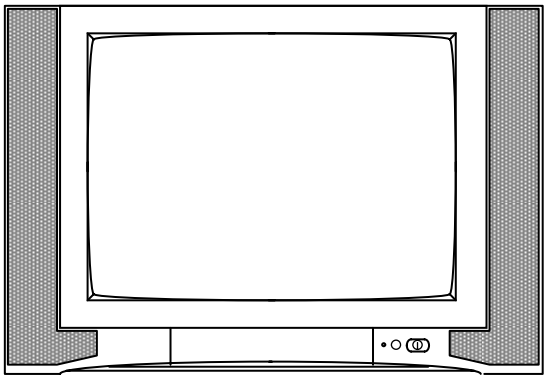
NXP TDA11106/26/56 XXX SERIES

SERVICE MANUAL

COLOUR TELEVISION



CONTENTS

SAFETY PRECAUTIONS

1. The design of this product contains special hardware, many circuits and components specially for safety purposes. For continued protection, no changes should be made to the original design unless authorized in writing by the manufacturer. Replacement parts must be identical to those used in the original circuits. Service should be performed by qualified personnel only.

2. Alterations of the design or circuitry of the products should not be made. Any design alterations or additions will void the manufacturer's warranty and will further relieve the manufacturer of responsibility for personal injury or property damage resulting therefrom.

3. Many electrical and mechanical parts in the products have special safety-related characteristics. These characteristics are often not evident from visual inspection nor can the protection afforded by them necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in the parts list of Service manual. **Electrical components having such features are identified by shading on the schematics and by (!) on the parts list in Service manual.** The use of a substitute replacement which does not have the same safety characteristics as the recommended replacement part shown in the parts list of Service manual may cause shock, fire, or other hazards

4. **Don't short between the LIVE side ground and ISOLATED (NEUTRAL) side ground or EARTH side ground when repairing.** Some model's power circuit is partly different in the GND. The difference of the GND is shown by the LIVE: ( ) side GND, ISOLATED (NEUTRAL) : ( ) side GND and EARTH : ( ) side GND. Don't short between the LIVE side GND and ISOLATED (NEUTRAL) side GND or EARTH side GND and never measure with a measuring apparatus (oscilloscope etc.) the LIVE side GND and ISOLATED (NEUTRAL) side GND or EARTH side GND at the same time. If above note will not be kept, a fuse or any parts will be broken.

5. If any repair has been made to the chassis, it is recommended that the B1 setting should be checked or adjusted (See ADJUSTMENT OF B1 POWER SUPPLY).

6. The high voltage applied to the picture tube must conform with that specified in Service manual. Excessive high voltage can cause an increase in X-Ray emission, arcing and possible component damage, therefore operation under excessive high voltage conditions should be kept to a minimum, or should be prevented. If severe arcing occurs, remove the AC power immediately and determine the cause by visual inspection (incorrect installation, cracked or melted high voltage harness, poor soldering, etc.). To maintain the proper minimum level of soft X-Ray emission, components in the high voltage circuitry including the picture tube must be the exact replacements or alternatives approved by the manufacturer of the complete product.

7. Do not check high voltage by drawing an arc. Use a high voltage meter or a high voltage probe with a VTVM. Discharge the picture tube before attempting meter connection, by connecting a clip lead to the ground frame and connecting the other end of the lead through a 10kΩ 2W resitor to the anode button.

8. When service is required, observe the original lead dress. Extra precaution should be given to assure correct lead dress in the high voltage circuit area. Where a short circuit has occurred, those components that indicate evidence of overheating should be replaced. Always use the
9. manufacturer's replacement components.

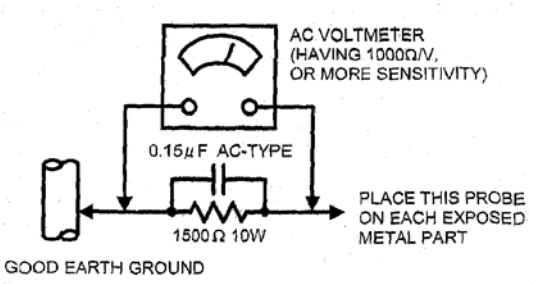
10. **Isolation Check**
(Safety for Electrical Shock Hazard)
After re-assembling the product, always perform an isolation check on the exposed metal parts of the cabinet (antenna terminals, video/audio input and output terminals, Control knobs, metal cabinet, screwheads, earphone jack, control shafts, etc.) to be sure the product is safe to operate without danger of electrical shock.

11. The surface of the TV screen is coated with a thin film which can easily be damaged. Be very careful with it when handle the TV. Should the TV screen become soiled, wipe it with a soft dry cloth. Never rub it forcefully. Never use any cleaner or detergent on it.

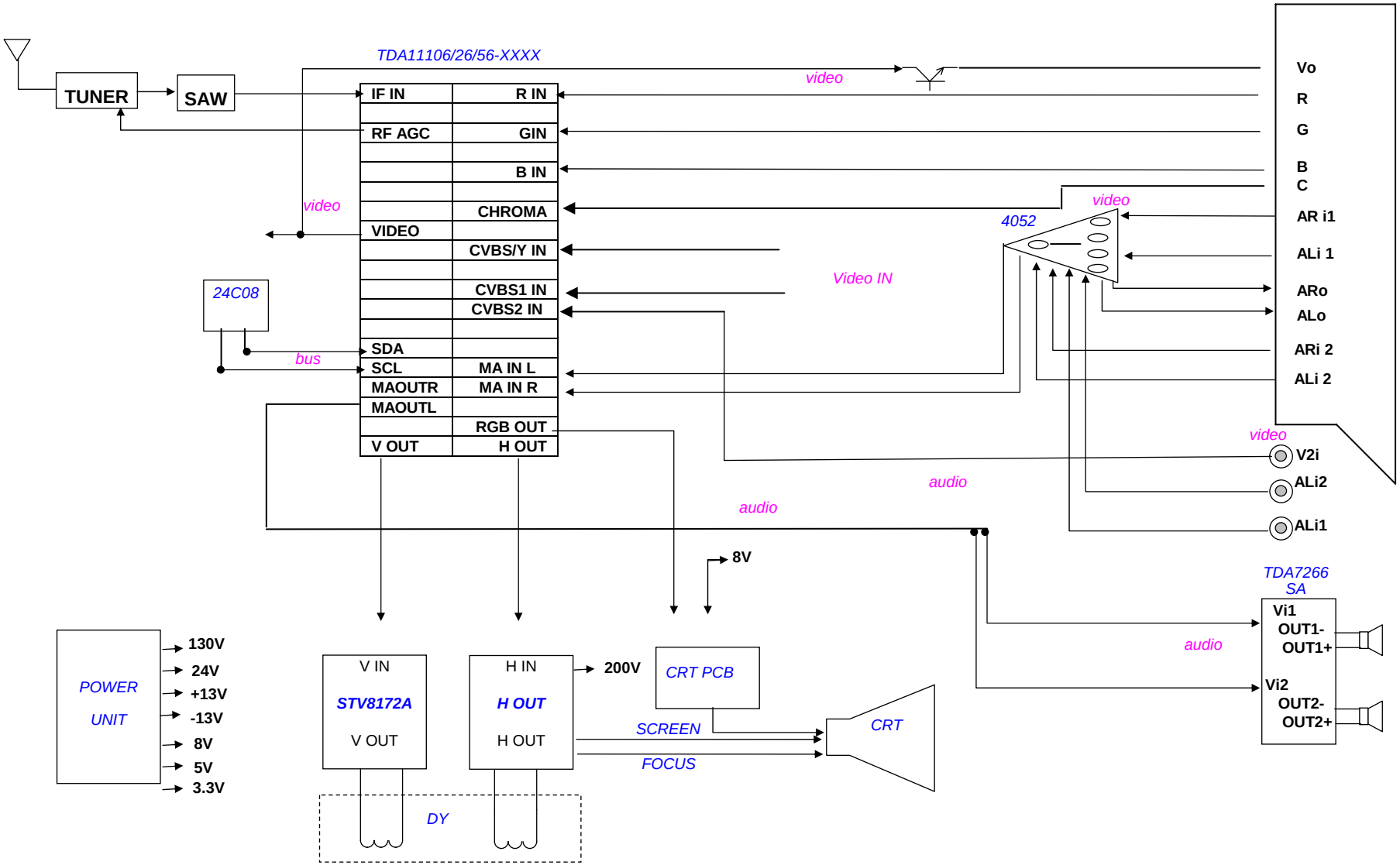
(1) Dielectric Strength Test
The isolation between the AC primary circuit and all metal parts exposed to the user, particularly any exposed metal part having a return path to the chassis should withstand a voltage of 3000V AC (r.m.s.) for a period of one second.
(…Withstand a voltage of 1100V AC (r.m.s.) to an appliance rated up to 120V, and 3000V AC (r.m.s.) to an appliance rated 200V or more, for a periode of one second.)
This method of test requires a test equipment not generally found in the service trade.

(2) Leakage Current Check
Plug the AC line cord directly into the AC outlet (do not use a line isolation transformer during this check.). Using a "Leakage Current Tester", measure the leakage current from each exposed metal part of the cabinet, particularly any exposed metal part having a return path to the chassis, to a known good earth ground (water pipe, etc.). Any leakage current must not exceed 0.5mA AC (r.m.s.).
However, in tropical area, this must not exceed 0.2mA AC (r.m.s.).

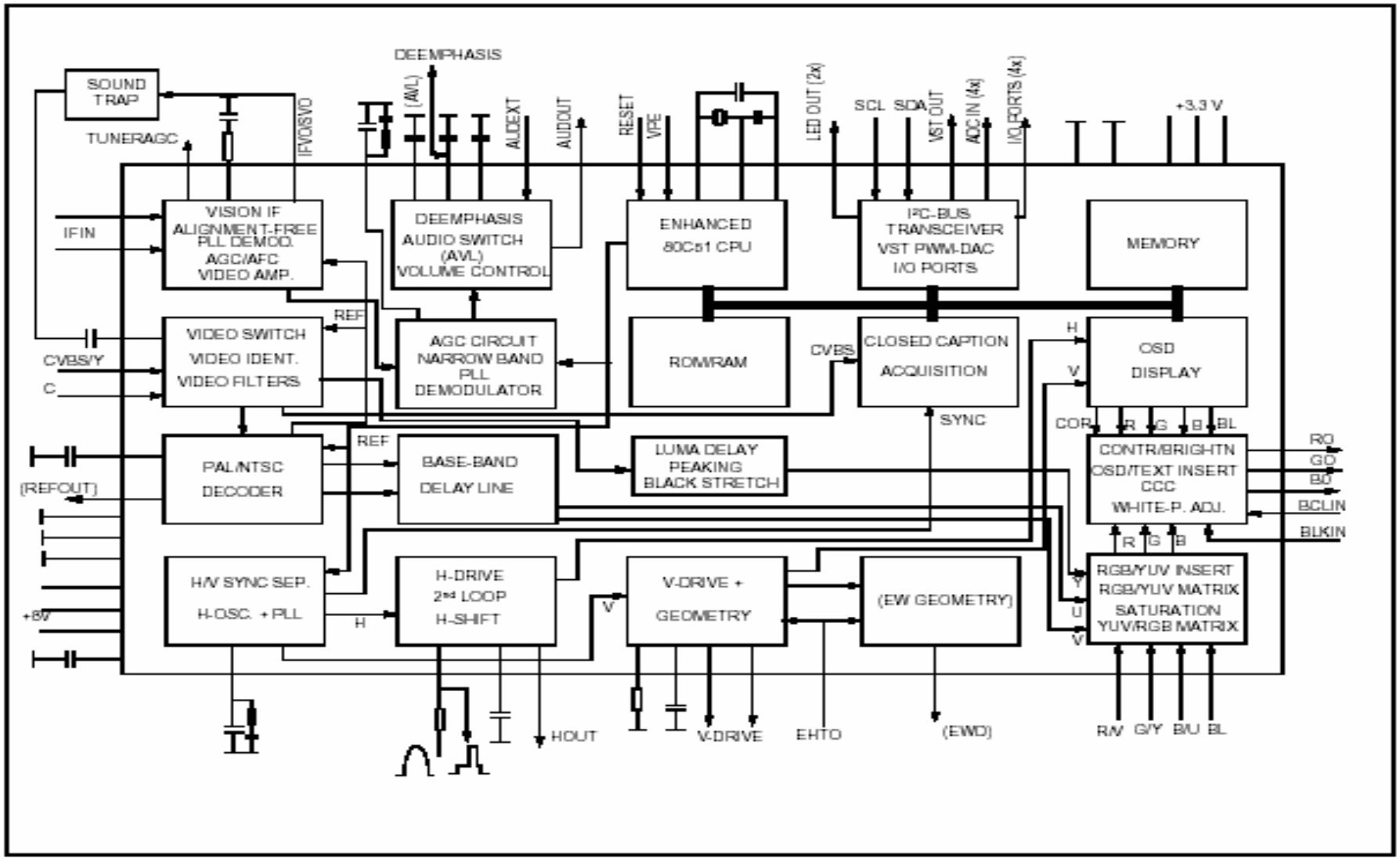
●Alternate Check Method
Plug the AC line cord directly into the AC outlet (do not use a line isolation transformer during this check.). Use an AC voltmeter having 1000 ohms per volt or more sensitivity in the following manner. Connect a 1500 Ω 10W resistor paralleled by a 0.15 μF AC-type capacitor between an exposed metal part and a known good earth ground (water pipe, etc.). Measure the AC voltage across the resistor with the AC voltmeter. Move the resistor connection to each exposed metal part, particularly any exposed metal part having a return path to the chassis, and measure the AC voltage across the resistor. Now, reverse the plug in the AC outlet and repeat each measurement. Any voltage measured must not exceed 0.75V AC (r.m.s.). This corresponds to 0.5mA AC (r.m.s.).
However, in tropical area, this must not exceed 0.3V AC (r.m.s.).
This corresponds to 0.2mA AC (r.m.s.)



TV Block diagram



BLOCK DIAGRAM



REPLACEMENT OF MEMORY IC

1. MEMORY IC.

   This TV uses memory IC. In the memory IC are memorized data for correctly operating the video and deflection circuits.

   When replacing memory IC, be sure to use IC written with the initial value of data.

2. PROCEDURE FOR REPLACING MEMORY IC
   (1) Power off
   Switch the power off and unplug the power cord from AC outlet.
   (2) Replace IC
   Be sure to use memory IC written with the initial data values.
   (3) Power On
   Plug the power cord into the AC outlet and switch the power On.
   (4) Check and set SYSTEM default value:
3. Note: enter a factory mode method
   1) Factory remote control: Press the factory remote control [TEST] key, appear on the television screen 'FACTORY'.
   2) Customer remote control
   3) Press [menu] key, appear the picture menu, press few character keys 6483, the screen appears 'FACTORY'. press few character keys 6483 again, the screen appears ' B.W BALANCE '.
   4) Press [menu] key, The “ADJUST” will be displayed on the screen.
   5) Press [menu] key, withdraw factory mode.
   6) Check the setting value of the SYSTEM default value of Table below. If the value is different, select items by [CH+]/[CH-] keys and set value by [VOL+]/[VOL-] keys.
   7) Press “menu” key again and return to the normal screen.

SERVICE ADJUSTMENT

B1 POWER SUPPLY

1. Receive normal colour bar signal.
2. Connect DC voltmeter to VD551- and isolated ground.
3. Adjust potentiometer in power unit to get the voltage as 110V ±1.0V for 21 inch hereinafter,
   130 ±1.0V for 25 inch upwards.

FOCUS ADJUSTMENT

1. Receive a crosshatch signal.
2. While watching the screen, adjust the FOCUS VR to make the vertical and horizontal lines as fine and sharp as possible.

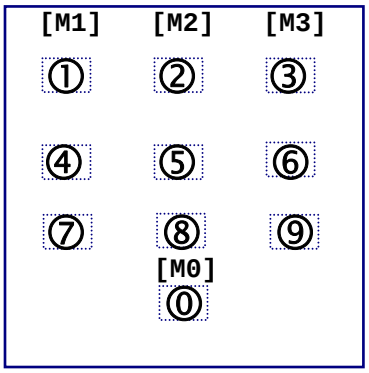
BUS CONTROL ADJUSTMENT

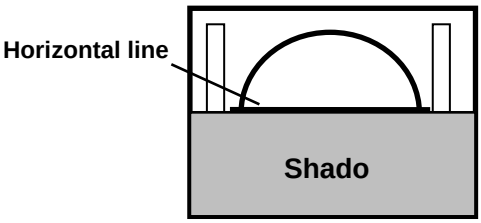
To enter BUS control mode, Press “TEST” key on the Remote control unit of factory. （Customer remote control press "MENU" key behind in a row press"6""4""8""3"）

Choose a "SETUP SELECT" options in"P5" menu, setup the item of " ENG.PAGE " to "1”, press "MUTE" key again can depend on this get into "P5"~"P15" and "PP1. PP2. LANG. LANGX" of design menu, general

factory the production doesn't need to carry on "P5"~"P15" and "PP1. PP2. LANG. LANGX" .
At “FACTORY”under the appearance press “Q.V “ the key can get into “BUS OPEN” appearance, at “BUS OPEN under, press “Q.V “ the key recover factory appearance.

Remote Hand Unit keys





[P0] menu

P0 Geometrical adjustment

Receive PAL standard Complete pattern signal.

Adjustment steps:

a) Adjust V.LIN, to the center horizontal line just appeare from half bottom shadow.

b) Adjust V. SIZE, to get 90% of vertical picture contents would be displayed on CRT.

c) Adjust V.POS, the center horizontal line correspond to CRT vertical center.

d) Adjust H.PHASE, to get the picture horizontal center correspond to CRT horizontal center.

Receive NTSC signal and repeat above [P0] adjustment.

[P1] Menu

CRTcut off and white balance adjustment.

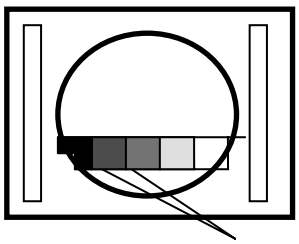
Receive white signal.

a) CRT cut off adjustment.

1. At [P1] Menu, press “-/-- “ the key, then automatically vertical scan will be stopped.
2. Adjust SCREEN control on Flyback transformer to get the darkest single horizontal line (red, green, or blue, sometimes shows more yellow, more purple or more white).

b) White balance adjustment.

1. Select RD/BD menu.
2. Adjust RD/BD to get colour temperature as x=281, y=311



[P2] Menu

AGC Adjustment.

Receive 60dBμ(1mV)V_H colour bar pattern signal, adjust AGC value（voltage from high to low）, to noise reduce gradually and just disappeared point.

Select “shipping”, push [V+] [V-]key to be shipped.

I^2C standard UOC for export bus control adjustment item default setting 2009-09-09

	Items	Variable	Preset	recommendation	
PO					
	F50 or F60 display			50Hz	60Hz
	H.PHASE	0~63	Horizontal shift adjusting	42	
	V.LIN	0~63	Picture vertical center adjustment	31	
	V.SIZE	0~63	Vertical amplitude adjustment	40	
	V.POS	0~63	Vertical positions adjustment	41	
	V.SC	0~63	Vertical correct adjusting	30	
	OSD HP	0~63	OSD position setting of horizontal	43	
	OSD VP	0~63	OSD position setting of vertical	38	
	OSD CON	0~15	OSD brightness setting	15	
	V.L.X	0~2	Vertical linearity control setting	0	
	V.L	0~63	Vertical linearity adjustment	32	
	V.ZOOM	0~63	Vertical zoom adjustment	32	
	HP	0~63	Paralleloqram adjustment	32	
	EWW	0~63	Horizontal range adjusting	32	
	HB	0~63	Bow adjusting	32	
	PW	0~63	East-west curve adjusting	32	
	TC	0~63	Trapezoid adjusting	32	
	UCP	0~63	Up conner adjusting	32	
	LCP	0~63	Low conner adjusting	32	
P1					
	R.B	0~63	R OUT Amplitude Adjustment	32	
	G.B	0~63	G OUT Amplitude Adjustment	32	
	B.B	0~63	B OUT Amplitude Adjustment	32	
	R.D	0~63	R OUT Amplitude Adjustment	32	
	G.D	0~63	G OUT Amplitude Adjustment	32	
	B.D	0~63	B OUT Amplitude Adjustment	32	
	LINE BRI	0~63	Brightness of screen line	20	
	COF	0~1	Cut-off control range 0:normal control range 1:extended control range	0	
	BLOC	0-15	Black level offset course	8	
	CL	0-15	Contrast level offset	12	
P2					
	H. BLK.DEP	0-1	Horizontal blank option	0	
	H.BLK.L	0~15	Horizontal left blank adjust	5	
	H.BLK.R	0~15	Horizontal right blank adjust	8	
	RF. AGC	0~63	Tuner AGC Takeover Point Adjustment	32	
	AGCS	0~3	AGC speed setting	1	

P3				
	CON MAX	20~63	Contrast maximum value Setting	50
	CON CEN	10~50	Contrast center value Setting	35
	CON MIN	0~40	Contrast minimum value Setting	0
	BRI MAX	20~63	Brightness maximum value Setting	50
	BRI CEN	10~50	Brightness center value Setting	25
	BRI MIN	0~40	Brightness minimum value Setting	0
	SHARP MAX	32~63	Sharpness maximum value Setting	63
	SHARP MIN	0~31	Sharpness minimum value Setting	0
	SUB COL	0~63	Sub colour value Setting	28
	SUB TINT	0~32	Sub tint value Setting	16
P4				
	PWL	0~1	Peak white limiting 0:peak white limiting circuit not active 1:peak white limiting circuit active	1
	PWL ADJ	0~15	Peak white adjust	4
	SOFTCLIPLV	0~3	Soft clip adjust	1
	BLK SW	0~1	Baack stretch	1
	BLK DEP	0~1	Black stretch Depth 0:15IRE 1:30 IRE	1
	AUTO BLK	0~3	Black area to switch off the black stretch	1
	GAMMA	0~1	GAMMA Control	0
	AFTER(-)SH	0~2	Ratio pre-and aftershoot	1
	OVER(-)SH	0~3	Ratio of positive and negative peaks	1
	BPD	0~1	0~1	0
P5				
	VLF-VHF FS	0~255	FS Tuner frequency setting of VLF-VHF 0~255(100.0~227.5 MHz)	87
	VHF-UHF FS	0~255	FS Tuner frequency setting of VHF-UHF 0~255{300.5~555.5MHz}	127
	U-BAND-ALTFS	0~1	FS Tuner register setting of UHF BAND	0
	BAND-SEL VS	0~2	VS Tuner BAND Control setting	2
	VOL10	0~100	V.P10 volume of VALUE	10
	VOL25	0~100	V.P25 volume of VALUE	25
	VOL50	0~100	V.P50 volume of VALUE	50
	VOL100	0~100	V.P75 volume of VALUE	100
	LSR VOL	0~63	MAX volume	63
	ENG.PAGE	0~1	Engineer menu switch	0
P6				
	AKB	0~1	Black current stabilization	1
	CMB P7	0~2	Pin 7 function setting 0: AVL, 1:SIF output, 2:FM output	2
	SSL	0~1	Slicing level for horizontal sync separator 0:50% 1:30%,direction top sync	0
	FSL	0~1	Forced slicing level for vertical sync	0

	AGN	0~1	Gain FM demodulator 0:normal operation 1:gain +6 dB	1
	AGNE	0~3	FM sound demodulator outopt signal amplitude	1
	FMWS	0~3	Window select for FM demodulator	2
	FMWS INS	0~3	Window select for FM demodulator when search	0
	CORING	0~1	CORING control switch	1
	E2PROM CLR	0~1	E2PROM resete	0
P7				
	PFp4	0~3	PAL Center frequency with postpone adjust	2
	PFnm	0~3	NTSC 3.58 Center frequency with postpone adjust	1
	PFn4	0~3	NTSC 4.43 Center frequency with postpone adjust	2
	PFav	0~3	AV Center frequency with postpone adjust	2
	Yn	0~15	Y-delay adjustment for PAL signal	9
	Yp	0~15	Y-delay adjustment for NTSC signal	12
	Yav	0~15	Y-delay adjustment for PAL signal in AV mode	12
	Ysvhs	0~15	Y-delay adjustment for PAL signal in S-video mode	11
P8				
	IF	(MONO90) 0~3 Other 0~6	Vision IF of RF (MONO90) 0: 38.00MHz (CHINA) 1: 45.75MHz 2: 38.90MHz (EUROPE&INDIA) 3: 33.90MHz (AV90/AV110/MONO110) 0: 58.75MHz 1: 45.75MHz 2: 38.90MHz (EUROPE&INDIA) 3: 38.00MHz 4: 33.40MHz 5. RESRVE (reserve) 6: 33.9MHz	(MONO90) 2 Other 2
	DCXO	0~3	Crystal load electric capacity compensate	1
	OIF	MONO90 0~15 Other 0~63	IF compensate	(MONO90) 8 Other 32
	FFI	0~1	Fast filter IF -PLL	1
	FS CP	0~1	FS Tuner CP Bit setting	0
	AVL-MAX	0~1	Sound maximum gain Then the AVL ON	1
	AVL	0~1	AVL function selection 1:on	0
	AVL OPT	0~1	AVL function switch in the consumer menu	0

P9				
	SND PREFER	0~3	Force sound system as auto search	0
	DK OPT	0~1	Sound system of 6.0M selection	1
	I OPT	0~1	Sound system of 5.5M selection	1
	M OPT	0~1	Sound system of 4.5M selection	1
	BG OPT	0~1	Sound system of 6.5M selection	1
	AUTO SOUND	0~1	Auto sound system as auto search	1
	FULL SCART	0~1	FULL SCART function setting 0: brief 1:full	0
	SCART OPT	0~1	SCART function selection	1
	AV-S OPT	0~1	S-VIDEO function selection	1
	AV2 OPT	0~1	AV2 unction selection	1
	YUV OPT	0~1	YUV function selection	1
	DVD	0~2	DVD function selection	0
	DVD SRC	0~2	DVD SRC selection	0
	TV LOGIC	0~3	TV LOGIC setting	0
	AV1 LOGIC	0~3	AV1 LOGIC setting	2
	AV-S LOGIC	0~3	AV-S LOGIC setting	3
	AV2 LOGIC	0~3	AV2 LOGIC setting	1
	YUV LOGIC	0~3	YUV LOGIC setting	0
	DVD LOGIC	0~3	DVD LOGIC setting	0
P10				
	LOGO	0~1	LOGO selection	0
	WELCOME TIM		LOGO display time adjustment	
	SAVER	0~1	Screen saver function selection	0
	PROG L-R	0~1	Channel number position selection	0
	FM OPT	0~1	FM RADIO function selection	0
	FM SIGNAL	0~3	FM RADIO signal selection as auto search	2
	SCAN OPT	0~1	Program auto scan selection	1
	CHASSIS OPT	0~1	CHASSIS selection	1
P11				
	PWR-OPT	0~1	AC power on start selection	1
	ZOOM OPT	0~3	ZOOM function selection	0
	ZOOM V+	0~63	Vertical range setting of zoom mode	12
	WIDE V-	0~63	Vertical range setting of wide screen mode	20
	16:9/4:3 ADC	80~200	Pin8 Voltage setting for SCARTmode identify	110
	POWER TIME	0~12	On delay time	8
	BLANK V.SEZE	0~15	Vertical size adjusting on the ON delay time	8
	FRAME-COL	0~5	Menu frame colour selection	3
	SUBMENU-COL	0~5	Menu background colour selection	2
	BB BRIGHT	0~63	Blue background Brightness value Setting	31
P12				
	MONO-OPT	0~1	MONO or stereo function selection	1

	CVBS OUT	0~1	VIDEO output setting 0:IF,1:CVBS	1
	CH-MUTE CNT	2~15	No signal change channel mute time Setting	5
	WEAK SIGNAL	0~1	WEAK signal Setting	0
	B.BACK	0~2	Background selection 0:no,1:blue,2:black	0
	BLANK MUTE	0~1	Change the TV channel MUTE selection	1
	AV CNT	0~15	Change the AV channel MUTE selection	2
	PLUG&PLAY	0~1	Power on auto search selection	1
	STB CNT	0~255	Off delay time	0
	CHG MUTE PIN	0~1	Change the TV channel MUTE time Setting	1
	RESET TIME	0~15	Reset time selection	2
	V.GUARD	0~15	V.GUARD function selection	0
	N3 OPT	0~1	N3 selection	1
P13				
	XDT	0~1	x-ray detection on/off	0
	P.OFF.SET	0~1	Power off setting	0
	SCR BLN	0~1	SCR BLN setting	0
	CBS	0~1	Control sequence of beam current limiting 0:normal operation(contrast—brightness) 1:control on contrast and brightness in parallel	0
	MUS	0~1	Colour decode matrix setting 0: Japan1:USA	1
	MTXF	0~1	Colour matrix selection 0: standard 1: force	0
	FCO	0~1	Forced Color-on 0:on 1:off	0
	CB	0~1	Chroma bandpass center frequency	0
	BPB2	0~1	Bypass sound bandpass filter section 2 0:bandpass filter active 1:bandpass filter bypassed	1
	GROUP DL	0~1	Group delay on CVBSI signal 0:no group delay correction 1: group delay correction switched on	1
	DSG	0~1	Extra gain selection loudspeaker outputs 0:+0 dB 1:+6 dB	0
P14				
	COLD RD-	0~31	Cool color temperature adjusting of red	10
	COLD BD+	0~31	Cool color temperature adjusting of green	10
	YUV R.B	-32~+32	YUV R OUT Amplitude Adjustment	0
	YUV G.B	-32~+32	YUV G OUT Amplitude Adjustment	0
	YUV B.B	-32~+32	YUV B OUT Amplitude Adjustment	0
	YUV H.PHASE	-32~+32	YUV Horizontal shift adjusting	0
	WARM RD+	0~31	Warm color temperature adjusting of red	10
	WARM BD-	0~31	Warm color temperature adjusting of green	10
PP1				
	BRI.STD	0~100	Standard Brightness in pp mode	50
	CON.STD	0~100	Standard Contrast in pp mode	50
	COL.STD	0~100	Standard Color in pp mode	50

	SHARP.STD	0~100	StandardSharpness in pp mode	50
	BRI.DYNAM	0~100	Dynamic Brightness in pp mode	45
	CON. DYNAM	0~100	Dynamic Contrast in pp mode	65
	COL. DYNAM	0~100	Dynamic Color in pp mode	55
	SHA. DYNAM	0~100	DynamicSharpness in pp mode	60
PP2				
	BRI.MILD	0~100	Mild Brightness in pp mode	32
	CON. MILD	0~100	Mild Contrast in pp mode	40
	COL. MILD	0~100	Mild Color in pp mode	35
	SHARP. MILD	0~100	MildSharpness in pp mode	40
LANG				
	FRENCH	0~1	OSD language selection	1
	RUSSIN	0~1	OSD language selection	1
	TURKISH	0~1	OSD language selection	1
	BLUGARIAN	0~1	OSD language selection	1
	RUMANIAN	0~1	OSD language selection	1
	SPANISH	0~1	OSD language selection	1
	PORTUGUESS	0~1	OSD language selection	1
	ITALIAN	0~1	OSD language selection	1
	GERMAN	0~1	OSD language selection	1
LANGX				
	SLOVENE	0~1	OSD language selection	1
	CROATIAN	0~1	OSD language selection	1
	MACEDONIAN	0~1	OSD language selection	1
	SERBIAN	0~1	OSD language selection	1
	GREEK	0~1	OSD language selection	1
	FARSI	0~1	OSD language selection	1
	ARABIC	0~1	OSD language selection	1

KEY BOARD: multiple-choice test(0/1)

0: Control keys input (Max. Limit voltage) ---(MEK KEY BOARD)

Function	POWER	MENU	TV/AV	V-	V+	P-	P+
Voltage	0	0.4125	0.825	1.2375	1.65	2.0625	2.475

Function	POWER	MENU	TV/AV	V-	V+	P-	P+
Voltage		2.2	1.75	0.85	1.3	0.4	0.0

1: Control keys input (Max. Limit voltage) –(SANYO KEY BOARD)

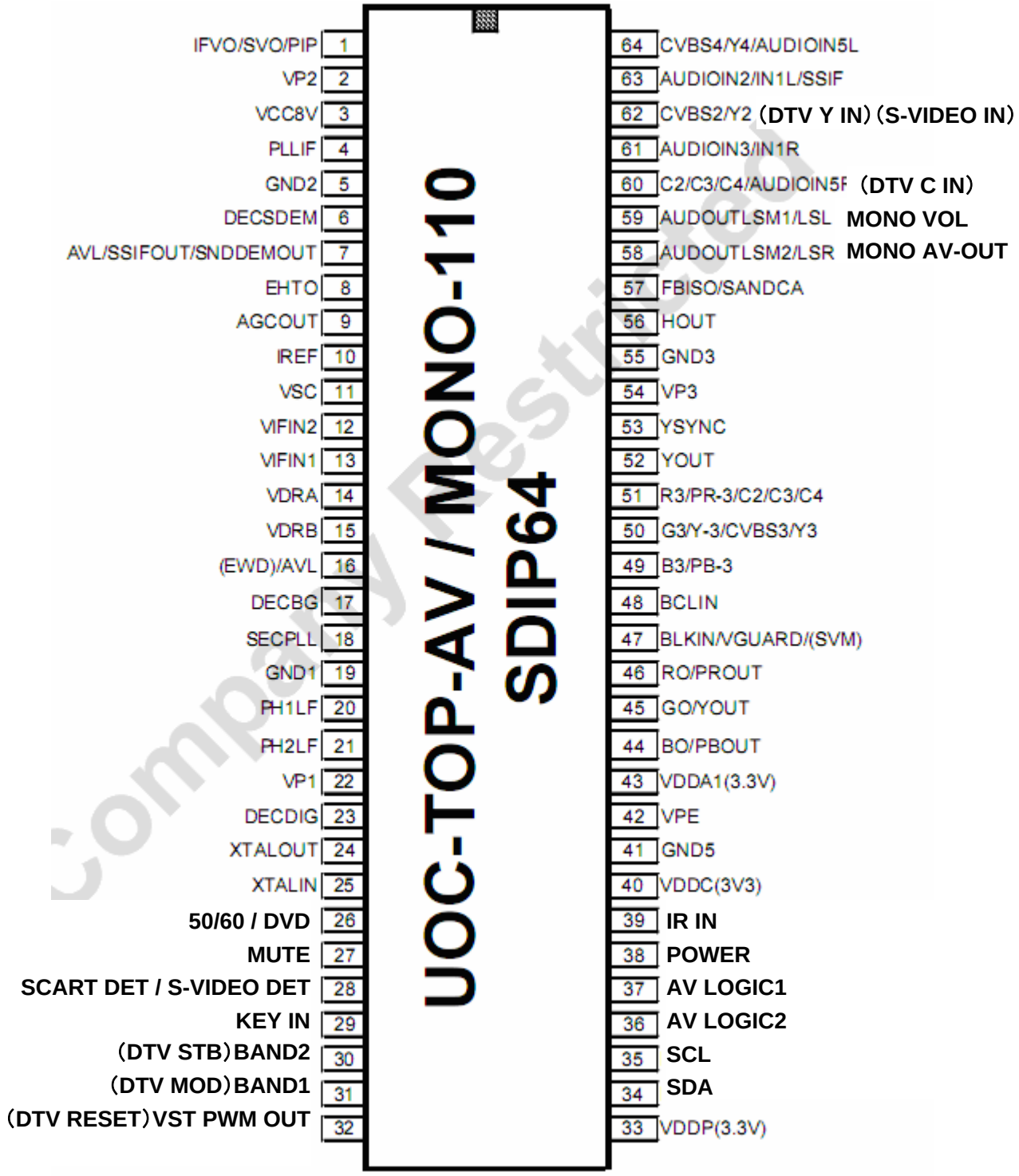
4 , LOGO EDIT

at the FACTORY_MODE, press [DISP] key can get into a pair of pleased words editor appearance.

Press [DISP] key again: Withdraw LOGO editor appearance, the LOGO information remembers EEPROM and return to FACTORY _MODE;

ICs functional description

PIN CONNECTION



UOC TDA11106-XXXX/TDA11126-XXXX/TDA11156-XXXX

SYMBOL	PIN	DESCRIPTION
IF VO	1	IF video output / selected CVBS output
VP2	2	2^{ND} Supply voltage TV processor(+5v)
VCC AUDIO	3	8 volt supply for audio switches(+5V~8V)
PLL IF	4	IF-PLL loop filter
GND2	5	Gaound 2 for TV processor
DECSDEM	6	decoupling sound demodulator or SIF input 2
FMDEMOUT	7	audio output /AM audio output (volume controlled)
EHTO	8	EHT/overvoltage protection input
AGC	9	Tuner AGC output
IREF	10	Reference current input
VSC	11	Vertical sawtooth capacitor
IF IN2	12	IF input 1
IF IN1	13	IF input 2
VDRA	14	Vertical drive A output
VDRB	15	Vertical drive B output
AVL/EW	16	Automatic volume leveling /EAST-WEST drive output
DECBG	17	Band gap decoupling
SECPLL	18	SECAM PLL decoupling
GND1	19	Ground 1 for TV-processor
PH1LF	20	Phase-1 filter
PH2LF	21	Phase-2 filter
VP1	22	1^{st} supply voltage TV-processor(+5V)
DECDIG	23	decoupling digital supply of TV-processor
XTALOUT	24	crystal oscillator output
XTALIN	25	crystal oscillator input
SCART id	26	SCART identify
MUTE	27	Sound mute output
TILT/UHF	28	
KEY	29	Control keys input *3
BAND2	30	Tuner Band selection output
BAND1	31	Tuner Band selection output
TUNING	32	tuning Voltage (Vt) PWM output
VDDP	33	Supply to periphery-3.3V)
SDA	34	I^2C-bus data line
SCL	35	I^2C-bus clock line
AV1	36	TV/AV (AV1) / AV2 mode Control Output.
AV2	37	TV/AV (AV1) / AV2 mode Control Output.
STANDBY	38	In STAND BY mode, high level (Power OFF).For Power ON this pin will be reduced to low.
IR	39	Remote control signal input.
VDDC	40	Supply(3.3V)

GND5	41	Ground 5
VPE	42	OPT programming Voltage
VDDA	43	Supply voltage(3.3V)
BOUT	44	Blue output
GOUT	45	Green output
ROUT	46	Red output
BLKIN	47	black current input / V-guard input
BCL IN	48	beam current limiter input
PB	49	B input / U (B-Y) input / P_B input
Y3/CVBS3	50	G input / Y input
PR/C3	51	R input / V (R-Y) input / P_R input
YOUT	52	Y-output(for YUV interface)
Y SYNC	53	Y-input for sync separator
VP3	54	Supply voltage(5V)
GND3	55	Ground connection
HOUT	56	Horizontal output
FBISO	57	Flyback input/sandcastle output
LSR	58	Audio output R
LSL	59	Audio output L
C2/C3/C4/AIN5R	60	S-VIDEO C IN
AIN3/IN1R	61	R AUDIO IN
CVBS2/Y2	62	AV2 VIDEO IN
AIN2/1INL	63	L AUDIO IN
CVBS/Y4/AIN5L	64	AV1 VIDEO IN

TDA7266SA/ TDA7266SAM Function : **audio output**

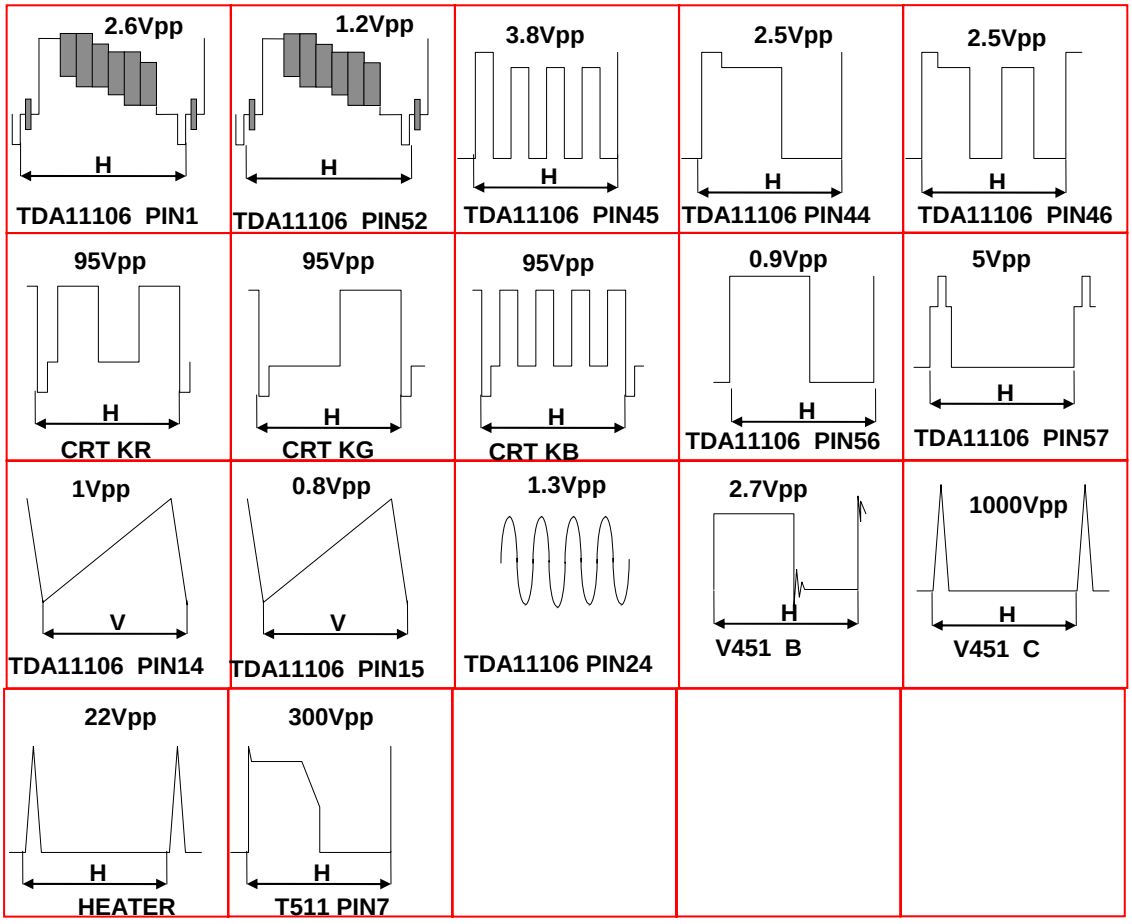
Symbol	PIN	Function	Symbol	PIN	Function
Out 1 (+)	1	Ch 1 output (+)	GND(S)	9	GND(signal)
Out 1 (-)	2	Ch 1 output (-)	NC	10	
Vcc	3	Power supply	NC	11	
In 1	4	Ch 1 input	In 2	12	Ch 2 input
N.C	5		Vcc	13	Power supply
MUTE	6	Mute input	Out 2 (-)	14	Ch 2 output (-)
Standby	7	Standby input	Out 2 (+)	15	Ch 2 output (+)
GND(P)	8	GND(Power)			

Note: **TDA7266SAM** is pin 1 to 9 the other is NC, **TDA7266SA** is pin 1 to 15.

STV8172A/LA78041/LA78040 Function : **vertical output**

Symbol	PIN	Function	Symbol	PIN	Function
INV IN	1	Input	V OUT	5	Vertical output
VCC1	2	Power	VCC2	6	Output power supply
PUMP UP	3	Pump up power	NON INV IN	7	Negative feedback
GND	4	Ground			

Test point Waveforms



STV8172A/LA78041/LA78040

PIN	1	2	3	4	5	6	7
V	0.7	15	-12	-15	0.3	15.9	-0.07

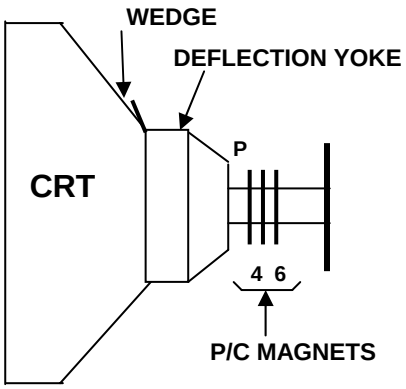
TDA7266SA

PIN	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
V	5.6	5.6	11.2	1.5	0	3.8	2.3	0	0	0	0	1.5	11.2	5.6	5.6

PURITY / CONVERGENCE ADJUSTMENT

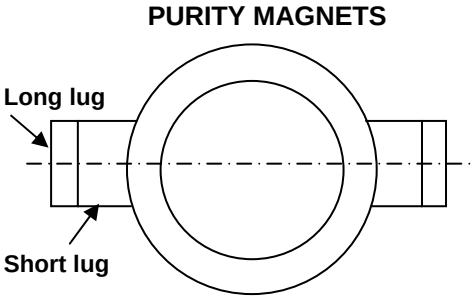
PURITY ADJUSTMENT

1. Demagnetize CRT with the demagnetizer.
2. Loosen the retainer screw of the deflection yoke.
3. Remove the wedges.
4. Input a green raster signal from the signal generator, and turn the screen to green raster.
5. Move the deflection yoke backward.
6. Bring the long lug of the purity magnets on the short lug and position them horizontally. (Fig2)
7. Adjust the gap between two lugs so that the GREEN RASTER will come into the center of the screen. (Fig. 3)
8. Move the deflection yoke forward, and fix the position of the deflection yoke so that the whole screen will become green.
9. Insert the wedge to the top side of the deflection yoke so that it will not move.
10. Imput a crosshatch signal.
11. Verify that the screen is horizontal.
12. Input red and blue raster signals, and make sure that purity is properly adjusted.



P: PURITY MAGNET
4: 4-POLES (convergence magnets)
6: 6-POLES (convergence magnets)

Fig. 1



Bring the long lug over the short lug and position them horizontally.

Fig. 2

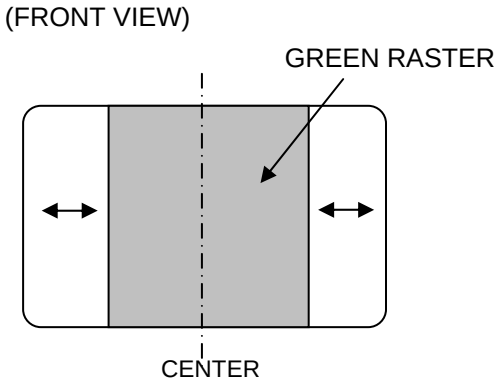


Fig. 3

STATIC CONVERGENCE ADJUSTMENT

1. Input a crosshatch signal.
2. Using 4-pole convergence magnets, overlap the red and blue lines in the center of the screen (Fig. 1) and turn them to magenta (red/blue).
3. Using 6-pole convergence magnets, overlap the magenta (red/blue) and green lines in the center of the screen and turn them to white.
4. Repeat 2 and 3 above, and make the best convergence.

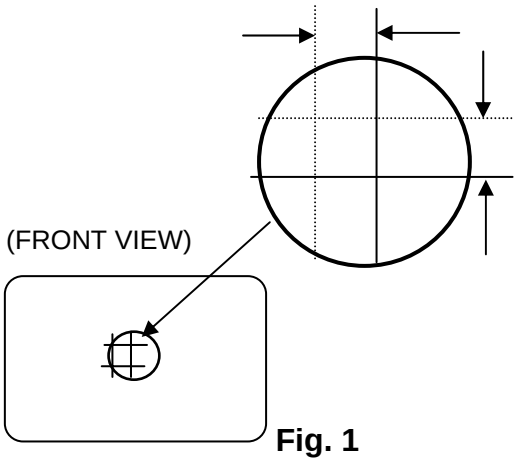


Fig. 1

DYNAMIC CONVERGENCE ADJUSTMENT

1. Move the deflection yoke up and down and overlap lines in the periphery. (Fig. 2)
2. Move the deflection yoke left to right and overlap the lines in the periphery. (Fig. 3)
3. Repeat 1 and 2 above, and make the best convergence.

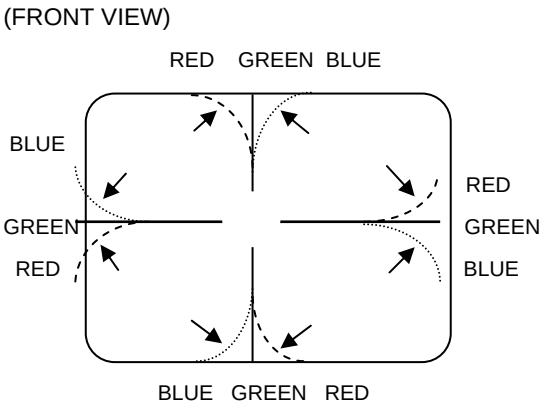


Fig.2

After adjustment, fix the wedge at the original position.
Fasten the retainer screw of the deflection yoke.
Fix the 6 magnets with glue.

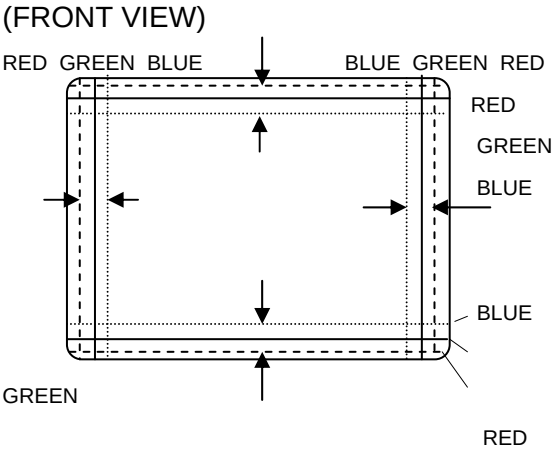
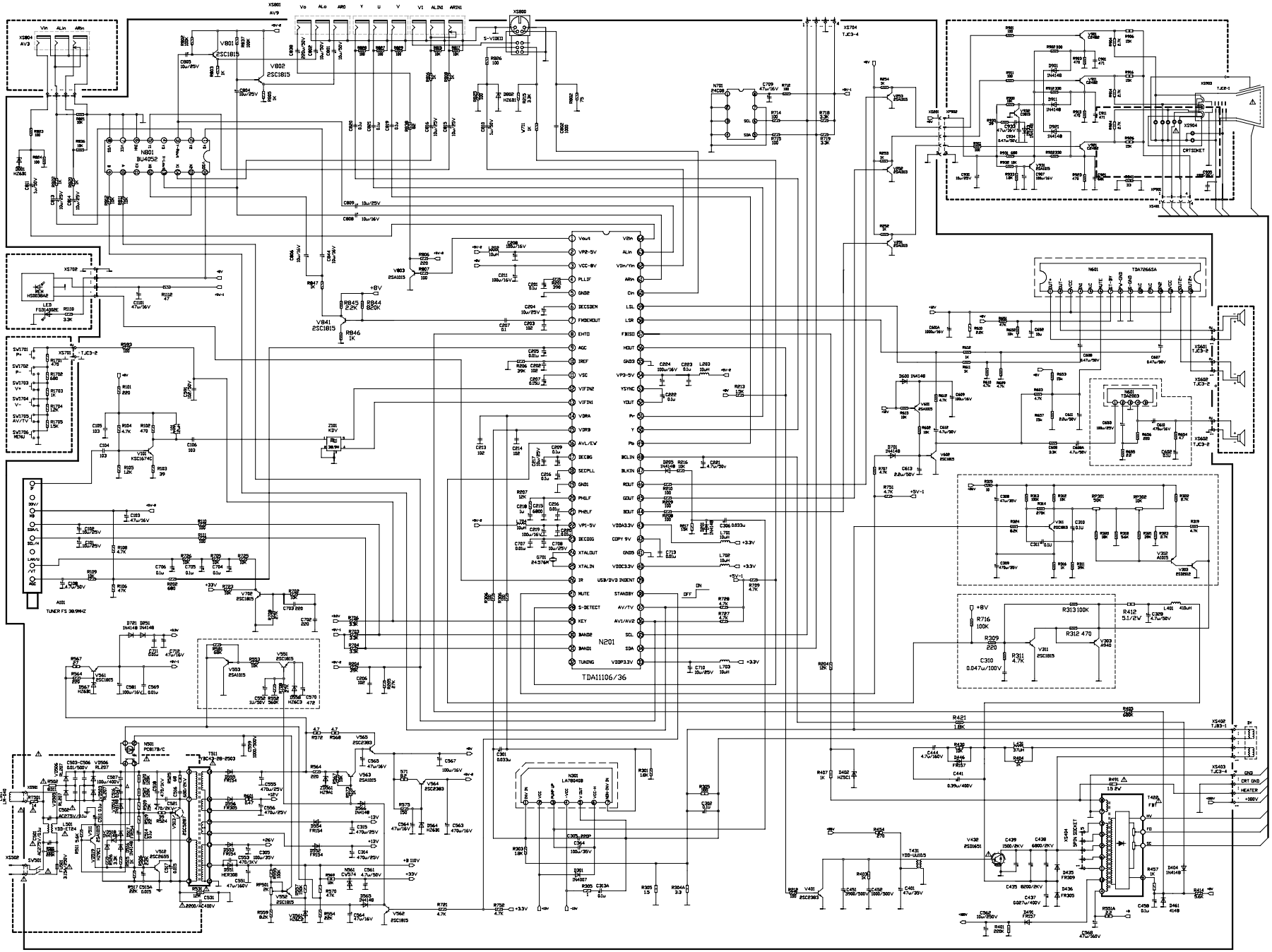


Fig. 3

COLOR TV BASIC CIRCUIT DIAGRAM No: KLX-2129TOP VER1.0



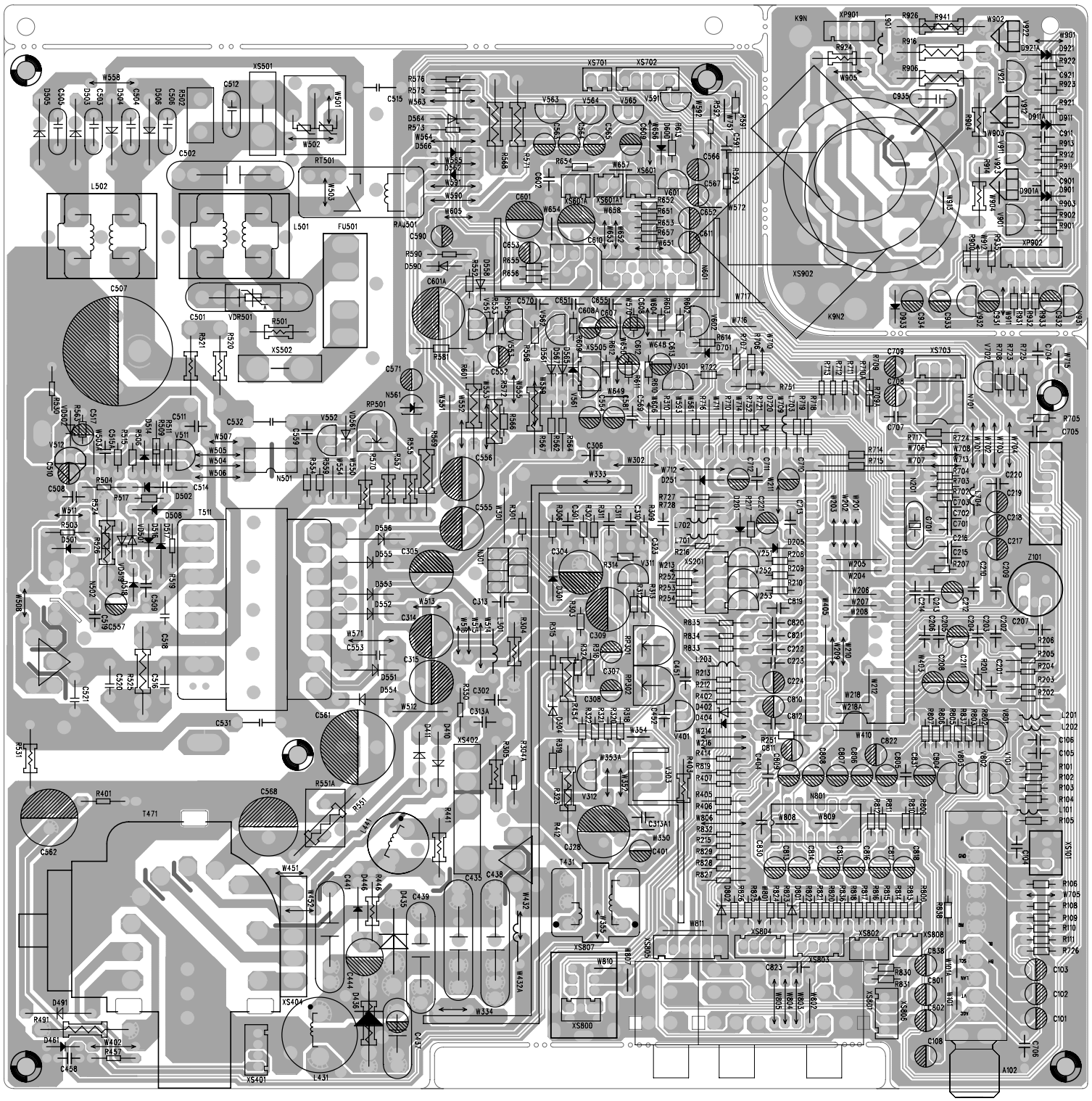
NOTICE:

(1) Resistance value in 1/6W unless otherwise specify.

(2)Capacitance value in uF/50v if less then 1 and in pF/50v if more then 1 unless otherwise specified.

(3) All parts with symbol ⚠ are inportant safety parts, please do not use substitutes to replace them.

(4) Circuitry are subject to change without prionotice !



KLX-2129TOPÄÎ Å.pcb – Tue Jan 12 19:42:56 2010

KLX-2129TOP-21 main bom list（for 14 and 21 inch）

PAL/SECAM BG/DK/I , MONO AUDIO , AV port（front three and back six）

NO.：BOM-KLX-2129TOP21 VER1.0

NO.	PART NO.	NAME	SPECIFICATION	UNIT	QTY	PART PLACE	BOARD PLACE
Ⅰ、Electron component							
1	10-00PC817-000	IC	PC817B	PCS	1	N502	MAIN
2	10-0078040-000	IC	LA78040/STV8172A	PCS	1	N301	MAIN
3	10-0024C06-000	IC	AT24C08	PCS	1	N701	MAIN
4	10-0000574-000	IC	UPC574J/W574/KA33V	PCS	1	N561	MAIN
5	10-0011126-000	IC	TDA11105/6PC	PCS	1	N201	MAIN
6	10-0002003-000	IC	TDA2003	PCS	1	N601A	MAIN
7	11-2SA1015-P00	TRANSISTOR	2SA1015-O/Y	PCS	8	V251.V252.V253.V511.V563.V601.V803.	MAIN
						V931	CRT
8	11-2SC1815-P00	TRANSISTOR	2SC1815Y	PCS	7	V552.V561.V562.V602.V702.V801.V932	MAIN
9	11-2SC2655-000	TRANSISTOR	2SC2655-0	PCS	1	V512	MAIN
10	11-2SC2383-P00	TRANSISTOR	2SC2383	PCS	3	V401.V564.V565	CRT
11	11-2SC2482-P00	TRANSISTOR	2SC2482	PCS	3	V901.V911.V921	CRT
12	11-2SC1674-000	TRANSISTOR	2SC1674	PCS	1	V101	MAIN
13	11-2SD1651-C00	TRANSISTOR	2SD1651C	PCS	1	V432	MAIN
14	11-2SC5287-000	TRANSISTOR	2SC5287	PCS	1	V513	MAIN
15	12-0IN4148-P52	SWITCHING DIODE	1N4148	PCS	17	VD201.D205.D251.D404.D461.D514.D518.	MAIN
						D516.D565.D566.D600.D701.D720.	MAIN
						D901.D911.D921.D933	CRT
16	12-01N4001-P52	SWITCHING DIODE	1N4004	PCS	1	D301	MAIN
17	12-00FR154-L15	SWITCHING DIODE	FR154(L15/H10)	PCS	6	D517.D552.D553.D554.D555.D556	MAIN
18	12-00FR157-P52	SWITCHING DIODE	FR157	PCS	2	D491.D446	MAIN
19	12-0HER207-L15	SWITCHING DIODE	HER207(L15/H10)	PCS	1	D551	MAIN
20	12-00RL207-P52	SWITCHING DIODE	RL207	PCS	4	D503.D504.D505.D506	MAIN
21	12-05V15C2-P52	ZENER DIODE	5C2/5.1V	PCS	3	D402.D801.D802	MAIN
22	12-05V16B1-P52	ZENER DIODE	6B1/5.6V	PCS	2	D564.D567	MAIN
23	12-06V26C3-P52	ZENER DIODE	6C3/6.2V	PCS	1	VD561	MAIN
24	12-08V79B2-P52	ZENER DIODE	9B2/8.7V	PCS	1	D561	MAIN
25	12-09V19C1-P52	ZENER DIODE	9C1/9.1V	PCS	1	VD519	MAIN
26	16-RTF22AJ-P52	CARBON FILM RESISTOR	RT13-1/6W-2.2Ω-J	PCS	1	R655	MAIN
27	16-RTF47AJ-P52	CARBON FILM RESISTOR	RT13-1/6W-4.7Ω-J	PCS	1	R654	MAIN
28	16-RTF390J-P52	CARBON FILM RESISTOR	RT13-1/6W-39Ω-J	PCS	2	R103	MAIN
						R935	CRT

NO.	PART NO.	NAME	SPECIFICATION	UNIT	QTY	PART PLACE	BOARD PLACE
29	16-RTF820J-P52	CARBON FILM RESISTOR	RT13-1/6W-82Ω-J	PCS	1	R838	MAIN
30	16-RTF101J-P52	CARBON FILM RESISTOR	RT13-1/6W-100Ω-J	PCS	21	R110.R111.R208.R209.R210.R212.R306.	MAIN
						R307.R593.R710A.R712.R714.R715.R807.	MAIN
						R823.R824.R825.R826.	MAIN
						R901.R911.R921	CRT
31	16-RTF221J-P52	CARBON FILM RESISTOR	RT13-1/6W-220Ω-J	PCS	3	R101.R656.R806	MAIN
32	16-RTF331J-P52	CARBON FILM RESISTOR	RT13-1/6W-330Ω-J	PCS	3	R902.R912.R922	CRT
33	16-RTF391J-P52	CARBON FILM RESISTOR	RT13-1/6W-390Ω-J	PCS	1	R201	MAIN
34	16-RTF471J-P52	CARBON FILM RESISTOR	RT13-1/6W-470Ω-J	PCS	4	R102.	MAIN
						R903.R913.R923	CRT
35	16-RTF681J-P52	CARBON FILM RESISTOR	RT13-1/6W-680Ω-J	PCS	3	R202.R713.R931	MAIN
36	16-RTF102J-P52	CARBON FILM RESISTOR	RT13-1/6W-1KΩ-J	PCS	8	R252.R253.R254.R517.R573.R803.R816.R822	MAIN
37	16-RTF122J-P52	CARBON FILM RESISTOR	RT13-1/6W-1.2KΩ-J	PCS	1	R105	MAIN
38	16-RTF152J-P52	CARBON FILM RESISTOR	RT13-1/6W-1.5KΩ-J	PCS	1	R213	MAIN
39	16-RTF182J-P52	CARBON FILM RESISTOR	RT13-1/6W-1.8KΩ-J	PCS	4	R251.R301.R303.	MAIN
						R933	CRT
40	16-RTF272J-P52	CARBON FILM RESISTOR	RT13-1/6W-2.7KΩ-J	PCS	1	R506	MAIN
41	16-RTF332J-P52	CARBON FILM RESISTOR	RT13-1/6W-3.3KΩ-J	PCS	7	R526.C608.R703.R704.R706.R718.R719	MAIN
42	16-RTF472J-P52	CARBON FILM RESISTOR	RT13-1/6W-4.7KΩ-J	PCS	8	R104.R108.R610.R707.R721.R751.R752.R612	MAIN
43	16-RTF562J-P52	CARBON FILM RESISTOR	RT13-1/6W-5.6KΩ-J	PCS	2	R511.R414.	MAIN
44	16-RTF752J-P52	CARBON FILM RESISTOR	RT13-1/6W-7.5KΩ-J	PCS	1	R217	MAIN
45	16-RTF822J-P52	CARBON FILM RESISTOR	RT13-1/6W-8.2KΩ-J	PCS	1	R559	MAIN
46	16-RTF103J-P52	CARBON FILM RESISTOR	RT13-1/6W-10KΩ-J	PCS	10	R109.R216.R576.R602.R613.R702.R705.	MAIN
						R723.R725.R726.R815.R821.R900.R932	MAIN
47	16-RTF123J-P52	CARBON FILM RESISTOR	RT13-1/6W-12KΩ-J	PCS	2	R207.R402	MAIN
48	16-RTF153J-P52	CARBON FILM RESISTOR	RT13-1/6W-15KΩ-J	PCS	2	R509.W554	MAIN
49	16-RTF223J-P52	CARBON FILM RESISTOR	RT13-1/6W-22KΩ-J	PCS	2	R515.R554.	MAIN
50	16-RTF273J-P52	CARBON FILM RESISTOR	RT13-1/6W-27KΩ-J	PCS	2	R205.R708	MAIN
51	16-RTF393J-P52	CARBON FILM RESISTOR	RT13-1/6W-39KΩ-J	PCS	2	R204.R206	MAIN
52	16-RTF473J-P52	CARBON FILM RESISTOR	RT13-1/6W-47KΩ-J	PCS	1	R106	MAIN
53	16-RTF104J-P52	CARBON FILM RESISTOR	RT13-1/6W-100KΩ-J	PCS	2	R802	MAIN
54	16-RTF224J-P52	CARBON FILM RESISTOR	RT13-1/6W-220KΩ-J	PCS	1	R405	MAIN
55	16-RTG10AJ-P52	CARBON FILM RESISTOR	RT14-1/4W-1Ω-J	PCS	1	R350	MAIN
56	16-RTG33AJ-P52	CARBON FILM RESISTOR	RT14-1/4W-3.3Ω-J	PCS	1	R304A	MAIN
57	16-RTG220J-P52	CARBON FILM RESISTOR	RT14-1/4W-22Ω-J	PCS	1	R519	MAIN
58	16-RTG330J-P52	CARBON FILM RESISTOR	RT14-1/4W-33Ω-J	PCS	1	R941	CRT
59	16-RTG151J-P52	CARBON FILM RESISTOR	RT14-1/4W-150Ω-J	PCS	2	R562.R575	MAIN
60	16-RTG221J-P52	CARBON FILM RESISTOR	RT14-1/4W-220Ω-J	PCS	1	R564	MAIN
61	16-RTG102J-P52	CARBON FILM RESISTOR	RT14-1/4W-1KΩ-J	PCS	3	R407.R403.R457	MAIN

NO.	PART NO.	NAME	SPECIFICATION	UNIT	QTY	PART PLACE	BOARD PLACE
62	16-RTG224J-P52	CARBON FILM RESISTOR	RT14-1/4W-220KΩ-J	PCS	1	R401	MAIN
63	16-RTG225J-P52	CARBON FILM RESISTOR	RT14-1/4W-2.2MΩ-J	PCS	1	R530	MAIN
64	16-RTH181J-P52	CARBON FILM RESISTOR	RT15-1/2W-180Ω-J	PCS	1	R305	MAIN
65	16-RTH272J-P52	CARBON FILM RESISTOR	RT15-1/2W-2.7KΩ-J	PCS	3	R904.R914.R924	CRT
66	16-RTH103J-P52	CARBON FILM RESISTOR	RT15-1/2W-22KΩ-J	PCS	1	R446	MAIN
67	16-RTH224J-P52	CARBON FILM RESISTOR	RT15-1/2W-220KΩ-J	PCS	1	R501	MAIN
68	16-RYG154J-P52	METAL OXIDE FILM RESISTOR	RY14-1/4W-150KΩ-J	PCS	1	R557	MAIN
69	16-RYI473J-P52	METAL OXIDE FILM RESISTOR	RY15-1/2W-47KΩ-J	PCS	1	R570	MAIN
70	16-RYH104J-P52	METAL OXIDE FILM RESISTOR	RY15-1/2W-100KΩ-J	PCS	1	R555	MAIN
71	16-RYH124J-P52	METAL OXIDE FILM RESISTOR	RY15-1/2W-120KΩ-J	PCS	2	R520.R521	MAIN
72	16-RYI102J-P52	METAL OXIDE FILM RESISTOR	RY16-1W-1KΩ-J	PCS	1	R441	MAIN
73	16-RYI15AJ-L15	METAL OXIDE FILM RESISTOR	RY16-1W-1.5Ω-J(L15/H10)	PCS	1	R304	MAIN
74	16-RYJ10AJ-L20	METAL OXIDE FILM RESISTOR	RY17-2W-1Ω-J	PCS	1	R601	MAIN
75	16-RYJ15AJ-L20	METAL OXIDE FILM RESISTOR	RY17-2W-1.5Ω-J	PCS	1	R491	MAIN
76	16-RYJ22AJ-L20	METAL OXIDE FILM RESISTOR	RY17-2W-2.2Ω-J	PCS	1	R551	MAIN
77	16-RYJ470J-L20	METAL OXIDE FILM RESISTOR	RY17-2W-4.7Ω-J	PCS	2	R568.R572	MAIN
78	16-RYJ82AJ-L20	METAL OXIDE FILM RESISTOR	RY17-2W-8.2Ω-J	PCS	1	R571	MAIN
79	16-RYJ27AJ-L20	METAL OXIDE FILM RESISTOR	RY17-2W-27Ω-J	PCS	1	R567	MAIN
80	16-RYJ271J-L20	METAL OXIDE FILM RESISTOR	RY17-2W-270Ω-J	PCS	1	R454	MAIN
81	16-RYJ123J-L20	METAL OXIDE FILM RESISTOR	RY17-2W-12KΩ-J	PCS	1	R569	MAIN
82	16-RYJ153J-L20	METAL OXIDE FILM RESISTOR	RY17-2W-15KΩ-J	PCS	3	R906.R916.R926	CRT
83	16-RYK22AJ-L20	METAL OXIDE FILM RESISTOR	RY18-3W-2.2Ω-J	PCS	1	D436	MAIN
84	16-RYK680J-L20	METAL OXIDE FILM RESISTOR	RY18-3W-68Ω-J	PCS	2	R525.R524	MAIN
85	16-RIH126K-P52	HIGH VOLTAGE INSULATED RESIS.	RI40-1/2W-12MΩ-K	PCS	1	R531	MAIN
86	16-MF8D11J-000	ORGANIC SOLID RESISTOR	MF72-8D11	PCS	1	R502	MAIN
87	16-RW02K2J-000	TRIMMER POTENTIOMETER	W206-2AL2KΩ	PCS	1	RP501	MAIN
88	16-RM7214J-000	DEGAUSSING THERMISTOR	MZ72A-14RM(three pin)	PCS	1	RT501	MAIN
89	17-00E100M-PO0	MINI ELEC.CAPACITOR	CD110-16V-10μF-M	PCS	12	C101.C102.C204.C217.C708.C710.C808.	MAIN
						C809.C822.C802.	MAIN
						C931.C932.	CRT
90	17-00E470M-PO0	MINI ELEC.CAPACITOR	CD110-16V-47μF-M	PCS	8	C103.C554.C563.C564.C565.C709.C712.	MAIN
						C933	CRT
91	17-00E101M-PO0	MINI ELEC.CAPACITOR	CD110-16V-100μF-M	PCS	9	C208.C211.C219.C224.C653.C581.C566.	MAIN
						C567.C609	MAIN
92	17-00E221M-PO0	MINI ELEC.CAPACITOR	CD110-16V-220μF-M	PCS	1	C838	MAIN
93	17-00E471M-PO0	MINI ELEC.CAPACITOR	CD110-16V-470μF-M	PCS	2	C610.C555	MAIN
94	17-00F471M-PO0	MINI ELEC.CAPACITOR	CD110-25V-470μF-M	PCS	3	C314.C315.C556	MAIN
95	17-00G470M-PO0	MINI ELEC.CAPACITOR	CD110-35V-47μF-M	PCS	1	C401	MAIN
96	17-00G101M-PO0	MINI ELEC.CAPACITOR	CD110-35V-100μF-M	PCS	2	C304.C305	MAIN

NO.	PART NO.	NAME	SPECIFICATION	UNIT	QTY	PART PLACE	BOARD PLACE
97	17-00I47BM-PO0	MINI ELEC.CAPACITOR	CD110-50V-0.47μF-M	PCS	2	C437	MAIN
						C934	CRT
98	17-00I10AM-PO0	MINI ELEC.CAPACITOR	CD110-50V-1μF-M	PCS	3	C218.C810.C811	MAIN
99	17-00I47AM-PO0	MINI ELEC.CAPACITOR	CD110-50V-4.7μF-M	PCS	5	C108.C571.C608A.C613.C612.	MAIN
100	17-00I47AM-PO0	MINI ELEC.CAPACITOR	CD110-50V-10μF-M	PCS	1	C221	MAIN
101	17-00N47AM-PO0	MINI ELEC.CAPACITOR	CD288H-160V-4.7μF-M	PCS	1	C444	MAIN
102	17-00N470M-PO0	MINI ELEC.CAPACITOR	CD288H-160V-47μF-M	PCS	2	C568.C561	MAIN
103	17-00Q100M-PO0	MINI ELEC.CAPACITOR	CD288H-250V-10μF-M	PCS	1	C562	MAIN
104	17-00P101M-000	MINI ELEC.CAPACITOR	CD293-400V-100μF-M	PCS	1	C507	MAIN
105	18-00K102K-PO0	INDUCTVE POLY.CAPACITOR	CL11-100V-102K（PEI）	PCS	1	C559	MAIN
106	18-00K682K-PO0	INDUCTVE POLY.CAPACITOR	CL11-100V-682K（PEI）	PCS	1	C215	MAIN
107	18-00K103K-PO0	INDUCTVE POLY.CAPACITOR	CL11-100V-103K（PEI）	PCS	1	C216	MAIN
108	18-00K153K-PO0	INDUCTVE POLY.CAPACITOR	CL11-100V-153K（PEI）	PCS	1	C517	MAIN
109	18-00K333K-PO0	INDUCTVE POLY.CAPACITOR	CL11-100V-333K（PEI）	PCS	2	C301.C306	MAIN
110	18-00K104K-PO0	INDUCTVE POLY.CAPACITOR	CL11-100V-104K（PEI）	PCS	10	C201.C209.C302.C313A.C458.C514.C602.	MAIN
						C704.C705.C706	MAIN
111	18-00K154K-PO0	INDUCTVE POLY.CAPACITOR	CL11-100V-154K（PEI）	PCS	1	C207	MAIN
112	18-21X153K-7L5	METALIZED POLY.CAPACITOR	CL21X-100V-153K（MPE）	PCS	1	C515A	MAIN
113	18-21X474K-7L5	METALIZED POLY.CAPACITOR	CBB21-400V-0.47μF-K	PCS	1	C441	MAIN
114	18-81U912J-L20	METALIZED POLY.CAPACITOR	CBB81-1.6KV-912J（PPS）	PCS	1	C435	MAIN
115	18-0AN104M-L15	METALIZED POLY.CAPACITOR	CBB23A/CIS-275VAC-104K(X2)	PCS	1	C501	MAIN
116	19-RHJ221J-P00	CERAMIC CAPACITOR	CC1-2B4-63V-220pF-J	PCS	2	C702.C703	MAIN
117	19-RHJ471J-P00	CERAMIC CAPACITOR	CC1-2B4-63V-470pF-J	PCS	2	C901.C911	MAIN
118	19-2B4681J-P00	CERAMIC CAPACITOR	CC1-2B4-63V-680pF-K	PCS	1	C921	CRT
119	19-2BJ102K-P00	CERAMIC CAPACITOR	CC1-2B4-63V-1000pF-K	PCS	8	C202.C203.C206.C213.C214.C591.C830.C831	MAIN
120	19-2BJ103Z-P00	CERAMIC CAPACITOR	CC1-2B4-63V-0.01μF-Z	PCS	7	C104.C105.C106.C205.C569.C711.C651	MAIN
121	19-2BJ104Z-P00	CERAMIC CAPACITOR	CC1-2B4-63V-0.1μF-Z	PCS	5	C220.C222.C223.C707.C713	MAIN
122	19-2BR102K-P00	CERAMIC CAPACITOR	CT81-2B-500V-1000pF-K	PCS	3	C452.C504.C505	MAIN
123	19-2BR392K-7L5	CERAMIC CAPACITOR	CT81-2B-500V-3900pF-K	PCS	1	C451	MAIN
124	19-2BV471K-7L5	CERAMIC CAPACITOR	CT81-2B-1KV-470pF-K	PCS	1	C553	MAIN
125	19-2BV471K-7L5	CERAMIC CAPACITOR	CT81-2B-2KV-470pF-K	PCS	1	C521	MAIN
126	19-2BV681K-7L5	CERAMIC CAPACITOR	CT81-2B-2KV-680pF-K	PCS	1	C516	MAIN
127	19-2BV102K-7L5	CERAMIC CAPACITOR	CT81-2B-2KV-1000pF-K	PCS	1	C935	CRT
128	19-ACP222M-L10	CERAMIC CAPACITOR	CT7-2E4-400VAC-2200PF-M	PCS	1	C531	MAIN
129	20-30712AK-P52	INDUCTOR WITH COLOR CIDES	LGA0307-1.2μH-K	PCS	1	L101	MAIN
130	20-307100K-P52	INDUCTOR WITH COLOR CIDES	LGA0307-10μH-K	PCS	6	L202.L203.L701.L702.L703.L704	MAIN
131	21-YDD37UH-000	HORIZONTAL LINEARITY COIL	YDD-37μH(small)	PCS	1	L441	MAIN
132	21-YDDUF16-000	POWER FILTER TRANSFORMER	JLF-98-UF16/YDDUF16	PCS	1	L501	MAIN
133	21-DDUU105-000	HORIZONTAL DRIVE TRANSFORMER	YDD-UU10.5	PCS	1	T431	MAIN

134	21-YBC2708-060	SWITCHING POWER TRANSFORMER	YBC40-28/2708	PCS	1	T511	MAIN
NO.	PART NO.	NAME	SPECIFICATION	UNIT	QTY	PART PLACE	BOARD PLACE
135	22-024576M-L18	QUARTZ	YC24.576L18	PCS	1	G701	MAIN
136	22-LBN389H-000	IF FILTER	KDV-F38.9H/LBN38.9H	PCS	1	Z101	MAIN
137	23-0T1010A-000	FLYBACK TRANSFORMER	BSC25-T1010A	PCS	1	T471	MAIN
138	24-05053V8-000	TUNER	EWE-5053-V8/EWE-1053-V3	PCS	1	A102	MAIN
139	25-000V614-000	AV TIP JACK	AV6-14	PCS	1	XS801	MAIN
140	25-GZS2108-000	SOCKET	GZ10-2-108	PCS	1	XS902	CRT
141	25-H7100D1-000	ERTH CONNECTOR	CH7-10-1DY	PCS	1	K9N	CRT
142	25-H7100D2-000	ERTH CONNECTOR	CH7-10-2DY	PCS	2	XS501.XS502	MAIN
143	25-CH655D0-000	ERTH CONNECTOR	CH6-5-5DY	PCS	1	XS402	MAIN
144	25-CH655D0-000	ERTH CONNECTOR	CH6-5-5DY	PCS	1	XS404	MAIN
145	25-5B025D2-000	CONNECTOR	CH5B-2.5-2DY	PCS	3	XS601A.XS601A1.XS701	MAIN
146	25-5B025D3-000	CONNECTOR	CH5B-2.5-3DY	PCS	1	XS804	MAIN
147	25-5B025D4-000	CONNECTOR	CH5B-2.5-4DY	PCS	3	XS403.XS702.XS703	MAIN
148	25-5B025D5-000	CONNECTOR	CH5B-2.5-5DY	PCS	1	XS201	MAIN
149	25-00BXGJ1-000	FUSE BRACKET	BXGJ-1	PCS	1	FU501	MAIN
150	26-94DY450-000	4PIN CONNECTOR	CH9-2.5-4DY-450-CH5B	PCS	1	XS403-XP901	CRT
151	26-95DY500-000	5PIN CONNECTOR	CH9-2.5-5DY-500-CH5B	PCS	1	XS201-XP902	CRT
152	28-250V315-000	FUSE	250V-3.15A	PCS	1	FU501	MAIN
153	29-2129V10-000	MAIN PCB	KLX-2129TOP VER1.0	PCS	1		MAIN
154		JUMPER	5mm	PCS	11	W572.W751.W807.W808.W809.C813.C816.W570	MAIN
						W904.W902.W903	CRT
155		JUMPER	7.5mm	PCS	32	W201.W202.W203.W206.W207.W208.W209.	MAIN
						W211.W213.W218.W333.W334.W432.W501.	MAIN
						W503.W508.W511.W513.W515.W516.W552.	MAIN
						R566.W648.W605.W606.W650.W708.W713.W801.	MAIN
						W901.W905.W911	CRT
156		JUMPER	10mm	PCS	26	L201.W214.W216.W302.W402.W558.W803.	MAIN
195						W505.W506.W514.W553.W563.W571.W590.	MAIN
						W591.W701.W702.W704.W712.W802.W805.	MAIN
						L502*2.R711.W806.	MAIN
						L901	CRT
196		JUMPER	12.5mm	PCS	9	W205.W301.W403.W512.W551.W561.W593	MAIN
						L301.W714	MAIN
197		JUMPER	15mm	PCS	2	W405.W410	MAIN
Notice（short point）：1.short A point（at the W653）, 2.short W803 and W804 near the board side, 3.short L and R of XS806, 4.short W204 and W205 near the R208 side.							

NO.	PART NO.	NAME	SPECIFICATION	UNIT	QTY	PART PLACE	BOARD PLACE
Ⅱ、**Frame**							
198	32-0021MF3-000	HEAT SINK(POWER)	21MF3(1.35mm)	PCS	1	V513	MAIN
199	32-0021HV3-000	HEAT SINK(IC.VERTICAL)	21HV3(1.5mm)	PCS	1	N301.V432	MAIN
200	32-21MMB1-100	HEAT SINK（2003）	21MMB1-1	PCS	1	N601A	MAIN
Ⅲ、**SCREW**							
201	43-1103080-000	SCREW(POINTED)	TR 3×8 (acutilingual）	PCS	2	N301.N601A	MAIN
202	43-1103102-000	SCREW FOR HEAT SINK	M3×10	PCS	2	V513.V432.	MAIN
203	43-7130000-000	NUT FOR HEAT SINK	M3	PCS	4	N301.V432.V513.N601A	MAIN
Ⅳ、**Assistant material**							
204	77-00FL001-000	HEAT CONDUCTION SILICON GREASE		PCS	4	N301.N601A.V513.V432.	MAIN
205	77-00FL002-000	RED GLUE		PCS	4	N301.N601A.V513.V432.	MAIN
206	77-00FL003-000	ANODE SILICON GREASE		PCS	1	CRT	MAIN

Additive BOM list

1. Add SCART（EURO）21Pin port NO.：BOM-KLX-2129TOP21-F01

NO.	PART NO.	NAME	SPECIFICATION	UNIT	QTY	ADD PART PLACE	DELETE PART PLACE	BOARD PLACE
1		JUMPER	10mm	PCS	+4	R833.R834.R835.W804		MAIN
2	16-RTF101J-P52	CARBON FILM RESISTOR	RT13-1/6W-100Ω-J	PCS	+3	R827.R828.R829		MAIN
3	16-RTF102J-P52	CARBON FILM RESISTOR	RT13-1/6W-1KΩ-J	PCS	+1	W711		MAIN
4	16-RTF332J-P52	CARBON FILM RESISTOR	RT13-1/6W-3.3KΩ-J	PCS	+1	R215		MAIN
5	19-2BJ103Z-P00	CERAMIC CAPACITOR	CC1-2B4-63V-0.01μF-Z	PCS	+3	C820.C819.C821		MAIN
6	25-5B025D3-000	CONNECTOR	CH5B-2.5-3DY	PCS	+1	XS803		MAIN
7	25-5B025D4-000	CONNECTOR	CH5B-2.5-4DY	PCS	+1	XS806		MAIN
8	25-5B025D6-000	CONNECTOR	CH5B-2.5-6DY	PCS	+1	XS805		MAIN
9	43-1103102-000	SCREW FOR SCART BOARD	M3×10(Ni)	PCS	+2			SCART
10		SCART BOARD		PCS	+1			SCART

2. Add Inbuilt EW Proofread NO.：BOM-KLX-2129TOP21-F02

1		JUMPER	5mm	PCS	+2	W354.W350		MAIN
2		JUMPER	7.5mm	PCS	+4	R316.R319.R322.W353A	W432	MAIN
3				PCS		W355		MAIN
4		JUMPER	12.5mm	PCS	+1	W432A		MAIN
5	16-RTF221J-P52	CARBON FILM RESISTOR	RT13-1/6W-220Ω-J	PCS	+1	R309		MAIN

NO.	PART NO.	NAME	SPECIFICATION	UNIT	QTY	ADD PART PLACE	DELETE PART PLACE	BOARD PLACE
6	16-RTF471J-P52	CARBON FILM RESISTOR	RT13-1/6W-470Ω-J	PCS	+1	R312		MAIN
7	16-RTF472J-P52	CARBON FILM RESISTOR	RT13-1/6W-4.7KΩ-J	PCS	+1	R311		MAIN
8	16-RTF104J-P52	CARBON FILM RESISTOR	RT13-1/6W-100KΩ-J	PCS	+2	R313.R716.		MAIN
9	16-RYI10AJ-P52	METAL OXIDE FILM RESISTOR	RY16-1W-1Ω-J	PCS	+1	R412		MAIN
10	17-00I47BM-PO0	MINI ELEC.CAPACITOR	CD110-50V-0.47μF-M	PCS	-1		C437	MAIN
11	17-00S47AM-PO0	MINI ELEC.CAPACITOR	CDS-50V-4.7μF-M	PCS	+1	C328		MAIN
12	18-00K473K-PO0	INDUCTVE POLY.CAPACITOR	CL11-100V-473K（PEI）	PCS	+1	C310		MAIN
13	18-21Y473K-7L5	METALIZED POLY.CAPACITOR	CBB21-630V-0.047μF-J	PCS	+1	C437		MAIN
14	18-81U332J-L20	METALIZED POLY.CAPACITOR	CBB81-1.6KV-332J（PPS）	PCS	+1	C438		MAIN
15	12-00FR305-L15	SWITCHING DIODE	FR305(L15/H10)	PCS	+1	D436		MAIN
16	12-00FR309-L15	SWITCHING DIODE	FR309(L15/H10)	PCS	+1	D435		MAIN
17	11-2SC1815-P00	TRANSISTOR	2SC1815Y	PCS	+1	V311		MAIN
18	21-00411UH-000	PROOFREAD COIL	YDD-410uH	PCS	+1	L431		MAIN
19	32-0000061-000	HEAT SINK(2SA940)	H=61mm	PCS	+1	V303		MAIN
20	43-1103080-000	SCREW(POINTED)	TR 3×8 (acutilingual）	PCS	+1	V303		MAIN
21	11-02SA940-P00	TRANSISTOR	2SA940	PCS	+1	V303		MAIN
22	10-0011126-000	IC	NT11105/6PC	PCS	-1		N201	MAIN
			NT11135/6PC	PCS	+1	N201		MAIN
3. MATCH CRT FOR 21" SUPER OR SLIM NO.：BOM-KLX-2129TOP21-F03								
	16-RTF224J-P52	CARBON FILM RESISTOR	RT13-1/6W-220KΩ-J	PCS	-1		R405	
	16-RTF564J-P52	CARBON FILM RESISTOR	RT13-1/6W-560KΩ-J	PCS	+1	R405		
	16-RTH181J-P52	CARBON FILM RESISTOR	RT15-1/2W-180Ω-J	PCS	-1		R305	
	16-RTH271J-P52	CARBON FILM RESISTOR	RT15-1/2W-270Ω-J	PCS	+1	R305		
	16-RYI82BJ-P52	METAL OXIDE FILM RESISTOR	RY16-1W-0.82Ω-J	PCS	+1	R304		
	16-RYI15AJ-L15	METAL OXIDE FILM RESISTOR	RY16-1W-1.5Ω-J(L15/H10)	PCS	-1		R304	
	16-RYJ15AJ-L20	METAL OXIDE FILM RESISTOR	RY17-2W-1.5Ω-J	PCS	-1		R491	
	16-RYJ22AJ-L20	METAL OXIDE FILM RESISTOR	RY17-2W-2.2Ω-J	PCS	+1	R491		
	17-00F471M-PO0	MINI ELEC.CAPACITOR	CD110-25V-470μF-M	PCS	-2		C314.C315	
	17-00F102M-PO0	MINI ELEC.CAPACITOR	CD110-25V-1000μF-M	PCS	+2	C314.C315		
	17-00G101M-PO0	MINI ELEC.CAPACITOR	CD110-35V-100μF-M	PCS	-1		C304	
	17-00H101M-PO0	MINI ELEC.CAPACITOR	CD110-50V-100μF-M	PCS	+1	C304		
	17-00N470M-PO0	MINI ELEC.CAPACITOR	CD288H-160V-47μF-M	PCS	-1		C561	
	17-00N101M-PO0	MINI ELEC.CAPACITOR	CD288H-160V-100μF-M	PCS	+1	C561		
	18-21X394K-7L5	METALIZED POLY.CAPACITOR	CBB21-400V-0.39μF-K	PCS	+1	C441		
	18-21X474K-7L5	METALIZED POLY.CAPACITOR	CBB21-400V-0.47μF-K	PCS	-1		C441	
	18-21Y273K-7L5	METALIZED POLY.CAPACITOR	CBB21-630V-0.027μF-J	PCS	+1	C437		
	18-21Y473K-7L5	METALIZED POLY.CAPACITOR	CBB21-630V-0.047μF-J	PCS	-1		C437	

NO.	PART NO.	NAME	SPECIFICATION	UNIT	QTY	ADD PART PLACE	DELETE PART PLACE	BOARD PLACE
	18-81U152J-L20	METALIZED POLY.CAPACITOR	CBB81-1.6KV-152-J（PPS）	PCS	+1	C439		
	18-81U332J-L20	METALIZED POLY.CAPACITOR	CBB81-1.6KV-332-J（PPS）	PCS	-1		C438	
	18-81U752J-L20	METALIZED POLY.CAPACITOR	CBB81-1.6KV-752-J（PPS）	PCS	+1	C438		
	18-81U822J-L20	METALIZED POLY.CAPACITOR	CBB81-1.6KV-822-J（PPS）	PCS	+1	C435		
	18-81U912J-L20	METALIZED POLY.CAPACITOR	CBB81-1.6KV-912-J（PPS）	PCS	-1		C435	
	18-00K104K-PO0	INDUCTVE POLY.CAPACITOR	CL11-100V-0.1μF-K（PEI）	PCS	-1		C313A	
	18-00K224K-PO0	INDUCTVE POLY.CAPACITOR	CL11-100V-0.22μF-K（PEI）	PCS	+1	C313A		
	11-2SD1651-C00	TRANSISTOR	2SD1651C	PCS	-1		V432	
	11-2SC5296-000	TRANSISTOR	2SC5296	PCS	+1	V432		
	10-0078040-000	IC	LA78040	PCS	-1		N301	
	10-008172A-000	IC	/STV8172A/STV9378	PCS	+1	N301		
	23-0T1010A-000	FLYBACK TRANSFORMER	BSC25-T1010A	PCS	-1		T471	
	23-00N0608-000	FLYBACK TRANSFORMER	BSC25-N0608	PCS	+1	T471		
	21-YDD37UH-000	HORIZONTAL LINEARITY COIL	YDD-37μH(SMALL)	PCS	-1		L441	
	21-YDD30UH-000	HORIZONTAL LINEARITY COIL	YDD-30uH-1(BIG)	PCS	+1	L441		
	21-YBC2708-060	SWITCHING POWER TRANSFORMER	YBC40-28/2708	PCS	-1		T511(When TDA2003)	
	21-YBC2708-060	SWITCHING POWER TRANSFORMER	YBC40-28/2708	PCS	+1	T511(When use theTDA2003)		
	21-YBC1950-A00	SWITCHING POWER TRANSFORMER	YBC40-28/1950A	PCS		T511(When use the TDA7266SA)		
	21-YBC2804-060	SWITCHING POWER TRANSFORMER	YBC40-28/2804	PCS		T511(When use the CQ0765 and TDA2003)		
	21-YBC2317-060	SWITCHING POWER TRANSFORMER	YBC40-28/2317	PCS		T511(When use the CQ0765 and TDA7266SA)		
	21-00411UH-000	PROOFREAD COIL	YDD-410uH	PCS	-1		L431	
	21-00601UH-000	PROOFREAD COIL	YDD-600uH	PCS	+1	L431		
	21-DDUU105-000	HORIZONTAL DRIVE TRANSFORMER	YDD-UU10.5	PCS	-1		T431	
	21-YDDE119-000	HORIZONTAL DRIVE TRANSFORMER	YDD-E119	PCS	+1	T431		
	32-0021HV3-000	HEAT SINK(IC.VERTICAL)	21HV3(1.5mm)	PCS	-1		V432+N301.	
	32-0021HV3-000	HEAT SINK(IC.VERTICAL)	21HV3(1.5mm)	PCS	+1	V432+N301.		
	32-0000061-000	HEAT SINK(2SA940)	H=61mm	PCS	-1		V303	
	32-034SSHS-000	HEAT SINK(2SA940)	34SSHS	PCS	+1	V303		
4.Mono audio （TDA2003） Change to stereo（TDA7266SA） NO.：BOM-KLX-2129TOP21-F04								
1		JUMPER	5mm	PCS	-2	W649.C608A.W654	W648.W809.W808.C813.	MAIN
							C816	MAIN
2		JUMPER	7.5mm	PCS	+3	W210.W651.W652.W653	W218.W650	MAIN
						W212		MAIN

NO.	PART NO.	NAME	SPECIFICATION	UNIT	QTY	ADD PART PLACE	DELETE PART PLACE	BOARD PLACE
3		JUMPER	10mm	PCS	+2	W656.W804		MAIN
4		JUMPER	12.5mm	PCS	+1	W204		MAIN
5	16-RTF22AJ-P52	CARBON FILM RESISTOR	RM-1/6W-2.2Ω-J	PCS	-1		R655	MAIN
6	16-RTF47AJ-P52	CARBON FILM RESISTOR	RM-1/6W-4.7Ω-J	PCS	-1		R654	MAIN
7	16-RTF820J-P52	CARBON FILM RESISTOR	RT13-1/6W-82Ω-J	PCS	-1		R656	MAIN
8	16-RTF102J-P52	CARBON FILM RESISTOR	RT13-1/6W-1KΩ-J	PCS	+5	R612.R611.R805.R818		MAIN
9						R820		MAIN
10	16-RTF332J-P52	CARBON FILM RESISTOR	RT13-1/6W-3.3KΩ-J	PCS	-1		C608	MAIN
11	16-RTF472J-P52	CARBON FILM RESISTOR	RT13-1/6W-4.7KΩ-J	PCS	+3	R609.R727.R728.R603	R612	MAIN
12	16-RTF103J-P52	CARBON FILM RESISTOR	RT13-1/6W-10KΩ-J	PCS	+5	R652.R836.R817.R811.		MAIN
13						R812		MAIN
14	16-RTF123J-P52	CARBON FILM RESISTOR	RT13-1/6W-12KΩ-J	PCS	+1	R653		MAIN
15	16-RTF153J-P52	CARBON FILM RESISTOR	RT13-1/6W-15KΩ-J	PCS	+1	R657.		MAIN
16	16-RTF223J-P52	CARBON FILM RESISTOR	RT13-1/6W-22KΩ-J	PCS	+1	R651		MAIN
17	16-RTF104J-P52	CARBON FILM RESISTOR	RT13-1/6W-100KΩ-J	PCS	+1	R837		MAIN
18	16-RYJ10AJ-L20	METAL OXIDE FILM RESISTOR	RY17-2W-1Ω-J	PCS	-1		R601	MAIN
19	16-RYJ47BJ-L20	METAL OXIDE FILM RESISTOR	RY17-2W-0.47Ω-J	PCS	+1	R601		MAIN
20	19-2BJ103Z-P00	CERAMIC CAPACITOR	CC1-2B4-63V-0.01μF-Z	PCS	+1	C655		MAIN
21	17-00E100M-PO0	MINI ELEC.CAPACITOR	CD110-16V-10μF-M	PCS	+7	C652.C805.C804.C801.	C822	MAIN
						C815.C814.C813.C816		MAIN
						C806.C807		MAIN
22	17-00E101M-PO0	MINI ELEC.CAPACITOR	CD110-16V-100μF-M	PCS	-1		C653	MAIN
23	17-00E471M-PO0	MINI ELEC.CAPACITOR	CD110-16V-470μF-M		-1	C556	C610	MAIN
24	17-00E102M-PO0	MINI ELEC.CAPACITOR	CD110-16V-1000μF-M		+1	C601A		MAIN
25	17-00F471M-PO0	MINI ELEC.CAPACITOR	CD110-25V-470μF-M		-1		C556	MAIN
26	17-00I47BM-PO0	MINI ELEC.CAPACITOR	CD110-50V-0.47μF-M		+2	C607.C608		MAIN
27	17-00I22AM-PO0	MINI ELEC.CAPACITOR	CD110-50V-2.2μF-M		+2	C613.C611		MAIN
28	17-00I47AM-PO0	MINI ELEC.CAPACITOR	CD110-50V-4.7μF-M		-3		C612.C613.C608A.	MAIN
29	18-00K104K-PO0	INDUCTVE POLY.CAPACITOR	CL11-100V-104K（PEI）		-1		C602	MAIN
30	12-00FR154-L15	SWITCHING DIODE	FR154(L15/H10)		-1		D556	MAIN
31	12-00FR305-L15	SWITCHING DIODE	FR305(L15/H10)		+1	D556		MAIN
32	11-2SC1815-P00	TRANSISTOR	2SC1815Y		+1	V802		MAIN
33	10-0002003-000	IC	TDA2003		-1		N601A.	MAIN
34	10-07266SA-000	IC	TDA7266SA		+1	N601		MAIN
35	10-04052BE-000	IC	HCF4052BE		+1	N801		MAIN
36	21-YBC2708-060	SWITCHING POWER TRANSFORMER	YBC40-28/2708		-1		T511	MAIN
37	21-YBC1950-A00	SWITCHING POWER TRANSFORMER	YBC40-28/1950A		+1	T511		MAIN
38	32-21MMB1-100	HEAT SINK（2003）	21MMB1-1		-1		N601A.	MAIN

NO.	PART NO.	NAME	SPECIFICATION	UNIT	QTY	ADD PART PLACE	DELETE PART PLACE	BOARD PLACE
39	32-0007522-000	HEAT SINK（7522）	7522		+1	N601		MAIN
40	43-1103080-000	SCREW(POINTED)	M3×8(Ni)		-1		N601A.	MAIN
41	43-1103102-000	SCREW FOR HEAT SINK	M3×10(Ni)		+2	N601		MAIN
42	43-7130000-000	NUT FOR HEAT SINK	M3		+1	N601		MAIN
43	25-5B025D2-000	CONNECTOR	CH5B-2.5-2DY		0	XS601	XS601A	MAIN
44	25-5B025D3-000	CONNECTOR	CH5B-2.5-3DY		-1		XS804	MAIN
45	25-5B025D4-000	CONNECTOR	CH5B-2.5-4DY		+1	XS804		MAIN
46		SHORT POINT			-4	A point（at the W653）		MAIN
						W803 and W804 near the board side		MAIN
						L and R of XS806		MAIN
						W204 and W205 near the R208 side.		MAIN