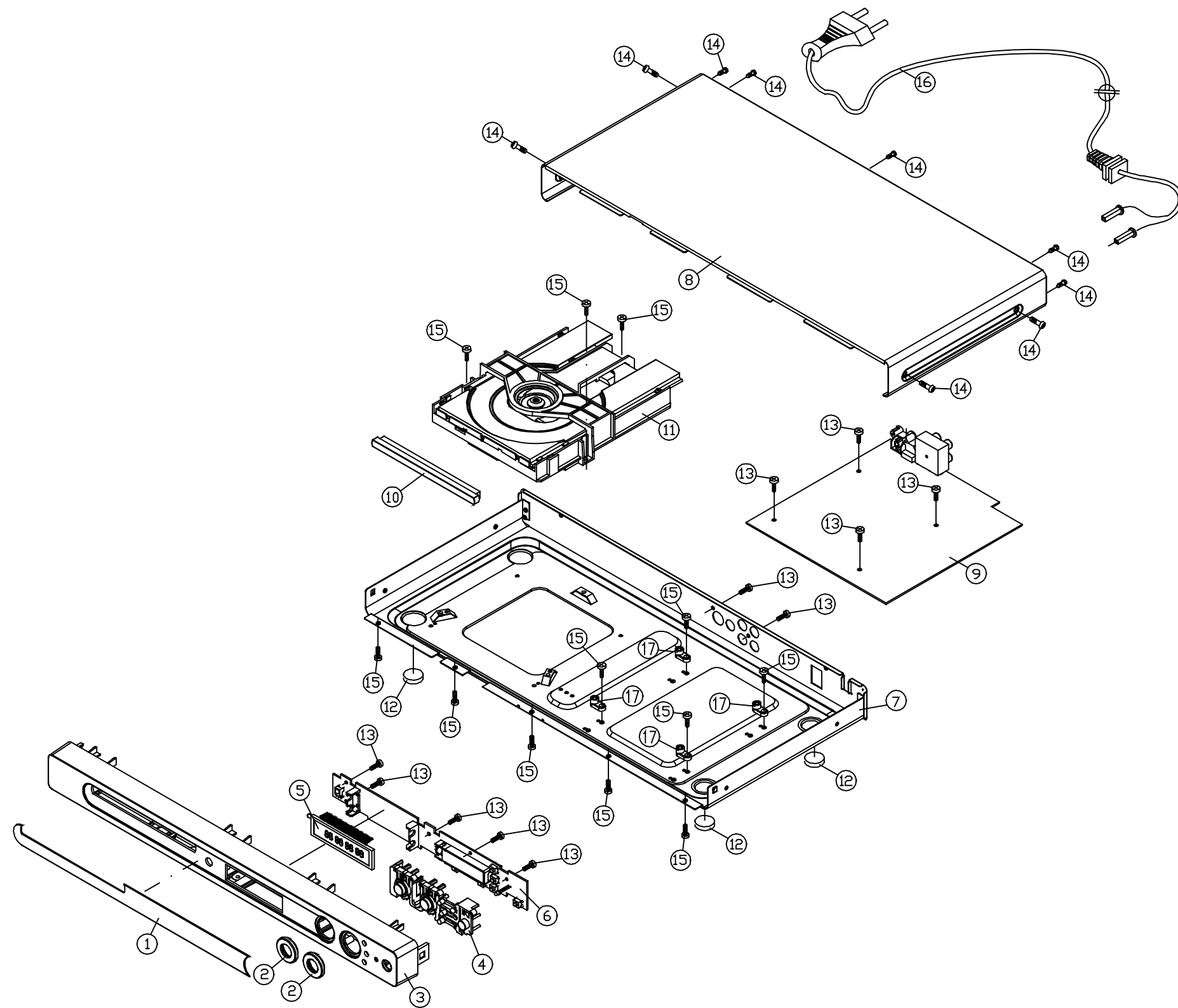


MEASURING ITEMS		UNIT	NORMAL	LIMIT	TEST CONDITION
VIDEO OUTPUT (75 Ohm)		V p-p	1	± 0.1	TVD-520A
S-VIDEO OUTPUT (75 Ohm)	Y	V p-p	1	± 0.1	TVD-520A
	PAL C	V p-p		>0.29	
	NYSC C	V p-p		>0.27	
AUDIO OUTPUT (2CH)		Vrms	2	± 0.2	1KHz, 0dB
DIGITAL AUDIO OUTPUT (COAXIAL)		V p-p	1.0	± 0.2	
FREQ. RESPONSE	20 Hz	dB	0	± 3	CD-1/1 KHz REF.
	100 Hz	dB	0	± 3	
	1 KHz	dB	0	0	
	10 KHz	dB	0	± 3	
	20 KHz	dB	0	± 3	
T.H.D. AT STANDARD O/P		%		<0.2%	1KHz At 0dB
SEPARATION AT L/R	100Hz	dB			WITH 'A' FILTER
	1KHz	dB		>60	
	10KHz	dB			
S/N RATIO (INF A FILTER) / W/ FILTER		dB	70	65	TCD-782
INITIAL READING TIME	CD	SEC		<10	TCD-782
	DVD	SEC		<15	TDV-522 OR TDC-541
ACCESS TIME	1 ST TRACK	SEC		5	TCD-782
	LAST TRACT	SEC		10	
INTERRUPTIONS	SCRATCH	MM	1.0	0.7	PHILIPS 444A
	BLACK DOT	MM	0.8	0.5	
	FINGER PRINT	18-19	ALL	CLEAR	
ECCENTRICITY		MM		0.14	TCD-712
VERTICAL DEVIATION		MM		0.8	TCR-731RA
HUM & NOISE		MV		2	
SHOCK ABILITY (MUSIC DISC)	CENTRE	GRM			W/OUT INTERRUPTION (TENSION GAUGE)
	4 CORNERS	GRM			
BASS BOOST	100Hz	dB			
MIN. OPERATION VOLTAGE		V		<108	

REMOTE HANDSET

MEASURING ITEMS		UNIT	NORMAL	LIMIT	TEST CONDITION
TRANSMIT DISTANCE	MTR		>6		
TRANSMIT ANGLE	DEGREE		>30		
MIN. OPERATION VOLTAGE	DC V		<2.1		

EXPLODE VIEW / PARTS LIST (CABINET)
 (MODEL:M459SPB)



NO.	PART NO.	DESCRIPTION
1	117-04590-101	DISPLAY LENS
2	130-04599-013	KNOB RING (CHROME)
3	101-04590-0320-V	FRONT CABINET
4	M459S-SIL-KNOB	M459S SP.SIL.877C KNOB VERSION
5	049-30503-001	FLUORESCENT DISPLAY VFD20-0503F
6	001-04592-700	M459S KEY CONTROL P.C.B.
7	180-04595-0320-230	M459SPB REAR COVER
8	180-04593-056	M459S METAL TOP COVER
9	M459SB-MPEG-001	M459SB MPEG/PWR/DP BD.
10	113-04590-001	DVD DOOR
11	M459S-DVD-LOADER	M459S (SONY KHM-310AAA)
12	136-80030-100	RUBBER FOOT (DIA.10X3mm)
13	144-13008-101	SCREW 3X8 RT
14	144-33008-201	SCREW 3X8 STB (M)
15	144-53006-201	SCREW 3X6 STB (TB)
16	023-60040-301	AC CORD UL APP#6"
17	130-04592-055	M459S MOUNTING POST
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M459SPB - WIRING DIAGRAM

