Elenberg CTV-1540, Elenberg CTV-2065

LCD TV SERVICE MANUAL

Model list

KLC-TM1508

KLC-TM2018

KONKA GROUP CO,LTD.

Digital Flat Display Division

IMPORTANT SERVICE SAFETY INFORMATION

Operating the receiver outside of its cabinet or with its back removed involves a shock hazard. Work on these models should only be performed by those who are thoroughly familiar with precautions necessary when working on high voltage equipment.

Exercise care when servicing this chassis with power applied. if carelessly contacted, can cause serious shock or result in damage to the chassis. Maintain interconnecting ground lead connections between chassis, escutcheon, picture tube dag and tuner when operating chassis.

When it is necessary to make measurements or tests with AC power applied to the receiver chassis, an Isolation Transformer must be used as a safety precaution and to prevent possible damage to transistors. The Isolation Transformer should be connected between the TV line cord plug and the AC power outlet.

It is important to maintain specified values of all components and anywhere else in the received that could cause a rise in operating supply voltages. No changes should be made to the original design of the receiver.

Components shown in the shaded areas on the schematic diagram and/or identified by in the replacement parts list should be replaced only with exact factory recommended replacement parts. The use of unauthorized substitute parts man creates may create shock, fire, or other hazards.

Before returning the receiver to the user, perform the following safety checks:

1. Inspect all lead dress to make certain that leads are not pinched or that hardware is not lodged between the chassis and other metal parts in the receiver.
2. Replace all protective devices such as non-metallic control knobs, insulating fish papers, cabinet backs, adjustment and compartment covers of shields, isolation resistor-capacitor networks, mechanical insulators etc.
3. To be sure that not shock hazard exists, a check for the presence of leakage current should be made at each exposed metal part having a return path to the chassis (antenna, cabinet metal, screw heads knobs and/or shafts, escutcheon, etc.) in the following manner.

Plug the AC line cord directly into a 110V/220V/240V, AC receptacle. (Do not use an Isolation Transformer during these checks.) All checks must be repeated with the AC line cord plug connection reversed. (If necessary, a non-polarized adapter plug must be used only for the purpose of completing these checks.)

PLEASE READ BEFORE ATTEMPTING SERVICE

1. Use an Isolation Transformer when performing any service on this chassis.
2. Never disconnect any leads while receiver is in operation.
3. Disconnect all power before attempting any repairs.
4. Do not short any position of the circuit while the power is on.
5. For safety reasons, replace components any with identical replacement parts (SEE PARTS LIST).
6. Before alignment, warm up the TV for at least 30 minutes.
7. When removing a PCB or related component, after unfastening or changing a wire, be sure to put the wire back in its original position.
8. Inferior silicon grease can damage IC's and transistors. When replacing IC's and transistors, use only specified silicon grease. Remove all old silicon when applying new silicon.

9. Before removing the anode cap, discharge eletricity because it contains high voltage.

A. SPECIFICATION

System : Colour System:PAL,SECAM
Sound System:DK/BG/I/M
Audio output power 10%THD 1W X 2（KLC-TM1508）
10%THD 2W X 2（KLC-TM2018）
Antenna Impedance 75Ω(Unbalance)
Power Consumption 48W（KLC-TM1508）
60W（KLC-TM2018）
Power Supply : AC~100-240V,50/60Hz (Adapter)-----KLC-TM1508
DC12V 4A（TV）----------KLC-TM1508
AC~100-240V,50/60Hz（TV） -------KLC-TM2018

item	Port list KLC-TM1508
1	RF cable
2	Video and Audio
3	S-Video
4	Headphone audio output
5	VGA
5	DC 12V input

item	Port list KLC-TM2018
1	RF cable
2	Y Pb /Cb Pr /Cr
3	Audio2(Y、Pb/Cb、Pr/Cr and PC Audio input)
4	VGA
6	Video and Audio1
7	S-Video
8	Headphone audio output
9	AC Power input

1.Preface

1.1 Applicable area

This test manual is applicable for KLC-TM1508.

1.2 Test notes

1.2.1 Please follow the pointed test steps and choose the proper test equipment to conduct adjustment, otherwise good effect of TV set could not be obtained. Pointed bias voltage value should be ensured during test to get satisfied test result.

1.2.2 Be sure that you have the static electricity –protective glove in before test.

2 Test environment

1）Temperature：15~35°C

2）Relative humidity 45 ~ 75%

3）Air pressure: 86 ~ 106kPa

3 Test equipment

1) Computer 1

2) Oscilloscope（100MHz） 1

3) Multimeter (VICTOR VC9801) 1

4) DC Voltmeter 1

5) Oscilloscope Tektronix2232 1

6) 直流电源:PR-602A 1 台

7) 电流放大器及电流探头: Tektronix TCP300 及 1A 电流探头 TCP312W 1 个

8) 高 压 探 头 :Tektronix 的 P6015A(1000 ： 1) 1 个

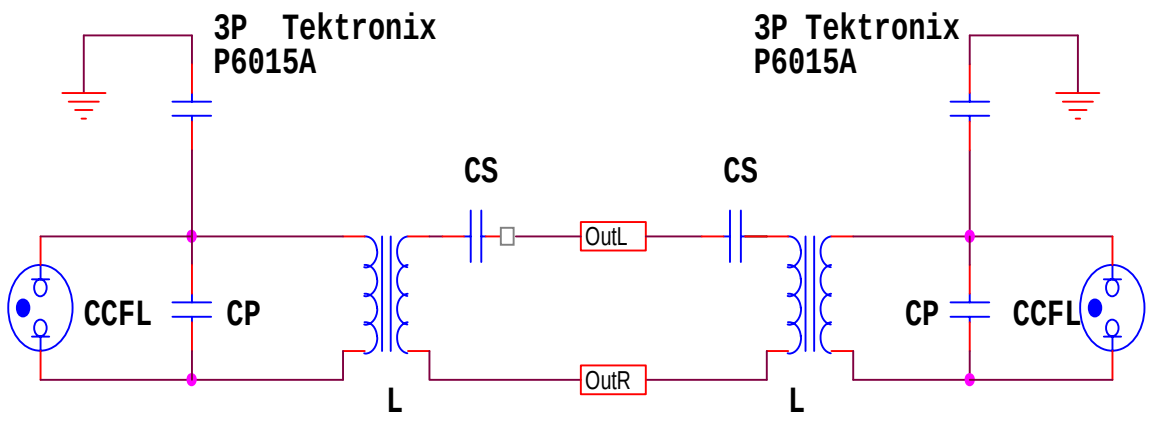
9) 数字万用表：Agilent 的 34401A 或者 FLUKE 187/189 1 台

4 T he item and method of debugging

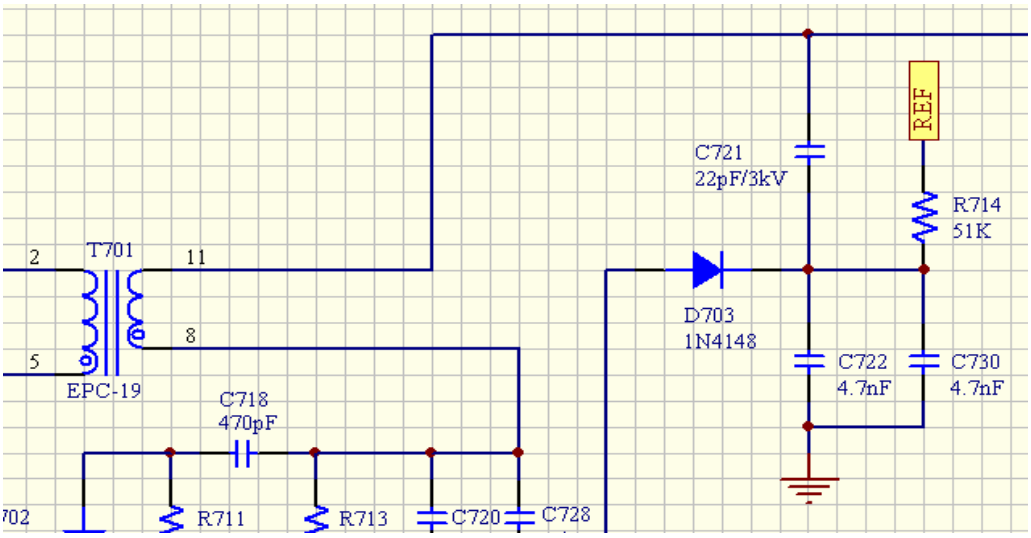
4.1 Adjustment manual book of LCD panel Four-CCFL inverter (PCB Board P/N:35007175)

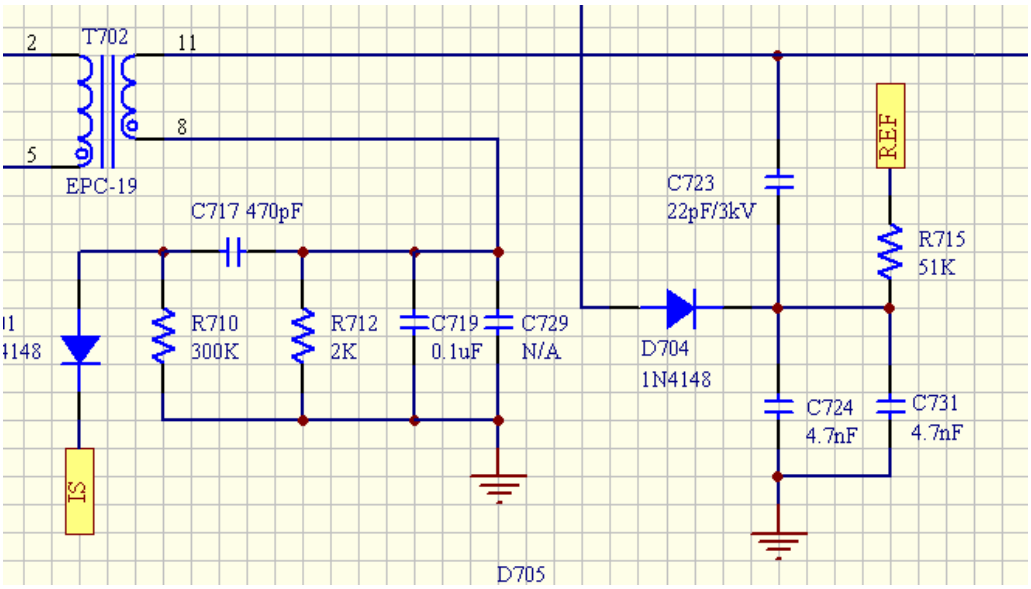
4.1.1 Test method

4.1.1.1 While mesureing the inverter ,we usually connect the high voltage probe to the output,but this will change the original path value called load effect. Most high voltage probes have 3PF capacitacne such as Tektronix P6015A,when we measure the Four-CCFL inverter,in order to balance the load effect of two sides ,we advise using two high voltage probes to measure two side outputs.



4.1.1.2 For MP1018 project,the outputs have the capacitance divider ,see figure as below,when we measure the output voltage,we may measure the parallel connection voltage value of the C722 and C730 or C724 and C731,then according to theformula Vout1=Vc1*(C722//C730)/C721,Vout2=Vc2*(C724//C731)/C723,we m ay get the output voltage value(Vc1,Vc2 means the parallel connection voltage value of the C722 and C730 or C724 and C731). At the same time ,we should pay attention to the followings : First,observe the output voltage waveform is distort or not.Second ,observe t he output waveform fr equency is between 40 kHz and 60kHz or not.Third,disconnecting any output ,observe the start-up voltage and start-up time is right or not.





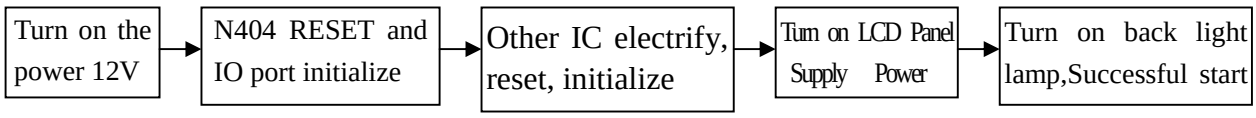
4.1.1.3 Because the a ctual impedance and t heoretical impedance of the LCD panel's l amps have a little tolerance,we pay more attention to the output current in actual measurement.The LCD panel's lamps need a constant current s ource to maintain the brightness,so we may make a high frequency amperemeter in series with the

low-voltage output of XS702,XS703,XS704,XS705,then adjust the input voltage equals 12V,as long as the current meets the requirement of the specification(5.5--6.5mA),it can keep the brightness of the lamps.

4.1.1.4 Force 0-5V voltage to the input port that is the third pin of XS701. Confirm if it will shut down at 0V and start at 5V.

4.2 Digital signal part

KLC-TM1508 start order：



4.2.1 After turning on the power, if blank screen appears (no back light lamp), just press POWER button several times, if blank screen still there,

4.2.1.1 Check if the voltage of every power supply is normal.

4.2.1.2 Check if the crystal oscillator Z402 (14.318180MHz), Z301 (24.576MHz) oscillate or not, and oscillate frequency is right or not.

4.2.1.3 Back light control signal (BKLON) of PIN 3 of XS514 has high level (about 5V) or not, if not, chec k whether fault sold ered or short circui t happened to Q504,R580,R588.

4.2.2 If back light lamp lights but no screen displays,check N404 reset circuit and crystal oscillator output to make sure CPU is under work, if CPU is under work, then check signal channel. Signal channel is composed of two parts: Video channel (including antenna, AV, S-terminal input) and RGB channel for PC. If no picture displays or bad code displays when input either of these two channel signal in turn, control signal maybe wrong, then use oscilloscope to check waveforms at test points DEN, DVS, DHS and DCLK are normal or not following the rule from back to front.

4.2.3 If just picture color has problem, then shift input to RGB input, and output R,G,Bmono signal from computer to find the wrong color, then use oscilloscope to test XS504 pin to find the wrong data cable following the same order.

4.2.4 If just video channel has problem, check N301 signal output VCLK,V-Hs, V-Vs(TEST POINT), control signal -DVS DHS DCLK and DEN output from movement compensation N404have waveform or not to find the problem.

4.3 IF Channel adjustment

4.3.1 Preparation steps

4.3.1.1 Connect (+) of RF of TV signal generator PM5518 to Pin 11 of RF TUNER N1000, (-) to Pin 3 of RF TUNER N1000.

4.3.1.2 Set TV signal generator PM5518 RF output to the maximum.

4.3.1.3 Set TV signal generator PM5518 RF Output to 38.0MHz, and set video output signal of this signal generator to gray scale.

4.3.1.4 Connect DC Voltmeter "+" to Pin 8 of N1000, - to RF TUNER cabinet.

4.3.1.5 Connect oscilloscope probe + to Pin 10 of XP6010, - to RF TUNER cabinet, then set oscilloscope to 50mV/div Time/div TV-H(s), and set to TV-H simultaneously.

4.3.1.6 Connection between TV board and TESTER is shown as the following figure (4).

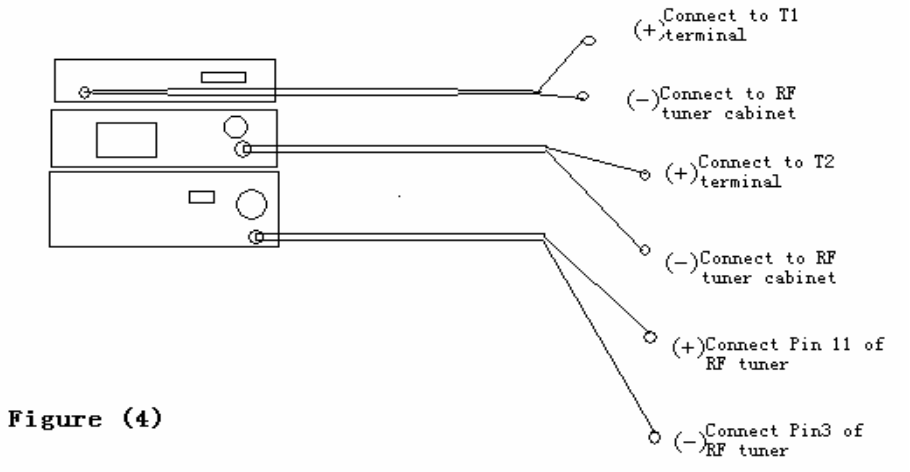


Figure (4)

4.3.2 Adjustment steps

4.3.2.1 Plug the power cord.

4.3.2.2 Turn T1000 magnetic core with ceramic aligner screwdriver so that reading on DC Voltmeter is 2.5V 0.2V.

4.3.2.3 Waveform of T2 on the oscilloscope can be observed as the figure (5) shown.

4.4 AGC adjustment

4.4.1 Preparation steps

4.4.1.1 Connect TV board whose IF has been adjusted to Power board and motherboard (Do not install TV board into the back cabinet).

4.4.1.2 Set TV signal generator to 56 channel (855.25MHz), apply RF 62dB 3dB half color bar signal and input to ANTENNA INPUT of RF TUNER.

4.4.1.3 Connect (+) end of DC Voltmeter to Pin 1 of N1000 of RF TUNER, (-) end to Pin 3 of RF TUNER.

4.4.2 Adjust steps

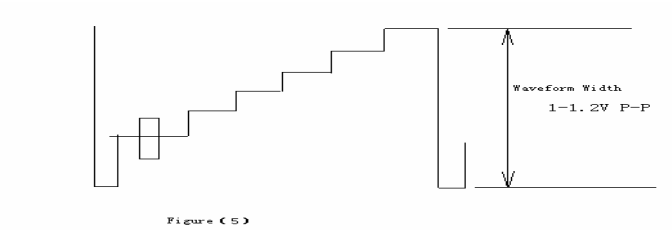


Figure (5)

4.2.2.1 Check if connections connect well, start automatic searching.

4.2.2.2 Press PROG. / button to display the channel you hav e received on the scre en after automatic searching finishing.

4.2.2.3 Adjust VR1000 with small screwdriver so that DC Voltmeter is within 2.0V – 2.5V(maximum),then reverse VR1000 and just make c onfusi onal of noi se disappear on the picture.

4.5 White calibration adjustment

1 Receive black or white signal under AV or PC mode, adjusting brightness and contrast to set the brightness to 15Nit in dark area and 90 Nit in bright area.

2 Adjust white balance.Press “MENU”button once, then press “PRE.CH”five times to enter factory menu, select “Temp” Menu,

Adjust	Red	0-100
	Green	0-100
	Blue	0-100

3 Adjusting chromaticity coordinates of black and white to fit the requirement (X=0.313, Y=0.329), or plug automatic calibration system to adjust white calibration automatically.

KLC-TM2018

1.Preface

1.1 Applicable area

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1.2 Test notes

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1.2.2 Be sure that you have the static electricity –protective glove in before test.

2 Test environment

1）Temperature：15~35°C

2）Relative humidity 45 ~ 75%

3）Air pressure: 86 ~ 106kPa

3 Test equipment

1) Computer 1
2) Oscilloscope（100MHz） 1
3)Multimeter (VICTOR VC9801) 1
4)DC Voltmeter 1
5)Oscilloscope Tektronix2232 1
6)Cement Resistance 1
7)Test Clamp 1
8）TV signal generator 1

4 .T est i tem a nd met ho d

4.1 Power Supply Board

4.1.1 The input and output characteristic test of power

4.1.2 Intention of test: Check input and output to find if short circuit.

4.2 checking method:

use Multimeter (VICTOR VC9801) of resistor to check

Number	Item	Test Point	Standard
1	The resistor of AC input	AC Input Connector XS901	No short circuit
2	The resistor of V12 output	V12 output of connector XS902	No short circuit
3	The resistor of V12 assistant power output	Between the pins of C908	No short circuit

Please check short circuit point on the PCB board if you find short circuit.

4.2.1 Test after supply AC 220V

4.2.2 Intention of test:

4.2.3 Supply AC 220V step by step,then the circuit start to work

4.2.4 Test the voltage of output

4.2.5 Short output test

4.2.6 The Peak-Peak value yawp test of the power output

4.2.7 The test of turning on and off TV

4.2.8 Checking method

4.2.9 Test the empty loading output of power supply Fix the power supply board on Test clamp unconnecting the load then input 220VAC and turn on power switch to test the output voltage by multimeter

Number	Ietm	Test point	Empty loading	Standard
1	V12 voltage	Output of V12	0.0A	12.0V 0.48

Listen if there is deviant noise at the same time.

4.2.10 Test the rated load output voltage Turn off the power then connecting the load on output and turn on the power to test the output voltage by multimeter Rated load output voltage / current are as follows:

Number	Item	Current standard	Voltage standard
1	V12 s rated load	5A	12.0V 0.48

Listen if there is deviant noise at the same time.

4.2.11 Test of V12 s shorting-output protect

Make the output shorted in 3 seconds the output voltage should be 0V.after relieving the short ,turn off the power and discharge the input filter capacitor C904 10 seconds by discharge resistance (cement resistance 2-5W510),then supply the power again using multimeter to test the output of power The output voltage should come back normally 12.0V 0.48

4.2.12 The test of powers peak-peak value yawp output Under the rated load Initialize the oscill oscope 50mV per unit and parallel-connect 0.1UF and 10UF capaci tor on probe to see the output ripple is OK or not.

Number	Item	Test point	Standard
1	12V output	V12 output	150mV

4.2.13 The fully loading and empty loading experiment of turning on/off TV

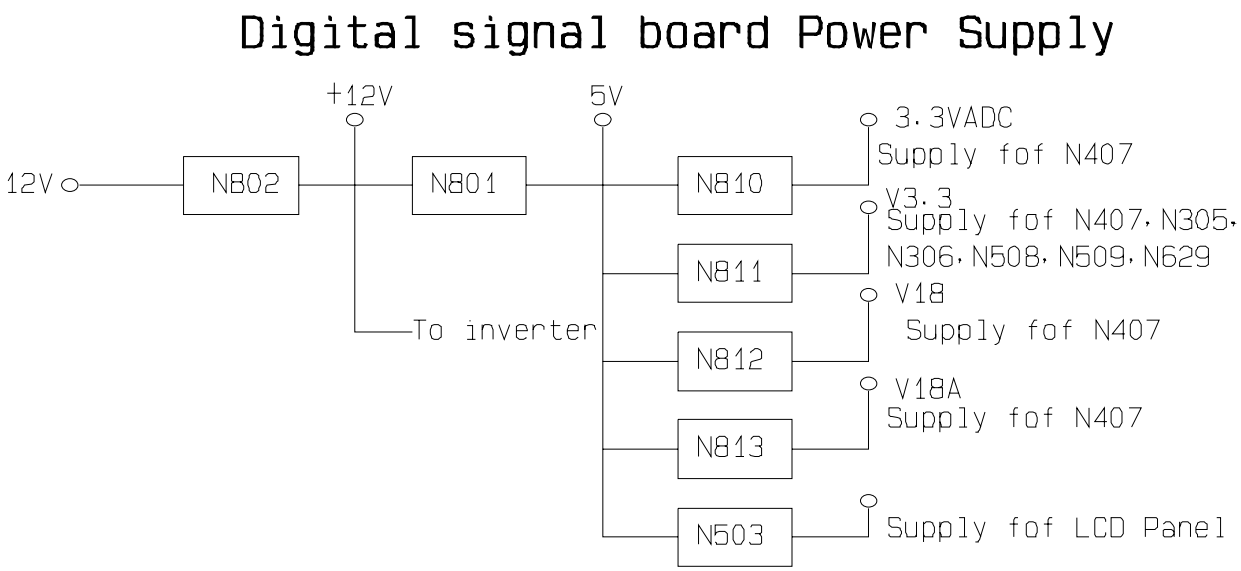
Turn on/off TV per 5 times every 5 seconds under the two states .Make sure if the ou tput is OK or not.

4.2.14 The standard of power aging experiment

Every product should aging 8 hours under rated load and 45 C Make sure the output voltage is in regular range.

4.3 Digital signal part

4.3.1 Digital signal board power part



4.3.2 Verify the state of TV set

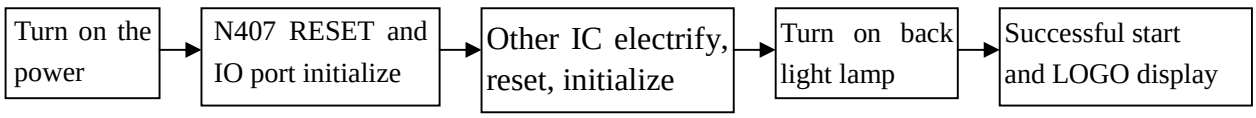
Please switch the TV on by “Power on/off” switch,then verify the LED color of touch button.If it is red(standby state),the back-end power has been shut off(the voltage of N802 No.5 pin is 0V),the supply power for IC-chip has been shut off except N803 normally working.Please test the voltage of D616 is 5V to verif y the power of N803 no rmal on standby state.

4.3.3 Checking Supply Power.

If the color of LED is green,the power supply for signal board(Test the Number 5,6,7,8 pin of N802 v oltage is 12V).N801 supply 5V power(Test the anode of C853).N 810 N811 supply 3.3V(Tes t the No.2 pin),N812 N813 supply 1.8V(T est the No.2 pin)for main IC N407,N305.

4.3.4 Digital signal part

KLC-TM2018 start order：



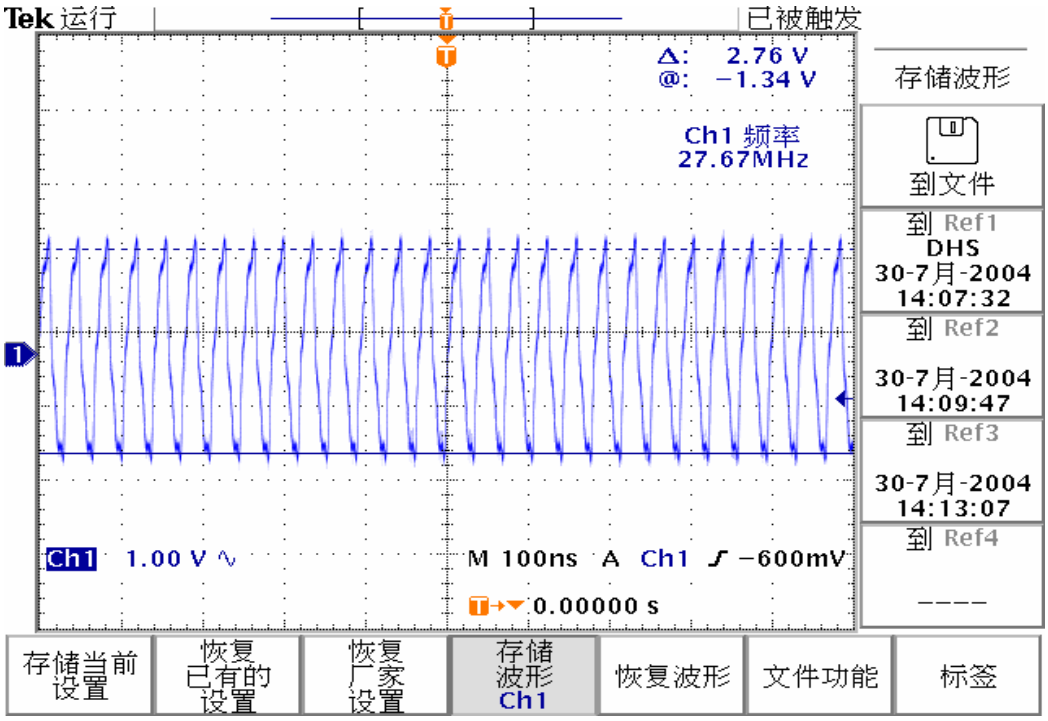
4.3.5 After turning on the power, if blank screen appears (no back light lamp), just press POWER button several times, if blank screen still there

4.3.6 Check if the voltage of every power supply is normal.

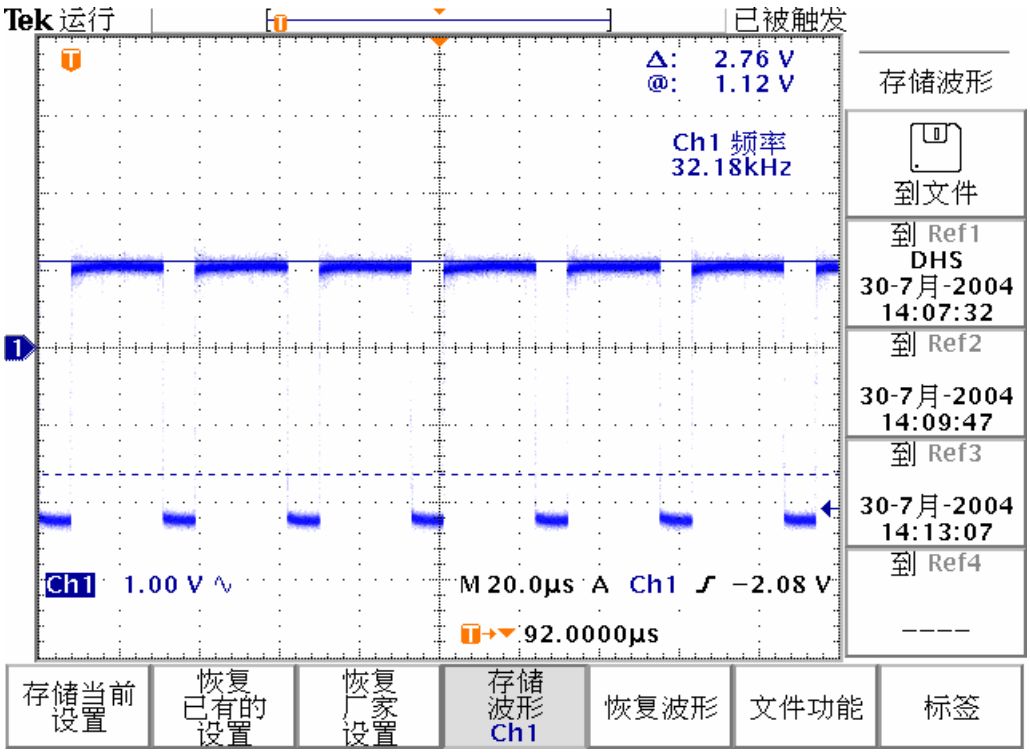
4.3.7 Check if the cr ystal oscillator Z4. 1(14.318MHz)oscillate or not, and oscilla te frequency is right or not.

4.3.8 Back light control signal (BKLON) of PIN 3 of XS512 has high level (above 3.5V) or not, if not, check whether fault solder ed or short circuit h appened to V507, R559 , R560,R561

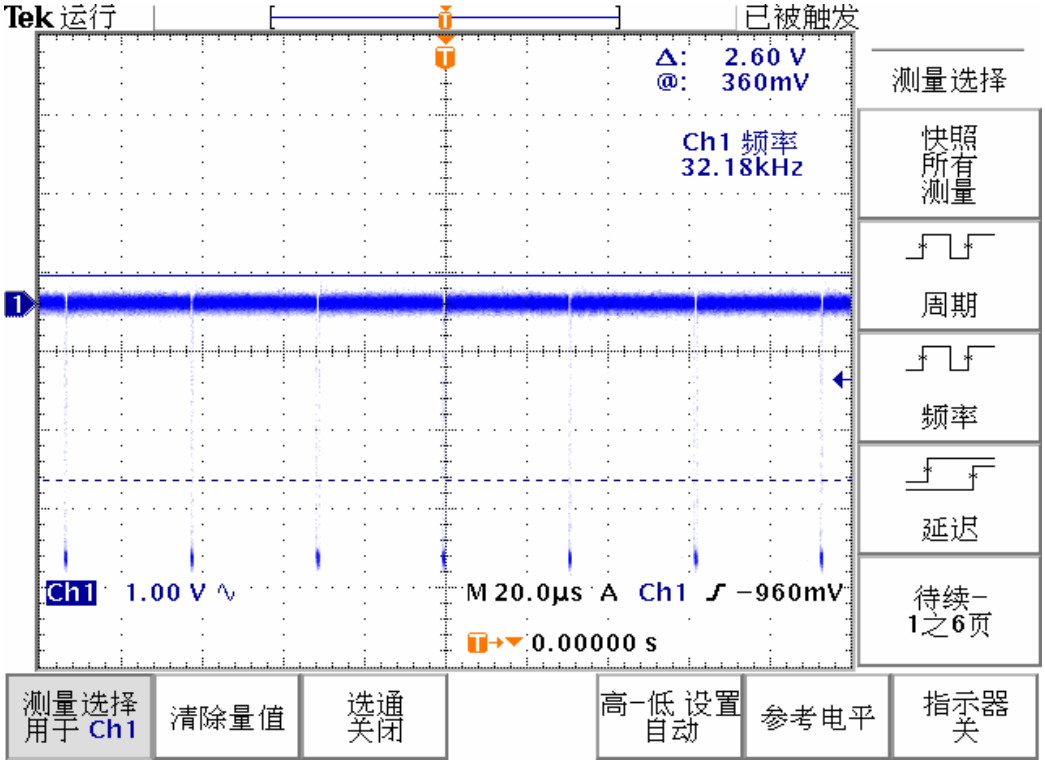
4.3.9 If back light lamp is on while there is no display,check N407's reset circuit and the output of the oscillator to confirm the CPU is working or not.If CPU is working ,then checking the signal channel. Signal channel has been divided into two parts, general video channel(including antenna, AV, S-terminal input, Y, Cb, Cr) and HDTV channel (Includi ng Y Pb Pr and RGB). I f no any picture disp lays or bad code disp lays when switching between these two channels, control signal may be wrong. Please use oscilloscope to check test point DEN, DVS, DHS and DCLK from end to front to find whether waveform displayed on the oscilloscope or not, if not, check if fault solder or short circuit happ ened.If just picture color has problem, sw itch INPUT to RGB inp ut, then input R, G, B mon ochrome signal separately from computer to find the problem col ors. Check data line of XS504 with oscilloscope according to the above form to find it's problem.



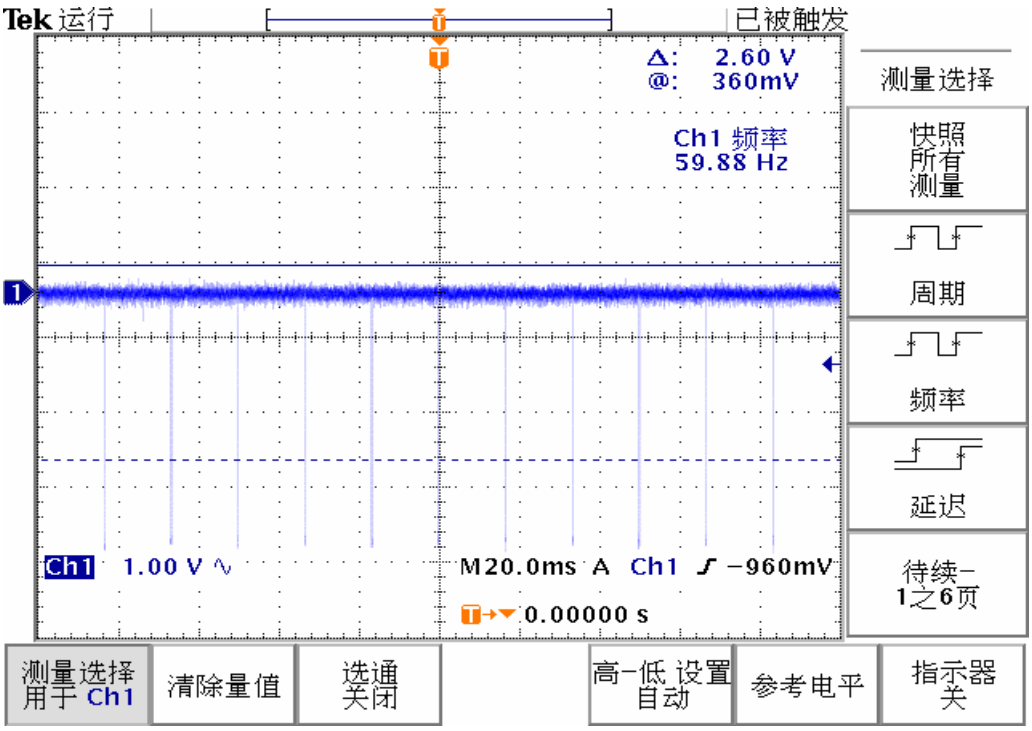
DCLK Waveform



DEN Waveform



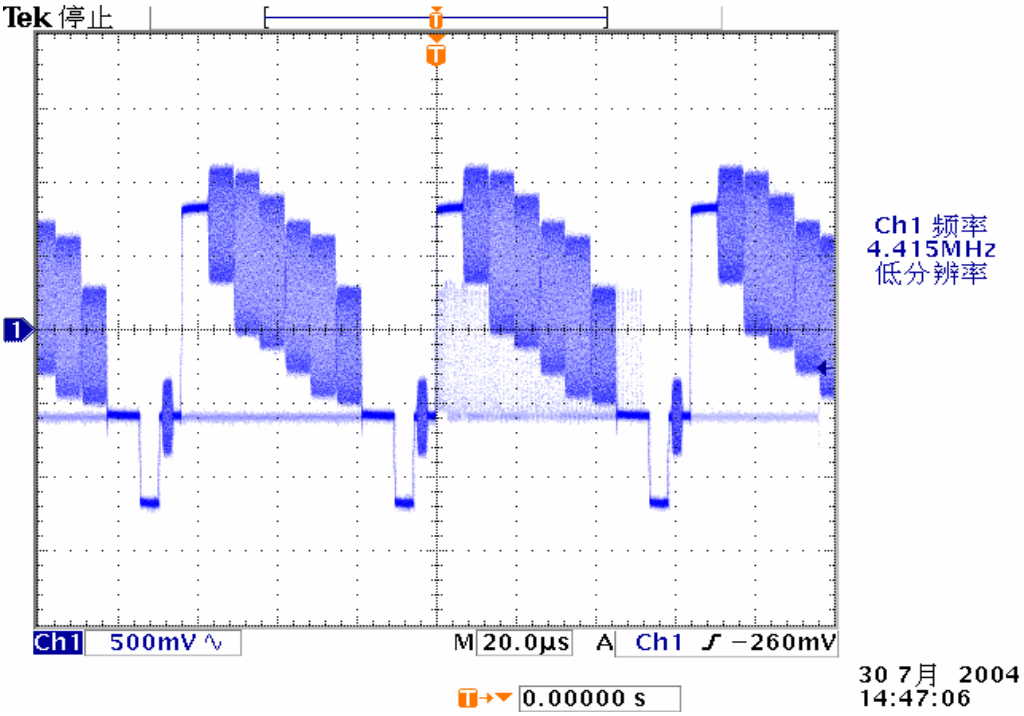
DHS Waveform



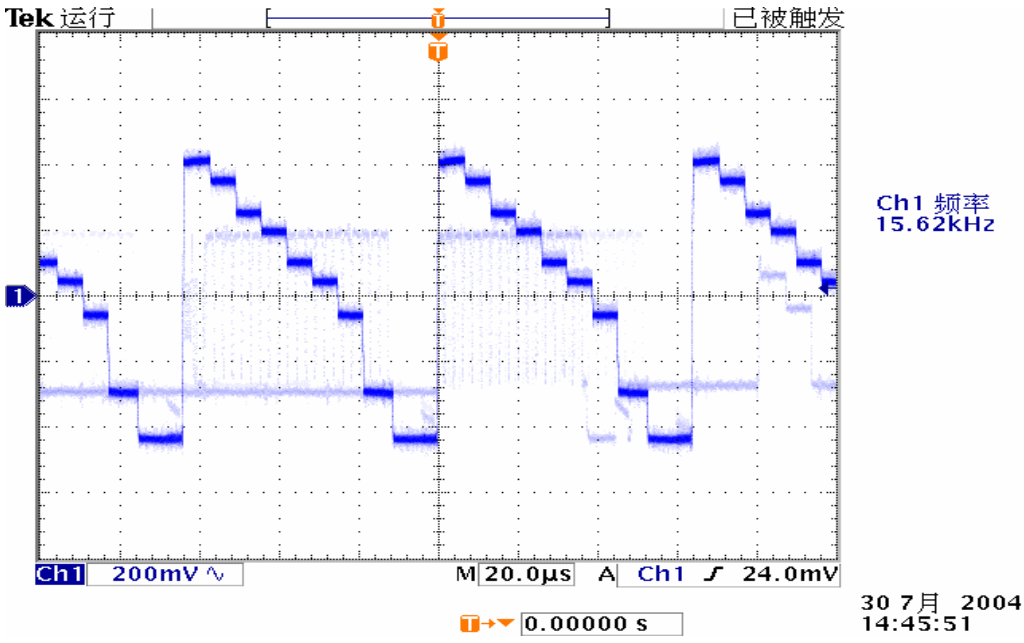
DVS Waveform

4.3.10 If only one channel has problem check the signal of this channel normal or not.AV1,AV2,S-Video,Y,Cb,Cr are inputted from analog signal board to digital signal board RGB Y Pb Pr(digital signal board)are input N407 by N603.Using oscilloscope to check ICN1003's output signal TV-Y,TV-Cb,TV-Cr,TV-HS,TV-VS(1 3 5 7 8pin of XP1005),to verify the waveform is right or not.If not ,check whether fault soldered or short circuit are happened Else ,check the 5V supply voltage of N601,N603 on digital signal boardAs the Above orderwe may find the problem of RGBYPbPr video signal

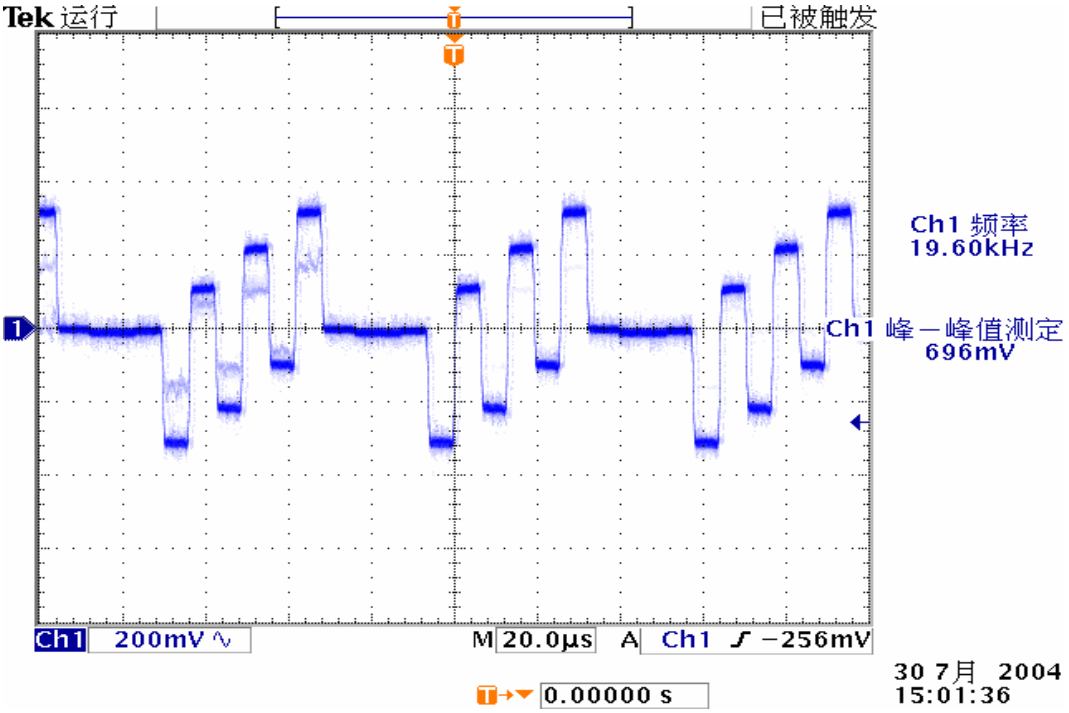
Output a color bar signal to AV1 by signal generator PM5518,check the waveform if normal or not with oscilloscope.



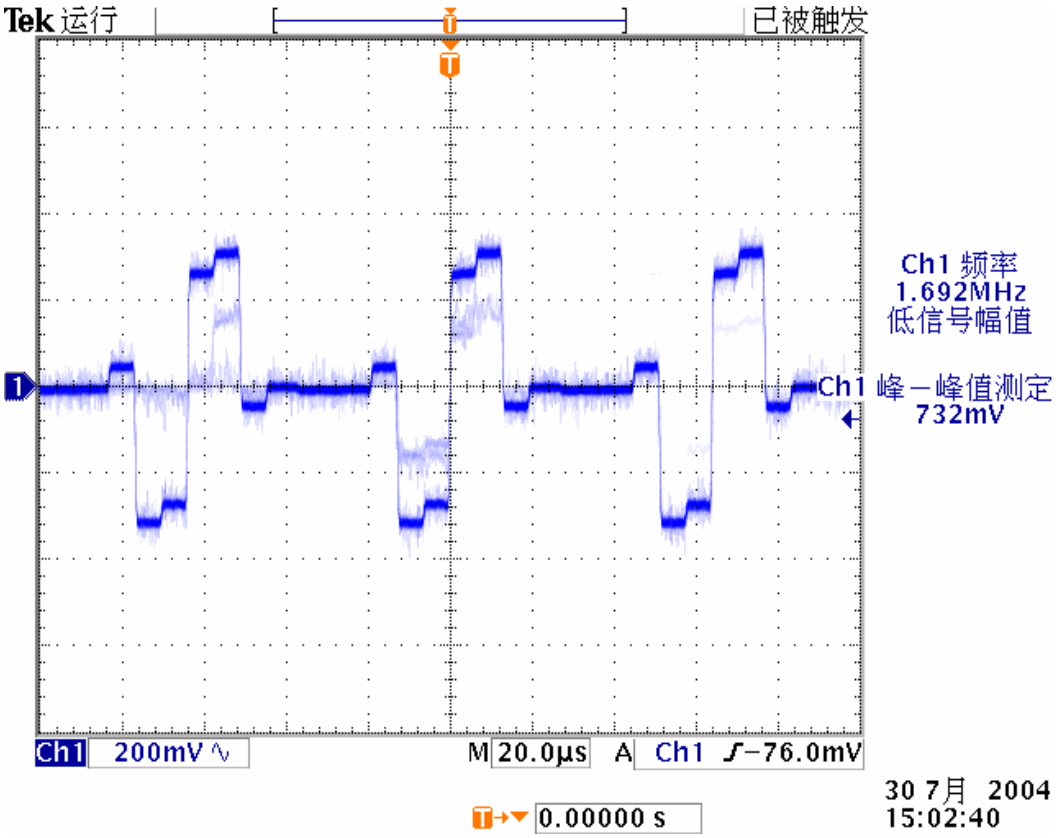
CVBS color bar Wave form



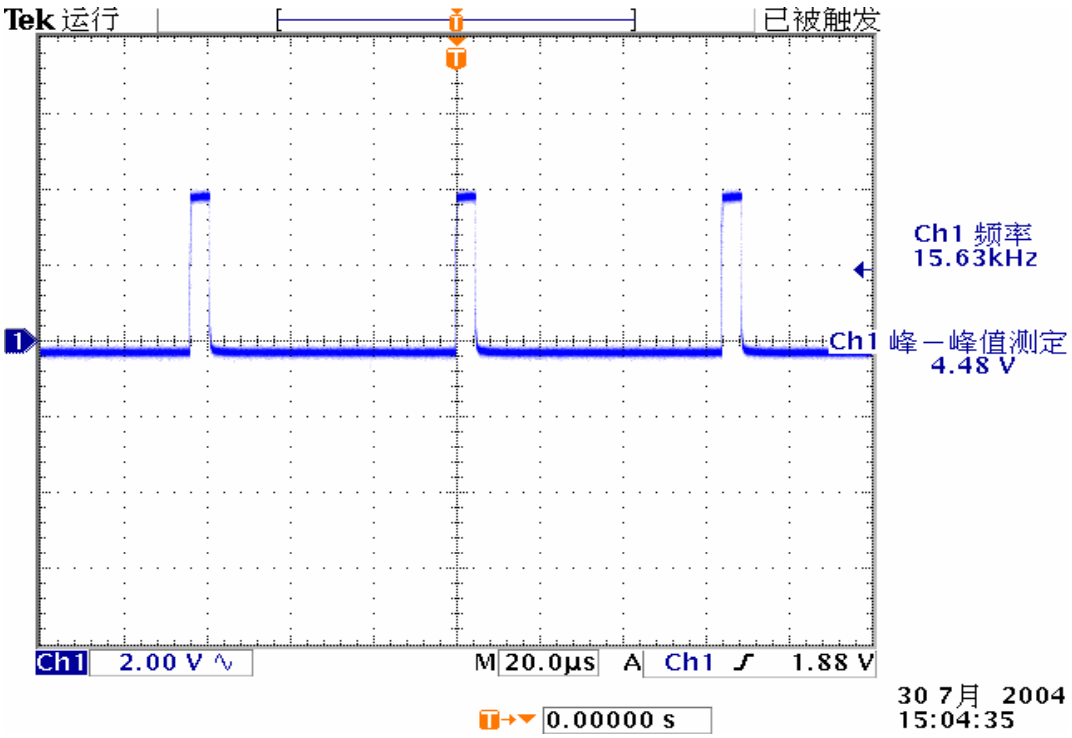
TV_Y Waveform XP 10 05 ’s 1 Pin



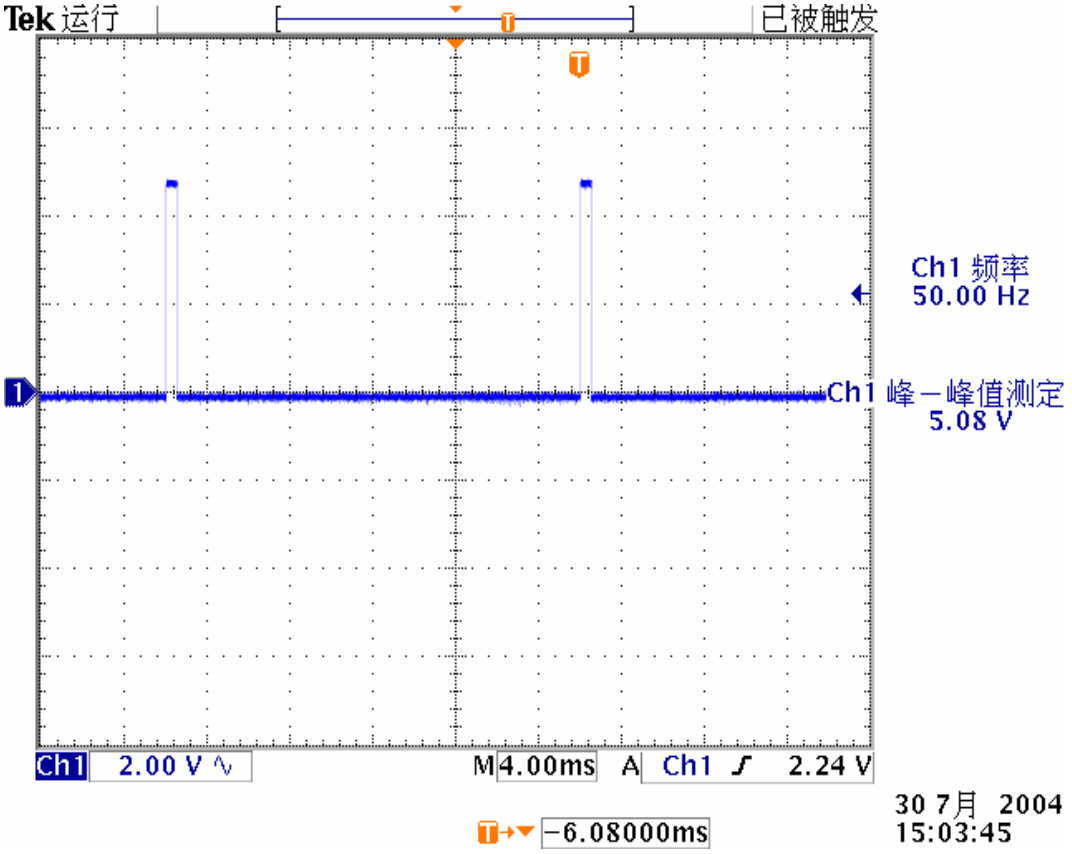
TV_ Cb Waveform XP1005's 3 Pin



T V_ Cr Waveform X P10 05 's 5 Pin



TV _H s Waveform X P10 05 ’s 7 Pin



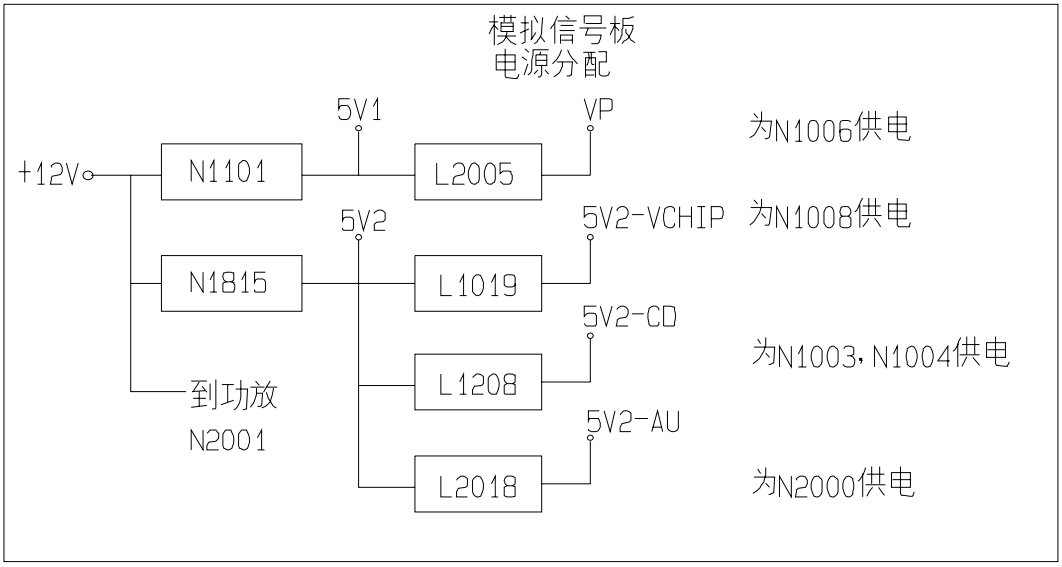
T V_V s Wavrform XP1005’s 6 Pin

4.4 Analog signal board

4.4.1 Analog signal board power part

Analog signal board is supplied by 12V transformed to 5V by N1101,N1815 After

connecting the power ,check the voltage of N1101's 2 pin with multimeter to see if the voltage of C1809 's anode is right(about 5V) or not This is the back-end IC's normal power supply.



4.4.2 IF channel AFC adjustment on analog signal board

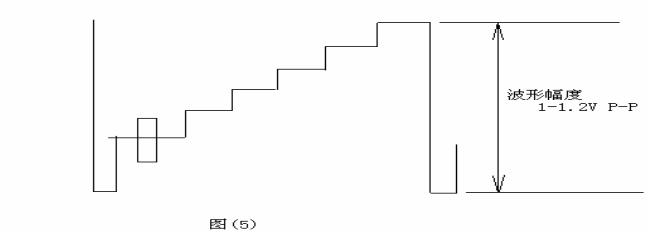
Input a 38MHz IF Signal generated from TV signal generator to RF TUNER according IF cable whose one side to 11 pin of RF TUNER and the other to 3 pin of RF TUNER(GND). IF channel AFC of LC-TM2018 has been adjusted automatically by software which may check the power supply of IF IC is normal or not See if the anode voltage of C2224 is 5V or no t and check N1006 s 21 pin voltage is 2 .5 0.2V If not check whether fault soldered or short circuit happened to R2029,R2030.

4.4.3 AGC adjustment on analog signal board

4.4.4 Preparation steps

4.4.5 Connect TV board whose IF has been adjusted to Power board and motherboard .

4.4.6 Set TV signal g enerator to 56 channel (855.25MHz), apply RF 62dB 3Db half color bar signal and input it to ANTENNA INPUT of RF TUNER.



图(5)

4.4.7 Adjust steps

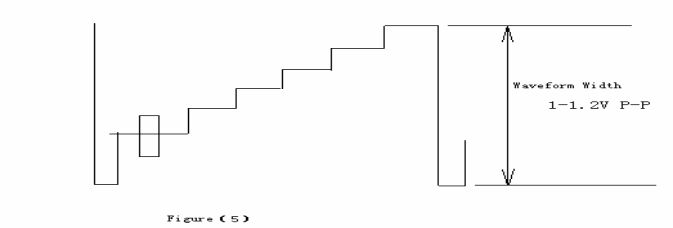


Figure (5)

4.4.8 Check if connections connect well, start automatic searching.

4.4.9 Press PROG. △/▽ button to display the channel you have received on the screen after automatic searching finishing.

4.4.10 Press factory menu button to display factory menu on TV and select TB1274 ,press PROG +/- button to select the tda9885 AGC item of sub-menu ,then press volume +/- but ton to adjust the val ue until the snows ar e disappear The value after adjusting is about 12-16 and the tuner voltage of first pin is about 2.0 0.2V.

4.5 White calibration adjustment

4.5.1 Receive black or white signal under AV or PC mode, adjusting brightness and contrast to set the brightness to 5 Nit in dark area and 90 Nit in bright area.

4.5.2 Adjust white balance. Enter factory menu, select cal. Menu, and swap color temp item to user.

Adjust	Red	0-255
	Green	0-255
	Blue	0-255

4.5.3 Adjust black balance. Enter factory menu, and select TB1274 Menu.

Adjust	Red offset	0-127
	Blue offset	0-127

4.5.4 Adjusting chromaticity coordinates of black and white to fit the requirement (X=0.304, Y=0.325), or plug automatic calibration system to adjust white calibration automatically.

Trouble Shooting

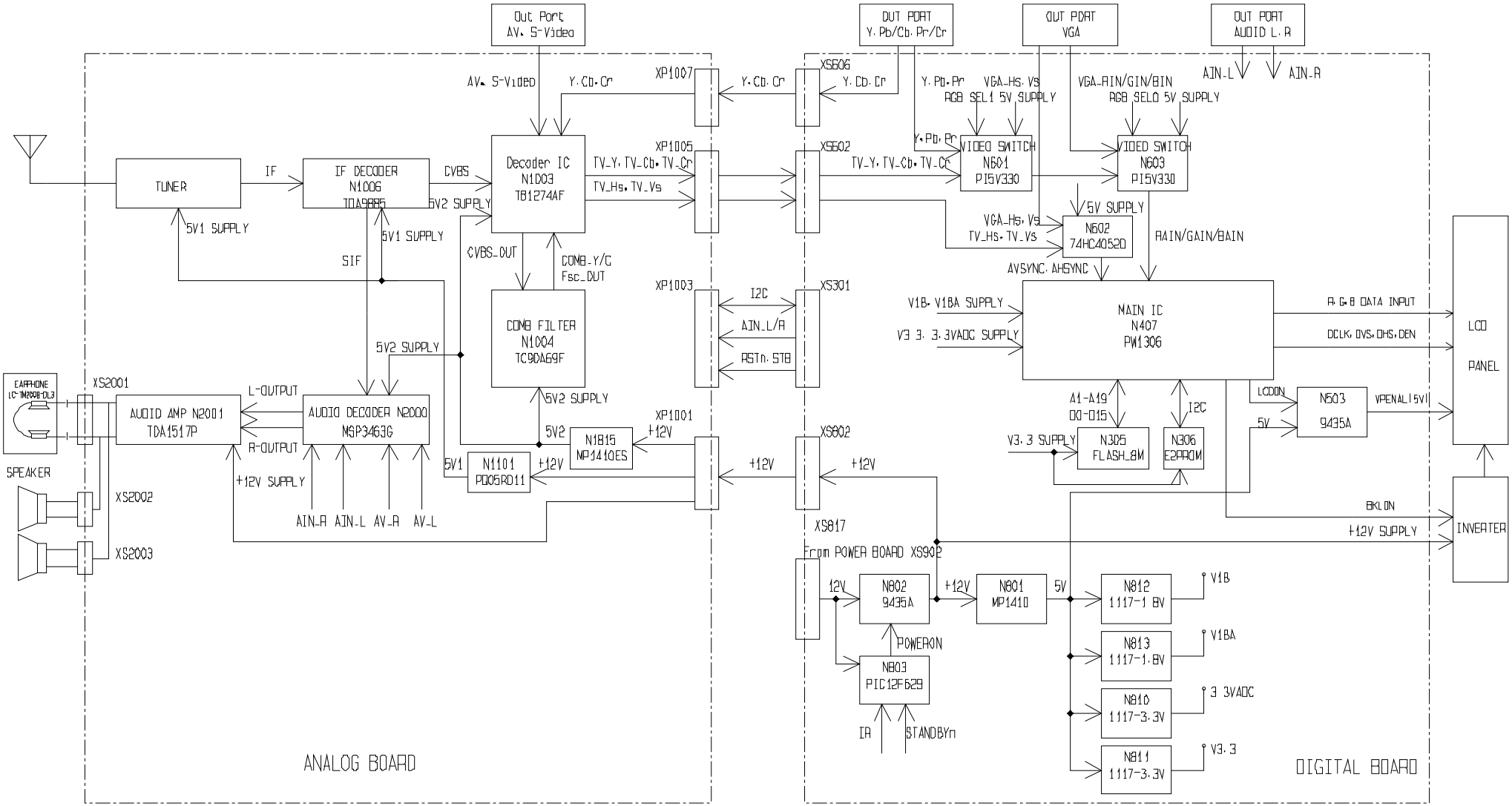
Key IC list（KLC-TM1508）

Item	Type	Maker	Package	Circuit No.	Qty.
1	PQ05RD11	Sharp		N1001	1
2	TDA1517P	PHILIPS	HDIP18	N2001	1
3	24LC16B/SN	MICROCHIP	SOIC-8	N309	1
	AT24C16AN-10SI-2.7	ATMEL			
4	74LVC541APW	PHILIPS	TSSOP-20	N514	1
5	74LVC32A D	PHILIPS	SO-14	N608	1
6	AM29LV800DT-70EC-AMD/#	AMD	TSOP-48	N307	1
	MX26LV800BTC-55-旺/#	MXIC			
7	1117-1.8V	1117 serial	SOT223	N810，N811	2
8	1117-3.3V	1117 serial	SOT223	N812，N817	2
	MP1410ES-LF-SOIC-8-MPS	MPS	SOIC-8	N815	1
9	SAA7114H	PHILIPS	LQFP100	N301	1
10	PW130-10Q	PIXELWORKS	208PQFP	N404	1
	TDA9808T	PHILIPS	SO20	N1010	1
	MSP3463G	MICRONAS	PMQFP64	N2000	1
11	BA033FP-ROHM	ROHM		N818	1
	M385 LVDS	MRT	TSSOP-56	N502	1
12	MP1018EM	MPS	TSSOP28	N701	1
14	Tuner-AFT1/6000	Qingjia		N1000	1

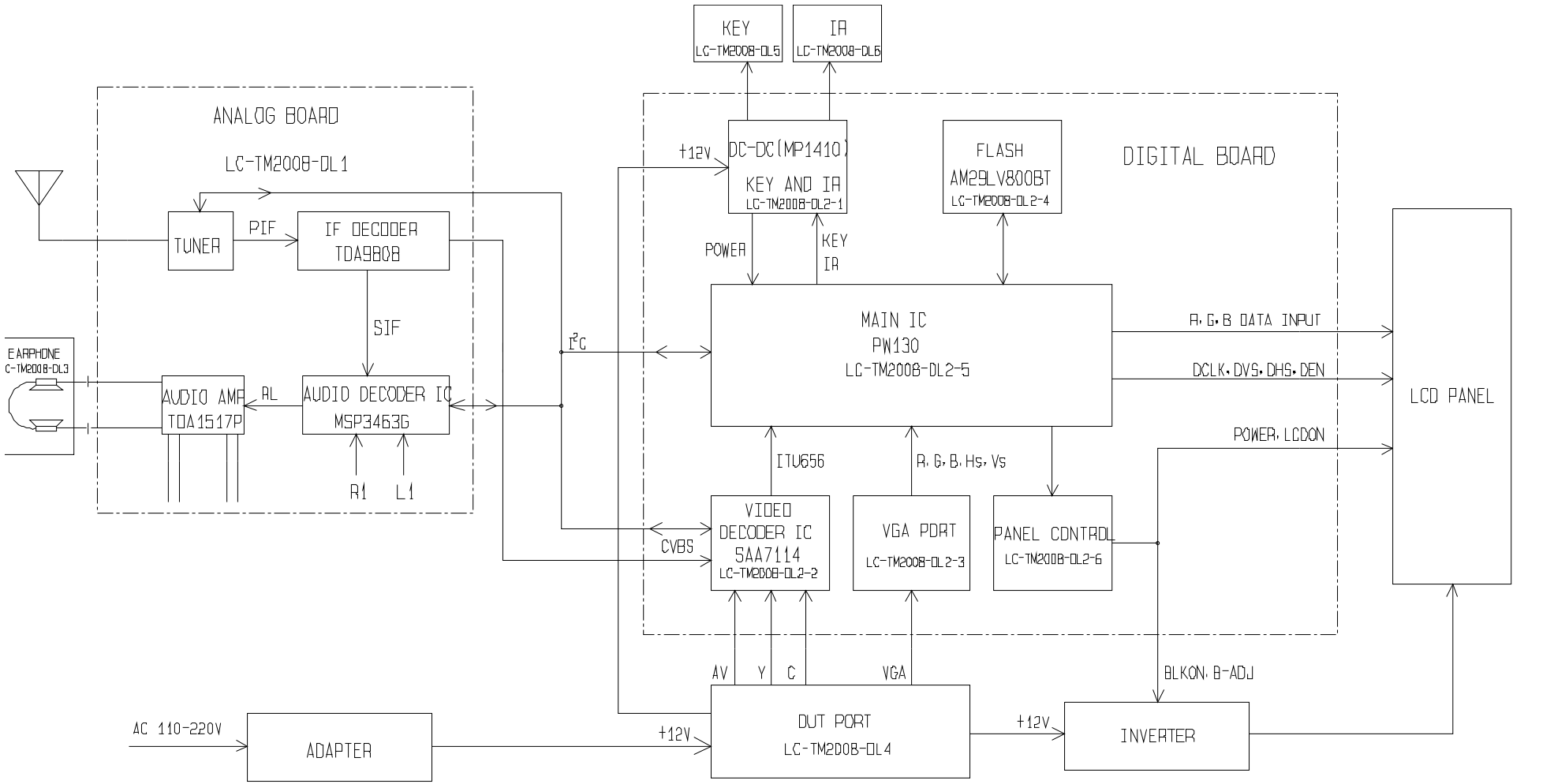
Key IC list（KLC-TM2018）

Item	Type	Maker	Package	Circuit No.	Qty.
1	PQ05RD11	Sharp		N1101	1
2	TDA1517	PHILIPS	SIL9MPF	N2001	1
3	24LC16B/SN	MICROCHIP	SOIC-8	N306	1
	AT24C16AN-10SI-2.7	ATMEL			
4	74LVC541APW	PHILIPS	TSSOP-20	N508	1

	PIC12F629	MICROCHIP	SOIC-8	N803	1
5	74LVC273A	PHILIPS	TSSOP-20	N509	1
6	AM29LV800DT-70EC-AMD/#	AMD	TSOP-48	N305	1
	AM29LV800BB-90EI-AMD/#	AMD			
7	1117-1.8V	1117 serial	SOT223	N813，N812	2
8	1117-3.3V	1117 serial	SOT223	N810，N811	2
	MP1410ES-LF-SOIC-8-MPS	MPS	SOIC-8	N1815，N801	2
9	TB1274AF	TOSHIBA	QFP48-1014-0.8	N1003	1
10	TC90A69F	TOSHIBA	SOP16-P-300-1.27	N1004	1
	TDA9885T	PHILIPS	SO24	N1006	1
	MSP3463G	MICRONAS	PMQFP64	N2000	1
	74HC4052D	PHILIPS	SO16	N602	1
11	PW1306	PIXELWORKS	208PQFP	N407	1
	74LVC14A	PHILIPS	SO14	N629	1
	FSAV330	FAIRCHILD	TSSOP16	N603	2
	PI5V330	PERICOM	QSOP16	N601	
	E3DS01	INFINEON		N901	1
	PC817B	Sharp		N902	1
12	KA431Z	FAIRCHILD		N903	1
14	Tuner-AFT1/6000	Qingjia		N1000	1



KLC-TM2018 SIGNAL PROCESSING



KLC-TM1508 SIGNAL PROCESSING

KLC-TM1508 Digital Board schematic circuit diagram

3.3VADC
L306 FB
V33A
C333 0.1uF
C334 22uF_10V_T
L307 FB
V33D
C337 0.1uF
C338 22uF_10V_T

V33D
C306 0.1uF
C302 0.1uF
C332 0.1uF
C313 0.1uF
C328 0.1uF
C305 0.1uF
C321 0.1uF
C327 0.1uF
C326 0.1uF
C323 0.1uF
C304 0.1uF
V33A
C309 0.1uF
C314 0.1uF
C324 0.1uF

R305 100
R304 100
SCL
SDA

C322 22PF
Z301 24.576MHz
C329 22PF

XS303
S
XS302 CON10
Vedio-Input
AV
L304 3.3uH
C
Y
R314 18
video in
R312 18
C311 100PF

N301 SAA7114H
SAA7114H
TCK TMS TRST TDI TDO
Vdda0 Vdda1 Vdda2
Vddde1 Vddde2 VDDDE3 Vddde4
Vddi1 Vddi2 Vddi3 Vddi4 Vddi5 Vddi6 Vddx
HPD0 HPD1 HPD2 HPD3 HPD4 HPD5 HPD6 HPD7
TEST3 TEST4 TEST5
SCL SDA AOUT
XTALI XTALO
AI24 AI23 AI22 AI21 AI2D AI12 AI11 AI1D
IPD7 IPD6 IPD5 IPD4 IPD3 IPD2 IPD1 IPD0 ITRDY ICLK IDQ ITRI IGP0 IGP1 IGPV IGPH AMCLK ASCLK ALRCLK AMXCLK
CE
Vssa0 Vssa1 Vssa2 AGND
Vssde1 Vssde2 Vssde3 Vssde4 Vssx Vssdi3 Vssdi2 Vssdi1
LLC LLC2 RES RTCO RTS1 RTS0
TEST0 TEST1 TEST2
XPD7 XPD6 XPD5 XPD4 XPD3 XPD2 XPD1 XPD0
XRH XRV XRDY XDQ XCLK XTRI XTOUT

C320 0.1uF
C316 0.1uF
C307 0.1uF
C310 0.1uF
C319 0.01uF
C315 0.01uF

RP301 33x4
V656-7
V656-6
V656-5
V656-4
V656-3
V656-2
V656-1
V656-0
RP302 33x4
R313 30
V656-[0..7]
R319 0

R307 56
R308 56
R311 56
R310 56

XS301
RESETn
SDA
SCL
AUX5V(5V)
TV_IN
L301 3.3uH
C303 100PF
TV-INPUT
CON13
XS311
RCA-8

R302 2.2K
L302 FB
R317 0
V33D
R301 4.7K
D301 IN4148
C301 1uF_6V_T

R315* 3.3K
R316* 3.3K
R303 3.3K

R318 0
TP1
to PW130-55pin
R321* 30
VCLK
V-VS
V-HS
V-VSTP
V-HSTP 33x4
RP304*
RP303* 33x4
V656-0
V656-1
V656-2
V656-3
V656-4
V656-5
V656-6
V656-7
V656-[0..7]
LCDON

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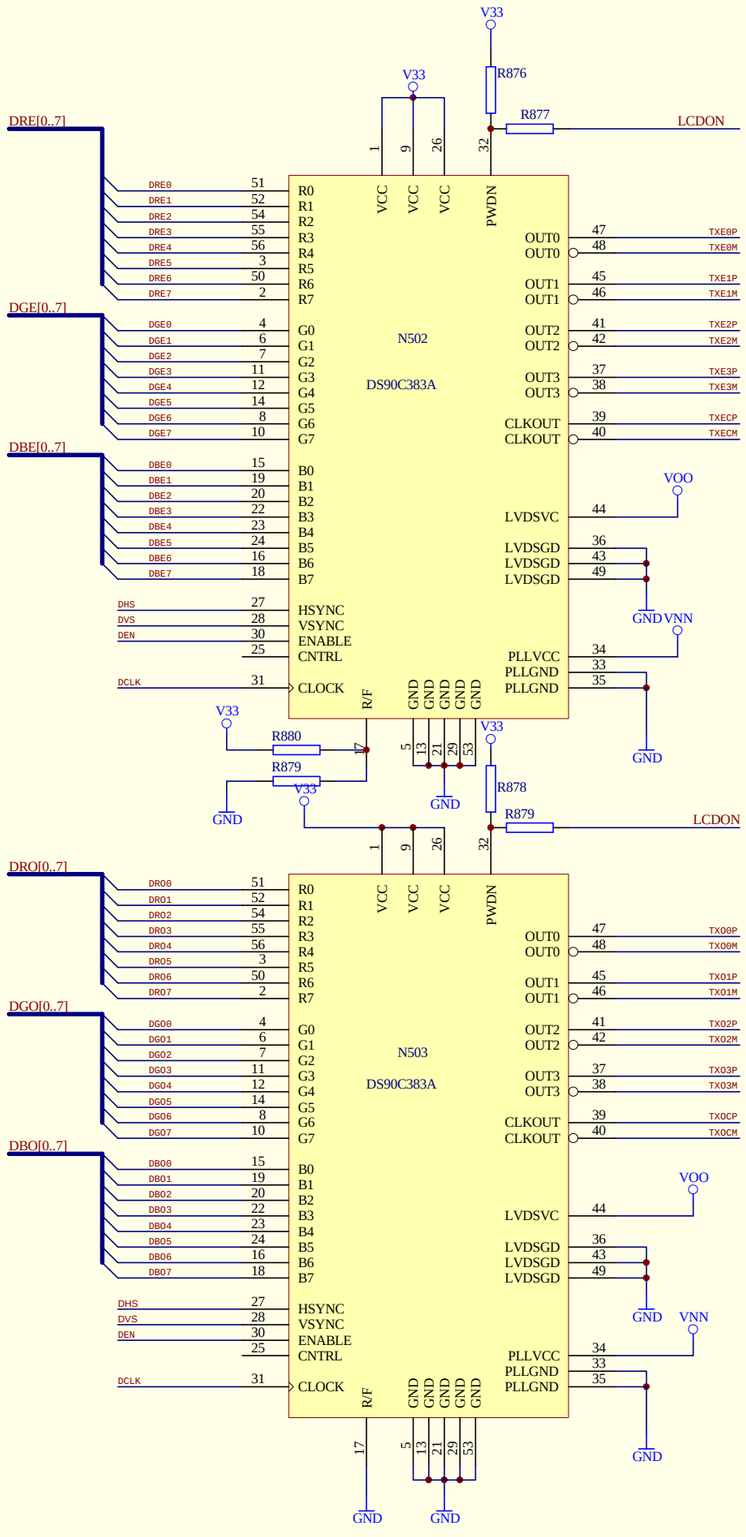

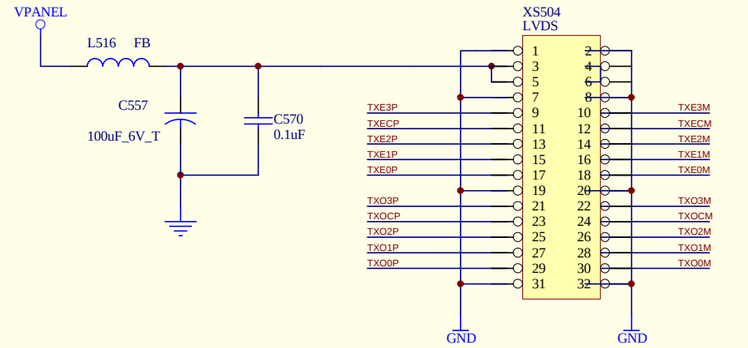

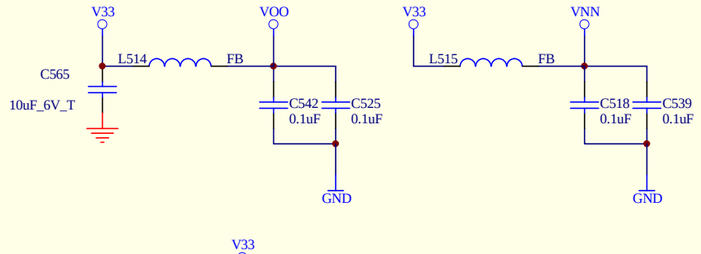

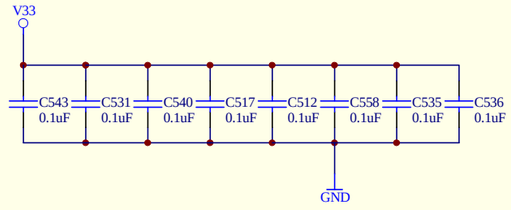

Bypass caps for U14

VOO is 3.3V LVDS power for U13 and U14.

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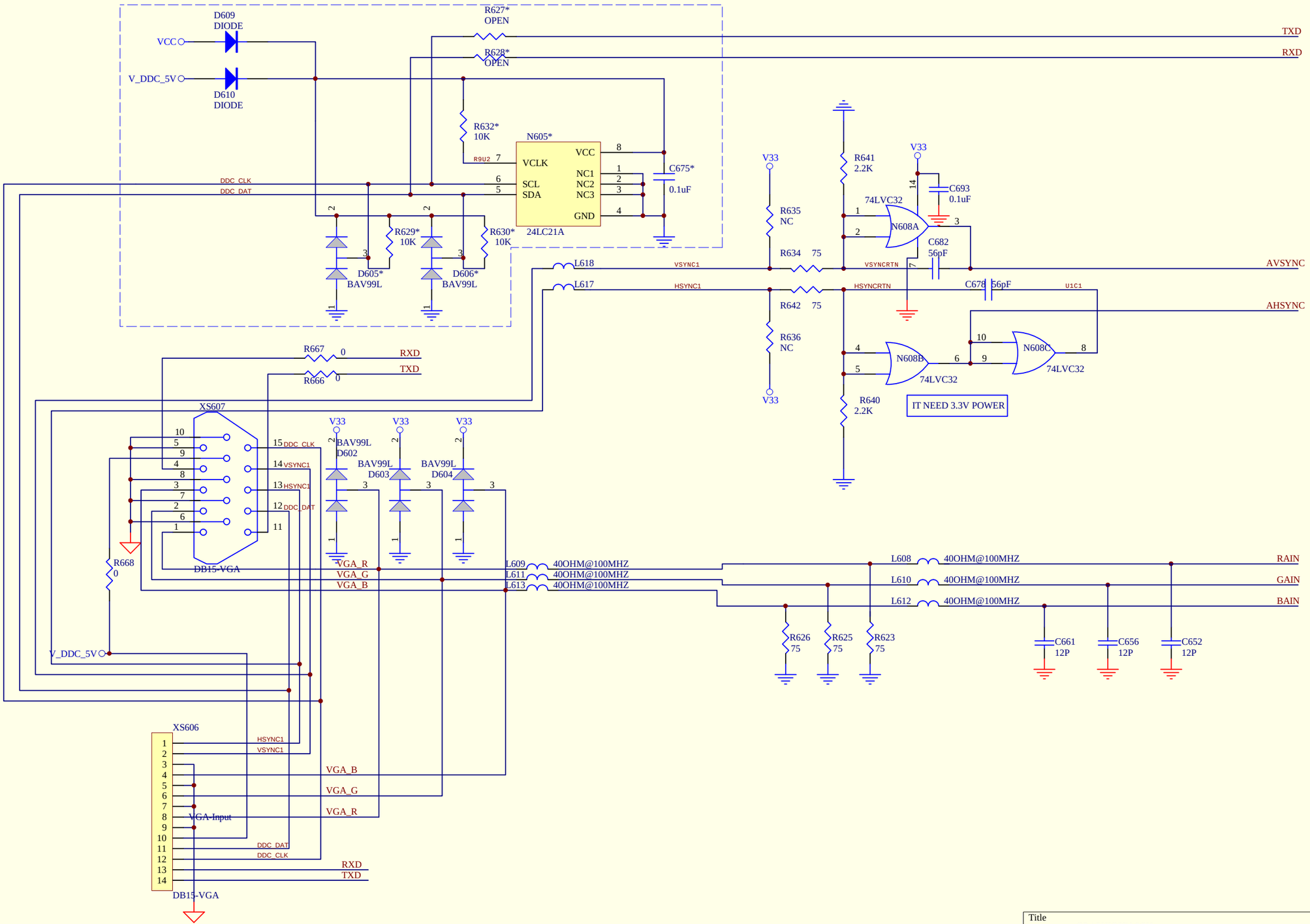

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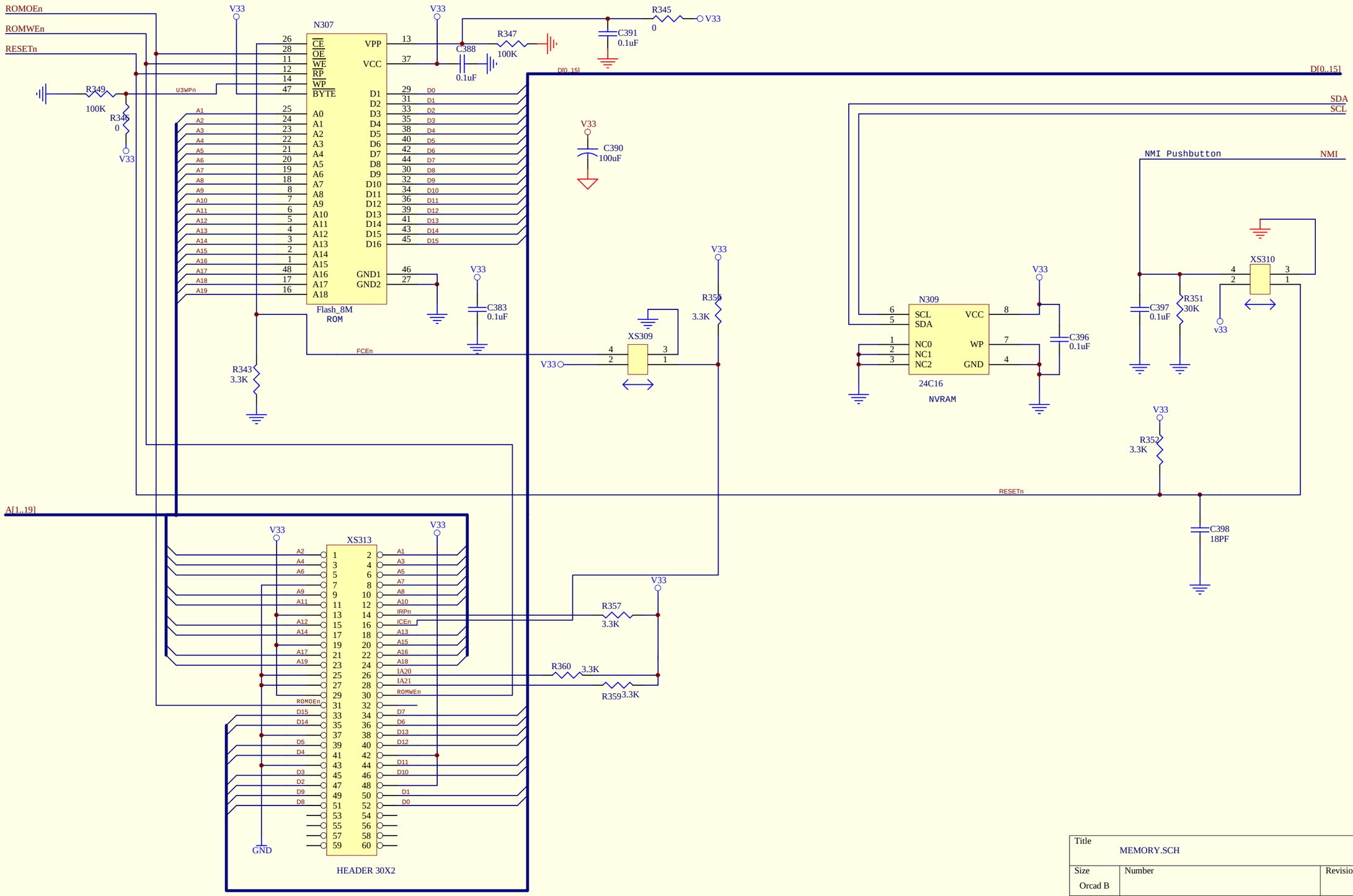

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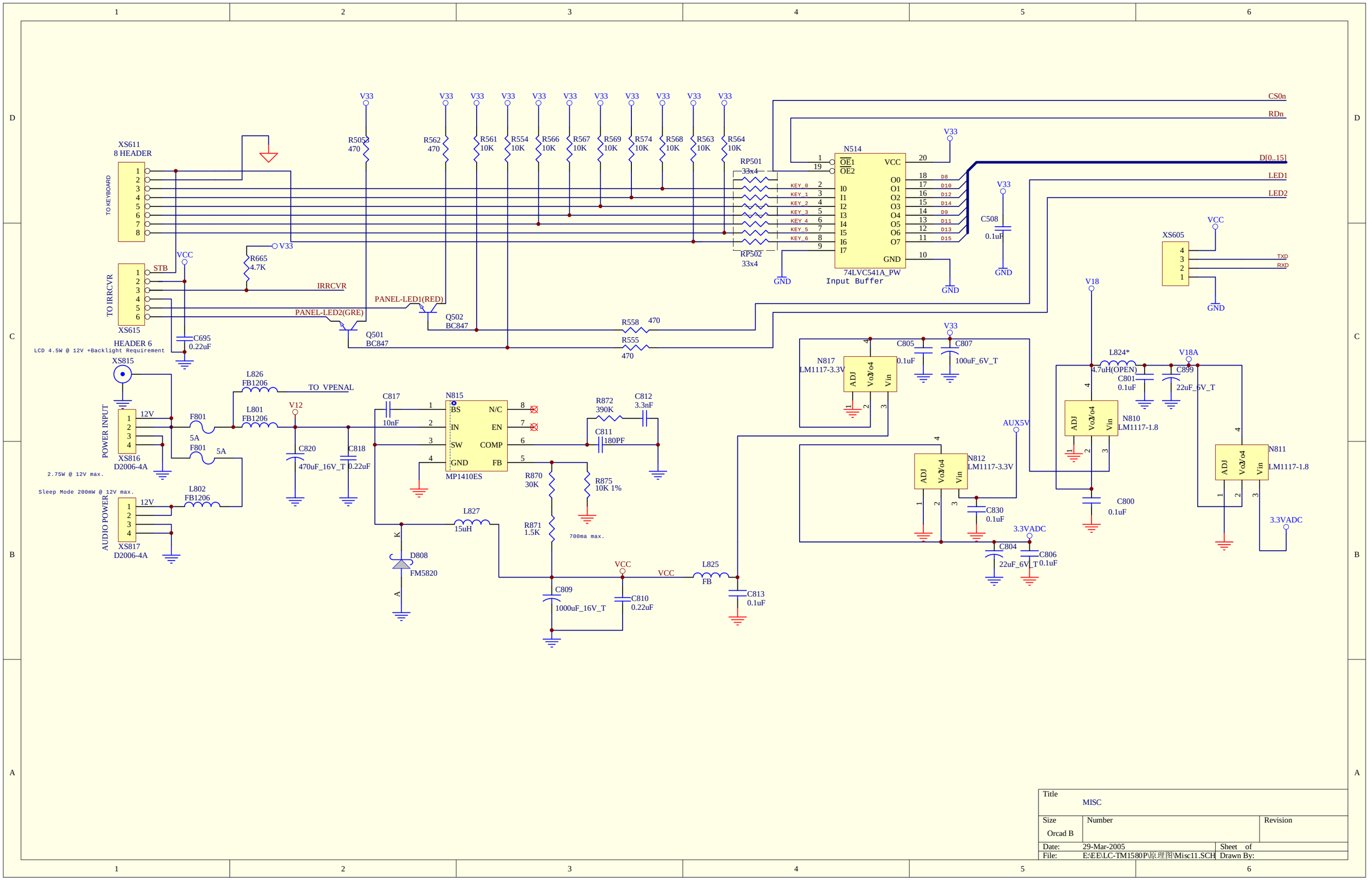

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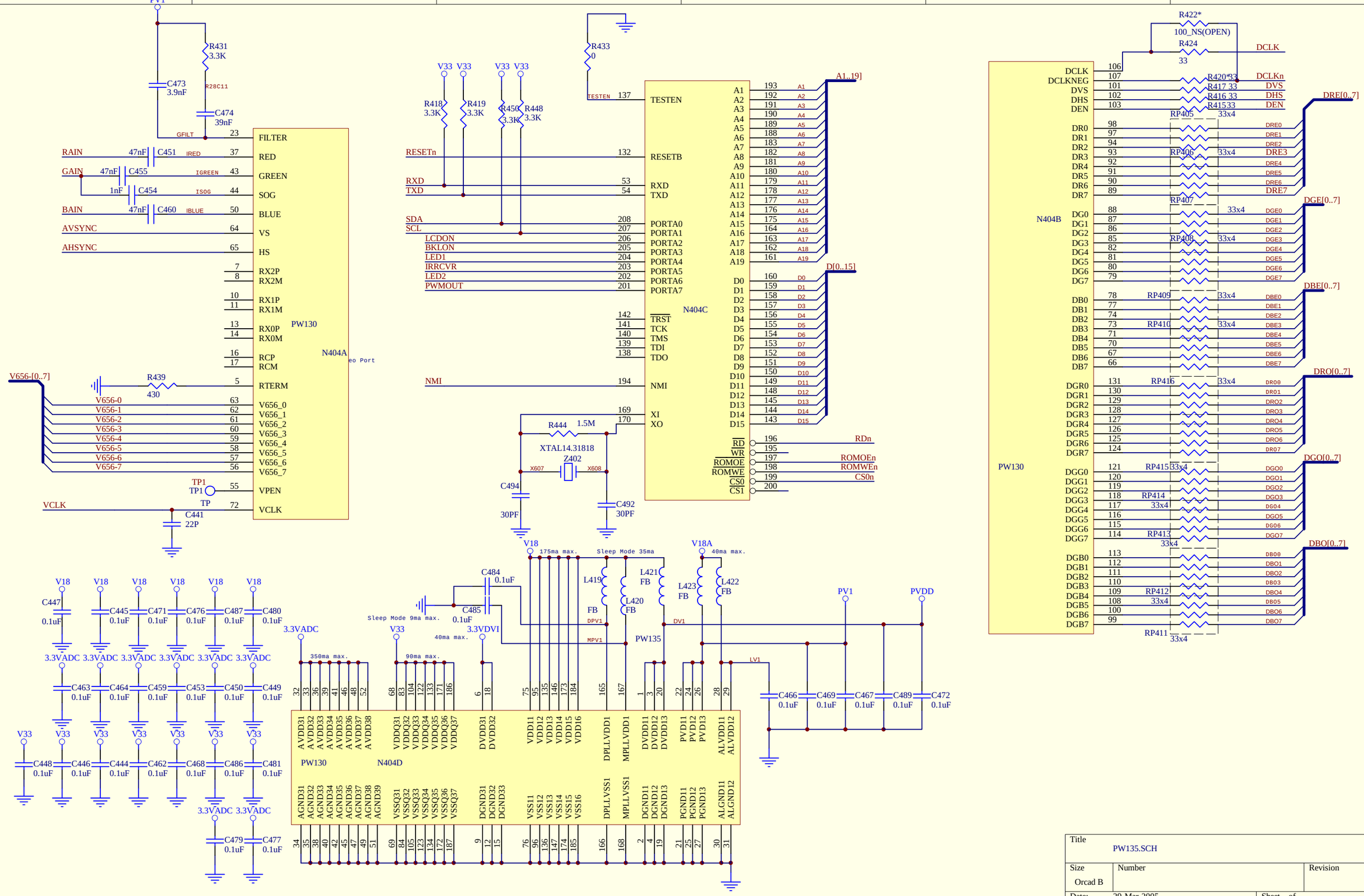
PV1
R431 3.3K
C473 3.9nF
R28C11
C474 39nF
GFILT
RAIN 47nF C451 IRED
GAIN 47nF C455 IGREEN
1nF C454 ISOG
BAIN 47nF C460 IBLUE
AVSYNC
AHSYNC
FILTER
RED
GREEN
SOG
BLUE
VS
HS
RX2P
RX2M
RX1P
RX1M
RX0P
RX0M
RCP
RCM
RTERM
V656_0
V656_1
V656_2
V656_3
V656_4
V656_5
V656_6
V656_7
VPEN
VCLK
PW130
N404A
V656-[0..7]
R439 430
V656-0
V656-1
V656-2
V656-3
V656-4
V656-5
V656-6
V656-7
TP1
TP
C441 22P
R433 0
TESTEN
RESETn
RXD
TXD
SDA
SCL
LCDON
BKLON
LED1
IRRCVR
LED2
PWMOUT
NMI
R418 3.3K
R419 3.3K
R450 3.3K
R448 3.3K
R444 1.5M
XTAL14.31818
Z402
X607
X608
C494 30PF
C492 30PF
RESETB
PORTA0
PORTA1
PORTA2
PORTA3
PORTA4
PORTA5
PORTA6
PORTA7
TRST
TCK
TMS
TDI
TDO
XI
XO
N404C
A1..19]
D[0..15]
RDn
ROMOEn
ROMWEn
CS0n
R422* 100_NS(OPEN)
R424 33
DCLK
DCLKn
DVS
DHS
DEN
R420*33
R417 33
R416 33
R41533
DRE[0..7]
DGE[0..7]
DBE[0..7]
DRO[0..7]
DGO[0..7]
DBO[0..7]
RP405 33x4
RP406 33x4
RP407 33x4
RP408 33x4
RP409 33x4
RP410 33x4
RP416 33x4
RP415 33x4
RP414 33x4
RP413 33x4
RP412 33x4
RP411 33x4
N404B
PW135
C447 0.1uF
C445 0.1uF
C471 0.1uF
C476 0.1uF
C487 0.1uF
C480 0.1uF
C463 0.1uF
C464 0.1uF
C459 0.1uF
C453 0.1uF
C450 0.1uF
C449 0.1uF
C448 0.1uF
C446 0.1uF
C444 0.1uF
C462 0.1uF
C468 0.1uF
C486 0.1uF
C481 0.1uF
C479 0.1uF
C477 0.1uF
C484 0.1uF
C485 0.1uF
C466 0.1uF
C469 0.1uF
C467 0.1uF
C489 0.1uF
C472 0.1uF
L419 FB
L420 FB
L421 FB
L423 FB
L422 FB
V18
V33
3.3VADC
3.3VDVI
PVDD
DV1
DPV1
MPV1
LV1
175ma max.
Sleep Mode 35ma
Sleep Mode 9ma max.
40ma max.
350ma max.
90ma max.
AVDD31 AVDD32 AVDD33 AVDD34 AVDD35 AVDD36 AVDD37 AVDD38
VDDQ31 VDDQ32 VDDQ33 VDDQ34 VDDQ35 VDDQ36 VDDQ37
DVDD31 DVDD32
VDD11 VDD12 VDD13 VDD14 VDD15 VDD16
DPLLVDD1 MPLLVDD1
DVDD11 DVDD12 DVDD13
PVD11 PVD12 PVD13
ALVDD11 ALVDD12
AGND31 AGND32 AGND33 AGND34 AGND35 AGND36 AGND37 AGND38 AGND39
VSSQ31 VSSQ32 VSSQ33 VSSQ34 VSSQ35 VSSQ36 VSSQ37
DGND31 DGND32 DGND33
VSS11 VSS12 VSS13 VSS14 VSS15 VSS16
DPLLVSS1 MPLLVSS1
DGND11 DGND12 DGND13
PGND11 PGND12 PGND13
ALGND11 ALGND12
PW130 N404D
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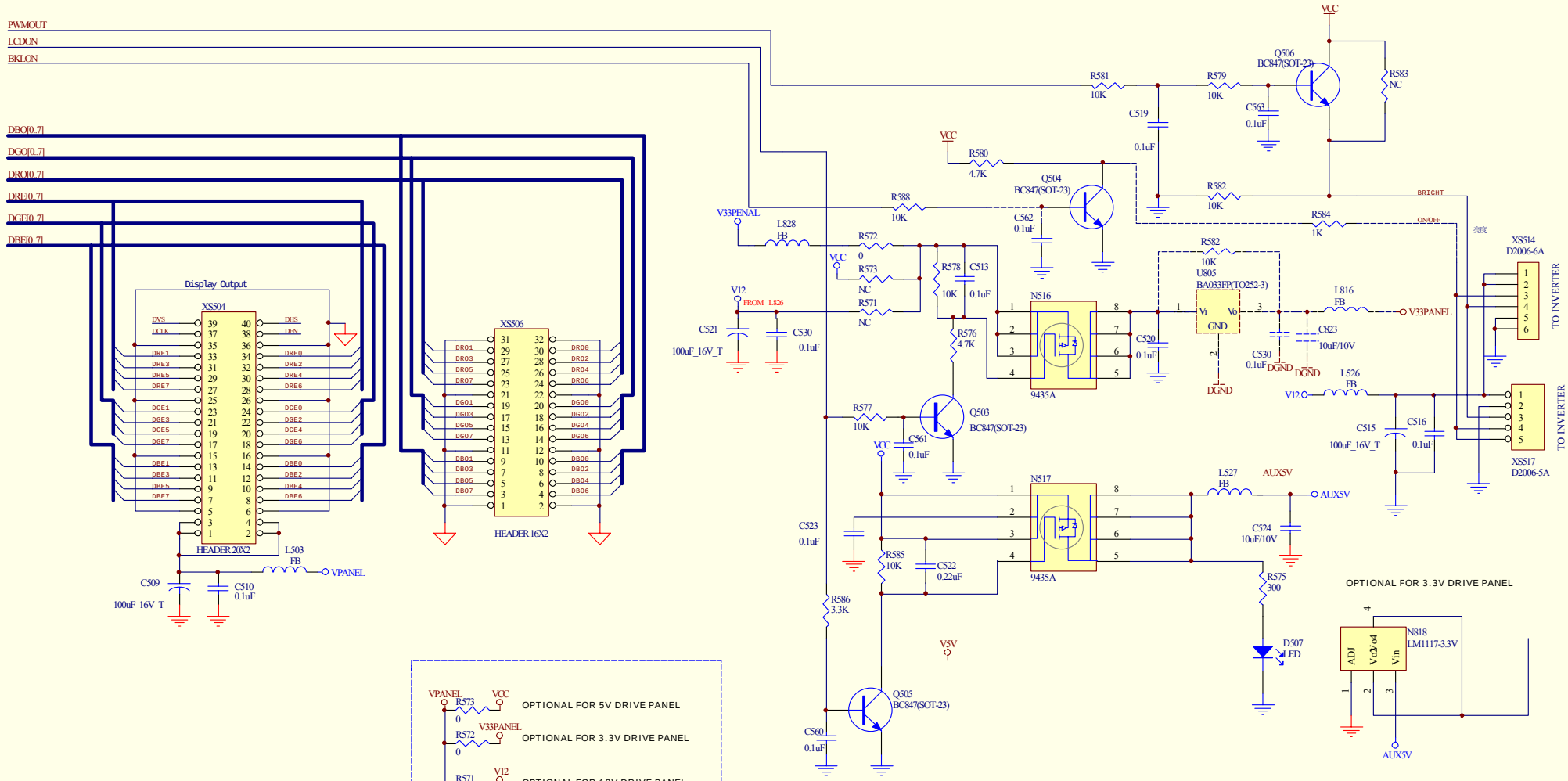
PWMOUT
LCDON
BKLON
DBO[0..7]
DGO[0..7]
DRO[0..7]
DRE[0..7]
DGE[0..7]
DBE[0..7]
Display Output
XS504
HEADER 20X2
XS506
HEADER 16X2
L503
FB
VPANEL
C509
100uF_16V_T
C510
0.1uF
V33PENAL
L828
FB
V12
FROM LR26
C521
100uF_16V_T
C530
0.1uF
VCC
R572
0
R573
NC
R571
NC
R578
10K
C513
0.1uF
R576
4.7K
R588
10K
R580
4.7K
Q504
BC847(SOT-23)
C562
0.1uF
R581
10K
R579
10K
Q506
BC847(SOT-23)
R583
NC
C519
0.1uF
C563
0.1uF
R582
10K
R584
1K
BRIGHT
ONOFF
N516
9435A
C520
0.1uF
U805
BA033FP(TO252-3)
Vi
Vo
GND
R582
10K
L816
FB
V33PANEL
C530
0.1uF
C823
10uF/10V
DGND
L526
FB
V12
C515
100uF_16V_T
C516
0.1uF
XS514
D2006-6A
XS517
D2006-5A
TO INVERTER
R577
10K
Q503
BC847(SOT-23)
C561
0.1uF
N517
9435A
L527
FB
AUX5V
C524
10uF/10V
C523
0.1uF
R585
10K
C522
0.22uF
R586
3.3K
R575
300
D507
LED
V5V
Q505
BC847(SOT-23)
C560
0.1uF
OPTIONAL FOR 3.3V DRIVE PANEL
N818
LM1117-3.3V
ADJ
Vout
Vin
AUX5V
VPANEL
R573
0
VCC
OPTIONAL FOR 5V DRIVE PANEL
R572
0
V33PANEL
OPTIONAL FOR 3.3V DRIVE PANEL
R571
0
V12
OPTIONAL FOR 12V DRIVE PANEL
V3.3 is the 3.3V power supply for PW113
Title
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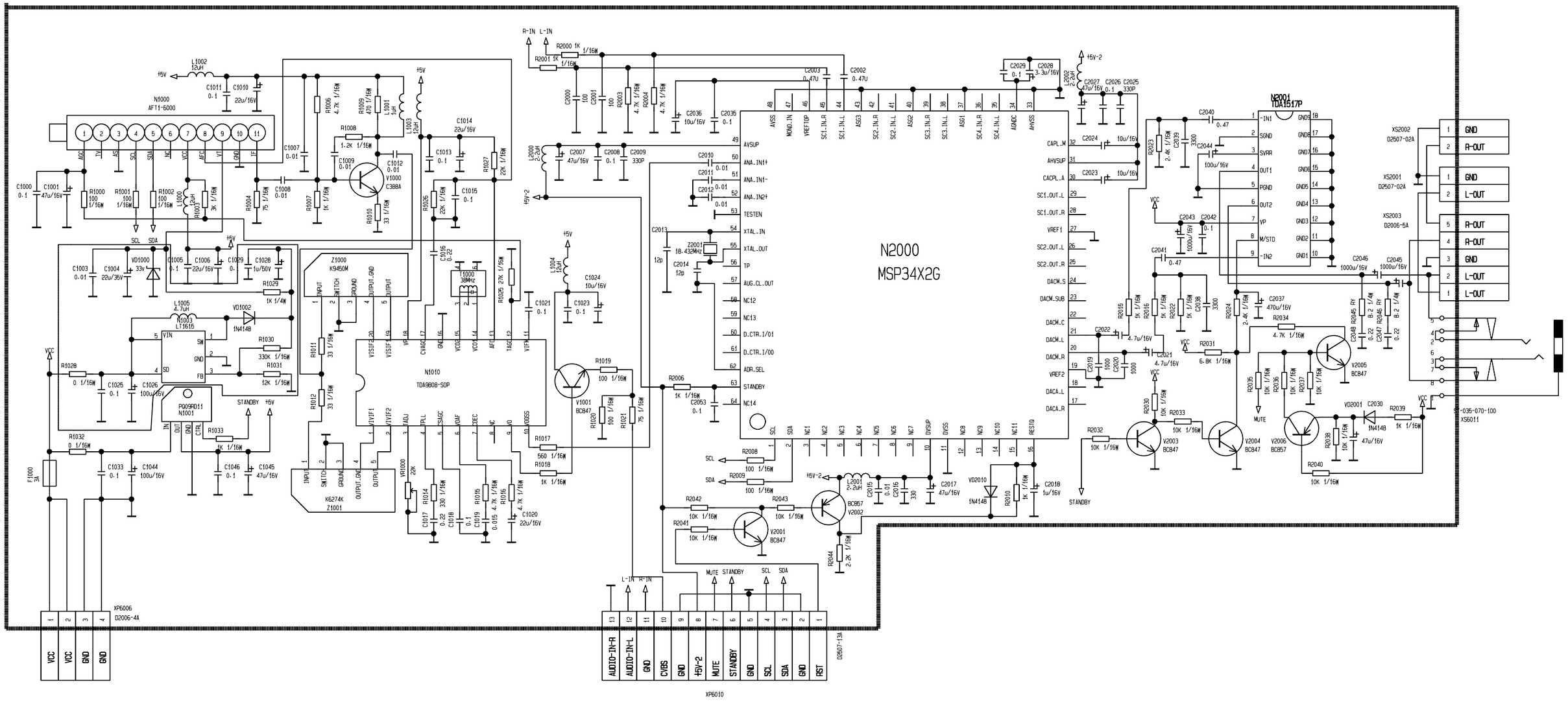
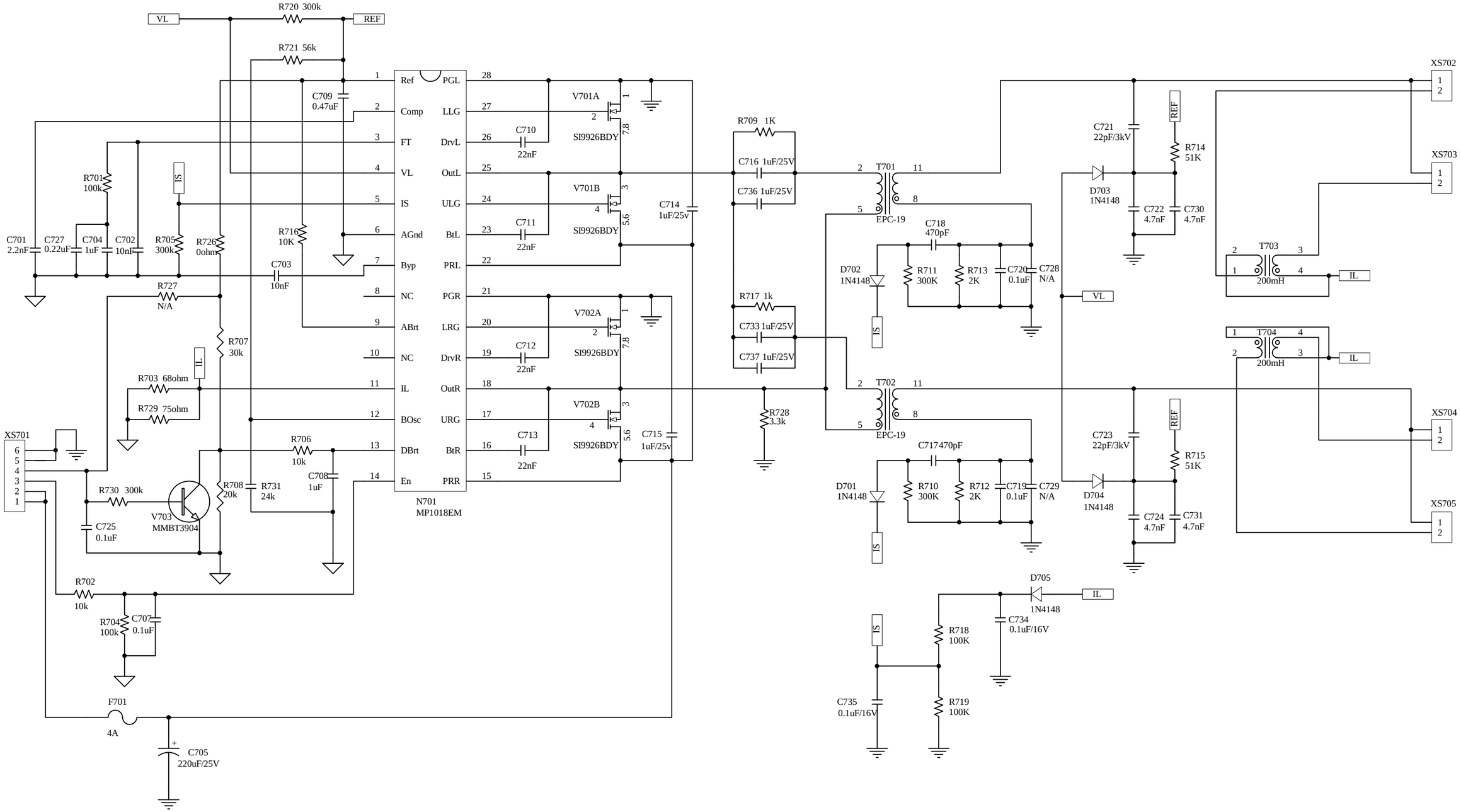
Size
Orcad B
Number
Revision
Date:
1-Aug-2003
Sheet of

KLC-TM1508
Analog Board
schematic circuit diagram



KLC-TM1508
inverter•PCB P/N•35007175• schematic circuit



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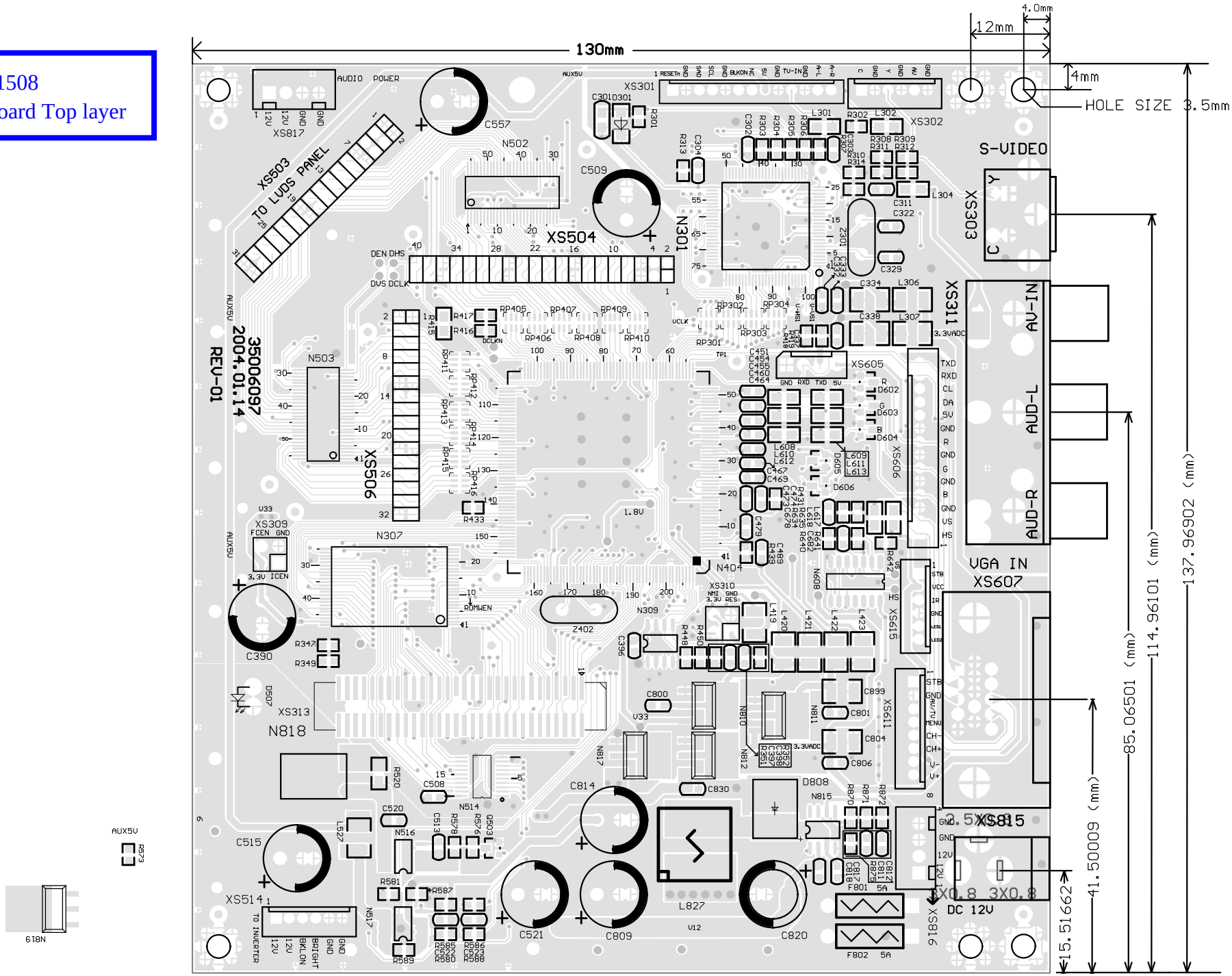
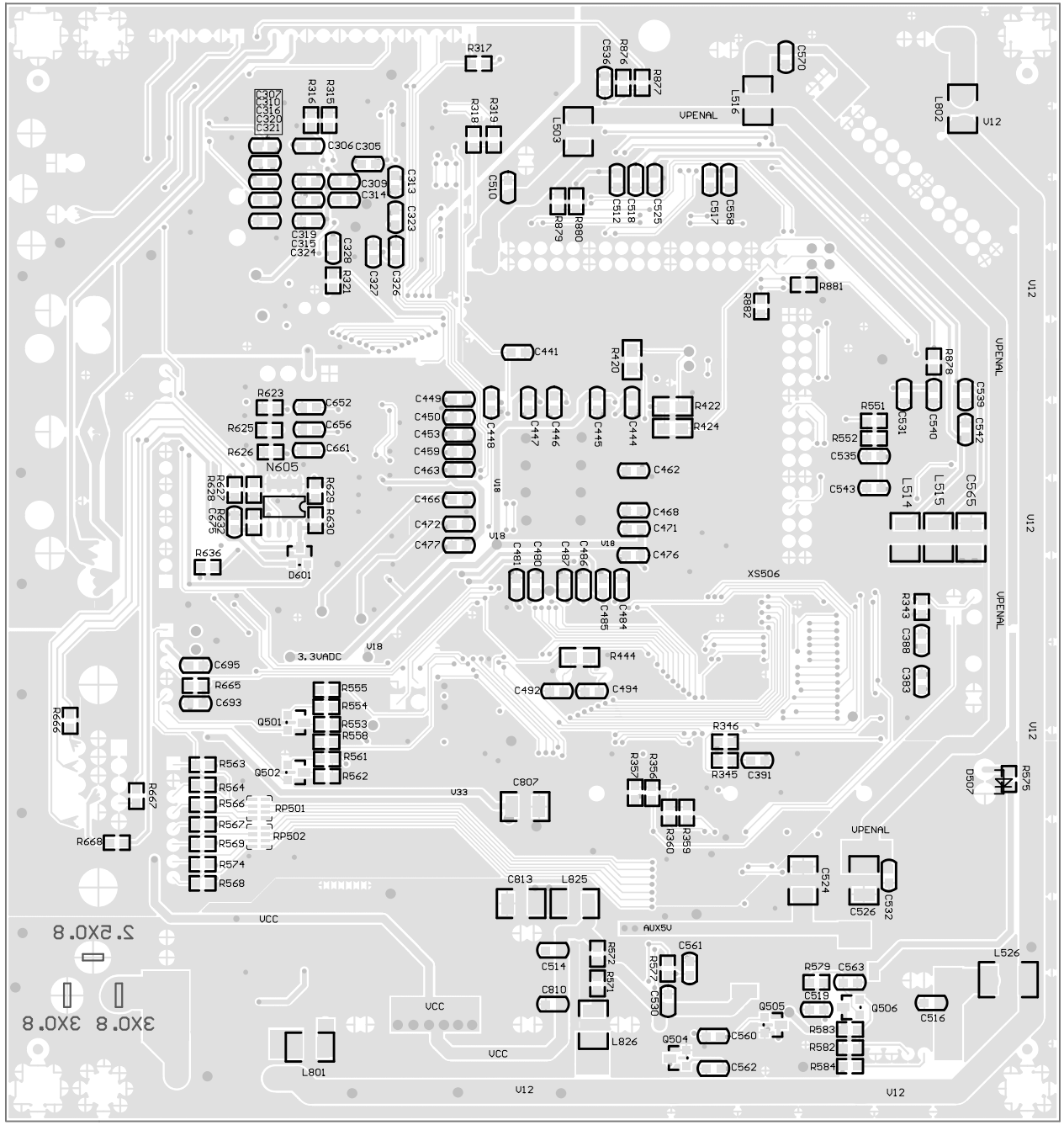
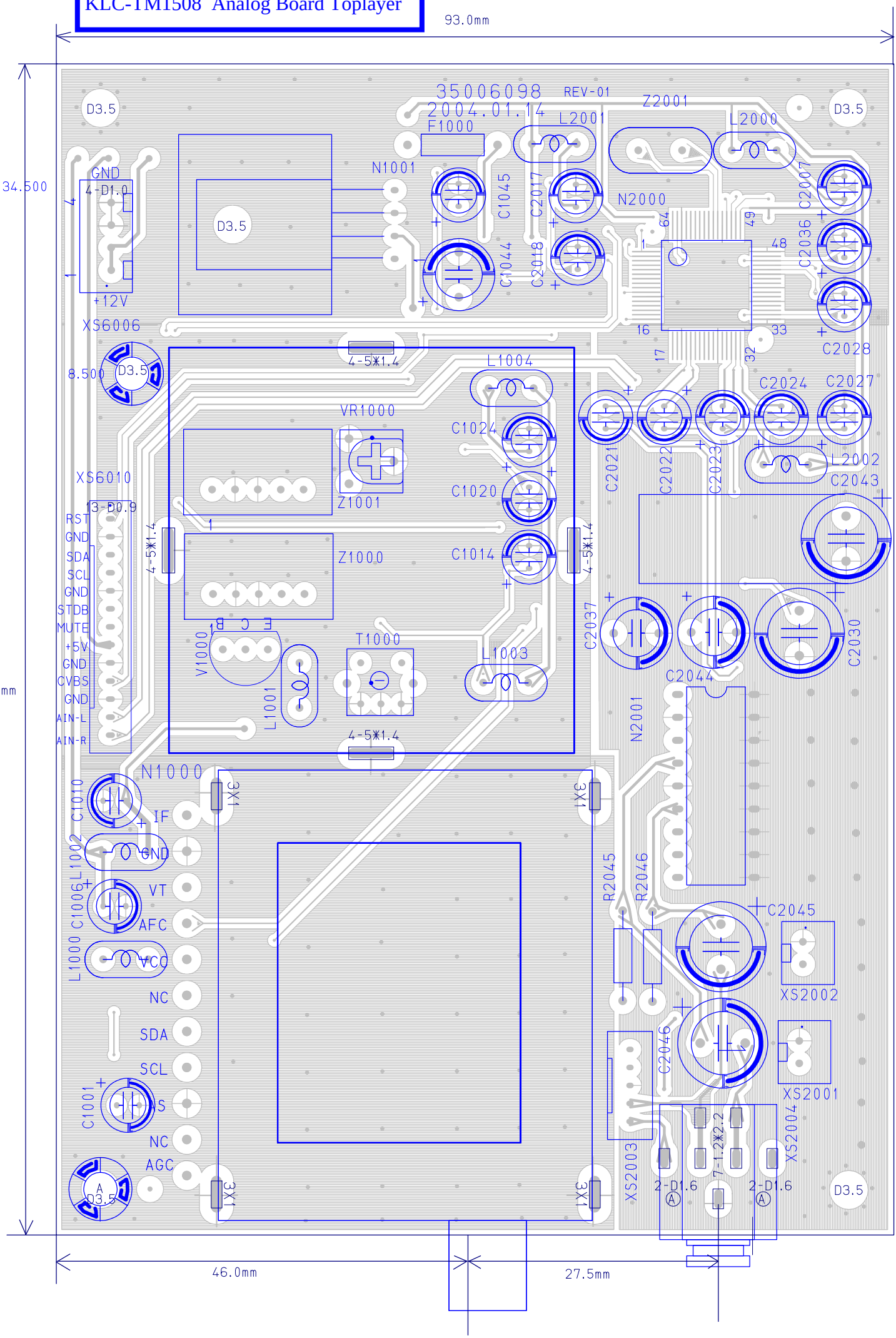
		Drawn By:	

KLC-TM1508
Digital Board Top layer

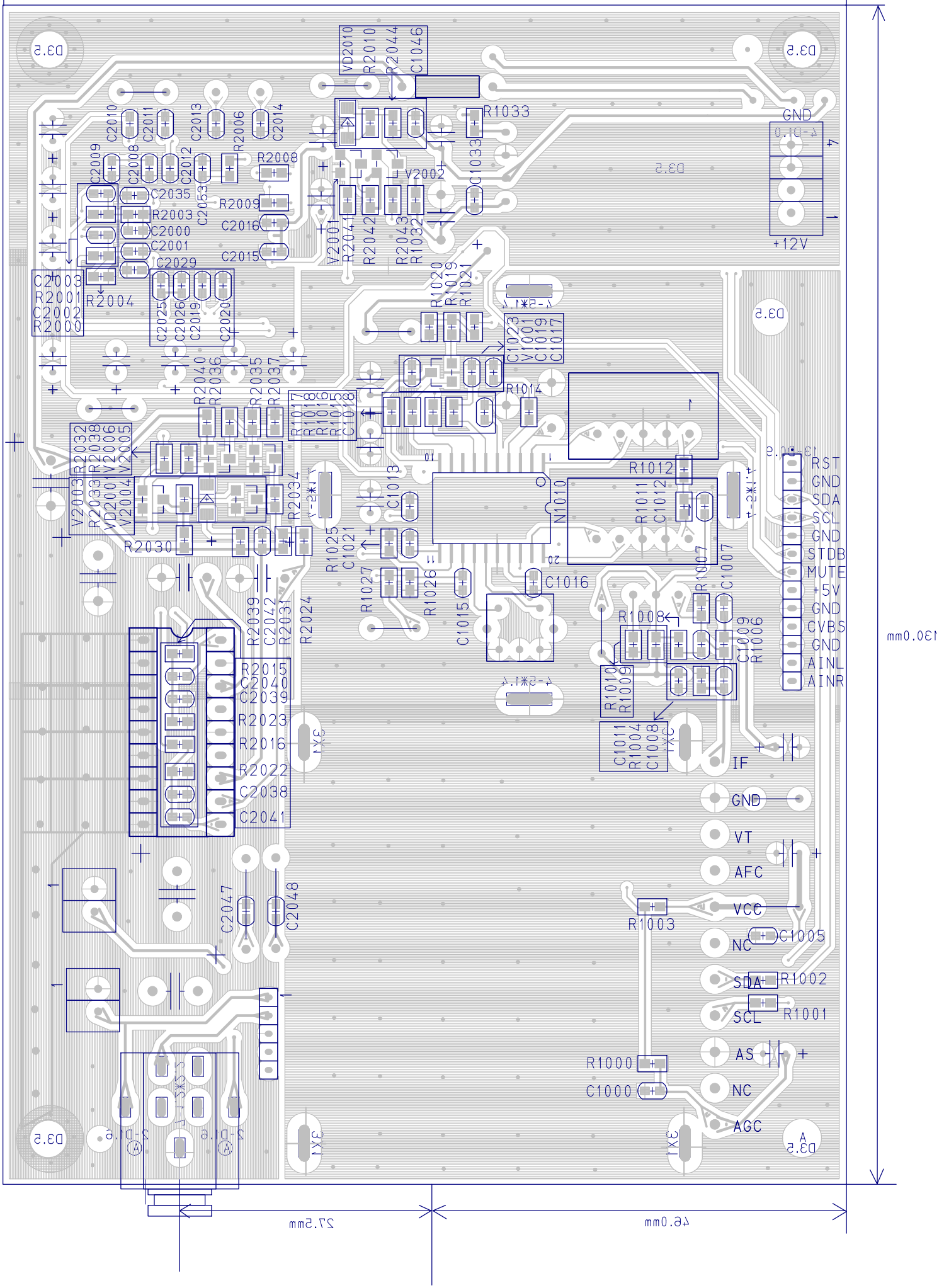


KLC-TM1508
Digital Board Bottom layer




KLC-TM1508 Analog Board Toplayer
93.0mm
34.500
130.0mm
46.0mm
27.5mm
35006098
REV-01
2004.01.14
F1000
L2001
Z2001
L2000
N1001
N2000
C1045
C2017
C1044
C2018
C2007
C2036
C2028
C2024
C2027
C2021
C2022
C2023
L2002
C2043
C2037
C2030
C2044
N2001
R2046
R2045
C2045
XS2002
XS2001
XS2004
XS2003
C2046
XS6006
XS6010
VR1000
Z1001
Z1000
L1004
C1024
C1020
C1014
T1000
V1000
L1001
L1003
N1000
C1010
L1002
C1006
L1000
C1001
IF
GND
VT
AFC
VCC
NC
SDA
SCL
AS
NC
AGC
RST
GND
SDA
SCL
GND
STDB
MUTE
+5V
GND
CVBS
GND
AIN-L
AIN-R
+12V
D3.5
4-5*1.4
3X1
2-D1.6
7-1.2*2.2

KLC-TM1508 Analog Board Bottomlayer



KLC-TM1508
inverter•P/N•34002054•

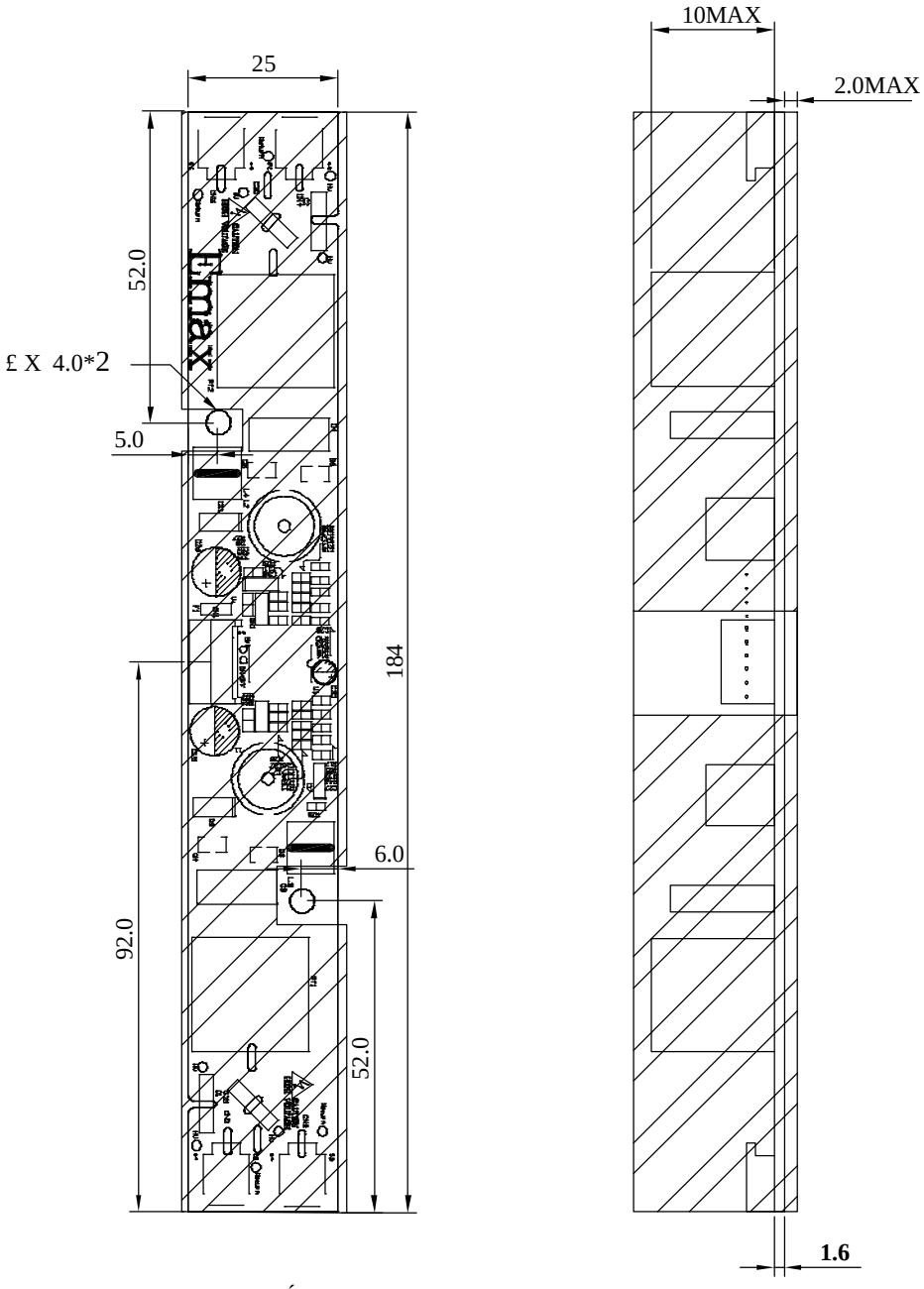
CUSTOMER:_____

Emax

Specification

Part Name:	LCD PANEL DC TO AC INVERTER	Page:	1	of	3
Model No:	PLCD0317403 REV:0	Date:	APR. / 24 / 2003		

DIMENSION MEASURE:(UNIT:mm)



Tolerance:¡ Ó0.15mm

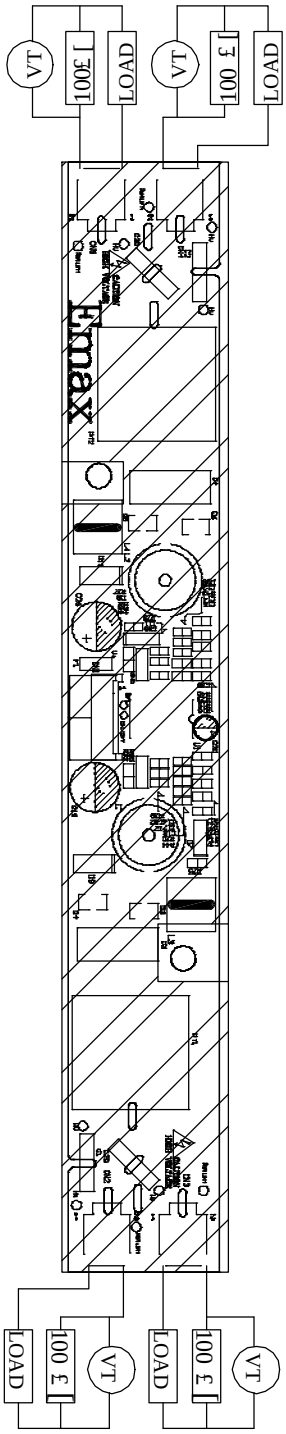
Emax

CUSTOMER:_____

Specification

Part Name:	LCD PANEL DC TO AC INVERTER	Page:	2	of	3
Model No:	PLCD0317403 REV:0	Date:	APR. / 24 / 2003		

TEST CIRCUIT:



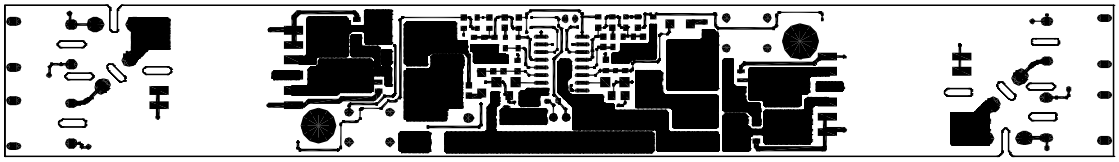
Emax

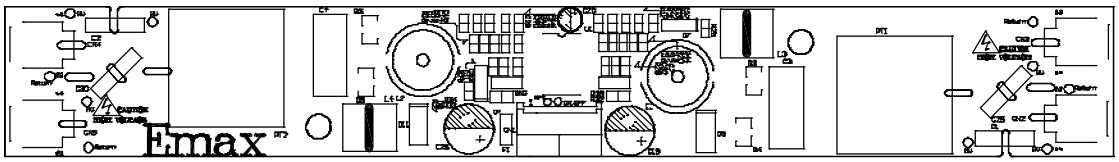
CUSTOMER:_____

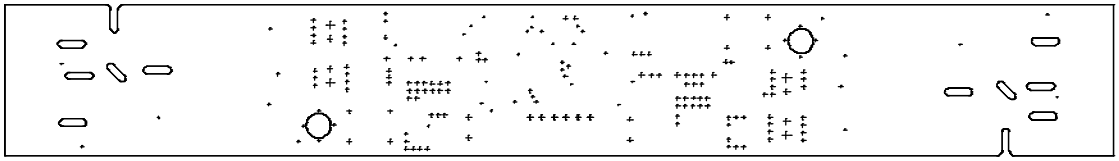
Specification

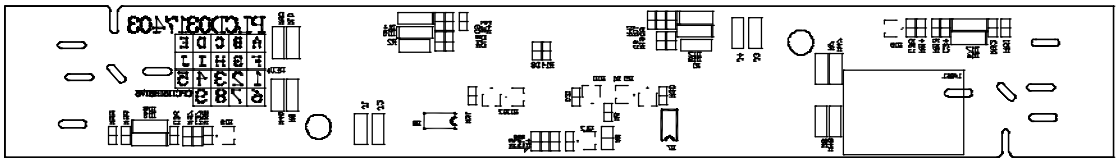
Part Name:	LCD PANEL DC TO AC INVERTER	Page:	3	of	3
Model No:	PLCD0317403 REV:0	Date:	APR. / 24 / 2003		

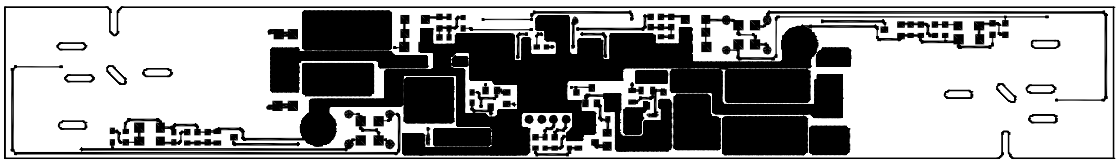
LAYOUT DRAWING:











CUSTOMER:_____ Emax

Specification

Part Name:	LCD PANEL DC TO AC INVERTER	Page:	1	of	2
Model No:	PLCD0317403	Date:	APR./24/2003		

			MAKER	UL No.
C20	22uF/16V(FP1451 or TL1451 or 2.2uF/50V(BA9741 or AT1741S)	1	TEAPO,SANYO,HER MEI,FUHJYYU	
C5,C9,C14,C15,C16,C17,C18,C21,C25,C32,C33,C35,C37	104/50V,0603	13	TDK,PHILIPS	
C3,C4	154/250V	2	ARCOTRONICS,TAI YANG(7Q)(7C)	
C6,C10,C27,C28	105/16V,0603	4	TDK,PHILIPS	
C34,C36	102/50V,0603	2	TDK,PHILIPS	
C8	470/50V,0603	1	TDK,PHILIPS	
C19,C26	150uF/25V	2	SANYO,HER MEI,TEAPO	
C1,C2,C29,C30	22pF/3KV,DIP	4	TDK,PHILIPS	
CN1	2001J-06-RT(ORICH) S6B-PH-KL(JST) JH2-22-0648	1	ORICH,JST,FCN	E201214 E60389 E41871
CN2,CN3,CN4,CN5	SM02B-BHSS-1-TB(JST) 87210-0208(ACES) W01-01100-0228	4	JST,ACES,FCN	E60389 E205655 E201214
D12,D13,D14,D15,D16,D17,D18,D19	RLS4148	4	ROHM,YING,TS,MMC	
D9,D11	SK24 or 2A/40V	2	ROHM,YING,TS,MMC	
D7,D8	ZENER 13V	2	ROHM,YING,TS,MMC	
R1,R2	1K ,1206, 1%	2	YAGEO,SYNTON-TECH, LIKET,EVER OHMS,TA-I	
R6	100K ,0603	1	YAGEO,SYNTON-TECH, LIKET,EVER OHMS,TA-I	
R28,R29	75K ,0603	2	YAGEO,SYNTON-TECH, LIKET,EVER OHMS,TA-I	
R3	3.6K ,0603	1	YAGEO,SYNTON-TECH, LIKET,EVER OHMS,TA-I	
R11,R12	11K ,0603, 1%	2	YAGEO,SYNTON-TECH, LIKET,EVER OHMS,TA-I	
R19,R21	510 ,0603	2	YAGEO,SYNTON-TECH, LIKET,EVER OHMS,TA-I	
R16,R17,R18,R20	20K ,0603	4	YAGEO,SYNTON-TECH, LIKET,EVER OHMS,TA-I	
R34,R35	560 ,1206	2	YAGEO,SYNTON-TECH, LIKET,EVER OHMS,TA-I	
R13,R45	1.5K ,0603, 1%	2	YAGEO,SYNTON-TECH, LIKET,EVER OHMS,TA-I	
R4,R30,R31,R51,R52,R55,R56	1M ,0603	7	YAGEO,SYNTON-TECH, LIKET,EVER OHMS,TA-I	
R5	56K ,0805	1	YAGEO,SYNTON-TECH, LIKET,EVER OHMS,TA-I	

Approved	Cheched	Design	Draw

CUSTOMER:_____ *Emax*

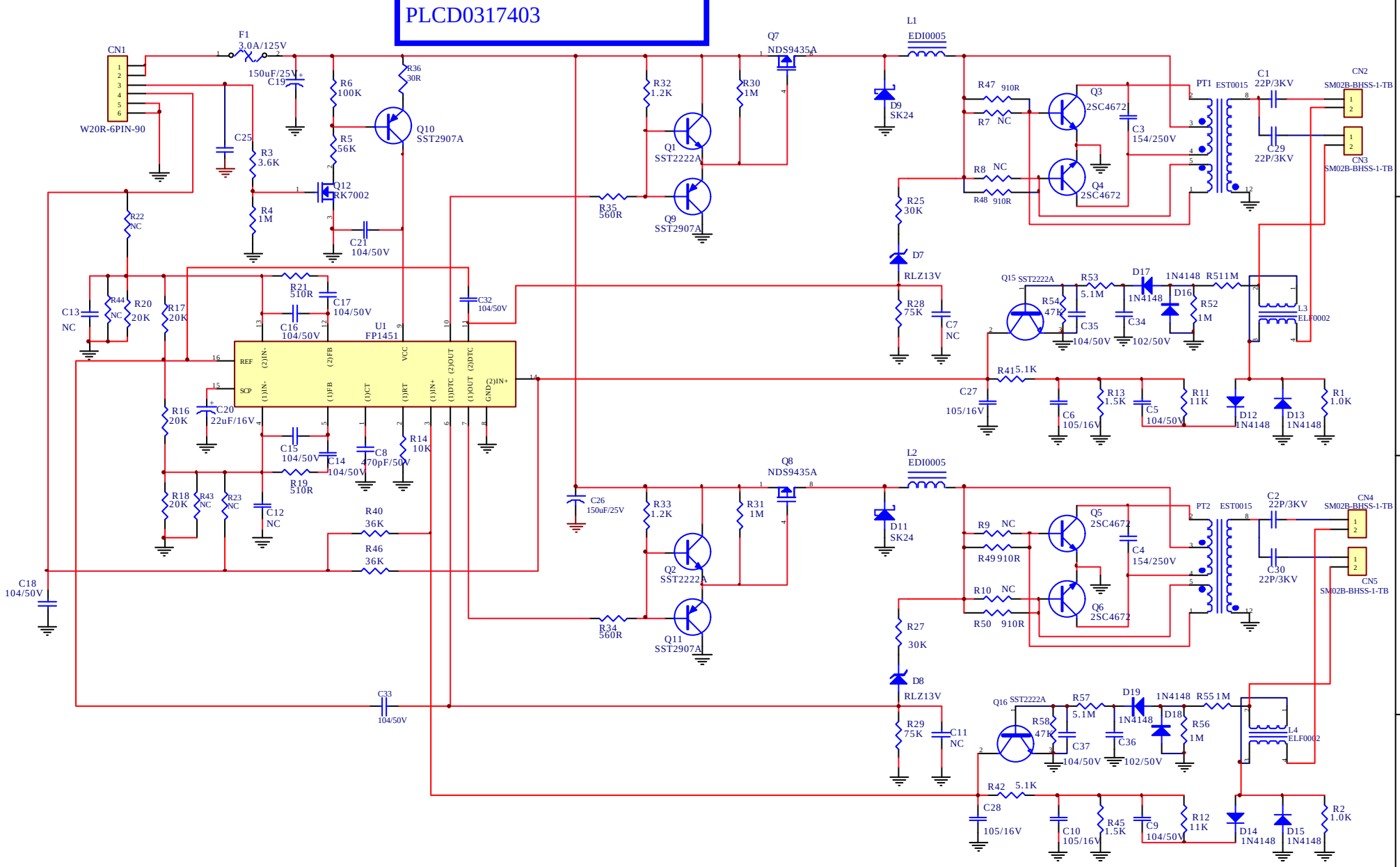
Specification

Part Name:	LCD PANEL DC TO AC INVERTER	Page:	2	of	2
Model No:	PLCD0317403	Date:	APR／24／2003		

			MAKER	UL No.
R32,R33	1.2K ,0805	2	YAGEO,SYNTON-TECH, LIKET,EVER OHMS,TA-1	
R41,R42	5.1K ,0603, 1%	2	YAGEO,SYNTON-TECH, LIKET,EVER OHMS,TA-1	
R25,R27	30K ,0603	2	YAGEO,SYNTON-TECH, LIKET,EVER OHMS,TA-1	
R54,R58	47K ,0603	2	YAGEO,SYNTON-TECH, LIKET,EVER OHMS,TA-1	
R40,R46	36K ,0603, 1%	2	YAGEO,SYNTON-TECH, LIKET,EVER OHMS,TA-1	
R53,R57	5.1M ,0603	2	YAGEO,SYNTON-TECH, LIKET,EVER OHMS,TA-1	
R14	10K ,0603(FP1451 or TL1451)or 13K ,0603(BA9741 or AT1741S)	1	YAGEO,SYNTON-TECH, LIKET,EVER OHMS,TA-1	
R47,R48,R49,R50	910 ,1206	4	YAGEO,SYNTON-TECH, LIKET,EVER OHMS,TA-1	
Q1,Q2,Q15,Q16	SST2222A	4	ROHM,AUK	
Q3,Q4,Q5,Q6	2SC4672	4	ROHM,AUK	
Q7,Q8	NDS9435A or AO4403 or SDM9435A or AP9435M	2	CET,AO,SMC,Advanced Power.	
Q9,Q10,Q11	SST2907A	3	ROHM,AUK	
Q12	RK7002	1	ROHM,AUK	
L1,L2	EDI0005	2	EMAX	
L3,L4	ELF0002	2	EMAX	
F1	429003(Littelfuse) 3216FF-3A(Bussmann) 1206FA3A(SkyGate) KE32(Daito) BA100-3A(SAVE)	1	LITTEL,BUSSMANN, SKY GATE, Daito,SAVE	E10480 E19180(N) E195833 E59783 E146895
U1	BA9741 or FP1451 or TL1451 or AT1741S	1	ROHM,FEELING,TI,AIMT RON	
PCB	CPC1151R6176 PLCD1717408	1	CHIAN YOU,HANT GIST, YUMMON,TONG JIANG, CENTURY,WAN ZHENG ,EISO, TUNG TA	E112804(S) E177794 E168218(S) E201363 E189010(M) E211670 E162061(S) E162886
PT1,PT2	EST0015,EPC-19	2	EMAX	
MYLAR	MLTG184*104*0.188mT	1	GARWARE,TORAY	E110983(M) E86511(M)
EVA	EVA 10*13*2mm	2	GARWARE,TORAY	

	Approved	Cheched	Design	Draw

KLC-TM1508 P/N•34002054
PLCD0317403



PLCD0317403

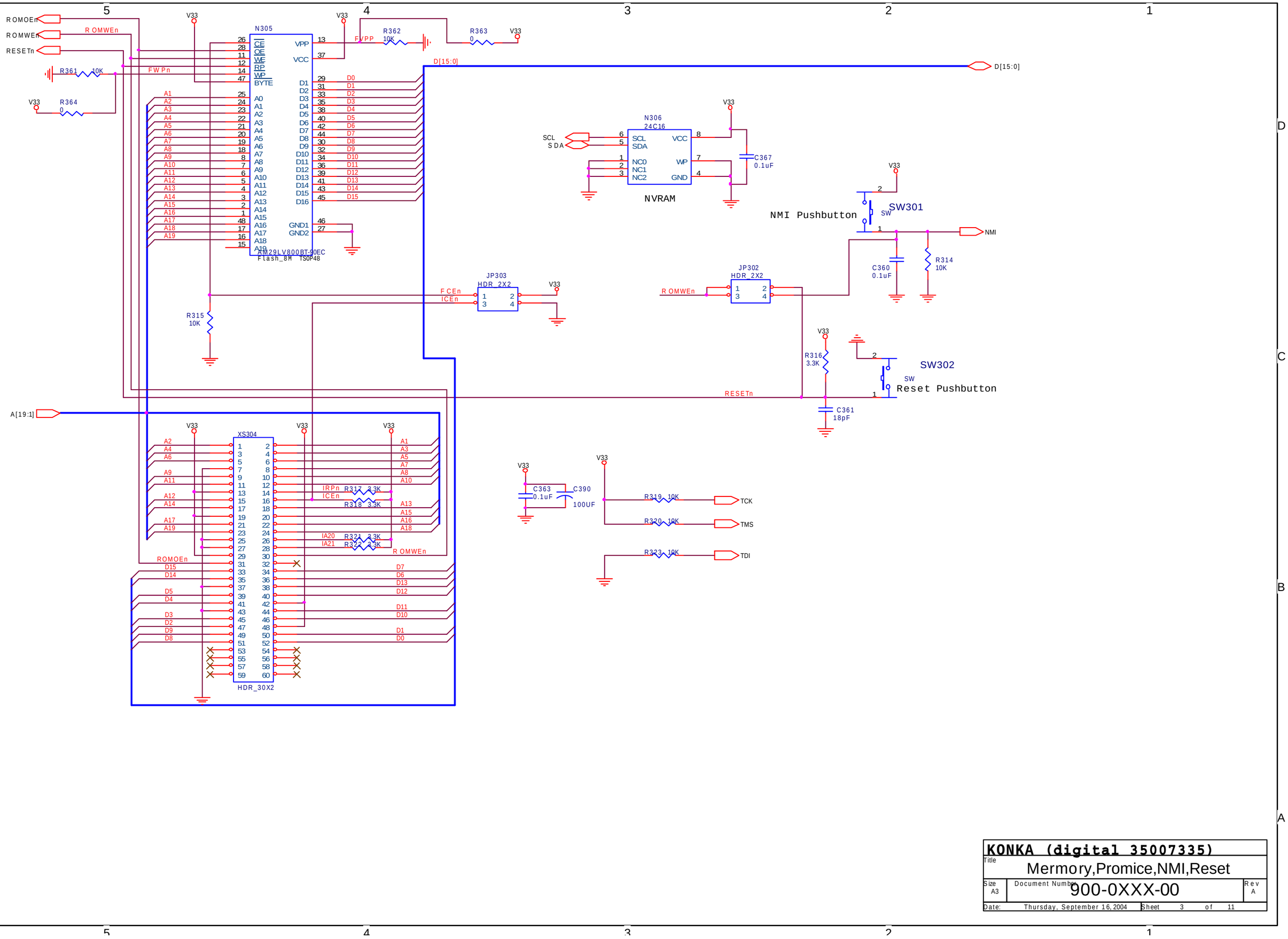
Title		
Size: A3	Number	Revision
Date: 29-Apr-2003	Sheet of	
	Drawn By:	

KLC-TM2018 Digital Schematic

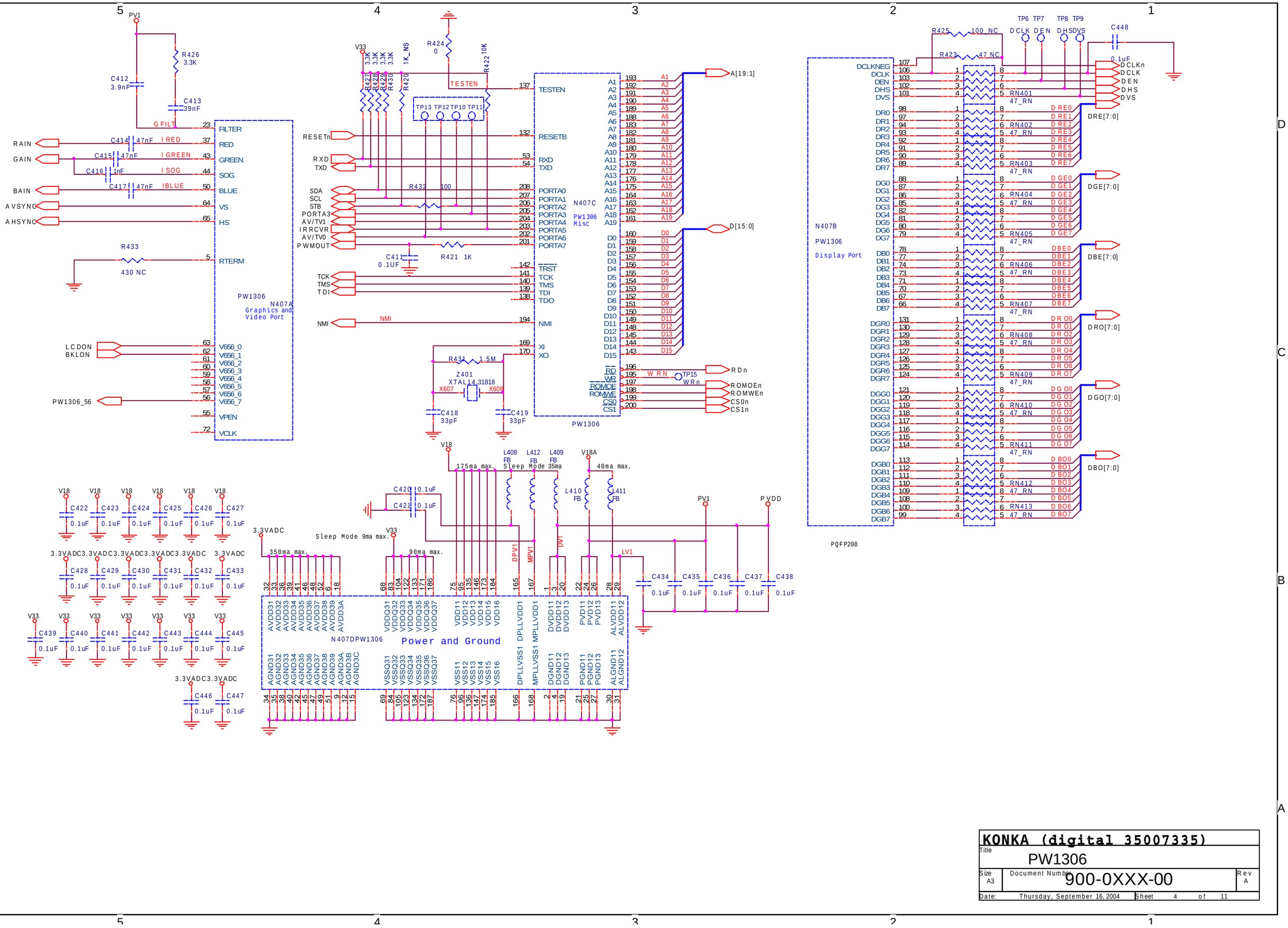
BA
00 TV
01 VGA
10 YUV
11 VGA(SOG) NO_USED

XS603 XS601 DB15HD XS604 XS602 XS606 FROM XP301 FROM XP1002 CONNECTOR1X7
N602 74HC4052D N603 PI5V330 N601 PI5V330 N604 24LC21A
N629A N629B N629C N629D N629E N629F 74HC14/SO
D603 D604 D605 D606 D607 D608 D610 D611 D612 BAV99L BAV70 1N4148
L602 L603 L604 L605 L606 L607 L608 L609 L610 L611 L612 L613 L615 L616 40_OHM@100MHz FB
R601 R602 R603 R604 R605 R606 R607 R608 R609 R610 R611 R614 R616 R617 R619 R620 R622 R623 R624 R625 R626 R627 R628 R629 R630 R631 R632 R633 R634 R635 R647 R648 R650 R651 R652 R653
C601 C602 C603 C604 C605 C606 C607 C608 C609 C610 C611 C612 C613 C614 C615 C617 C618 C619 C620 C621 C622 C623 C624 C625 C626 C627 C628 0.1uF 10uF 12pF 10UF/16V-5
V601 V602 V603 BC847
TP1 TP2 TP3 TP4 TP5
AVSYNC AHSYNC RAIN GAIN BAIN RIN GINBIN RGB SEL0 RGB SEL1 RXD1 TXD1 Y_1883
5V 5VB V33 V330 V3.3

KONKA (digital 35007335)			
Title	RGB,H/V SYNC&EDID		
Size A3	Document Number 900-0XXX-00		Rev A
Date: Thursday, September 16, 2004	Sheet 2 of 11		

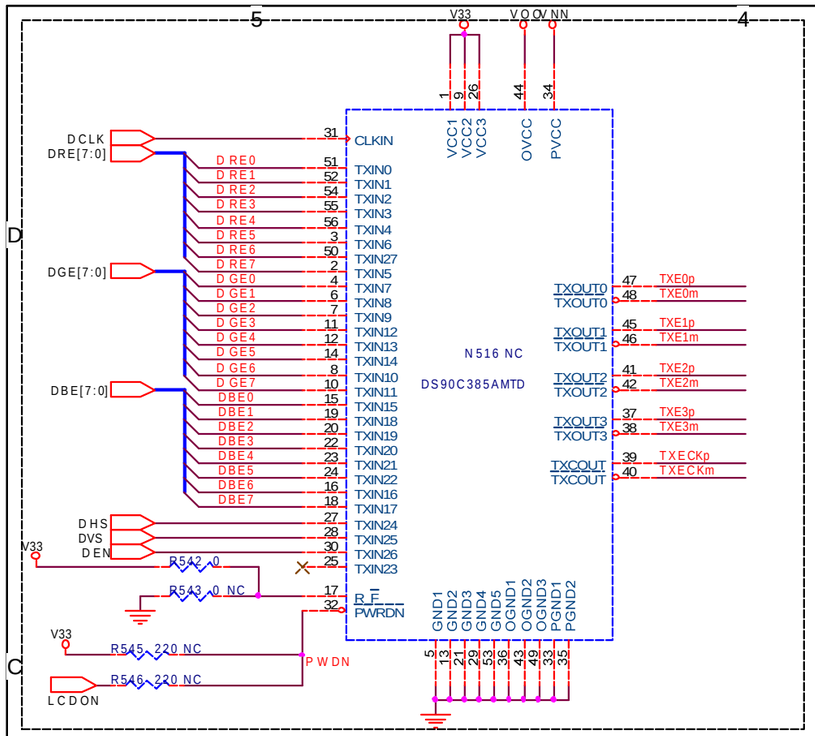


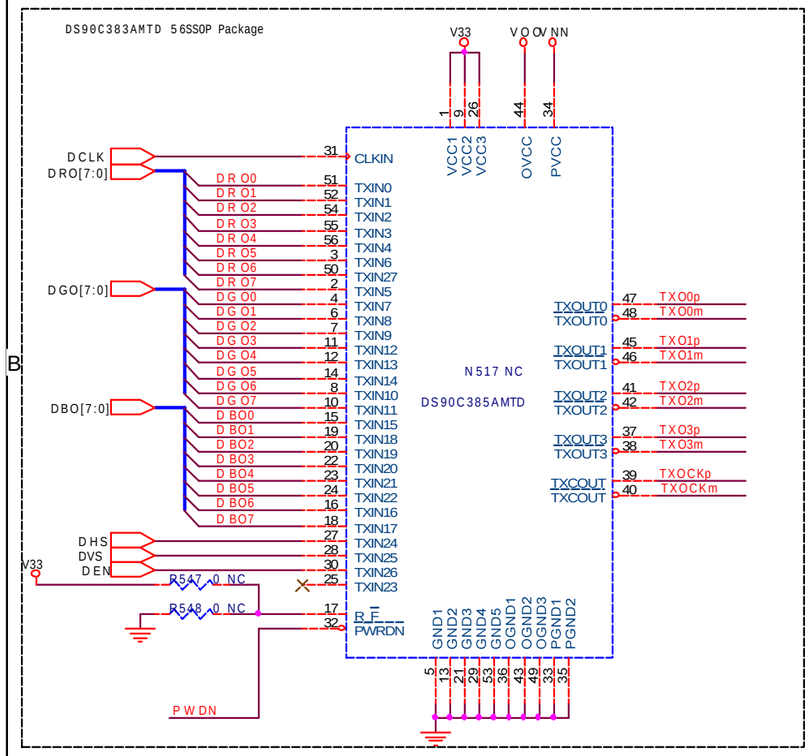
KONKA (digital 35007335)	
Title	Mermory,Promice,NMI,Reset
Size A3	Document Number 900-0XXX-00 Rev A
Date: Thursday, September 16, 2004	Sheet 3 of 11

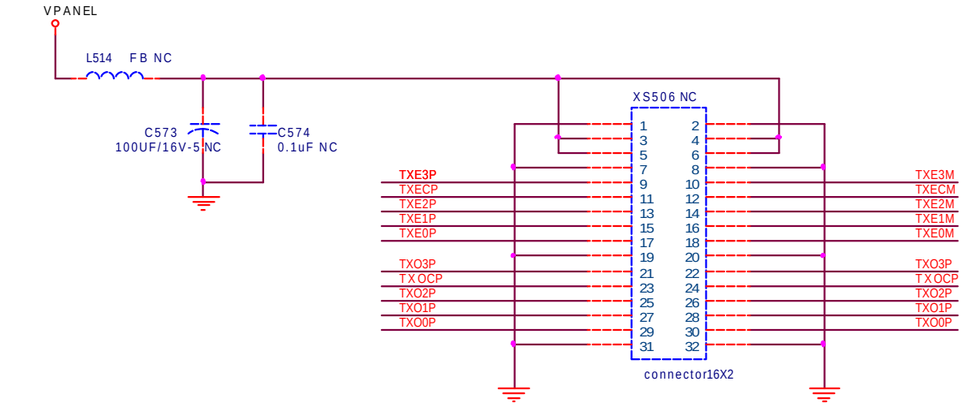

PW1306
N407A
Graphics and Video Port
PW1306
N407C
PW1306 Misc
PW1306
N407B
PW1306
Display Port
PQFP208
N407DPW1306
Power and Ground
KONKA (digital 35007335)
Title
PW1306
Size A3
Document Number 900-0XXX-00
Rev A
Date: Thursday, September 16, 2004
Sheet 4 of 11

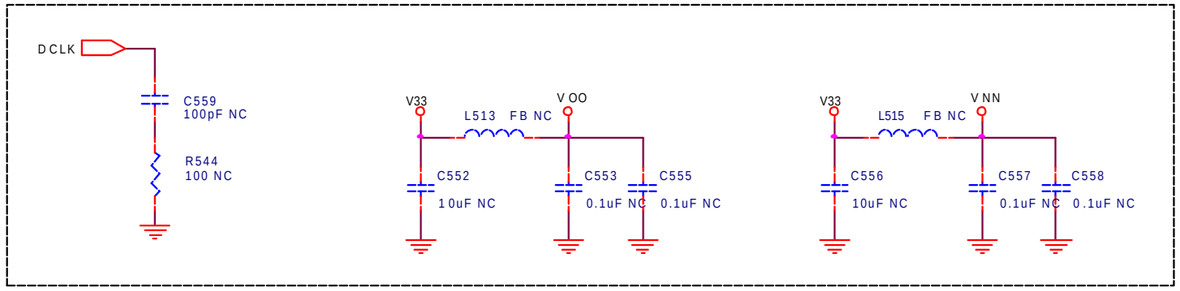
RDn
CSOn
V33
C548 0.1uF
D[15:8]
N508
74LVC541A_PW
Input Buffer
RN501 47_RN
RN502 47_RN
R535 10K
R532 10K
R533 10K
R534 10K
R535 10K
R536 10K
R537 10K
R538 10K
V+
V-
CH+
CH-
MENU
AV/TV
XS611
To Key Board
STANDBYn
POWERDOWN
C549 0.1uF
N509
74LV273A
Output Latch
RGB SEL0
RGB SEL1
INPUT SW0
INPUT SW1
MUTE OUT
CS1n
RESETn
5V
D614 BAV99L
D615 BAV99L
R644 100
R645 100
XS605
TXD
RXD
TXD1
RXD1
+12V
L815 FB
C880 10uF
XS802
FROM XP1001
XS816
PIN HEADER 1*4- 2.54
5A_1206 F801
L814 FB
V12
C851 470uF/16V
C854 0.22uF
C864 0.1uF
R868 10K
N802
9435
C867 0.1uF
GND
L817 FB
XS817
POWER_4
POWER ON
R867 10K
V862 BC847
Y_1883
N606
EL1883
SYNCOUT
R660 1K
C667 0.1uF/16V
C662 0.1uF
R663 33
TV_HSOUT
R665 10K
R668 56K
R664 33
TV_VSOUT
R666 10K
R669 10K
SYNC SEL
V662 BC847
R661 680K
R662 680K
C661 0.1uF
5VT
NOTE: RSET must be at 1% resistor.
XS615
To IR Board
STANDBY
+5V
IRRCVR
GND
Red LED
Green LED
R675 510
R679 430
R674 1K
V606 BC847
V605 BC847
R678 10K
D617
BZV55-B/3V0
C653 470uF/16V
C659 0.1uF
STANDBYn
IRRCVR
C678 0.22uF
N803
PIC12F629
C878 10uF
C677 47uF/16V
D616 STZ5.1
R649 10K
IR RCVR
POWER ON
SYNC SEL
SYNCOUT
POWERDOWN
STANDBYn
R642 100
R654 100
R646 100
V607 BC847
R655 100
PW1306_56
C855 10nF
N801
MP1410
C866 470uF/16V
C865 0.22uF
D810 FM5820
L813 15uH
R839 390K
C858 3.3nF
C850 180pF
R843 30K
R842 10K
R841 1K
C853 470uF/16V
C859 0.22uF
C879 10uF
L816 FB
AV/TV/SCART
R845 4.7K
R846 1.5K
R847 1K
N804A
N804B
LM358_SO8
AV/TV1
AV/TV0
C872 0.1uF
XS301
RESETn
SDA
SCL
MUTE OUT
AIN_L
AIN_R
FROM XP3002
LCDCON
L801 FB
R878 2.2K
V18
N812 LM1117MPX-1.8V
C874 0.1uF
C862 47uF/16V
C863 0.1uF
V18A
N813 LM1117MPX-1.8V
C877 0.1uF
C869 47uF/16V
C868 0.1uF
3.3VADC
N810 LM1117MPX-3.3V
C875 0.1uF
C870 47uF/16V
C875 0.1uF
V33
N811 LM1117MPX-3.3V
C876 0.1uF
C860 47uF/16V
C861 0.1uF

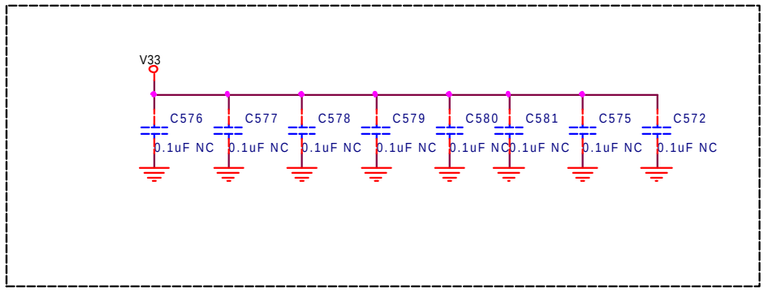
KONKA (digital 35007335)	
Title	Keypad input,3.3V&1.8V Reg
Size A3	Document Number 900-0XXX-00 Rev A
Date: Tuesday, October 26, 2004	Sheet 5 of 11









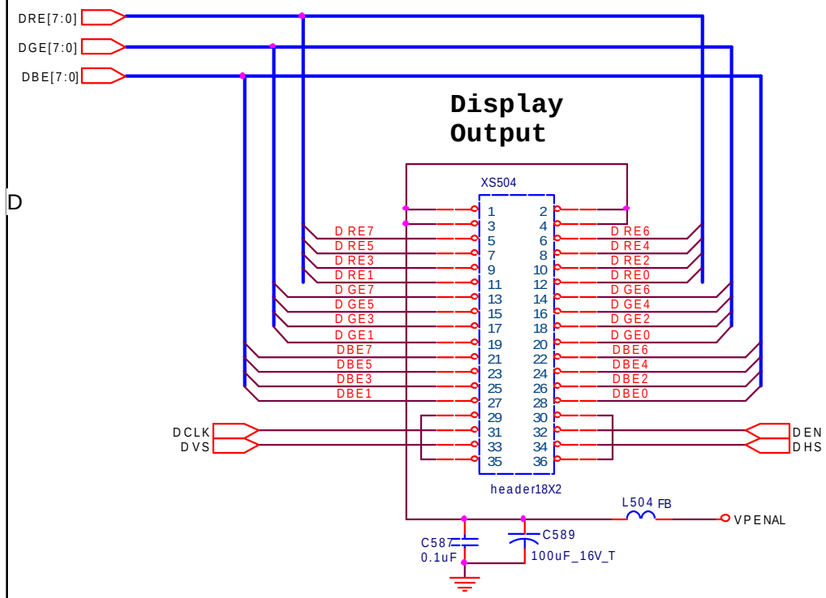


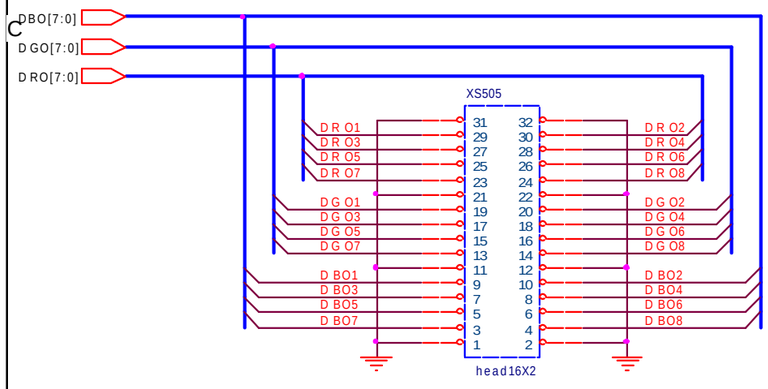
KONKA (digital 35007335)

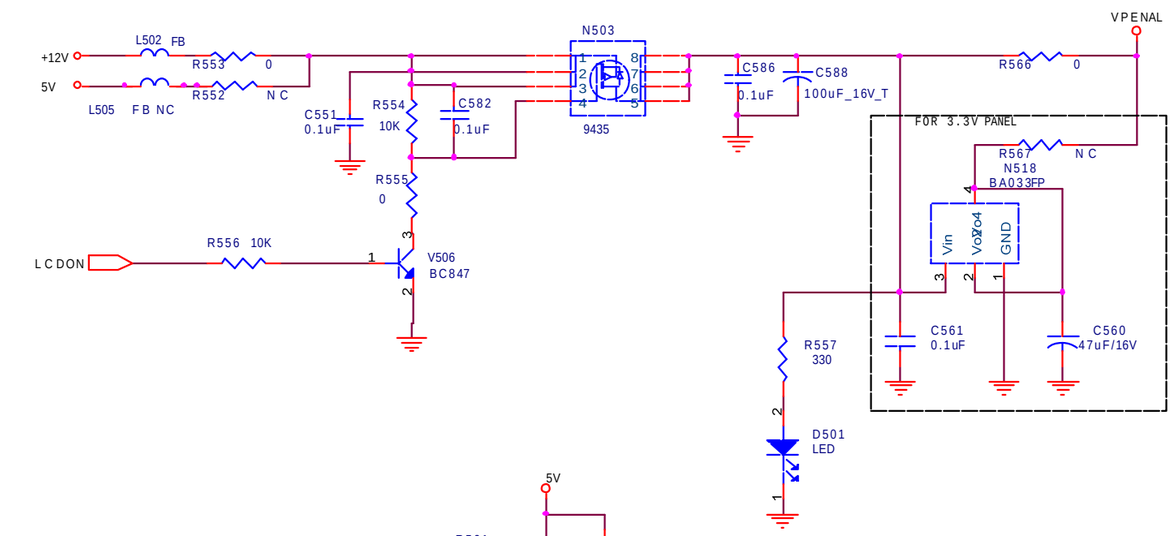
Title: LVDS Transmitters

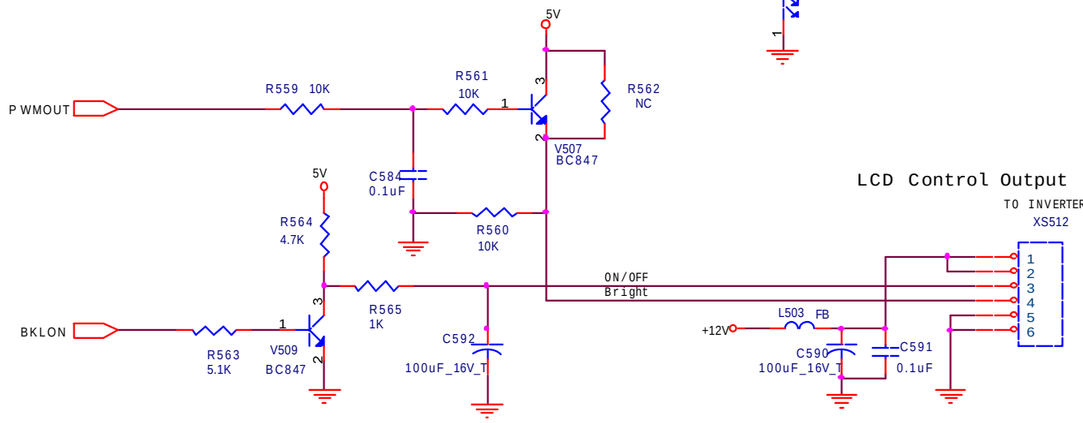
Size: A3 | Document Number: 900-0XXX-00 | Rev: A

Date: Thursday, September 16, 2004 | Sheet 6 of 11



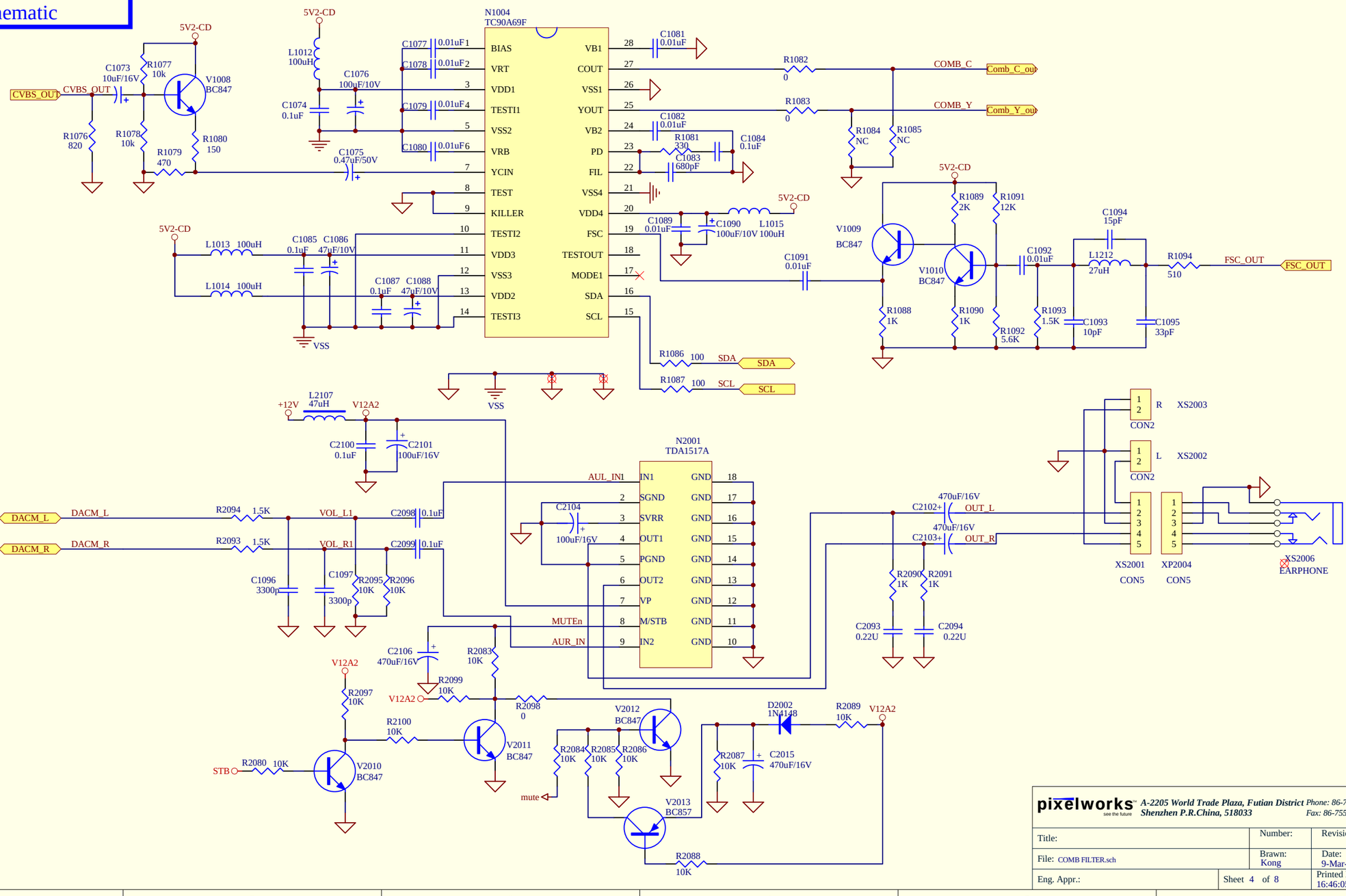




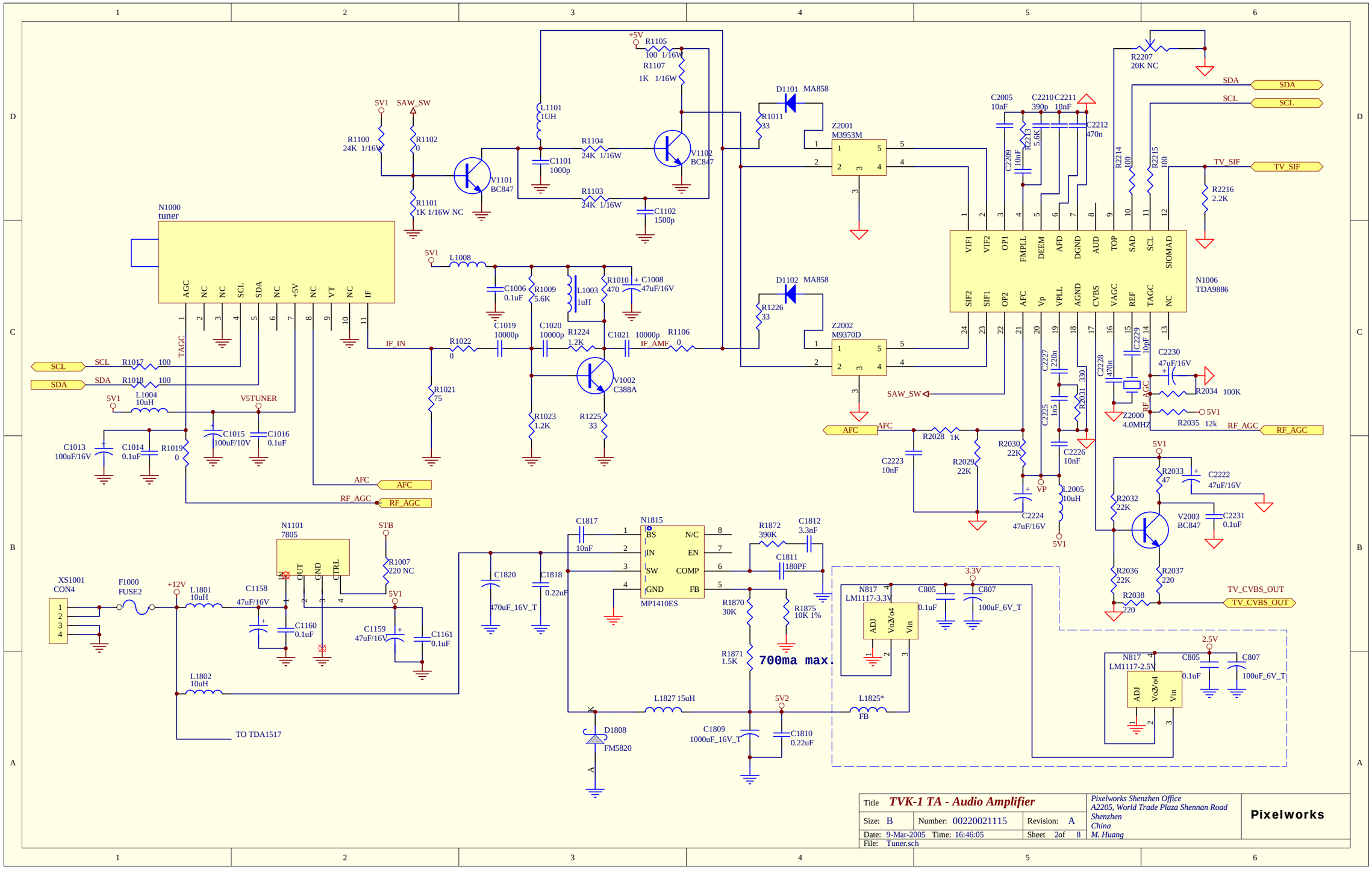


KONKA (digital 35007335)		
Title: Output Connector		
Size: A3	Document Number: 900-0XXX-00	Rev: A
Date: Thursday, September 16, 2004	Sheet 7 of 11	

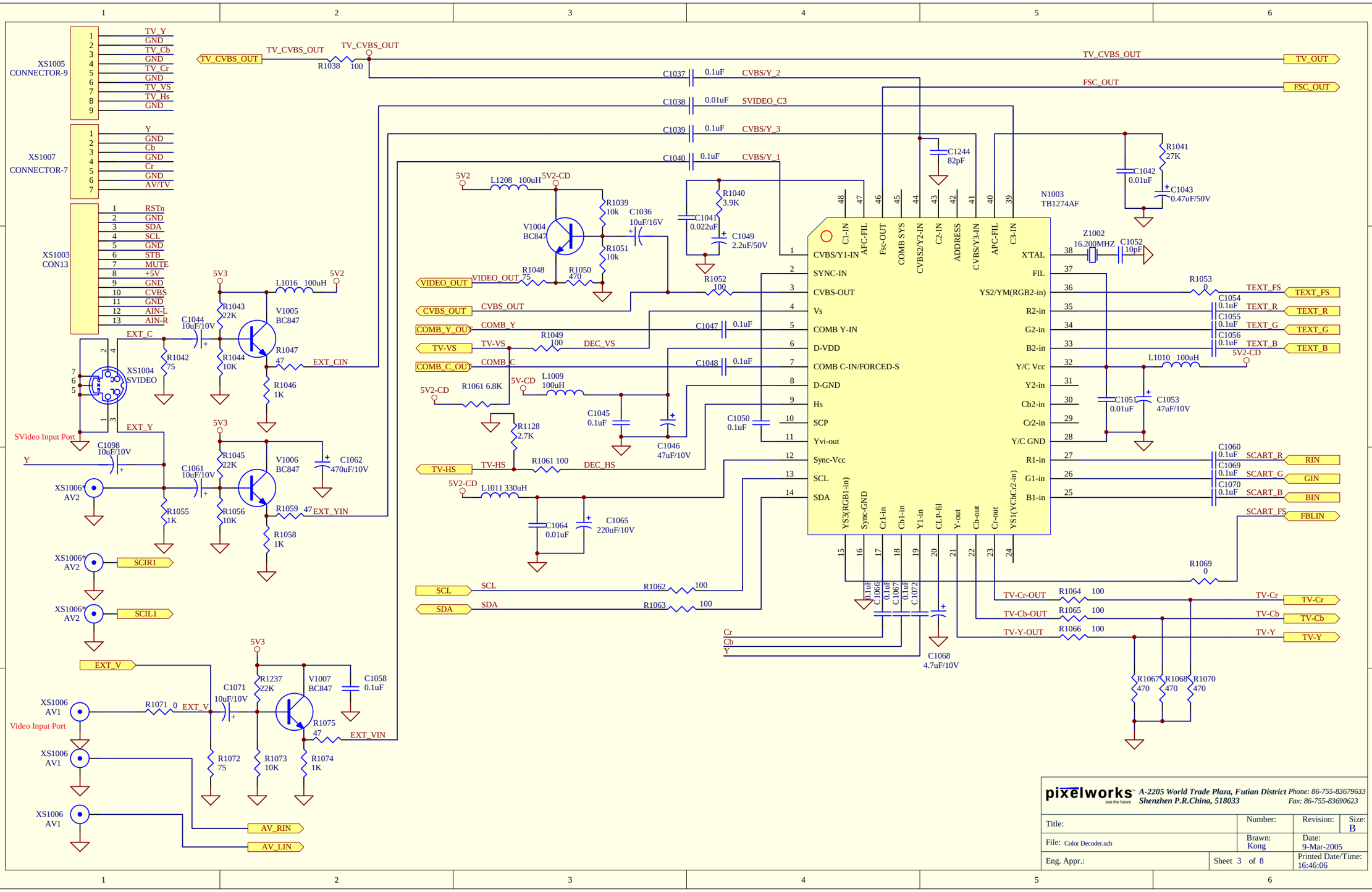
KLC-TM2018 Analog Board Schematic



pixelworks see the future	*A-2205 World Trade Plaza, Futian District Shenzhen P.R.China, 518033*	*Phone: 86-755-83679633 Fax: 86-755-83690623*	
Title:		Number:	Revision: / Size: B
File: COMB FILTER.sch		Brawn: Kong	Date: 9-Mar-2005
Eng. Appr.:	Sheet 4 of 8		Printed Date/Time: 16:46:05



Title	*TVK-1 TA - Audio Amplifier*		*Pixelworks Shenzhen Office* *A2205, World Trade Plaza Shennan Road* *Shenzhen* *China* *M. Huang*
Size: B	Number: 00220021115	Revision: A	**Pixelworks**
Date: 9-Mar-2005 Time: 16:46:05	Sheet 2of 8		
File: Tuner.sch			


XS1005
CONNECTOR-9
TV_Y
GND
TV_Cb
GND
TV_Cr
GND
TV_VS
TV_Hs
GND
XS1007
CONNECTOR-7
Y
GND
Cb
GND
Cr
GND
AV/TV
XS1003
CON13
RSTn
GND
SDA
SCL
GND
STB
MUTE
+5V
GND
CVBS
GND
AIN-L
AIN-R
TV_CVBS_OUT
R1038 100
TV_OUT
FSC_OUT
C1037 0.1uF CVBS/Y_2
C1038 0.01uF SVIDEO_C3
C1039 0.1uF CVBS/Y_3
C1040 0.1uF CVBS/Y_1
C1244 82pF
R1041 27K
C1042 0.01uF
C1043 0.47uF/50V
N1003
TB1274AF
C1-IN
AFC-FIL
Fsc-OUT
COMB SYS
CVBS2/Y2-IN
C2-IN
ADDRESS
CVBS/Y3-IN
APC-FIL
C3-IN
CVBS/Y1-IN
SYNC-IN
CVBS-OUT
Vs
COMB Y-IN
D-VDD
COMB C-IN/FORCED-S
D-GND
Hs
SCP
Yvi-out
Sync-Vcc
SCL
SDA
X'TAL
FIL
YS2/YM(RGB2-in)
R2-in
G2-in
B2-in
Y/C Vcc
Y2-in
Cb2-in
Cr2-in
Y/C GND
R1-in
G1-in
B1-in
YS3(RGB1-in)
Sync-GND
Cr1-in
Cb1-in
Y1-in
CLP-fil
Y-out
Cb-out
Cr-out
YS1(YCbCr2-in)
Z1002 16.200MHZ
C1052 10pF
R1053
C1054 0.1uF
C1055 0.1uF
C1056 0.1uF
TEXT_FS
TEXT_R
TEXT_G
TEXT_B
5V2-CD
L1010 100uH
C1051 0.01uF
C1053 47uF/10V
C1060 0.1uF
C1069 0.1uF
C1070 0.1uF
SCART_R
SCART_G
SCART_B
RIN
GIN
BIN
SCART_FS
FBLIN
R1069 0
TV-Cr-OUT
TV-Cb-OUT
TV-Y-OUT
R1064 100
R1065 100
R1066 100
TV-Cr
TV-Cb
TV-Y
R1067 470
R1068 470
R1070 470
C1066 0.1uF
C1067 0.1uF
C1072
C1068 4.7uF/10V
Cr
Cb
Y
5V2
L1208 100uH
5V2-CD
R1039 10k
C1036 10uF/16V
V1004 BC847
R1051 10k
R1040 3.9K
C1041 0.022uF
C1049 2.2uF/50V
VIDEO_OUT
R1048 75
R1050 470
R1052 100
CVBS_OUT
COMB_Y_OUT
COMB_Y
TV-VS
R1049 100
DEC_VS
COMB_C_OUT
COMB_C
C1047 0.1uF
C1048 0.1uF
5V2-CD
R1061 6.8K
5V-CD
L1009 100uH
C1045 0.1uF
C1046 47uF/10V
C1050 0.1uF
R1128 2.7K
TV-HS
R1061 100
DEC_HS
5V2-CD
L1011 330uH
C1064 0.01uF
C1065 220uF/10V
SCL
SDA
R1062 100
R1063 100
5V3
L1016 100uH
5V2
R1043 22K
V1005 BC847
C1044 10uF/10V
EXT_C
R1042 75
R1044 10K
R1047 47
EXT_CIN
R1046 1K
XS1004
SVIDEO
SVideo Input Port
EXT_Y
C1098 10uF/10V
Y
R1045 22K
V1006 BC847
C1062 470uF/10V
C1061 10uF/10V
XS1006
AV2
R1055 1K
R1056 10K
R1059 47
EXT_YIN
R1058 1K
SCIR1
SCIL1
EXT_V
R1237 22K
V1007 BC847
C1058 0.1uF
C1071 10uF/10V
R1071 0
XS1006
AV1
Video Input Port
R1075 47
EXT_VIN
R1072 75
R1073 10K
R1074 1K
AV_RIN
AV_LIN
pixelworks
see the future
A-2205 World Trade Plaza, Futian District
Shenzhen P.R.China, 518033
Phone: 86-755-83679633
Fax: 86-755-83690623
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Date: 9-Mar-2005
Eng. Appr.:
Sheet 3 of 8
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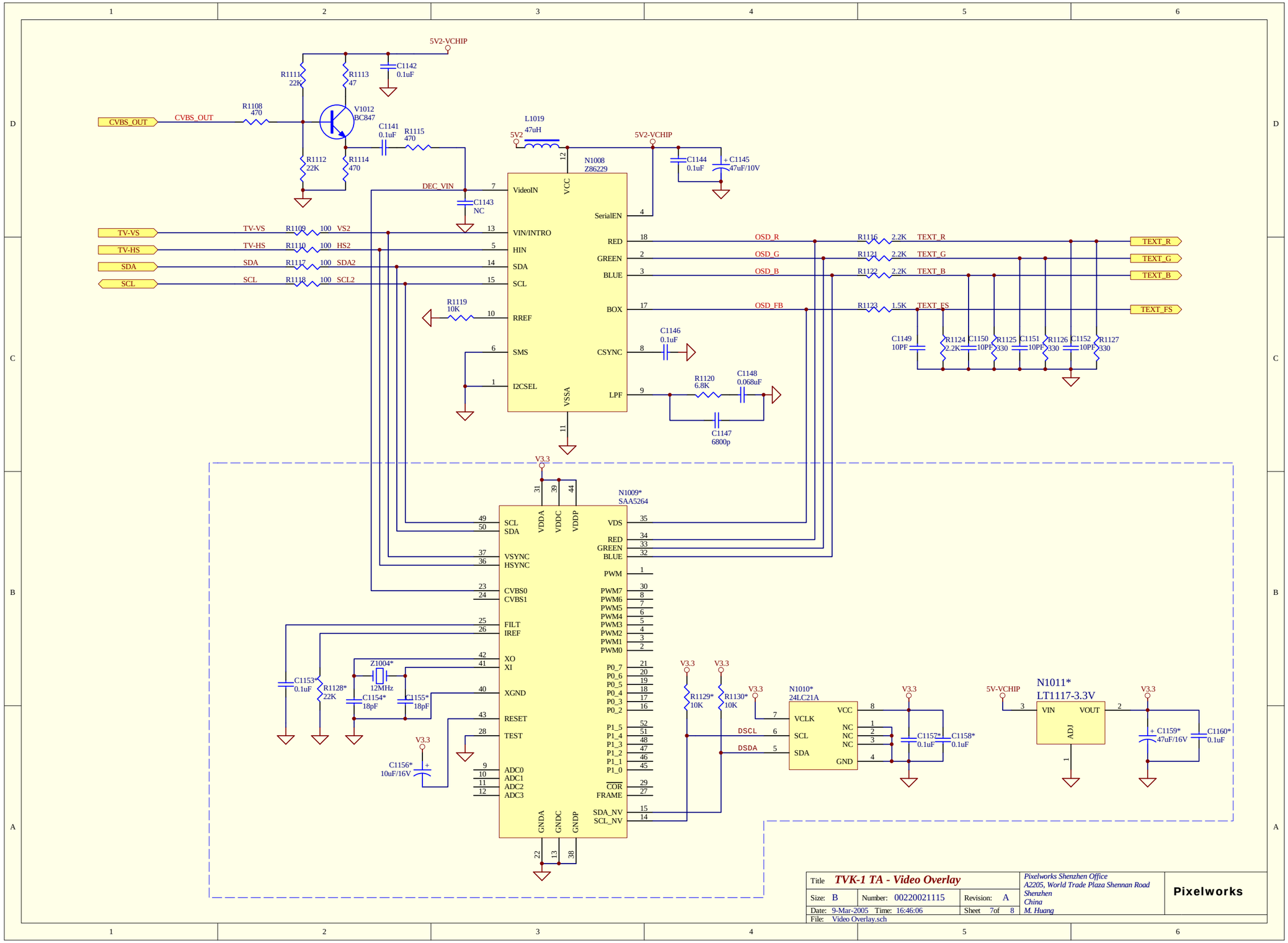

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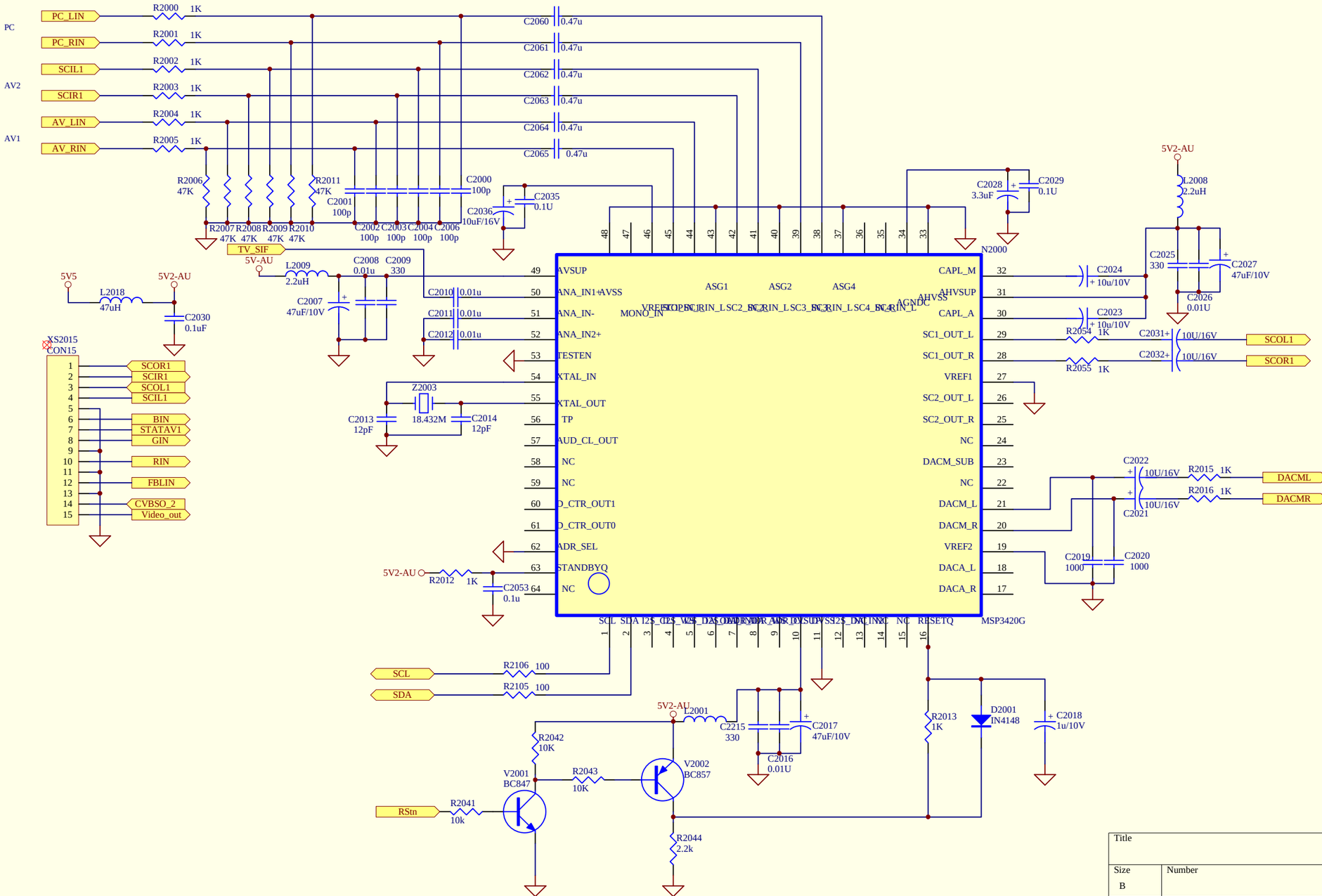
PC
AV2
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PC_RIN
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SCIR1
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AV_RIN
R2000 1K
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R2004 1K
R2005 1K
R2006 47K
R2007 47K
R2008 47K
R2009 47K
R2010 47K
R2011 47K
C2001 100p
C2002 100p
C2003 100p
C2004 100p
C2006 100p
C2000 100p
C2035 0.1U
C2036 10uF/16V
C2060 0.47u
C2061 0.47u
C2062 0.47u
C2063 0.47u
C2064 0.47u
C2065 0.47u
TV_SIF
5V-AU
5V5
5V2-AU
L2018 47uH
C2030 0.1uF
L2009 2.2uH
C2007 47uF/10V
C2008 0.01u
C2009 330
C2010 0.01u
C2011 0.01u
C2012 0.01u
XS2015
CON15
SCOR1
SCIR1
SCOL1
SCIL1
BIN
STATAV1
GIN
RIN
FBLIN
CVBSO_2
Video_out
Z2003
18.432M
C2013 12pF
C2014 12pF
5V2-AU
R2012 1K
C2053 0.1u
SCL
SDA
R2106 100
R2105 100
N2000
MSP3420G
AVSUP
ANA_IN1+
ANA_IN-
ANA_IN2+
TESTEN
XTAL_IN
XTAL_OUT
TP
AUD_CL_OUT
NC
NC
I2S_CTR_OUT1
I2S_CTR_OUT0
ADR_SEL
STANDBYQ
NC
AVSS
MONO_IN
ASG1
ASG2
ASG4
AGNDC
CAPL_M
AHVSS
CAPL_A
SC1_OUT_L
SC1_OUT_R
VREF1
SC2_OUT_L
SC2_OUT_R
NC
DACM_SUB
NC
DACM_L
DACM_R
VREF2
DACA_L
DACA_R
SCL
SDA
I2S_CL
I2S_WS
I2S_DA_OUT
I2S_DA_IN
ADR_SEL
I2S_CL
I2S_WS
I2S_DA_OUT
I2S_DA_IN
NC
RESETQ
C2028 3.3uF
C2029 0.1U
C2024 10u/10V
C2023 10u/10V
R2054 1K
R2055 1K
5V2-AU
L2008 2.2uH
C2025 330
C2027 47uF/10V
C2026 0.01U
C2031+ 10U/16V
C2032+ 10U/16V
SCOL1
SCOR1
C2022 10U/16V
C2021 10U/16V
R2015 1K
R2016 1K
DACML
DACMR
C2019 1000
C2020 1000
5V2-AU
L2001
C2215 330
C2017 47uF/10V
C2016 0.01U
R2042 10K
R2043 10K
V2001 BC847
V2002 BC857
RStn
R2041 10k
R2044 2.2k
R2013 1K
D2001 IN4148
C2018 1u/10V
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Size B
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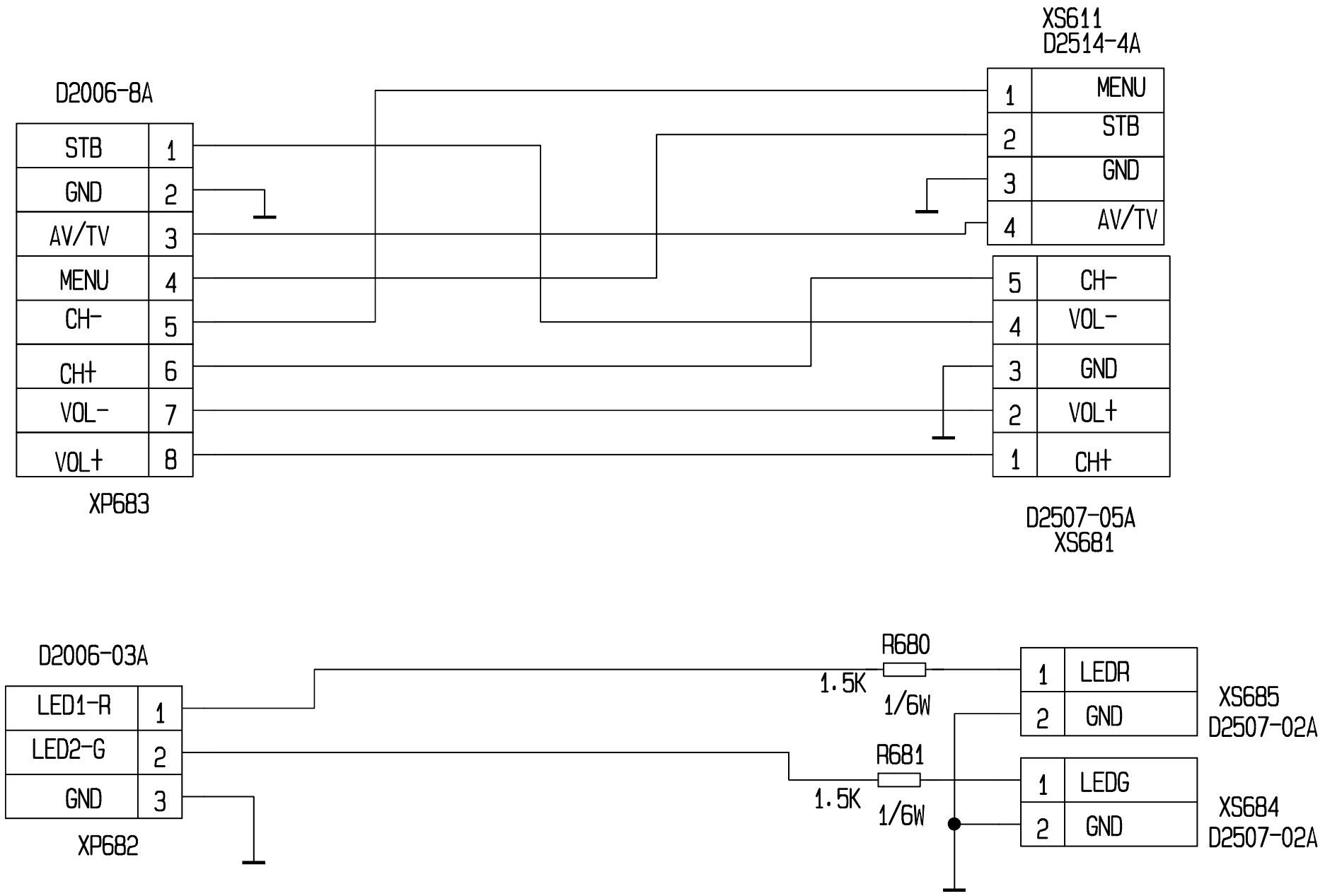
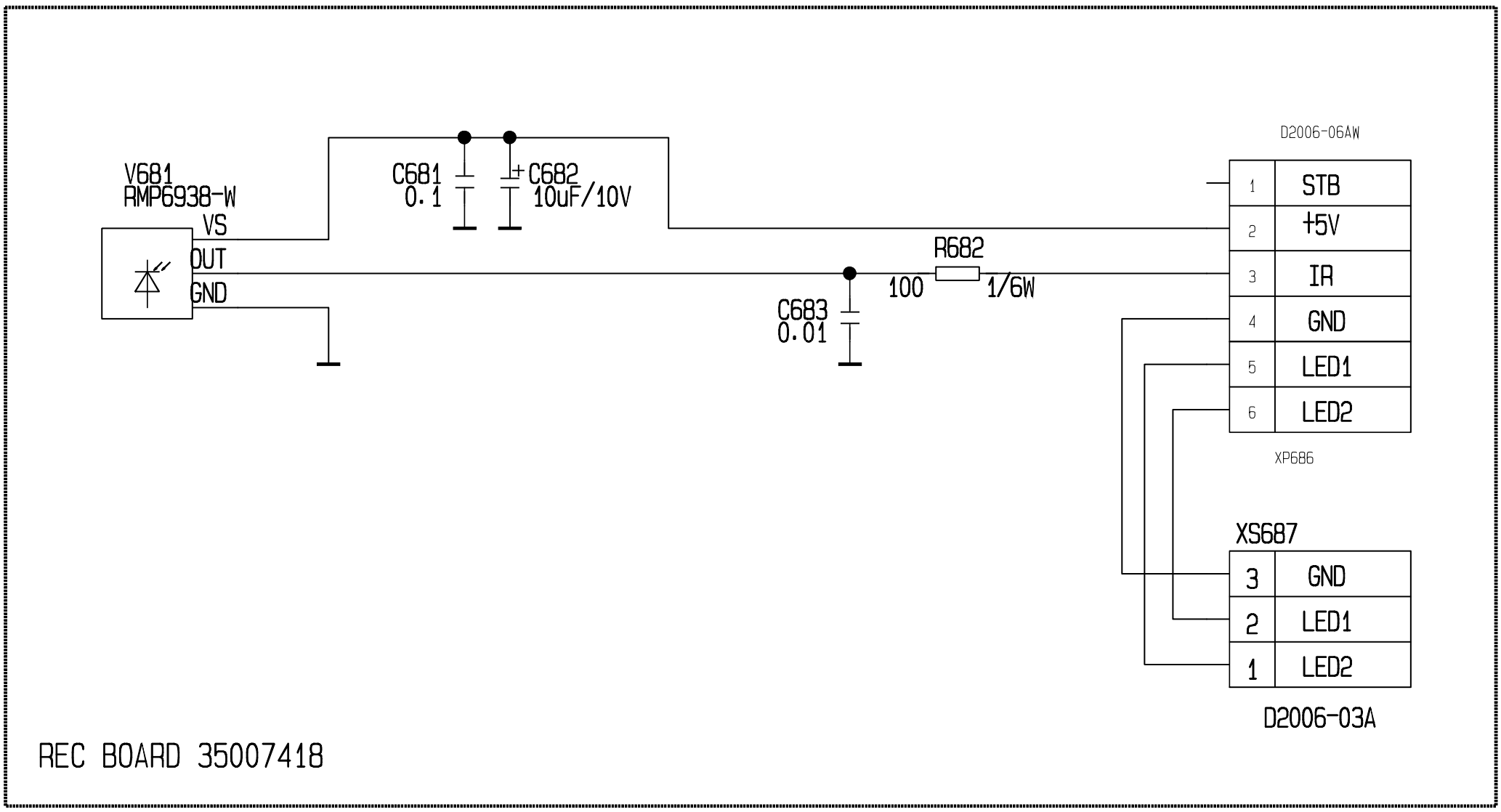
KEY BOARD 35007419





REC BOARD 35007418

KLC-TM2018 POWER Board Schematic

BD901
T4SB80

C904
400V/150u

C905
400V/22n

C906
1KV/4700p

R902
2W/47k

C911 400Vac/470p

D904
MBR20100

D905
MBR20100

C912
1kV/390p

T901
L27_V12

C914
16V/1000u

L902
8u/6A

C915
16V/1000u

C916
16V/1000u

C917
50Vac/0.1u

XS902

C913
50Vac/0.1u

R903
2W/100

D902
BAV21

R901
5(NTC)

C908
50V/47u

D903
BAV21

C920
400Vac/470p

C902
400Vac/470p

C903
400Vac/470p

VD901
1/2W/18V

R908
1/4W/100

R907
1/4W/470

J904
1/2W 100K

D901
1N4007

L901
LCL-F112

C909
50V/1u

N901
ICE3DS01G-D

C910
50V/0.47u

R909
1/4W/27

V901
SPP7N60C3

C901
250Vac/0.22u

F901
2A/250Vac

XS901

R905
2W/0.68

R906
2W/0.68

R910
1/4W/1.5k

R911
1/4W/1.5k

R915
1/4W/1.5k

C919
50V/1000p

R914
1/4W/10k

N902
PC817

N903
TL431

R912
1/4W/4.7k

C918
50V/0.22u

R913
1/4W/3k

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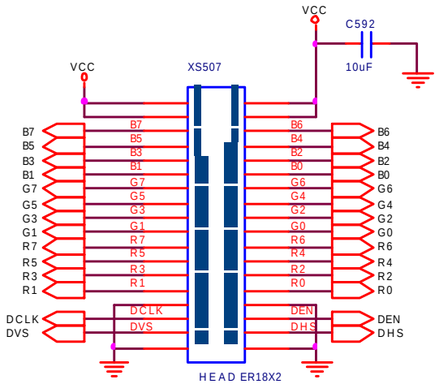
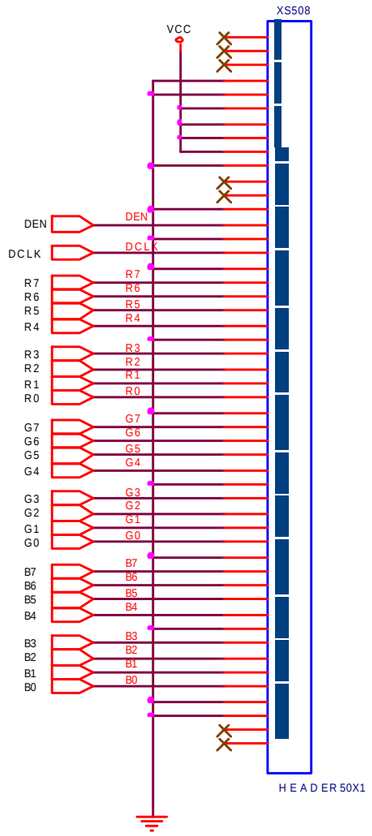
Size A4	Document Number <Doc>	Rev 1
Date: Tuesday, March 08, 2005	Sheet 1 of 1	

KLC-TM2018
Panel Convert
Board Schematic





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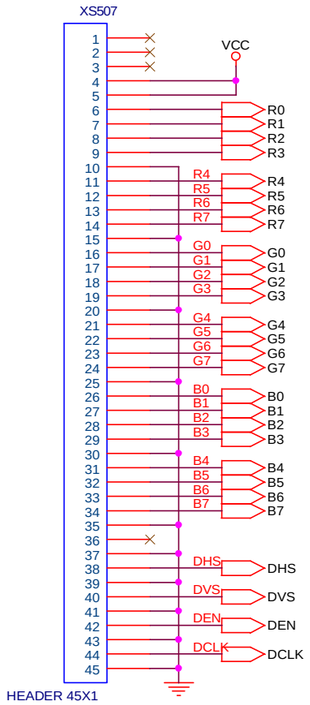

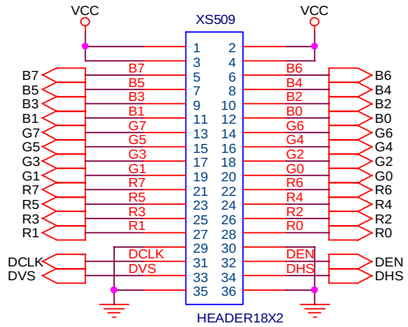

KLC-TM2018
Panel Convert
Board Schematic

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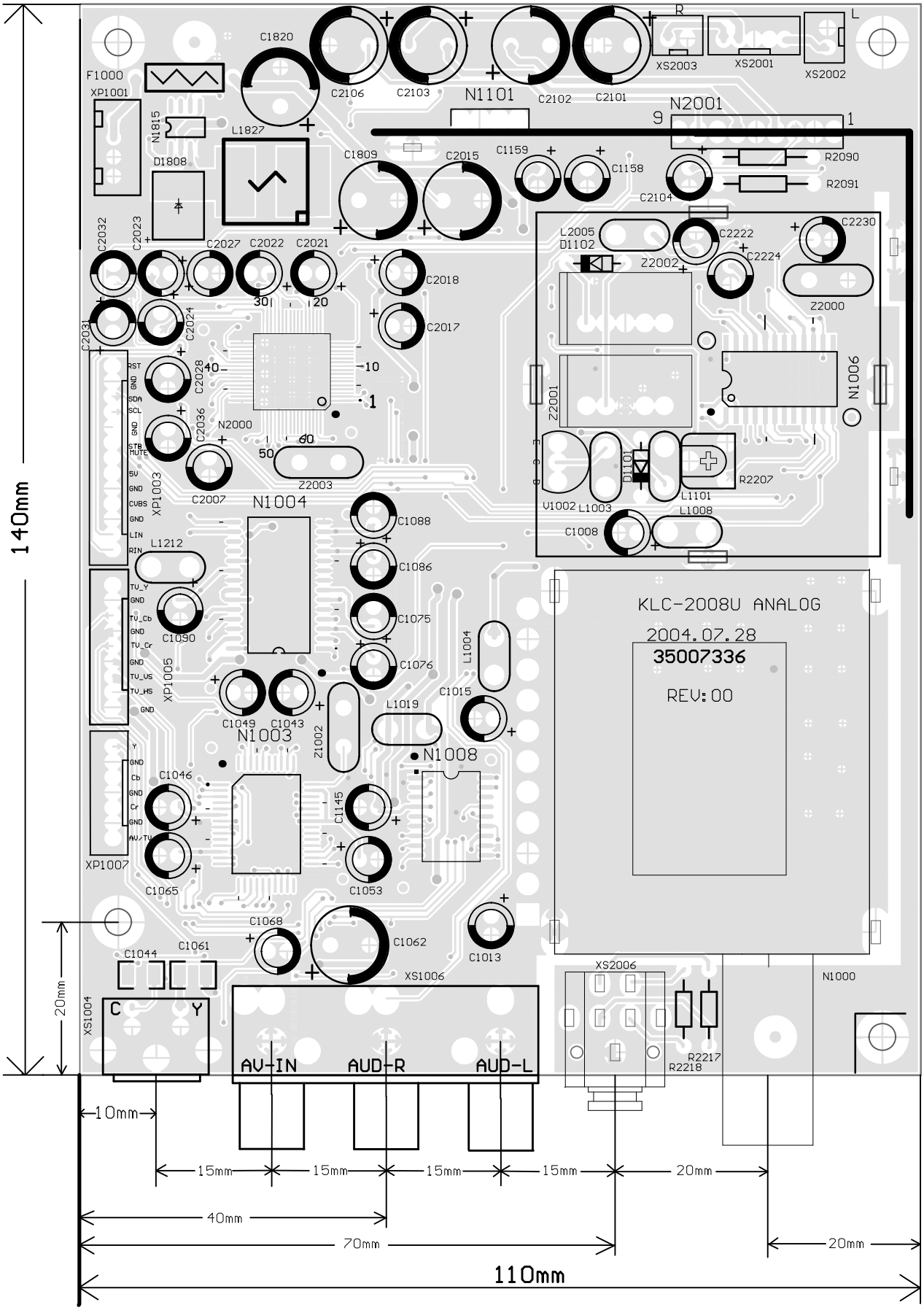
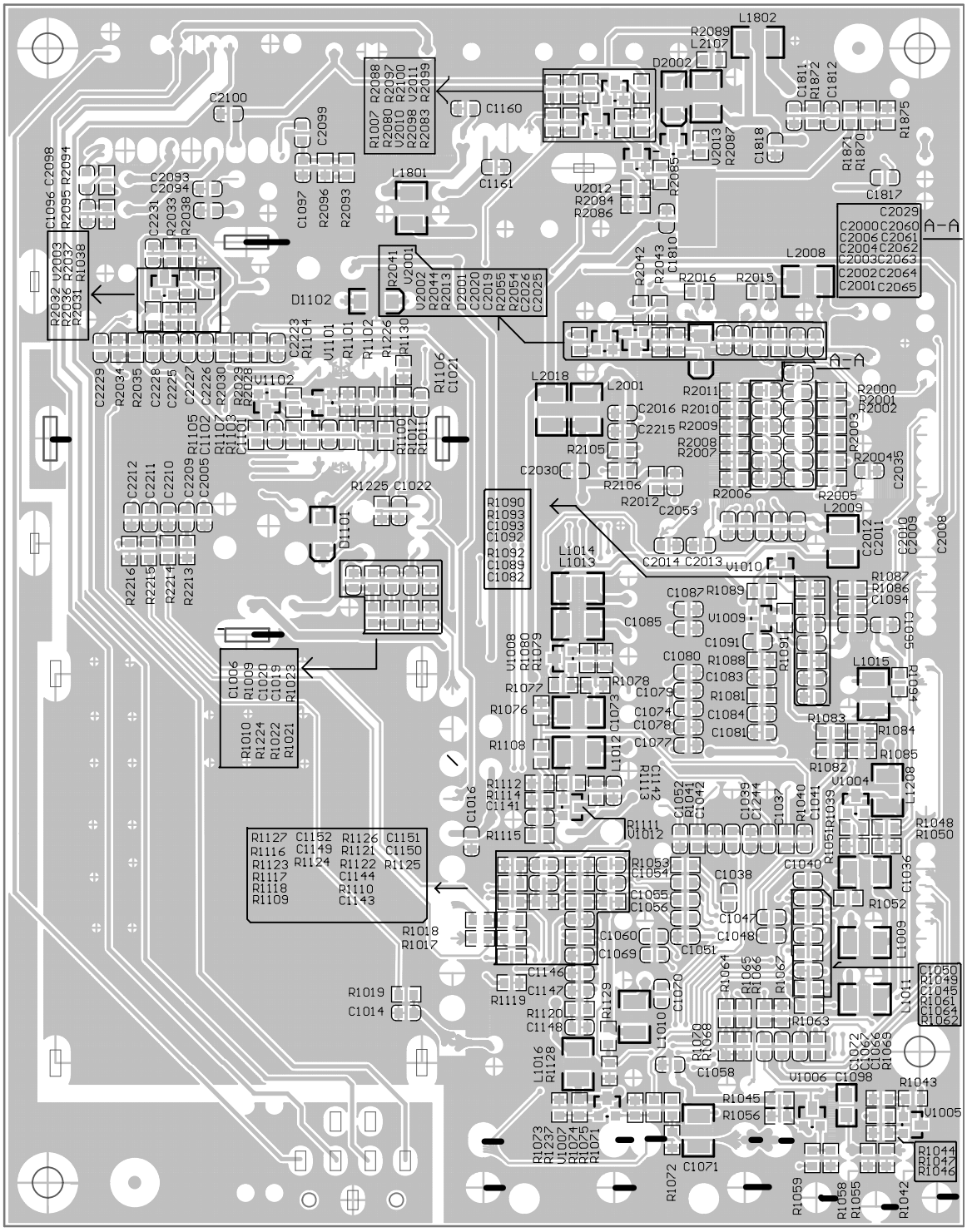
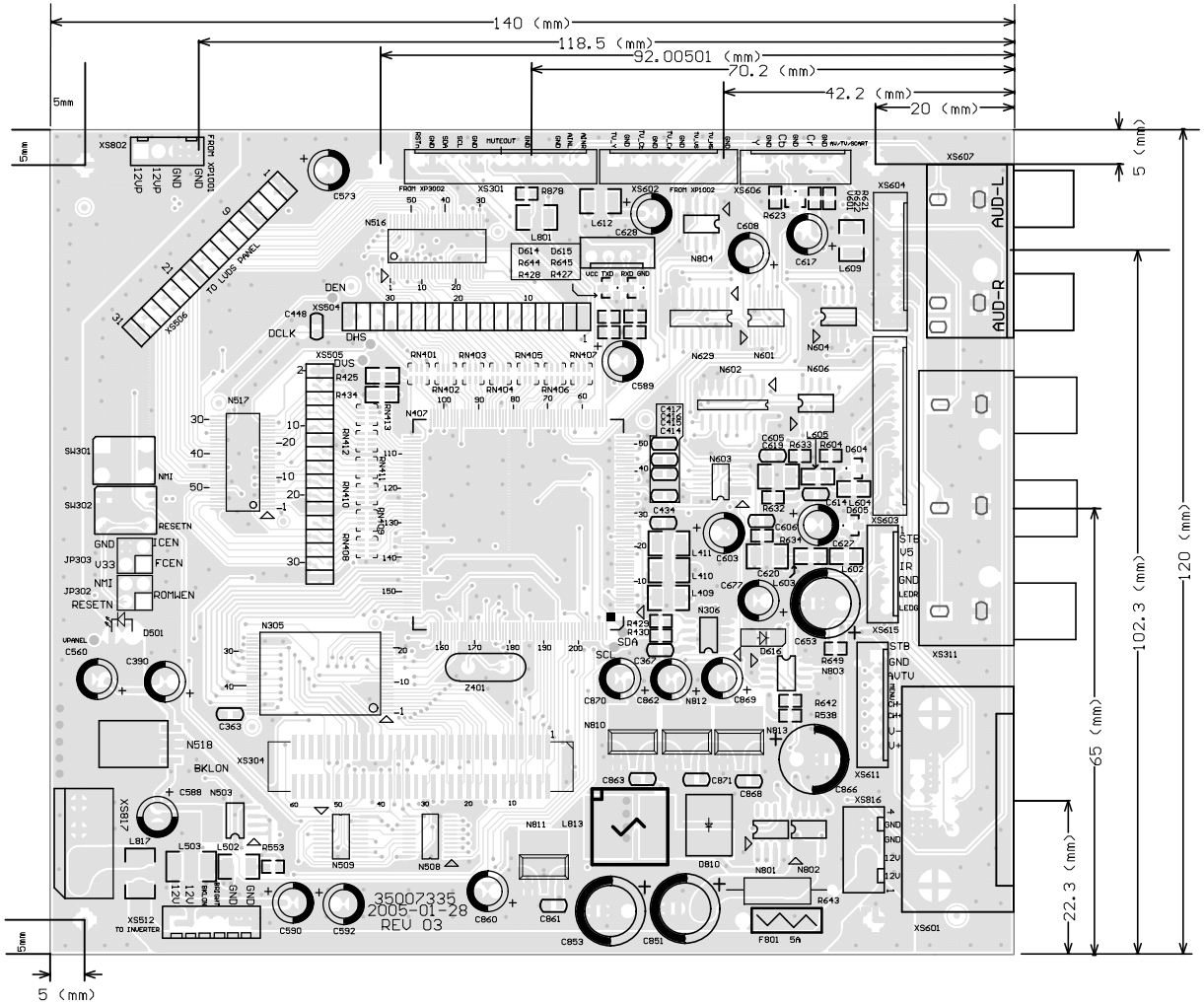
Date: Wednesday, December 29, 2004	Sheet 1 of 1	

KLC-TM2018
Analog Board Toplayer



KLC-TM2018
Analog Board Bottom layer





KLC-TM2018
Digital Board
Toplayer

KLC-TM2018
Digital Board
Bottom layer