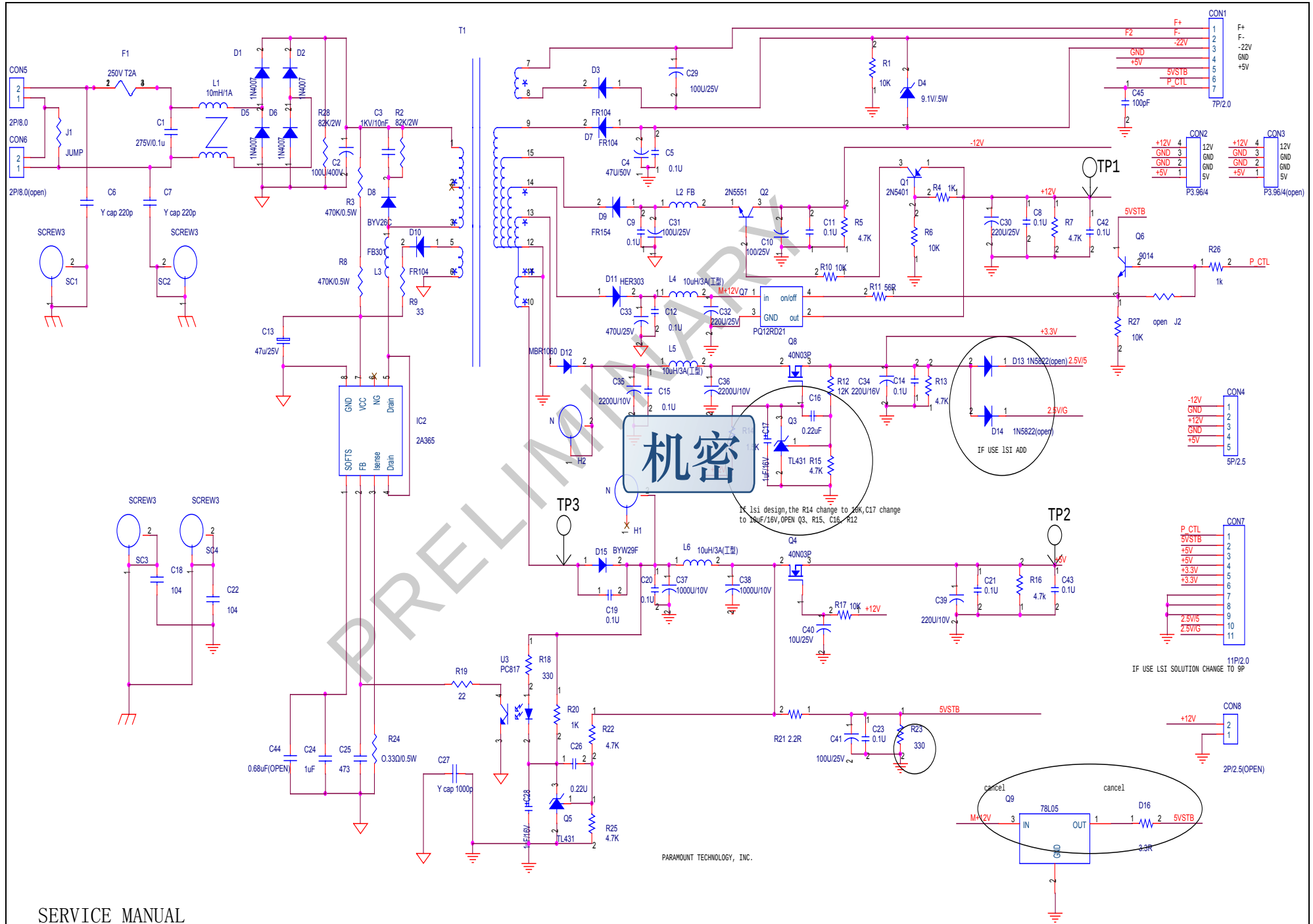


Main Voltage Values of Power Board

Actual voltage figures of each output terminal:

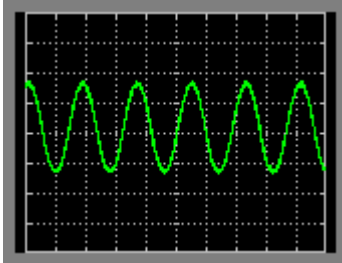
Voltage	Idle	No Disc	Reading Disc	Standard Voltage during normal operations
F2	-9.5V	-13.4V	-12.98V	-11.5±3V
F1	-14.8V	-16.5V	-16.07V	-15±3V
-24V	-24.1V	-25.5V	-25.1V	-24±3V
+5V	+5.0V	+4.9V	+4.87V	+5±0.2V
+5STB	+5.0V	+4.75V	+4.75V	+5±0.5V
+3.3V	3.42	3.42	3.42	3.3±0.2V
+12V	+10.9V	+12.05V	+12.02V	+12±2V
-12V	-10.9V	-11.21V	-11.01V	-12±2V
F2-F1	+5.3V	+3.1V	+3.09V	3.5±0.5V



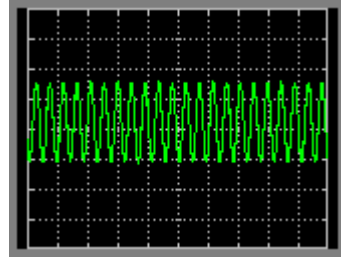
Waveforms of ESS6128/7020 Decoding Board

Waveforms of main reference points of decoding board

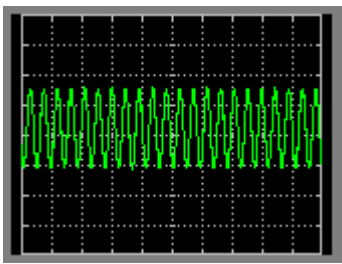
8-3-1 Reference waveforms of main points of ESS decoding board



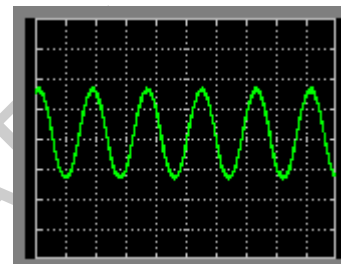
TP1 27MHz XTAL



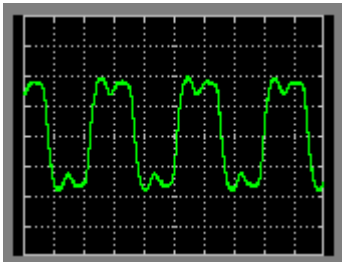
TP2 -DRAMCLK 122.5MHz



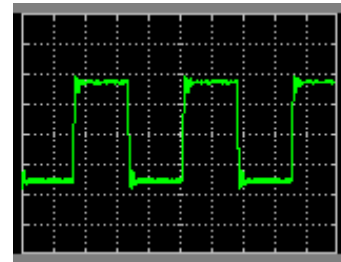
TP3 -DRAMCLK 83.5MHz



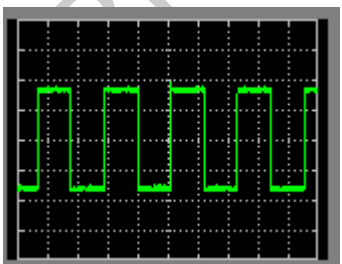
TP4 14.31818MHz XTAL



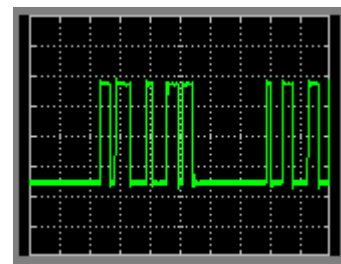
TP5 AMCLK 16.935MHz



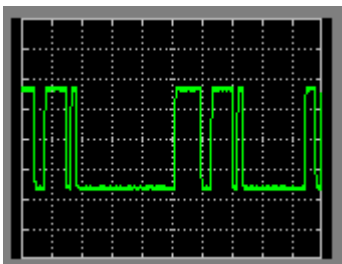
TP6 ABCLK 2.825MHz



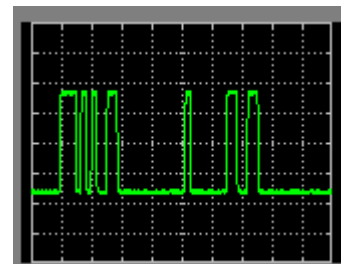
TP7 ALRCLK 44.1KHz



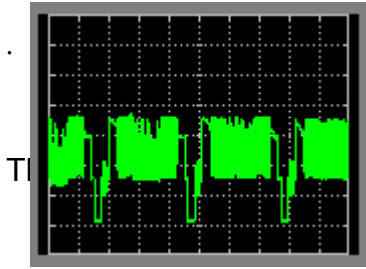
TP8 ASDAT0



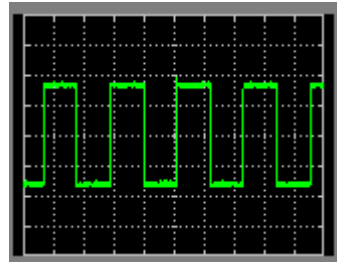
TP9 ASDAT1



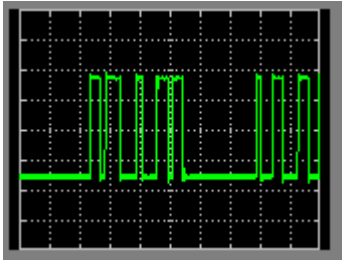
TP10 ASDAT2



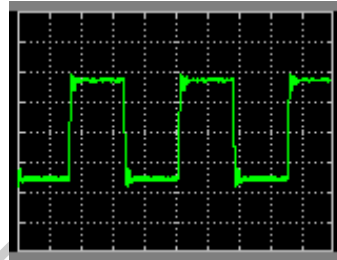
TP11 CVBS1



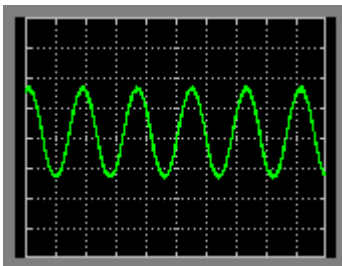
TP13 44.1kHz



TP12 ADCDATA



TP14 ABCLK 2.825MHz



TP15 MCU_CLK 4.0MHz

P1 ES61X8 & ES7010

ES61x8-S2

LCSx#	FUNCTION
0	SRAM
1	I/O
2	FLASH
3	ROM/FLASH

AUXx	FUNCTION
0	I/O
1	I/O
2	VFD DATA
3	USB RESET
4	IR
5	DRIVE DRQ
6	POWER STANDBY
7	HDD/DVD SELECT

EAUXx	FUNCTION
10-17	HD[0..7]
20-27	HD[8..15]
30	656 YUV7
31	656 YUV6
32	656 YUV5
33	HIORDY
34	656 CLK
35	HRST#
36	HDD/DVD SELECT
37	HCS1#
40	656 YUV2
41	SPARE
42	HA0
43	HA1
44	HA2
45	HWR#
46	HRD#
47	HIRQ

PAGE

- 1 INDEX
- 2 BLOCK DIAGRAM
- 3 ES61X8-S2 CONTROLLER
- 4 ES7010/11, ispLSI2064 & IDE CONNECTORS
- 5 TV ENCODER, AUDIO ADC&DAC
- 6 VOLTAGE REGULATORS & DECOUPLING
- 7 AV OUTPUT, CLOCK CIRCUITS
- 8 STANDBY MCU

POWER

NAME	TYPE	DEVICE
VCC	DIGITAL +5V	SUPPLY
VCCA	Analog +5V	SUPPLY
VCC33	DIGITAL 3.3V	ES60XX, ES7010
VCC2X	DIGITAL 2.xV	ES60XX
VCC25	DIGITAL 2.5V	ES7010
VCC25D	DIGITAL 2.5V	ES7010
VCC33D	DIGITAL 3.3V	TVP5146
VCC33A	ANALOG 3.3V	TVP5146
VCC18	DIGITAL 1.8V	TVP5146 & DIVIO
VCC18D	DIGITAL 1.8V	TVP5146
VCC18A	ANALOG 1.8V	TVP5146

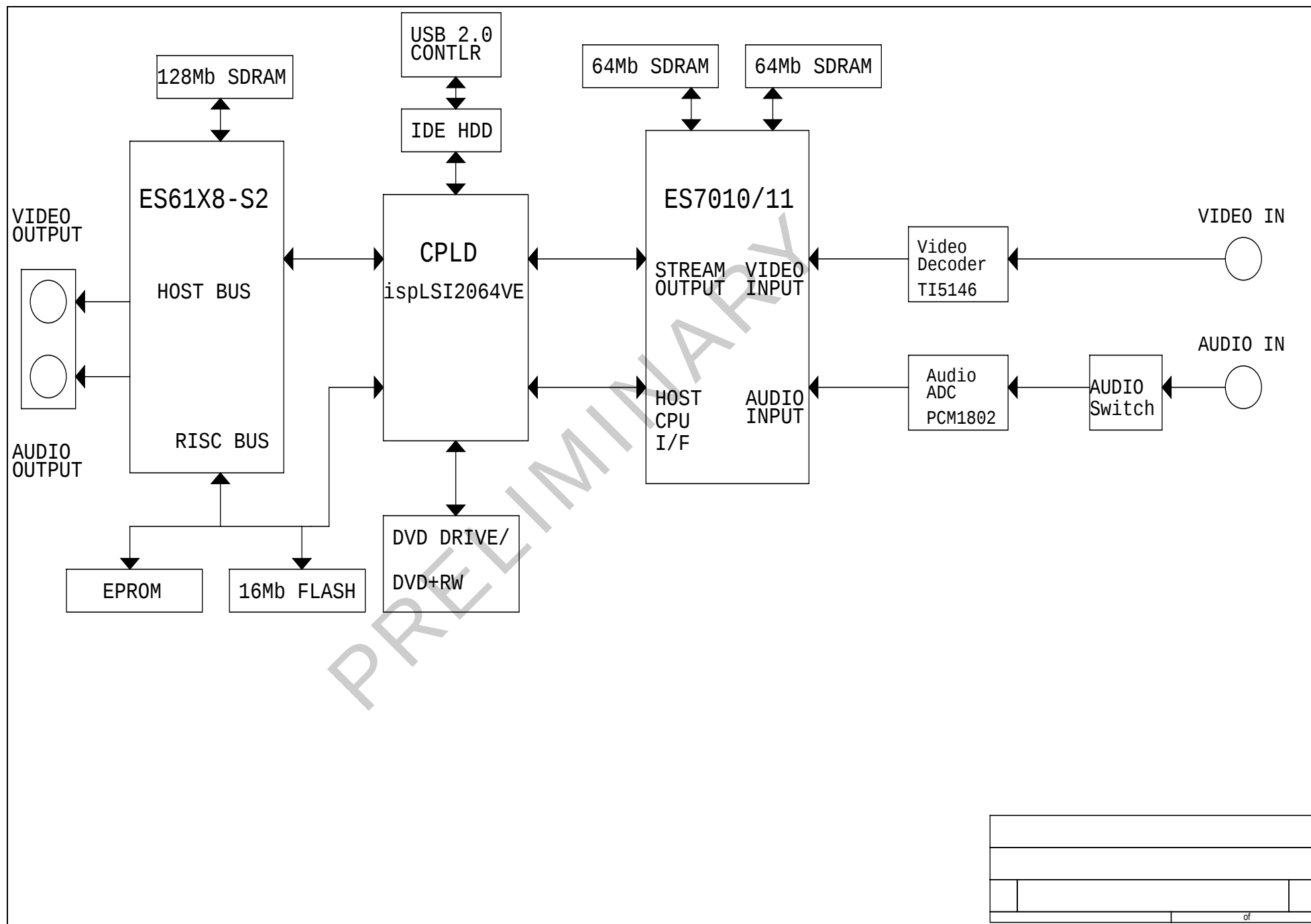
GROUND

NAME	TYPE	SYMBOL
GND	DIGITAL GROUND	
GND A	ANALOG AUDIO GND	
GND V	ANALOG VIDEO-OUT GND	

THE INFORMATION HAS BEEN CHECKED AND IS BELIEVED TO BE RELIABLE. HOWEVER, NO RESPONSIBILITY IS ASSUMED FOR INNACCURACIES. CIRCUIT DIAGRAMS ARE PROVIDED AS A MEANS OF ILLUSTRATING TYPICAL APPLICATIONS; CONSEQUENTLY COMPLETE INFORMATION FOR CONSTRUCTION PURPOSES IS NOT NECESSARILY GIVEN. ESS RESERVES THE RIGHT TO MAKE CHANGES AT ANY TIME IN ORDER TO IMPROVE THE DESIGN.

PARAMOUNT TECHNOLOGY, INC.

Title	INDEX	Rev	A1
Size	Document Number		
	0001M0-A-0		
Date:	Monday, May 31, 2004	Sheet	1 of 8



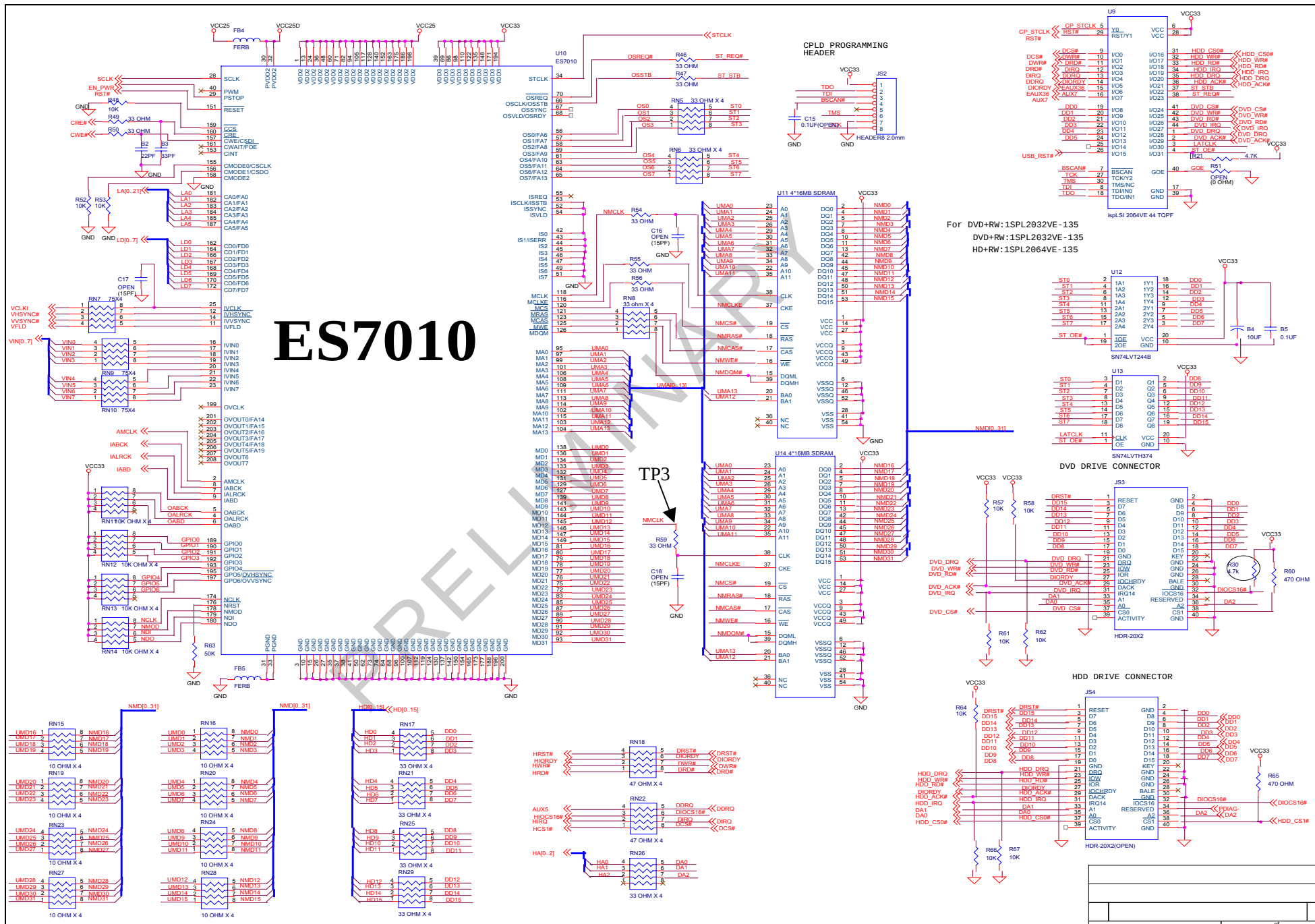


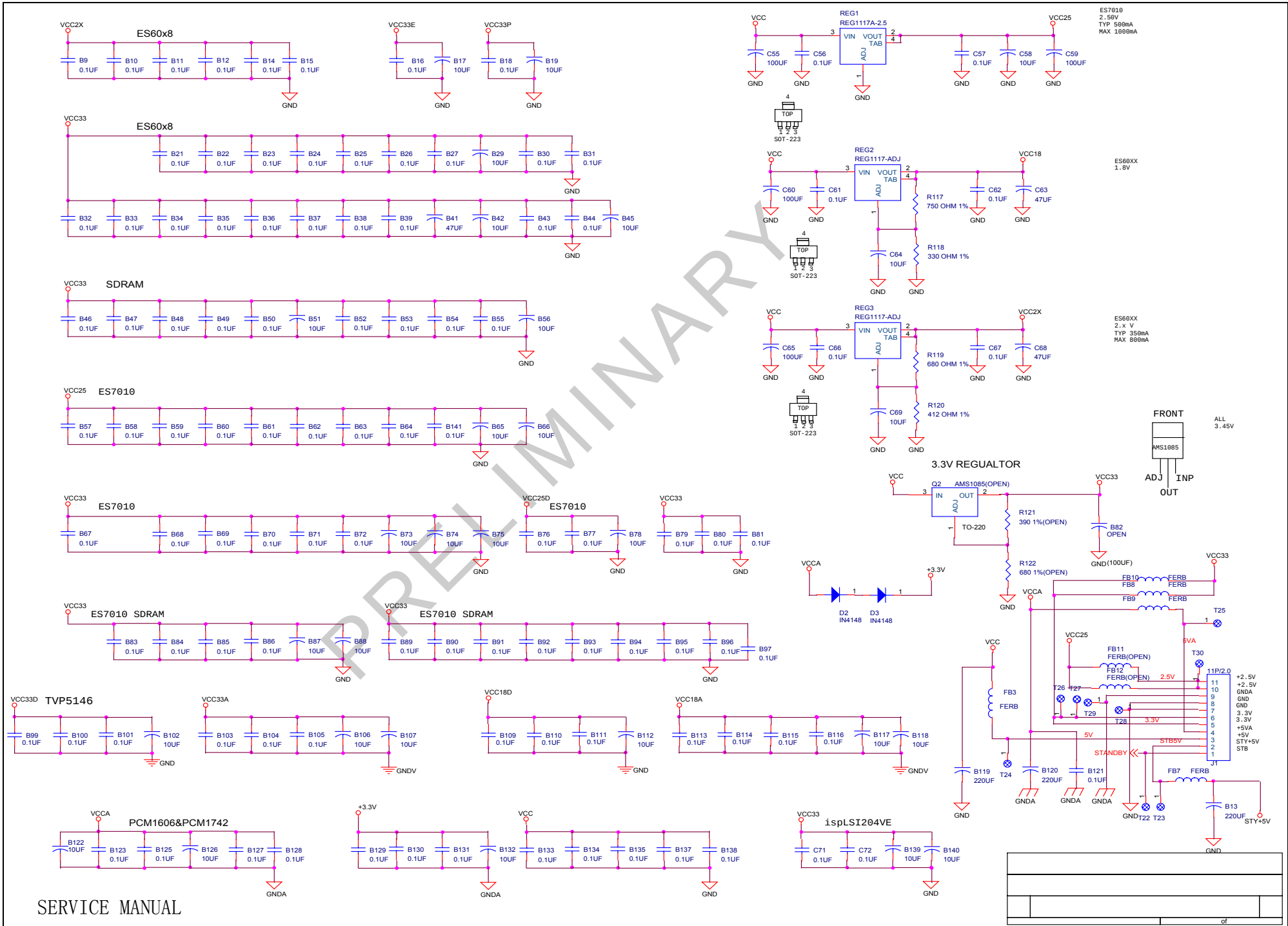
The information has been checked and is believed to be reliable. However, no responsibility is assumed for inaccuracies. Circuit diagrams are provided as a means of illustrating typical applications; consequently complete information for construction purposes is not necessarily given. ESS reserves the right to make changes at any time in order to improve the design.

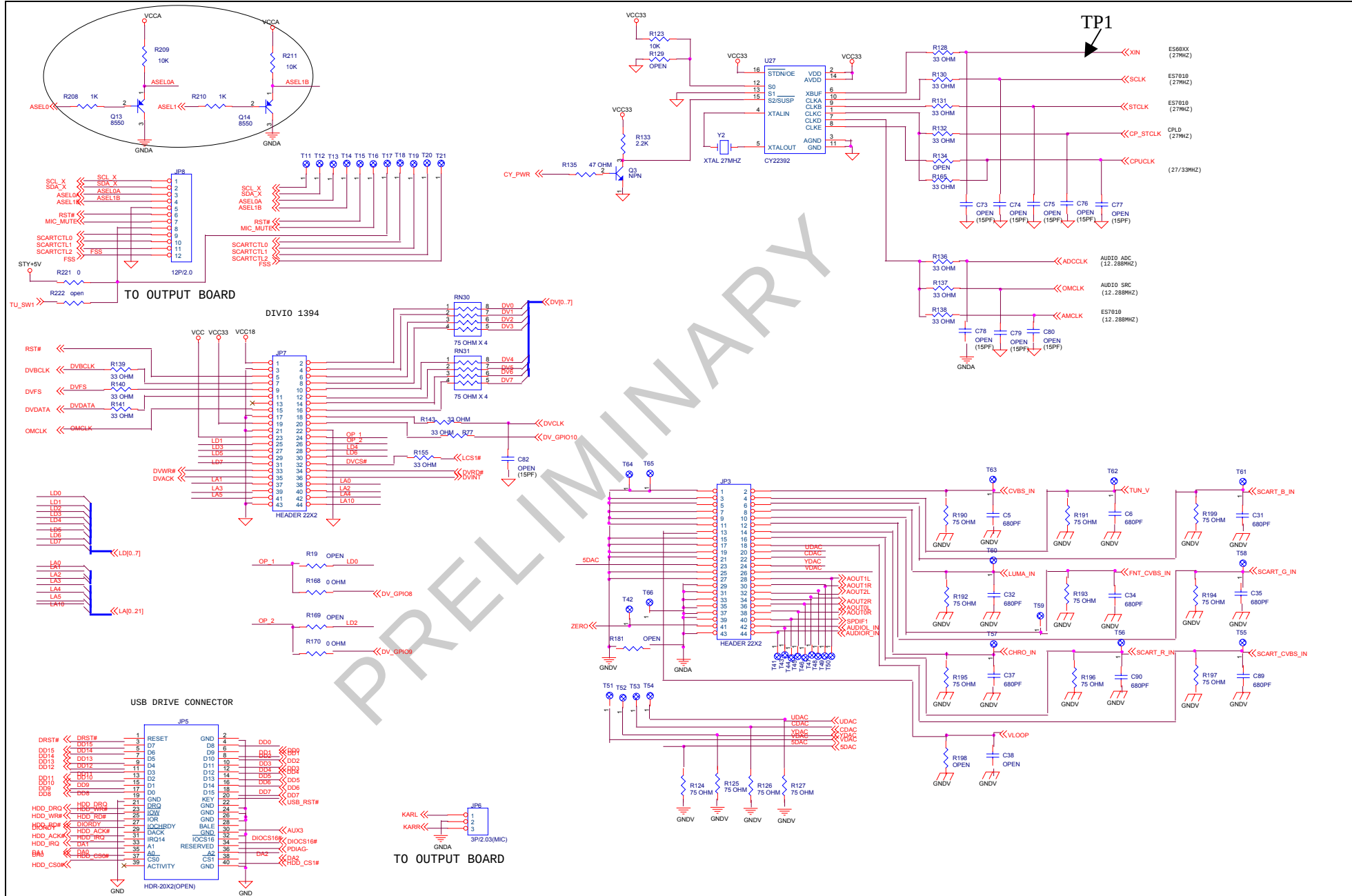
~~SERVICE MANUAL~~

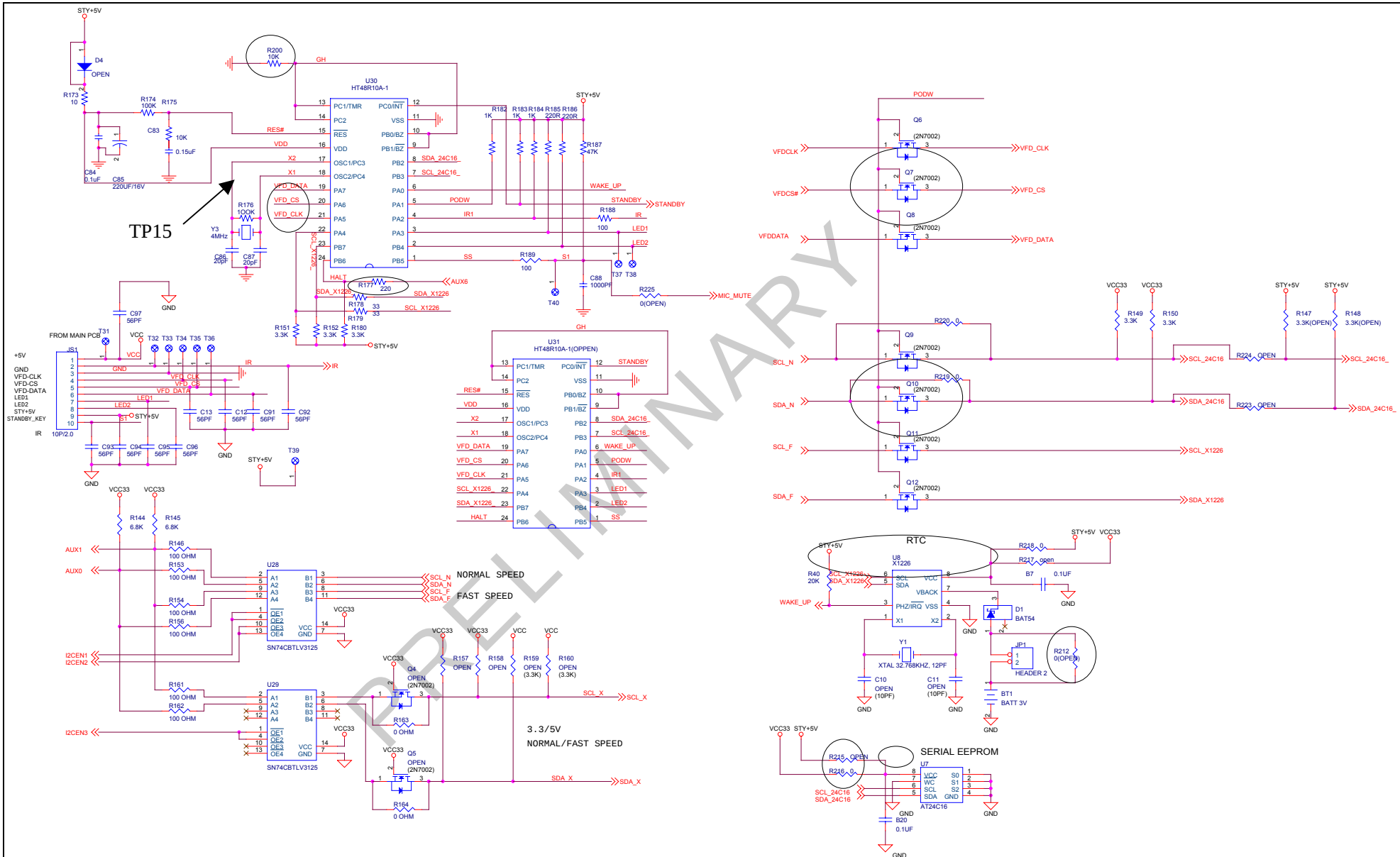
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ES60x8, Memory and Video			
Size	Document Number		Rev
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Date:	Monday, May 31, 2004	Sheet	3 of 8

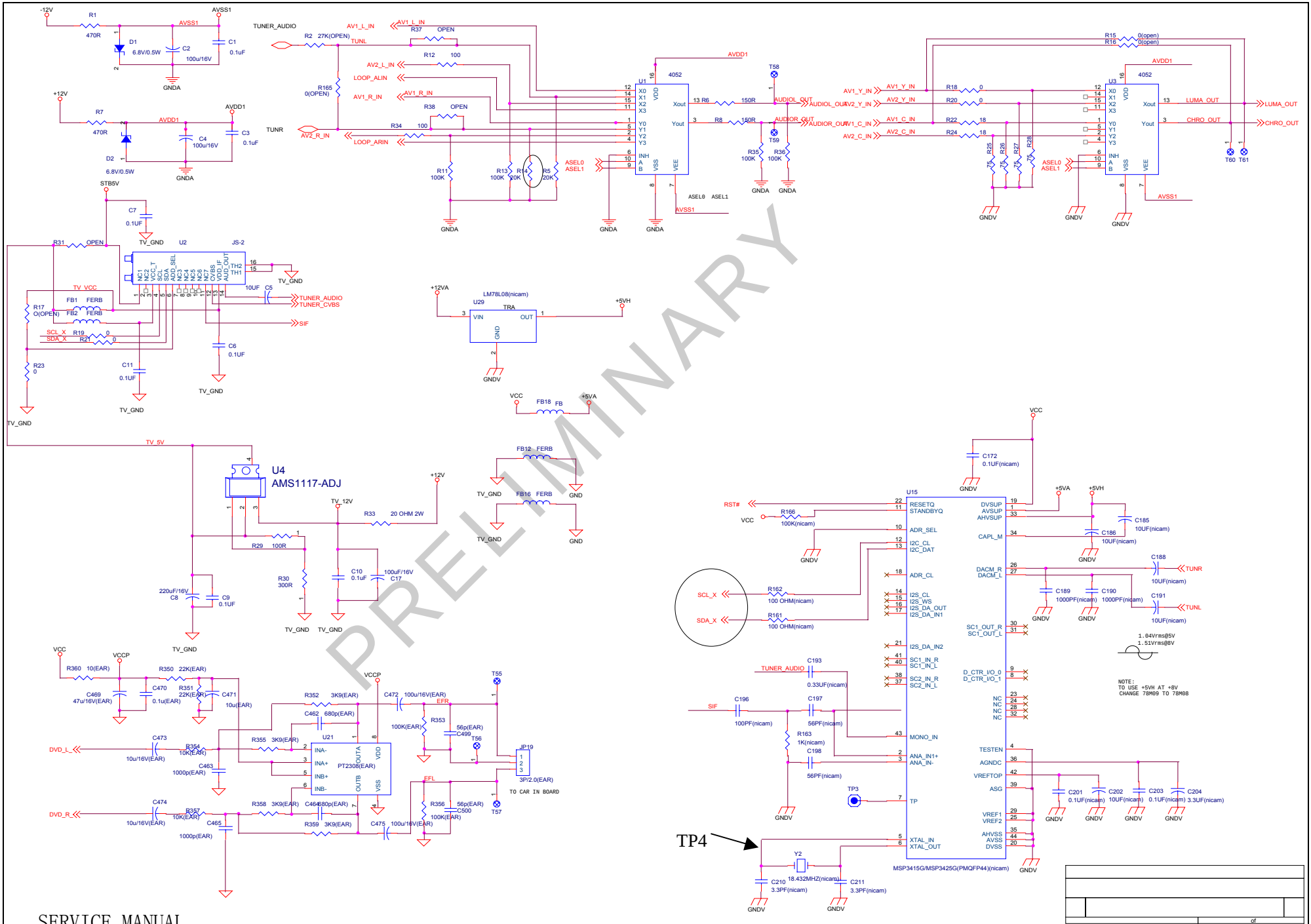
ES7010

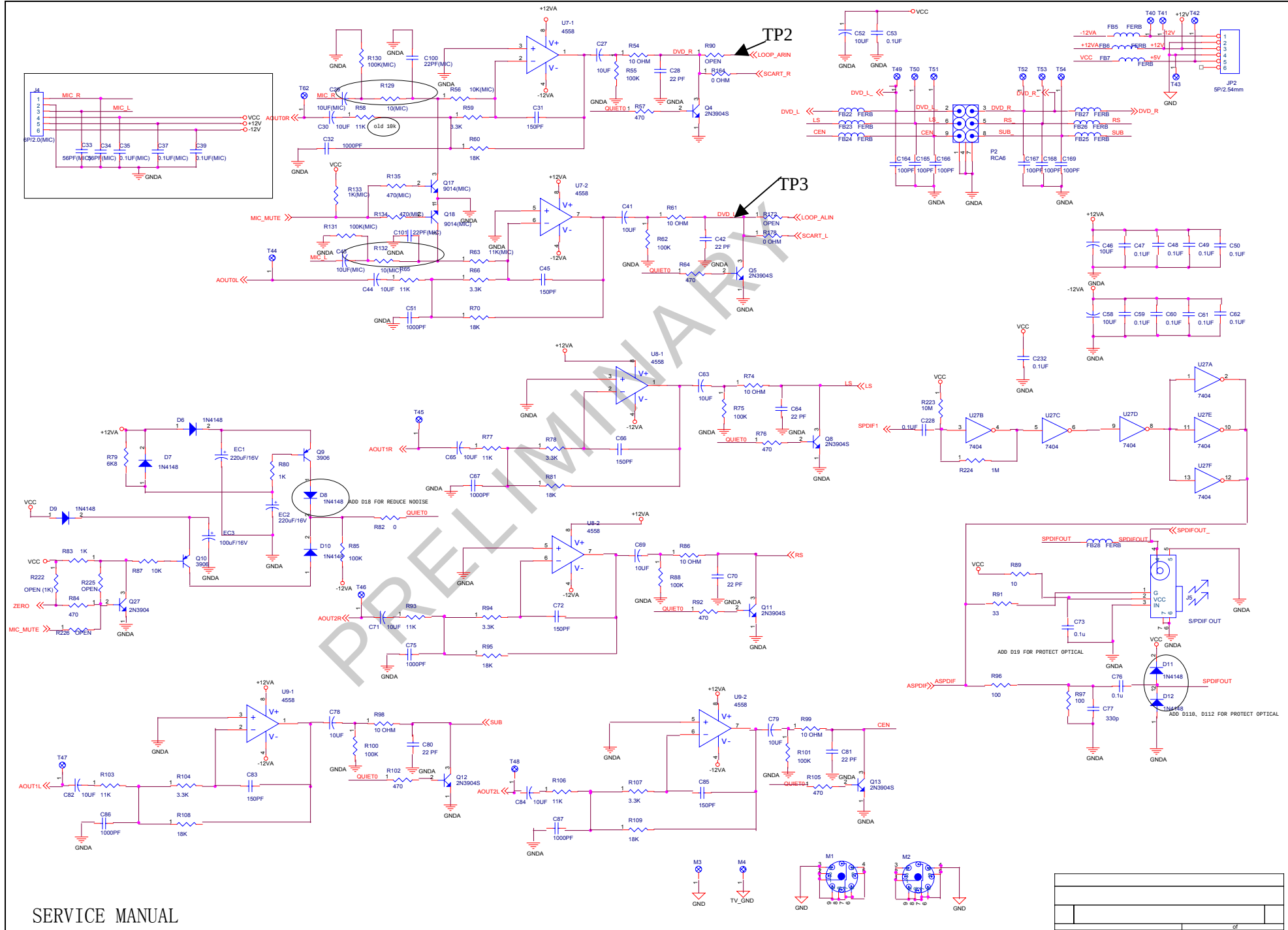


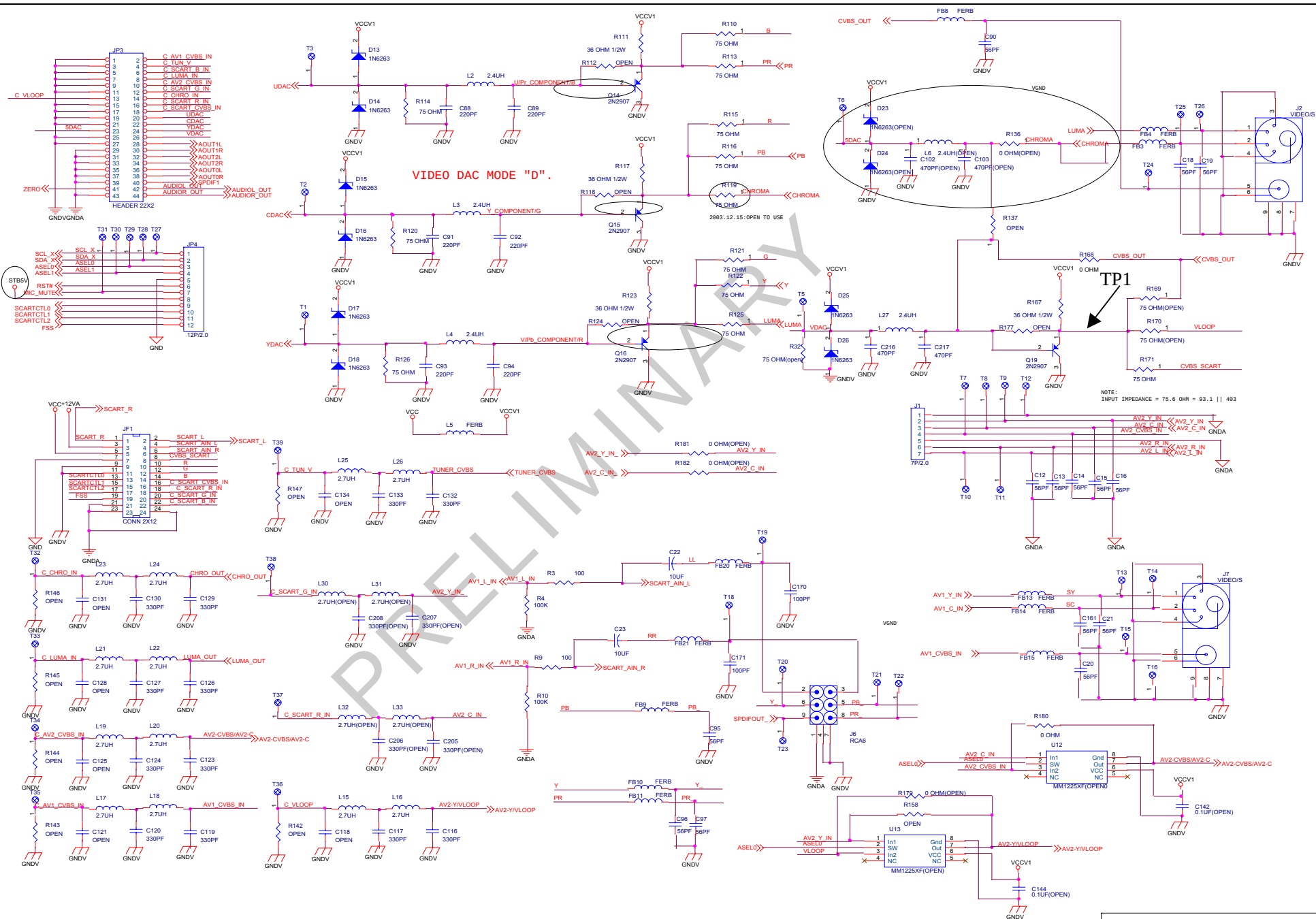








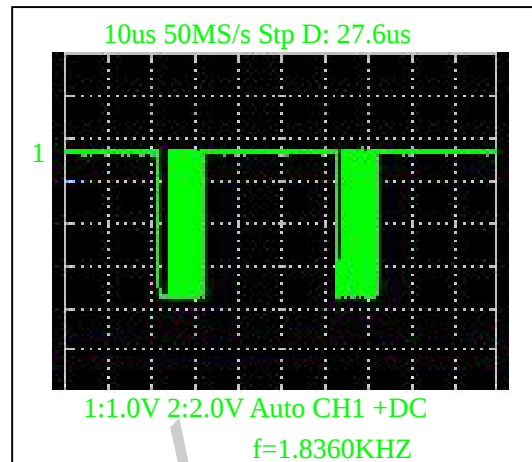
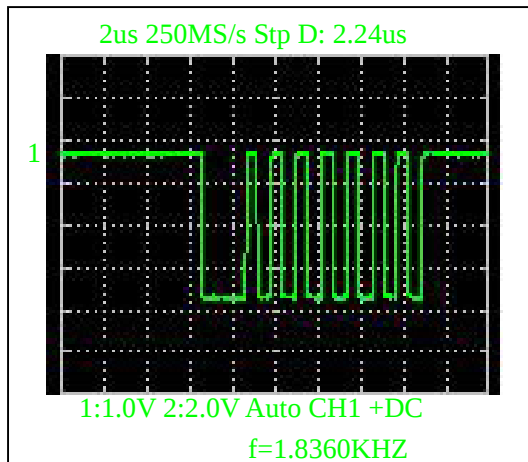




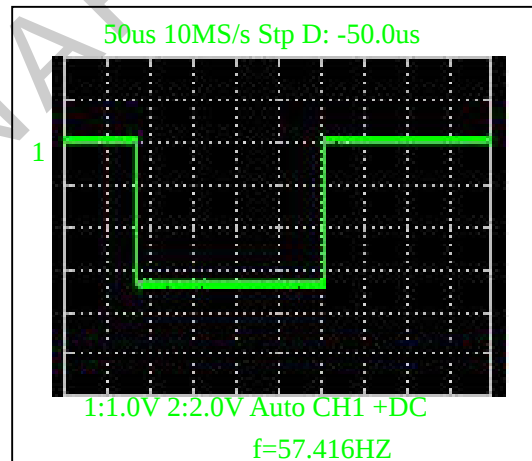
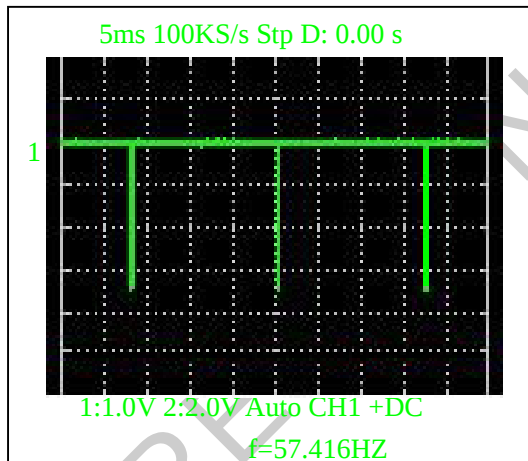
Waveforms of KB Board

Waveform Diagrams of KB Board (All waveforms are obtained during a NO DISC condition)

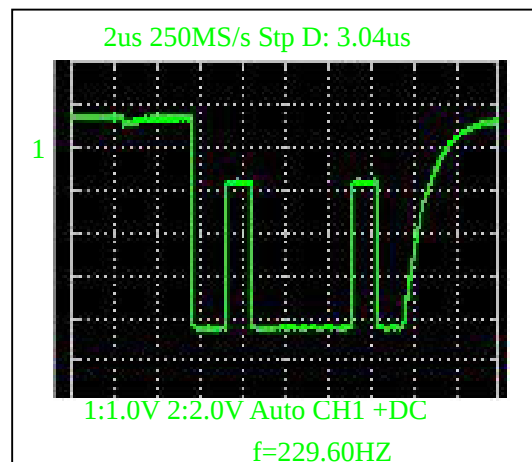
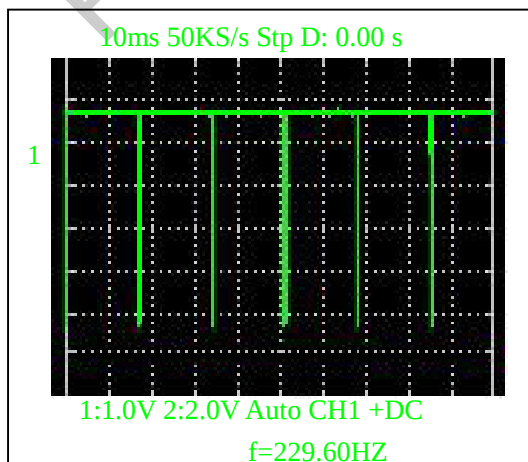
1. Waveforms on CLK cord (testing point as indicated on the schematic diagram TP1)

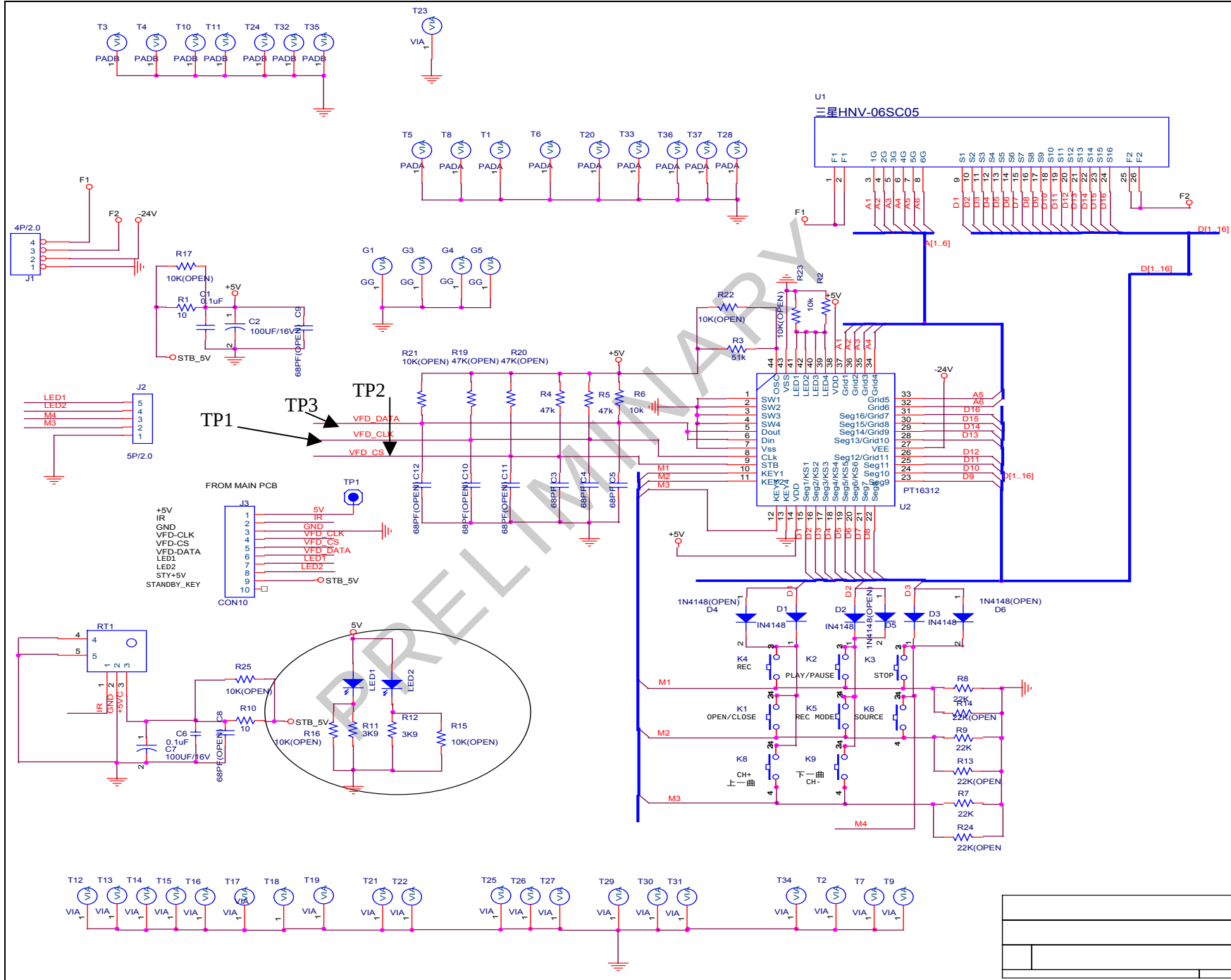


2. Waveforms on CS cord (testing point as indicated on the schematic diagram TP2)



3. Waveforms on DATA cord (testing point as indicated on the schematic diagram TP3)

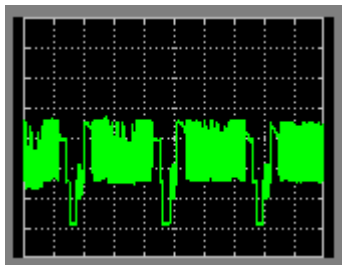




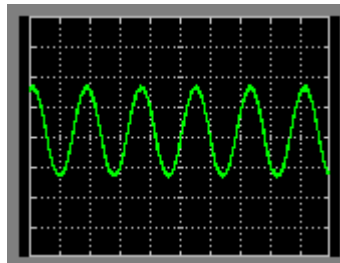
Waveforms of SCART OUT Board

Waveforms of main reference points of SCART OUT board

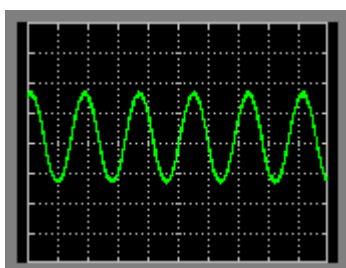
8-3-1 Reference waveforms of main points of ESS SCART OUT board



TP1 CVBS1

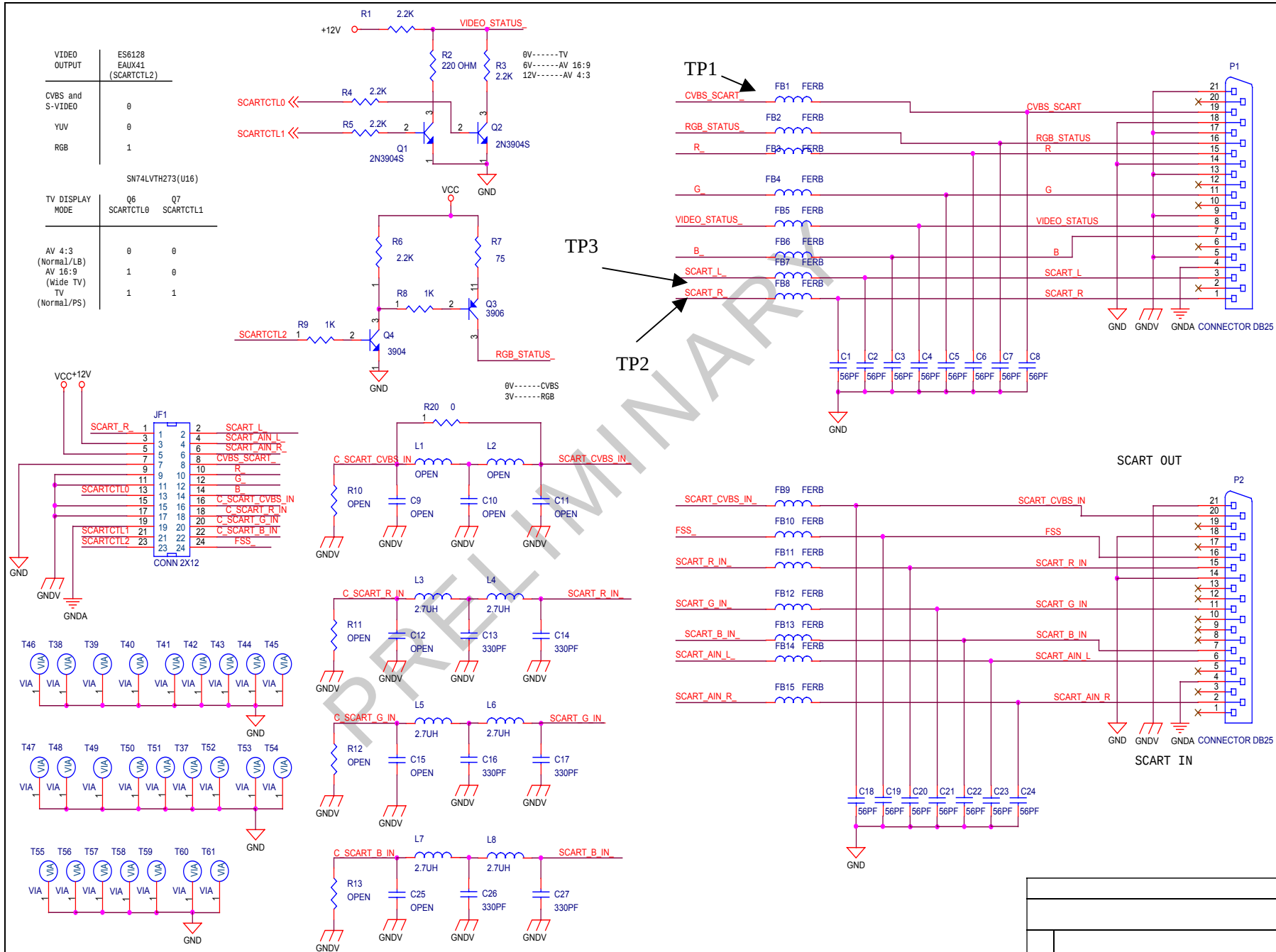


TP3 AUDIO-L 1KHz



TP2 -AUDIO-R 1KMHz

PRELIMINARY



Chapter 9

System decomposition 3-D diagram

SERVICE MANUAL

AD-8091 FRONT PANEL

