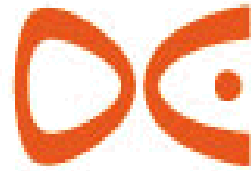


**DAEWOO**  
ELECTRONICS EUROPE, GMBH



**SERVICE MANUAL**  
**LCD Television**  
**CHASSIS : SLV65E**  
**Model : DSL-15C1T**

# SLV65E TFT LCD TV

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# 1. INTRODUCTION

## 1.1 Scope

This specification defines the requirements for the 15" MICRO-PROCESSOR based Multi-mode supported high resolution color LCD DISPLAY, This LCD DISPLAY can be directly connected to general 15 pin D-sub VGA connector, eliminates the requirement of optional special display card. It also supports VESA DPMS power management and plug & play function. There is a build-in stereo audio amplifier with volume control to drive a pair of speakers.

## 1.2 Description

The LCD DISPLAY is designed with the latest LCD technology to provide a performance oriented product with no radiation. This will alleviate the growing health concerns. It is also a space saving design, allowing more desktop space, and comparing to the traditional CRT monitor, it consumes less power and gets less weight in addition MTBF target is 20k hours or more.

# 2. ELECTRICAL REQUIREMENTS

## 2.1 Standard Test Conditions

All tests shall be performed under the following conditions, unless otherwise specified.

<b>Ambient light:</b>	225 lux
<b>Viewing distance:</b>	50 cm in front of LCD panel
<b>Warm up time</b>	
<b>All specifications:</b>	30 minutes
<b>Fully functional:</b>	5 seconds
<b>Measuring Equipment:</b>	Chroma 2225 signal generator or equivalent, directly connected to the monitor under test. Minolta CA110 photometer, or equivalent
<b>Control settings</b>	
<b>User brightness control:</b>	Maximum (unless otherwise specified)
<b>User contrast control :</b>	Typical (unless otherwise specified)
<b>User red/white balance, Green/white balance and Blue/white balance control:</b>	In the center (unless otherwise specified)
<b>Power input:</b>	110Vac or 230Vac
<b>Ambient temperature:</b>	20 ± 5 °C ( 68 ± 9 ° F)
<b>Analog input mode:</b>	1024x768 /60 Hz

### 2.1.1 MEASUREMENT SYSTEMS

The units of measure stated in this document are listed below:

1 gamma = 1 nano tesla

1 tesla = 10,000 gauss

cm = in x 2.54

lb = kg x 2.2

degrees F = [ $^{\circ}\text{C} \times 1.8$ ] + 32

degrees C = [ $^{\circ}\text{F} - 32$ ]/1.8

$u' = 4x/(-2x + 12y + 3)$

$v' = 9y/(-2x + 12y + 3)$

$x = (27u'/4)/[(9u'/2) - 12v' + 9]$

$y = (3v')/[(9u'/2) - 12v' + 9]$

nits =  $\text{cd}/(\text{m}^2) = \text{Ft-L} \times 3.426$

lux = foot-candle x 10.76

## 2.2 LCD DISPLAY General Specification

<b>Panel Type :</b>	<b>38.1cm( 15 ") active matrix color TFT LCD</b> 1). CPT <b>CLAA150XP03</b>
<b>Display size :</b>	304.1mm(H) x 228.1mm(V)
<b>Display mode :</b>	<b>TN mode, Normally White</b> VGA 720 X 400 (70 Hz) VGA 640 X 480 (60/66/70/72/75 Hz) SVGA 800 X 600 (60/70/72/75 Hz) XGA 1024 X 768 (60/70/75 Hz) standard resolution
<b>Pixel pitch :</b>	0.297mm(H) x 0.297mm(V)
<b>Display Dot :</b>	1024 x (RGB) x 768
<b>Pixel Clock :</b>	25 – 81 MHz
<b>Contrast ratio: <math>\theta = 0^{\circ}</math></b>	500 : 1 (typical)
<b>Brightness:</b>	400 $\text{cd}/\text{m}^2$ (typical)
<b>Response time (Tr+Tf) :</b>	16 msec (typical)
<b>Display color :</b>	16.2M (6 bite color+ FRC)
<b>Viewing angle:</b>	L / R $\geq 70 / \geq 70$ typ. ( $\geq 140$ degrees horizontal typical) U / D $\geq 60 / \geq 65$ typ. ( $\geq 125$ degrees horizontal typical)
<b>Luminance Uniformity :</b>	> 80 % (typical)
<b>Pc interface:</b>	Video : RGB analog 0.7V peak to peak Sync : TTL positive or negative
<b>Signal connector :</b>	15 pin Mini D type, (standard VGA video)
<b>Audio power :</b>	2.5Wrms + 2.5Wrms ( 250Hz – 15kHz (S.P.L. – 10 dB))
<b>Front control :</b>	power on/off with LED, CH/function select, mode, Menu, Volume/ volume adjustment (+,-)
<b>Interface frequency</b>	
<b>Horizontal Frequency</b>	29KHz --61KHz
<b>Vertical Frequency</b>	55Hz ----75Hz
<b>Plug &amp; play :</b>	Support VESA DDC2B functions
<b>Power Input voltage :</b>	Single phase, 50/60HZ, 100VAC to 240VAC $\pm 10\%$
<b>Total output power :</b>	56 Watt max.

## 2.3 LCD Panel Specification

### 2.3.1 LCD Panel Model

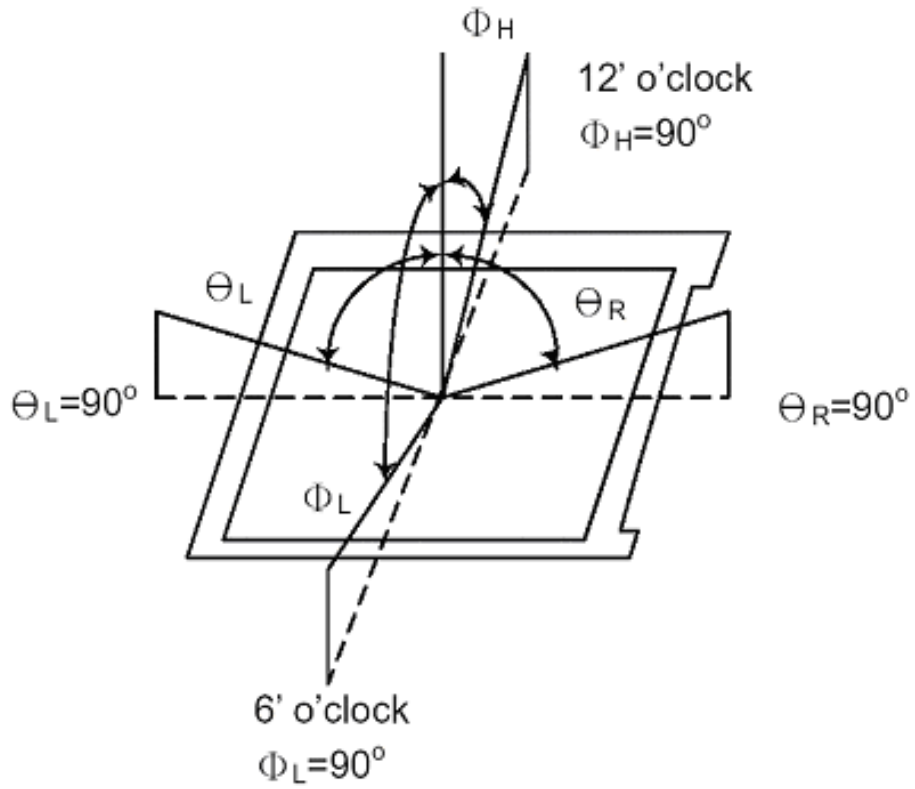
- Display Type TN active matrix color TFT LCD
- Resolution V:768 lines , H:1024 pixels
- Display Dot 1024 x (RGB) x 768
- Display Area 304.128mm(H) x 228.096mm(V)
- Pixel Pitch 0.297mm(H) x 0.297mm(V)
- Display Color 6-bits+ FRC driver
- White luminance (center of screen) 400 cd/m<sup>2</sup> typ.
- Contrast Ratio 500:1(typical)
- Response Time(Tr+Tf) (16ms) typ
- Lamp Voltage 1480V(rms) max.
- Lamp Current 6.5 mA (rms) typ.
- View Angle (Hor./Ver.) 70°(L),70°(R) / 60°(H), 65°(L). typ.  
(Contrast Ratio > 10)
- Brightness uniformity 80 % (typical)
- Weight 1,350g. max



### 2.3.2 Optical Characteristics

Item	Symbol	Condition	Min.	Typ.	Max.	Unit	Note	
Contrast	CR	$\theta=0^\circ$ $\Phi=0^\circ$ Normal Viewing Angle	400	500	-		(1)(2)	
Response time	Rising		$T_R$	-	$T_r+T_f$	-	msec	(1)(3)
	Falling		$T_F$	-	$\approx 16$	$\approx 24$		
White Luminance (center of screen)	$T_L$			300	400	-	Cd/m <sup>2</sup>	(1)(4)
Color chromaticity (CIE1931)	Red		$R_x$	0.613	0.643	0.673		
			$R_y$	0.305	0.335	0.365		
	Green		$G_x$	0.267	0.297	0.327		
			$G_y$	0.558	0.588	0.618		
	Blue		$B_x$	0.112	0.142	0.172		
			$B_y$	0.048	0.078	0.108		
	White	$W_x$	0.249	0.313	0.309			
		$W_y$	0.299	0.329	0.359			
Viewing Angle	Hor.	$\theta_L$	60	70	-	Degree		
		$\theta_R$	60	70	-			
	Ver.	$\Phi_H$	50	60	-			
		$\Phi_L$	55	65	-			
Brightness Uniformity	$B_{UNI}$	$\theta=0^\circ$	75	80	-	%	(5)	
Crosstalk	$CT_{(N)}$	$\Phi=0^\circ$	-	-	1.2	%	(6)	

**Note (1) Definition of Viewing Angle:**



**Note (2) Definition of Contrast Ratio (CR):**

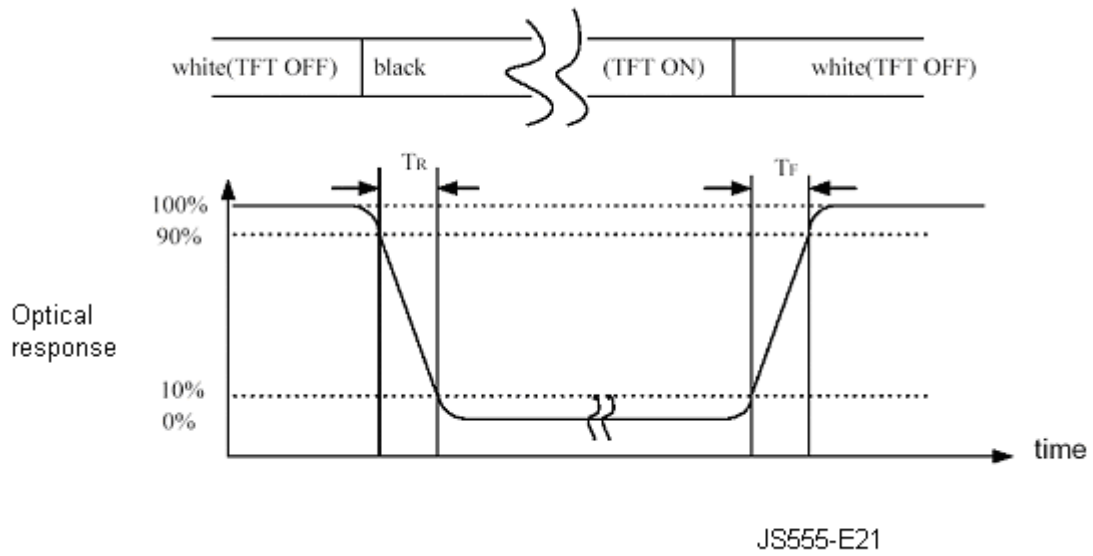
Measured at the center point of panel

Luminance with all pixels white (L63)

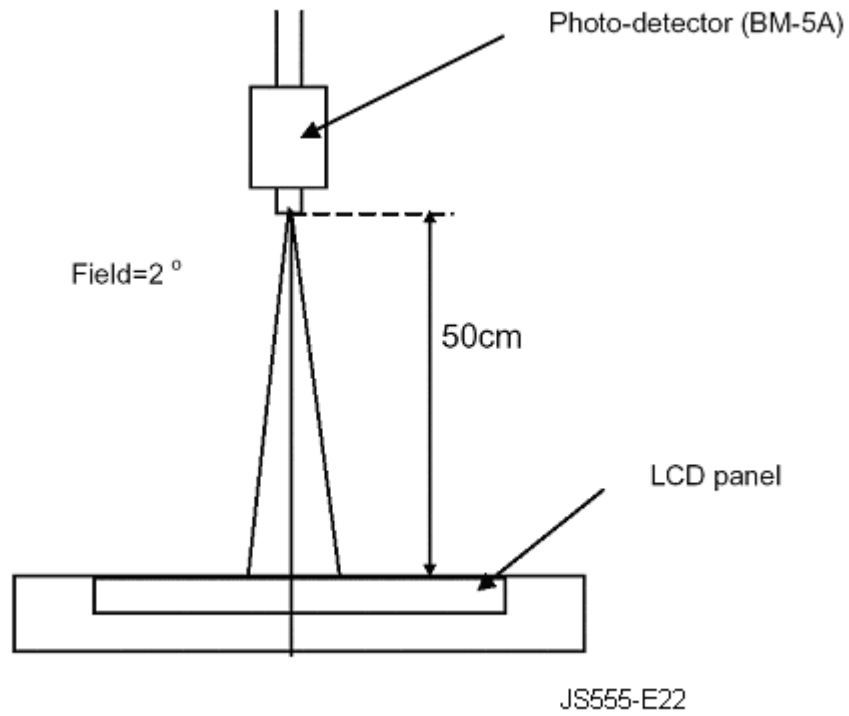
CR= \_\_\_\_\_

Luminance with all pixels white (L0)

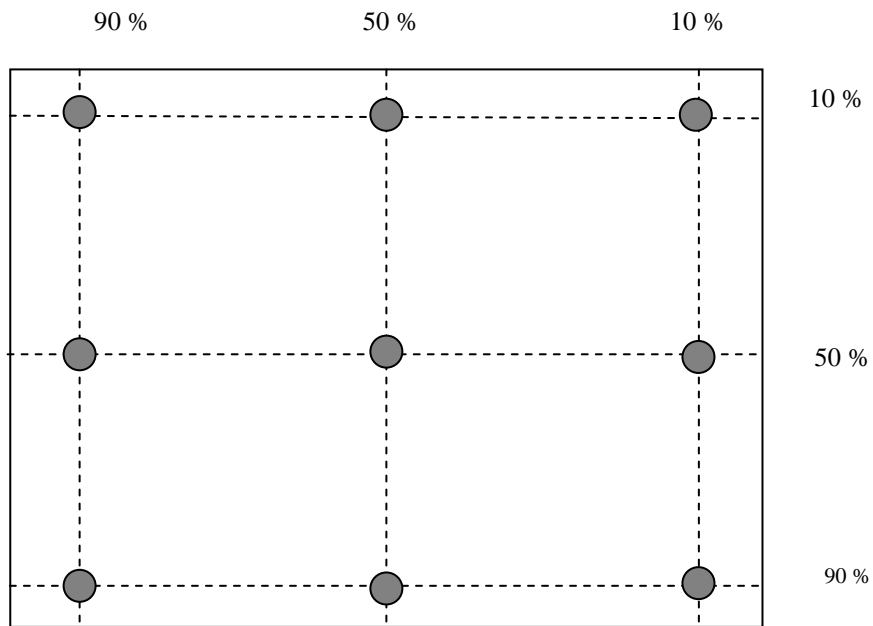
**Note (3) Definition of Response Time: Sum of  $T_R$  and  $T_F$**



**Note (4) Optical characteristic measurement setup**



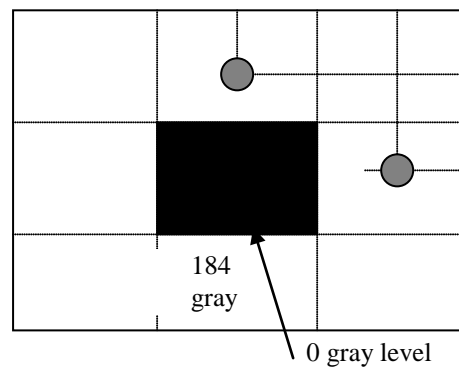
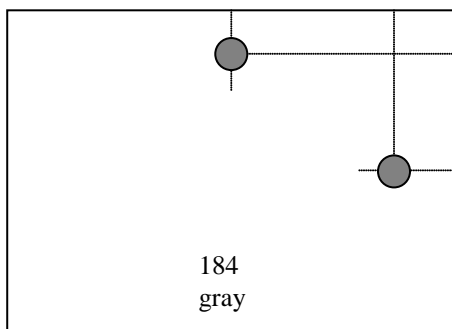
**Note (5) Brightness is measured at the center point of brightness value with all pixels displaying white.**



Unit: percentage of dimension of display area

Note 5: Brightness uniformity of these 9 points is defined as below:  
 $(\text{Min. brightness} / \text{Max. brightness}) \times 100\%$

Note 5:



Unit: percentage of dimension of display area

$|L_A - L_{A'}| / L_A \times 100\% = 1.2\% \text{ max.}$ ,  $L_A$  and  $L_B$  are brightness at location A and B

$|L_B - L_{B'}| / L_B \times 100\% = 1.2\% \text{ max.}$ ,  $L_{A'}$  and  $L_{B'}$  are brightness at location A' and B'

## 2.4 Input Signals

### AV1(CVBS,S-VIDEO),AV2(Y,Cb,Cr/Y,PB,PR) INPUTS

Composite Video	Type	Composite	: NTSC/PAL
	Level	0.7Vpp	
	Impedance	75 ohm terminated	
S-Video	Type	Y/C	: NTSC/PAL
	Level	0.7Vpp	
	Impedance	75 ohm terminated	
			:
Component	Type	Y , Cb ,Cr Y,PB,PR	: NTSC/ PAL 1080I/720P/480P 60HZ
	Level	0.7Vpp	
	Impedance	75 ohm terminated	

#### 2.4.1 VGA input

- Type Analog R, G, B.
- Input Impedance 75 ohm +/- 2%
- Polarity Positive
- Amplitude 0 - 0.7V -0.035V/+ 0.07 V
- Display Color same as LCD panel

#### 2.4.2 Sync input

- Signal separate horizontal and vertical sync, or composite sync which are TTL compatible
- Polarity positive and negative.

#### 2.4.3 Interface frequency

The following frequency range is generalized by supported timing. If the entered mode does not match the supported timing the display optimization will not be assured.

- Horizontal Frequency 29KHz --61KHz
- Vertical Frequency 55Hz ----75Hz

## *Supported Timing*

TIMING	FH(KHZ)	SYNC	TOTAL	ACTIVE	SYNC	FRONT	BACK	PIXEL
	FV(HZ)	POLARITY	(DOT/LINE)	(DOT/LINE)	WIDTH	PORCH	PORCH	FOREQ.(MHZ)
					(DOT/LINE)	(DOT/LINE)	(DOT/LINE)	
640x350	31.469	+	800	640	96	16	48	25.175
VGA-350	70.087	-	449	350	2	37	60	
640x400	24.83	-	848	640	64	64	80	21.05
NEC PC9801	56.42	-	440	400	8	7	25	
640x400	31.469	-	800	640	96	16	48	25.175
VGA-GRAPH	70.087	+	449	400	2	12	35	
640x400	31.5	-	800	640	64	16	80	25.197
NEC PC9821	70.15	-	449	400	2	13	34	
640x480	31.469	-	800	640	96	16	48	25.175
VGA-480	59.94	-	525	480	2	10	33	
640x480	37.861	-	832	640	40	16	120	31.5
VESA-480-72Hz	72.809	-	520	480	3	1	20	
640x480	37.5	-	840	640	64	16	120	31.5
VESA-480-75Hz	75	-	500	480	3	1	16	
720x400	31.469	-	900	720	108	18	54	28.322
VGA-400-TEXT	70.087	+	449	400	2	12	35	
800x600	35.156	+	1024	800	72	24	128	36
SVGA	56.25	+	625	600	2	1	22	
800x600	37.879	+	1056	800	128	40	88	40
VESA-600-60Hz	60.317	+	628	600	4	1	23	
800x600	48.077	+	1040	800	120	56	64	50
VESA-600-72Hz	72.188	+	666	600	6	37	23	
800x600	46.875	+	1056	800	80	16	160	49.5
VESA-600-75Hz	75	+	625	600	3	1	21	
1024x768	48.363	-	1344	1024	136	24	160	65
XGA	60.004	-	806	768	6	3	29	
1024x768	53.964	+	1328	1024	176	16	112	71.664
COMPAQ-XGA	66.132	+	816	768	4	8	36	
1024x768	56.476	-	1328	1024	136	24	144	75
VESA-768-70Hz	70.069	-	806	768	6	3	29	
1024x768	60.023	+	1312	1024	96	16	176	78.75
VESA-768-75Hz	75.029	+	800	768	3	1	28	

If the input timing is not a supported timing listed above but within the supported frequency range (Horizontal: 61KHz,Vertical: 75Hz), this monitor will select a closest mode instead. But the display quality may not be optimized.

If the input timing over the supported frequency range, a message “Out of Range” will be shown.

#### 2.4.4 Support Modes

There will be 16 total support modes to accommodate the above mode and other video modes within the frequency range of the monitor.

##### 2.4.4.1 PC model control function

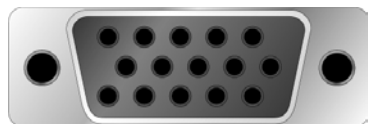
Bright , Contrast , Picture position , OSD position , Auto adjustment , Clock , Phase , OSD Transparence , Language , Color Temperature Graphic/Text select

#### 2.4.5 Video input Connector

##### Analog Video input Connector: 15pins mini D-Sub

Table 2.4.5. Pin assignment for D-sub connector

PIN NO.	Separate Sync
1	RED VIDEO
2	GREEN VIDEO
3	BLUE VIDEO
4	GROUND
5	GROUND
6	RED GROUND
7	GREEN GROUND
8	BLUE GROUND
9	PC5V (+5V DDC)
10	CABLE DETECTION
11	GROUND
12	SDA
13	H.SYNC
14	V.SYNC
15	SCL



D-sub connector

Color of plastic parts: Blue



## 2.4.6 STANDARD ACCESSORIES

### ANALOG VGA CABLE

Type	Worldwide type	
Length	1.8m + 5cm/-5cm	
Color	black	
Connectors	Monitor -side	15 pin D-Sub Blue compliant with

### POWER CABLE

Type	Worldwide type	
Length	1.8m + 5cm/-5cm	
Color	black	
Connectors	Monitor -side	IEC 320 female
	Mains-side	

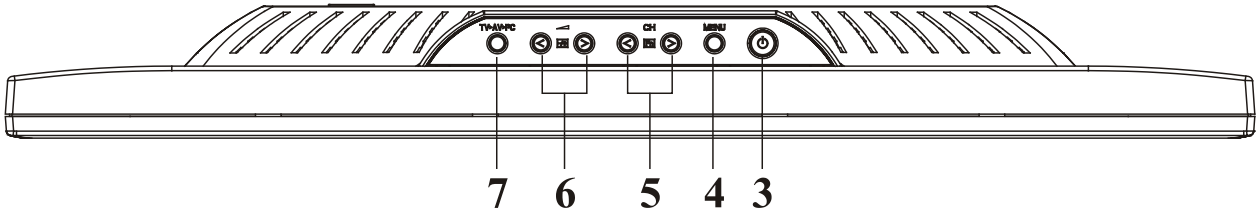
<b>AUDIO STEREO CABLE</b>	Length	1.8m + 5cm/-5cm
	Connector	Φ3.5mm plug green housing

### EXTERNAL ADAPTER

Type	Worldwide type	
Length of DC cable	1.5m + 1.5cm/-0cm	
Color of adapter	black	
Connectors	Monitor-side	Φ2.5mm DC plug
	Mains-side	IEC 320 male



## 2.5 CONTROLS



### **Control panel (monitor front panel)**

- 7. Source mode and OSD Menu off function key control.**
  - . Power LED, will be green when monitor is on; be amber when in power saving mode.
- 6. Adjust decrease and volume control.**
  - . Adjust increase and volume control.
- 5. activate the OSD and CH Function select counter-clockwise.**
  - . activate the OSD and CH Function select clockwise.
- 4. Menu key.**
- 3. Power ON/OFF switch, push to ON and push to OFF. (toggle switch)**

### 2.5.1 OSD Functions

- OSD Format: Refer to following figure.
- OSD Border: Cyan color
- OSD Tunable Item: The 15 icons that around the border.
- Selected Item: Yellow background
- Comment: Magenta foreground, Blue background

*page format :Monitor function*



Description :

- Brightness: Brightness adjustment, the range from 0 to 100. (Def. 100)
- Contrast: Contrast adjustment, the range from 0 to 100. (Def. 80)
- H. Position: Horizontal position adjustment.
- V. Position: Vertical position adjustment.
- Phase: focus adjustment, the range from 0 to 100.
- OSD H-position : OSD Horizontal position adjustment.
- OSD V-position: OSD Vertical position adjustment.
- Auto Adjustment: This feature, will automatically adjust size, position, clock and phase.
- Clock: Frequency tracking adjustment. The max range from 0 to 100, but some modes the range will be limited.
- Graph Text: 640x400(GRAPH) or 720x400(TEXT) mode select.  
Language: 5 kinds of language for description, including (Def. English)
- Recall: Recall the default value.
- Color Management: Color temperature/ Color saturation/ Color Hue adjustment.
  - User:

- User R: Red signal gain by user defined.
  - User G: Green signal gain by user define.
  - User B: Blue signal gain by user defined.
  - 6500: set CIE coordinate at 6500°K color temperature (when use 6500°k color temperature, contrast display cannot change and cannot adjust).
  - 9300: set CIE coordinate at 9300°K color temperature (when use 9300°k color temperature, contrast display cannot change and cannot adjust).
  - Save + Exit: Save the setting value and exit OSD menu function.
- Comment :
- 1024x768: Current mode resolution.
  - 75 HZ: Current mode vertical frequency.
  - VER 0.01: Firmware revision.
- Other features:
    - Intellectual-Auto LV65E can start the Auto-Adjustment automatically when input a new display mode at first time. After the adjustment, LV65E will remember this mode and switch to optimized condition automatically for this mode whenever encounter this mode again. Total 16 recent used modes are recorded into EEPROM.
    - VESA DPMS Functionality When signaled by the host CPU, LV65E shows a black screen about 3 seconds. If no further signal, then it shows “No Signal” and enter power saving mode.

## 2.6 White Color Temperature

White color temperature is 3 preset as 9300, 6500 and User,

- User:
  - User R: Red signal gain by user defined.
  - User G: Green signal gain by user define.
  - User B: Blue signal gain by user defined.
- 6500: set CIE coordinate at 6500°K color temperature (when use 6500°k color temperature, contrast display cannot change and cannot adjust).
- 9300: set CIE coordinate at 9300°K color temperature (when use 9300°k color temperature, contrast display cannot change and cannot adjust).
- Saturation: Color saturation adjustment, the range from 0 to 100. (Def. 100)

<b>Color Temp.</b>	9300	6500	user
x	0.281	0.313	x1
y	0.311	0.329	y1
Tolerance	+/-0.030	+/-0.030	+/-0.030

Note: x1, y1 should meet the color chromaticity of white in panel specification.

## **2.7 POWER SUPPLY: PK100V0140I OR PK100V0180I**

### **2.7.1 Input Voltage Range**

The monitor shall operate within specification over the range of 100 to 240 VAC power supply.

### **2.7.2 Input Frequency Range**

Input power frequency range shall be from 47.5 to 63 Hz over the specified input voltage range.

### **2.7.3 Quick specification review**

- Input current: 1.5A (max) at 90VAC input and full load ,  
0.75A (max) at 264 VAC input and full load.
- Inrush current @ cold start  
30A(0-peak)@ 110Vac ,50A(0-peak) @ 220Vac  
(measured when switched off for at least 10 mins.)

- Output

Output Volt	Tolerance	Output Current		Volt Tolerance
		MIN	MAX	
+12Vdc	+/-5 %	0.1A	5A	

- Total output power: 48 Watt max.
- Withstanding voltage : 1.5Kvac or 2.2KVdc for 1 minute.
- Leakage current : < 0.25mA/100Vac , <3.5mA/230Vac
- Efficiency : 80% min. @115V/230VAC, maximum load.

## 2.7.4 Power Management

### 2.7.4.1 Meet VESA DPMS proposal

The monitor must comply with the Microsoft On Now specification, with a minimum of three power management states, as defined by the VESA DPMS document. The front panel of the monitor must appropriately display the DPMS state, For example:

DPMS ON :                   The power LED is Green  
 DPMS OFF :                 The power LED is Amber

## 2.7.5 Power Consumption

### Meet VESA DPMS Proposal

On mode	50 Wmax	Green
Off mode	5 Wmax	Amber
DC power off	5Wmax	Dark
disconnection	5 Wmax	1. Amber (stand-by; suspend; off mode) 2. Dark (DC power off)

- ◆ Measured from AC input end of AC power and don't include audio at power-saving state
- ◆ The stand-by, suspend and off mode recover to on mode about 3 seconds.

## 2.7.6 Power Connector

All units shall have an IEC/CEE-22 type male power receptacle.

## 2.8 Plug & Play (EDID)

This monitor is equipped with VESA DDC 1/2B according to VESA DISPLAY DATA CHANNEL STANDARD V. 1.0 Rev.1 (tt.mm.199j)

The monitor will be capable of sending a VESA standardized EDID file through the DDC (pins 12, 15 of the VGA connector).

	x0	x1	x2	x3	x4	x5	x6	x7	x8	x9	xA	xB	xC	xD	xE	xF
00:	00	FF	FF	FF	FF	FF	FF	00	0E	0C	10	15	01	00	00	00
10:	02	0D	01	03	68	1F	17	78	EA	F3	C0	9D	58	4A	97	25
20:	1C	50	54	AF	CE	00	01	01	01	01	01	01	01	01	01	01
30:	01	01	01	01	01	01	C3	1E	00	20	41	00	20	30	10	60
40:	13	00	30	E4	10	00	00	1E	00	00	00	FD	00	37	4B	18
50:	3D	08	00	0A	20	20	20	20	20	20	00	00	00	FC	00	43
60:	4F	4D	50	41	4C	20	4C	56	31	35	31	0A	00	00	00	FF
70:	00	30	0A	20	20	20	20	20	20	20	20	20	20	20	00	00

## 2.9 Audio Technical specification

### 2.9.1 General Description:

Output power	: 2.5W + 2.5W maximum
Total harmonic distortion	: Less than 2 % (except speakers distortion)
Input signal sensitivity	: 0.5 Vrms for full output
Input impedance	: 47 Kohm +/- 5 %
Frequency response range	: 20Hz – 20kHz (except speakers response)
Difference of L and R output	: Less than 2 dB

### 2.9.2 Electrical characteristics ( $T_{amb}=25^{\circ}$ )

Audio amplifier (USE Panasonic VP-7723A Audio Analyzer. )

Item	Audio Input	Freq.	Spec.			Comment
			Min.	Typ.	Max.	
Input Voltage(V)			-	12	-	
Input Current(m A)			-	800	1200	
Audio Voltage Gain	500m Vrms	1KHz	-	-	10d B	Volume Max.,load 4 $\Omega$
Frequency Response	500m Vrms	150Hz-15KHz	-3dB	-	+3d B	Volume Max.,load 4 $\Omega$
Signal to Noise ratio	500m Vrms	1KHz	-	-	-40dB	Volume Max.,load 4 $\Omega$
Total harmonic distortion	500m Vrms	1KHz			2%	except speakers distortion
Cross talk	500m Vrms	1KHz	-	-	-30dB	Volume Max.,load 4 $\Omega$
Output Watt.	500m Vrms	1KHz	-		2.5W	Volume Max.,load 4 $\Omega$
Volume Control			-	-	-	Digital

#### Conditions of Input Signal

- 1). Input Impedance : 600 ohm
- 2). Input Level : 500m Vrms  $\pm$  10%
- 3). Signal Frequency : 1 KHz

### 2.9.3 Speakers

Effective Output	: 2.5 Watts
Maximum power	: 3 W per speaker(max)
Impedance	: 4 ohm +/- 15 % @ 1kHz 1.0Hz
Frequency response range	: 200 Hz – 20 kHz (S.P.L. – 10 dB)
Total harmonic distortion	: Less than 5 % @ 0.125 W 1kHz

### 2.9.4 Headphone output

Output power	: 1.6 mW for 32 ohms Headphone
--------------	--------------------------------

# 3. MECHANICAL REQUIREMENTS

## 3.1 Vibration and Shock

All testing shall be done in each of three mutually perpendicular axes, referenced to the position of the system as it is in front of the user (i.e., front-to back, side-to-side, and top-to-bottom).

### 3.1.1 Non-Operating

The unit should suffer minimal visible cosmetic damage or damage that presents a safety hazard, or impairs the setup and operation of the system after testing.

**Sinusoidal Vibration:** 0.75 G zero-to-peak, 10 to 500Hz, 0.5 octave / minute sweep rate. This requires one sweep, 10 to 500 to 10Hz, along each of the three axes.

**Random Vibration:** 0.008 G<sup>2</sup>/Hz, 10 to 500 Hz, nominal 2 GRMS. The test shall be for one hour for each of the three axes.

**Half Sine Wave Shock:** 120 G peak, half sine pulse, 2 ms pulse duration. Testing shall consist of one shock in each direction in each axis, for a total of 6 shock inputs.

**Square Wave Shock:** 40 G peak acceleration, 160 inches / second velocity change. There shall be one shock in each direction in each axis, for a total of 6 shock inputs.

## 3.2 Package Drop Specification

Listed below are standards of drop heights for monitor product

Product Weight	height Specs
<9.1 kg	0.91 m
9.2~18.2 kg	0.76 m
18.3~27.2 Kg	0.61 m
27.3~45.4 Kg	0.46 m

### 3.2.1 Drop Test Sequence

<i>Drop Order</i>	<i>Drop point</i>	<i>Drop Times</i>
1	Right Front Bottom Corner	1
2	Right Bottom Edge	1
3	Right Front Edge	1
4	Front Bottom Edge	1
5	Bottom Side	1
6	Top Side	1
7	Front Side	1
8	Back Side	1
9	Left Side	1
10	Right Side	1

### 3.3 Dimension Size and Weight

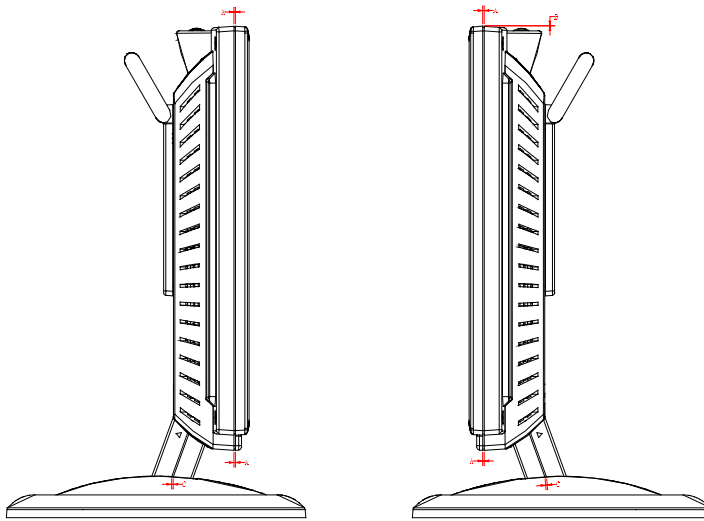
Dimension size	430(W)×325.5(H)×198(D)
Net Weight	4.0 Kg ± 0.3 Kg
Gross Weight	5.8 Kg ± 0.3 Kg

### 3.4 Gap Spec.

#### 3.4.1 The step between front bezel and back cover shall be within specification.

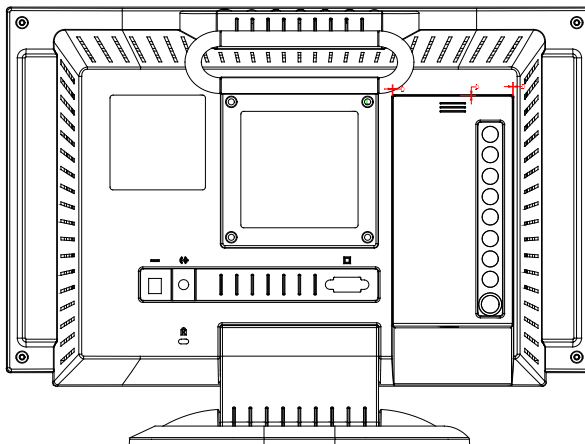
Back Cover & Bezel Gap	Neck Front & Neck Back
$1.0 \text{ mm} \leq A \leq 1.4 \text{ mm}$	$1.0 \text{ mm} \leq C \leq 1.4 \text{ mm}$

Back Cover & Bezel Alignment  
 $0 \text{ mm} \leq B \leq 0.5 \text{ mm}$



SLV85A-E07

Back Cover & Bucket Door  
 $0.8 \text{ mm} \leq D \leq 1.2 \text{ mm}$

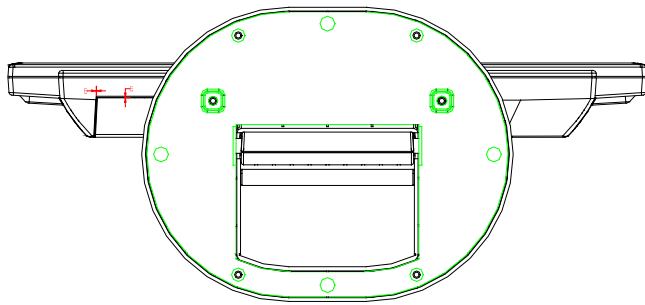


SLV85A-E08

Back Cover & Bucket Door

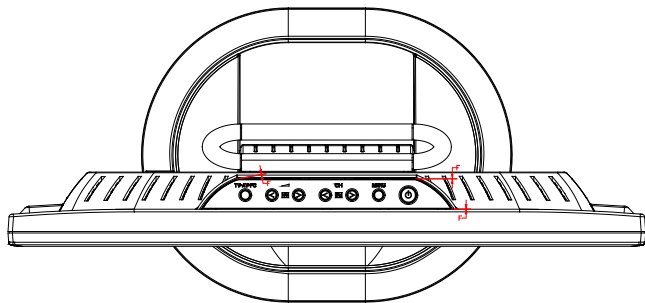


$0.8 \text{ mm} \leq E \leq 1.2 \text{ mm}$



SLV85A-E09

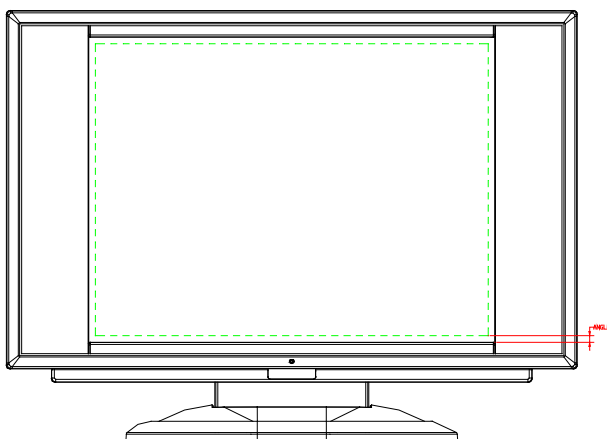
Back Cover & Key Plate  
 $0.6 \text{ mm} \leq F \leq 1.2 \text{ mm}$



SLV85A-E10

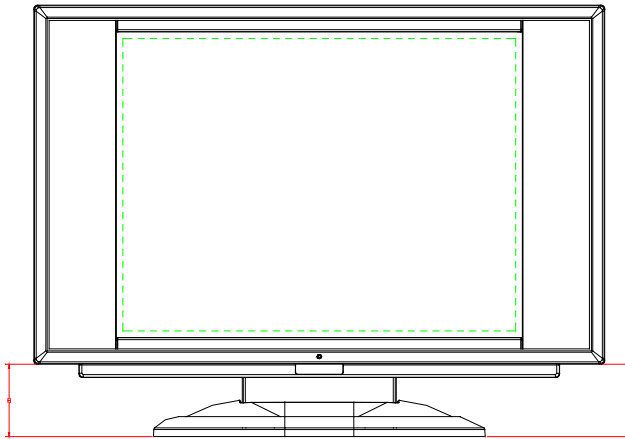
### 3.4.2 LCD Horizontally

*The angle between front bezel and LCD unit in bottom side should be not large than 1.0mm.*



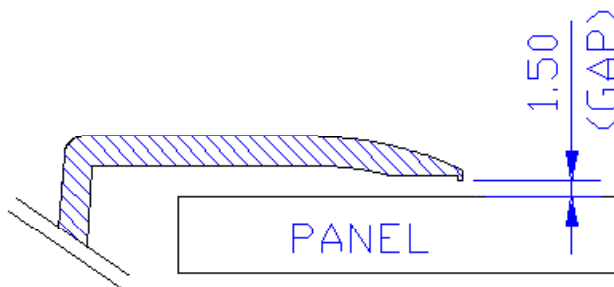
SLV85A-E11

The distance G-H of the LCD display unit from left side to right should be not large than 4.0 mm.



SLV85A-E12

### 3.4.3 Gap between panel with bezel is $0.2 \text{ mm} < \text{gap} < 1.5 \text{ mm}$



NOTE:  $\text{GAP} \leq 1.5 \text{ mm}$

CM870-E18

### 3.5 Tilt Base Rotation

Tilt up 25:1 / down 5:1

### 3.6 Plastic Material

Front Bezel ABS 94HB, 94V-0

Back Cover ABS 94HB, 94V-0

The Others ABS 94HB

## 4. Power Line Transient Test (IEC 61000-4-4 Fast Transients/Burst)

TEST CONDITIONS & PROCEDURE: (Follow IEC 61000-4-4)

Test Condition:

The condition is base on operating with 50Ω load.

#### **4.1 Peak Voltage**

2 KV (applies the Level 3 typical Industrial Environment” of IEC 61000-4-4)

**4.2 Polarity : +/-**

**4.3 Repetition Frequency of the impulse: 5 KHz.**

**4.4 Rise-Time : 5ns ±30%**

**4.5 Impulse Duration: 50 nS ±30%**

**4.6 Relation to Power Supply: Asynchronous**

**4.7 Burst Duration: 15 ms ±20%**

**4.8 Burst Period: 300 ms ±20%**

#### **4.9 Climatic Conditions**

- Ambient Temperature: 15°C to 35°C
- Relative Humidity: 45% to 75%
- Atmospheric Pressure: 86 kPa to 106 kPa

#### **4.10 Test Procedure**

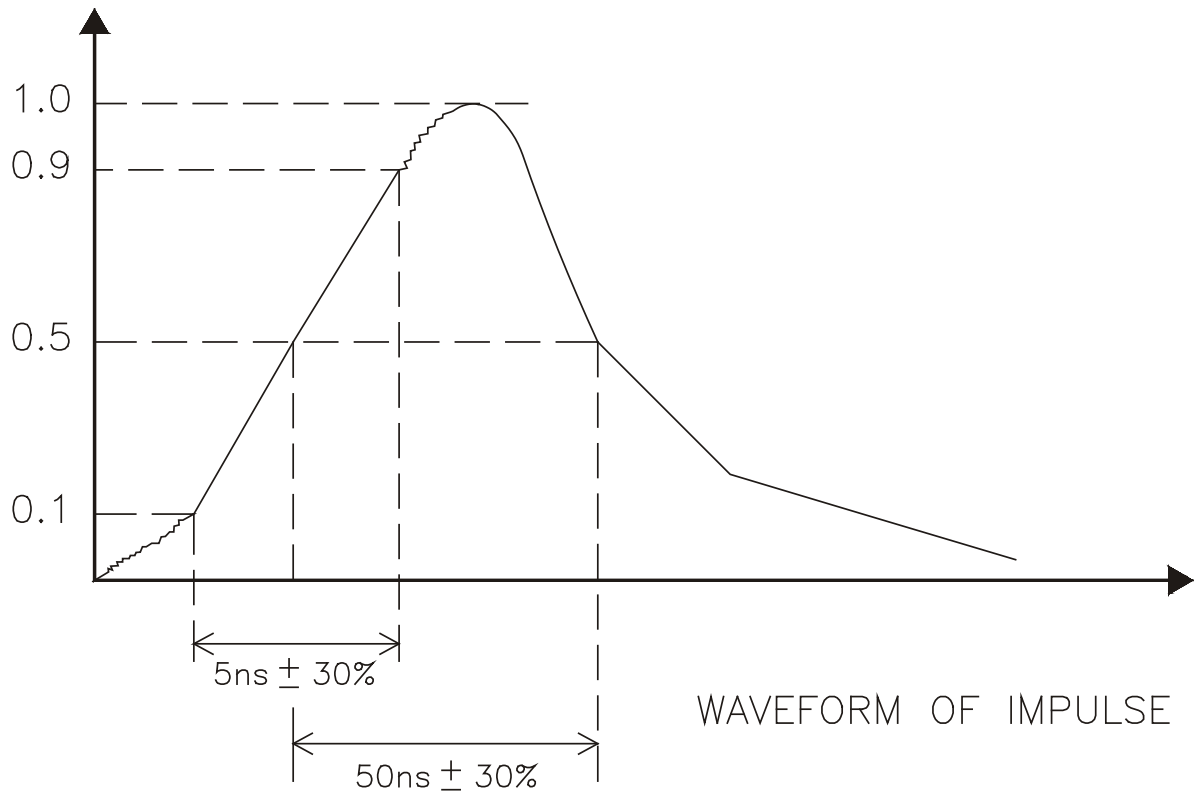
The monitor Display set high-resolution mode, AC input use AC 240V.

Note :

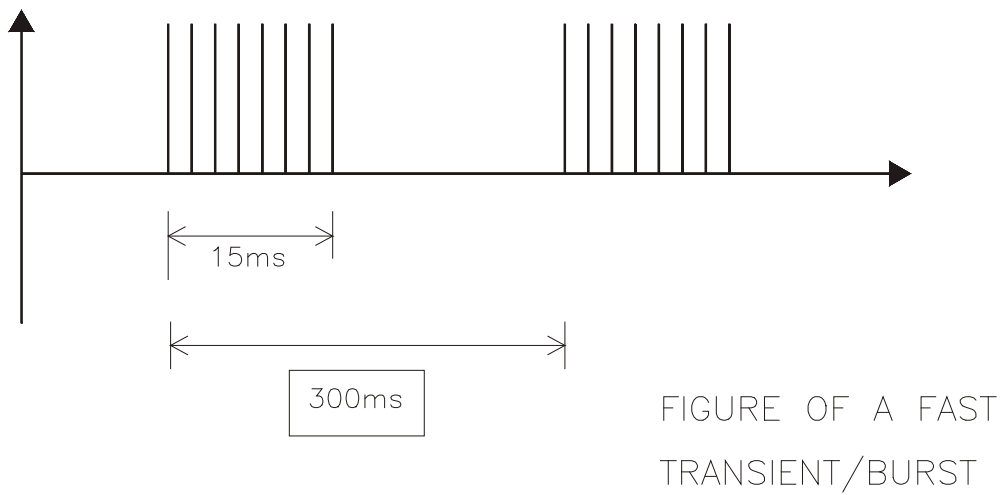
**4.10.1** IEC 61000-4-4 defines that power supply, I/O line, and control line all shall be performed the transient test, but the I/O line and control line is applied with only half of peak voltage (1 KV).

**4.10.2** For the comparison of wave-shape generated by different generator, so the test must uses a scope with at least 400 MHz bandwidth, and coupled to 50 Ω to monitor the rise-time, impulse, duration, and repetition rate of the impulses within one burst.

## WAVESHAPE



CM870-E06



CM870-E07

## 5. Power Line Surge Test (IEC 61000-4-5 Surge)

## **5.1 Climatic Condition**

The climatic conditions shall be within the following ranges:

**5.1.1 Ambient Temperature: 15 °C to 35 °C**

**5.1.2 Relative Humidity: 10% to 75%**

**5.1.3 Atmospheric Pressure 86kPa (860 mbar ) to 106kPa (1060mbar)**

*Note: The temperature and relative humidity should be recorded in the test report.*

## **5.2 Test Conditions:**

**5.2.1 Wave-shape of the current surge: (refer to IEC 61000-4-5)**

Open circuit voltage: (1.2 / 50  $\mu$ s)

Short circuit current: (8 / 20  $\mu$ s)

**5.2.2 Polarity: positive / negative**

**5.2.3 Phase shifting: in a range between 0° to 270° versus the AC line phase angle**

**5.2.4 Repetition rate: at least 1 per minute**

**5.2.5 Number of tests: at least 5 positive and 5 negative at the selected points.**

**5.3 The surge will be applied between lines and between lines and ground**

**5.4 If not otherwise specified, the surge to power supply circuits shall be applied synchronized to the voltage phase at the zero crossing and the peak value of the AC voltage wave. (Positive and negative)**

**5.5 The surge voltage for test is from 1 KV and increases 1 kV for each step.**

**5.6 The recommended severity levels for the surge voltage test is 2.0 KV, and without any degradation or loss of function that is not recoverable due to damage of component or software allowed.**

**5.7 Display set high-resolution mode, AC input use AC 240V.**

# **6. ENVIROMENT REQUIREMENT**

## 6.1 Operating

Temperature	5°C ~ 40°C
Relative Humidity	20% to 80%
Altitude	Sea level to 8000ft

## 6.2 Storage or Shipment

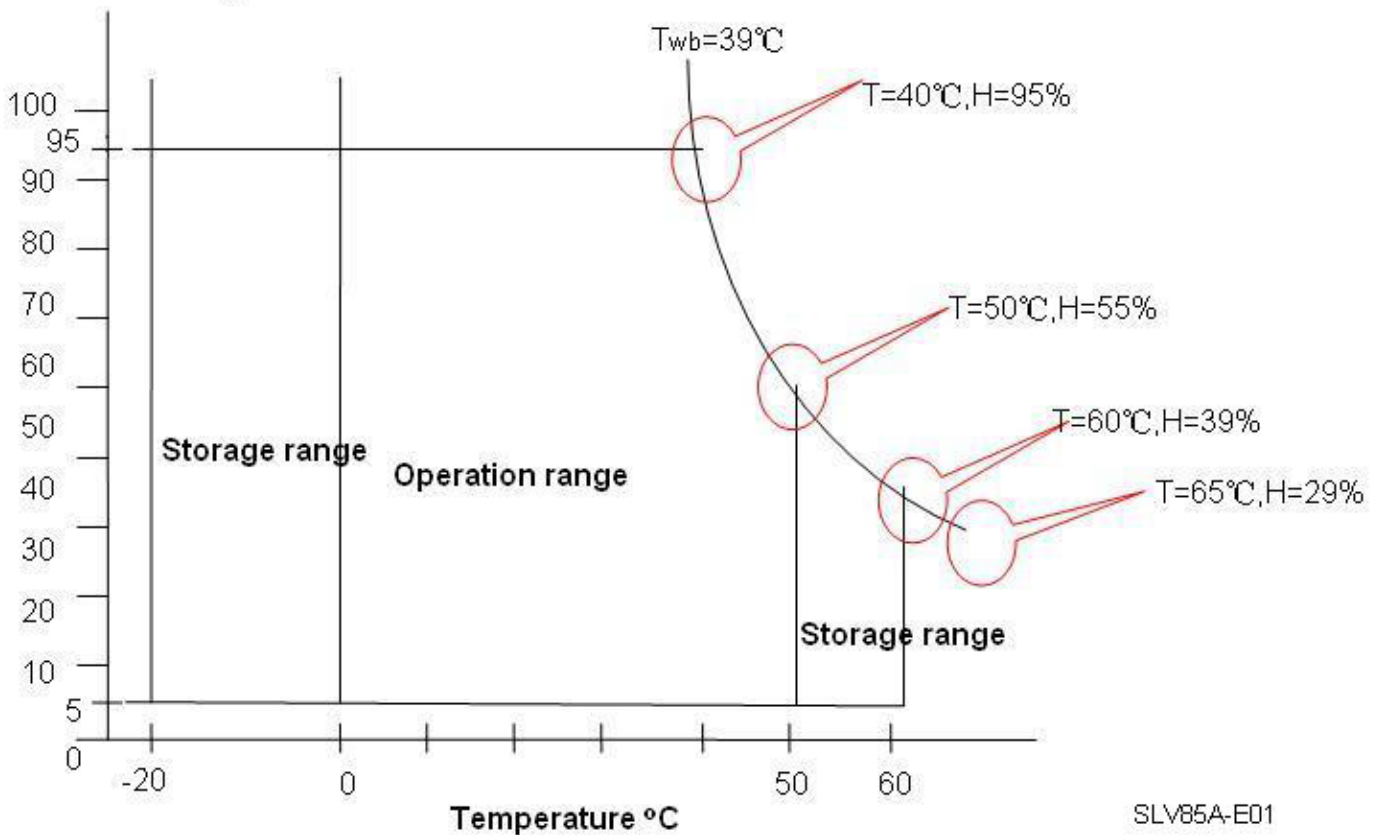
Temperature	-20°C ~ +60°C
Relative Humidity	5% to 85%
Altitude	Sea level to 40,000ft

### 6.2.1 TEST PROCEDURE:

- Put in temperature chamber under 60°C Time:24 hours
- Back to room temperature Time: 4 hours
- Put in temperature chamber under -20°C Time:24 hours
- Back to room temperature Time:4 hours
- The process repeat 2 times.

## Wet bulb temperature chart

Relative Humidity %



# 7. REGULATION COMPLIANCE

## 7.1 *This product complies with the most current revisions of following regulations:*

UL/CUL {UL 60950/ CSA C22.2 NO60950-00}	Standard for Safety of Information Technology Equipment including Electrical Business Equipment
EN 60950/CB Scheme	Safety of Information Technology Equipment including Electrical Business Equipment
MPR 1990:8	Test methods for visual display units.
MPR 1990:10	User handbook for evaluation visual display units.
EPA	EPA Energy star.
TUV/GS	Safety regulation for displays work places in the office sector.
CE LVD Directive (73/23/EEC)	Safety: EN60950
CE EMC Directive (89/336/EEC)	EMI: EN55022 class B Harmonics: EN61000-3-2 Voltage Fluctuation/Flicker: EN61000-3-3 Immunity: EN55024
IEC 61000-4	IEC 61000-4-2 Electrostatic Discharge IEC 61000-4-3 Radiated Electromagnetic Field IEC 61000-4-4 Fast Transients/Burst IEC 61000-4-5 Surge IEC 61000-4-6 Conducted Disturbance, Induced by Radio Frequency Fields IEC 61000-4-8 Power Frequency Magnetic Field IEC 61000-4-11 Voltage DIP/Interruption
CE EMC Directive (89/336/EEC)(option with TV tuner)	EN55013,EN55020

## 7.2 Electrostatics Discharge (ESD)

### E.S.D Test

This test follow the IEC 61000-4-2

Discharge Voltage Level :

Criteria	Contact Discharge (KV)	Air Discharge(KV)
Class C	±4	±4
Class B	±6	±8
Class A	±8	±15

Class A : Temporary degradation or loss of function or performance which requires operator Intervention or system reset.

Class B : Temporary degradation or loss of function or performance which is self-recoverable

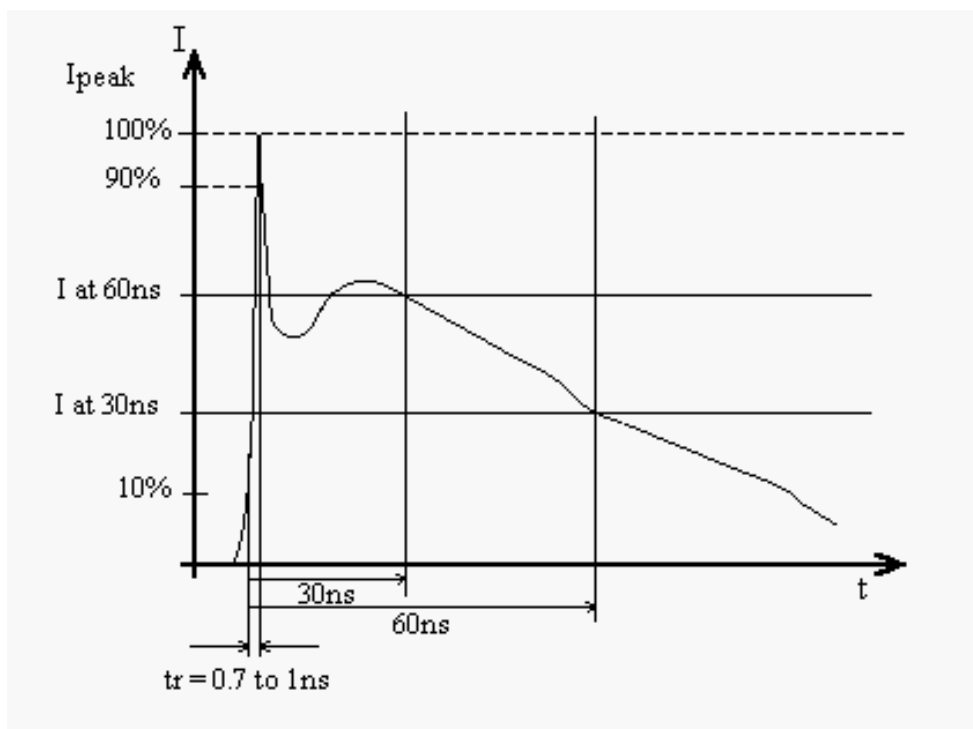
Class C : Normal performance within the specification limits

Discharge times: 20 times for each discharge point, time interval 1 second.

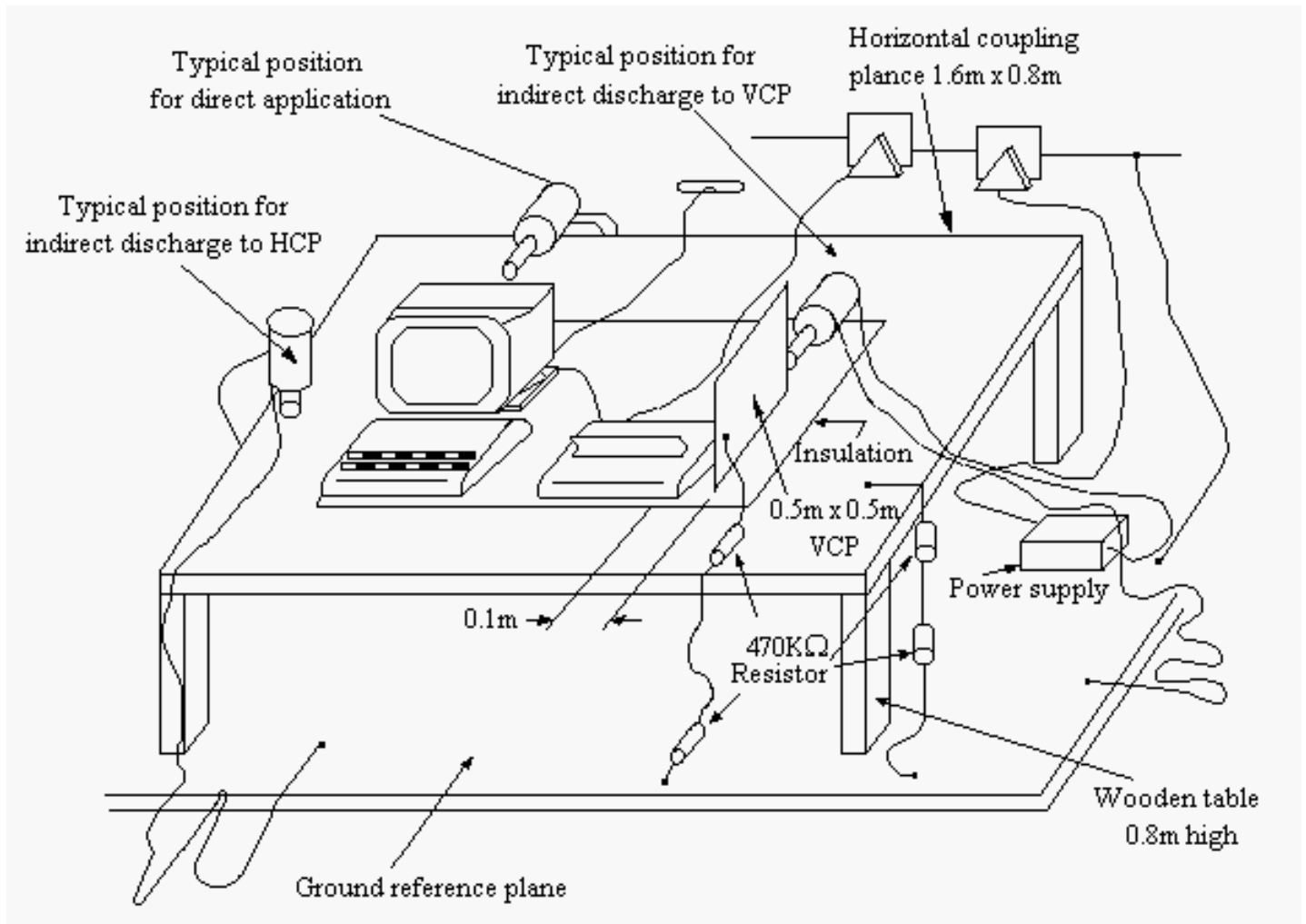
In the case of acceptance tests, the test program and the interpretation of the test results are subject to

agreement between manufacturer and user.

The test documentation shall include the test conditions and the test results.







***Ambient temperature : 15°C to 35°C***  
***Relative humidity : 30% to 60%***

## 8. QUALITY AND RELIABILITY

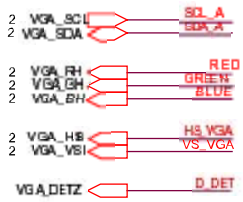
### 8.1 QUALITY ASSURANCE

Unless otherwise specified in this specification or the applicable purchase order, the supplier shall be responsible for maintaining a statistical process program or performing inspections that are sufficient to assure that the parts supplied meet the requirements specified herein.

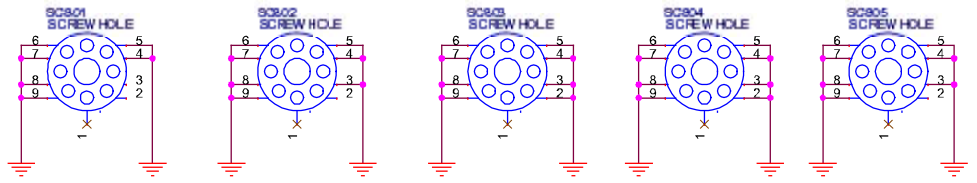
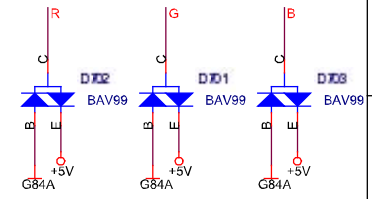
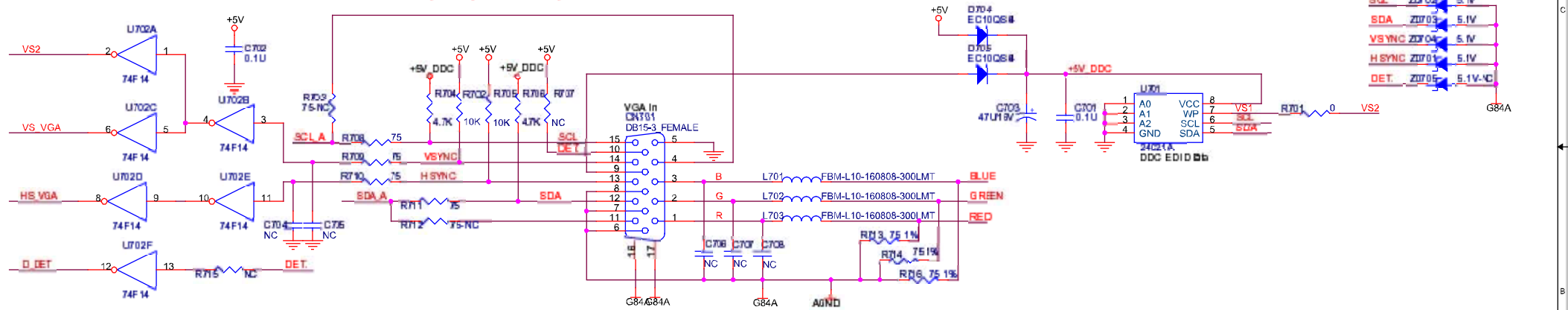
### 8.2 RELIABILITY

The product shall have a designed MTBF of greater than 20,000 hours during its useful life.

## **Appendix A: PCBA Assembly**

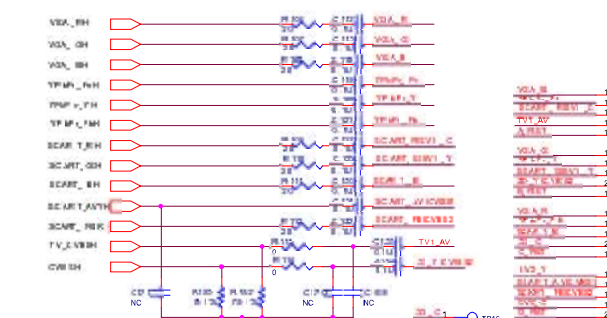


? DDC\_SCL/SDA --> Pin  
 15/12, not 4/11



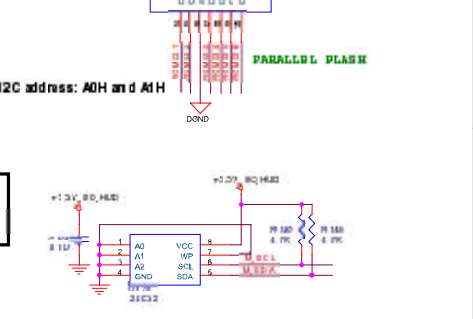
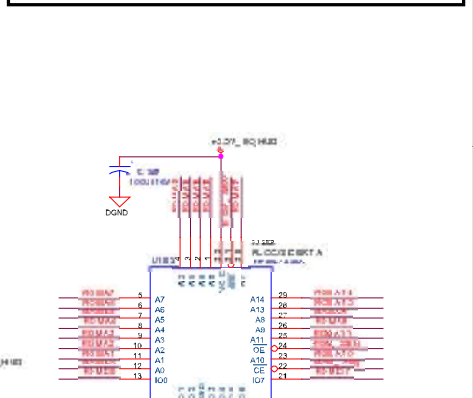
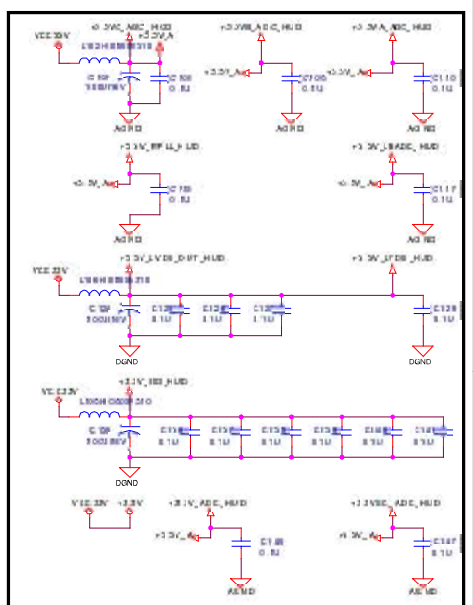
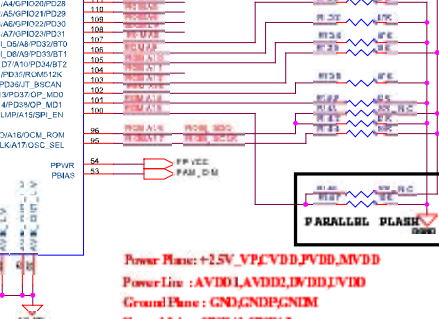
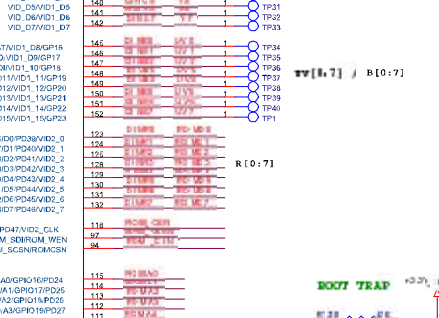
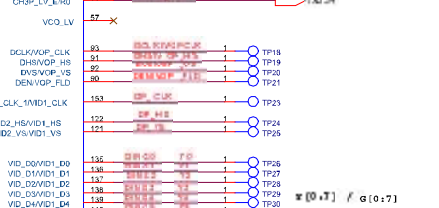
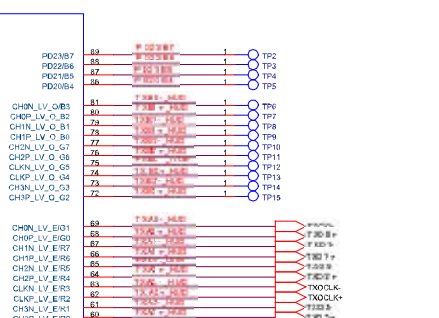
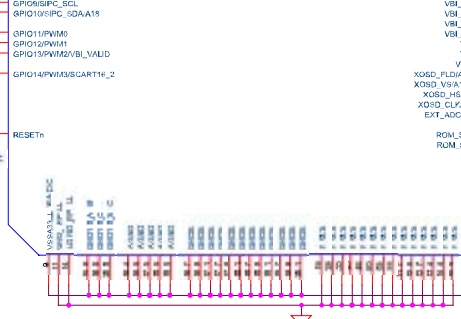
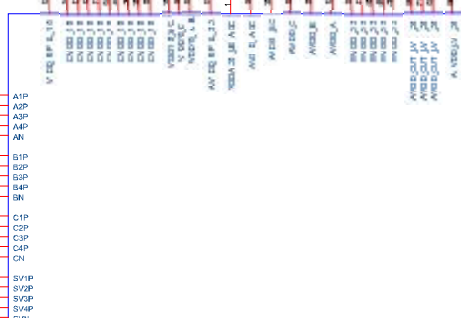
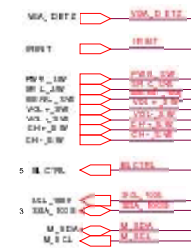
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SCHEMATIC, CTRL/B VTV-L50		
Doc	Document Number	Rev
	401ADN	0A
Date	Tuesday February 4, 2008	19:52 7 01 7

1	2	3	4
A	VGA_B	YPbPr_Pr	SCART_R
B	VGA_G	YPbPr_Y	SCART_G
C	VGA_R	YPbPr_Pb	SCART_B
BV	SV2_Y	SCART_AV	SCART_FB
			SV2_C

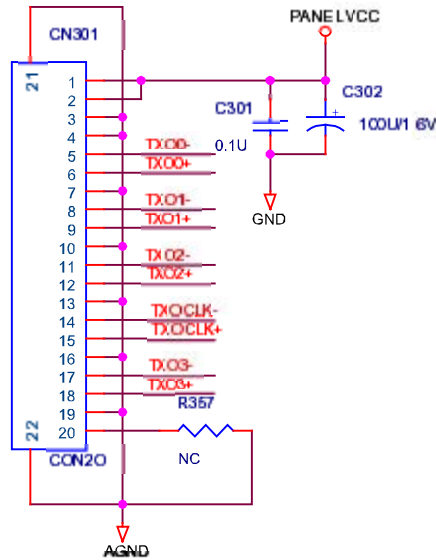
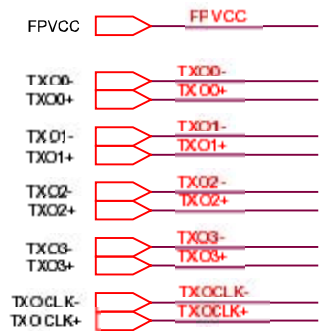


LBADC0	
LBADC1	
LBADC2	
LBADC3	
LBADC4	SCART-FMS
LBADC5	TUNER ID
LBADC6	PANEL ID

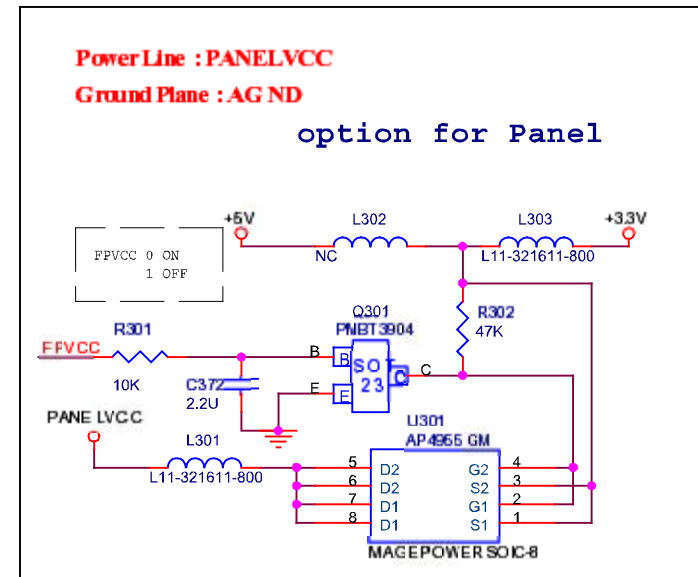
PPI00	VOL- SW
PPI01	VOL+ SW
PPI02	CH- SW
PPI03	CH+ SW
PPI04	DIGI HE
PPI05	DIGI VS
PPI06	IR DECODER
PPI07	IR DECODER
PPI08	MENU SW
PPI09	PRE SW
PPI10	ROMA1S
PPI11	PA0_BRI
PPI12	BCS_100S
PPI13	SDA_100S
PPI14	VGA_DET2
PPI15	BRI_SW
PPI16	ROMA0
PPI17	ROMA1
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PPI19	ROMA3
PPI20	ROMA4
PPI21	ROMA5
PPI22	ROMA6
PPI23	ROMA7



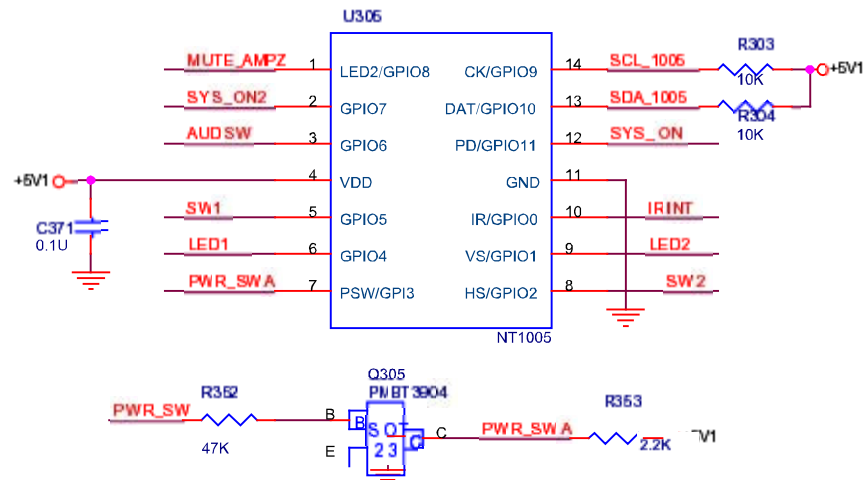
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Rev	401ADN		
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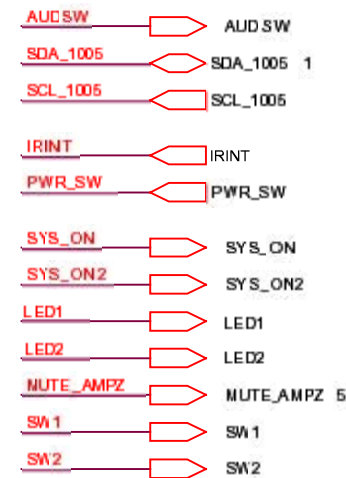
consider to  
add more pin  
for PANELVCC



**NEWTREND Power Management IC: NT1005**

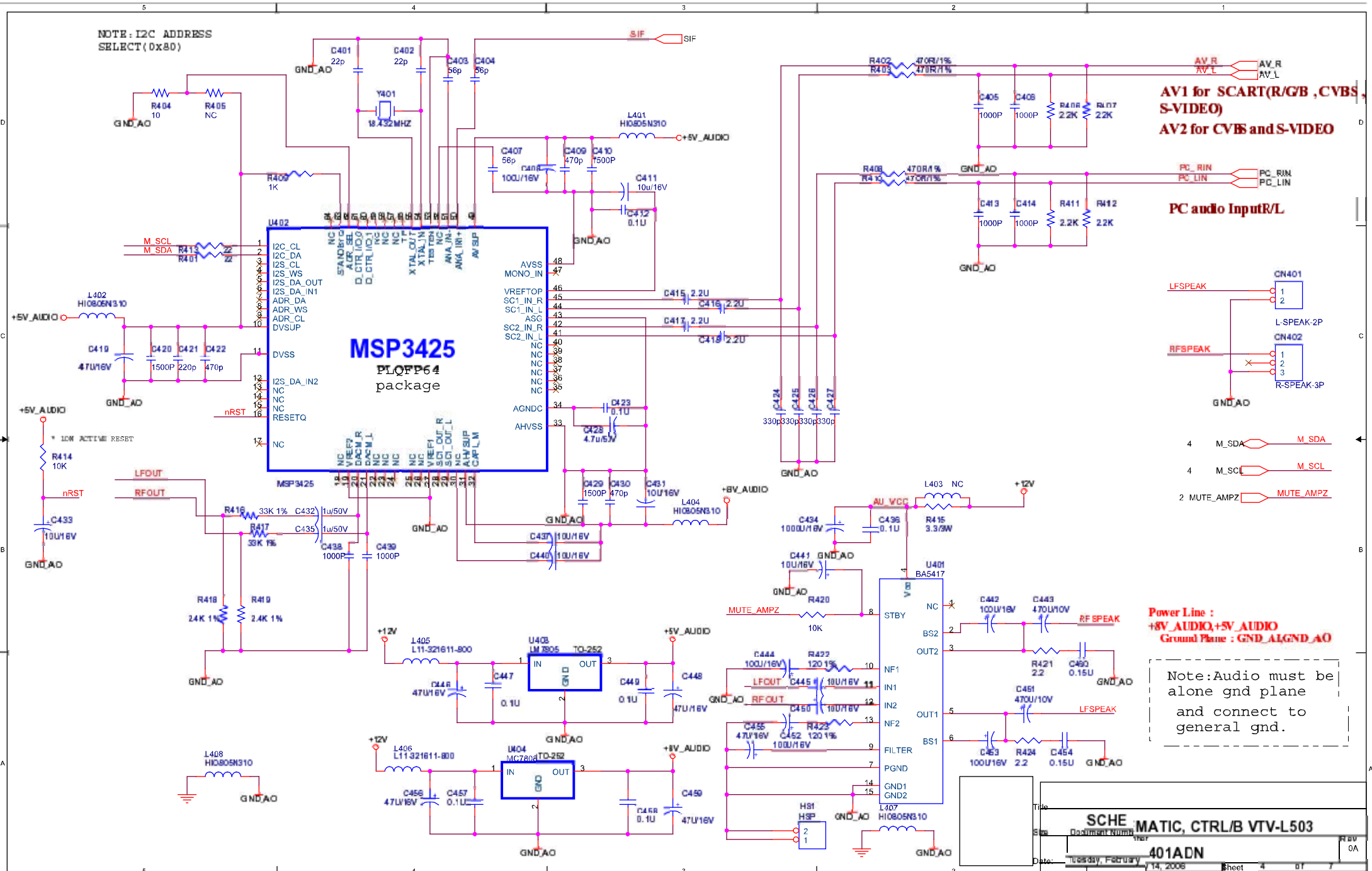


PIN1	MUTE_AMPZ
PIN2	SYS_ON2
PIN3	REV
PIN5	REV
PIN6	LED1
PIN7	PWR_SW
PIN8	REV
PIN9	LED2
PIN10	IRINT
PIN12	SYS_ON
PIN13	SDA_1005
PIN14	SCL_1005



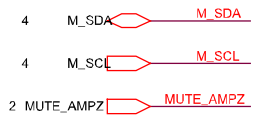
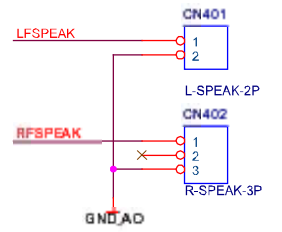
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 Date: Tuesday, February 14, 2006 Sheet 3 of 7

NOTE: I2C ADDRESS  
SELECT (0x80)



AV1 for SCART(R/G/B , CVBS , S-VIDEO)  
AV2 for CVBS and S-VIDEO

PC audio Input/R/L

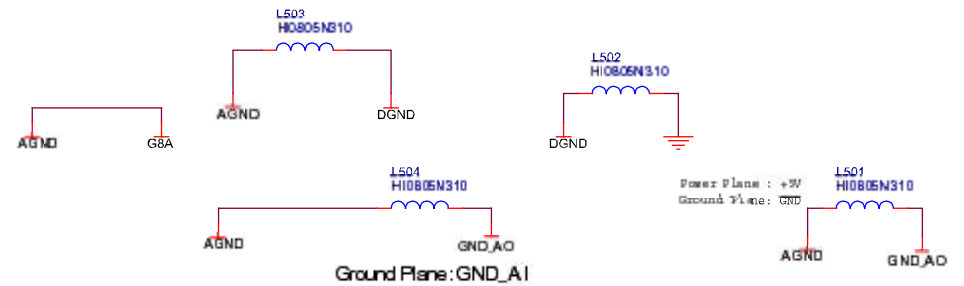
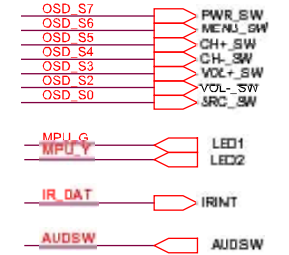
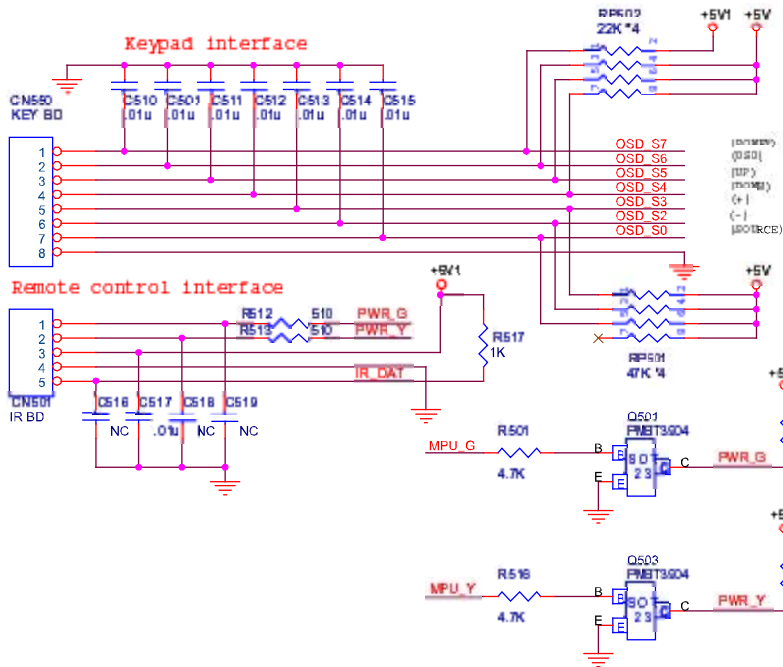
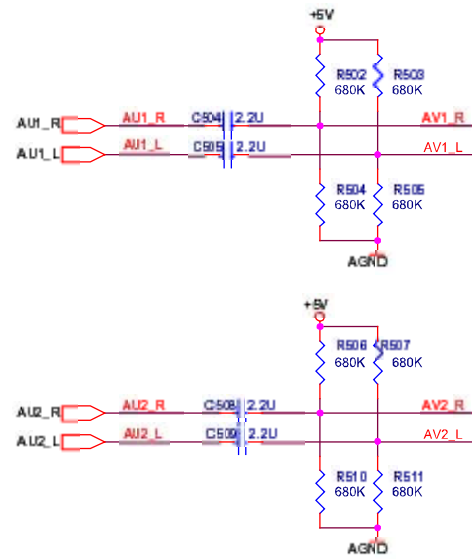
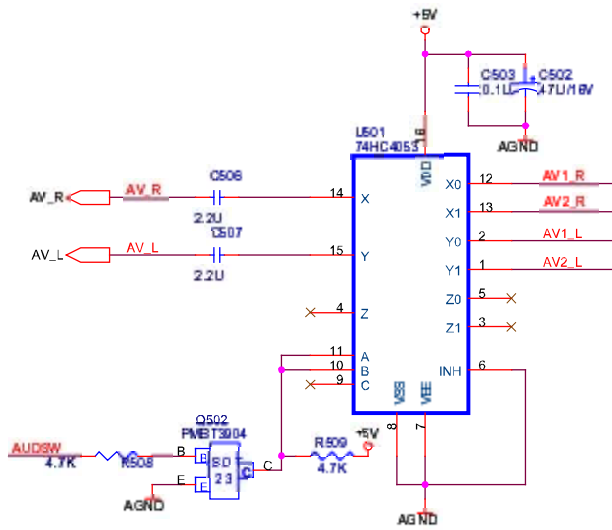


Power Line :  
+5V\_AUDIO, +5V\_AUDIO  
Ground Plane : GND\_ALGND\_AO

Note: Audio must be alone gnd plane and connect to general gnd.

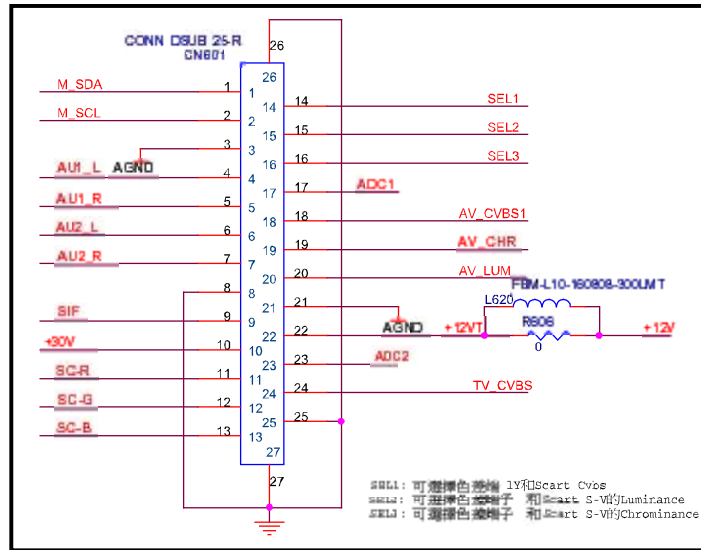
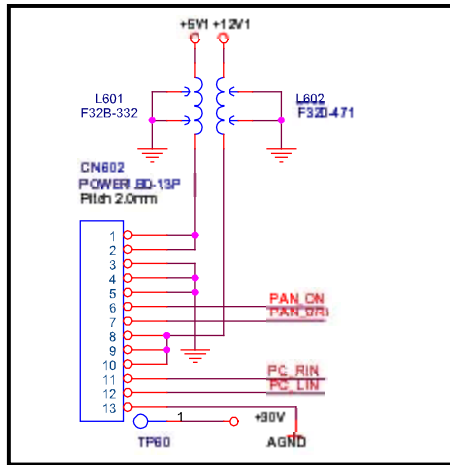
Title	SCHEMATIC, CTRL/B VTV-L503		
Size	Design Number	Rev	R10 OA
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		401ADN	

AV1 for SCART(R/G/B, CVBS, S-VIDEO)  
AV2 for CVBS and S-VIDEO

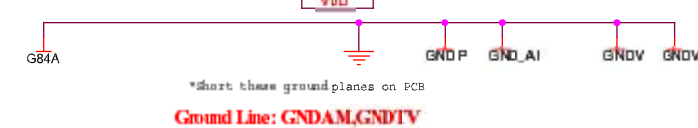
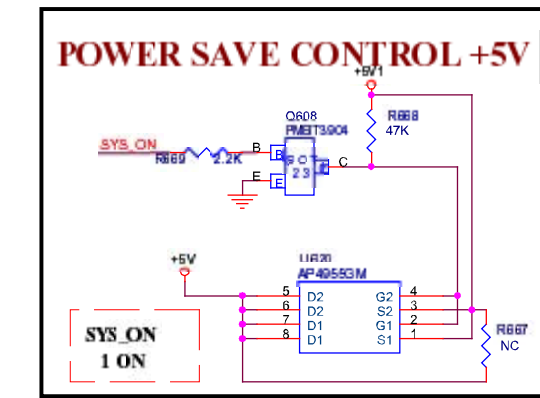
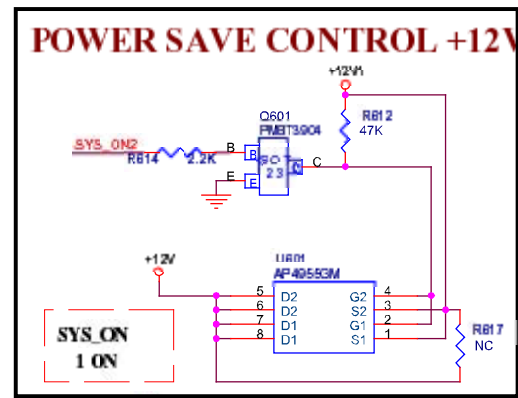
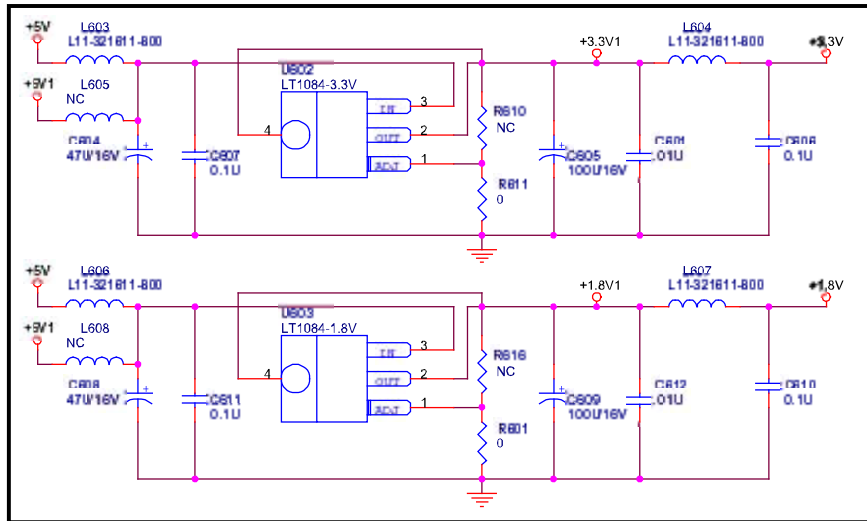
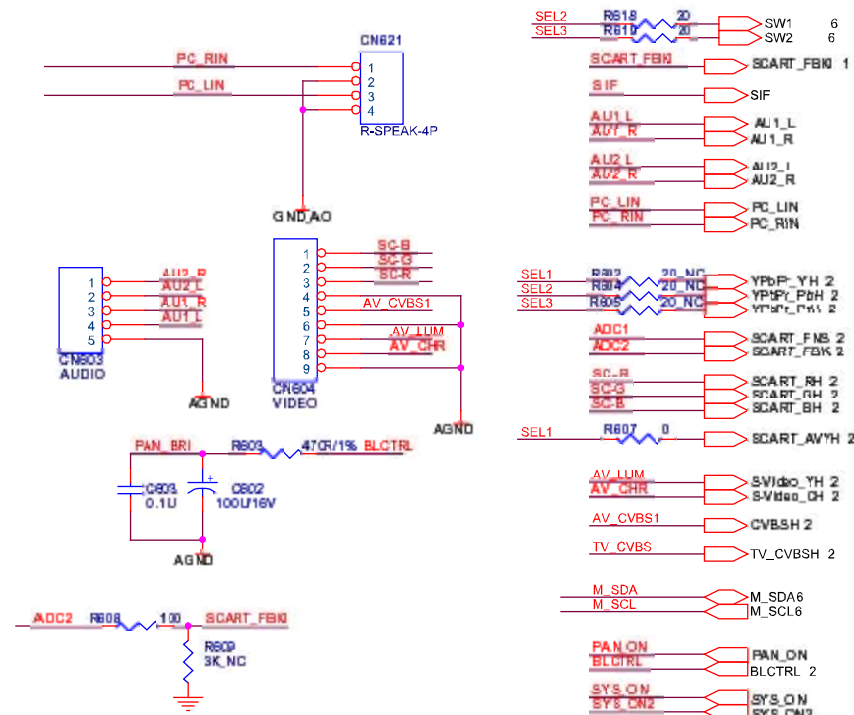


Ground Plane: GND\_AI

Title			SCHEMATIC, CTRL/B VTV-L503	
SW	Document Number		401ADN	
Date:	Tuesday, February 14, 2006	Sheet	5	of 7



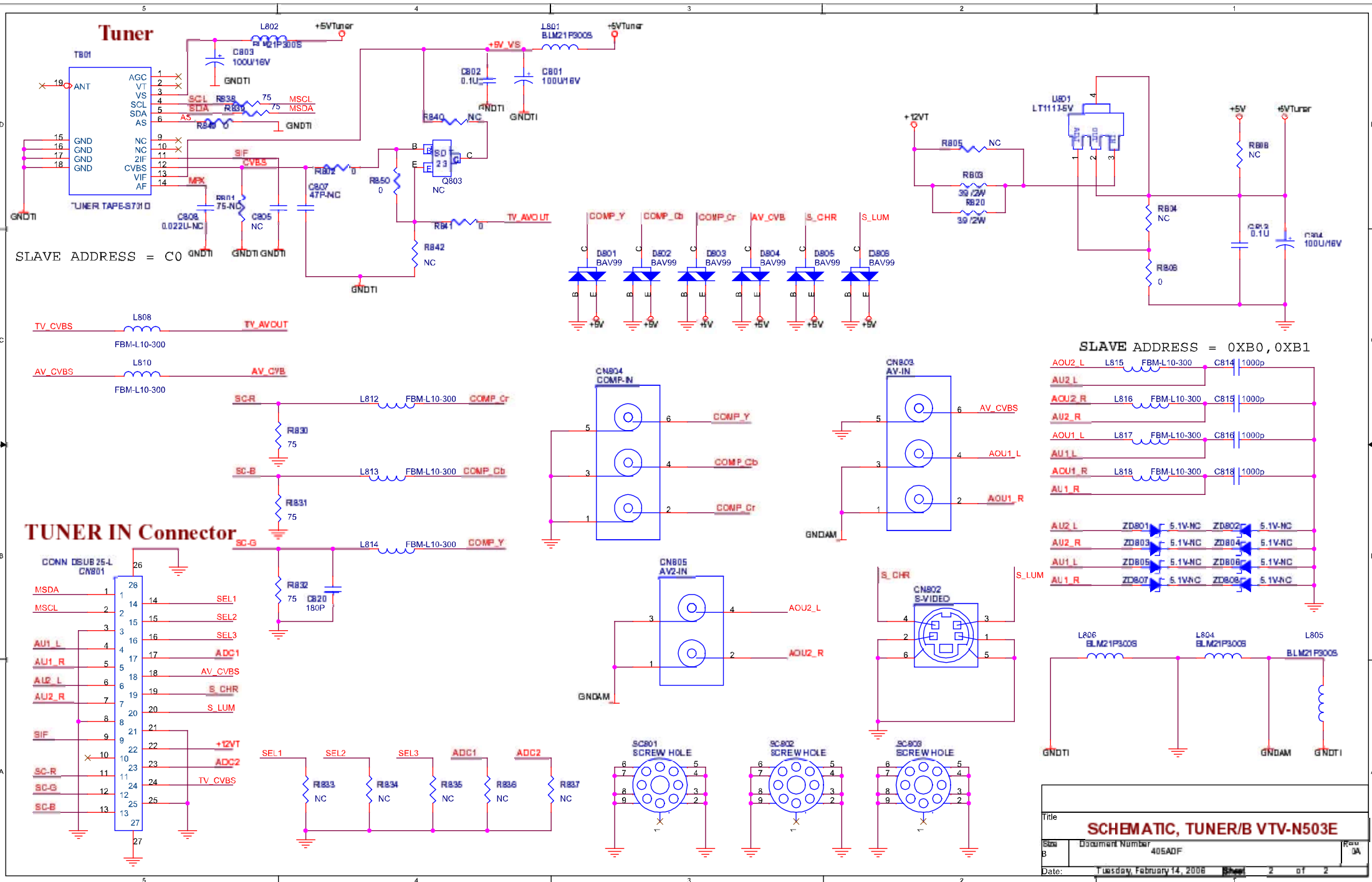
### TUNER OUT Connector



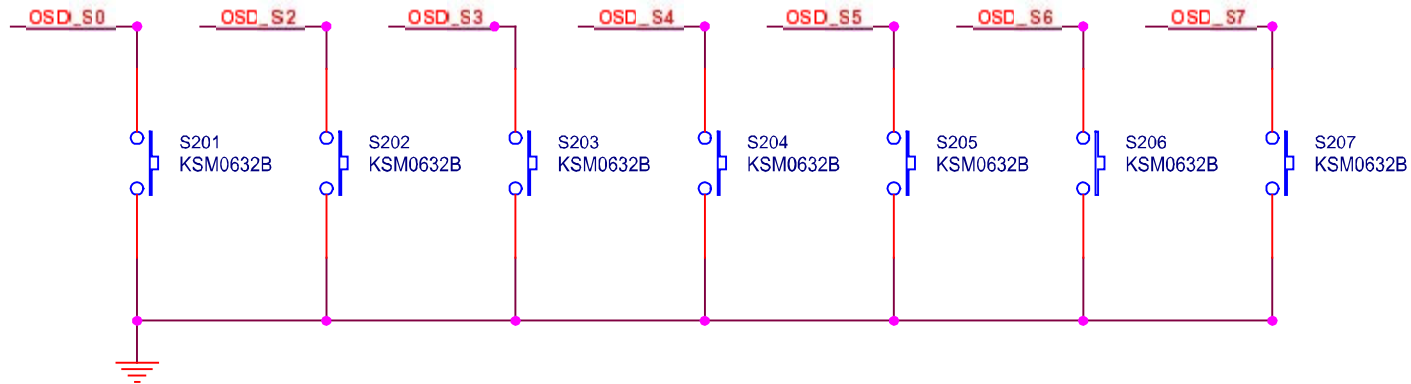
Title		SCHEMATIC, CTRL/B VTV-L503	
Docu	Document Number	401ADN	
Date:	Updated, February 14, 2006	Sheet	6 of 7



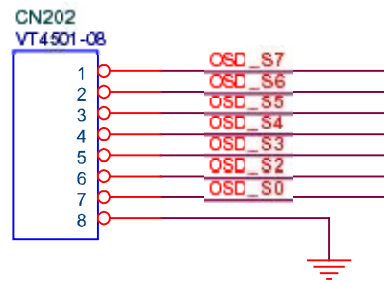




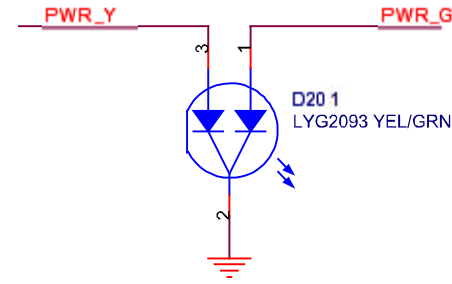
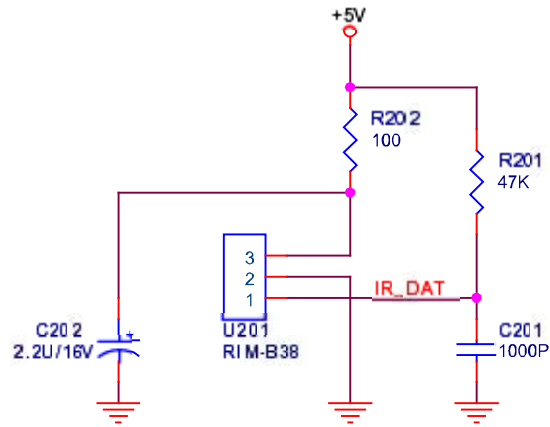
Title		
<b>SCHEMATIC, TUNER/B VTV-N503E</b>		
Doc B	Document Number 405ADF	Rev 0A
Date:	Tuesday, February 14, 2006	Sheet 2 of 2



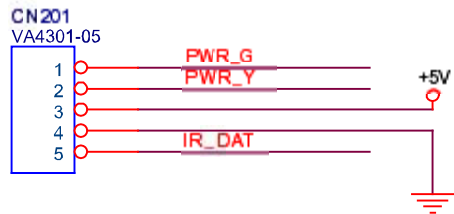
**Source Minus Plus Channel Function OSD Power**



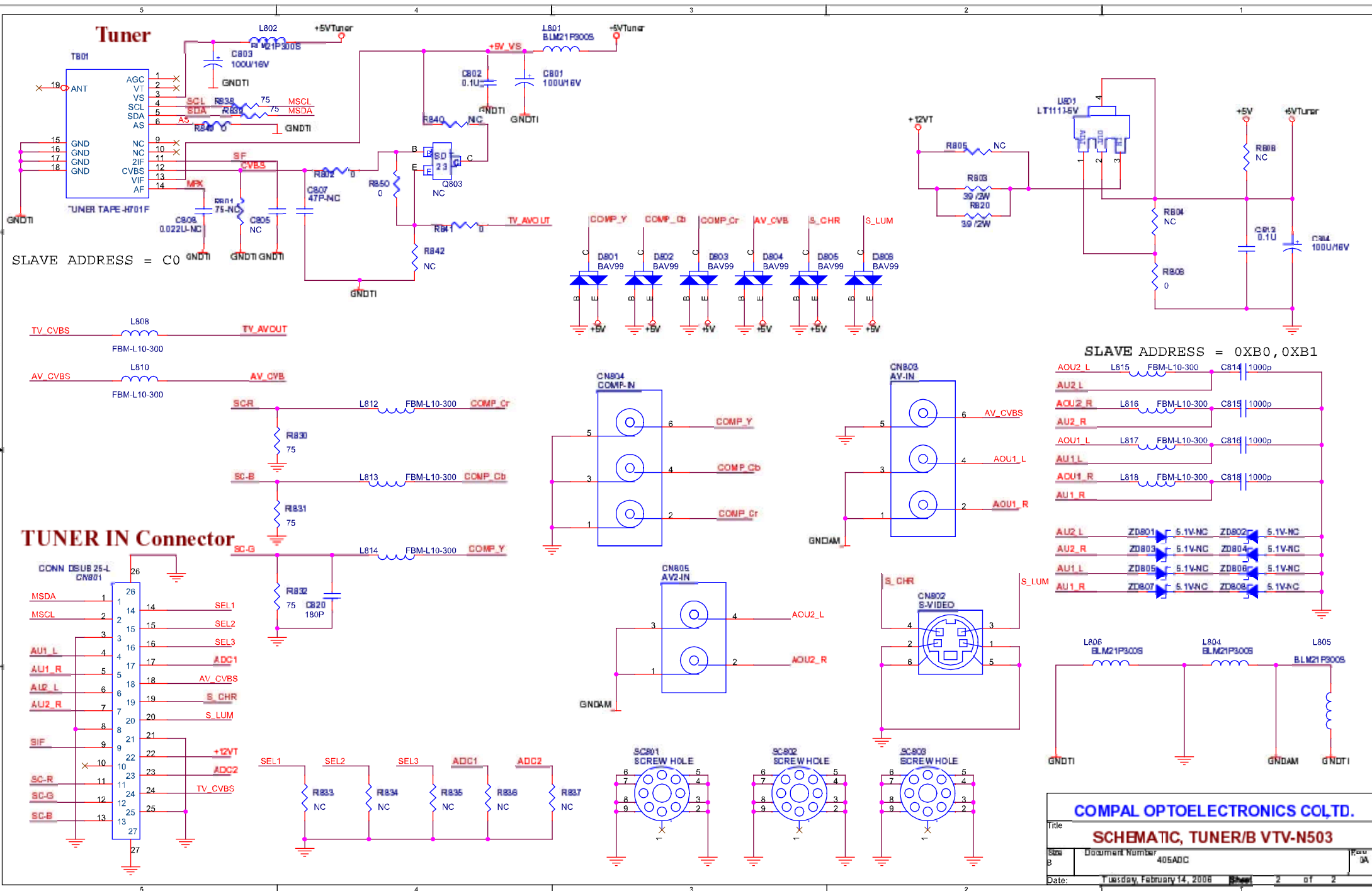
Title			<b>SCHEMATIC, KEY/B VTV-K503</b>		
Size	Document Number			Rev	
	<b>404AD8</b>			0A	
Date:	Tuesday, February 14, 2006	Sheet	2	of	2



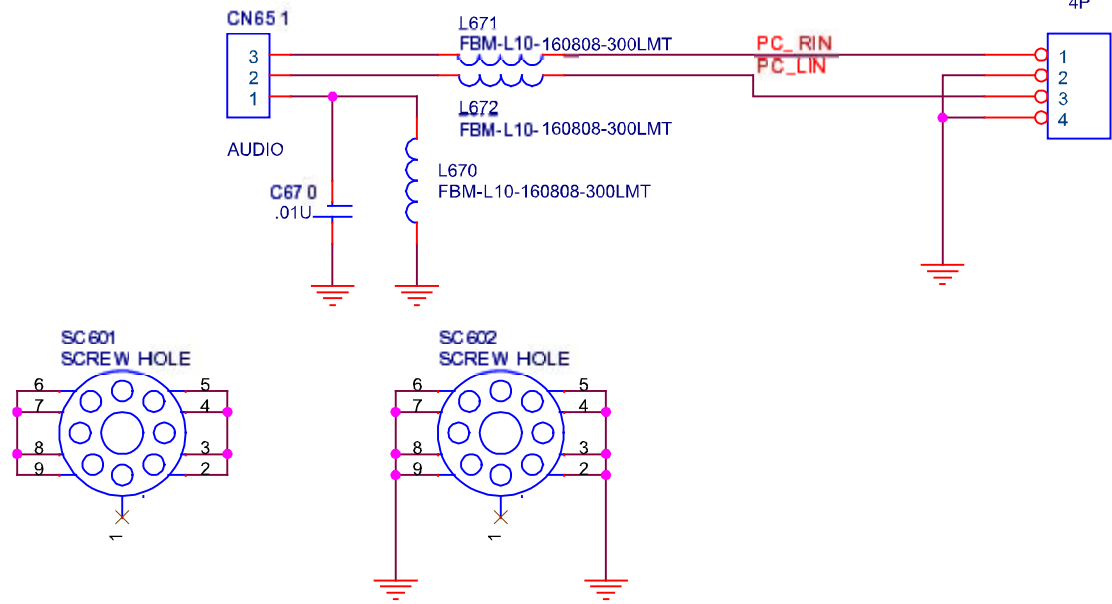
# IR Receiver



Title		
<b>SCHEMATIC, IR/B VTV-IR503</b>		
Size	Document Number	Rev
	<b>404AD9</b>	0A
Date:	Tuesday, February 14, 2006	Sheet 2 of 2



<b>COMPAL OPTOELECTRONICS CO., LTD.</b>		
<b>SCHEMATIC, TUNER/B VTV-N503</b>		
Title	Document Number	Rev
	405A0C	0A
Date:	Tuesday, February 14, 2006	Sheet 2 of 2



Title			<b>SCHEMATIC, JACK/B VTV-J503</b>		
Size	Document Number		Rev		
	<b>405ADD</b>		0A		
Date:	Tuesday, February 14, 2006	Sheet	2	of	2

C NO.	PART NO.	DESCRIPTION	SPECIFICATION	QUANTITY	REQUIRED	DWG.NO. 451ADN	REV. 0A
				30			
				L01			REMARKS
	# 451ADN30L01	PCBA CTRL/B	VTV-L503 SLV65AC	0A			
1	431ADN30L01	SMT CTRL/B	VTV-L503 SLV65AC	1	- - - -	- ZZZ	
2	BD118P4320I	CRYSTAL	18.432MHZ 49/US +-30PPM 20PF	1	- - - -	- Y401	
3	BD119P6M00I	CRYSTAL	19.6608MHZ HC-49/US +-30PPM 20	1	- - - -	- X101	
4	CB00106M20I	ELE CAP	1U 50V M A P2.0 L4.5 5X11	2	- - - -	- C432 C435	
5	CB01003M10I	ECE CAP	10U 16V M A P2.0 L3.5 5X11	8	- - - -	- C411 C431 C433 C437 C440 C441 C445 C450	
6	CB04703M21I	ELE CAP	47U 16V M B P2 L3.5 5X11 2000h	10	- - - -	- C419 C446 C448 C455 C456 C459 C502 C604 C608 C703	
7	CB047A6M40I	ELE CAP	4.7U 50V M B P2 L3 5X11STDJPN	1	- - - -	- C428	
8	CB10003402I	ECE CAP	100U 16V M A P2.0 L3.5 5X11	15	- - - -	- C105 C124 C135 C148 C153 C165 C302 C408 C442 C444 C452 C453 C602 C605 C609	
9	CB10013M01I	ELE CAP	1000u 16V MA P5L3 10x16 STDJPN	1	- - - -	- C434	
10	CB47002M01I	ELE CAP	470U 10V M A P3.5 8X12 L4.5	2	- - - -	- C443 C451	
11	CC033AL71MI	RES FUSE	3W 3.3 +-5% (S)	1	- - - -	- R415	
12	DC03E00462I	WAFER	E&T 4500A-E002-NNN 2P P2.0 GP	1	- - - -	- CN401	
13	DC03E00463I	WAFER	E&T 4500A-E003-NNN 3P P2.0 GP	1	- - - -	- CN402	
14	DC03E00464I	WAFER	E&T 4500A-E004-NNN 4P P2.0 GP	1	- - - -	- CN621	
15	DC03E00465I	WAFER	E&T 4500A-E005-NNN 5P P2.0 GP	1	- - - -	- CN501	
16	DC03E00468I	WAFER	E&T 4500A-E008-NNN 8P P2.0 GP	1	- - - -	- CN550	
17	DC03E0046DI	WAFER	E&T 4500A-E013-NNN 13P P2 GP	1	- - - -	- CN602	
18	DC06001520I	D-CONN	15P FEMALE 1208-15-1V/T ENTERTY	1	- - - -	- CN701	
19	DC06001531I	D-CONN	25P MALE 1201-25 R/A	1	- - - -	- CN601	
20	LC04001200I	HEAT SINK	L24.6XW9.8XH17mm(GP)	1	- - - -	- &U401	
21	MAA2009640I	SCREW	M3X0.5+12P-MC(ADD WASHER)(GP)	1	- - - -	- &U401	
22	SA05417000I	S IC	BA5417 HSIP15 AUDIO AMP	1	- - - -	- U401	
23	SA39040011I	S IC	FL 512K8 PLSST39VF040-70-4CNHE	1	- - - -	- U103	

C NO.	PART NO.	DESCRIPTION	SPECIFICATION	QUANTITY	REQUIRED	DWG.NO.	451ADN	REV.	0A
				30					
				L01					REMARKS
#	431ADN30L01	SMT CTRL/B	VTV-L503 SLV65AC						
1	DA4LV65V003	PCB	LV65 VTV-L503 REVOC GP	1	- - - -	-	ZZZ		
2	SA00809062I	SM IC	FM809 SOT-23 2.93V RST	1	- - - -	-	U106		
3	SA01005000I	S IC	NT1005-01A SOP-14	1	- - - -	-	U305		
4	SA01084021I	SM IC	AIC1084-33PM TO263 REG 3.3V	1	- - - -	-	U602		
5	SA01084022I	S IC	AIC1084P-1.8 TO-263 1.8V	1	- - - -	-	U603		
6	SA02421030I	SM IC	EE 128X8 SOP-8 24LC21A	1	- - - -	-	U701		
7	SA02432000I	S IC	EE 32K SO-8 24LC32	1	- - - -	-	U101		
8	SA03425000I	S IC	MSP3425G-QI PMQF-64	1	- - - -	-	U402		
9	SA07414080I	S IC	74F14D SOP-14	1	- - - -	-	U702		
10	SA07805011I	S IC	78M05 TO-252 5V	1	- - - -	-	U403		
11	SA07808000I	S IC	78M08 TO-252 8V	1	- - - -	-	U404		
12	SA08125000I	S IC	FLI8125-LF-BC QFP-208	1	- - - -	-	U102		
13	SA44053010I	S IC	74HC4053D 653 SOT119	1	- - - -	-	U501		
14	SB30390400I	S TR	PMBT3904 NPN SOT-23	8	- - - -	-	Q101 Q301 Q305 Q501 Q502 Q503 Q601 Q608		
15	SB54955000I	S TR	AP4955GM SOP-8 PWM	3	- - - -	-	U301 U601 U620		
16	SC10QS042TI	S DIO	EC10QS04	2	- - - -	-	D704 D705		
17	SC4LZ51B0TI	SM ZENER DIODE	RLZ5.1B (LL-34)	4	- - - -	-	ZD701 ZD702 ZD703 ZD704		
18	SC6BAV9910I	S DIO POW	BAV99(JE) 2P SOT-23	3	- - - -	-	D701 D702 D703		
19	SD0130000TJ	CHIP RES.	1/10W 0 +5% 0603	9	- - - -	-	R101 R113 R114 R127 R601 R606 R607 R611 R701		
20	SD0131000TJ	CHIP RES.	1/10W 100 +-5% 0603	J9 1	- - - -	-	R608		
21	SD0131001TJ	CHIP RES.	1/10W 1K +-5% 0603	J9 2	- - - -	-	R409 R517		
22	SD0131002TJ	CHIP RES.	1/10W 10K +-5% 0603	J9 19	- - - -	-	R117 R121 R122 R123 R124 R125 R126 R129 R135 R144 R147 R154 R301 R303 R304 R414 R420 R702 R705		
23	SD013100ATJ	CHIP RES.	1/10W 10 +-5% 0603	J9 1	- - - -	-	R404		
24	SD0132201TJ	CHIP RES.	1/10W 2.2K +-5% 0603	J9 7	- - - -	-	R353 R406 R407 R411 R412 R614 R669		
25	SD013220ATJ	CHIP RES.	1/10W 22 +-5% 0603	J9 2	- - - -	-	R401 R413		
26	SD013220B0J	CHIP RES.	1/10W 2.2 +-5% 0603	2	- - - -	-	R421 R424		
27	SD01327010J	CHIP RES.	1/10W 2.7K +-5% 0603	J9 2	- - - -	-	R119 R120		
28	SD0134701TJ	CHIP RES.	1/10W 4.7K +-5% 0603	J9 8	- - - -	-	R148 R149 R501 R508 R509 R516 R704 R706		
29	SD0134702TJ	CHIP RES.	1/10W 47K +-5% 0603	J9 10	- - - -	-	R130 R132 R134 R138 R140 R142 R302 R352 R612 R668		
30	SD01351000J	CHIP RES.	1/10W 510 +-5% 0603	J9 4	- - - -	-	R512 R513 R514 R515		
31	SD0136803TJ	CHIP RES.	1/10W 680K +-5% 0603	J9 8	- - - -	-	R502 R503 R504 R505 R506 R507 R510 R511		



C NO.	PART NO.	DESCRIPTION	SPECIFICATION	QUANTITY REQUIRED				DWG.NO. 451ADN				REV. 0A		
				30	L01							REMARKS		
32	SD013750ATJ	CHIP RES.	1/10W 75 +-5% 0603	J9	4	-	-	-	-	R708	R709	R710	R711	
33	SD01412000J	S RES	1/10W 120 +-1% 0603		2	-	-	-	-	R422	R423			
34	SD014200A0J	CHIP RES.	1/10W 20 +-1% 0603		15	-	-	-	-	R102	R103	R104	R105	R106
										R108	R109	R110	R111	R112
										R116	R618	R619		
35	SD01424010J	S RES	1/10W 2.4K +-1% 0603		2	-	-	-	-	R418	R419			
36	SD01433020J	CHIP RES.	1/10W 33K +-1% 0603		2	-	-	-	-	R416	R417			
37	SD01447000J	S RES	1/10W 470 +-1% 0603		5	-	-	-	-	R402	R403	R408	R410	R603
38	SD014750A0J	CHIP RES.	1/10W 75 +-1% 0603		7	-	-	-	-	R150	R151	R152	R153	R713
										R716				
39	SD30222020J	CHIP NETWORK RES.	1/16W 22K +-5% 8P-4R	JA	1	-	-	-	-	RP502				
40	SD3024702TJ	CHIP NETWORK RES.	1/16W 47K +-5% 8P-4R	JA	1	-	-	-	-	RP501				
41	SE004154Z0J	S CER CAP	0.15U 16V Z Y5V 0603		2	-	-	-	-	C454	C460			
42	SE024220JTJ	CHIP CERAMIC CAP.	22P 50V +-5% NPO 0603	J8	2	-	-	-	-	C401	C402			
43	SE024221JTJ	CHIP CERAMIC CAP.	220P 50V +-5% NPO 0603	J8	1	-	-	-	-	C421				
44	SE024330JTJ	CHIP CERAMIC CAP.	33P 50V +-5% NPO 0603	J8	2	-	-	-	-	C149	C150			
45	SE024331JTJ	CHIP CERAMIC CAP.	330P 50V +-5% NPO 0603	J8	4	-	-	-	-	C424	C425	C426	C427	
46	SE024560JTJ	CHIP CERAMIC CAP.	56P 50V +-5% NPO 0603	J8	3	-	-	-	-	C403	C404	C407		
47	SE025102K1J	CHIP CERAMIC CAP.	1000P 50V K X7R 0603 KYOCERA		6	-	-	-	-	C405	C406	C413	C414	C438
48	SE025103KTJ	CHIP CERAMIC CAP.	.01U 50V +-10% X7R 0603		10	-	-	-	-	C501	C510	C511	C512	C513
										C515	C517	C601	C612	C514
49	SE025152KTJ	CHIP CERAMIC CAP.	1500P 50V +-10% X7R 0603	J8	3	-	-	-	-	C410	C420	C429		
50	SE025471KTJ	CHIP CERAMIC CAP.	470P 50V +-10% X7R 0603	J8	3	-	-	-	-	C409	C422	C430		
51	SE026104K0J	CHIP CERAMIC CAP.	.1U 16V K X7R 0603		67	-	-	-	-	C101	C102	C103	C104	C106
										C110	C111	C112	C113	C115
										C118	C119	C120	C121	C122
										C125	C126	C127	C129	C130
										C132	C133	C134	C136	C137
										C139	C140	C141	C142	C143
										C147	C154	C155	C156	C157
										C159	C160	C161	C162	C164
										C167	C168	C301	C371	C412
										C436	C447	C449	C457	C458
										C603	C606	C607	C610	C611
										C702				
52	SE044225Z0J	S CER CAP	2.2U 16V Z Y5V 0805		11	-	-	-	-	C372	C415	C416	C417	C418
										C505	C506	C507	C508	C509
53	SM01001750I	S SUPPRE	KC FBMA-L10-160808-300LMT 0603		4	-	-	-	-	L620	L701	L702	L703	
54	SM01V00070I	S SUPPRE_	TAI-TECH F32B-332 (1206) GP		1	-	-	-	-	L601				
55	SM01V00080I	S SUPPRE_	TAI-TECH F32D-471 (1206) GP		1	-	-	-	-	L602				
56	SM01V00110I	S SUPPRE_	KC FBMA-L11-321611-800LMA40T		8	-	-	-	-	L301	L303	L405	L406	L603
										L606	L607			L604
57	SM01V00490I	S SUPPRE_	FERRICO KHB0805Q300SA (0805)		15	-	-	-	-	L102	L106	L108	L111	L112
										L401	L402	L404	L407	L408
										L502	L503	L504		L501
58	SP02H00280I	S W-CONN	HRS DF14A-20P 20P P1.25R GP		1	-	-	-	-	CN301				
59	SP07000160I	S SOCKET	ACES 85218-320L PLCC-32 H=3.83		1	-	-	-	-	&U103				

End of Report

C NO.	PART NO.	DESCRIPTION	SPECIFICATION	QUANTITY	REQUIRED	DWG.NO. 454AD8	REV. 0A
				30			
				L01			REMARKS
	# 454AD830L01	PCBA KEY/B	VTV-K503 SLV65AC	0A			
1	DA4LV65V10I	PCB	LV65 VTV-K503 REV0 GP	1	- - - -	-	ZZZ
2	DC03E00478I	WAFER	E&T 4501A-E008-NNN 8P P2R GP	1	- - - -	-	CN202
3	DEB1100141I	TACT SW	LV97 SFKHHLN1524 H3.85 90D	7	- - - -	-	S201 S202 S203 S204 S205 S206 S207

End of Report

C NO.	PART NO.	DESCRIPTION	SPECIFICATION	QUANTITY	REQUIRED	DWG.NO. 454AD9	REV. 0A
				30			
				L01			REMARKS
	# 454AD930L01	PCBA IR/B	VTV-IR503 SLV65AC	0A			
1	434AD930L01	SMT IR/B	VTV-IR503 SLV65AC	1	- - - -	-	ZZZ
2	BC5G209310I	LED	LYG2093/T6-PF YEL/GRN 3D3P 6mA	1	- - - -	-	D201
3	BCRM263801I	IR UNIT	IRM2638 3PIN KINK W/HOLDER	1	- - - -	-	U201
4	DC03E00475I	WAFER	E&T 4501A-E005-NNN 5P P2R GP	1	- - - -	-	CN201
5	FCLV174400I	LED HONDER	LV1743(GP)	1	- - - -	-	&LED

C NO.	PART NO.	DESCRIPTION	SPECIFICATION	QUANTITY	REQUIRED	DWG.NO.	454AD9	REV.	0A
				30					
				L01					REMARKS
	# 434AD930L01	SMT IR/B	VTV-IR503 SLV65AC						
1	DA4LV65V20I	PCB	LV65 VTV-IR503 REV0 GP	1	- - - -				- ZZZ
2	SD0131000TJ	CHIP RES.	1/10W 100 +-5% 0603	J9	1	- - - -			- R202
3	SD0134702TJ	CHIP RES.	1/10W 47K +-5% 0603	J9	1	- - - -			- R201
4	SE025102K1J	CHIP CERAMIC CAP.	1000P 50V K X7R 0603 KYOCERA		1	- - - -			- C201
5	SE044225Z0J	S CER CAP	2.2U 16V Z Y5V 0805		1	- - - -			- C202

End of Report

C NO.	PART NO.	DESCRIPTION	SPECIFICATION	QUANTITY	REQUIRED	DWG.NO.	455ADC	REV.	0A
				30					
				L01					REMARKS
	# 455ADC30L01	PCBA TUNER/B	VTV-N503 SLV65AC						0A
1	435ADC30L01	SMT TUNER/B	VTV-N503 SLV65AC	1	- - - -				- ZZZ
2	CB04703M21I	ELE CAP	47U 16V M B P2 L3.5 5X11 2000h		3	- - - -	C801	C803	C804
3	CC0390591MI	RESISTOR (MOF)	2W 39 +-5%	I3	2	- - - -	R803	R820	
4	DC06001532I	D-CONN	25P FEMALE 1200-25 R/A		1	- - - -			- CN801
5	DC23000031I	CONN	SC SCN-570-4P V/T BLK KINK 4P		1	- - - -			- CN802
6	DC23220001I	CONN	SC SCP668BNS230U00 V/T RCA R/W		1	- - - -			- CN805
7	DC23230000I	CONN	SC SCP668CNS257U00 V/T RCA RBG		1	- - - -			- CN804
8	DC23230001I	CONN	SC SCP668CNS234U00 V/T RCA RWY		1	- - - -			- CN803
9	ECLV153100I	CONNECTOR SHIELD	LV1531(TIN 0.3mm)(GP)		1	- - - -			- ZZZ
10	MALV174B10I	SCREW(FOR SLV)	LV174B(4-40UNC_L25_D5)(GP)		2	- - - -			- ZZZ ZZZ
11	PK31000300I	TUNER	TAPE-H701F MK3 NTSC LGINNO		1	- - - -			- T801

C NO.	PART NO.	DESCRIPTION	SPECIFICATION	QUANTITY	REQUIRED	DWG.NO.	455ADC	REV.	0A
				30					
				L01					REMARKS
	# 435ADC30L01	SMT TUNER/B	VTV-N503 SLV65AC						
1	DA2LV65V10I	PCB	LV65E VTV-N503E REV0 GP	1	- - - -	-	ZZZ		
2	SA01117090I	S IC	AIC1117-5.0 SOT223	1	- - - -	-	U801		
3	SC6BAV9910I	S DIO POW	BAV99(JE) 2P SOT-23	6	- - - -	-	D801 D802 D803 D804 D805 D806		
4	SD0130000TJ	CHIP RES.	1/10W 0 +5% 0603	5	- - - -	-	R802 R806 R841 R849 R850		
5	SD014750A0J	CHIP RES.	1/10W 75 +-1% 0603	5	- - - -	-	R830 R831 R832 R838 R839		
6	SE024181JTJ	CHIP CERAMIC CAP.	180P 50V +-5% NPO 0603 J8	1	- - - -	-	C820		
7	SE025102K1J	CHIP CERAMIC CAP.	1000P 50V K X7R 0603 KYOCERA	4	- - - -	-	C814 C815 C816 C818		
8	SE026104K0J	CHIP CERAMIC CAP.	.1U 16V K X7R 0603	2	- - - -	-	C802 C813		
9	SM01001750I	S SUPPRE	KC FBMA-L10-160808-300LMT 0603	9	- - - -	-	L808 L810 L812 L813 L814 L815 L816 L817 L818		
10	SM01V00490I	S SUPPRE_	FERRICO KHB0805Q300SA (0805)	5	- - - -	-	L801 L802 L804 L805 L806		

End of Report

C NO.	PART NO.	DESCRIPTION	SPECIFICATION	QUANTITY	REQUIRED	DWG.NO.	455ADD	REV.	0A
				30					
				L01					REMARKS
	# 455ADD30L01	PCBA JACK/B	VTV-J503 SLV65AC	0A					
1	435ADD30L01	SMT JACK/B	VTV-J503 SLV65AC	1	- - -	-	ZZZ		
2	DC03E00464I	WAFER	E&T 4500A-E004-NNN 4P P2.0 GP	1	- - -	-	CN620		
3	DC23030441I	CONN	SC PHONE SCJ340 BLK V/T 7P	1	- - -	-	CN651		

C NO.	PART NO.	DESCRIPTION	SPECIFICATION	QUANTITY	REQUIRED	DWG.NO.	455ADD	REV.	0A
				30					
				L01					REMARKS
	# 435ADD30L01	SMT JACK/B	VTV-J503 SLV65AC						
1	DA4LV65V30I	PCB	LV65 VTV-J503 REV0 GP	1	- - -	-	ZZZ		
2	SE025103KTJ	CHIP CERAMIC CAP.	.01U 50V +-10% X7R 0603	1	- - -	-	C670		
3	SM01001750I	S SUPPRE	KC FBMA-L10-160808-300LMT 0603	3	- - -	-	L670 L671 L672		

End of Report

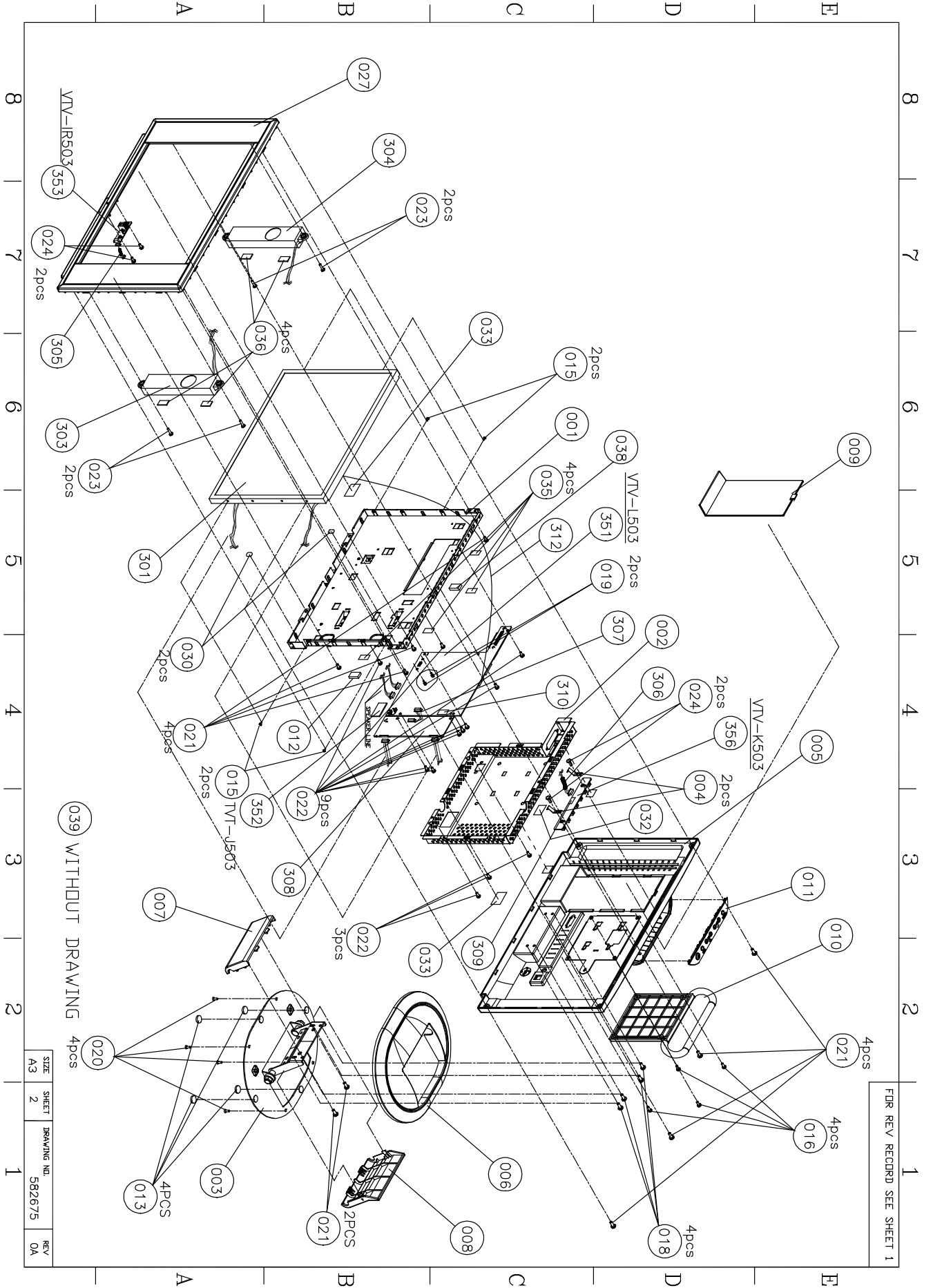
C NO.	PART NO.	DESCRIPTION	SPECIFICATION	QUANTITY	REQUIRED	DWG.NO. 455ADF	REV. 0A
				30			
				L01			REMARKS
	# 455ADF30L01	PCBA TUNER/B	VTV-N503E SLV65EC	0A			
1	435ADF30L01	SMT TUNER/B	VTV-N503E SLV65EC	1	- - -	-	ZZZ
2	CB04703M21I	ELE CAP	47U 16V M B P2 L3.5 5X11 2000h	3	- - -	-	C801 C803 C804
3	CC0390591MI	RESISTOR (MOF)	2W 39 +-5% I3	2	- - -	-	R803 R820
4	DC06001532I	D-CONN	25P FEMALE 1200-25 R/A	1	- - -	-	CN801
5	DC23000031I	CONN	SC SCN-570-4P V/T BLK KINK 4P	1	- - -	-	CN802
6	DC23220001I	CONN	SC SCP668BNS230U00 V/T RCA R/W	1	- - -	-	CN805
7	DC23230000I	CONN	SC SCP668CNS257U00 V/T RCA RBG	1	- - -	-	CN804
8	DC23230001I	CONN	SC SCP668CNS234U00 V/T RCA RWY	1	- - -	-	CN803
9	ECLV153100I	CONNECTOR SHIELD	LV1531(TIN 0.3mm)(GP)	1	- - -	-	ZZZ
10	MALV174B10I	SCREW(FOR SLV)	LV174B(4-40UNC_L25_D5)(GP)	2	- - -	-	ZZZ ZZZ
11	PK31000290I	TUNER	TAPE-S701D(J) MK3 PAL LGINNO	1	- - -	-	T801

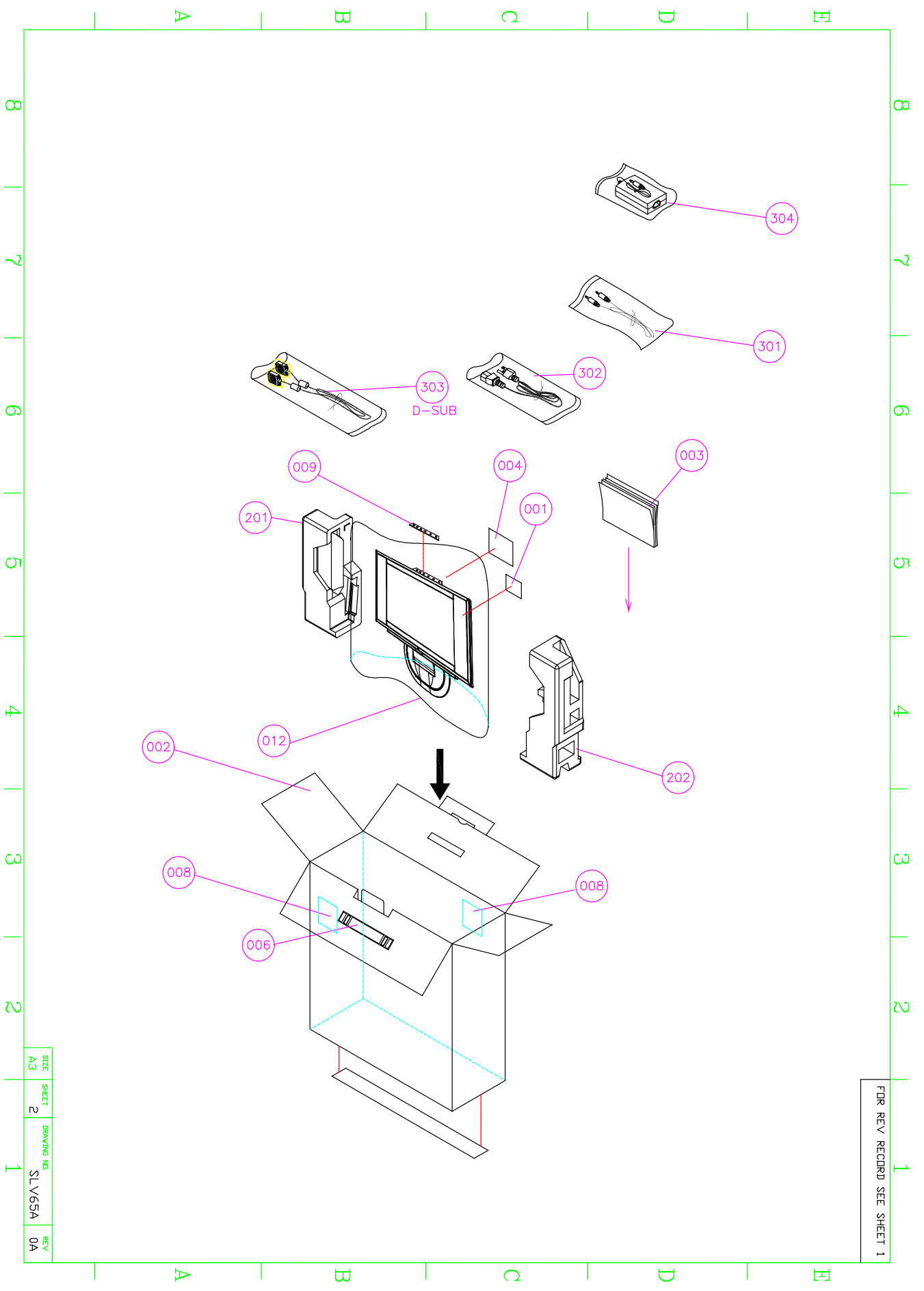
C NO.	PART NO.	DESCRIPTION	SPECIFICATION	QUANTITY	REQUIRED	DWG.NO. 455ADF	REV. 0A
				30			
				L01			REMARKS
	# 435ADF30L01	SMT TUNER/B	VTV-N503E SLV65EC				
1	DA2LV65V10I	PCB	LV65E VTV-N503E REV0 GP	1	- - - -	-	ZZZ
2	SA01117090I	S IC	AIC1117-5.0 SOT223	1	- - - -	-	U801
3	SC6BAV9910I	S DIO POW	BAV99(JE) 2P SOT-23	6	- - - -	-	D801 D802 D803 D804 D805 D806
4	SD0130000TJ	CHIP RES.	1/10W 0 +5% 0603	5	- - - -	-	R802 R806 R841 R849 R850
5	SD014750A0J	CHIP RES.	1/10W 75 +-1% 0603	5	- - - -	-	R830 R831 R832 R838 R839
6	SE024181JTJ	CHIP CERAMIC CAP.	180P 50V +-5% NPO 0603 J8	1	- - - -	-	C820
7	SE025102K1J	CHIP CERAMIC CAP.	1000P 50V K X7R 0603 KYOCERA	4	- - - -	-	C814 C815 C816 C818
8	SE026104K0J	CHIP CERAMIC CAP.	.1U 16V K X7R 0603	2	- - - -	-	C802 C813
9	SM01001750I	S SUPPRE	KC FBMA-L10-160808-300LMT 0603	9	- - - -	-	L808 L810 L812 L813 L814 L815 L816 L817 L818
10	SM01V00490I	S SUPPRE_	FERRICO KHB0805Q300SA (0805)	5	- - - -	-	L801 L802 L804 L805 L806

End of Report

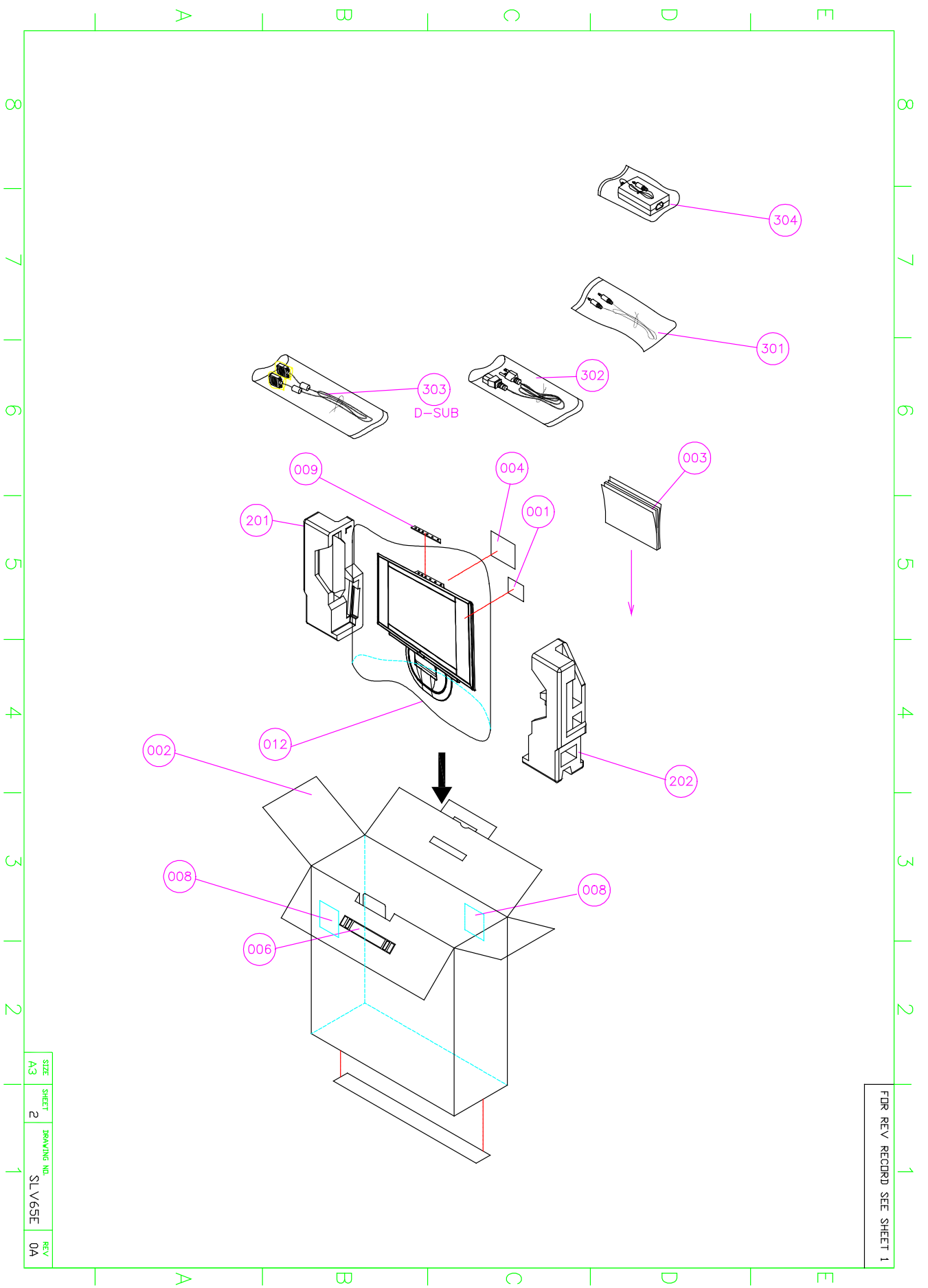
## **Appendix B: DISPLAY UNIT Assembly**







FOR REV RECORD SEE SHEET 1



SIZE	A3
SHEET	2
DRAWING NO.	SLV65E
REV	0A

FOR REV RECORD SEE SHEET 1

C NO.	PART NO.	DESCRIPTION	SPECIFICATION	QUANTITY	REQUIRED	DWG.NO. 582675	REV. 0A
				30	30		
				L01	L11		REMARKS
	# 58267530L01	DIS UNIT	SLV65AC 15"CPT W/O TUNER BOX				
	# 58267530L11	DIS UNIT	SLV65EC 15"CPT W/O TUNER BOX				
1	AC6VC1501R0	LCD MODU	CLAA150XP03(011) 15"A C	1	1	-	- 301
2	CG12P51V041	SPK SET	2.5w 4ohm 345mm G-SPB-170 R	1	1	-	- 303
3	CG12P51V051	SPK SET	2.5w 4ohm 505mm G-SPB-170 L	1	1	-	- 304
4	DC020197201	H-CON SET	LV67 MB CN501-IR 5P	1	1	-	- 305
5	DC020191401	H-CON SET	SLV65 MB-PANEL 20P	1	1	-	- 306
6	DC020196701	H-CON SET	LV97E MB-INV 13P P2 105C	1	1	-	- 307
7	PK07V003001	INVERTER	SLV95C 15" TBD343LR-2 TDK	1	1	-	- 308
8	DC020179801	H-CON SET	LV77E MB CON550-KEY 8P	1	1	-	- 309
9	DC020204701	H-CON SET	LV65 MB CN621-CN620 4P P2.0	1	1	-	- 310
10	461ADN30L01	FIRMWARE CTRL/B	VTV-L503 SLV65AC	1	-	-	- 351
11	461ADN30L11	FIRMWARE CTRL/B	VTV-L503 SLV65EC	-	1	-	- 351
12	455ADD30L01	PCBA JACK/B	VTV-J503 SLV65AC	1	1	-	- 352
13	X66AWJ30L01	MEC PARTS	SLV65AC MSV16/MBK04	1	1	-	- 353
14	454AD930L01	PCBA IR/B	VTV-IR503 SLV65AC	1	1	-	- 355
15	454AD830L01	PCBA KEY/B	VTV-K503 SLV65AC	1	1	-	- 356

End of Report

C NO.	PART NO.	DESCRIPTION	SPECIFICATION	QUANTITY	REQUIRED	DWG.NO.	6800DK	REV.	0A
				30	30				
				L01	L11				REMARKS
	# 6800DK30L01	PACKING	SLV65AC FOR USA						
	# 6800DK30L11	PACKING	SLV65EC FOR EUROPE						
1	EJ4LV650001	RATING NP	N-LV65A-CE FCC+CB+UL	1	-	-	-	-	001
2	EJ4LV650101	RATING NP	R-LV65E-CE CE+CB+GS	-	1	-	-	-	001
3	HB4LV850001	CARTON	C-LV85A-CE	1	1	-	-	-	002
4	HDCELV65001	USER'S MANUAL-LCD	U-LV65AC-CE US (CPT) FOR LCD	1	-	-	-	-	003
5	HDCELV65201	USER'S MANUAL-LCD	U-LV65E-CE 5L (CPT) FOR LCD	-	1	-	-	-	003
6	EJ3LV171001	LOGO NP	N-LV171-CE COMPAL	1	1	-	-	-	004
7	FCTLP2S0111	HANDLE	FOR CARTON	1	1	-	-	-	006
8	HGLV65A0001	MODEL LABEL	LV65A-L001 FOR CARTON	2	-	-	-	-	008
9	HGLV65E0001	MODEL LABEL	LV65E-L001 FOR CARTON USE	-	2	-	-	-	008
10	HGLV87A0101	KEY LABEL	LV87A-L002 CE LCD KEY-PLATE	1	1	-	-	-	009
11	HK3CM870411	PE BAG	CM870-K001 FOR LCD MONITOR R1	1	1	-	-	-	012

End of Report

C NO.	PART NO.	DESCRIPTION	SPECIFICATION	QUANTITY	REQUIRED	DWG.NO.	SLV65A	REV.	OA
				-----					
				CO					
				001	REMARKS				
-----									
#	SLV65AC0001	SLV65AC ABC	MSV16/MBK04 15"CPT W/O TUNER+R						
1	DC190013821	CB ASY	AW677 AUDIO/2CORE 1.5M BLK-GRN	1	-	-	-	-	301
2	GA0500008D1	PWR CORD	SP305X1.8MXIS14 SVT BLK (W)	1	-	-	-	-	302
3	DC190026001	CB ASY	LV171 20276/2CORE 1.5M BLK-BLU	1	-	-	-	-	303
4	PK100V01401	AC ADAP	LAE LAD6019AB5 12V/5A BLK GP	1	-	-	-	-	304
5	58267530L01	DIS UNIT	SLV65AC 15"CPT W/O TUNER BOX	1	-	-	-	-	351
6	6800DK30L01	PACKING	SLV65AC FOR USA	1	-	-	-	-	352
7	X66AWK30L01	MEC PACKING	SLV65AC	1	-	-	-	-	353

End of Report

C NO.	PART NO.	DESCRIPTION	SPECIFICATION	QUANTITY	REQUIRED	DWG.NO.	SLV65E	REV.	OA
				-----					
				CO					
				001	REMARKS				
-----									
#	SLV65EC0001	SLV65EC ABC	MSV16/MBK04 15"CPT W/O TUNER+R						
1	DC190013821	CB ASY	AW677 AUDIO/2CORE 1.5M BLK-GRN	1	-	-	-	-	301
2	GA0500008D1	PWR CORD	SP305X1.8MXIS14 SVT BLK (W)	1	-	-	-	-	302
3	DC190026001	CB ASY	LV171 20276/2CORE 1.5M BLK-BLU	1	-	-	-	-	303
4	PK100V01401	AC ADAP	LAE LAD6019AB5 12V/5A BLK GP	1	-	-	-	-	304
5	58267530L11	DIS UNIT	SLV65EC 15"CPT W/O TUNER BOX	1	-	-	-	-	351
6	6800DK30L11	PACKING	SLV65EC FOR EUROPE	1	-	-	-	-	352
7	X66AWK30L01	MEC PACKING	SLV65AC	1	-	-	-	-	353

End of Report

C NO.	PART NO.	DESCRIPTION	SPECIFICATION	QUANTITY	REQUIRED	DWG.NO. X66AWJ	REV. OA
				30			
				L01			REMARKS
	# X66AWJ30L01	MEC PARTS	SLV65AC MSV16/MBK04				
1	ECLV1517001	CHASSIS	LV151(SECC 0.8)(GP)	1	- - - -	001	
2	ECLV1515001	EMI_SHIELD	LV1515(TINO.3)(GP)	1	- - - -	002	
3	ECLV1725101	HINGE ASSY	LV1725(SECC2.0)(T=17KG-CM)(GP)	1	- - - -	003	
4	ECLV1749001	KEYBOARD SPRING	LV1749(GP)	2	- - - -	004	004
5	FALV1512A01	BACK COVER ASSY	LV1512A MBK04 (GP)	1	- - - -	005	
6	FALV1713001	BASE	LV1713 ABS94HB MBK04_PN_MSV16	1	- - - -	006	
7	FALV1721001	NECK FRONT	LV1721 ABS94HB MBK04(GP)	1	- - - -	007	
8	FALV1722001	NECK BACK	LV1722 ABS94HB MBK04(GP)	1	- - - -	008	
9	FALV1523101	BUCKET DOOR(NONO_HOLE)	LV1523 ABS94HB MBK04(GP)	1	- - - -	009	
10	FALV1724001	HANDEL	LV1724 ABS94HB MBK04_PN_MSV16	1	- - - -	010	
11	FALV1731A01	KEY PLATE ASSY	LV1731A MCG28_PN_MSV16 (GP)	1	- - - -	011	
12	FHLV1744001	RUBBER	LV1744(10X5X5.8mm)(GP)	1	- - - -	012	
13	FHLV1745101	BUBBER FOOT	LV17451(D=10.0X2.5mm)(GP)	4	- - - -	013	013 013 013
14	MAA00001241	SCREW	M3X0.5+4I-NI(GP)	4	- - - -	015	015 015 015
15	MAA2010542I	SCREW	M4X0.7+10P-ZK(GP)	4	- - - -	016	016 016 016
16	MAA7000240I	SCREW	M4X0.7+11P-MC WASHER DIM 8.0GP	4	- - - -	018	018 018 018
17	MAAA001940I	SCREW	4#40UNCX12.7 PLS-WASHER (GP)	2	- - - -	019	019
18	MAB1000340I	SCREW	TPP-4+10F-MC(GP)	4	- - - -	020	020 020 020
19	MAB2004720I	TAPING SCREW	TPP-4.0+10P-ZK(GP)	10	- - - -	021	021 021 021 021 021
20	MAA7000310I	SCREW	M3X0.5+4C-NI (NL)(GP)	12	- - - -	022	022 022 022 022 022 022
21	MAB7T00240I	SCREW	TPB-4+8C-MC(GP)	4	- - - -	023	023 023 023
22	MAB8000740I	SCREW	TPP2X3+12B-MC(GP)	4	- - - -	024	024 024 024
23	FALV1513A01	BEZEL ASSY	LV1511A MBK04 PN MSV16 (GP)	1	- - - -	027	
24	LCCS5542001	CONDUCTIVE FABRIC	CS5542 30X30mm(GP)	4	- - - -	035	035 035 035
25	FHLV1544001	BEZEL SPONGE	LV1544(20X8X1.5mm) (GP)	4	- - - -	036	036 036 036
26	FHLV1546001	CHASSIS RUBBER PAD	LV1546(10X8X6mm H=70) (GP)	1	- - - -	038	
27	KA000600ZZI	LOCKING CABLE TIE	W2.5XL120 WHITE(GP)	1	- - - -	039	

End of Report

C NO.	PART NO.	DESCRIPTION	SPECIFICATION	QUANTITY	REQUIRED	DWG.NO. X66AWK	REV. 0A
				30			
				L01			REMARKS
	# X66AWK30L01	MEC PACKING	SLV65AC				
1	FJLV1516001	EPS FOAM(L)	LV1516(GP)	1	- - - -	201	
2	FJLV1517001	EPS FOAM(R)	LV1517(GP)	1	- - - -	202	

End of Report