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Acer AT2002 Service Guide

Service Guide Version and Revision

No.	Version	Release Date	Revision
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ACER AT2002 Service Manual.

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Conventions

The following conventions are used in this manual:

Screen messages	Denotes actual messages that appear on screen.
NOTE	Gives bits and pieces of additional information related to the current topic.
WARNING	Alerts you to any damage that might result from doing or not doing specific actions.
CAUTION	Gives precautionary measures to avoid possible hardware or software problems.
IMPORTANT	Remind you to do specific actions relevant to the accomplishment of procedures.

Preface

Before using this information and the product it supports, please read the following general information.

1. This Service Guide provides you with all technical information relating to the BASIC CONFIGURATION decided for Acer's "global" product offering. To better fit local market requirements and enhance product competitiveness, your regional office may have decided to extend the functionality of a machine (e.g. add-on card, modem, or extra memory capability). These LOCALIZED FEATURES will NOT be covered in this generic service guide. In such cases, please contact your regional offices or the responsible personnel/channel to provide you with further technical details.

2. Please note WHEN ORDERING FRU PARTS, that you should check the most up-to-date information available on your regional web or channel. If, for whatever reason, a part number change is made, it will not be noted in the printed Service Guide. For ACER-AUTHORIZED SERVICE PROVIDERS, your Acer office may have a DIFFERENT part number code to those given in the FRU list of this printed Service Guide. You MUST use the list provided by your regional Acer office to order FRU parts for repair and service of customer machines.

Warning: (For FCC Certified Models)

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy, and if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

1. Reorient or relocate the receiving antenna.
2. Increase the separation between the equipment and receiver.
3. Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
4. Consult the dealer or an experienced radio/TV technician for help.

Notice:

1. The changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.
2. Shielded interface cables and AC power cord, if any, must be used in order to comply with the emission limits.
3. The manufacturer is not responsible for any radio or TV interference caused by unauthorized modification to this equipment. It is the responsibility of the user to correct such interference.

As ENERGY STAR® Partner our company has determined that this product meets the ENERGY STAR® guidelines for energy efficiency.

Warning:

To prevent fire or shock hazard, do not expose the monitor to rain or moisture. Dangerous high voltages are present inside the monitor. Do not open the cabinet. Refer servicing to qualified personnel only.

Precautions

- Do not use the monitor near water, e.g. near a bathtub, washbowl, kitchen sink, laundry tub, swimming pool or in a wet basement.
- Do not place the monitor on an unstable trolley, stand, or table. If the monitor falls, it can injure a person and cause serious damage to the appliance. Use only a trolley or stand recommended by the manufacturer or sold with the monitor. If you mount the monitor on a wall or shelf, use a mounting kit approved by the manufacturer and follow the kit instructions.
- Slots and openings in the back and bottom of the cabinet are provided for ventilation. To ensure reliable operation of the monitor and to protect it from overheating, be sure these openings are not blocked or covered. Do not place the monitor on a bed, sofa, rug, or similar surface. Do not place the monitor near or over a radiator or heat register. Do not place the monitor in a bookcase or cabinet unless proper ventilation is provided.
- The monitor should be operated only from the type of power source indicated on the label. If you are not sure of the type of power supplied to your home, consult your dealer or local power company.
- The monitor is equipped with a three-pronged grounded plug, a plug with a third (grounding) pin. This plug will fit only into a grounded power outlet as a safety feature. If your outlet does not accommodate the three-wire plug, have an electrician install the correct outlet, or use an adapter to ground the appliance safely. Do not defeat the safety purpose of the grounded plug.
- Unplug the unit during a lightning storm or when it will not be used for long periods of time. This will protect the monitor from damage due to power surges.
- Do not overload power strips and extension cords. Overloading can result in fire or electric shock.
- Never push any object into the slot on the monitor cabinet. It could short circuit parts causing a fire or electric shock. Never spill liquids on the monitor.
- Do not attempt to service the monitor yourself; opening or removing covers can expose you to dangerous voltages and other hazards. Please refer all servicing to qualified service personnel
- To ensure satisfactory operation, use the monitor only with UL listed computers which have appropriate configured receptacles marked between 100 - 240V AC, Min. 5A.
- The wall socket shall be installed near the equipment and shall be easily accessible.

Special Notes On LCD TV Monitors

The following symptoms are normal with LCD TV monitor and do not indicate a problem.

Notes

- Due to the nature of the fluorescent light, the screen may flicker during initial use. Turn off the Power Switch and then turn it on again to make sure the flicker disappears.
- You may find slightly uneven brightness on the screen depending on the desktop pattern you use.
- The LCD TV screen has effective pixels of 99.99% or more. It may include blemishes of 0.01% or less such as a missing pixel or a pixel lit all of the time.
- Due to the nature of the LCD TV screen, an afterimage of the previous screen may remain after switching the image, when the same image is displayed for hours. In this case, the screen is recovered slowly by changing the image or turning off the Power Switch for hours.

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General Specifications

Model	AT2002
Panel spec	
Resolution (pixels)	800 x 600
Brightness (tpe.)	450 cd/m2
Contrast Ratio (tpe.)	600:1
Display colour	16.7 M
Viewing angle (tpe.)	H: 160° ; V:120°
Response (tpe.)	16 ms (gray to gray)
Power supply	
Input	100 V ~ 240 V - AC. (50/60 Hz)
Max. power consumption	< 65 W
Power saving	5 W
Mechanical	
Dimensions (W x H x D mm)	514 x 474 x 78
Weight (Kg)	7.4
Weight (lbs)	16.3
Gross weight (Kg)	9.4
Gross weight (lbs)	20.7
Wall Mounting	100mm x 100mm
Analog TV system	
TV Colour system	PAL, SECAM
Sound system	B/G/D/K/I/L
Stereo system	NICAM / A2
TV Tuner System	PLL, 45.25 Mhz - 862.25 Mhz
Subtitles	Teletext 1.5
Analog TV-tuner quantity	1
Terminal	
Analog Tuner In	Yes
SCART	CVBS (In/Out), RGB (In), Audio R/L
AV	CVBS, Audio R/L
S-Video	S-Video, audio R/L share with AV
PC D-sub in	Yes
PC audio-in	Yes
Audio system	
Speaker	5 W + 5 W

LCD TV Description

The LCD TV will contain a main board (include audio), an I/O board, a switching power board, a function keyboard (include an IR Board) and an Ear phone board. The main board and power board will house the flat panel to control logic I2C bus, DDC, brightness control logic for LCD panel, DC-DC conversion to supply the appropriate power to the whole board and transmitting TTL level signals into LCD Module to drive the LCD display circuit.

The inverter board will drive the five CCFLs (Cold Cathode Fluorescent Lamp).

The switching power board will provides the power ON/OFF to control the TV and control LED indicator for DPMS.

The function keyboard and Remote Control will provide the OSD control signal to the Main Board.

Precautions And Notices

1-1 Assembly Precaution

- (1) Please do not press or scratch LCD panel surface with anything hard. And do not soil LCD panel surface by touching with bare hands (Polarize film, surface of LCD panel is easy to be flawed)
In the LCD panel, the gap between two glass plates is kept perfectly even to maintain display characteristic and reliability. If this panel is subject to hard pressing, the following occurs :
 - (a) Uniform color
 - (b) Orientation of liquid crystal becomes disorder
- (2) Please wipe out LCD panel surface with absorbent cotton or soft cloth in case of it being soiled.
- (3) Please wipe out drops of adhesive like saliva and water in LCD panel surface immediately.
They might damage to cause panel surface variation and color change.
- (4) Do not apply any strong mechanical shock to the LCD panel.

1-2 Operating Precaution

- (1) Please be sure to unplug the power cord before remove the back-cover. (be sure the power is turn-off)
- (2) Please do not change variable resistance settings in MAIN-BOARD; they are adjusted to the most suitable value. If they are changed, it might happen LUMINANCE does not satisfy the white balance spec.
- (3) Please consider that LCD backlight takes longer time to become stable of radiation characteristic in low temperature than in room temperature.
- (4) Please pay attention to displaying the same pattern for very long-time. Image might stick on LCD.

1-3 Storage Precaution

- (1) When you store LCD for a long time, it is recommended to keep the temperature between -20°C - 60°C without the exposure of sunlight and to keep the humidity less than 85% RH.
- (2) Please do not leave the LCD in the environment of high humidity and high temperature such as 60°C, 95%RH.
- (3) Please do not operate the LCD in the environment of abnormal temperature, below 0°C.

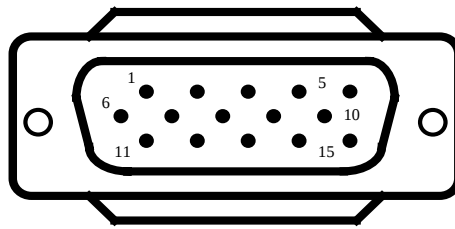
1- 4 High Voltage Warning

The high voltage was only generated by Power support part, if carelessly contacted the transformer on this module, can cause a serious shock.

D-SUB PIN Distribution

This procedure gives you instructions for installing and using the LCD TV display.

- (1) Position the display on the desired operation and plug the power cord into a convenient AC outlet.
Three-wire power cord must be shielded and is provided as a safety precaution as it connects the chassis and cabinet to the electrical conduct ground. If the AC outlet in your location does not have provisions for the grounded type plug, the installer should attach the proper adapter to ensure a safe ground potential.
- (2) Connect the 15-pin color display shielded signal cable to your signal system device and lock both screws on the connector to ensure firm grounding. The connector information is as follow:



15 - Pin Color Display Signal Cable

Pin NO.	Description	Pin NO.	Description
1	Red Video	9	+5V(PC97)
2	Green Video	10	VGA-CONN(Sync GND)
3	Blue Video	11	Ground
4	Ground	12	SDA(DDC Data)
5	Ground	13	H-Sync.
6	Red Ground	14	V-Sync.
7	Green Ground	15	Serial Clock for DDC
8	Blue Ground		

Factory Preset Display Modes:

Analog RGB Signal Timing

	Vertical	Horizontal	Sync Polarity		Presence		Screen Mode
Dot	Frequency	Frequency	Horizontal	Vertical	Horizontal	Vertical	FULL
	(Hz)	(KHz)					(16:9)
720 × 400	70.1	31.5	NEG	POS	YES	YES	YES
640 × 480	59.9	31.5	NEG	NEG	YES	YES	YES
	72.8	37.9	NEG	NEG	YES	YES	YES
	75.0	37.5	NEG	NEG	YES	YES	YES
800 × 600	60.3	37.9	POS	POS	YES	YES	YES
	72.2	48.1	POS	POS	YES	YES	YES
	75.0	46.9	POS	POS	YES	YES	YES

LCD TV Panel Specification

Panel Features

- High brightness (450 nits)
- High contrast ratio (700:1)
- Fast response time (16ms)
- High color saturation NTSC 72%
- WXGA (800 x 600 pixels) resolution
- DE (Data Enable) only mode
- LVDS (Low Voltage Differential Signaling) interface
- Optimized response time for 50/60 Hz frame rate
- Ultra wide viewing angle: 160(H)/140(V) (CR>20) Super MVA technology
- 180 degree rotation display option

General Specifications

NO.	Item	Specification	Remark
1	Display resolution(pixel)	800x3(H)×600(V)	
2	Display Mode	TN Type, Normally White + SWV Film	
3	Active area (mm)	408(H)×306(V)	
4	Screen size (inch)	20.1(Diagonal)	
5	Pixel pitch (mm)	0.51(H)×0.51(V)	
6	Color configuration	R. G. B. Vertical stripe	
7	Display Color	16.2M (6 bit + FRC)	
8	Typical white Luminance	450 nit (typ.)	
9	Contrast ratio	700:1	
10	Color Gamut	72% typ. of NTSC coverage	
11	Response Time	16ms typ. (Tr+Tf)	
12	Electrical Interface	TTL 1 port	
13	Overall dimension (mm)	448(W)×347(H)×23(D)(max.)	
14	Weight (g)	3500	
15	Surface Treatment	Anti-Glare type	
16	RoHS	RoHS compliance	

Optical Specifications

Test Conditions

	Item	Symbol	Min.	Typ.	Max.	Unit	Remark
Power supply voltage	Input voltage	V_{CC}	4.75	5.0	5.25	V	
	Current consumption	I_A	-	0.8	1.0	Arms	
	Inrush current	I_{RUSH}	-	-	3.0	Apeak	
	Power ripple voltage	V_{RP}	-	-	100	mVp-p	
Internal logic	Low voltage	V_{IL}	0	-	1.0	V	
	High voltage	V_{IH}	2.3	-	3.3	V	

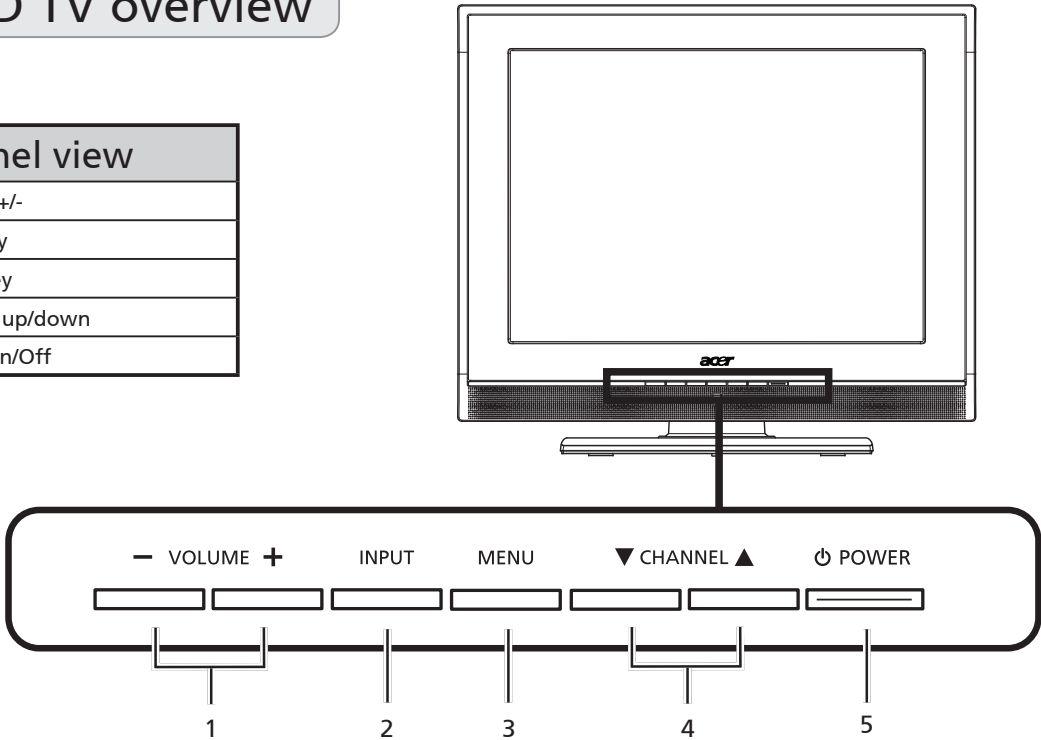
Optical Specifications

Item	Symbol	Condition	Specification			Unit	Remark
			Min.	Typ.	Max.		
Response time							
Rising time	T_r	$\theta = 0^\circ$	-	11	15	ms	
Falling time	T_f		-	5	10		
Contrast ratio(center of screen)	CR	$\theta = 0^\circ$	600	700	-		
Viewing angle							
Top		$CR \geq 10$	65	80	-	Deg.	
Bottom			55	60	-		
Left			65	80	-		
Right			65	80	-		
Brightness (center of screen)	Y_L	$\theta = 0^\circ$	350	450	-	nit	
Color chromaticity (CIE)	W_x	$\theta = 0^\circ$	0.249	0.279	0.309		
	W_y		0.260	0.290	0.320		
	R_x		0.607	0.637	0.667		
	R_y		0.311	0.341	0.371		
	G_x		0.268	0.298	0.328		
	G_y		0.568	0.598	0.628		
	B_x		0.113	0.143	0.173		
	B_y		0.028	0.058	0.088		
Color Saturation (NTSC)				72		%	
White uniformity	δ_w		70	-	-	%	

Front panel controls

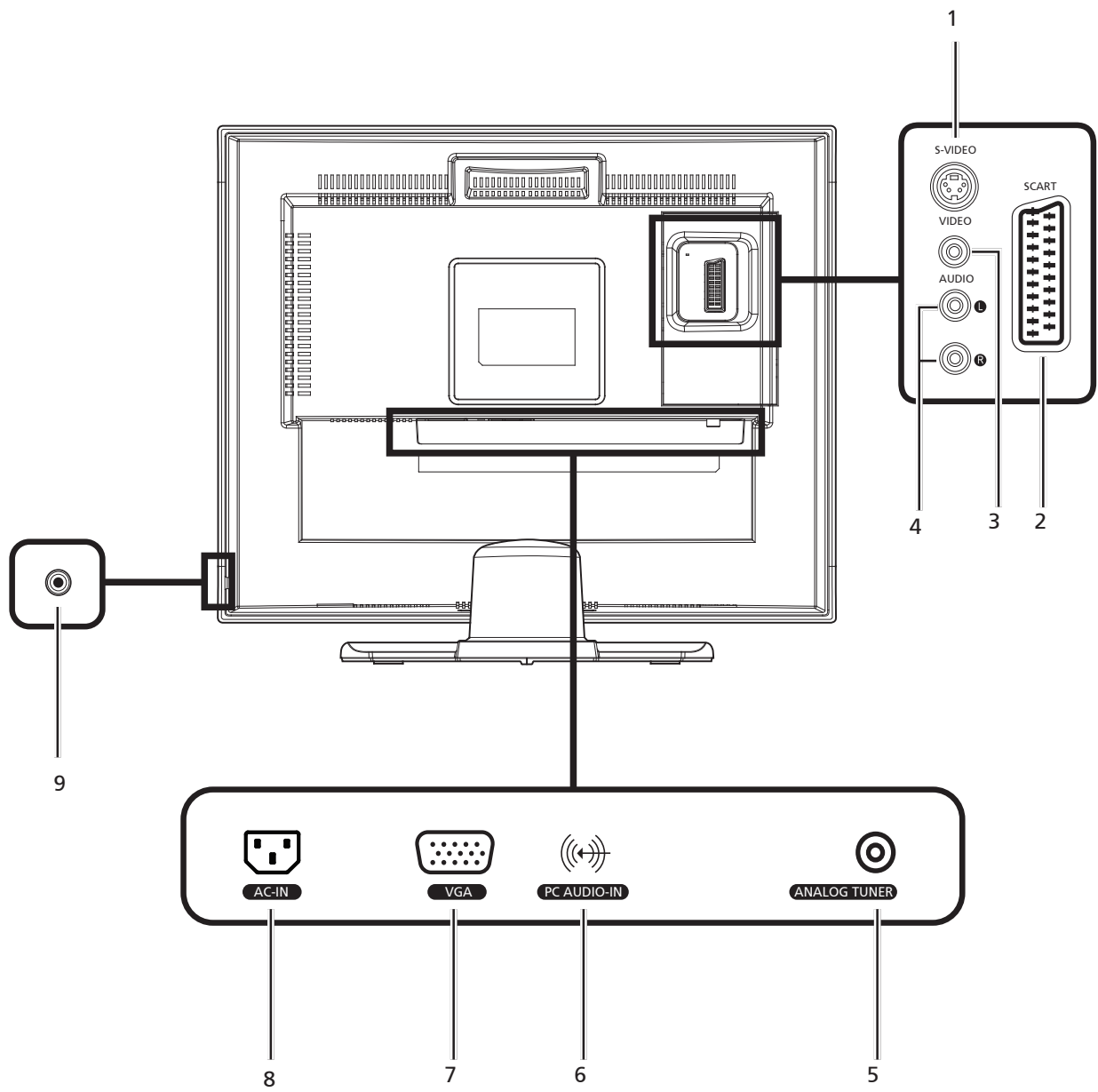
Your LCD TV overview

Front panel view	
1	Volume +/-
2	Input key
3	Menu key
4	Channel up/down
5	Power On/Off



1		Volume up	When the OSD is on, functions the same as the Right arrow
		Volume down	When the OSD is on, functions the same as the Left arrow
2		Input key	When the OSD is on, press this button to confirm selection
3		Menu key	Turns the OSD menu ON and OFF
4		Channel up	When the OSD is on, functions the same as the Up arrow
		Channel down	When the OSD is on, functions the same as the Down arrow

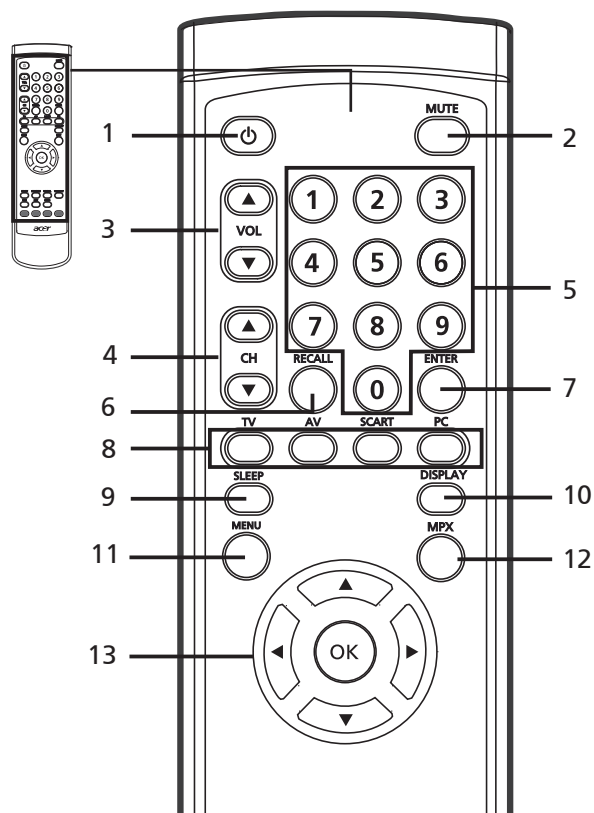
Rear panel view			
1	S-Video	2	SCART
3	CVBS	4	AV-Audio L/R
5	Analog antenna	6	PC Audio-in
7	VGA-in	8	AC-in
9	Earphone		



Using the Remote Control

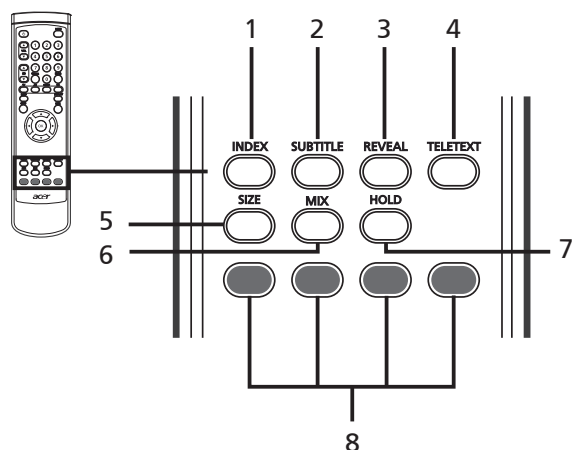
Remote control

General keys



- 1 **POWER**
Press to turn your TV on/off.
- 2 **MUTE**
Press to toggle audio on and off.
- 3 **VOL (up/down)**
Press to increase or decrease the volume.
- 4 **CH (up/down)**
Press to sequentially select the TV channel.
- 5 **Number keys.**
- 6 **RECALL**
Press to return to the previous channel.
- 7 **ENTER**
Press to confirm channel number selection.
- 8 **Input buttons (TV/AV/SCART/PC)**
Press to select correct input mode.
- 9 **SLEEP**
Press to set a time period after which the TV will switch itself to standby (15, 30, 45, 60, 90 or 120 minutes).
- 10 **DISPLAY**
Press to display input/channel information (dependent on input/source type).
- 11 **MENU**
Press to open or close the Menu.
- 12 **MPX**
Press to select the sound input, displayed in the top right-hand corner (mono, stereo, bilingual).
- 13 **Directional keys/OK**
VOL (up/down), CH (up/down)

Teletext



- 1 **INDEX**
Press to go to the index page
- 2 **SUBTITLE**
Press to view subtitles on the screen.
- 3 **REVEAL**
Press to reveal hidden teletext information
- 4 **TELETEXT**
Press to switch from TV/AV to Teletext mode.
- 5 **SIZE**
Press once to zoom teletext page to 2X.
Press again to resume.
- 6 **MIX**
Press to overlay teletext page on the TV image.
- 7 **HOLD**
Press to pause the current teletext page in multi-page viewing mode.
- 8 **Colour buttons (R/G/Y/B)**
Operates corresponding button on the teletext page.

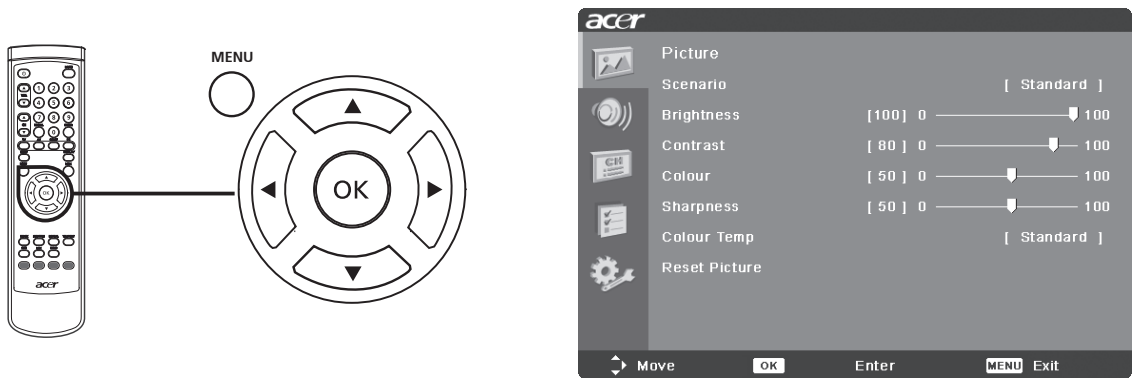
Using The OSD Menus

OSD navigation

Many of the advanced settings and adjustments are available through using the OSD (onscreen display) menus, as shown in the example screenshot below.

Basic operations required to navigate these menus (Picture, Audio, Channel management, Options, Settings) are described in this section.

Navigating the OSD with the remote control



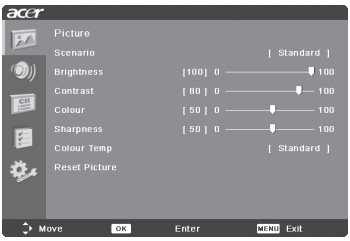
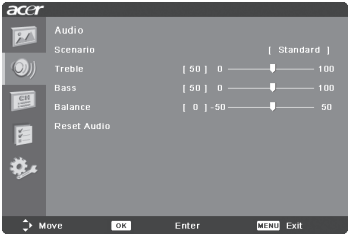
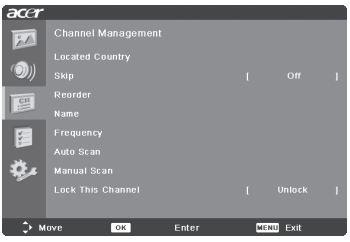
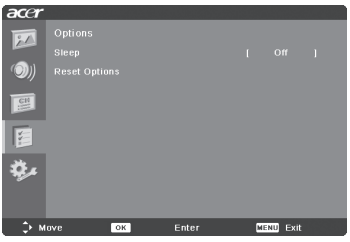
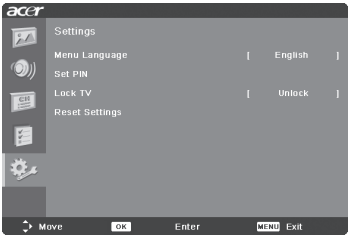
You can also interact with these menus using the front panel controls. Please see "Front panel view" on page 4 for details.

There are five main OSD menus. These are: Picture, Audio, Channel management, Options and Settings. Use the following method to navigate these menus.		
1		Press the MENU button on the remote control or the MENU button on the control panel.
2		Select your desired menu by using the up and down directional keys to switch between the five menus.
3		Use the directional keys to interact with the menu. The up / down directions will scroll through the menu options, while left/right will adjust the different settings (for example, in the Picture menu, settings such as brightness, contrast, etc.). Press MENU to exit.

Adjusting the OSD settings

The OSD can be used for adjusting the settings of your LCD TV.

Press the **MENU** key to open the OSD. You can use the OSD to adjust the picture quality, audio settings, channel settings and general settings. For advanced settings, please refer to following page:

Adjusting the picture quality	
	1 Press the MENU key to bring up the OSD. 2 Using the directional keys, select Picture from the OSD. Then navigate to the picture element you wish to adjust. 3 Use the left or right keys to adjust the sliding scales. 4 The Picture menu can be used to adjust the current Scenario mode, brightness, contrast, colour, sharpness and other image-related qualities.
Adjusting the audio settings	
	1 Press the MENU key to bring up the OSD. 2 Using the directional keys, select Audio from the onscreen display. Then navigate to the feature you wish to adjust. 3 Use the left or right keys to adjust the sliding scale. Press OK to save. 4 The Audio menu can also be used to adjust the treble, balance, sound effects and other important sound-related settings
Adjusting the channel management	
	1 Press the MENU key to bring up the OSD. 2 Using the directional keys, select Channel management from the OSD. 3 Use the directional keys to navigate the menus. 4 The Channel management menu can be used to adjust frequency, and set the channel namings.
Adjusting other options	
	1 Press the MENU key to bring up the OSD. 2 Using the directional keys, select Options from the OSD. 3 Use the directional keys to navigate the menus. 4 The Options menu can be used to select the picture aspect-ratio mode and reset options.
Adjusting the settings	
	1 Press the MENU key to bring up the OSD. 2 Using the directional keys, select Settings from the OSD. Then navigate to the feature you wish to adjust. 3 The Settings menu can be used to adjust the menu language, set the sleep timer and other important settings.



The options available on the OSD may vary depending on the TV signal source.

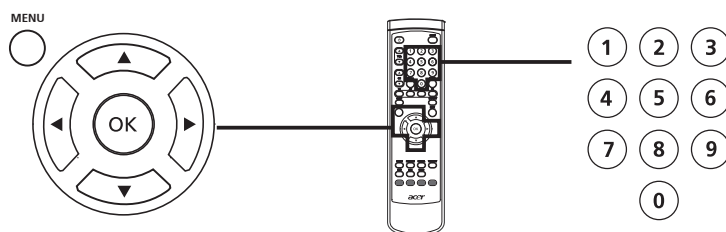
Advanced features

Lock TV

Locking TV content

Lock TV is a handy feature that can block a single channel, multiple channels or all TV sources.

Lock TV allows you to enter a password and effectively stop anyone without the password from watching TV.

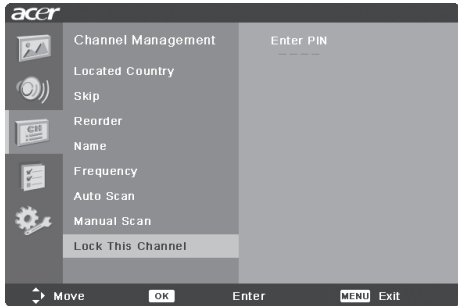
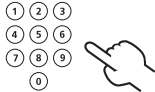
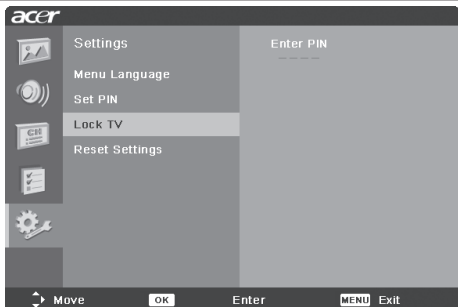
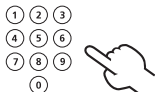


To enable this feature:

Setting a personal PIN			
1			Press the MENU key on the remote control to bring up the OSD.
2			Use the directional keys to navigate to the Settings menu. Then select Set PIN . (see note)
3			Enter a four-digit password. Type it again and press OK to reconfirm.
4			Press MENU to exit.

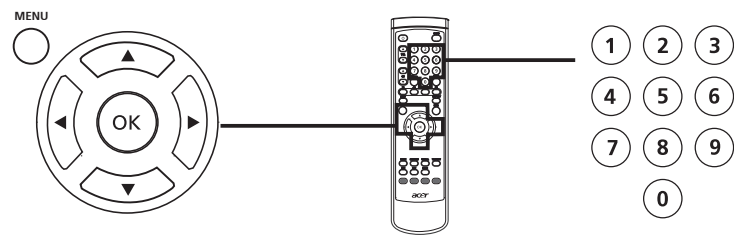


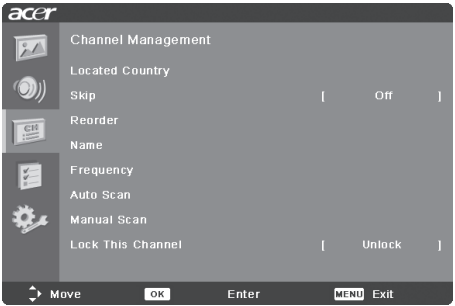
The default PIN for this TV is "0000." First enter "0000" when you want to change the PIN. If you forget your PIN, please enter 6163 to reset.

Locking a single channel			
1		Navigate to the channel you wish to manage.	
2			Press the MENU key on the remote control to bring up the OSD.
3		Use the directional keys to navigate to the  Channel management menu. Then select Lock This Channel .	
4	 	Enter your PIN. Type it again and press OK to reconfirm.(see page 12)	
Locking your TV			
1			Press the MENU key on the remote control to bring up the OSD.
2		Use the directional keys to navigate to the  Settings menu. Then select Lock TV .	
3	 	Enter your PIN. Type it again and press OK to reconfirm. (see page 12 note)	

Re-scan for channels

The first time you completed the setup wizard, all available channels were listed. If you need to re-scan for new channels, please follow the steps below:



Scanning for channels			
1		Press the MENU key on the remote control to bring up the OSD.	
2		Use the directional keys to navigate and select  Channel Management.	
3			Highlight Auto Scan . Then, select Start and press OK to begin.
4	 	Select OK and press MENU to exit.	

Logo

When the monitor is power on, the LOGO will be showed in the center, and disappear slowly.



How To Optimize The DOS-Mode

Plug And Play

Plug & Play DDC2B Feature

This monitor is equipped with VESA DDC2B capabilities according to the VESA DDC STANDARD. It allows the monitor to inform the host system of its identity and, depending on the level of DDC used, communicate additional information about its display capabilities.

The DDC2B is a bi-directional data channel based on the I²C protocol. The host can request EDID information over the DDC2B channel.

This monitor will appear to be non-functional if there is no video input signal. In order for this monitor to operate properly, there must be a video input signal.

This monitor meets the Green monitor standards as set by the Video Electronics Standards Association (VESA) and/or the United States Environmental Protection Agency (EPA) and The Swedish Confederation Employees (NUTEK). This feature is designed to conserve electrical energy by reducing power consumption when there is no video-input signal present. When there is no video input signals this monitor, following a time-out period, will automatically switch to an OFF mode. This reduces the monitor's internal power supply consumption. After the video input signal is restored, full power is restored and the display is automatically redrawn. The appearance is similar to a "Screen Saver" feature except the display is completely off. The display is restored by pressing a key on the keyboard, or clicking the mouse.

Using The Right Power Cord

The accessory power cord for the Northern American region is the wallet plug with NEMA 5-15 style and is UL listed and CSA labeled. The voltage rating for the power cord shall be 125 volts AC.

Supplied with units intended for connection to power outlet of personal computer: Please use a cord set consisting of a minimum No. 18 AWG, type SJT or SVT three conductors flexible cord. One end terminates with a grounding type attachment plug, rated 10A, 250V, CEE-22 male configuration. The other end terminates with a molded-on type connector body, rated 10A, 250V, having standard CEE-22 female configuration.

Please note that power supply cord needs to use VDE 0602, 0625, 0821 approval power cord in European counties.

LCD TV AT2002 series de-assembling procedure

1. Move the monitor our from carton



2. Put the monitor on desk & face down



3. Remove the midea cover & SCREW & TV BOX



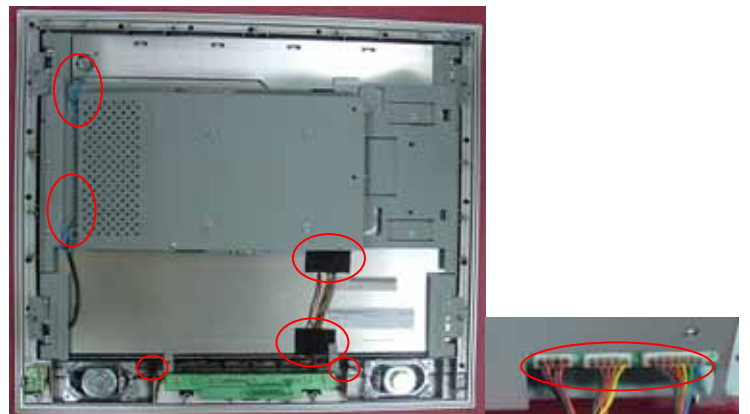
4. Loose the screws & remove the stand



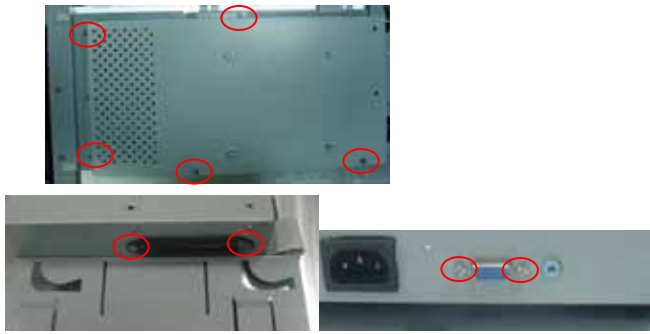
5. Remove the bezel & cover



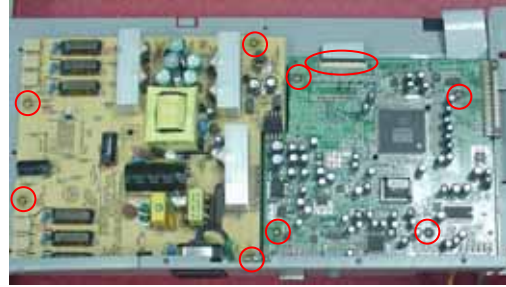
6. TAKE OFF THE CABLE & TAPE



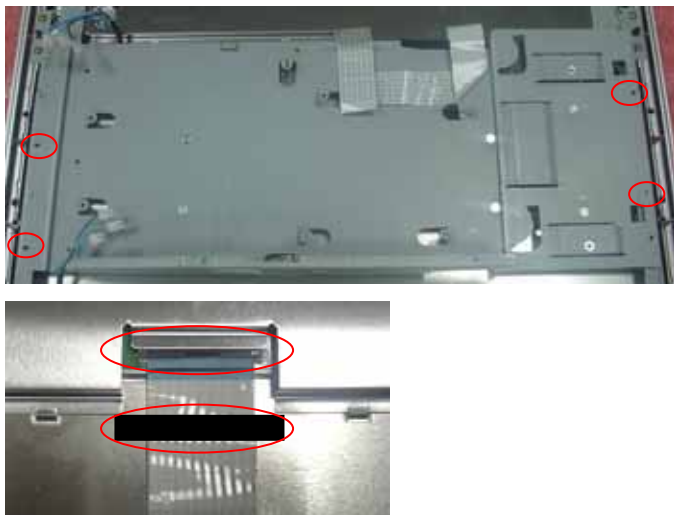
7. Loose the shielding screw & shielding



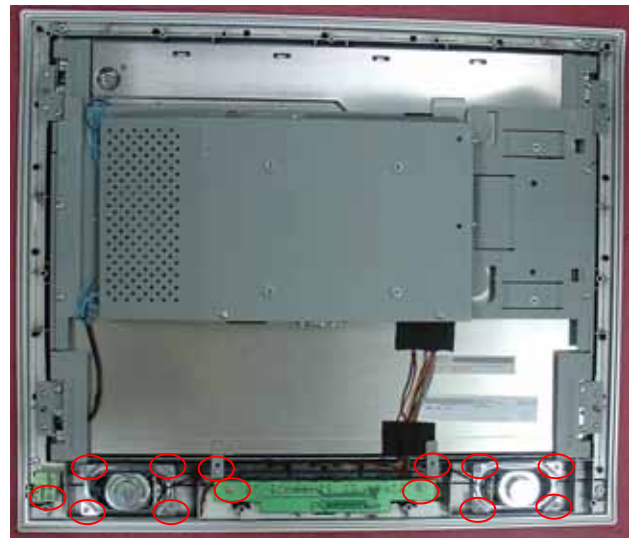
8. Loose the PCB'A screw & LVDS cable



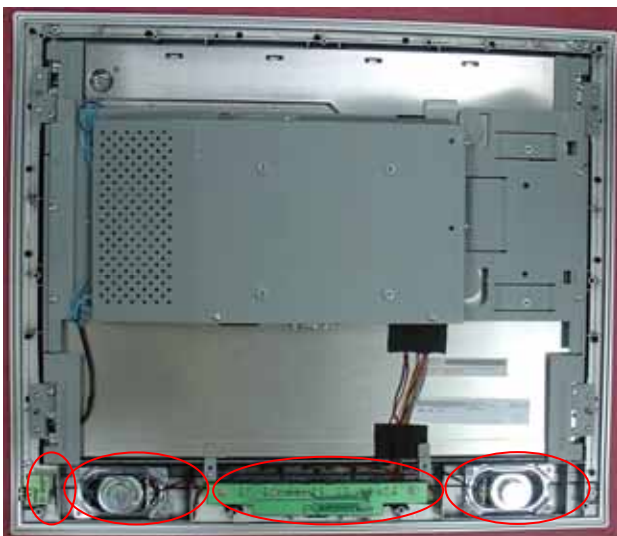
9. Loose the shielding & tape & LVDS cable



10. Loose the Button/B& earphone/b & speaker screw



11. Remove the Button/B& earphone/b & speaker



12. Loose the bezel screw



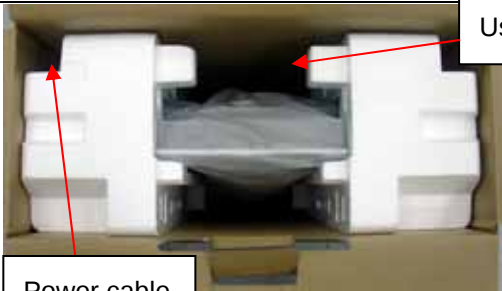
13. Remove the bezel



14. Remove the bkt l/r screw & bkt l/r



LCD TV AT2002 series packing method

1. Sticker on LCD protection film	2. Put the monitor into the PE or EPE bags
	
3. Put on the end-cap left / right	4. Put the monitor into carton
	 Face-up
5. Put all accessories into carton	6. Seal the monitor
 Users manual Power cable	 

LCD TV AT2002 series handling Notice

Correct Method	Incorrect method
	

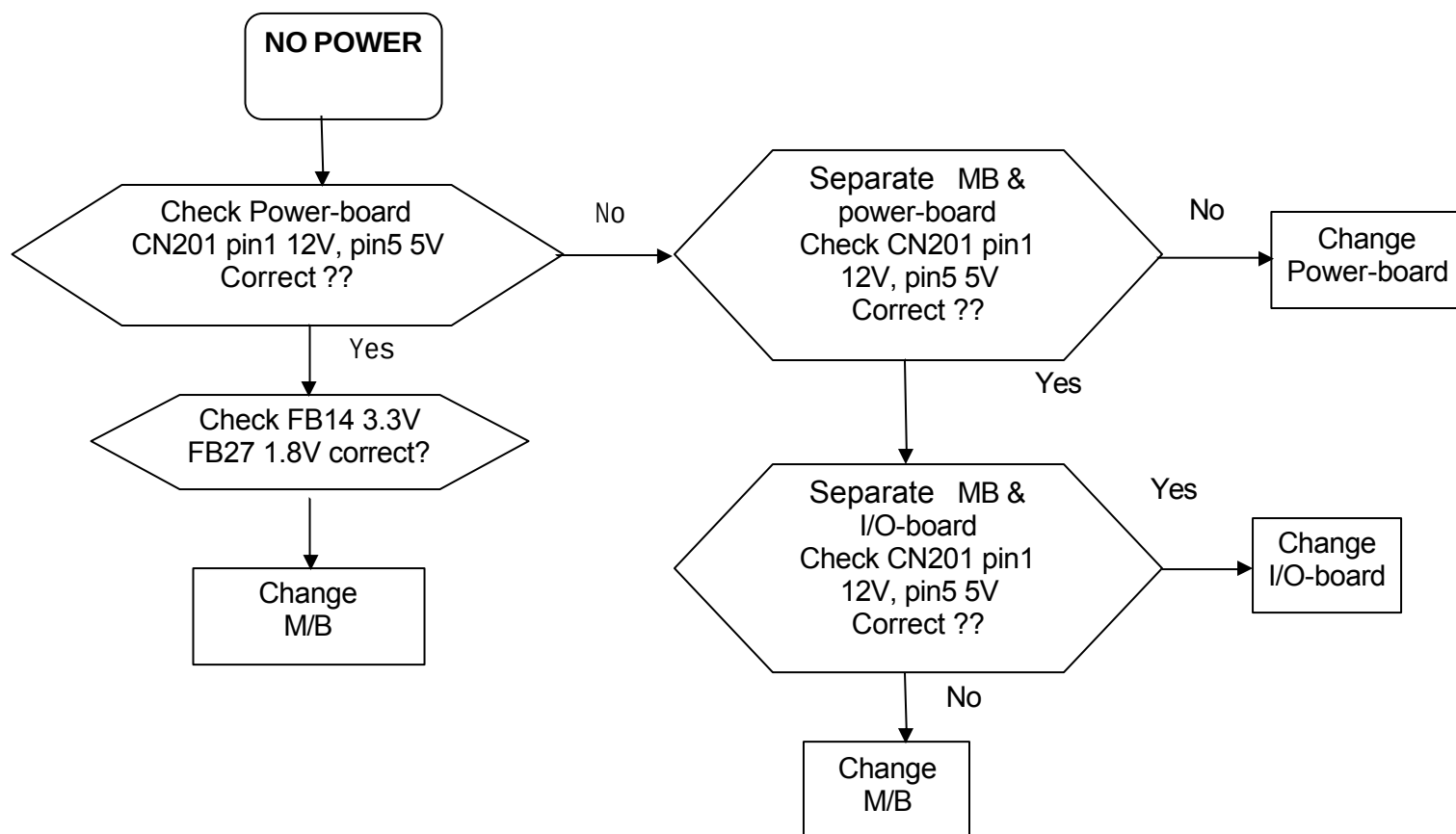
Correct Method	Incorrect method
	

Correct Method	Incorrect method
	

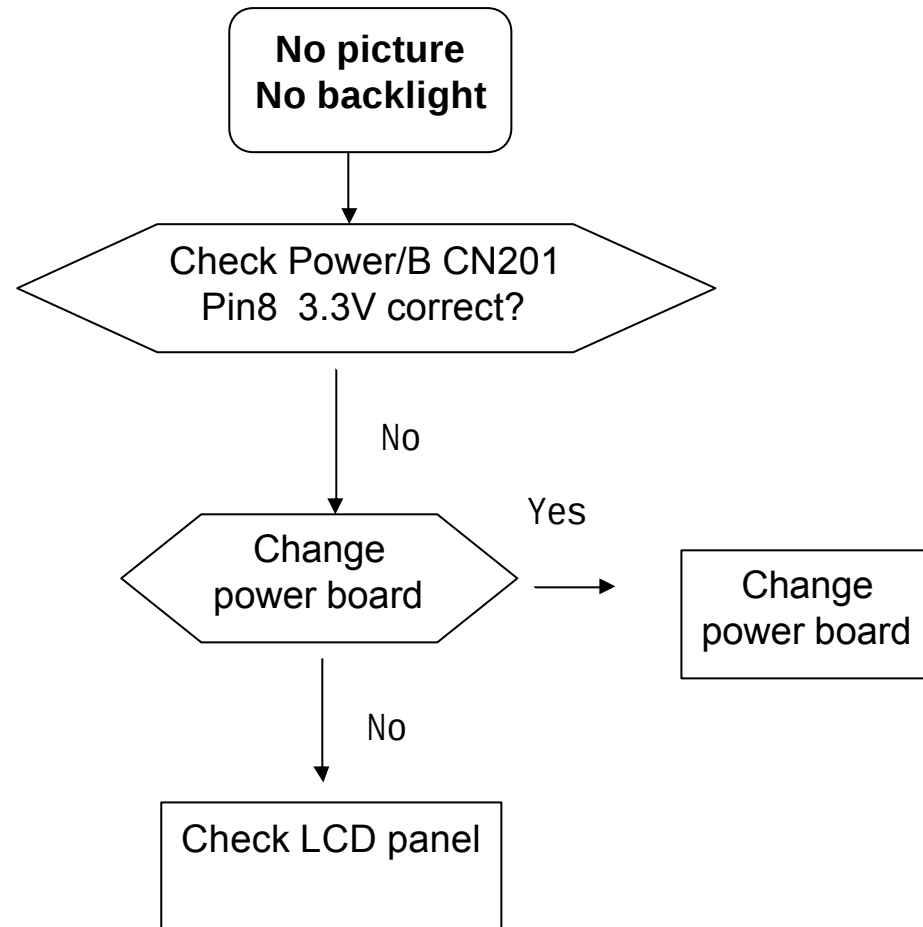
Correct Method	Incorrect method
	

Correct Method	Incorrect method
	

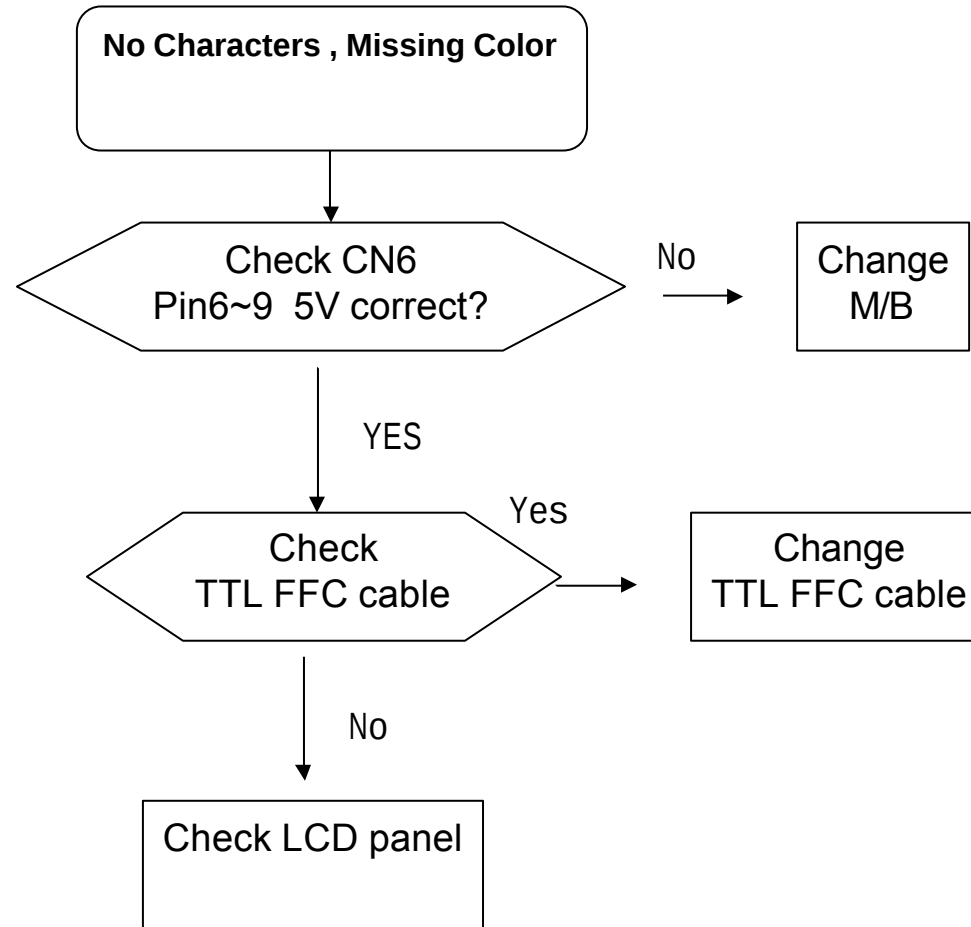
1. No Power



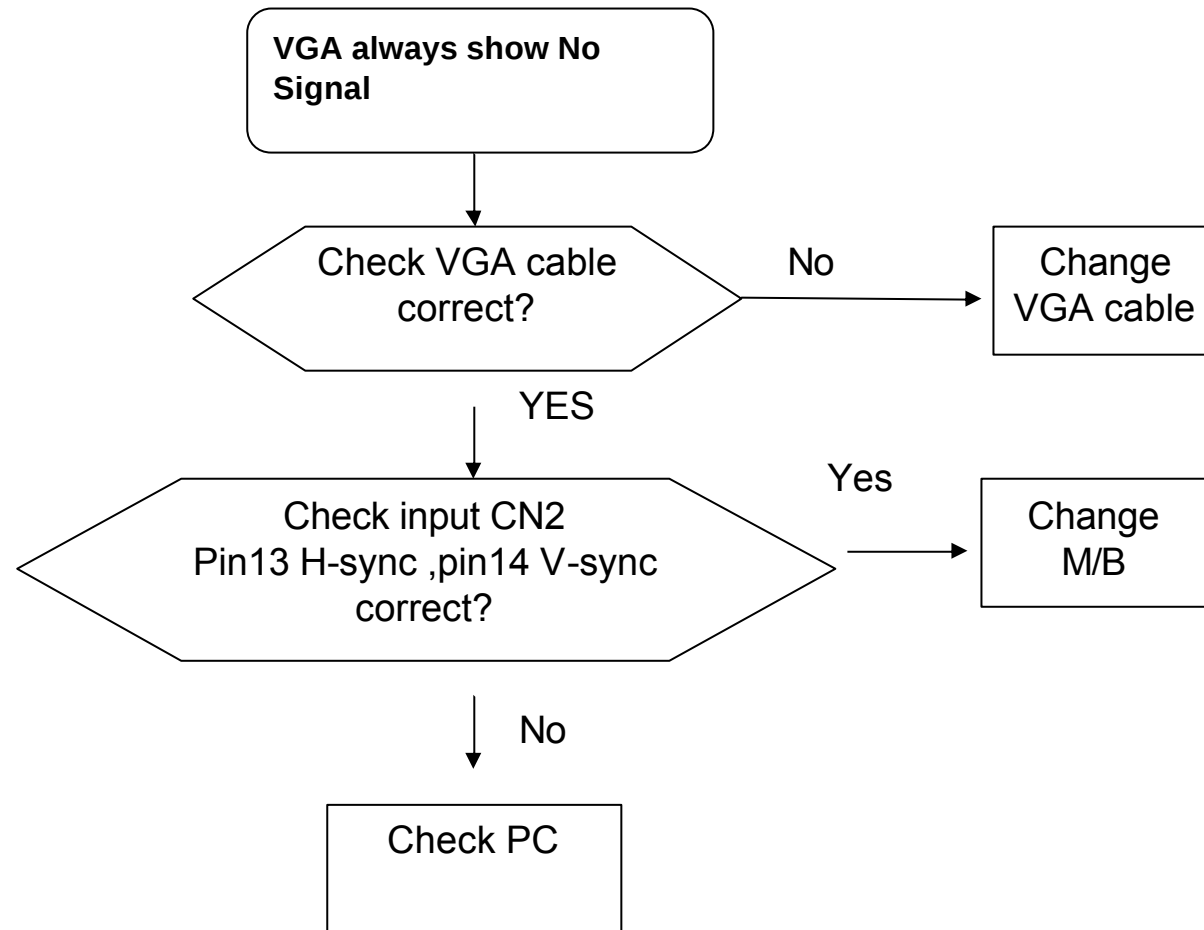
2. No picture, No backlight.



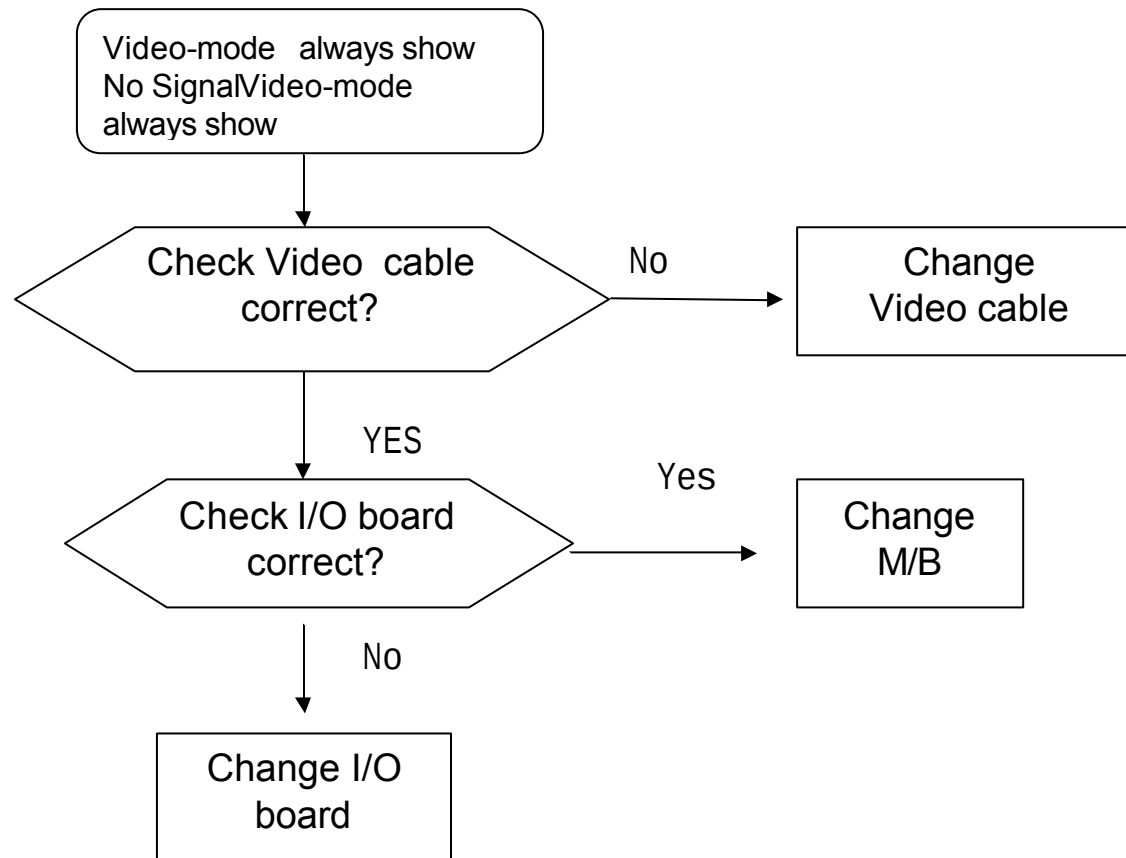
3. No Characters , Missing Color



4. VGA mode Always show NO SIGNE



5. Video mode always show NO SIGNAL



Approximately 30 minutes should be allowed for warm up before proceeding white balance adjustment.

Before started adjust white balance ,please setting the Chroma-7120 **MEM. Channel 1 to 12000** color, **MEM. channel 2 to 10000** color, **MEM. channel 3 to 8000** color, **MEM.**

(our 12000 parameter is $x = 272 \pm 15$, $y = 278 \pm 15$, $Y = 350 \pm 7$ cd/m² ;

10000 parameter is $x = 279 \pm 15$, $y = 290 \pm 15$, $Y = 350 \pm 7$ cd/m² ;

8000 parameter is $x = 295 \pm 15$, $y = 305 \pm 15$, $Y = 350 \pm 7$ cd/m²

Color Temp.	12000	10000	8000
X	272	279	295
Y	278	290	305
Y	350	350	350

How to setting MEM. channel you can reference to Chroma-7120 user guide or simple use “**SC**” key and “**NEXT**” key to modify x, y , Y value and use “**ID**” key to modify the TEXT description

Following is the procedure to do white-balance adjust

I.Press Number key Power key + manual will into the factory mode, and press Menu key the OSD will show menu and a word “F” at LEFT top of Menu.

1. In the factory mode select “COLOR TEMP” may be select the difference color temp.
2. Select SCALER Adjustment:
RG, GG, BG → R, G, B Gain adjust.
RB, GB, BB → R, G, B Bias adjust.

<Notes: the R, G, B gain use 9 bits, and R, G, B bias use 10 bits to save the value in EEPROM, so if the R, G, B gain and bias is 255 to 256, the “P0 256”will change to “P10”>

Notes: adjust AV mode the same as PC mode, except the luminance (Pc mode is 350cd/m2, Av is 350cd/m2).

II. Bias (Low luminance) adjustment:

1. Set the raster pattern (Black pattern with 800×600) Input.
2. Set the contrast on OSD window to the value=80, Brightness set to “80”
3. Adjust the brightness on OSD until chroma 7120 measurement reach the lowest value.

III, Gain adjustment:

A. Adjust 12000 color-temperature:

1. Set the Contrast of OSD function to 80 and Adjust Brightness to chroma-7120 $Y > 350 \text{ cd/m}^2$
2. Switch the chroma-7120 to RGB-mode (with press "MODE" button)
3. Switch the MEM.channel to Channel 02 (with up or down arrow on chroma-7120)
4. The LCD-indicator on chroma-7120 will show $x = 272 \pm 15$, $y = 278 \pm 15$, $Y = 350 \pm 7 \text{ cd/m}^2$
5. Adjust the Color (user) Mode: RED on OSD window, until chroma 7120 indicator reached the value $R=100$
6. Adjust the Color (user) Mode: GREEN on OSD window, until chroma-7120 indicator reached the value $G=100$
7. Adjust the Color (user) Mode: BLUE on OSD window, until chroma-7120 indicator reached the value $B=100$
8. Repeat above procedure (Item 5,6,7) until chroma-7120 RGB value meet the tolerance $=100 \pm 2$
9. Switch the chroma-7120 to x, y, Y mode With press "MODE" button to check the color temp is in SPEC. or not.
10. Press MENU to exit the SCALER page and press Save to save the current color temp.

B. Adjust 10000 color-temperature:

1. Set the Contrast of OSD function to 80 and Adjust Brightness to chroma-7120 $Y > 350 \text{ cd/m}^2$
2. Switch the chroma-7120 to RGB-mode (with press "MODE" button)
3. Switch the MEM.channel to Channel 02 (with up or down arrow on chroma-7120)
4. The LCD-indicator on chroma-7120 will show $x = 279 \pm 15$, $y = 290 \pm 15$, $Y = 350 \pm 7 \text{ cd/m}^2$
5. Adjust the Color(user)Mode: RED on OSD window, until chroma 7120 indicator reached the value $R=100$
6. Adjust the Color (user) Mode: GREEN on OSD window, until chroma-7120 indicator reached the value $G=100$
7. Adjust the Color(user)Mode: BLUE on OSD window, until chroma-7120 indicator reached the value $B=100$
8. Repeat above procedure (item 5,6,7) until chroma-7120 RGB value meet the tolerance $=100 \pm 2$
9. Switch the chroma-7120 to x, y, Y mode with press "MODE" button
10. Press MENU to exit the SCALER page and press Save to save the current color temp.

C. Adjust 8000 color-temperature:

1. Set the Contrast of OSD function to 80 and Adjust Brightness to chroma-7120 $Y > 350 \text{ cd/m}^2$
 2. Switch the chroma-7120 to RGB-mode (with press "MODE" button)
 3. Switch the MEM.channel to Channel 03 (with up or down arrow on chroma-7120)
 4. The LCD-indicator on chroma-7120 will show $x = 295 \pm 15$, $y = 305 \pm 15$, $Y = 350 \pm 7 \text{ cd/m}^2$
 5. Adjust the Color (user) Mode: RED on OSD window, until chroma 7120 indicator reached the value $R=100$
 6. Adjust the Color (user) Mode: GREEN on OSD window, until chroma-7120 indicator reached the value $G=100$
 7. Adjust the Color (user) Mode: BLUE on OSD window, until chroma-7120 indicator reached the value $B=100$
 8. Repeat above procedure (item 5,6,7) until chroma-7120 RGB value meet the tolerance $=100 \pm 2$
 9. Switch the chroma-7120 to XyY mode With press "MODE" button
 10. Press MENU to exit the SCALER page and press Save to save the current color temp.
-

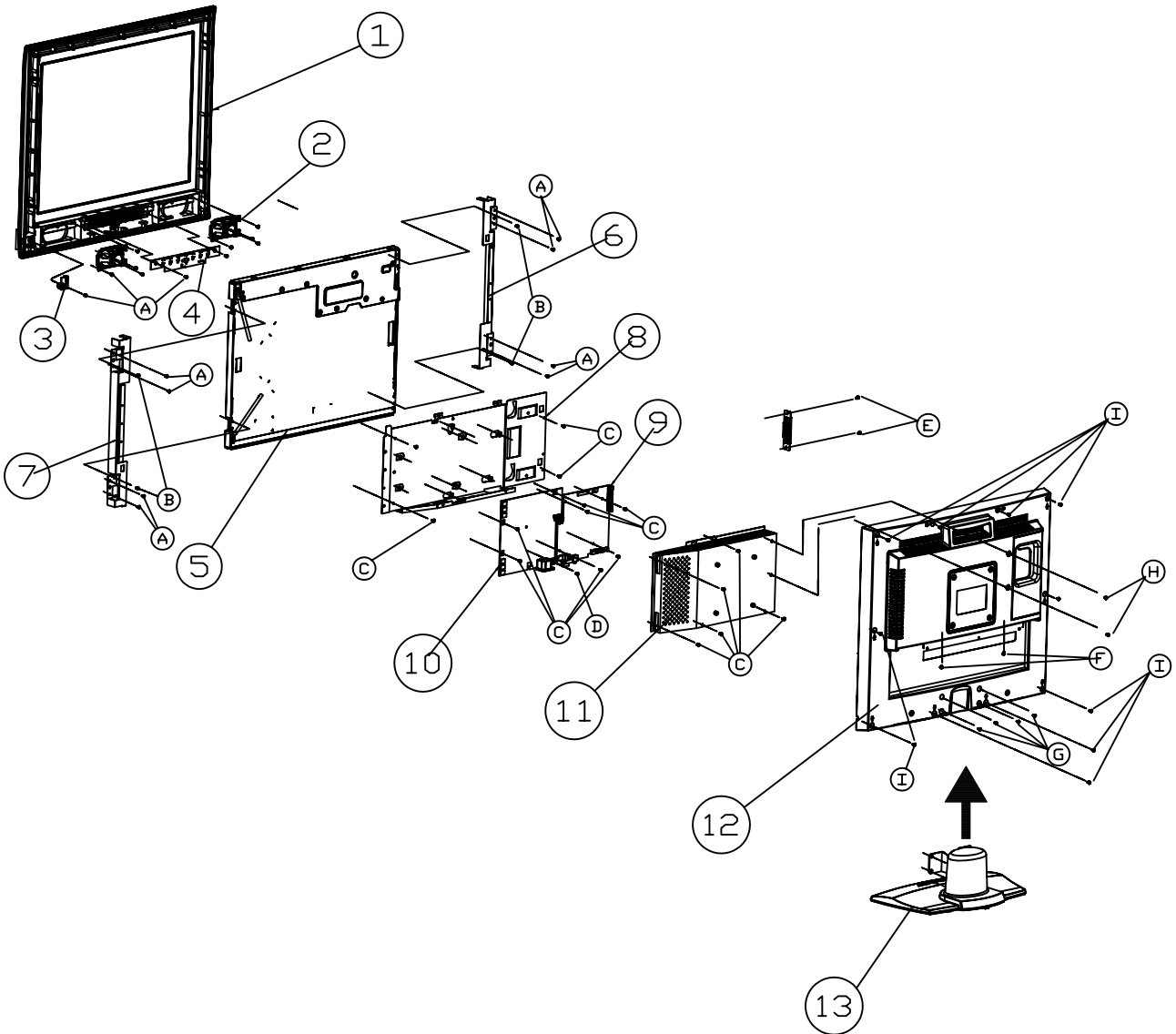
This chapter gives you the FRU (Field Replaceable Unit) listing in global configurations of AT2002. Refer to this chapter whenever ordering for parts to repair or for RMA (Return Merchandise Authorization).

NOTE: Please note WHEN ORDERING FRU PARTS, that you should check the most up-to-date information available on your regional web or channel (<http://aicsl.acer.com.tw/spl/>). For whatever reasons a part number change is made, it will not be noted in the printed Service Guide. For ACER AUTHORIZED SERVICE PROVIDERS, your Acer office may have a DIFFERENT part number code from those given in the FRU list of this printed Service Guide. You MUST use the local FRU list provided by your regional Acer office to order FRU parts for repair and service of customer machines.

NOTE: To scrap or to return the defective parts, you should follow the local government ordinance or regulations on how to dispose it properly, or follow the rules set by your regional Acer office on how to return it.

Exploded Diagram (Model: AT2002)

REVISIONS			
LTR	DESCRIPTION	DATE	APP
3B			

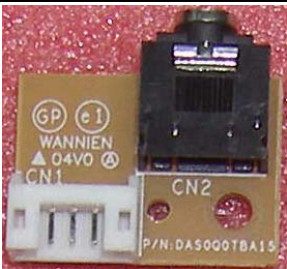


ITEM	Parts NO.	Parts Name	QTY	Remark
I	MF40100BJ26	SCREW F4.0*10-B(BNI)	10	
H	MF40100BJ26	SCREW F4.0*10-B(BNI)	2	
G	MM40060B001	SCREW M4.0*6.0-B(BLACK)	4	
F	MJ30050BJB8	SCREW M3.0*5.0-B	2	
E	MM30060FCI0	SCREW M3.0*6.0-F(NI, >	2	
D	MM40080BBW	SCREW M4.0*8.0 -B(NI,WA)	1	
C	MJ30050BJB8	SCREW-M3.0*5-B	16	
B	MM30120BBJ9	SCREW-M3*12_B(NI)	4	
A	MF30080PB4	SCREW-F3 * 6-B(BNI)	19	
13	26SQ00SA029	STAND_ ASSY	1	
12	35SQ00RC009	COVER SUB ASSY	1	
11	36SQ00PS001	SHIELD-TOP_ASSY	1	
10	21SQ00MB007	POWER PCB	1	
9	21SQ00MB007	SCALAR PCB	1	
8	3HS0Q0ST005	SHIELDING_ASSY	1	
7	FAS0Q001012	BRACKET-R	1	
6	FAS0Q013011	BRACKET-R	1	
5	xxxxxxxxxxx	AUD-20_PANEL	1	
4	23SQ00BB003	BUTTON-PCB-ASSY	1	
3	22SQ00EB009	EAR_PCB_ASSY	1	
2	DN0TE290F09	SPEAKER_ASSY	2	
1	34SQ00BU001	BEZEL_ASSY	1	

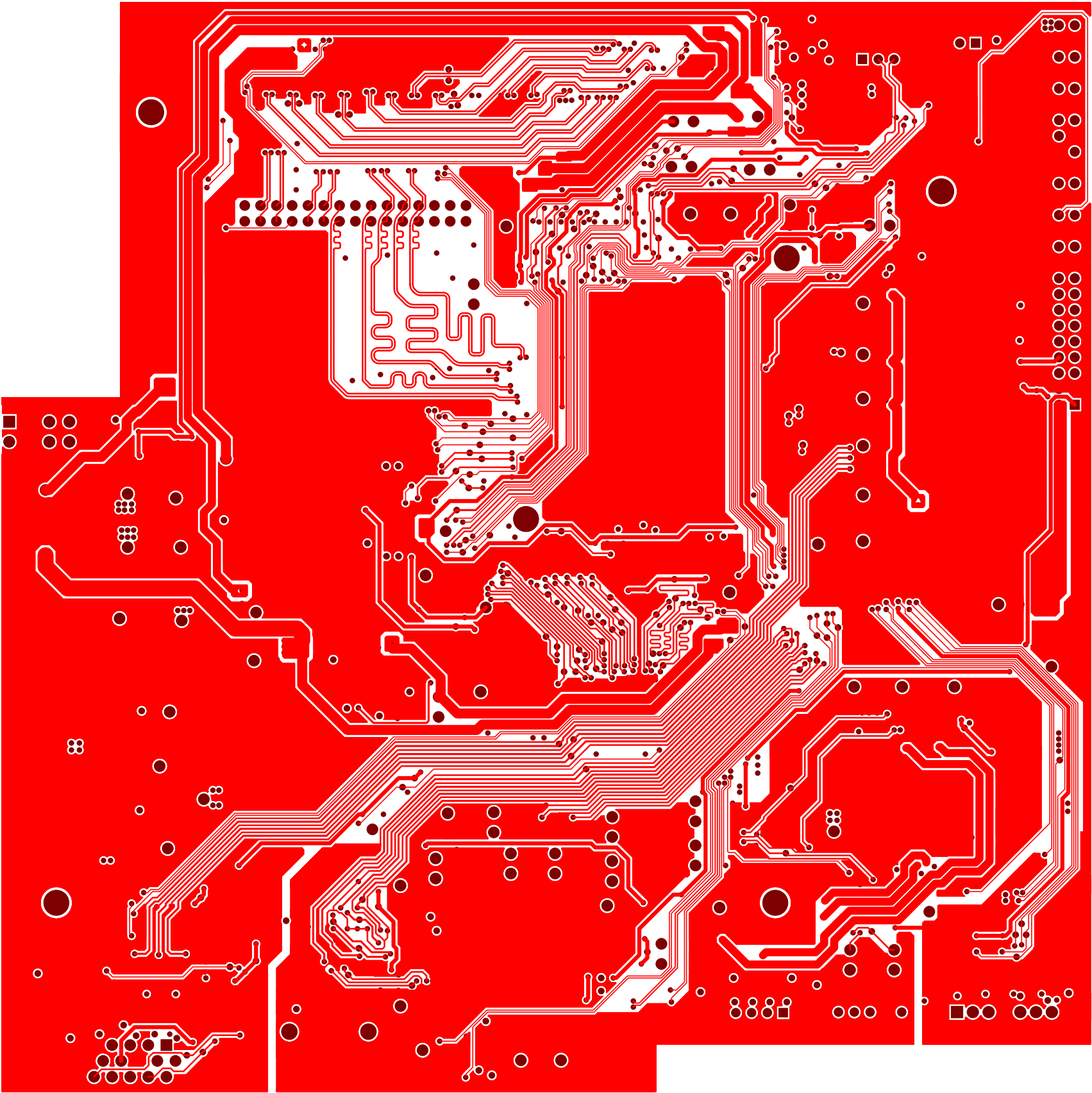
Techview International Technology Inc. 5F, No. 361, Fu Hsin 1st Rd.,Kuei Shan Hsiang, Tao Yuan Shien, Taiwan, R.O.C.						MODEL	
NAME						APPROVED James	
TOL,±						DESIGNED William	
MATERIAL						DRAWN William	
FINISH						DATE '06/06/13	
THE 3RD PROJECTION						REV	
DWG NO.							

RANGE	TOLERANCE
0-10	±0.10
10-50	±0.15
50-100	±0.20
100-	±0.25

Parts

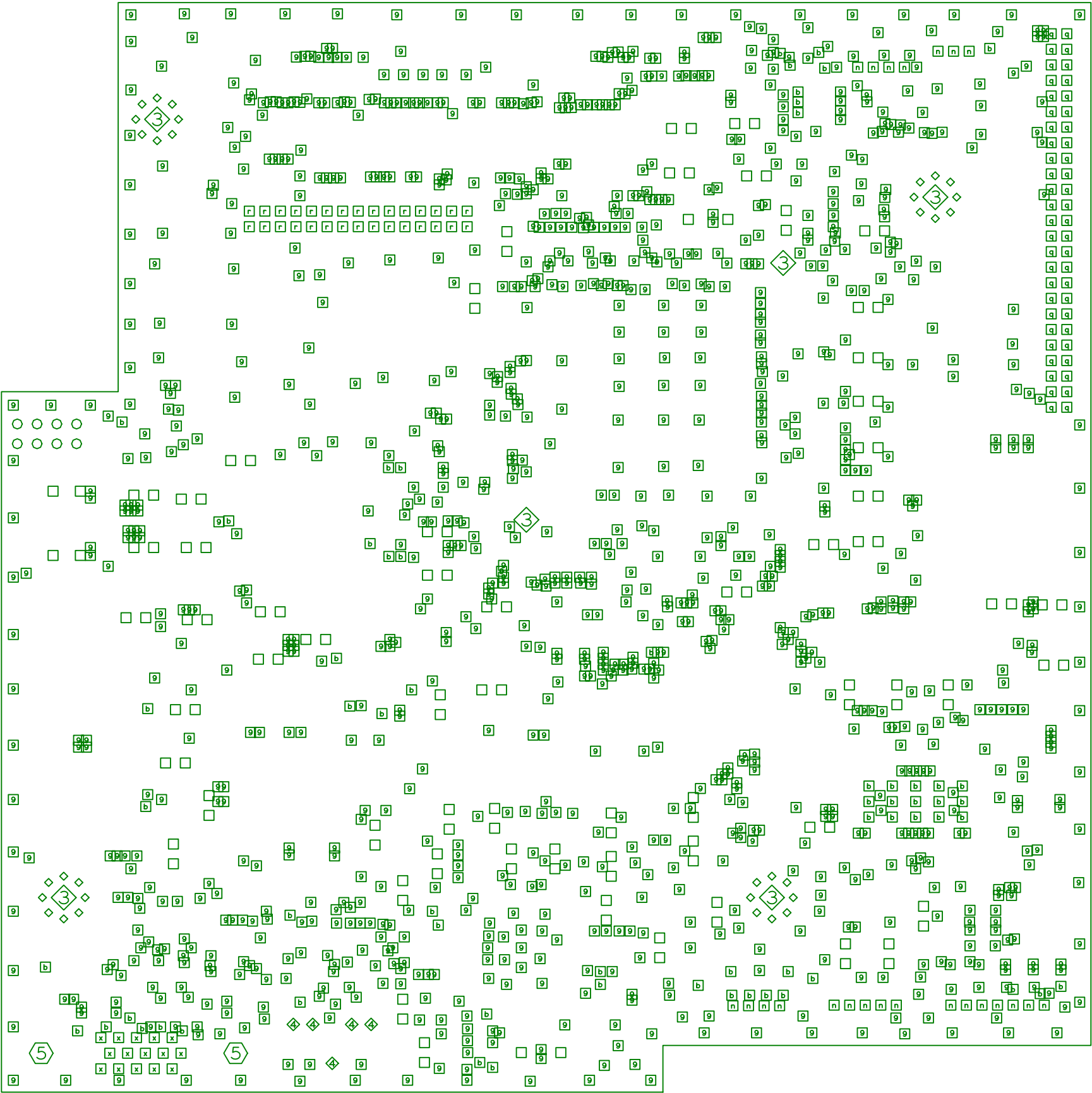
CATEGORY	PARTNAME	DESCRIPTION
BOARD		
	MAIN BOARD	FIRMWARE CTRL
	POWER BOARD	POWER BOARD
	BUTTON BOARD	KEY CTRL FIRMWARE
	EARPHONE BOARD	EARPHONE CTRL FIRMWARE
	LCD PANEL 20.1" A201SN02 V5	20.1" A201SN02 V5
CASE / COVER ASSEMBLY		
	FRONT BEZEL	FRONT BEZEL WITH BEZEL PLATE

CATEGORY	PARTNAME	DESCRIPTION
	BACK COVER	BACK COVER
	BASE	BASE TO SUPPORT THE STAND



Tech view

PROJECT : XXX-XXXXX	MOTTOB	LAYER: A
DATE : 04/07/06'	INITIAL: XXXXX	REV. B
P/N : DAS0Q0MB023		



DRILL CHART			
ALL UNITS ARE IN MILS			
FIGURE	SIZE	PLATED	QTY
9	10.0	PLATED	1184
b	12.0	PLATED	64
◇	20.0	PLATED	32
n	28.0	PLATED	23
a	31.0	PLATED	50
r	32.0	PLATED	30
□	36.0	PLATED	130
x	39.0	PLATED	15
○	40.0	PLATED	8
◇5	63.0	PLATED	5
◇3	126.0	NON-PLATED	6

Tech view

PROJECT :
XXX-XXXX

DATE :
04/07/06'

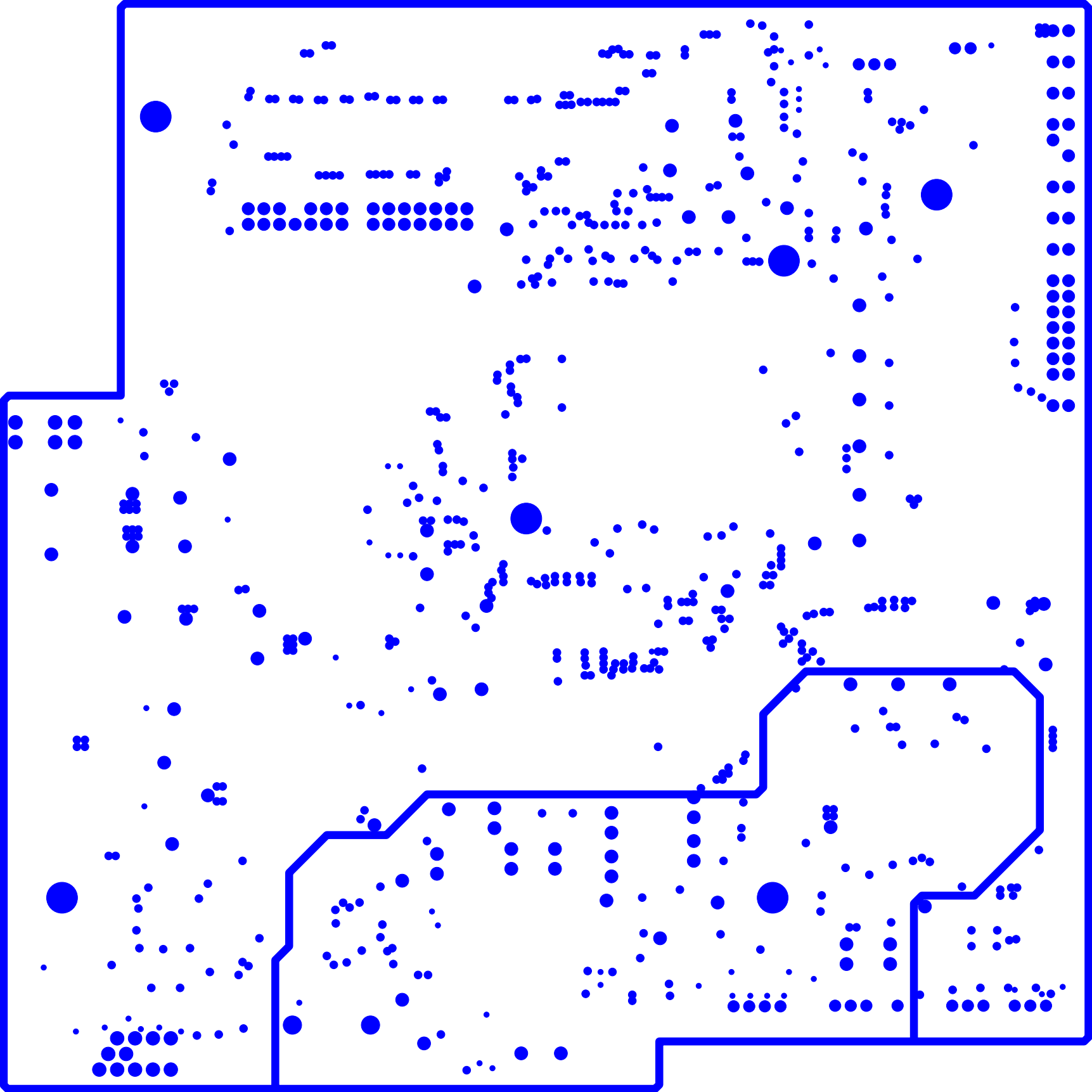
P/N :
DAS0Q0MB023

NC_DRL

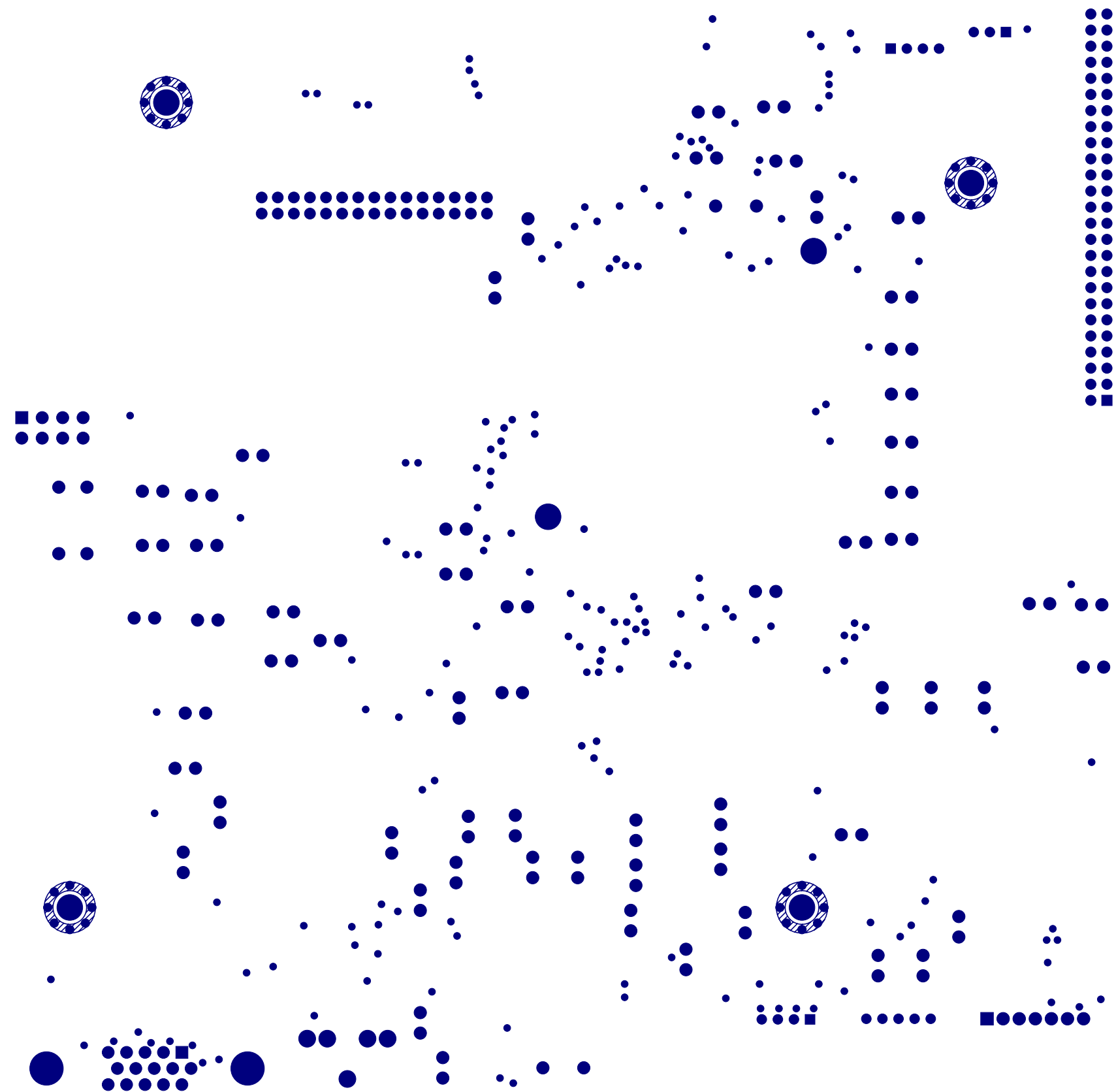
INITIAL :
XXXXX

LAYER:

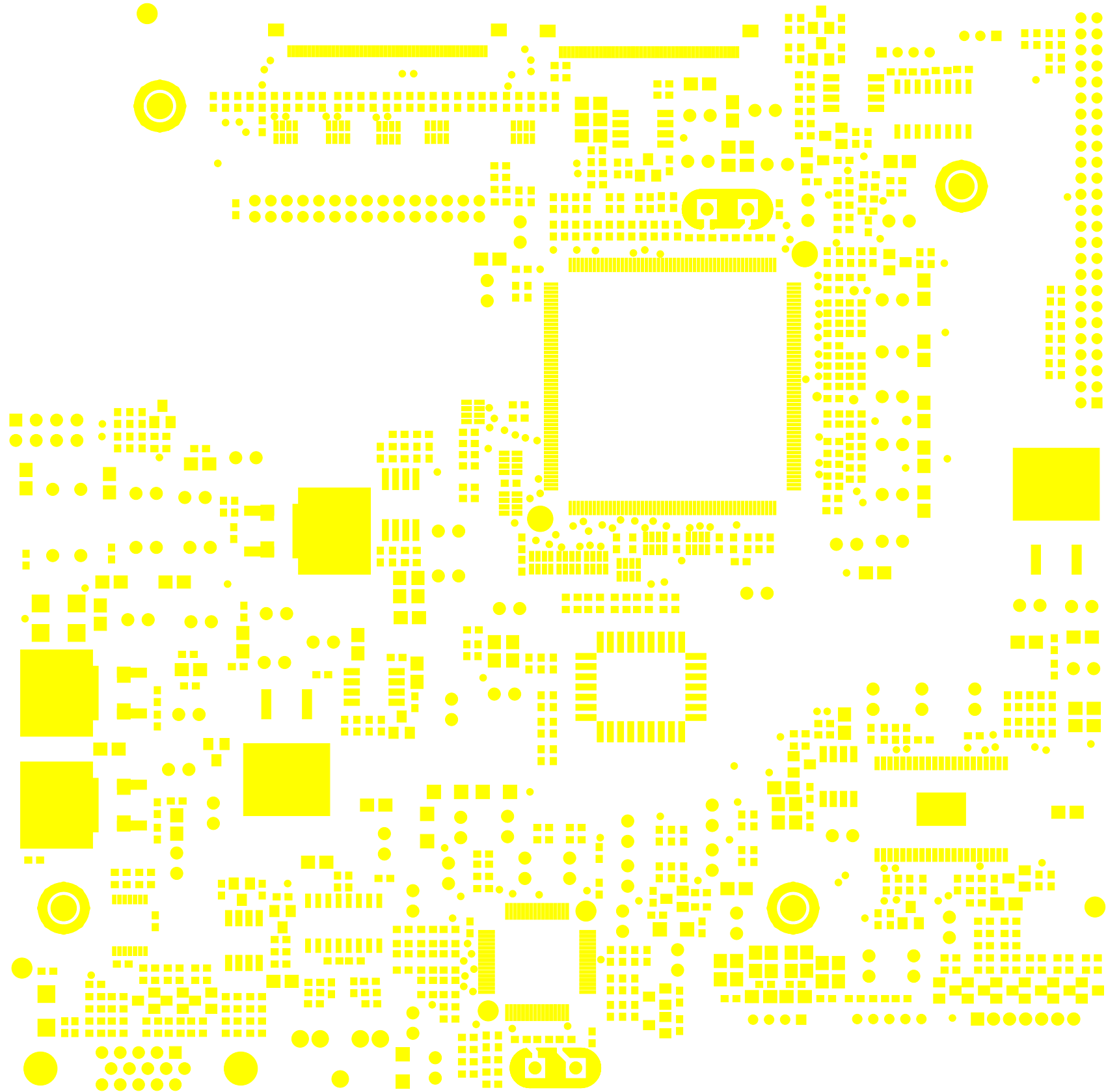
REV.
B



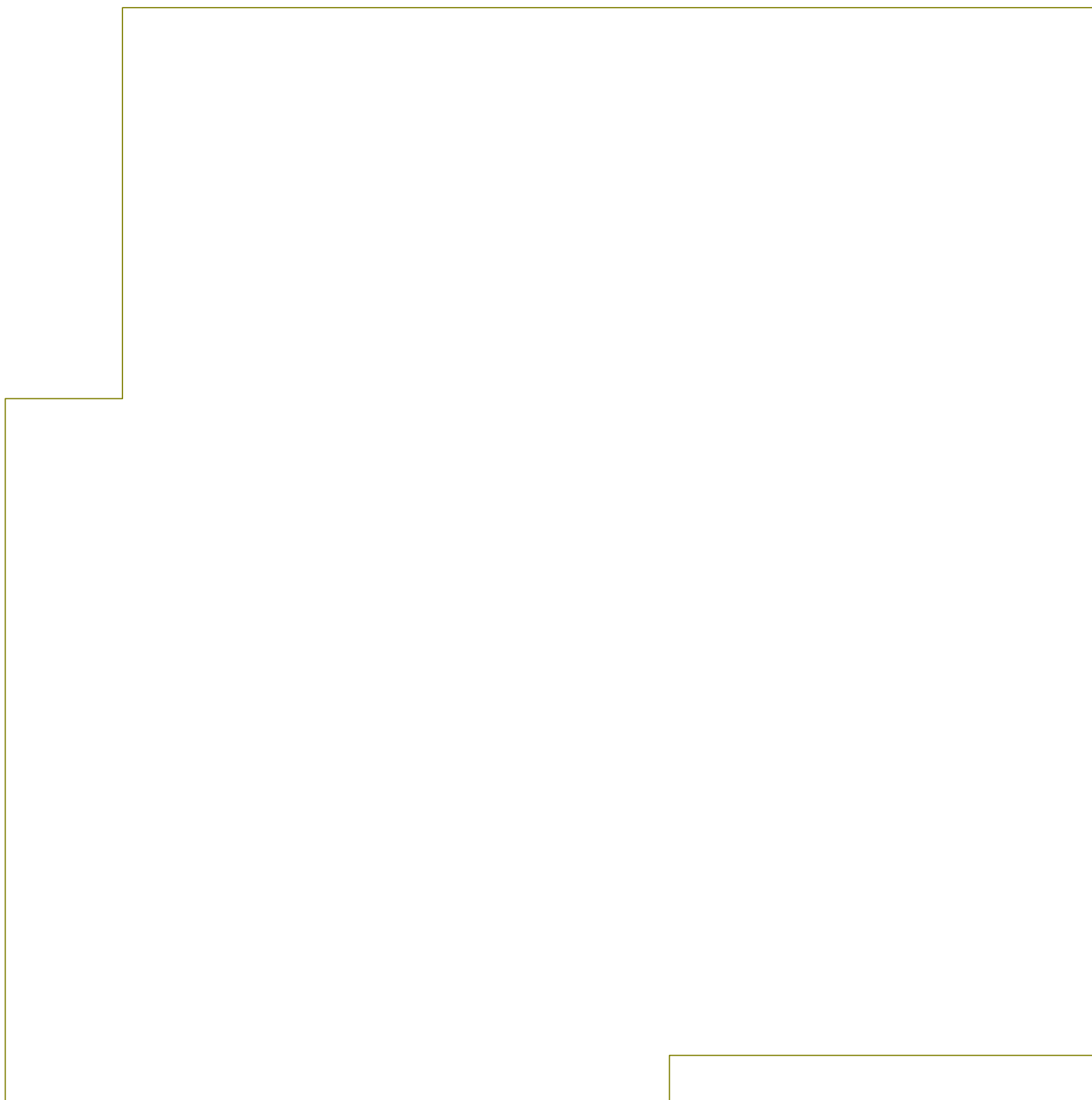
Tech view	PROJECT :	GND	LAYER:
	XXX-XXXXX		2
	DATE :	INITIAL:	REV.
	04/07/06'	XXXXX	B
	P/N :	DAS0Q0MB023	

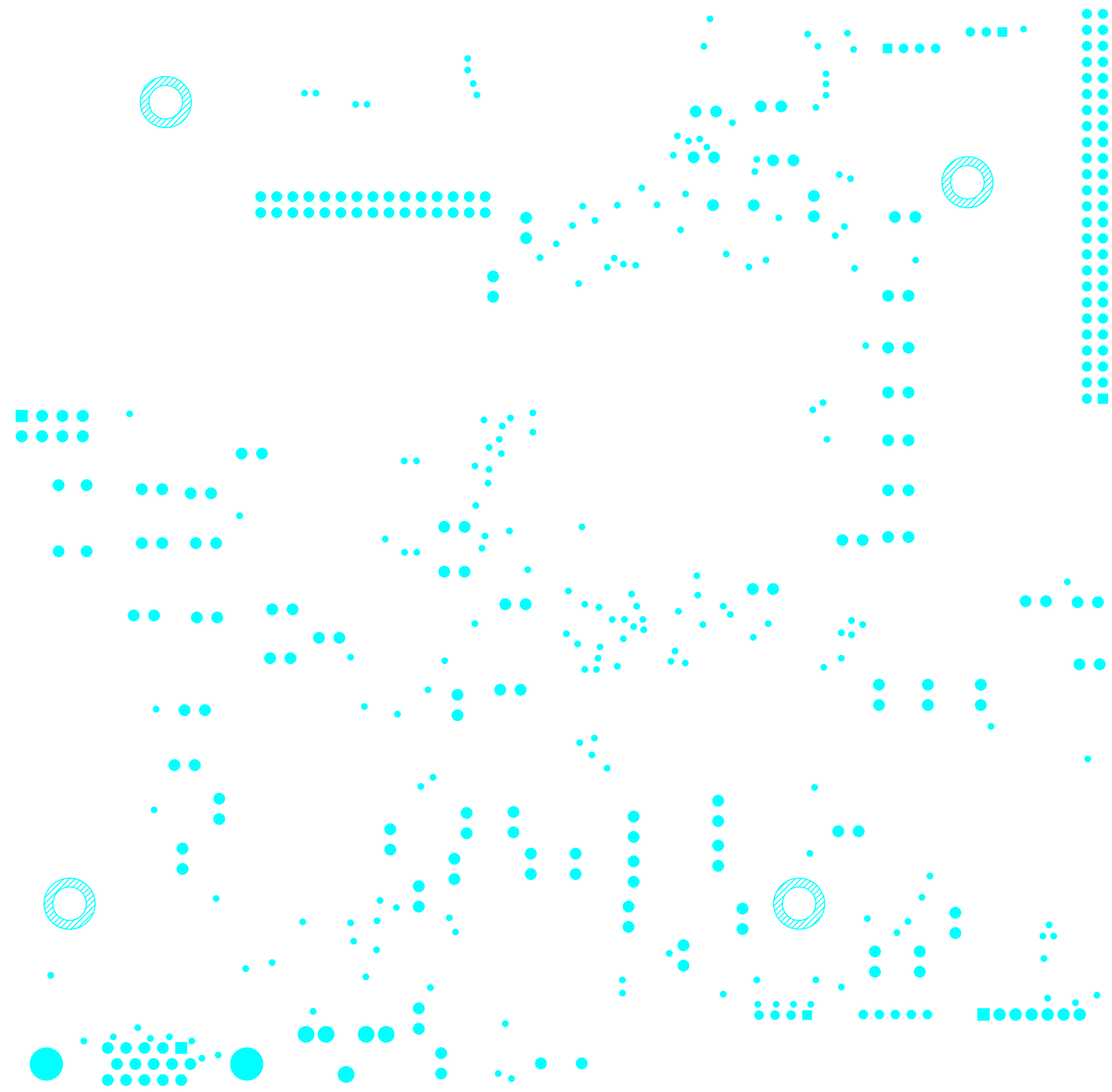


Tech view	PROJECT : XXX-XXXXX	TOB_KM	LAYER :
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	P/N : DAS0Q0MB023		REV. B

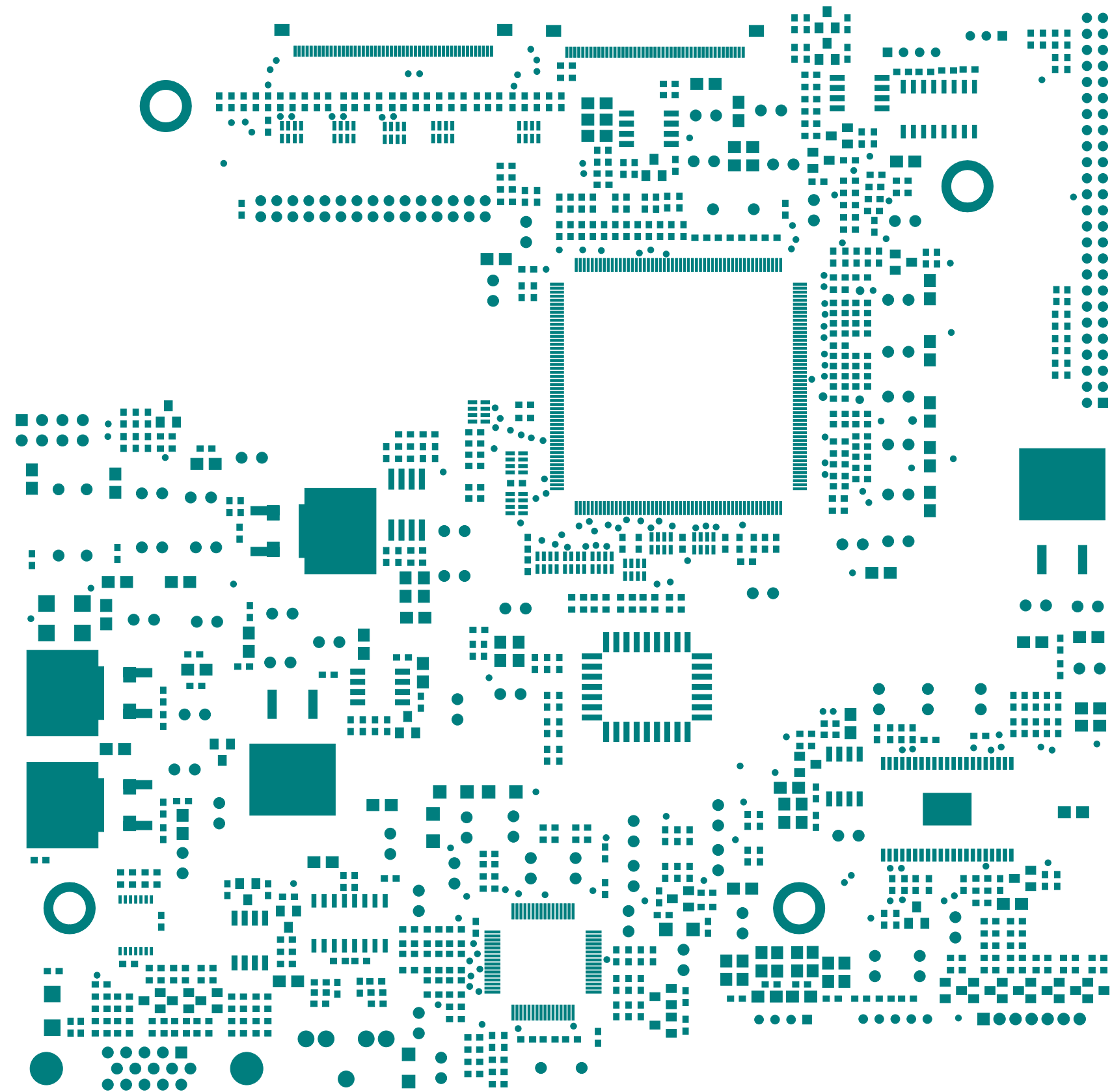


Tech view	PROJECT : XXX-XXXXX	MK_TOP	LAYER:
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	P/N : DAS0Q0MB023		B



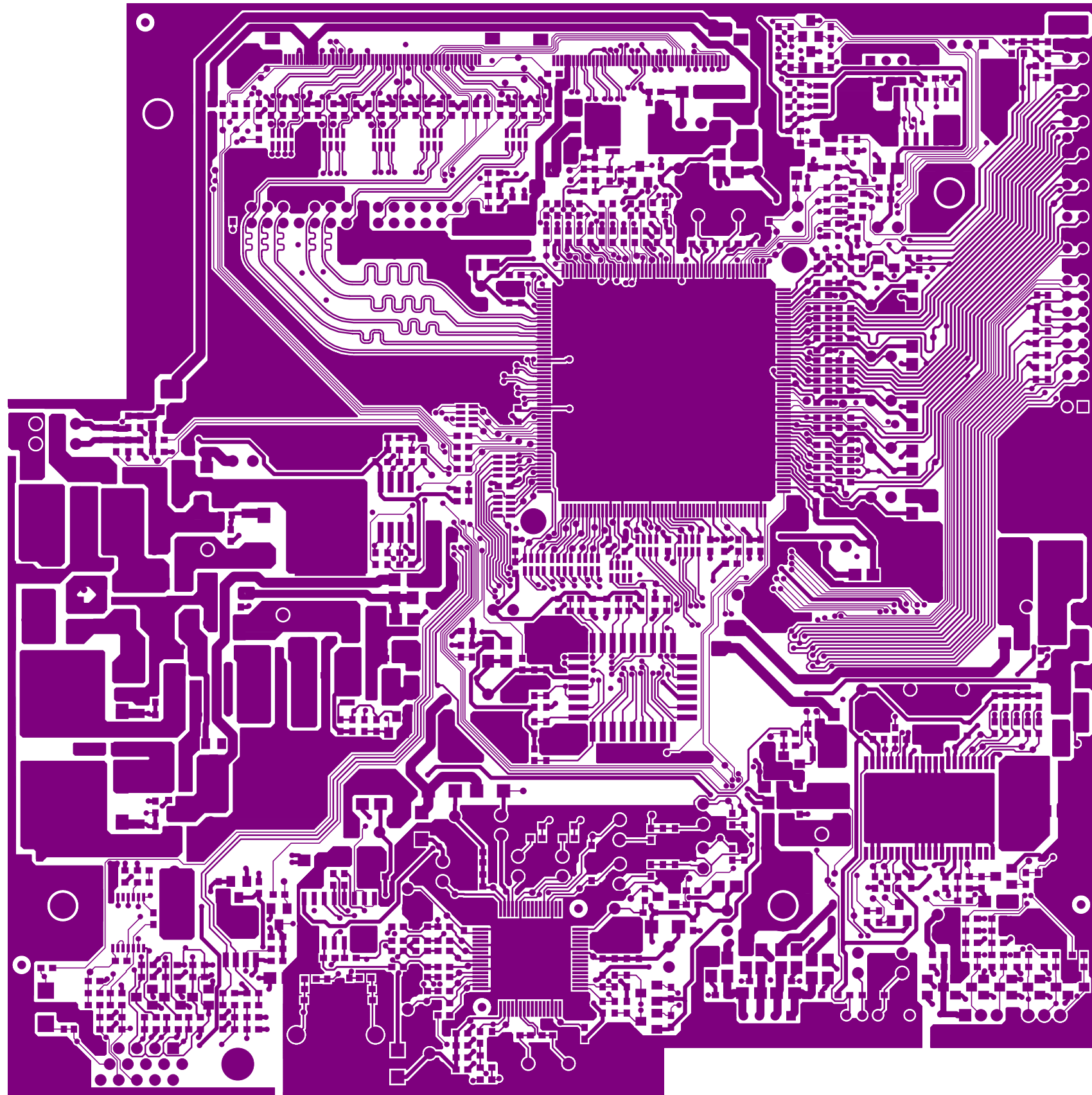


Tech view	PROJECT :	TOB_DAS	LAYER:
	XXX-XXXXX		
	DATE :	INITAL:	REV.
	04/07/06'	XXXXX	
	P/N :		
	DAS0Q0MB023	B	

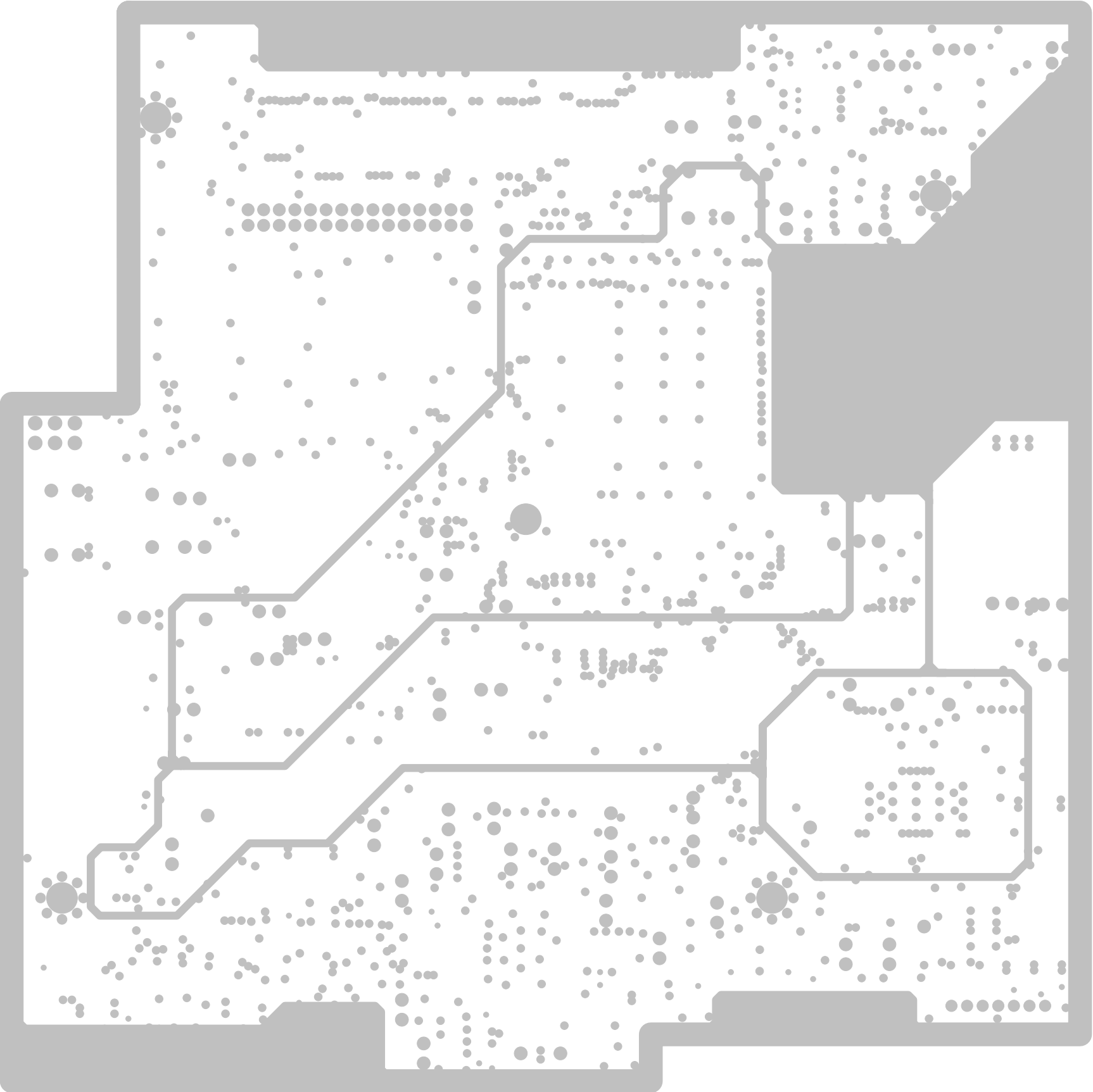


Tech view	PROJECT : XXX-XXXXX	PAD_TOP	LAYER:
	DATE : 04/07/06'	INITAL: XXXXX	
	P/N : DAS0Q0MB023		REV. B

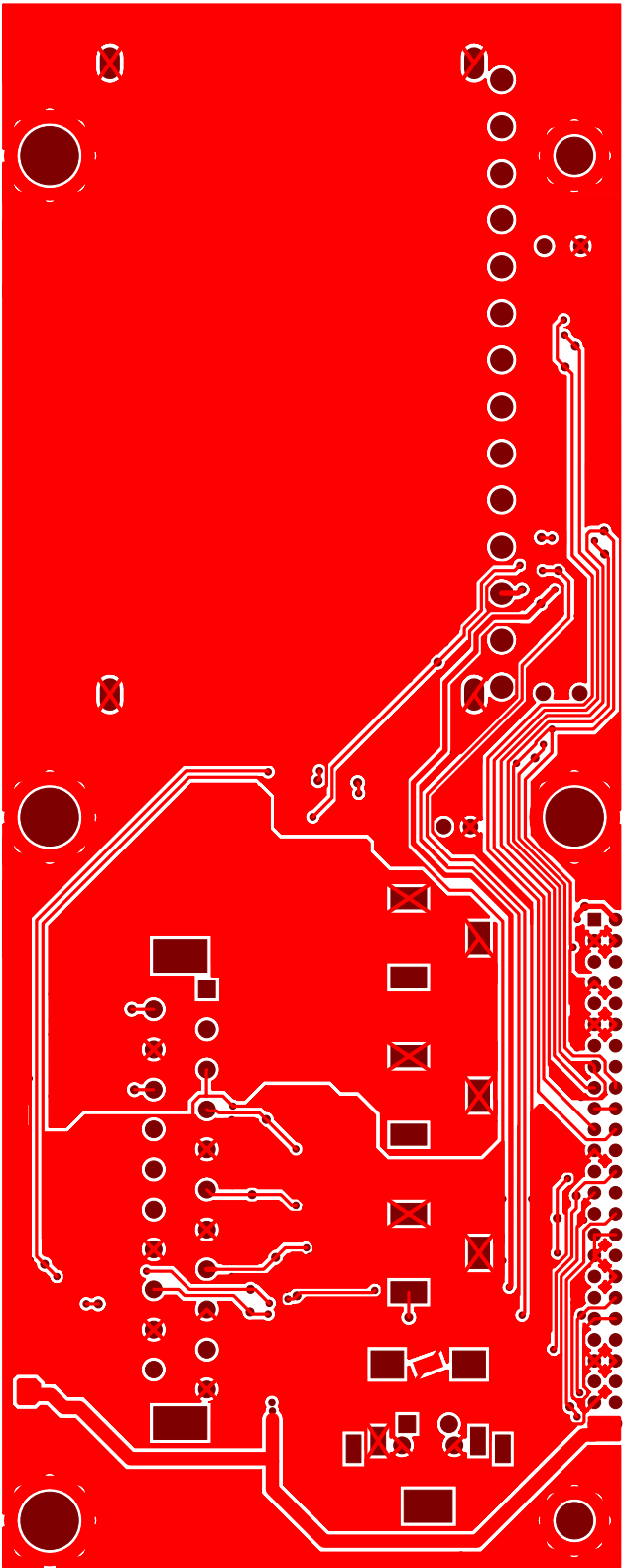
PROJECT :	SK_TOP	LAYER:
XXX-XXXXX		
DATE :	INITAL:	REV.
04/07/06'	XXXXX	
P/N :		B
DAS0Q0MB023		



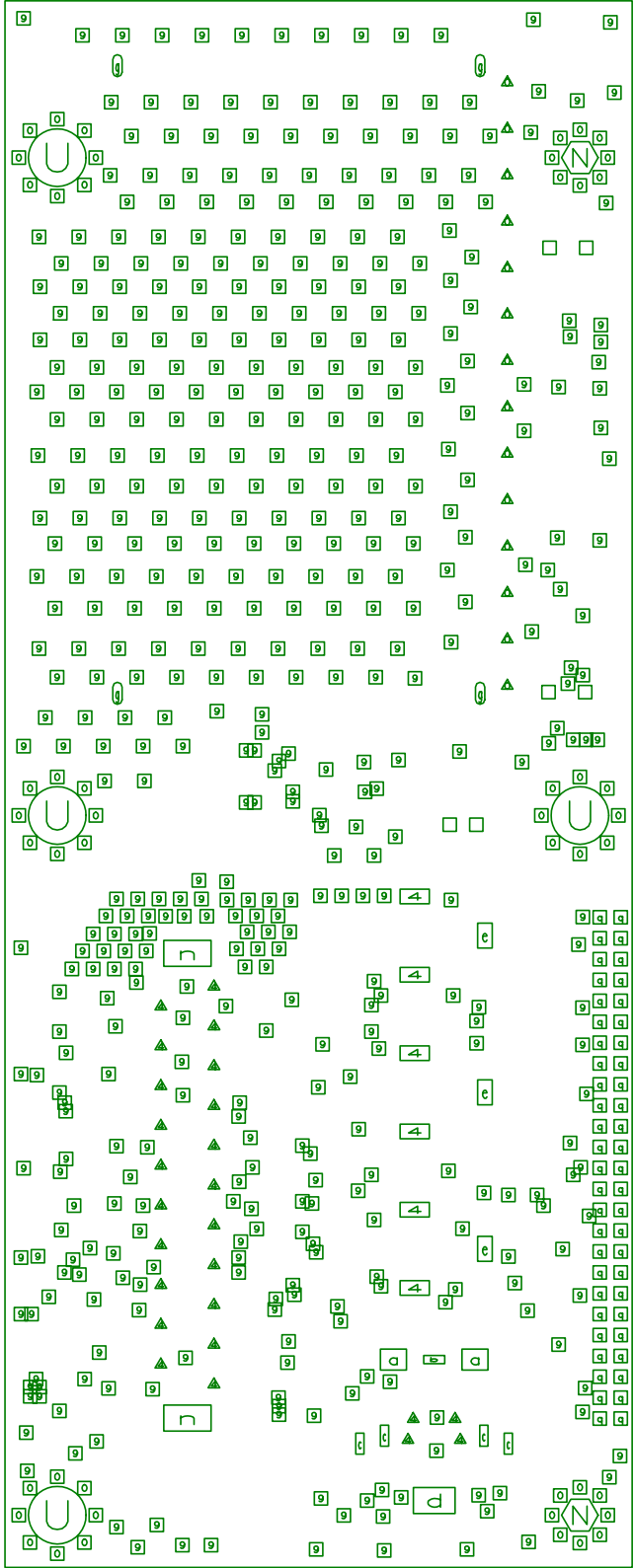
Tech view	PROJECT : XXX-XXXXX	TOP	LAYER: 1
	DATE : 04/07/06'	INITIAL: XXXXX	REV. B
	P/N : DAS0Q0MB023		



Tech view	PROJECT : XXX-XXXXX	VCC	LAYER: 3
	DATE : 04/07/06'	INITIAL: XXXXX	REV. B
	P/N : DAS0Q0MB023		



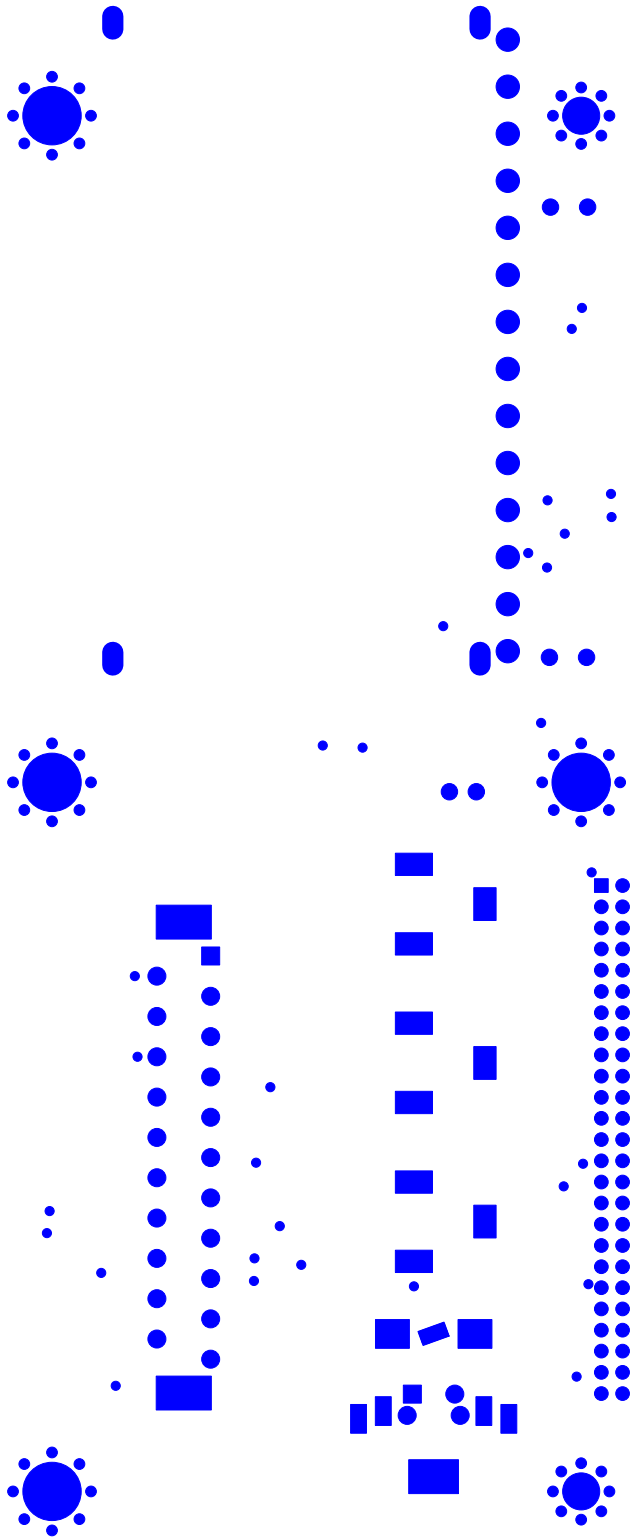
Tech view	PROJECT:	MOTTOB	LAYER:
	PAL-I/O		S
	DATE:	INITIAL:	REV.
	04/04/06'	Andy	B
	P/N:		
	DAS0Q0IO121		



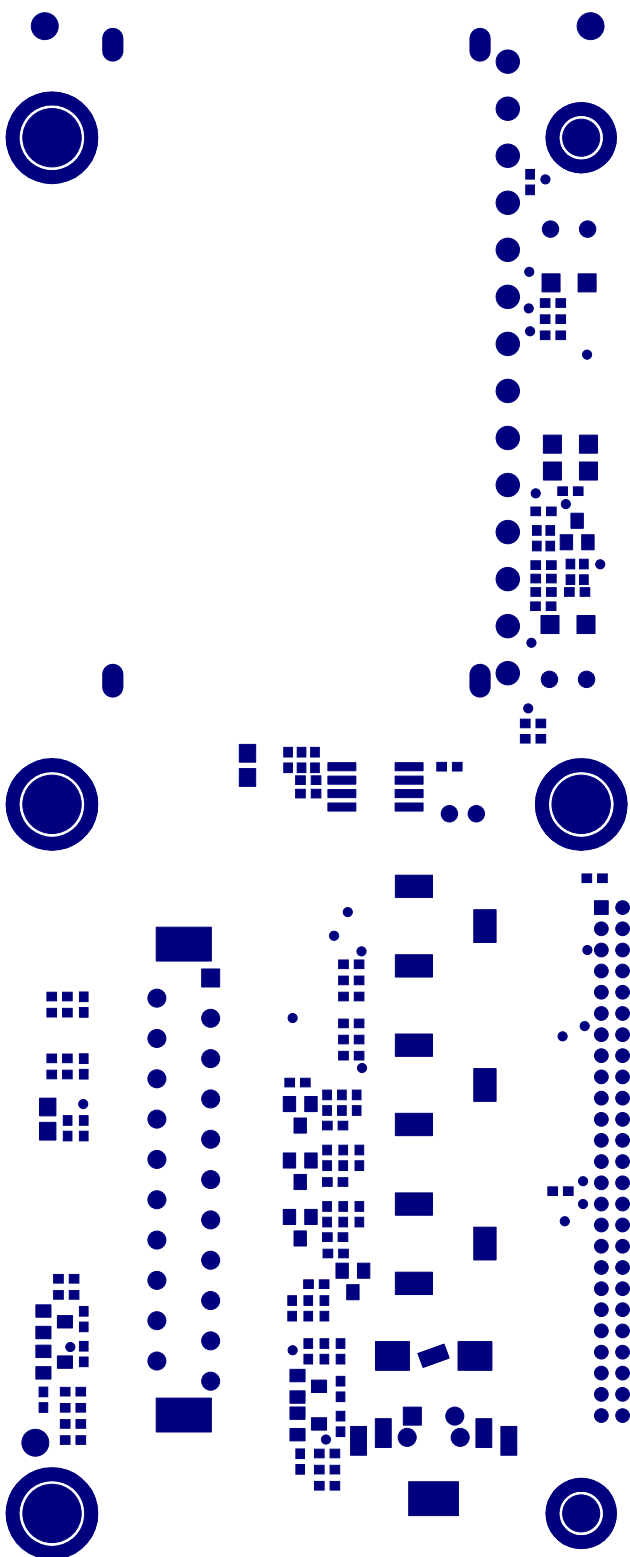
DRILL CHART: TOP to BOTTOM			
ALL UNITS ARE IN MILS			
FIGURE	SIZE	PLATED	QTY
	RE 157X98	PLATED	1
	RE 55X94	PLATED	3
	RE 177X98	PLATED	2
	RE 110X55	PLATED	6
	RE 79X31 ROTATE: 20 Degrees	PLATED	1
	RE 31X79	PLATED	4
	OB 35X83	PLATED	4
	RE 98X79	PLATED	2
	10.0	PLATED	500
	20.0	PLATED	48
	31.0	PLATED	50
	36.0	PLATED	6
	43.0	PLATED	14
	47.0	PLATED	25
	138.0	NON-PLATED	2
	217.0	NON-PLATED	4

Tech view

PROJECT: PAL-I/O	NC_DRL	LAYER:
DATE: 04/04/06'	INITIAL: Andy	
P/N: DAS0Q0IO121		REV. B

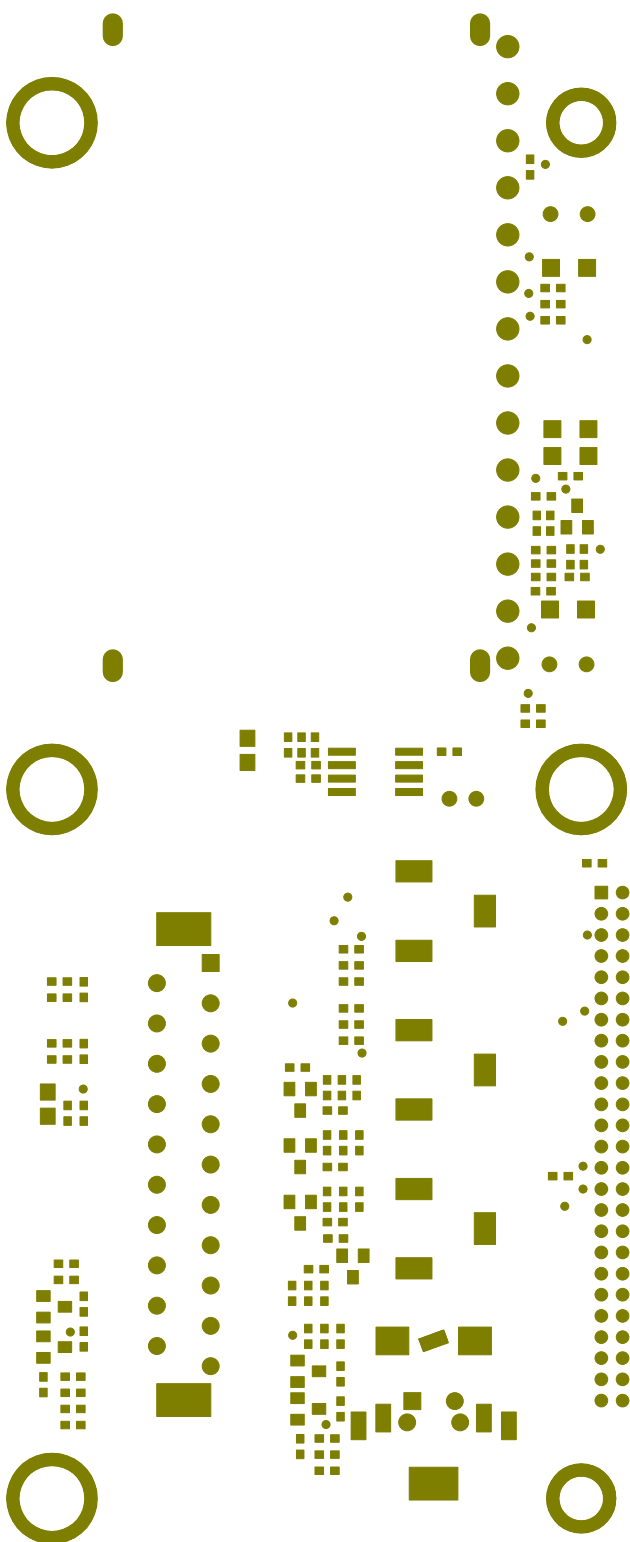


Tech view	PROJECT:	TOB_XM	LAYER:
	PAL-I/O		
	DATE:	INITIAL:	
	04/04/06'	Andy	REV.
	P/N:		B
	DAS0Q0IO121		

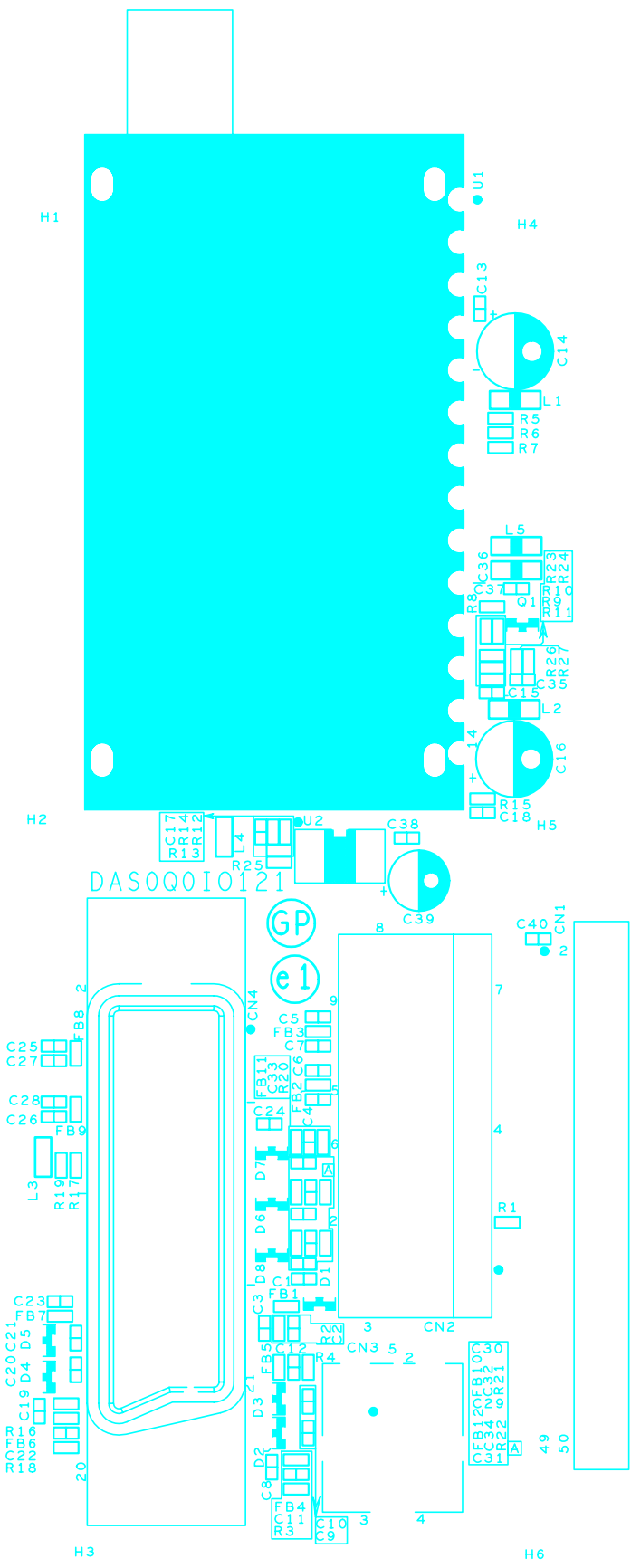


Tech view

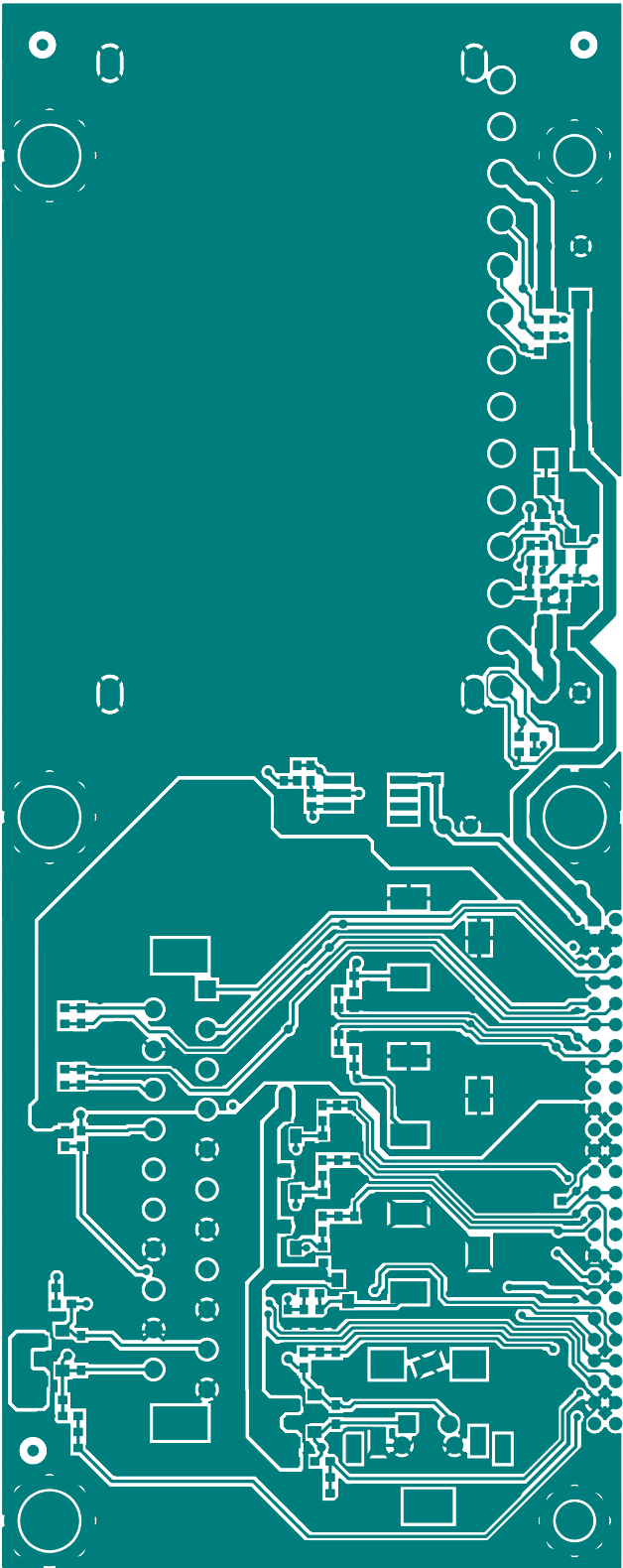
PROJECT: PAL-I/O	MK_TOP	LAYER:
DATE: 04/04/06'	INITIAL: Andy	REV.
P/N: DAS0Q0IO121		B



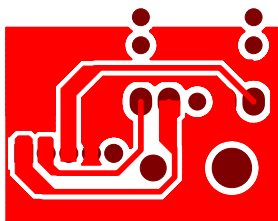
Tech view	PROJECT: PAL-I/O	PAD_TOP	LAYER:
	DATE: 04/04/06'	INITIAL: Andy	REV.
	P/N: DAS0Q0IO121		B



Tech view	PROJECT:	SK_TOP	LAYER:
	DATE:	INITIAL:	
	P/N:		REV.
	DAS0Q0IO121		B

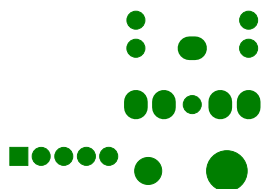


Tech view	PROJECT :	TOP	LAYER :
	PAL - I/O		1
	DATE :	INITIAL :	REV.
	04/04/06'	Andy	B
	P/N :		
	DAS0Q0IO121		



Tech view

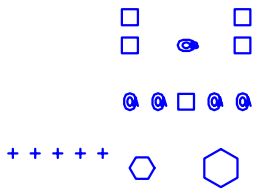
PROJECT: SQQ-EP	MOTTOB	LAYER: X
DATE: 29/03/06'	INITIAL: Andy	REV. B
P/N: DAS0Q0TBA23		



Tech view

PROJECT: SQQ-EP	TOB_XM	LAYER:
DATE: 29/03/06'	INITIAL: Andy	REV.
P/N: DAS0Q0TBA23		B

DRILL CHART: TOP to BOTTOM				
ALL UNITS ARE IN MILS				
FIGURE	SIZE	TOLERANCE	PLATED	QTY
+	31.9	+3.0 / -3.0	PLATED	5
□	55.1	+3.0 / -3.0	NON-PLATED	5
⬡	86.6	+3.0 / -3.0	NON-PLATED	1
⬢	133.9	+3.0 / -3.0	NON-PLATED	1
⦶	59.1 x 39.4	+3.0 / -3.0	NON-PLATED	1
⦶	59.1 x 39.4	+3.0 / -3.0	NON-PLATED	4



Tech view

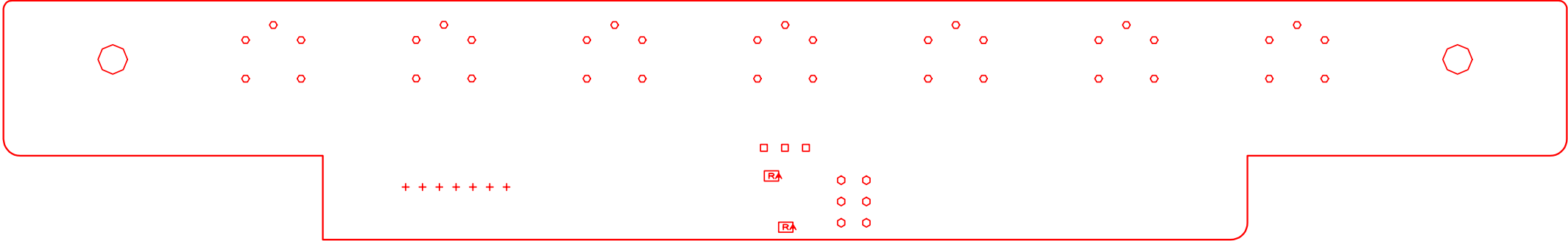
PROJECT: SQQ-EP	NC_DRL	LAYER:
DATE: 29/03/06'	INITIAL: Andy	
P/N: DAS0Q0TBA23		REV. B



Tech view

PROJECT: SQQ-EP	NC_DRL	LAYER:
DATE: 29/03/06'	INITIAL: Andy	
P/N: DAS0Q0TBA23		REV. B

DRILL CHART: TOP to BOTTOM				
ALL UNITS ARE IN MILS				
FIGURE	SIZE	TOLERANCE	PLATED	QTY
	31.5	+4.0 / -4.0	NON-PLATED	3
	31.5	+4.0 / -4.0	NON-PLATED	7
	39.402	+4.0 / -4.0	NON-PLATED	6
	43.307	+4.0 / -4.0	NON-PLATED	35
	188.98	+4.0 / -4.0	NON-PLATED	2
	66.929x47.24	+5.0 / -5.0	NON-PLATED	2



Tech view

PROJECT

S0Q20-KB

DATE:

05/12/06

P/N:

DAS0Q0TB131

NC_DRL

INITAL

Andy

LAYER:

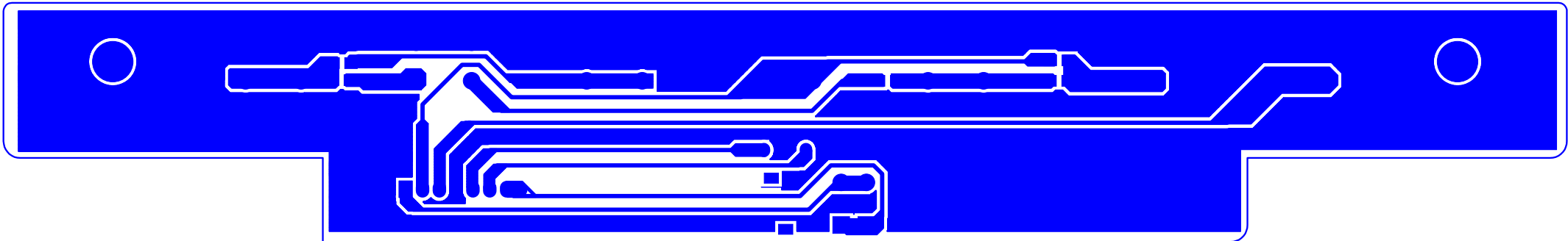
REV.

C



Tech view

PROJECT S0Q20-KB	OB_PAD_BO	LAYER:
DATE: 05/12/06	INITIAL Andy	REV.
P/N: DAS0Q0TB131		C

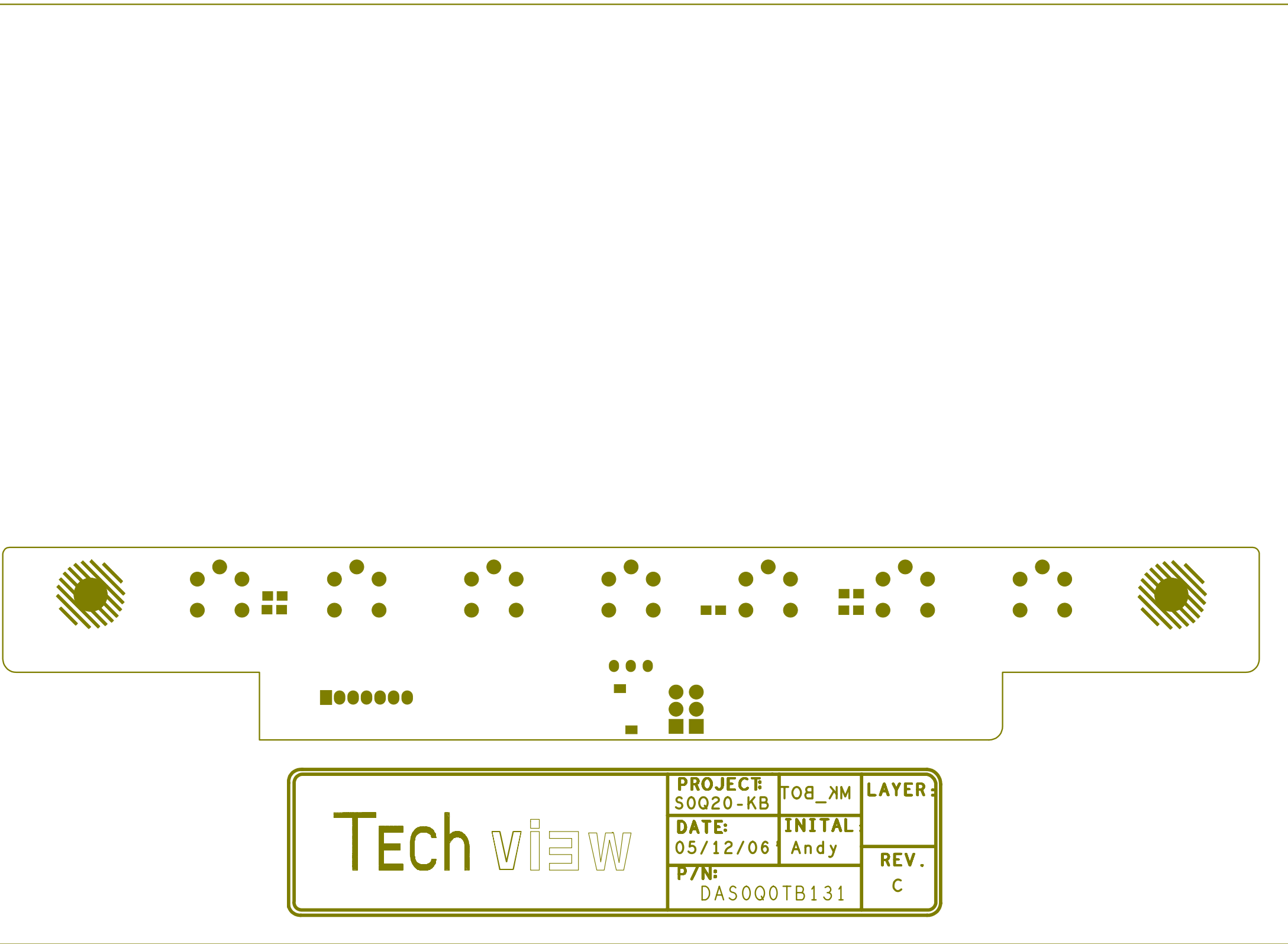


Tech view	PROJECT: S0Q20-KB	MOTTOB	LAYER: 1
	DATE: 05/12/06	INITIAL Andy	REV. C
	P/N: DAS0Q0TB131		



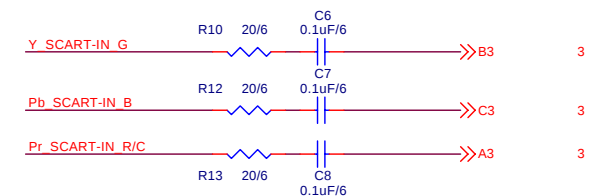
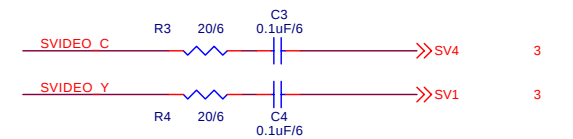
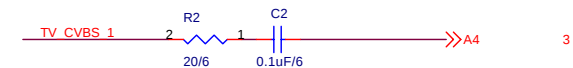
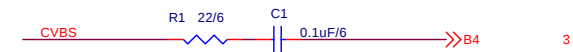
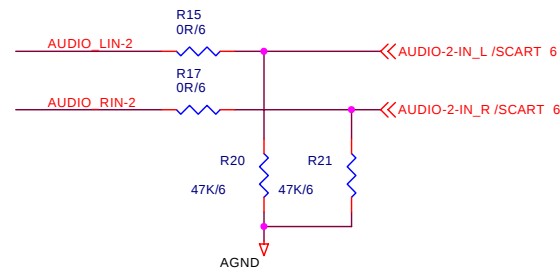
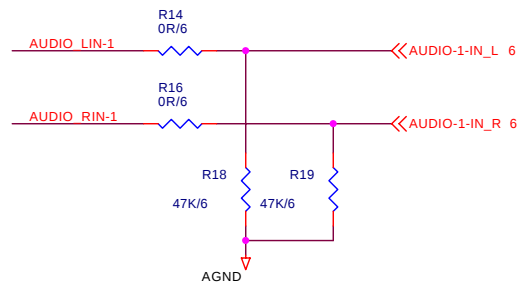
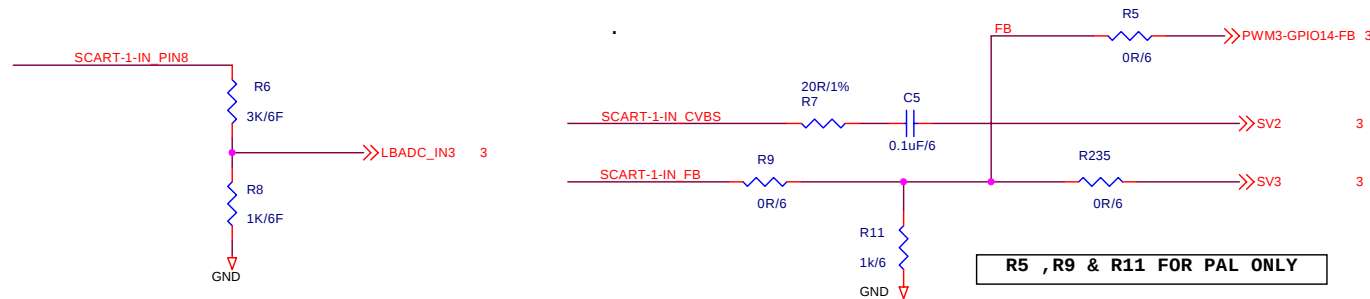
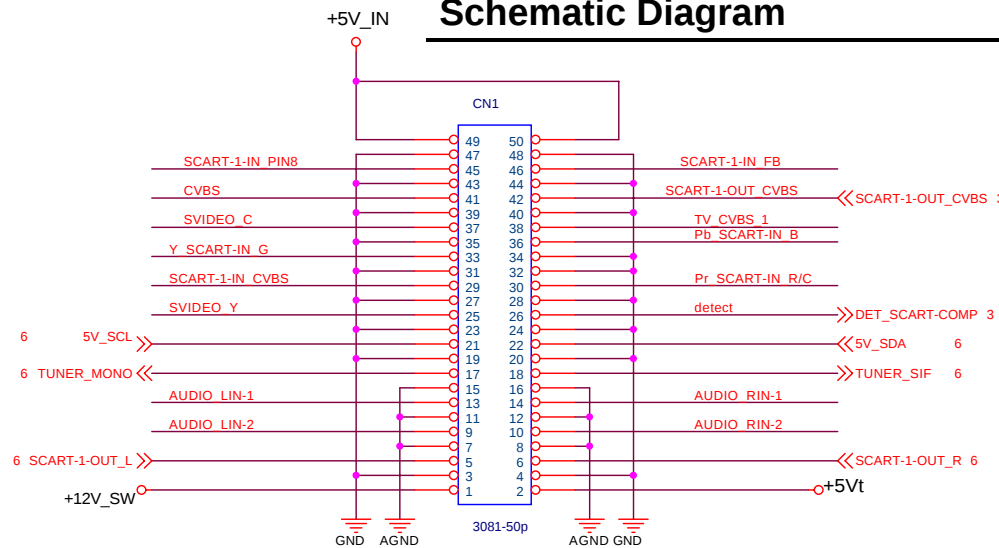
Tech view

PROJECT: S0Q20-KB	TOB_K2	LAYER:
DATE: 05/12/06	INITIAL Andy	REV.
P/N: DAS0Q0TB131		C



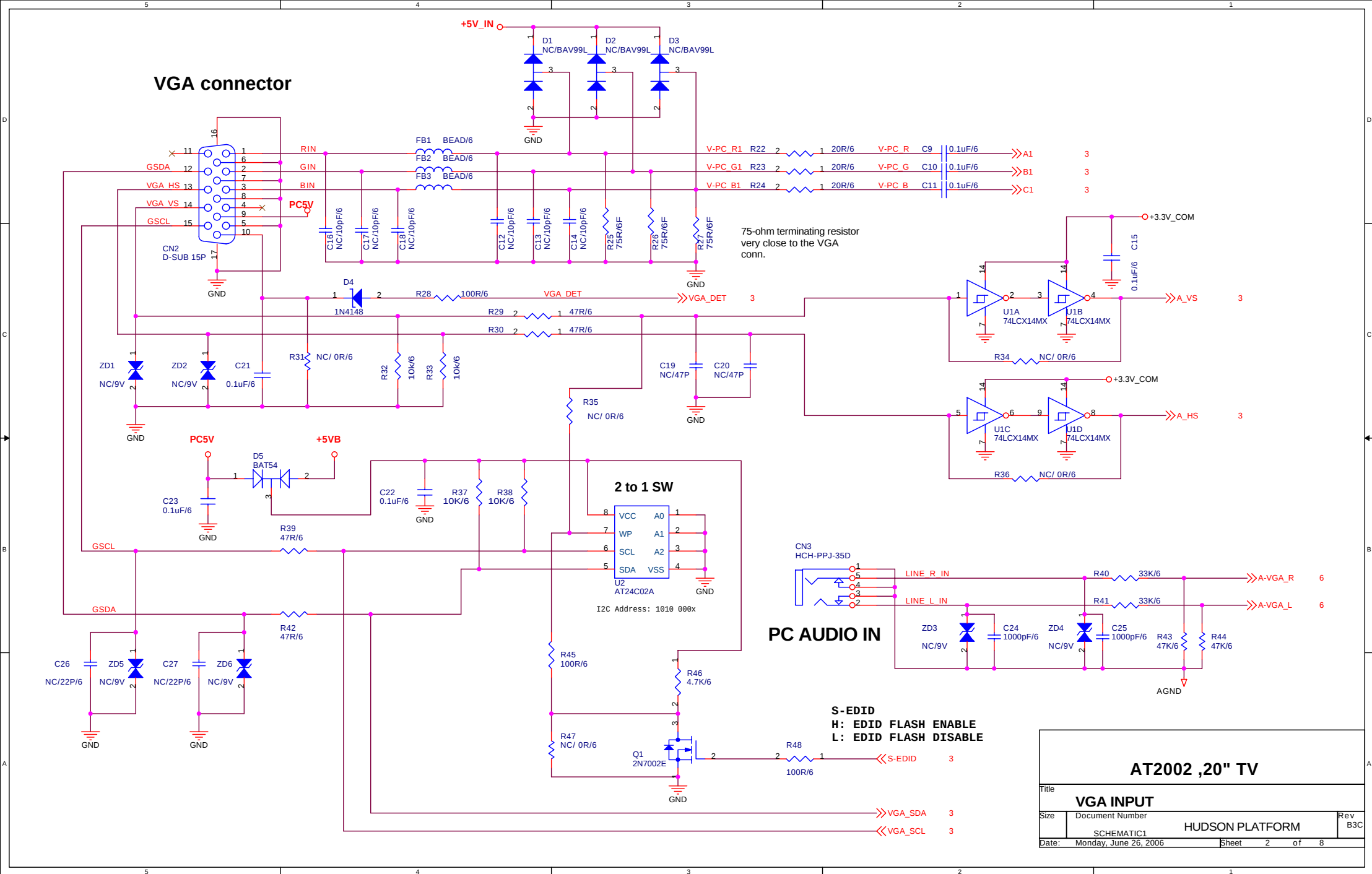
Schematic Diagram

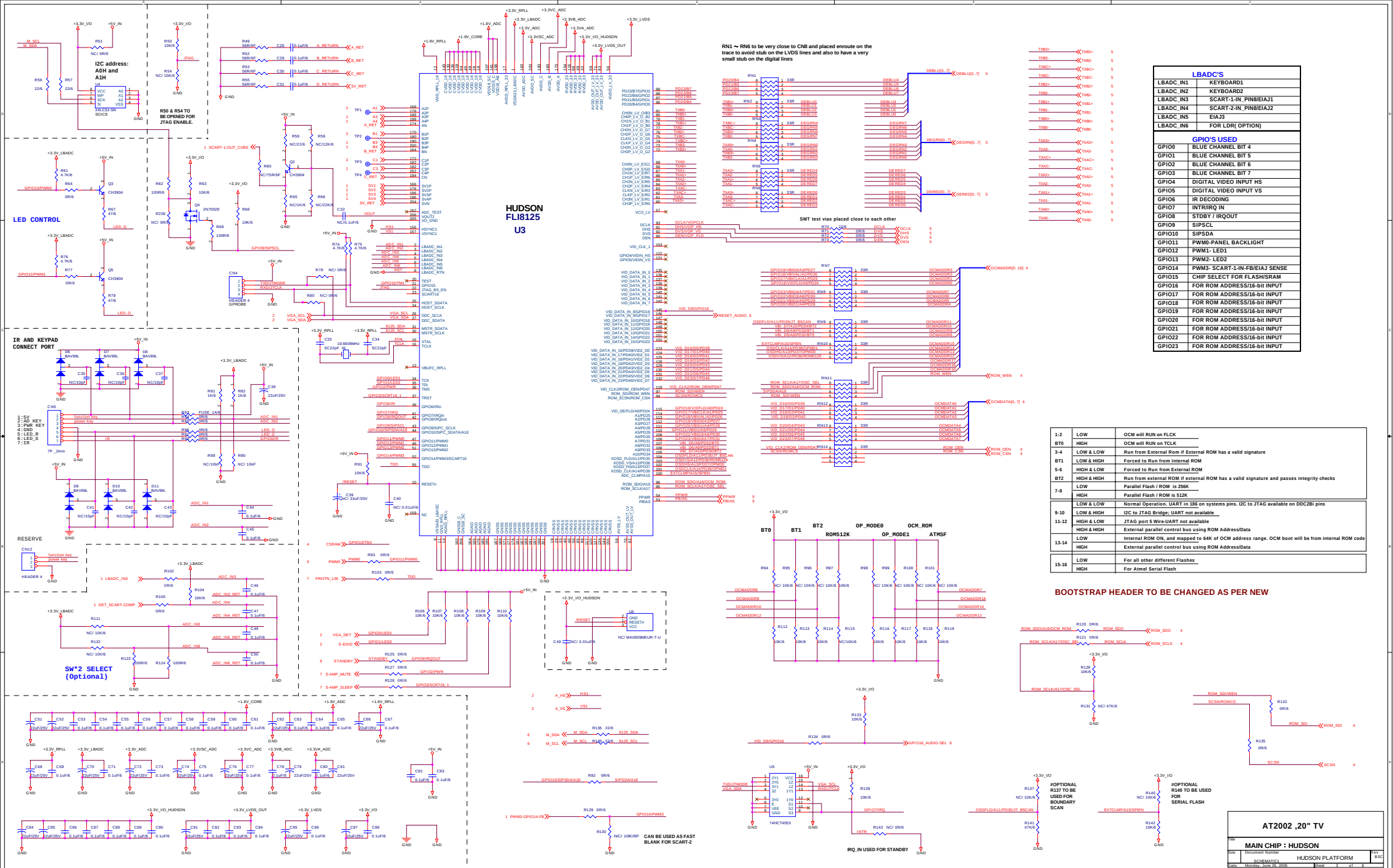
Chapter 7

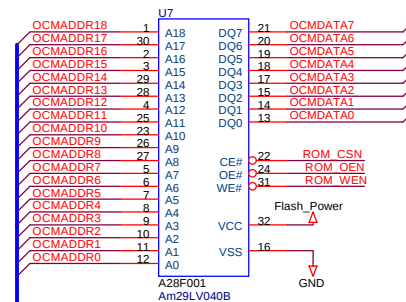
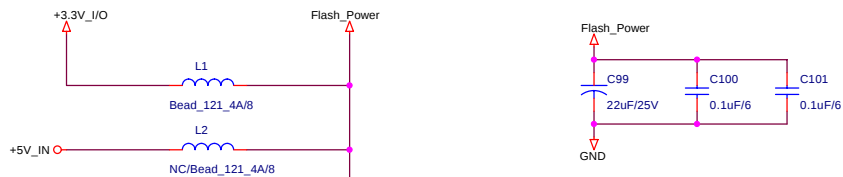


AT2002 ,20" TV

Title I/O Interface			
Size B	Document Number	HUDSON PLATFORM	
Date:	Monday, June 26, 2006	Sheet 1	of 8







Socket for a X8 Flash (64/128/256/512K) and PROMJETmemory Emulator

* CSRAM ADDR RANGES FROM 18000H TO 7FFFFH (APP. 412K BYTE)

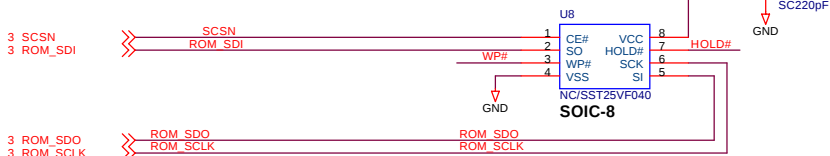
3 CSRAM >>>

3 OCMDATA[0..7] >>> OCMDATA[0..7]

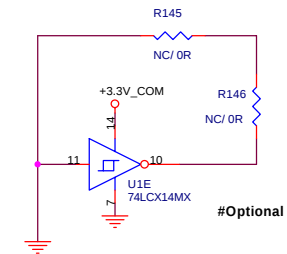
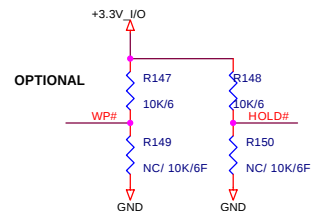
3 OCMADDR[0..18] >>> OCMADDR[0..18]

3 ROM_WEN >>> ROM_WEN
3 ROM_OEN >>> ROM_OEN
3 ROM_CSN >>> ROM_CSN

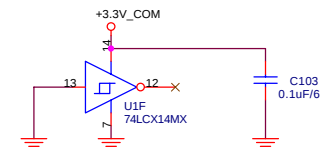
SERIAL FLASH 512K



3 ROM_SDO >>> ROM_SDO
3 ROM_SCLK >>> ROM_SCLK



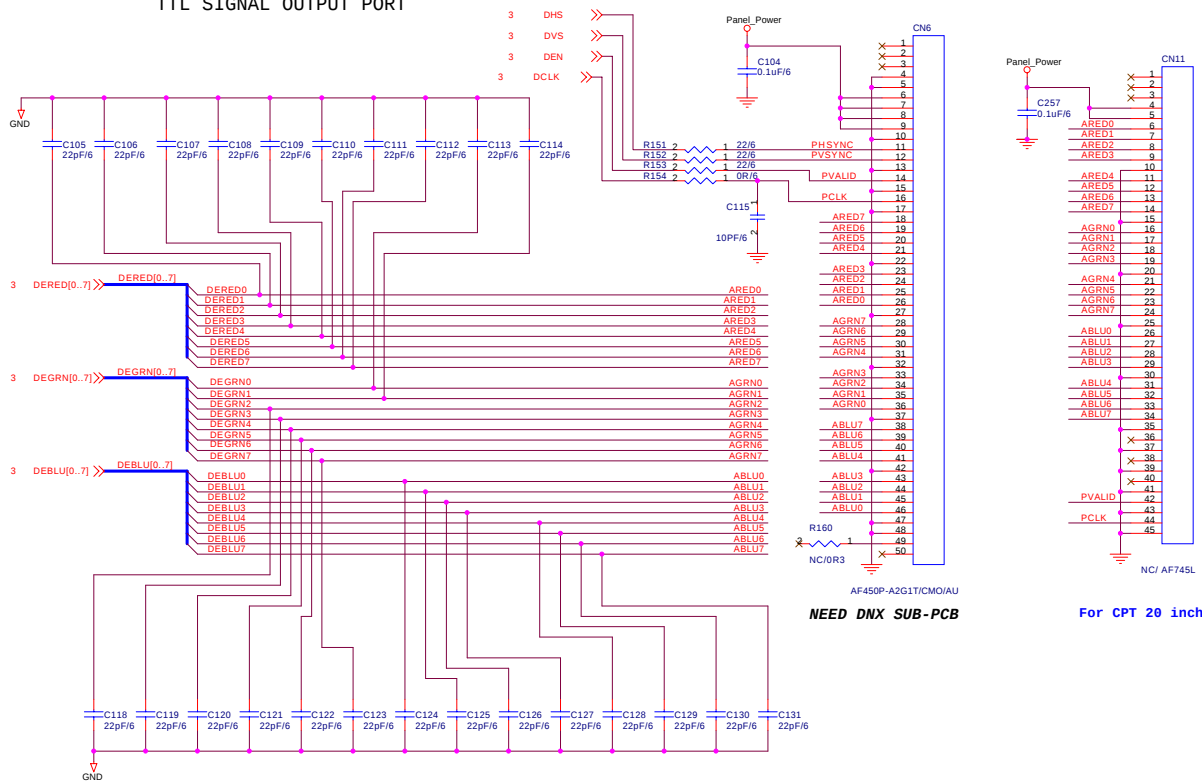
#Optional



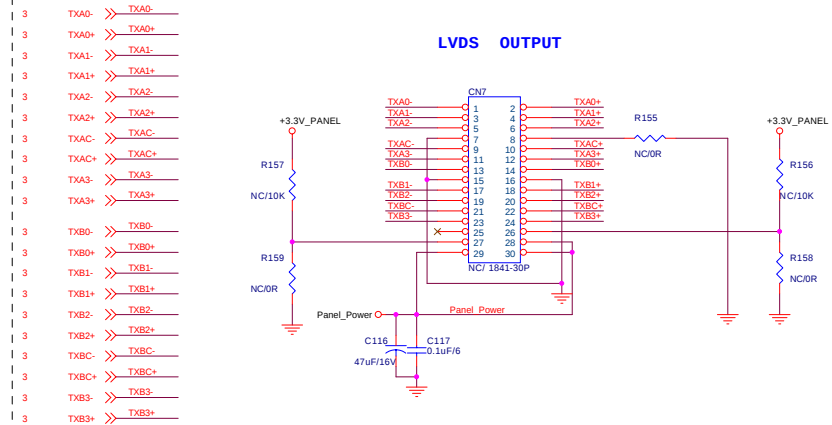
AT2002 ,20" TV

Title		
FLASH MEMORY I/F		
Size	Document Number	Rev
SCHEMATIC1	HUDSON PLATFORM	B3C
Date:	Monday, June 26, 2006	Sheet 4 of 8

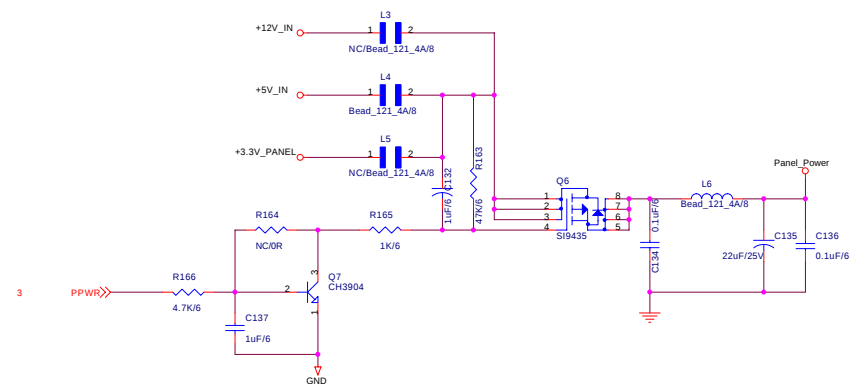
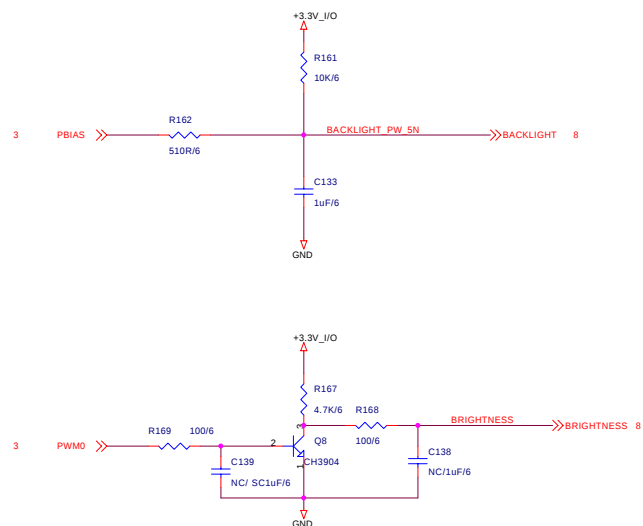
TTL SIGNAL OUTPUT PORT



LVDS SIGNAL OUTPUT PORT

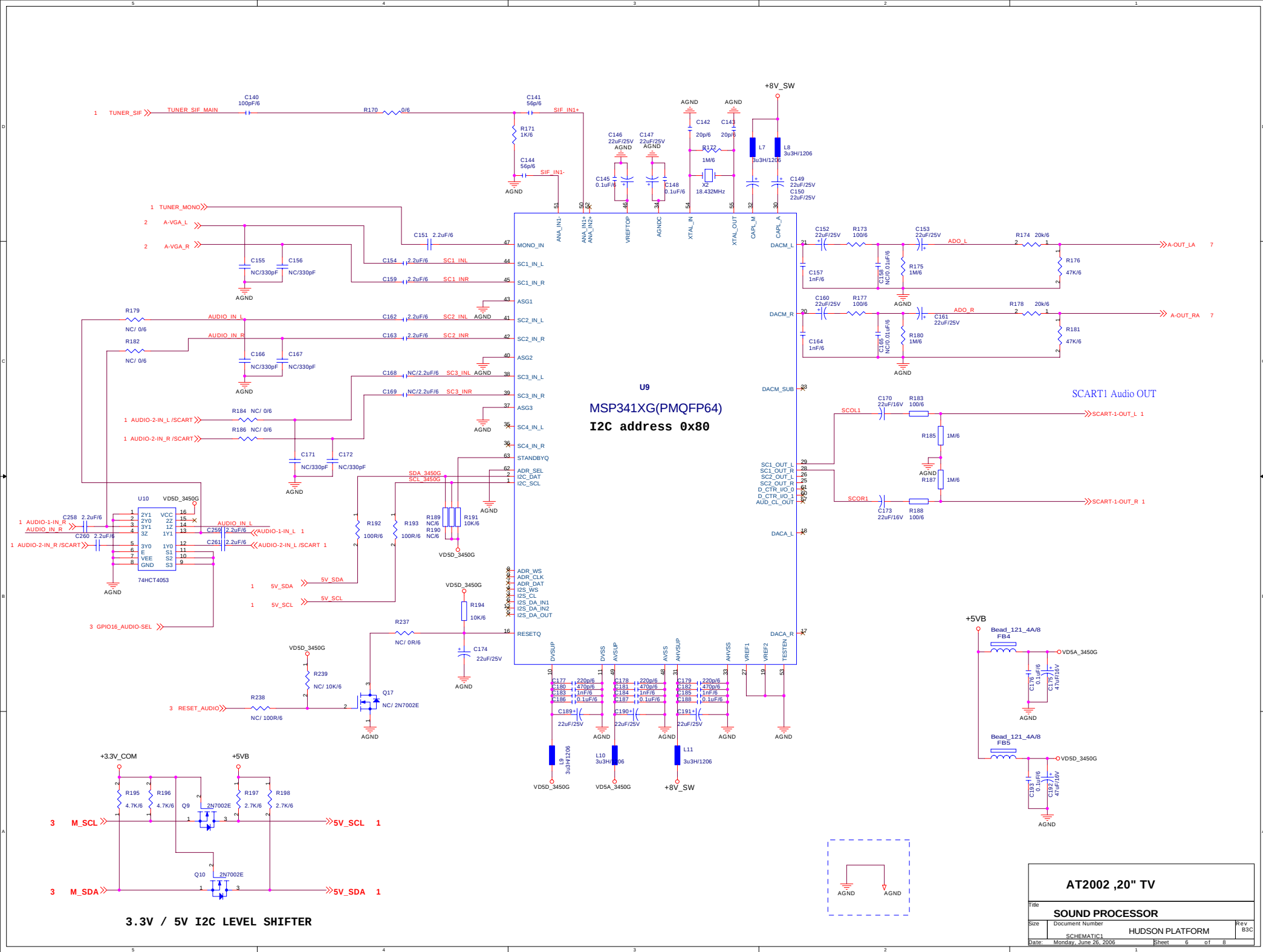


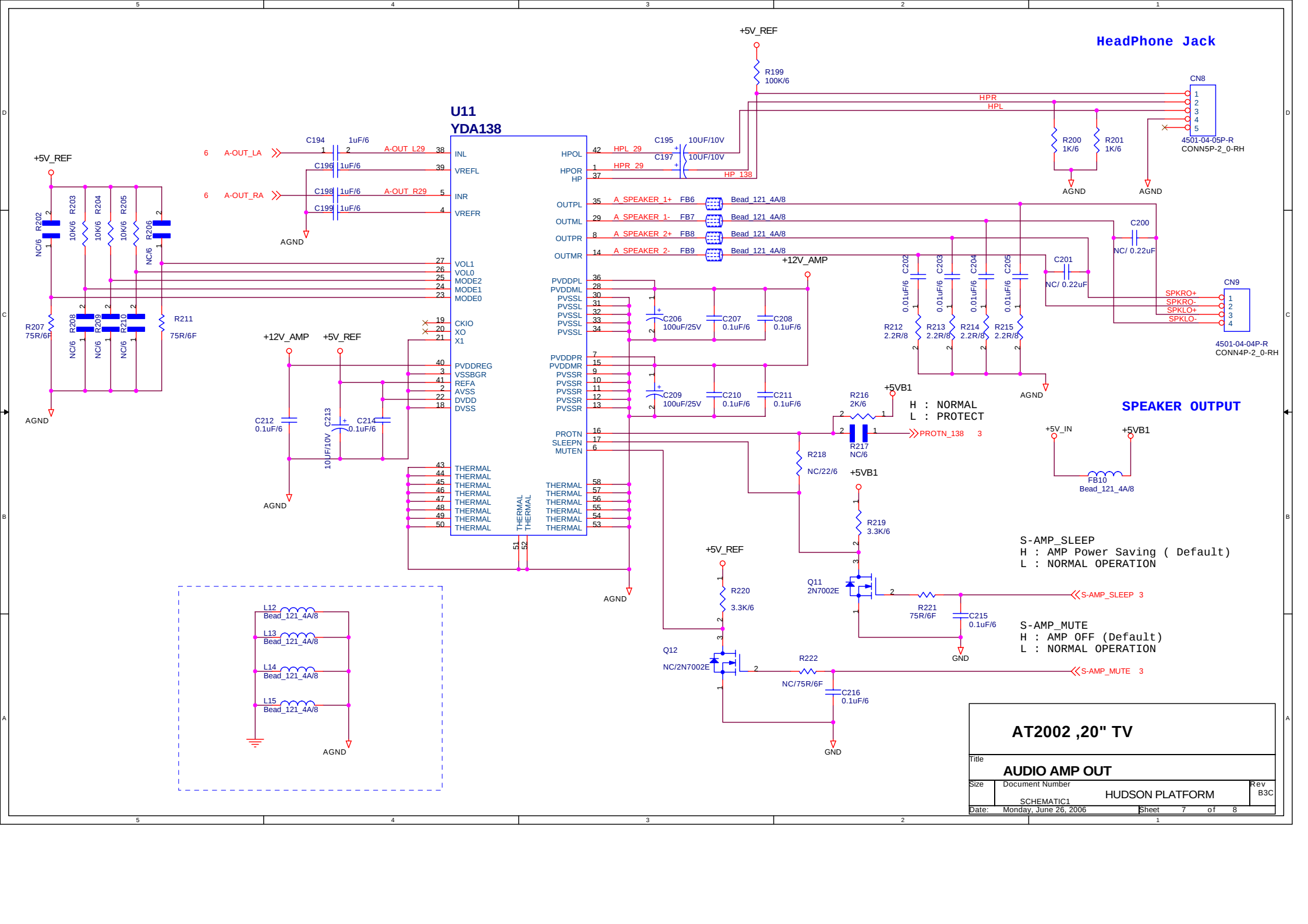
BKLT_EN & PANEL POWER Control



AT2002 ,20" TV

Title			
PANEL LVDS/TTL OUTPUT			
Size	Document Number		Rev
	HUDSON PLATFORM		B3C
SCHEMATIC1			
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U11
YDA138

HeadPhone Jack

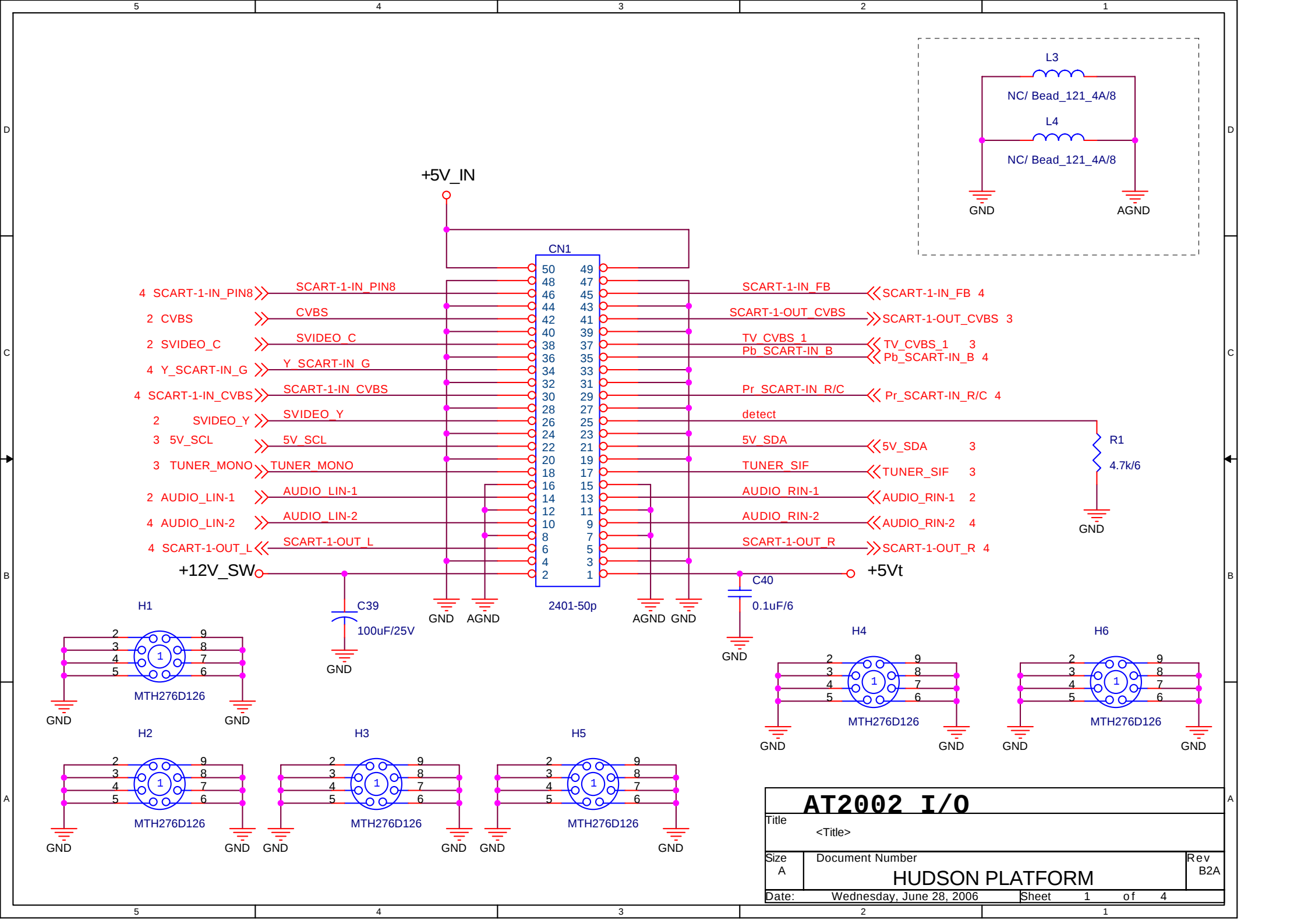
SPEAKER OUTPUT

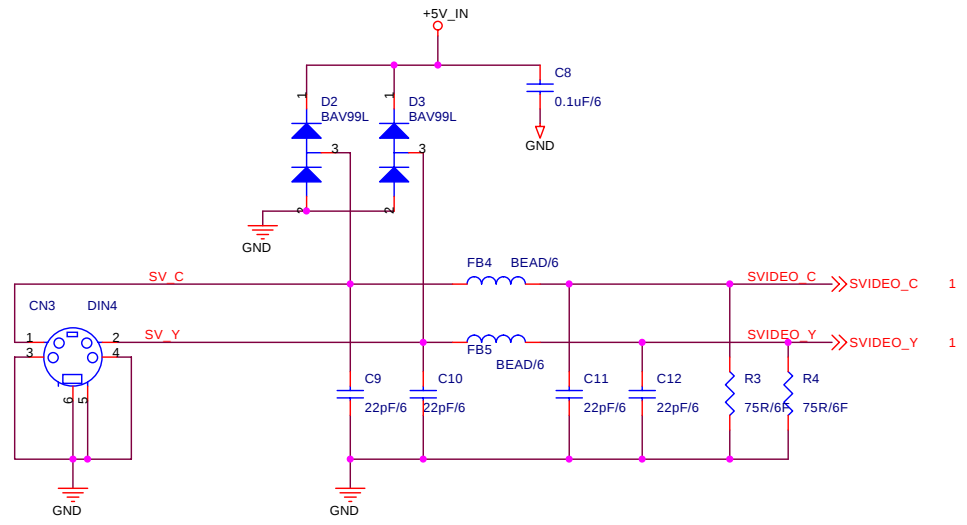
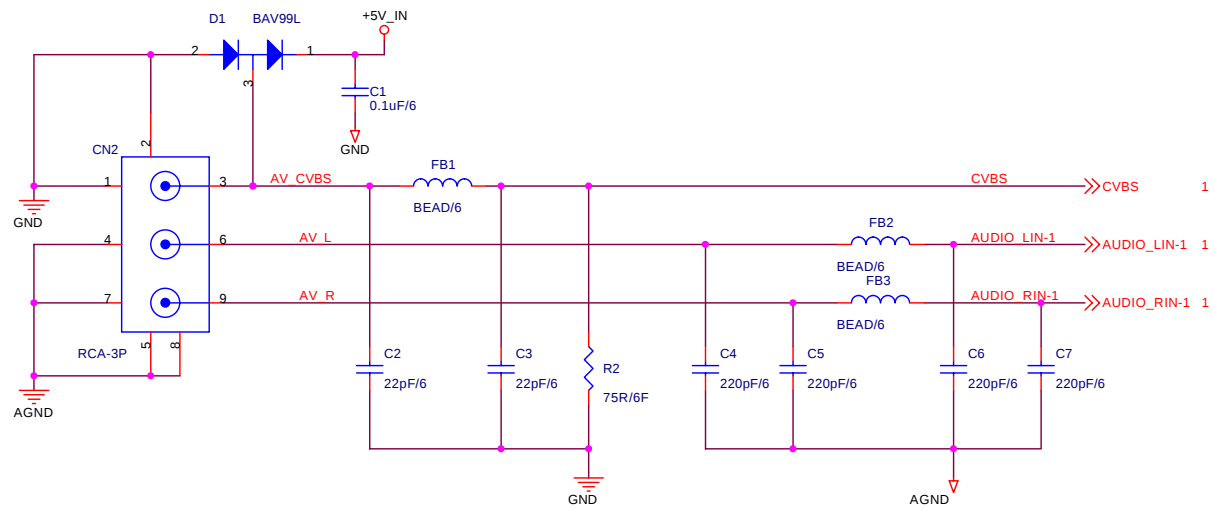
S-AMP_SLEEP
H : AMP Power Saving (Default)
L : NORMAL OPERATION

S-AMP_MUTE
H : AMP OFF (Default)
L : NORMAL OPERATION

AT2002 ,20" TV

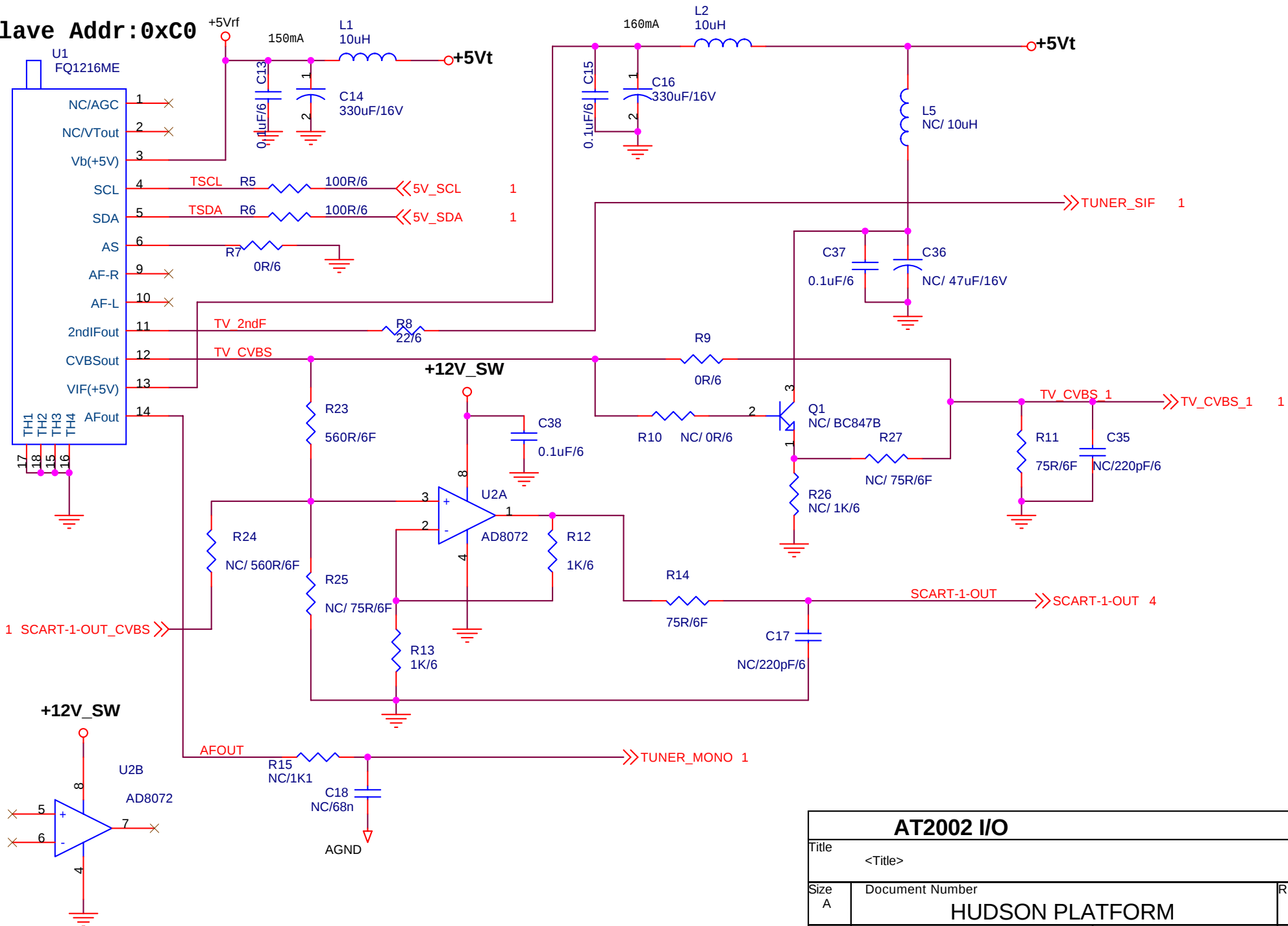
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AUDIO AMP OUT			
Size	Document Number		Rev
	SCHEMATIC1	HUDSON PLATFORM	B3C
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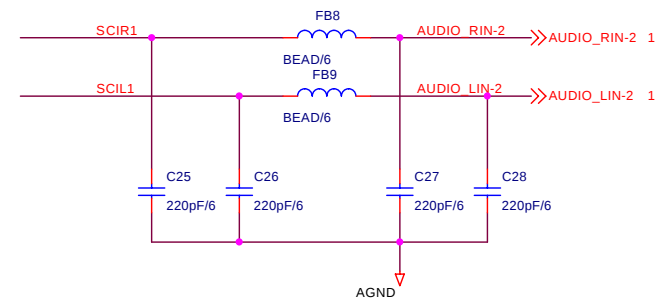
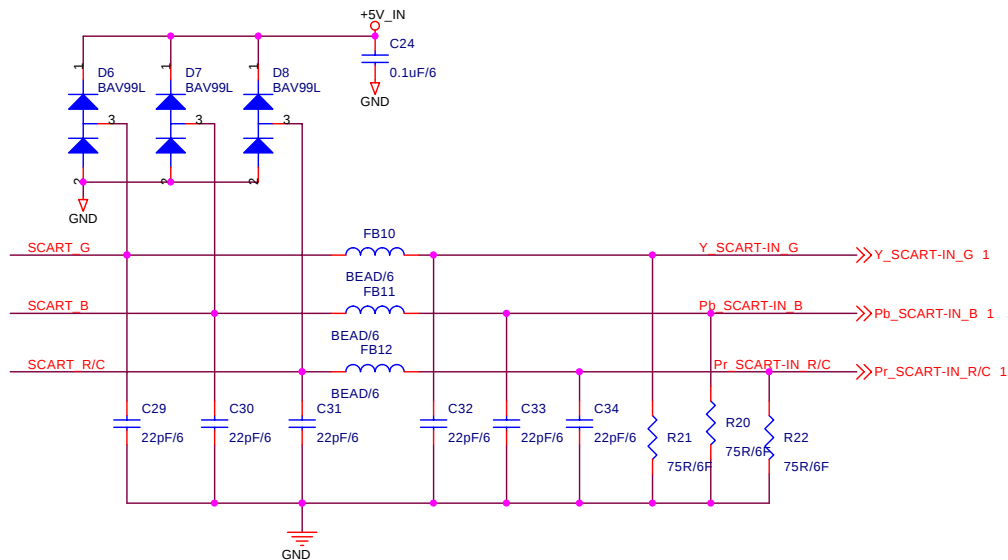
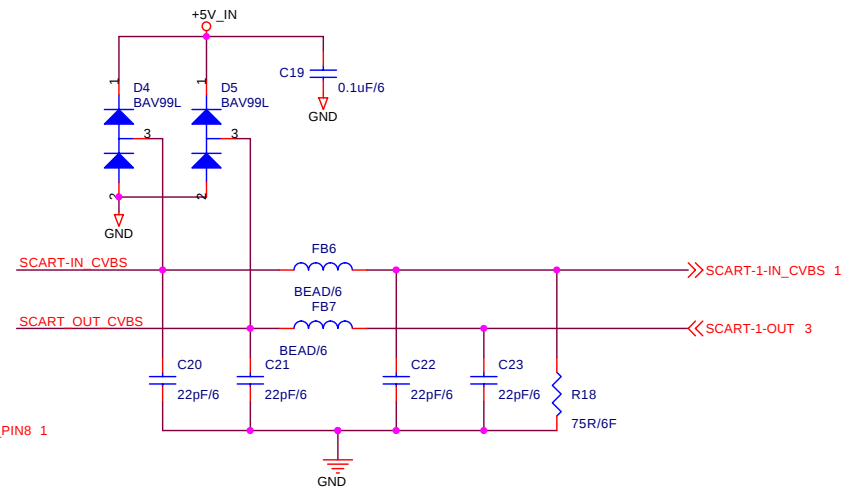
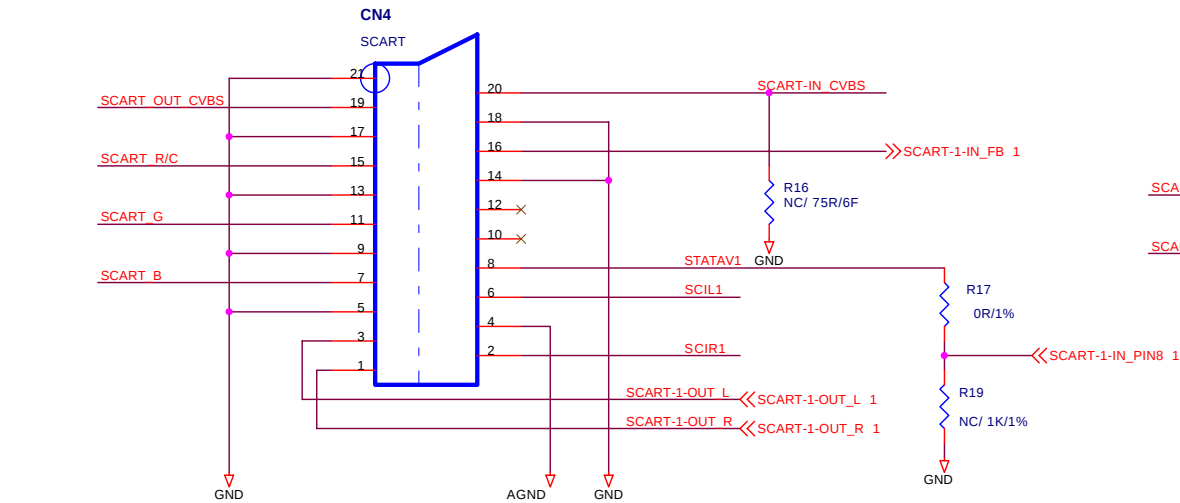
AT2002 I/O			
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Size	Document Number		Rev
B	HUDSON PLATFORM		B2A
Date:	Wednesday, June 28, 2006	Sheet	2 of 4

Slave Addr:0xC0



AT2002 I/O		
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Size	Document Number	Rev
A	HUDSON PLATFORM	B2A
Date:	Wednesday, June 28, 2006	Sheet 3 of 4

SCART SIGNAL INPUT PORT



Title			
<Title>			
Size	Document Number		
B	HUDSON PLATFORM		
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			Rev B2A

HUDSON BUTTON BOARD

CONTENTS

SCHEMATIC	SHEET
CONTENT	1
I/O INTERFACE	2

PROJECT : AT2002_Earphone/B

Title

CONTENT

Size

Document Number

BUTTON

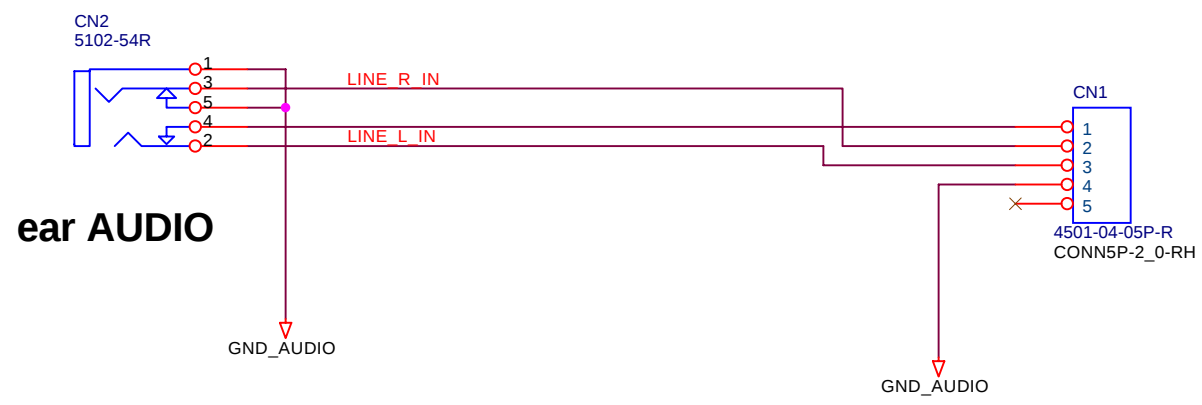
0990

Rev

B2A

Date: Wednesday, June 28, 2006

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ear AUDIO

PROJECT : AT2002_Earphone/B			
Title			
EARPHONE			
Size	Document Number		Rev
	BUTTON-BOARD		B2A
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HUDSON BUTTON BOARD

CONTENTS

SCHEMATIC	SHEET
CONTENT	1
I/O INTERFACE	2

PROJECT :AT2002 BUTTOM/B

Title

CONTENT

Size

Document Number

BUTTON

0990

Rev

C3A

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