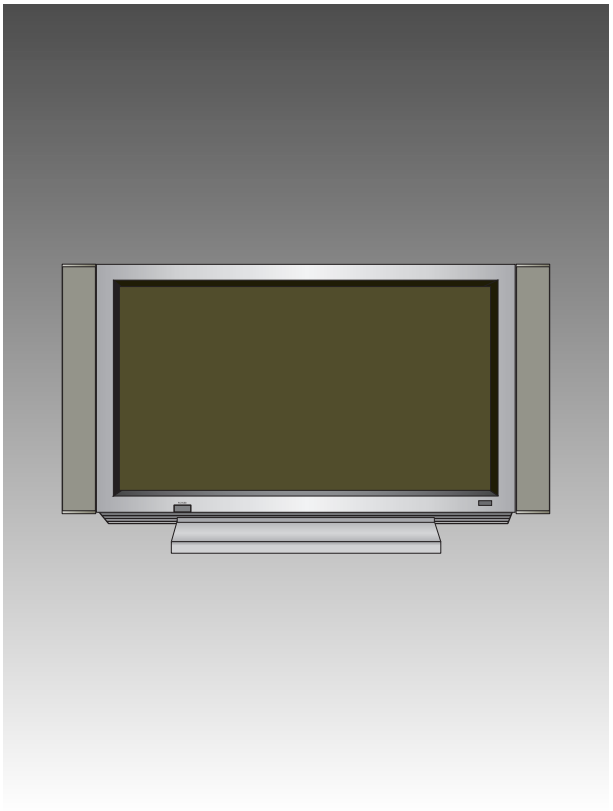
SAMSUNG

PLASMA DISPLAY TV

Chassis : **D53A**
Model: **PPM42S2X/XAA**

SERVICE Manual

PLASMA DIAPLAY TV



CONTENTS

ELECTRONICS

Printed in Korea
AA82-

1. Precautions

Follow these safety, servicing and ESD precautions to prevent damage and protect against potential hazards such as electrical shock and X-rays.

1-1 Safety Precautions

1. Be sure that all of the built-in protective devices are replaced. Restore any missing protective shields.

2. When reinstalling the chassis and its assemblies, be sure to restore all protective devices, including: nonmetallic control knobs and compartment covers.

3. Make sure that there are no cabinet openings through which people—particularly children—might insert fingers and contact dangerous voltages. Such openings include the spacing between fornt cabinet and back cabinet, excessively wide cabinet ventilation slots, and improperly fitted back covers.

4. Leakage Current Hot Check (Figure 1-1):
Warning: Do not use an isolation transformer during this test. Use a leakage-current tester or a metering system that complies with American National Standards Institute (ANSI C101.1, Leakage Current for Appliances), and Underwriters Laboratories (UL Publication UL1950.5.2).

5. With the unit completely reassembled, plug the AC line cord directly into the power outlet. With the unit's AC switch first in the ON position and then OFF, measure the current between a known earth ground (metal water pipe, conduit, etc.) and all exposed metal parts, including: antennas, handle brackets, metal cabinets, screwheads and control shafts. The current measured should not exceed 3.5 milliamp. Reverse the power-plug prongs in the AC outlet and repeat the test.

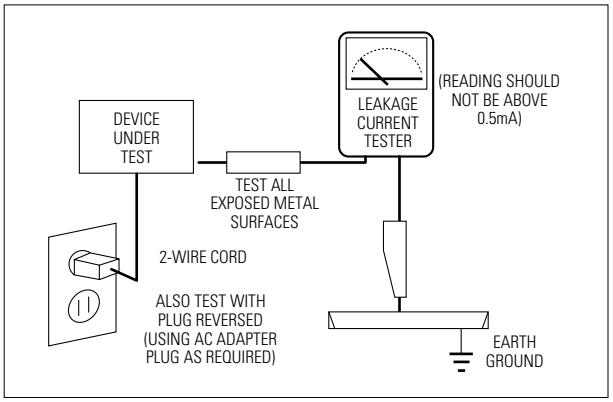


Fig. 1-1 AC Leakage Test

6. Antenna Cold Check:
With the unit's AC plug disconnected from the AC source, connect an electrical jumper across the two AC prongs. Connect one lead of the ohmmeter to an AC prong. Connect the other lead to the coaxial connector.

7. High Voltage Limits:
High voltage must be measured each time servicing is done on the B+, horizontal deflection or high voltage circuits.

1-2 Safety Precautions (Continued)

8. High voltage is maintained within specified limits by close-tolerance, safety-related components and adjustments. If the high voltage exceeds the specified limits, check each of the special components.
9. Design Alteration Warning:
   Never alter or add to the mechanical or electrical design of this unit. Example: Do not add auxiliary audio or video connectors. Such alterations might create a safety hazard. Also, any design changes or additions will void the manufacturer's warranty.

10. Hot Chassis Warning:
    Some TV receiver chassis are electrically connected directly to one conductor of the AC power cord. If an isolation transformer is not used, these units may be safely serviced only if the AC power plug is inserted so that the chassis is connected to the ground side of the AC source.

    To confirm that the AC power plug is inserted correctly, do the following: Using an AC voltmeter, measure the voltage between the chassis and a known earth ground. If the reading is greater than 1.0V, remove the AC power plug, reverse its polarity and reinsert. Re-measure the voltage between the chassis and ground.

11. Some TV chassis are designed to operate with 85 volts AC between chassis and ground, regardless of the AC plug polarity. These units can be safely serviced only if an isolation transformer inserted between the receiver and the power source.

12. Some TV chassis have a secondary ground system in addition to the main chassis ground. This secondary ground system is not isolated from the AC power line. The two ground systems are electrically separated by insulating material that must not be defeated or altered.

13. Components, parts and wiring that appear to have overheated or that are otherwise damaged should be replaced with parts that meet the original specifications. Always determine the cause of damage or overheating, and correct any potential hazards.

14. Observe the original lead dress, especially near the following areas: Antenna wiring, sharp edges, and especially the AC and high voltage power supplies. Always inspect for pinched, out-of-place, or frayed wiring. Do not change the spacing between components and the printed circuit board. Check the AC power cord for damage. Make sure that leads and components do not touch thermally hot parts.

15. Product Safety Notice:
    Some electrical and mechanical parts have special safety-related characteristics which might not be obvious from visual inspection. These safety features and the protection they give might be lost if the replacement component differs from the original—even if the replacement is rated for higher voltage, wattage, etc.

    Components that are critical for safety are indicated in the circuit diagram by shading, (⚡) or (⚠).
    Use replacement components that have the same ratings, especially for flame resistance and dielectric strength specifications.
    A replacement part that does not have the same safety characteristics as the original might create shock, fire or other hazards.

1-3 Servicing Precautions

Warning 1 : First read the "Safety Precautions" section of this manual. If some unforeseen circumstance creates a conflict between the servicing and safety precautions, always follow the safety precautions.
Warning 2 : An electrolytic capacitor installed with the wrong polarity might explode.

1. Servicing precautions are printed on the cabinet. Follow them.

2. Always unplug the unit's AC power cord from the AC power source before attempting to: (a) Remove or reinstall any component or assembly, (b) Disconnect an electrical plug or connector, (c) Connect a test component in parallel with an electrolytic capacitor.

3. Some components are raised above the printed circuit board for safety. An insulation tube or tape is sometimes used. The internal wiring is sometimes clamped to prevent contact with thermally hot components. Reinstall all such elements to their original position.

4. After servicing, always check that the screws, components and wiring have been correctly reinstalled. Make sure that the portion around the serviced part has not been damaged.

5. Check the insulation between the blades of the AC plug and accessible conductive parts (examples: metal panels, input terminals and earphone jacks).

6. Never defeat any of the B+ voltage interlocks. Do not apply AC power to the unit (or any of its assemblies) unless all solid-state heat sinks are correctly installed.

7. Always connect a test instrument's ground lead to the instrument chassis ground before connecting the positive lead; always remove the instrument's ground lead last.

8. Plasma display panels have partial afterimages when a same picture continues to be displayed for a certain time. This happens due to the degradation of brightness caused by a scale-down effect.
   To prevent such afterimages when displaying a same picture for a certain time, be sure to reduce the level of brightness and contrast.
   ex) Contrast : 50 or 75, Brightness : 25

9. Plasma display is an array of pixels(cells). Therefore, if at least 99.9% pixels keep normal, the appropriate panel is judged as 'approved product.' Even though some of pixels keep luminescent or always light off, do not worry because the panel is approved.

1-4 Precautions for Electrostatically Sensitive Devices (ESDs)

1. Some semiconductor ("solid state") devices are easily damaged by static electricity. Such components are called Electrostatically Sensitive Devices (ESDs); examples include integrated circuits and some field-effect transistors. The following techniques will reduce the occurrence of component damage caused by static electricity.

2. Immediately before handling any semicon ductor components or assemblies, drain the electrostatic charge from your body by touching a known earth ground. Alternatively, wear a discharging wrist-strap device. (Be sure to remove it prior to applying power—this is an electric shock precaution.)

3. After removing an ESD-equipped assembly, place it on a conductive surface such as aluminum foil to prevent accumulation of electrostatic charge.

4. Do not use freon-propelled chemicals. These can generate electrical charges that damage ESDs.

5. Use only a grounded-tip soldering iron when soldering or unsoldering ESDs.

6. Use only an anti-static solder removal device. Many solder removal devices are not rated as "anti-static"; these can accumulate sufficient electrical charge to damage ESDs.

7. Do not remove a replacement ESD from its protective package until you are ready to install it. Most replacement ESDs are packaged with leads that are electrically shorted together by conductive foam, aluminum foil or other conductive materials.

8. Immediately before removing the protective material from the leads of a replacement ESD, touch the protective material to the chassis or circuit assembly into which the device will be installed.

9. Minimize body motions when handling unpackaged replacement ESDs. Motions such as brushing clothes together, or lifting a foot from a carpeted floor can generate enough static electricity to damage an ESD.

CAUTION

These servicing instructions are for use by qualified service personnel only.
To reduce the risk of electric shock do not perform any servicing other than that contained in the operating instructions unless you are qualified to do so.

2. Reference Information

2-1 Tables of Abbreviations and Acronyms

Table 2-1 Abbreviations

A	Ampere	MV	Megavolt
Ah	Ampere-hour	MW	Megawatt
Å	Angstrom	MΩ	Megohm
dB	Decibel	m	Meter
dBm	Decibel Referenced to One Milliwatt	µA	Microampere
		µF	Microfarad
°C	Degree Celsius	µH	Microhenry
°F	Degree Fahrenheit	µm	Micrometer
°K	degree Kelvin	µs	Microsecond
F	Farad	µW	Microwatt
G	Gauss	mA	Milliampere
GHz	Gigahertz	mg	Milligram
g	Gram	mH	Millihenry
H	Henry	ml	Milliliter
Hz	Hertz	mm	Millimeter
h	Hour	ms	Millisecond
ips	Inches Per Second	mV	Millivolt
kWh	Kilowatt-hour	nF	Nanofarad
kg	Kilogram	Ω	Ohm
kHz	Kilohertz	pF	Picofarad
kΩ	Kilohm	lb	Pound
km	Kilometer	rpm	Revolutions Per Minute
km/h	Kilometer Per Hour	rps	Revolutions Per Second
kV	Kilovolt	s	Second (Time)
kVA	Kilovolt-ampere	V	Volt
kW	Kilowatt	VA	Volt-ampere
l	Liter	W	Watt
MHz	Megahertz	Wh	Watt-hour

Table 2-2 Table of Acronyms

ABL	Automatic Brightness Limiter
AC	Alternating Current
ACC	Automatic Chroma Control
AF	Audio Frequency
AFC	Automatic Frequency Control
AFT	Automatic Fine Tuning
AGC	Automatic Gain Control
AM	Amplitude Modulation
ANSI	American National Standards Institute
APC	Automatic Phase Control
APC	Automatic Picture Control
A/V	Audio-Video
AVC	Automatic Volume Control
BAL	Balance
BPF	Bandpass Filter
B-Y	Blue-Y
CATV	Community Antenna Television (Cable TV)
CB	Citizens Band
CCD	Charge Coupled Device
CCTV	Closed Circuit Television
Ch	Channel
CRT	Cathode Ray Tube
CW	Continuous Wave
DC	Direct Current
DVM	Digital Volt Meter
EIA	Electronics Industries Association
ESD	Electrostatic Discharge
ESD	Electrostatically Sensitive Device
FBP	Feedback Pulse
FBT	Flyback Transformer
FF	Flip-Flop
FM	Frequency Modulation
FS	Fail Safe
GND	Ground
G-Y	Green-Y
H	High
HF	High-Frequency
HI-FI	High Fidelity
IC	Inductance-Capacitance
IC	Integrated Circuit
IF	Intermediate Frequency
I/O	Input/output
L	Left
L	Low
LED	Light Emitting Diode
LF	Low Frequency
MOSFET	Metal-Oxide-Semiconductor-Field-Effect-Tr
MTS	Multi-channel Television Sound
NAB	National Association of Broadcasters
NEC	National Electric Code
NTSC	National Television Systems Committee
OSD	On Screen Display
PCB	Printed Circuit Board
PLL	Phase-Locked Loop
PWM	Pulse Width Modulation
QIF	Quadrature Intermediate Frequency
R	Right
RC	Resistor & Capacitor
RF	Radio Frequency
R-Y	Red-Y
SAP	Second Audio Program
SAW	Surface Acoustic Wave(Filter)
SIF	Sound Intermediate Frequency
SMPS	Switching Mode Power Supply
S/N	Signal/Noise
SW	Switch
TP	Test Point
TTL	Transistor Transistor Logic
TV	Television
UHF	Ultra High Frequency
UL	Underwriters Laboratories
UV	Ultraviolet
VCD	Variable-Capacitance Diode
VCO	Voltage Controlled Oscillator
VCXO	Voltage Controlled Crystal Oscillator
VHF	Very High Frequency
VIF	Video Intermediate Frequency
VR	Variable Resistor
VTR	Video Tape Recorder
VTVM	Vacuum Tube Voltmeter
TR	Transistor

3. Specifications

3-1 Display(PDP Monitor)

MODEL		PPM42S2
Dimensions (mm/inch)	Display	1038.8(W) x 89(D) x 635(H)mm / 40.9(W) x 3.5(D) x 25(H) Inches
	Remote Control	54(W) x 31.5(D) x 220(H)mm / 2.13(W) x 1.24(D) x 8.66(H) Inches
Weight	Display	32Kg / 70.55ℓbs
	Remote Control	150g (Including batteries) / 0.33ℓbs
Voltage		AC 100-240V, 50/60Hz
Power Consumption		310 Watts
Number of Pixels		852(H) X 480(V)
Screen Size		106Cm / 42 Inches
AUDIO Input		VIDEO / S-VIDEO COMPONENT PC (RGB)
AUDIO Output		7W + 7W (8Ω)
VIDEO Input		VIDEO S-VIDEO COMPONENT 1(480i) / 2 (480p/720p/1080i) PC (RGB 1 : D-SUB / RGB 2 : BNC)

MENO

4. Alignment and Adjustments

4-1 Service Mode

4-1-1 SERVICE MODE ENTRY METHOD (General Transmitter)

1. Turn off the power to make the SET STAND-BY mode.
2. In order to enter the Service Mode, select MUTE-1-8-2-POWER.

* In case entry into SERVICE MODE is unsuccessful, repeat the procedures above.

4-1-2 Initial DISPLAY State in times of SERVICE MODE Switch overs

4-1-2(A) OSD DISPLAY

MENU

1. PWS364
2. VPC3230
3. SDA9400
4. SDA9280
5. AD9884 - Video
6. AD9884 - DTV/PC
7. CXA2101Q-1
8. CXA2101Q-2
9. Pinp Control
10. OSD Position
11. Test Pattern
12. Option Table
13. Reset

Release Time :

4-1-2(B) BUTTONS OPERATIONS WITHIN SERVICE MODE

Menu	Entire menu display
Joystick UP/DOWN	Cursor move to select items
Joystick (LEFT/RIGHT)	Enable to increase and decrease the data of the selected items

4-1-3 Details of Control

4-1-3(A) PW364

No	OSD	Default of MODE			
		VIDEO / S-VHS	Component1	Component2	PC
1	H Position	30	-	27	93
2	V Position	34	-	20	35
3	Red Gain	148	-	125	113
4	Green Gain	148	-	125	113
5	Blue Gain	148	-	125	113
6	Red Offset	133	-	129	139
7	Green Offset	133	-	129	139
8	Blue Offset	133	-	129	139
9	APL On/Off	1	-	1	1
10	High Light	148	-	125	113
11	Low Light	133	-	129	139
12	Shit Pixel	on	-	on	on
13	Test	0	-	0	0
14	Pixel Number	4	-	4	4
15	Shift Line	4	-	4	4
16	Time	4	-	4	4

4-1-3(B) VPC3230

No	OSD	Default of MODE			
		VIDEO / S-VHS	Component1	Component2	PC
1	Bright YUV	195	-	195	DO NOT ENTER
2	Cont YUV	27	-	27	
3	IF Comp(IFC)	2	-	2	
4	Chroma band(CBW)	3	-	3	
5	Ena Luma	1	-	1	
6	HPLL Speed	1	-	1	
7	Luma Delay	4	-	4	
8	3230 Bright	146	-	146	
9	3230 Contrast	45	-	45	
10	H LPF Y/C(LPF2)	0	-	0	
11	H LPF Chroma(CBW2)	0	-	0	
12	H Peaking (Filter)	2	-	1	
13	Coaring Off/On	1	-	1	
14	PK	3	-	3	

4-1-3(C) SDA9400

No	OSD	Default of MODE			
		VIDEO / S-VHS	Component1	Component2	PC
1	SNR On	1	-	-	DO NOT ENTER
2	VCSNR On	1	-	-	
3	HCSNR On	0	-	-	
4	DTNR On	1	-	-	
5	TNRCLY	5	-	-	
6	TNRCNC	5	-	-	

4-1-3(D) SDA9280

No	OSD	Default of MODE			
		VIDEO / S-VHS	Component1	Component2	PC
1	CTI Thresh	0	-	-	DO NOT ENTER
2	CTI Trawid	0	-	-	
3	Y-Delay	11	-	-	
4	LPF Gain	7	-	-	
5	BPF Gain	11	-	-	
6	HPF Gain	12	-	-	
7	Phacom	2	-	-	
8	Cor	1	-	-	

4-1-3(E) AD9884

No	OSD	Default of MODE			
		VIDEO / S-VHS	Component1	Component2	PC
1	Red Gain	143	-	142	145
2	Green Gain(Fix)	132	-	132	132
3	Blue Gain	143	-	143	137
4	Red Offset	38	-	28	34
5	Green Offset(Fix)	32	-	32	32
6	Blue Offset	25	-	21	27
7	Current	1	-	-	-

4-1-3(F) CXA2101Q-1

No	OSD	Default of MODE			
		VIDEO / S-VHS	Component1	Component2	PC
1	Sub Bright	52	-	52	DO NOT ENTER
2	Limit Level	0	-	0	
3	System	1	-	2	
4	D-Color	1	-	1	
5	R Drive	32	-	32	
6	G Drive	32	-	32	
7	B Drive	32	-	32	
8	R Cutoff	32	-	32	
9	G Cutoff	32	-	32	
10	B Cutoff	32	-	32	
11	ABL Mode	0	-	0	
12	ABL TH	0	-	0	
13	H sep sel	0	-	0	
14	Fix Sync	0	-	0	
15	V Time Con	1	-	1	
16	H Width	1	-	1	
17	HHD Time Con	0	-	0	
18	Picture	10	-	10	

4-1-3(G) CXA2101Q-2

No	OSD	Default of MODE			
		VIDEO / S-VHS	Component1	Component2	PC
1	HS Mask	1	-	1	DO NOT ENTER
2	Sub Cont	8	-	7	
3	Sub Color	14	-	14	
4	Sub Hue	5	-	6	
5	Sub SHP	2	-	2	
6	R-Y/R	7	-	7	
7	R-Y/B	14	-	14	
8	G-Y/R	12	-	6	
9	G-Y/B	5	-	7	
10	PABL Level	6	-	6	
11	SHP FO	2	-	2	
12	Pre/Over	0	-	0	
13	CTI Level	1	-	1	
14	LTI Level	0	-	0	
15	DC-Tran	2	-	1	
16	D-Pic	3	-	2	
17	Color	26	-	26	
18	Brightness	37	-	35	

4-1-3(H) PinP Control

No	OSD	Default of MODE			
		VIDEO / S-VHS	Component1	Component2	PC
1	Pip HPos	6	6	-	-
2	Pip VPos	13	13	-	-
3	Bright YUV	195	195	-	-
4	Cont YUV	27	27	-	-
5	Luma Delay	0	0	-	-
6	3230 Bright	40	40	-	-
7	3230 Contrast	38	38	-	-

Alignment and Adjustments

4-1-4 White Balance Adjust Method

1. Press MUTE-1-8-2-POWER to enter the factory mode.
2. Enter "5. AD9884 - Video" or " 6. AD9884 - DTV / PC".
3. Adjust LOW coordinates as R,B OFFSET and HIGH coordinates as R,B GAIN.
   (GREEN is fixed)
4. Press "Menu" Key in remote control to exit.
5. Enter "1. PW364A".
6. Adjust LOW light as "Low Light".
7. Adjust HIGH light as "High Light".

- W/B Adjustment SPEC(Suwon Factory Toshiba PATTERN)

	W/B		x	y	Y(fL)	T(K)
VIDEO (10 Gray)	Picture Quality Assessment	High (⑥)	285	295	19	9200
		Low (②)	285	295	0.7	9200
D T V (9 Gray)	Picture Quality Assessment	High (⑥)	285	295	21	9200
		Low (②)	285	295	0.95	9200
P C (16 Gray)	Picture Quality Assessment	High (⑨)	285	295	14	9200
		Low (③)	285	295	0.65	9200

< Condition of Signals

① Video,S-VHS, Component1(DVD) : 10-Gray: (0,1,②,3,4,5,⑥,7,8,9,10)-ShibaSoku TG71BX

② Component 2(DTV) : 9 Gray : (0,1,②,3,4,5,⑥,7,8,9) - LT446 1080i output

③ PC : 16 Gray (0,1,2,③,4,5,6,7,8,⑨,10....15) - TP36B

Alignment and Adjustments

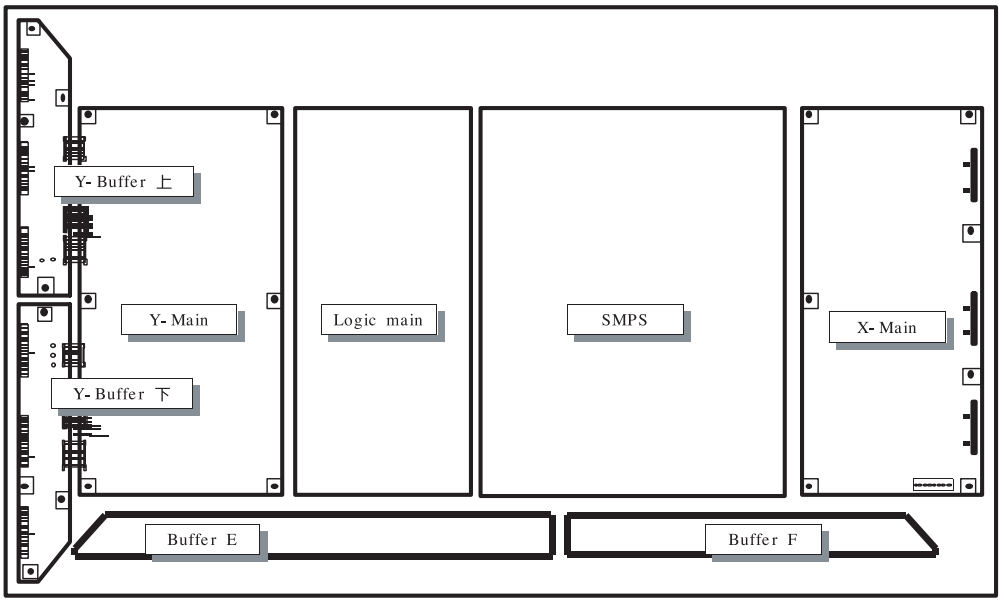
4-2 PPM42S2 PC Input Mode

Video Signal	Dot Line	Vertical Frequency (Hz)	Horizontal Frequency (KHz)	Vertical Polarity	Horizontal Polarity
IBM PC/AT Compatible	640 X 350	70.086	31.469	N	P
		85.080	37.861	N	P
	640 X 400	85.080	37.861	P	N
	720 X 400	70.087	31.469	P	N
		85.039	37.927	P	N
	640 X 480	59.940	31.469	N	N
		72.809	37.861	N	N
		75.000	37.500	N	N
		85.008	43.269	N	N
	848 X 480	60.000	29.800	N/P	N/P
	852 X 480	60.000	31.731	N	N
	800 X 600	56.250	35.156	N/P	N/P
		60.317	37.879	P	P
		72.188	48.077	P	P
		75.000	46.875	P	P
	1024 X 768	85.061	53.674	P	P
		60.004	48.363	N	N
		70.069	56.476	N	N
		75.029	60.023	P	P
		84.997	68.677	P	P

Alignment and Adjustments

4-3 Discharge Voltage Adjustments When Replacing Main Assay

PDP Driving related Board Layou



Voltage Adjustments

- Adjust all of variable resistances except V9, VG clockwise to decrease the voltage.
- **For PPM42S2 models, readjust VR (6V) to 5.9V (±0.2V).**

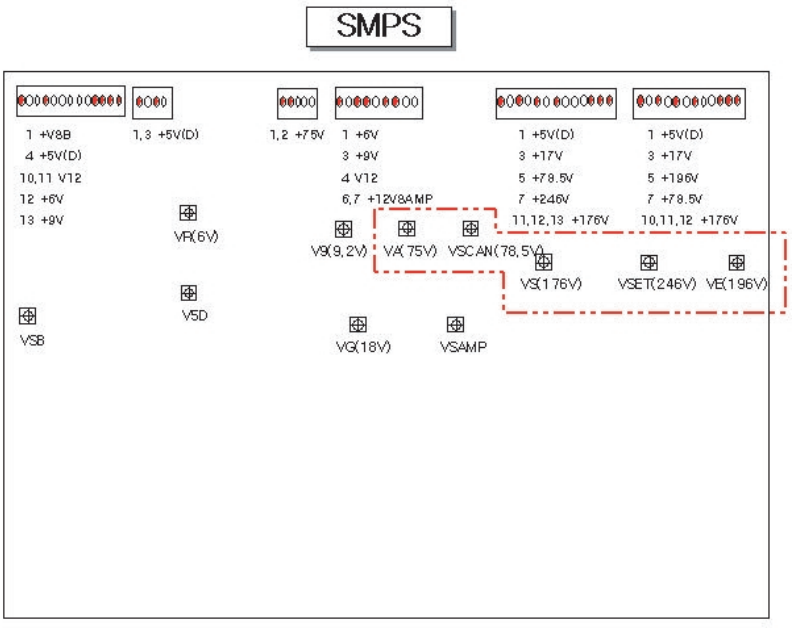


Table of Voltage Values

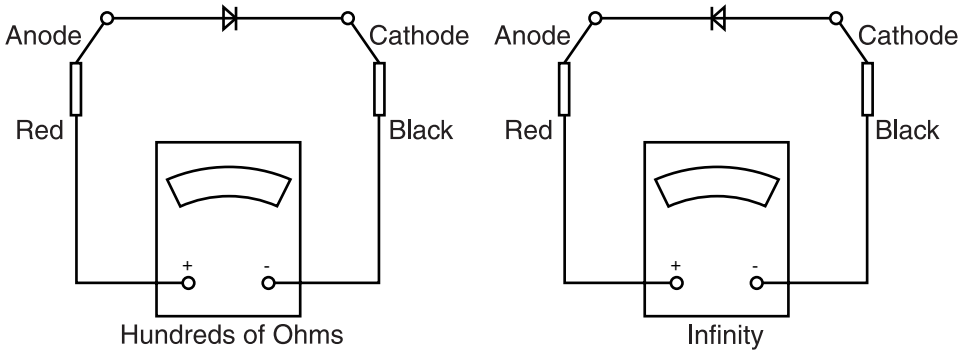
Output Voltage	Voltage Values (V)
VE	See the label attached on the module base chassis
VSET	
VS	
VSCAN	
VA	
VSAMP	12
VG	18.3
V9	9
V5D	5.3
VR(6V)	5.9
VSB	5

- When replacing the X, Y driving boards, avoid waveform adjustments using variable resistance as they have been adjusted according to the characteristics of PDP panel.

4-4 Fault Finding Using MULTI METER

Parts defects can be found for DIODE TRANSISTOR IC, using MULTI TEST including Forward / Reverse direction Multi Test. Of course, in case resistance of several ohms and COIL are connected in parallel circuit, the lock out circuit parallel connected to part must be severed.

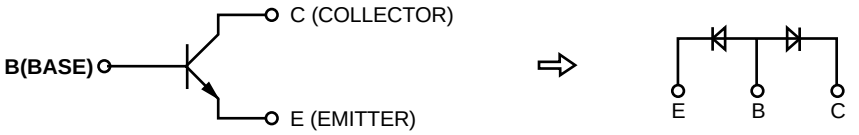
1.DIODE



	Forward Direction	Reverse Direction
Between Anode and Cathode	Hundreds of ohms	Infinity

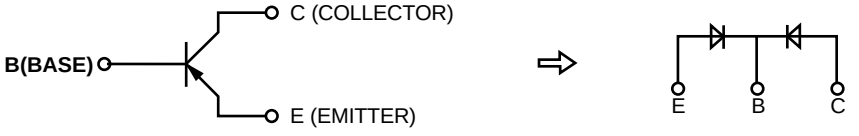
2. TRANSISTOR

l For NPN(KSC815-Y, 2SC2068, 2SC2331-Y)



	Forward Direction	Reverse Direction
Between B and E	Hundreds of ohms	Infinity
Between B and C	Hundreds of ohms	Infinity
Between E and C	Infinity	Infinity

l For PNP(KSA539-Y)



	Forward Direction	Reverse Direction
Between B and E	Hundreds of ohms	Infinity
Between B and C	Hundreds of ohms	Infinity
Between E and C	Infinity	Infinity

3. IC (INTEGRATED CIRCUIT)

IC has built in DIODE against overvoltage in PIN. Generally, except for internal circuit defects, IC defects can be found, by measuring the DIODE.

Forward Direction	Hundreds of ohms
Reverse Direction	Varying depending on IC but generally normal
	Infinity in DIODE TEST MODE

› Defects have SHORT(0 ohm) for both forward and reverse direction.

5. Circuit Description

5-1 Power supply

5-1-1 Outline(PDP SMPS)

Considering various related conditions, the switching regulator with good efficiency and allowing for its small size and lightweight was used as the power supply for PDP. Most of the power supply components used forward converter, and Vsamp and Vsb used simple flyback converter.
To comply with the international harmonics standards and improve the power factor, active PFC (Power Factor Correction) was used to rectify AC input into +400V DC output, which in turns used as input to the switching regulator.

5-1-2 42"SD SMPS SPECIFICATION

5-1-2(A) INPUT

PDP-42PS board is designed so that input power can be used within AC 90 VAC to 264 VAC with 50/60Hz ± 3Hz.

5-1-2(B) OUTPUT

PDP-42PS board provides 13 output switching power supplies (+165Vs, +220Set, +185Ve, +75Va, +80Scan, +18Vg, +5Vsb, +5V(D), +5.9V(A), +12V. +9V, +12Vfan, and +12Vsamp). The output voltage, and current requirements for continuous operation are stated below (Table 3).

Table1. Specifications of Output Power Supplies for PDP SMPS

Output Name	Output Voltage	Output Current	Using in PDP driving
Vs	+165V	1.4A	Sustain Voltage of Drive Board
Va	+75V	0.5A	Address Voltage of Drive Board
Vscan	+80V	0.05A	
Vset	+220V	0.05A	
Ve	+185V	0.05A	
Vg	+18.3V	0.3A	
Vfan	+12V	0.8A	
V9	+9V	0.3A	
V5(A)	+5.9V	1.0A	Analog IC Drive Voltage of Video Board
V5(D)	+5.3V	3.5A	IC Drive Voltage of Logic Board
Vsb	+5V	0.4	Stand-by for Remote Control
V12	+12V	1.2A	
Vsamp	+12V	1.5A	

Table 2. Specifications to Protect PDP SMPS

Division	OCP Current	OVP Voltage	Short Circuit
Vs	5A	195V	O.K
Va	2A	90V	O.K
+5V	10A	6.2V	O.K

5-1-2(C) FUNCTION OF BOARD

(1) Remote control

Using 250V / 10A relay, the board makes remote control available.

(2) Free voltage

The board designed so that input voltage can be used within 90 VAC to 264VAC.

(3) Embedded thermal sensor

The board is equipped with thermal sensor to detect the internal temperature of the unit, and to short relay when the internal temperature is higher than specified temperature so as to shutdown the unit.

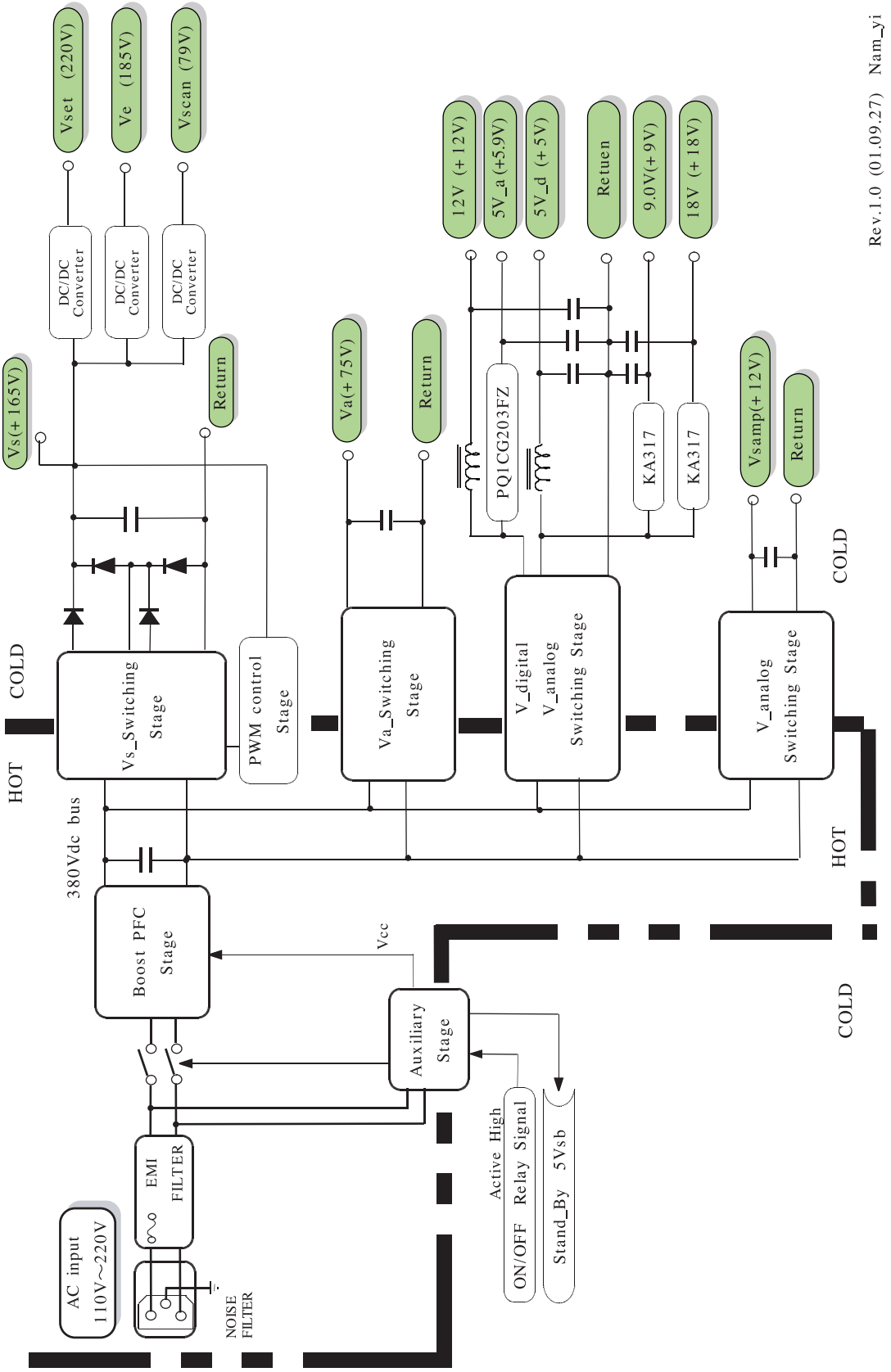
(4) Improvement of power factor

The board is designed using PFC circuit so that PF (Power Factor) can be over 0.95, because low PF can be a problem in high voltage power.

(5) Protection

The OCP (Over Current Protection), the OVP (Over voltage Protection), and the Short Circuit Protection functions are added against system malfunction.

5-1-2(D) PDP-PS-42 BLOCK DIAGRAM



(1) AC-DC Converter

PDP-42PS outputs +400V DC from the common AC power supply using the active PFC booster converter. This converter is designed for improving the power factor and preventing the noise with high frequency and finally becomes the input power system for the switching regulator on the output side.

(2) Auxiliary Power Supply

The auxiliary power supply is a block generating power of •Ï-com for remote controlling. Once the power plug is inserted, this block always comes into operation, causing •Ï-com to get into the stand-by state for the output. Thus, this output is called the stand-by voltage. And with the relay ON signal inputted through the remote controller, this block turns the mechanical switch of relay to ON for driving the main power supply.

(3) Implementation of Sustain Voltage

As the main part of a SMPS for PDP, sustain voltage must supply a high power, +165V / 1.4A. It is designed using forward converter basically. At the output stage two 90V converters are connected serially for high efficiency and reduction of system size against a single 180V converter.

(4) Implementation of Small Power Output (Va, V(D), V(A), Vfan, V9, Vsamp, Ve, Vset, Vscan, V12, and Vg)Vset, Ve, and Vscan used DC-DC module. V(D), Va, V12, and Vfan used forward converter, and Vsamp used flyback converter. V(A), V9, and Vg are simply implemented using switching regulator.

5-1-3 Requirements of PDP SMPS

Since SMPS does not operate alone, but it operates with the load of the whole system, it should be designed carefully considering the load of the system. In addition, it should be designed considering emerging issues such as EMC, and protection against heat as well as system stability especially.

5-1-3(A) SAFETY AND REMOTE CONTROL CAPABILITY

Stability is one of the most important requirements for SMPS. SMPS should be designed to prevent abnormal status due to abnormal load variation so as to keep the system stable, and guarantee customer safety.

The protection circuits of SMPS include over-current protection (OCP), over voltage protection (OVP), and under voltage lock-out (UVLO), and short circuit protection circuit. Although each circuit can be implemented by various procedures, the most popular is implementing with comparator that compares current value with that of standard and determine abnormality of the circuit.

In addition, surge current protection, insulation management, and static electricity protection circuit should be added, because it uses commercial power source as an input.

PDP SMPS should be designed using auxiliary power and relay to provide remote control capability.

5-1-3(B) THE RELATION BETWEEN POWER CONSUMPTION AND POWER CONVERSION Efficiency

The power consumption and the power conversion efficiency of SMPS affect protection against heat and system operation much.

[If the power conversion efficiency of 100W SMPS is 70%, is the power loss of internal circuit 30W?]

Output power consumption Po is determined by the multiplication of DC output voltage Vo and output current Io. Input power consumption Pi is determined by the addition of output power consumption Po and internal power loss of SMPS Pl.

Provided that the power conversion efficiency is _,

$$P_i = P_o + P_L$$

$$h = \frac{P_o}{P_i} \qquad \text{---------- Equation (1)}$$

$$P_L = (\frac{1}{h} - 1) \cdot P_o$$

If the power conversion efficiency of 100W SMPS is 70%, the internal power loss is about 42.8W by Equation (1). If the power conversion efficiency of 400W SMPS for 42"SD is 82%, the internal power loss is 87.8W by Equation (1). Table 4 shows internal power loss as a function of output power for various power conversion efficiencies.

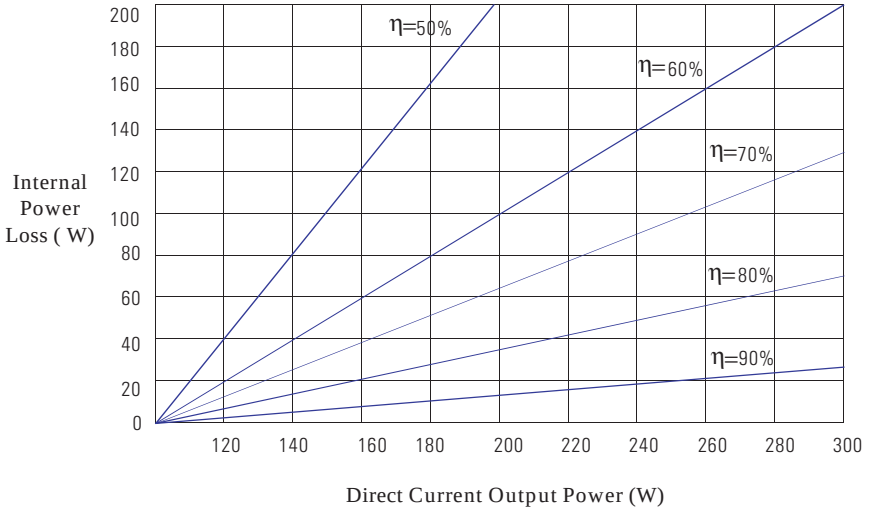


Table 4. Power Conversion Efficiency vs. Internal Power Loss

5-1-3(C) PFC (Power Factor Correction) Circuit Descriptions

The current electric devices use DC power supply and require a rectifier circuit converting AC into DC. As most rectifier circuits apply a capacitor input type, the rectifier circuit becomes the core of the occurrence of harmonics with lower reverse rate.If various electronic and electric devices are connected to a power system, high-frequency current will occur due to a power rectifier circuit, a phase control circuit with power input current of non-sine wave, or components with non-linear load characteristics, such as capacitor, inductor, etc. As the result, the disturbance of voltage occurs, and finally a power capacitor or a transformer generates heat, fire or noise occurs, controls malfunction, or the accessed devices abnormally operate or their lives are shortened.To prevent those symptoms, IEC (International Electrotechnical Commission) regulated standards for Power Supply Harmonics.
(Refer to IEC 1000-3-2.)Figure 8 shows the basic structure of Active Boost PFC and waveforms.

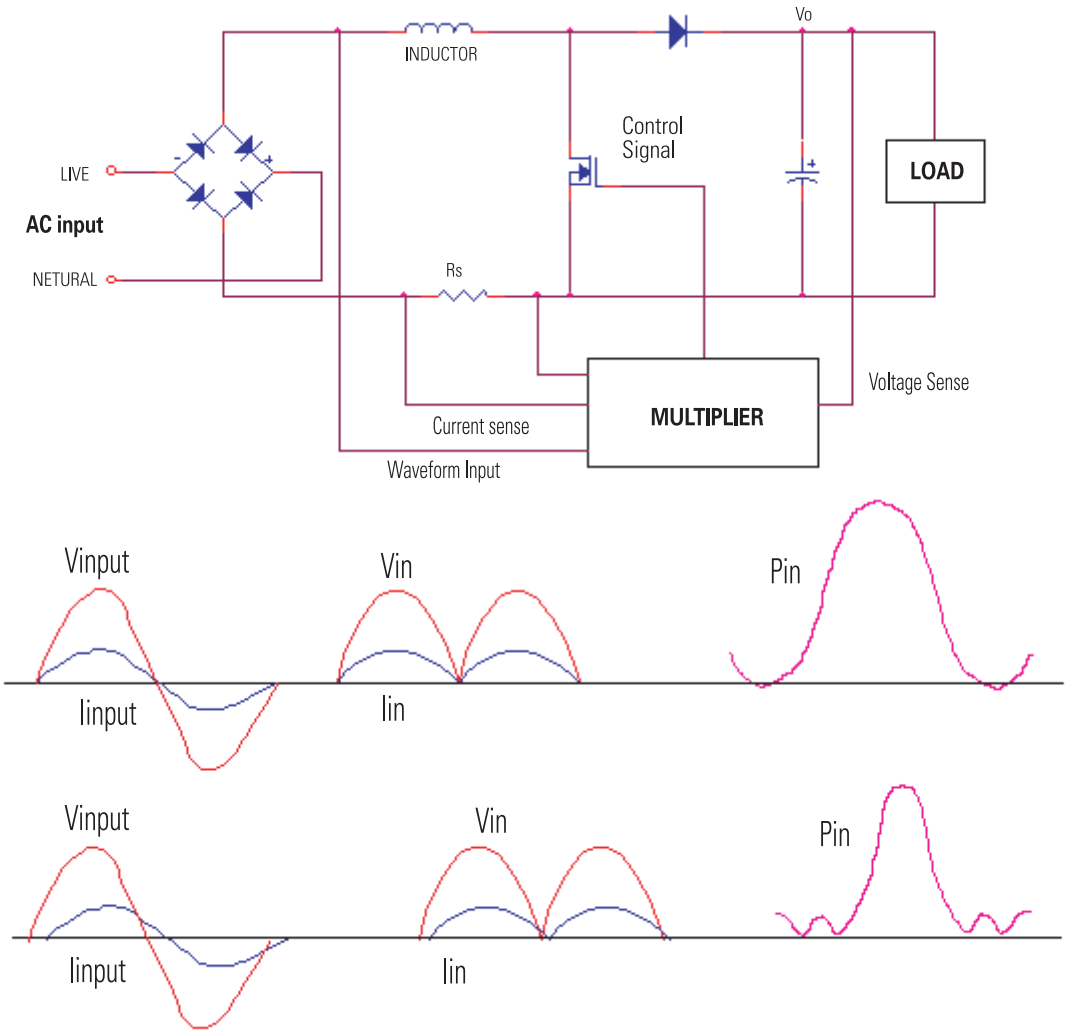
Standards for Power Supply Harmonics

Scale: Devices accessed to 220V / 380V, 230V / 400V, 240V / 425V and lower than 16A (IEC 100-3-2)
Devices with AC 230V and lower than 16A (IEC 555-2)

Applied Classes :

- ♦ Class A : Devices not included in another class
- ♦ Class B : Portable tools
- ♦ Class C : Lighting devices
- ♦ Class D : Devices with special current waveforms

Application Schedule : Except the devices less than rating input of 75W (1996~1999)
Except the devices less than rating input of 50W (2000 and after)



The architecture and the pulse of active boost PFC

5-1-3(D) CONCLUSION

Although SMPS (Switching Mode Power Supply) enables small lightweight high-power consumption power design, it is hard to be used when stability and precise control are required. Power stage for PDP can be designed using the lightweight SMPS feature. It is important to design SMPS considering system load, stability, and related international standards.

5-2 Driver Circuit

5-2-1 Driver Circuit Overview

5-2-1(A) WHAT IS THE DEFINITION OF DRIVE CIRCUIT?

It is a circuit generating an appropriate pulse (High voltage pulse) and then driving the panel to implement images in the external terminals (X electrode group, Y electrode group and address electrode), and this high voltage switching pulse is generated by a combination of MOSFET's.

5-2-1(B) PANEL DRIVING PRINCIPLES

In PDP, images are implemented by impressing voltage on the X electrode, Y electrode and address electrode, components of each pixel on the panel, under appropriate conditions. Currently, ADS (Address & Display Separate: Driving is made by separating address and sustaining sections) is most widely used to generate the drive pulse. Discharges conducted within PDP pixels using this method can largely be classified into 3 types, as follows:

(1) Address discharge : This functions to generate wall voltage within pixels to be lighted by addressing information to them (i.e., impressing data voltage)

(2) Sustain discharge : This means a display section where only pixels with wall voltage by the address discharge display self-sustaining discharge by the support of such wall voltage. (Optic outputs realizing images are generated.)

(3) Erase discharge : To have address discharge occur selectively in pixels, all pixels in the panel must have the same conditions (i.e., the same state of wall and space electric discharges). The ramp reset discharge section, therefore, is important to secure the drive margin, and methods most widely used to date include wall voltage controlling by ramp pulse.

5-2-1(C) TYPES AND DETAILED EXPLANATION OF DRIVE DISCHARGES

(1) Sustaining discharge

Sustaining discharge means a self-sustaining discharge generated by the total of the sustaining pulse voltage (usually, 160~170V) alternately given to X and Y electrodes during the sustaining period and the wall voltage that varies depending upon pixels' previous discharge status. It is operated by the memory function (through this, the current status is defined by previous operation conditions) AC PDP basically possesses. That is, when there is existing wall voltage in pixels (in other words, when pixels remain ON), the total of wall voltage and a sustaining voltage to be impressed subsequently impresses a voltage equal to or above the discharge start voltage, thereby generating discharge again, but when there is no existing wall voltage in pixels (in other words, when pixels remain OFF), the sustaining voltage only does not reach the discharge start voltage, thus causing no discharge. The sustaining discharge is a section generating actual optic outputs used in displaying images.

(2) Address discharge

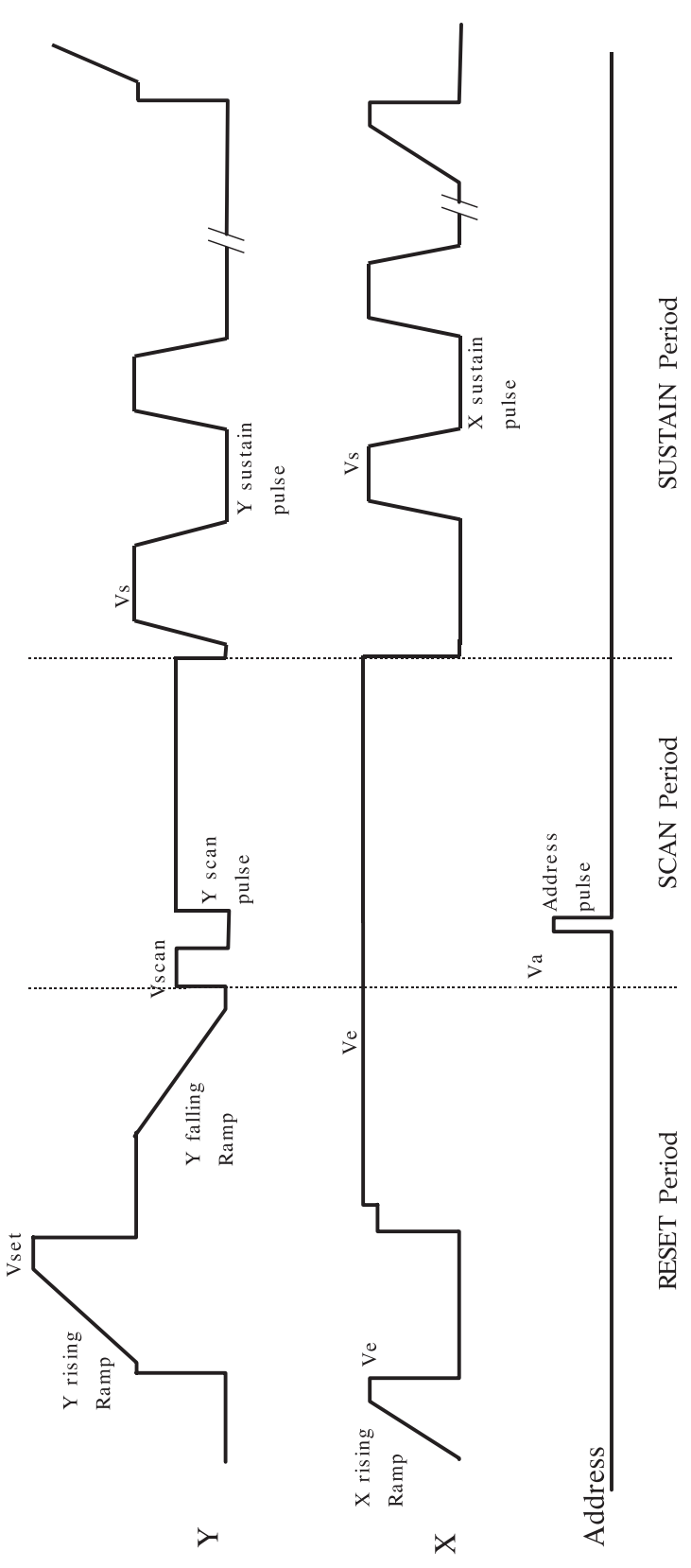
This means a discharge type generated by the difference between positive voltage of the address electrode (normally 70~75V determined by supplied Va voltage + positive wall charge) and the negative potential of Y electrode (supplied GND level voltage + negative wall charge). The address discharge serves to generate wall voltage in pixels where images are to be displayed (that is, discharge is to be generated) prior to the sustaining discharge section. Namely, pixels with wall voltage by the address discharge will generate sustaining discharge by the following sustaining pulses.

(3) Erase discharge

The purpose of resetting or erase discharge is to make even wall voltage in all pixels on the panel. Wall voltage, which may vary depending upon the previous sustaining discharge status, must be made even. That is, wall voltage generated by the sustaining discharge must surely be removed, by making discharges and then supplying ions or electrons. Wall voltage can be removed by making discharges and then setting a limitation on time for opposite polarity charging of the wall voltage or generating weak discharge (Low voltage erasing) to supply an appropriate quantity of ions or electrons and keep polarities from being charged oppositely. The weak discharge (Low voltage erasing) methods, which have been known to date, can largely be into two types: 1) the log pulse adopted by most companies including F Company, and 2) the ramp pulse adopted by Matsushita. In both two methods, impression is made with a slow rising slope of the erasing pulse. Because the total of the existing wall voltage and a voltage on the rising pulse must be at least the drive start voltage to generate discharges, external impressed voltage is adjusted based on the difference in wall voltage between pixels. And, weak discharge is generated because of a small impressed voltage.

5-2-2 SPECIFICATION OF DRIVE PULSES

5-2-2(A) DRIVE PULSES



A1, 2.	Address (=Data) Electrode	Vs	160~170V
X	Common & Sustain Electrode	Vset	210~225V
Y1, 2. . . .	Scan & Sustain Electrode	Vscan	70~75V

Ve	190V~200V	
Va	70~75V	

5-2-2(B) FUNCTIONS OF PULSES

(1) X rising ramp pulse

Just before X rising ramp pulse is impressed, the last Y electrode sustain pulse of previous sub field is impressed. The pulse causes sustain discharge. Consequently, positive wall charge is accumulated in X electrode, and negative wall charge is accumulated in Y electrode. X rising ramp erases wall charge produced by the last sustain discharge pulse using weak-discharge.

(2) Y rising ramp pulse

During Y rising ramp period, weak-discharge begins when external voltage of about 390V~400V is impressed to Y electrode, and each gap voltage is equal to discharge start voltage. Sustaining the weak-discharge, positive wall charge is accumulated in X electrode and address electrode, and negative wall charge is accumulated in Y electrode of the entire panel.

(3) Y falling ramp pulse

During Y falling ramp period, the negative wall charge in Y electrode accumulated by 200V of X bias is used to erase positive wall charge in X electrode. Address electrode (0V) sustains most of the positive electric charge accumulated during rising ramp period so that it can maintain wall charge distribution beneficial to the upcoming address discharge.

(4) Y scan pulse

This is called the scan pulse, selecting each of Y electrodes on a one-line-at-a-time basis. In this case, Vscan means the scan bias voltage. About 70 V (Vscan) voltage is impressed on the selected electrode lines, while 0 V (GND) voltage is impressed on the other lines.

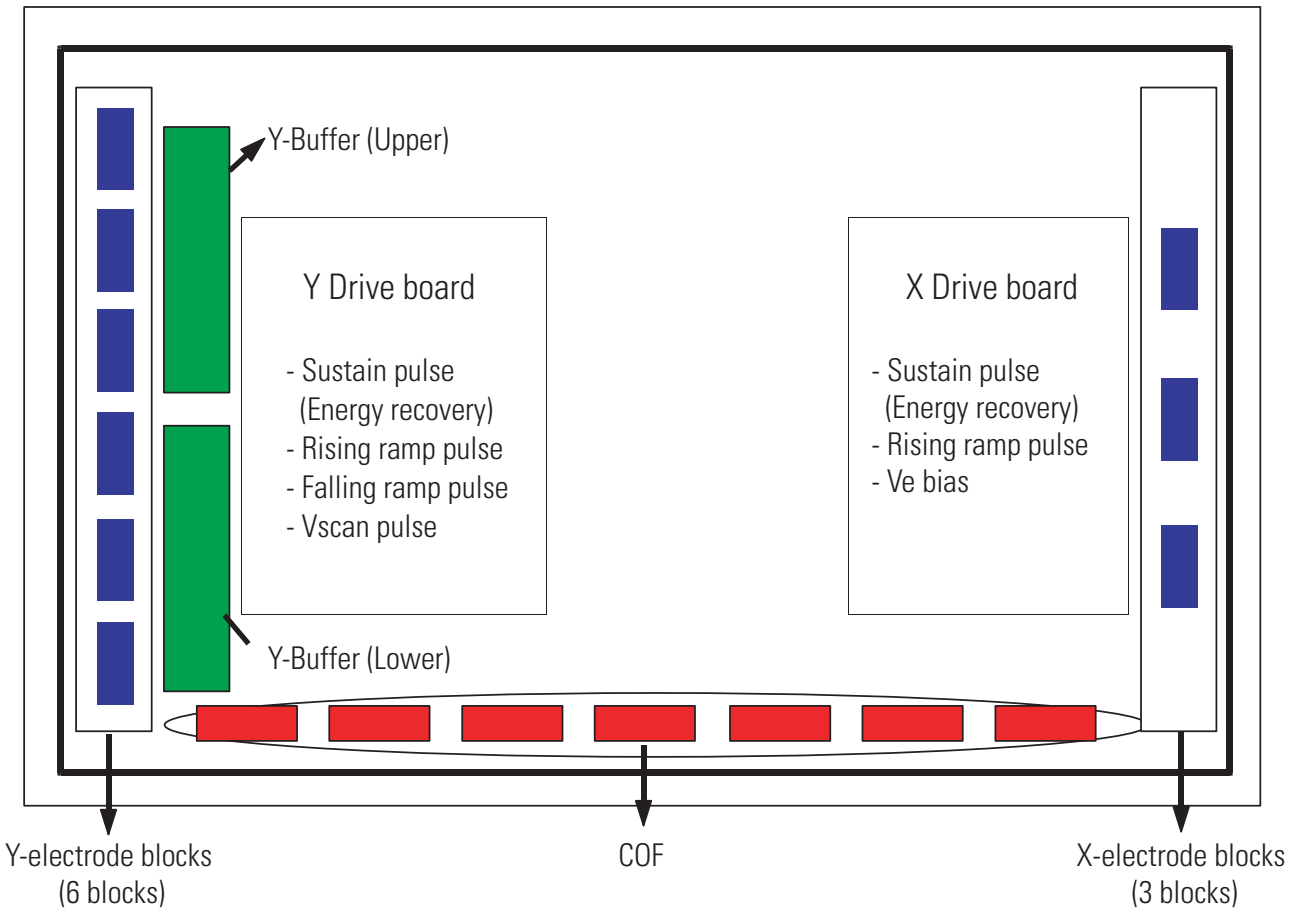
In the cells the address pulse (70V~75V) is impressed on, address discharge is occurred because negative wall charge is accumulated in Y electrode, positive wall charge is accumulated in address electrode by the applied ramp pulse, and the sum of impressed voltage is greater than discharge start voltage. Thus, because scan pulse and data pulse are impressed line by line, very long time is taken for PDP addressing.

(5) 1st sustain pulse

The sustaining pulse always begins with the Y electrode. This is because when address discharge is generated, positive wall voltage is generated on the Y electrodes. Because wall electric charge generated by address discharge is generally smaller than wall voltage generated by sustaining discharge, initial discharges have small discharge strength, and stabilization is usually obtained after 5~6 times discharges, subject to variations depending on the structure and environment of electrodes. The purpose of impressing the initial sustaining pulses long is to obtain stable initial discharges and generate wall electric charges as much as possible.

5-2-3 Configuration and Operation Principles of Driver Circuit

5-2-3(A) FUNCTIONS OF EACH BOARD



(1) X board
X board is connected to the panel's X-electrode blocks, 1) generates sustain voltage pulse (including ERC), 2) generates X rising ramp pulse, and 3) sustains Ve bias during scan period.

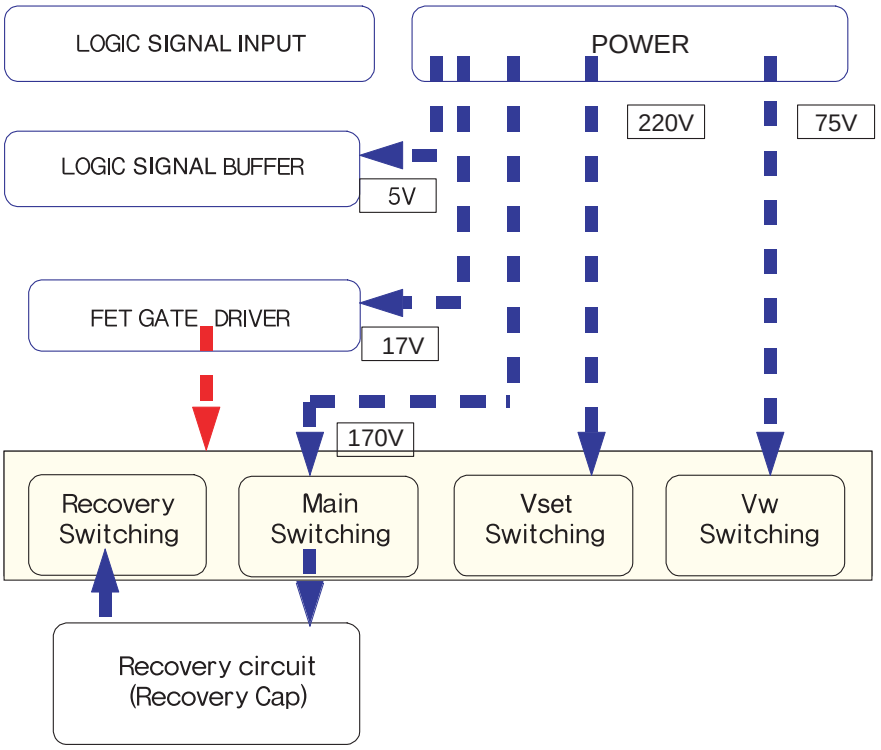
(2) Y board
Y board is connected to the Y-electrode blocks of panel, 1) generates sustain voltage pulse (including ERC), 2) generates Y rising and falling ramp pulse, and 3) sustains Vscan bias.

(3) Y buffer board (upper and lower)
Y buffer board impresses scan pulse to Y electrodes, and consists of upper and lower sub-boards. In case of SD class, one board is equipped with 4 scan driver IC's (STMicroelectronics STV7617 with 64 or 65 outputs).

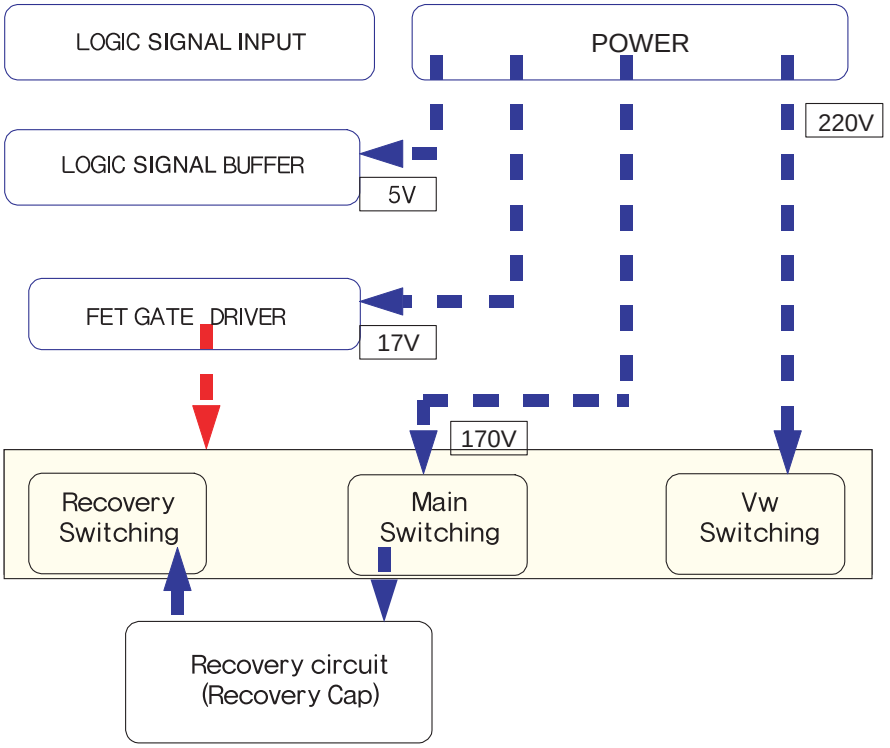
(4) COF
Impresses Va pulse on address electrodes in the address section and generates address discharge based on a difference between such Va pulse and scan pulse impressed on Y electrodes. It is in the form of COF, and a COF is equipped with 4 data drive IC's (STMicroelectronics STV7610A with 96 outputs). For a single scan, 7 COF's are required.

5-2-3(B) DRIVING BOARD'S BLOCK DIAGRAM

(1) Y



(2) X



4 Components of driving board's operations

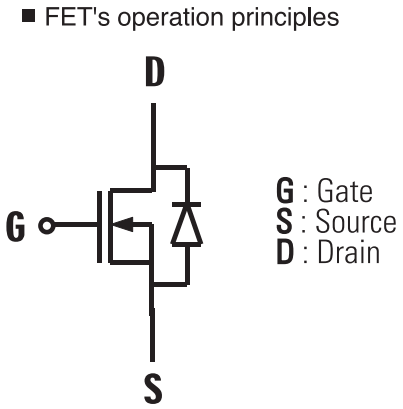
1. Power supply
   1) Supplied from the power supply board
      - For sustaining discharge: 180V;
      - For logic signaling buffer: 5V; and
      - For gate driver IC: 15V.

   2) Generated by the internal DC/DC part
      - For generating Vw pulse: 180V.

2. Logic signal
   1) Supplied from the logic board
      - Gate signals for FETs.

5-2-3(C) PRINCIPLES OF FET'S OPERATION AND HIGH VOLTAGE SWITCHIng

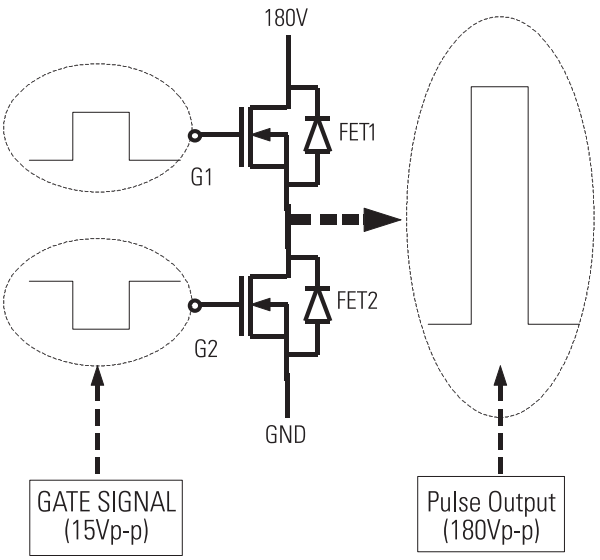
u FET's operation principles



(1) With signal impressed on the gate (Positive voltage), FET gets short-circuited (a conducting wire of zero (0) resistance); and

(2) With no signal impressed on the gate (GND), FET gets open-circuited (a non-conducting wire of ∞ resistance).

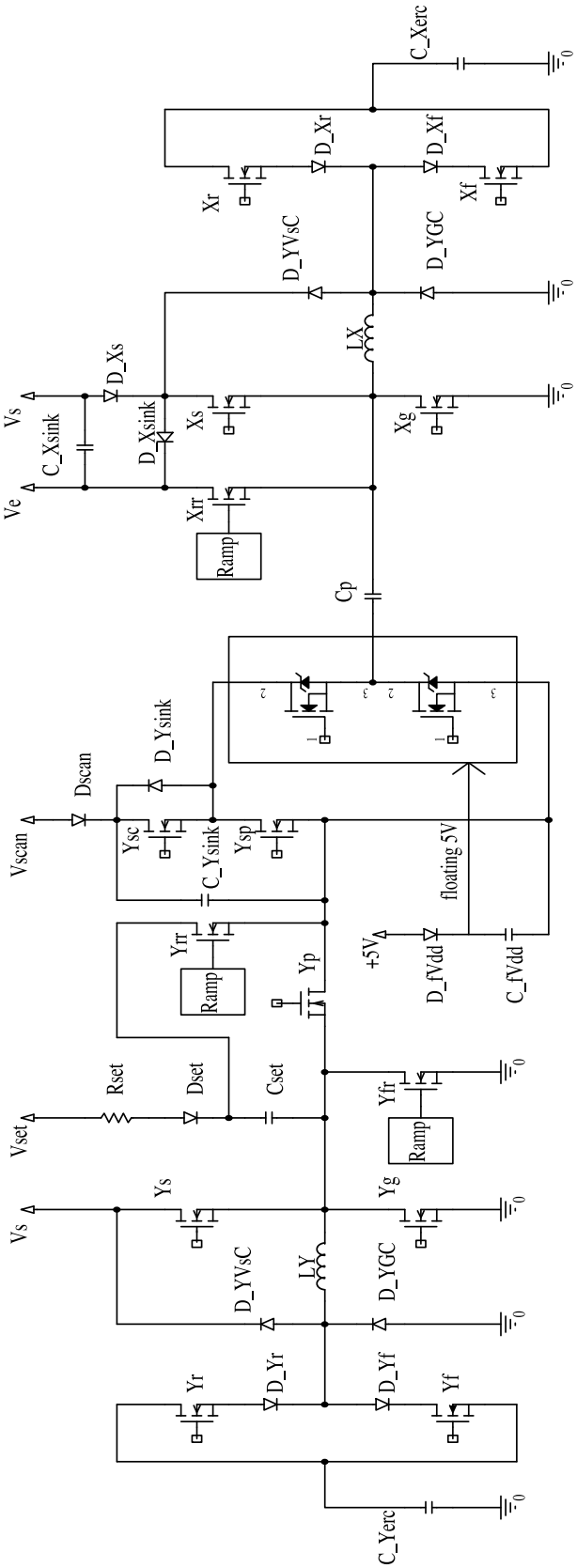
u FET's high voltage switching principles



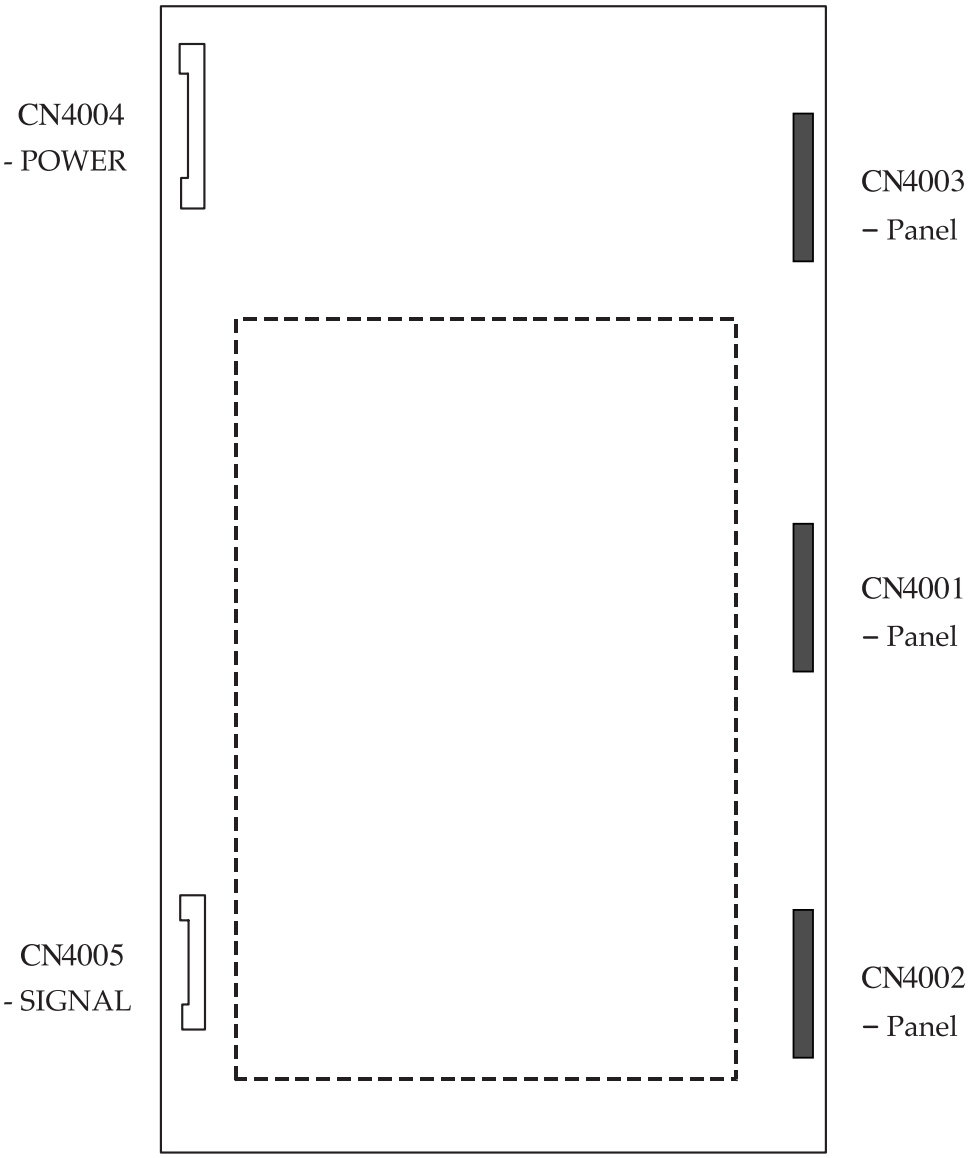
(1) With no signal impressed on G1, FET1 gets open-circuited, and with signal impressed on G2, FET2 gets short-circuited, thereby causing GND to be outputted to output terminals.

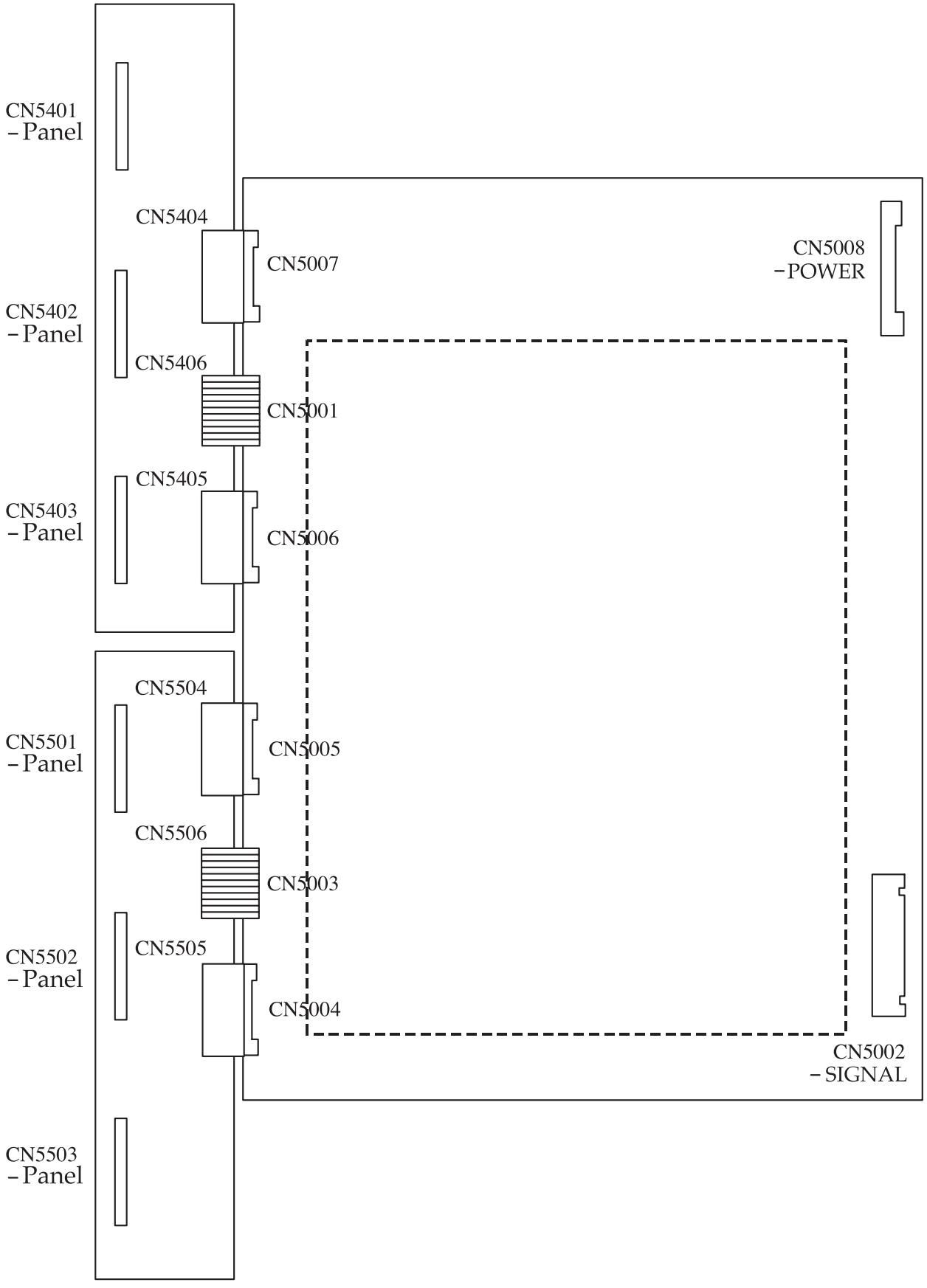
(2) With signal impressed on G1, FET1 gets short-circuited, and with no signal impressed on G2, FET2 gets open-circuited, thereby causing 180V to be outputted to output terminals.

5-2-3 (D) DRIVER CIRCUIT DIAGRAM



5-2-3(E) DRIVER BOARD CONNECTOR LAYOUT

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CN5007
CN5008
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CN5504
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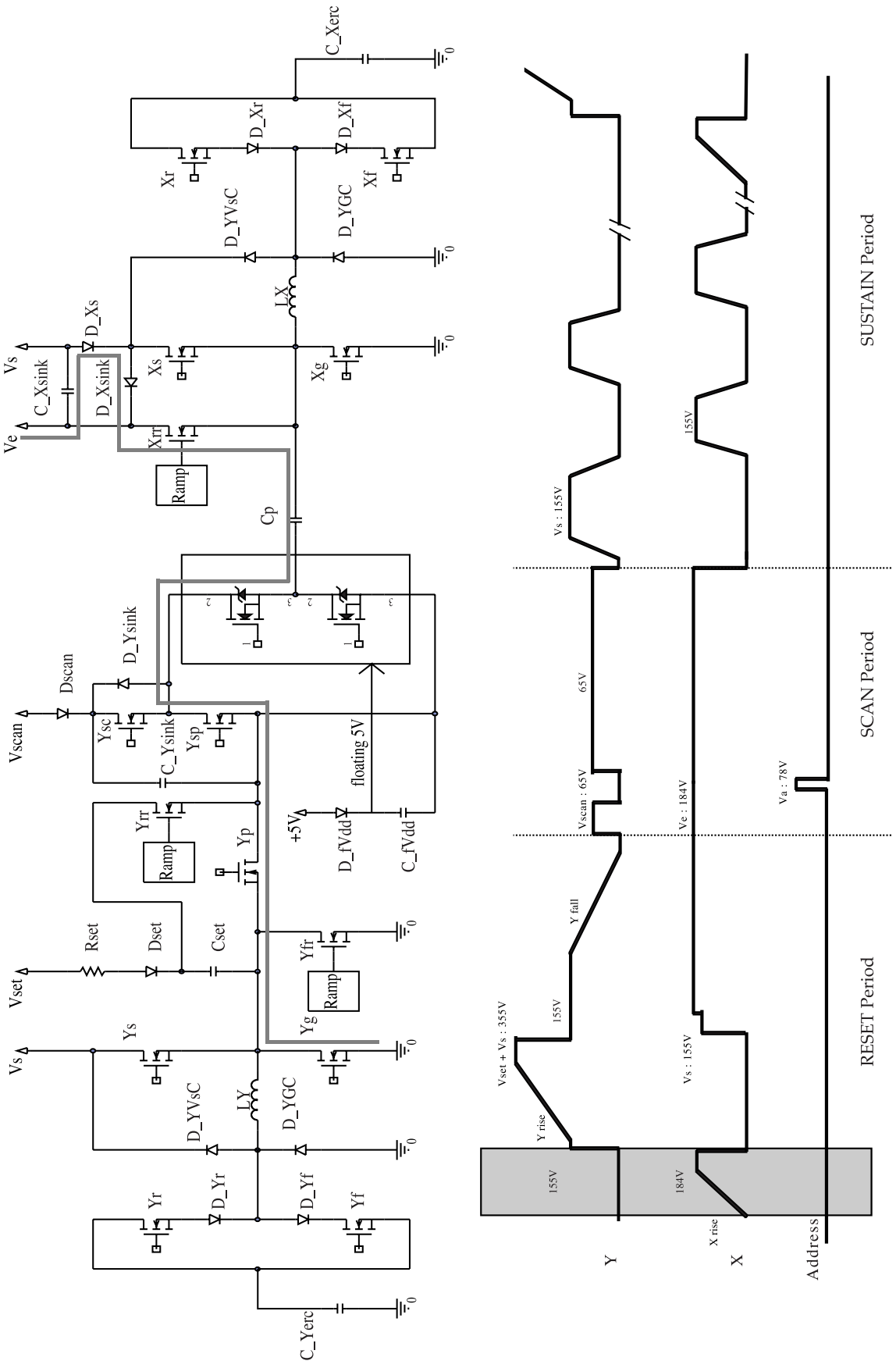
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Xs
Xg
Ve
Xrr
Ramp
Cp
D_Ysink
Dscan
Vscan
Ysc
C_Ysink
Ysp
floating 5V
Yrr
Ramp
Yp
+5V
D_fVdd
C_fVdd
Rset
Dset
Cset
Yfr
Ramp
Vset
Ys
Vs
Yg
D_YVsC
LY
D_YGC
Yr
D_Yr
D_Yf
Yf
C_Yerc
Vs : 155V
155V
65V
Vscan : 65V
Y fall
Vset + Vs : 355V
155V
Y rise
Vs : 155V
155V
Ve : 184V
Va : 78V
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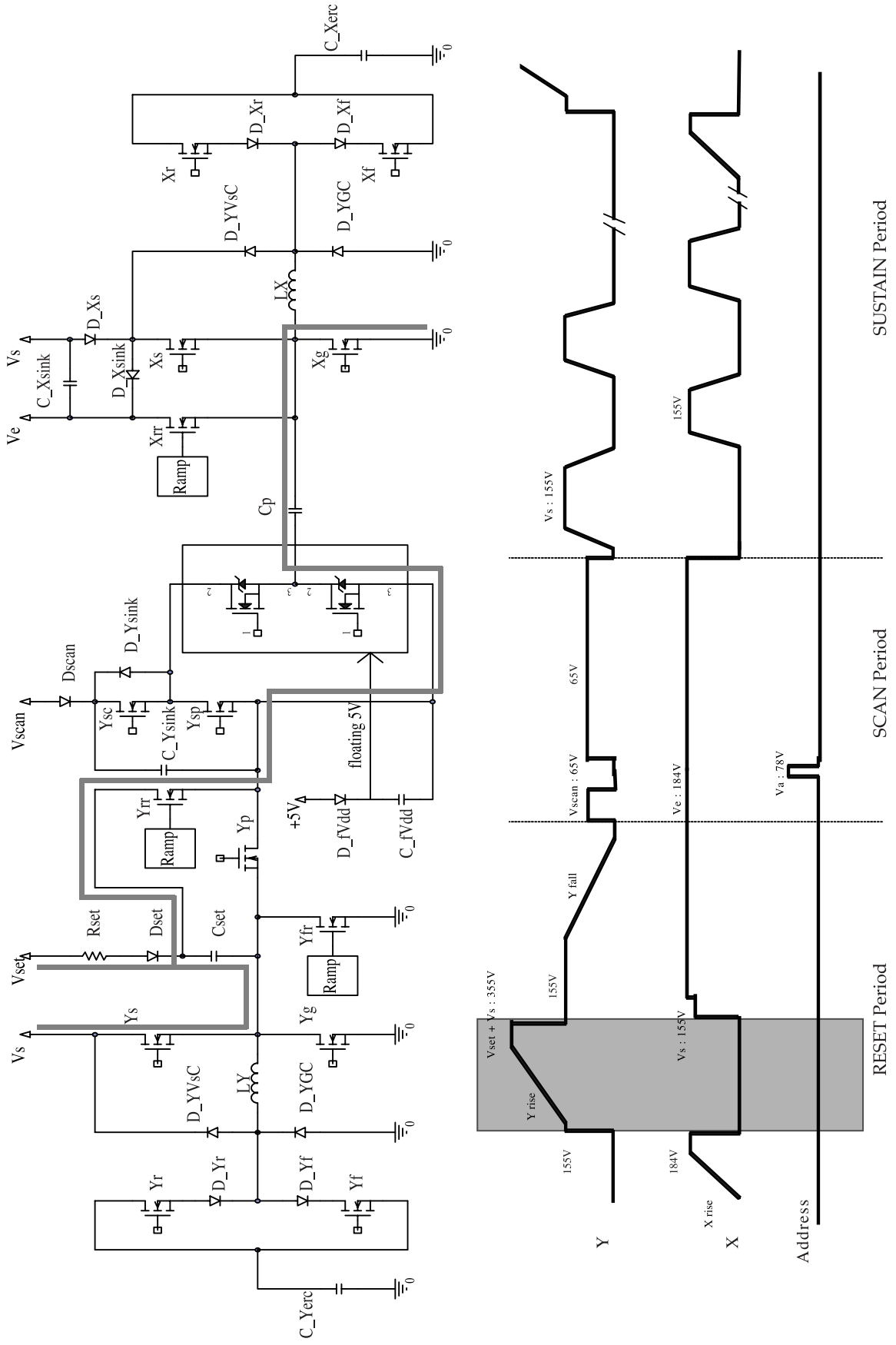
X rise
Y
X
Address
SUSTAIN Period
SCAN Period
RESET Period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Xg
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Xrr
Ramp
Cp
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Dscan
Vscan
Ysc
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Ysp
floating 5V
+5V
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Yrr
Yp
Rset
Dset
Cset
Vset
Yfr
Ys
Yg
LY
Yr
D_Yr
D_Yf
Yf
C_Yerc
Vs : 155V
65V
Vscan : 65V
Ve : 184V
Va : 78V
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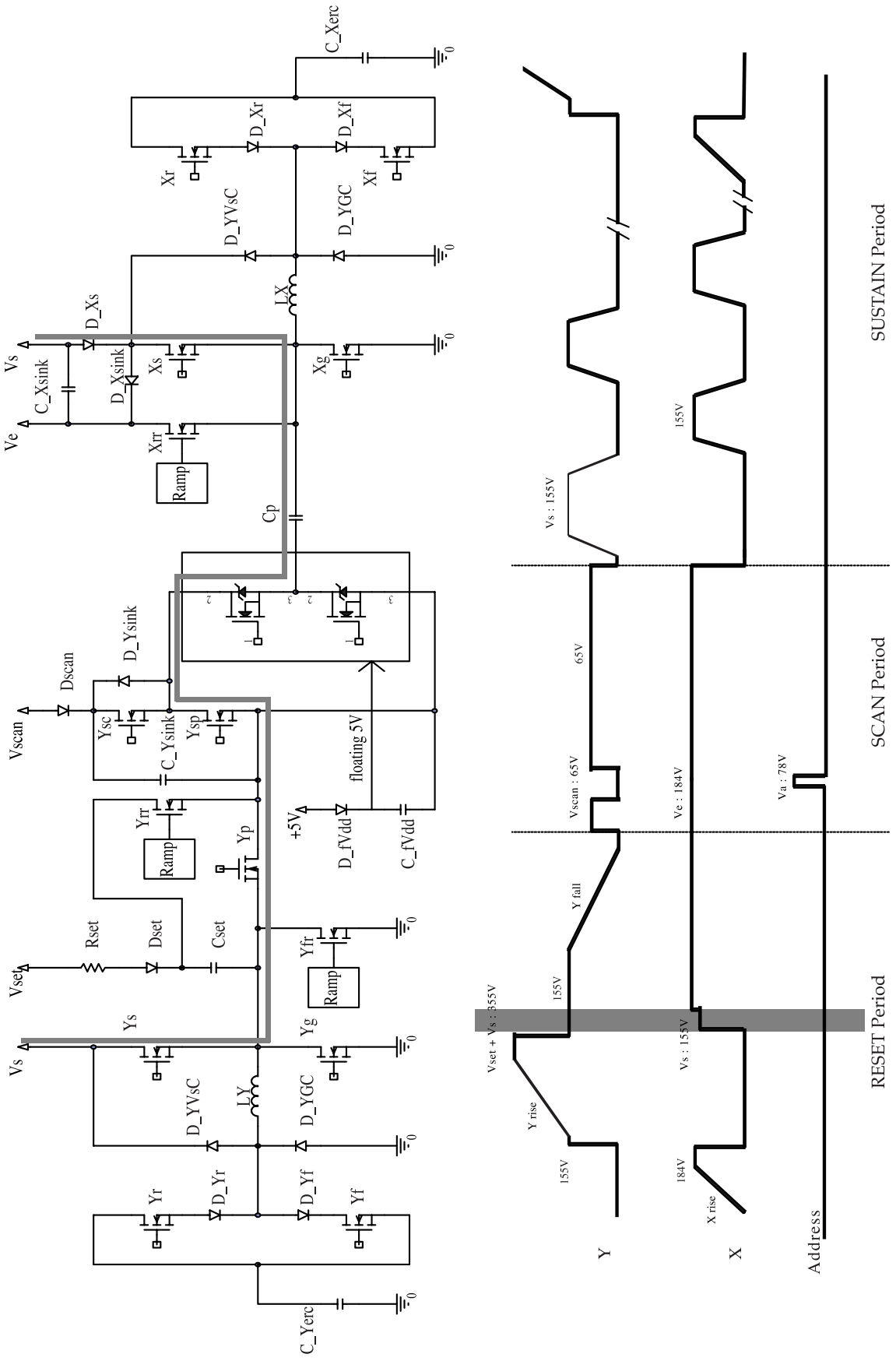
Vset + Vs : 355V
Y rise
184V
X rise
Y
X
Address
SUSTAIN Period
SCAN Period
RESET Period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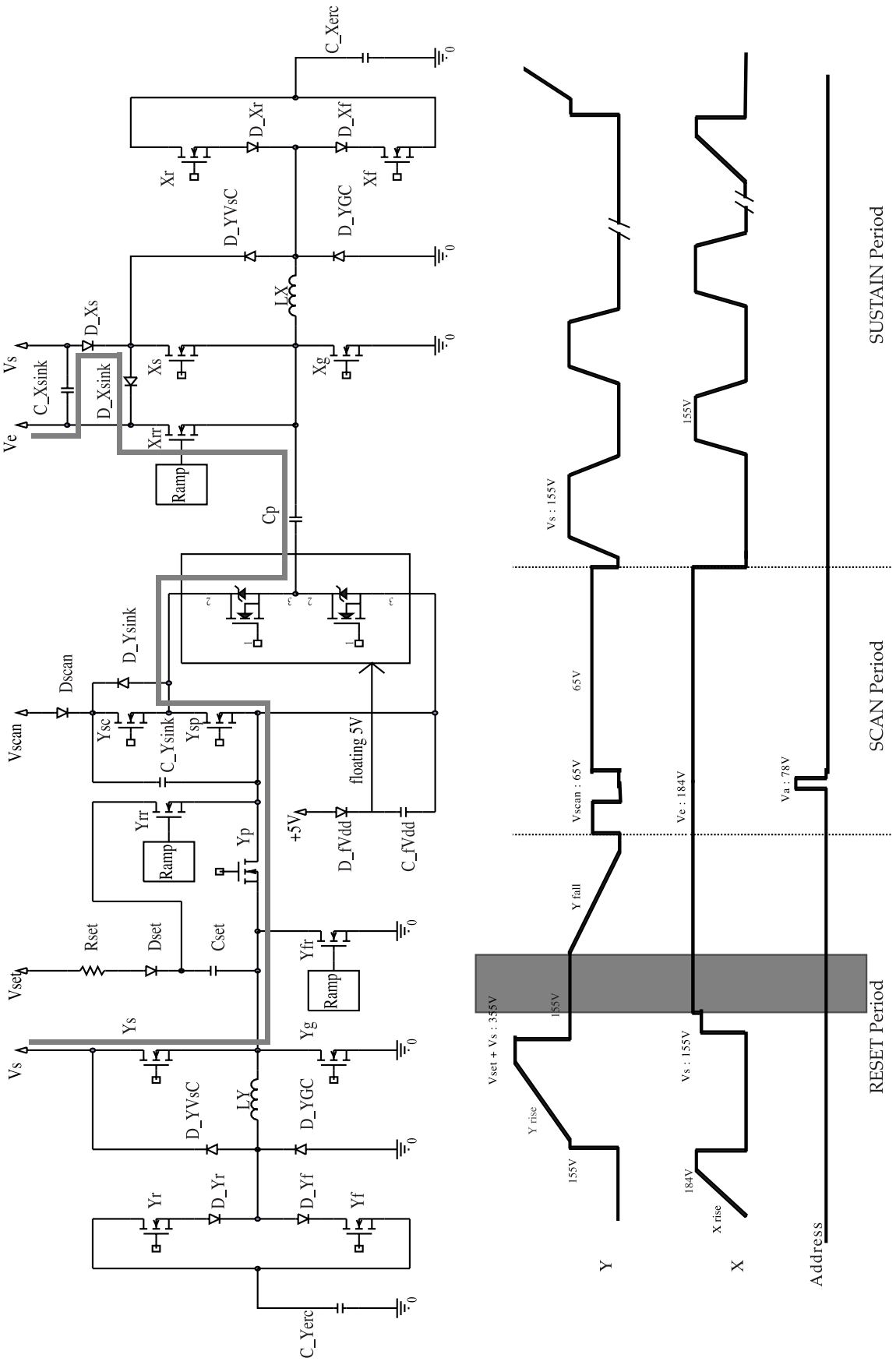
Xs
Xg
Ve
Xrr
Ramp
Cp
D_Ysink
Dscan
Vscan
Ysc
C_Ysink
Ysp
floating 5V
Yrr
Ramp
Yp
+5V
D_fVdd
C_fVdd
Rset
Dset
Cset
Vset
Yfr
Ramp
Ys
Yg
Vs
D_YVsC
LY
D_YGC
Yr
D_Yr
D_Yf
Yf
C_Yerc
Vs : 155V
65V
Vscan : 65V
Ve : 184V
155V
Va : 78V
Y fall
Vset + Vs : 355V
155V
Y rise
155V
Vs : 155V
184V
X rise
Y
X
Address
SUSTAIN Period
SCAN Period
RESET Period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LX
Vs
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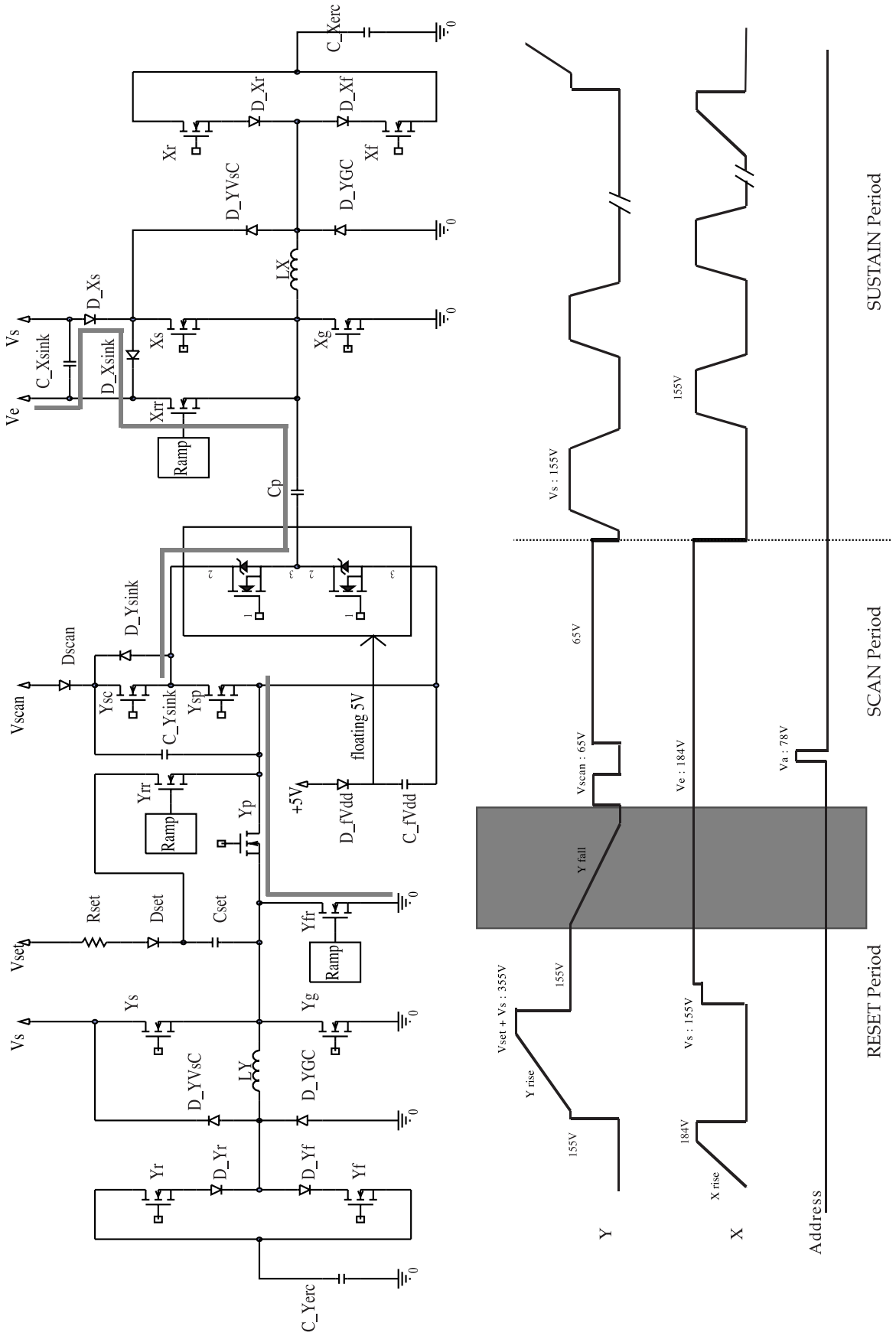
D_Xsink
Xs
Xg
Ve
Xrr
Ramp
Cp
D_Ysink
Dscan
Vscan
Ysc
C_Ysink
Ysp
floating 5V
+5V
D_fVdd
C_fVdd
Yrr
Ramp
Yp
Rset
Dset
Cset
Vset
Yfr
Ramp
Ys
Yg
Vs
D_YVsC
LY
D_YGC
Yr
D_Yr
D_Yf
Yf
C_Yerc
Vs : 155V
65V
Vscan : 65V
Y fall
Vset + Vs : 355V
155V
Y rise
155V
Y
155V
Ve : 184V
Vs : 155V
184V
X rise
X
Va : 78V
Address
SUSTAIN Period
SCAN Period
RESET Period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D_Xs
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D_Xsink
Xs
Xg
Ve
Xrr
Ramp
Cp
D_Ysink
Dscan
Vscan
Ysc
C_Ysink
Ysp
floating 5V
Yrr
Yp
+5V
D_fVdd
C_fVdd
Rset
Dset
Cset
Vset
Yfr
Ys
Yg
Yr
D_Yr
D_Yf
Yf
C_Yerc
Vs : 155V
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155V
Vscan : 65V
Ve : 184V
Va : 78V
Y fall
Vset + Vs : 355V
Y rise
184V
X rise
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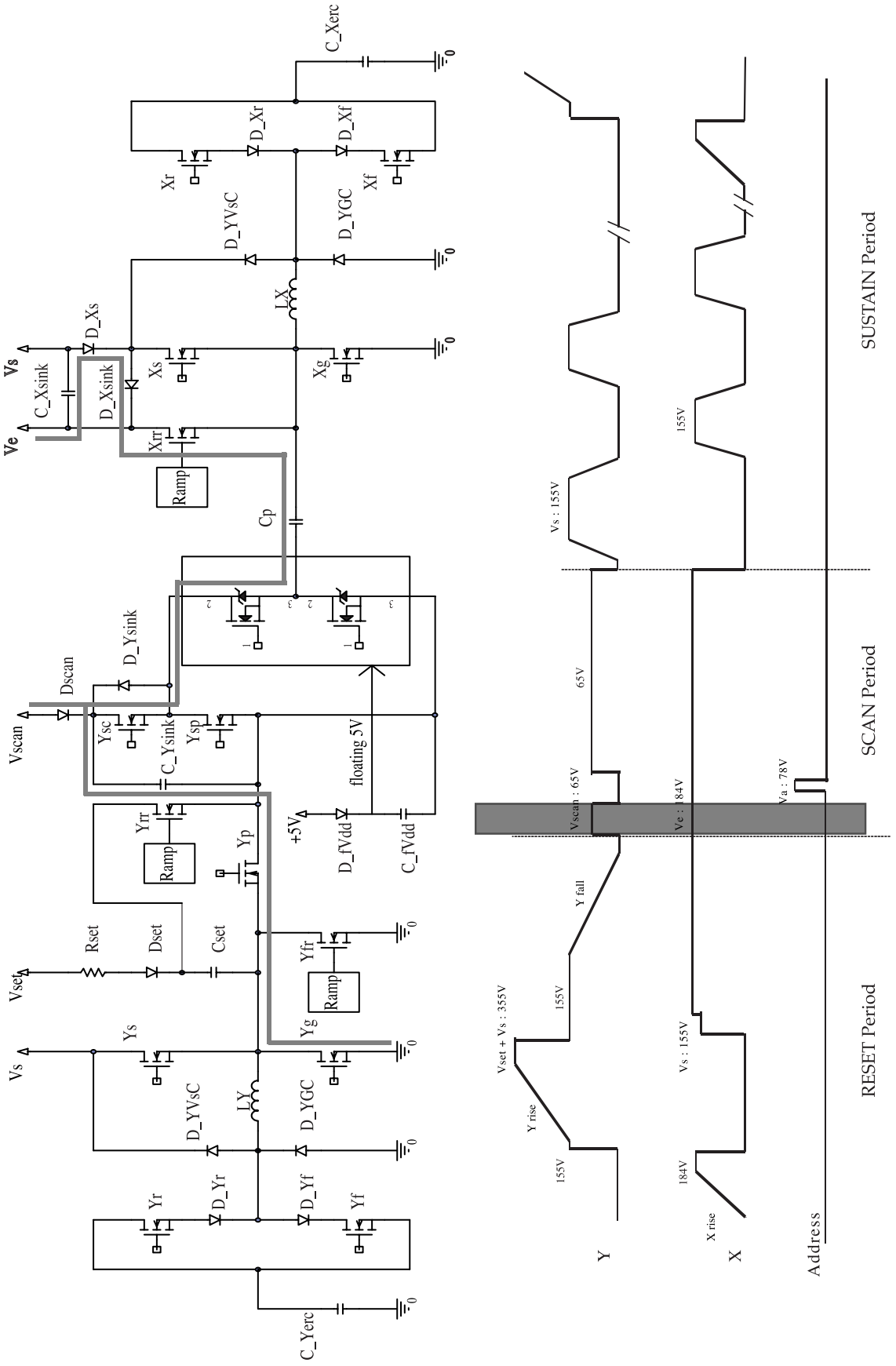
Address
SUSTAIN Period
SCAN Period
RESET Period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Xs
Xg
Ve
Xrr
Ramp
Cp
Dscan
D_Ysink
Vscan
Ysc
C_Ysink
Ysp
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Ramp
Yp
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C_fVdd
Rset
Dset
Cset
Vset
Yfr
Ramp
Ys
Vs
Yg
D_YVsC
LY
D_YGC
Yr
D_Yr
D_Yf
Yf
C_Yerc
Vs : 155V
65V
Vscan : 65V
Ve : 184V
155V
Va : 78V
Y fall
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Y rise
155V
Y
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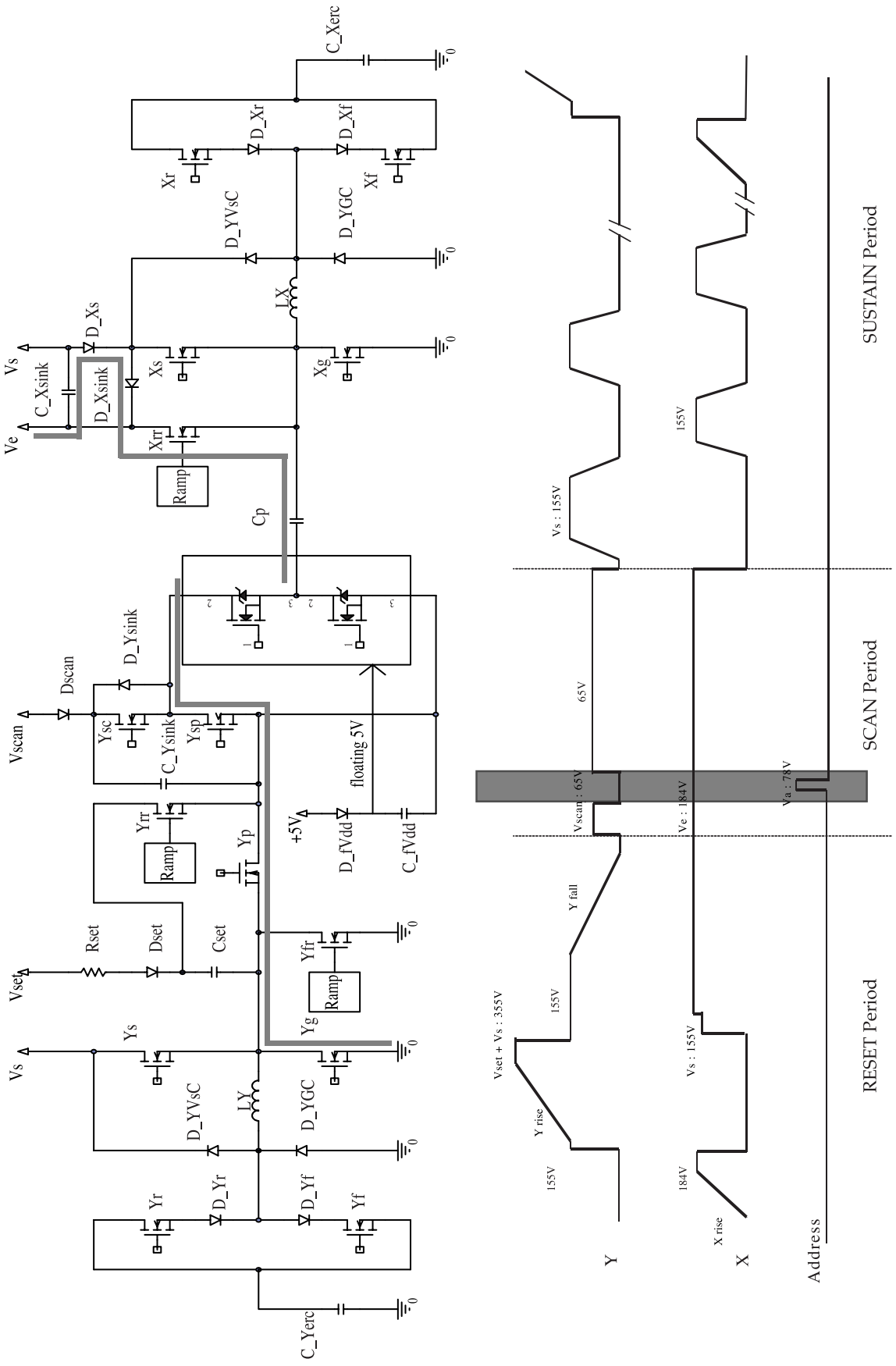
SUSTAIN Period
SCAN Period
RESET Period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Xs
Xg
Ve
Xrr
Ramp
Cp
D_Ysink
Dscan
Vscan
Ysc
C_Ysink
Ysp
floating 5V
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Ramp
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+5V
D_fVdd
C_fVdd
Rset
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Cset
Vset
Yfr
Ramp
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D_YGC
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Vs : 155V
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Vscan : 65V
Ve : 184V
Va : 78V
Y fall
Vset + Vs : 355V
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X rise
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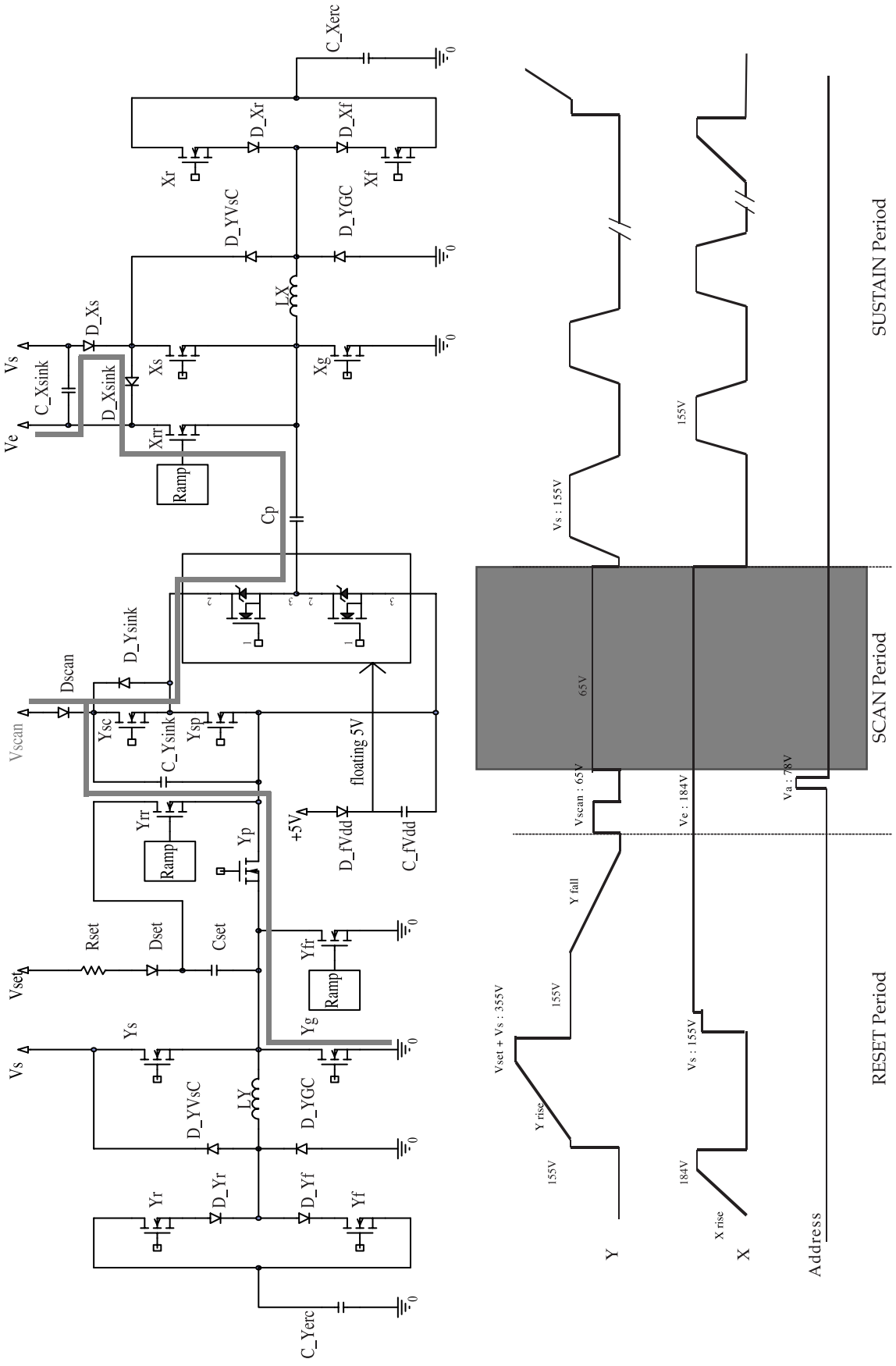
Address
SUSTAIN Period
SCAN Period
RESET Period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Cp
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Dscan
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Vs : 155V
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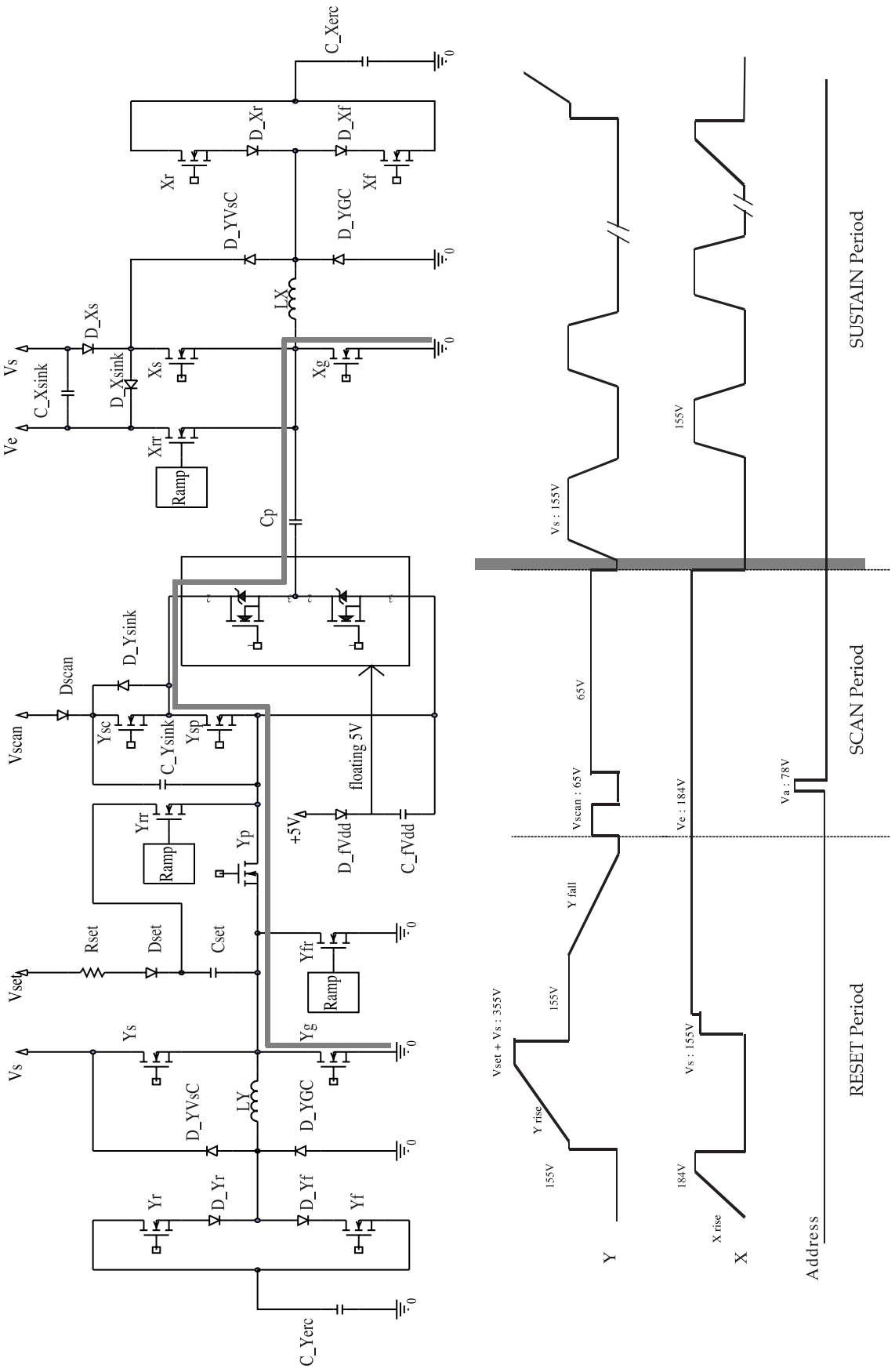
SUSTAIN Period
SCAN Period
RESET Period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Xs
Xg
Ve
Xrr
Ramp
Cp
D_Ysink
Dscan
Vscan
Ysc
C_Ysink
Ysp
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D_fVdd
C_fVdd
Yrr
Ramp
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Cset
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D_Yf
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Vs : 155V
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Vscan : 65V
Y fall
Vset + Vs : 355V
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Ve : 184V
Vs : 155V
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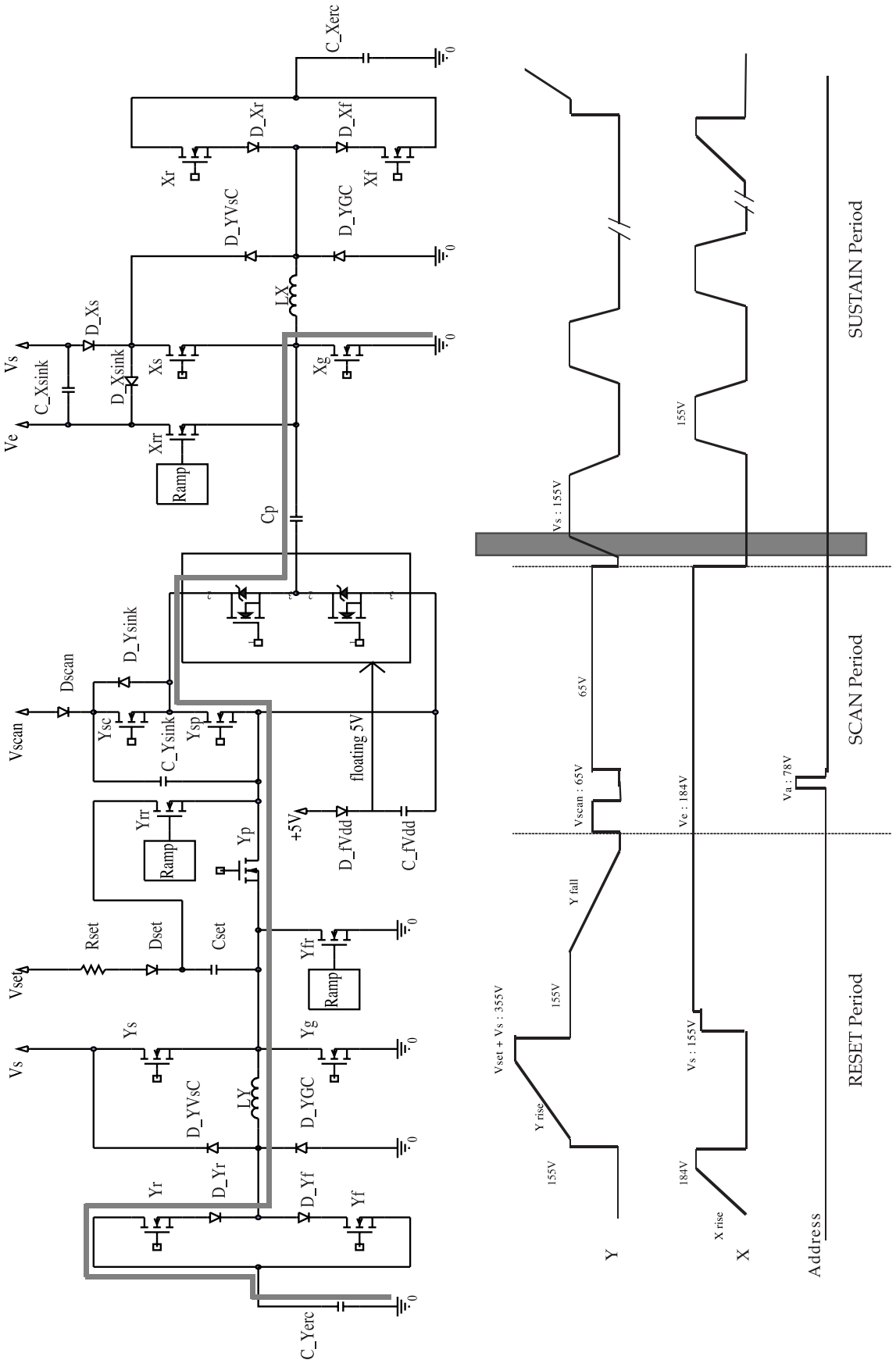
X rise
X
Va : 78V
Address
SUSTAIN Period
SCAN Period
RESET Period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Dscan
Vscan
Ysc
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Cset
Vset
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Ramp
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D_YGC
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Vs : 155V
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Vscan : 65V
Ve : 184V
Va : 78V
Vset + Vs : 355V
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Vs : 155V
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X rise
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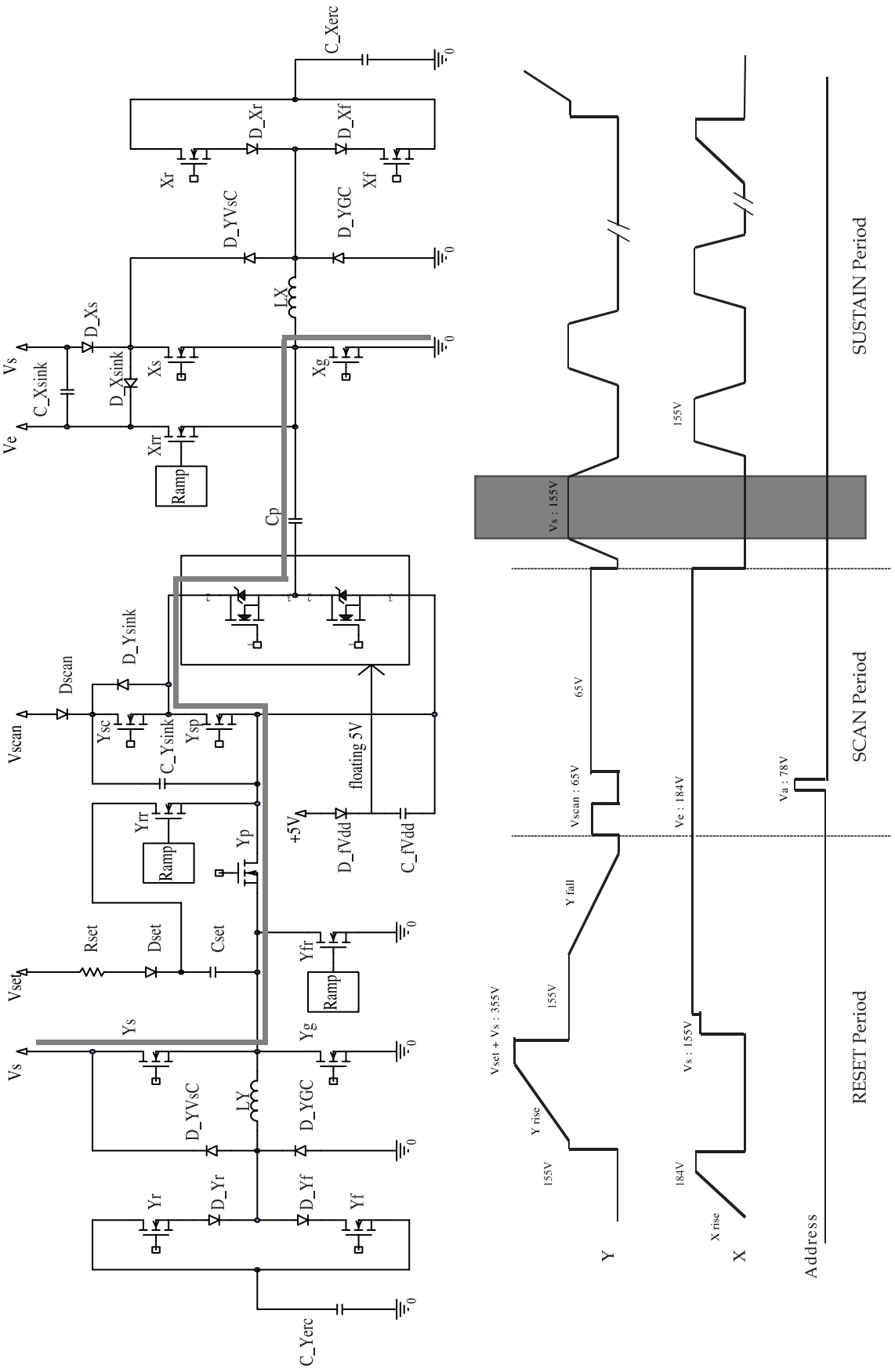
Address
SUSTAIN Period
SCAN Period
RESET Period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Vs : 155V
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Vscan : 65V
Ve : 184V
Va : 78V
Y fall
Vset + Vs : 355V
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Vs : 155V
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X rise
Y
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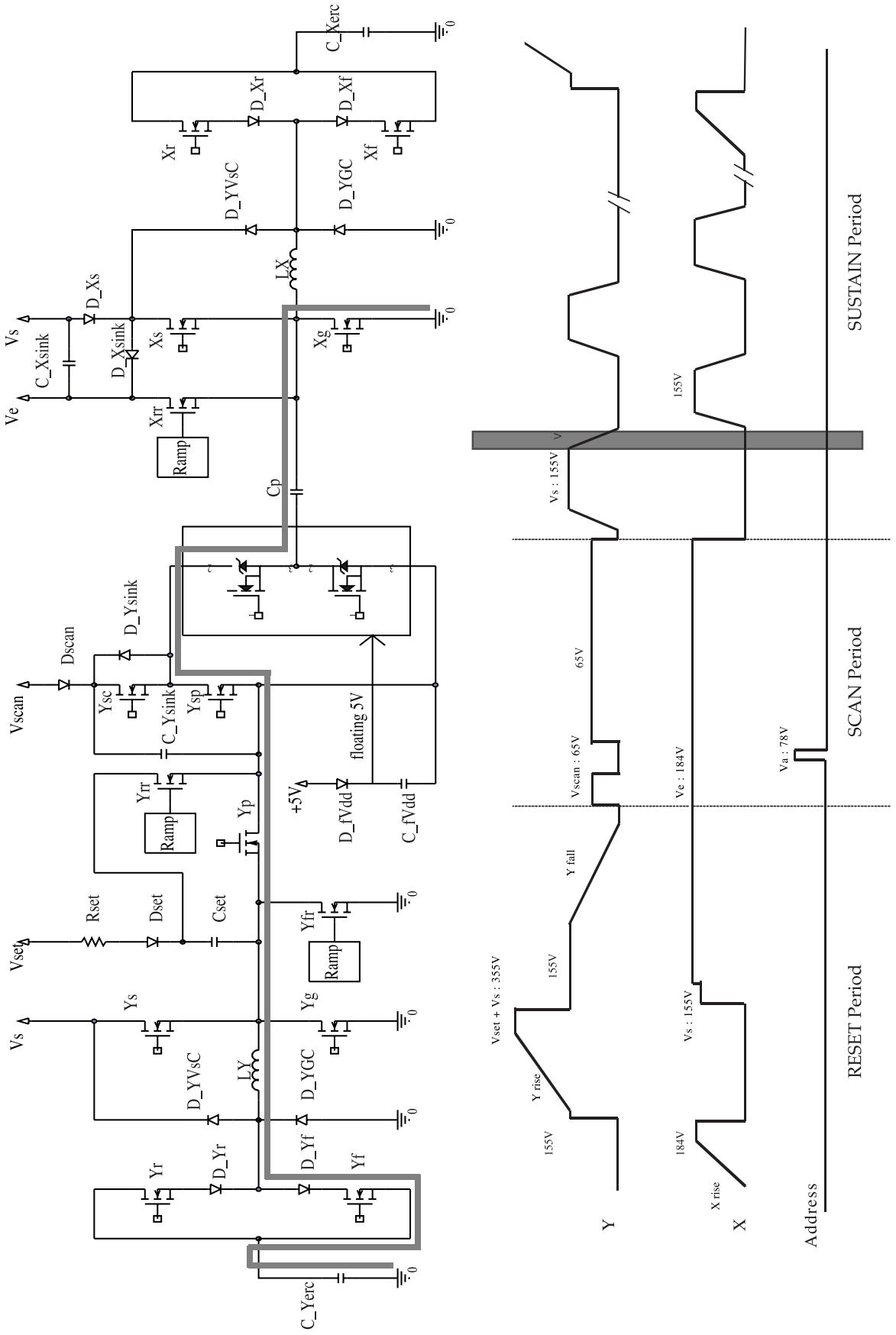
Address
SUSTAIN Period
SCAN Period
RESET Period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Vset + Vs : 355V
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Vs : 155V
Ve : 184V
Va : 78V
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Vs : 155V
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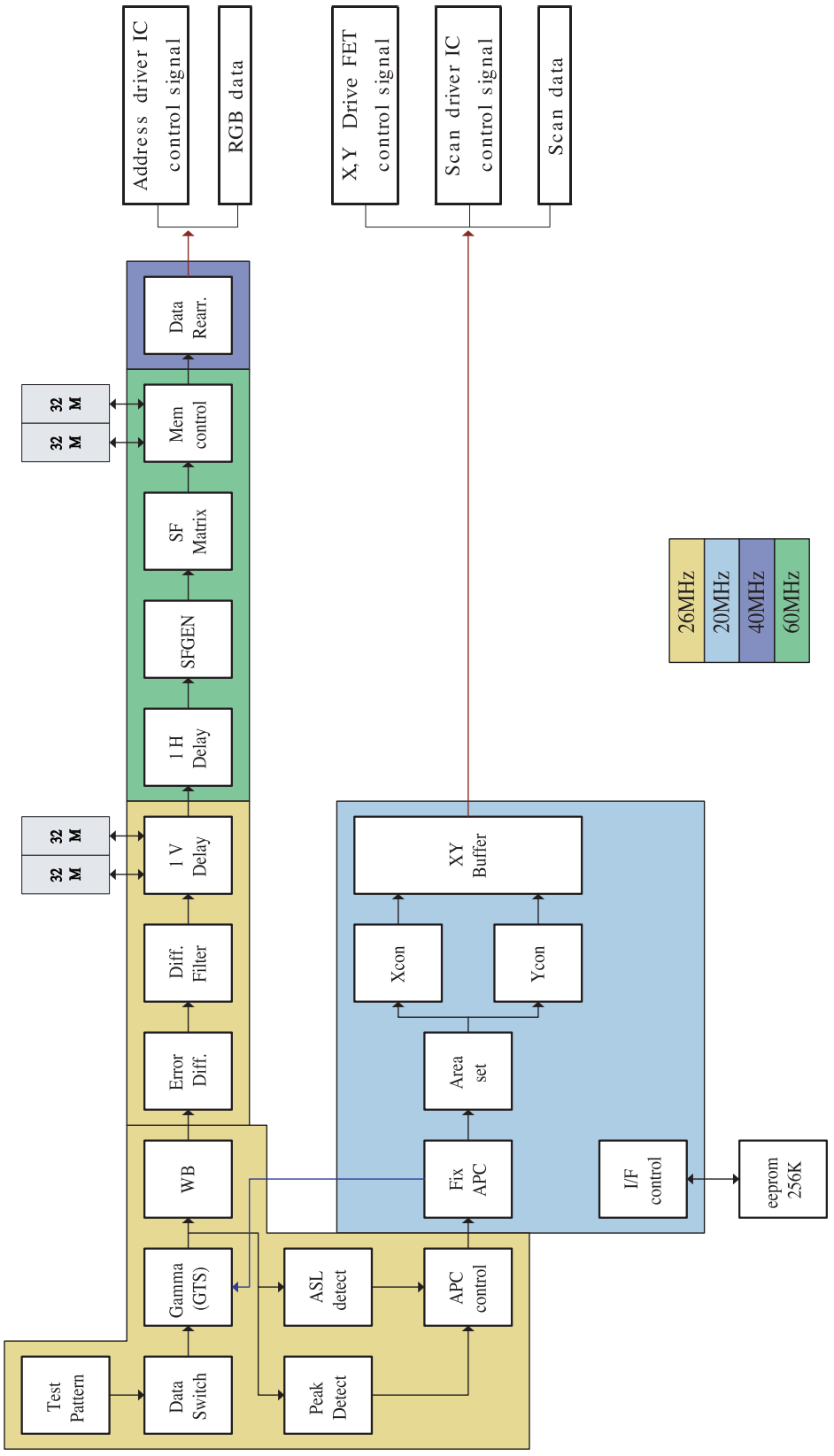
Y
X
Address
RESET Period
SCAN Period
SUSTAIN Period

5-3 Logic part

5-3-1 Logic Board Block diagram

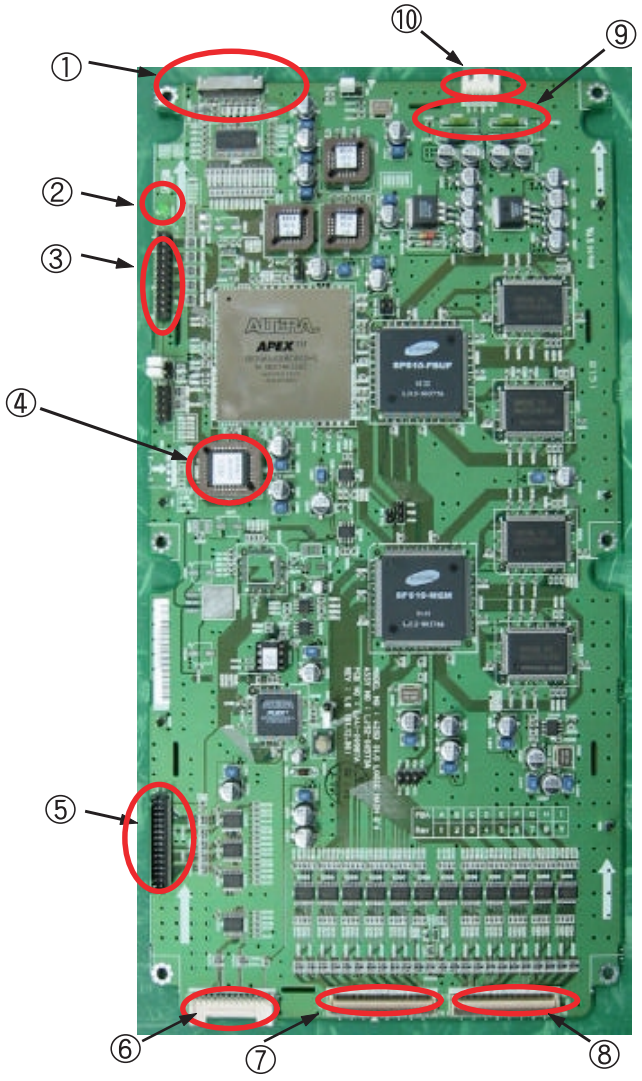


5-3-1(A) TDESCRIPTION OF LOGIC BOARD

The logic board consists of the logic main board and the buffer board. The logic main board processes video signal, and then generates and outputs address driver output signal as well as XY drive signal. The buffer board buffers address driver output signal, and sends it to the address driver IC (COF module).

Logic Board		Function
Login Main		- Processes Video signal (W/L, Error diffusion, APC). - Outputs address drive control signal and data signal to buffer board. - Outputs XY drive board control signal.
Buffer board	E Buffer board	Sends data signal and control signal to left-bottom COF.
	F Buffer board	Sends data signal and control signal to right-bottom COF.

5-3-1 (B) NAMES AND DESCRIPTION OF THE MAIN COMPONENTS OF THE LOGIC BOARD



NO	Name	Function
1	LVDS Connector	An input connector to receive LVDS encoded RGB, H, V, DATAEN, and DCLK signal from the video board.
2	Operation LED	Shows the logic board properly receives Sync and clock signal. (Normal: Blinks at 1 second interval)
3	Key-Scan Connector	A connector to connect key scan board checking and adjusting 24C16 data.
4	256k	An EEPROM to save gamma table, APC table, drive signal timing and other options.
5	Y Connector	A connector to output Y drive board control signal.
6	X Connector	A connector to output X drive board control signal.
7	LE01 (Address Buffer Connector)	A connector to output address data and control signal to the E, F buffer board.
8	LE02 (Address Buffer Connector)	A connector to output address data and control signal to the E, F buffer board.
9	Power Fuse	A fuse connected to the power source (5V) input to the logic board.
10	Power Connector	A connector to supply power (5V) with the logic board.

5-3-1(C) WAVEFORMS IN NORMAL OPERATION

If the PDP unit and the logic board are operating properly, the operation LED in the figure will blink at about 1 second interval.
If the set doesn't operate normally, first check the status of the operation LED through eye-inspection, and then replace the board. To check and troubleshoot, follow the logic board test procedures attached in appendix.

4 Troubleshooting for 42" SD s1.0 logic main board

Required test equipment : - Oscilloscope (digital 400 MHz 3 channel or more)
- Multi meter

Other equipment : - DC power supply (5V: 1EA)
- Sub-PCB ASS'Y for JIG: 1 EA

① First, perform eye-inspection and short circuit inspection on the power stage of the logic board to examine. If no problem is found, perform the following examinations on the board in order.
② Replace IC2017(256K EEPROM) of the logic board with Test EERPOM. Change the clock setting of the logic board to internal. (Refer to the setting procedures described on the next page.)
fl If there is no available Test EEPROM, you can use PG 00 for Windows NT systems, or PG 40 for NT/PAL compatible systems by setting address 20 to 81, 22 to 00, 23 to 00,and 70 to 01.
③ Connect power(5V) to LD1, and check that LED(LD2000) on the left top of the board blinks at about 1 second interval.
④ If the logic board doesn't operate normally, the LED will blink too fast or not be lighted on.
⑤ If no problem is found in the above examination, connect sub-PCB for logic output check, measure output waveform, and then compare the waveform with the appended waveform in normal operation. Record either OK or NG after examination.
⑥ Check the drive Y s/w, the drive X s/w, and the address signal in order.
⑦ Set probe 1 of oscilloscope to trigger signal and connect it to the TP31 of the logic board.
⑧ Set the oscilloscope to 2ms/div. After adjusting probe 2 to 5V/div, check the output signal.
⑨ After troubleshooting is complete, turn off the power supply and disconnect connector.

1) Layout and Appearance of the board

(1) Layout of the logic main board

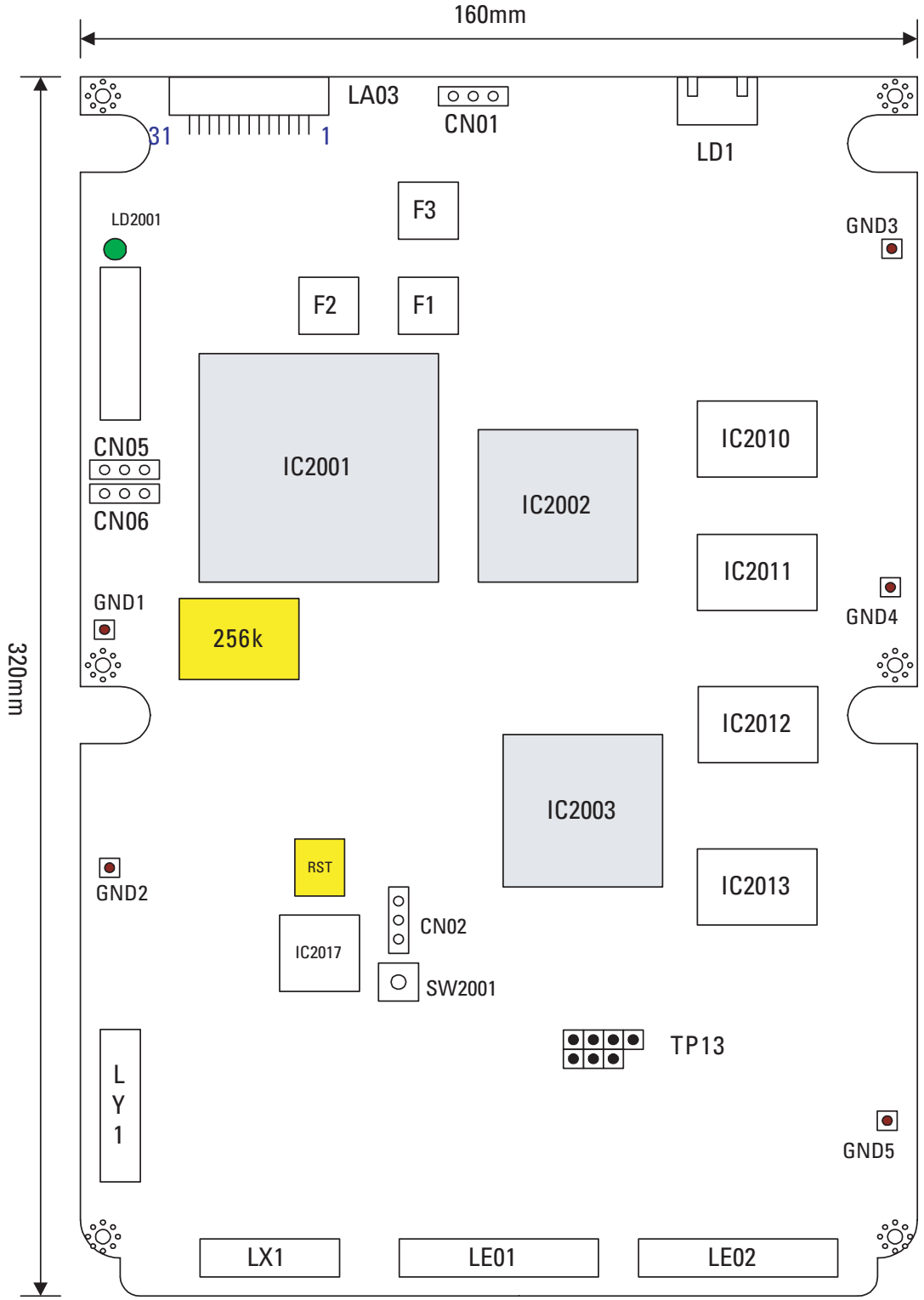


Figure 1. Layout of the logic main board

(2) Appearance and indication of connector

Basically, it is depicted on the PCB exactly same as the real one.

2) Jumper setting to select internal clock or external clock (CN01)

On the top of the logic main board, there is an option jumper, CN01 that allows switching between internal and external clocks. (Refer to Figure 1.) While troubleshooting, set it to internal clock as Figure 2 shows.

fl The jumper will be stocked set to external clock. Set it to internal clock during troubleshooting, and reset to external clock after examination.

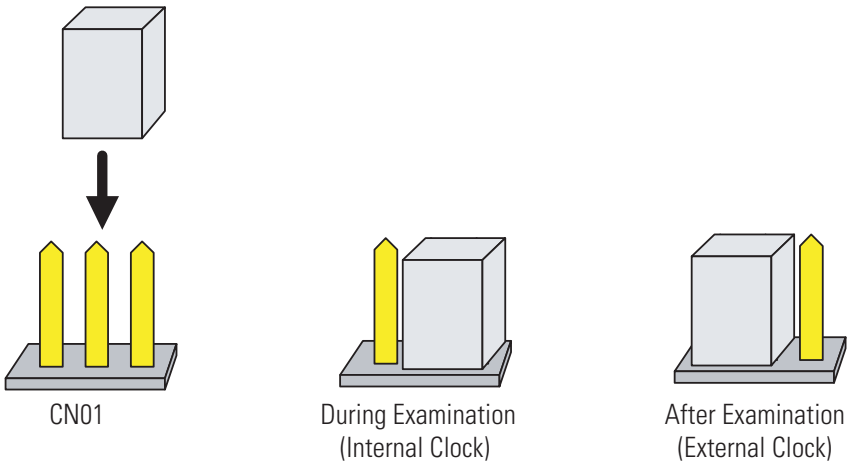


Figure 2. Jumper setting to select internal clock or external clock

3) Reset jumper setting (CN02)

The CN02 connector of the logic main board should be set to Reset signal as the following figure shows. It is default setting and should not be changed.

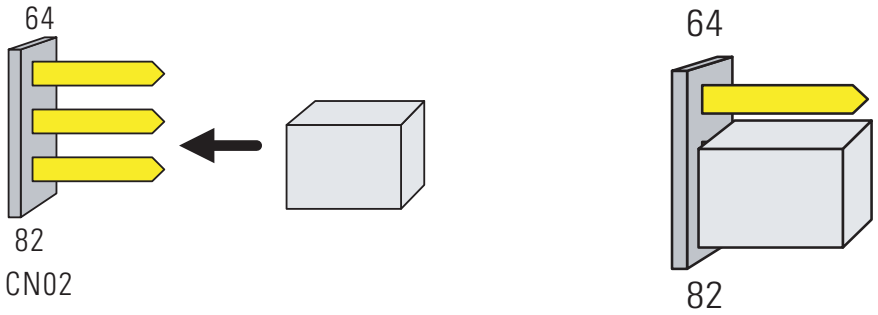


Figure 3. RESET JUMPER SETTING

4) Setting to select Internal pattern or external pattern (CN05)
Default setting is external pattern.

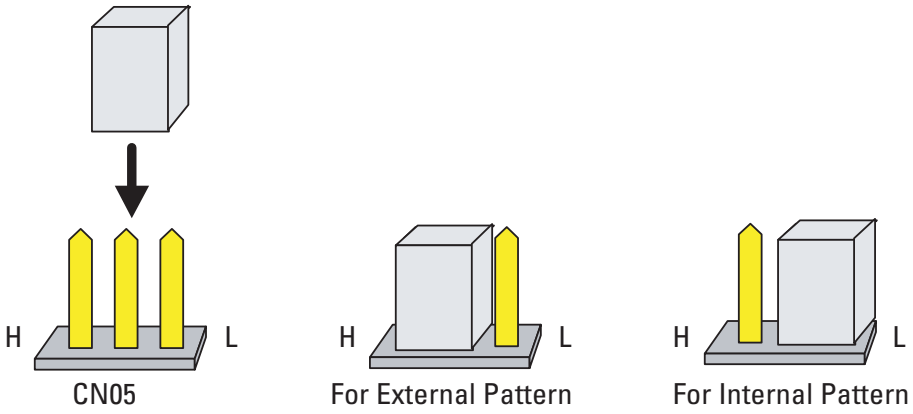


Figure 4. Jumper setting to select internal or external pattern

5) Jumper setting to select NTSC or PAL when internal pattern is selected (CN06)
Switching between NTSC and PAL as following figure shows only works in internal pattern setting.
Default setting is PAL mode.

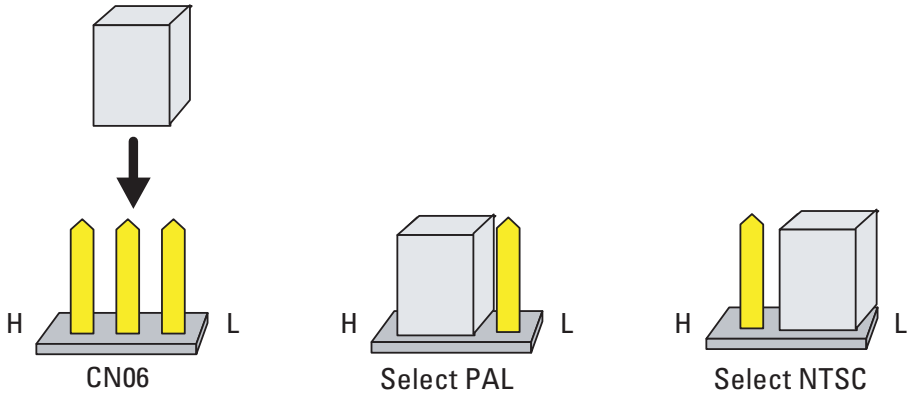


Figure 4. Jumper setting to select internal or external pattern

6) Using ASS'Y examination system

(1) Setting

① Preadjust the output voltage to 5V when using the linear power supply.
Also, check if the output voltage is 5V when using SMPS.

② Install the TEST PROM 256K, RST, F1, F2, and F3 on the logic main board.
To prevent misinsertion, make sure that the pin 1 of the PROM is inserted in the proper location marked on the PCB.

③ As shown in Figure 6, connect the logic main board and the JIG board for examination using the cables connecting LX1(13P), LY1(30P), LE01, and LE02(80P).

④ Set the oscilloscope to 5ms / div, 2V / div.
Connect the probe 1 as Figure 7 shows and set it to a trigger.

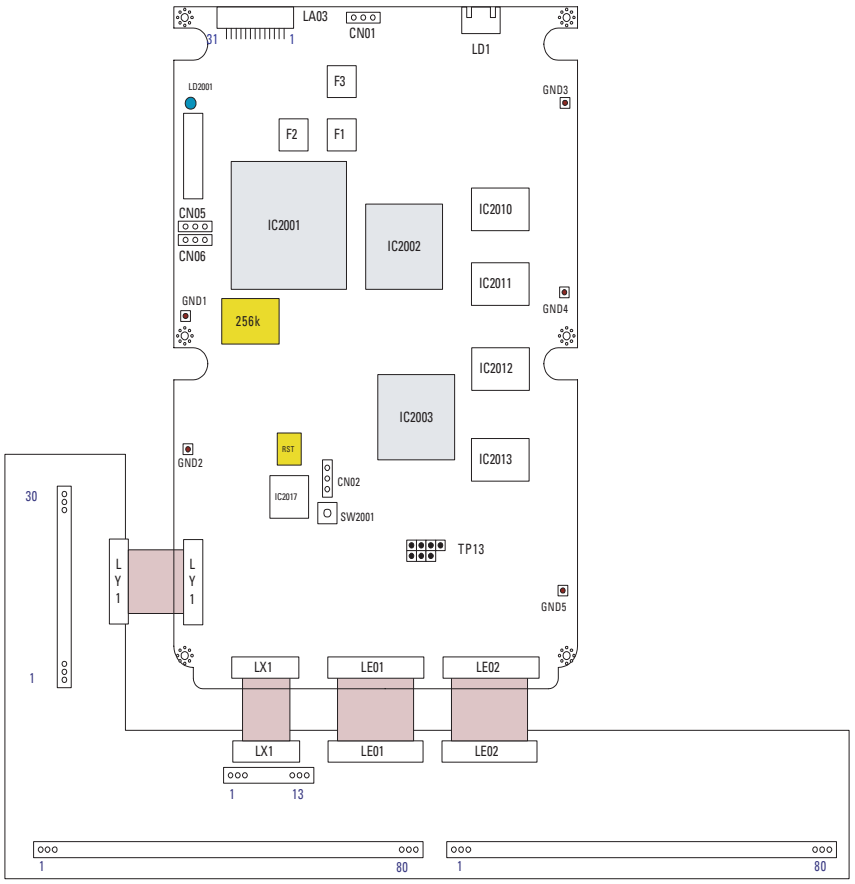


Figure 6. Connecting between the logic main board and the JIG board for examination

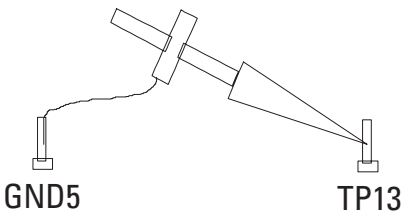


Figure 7. Connecting probe 1 of the oscilloscope

(2) Logic main board

① Set the logic main board as Figure 6 shows.

fl Check for the test PROM installation status and clock jumper setting.

② Connect a 4-pin connector cable between LD01 of the logic main board and the linear power supply. (or SMPS).

fl Connect while the linear power supply (or SMPS) is turned off.

③ Turn the linear power supply on and supply 5V power to the logic main board.

Check if LED, LD2000 on the left top of the board blinks at about 1 second interval. If the logic board doesn't operate normally, the LED will blink too fast or not be lighted on.

④ Measure the waveform of each test point on the board, and then compare them with the appended waveforms.

You should examine the waveforms of all test points.

If the waveform of a test point is different from the appended waveform, or the voltage level is low, do not proceed to the next examination step and check other abnormal test points.

⑤ Perform RESET examination.

Press and hold SW2001 reset switch for 5 seconds to turn the LE2000 of the logic main board off. Release the switch after 5 seconds and check that LD2000 blinks. If no problem is found, finish the examination.

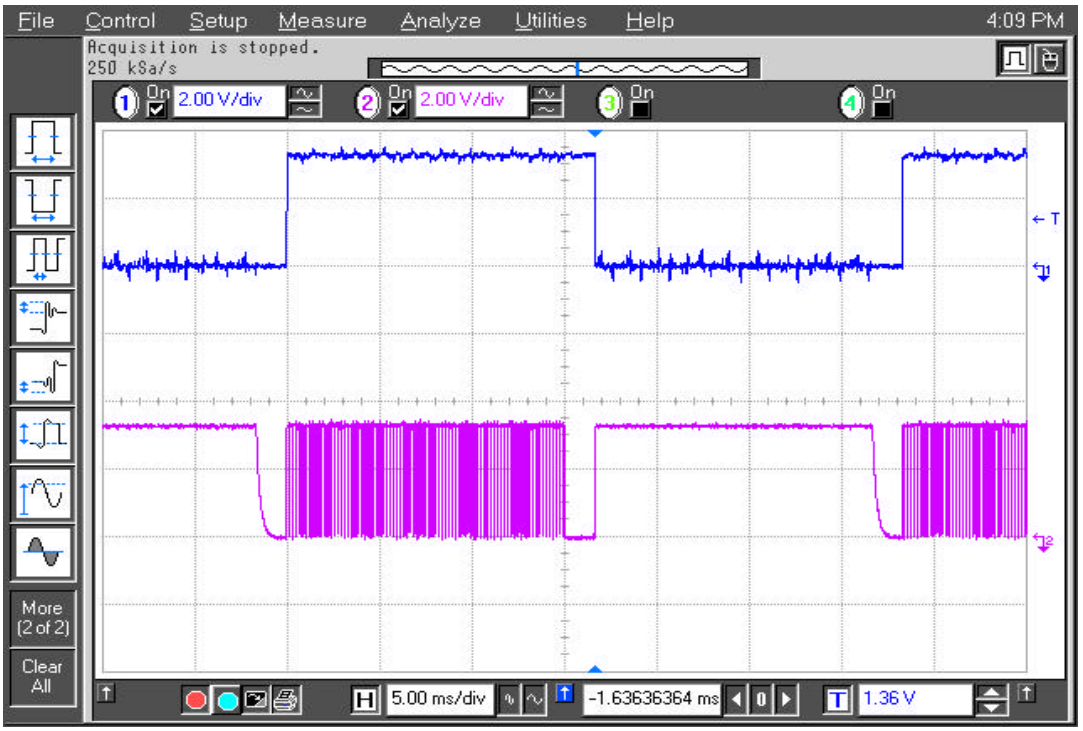
⑥ If the waveforms of all test points are output properly and RESET examination is complete, turn off the linear power supply (or SMPS) to finish examination.

⑦ After all examinations are complete, perform as follows.

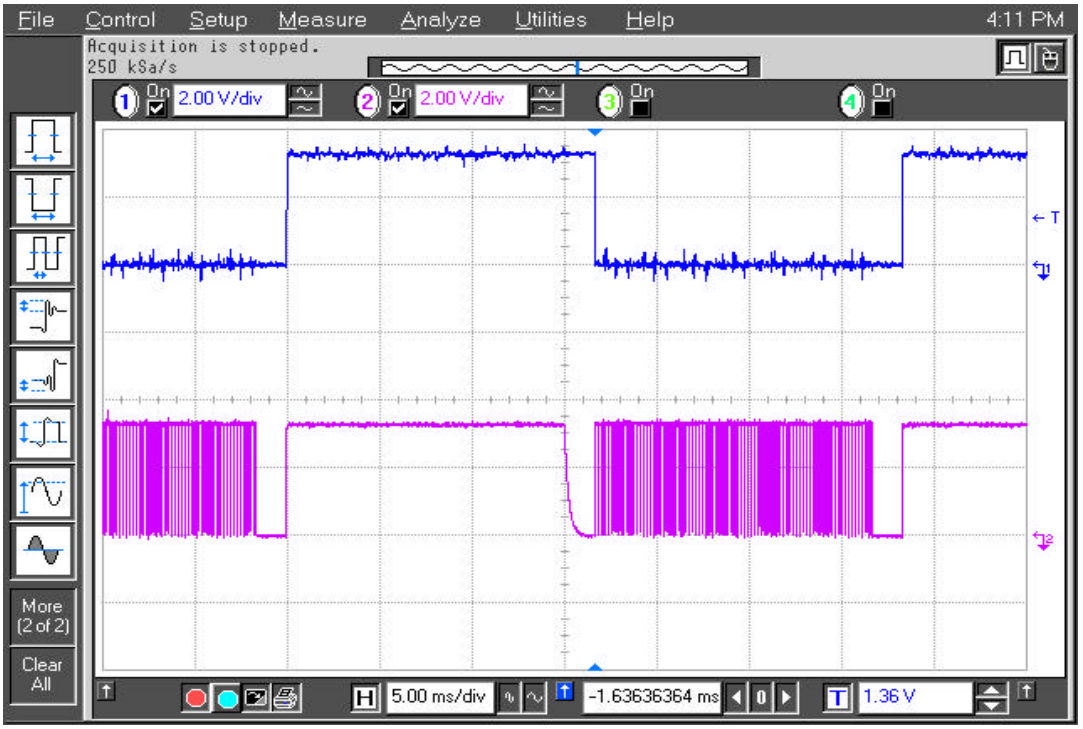
- Reset the clock jumper to external clock.
- Reset the internal / external pattern jumper to external pattern.
- Reset the NTSC / PAL mode jumper to PAL mode.

Board Waveform Test

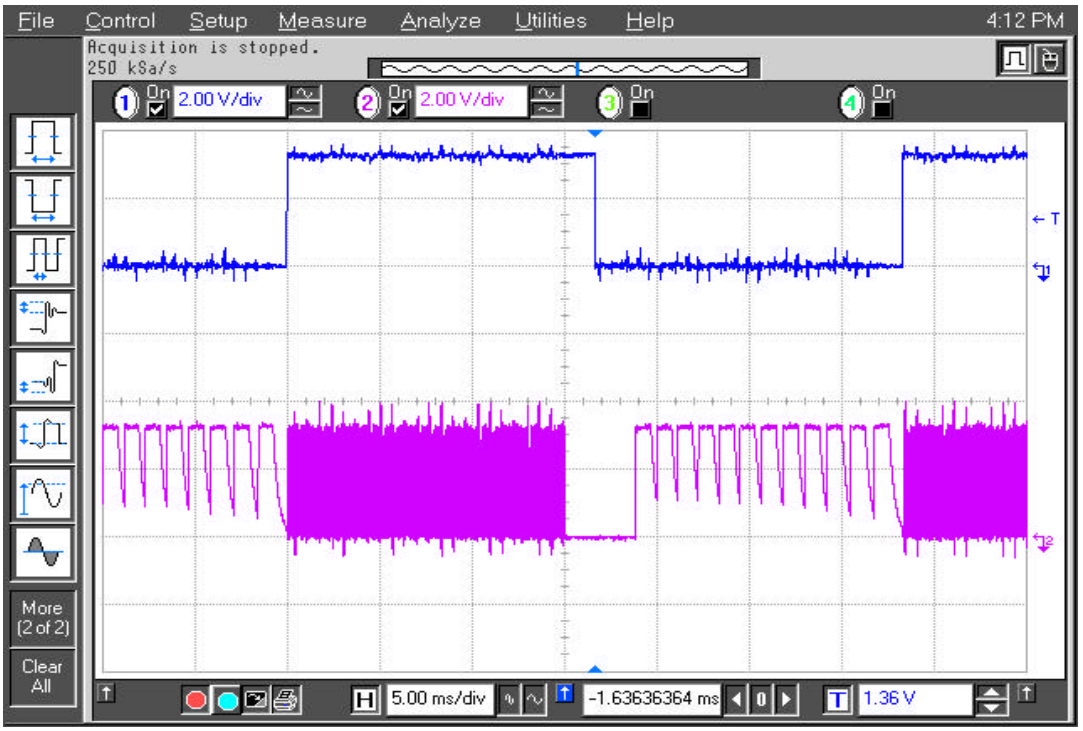
1. Check the waveform after pointing Probe2 at IC2005 pins 1, 72.



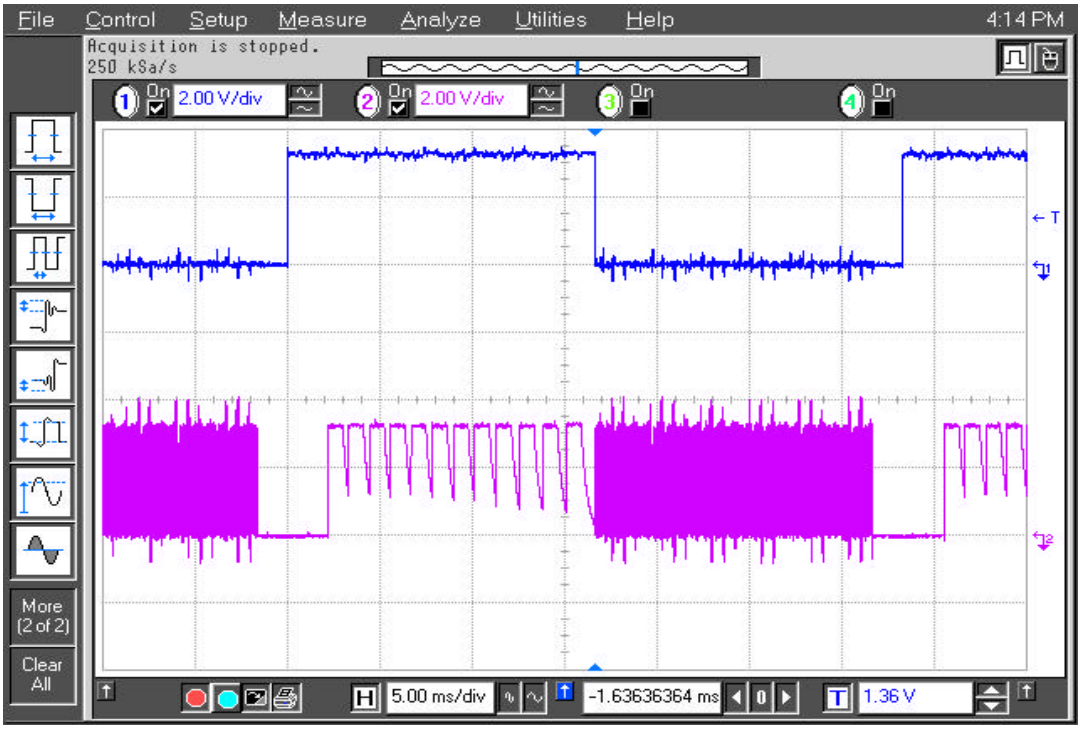
2. Check the waveform after pointing Probe2 at IC2006 pins 1, 72.



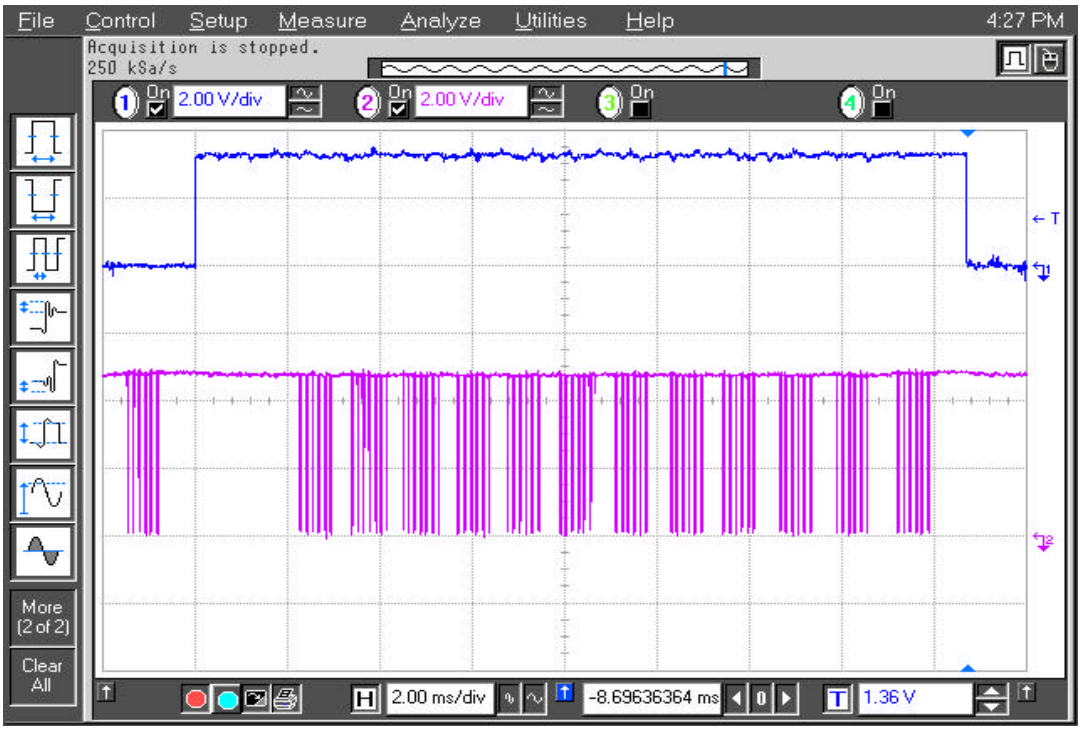
3. Check the waveform after pointing Probe2 at IC2007 pins 1, 81.



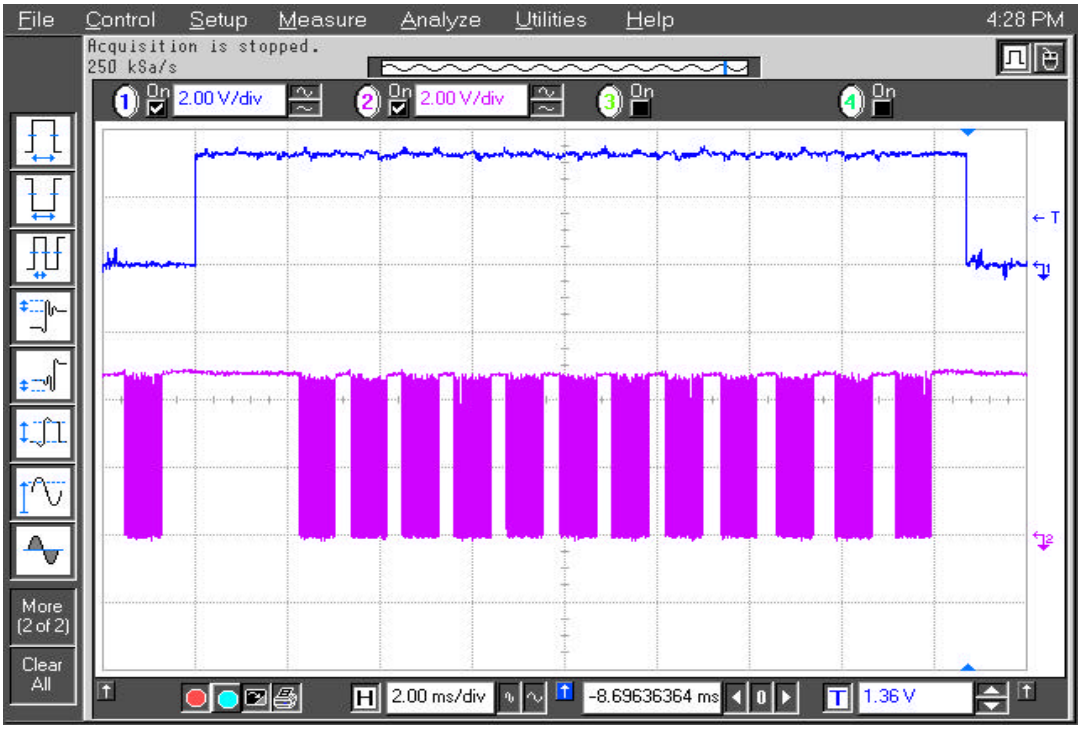
4. Check the waveform after pointing Probe2 at IC2008 pins 1, 81.



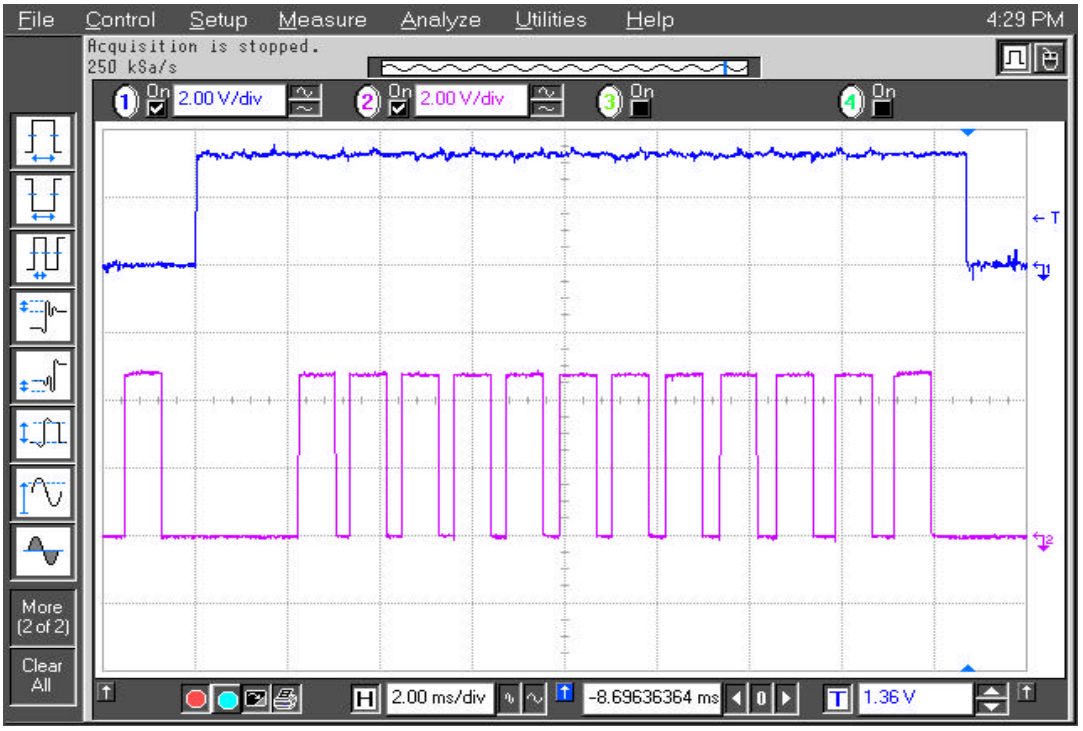
5. Point Probe2 at LY1 pin30 (F2016 pin8 (LE-Y) on the logic main board) on the jig board. (F2016: Array resistor)



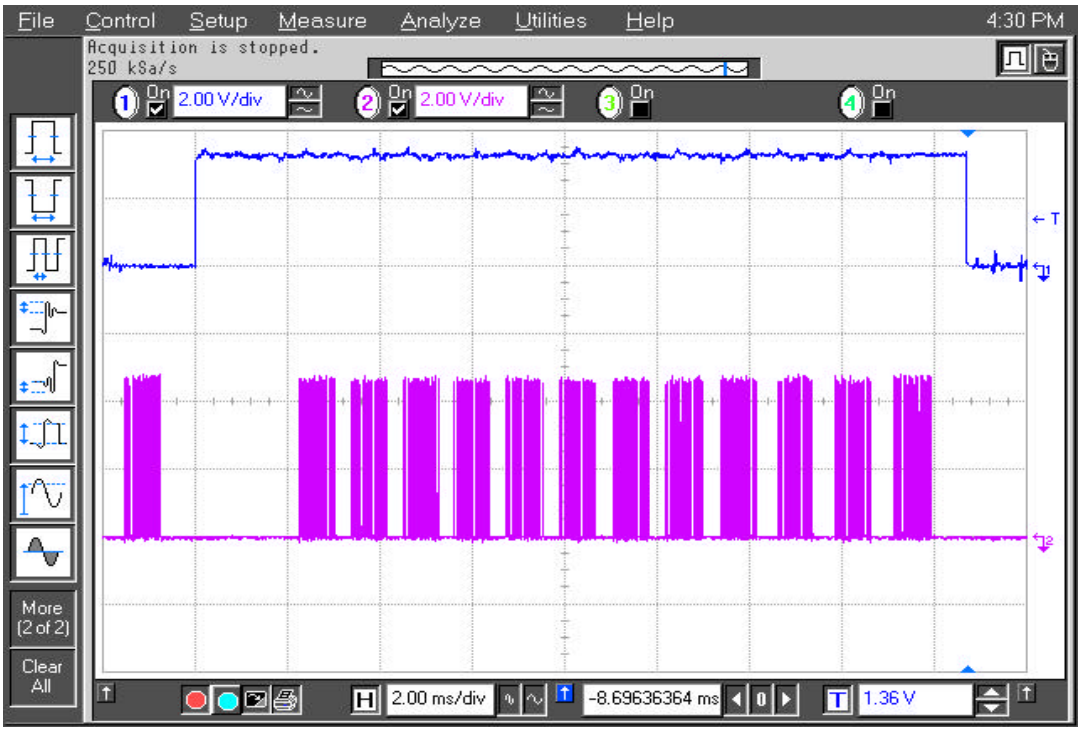
6. Point Probe2 at LY1 pin28 (F2016 pin7 (STB-Y) on the logic main board) on the jig board.



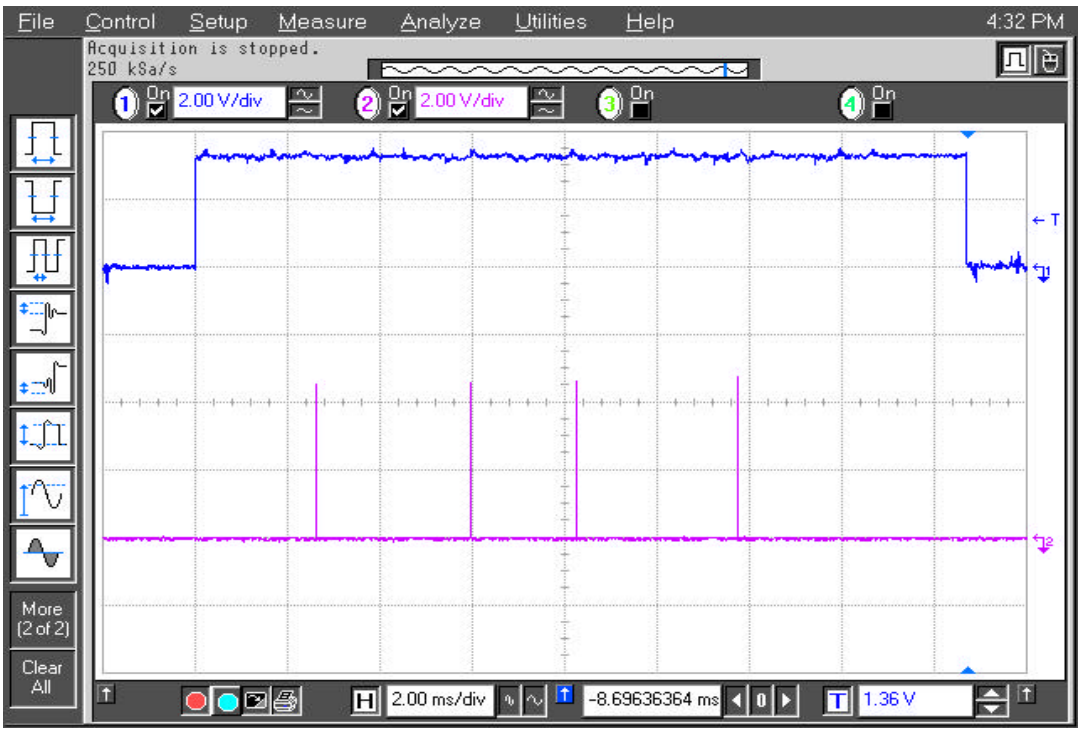
7. Point Probe2 at LY1 pin25 (F2016 pin6 (TCS-Y) on the logic main board) on the jig board.



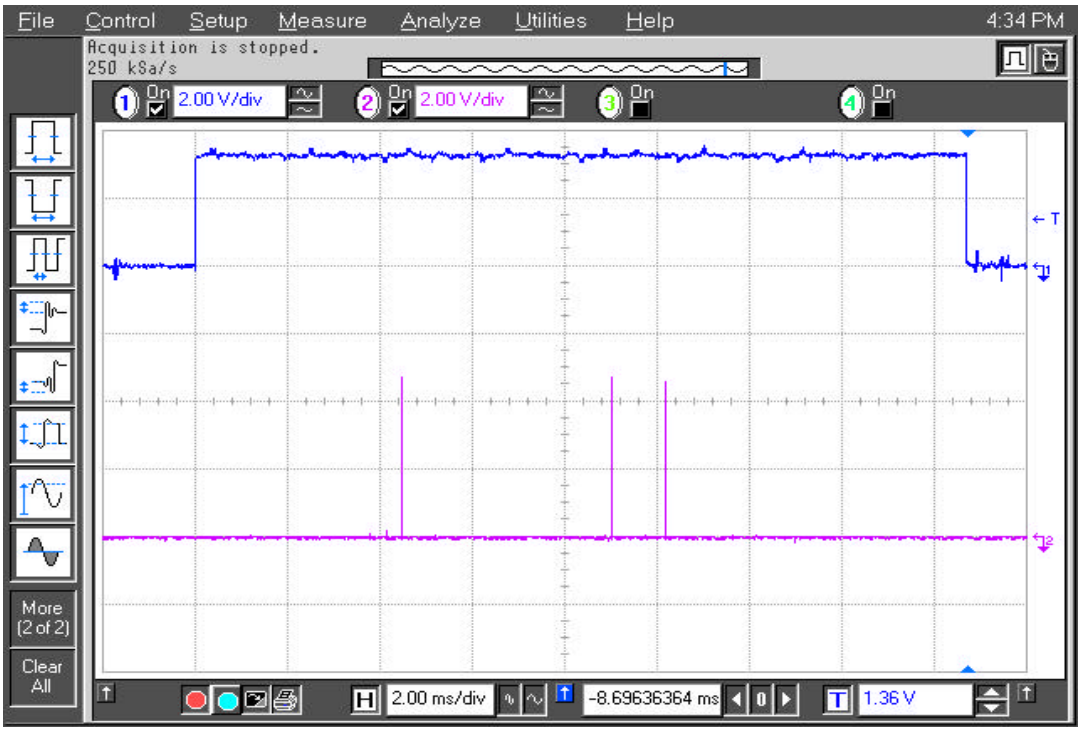
8. Point Probe2 at LY1 pin24 (F2016 pin5 (CLK-Y) on the logic main board) on the jig board.



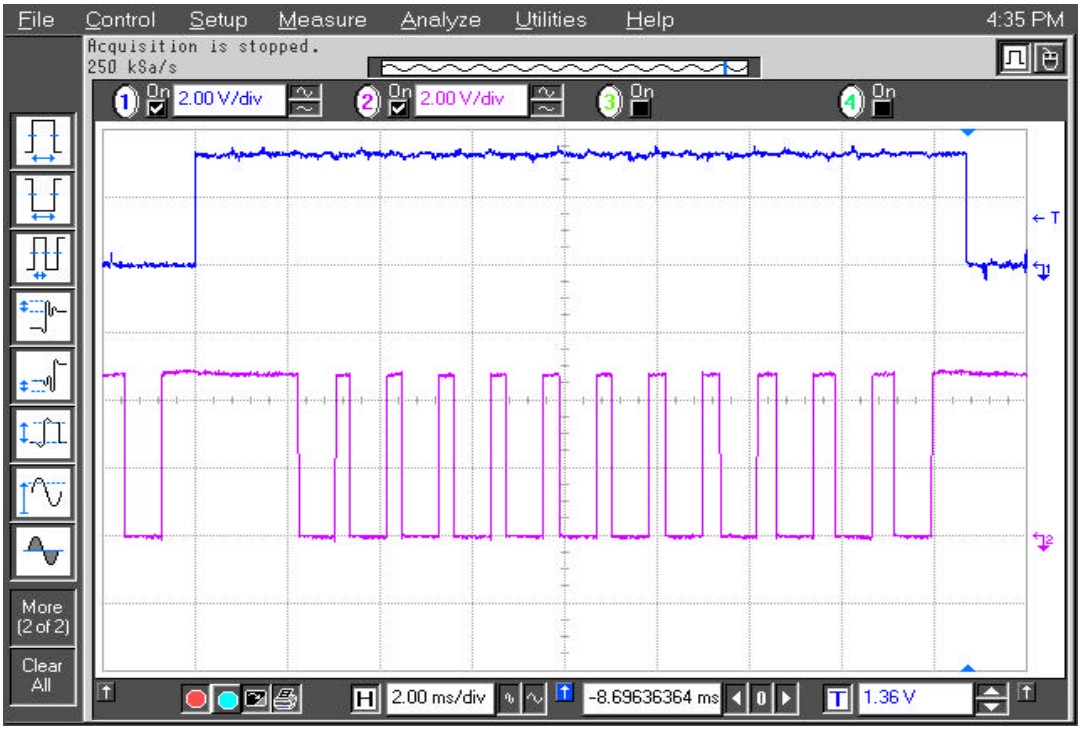
9. Point Probe2 at LY1 pin21 (F2012 pin8 (SIB) on the logic main board) on the jig board.



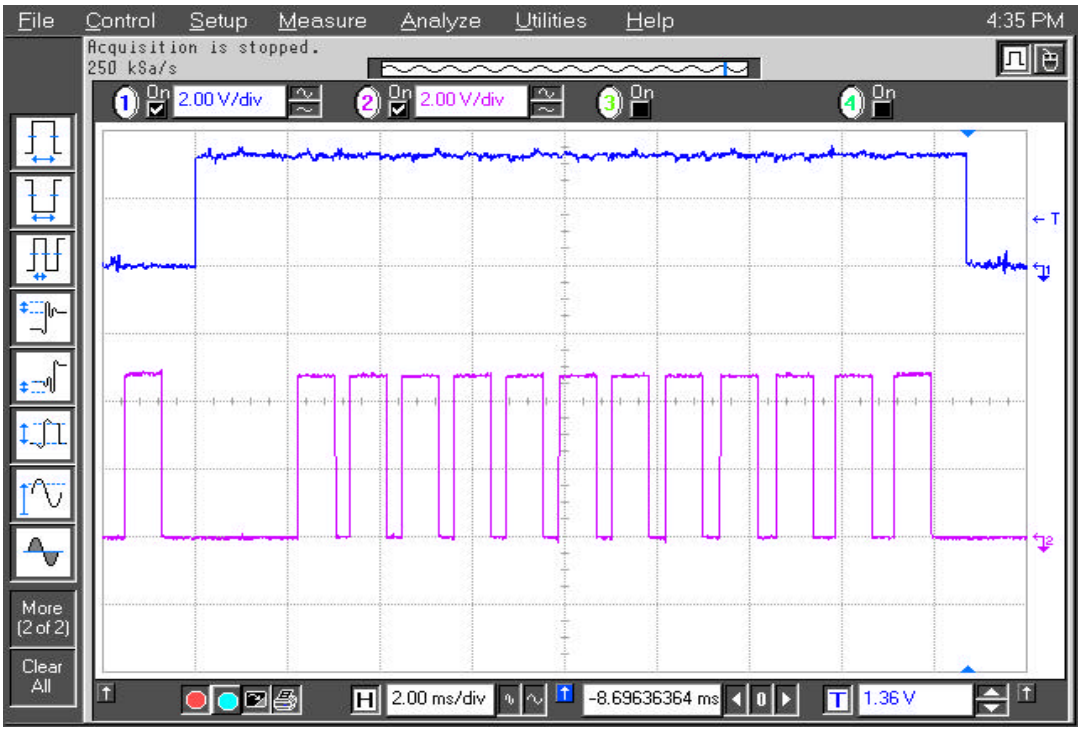
10. Point Probe2 at LY1 pin20 (F2012 pin7 (SIA) on the logic main board) on the jig board.



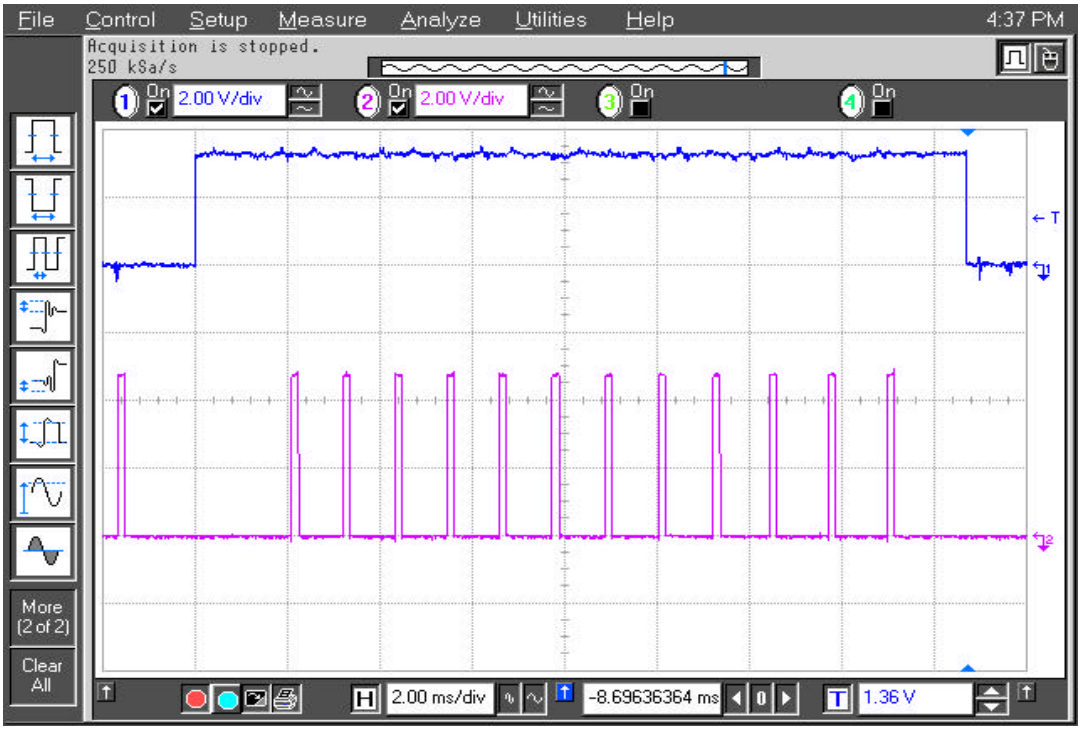
10. Point Probe2 at LY1 pin20 (F2012 pin7 (SIA) on the logic main board) on the jig board.



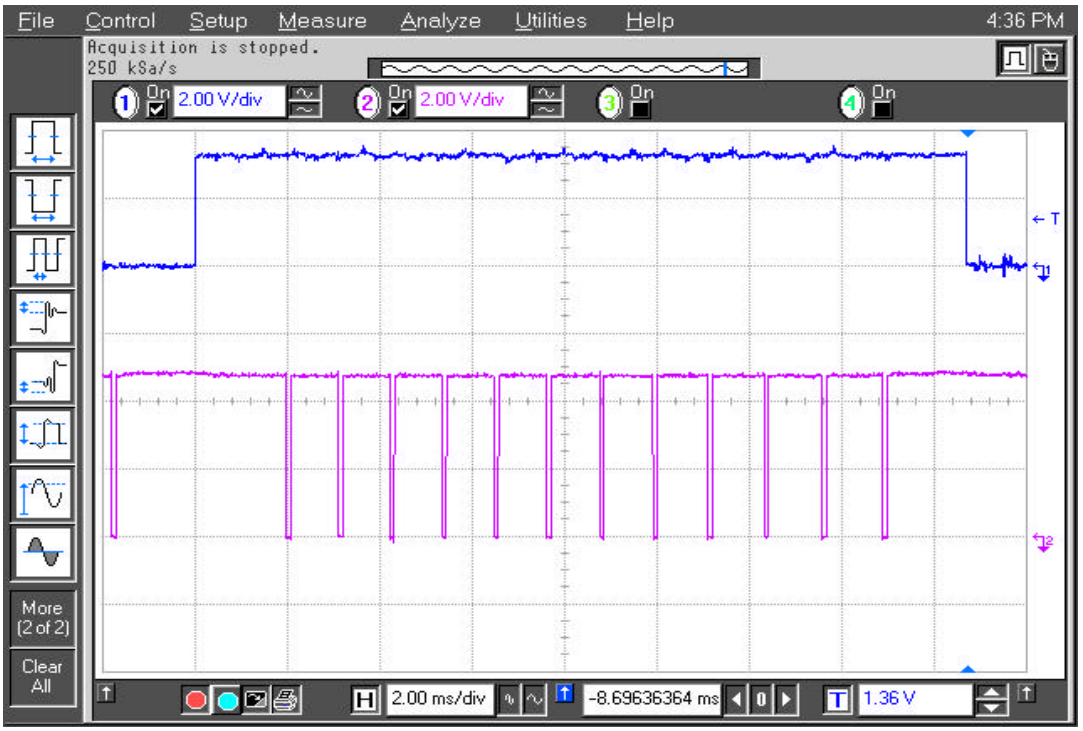
10. Point Probe2 at LY1 pin20 (F2012 pin7 (SIA) on the logic main board) on the jig board.



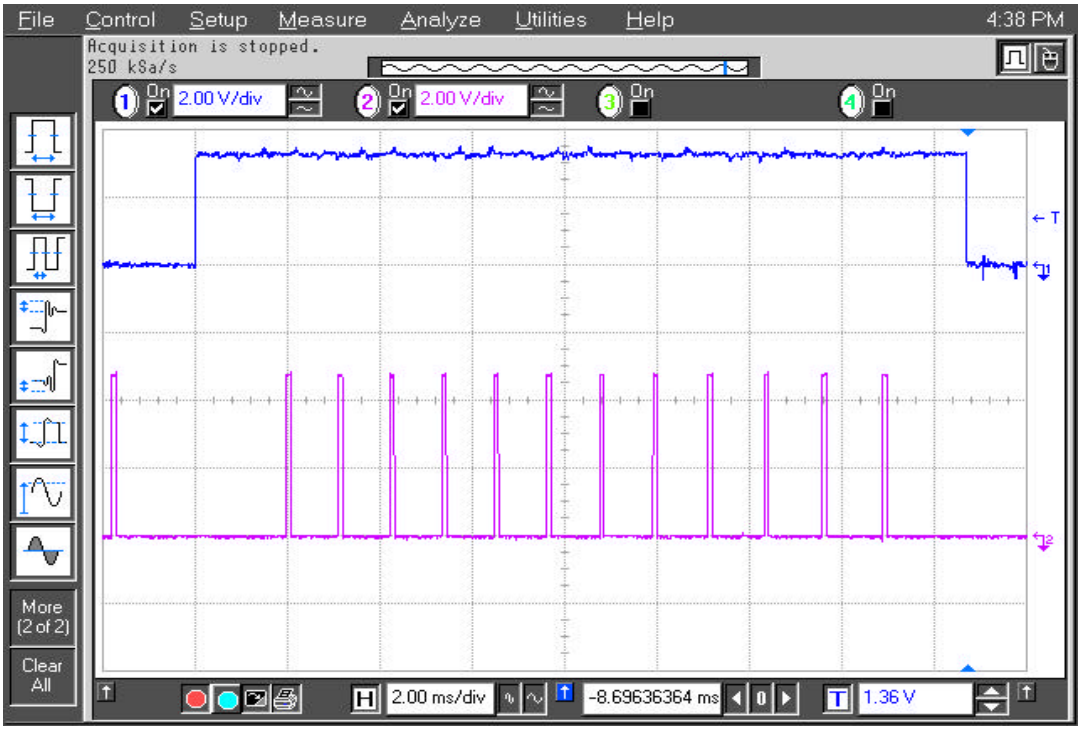
13. Point Probe2 at LY1 pin10 (F2010 pin7 (YFR) on the logic main board) on the jig board.



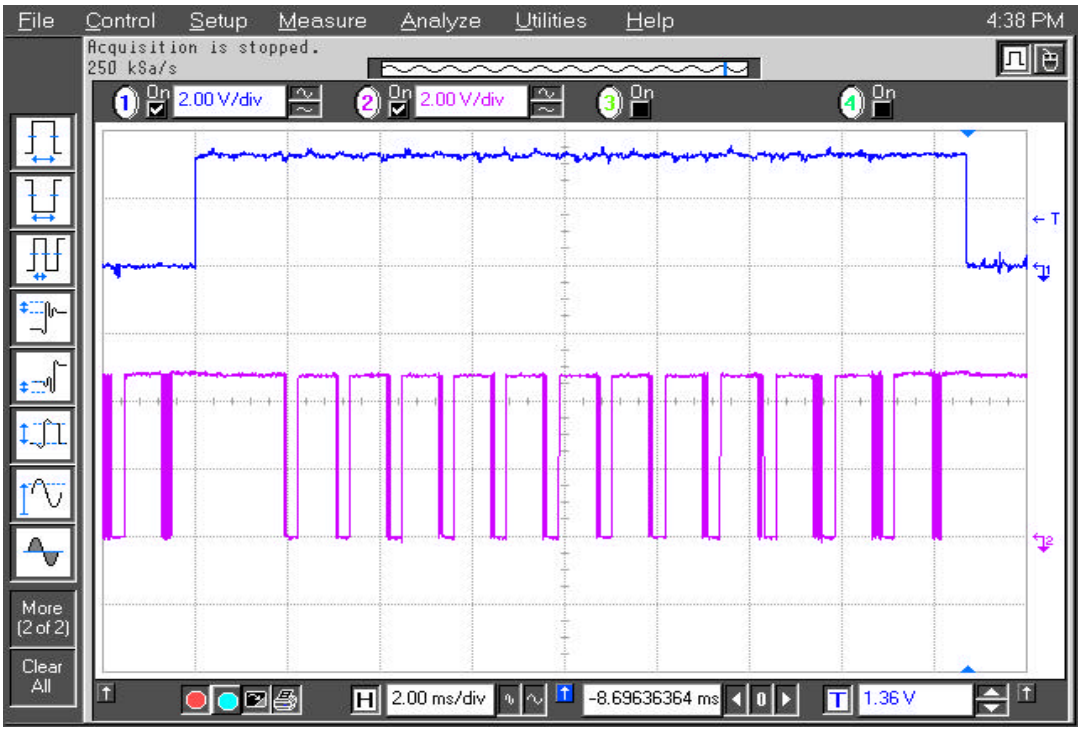
14. Point Probe2 at LY1 pin9 (F2010 pin8 (YP) on the logic main board) on the jig board.



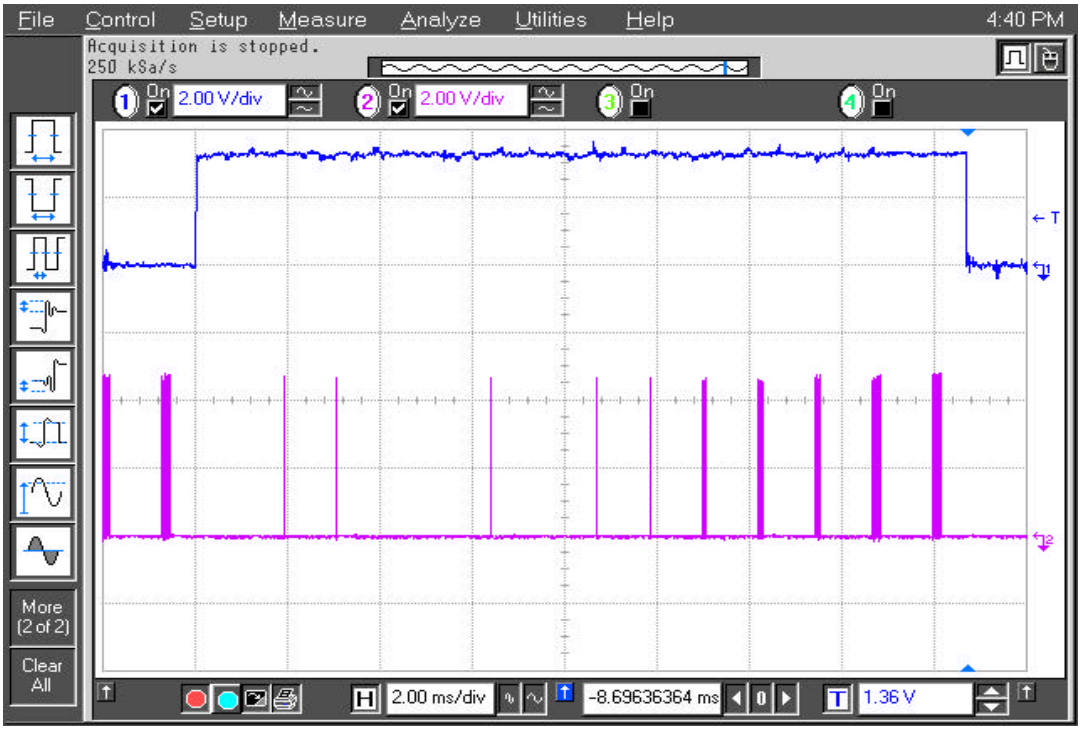
15. Point Probe2 at LY1 pin8 (F2010 pin6 (YRR) on the logic main board) on the jig board.



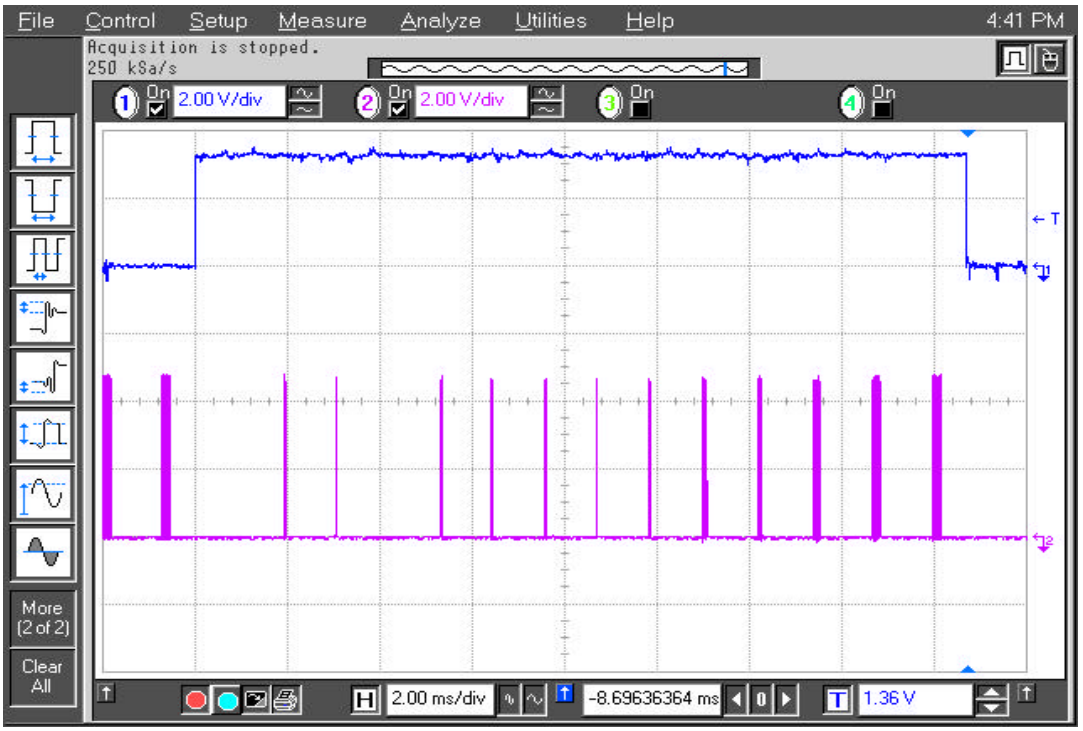
16. Point Probe2 at LY1 pin5 (F2010 pin5 (YG) on the logic main board) on the jig board.



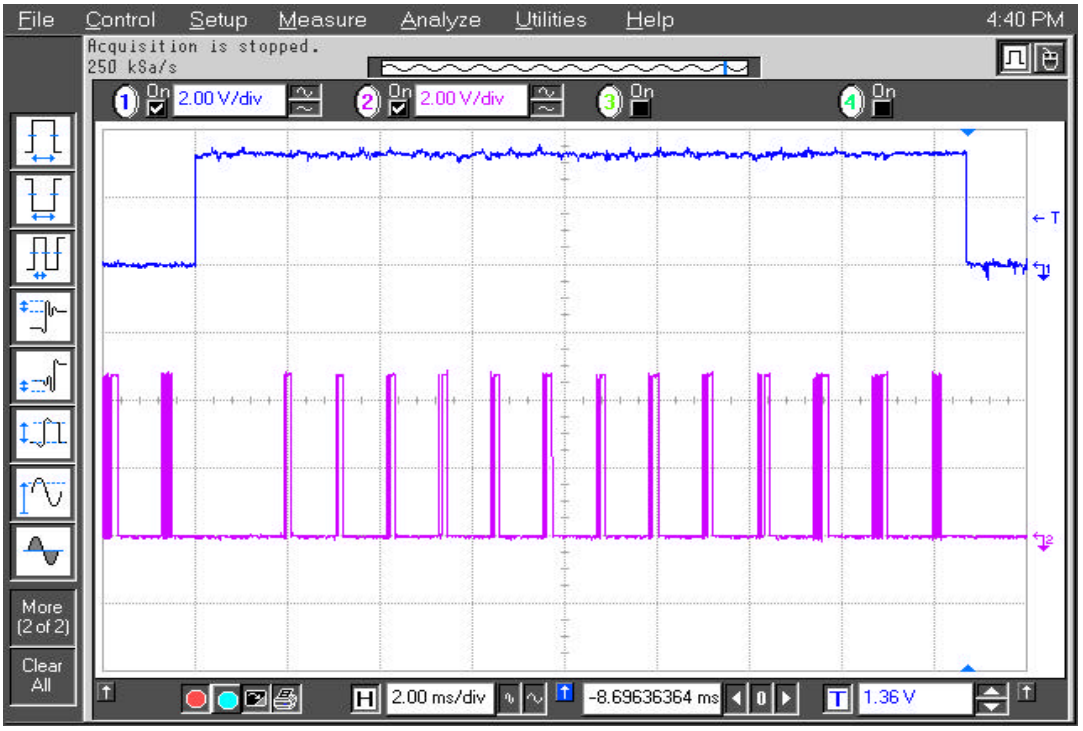
17. Point Probe2 at LY1 pin4 (F2011 pin8 (YF) on the logic main board) on the jig board.



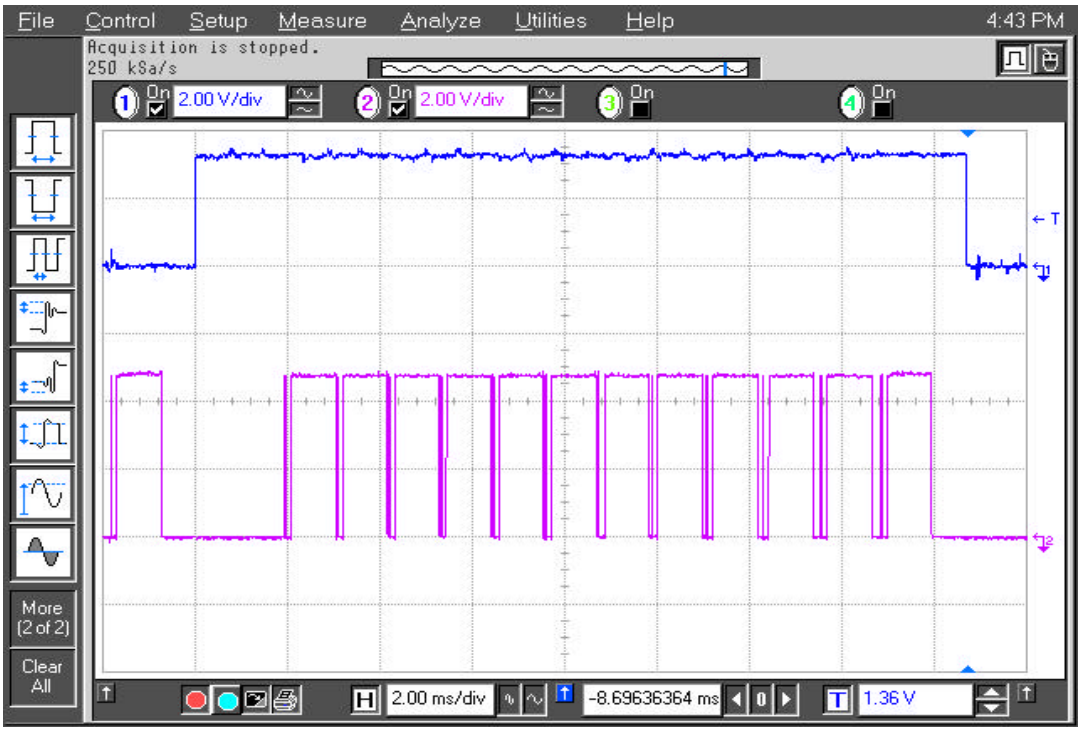
18. Point Probe2 at LY1 pin2 (F2011 pin7 (YR) on the logic main board) on the jig board.



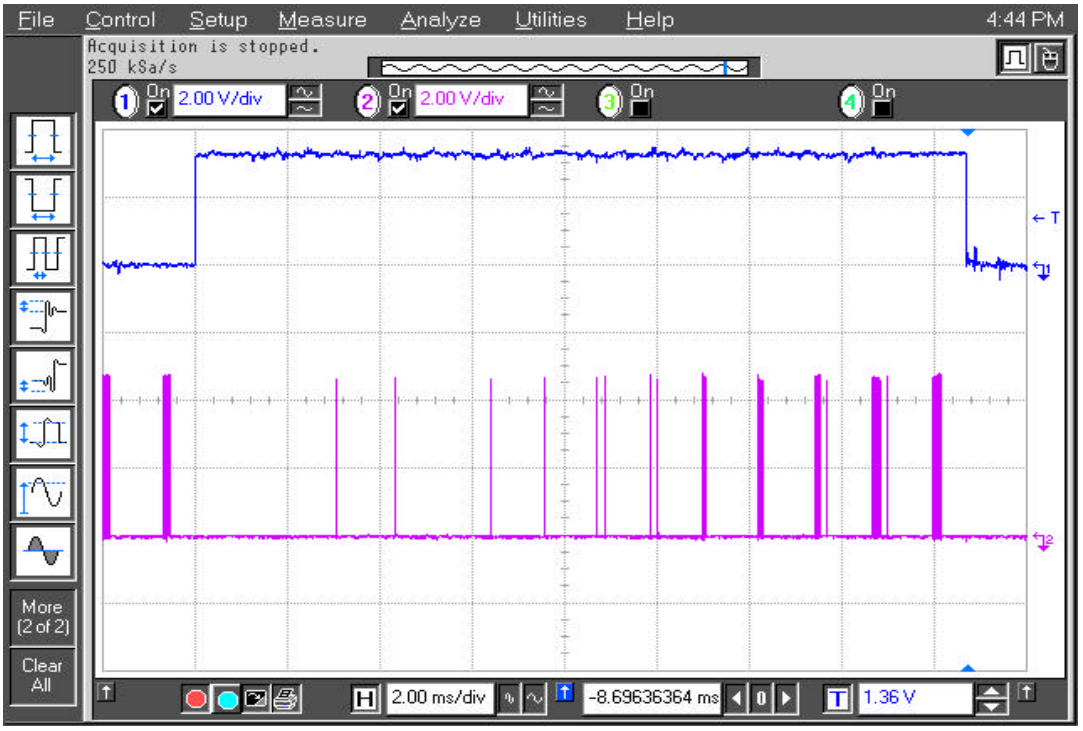
19. Point Probe2 at LY1 pin1 (F2011 pin7 (YS) on the logic main board) on the jig board.



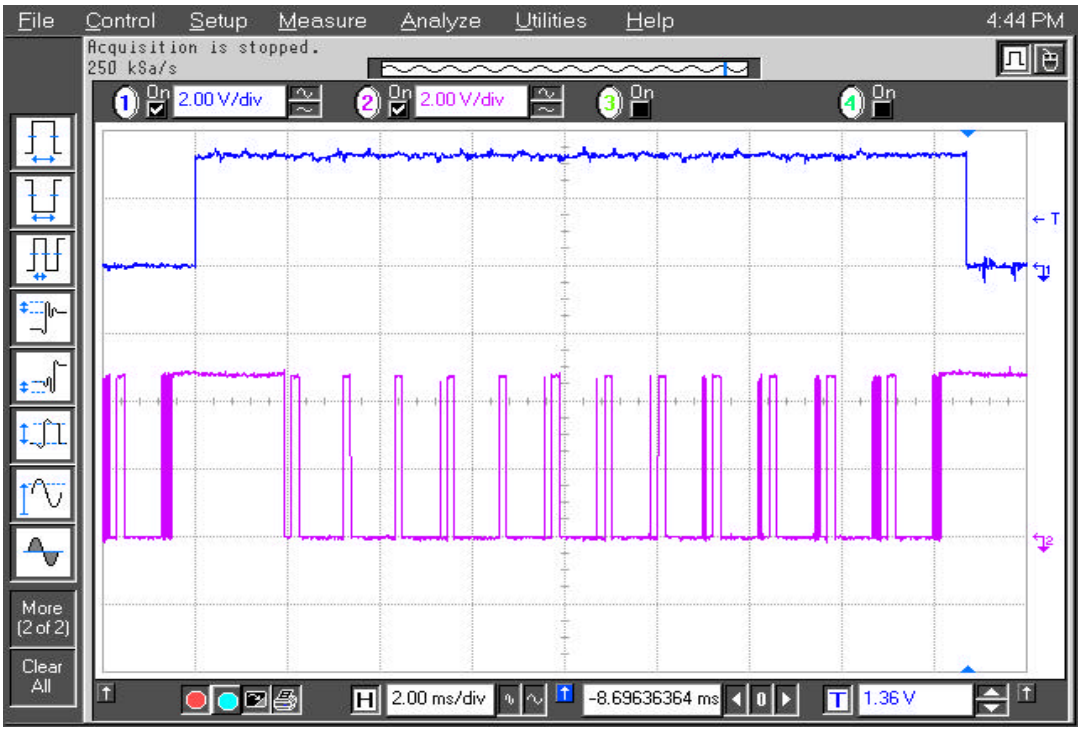
20. Point Probe2 at LX1 pin2 (F2015 pin6 (XRR) on the logic main board) on the jig board.



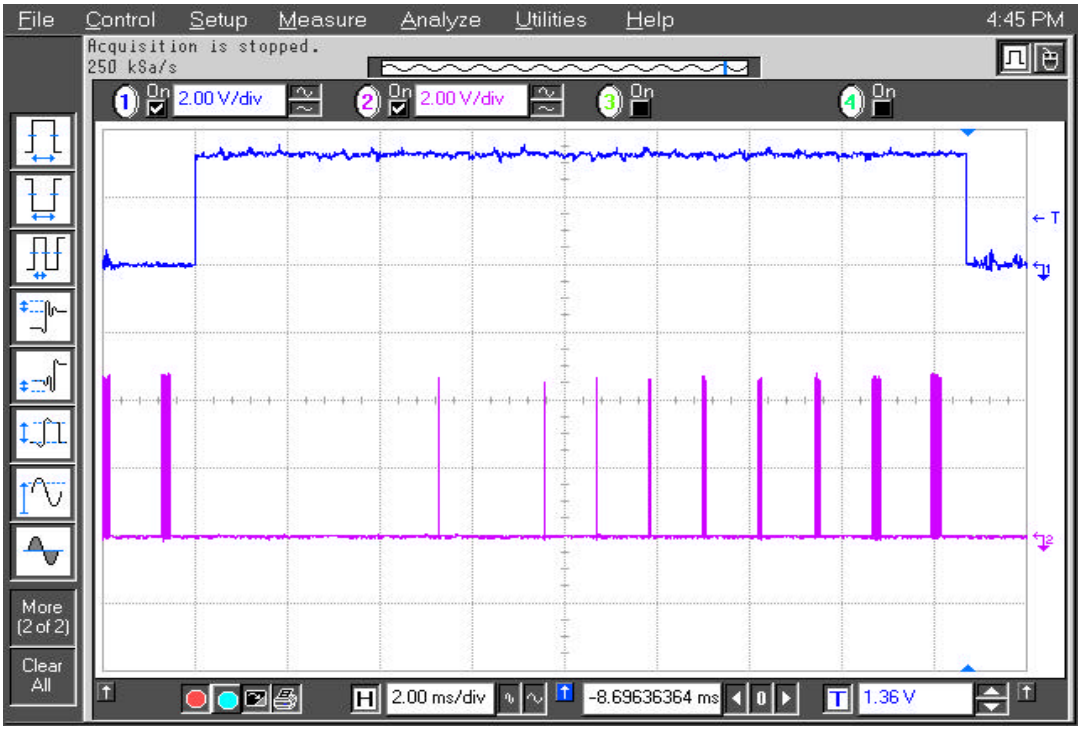
21. Point Probe2 at LX1 pin4 (F2015 pin7 (XR) on the logic main board) on the jig board.



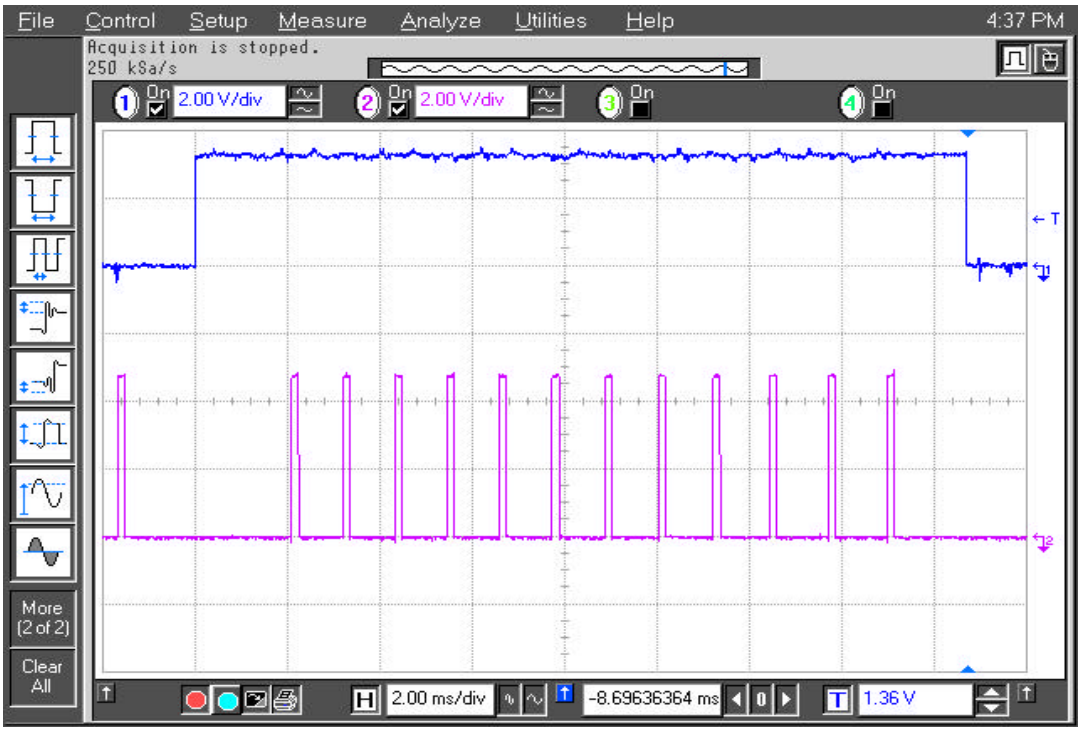
22. Point Probe2 at LX1 pin6 (F2015 pin8 (XS) on the logic main board) on the jig board.



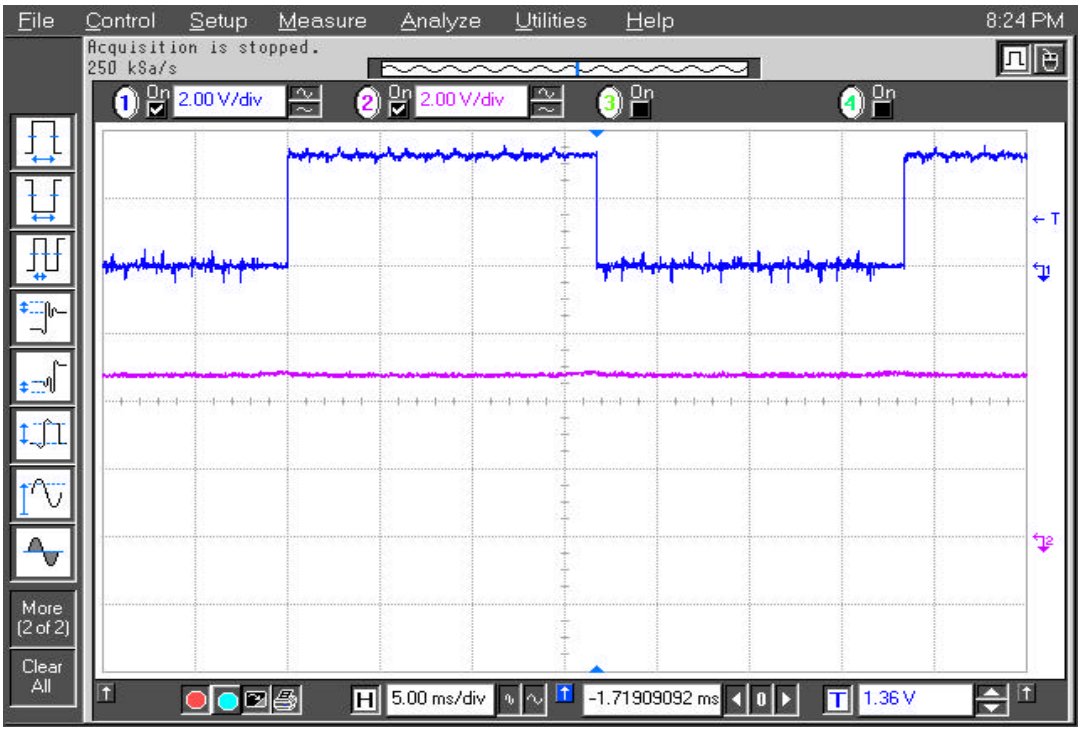
23. Point Probe2 at LX1 pin8 (F2014 pin5 (XF) on the logic main board) on the jig board.



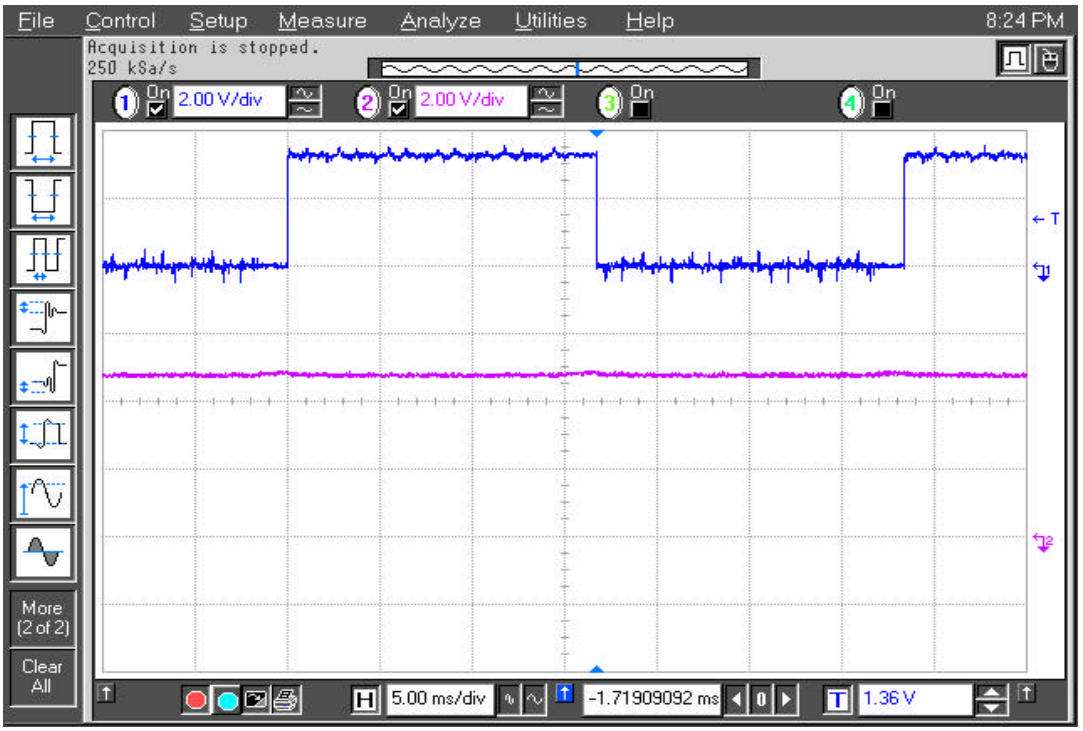
24. Point Probe2 at LX1 pin10 (F2014 pin6 (XG) on the logic main board) on the jig board.



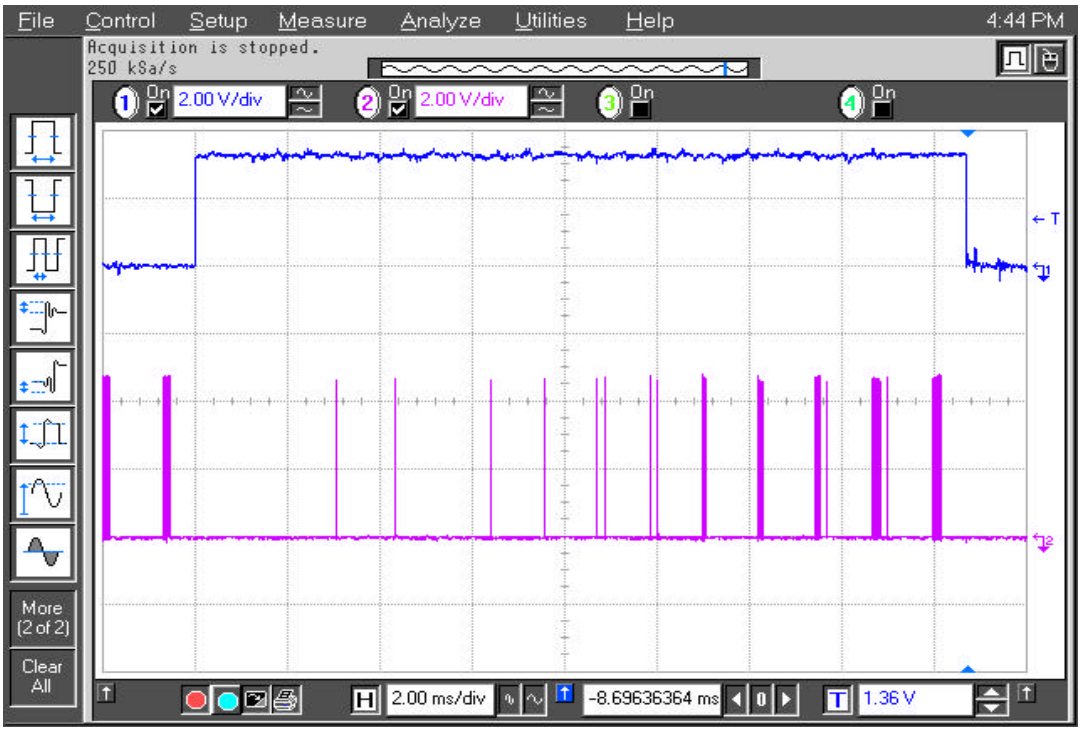
25. Jig board U1 (LE01)
Pins 6 ~ 11, 14 ~ 19, 22 ~ 27, 30 ~ 32, 49 ~ 51, 54 ~ 59, 62 ~ 67, 70 ~ 75



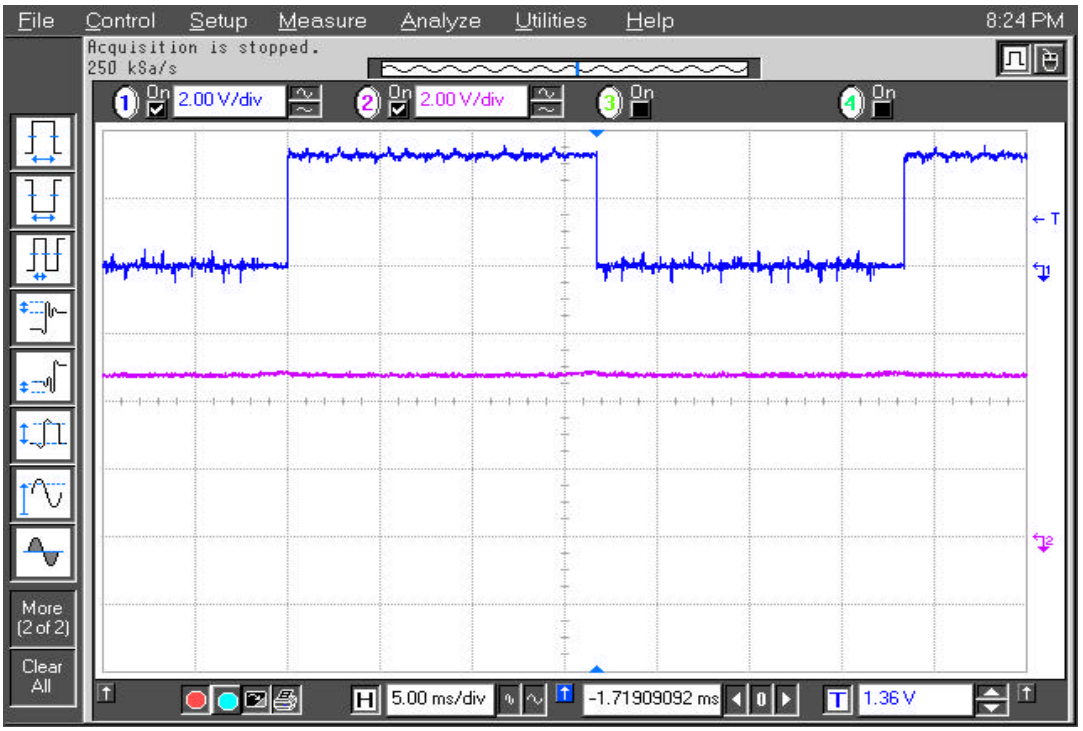
26. Jig board U2 (LE02)
Pins 6 ~ 11, 14 ~ 19, 22 ~ 27, 30 ~ 32, 49 ~ 51, 54 ~ 59, 62 ~ 67, 70 ~ 75



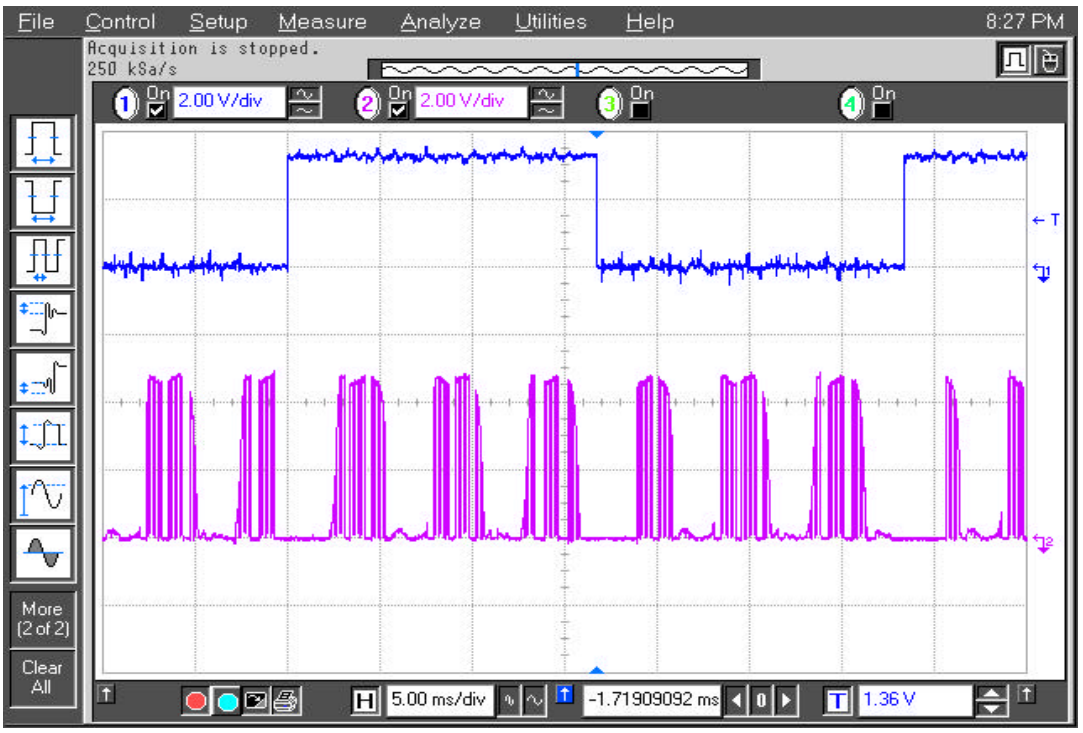
27. Jig board U1 (LE01)
    Pins 39, 40, 41, 42



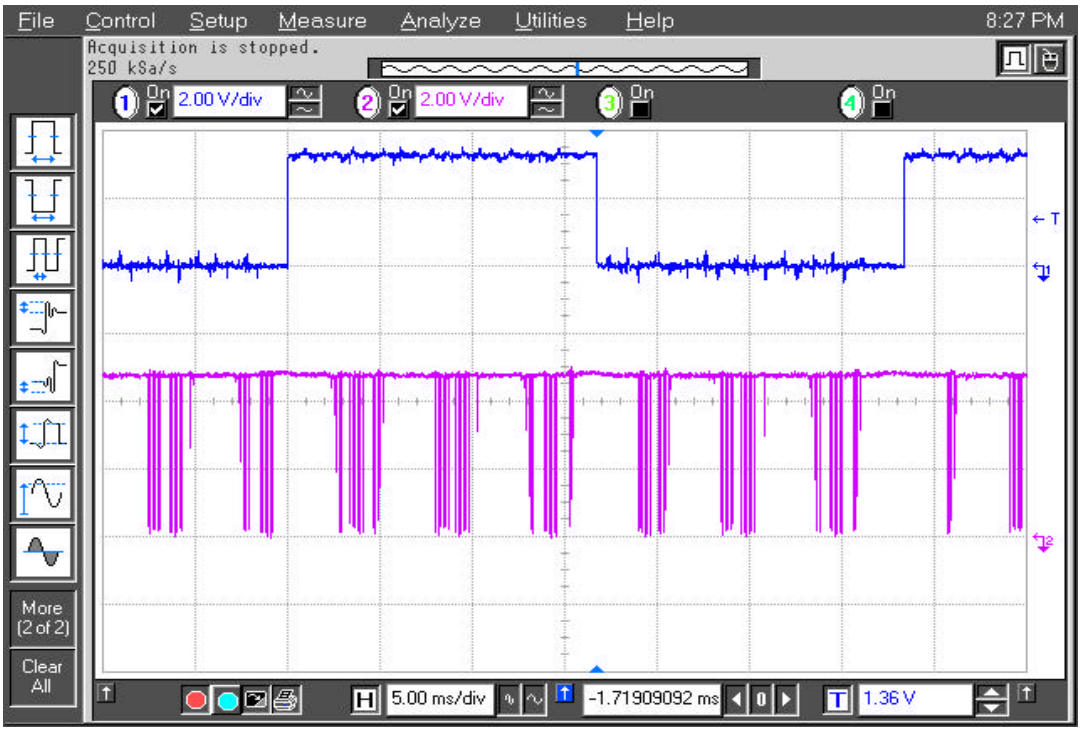
28. Jig board U2 (LE02)
    Pins 39, 40, 41, 42



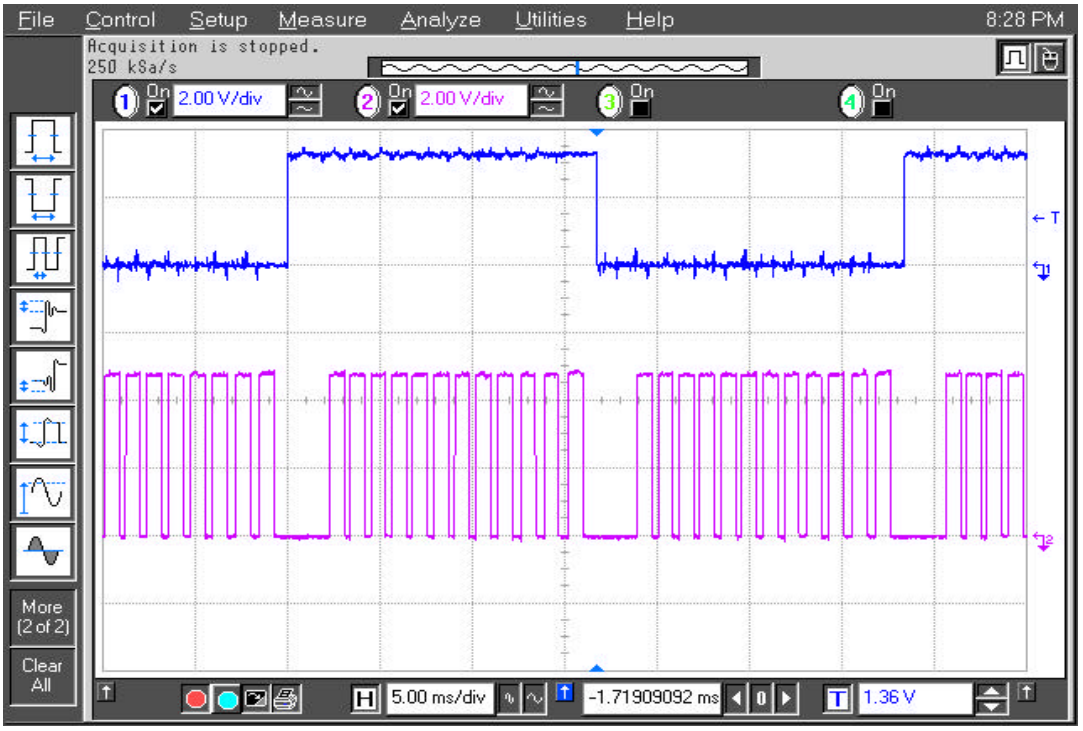
29. Jig board U1 (LE01) pin35



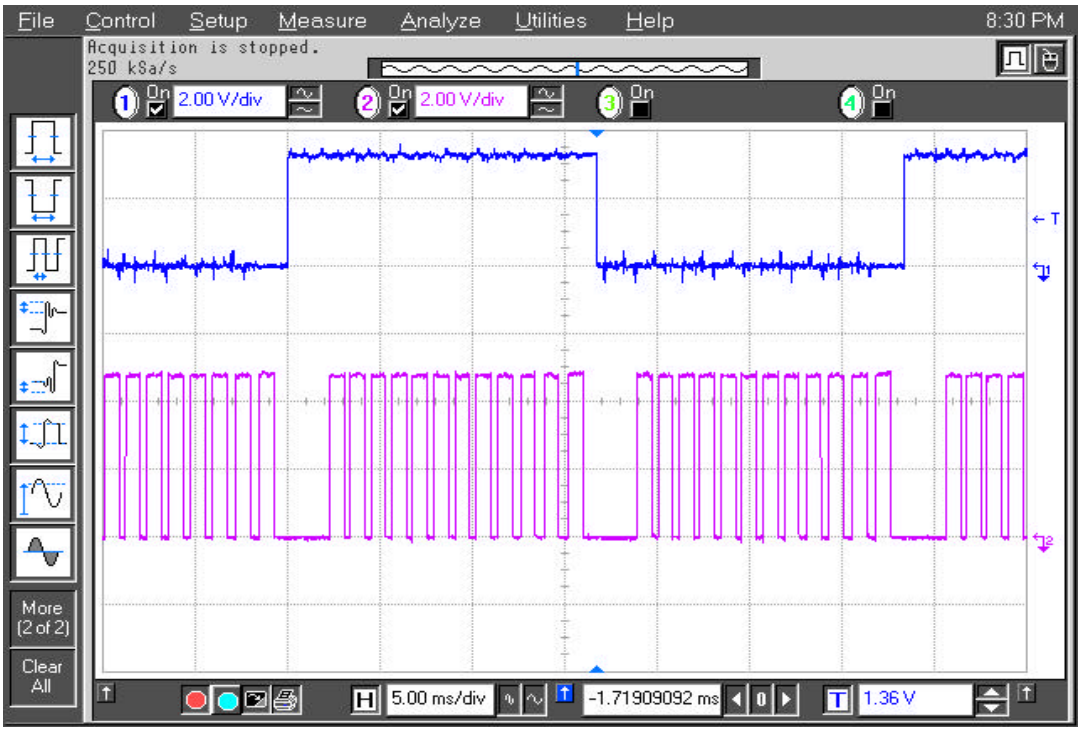
30. Jig board U1 (LE01) pin46



31. Jig board U2 (LE02) pin35

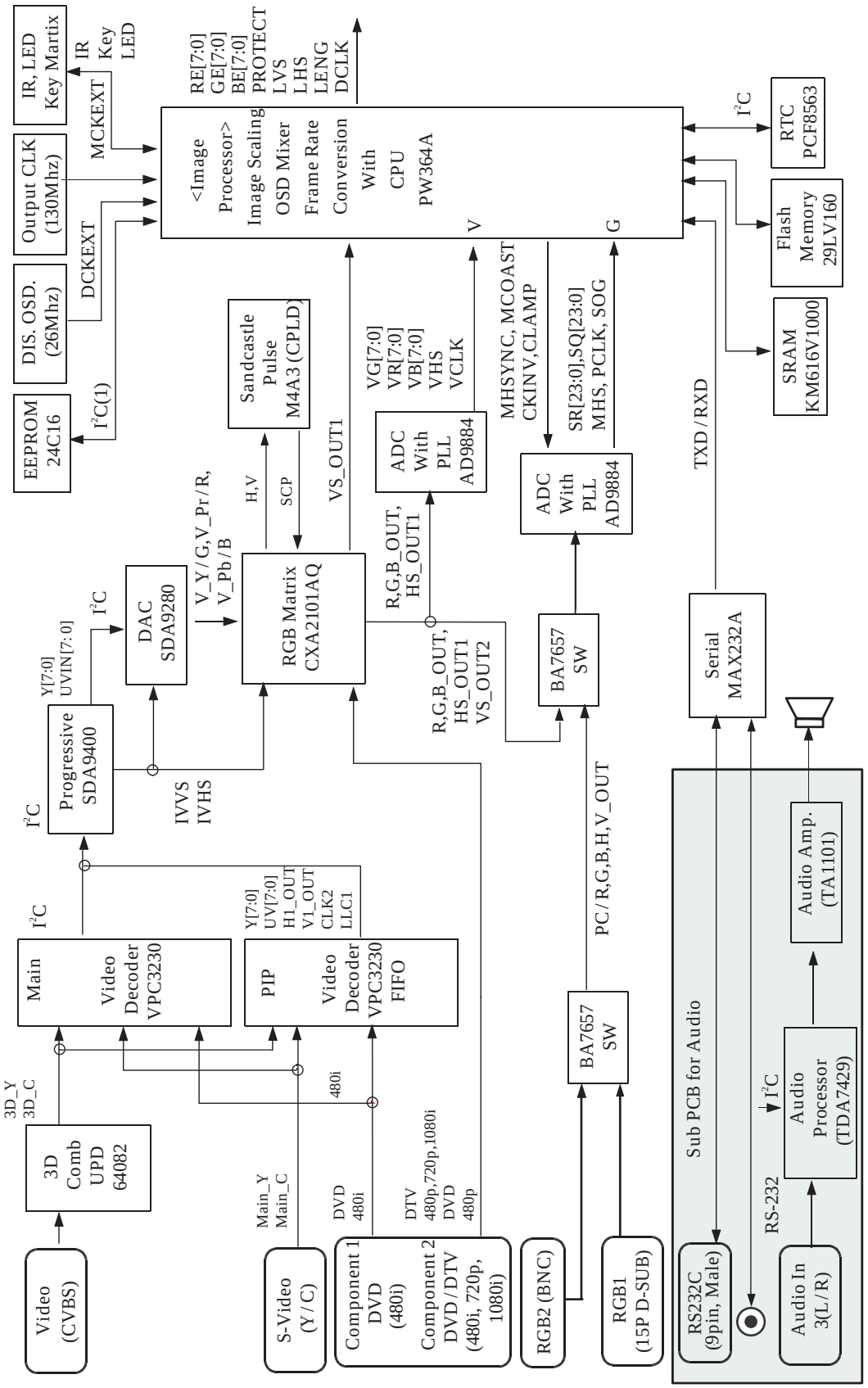


32. Jig board U2 (LE02) pin46



5-4 Block Diagram

5-4-1 42" Monitor Scaler Block Diagram



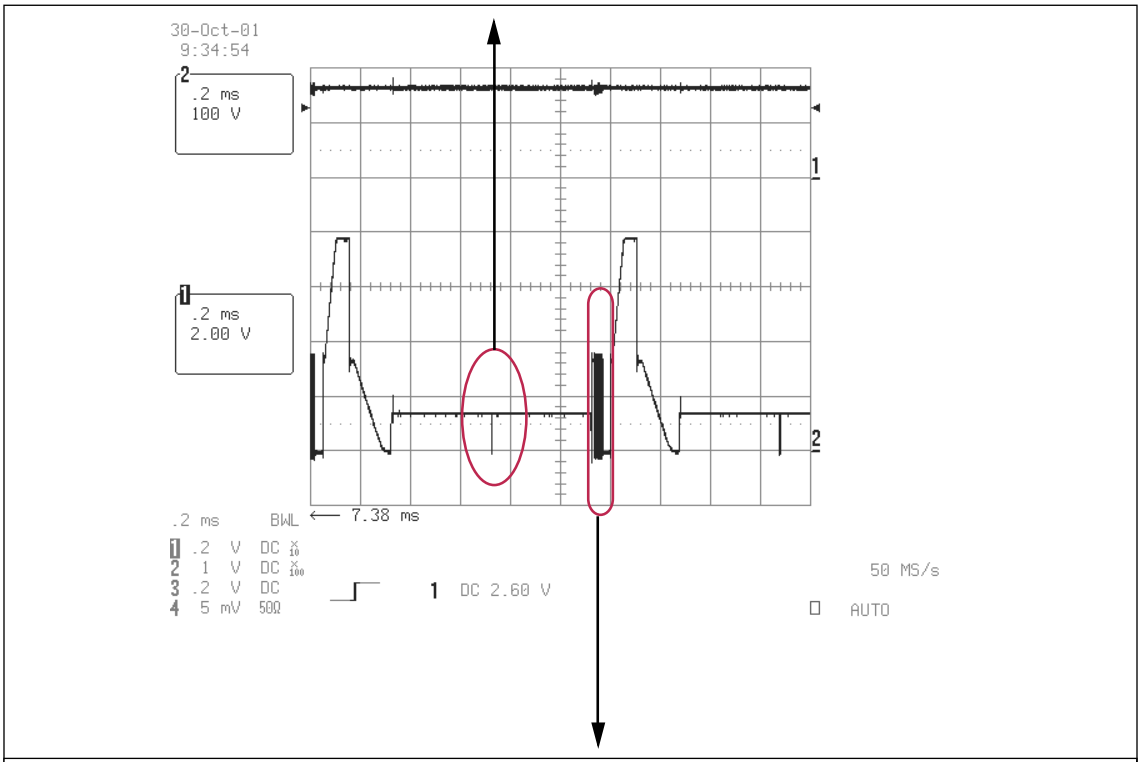
5-5 Major In/Out Signal Waveforms and Voltages of the Unit

5-5-1 In/Out Waveforms

r Y output waveform

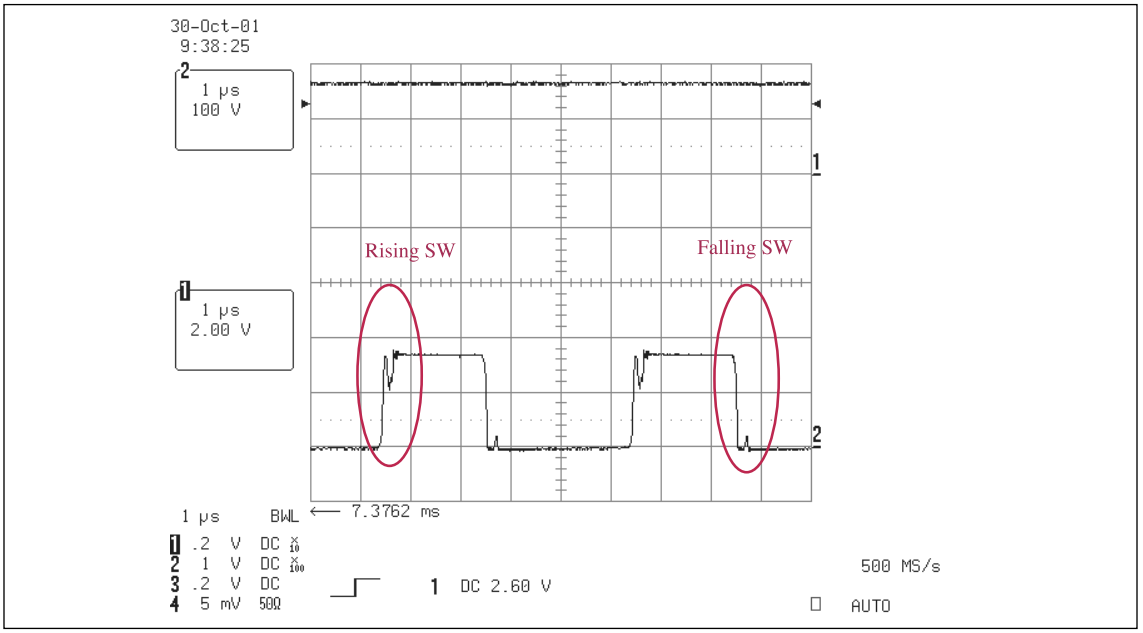
- It is the waveform when it is not connected to the panel.

* You should check that a single scan waveform is outputted!!!



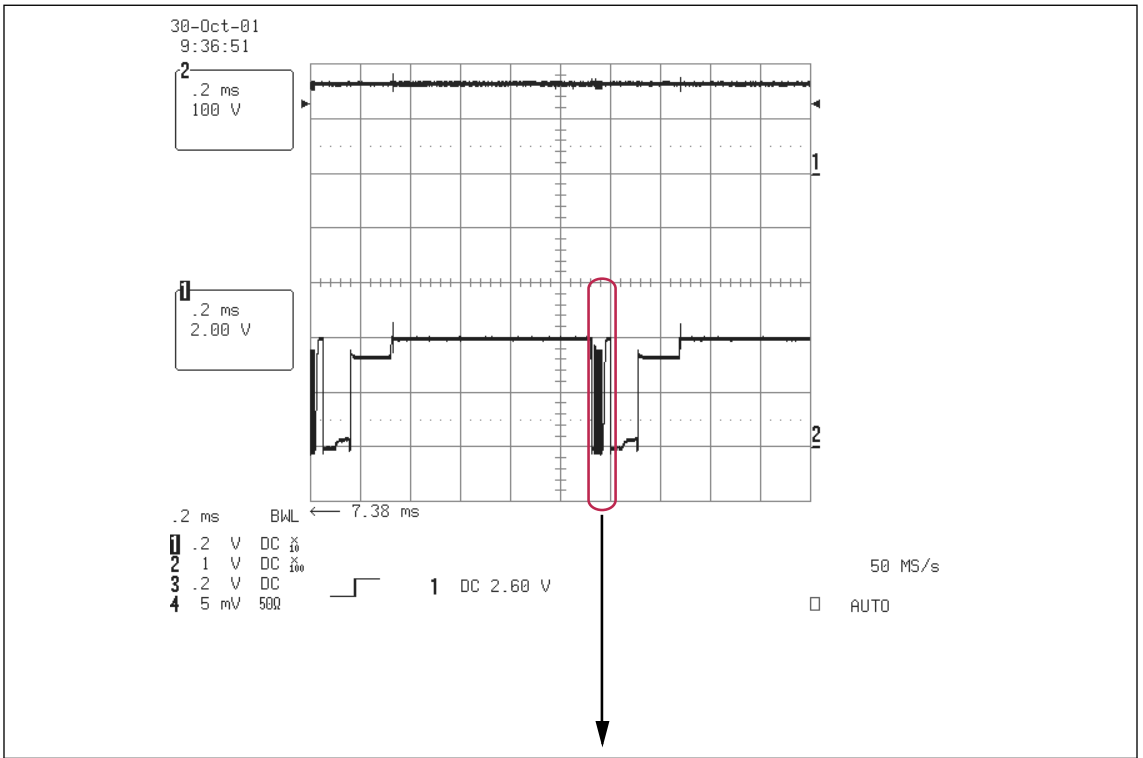
Y output waveform (200us / div, 100V / div)

* You should check that energy recovery software is in operation!!!



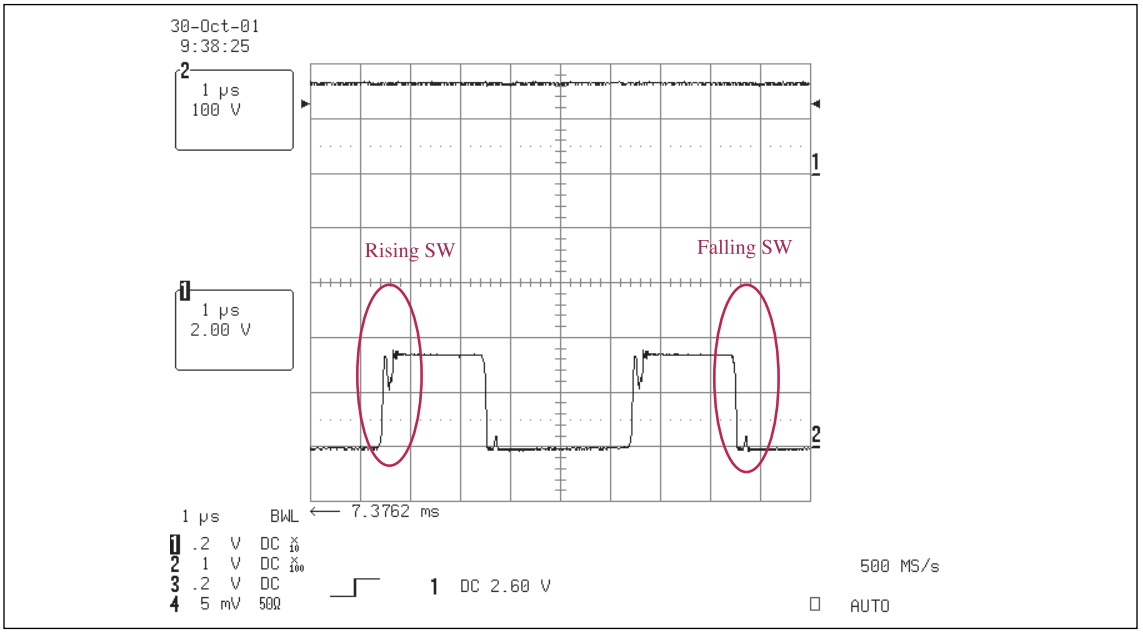
r X output waveform

- It is the waveform when it is not connected to the panel.



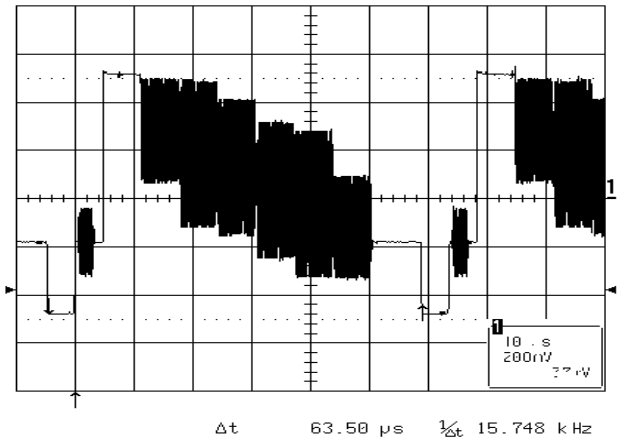
X output waveform (200us / div, 100V / div)

* You should check that energy recovery software is in operation!!!

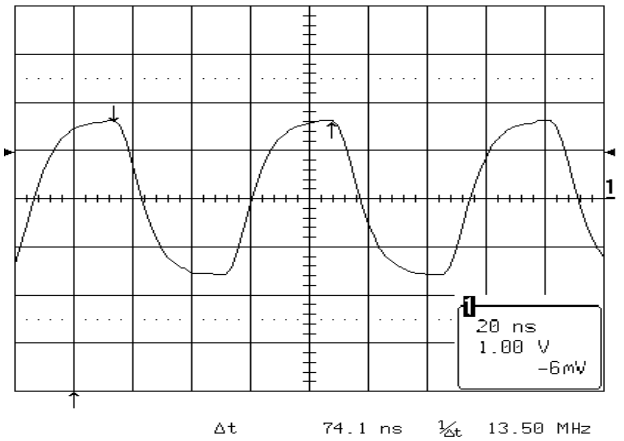


5-6 Main I/O signal pules and voltages

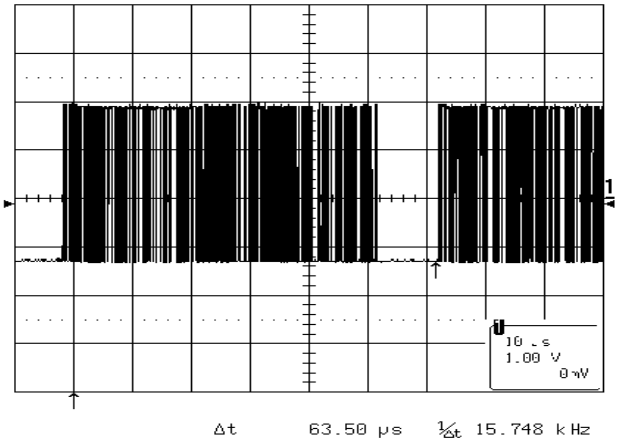
5-6-1 Signal Pulses of Image Board(Input Signal Conditions : 7 Color bar)



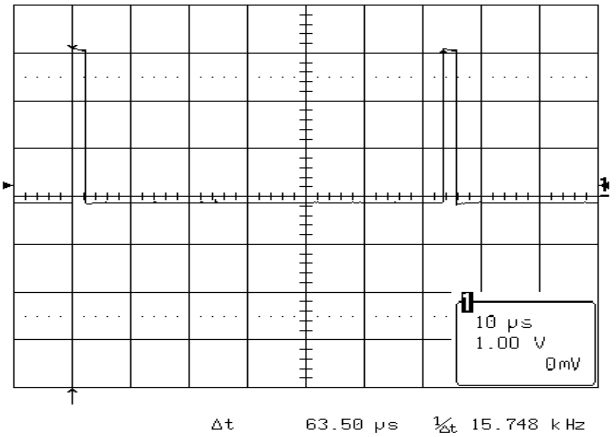
* C203 VIDEO INPUT(CVBS Input)



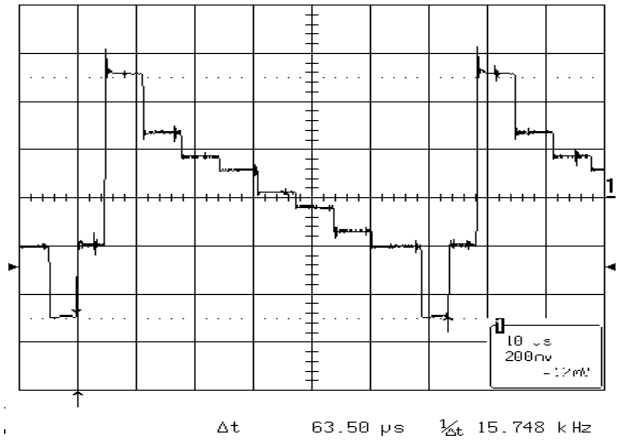
* IC201(VPC3230 MAIN) PIN28 LLC1_OUT



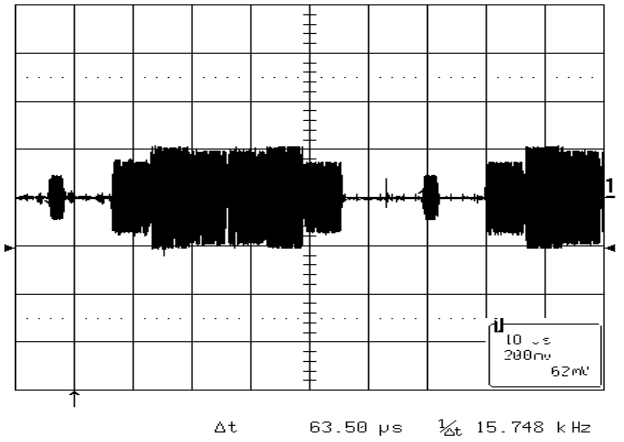
* IC201(VPC3230 MAIN) PIN40 Yo_OUT



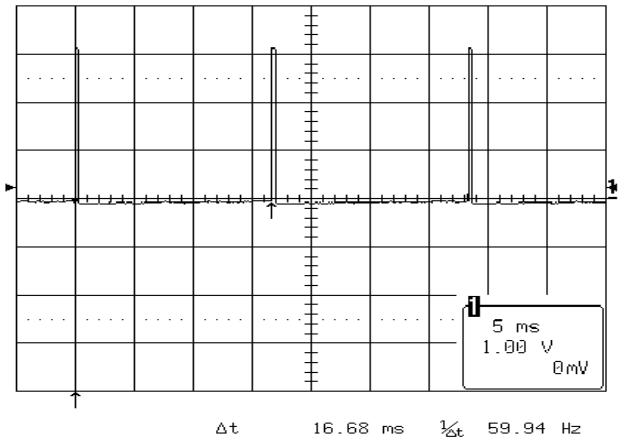
* IC201(VPC3230 MAIN) PIN56 HS_OUT



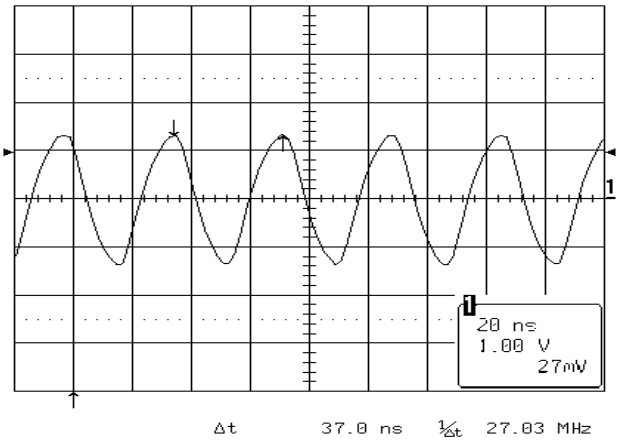
* IC201 (VPC3230 MAIN) PIN74 Y_IN



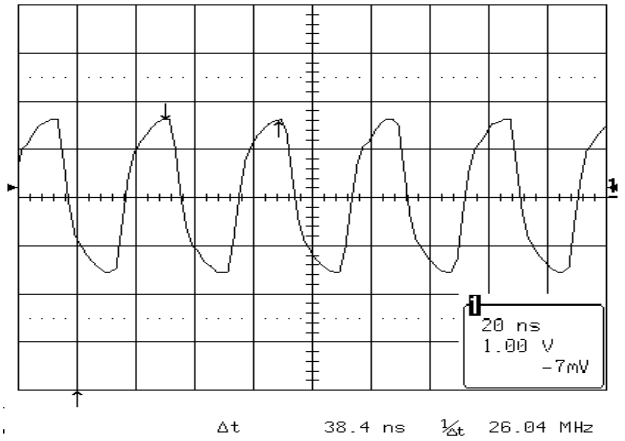
* IC201(VPC3230 MAIN) PIN72 C_IN



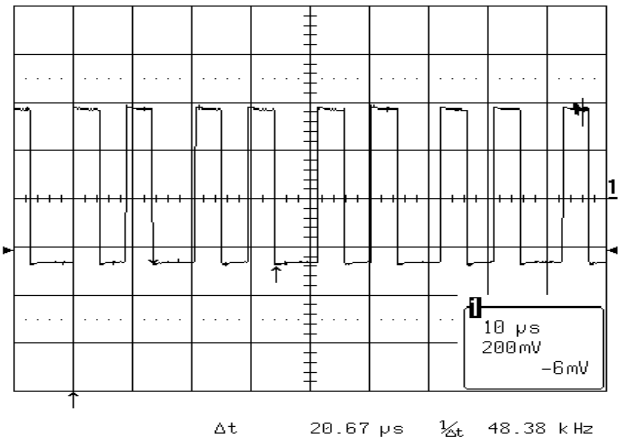
* IC201 (VPC3230 MAIN) PIN57 VS_OUT



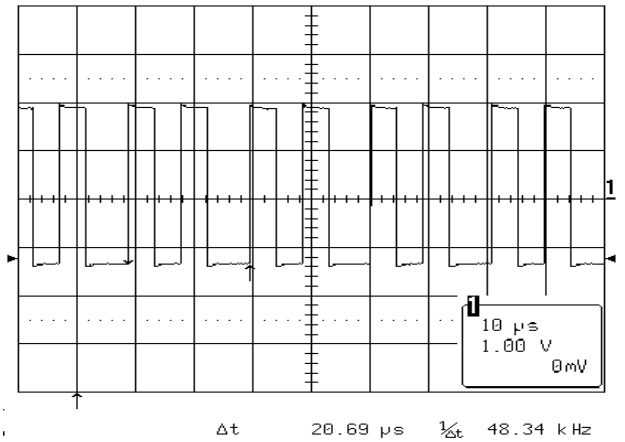
* IC201 (VPC3230 MAIN) PIN27 LLC2_OUT



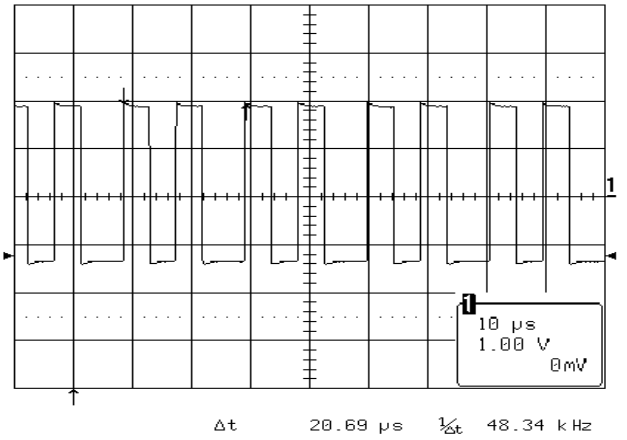
* IC301(PW364A) PIN:AD13 DCLK_OUT



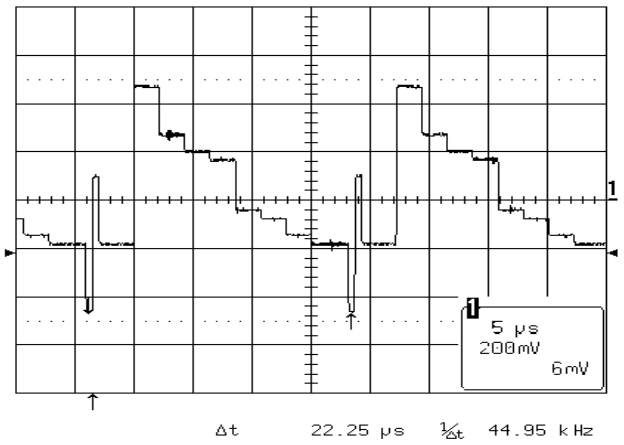
* IC801(AD9884) PIN7 R_IN



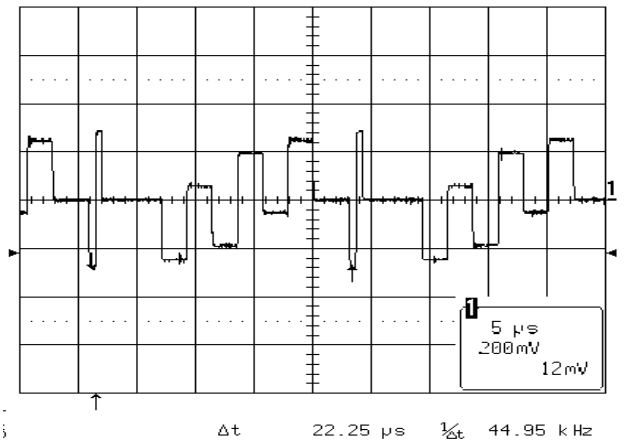
* IC801(AD9884) PIN95 ROUT_ODD



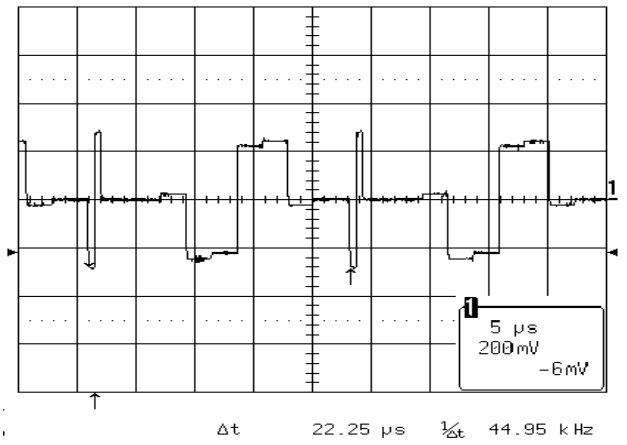
* IC801(AD9884) PIN105 ROUT_EVEN



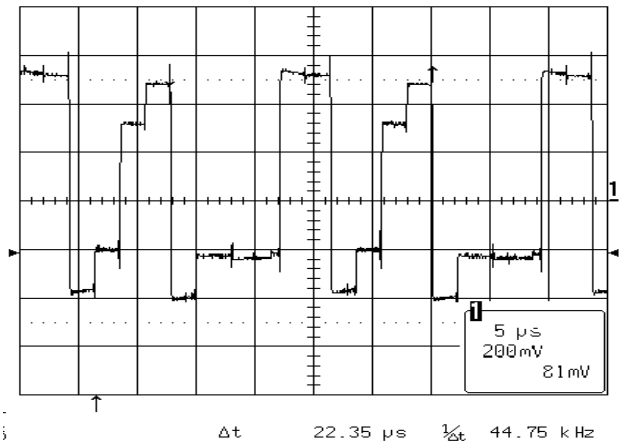
* IC402 (CXA2101AQ) PIN5 DTV.Y_IN



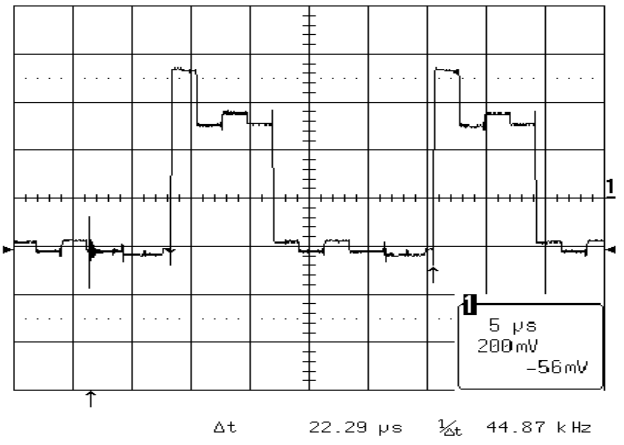
* IC402 (CXA2101AQ) PIN4 DTV.Pb_IN



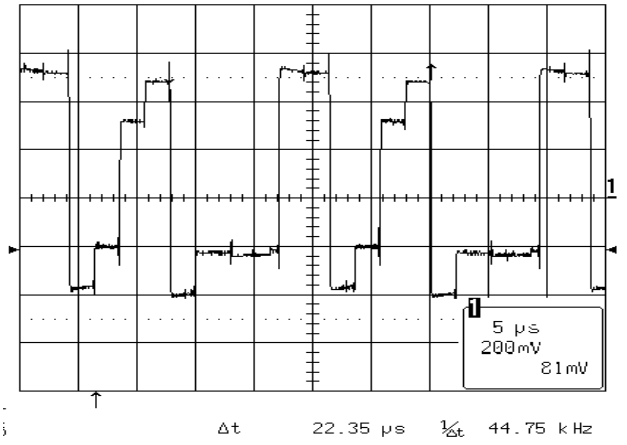
* IC402 (CXA2101AQ) PIN3 DTV.Pr_IN



* IC402 (CXA2101AQ) PIN35 DTV.R_OUT



* IC402 (CXA2101AQ) PIN37 DTV.G_OUT

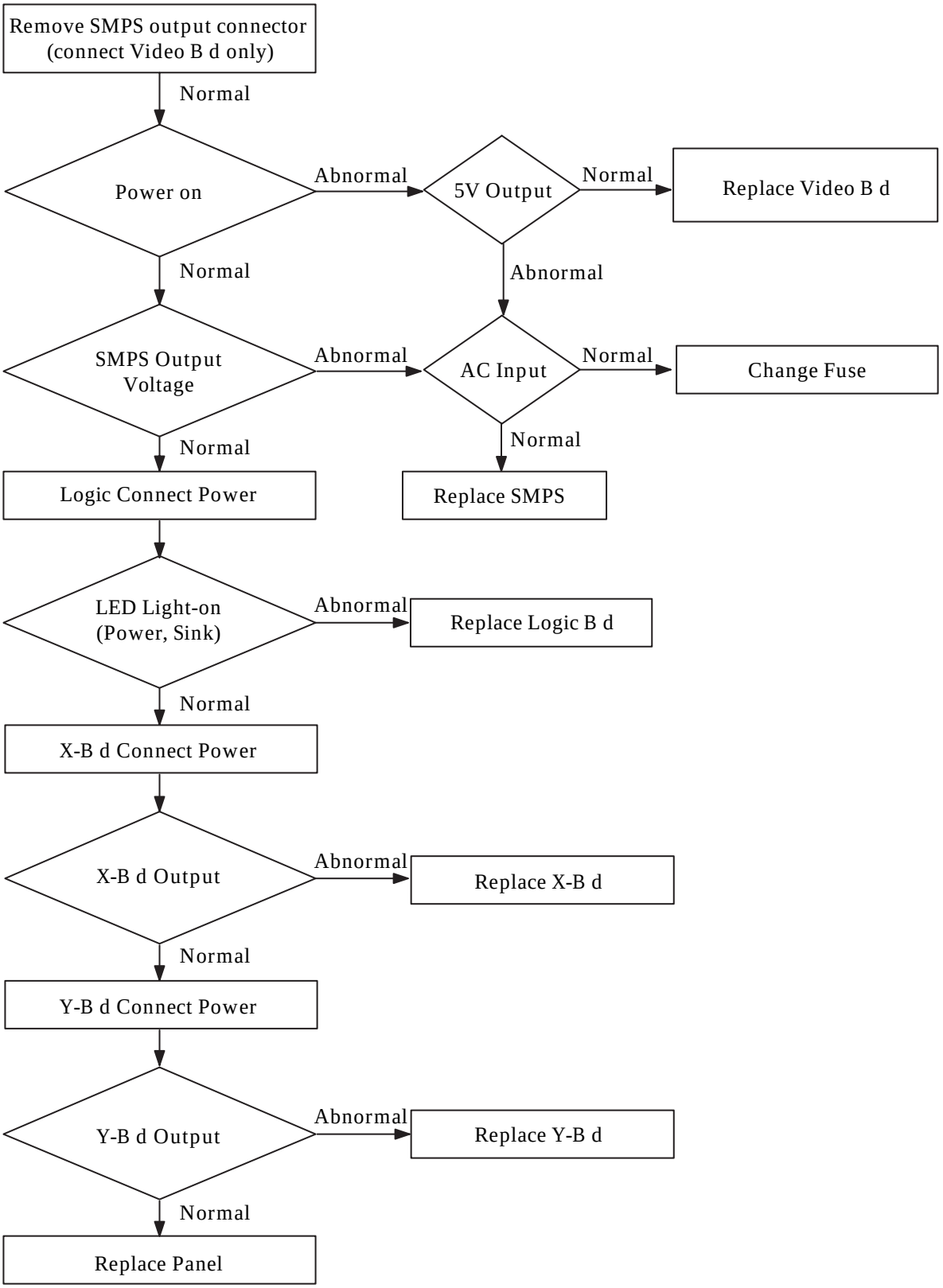


* IC402 (CXA2101AQ) PIN39 DTV.B_OUT

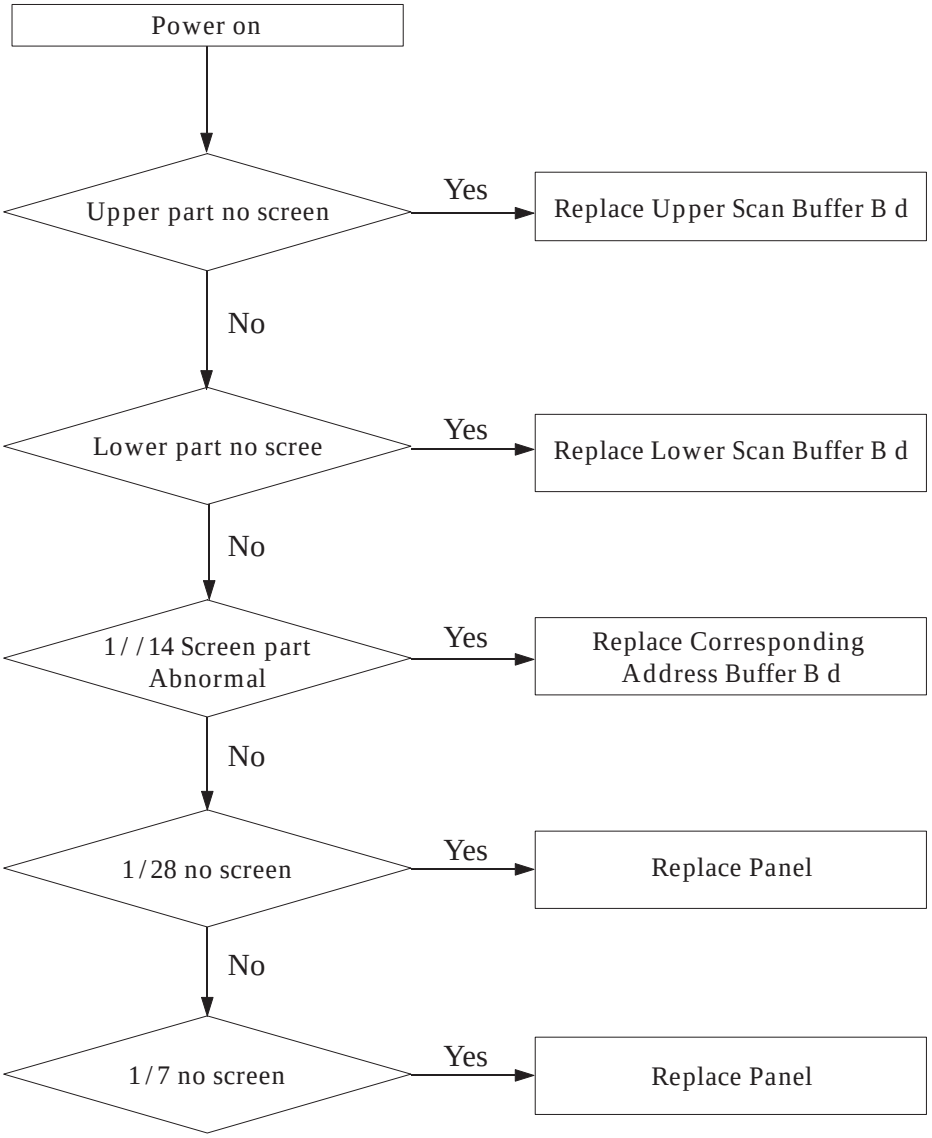
MEMO

6. Troubleshooting

6-1 Entirely no screen



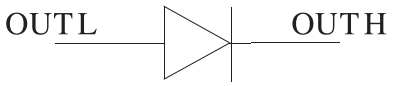
6-2 Partly no screen



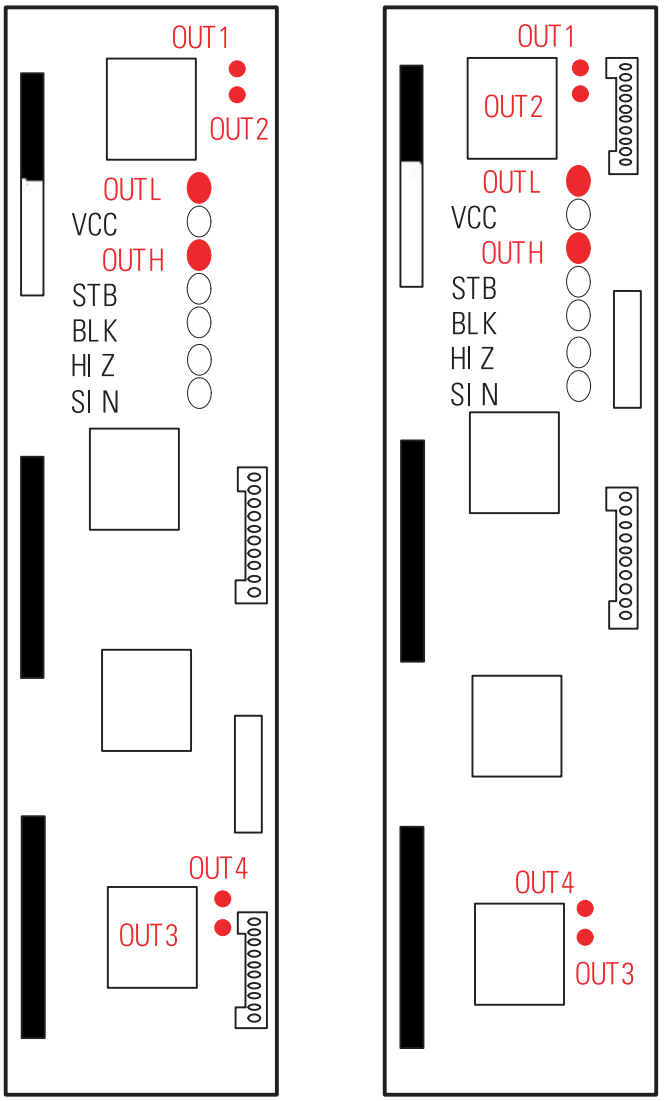
6-3 Checking the Board (Unit)

6-3-1 Y buffer

- To check the main board, you have to check the Y buffer first.
- After separating Y Main and Y buffer board,
- Check the Diode between OUTL and OUTH, and make sure that the forward voltage drop is between 0.4 and 0.5V.

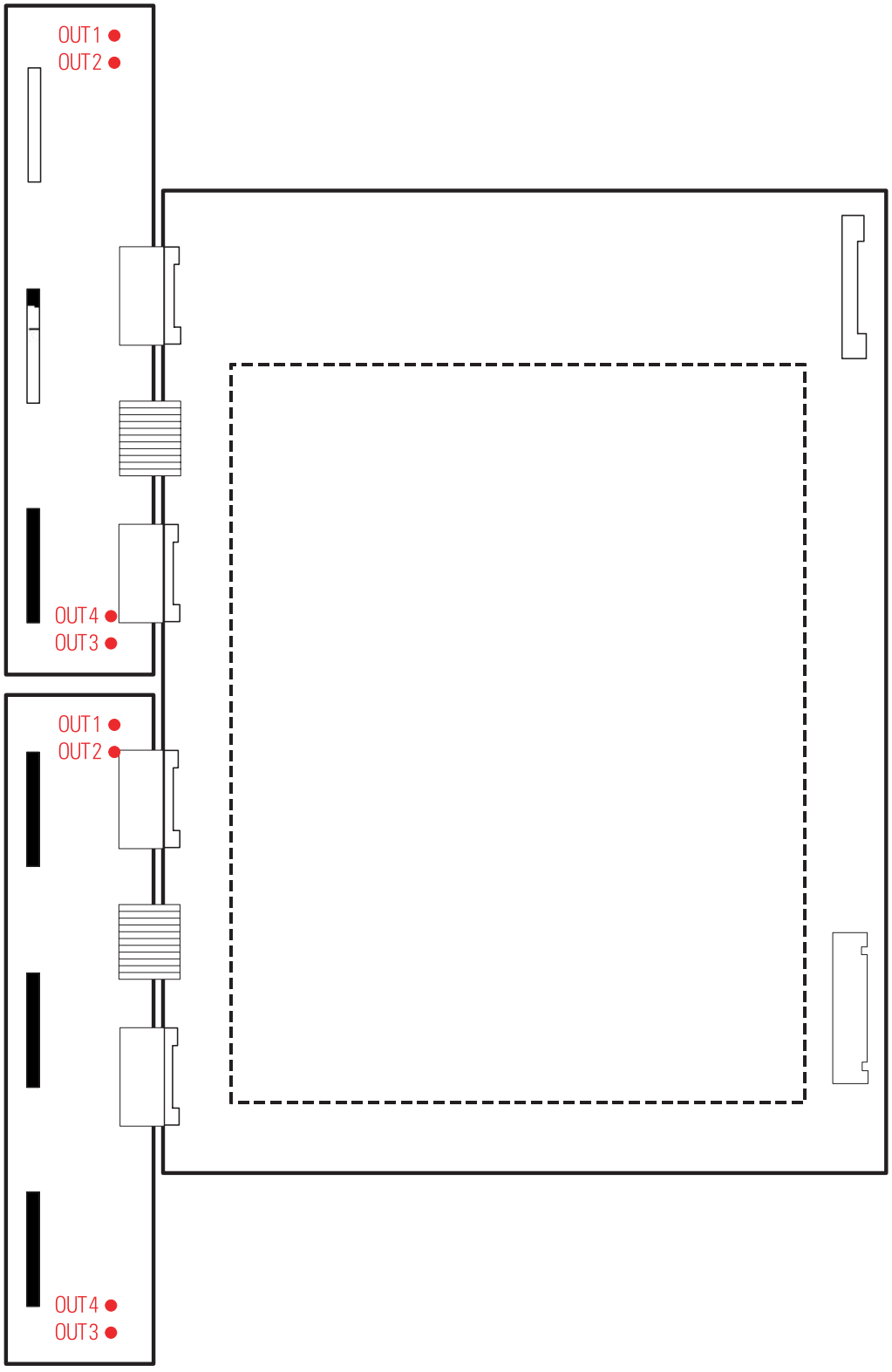


- Check that the resistance between the two terminals is more than several kW.



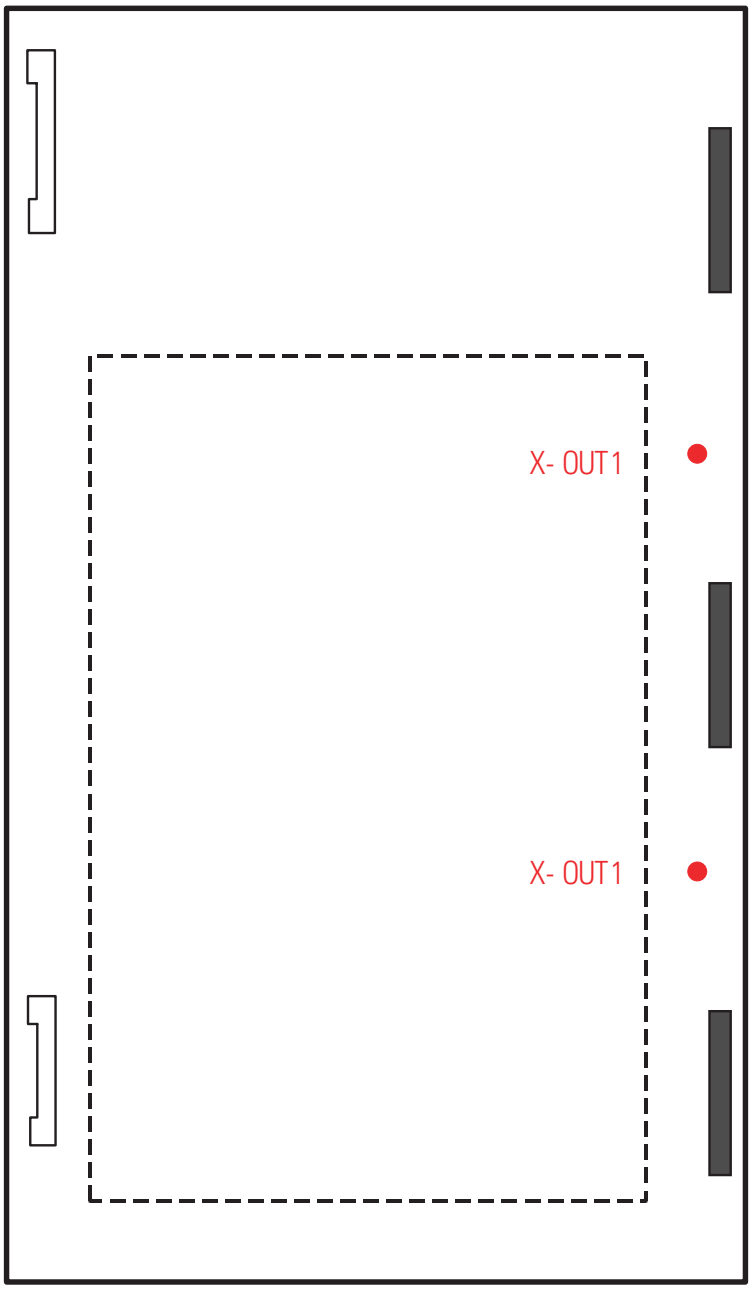
6-3-2 Y Main

- After connecting Y main and Y buffer board, check that one of the output waveforms from OUT 1, 2, 3 or 4 is the same as that of the appendix 1 when power is supplied.



6-3-3 X Board

- Check that one of the output waveforms from X-OUT 1 or 2 is the same as that of the appendix 2 when power is supplied.

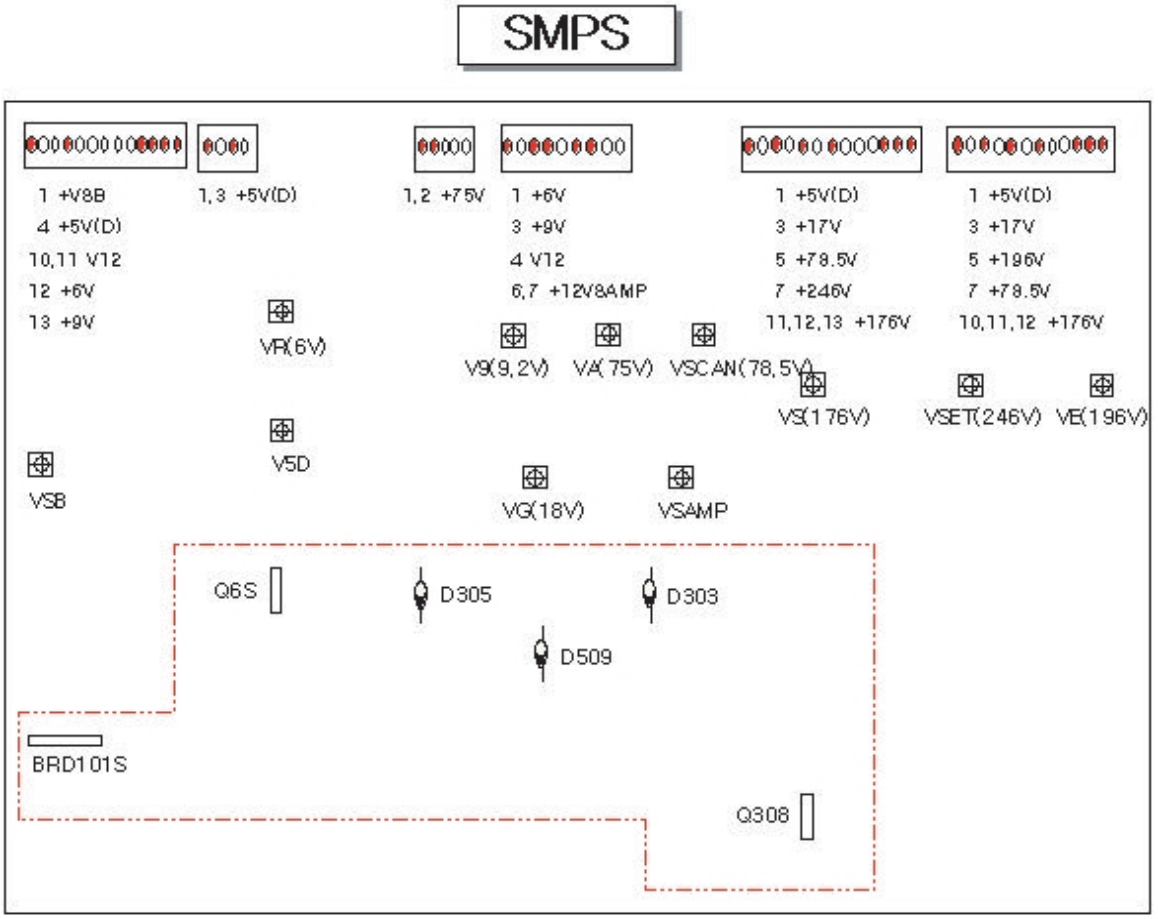


6-3-4 SMPS

- Check output voltage.

- If output voltage is not detected, check the following lists:

(1) Check fuse
(2) In case of +5V(D), check that D305 is short
(3) In case of VSAMP, check that D506 is short
(4) In case of VA, check that D303 is short
(5) In case of VS, check that pin 2 and 3 of Q303 are short
(6) In case of Q6S, check that pin 2 and 3 are short
(7) Check that BRD101S is short



6-3-5 Scaler Borad

1. PW364 Input Clock

(1) MCKEXT
Check IC406(IC502) pin 5.
Power on : MCKEXT = 97.5MHz
Standby : MCKEXT = 48.75MHz

(2) MCKEXT, DCKEXT
Check IC407(ICS502) pin 25. DCKEXT = 65MHz

(3) VCLK
Check IC203(SDA9400) pin 26. VCLK = 27MHz

(4) GCLK
Check IC401(AD9884) pin 115(TP404).
GCLK is differently seen according to PC input signal format(VGA, SVGA, XGA)
GCLK = 15MHz ~ 50MHz(This value is apparently half of the clock frequency of the relevant PC input signal format.

2. VPC3230

- Check power is supplied(5V, 3.3V).
- Check Reset(pin 15) is high.
- Check I²C-bus(pins 13, 14)
- Check the signal input to Y signal(pin73), C signal(pin 71), PLL DVD-Y signal (pin 72).
- Check the output clocks LLC1(pin 28), LLC2(pin 27). (LLC1 = 13.5MHz, LLC2 = 27MHz)
- Check the output H sync(pin 56) and check V sync(pin 57) is output.
- Check output digital data.

3. SDA9400

- Check power is supplied(3.3V).
- Check Reset(pin 30) is high.
- Check I²C-bus(pins 20, 21)
- Check clock is input.(pins 28, 54 : 27MHz. pin 29 : 13.5MHz)
- Check digital data input.
- Check the input H sync (pin 23) = 15.75MHz, V sync (pin 22) = 60Hz
- Check digital data input.
- Check the output H sync (pin 60) = 31.5KHz, V sync (pin 61) = 60Hz, VCLK (pin 26) = 27MHz

4. AD9884(IC101)

- Check power is supplied(3.3V)
- Check I²C-bus(pins 29, 30)
- Check PC signal, HD-component signal is input.
- Check the input signal GREF (pin 40). The GREF signal applies to a fixed form of the input H sync signal.
- Check the output signal GFBK (pin 117). The GFBK signal applies to a fixed form of PLLD H sync signal.
- Check the output signal GCLK (pin 115). The GCLK is differently seen according to the PC input signal format(VGA, SVGA, XGA). GCLK = 15MHz ~ 50MHz This value is apparently half of the clock frequency of the relevant PC input signal format.
- Check digital data output.

5. AD9884(IC801)

- Check power is supplied(3.3V).
- Check I^2C-bus(pins 29, 30)
- Check Video signal is input.
- Check the input signal 2HS (pin 40 or TP406)
- Check the output signal VHS (pin 117 or TP409)
- Check the output signal VCLK (pin 115 or TP408)
- Check digital data input.

6. PW364 Reset

- When the Reset switch is pressed. if OTP01(29LV160T) pin 28(TP151) undergoes ransition.
  PW364 operates and OTP01 also does. Unless transition happens, it means PW364 is not operating.

7. PW364 Communication

- Operate the PC hyper terminal Settings are as follows :

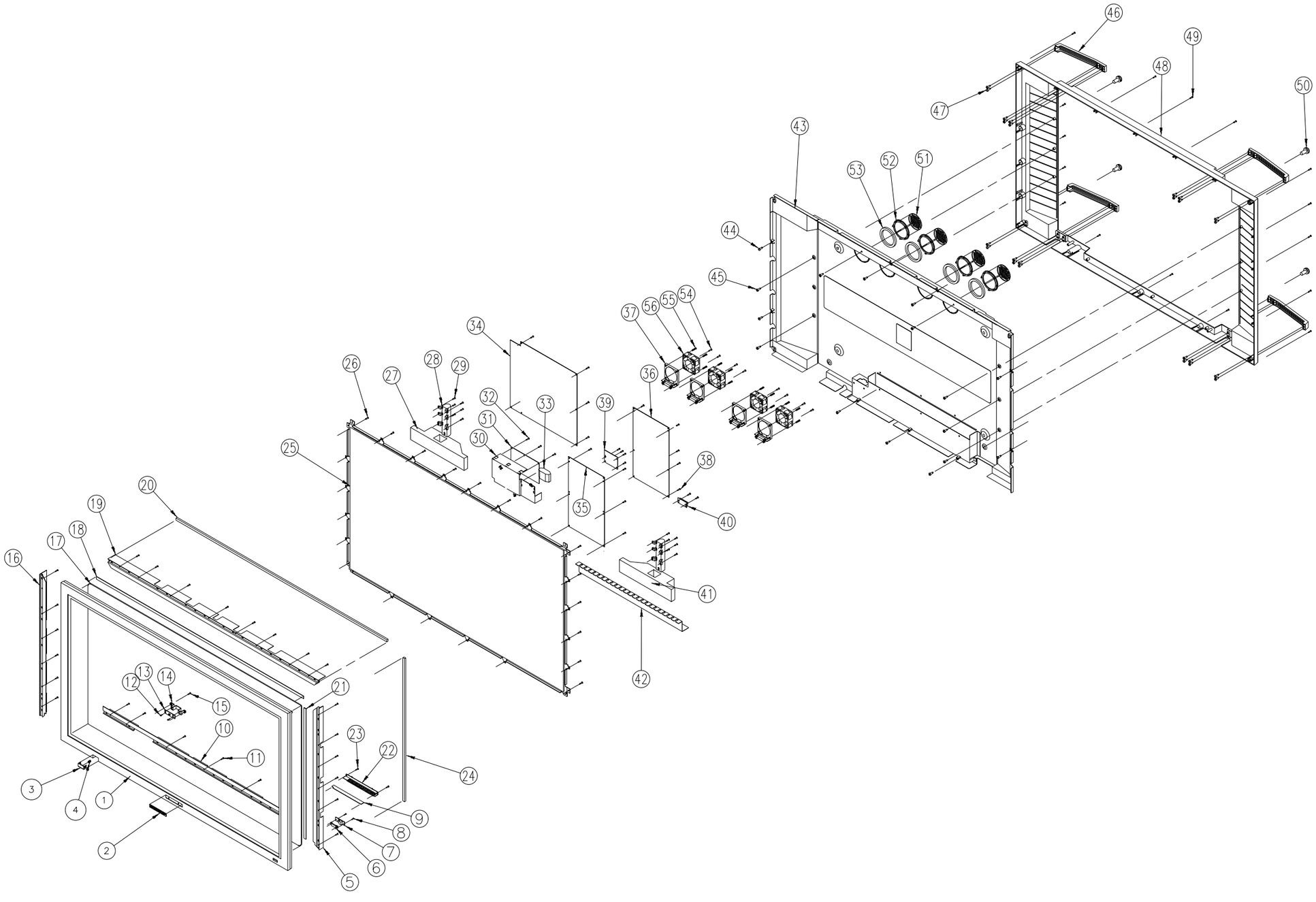
  Model Selection : Direct connect to com1
  No. of Bit per second : 57600
  Data Bit : 8
  Parity : None
  Stop Bit : 1
  Flow Control : None

- Whenever the Reset switch is pressed, the following is displayed on the PC hyper terminal screen.

  CBooter V1.5 & 2000.01.26
  CBooter V1.5 & 2000.01.26
  CBooter V1.5 & 2000.01.26

7. Exploded View & Parts List

7-1 PPM42S2X/XAA



NO	PART DECRIPTION	CODE NO	SPEC.	Q'Ty	REMARK
1	CABINET-FRONT	AA64-01799F	42P2,HIPS V0,BLK,BK708PMONITOR MIJU	1	
2	BADGE-BEAND	AA64-01560B	PDP,AL FORGING,L68(45),SILVER,BK708PSS	1	
3	KNOB-MASTER	AA64-01566B	PDP,ABS,HB,BLK,BK708P NOSILK	1	
4	SPRING-CS	AA61-60003J	-,SUS304,-,-,0D6,N7,0D6,-,-,-,-	1	
5	BRACKET-FILTER SIDE L,ASSY	AA61-00171A	14F2A,HIPS,-,-,-,NTR,HB	1	
6	WINDOW-RMC	AA64-01549B	PDP,ACRYL VIOLET,20:1	1	
7	ASSY SYB-PCB, REMOCON	AA95-01837F	SPD-42P2S,D51A,AA95-01560A	1	
8	SCREW-TAPTITE	6003-000333	RH,+,2S,M3,L10,ZPC(YEL)SWRCH1	2	
9	ASSY SUB-PCB CONTROL	AA95-01751D	PS42P2S,D53A,AA95*01582A	1	
10	BRACKET-FILTER COT, ASSY	AA61-01062A	AL 6063 EXT,42P2,T1.2	1	
11	SCREW-TAPTITE	6003-001020	RH,+MB,M4,L10,ZPC(YEL)SWRCH10A,FP,-	28	
12	SCREW-ASS'Y MACH	6001-000578	TH,+,M3,L8,ZPC(YEL),SWRCH10A,FP,-	2	
13	ASSY CUB-PCB, POWER ON/OFF	AA95-01833D	SPD-42P2S,D51A,AA95-01561A	1	
14	BRACKET-POWER	AA61-00716B	,SECC,T1.0	1	
15	SCREW-TAPTITE	6003-001026	RH,+,B,M4,L15,ZPC(YBLK),SWRCH18	2	
16	BRACKET-FILTER SIDE R, ASSY	AA61-00170A	53J2,-,-,-,-,-,HB,61-00079E(SIDE)	1	
17	MIRROR-GLASS	AA67-00112A	42PDP,MESH,984*584,56%,T3.0,VS =922.2*518.4,0.15OHM	1	
18	SPONGE-EMI,FILTER	AA72-00018A	42P2,AHIELD-FORM,T1.2,D10,L560	2	
19	BRACKET-FILTER TOP,ASSY	AA61-01059A	AL,42P2,T1.2	1	
20	SPACER-FILTER	AA60-00110D	42P2,P/U V0,L,BLK	2	
21	SPOGE-EMI,FILTER	AA72-00018A	42P2,SHIELD-FORM,T1.2,D10,L560	2	
22	KNOB-MASTER	AA64-01566B	PDP,ABS,HB,BLK,BK708P NO SILK	1	
23	SCREW-TAPTITE	6003-001026	RH,+B,M4,L15,ZPC(BLK),SWRCH18	2	
24	SPACER-FILTER	AA60-00110D	42P2,P/U V0,L,BLK	2	
25	ASSY-PANEL,PDP, SVC	AA98-00200A	,SPD-42P2S,D51A, 300X350X430XDP42SD04A	1	
26	SCREW-TAPTITE	6003-001026	RH,+,B,M4,L15,ZPC(BLK),SWRCH18	26	
27	SPONGE-EMI,BOT(R)	BN72-00315A	PDP,SHELD FROM	1	
28	GUIDE-STAND	AA61-00584B	SPD-50P2H,AL,DIECASTING	2	
29	SCREW-ASS'Y MACH	6003-001039	WSP,PH,+,M4,L12,ZPC(YEL),SM10C	12	
30	BRACKET-LINE,FILTER	AA61-00582C	SPD-42P2H,SPC,T1.0,NI	1	
31	ASSY PCB POWER	AA94-07568A	SPD-42P2S,D51A,DOM	1	

NO	PART DECRIPTION	CODE NO	SPEC.	Q'Ty	REMARK
32	SCREW-ASS'Y MACH	6006-001035	WSP,PH,+,M3,L8,ZPC(YEL),SMI0C	6	
33	FILTER-EMI AC LINE	2901-001222	250V,10A,UL,CSA,D,N,S,FI, ,22000PF, 24X50X62.3MIM,BK,HARNESS	1	
34	ASSY-PBA, SMPS	AA98-00188A	,SPD-42P2A,D51A,42SD,90~264V, 47/63HZ,SEM	1	
35	ASSY PDP P-PBA,L-MAIN	BN96-00074A	,S422SD,D51A,D53A,42INCH,1F2A, SDI CODE LJ92-00573A	1	
36	ASSY-PCB MISC-SCALER	BN94-00290A	PPM42S2X,D53A	1	
37	BRACKET-FAN,BASE	AA61-00579C	,SECC,T1.6	4	
38	SCREW-ASS'Y MACH	6006-001035	WSP,PH,+,,M3,L8,ZPC(YEL),SM10C	6	
39	ASSY PCB MISC-SOUND	BN94-00291A	PPM42S2X,D53A	1	
40	ASSY SUB TERMINAL	AA95-01770A	PS42P2S,D53A,AA95-01632A	1	
41	SPONGE-EMI,BOT(L)	BN72-00316A	PDP,SHELD FROM	1	
42	COVER-TERMINAL	AA63-00491D	42P2,SUS,T0.3,MIJU(MONITOR)	1	
43	COVER-BACK, ASSY	BN63-00198A	42P2S,AL FAN,CMB,T1.2,SEA	1	
44	SCREW-TAPTITE	6003-001019	RH,+,B,M4,L12,ZPC(BLK),SWRCH18	13	
45	SCREW-TAPTITE	6003-001020	RH,+,B,M4,L10,ZPC(YEL),SWRCH18	6	
46	HANDLE-SET	AA64-01551B	PDP,ABS,HB,BLK	4	
47	SCREW-TAPTITE	6003-001026	RH,+,B,M4,L15,ZPC(BLK),SWRCH18	24	
48	CABINET BACK	AA64-01802C	42P2,HIPS V0,BLK,WP1000	1	
49	SCREW-TAPPING	AA60-10050T	-,SWRCH18A,M4,L20MRH,+,2S,-,ZPC(BLK),-	16	
50	SCREW-ASS'Y MACH	6006-001112	WP,PH,+,M8,L16,ZPC(BLK),SWRCH18A	4	
51	COVER-FAN	AA63-00366B	SPD-50P2H,SPTE,T0.5	4	
52	HOLDER-FAN	AA61-00597B	SPD-50P2H,ABS V0,BLK	4	
53	SPACER-FAN	AA60-00109A	SPD-50P2H,P/UFORM V0,BLK	4	
54	SCREW-ASS'Y MACH	6006-001035	WSP,PH,+,M3,L8,ZPC(YEL),SM10C	8	
55	SCREW-ASS'Y MACH	6006-001017	WSP,PH,+,M4,L35,ZPC(YEL),SM10C	16	
56	FAN-DC	3103-001109	12V,110MA,200RPM,0.34M^3/MI,-	4	

8. Electrical Parts List

8-1 PARTS LIST FOR SERVICE

NO	Description	CODE NO.	Specification
1	ASSY PDP P-MODULE	BN96-00078A	M3,1F2A,42P2S,D51A,S1.0,1019.2X616X56MM,SD,NTSC,42INCH,DEPTH 89MM
2	ASSY-PANEL, PDP, SVC	AA98-00200A	, SPD-42P2S,D51A,300X350X430,DP42SD04A
3	ASSY-PBA, X-MAIN	AA98-00206A	, 42SD,D51A,LJ41-00782A,SD42-XM-1.0,SDI,S1.0
4	ASSY-PBA, Y-MAIN	AA98-00209A	,42SD,D51A,LJ41-00781A,SD42-YM-1.0,SDI,S1.0
5	ASSY PDP PBA,L-MAIN	BN96-00074A	,S42SD,D51A,D53A,42INCH,1F2A,SDI CODE LJ92-000573A
6	ASSY-PBA, BUFF(UP)	AA98-00213A	,42SD,D51A,LJ41-00783A,SD42-YK-1.0,SDI,S1.0
7	ASSY-PBA, BUFF(DOWN)	AA98-00215A	,42SD,D51A,LJ41-00783B,SD42-YL-1.0,SDI,S1.0
8	ASSY-PBA, L-BUFF(E)	AA98-00218A	,42SD,D51A,LJ41-00779A,SD42-LE-1.0,SDI,S1.0
9	ASSY-PBA, L-BUFF(F)	AA98-00221A	,42SD,D51A,LJ41-00780A,SD42-LF-1.0,SDI,S1.0
10	FAN	AA31-00003B	TA225DC(M33394),PLASTIC,BRACKRT:AA61-00579C
11	ASSY-PBA, SMPS	AA98-00188A	SPD-42P2S,D51A,42SD,90+~264V,47/63HZ,SEM
12	ASSY PCB MISC-SCALER	BN94-00290A	PPM42S2X,D53A
13	ASSY-PBA, AC-FILTER	AA94-07568A	SPD-42P2S,D51A.DOM
14	ASSY SUB-PCB, REMOCON	AA95-01837F	SPD-42P2S,D51A,AA95-001560A
15	ASSY SUB-PCB, POWER ON/OFF	AA95-01833D	SPD-42P2S,D51A,AA95-01561A
16	ASSY SUB-PCB, TERMINAL	AA95-01770A	PS42P2S,D53A,AA95-01632A
17	ASSY SUB-PCB, CONTROL	AA95-01751D	PS42P2S,D53A,AA95-01582A
18	ASSY PCB MISC-SOUND	BN94-00291A	PPM42S2X,D53A
19	REMOCON	AA59-00222A	,TM63,PDP,PW364,44,SPK4215M
20	POWER-CORD	AA39-10004E	-,KJP120/KJC303,SVT 3/18AWG,1.
21	MIRROR-GLASS	AA67-00112A	42INCH,P1S,MESH,55% 1.15OHM
22	MANUAL USERS	BN68-00258A	PPM42S2,ENG,S/W120G,D53A,A4
23	RS232C CABLE	AA39-00311A	PDP,9P/1P,UL2851 # 28,5000MM,UL2851,BLK,DSUB/STEREO PLUG,2C,SJ01-01-296
24	S/W DRIVER	AA59-00261A	PPM42S2,INSTALL-S/W,BASIC,CD-ROM

8-1 PARTS LIST FOR SERVICE

ASSY MISC-PDP PBA

Level	Loc. No	Code No.	Description ; Specification	Remark
1	*	BN91-00396A	ASSY MISC-PDP PBA;PPM42S2X/XAA,D53A	S.N.A
..2		BN94-00290A	ASSY PCB MISC-SCALER;PPM42S2X,D53A	
...3	B601	4301-000108	BATTERY-LI;3V,220mAH,BUTTON,20x3.2mm,NO	
...3	CN301	3711-002645	CONNECTOR-HEADER;BOX,6P,1R,2.5mm,STRAIGH	
...3	CN302	3711-002642	CONNECTOR-HEADER;BOX,3P,1R,2.5mm,STRAIGH	
...3	CN401	3711-003272	CONNECTOR-HEADER;BOX,10P,2R,2.54mm,STRAI	
...3	CN601	3711-003047	CONNECTOR-HEADER;BOX,13P,1R,2.5MM,STRAIG	
...3	CN606	3711-002644	CONNECTOR-HEADER;BOX,5P,1R,2.5mm,STRAIGH	
...3	CN609	3711-003974	CONNECTOR-HEADER;BOX,12P,1R,2.5mm,STRAIG	
...3	DZ602	0403-001373	DIODE-ZENER;MTZJ5.1A,4.81V-5.07V,500mW,D	
...3	EF602	2901-000172	FILTER-EMI ON BOARD;50V,10A,-,-,12x11x13	
...3	EF603	2901-000172	FILTER-EMI ON BOARD;50V,10A,-,-,12x11x13	
...3	IC508	0801-000284	IC-CMOS LOGIC;4528,MULTIVIBRATOR,DIP,16P	
...3	IC509	1204-001510	IC-SEPARATOR;EL4583CN,DIP,16P,-,PLASTIC,	
...3	IC604	0909-001029	IC-REAL TIME CLOCK;8563,-,DIP,8P,300MIL,	
...3	IC632	1203-002587	IC-POSI.FIXED REG.;-,TO-220,4P,618MIL,PL	
...3	JA501	3705-001109	CONNECTOR-COAXIAL;BNC,PLUG,20mohm,-,-	S.N.A
...3	JA502	3722-001163	JACK-VHS;4P,12mm,AU,BLK,N	
...3	JA505	3701-001129	CONNECTOR-DSUB;15P,3R,FEMALE,ANGLE,AUF	
...3	JA506	3705-001109	CONNECTOR-COAXIAL;BNC,PLUG,20mohm,-,-	S.N.A
...3	JA507	3705-001109	CONNECTOR-COAXIAL;BNC,PLUG,20mohm,-,-	S.N.A
...3	JA508	3705-001109	CONNECTOR-COAXIAL;BNC,PLUG,20mohm,-,-	S.N.A
...3	JA509	3705-001109	CONNECTOR-COAXIAL;BNC,PLUG,20mohm,-,-	S.N.A
...3	JA510	3705-001109	CONNECTOR-COAXIAL;BNC,PLUG,20mohm,-,-	S.N.A
...3	LD01	2702-001095	INDUCTOR-RADIAL;18uH,10%,6x4mm	
...3	LD03	2702-001095	INDUCTOR-RADIAL;18uH,10%,6x4mm	
...3	LD05	2702-001096	INDUCTOR-RADIAL;33uH,10%,6x4mm	
...3	LD06	2702-001095	INDUCTOR-RADIAL;18uH,10%,6x4mm	
...3	LD07	2901-000297	FILTER-EMI ON BOARD;-,3A,-,-,3.5x5,TP,-	
...3	SW501	3404-000176	SWITCH-TACT;12V,50mA,120gf,6x6mm,SPST	
...3	SW601	3404-000176	SWITCH-TACT;12V,50mA,120gf,6x6mm,SPST	
...3	X601	2801-003224	CRYSTAL-UNIT;32.768KHz,20ppm,28-AAY,12.5	
...3	XTAL01	2801-000199	CRYSTAL-UNIT;20MHz,50ppm,28-AAA,16pF,50o	
...3		BN97-00087B	ASSY AUTO-SCALER;PPM42S2X,D53A	
....4	CD10	2401-001496	C-AL;47uF,20%,16V,GP,TP,5x7,5	
....4	CD12	2401-002464	C-AL;47uF,20%,16V,BP,TP,8x11.5,5	
....4	CD23	2401-000598	C-AL;1uF,20%,50V,GP,TP,4x7,5	
....4	CD24	2401-000455	C-AL;10uF,20%,35V,GP,TP,4x7mm,5mm	
....4	CD45	2401-000455	C-AL;10uF,20%,35V,GP,TP,4x7mm,5mm	
....4	CD47	2401-000455	C-AL;10uF,20%,35V,GP,TP,4x7mm,5mm	
....4	CD57	2401-001496	C-AL;47uF,20%,16V,GP,TP,5x7,5	
....4	CD59	2401-001496	C-AL;47uF,20%,16V,GP,TP,5x7,5	
....4	CD60	2401-001496	C-AL;47uF,20%,16V,GP,TP,5x7,5	
....4	CD64	2401-001496	C-AL;47uF,20%,16V,GP,TP,5x7,5	
....4	CD66	2401-001496	C-AL;47uF,20%,16V,GP,TP,5x7,5	
....4	CD68	2401-001496	C-AL;47uF,20%,16V,GP,TP,5x7,5	
....4	CD71	2401-001496	C-AL;47uF,20%,16V,GP,TP,5x7,5	
....4		BN97-00088A	ASSY SMD-SCALER;PPM42S2X,D53A	
.....5	C101	2402-001042	C-AL,SMD;100uF,20%,16V,GP,TP,6.6x6.6x5.4	
.....5	C102	2402-001042	C-AL,SMD;100uF,20%,16V,GP,TP,6.6x6.6x5.4	
.....5	C103	2402-001042	C-AL,SMD;100uF,20%,16V,GP,TP,6.6x6.6x5.4	
.....5	C104	2402-001042	C-AL,SMD;100uF,20%,16V,GP,TP,6.6x6.6x5.4	
.....5	C105	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C106	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C107	2203-000979	C-CERAMIC,CHIP;47nF,10%,50V,X7R,TP,2012	
.....5	C108	2203-000979	C-CERAMIC,CHIP;47nF,10%,50V,X7R,TP,2012	
.....5	C109	2203-000979	C-CERAMIC,CHIP;47nF,10%,50V,X7R,TP,2012	
.....5	C110	2203-000979	C-CERAMIC,CHIP;47nF,10%,50V,X7R,TP,2012	
.....5	C111	2402-001049	C-AL,CHIP;10uF,20%,16V,GP,TP,3.3x3.3x5.4	
.....5	C112	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C113	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C114	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C115	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C116	2203-000389	C-CERAMIC,CHIP;0.015nF,5%,50V,NP0,TP,201	
.....5	C117	2203-000389	C-CERAMIC,CHIP;0.015nF,5%,50V,NP0,TP,201	
.....5	C118	2203-000389	C-CERAMIC,CHIP;0.015nF,5%,50V,NP0,TP,201	
.....5	C119	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C120	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C121	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C122	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C123	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C124	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C125	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C126	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C127	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C128	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C129	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C130	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C131	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C132	2203-000844	C-CERAMIC,CHIP;39nF,10%,50V,X7R,TP,2012,	
.....5	C133	2203-000726	C-CERAMIC,CHIP;3.9nF,10%,50V,X7R,TP,1608	
.....5	C134	2203-000041	C-CERAMIC,CHIP;0.01nF,0.25pF,50V,NP0,TP,	
.....5	C135	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C136	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C137	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C138	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C139	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C140	2203-000761	C-CERAMIC,CHIP;330nF,10%,16V,X7R,TP,2012	
.....5	C141	2203-000761	C-CERAMIC,CHIP;330nF,10%,16V,X7R,TP,2012	
.....5	C142	2203-000661	C-CERAMIC,CHIP;0.27nF,5%,50V,NP0,TP,2012	
.....5	C201	2402-001042	C-AL,SMD;100uF,20%,16V,GP,TP,6.6x6.6x5.4	
.....5	C202	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C204	2203-001656	C-CERAMIC,CHIP;0.47nF,5%,50V,NP0,TP,1608	
.....5	C207	2203-000661	C-CERAMIC,CHIP;0.27nF,5%,50V,NP0,TP,2012	
.....5	C208	2203-000661	C-CERAMIC,CHIP;0.27nF,5%,50V,NP0,TP,2012	
.....5	C209	2203-000661	C-CERAMIC,CHIP;0.27nF,5%,50V,NP0,TP,2012	
.....5	C210	2203-000761	C-CERAMIC,CHIP;330nF,10%,16V,X7R,TP,2012	
.....5	C211	2203-000609	C-CERAMIC,CHIP;22nF,10%,50V,X7R,TP,2012	
.....5	C212	2203-000761	C-CERAMIC,CHIP;330nF,10%,16V,X7R,TP,2012	
.....5	C213	2203-000609	C-CERAMIC,CHIP;22nF,10%,50V,X7R,TP,2012	
.....5	C214	2203-000609	C-CERAMIC,CHIP;22nF,10%,50V,X7R,TP,2012	
.....5	C215	2402-001049	C-AL,CHIP;10uF,20%,16V,GP,TP,3.3x3.3x5.4	
.....5	C216	2203-000761	C-CERAMIC,CHIP;330nF,10%,16V,X7R,TP,2012	
.....5	C219	2203-000575	C-CERAMIC,CHIP;220NF,10%,25V,X7R,TP,2012	
.....5	C220	2402-001071	C-AL,SMD;220uF,20%,10V,GP,TP,8.3x8.3x6.	
.....5	C221	2203-000575	C-CERAMIC,CHIP;220NF,10%,25V,X7R,TP,2012	
.....5	C222	2203-000761	C-CERAMIC,CHIP;330nF,10%,16V,X7R,TP,2012	
.....5	C223	2203-000761	C-CERAMIC,CHIP;330nF,10%,16V,X7R,TP,2012	
.....5	C224	2203-000440	C-CERAMIC,CHIP;1nF,10%,50V,X7R,TP,1608,-	
.....5	C225	2203-000142	C-CERAMIC,CHIP;1.5nF,10%,50V,X7R,TP,2012	
.....5	C226	2203-000575	C-CERAMIC,CHIP;220NF,10%,25V,X7R,TP,2012	
.....5	C227	2402-001071	C-AL,SMD;220uF,20%,10V,GP,TP,8.3x8.3x6.	
.....5	C228	2203-000142	C-CERAMIC,CHIP;1.5nF,10%,50V,X7R,TP,2012	
.....5	C229	2203-000839	C-CERAMIC,CHIP;0.39nF,5%,50V,NP0,TP,2012	
.....5	C230	2203-000681	C-CERAMIC,CHIP;0.027nF,5%,50V,NP0,TP,160	
.....5	C231	2203-000681	C-CERAMIC,CHIP;0.027nF,5%,50V,NP0,TP,160	
.....5	C232	2203-000661	C-CERAMIC,CHIP;0.27nF,5%,50V,NP0,TP,2012	
.....5	C233	2203-000975	C-CERAMIC,CHIP;47nF,10%,25V,X7R,TP,1608,	
.....5	C234	2203-000839	C-CERAMIC,CHIP;0.39nF,5%,50V,NP0,TP,2012	
.....5	C236	2203-000761	C-CERAMIC,CHIP;330nF,10%,16V,X7R,TP,2012	
.....5	C237	2203-000761	C-CERAMIC,CHIP;330nF,10%,16V,X7R,TP,2012	
.....5	C238	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C239	2203-000761	C-CERAMIC,CHIP;330nF,10%,16V,X7R,TP,2012	
.....5	C240	2203-000575	C-CERAMIC,CHIP;220NF,10%,25V,X7R,TP,2012	
.....5	C241	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C242	2203-000140	C-CERAMIC,CHIP;1.5nF,10%,50V,X7R,TP,1608	
.....5	C243	2203-000838	C-CERAMIC,CHIP;0.39nF,5%,50V,NP0,TP,1608	
.....5	C244	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C245	2203-000975	C-CERAMIC,CHIP;47nF,10%,25V,X7R,TP,1608,	
.....5	C246	2203-000140	C-CERAMIC,CHIP;1.5nF,10%,50V,X7R,TP,1608	
.....5	C247	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C248	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C250	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C252	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C253	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C254	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C255	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C256	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C257	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C258	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C259	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C260	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C261	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	

Level	Loc. No.	Code No.	Description ; Specification	Remark
.....5	C262	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C263	2402-001042	C-AL,SMD;100uF,20%,16V,GP,TP,6.6x6.6x5.4	
.....5	C264	2402-001042	C-AL,SMD;100uF,20%,16V,GP,TP,6.6x6.6x5.4	
.....5	C265	2402-001042	C-AL,SMD;100uF,20%,16V,GP,TP,6.6x6.6x5.4	
.....5	C266	2203-000761	C-CERAMIC,CHIP;330nF,10%,16V,X7R,TP,2012	
.....5	C267	2203-000761	C-CERAMIC,CHIP;330nF,10%,16V,X7R,TP,2012	
.....5	C301	2402-001042	C-AL,SMD;100uF,20%,16V,GP,TP,6.6x6.6x5.4	
.....5	C302	2402-001042	C-AL,SMD;100uF,20%,16V,GP,TP,6.6x6.6x5.4	
.....5	C306	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C307	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C308	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C309	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C310	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C311	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C312	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C313	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C314	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C315	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C316	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C317	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C318	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C319	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C320	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C321	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C322	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C323	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C324	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C325	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C326	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C327	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C328	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C329	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C330	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C331	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C332	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C333	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C334	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C335	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C336	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C337	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C338	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C339	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C340	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C341	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C342	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C343	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C344	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C345	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C346	2402-001042	C-AL,SMD;100uF,20%,16V,GP,TP,6.6x6.6x5.4	
.....5	C347	2203-000784	C-CERAMIC,CHIP;0.33nF,5%,50V,NP0,TP,2012	
.....5	C348	2402-001042	C-AL,SMD;100uF,20%,16V,GP,TP,6.6x6.6x5.4	
.....5	C349	2203-000784	C-CERAMIC,CHIP;0.33nF,5%,50V,NP0,TP,2012	
.....5	C350	2203-000784	C-CERAMIC,CHIP;0.33nF,5%,50V,NP0,TP,2012	
.....5	C351	2203-000784	C-CERAMIC,CHIP;0.33nF,5%,50V,NP0,TP,2012	
.....5	C352	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C353	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C354	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C355	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C356	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C357	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C401	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C402	2203-001656	C-CERAMIC,CHIP;0.47nF,5%,50V,NP0,TP,1608	
.....5	C403	2402-001042	C-AL,SMD;100uF,20%,16V,GP,TP,6.6x6.6x5.4	
.....5	C404	2402-001049	C-AL,CHIP;10uF,20%,16V,GP,TP,3.3x3.3x5.4	
.....5	C405	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C406	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C407	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C408	2203-000815	C-CERAMIC,CHIP;0.033nF,5%,50V,NP0,TP,160	
.....5	C409	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C410	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C412	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C413	2203-000925	C-CERAMIC,CHIP;470NF,+80-20%,50V,Y5V,TP,	
.....5	C414	2203-000925	C-CERAMIC,CHIP;470NF,+80-20%,50V,Y5V,TP,	
.....5	C415	2203-000925	C-CERAMIC,CHIP;470NF,+80-20%,50V,Y5V,TP,	
.....5	C416	2203-000925	C-CERAMIC,CHIP;470NF,+80-20%,50V,Y5V,TP,	
.....5	C417	2203-000925	C-CERAMIC,CHIP;470NF,+80-20%,50V,Y5V,TP,	
.....5	C418	2203-000925	C-CERAMIC,CHIP;470NF,+80-20%,50V,Y5V,TP,	
.....5	C419	2203-000925	C-CERAMIC,CHIP;470NF,+80-20%,50V,Y5V,TP,	
.....5	C420	2203-000257	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608	
.....5	C421	2203-000925	C-CERAMIC,CHIP;470NF,+80-20%,50V,Y5V,TP,	
.....5	C422	2203-000925	C-CERAMIC,CHIP;470NF,+80-20%,50V,Y5V,TP,	
.....5	C423	2203-000925	C-CERAMIC,CHIP;470NF,+80-20%,50V,Y5V,TP,	
.....5	C424	2203-000925	C-CERAMIC,CHIP;470NF,+80-20%,50V,Y5V,TP,	
.....5	C425	2203-000925	C-CERAMIC,CHIP;470NF,+80-20%,50V,Y5V,TP,	
.....5	C426	2203-000925	C-CERAMIC,CHIP;470NF,+80-20%,50V,Y5V,TP,	
.....5	C427	2203-000925	C-CERAMIC,CHIP;470NF,+80-20%,50V,Y5V,TP,	
.....5	C428	2203-000925	C-CERAMIC,CHIP;470NF,+80-20%,50V,Y5V,TP,	
.....5	C429	2203-000925	C-CERAMIC,CHIP;470NF,+80-20%,50V,Y5V,TP,	
.....5	C430	2203-000925	C-CERAMIC,CHIP;470NF,+80-20%,50V,Y5V,TP,	
.....5	C431	2203-000925	C-CERAMIC,CHIP;470NF,+80-20%,50V,Y5V,TP,	
.....5	C432	2203-000925	C-CERAMIC,CHIP;470NF,+80-20%,50V,Y5V,TP,	
.....5	C433	2203-000925	C-CERAMIC,CHIP;470NF,+80-20%,50V,Y5V,TP,	
.....5	C434	2402-001049	C-AL,CHIP;10uF,20%,16V,GP,TP,3.3x3.3x5.4	
.....5	C435	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C436	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C437	2402-001042	C-AL,SMD;100uF,20%,16V,GP,TP,6.6x6.6x5.4	
.....5	C438	2203-000925	C-CERAMIC,CHIP;470NF,+80-20%,50V,Y5V,TP,	
.....5	C439	2203-000925	C-CERAMIC,CHIP;470NF,+80-20%,50V,Y5V,TP,	
.....5	C440	2203-000925	C-CERAMIC,CHIP;470NF,+80-20%,50V,Y5V,TP,	
.....5	C441	2203-000925	C-CERAMIC,CHIP;470NF,+80-20%,50V,Y5V,TP,	
.....5	C442	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C443	2203-000925	C-CERAMIC,CHIP;470NF,+80-20%,50V,Y5V,TP,	
.....5	C444	2203-000925	C-CERAMIC,CHIP;470NF,+80-20%,50V,Y5V,TP,	
.....5	C445	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C446	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C447	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C448	2203-000925	C-CERAMIC,CHIP;470NF,+80-20%,50V,Y5V,TP,	
.....5	C449	2203-000925	C-CERAMIC,CHIP;470NF,+80-20%,50V,Y5V,TP,	
.....5	C450	2203-000925	C-CERAMIC,CHIP;470NF,+80-20%,50V,Y5V,TP,	
.....5	C451	2203-000925	C-CERAMIC,CHIP;470NF,+80-20%,50V,Y5V,TP,	
.....5	C452	2203-000925	C-CERAMIC,CHIP;470NF,+80-20%,50V,Y5V,TP,	
.....5	C453	2203-000925	C-CERAMIC,CHIP;470NF,+80-20%,50V,Y5V,TP,	
.....5	C454	2203-000925	C-CERAMIC,CHIP;470NF,+80-20%,50V,Y5V,TP,	
.....5	C455	2203-000925	C-CERAMIC,CHIP;470NF,+80-20%,50V,Y5V,TP,	
.....5	C456	2203-000925	C-CERAMIC,CHIP;470NF,+80-20%,50V,Y5V,TP,	
.....5	C457	2402-001049	C-AL,CHIP;10uF,20%,16V,GP,TP,3.3x3.3x5.4	
.....5	C458	2402-001049	C-AL,CHIP;10uF,20%,16V,GP,TP,3.3x3.3x5.4	
.....5	C459	2402-001042	C-AL,SMD;100uF,20%,16V,GP,TP,6.6x6.6x5.4	
.....5	C460	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C461	2203-000925	C-CERAMIC,CHIP;470NF,+80-20%,50V,Y5V,TP,	
.....5	C462	2203-000925	C-CERAMIC,CHIP;470NF,+80-20%,50V,Y5V,TP,	
.....5	C463	2203-000925	C-CERAMIC,CHIP;470NF,+80-20%,50V,Y5V,TP,	
.....5	C464	2203-000681	C-CERAMIC,CHIP;0.027nF,5%,50V,NP0,TP,160	
.....5	C465	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C467	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C501	2402-001049	C-AL,CHIP;10uF,20%,16V,GP,TP,3.3x3.3x5.4	
.....5	C504	2402-001049	C-AL,CHIP;10uF,20%,16V,GP,TP,3.3x3.3x5.4	
.....5	C505	2402-001049	C-AL,CHIP;10uF,20%,16V,GP,TP,3.3x3.3x5.4	
.....5	C506	2402-001049	C-AL,CHIP;10uF,20%,16V,GP,TP,3.3x3.3x5.4	
.....5	C507	2402-001049	C-AL,CHIP;10uF,20%,16V,GP,TP,3.3x3.3x5.4	
.....5	C509	2402-001049	C-AL,CHIP;10uF,20%,16V,GP,TP,3.3x3.3x5.4	
.....5	C510	2203-000257	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608	
.....5	C511	2203-000257	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608	
.....5	C512	2203-000257	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608	
.....5	C513	2203-001656	C-CERAMIC,CHIP;0.47nF,5%,50V,NP0,TP,1608	
.....5	C514	2203-000257	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608	
.....5	C515	2203-000257	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608	
.....5	C516	2203-000257	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608	
.....5	C517	2402-001049	C-AL,CHIP;10uF,20%,16V,GP,TP,3.3x3.3x5.4	
.....5	C518	2402-001049	C-AL,CHIP;10uF,20%,16V,GP,TP,3.3x3.3x5.4	
.....5	C519	2402-001049	C-AL,CHIP;10uF,20%,16V,GP,TP,3.3x3.3x5.4	
.....5	C520	2402-001049	C-AL,CHIP;10uF,20%,16V,GP,TP,3.3x3.3x5.4	
.....5	C521	2402-001049	C-AL,CHIP;10uF,20%,16V,GP,TP,3.3x3.3x5.4	
.....5	C522	2402-001049	C-AL,CHIP;10uF,20%,16V,GP,TP,3.3x3.3x5.4	
.....5	C523	2402-001049	C-AL,CHIP;10uF,20%,16V,GP,TP,3.3x3.3x5.4	
.....5	C524	2203-000761	C-CERAMIC,CHIP;330nF,10%,16V,X7R,TP,2012	
.....5	C525	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C526	2203-000236	C-CERAMIC,CHIP;0.1nF,5%,50V,NP0,TP,1608	
.....5	C527	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C529	2203-000236	C-CERAMIC,CHIP;0.1nF,5%,50V,NP0,TP,1608	
.....5	C530	2402-001049	C-AL,CHIP;10uF,20%,16V,GP,TP,3.3x3.3x5.4	
.....5	C533	2203-001656	C-CERAMIC,CHIP;0.47nF,5%,50V,NP0,TP,1608	
.....5	C534	2402-001049	C-AL,CHIP;10uF,20%,16V,GP,TP,3.3x3.3x5.4	
.....5	C535	2203-000257	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608	

Level	Loc. No	Code No.	Description ; Specification	Remark
.....5	C536	2402-001049	C-AL,CHIP;10uF,20%,16V,GP,TP,3.3x3.3x5.4	
.....5	C537	2203-000257	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608	
.....5	C538	2402-001049	C-AL,CHIP;10uF,20%,16V,GP,TP,3.3x3.3x5.4	
.....5	C539	2203-000257	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608	
.....5	C540	2402-001049	C-AL,CHIP;10uF,20%,16V,GP,TP,3.3x3.3x5.4	
.....5	C541	2203-000257	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608	
.....5	C542	2402-001049	C-AL,CHIP;10uF,20%,16V,GP,TP,3.3x3.3x5.4	
.....5	C543	2203-000257	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608	
.....5	C544	2402-001049	C-AL,CHIP;10uF,20%,16V,GP,TP,3.3x3.3x5.4	
.....5	C545	2203-000257	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608	
.....5	C546	2402-001049	C-AL,CHIP;10uF,20%,16V,GP,TP,3.3x3.3x5.4	
.....5	C549	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C550	2402-001049	C-AL,CHIP;10uF,20%,16V,GP,TP,3.3x3.3x5.4	
.....5	C576	2402-001042	C-AL,SMD;100uF,20%,16V,GP,TP,6.6x6.6x5.4	
.....5	C577	2203-000257	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608	
.....5	C578	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C584	2203-000236	C-CERAMIC,CHIP;0.1nF,5%,50V,NP0,TP,1608	
.....5	C585	2402-001049	C-AL,CHIP;10uF,20%,16V,GP,TP,3.3x3.3x5.4	
.....5	C586	2402-001049	C-AL,CHIP;10uF,20%,16V,GP,TP,3.3x3.3x5.4	
.....5	C587	2203-000661	C-CERAMIC,CHIP;0.27nF,5%,50V,NP0,TP,2012	
.....5	C588	2402-001049	C-AL,CHIP;10uF,20%,16V,GP,TP,3.3x3.3x5.4	
.....5	C590	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C591	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C592	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C593	2402-001042	C-AL,SMD;100uF,20%,16V,GP,TP,6.6x6.6x5.4	
.....5	C594	2203-000257	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608	
.....5	C595	2203-000257	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608	
.....5	C596	2402-001042	C-AL,SMD;100uF,20%,16V,GP,TP,6.6x6.6x5.4	
.....5	C597	2203-000440	C-CERAMIC,CHIP;1nF,10%,50V,X7R,TP,1608,-	
.....5	C598	2402-001049	C-AL,CHIP;10uF,20%,16V,GP,TP,3.3x3.3x5.4	
.....5	C601	2402-001049	C-AL,CHIP;10uF,20%,16V,GP,TP,3.3x3.3x5.4	
.....5	C602	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C603	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C604	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C605	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C606	2402-001070	C-AL,SMD;470uF,20%,16V,GP,TP,10x10.2,-	
.....5	C607	2402-001070	C-AL,SMD;470uF,20%,16V,GP,TP,10x10.2,-	
.....5	C608	2402-001070	C-AL,SMD;470uF,20%,16V,GP,TP,10x10.2,-	
.....5	C609	2402-001042	C-AL,SMD;100uF,20%,16V,GP,TP,6.6x6.6x5.4	
.....5	C610	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C611	2402-001042	C-AL,SMD;100uF,20%,16V,GP,TP,6.6x6.6x5.4	
.....5	C613	2402-001042	C-AL,SMD;100uF,20%,16V,GP,TP,6.6x6.6x5.4	
.....5	C614	2402-001070	C-AL,SMD;470uF,20%,16V,GP,TP,10x10.2,-	
.....5	C615	2402-001070	C-AL,SMD;470uF,20%,16V,GP,TP,10x10.2,-	
.....5	C616	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C617	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C618	2402-001049	C-AL,CHIP;10uF,20%,16V,GP,TP,3.3x3.3x5.4	
.....5	C619	2402-001042	C-AL,SMD;100uF,20%,16V,GP,TP,6.6x6.6x5.4	
.....5	C621	2402-001042	C-AL,SMD;100uF,20%,16V,GP,TP,6.6x6.6x5.4	
.....5	C622	2402-001042	C-AL,SMD;100uF,20%,16V,GP,TP,6.6x6.6x5.4	
.....5	C623	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C624	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C625	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C626	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C627	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C628	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C629	2203-000552	C-CERAMIC,CHIP;0.02nF,5%,50V,NP0,TP,1608	
.....5	C630	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C631	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C632	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C633	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C634	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C635	2203-000440	C-CERAMIC,CHIP;1nF,10%,50V,X7R,TP,1608,-	
.....5	C636	2402-001049	C-AL,CHIP;10uF,20%,16V,GP,TP,3.3x3.3x5.4	
.....5	C637	2402-000179	C-AL,SMD;47uF,20%,16V,GP,TP,6.6x6.6x5.4	
.....5	C638	2402-000179	C-AL,SMD;47uF,20%,16V,GP,TP,6.6x6.6x5.4	
.....5	C639	2402-001070	C-AL,SMD;470uF,20%,16V,GP,TP,10x10.2,-	
.....5	C701	2203-000257	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608	
.....5	C702	2203-000041	C-CERAMIC,CHIP;0.01nF,0.25pF,50V,NP0,TP,	
.....5	C703	2203-000041	C-CERAMIC,CHIP;0.01nF,0.25pF,50V,NP0,TP,	
.....5	C704	2203-000041	C-CERAMIC,CHIP;0.01nF,0.25pF,50V,NP0,TP,	
.....5	C705	2203-000257	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608	
.....5	C706	2203-000257	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608	
.....5	C707	2203-000257	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608	
.....5	C708	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C709	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C710	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	

Level	Loc. No.	Code No.	Description ; Specification	Remark
.....5	C711	2402-001049	C-AL,CHIP;10uF,20%,16V,GP,TP,3.3x3.3x5.4	
.....5	C712	2402-001049	C-AL,CHIP;10uF,20%,16V,GP,TP,3.3x3.3x5.4	
.....5	C713	2402-001049	C-AL,CHIP;10uF,20%,16V,GP,TP,3.3x3.3x5.4	
.....5	C733	2203-000041	C-CERAMIC,CHIP;0.01nF,0.25pF,50V,NP0,TP,	
.....5	C734	2203-000041	C-CERAMIC,CHIP;0.01nF,0.25pF,50V,NP0,TP,	
.....5	C735	2203-000041	C-CERAMIC,CHIP;0.01nF,0.25pF,50V,NP0,TP,	
.....5	C736	2203-000041	C-CERAMIC,CHIP;0.01nF,0.25pF,50V,NP0,TP,	
.....5	C737	2203-000041	C-CERAMIC,CHIP;0.01nF,0.25pF,50V,NP0,TP,	
.....5	C738	2203-000041	C-CERAMIC,CHIP;0.01nF,0.25pF,50V,NP0,TP,	
.....5	C739	2203-000041	C-CERAMIC,CHIP;0.01nF,0.25pF,50V,NP0,TP,	
.....5	C740	2203-000041	C-CERAMIC,CHIP;0.01nF,0.25pF,50V,NP0,TP,	
.....5	C741	2203-000041	C-CERAMIC,CHIP;0.01nF,0.25pF,50V,NP0,TP,	
.....5	C742	2203-000041	C-CERAMIC,CHIP;0.01nF,0.25pF,50V,NP0,TP,	
.....5	C743	2203-000041	C-CERAMIC,CHIP;0.01nF,0.25pF,50V,NP0,TP,	
.....5	C744	2203-000041	C-CERAMIC,CHIP;0.01nF,0.25pF,50V,NP0,TP,	
.....5	C745	2203-000041	C-CERAMIC,CHIP;0.01nF,0.25pF,50V,NP0,TP,	
.....5	C746	2203-000041	C-CERAMIC,CHIP;0.01nF,0.25pF,50V,NP0,TP,	
.....5	C747	2203-000041	C-CERAMIC,CHIP;0.01nF,0.25pF,50V,NP0,TP,	
.....5	C748	2203-000041	C-CERAMIC,CHIP;0.01nF,0.25pF,50V,NP0,TP,	
.....5	C749	2203-000041	C-CERAMIC,CHIP;0.01nF,0.25pF,50V,NP0,TP,	
.....5	C750	2203-000041	C-CERAMIC,CHIP;0.01nF,0.25pF,50V,NP0,TP,	
.....5	C751	2203-000041	C-CERAMIC,CHIP;0.01nF,0.25pF,50V,NP0,TP,	
.....5	C752	2203-000041	C-CERAMIC,CHIP;0.01nF,0.25pF,50V,NP0,TP,	
.....5	C753	2203-000041	C-CERAMIC,CHIP;0.01nF,0.25pF,50V,NP0,TP,	
.....5	C754	2203-000041	C-CERAMIC,CHIP;0.01nF,0.25pF,50V,NP0,TP,	
.....5	C755	2203-000041	C-CERAMIC,CHIP;0.01nF,0.25pF,50V,NP0,TP,	
.....5	C756	2203-000041	C-CERAMIC,CHIP;0.01nF,0.25pF,50V,NP0,TP,	
.....5	C757	2203-000041	C-CERAMIC,CHIP;0.01nF,0.25pF,50V,NP0,TP,	
.....5	C758	2203-000041	C-CERAMIC,CHIP;0.01nF,0.25pF,50V,NP0,TP,	
.....5	C759	2203-000041	C-CERAMIC,CHIP;0.01nF,0.25pF,50V,NP0,TP,	
.....5	C760	2203-000257	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,1608	
.....5	C761	2203-000041	C-CERAMIC,CHIP;0.01nF,0.25pF,50V,NP0,TP,	
.....5	C762	2203-000041	C-CERAMIC,CHIP;0.01nF,0.25pF,50V,NP0,TP,	
.....5	C763	2402-001042	C-AL,SMD;100uF,20%,16V,GP,TP,6.6x6.6x5.4	
.....5	C767	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C768	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C769	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C772	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C773	2203-000041	C-CERAMIC,CHIP;0.01nF,0.25pF,50V,NP0,TP,	
.....5	C776	2203-000041	C-CERAMIC,CHIP;0.01nF,0.25pF,50V,NP0,TP,	
.....5	C777	2203-000041	C-CERAMIC,CHIP;0.01nF,0.25pF,50V,NP0,TP,	
.....5	C779	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C780	2203-000374	C-CERAMIC,CHIP;15nF,10%,50V,X7R,TP,2012	
.....5	C782	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C783	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C784	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C785	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C786	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C787	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C788	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C789	2402-001049	C-AL,CHIP;10uF,20%,16V,GP,TP,3.3x3.3x5.4	
.....5	C790	2203-000555	C-CERAMIC,CHIP;0.02nF,5%,50V,NP0,TP,2012	
.....5	C791	2203-000555	C-CERAMIC,CHIP;0.02nF,5%,50V,NP0,TP,2012	
.....5	C792	2203-000555	C-CERAMIC,CHIP;0.02nF,5%,50V,NP0,TP,2012	
.....5	C801	2402-001042	C-AL,SMD;100uF,20%,16V,GP,TP,6.6x6.6x5.4	
.....5	C802	2402-001042	C-AL,SMD;100uF,20%,16V,GP,TP,6.6x6.6x5.4	
.....5	C803	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C804	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C805	2203-000979	C-CERAMIC,CHIP;47nF,10%,50V,X7R,TP,2012	
.....5	C806	2203-000979	C-CERAMIC,CHIP;47nF,10%,50V,X7R,TP,2012	
.....5	C807	2203-000979	C-CERAMIC,CHIP;47nF,10%,50V,X7R,TP,2012	
.....5	C808	2402-001049	C-AL,CHIP;10uF,20%,16V,GP,TP,3.3x3.3x5.4	
.....5	C809	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C810	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C811	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C812	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C813	2203-000389	C-CERAMIC,CHIP;0.015nF,5%,50V,NP0,TP,201	
.....5	C814	2203-000389	C-CERAMIC,CHIP;0.015nF,5%,50V,NP0,TP,201	
.....5	C815	2203-000389	C-CERAMIC,CHIP;0.015nF,5%,50V,NP0,TP,201	
.....5	C816	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C817	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C818	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C819	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C820	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C821	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C822	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C823	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	

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.....5	C824	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C825	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C826	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C827	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C828	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C829	2203-000844	C-CERAMIC,CHIP;39nF,10%,50V,X7R,TP,2012,	
.....5	C830	2203-000726	C-CERAMIC,CHIP;3.9nF,10%,50V,X7R,TP,1608	
.....5	C831	2203-000041	C-CERAMIC,CHIP;0.01nF,0.25pF,50V,NP0,TP,	
.....5	C832	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C833	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C834	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C835	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C836	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	CD11	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	CD20	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	CD21	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	CD22	2203-001034	C-CERAMIC,CHIP;5.6nF,10%,50V,X7R,TP,1608	
.....5	CD41	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	CD42	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	CD43	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	CD44	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	CD46	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	CD50	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	CD51	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	CD52	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	CD53	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	CD54	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	CD55	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	CD56	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	CD58	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	CD62	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	CD63	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	CD67	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	CD69	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	CD72	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	CD74	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	CD75	2203-000626	C-CERAMIC,CHIP;0.022nF,5%,50V,NP0,TP,160	
.....5	CD81	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	CD84	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	CD85	2203-000838	C-CERAMIC,CHIP;0.39nF,5%,50V,NP0,TP,1608	
.....5	CD86	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	CD87	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	CD88	2203-000626	C-CERAMIC,CHIP;0.022nF,5%,50V,NP0,TP,160	
.....5	CD89	2203-000626	C-CERAMIC,CHIP;0.022nF,5%,50V,NP0,TP,160	
.....5	CD90	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	CD91	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	CN701	3711-004130	CONNECTOR-HEADER;BOX,31P,2R,0.625mm,SMD-	
.....5	CP102	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	CP103	2402-001049	C-AL,CHIP;10uF,20%,16V,GP,TP,3.3x3.3x5.4	
.....5	CP104	2402-001049	C-AL,CHIP;10uF,20%,16V,GP,TP,3.3x3.3x5.4	
.....5	CP105	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	CP106	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	CP107	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	CP108	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	CP109	2203-000440	C-CERAMIC,CHIP;1nF,10%,50V,X7R,TP,1608,-	
.....5	CP111	2203-000761	C-CERAMIC,CHIP;330nF,10%,16V,X7R,TP,2012	
.....5	CP112	2203-000761	C-CERAMIC,CHIP;330nF,10%,16V,X7R,TP,2012	
.....5	CP113	2402-001042	C-AL,SMD;100uF,20%,16V,GP,TP,6.6x6.6x5.4	
.....5	CP114	2203-000979	C-CERAMIC,CHIP;47nF,10%,50V,X7R,TP,2012	
.....5	CP115	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	CP116	2402-001049	C-AL,CHIP;10uF,20%,16V,GP,TP,3.3x3.3x5.4	
.....5	CP117	2402-001071	C-AL,SMD;220uF,20%,10V,GP,TP,8.3x8.3x6.	
.....5	CP118	2203-000575	C-CERAMIC,CHIP;220NF,10%,25V,X7R,TP,2012	
.....5	CP119	2203-000681	C-CERAMIC,CHIP;0.027nF,5%,50V,NP0,TP,160	
.....5	CP120	2203-000681	C-CERAMIC,CHIP;0.027nF,5%,50V,NP0,TP,160	
.....5	CP121	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	CP122	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	CP123	2203-000761	C-CERAMIC,CHIP;330nF,10%,16V,X7R,TP,2012	
.....5	CP124	2203-000661	C-CERAMIC,CHIP;0.27nF,5%,50V,NP0,TP,2012	
.....5	CP125	2203-000661	C-CERAMIC,CHIP;0.27nF,5%,50V,NP0,TP,2012	
.....5	CP126	2203-000661	C-CERAMIC,CHIP;0.27nF,5%,50V,NP0,TP,2012	
.....5	CP127	2203-000575	C-CERAMIC,CHIP;220NF,10%,25V,X7R,TP,2012	
.....5	CP128	2203-000575	C-CERAMIC,CHIP;220NF,10%,25V,X7R,TP,2012	
.....5	CP129	2203-000575	C-CERAMIC,CHIP;220NF,10%,25V,X7R,TP,2012	
.....5	CP130	2402-001071	C-AL,SMD;220uF,20%,10V,GP,TP,8.3x8.3x6.	
.....5	CP131	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	CP132	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	CP133	2203-000838	C-CERAMIC,CHIP;0.39nF,5%,50V,NP0,TP,1608	
.....5	CP134	2203-000575	C-CERAMIC,CHIP;220NF,10%,25V,X7R,TP,2012	
.....5	CP135	2203-000140	C-CERAMIC,CHIP;1.5nF,10%,50V,X7R,TP,1608	
.....5	CP136	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	CP137	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	CP138	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	CP139	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	CP140	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	CP141	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	CP142	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	CP143	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	CP144	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	CP145	2203-000140	C-CERAMIC,CHIP;1.5nF,10%,50V,X7R,TP,1608	
.....5	CP146	2402-001042	C-AL,SMD;100uF,20%,16V,GP,TP,6.6x6.6x5.4	
.....5	CP147	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	CP148	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	CP149	2203-000979	C-CERAMIC,CHIP;47nF,10%,50V,X7R,TP,2012	
.....5	CP150	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	CP151	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	CP152	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	CP153	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	CP154	2203-000575	C-CERAMIC,CHIP;220NF,10%,25V,X7R,TP,2012	
.....5	CP155	2203-000761	C-CERAMIC,CHIP;330nF,10%,16V,X7R,TP,2012	
.....5	CP156	2203-000761	C-CERAMIC,CHIP;330nF,10%,16V,X7R,TP,2012	
.....5	D301	0401-000008	DIODE-SWITCHING;DAN217,80V,100mA,SOT-23,	
.....5	D302	0401-000008	DIODE-SWITCHING;DAN217,80V,100mA,SOT-23,	
.....5	D303	0401-000008	DIODE-SWITCHING;DAN217,80V,100mA,SOT-23,	
.....5	D304	0401-000008	DIODE-SWITCHING;DAN217,80V,100mA,SOT-23,	
.....5	D401	0401-000133	DIODE-SWITCHING;RLS4148,100V,200MA,SOD-8	
.....5	D402	0401-000133	DIODE-SWITCHING;RLS4148,100V,200MA,SOD-8	
.....5	D403	0401-000133	DIODE-SWITCHING;RLS4148,100V,200MA,SOD-8	
.....5	D502	0401-000008	DIODE-SWITCHING;DAN217,80V,100mA,SOT-23,	
.....5	D503	0401-000008	DIODE-SWITCHING;DAN217,80V,100mA,SOT-23,	
.....5	D504	0401-000008	DIODE-SWITCHING;DAN217,80V,100mA,SOT-23,	
.....5	D505	0401-000008	DIODE-SWITCHING;DAN217,80V,100mA,SOT-23,	
.....5	D506	0401-000008	DIODE-SWITCHING;DAN217,80V,100mA,SOT-23,	
.....5	D507	0401-000008	DIODE-SWITCHING;DAN217,80V,100mA,SOT-23,	
.....5	D508	0401-000008	DIODE-SWITCHING;DAN217,80V,100mA,SOT-23,	
.....5	D509	0401-000008	DIODE-SWITCHING;DAN217,80V,100mA,SOT-23,	
.....5	D510	0401-000008	DIODE-SWITCHING;DAN217,80V,100mA,SOT-23,	
.....5	D511	0401-000008	DIODE-SWITCHING;DAN217,80V,100mA,SOT-23,	
.....5	D512	0401-000008	DIODE-SWITCHING;DAN217,80V,100mA,SOT-23,	
.....5	D514	0401-000008	DIODE-SWITCHING;DAN217,80V,100mA,SOT-23,	
.....5	D515	0401-000008	DIODE-SWITCHING;DAN217,80V,100mA,SOT-23,	
.....5	D516	0401-000008	DIODE-SWITCHING;DAN217,80V,100mA,SOT-23,	
.....5	D517	0401-000008	DIODE-SWITCHING;DAN217,80V,100mA,SOT-23,	
.....5	D519	0401-000008	DIODE-SWITCHING;DAN217,80V,100mA,SOT-23,	
.....5	D521	0401-000008	DIODE-SWITCHING;DAN217,80V,100mA,SOT-23,	
.....5	D522	0401-000008	DIODE-SWITCHING;DAN217,80V,100mA,SOT-23,	
.....5	D523	0401-000008	DIODE-SWITCHING;DAN217,80V,100mA,SOT-23,	
.....5	D601	0401-000133	DIODE-SWITCHING;RLS4148,100V,200MA,SOD-8	
.....5	D602	0401-000133	DIODE-SWITCHING;RLS4148,100V,200MA,SOD-8	
.....5	D603	0401-000133	DIODE-SWITCHING;RLS4148,100V,200MA,SOD-8	
.....5	D604	0401-000133	DIODE-SWITCHING;RLS4148,100V,200MA,SOD-8	
.....5	DD01	0403-001016	DIODE-ZENER;RLZ6.2B,6.2V,5.96-6.27V,400m	
.....5	DD02	0403-001016	DIODE-ZENER;RLZ6.2B,6.2V,5.96-6.27V,400m	
.....5	DD03	0401-000133	DIODE-SWITCHING;RLS4148,100V,200MA,SOD-8	
.....5	DZ501	0403-000314	DIODE-ZENER;RLZJ9.1B,9.1V,8.80-9.30V,400	
.....5	DZ502	0403-000314	DIODE-ZENER;RLZJ9.1B,9.1V,8.80-9.30V,400	
.....5	EF101	2901-001114	FILTER-EMI SMD;25VDC,2.0ADC,-,100nF,3.2x	
.....5	EF102	2901-001114	FILTER-EMI SMD;25VDC,2.0ADC,-,100nF,3.2x	
.....5	EF201	2901-001114	FILTER-EMI SMD;25VDC,2.0ADC,-,100nF,3.2x	
.....5	EF204	2901-001114	FILTER-EMI SMD;25VDC,2.0ADC,-,100nF,3.2x	
.....5	EF205	2901-001114	FILTER-EMI SMD;25VDC,2.0ADC,-,100nF,3.2x	
.....5	EF206	2901-001114	FILTER-EMI SMD;25VDC,2.0ADC,-,100nF,3.2x	
.....5	EF301	2901-001114	FILTER-EMI SMD;25VDC,2.0ADC,-,100nF,3.2x	
.....5	EF302	2901-001114	FILTER-EMI SMD;25VDC,2.0ADC,-,100nF,3.2x	
.....5	EF401	2901-001114	FILTER-EMI SMD;25VDC,2.0ADC,-,100nF,3.2x	
.....5	EF402	2901-001114	FILTER-EMI SMD;25VDC,2.0ADC,-,100nF,3.2x	
.....5	EF403	2901-001114	FILTER-EMI SMD;25VDC,2.0ADC,-,100nF,3.2x	
.....5	EF404	2901-001114	FILTER-EMI SMD;25VDC,2.0ADC,-,100nF,3.2x	
.....5	EF501	2901-000226	FILTER-EMI SMD;25V,0.3A,-,100pF,3.2x1.25	
.....5	EF504	2901-000226	FILTER-EMI SMD;25V,0.3A,-,100pF,3.2x1.25	
.....5	EF505	2901-000226	FILTER-EMI SMD;25V,0.3A,-,100pF,3.2x1.25	
.....5	EF506	2901-000226	FILTER-EMI SMD;25V,0.3A,-,100pF,3.2x1.25	
.....5	EF507	2901-000226	FILTER-EMI SMD;25V,0.3A,-,100pF,3.2x1.25	
.....5	EF512	2901-000226	FILTER-EMI SMD;25V,0.3A,-,100pF,3.2x1.25	

Level	Loc. No	Code No.	Description ; Specification	Remark
.....5	EF516	2901-001114	FILTER-EMI SMD;25VDC,2.0ADC,-,100nF,3.2x	
.....5	EF517	2901-001114	FILTER-EMI SMD;25VDC,2.0ADC,-,100nF,3.2x	
.....5	EF527	2901-000226	FILTER-EMI SMD;25V,0.3A,-,100pF,3.2x1.25	
.....5	EF528	2901-000226	FILTER-EMI SMD;25V,0.3A,-,100pF,3.2x1.25	
.....5	EF529	2901-001114	FILTER-EMI SMD;25VDC,2.0ADC,-,100nF,3.2x	
.....5	EF601	2901-001114	FILTER-EMI SMD;25VDC,2.0ADC,-,100nF,3.2x	
.....5	EF604	2901-001114	FILTER-EMI SMD;25VDC,2.0ADC,-,100nF,3.2x	
.....5	EF606	2901-001114	FILTER-EMI SMD;25VDC,2.0ADC,-,100nF,3.2x	
.....5	EF607	2901-001114	FILTER-EMI SMD;25VDC,2.0ADC,-,100nF,3.2x	
.....5	EF608	2901-001114	FILTER-EMI SMD;25VDC,2.0ADC,-,100nF,3.2x	
.....5	EF704	2901-001114	FILTER-EMI SMD;25VDC,2.0ADC,-,100nF,3.2x	
.....5	EF705	2901-001114	FILTER-EMI SMD;25VDC,2.0ADC,-,100nF,3.2x	
.....5	EF706	2901-001114	FILTER-EMI SMD;25VDC,2.0ADC,-,100nF,3.2x	
.....5	EF707	2901-001114	FILTER-EMI SMD;25VDC,2.0ADC,-,100nF,3.2x	
.....5	EF708	2901-001114	FILTER-EMI SMD;25VDC,2.0ADC,-,100nF,3.2x	
.....5	EF709	2901-001114	FILTER-EMI SMD;25VDC,2.0ADC,-,100nF,3.2x	
.....5	EF710	2901-001114	FILTER-EMI SMD;25VDC,2.0ADC,-,100nF,3.2x	
.....5	EF801	2901-001114	FILTER-EMI SMD;25VDC,2.0ADC,-,100nF,3.2x	
.....5	EF802	2901-001114	FILTER-EMI SMD;25VDC,2.0ADC,-,100nF,3.2x	
.....5	EFP02	2901-001114	FILTER-EMI SMD;25VDC,2.0ADC,-,100nF,3.2x	
.....5	EFP03	2901-001114	FILTER-EMI SMD;25VDC,2.0ADC,-,100nF,3.2x	
.....5	EFP04	2901-000226	FILTER-EMI SMD;25V,0.3A,-,100pF,3.2x1.25	
.....5	EFP05	2901-001114	FILTER-EMI SMD;25VDC,2.0ADC,-,100nF,3.2x	
.....5	FD01	2909-001051	FILTER-LC;6MHz,6MHz,0.8dB,TP,5dB/6MHz,30	
.....5	FD02	2909-001052	FILTER-LC;3.58MHz,3MHz,1.5dB,TP,11dB/1.0	
.....5	FD03	2909-001051	FILTER-LC;6MHz,6MHz,0.8dB,TP,5dB/6MHz,30	
.....5	IC01	1204-001556	IC-SEPARATOR;UPD64082GF,QFP,100P,-,PLAST	
.....5	IC02	1105-001334	IC-DRAM;4E151612,1Mx16Bit,TSOP,44P,400MI	
.....5	IC04	1203-001419	IC-VOLTAGE REGULATOR;4931,TO-252,3P,6.6x	
.....5	IC101	1002-001179	IC-A/D CONVERTER;AD9884,8BIT,QFP,128P,-,	
.....5	IC102	1203-001419	IC-VOLTAGE REGULATOR;4931,TO-252,3P,6.6x	
.....5	IC201	1204-001598	IC-VIDEO PROCESS;VPC3230D-B2,QFP,80P,-,P	
.....5	IC202	1204-001623	IC-VERTICAL PROCESSO;SDA9400,QFP,64P,-,P	
.....5	IC301	1003-001365	IC-LCD CONTROLLER;PW364A,BGA,352P,1377MI	
.....5	IC302	1103-000180	IC-EEPROM;24C16,2Kx8Bit,SOP,8P,150MIL,10	
.....5	IC303	2804-001411	OSCILLATOR-CLOCK;26MHZ,50PPM,30PF,TP,3.3	
.....5	IC304	2804-001485	OSCILLATOR-CLOCK;130MHZ,100PPM,30PF,BK,3	
⚠ 5	IC401	AA13-00084A	IC-ASIC;-,M4LV-32/32-12VC48,TQFP,48P,-	
⚠ 5	IC402	1204-001550	IC-VIDEO PROCESS;CXA2101AQ,QFP,80P,-,PLA	
⚠ 5	IC403	0801-002319	IC-CMOS LOGIC;74HCT221,MULTIVIBRATOR,SOP	
⚠ 5	IC404	0801-000901	IC-CMOS LOGIC;74HC04,INVERTER,SOP,14P,15	
.....5	IC501	1001-001082	IC-VIDEO SWITCH;BA7657F,-,SOP,24P,300MIL	
.....5	IC502	0801-002267	IC-CMOS LOGIC;74LCX14,-,SOIC,14P,150MIL,	
.....5	IC504	1203-001824	IC-VOL. DETECTOR;7042,SOT-89,3P,-,PLASTI	
.....5	IC505	1002-001048	IC-A/D&D/A CONVERTER;PCF8591T,8BIT,SOP,1	
.....5	IC506	1103-001164	IC-EEPROM;24LC21A,128X8BIT,SOP,8P,150MIL	
.....5	IC510	1001-001082	IC-VIDEO SWITCH;BA7657F,-,SOP,24P,300MIL	
.....5	IC602	1106-001420	IC-SRAM;K6T4016V3C,256KX16BIT,TSOP(II)-F	
.....5	IC603	1006-001076	IC-DRIVER/RECEIVER;232,SOP,16P,300MIL,DU	
.....5	IC605	0801-002394	IC-CMOS LOGIC;74LCX32,OR GATE,SOIC,14P,1	
.....5	IC608	1203-001359	IC-POSI.FIXED REG.;1086,TO-263,3P,15.8MM	
.....5	IC609	1203-002074	IC-POSI.FIXED REG.;MIC39150,TO-263,3P,-,	
.....5	IC610	1203-001419	IC-VOLTAGE REGULATOR;4931,TO-252,3P,6.6x	
.....5	IC611	1203-001359	IC-POSI.FIXED REG.;1086,TO-263,3P,15.8MM	
.....5	IC631	1203-002519	IC-VOLTAGE REGULATOR;KIA7809AF,DPAK,3P,2	
.....5	IC702	1205-001740	IC-TRANSMITTER;DS90C385,TSSOP,56P,240MIL	
.....5	IC703	1002-001045	IC-D/A CONVERTER;9280,8BIT,PLCC,68P,-,-,	
⚠ 5	IC801	1002-001179	IC-A/D CONVERTER;AD9884,8BIT,QFP,128P,-,	
.....5	ICP01	1204-001598	IC-VIDEO PROCESS;VPC3230D-B2,QFP,80P,-,P	
.....5	ICP02	1109-001144	IC-FIFO;81V04160,2x256Kx8Bit,TQFP,100P,1	
.....5	JD04	2007-000070	R-CHIP;0ohm,5%,1/16W,DA,TP,1608	
.....5	L704	3301-000319	CORE-FERRITE BEAD;AB,26ohm,2x1.25x0.9mm,	
.....5	L705	3301-000319	CORE-FERRITE BEAD;AB,26ohm,2x1.25x0.9mm,	
.....5	L706	3301-000319	CORE-FERRITE BEAD;AB,26ohm,2x1.25x0.9mm,	
.....5	L707	3301-000319	CORE-FERRITE BEAD;AB,26ohm,2x1.25x0.9mm,	
.....5	L708	3301-000319	CORE-FERRITE BEAD;AB,26ohm,2x1.25x0.9mm,	
.....5	L709	3301-000319	CORE-FERRITE BEAD;AB,26ohm,2x1.25x0.9mm,	
.....5	L710	3301-000319	CORE-FERRITE BEAD;AB,26ohm,2x1.25x0.9mm,	
.....5	L711	3301-000319	CORE-FERRITE BEAD;AB,26ohm,2x1.25x0.9mm,	
.....5	L712	3301-000319	CORE-FERRITE BEAD;AB,26ohm,2x1.25x0.9mm,	
.....5	L713	3301-000319	CORE-FERRITE BEAD;AB,26ohm,2x1.25x0.9mm,	
.....5	LD09	2703-000271	INDUCTOR-SMD;4.7uH,10%,2x1.25x1.25mm	
.....5	LD10	3301-001186	CORE-FERRITE BEAD;AB,600ohm,3.2x1.6x1.3m	
.....5	OTP01	1107-001087	IC-FLASH MEMORY;29LV160,1Mx16BIT,SOP,48P	
.....5	Q101	0501-000344	TR-SMALL SIGNAL;KSC1623-G,NPN,200mW,SOT-	
.....5	Q102	0501-000344	TR-SMALL SIGNAL;KSC1623-G,NPN,200mW,SOT-	
.....5	Q401	0501-000344	TR-SMALL SIGNAL;KSC1623-G,NPN,200mW,SOT-	
.....5	Q402	0501-000344	TR-SMALL SIGNAL;KSC1623-G,NPN,200mW,SOT-	
.....5	Q403	0501-000344	TR-SMALL SIGNAL;KSC1623-G,NPN,200mW,SOT-	
.....5	Q404	0501-000280	TR-SMALL SIGNAL;KSA1182,PNP,150mW,SOT-23	
.....5	Q501	0501-000344	TR-SMALL SIGNAL;KSC1623-G,NPN,200mW,SOT-	
.....5	Q504	0501-000344	TR-SMALL SIGNAL;KSC1623-G,NPN,200mW,SOT-	
.....5	Q505	0501-000344	TR-SMALL SIGNAL;KSC1623-G,NPN,200mW,SOT-	
.....5	Q506	0501-000344	TR-SMALL SIGNAL;KSC1623-G,NPN,200mW,SOT-	
.....5	Q507	0501-000344	TR-SMALL SIGNAL;KSC1623-G,NPN,200mW,SOT-	
.....5	Q508	0501-000344	TR-SMALL SIGNAL;KSC1623-G,NPN,200mW,SOT-	
.....5	Q509	0501-000344	TR-SMALL SIGNAL;KSC1623-G,NPN,200mW,SOT-	
.....5	Q511	0501-000344	TR-SMALL SIGNAL;KSC1623-G,NPN,200mW,SOT-	
.....5	Q512	0501-000344	TR-SMALL SIGNAL;KSC1623-G,NPN,200mW,SOT-	
.....5	Q513	0501-000344	TR-SMALL SIGNAL;KSC1623-G,NPN,200mW,SOT-	
.....5	Q601	0501-000344	TR-SMALL SIGNAL;KSC1623-G,NPN,200mW,SOT-	
.....5	Q602	0501-000344	TR-SMALL SIGNAL;KSC1623-G,NPN,200mW,SOT-	
.....5	Q603	0501-000344	TR-SMALL SIGNAL;KSC1623-G,NPN,200mW,SOT-	
.....5	QD10	0501-000344	TR-SMALL SIGNAL;KSC1623-G,NPN,200mW,SOT-	
.....5	QD11	0501-000280	TR-SMALL SIGNAL;KSA1182,PNP,150mW,SOT-23	
.....5	QD12	0501-000280	TR-SMALL SIGNAL;KSA1182,PNP,150mW,SOT-23	
.....5	QD13	0501-000280	TR-SMALL SIGNAL;KSA1182,PNP,150mW,SOT-23	
.....5	QD16	0501-000280	TR-SMALL SIGNAL;KSA1182,PNP,150mW,SOT-23	
.....5	QD17	0501-000344	TR-SMALL SIGNAL;KSC1623-G,NPN,200mW,SOT-	
.....5	QD18	0501-000280	TR-SMALL SIGNAL;KSA1182,PNP,150mW,SOT-23	
.....5	QD19	0501-000344	TR-SMALL SIGNAL;KSC1623-G,NPN,200mW,SOT-	
.....5	QD20	0501-000280	TR-SMALL SIGNAL;KSA1182,PNP,150mW,SOT-23	
.....5	QD21	0501-000344	TR-SMALL SIGNAL;KSC1623-G,NPN,200mW,SOT-	
.....5	QD22	0501-000280	TR-SMALL SIGNAL;KSA1182,PNP,150mW,SOT-23	
.....5	QD23	0501-000344	TR-SMALL SIGNAL;KSC1623-G,NPN,200mW,SOT-	
.....5	QD24	0501-000344	TR-SMALL SIGNAL;KSC1623-G,NPN,200mW,SOT-	
.....5	QD25	0501-000280	TR-SMALL SIGNAL;KSA1182,PNP,150mW,SOT-23	
.....5	QD26	0501-000344	TR-SMALL SIGNAL;KSC1623-G,NPN,200mW,SOT-	
.....5	QD27	0501-000344	TR-SMALL SIGNAL;KSC1623-G,NPN,200mW,SOT-	
.....5	R101	2007-000757	R-CHIP;330KOHM,5%,1/10W,DA,TP,2012	
.....5	R102	2007-000102	R-CHIP;100Kohm,5%,1/16W,DA,TP,1608	
.....5	R103	2007-000075	R-CHIP;220ohm,5%,1/16W,DA,TP,1608	
.....5	R104	2007-000075	R-CHIP;220ohm,5%,1/16W,DA,TP,1608	
.....5	R105	2007-000882	R-CHIP;4.7ohm,5%,1/16W,DA,TP,1608	
.....5	R106	2007-000082	R-CHIP;3.3Kohm,5%,1/16W,DA,TP,1608	
.....5	R107	2007-000084	R-CHIP;4.7Kohm,5%,1/16W,DA,TP,1608	
.....5	R108	2007-000539	R-CHIP;200ohm,5%,1/16W,DA,TP,1608	
.....5	R109	2007-000090	R-CHIP;10KOHM,5%,1/16W,DA,TP,1608	
.....5	R110	2007-000077	R-CHIP;470ohm,5%,1/16W,DA,TP,1608	
.....5	R204	2007-000072	R-CHIP;47ohm,5%,1/16W,DA,TP,1608	
.....5	R215	2007-000113	R-CHIP;33ohm,5%,1/16W,DA,TP,1608	
.....5	R216	2007-000074	R-CHIP;100ohm,5%,1/16W,DA,TP,1608	
.....5	R217	2007-000074	R-CHIP;100ohm,5%,1/16W,DA,TP,1608	
.....5	R218	2007-000074	R-CHIP;100ohm,5%,1/16W,DA,TP,1608	
.....5	R219	2007-000074	R-CHIP;100ohm,5%,1/16W,DA,TP,1608	
.....5	R220	2007-000074	R-CHIP;100ohm,5%,1/16W,DA,TP,1608	
.....5	R221	2007-000074	R-CHIP;100ohm,5%,1/16W,DA,TP,1608	
.....5	R222	2007-000074	R-CHIP;100ohm,5%,1/16W,DA,TP,1608	
.....5	R223	2007-000078	R-CHIP;1Kohm,5%,1/16W,DA,TP,1608	
.....5	R224	2007-000074	R-CHIP;100ohm,5%,1/16W,DA,TP,1608	
.....5	R225	2007-000074	R-CHIP;100ohm,5%,1/16W,DA,TP,1608	
.....5	R226	2007-000072	R-CHIP;47ohm,5%,1/16W,DA,TP,1608	
.....5	R227	2007-000072	R-CHIP;47ohm,5%,1/16W,DA,TP,1608	
.....5	R228	2007-000072	R-CHIP;47ohm,5%,1/16W,DA,TP,1608	
.....5	R302	2007-000078	R-CHIP;1Kohm,5%,1/16W,DA,TP,1608	
.....5	R303	2007-001157	R-CHIP;750ohm,5%,1/16W,DA,TP,1608	
.....5	R304	2007-001157	R-CHIP;750ohm,5%,1/16W,DA,TP,1608	
.....5	R305	2007-000309	R-CHIP;10ohm,5%,1/16W,DA,TP,1608	
.....5	R306	2007-000309	R-CHIP;10ohm,5%,1/16W,DA,TP,1608	
.....5	R307	2007-000309	R-CHIP;10ohm,5%,1/16W,DA,TP,1608	
.....5	R308	2007-000078	R-CHIP;1Kohm,5%,1/16W,DA,TP,1608	
.....5	R309	2007-000078	R-CHIP;1Kohm,5%,1/16W,DA,TP,1608	
.....5	R310	2007-000070	R-CHIP;0ohm,5%,1/16W,DA,TP,1608	
.....5	R311	2007-000070	R-CHIP;0ohm,5%,1/16W,DA,TP,1608	
.....5	R312	2007-000084	R-CHIP;4.7Kohm,5%,1/16W,DA,TP,1608	
.....5	R314	2007-000084	R-CHIP;4.7Kohm,5%,1/16W,DA,TP,1608	
.....5	R315	2007-000079	R-CHIP;1.8Kohm,5%,1/16W,DA,TP,1608	
.....5	R316	2007-000075	R-CHIP;220ohm,5%,1/16W,DA,TP,1608	
.....5	R317	2007-000075	R-CHIP;220ohm,5%,1/16W,DA,TP,1608	
.....5	R318	2007-000075	R-CHIP;220ohm,5%,1/16W,DA,TP,1608	
.....5	R319	2007-000075	R-CHIP;220ohm,5%,1/16W,DA,TP,1608	
.....5	R320	2007-000080	R-CHIP;2Kohm,5%,1/16W,DA,TP,1608	
.....5	R321	2007-000080	R-CHIP;2Kohm,5%,1/16W,DA,TP,1608	
.....5	R322	2007-000078	R-CHIP;1Kohm,5%,1/16W,DA,TP,1608	

Level	Loc. No.	Code No.	Description ; Specification	Remark
.....5	R323	2007-000074	R-CHIP;100ohm,5%,1/16W,DA,TP,1608	
.....5	R324	2007-000080	R-CHIP;2Kohm,5%,1/16W,DA,TP,1608	
.....5	R325	2007-000078	R-CHIP;1Kohm,5%,1/16W,DA,TP,1608	
.....5	R326	2007-000074	R-CHIP;100ohm,5%,1/16W,DA,TP,1608	
.....5	R328	2007-000072	R-CHIP;47ohm,5%,1/16W,DA,TP,1608	
.....5	R329	2007-000080	R-CHIP;2Kohm,5%,1/16W,DA,TP,1608	
.....5	R331	2007-000074	R-CHIP;100ohm,5%,1/16W,DA,TP,1608	
.....5	R332	2007-000084	R-CHIP;4.7Kohm,5%,1/16W,DA,TP,1608	
.....5	R333	2007-001167	R-CHIP;75ohm,5%,1/16W,DA,TP,1608	
.....5	R334	2007-001167	R-CHIP;75ohm,5%,1/16W,DA,TP,1608	
.....5	R335	2007-000120	R-CHIP;680ohm,5%,1/16W,DA,TP,1608	
.....5	R336	2007-000084	R-CHIP;4.7Kohm,5%,1/16W,DA,TP,1608	
.....5	R401	2007-001179	R-CHIP;8.2Kohm,5%,1/16W,DA,TP,1608	
.....5	R402	2007-000084	R-CHIP;4.7Kohm,5%,1/16W,DA,TP,1608	
.....5	R403	2007-000070	R-CHIP;0ohm,5%,1/16W,DA,TP,1608	
.....5	R404	2007-000080	R-CHIP;2Kohm,5%,1/16W,DA,TP,1608	
.....5	R405	2007-000078	R-CHIP;1Kohm,5%,1/16W,DA,TP,1608	
.....5	R406	2007-000084	R-CHIP;4.7Kohm,5%,1/16W,DA,TP,1608	
.....5	R407	2007-000078	R-CHIP;1Kohm,5%,1/16W,DA,TP,1608	
.....5	R408	2007-000070	R-CHIP;0ohm,5%,1/16W,DA,TP,1608	
.....5	R409	2007-000070	R-CHIP;0ohm,5%,1/16W,DA,TP,1608	
.....5	R410	2007-000077	R-CHIP;470ohm,5%,1/16W,DA,TP,1608	
.....5	R411	2007-000077	R-CHIP;470ohm,5%,1/16W,DA,TP,1608	
.....5	R412	2007-000070	R-CHIP;0ohm,5%,1/16W,DA,TP,1608	
.....5	R413	2007-000070	R-CHIP;0ohm,5%,1/16W,DA,TP,1608	
.....5	R414	2007-001196	R-CHIP;820Kohm,5%,1/16W,DA,TP,1608	
.....5	R415	2007-000643	R-CHIP;270ohm,5%,1/16W,DA,TP,1608	
.....5	R416	2007-000097	R-CHIP;47Kohm,5%,1/16W,DA,TP,1608	
.....5	R417	2007-000074	R-CHIP;100ohm,5%,1/16W,DA,TP,1608	
.....5	R418	2007-000070	R-CHIP;0ohm,5%,1/16W,DA,TP,1608	
.....5	R419	2007-000074	R-CHIP;100ohm,5%,1/16W,DA,TP,1608	
.....5	R420	2007-000074	R-CHIP;100ohm,5%,1/16W,DA,TP,1608	
.....5	R421	2007-000119	R-CHIP;560ohm,5%,1/16W,DA,TP,1608	
.....5	R422	2007-000074	R-CHIP;100ohm,5%,1/16W,DA,TP,1608	
.....5	R423	2007-000074	R-CHIP;100ohm,5%,1/16W,DA,TP,1608	
.....5	R424	2007-000094	R-CHIP;22Kohm,5%,1/16W,DA,TP,1608	
.....5	R425	2007-000074	R-CHIP;100ohm,5%,1/16W,DA,TP,1608	
.....5	R426	2007-000119	R-CHIP;560ohm,5%,1/16W,DA,TP,1608	
.....5	R427	2007-000074	R-CHIP;100ohm,5%,1/16W,DA,TP,1608	
.....5	R428	2007-000074	R-CHIP;100ohm,5%,1/16W,DA,TP,1608	
.....5	R429	2007-000119	R-CHIP;560ohm,5%,1/16W,DA,TP,1608	
.....5	R430	2007-000074	R-CHIP;100ohm,5%,1/16W,DA,TP,1608	
.....5	R431	2007-000074	R-CHIP;100ohm,5%,1/16W,DA,TP,1608	
.....5	R432	2007-000074	R-CHIP;100ohm,5%,1/16W,DA,TP,1608	
.....5	R433	2007-000074	R-CHIP;100ohm,5%,1/16W,DA,TP,1608	
.....5	R435	2007-000691	R-CHIP;3.3Mohm,5%,1/16W,DA,TP,1608	
.....5	R436	2007-000074	R-CHIP;100ohm,5%,1/16W,DA,TP,1608	
.....5	R437	2007-000074	R-CHIP;100ohm,5%,1/16W,DA,TP,1608	
.....5	R438	2007-000074	R-CHIP;100ohm,5%,1/16W,DA,TP,1608	
.....5	R439	2007-000074	R-CHIP;100ohm,5%,1/16W,DA,TP,1608	
.....5	R440	2007-000074	R-CHIP;100ohm,5%,1/16W,DA,TP,1608	
.....5	R441	2007-000090	R-CHIP;10KOHM,5%,1/16W,DA,TP,1608	
.....5	R442	2007-000090	R-CHIP;10KOHM,5%,1/16W,DA,TP,1608	
.....5	R443	2007-000856	R-CHIP;4.3KOHM,1%,1/10W,DA,TP,2012	
.....5	R444	2007-000074	R-CHIP;100ohm,5%,1/16W,DA,TP,1608	
.....5	R445	2007-000074	R-CHIP;100ohm,5%,1/16W,DA,TP,1608	
.....5	R446	2007-000615	R-CHIP;24KOHM,5%,1/10W,DA,TP,2012	
.....5	R447	2007-000090	R-CHIP;10KOHM,5%,1/16W,DA,TP,1608	
.....5	R448	2007-000090	R-CHIP;10KOHM,5%,1/16W,DA,TP,1608	
.....5	R449	2007-000070	R-CHIP;0ohm,5%,1/16W,DA,TP,1608	
.....5	R450	2007-000070	R-CHIP;0ohm,5%,1/16W,DA,TP,1608	
.....5	R451	2007-000070	R-CHIP;0ohm,5%,1/16W,DA,TP,1608	
.....5	R452	2007-000070	R-CHIP;0ohm,5%,1/16W,DA,TP,1608	
.....5	R453	2007-000118	R-CHIP;390ohm,5%,1/16W,DA,TP,1608	
.....5	R501	2007-001167	R-CHIP;75ohm,5%,1/16W,DA,TP,1608	
.....5	R502	2007-001167	R-CHIP;75ohm,5%,1/16W,DA,TP,1608	
.....5	R503	2007-001167	R-CHIP;75ohm,5%,1/16W,DA,TP,1608	
.....5	R504	2007-001167	R-CHIP;75ohm,5%,1/16W,DA,TP,1608	
.....5	R505	2007-001167	R-CHIP;75ohm,5%,1/16W,DA,TP,1608	
.....5	R506	2007-001167	R-CHIP;75ohm,5%,1/16W,DA,TP,1608	
.....5	R507	2007-001167	R-CHIP;75ohm,5%,1/16W,DA,TP,1608	
.....5	R508	2007-001167	R-CHIP;75ohm,5%,1/16W,DA,TP,1608	
.....5	R509	2007-000074	R-CHIP;100ohm,5%,1/16W,DA,TP,1608	
.....5	R510	2007-000084	R-CHIP;4.7Kohm,5%,1/16W,DA,TP,1608	
.....5	R511	2007-000084	R-CHIP;4.7Kohm,5%,1/16W,DA,TP,1608	
.....5	R512	2007-000074	R-CHIP;100ohm,5%,1/16W,DA,TP,1608	
.....5	R513	2007-000074	R-CHIP;100ohm,5%,1/16W,DA,TP,1608	
.....5	R514	2007-000074	R-CHIP;100ohm,5%,1/16W,DA,TP,1608	
.....5	R515	2007-000074	R-CHIP;100ohm,5%,1/16W,DA,TP,1608	
.....5	R516	2007-000078	R-CHIP;1Kohm,5%,1/16W,DA,TP,1608	
.....5	R517	2007-000094	R-CHIP;22Kohm,5%,1/16W,DA,TP,1608	
.....5	R518	2007-000094	R-CHIP;22Kohm,5%,1/16W,DA,TP,1608	
.....5	R522	2007-000106	R-CHIP;220Kohm,5%,1/16W,DA,TP,1608	
.....5	R523	2007-000094	R-CHIP;22Kohm,5%,1/16W,DA,TP,1608	
.....5	R524	2007-000094	R-CHIP;22Kohm,5%,1/16W,DA,TP,1608	
.....5	R525	2007-000094	R-CHIP;22Kohm,5%,1/16W,DA,TP,1608	
.....5	R526	2007-000094	R-CHIP;22Kohm,5%,1/16W,DA,TP,1608	
.....5	R527	2007-000094	R-CHIP;22Kohm,5%,1/16W,DA,TP,1608	
.....5	R528	2007-000094	R-CHIP;22Kohm,5%,1/16W,DA,TP,1608	
.....5	R529	2007-000094	R-CHIP;22Kohm,5%,1/16W,DA,TP,1608	
.....5	R530	2007-000094	R-CHIP;22Kohm,5%,1/16W,DA,TP,1608	
.....5	R531	2007-000070	R-CHIP;0ohm,5%,1/16W,DA,TP,1608	
.....5	R532	2007-000070	R-CHIP;0ohm,5%,1/16W,DA,TP,1608	
.....5	R534	2007-000070	R-CHIP;0ohm,5%,1/16W,DA,TP,1608	
.....5	R535	2007-000070	R-CHIP;0ohm,5%,1/16W,DA,TP,1608	
.....5	R536	2007-000077	R-CHIP;470ohm,5%,1/16W,DA,TP,1608	
.....5	R539	2007-000077	R-CHIP;470ohm,5%,1/16W,DA,TP,1608	
.....5	R540	2007-000077	R-CHIP;470ohm,5%,1/16W,DA,TP,1608	
.....5	R541	2007-000077	R-CHIP;470ohm,5%,1/16W,DA,TP,1608	
.....5	R542	2007-000077	R-CHIP;470ohm,5%,1/16W,DA,TP,1608	
.....5	R544	2007-000097	R-CHIP;47Kohm,5%,1/16W,DA,TP,1608	
.....5	R545	2007-000068	R-CHIP;470KOHM,5%,1/10W,DA,TP,2012	
.....5	R546	2007-000078	R-CHIP;1Kohm,5%,1/16W,DA,TP,1608	
.....5	R547	2007-000087	R-CHIP;6.8Kohm,5%,1/16W,DA,TP,1608	
.....5	R548	2007-000090	R-CHIP;10KOHM,5%,1/16W,DA,TP,1608	
.....5	R549	2007-000124	R-CHIP;2.2Kohm,5%,1/16W,DA,TP,1608	
.....5	R553	2007-000100	R-CHIP;68Kohm,5%,1/16W,DA,TP,1608	
.....5	R554	2007-000080	R-CHIP;2Kohm,5%,1/16W,DA,TP,1608	
.....5	R555	2007-001167	R-CHIP;75ohm,5%,1/16W,DA,TP,1608	
.....5	R556	2007-001167	R-CHIP;75ohm,5%,1/16W,DA,TP,1608	
.....5	R557	2007-001167	R-CHIP;75ohm,5%,1/16W,DA,TP,1608	
.....5	R559	2007-000084	R-CHIP;4.7Kohm,5%,1/16W,DA,TP,1608	
.....5	R562	2007-000084	R-CHIP;4.7Kohm,5%,1/16W,DA,TP,1608	
.....5	R563	2007-000094	R-CHIP;22Kohm,5%,1/16W,DA,TP,1608	
.....5	R564	2007-000077	R-CHIP;470ohm,5%,1/16W,DA,TP,1608	
.....5	R565	2007-000090	R-CHIP;10KOHM,5%,1/16W,DA,TP,1608	
.....5	R566	2007-000090	R-CHIP;10KOHM,5%,1/16W,DA,TP,1608	
.....5	R567	2007-000096	R-CHIP;30Kohm,5%,1/16W,DA,TP,1608	
.....5	R568	2007-000094	R-CHIP;22Kohm,5%,1/16W,DA,TP,1608	
.....5	R569	2007-000074	R-CHIP;100ohm,5%,1/16W,DA,TP,1608	
.....5	R570	2007-000094	R-CHIP;22Kohm,5%,1/16W,DA,TP,1608	
.....5	R571	2007-000094	R-CHIP;22Kohm,5%,1/16W,DA,TP,1608	
.....5	R572	2007-000090	R-CHIP;10KOHM,5%,1/16W,DA,TP,1608	
.....5	R573	2007-000078	R-CHIP;1Kohm,5%,1/16W,DA,TP,1608	
.....5	R574	2007-000078	R-CHIP;1Kohm,5%,1/16W,DA,TP,1608	
.....5	R575	2007-001167	R-CHIP;75ohm,5%,1/16W,DA,TP,1608	
.....5	R576	2007-001167	R-CHIP;75ohm,5%,1/16W,DA,TP,1608	
.....5	R577	2007-000075	R-CHIP;220ohm,5%,1/16W,DA,TP,1608	
.....5	R578	2007-000075	R-CHIP;220ohm,5%,1/16W,DA,TP,1608	
.....5	R579	2007-001167	R-CHIP;75ohm,5%,1/16W,DA,TP,1608	
.....5	R580	2007-000090	R-CHIP;10KOHM,5%,1/16W,DA,TP,1608	
.....5	R581	2007-001167	R-CHIP;75ohm,5%,1/16W,DA,TP,1608	
.....5	R582	2007-000080	R-CHIP;2Kohm,5%,1/16W,DA,TP,1608	
.....5	R583	2007-000100	R-CHIP;68Kohm,5%,1/16W,DA,TP,1608	
.....5	R584	2007-000074	R-CHIP;100ohm,5%,1/16W,DA,TP,1608	
.....5	R585	2007-000090	R-CHIP;10KOHM,5%,1/16W,DA,TP,1608	
.....5	R586	2007-000074	R-CHIP;100ohm,5%,1/16W,DA,TP,1608	
.....5	R587	2007-000090	R-CHIP;10KOHM,5%,1/16W,DA,TP,1608	
.....5	R588	2007-000078	R-CHIP;1Kohm,5%,1/16W,DA,TP,1608	
.....5	R589	2007-000070	R-CHIP;0ohm,5%,1/16W,DA,TP,1608	
.....5	R590	2007-000070	R-CHIP;0ohm,5%,1/16W,DA,TP,1608	
.....5	R591	2007-000070	R-CHIP;0ohm,5%,1/16W,DA,TP,1608	
.....5	R593	2007-000070	R-CHIP;0ohm,5%,1/16W,DA,TP,1608	
.....5	R599	2007-000068	R-CHIP;470KOHM,5%,1/10W,DA,TP,2012	
.....5	R601	2007-000082	R-CHIP;3.3Kohm,5%,1/16W,DA,TP,1608	
.....5	R602	2007-000082	R-CHIP;3.3Kohm,5%,1/16W,DA,TP,1608	
.....5	R603	2007-000082	R-CHIP;3.3Kohm,5%,1/16W,DA,TP,1608	
.....5	R604	2007-000082	R-CHIP;3.3Kohm,5%,1/16W,DA,TP,1608	
.....5	R605	2007-000090	R-CHIP;10KOHM,5%,1/16W,DA,TP,1608	
.....5	R606	2007-000090	R-CHIP;10KOHM,5%,1/16W,DA,TP,1608	
.....5	R607	2007-000090	R-CHIP;10KOHM,5%,1/16W,DA,TP,1608	
.....5	R608	2007-000082	R-CHIP;3.3Kohm,5%,1/16W,DA,TP,1608	
.....5	R609	2007-000074	R-CHIP;100ohm,5%,1/16W,DA,TP,1608	
.....5	R610	2007-000074	R-CHIP;100ohm,5%,1/16W,DA,TP,1608	

Level	Loc. No	Code No.	Description ; Specification	Remark
.....5	R611	2007-000078	R-CHIP;1Kohm,5%,1/16W,DA,TP,1608	
.....5	R612	2007-000078	R-CHIP;1Kohm,5%,1/16W,DA,TP,1608	
.....5	R613	2007-000074	R-CHIP;100ohm,5%,1/16W,DA,TP,1608	
.....5	R614	2007-000074	R-CHIP;100ohm,5%,1/16W,DA,TP,1608	
.....5	R615	2007-000539	R-CHIP;200ohm,5%,1/16W,DA,TP,1608	
.....5	R616	2007-000539	R-CHIP;200ohm,5%,1/16W,DA,TP,1608	
.....5	R617	2007-000070	R-CHIP;0ohm,5%,1/16W,DA,TP,1608	
.....5	R618	2007-000539	R-CHIP;200ohm,5%,1/16W,DA,TP,1608	
.....5	R619	2007-000084	R-CHIP;4.7Kohm,5%,1/16W,DA,TP,1608	
.....5	R620	2007-000074	R-CHIP;100ohm,5%,1/16W,DA,TP,1608	
.....5	R621	2007-000102	R-CHIP;100Kohm,5%,1/16W,DA,TP,1608	
.....5	R622	2007-000077	R-CHIP;470ohm,5%,1/16W,DA,TP,1608	
.....5	R623	2007-000070	R-CHIP;0ohm,5%,1/16W,DA,TP,1608	
.....5	R624	2007-000074	R-CHIP;100ohm,5%,1/16W,DA,TP,1608	
.....5	R625	2007-000070	R-CHIP;0ohm,5%,1/16W,DA,TP,1608	
.....5	R626	2007-000074	R-CHIP;100ohm,5%,1/16W,DA,TP,1608	
.....5	R627	2007-000355	R-CHIP;12KOHM,5%,1/10W,DA,TP,2012	
.....5	R629	2007-000079	R-CHIP;1.8Kohm,5%,1/16W,DA,TP,1608	
.....5	R630	2007-000084	R-CHIP;4.7Kohm,5%,1/16W,DA,TP,1608	
.....5	R631	2007-000124	R-CHIP;2.2Kohm,5%,1/16W,DA,TP,1608	
.....5	R632	2007-000077	R-CHIP;470ohm,5%,1/16W,DA,TP,1608	
.....5	R713	2007-000643	R-CHIP;270ohm,5%,1/16W,DA,TP,1608	
.....5	R714	2007-000643	R-CHIP;270ohm,5%,1/16W,DA,TP,1608	
.....5	R715	2007-000643	R-CHIP;270ohm,5%,1/16W,DA,TP,1608	
.....5	R717	2007-000084	R-CHIP;4.7Kohm,5%,1/16W,DA,TP,1608	
.....5	R720	2007-000402	R-CHIP;150ohm,5%,1/16W,DA,TP,1608	
.....5	R721	2007-000074	R-CHIP;100ohm,5%,1/16W,DA,TP,1608	
.....5	R722	2007-000074	R-CHIP;100ohm,5%,1/16W,DA,TP,1608	
.....5	R723	2007-000074	R-CHIP;100ohm,5%,1/16W,DA,TP,1608	
.....5	R724	2007-000074	R-CHIP;100ohm,5%,1/16W,DA,TP,1608	
.....5	R725	2007-000074	R-CHIP;100ohm,5%,1/16W,DA,TP,1608	
.....5	R726	2007-000074	R-CHIP;100ohm,5%,1/16W,DA,TP,1608	
.....5	R728	2007-000402	R-CHIP;150ohm,5%,1/16W,DA,TP,1608	
.....5	R729	2007-000402	R-CHIP;150ohm,5%,1/16W,DA,TP,1608	
.....5	R730	2007-000402	R-CHIP;150ohm,5%,1/16W,DA,TP,1608	
.....5	R731	2007-000402	R-CHIP;150ohm,5%,1/16W,DA,TP,1608	
.....5	R734	2007-000402	R-CHIP;150ohm,5%,1/16W,DA,TP,1608	
.....5	R737	2007-000402	R-CHIP;150ohm,5%,1/16W,DA,TP,1608	
.....5	R738	2007-000381	R-CHIP;13Kohm,5%,1/16W,DA,TP,1608	
.....5	R739	2007-000087	R-CHIP;6.8Kohm,5%,1/16W,DA,TP,1608	
.....5	R740	2007-000090	R-CHIP;10KOHM,5%,1/16W,DA,TP,1608	
.....5	R748	2007-000070	R-CHIP;0ohm,5%,1/16W,DA,TP,1608	
.....5	R766	2007-000084	R-CHIP;4.7Kohm,5%,1/16W,DA,TP,1608	
.....5	R767	2007-000074	R-CHIP;100ohm,5%,1/16W,DA,TP,1608	
.....5	R768	2007-000074	R-CHIP;100ohm,5%,1/16W,DA,TP,1608	
.....5	R801	2007-000074	R-CHIP;100ohm,5%,1/16W,DA,TP,1608	
.....5	R802	2007-000084	R-CHIP;4.7Kohm,5%,1/16W,DA,TP,1608	
.....5	R803	2007-000084	R-CHIP;4.7Kohm,5%,1/16W,DA,TP,1608	
.....5	R804	2007-000084	R-CHIP;4.7Kohm,5%,1/16W,DA,TP,1608	
.....5	R805	2007-000882	R-CHIP;4.7ohm,5%,1/16W,DA,TP,1608	
.....5	R806	2007-000082	R-CHIP;3.3Kohm,5%,1/16W,DA,TP,1608	
.....5	R807	2007-000084	R-CHIP;4.7Kohm,5%,1/16W,DA,TP,1608	
.....5	R808	2007-000539	R-CHIP;200ohm,5%,1/16W,DA,TP,1608	
.....5	R809	2007-000090	R-CHIP;10KOHM,5%,1/16W,DA,TP,1608	
.....5	R810	2007-000077	R-CHIP;470ohm,5%,1/16W,DA,TP,1608	
.....5	R811	2007-000075	R-CHIP;220ohm,5%,1/16W,DA,TP,1608	
.....5	R812	2007-000075	R-CHIP;220ohm,5%,1/16W,DA,TP,1608	
.....5	R813	2007-000070	R-CHIP;0ohm,5%,1/16W,DA,TP,1608	
.....5	RD00	2007-000074	R-CHIP;100ohm,5%,1/16W,DA,TP,1608	
.....5	RD01	2007-000074	R-CHIP;100ohm,5%,1/16W,DA,TP,1608	
.....5	RD11	2007-000074	R-CHIP;100ohm,5%,1/16W,DA,TP,1608	
.....5	RD12	2007-000094	R-CHIP;22Kohm,5%,1/16W,DA,TP,1608	
.....5	RD13	2007-000088	R-CHIP;7.5Kohm,5%,1/16W,DA,TP,1608	
.....5	RD14	2007-000309	R-CHIP;10ohm,5%,1/16W,DA,TP,1608	
.....5	RD15	2007-000078	R-CHIP;1Kohm,5%,1/16W,DA,TP,1608	
.....5	RD16	2007-000119	R-CHIP;560ohm,5%,1/16W,DA,TP,1608	
.....5	RD17	2007-000086	R-CHIP;5.6Kohm,5%,1/16W,DA,TP,1608	
.....5	RD18	2007-000074	R-CHIP;100ohm,5%,1/16W,DA,TP,1608	
.....5	RD19	2007-000119	R-CHIP;560ohm,5%,1/16W,DA,TP,1608	
.....5	RD20	2007-000070	R-CHIP;0ohm,5%,1/16W,DA,TP,1608	
.....5	RD21	2007-000075	R-CHIP;220ohm,5%,1/16W,DA,TP,1608	
.....5	RD22	2007-000078	R-CHIP;1Kohm,5%,1/16W,DA,TP,1608	
.....5	RD23	2007-000124	R-CHIP;2.2Kohm,5%,1/16W,DA,TP,1608	
.....5	RD24	2007-000097	R-CHIP;47Kohm,5%,1/16W,DA,TP,1608	
.....5	RD25	2007-000106	R-CHIP;220Kohm,5%,1/16W,DA,TP,1608	
.....5	RD26	2007-000077	R-CHIP;470ohm,5%,1/16W,DA,TP,1608	
.....5	RD27	2007-000084	R-CHIP;4.7Kohm,5%,1/16W,DA,TP,1608	

Level	Loc. No.	Code No.	Description ; Specification	Remark
.....5	RD50	2007-000074	R-CHIP;100ohm,5%,1/16W,DA,TP,1608	
.....5	RD51	2007-000078	R-CHIP;1Kohm,5%,1/16W,DA,TP,1608	
.....5	RD59	2007-000102	R-CHIP;100Kohm,5%,1/16W,DA,TP,1608	
.....5	RD62	2007-000309	R-CHIP;10ohm,5%,1/16W,DA,TP,1608	
.....5	RD63	2007-000124	R-CHIP;2.2Kohm,5%,1/16W,DA,TP,1608	
.....5	RD64	2007-000078	R-CHIP;1Kohm,5%,1/16W,DA,TP,1608	
.....5	RD65	2007-000078	R-CHIP;1Kohm,5%,1/16W,DA,TP,1608	
.....5	RD66	2007-000096	R-CHIP;30Kohm,5%,1/16W,DA,TP,1608	
.....5	RD67	2007-000125	R-CHIP;3.9Kohm,5%,1/16W,DA,TP,1608	
.....5	RD68	2007-000124	R-CHIP;2.2Kohm,5%,1/16W,DA,TP,1608	
.....5	RD69	2007-000077	R-CHIP;470ohm,5%,1/16W,DA,TP,1608	
.....5	RD70	2007-000077	R-CHIP;470ohm,5%,1/16W,DA,TP,1608	
.....5	RD71	2007-000234	R-CHIP;1.3Kohm,5%,1/16W,DA,TP,1608	
.....5	RD72	2007-000077	R-CHIP;470ohm,5%,1/16W,DA,TP,1608	
.....5	RD73	2007-000074	R-CHIP;100ohm,5%,1/16W,DA,TP,1608	
.....5	RD74	2007-000077	R-CHIP;470ohm,5%,1/16W,DA,TP,1608	
.....5	RD75	2007-000074	R-CHIP;100ohm,5%,1/16W,DA,TP,1608	
.....5	RD76	2007-000074	R-CHIP;100ohm,5%,1/16W,DA,TP,1608	
.....5	RD77	2007-000074	R-CHIP;100ohm,5%,1/16W,DA,TP,1608	
.....5	RD78	2007-000074	R-CHIP;100ohm,5%,1/16W,DA,TP,1608	
.....5	RD79	2007-000074	R-CHIP;100ohm,5%,1/16W,DA,TP,1608	
.....5	RD82	2007-000309	R-CHIP;10ohm,5%,1/16W,DA,TP,1608	
.....5	RD83	2007-000124	R-CHIP;2.2Kohm,5%,1/16W,DA,TP,1608	
.....5	RD84	2007-000119	R-CHIP;560ohm,5%,1/16W,DA,TP,1608	
.....5	RD85	2007-000086	R-CHIP;5.6Kohm,5%,1/16W,DA,TP,1608	
.....5	RD86	2007-000077	R-CHIP;470ohm,5%,1/16W,DA,TP,1608	
.....5	RD87	2007-000077	R-CHIP;470ohm,5%,1/16W,DA,TP,1608	
.....5	RD88	2007-000118	R-CHIP;390ohm,5%,1/16W,DA,TP,1608	
.....5	RD90	2007-000074	R-CHIP;100ohm,5%,1/16W,DA,TP,1608	
.....5	RD91	2007-000077	R-CHIP;470ohm,5%,1/16W,DA,TP,1608	
.....5	RD92	2007-000074	R-CHIP;100ohm,5%,1/16W,DA,TP,1608	
.....5	RD93	2007-000070	R-CHIP;0ohm,5%,1/16W,DA,TP,1608	
.....5	RD94	2007-000070	R-CHIP;0ohm,5%,1/16W,DA,TP,1608	
.....5	RD95	2007-000078	R-CHIP;1Kohm,5%,1/16W,DA,TP,1608	
.....5	RD96	2007-000077	R-CHIP;470ohm,5%,1/16W,DA,TP,1608	
.....5	RD97	2007-000077	R-CHIP;470ohm,5%,1/16W,DA,TP,1608	
.....5	RD98	2007-000070	R-CHIP;0ohm,5%,1/16W,DA,TP,1608	
.....5	RP107	2007-000074	R-CHIP;100ohm,5%,1/16W,DA,TP,1608	
.....5	RP108	2007-000074	R-CHIP;100ohm,5%,1/16W,DA,TP,1608	
.....5	RP109	2007-000074	R-CHIP;100ohm,5%,1/16W,DA,TP,1608	
.....5	RP111	2007-000072	R-CHIP;47ohm,5%,1/16W,DA,TP,1608	
.....5	RP112	2007-000072	R-CHIP;47ohm,5%,1/16W,DA,TP,1608	
.....5	RP113	2007-000072	R-CHIP;47ohm,5%,1/16W,DA,TP,1608	
.....5	RW101	2011-000002	R-NETWORK;22ohm,5%,63mW,L,CHIP,8P,TP	
.....5	RW102	2011-000002	R-NETWORK;22ohm,5%,63mW,L,CHIP,8P,TP	
.....5	RW103	2011-000002	R-NETWORK;22ohm,5%,63mW,L,CHIP,8P,TP	
.....5	RW104	2011-000002	R-NETWORK;22ohm,5%,63mW,L,CHIP,8P,TP	
.....5	RW105	2011-000002	R-NETWORK;22ohm,5%,63mW,L,CHIP,8P,TP	
.....5	RW106	2011-000002	R-NETWORK;22ohm,5%,63mW,L,CHIP,8P,TP	
.....5	RW107	2011-000002	R-NETWORK;22ohm,5%,63mW,L,CHIP,8P,TP	
.....5	RW108	2011-000002	R-NETWORK;22ohm,5%,63mW,L,CHIP,8P,TP	
.....5	RW109	2011-000002	R-NETWORK;22ohm,5%,63mW,L,CHIP,8P,TP	
.....5	RW110	2011-000002	R-NETWORK;22ohm,5%,63mW,L,CHIP,8P,TP	
.....5	RW111	2011-000002	R-NETWORK;22ohm,5%,63mW,L,CHIP,8P,TP	
.....5	RW112	2011-000002	R-NETWORK;22ohm,5%,63mW,L,CHIP,8P,TP	
.....5	RW201	2011-000002	R-NETWORK;22ohm,5%,63mW,L,CHIP,8P,TP	
.....5	RW202	2011-000002	R-NETWORK;22ohm,5%,63mW,L,CHIP,8P,TP	
.....5	RW203	2011-000002	R-NETWORK;22ohm,5%,63mW,L,CHIP,8P,TP	
.....5	RW204	2011-000002	R-NETWORK;22ohm,5%,63mW,L,CHIP,8P,TP	
.....5	RW701	2011-000002	R-NETWORK;22ohm,5%,63mW,L,CHIP,8P,TP	
.....5	RW702	2011-000002	R-NETWORK;22ohm,5%,63mW,L,CHIP,8P,TP	
.....5	RW703	2011-000002	R-NETWORK;22ohm,5%,63mW,L,CHIP,8P,TP	
.....5	RW704	2011-000002	R-NETWORK;22ohm,5%,63mW,L,CHIP,8P,TP	
.....5	RW705	2011-000002	R-NETWORK;22ohm,5%,63mW,L,CHIP,8P,TP	
.....5	RW706	2011-000002	R-NETWORK;22ohm,5%,63mW,L,CHIP,8P,TP	
.....5	RW707	2011-000002	R-NETWORK;22ohm,5%,63mW,L,CHIP,8P,TP	
.....5	RW708	2011-000002	R-NETWORK;22ohm,5%,63mW,L,CHIP,8P,TP	
.....5	RW710	2011-000002	R-NETWORK;22ohm,5%,63mW,L,CHIP,8P,TP	
.....5	RW711	2011-000002	R-NETWORK;22ohm,5%,63mW,L,CHIP,8P,TP	
.....5	RW801	2011-000002	R-NETWORK;22ohm,5%,63mW,L,CHIP,8P,TP	
.....5	RW802	2011-000002	R-NETWORK;22ohm,5%,63mW,L,CHIP,8P,TP	
.....5	RW803	2011-000002	R-NETWORK;22ohm,5%,63mW,L,CHIP,8P,TP	
.....5	RW804	2011-000002	R-NETWORK;22ohm,5%,63mW,L,CHIP,8P,TP	
.....5	RW805	2011-000002	R-NETWORK;22ohm,5%,63mW,L,CHIP,8P,TP	
.....5	RW806	2011-000002	R-NETWORK;22ohm,5%,63mW,L,CHIP,8P,TP	
.....5	RWP01	2011-000002	R-NETWORK;22ohm,5%,63mW,L,CHIP,8P,TP	
.....5	RWP02	2011-000002	R-NETWORK;22ohm,5%,63mW,L,CHIP,8P,TP	

Level	Loc. No.	Code No.	Description ; Specification	Remark
.....5	RWP03	2011-000002	R-NETWORK;22ohm,5%,63mW,L,CHIP,8P,TP	
.....5	RWP04	2011-000002	R-NETWORK;22ohm,5%,63mW,L,CHIP,8P,TP	
.....5	X201	2801-004004	CRYSTAL-SMD;20.25MHz,20ppm,28-AAN,13pF,2	
.....5	XP101	2801-004004	CRYSTAL-SMD;20.25MHz,20ppm,28-AAN,13pF,2	
.....5		AA41-00604A	PCB-MONITOR SCALER;SPL4225M,FR-4,6L,A,1.	S.N.A
...3		4309-001012	BATERRY-HOLDER;CELL,PIN,20.2mm,24.2x22.2	
..2		BN94-00291A	ASSY PCB MISC-SOUND;PPM42S2X,D53A	
...3	CN601	3711-003974	CONNECTOR-HEADER;BOX,12P,1R,2.5mm,STRAIG	
...3	CN602	3711-003046	CONNECTOR-HEADER;BOX,9P,1R,2.5mm,STRAIGH	
...3	CN603	3711-003043	CONNECTOR-HEADER;BOX,4P,1R,2.5mm,STRAIGH	
...3	IC601	1204-001222	IC-AUDIO PROCESSOR;TDA7429S,DIP,42P,-,PL	
...3	JK601	3722-001707	JACK-PIN;6P(6P),3.5MM,NI,WH/WH/WH/RD/RD/	
...3	JK602	3701-001264	CONNECTOR-DSUB;9P,2R,MALE,ANGLE,AUF	
...3	JK603	3722-000143	JACK-PHONE;1P(VER),3.4PI,AG,BLK,NO	
...3	L682	AA27-00119A	COIL CHOKE;10uH,-,10uH,10%,0.07,0.1ohm M	
...3	L683	AA27-00119A	COIL CHOKE;10uH,-,10uH,10%,0.07,0.1ohm M	
...3	L684	AA27-00119A	COIL CHOKE;10uH,-,10uH,10%,0.07,0.1ohm M	
...3	L685	AA27-00119A	COIL CHOKE;10uH,-,10uH,10%,0.07,0.1ohm M	
...3		BN97-00087A	ASSY AUTO-SOUND;PPM42S2X,D53A	
....4	C601	2401-000426	C-AL;10uF,20%,16V,GP,TP,3.5x5,5	
....4	C602	2301-000224	C-FILM,PEF;22nF,5%,50V,TP,7.4x3.9x13mm,5	
....4	C603	2301-000224	C-FILM,PEF;22nF,5%,50V,TP,7.4x3.9x13mm,5	
....4	C604	2301-000445	C-FILM,PEF;4.7nF,5%,50V,TP,5.5x7x3mm,5mm	
....4	C605	2305-000665	C-FILM,MPEF;100nF,5%,63V,TP,7.5x4.0x5.0m	
....4	C606	2301-000104	C-FILM,PEF;1.2NF,5%,50V,TP,6.5X3.0X5.5MM	
....4	C607	2301-000289	C-FILM,PEF;5.6nF,5%,50V,TP,7x6x3,5	
....4	C608	2305-001023	C-FILM,MPEF;680nF,10%,63V,TP,7.5x5.5x14.	
....4	C609	2401-000647	C-AL;2.2uF,20%,50V,BP,TP,5x11,5	
....4	C610	2401-000647	C-AL;2.2uF,20%,50V,BP,TP,5x11,5	
....4	C611	2401-000647	C-AL;2.2uF,20%,50V,BP,TP,5x11,5	
....4	C612	2305-000665	C-FILM,MPEF;100nF,5%,63V,TP,7.5x4.0x5.0m	
....4	C613	2305-000665	C-FILM,MPEF;100nF,5%,63V,TP,7.5x4.0x5.0m	
....4	C615	2305-000665	C-FILM,MPEF;100nF,5%,63V,TP,7.5x4.0x5.0m	
....4	C616	2305-000665	C-FILM,MPEF;100nF,5%,63V,TP,7.5x4.0x5.0m	
....4	C617	2301-000224	C-FILM,PEF;22nF,5%,50V,TP,7.4x3.9x13mm,5	
....4	C618	2301-000395	C-FILM,PEF;18NF,5%,50V,TP,6.5X12.5X3.5MM	
....4	C619	2301-000224	C-FILM,PEF;22nF,5%,50V,TP,7.4x3.9x13mm,5	
....4	C620	2301-000395	C-FILM,PEF;18NF,5%,50V,TP,6.5X12.5X3.5MM	
....4	C621	2301-000289	C-FILM,PEF;5.6nF,5%,50V,TP,7x6x3,5	
....4	C622	2301-000289	C-FILM,PEF;5.6nF,5%,50V,TP,7x6x3,5	
....4	C632	2401-000667	C-AL;2.2uF,20%,50V,WT,TP,5x11,5	
....4	C633	2401-000667	C-AL;2.2uF,20%,50V,WT,TP,5x11,5	
....4	C634	2401-000667	C-AL;2.2uF,20%,50V,WT,TP,5x11,5	
....4	C635	2401-000667	C-AL;2.2uF,20%,50V,WT,TP,5x11,5	
....4	C636	2401-000667	C-AL;2.2uF,20%,50V,WT,TP,5x11,5	
....4	C637	2401-000667	C-AL;2.2uF,20%,50V,WT,TP,5x11,5	
....4	C662	2401-000689	C-AL;2200uF,20%,16V,GP,TP,13x25,5	
....4	C664	2401-002463	C-AL;470uF,20%,16V,GP,TP,8x11.5,5	
....4	C667	2401-000603	C-AL;1uF,20%,50V,GP,TP,5x11,5	
....4	C668	2401-000667	C-AL;2.2uF,20%,50V,WT,TP,5x11,5	
....4	C669	2401-000667	C-AL;2.2uF,20%,50V,WT,TP,5x11,5	
....4	C681	2401-000603	C-AL;1uF,20%,50V,GP,TP,5x11,5	
....4	C689	2401-002009	C-AL;100uF,20%,16V,GP,TP,6.3x7,5	
....4	C691	2401-002009	C-AL;100uF,20%,16V,GP,TP,6.3x7,5	
....4	L602	2702-001094	INDUCTOR-RADIAL;10uH,10%,6x4mm	
....4	L681	2702-001094	INDUCTOR-RADIAL;10uH,10%,6x4mm	
....4	R600	2003-000664	R-METAL OXIDE(S);33ohm,5%,2W,AF,TP,4x12m	
....4		BN97-00089A	ASSY SMD-SOUND;PPM42S2X,D53A	
.....5	C629	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C661	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C663	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C665	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C666	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C670	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C682	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C683	2203-005809	C-CERAMIC,CHIP;1000nF,10%,16V,X7R,TP,201	
.....5	C685	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C686	2203-000239	C-CERAMIC,CHIP;0.1nF,5%,50V,NP0,TP,2012	
.....5	C687	2203-005809	C-CERAMIC,CHIP;1000nF,10%,16V,X7R,TP,201	
.....5	C688	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C690	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C692	2203-005809	C-CERAMIC,CHIP;1000nF,10%,16V,X7R,TP,201	
.....5	C694	2203-000181	C-CERAMIC,CHIP;100nF,+80-20%,25V,Y5V,TP,	
.....5	C695	2203-000239	C-CERAMIC,CHIP;0.1nF,5%,50V,NP0,TP,2012	
.....5	C696	2203-005809	C-CERAMIC,CHIP;1000nF,10%,16V,X7R,TP,201	
.....5	C698	2203-000239	C-CERAMIC,CHIP;0.1nF,5%,50V,NP0,TP,2012	
.....5	C699	2203-000239	C-CERAMIC,CHIP;0.1nF,5%,50V,NP0,TP,2012	

Level	Loc. No.	Code No.	Description ; Specification	Remark
.....5	DZ681	0403-001117	DIODE-ZENER;RLZ12B,5%,500mW,LL-34,TP	
.....5	DZ682	0403-001117	DIODE-ZENER;RLZ12B,5%,500mW,LL-34,TP	
.....5	DZ683	0403-001117	DIODE-ZENER;RLZ12B,5%,500mW,LL-34,TP	
.....5	DZ684	0403-001117	DIODE-ZENER;RLZ12B,5%,500mW,LL-34,TP	
.....5	IC602	1201-001681	IC-AUDIO AMP;1101,SOP,30P,433MIL,-,-,PLA	
.....5	PCB	AA41-00585A	PCB-SOUND;PS-42P2S,FR-4,2L,A,1.6T,245X24	S.N.A
.....5	R601	2007-000981	R-CHIP;5.6KOHM,5%,1/10W,DA,TP,2012	
.....5	R602	2007-000981	R-CHIP;5.6KOHM,5%,1/10W,DA,TP,2012	
.....5	R603	2007-000518	R-CHIP;2.7KOHM,5%,1/10W,DA,TP,2012	
.....5	R604	2007-000518	R-CHIP;2.7KOHM,5%,1/10W,DA,TP,2012	
.....5	R605	2007-000572	R-CHIP;220OHM,5%,1/10W,DA,TP,2012	
.....5	R606	2007-000572	R-CHIP;220OHM,5%,1/10W,DA,TP,2012	
.....5	R611	2007-000282	R-CHIP;100KOHM,5%,1/10W,DA,TP,2012	
.....5	R612	2007-000282	R-CHIP;100KOHM,5%,1/10W,DA,TP,2012	
.....5	R613	2007-000282	R-CHIP;100KOHM,5%,1/10W,DA,TP,2012	
.....5	R614	2007-000468	R-CHIP;1KOHM,5%,1/10W,DA,TP,2012	
.....5	R615	2007-000468	R-CHIP;1KOHM,5%,1/10W,DA,TP,2012	
.....5	R616	2007-000468	R-CHIP;1KOHM,5%,1/10W,DA,TP,2012	
.....5	R617	2007-000282	R-CHIP;100KOHM,5%,1/10W,DA,TP,2012	
.....5	R618	2007-000282	R-CHIP;100KOHM,5%,1/10W,DA,TP,2012	
.....5	R619	2007-000282	R-CHIP;100KOHM,5%,1/10W,DA,TP,2012	
.....5	R620	2007-000468	R-CHIP;1KOHM,5%,1/10W,DA,TP,2012	
.....5	R621	2007-000468	R-CHIP;1KOHM,5%,1/10W,DA,TP,2012	
.....5	R622	2007-000468	R-CHIP;1KOHM,5%,1/10W,DA,TP,2012	
.....5	R661	2007-001177	R-CHIP;8.2KOHM,5%,1/10W,DA,TP,2012	
.....5	R662	2007-000546	R-CHIP;20KOHM,5%,1/10W,DA,TP,2012	
.....5	R663	2007-000738	R-CHIP;30KOHM,5%,1/10W,DA,TP,2012	
.....5	R664	2007-000546	R-CHIP;20KOHM,5%,1/10W,DA,TP,2012	
.....5	R665	2007-000738	R-CHIP;30KOHM,5%,1/10W,DA,TP,2012	
.....5	R666	2007-000210	R-CHIP;1.1KOHM,5%,1/10W,DA,TP,2012	
.....5	R682	2007-000308	R-CHIP;10OHM,5%,1/10W,DA,TP,2012	
.....5	R683	2007-000308	R-CHIP;10OHM,5%,1/10W,DA,TP,2012	
.....5	R690	2007-001177	R-CHIP;8.2KOHM,5%,1/10W,DA,TP,2012	
.....5	R691	2007-001177	R-CHIP;8.2KOHM,5%,1/10W,DA,TP,2012	
...3		0202-001167	SOLDER-CREAM;RX3603-2330HO,S45A,PASTE,SN	S.N.A
...3		0202-000187	SOLDER-WIRE FLUX;-,RS60S,D1.2,63Sn/37Pb	S.N.A
..2		AA31-00003B	FAN;TA225DC(M33394),PLASTIC,BRACKRT:AA61	
...3		6006-001017	SCREW-ASS'Y MACH;WSP,PH,+,M4,L35,ZPC(YEL	S.N.A
...3		AA61-00579C	BRACKET-FAN,BASE;,SECC,T1.6	
...3		3103-001109	FAN-DC;12V,110MA,2600RPM,0.34M^3/MI,-	
..2		AA39-00114F	CBF HARNESS;,12P,35155-1200,S,100MM,1007	
..2		AA39-00301A	LEAD CONNECTOR ASSY;PS-42P2S,UL1007#26,U	
..2		AA63-00343B	SHIELD-CASE,A;SPD42P1S,SPTE,0.5,-,-,-,-	S.N.A
..2		AA63-00344B	SHIELD-CASE,T/A;SPD42P1S,SPTE,T0.5,-,-,-	S.N.A
..2		BN96-00078A	ASSY PDP P-MODULE;M3,1F2A,42P2S,D51A,S1.	
...3		BN96-00074A	ASSY PDP P-PBA,L-MAIN;,S42SD,D51A,D53A,4	
...3		AA98-00221A	ASSY-PBA,L-BUFF(F);,42SD,D51A,LJ41-00780	
...3		AA98-00218A	ASSY-PBA,L-BUFF(E);,42SD,D51A,LJ41-00779	
...3		AA98-00215A	ASSY-PBA,BUFF(DOWN);,42SD,D51A,LJ41-0078	
...3		AA98-00213A	ASSY-PBA,BUFF(UP);,42SD,D51A,LJ41-00783A	
...3		AA98-00209A	ASSY-PBA,Y-MAIN;,42SD,D51A,LJ41-00781A,S	
...3		AA98-00206A	ASSY-PBA,X-MAIN;,42SD,D51A,LJ41-00782A,S	
...3		AA98-00200A	ASSY-PANEL,PDP,SVC;,SPD-42P2S,D51A,300X3	
..2		AA98-00188A	ASSY-PBA,SMPS;,SPD-42P2S,D51A,42SD,90~26	
..2		AA95-01837F	ASSY SUB-PCB,REMOCON;SPD-42P2S,D51A,AA95	S.N.A
...3	C21	2401-000922	C-AL;22uF,20%,16V,GP,TP,5x5,5	
...3	CN21	AA39-00275A	LEAD CONNECTOR ASSY;PDP,UL1007,2547#26,U	
...3	D21	0601-001381	LED;ROUND,RED/GRN,5.0MM,650/563NM	
...3	MD21	AA32-00012A	MODULE REMOCON;ORC-50HF2,38KHZ,940NM,MES	
...3		AA61-00583B	HOLDER-LED;SPD-50P2H,ABS,BLK	S.N.A
...3		AA97-05596A	ASSY AUTO-SUB;SPD-42P2S,D51A	S.N.A
....4	PCB	AA41-00371A	PCB-REMOCON;SPD-50P2HM,FR-4,2L,A,1.6T,24	S.N.A
....4	R21	2001-000734	R-CARBON;4.7KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
....4	R22	2001-000793	R-CARBON;47OHM,5%,1/8W,AA,TP,1.8X3.2MM	
....4	ZD1	0403-000510	DIODE-ZENER;MTZJ6.2B,6.2V,5.96-6.27V,500	
...3		0202-000187	SOLDER-WIRE FLUX;-,RS60S,D1.2,63Sn/37Pb	S.N.A
...3		3301-001201	CORE-FERRITE;AE,21x11x32mm,1500,280G	
..2		AA39-00267B	LEAD CONNECTOR ASSY;PS-42P2SM,UL1007#26,	
..2		AA39-00274B	LEAD CONNECTOR ASSY;PS-42P2SM,UL2835#28,	
..2		AA63-00491D	COVER-TERMINAL;42P2,SUS,T0.3,MIJU(MONITO	
..2		AA67-00112A	MIRROR-GLASS;42PDP,MESH,984*584,56%,T3.0	
..2		AA94-07568A	ASSY PCB POWER;SPD-42P2S,D51A,DOM	
...3	BLF+LF	6001-000516	SCREW-MACHINE;PH,+,M3,L10,ZPC(YEL),SM20C	
...3	CN812	3711-000203	CONNECTOR-HEADER;1WALL,3P,1R,3.96MM,STRA	
⚠ ...3	CX811S	2306-000321	C-FILM,MPPF;470NF,5%,275V,TP,-,22.5	
⚠ ...3	CX812S	2306-000321	C-FILM,MPPF;470NF,5%,275V,TP,-,22.5	
⚠ ...3	CX813S	2306-000321	C-FILM,MPPF;470NF,5%,275V,TP,-,22.5	

Level	Loc. No	Code No.	Description ; Specification	Remark
⚠ ...3	CY811S	2201-000446	C-CERAMIC,DISC;3.3nF,20%,400V,Y5U,TP,15x	
⚠ ...3	CY812S	2201-000446	C-CERAMIC,DISC;3.3nF,20%,400V,Y5U,TP,15x	
⚠ ...3	CY813S	2201-000446	C-CERAMIC,DISC;3.3nF,20%,400V,Y5U,TP,15x	
⚠ ...3	CY814S	2201-000446	C-CERAMIC,DISC;3.3nF,20%,400V,Y5U,TP,15x	
⚠ ...3	CY815S	2201-000446	C-CERAMIC,DISC;3.3nF,20%,400V,Y5U,TP,15x	
⚠ ...3	CY816S	2201-000446	C-CERAMIC,DISC;3.3nF,20%,400V,Y5U,TP,15x	
...3	FS811A	3602-000149	FUSE-CLIP;125V,30A,0.004ohm	
...3	FS811B	3602-000149	FUSE-CLIP;125V,30A,0.004ohm	
⚠ ...3	FS811S	3601-001275	FUSE-CARTRIDGE;250V,8A,TIME-LAG,CERAMIC,	
...3	LINPWR	AA39-00264A	LEAD CONNECTOR ASSY;,UL1617#18,UL/CSA,3(	
⚠ ...3	LS812S	AA27-00189A	COIL CHOKE;-,HPL5025M,20UH,10%,0.03OHM,7	
⚠ ...3	LS813S	AA27-00189A	COIL CHOKE;-,HPL5025M,20UH,10%,0.03OHM,7	
⚠ ...3	LX811S	AA29-00017A	FILTER LINE NOISE;,25-4MH 7A,0.1OHM,1.5K	
⚠ ...3	LX812S	AA29-00017A	FILTER LINE NOISE;,25-4MH 7A,0.1OHM,1.5K	
...3	PCB+BL	6006-001035	SCREW-ASS'Y MACH;WSP,PH,+,M3,L8,ZPC(YEL)	S.N.A
⚠ ...3	PD811S	3711-000203	CONNECTOR-HEADER;1WALL,3P,1R,3.96MM,STRA	
⚠ ...3	RX811S	2002-001021	R-COMPOSITION;560KOHM,10%,1/2W,AA,TP,3.7	
⚠ ...3	VX811S	1405-000152	VARISTOR;560V,2500A,14x8.5mm,TP	
...3		AA61-00582C	BRACKET-LINE,FILTER;SPD-42P2H,SPC,T1.0,N	S.N.A
...3		AA64-02554A	INLAY-SHIELD;50P2H,PS SHEET V0,T1.0,BLK	S.N.A
...3		AA97-05555A	ASSY AUTO-SUB;SPD-42P2S,D51A,KOREA	S.N.A
....4	EL819	AA60-40011B	EYELET;ID2.2,OD3.2,-,-,BSP,-	S.N.A
....4	EL820	AA60-40011B	EYELET;ID2.2,OD3.2,-,-,BSP,-	S.N.A
....4	EL827	AA60-40011B	EYELET;ID2.2,OD3.2,-,-,BSP,-	S.N.A
....4	EL828	AA60-40011B	EYELET;ID2.2,OD3.2,-,-,BSP,-	S.N.A
....4	EY811	AA60-40011A	EYELET;ID2.0,OD2.8,-,-,BST,-	S.N.A
....4	EY812	AA60-40011A	EYELET;ID2.0,OD2.8,-,-,BST,-	S.N.A
....4	EY813	AA60-40011A	EYELET;ID2.0,OD2.8,-,-,BST,-	S.N.A
....4	EY814	AA60-40011A	EYELET;ID2.0,OD2.8,-,-,BST,-	S.N.A
....4	EY815	AA60-40011A	EYELET;ID2.0,OD2.8,-,-,BST,-	S.N.A
....4	EY816	AA60-40011A	EYELET;ID2.0,OD2.8,-,-,BST,-	S.N.A
....4	EY817	AA60-40011A	EYELET;ID2.0,OD2.8,-,-,BST,-	S.N.A
....4	EY818	AA60-40011A	EYELET;ID2.0,OD2.8,-,-,BST,-	S.N.A
....4	EY819	AA60-40011B	EYELET;ID2.2,OD3.2,-,-,BSP,-	S.N.A
....4	EY820	AA60-40011B	EYELET;ID2.2,OD3.2,-,-,BSP,-	S.N.A
....4	EY821	AA60-40011A	EYELET;ID2.0,OD2.8,-,-,BST,-	S.N.A
....4	EY822	AA60-40011A	EYELET;ID2.0,OD2.8,-,-,BST,-	S.N.A
....4	EY823	AA60-40011A	EYELET;ID2.0,OD2.8,-,-,BST,-	S.N.A
....4	EY824	AA60-40011A	EYELET;ID2.0,OD2.8,-,-,BST,-	S.N.A
....4	EY825	AA60-40011A	EYELET;ID2.0,OD2.8,-,-,BST,-	S.N.A
....4	EY826	AA60-40011A	EYELET;ID2.0,OD2.8,-,-,BST,-	S.N.A
....4	EY827	AA60-40011B	EYELET;ID2.2,OD3.2,-,-,BSP,-	S.N.A
....4	EY828	AA60-40011B	EYELET;ID2.2,OD3.2,-,-,BSP,-	S.N.A
....4	PCB	AA41-00391A	PCB-LINE FILTER;SPD-50P2HM,CEM-1,1L,A,1.	S.N.A
...3		6021-000222	NUT-HEXAGON;2C,M3,ZPC(YEL),SM20C 1	
...3		2901-001222	FILTER-EMI AC LINE;250V,10A,UL,CSA,D,N,S	
...3		0202-000187	SOLDER-WIRE FLUX;-,RS60S,D1.2,63Sn/37Pb	S.N.A
..2		AA95-01751D	ASSY SUB-PCB CONTROL;PS42P2S,D53A,AA95-0	
...3	CN11	AA39-00273B	LEAD CONNECTOR ASSY;PS-42P2SM,UL1007#26,	
...3	SW11	3404-000178	SWITCH-TACT;12V,50mA,120gf,6x6mm,SPST	
...3	SW12	3404-000178	SWITCH-TACT;12V,50mA,120gf,6x6mm,SPST	
...3	SW13	3404-000178	SWITCH-TACT;12V,50mA,120gf,6x6mm,SPST	
...3	SW14	3404-000178	SWITCH-TACT;12V,50mA,120gf,6x6mm,SPST	
...3	SW15	3404-000178	SWITCH-TACT;12V,50mA,120gf,6x6mm,SPST	
...3	SW16	3404-000178	SWITCH-TACT;12V,50mA,120gf,6x6mm,SPST	
...3	SW17	3404-000178	SWITCH-TACT;12V,50mA,120gf,6x6mm,SPST	
...3		AA97-05597A	ASSY AUTO-SUB;PS42P2S,D53A	S.N.A
....4	PCB	AA41-00370A	PCB-CONTROL;SPD-50P2HM,FR-1,1L,A,1.6T,-	S.N.A
....4	R11	2001-000281	R-CARBON;100OHM,5%,1/8W,AA,TP,1.8X3.2MM	
....4	R12	2001-000281	R-CARBON;100OHM,5%,1/8W,AA,TP,1.8X3.2MM	
....4	R13	2001-000281	R-CARBON;100OHM,5%,1/8W,AA,TP,1.8X3.2MM	
....4	R14	2001-000281	R-CARBON;100OHM,5%,1/8W,AA,TP,1.8X3.2MM	
...3		0202-000187	SOLDER-WIRE FLUX;-,RS60S,D1.2,63Sn/37Pb	S.N.A
..2		AA95-01770A	ASSY SUB-PCB TERMINAL;PS42P2S,D53A,AA95-	S.N.A
...3	CN603A	3711-003043	CONNECTOR-HEADER;BOX,4P,1R,2.5mm,STRAIGH	
...3	JK603	AA63-40258A	TERMINAL-SPEAKER;4P,ABS,4,-,-,-,BLK	S.N.A
...3	PCB	AA41-00373A	PCB-SPK TERMINAL;SPD-50P2HM,CEM-1,1L,A,1	S.N.A
...3	SPK	AA39-00294A	LEAD CONNECTOR ASSY;PDP,UL1007#22,UL/CSA	
...3		0202-000187	SOLDER-WIRE FLUX;-,RS60S,D1.2,63Sn/37Pb	S.N.A
..2		AA95-01833D	ASSY SUB-PCB,POWER ON/OFF;SPD-42P2S,D51A	S.N.A
...3	CN01	AA39-20468F	LEAD CONNECTOR ASSY;PDP,UL2547#26,UL/CSA	
...3	PCB	AA41-00494A	PCB-POWER S/W;HPL5025M,FR-4,2L,A,1.6T,24	S.N.A
...3	PCB+BP	6001-000578	SCREW-MACHINE;TH,+,M3,L8,ZPC(YEL),SWRCH1	
...3	R01	2001-000281	R-CARBON;100OHM,5%,1/8W,AA,TP,1.8X3.2MM	
...3	SW01	3404-001006	SWITCH-TACT;12V,50mA,160gf,6x6mm,SPST	
...3		AA61-00716B	BRACKET-POWER;,SECC,T1.0	S.N.A
...3		0202-000187	SOLDER-WIRE FLUX;-,RS60S,D1.2,63Sn/37Pb	S.N.A

Level	Loc. No.	Code No.	Description ; Specification	Remark
...3		3301-001201	CORE-FERRITE;AE,21x11x32mm,1500,280G	

ASSY COVER FRONT

1	*	BN90-00276G	ASSY COVER FRONT;42P2,PPM42S2X/XAA	
..2	BFB+CB	6006-001035	SCREW-ASS'Y MACH;WSP,PH,+,M3,L8,ZPC(YEL)	S.N.A
..2	BFB+CF	6003-001020	SCREW-TAPTITE;RH,+,B,M4,L10,ZPC(YEL),SWR	S.N.A
..2	BFS+CF	6003-001020	SCREW-TAPTITE;RH,+,B,M4,L10,ZPC(YEL),SWR	S.N.A
..2	BFT+CF	6003-001020	SCREW-TAPTITE;RH,+,B,M4,L10,ZPC(YEL),SWR	S.N.A
..2	BLFCHB	6006-001035	SCREW-ASS'Y MACH;WSP,PH,+,M3,L8,ZPC(YEL)	S.N.A
..2	BM+CHB	6006-001035	SCREW-ASS'Y MACH;WSP,PH,+,M3,L8,ZPC(YEL)	S.N.A
..2	BP+CF	6003-001026	SCREW-TAPTITE;RH,+,B,M4,L15,ZPC(BLK),SWR	S.N.A
..2	CB+CF	AA60-10050T	SCREW-TAPPING;-,SWRCH18A,M4,L20,RH,+,2S,	S.N.A
..2	CHB+CF	6003-001026	SCREW-TAPTITE;RH,+,B,M4,L15,ZPC(BLK),SWR	S.N.A
..2	COB+CB	6006-001112	SCREW-ASS'Y MACH;WP,PH,+,M8,L16,ZPC(BLK)	
..2	COB+CT	6006-001035	SCREW-ASS'Y MACH;WSP,PH,+,M3,L8,ZPC(YEL)	S.N.A
..2	COB+LF	6006-001035	SCREW-ASS'Y MACH;WSP,PH,+,M3,L8,ZPC(YEL)	S.N.A
..2	COT+SJ	6003-000333	SCREW-TAPTITE;RH,+,2S,M3,L10,ZPC(YEL),SW	S.N.A
..2	COT+SP	6003-000333	SCREW-TAPTITE;RH,+,2S,M3,L10,ZPC(YEL),SW	S.N.A
..2	GS+CHB	6006-001039	SCREW-ASS'Y MACH;WSP,PH,+,M4,L12,ZPC(YEL	
..2	PCB+CF	6003-000333	SCREW-TAPTITE;RH,+,2S,M3,L10,ZPC(YEL),SW	S.N.A
..2	SB+CHB	6006-001035	SCREW-ASS'Y MACH;WSP,PH,+,M3,L8,ZPC(YEL)	S.N.A
..2	SMPSCH	6006-001035	SCREW-ASS'Y MACH;WSP,PH,+,M3,L8,ZPC(YEL)	S.N.A
..2	SNDCHB	6006-001035	SCREW-ASS'Y MACH;WSP,PH,+,M3,L8,ZPC(YEL)	S.N.A
..2	SPKCHB	6006-001035	SCREW-ASS'Y MACH;WSP,PH,+,M3,L8,ZPC(YEL)	S.N.A
..2		AA91-00859E	ASSY CABINET FRONT;,42P2,BK708P,M MIJU,H	
...3		AA64-01799F	CABINET-FRONT;42P2,HIPS V0,BLK,BK708P,MO	
...3		AA64-01566B	KNOB-MASTER;PDP,ABS,HB,BLK,BK708P NO SIL	
...3		AA64-01560B	BADGE-BRAND;PDP,AL FORGING,L68(45),SILVE	S.N.A
...3		AA64-01549B	WINDOW-RMC;PDP,ACRYL VIOLET,20:1	S.N.A
...3		AA61-60003J	SPRING-CS;-,SUS304,-,-,0D6,N7,0D6,-,-,-	S.N.A
..2		BN72-00315A	SPONGE-EMI,BOT(R);PDP,SHELD FROM	S.N.A
..2		BN72-00316A	SPONGE-EMI,BOT(L);PDP,SHELD FROM	S.N.A
..2		AA61-00340A	GUIDE-STAND ASSY;42P2S,AL DIECASTING	S.N.A
...3		AA61-00584B	GUIDE-STAND;SPD-50P2H,AL,DIECASTING	S.N.A
...3		AA72-00007A	SPONGE-EMI;PDP,SHELD FROM,D10,T2,L50	S.N.A
..2		BN61-00170A	BRACKET-FILTER SIDE R,ASSY;AL 6063,42P2S	S.N.A
...3		BN61-00090A	BRACKET-FINGER;SPD50P2H,42P2S,BE-CO,T0.1	S.N.A
...3		AA72-00018A	SPONGE-EMI,FILTER;42P2,SHIELD-FORM,T1.2,	S.N.A
...3		AA63-60122C	SPACER-FELT;42P2,FELT,BLK,T0.5,530*9	S.N.A
...3		AA63-00406B	GROMMET-PANEL;PDP,PBT,T0.2	S.N.A
...3		AA61-01064A	BRACKET-EMI,FILTER;PDP,SPTE,T0.3,L62.6,	S.N.A
...3		AA61-01052A	BRACKET-FILTER,SIDE R;42P2,AL 5051,T1.5	S.N.A
..2		BN61-00171A	BRACKET-FILTER SIDE L,ASSY;AL 6063,42P2S	S.N.A
...3		BN61-00090A	BRACKET-FINGER;SPD50P2H,42P2S,BE-CO,T0.1	S.N.A
...3		AA72-00018A	SPONGE-EMI,FILTER;42P2,SHIELD-FORM,T1.2,	S.N.A
...3		AA63-60122C	SPACER-FELT;42P2,FELT,BLK,T0.5,530*9	S.N.A
...3		AA63-00406B	GROMMET-PANEL;PDP,PBT,T0.2	S.N.A
...3		AA61-01064A	BRACKET-EMI,FILTER;PDP,SPTE,T0.3,L62.6,	S.N.A
...3		AA61-01051A	BRACKET-FILTER,SIDE L;42P2,AL 5051,T1.5	S.N.A
..2		AA61-00829A	BRACKET-PLATE;SPD-42P1S,PBS,T0.2,PRESS	S.N.A
..2		AA73-00005B	RUBBER-CAP;FLAT,PRJ,SILICONE RUBBER,WHIT	
..2		AA60-00110C	SPACER-FILTER;42P2,P/U V0,L,BLK	S.N.A
..2		AA60-00110D	SPACER-FILTER;42P2,P/U V0,L,BLK	S.N.A
..2		AA61-01059A	BRACKET-FILTER TOP,ASSY;AL ,42P2,T1.2	S.N.A
...3		BN61-00090A	BRACKET-FINGER;SPD50P2H,42P2S,BE-CO,T0.1	S.N.A
...3		AA72-00017A	SPONGE-EMI,FILTER;42P2,SHIELD-FORM,T1.2,	S.N.A
...3		AA63-00406B	GROMMET-PANEL;PDP,PBT,T0.2	S.N.A
...3		AA61-01064A	BRACKET-EMI,FILTER;PDP,SPTE,T0.3,L62.6,	S.N.A
...3		AA61-01053A	BRACKET-FILTER,TOP;42P2,AL 5051,T1.5	S.N.A
..2		AA61-01062A	BRACKET-FILTER BOT,ASSY;AL 6063 EXT,42P2	S.N.A
...3		BN61-00090A	BRACKET-FINGER;SPD50P2H,42P2S,BE-CO,T0.1	S.N.A
...3		AA72-00017A	SPONGE-EMI,FILTER;42P2,SHIELD-FORM,T1.2,	S.N.A
...3		AA63-00406B	GROMMET-PANEL;PDP,PBT,T0.2	S.N.A
...3		AA61-01064A	BRACKET-EMI,FILTER;PDP,SPTE,T0.3,L62.6,	S.N.A
...3		AA61-01001B	BRACKET-FILTER BOT;AL 6063 EXT,42P2,T1.2	S.N.A
..2		AA61-11012A	BRACKET-SHIELD ASSY;42P2S,PBS,T0.2	S.N.A
...3		AA61-01006A	BRACKET-MODULE,BOT;42P2,PBS,T0.2	
...3		AA63-00141A	SPACER-FELT;42P2S,FELT,L110,T0.5,D20	S.N.A
..2		AA63-00577A	SHIELD-SCALER,BOT;42P2,SPTE,T0.3	S.N.A
..2		AA64-01565B	KNOB-CONTROL;PDP,ABS HB,BLK,SILVER	

Level	Loc. No.	Code No.	Description ; Specification	Remark

ASSY COVER REAR

1	*	BN90-00278E	ASSY COVER REAR;42P2,PPM42S2X/XAA,M,MIJU	S.N.A
..2		BN91-00334A	ASSY CABINET BACK;,HIPS V0 BLK,WP1000,42	
...3	COB+CB	6003-001019	SCREW-TAPTITE;RH,+,B,M4,L12,ZPC(BLK),SWR	S.N.A
...3	COB+CB	6003-001020	SCREW-TAPTITE;RH,+,B,M4,L10,ZPC(YEL),SWR	S.N.A
...3	COB+HS	6003-001026	SCREW-TAPTITE;RH,+,B,M4,L15,ZPC(BLK),SWR	S.N.A
...3		AA64-01551B	HANDLE-SET;PDP,ABS,HB,BLK	S.N.A
...3		AA64-01802C	CABINET BACK;42P2,HIPS V0,BLK,WP1000	
...3		AA65-00003A	CABLE-CLAMP;SIR-T100,PE BLACK,-,-,-,-	S.N.A
...3		BN63-00198A	COVER-BACK,ASSY;42P2S,AL FAN,VMB,T1.2,SE	
....4		AA63-00433A	COVER-BACK,BOT;42P2,AL,T1.2	S.N.A
....4		BN63-00197A	COVER-BACK;42P2S,AL FAN,VMB,T1.2,MIJU(MO	
...3		AA63-00366B	COVER-FAN;SPD-50P2H,SPTE,T0.5	
...3		AA61-00597B	HOLDER-FAN;SPD-50P2H,ABS V0,BLK	S.N.A
...3		AA60-00109A	SPACER-FAN;SPD-50P2H,P/UFORM V0,BLK	

ASSY P/MATERIAL

1	*	AA92-03150A	ASSY P/MATERIAL;PS42P2SDX/XEC	S.N.A
..2		AA61-20285A	HOLDER-BOX;3456,PP,-,-,-,WHT,VO	S.N.A
..2		AA60-40006A	PIN-STAPLE;-,-,H18,33X17.8X2.4,-,AUTO	S.N.A

ASSY LABEL

1	*	BN92-00386E	ASSY LABEL;PPM42S2X/XAA,PPM42S2	

Level	Loc. No.	Code No.	Description ; Specification	Remark

ASSY BOX

1	*	BN92-00373G	ASSY BOX;42P2S,PPM42S2X/XAA	

ASSY ACCESSORY

1	*	BN92-00415F	ASSY ACCESSORY;PPM42S2X/XAA,PPM42S2,ENG	
..2		BN68-00258A	MANUAL USERS;PPM42S2,ENG,S/W120G,D53A,A4	
..2		AA59-00261A	S/W DRIVER;PPM42S2 ,INSTALL-S/W,BASIC,CD	
⚠ ..2		AA39-10004E	POWER-CORD;-,KJP120/KJC303,SVT 3/18AWG,1	
..2		4301-000103	BATTERY-ALKALINE;1.5V,750mAH,AAA,10.5x44	S.N.A
..2		AA39-00288A	CBF SIGNAL;HPL5025M,15P/15P,2990,1830MM,	
..2		AA39-00311A	CBF SIGNAL;PDP,9P/1P,UL2851#28,5000MM,UL	
..2		AA39-40001E	CABLE-S.VHS;,1500MM	
..2		AA59-00222A	REMOCON;,TM63,PDP,PW364,44,SPK4215M	
...3		2802-000194	RESONATOR-CERAMIC;8MHz,1.0%,TP,8.5x4.5x5	
...3		AA09-00275A	IC MICOM;Z86L8808SSC-R51PX,SOP,ST,SZTM-8	

MEMO

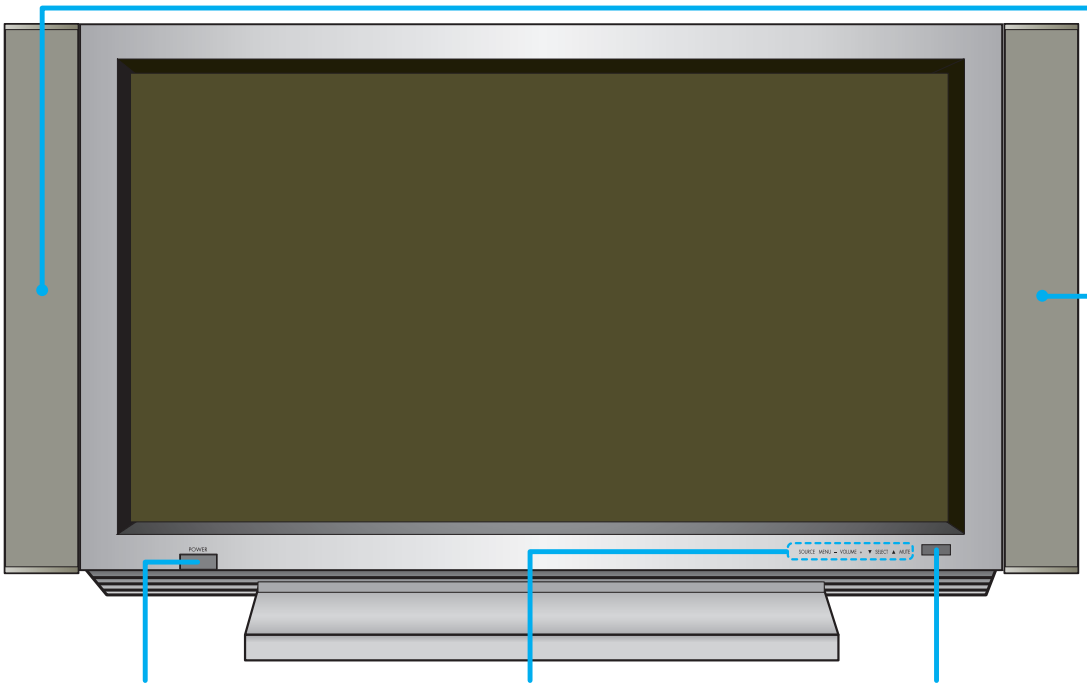
9. Handling Description

9-1 Basic Description

9-1-1 The Name of Each Part

9-1-1(A) PDP(Plasma Disply Panel)

Front Panel

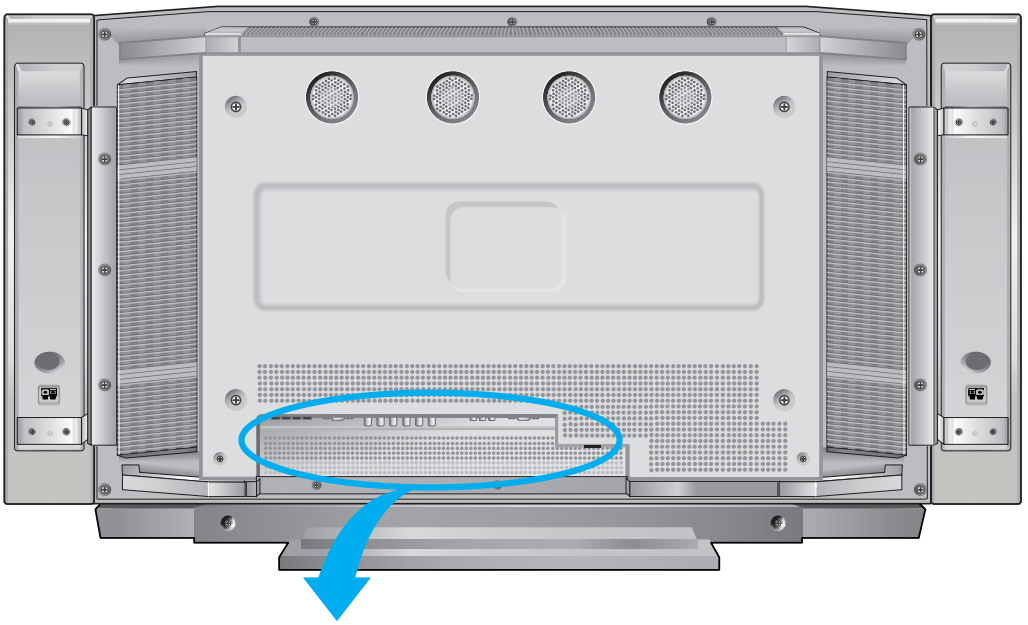


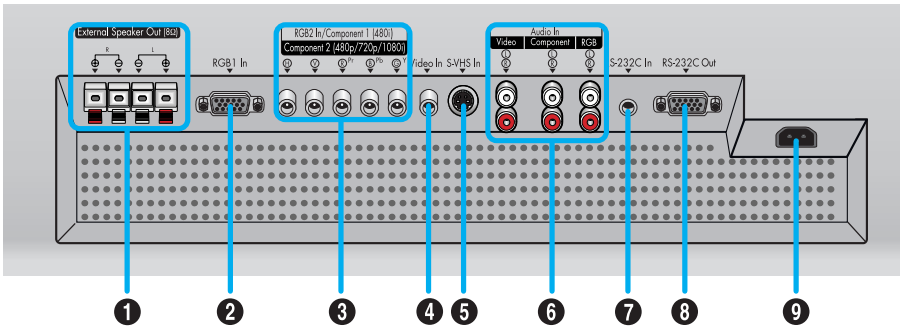
POWER
Press to turn the PDP on and off.

SOURCE , MENU, VOLUME (-,+), SELECT (t,s), MUTE

Remote Control Signal Receiver
Aim the remote control towards this spot on the Monitor.

Rear Panel





❶ External Speaker Out jacks
Connect external speakers.

❷ RGB Input 1 jack (15pin)
Connect to the video output jack on your PC.

❸ RGB Input 2 / Component Video Input jacks (H / V / R / B / G, Y / P_b / P_r)
RGB input2 / Component video input jacks are BNC connectors.

❹ Video Input jack
Connect a video signal from external sources such as VCRs or DVD players.

❺ S-VHS Input jack
Connect a S-Video signal from an S-VHS VCR or DVD player.

❻ Audio Input (Video / Component / RGB) jacks
Connect a audio signal from external sources such as VCRs, PC or DVD players.

❼ RS-232C Input jack
Connect t he RS-232C input jack to your PC.

❽ RS-232C Output jack
Connect the RS-232C output jack to another PDP.

❾ Power Input jack
Connect the supplied power cord.

9-1-1(B) REMOTE CONTROL

Remote Control

Flip the cover open in the arrow direction.

❶ Power button
Turns the PDP on and off.

❷ Number buttons

❸ Display button
Press to display information on the PDP screen.

❹ Menu button
Displays the main on-screen menu.

❺ CH (Channel) and VOL (Volume) buttons
Channel buttons : Not available for this Monitor.
Volume buttons : Press to control the Volume.

❻ Mute button
Press to mute the PDP sound.

❼ P.Mode button
Adjust the PDP picture by selecting one of the preset factory settings (or select your personal, customized picture settings.)

❽ Aspect button (Not available in PC Mode)
Press to change the screen size.

❾ Mode button
Selects a target device to be controlled by the Samsung remote control (ie., VCR, Cable, or DVD players).

❿ Clock Display button
Press to display clock on the PDP screen.

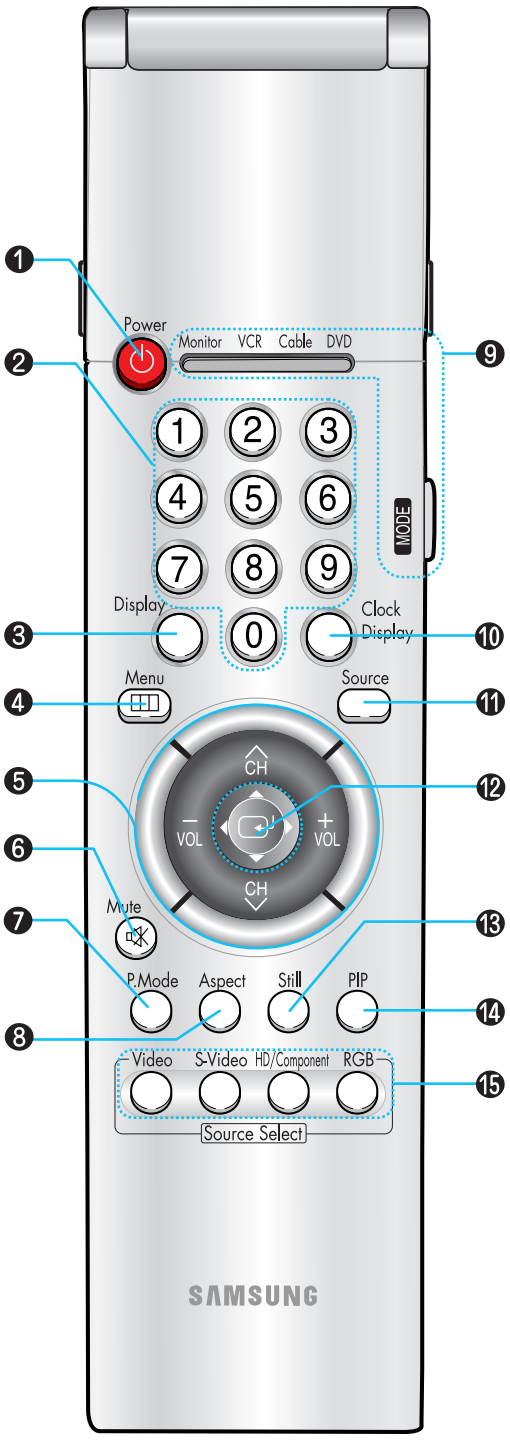
⓫ Source button
Press to display all of the available video sources (ie., Video, S-Video, Component1, Component2, RGB1, RGB2).

⓬ Joystick button
Use to highlight on-screen menu items and change menu values.

⓭ Still button
Press to pause the current screen.

⓮ PIP button
Activates picture in picture.

⓯ Source selection buttons
Press to directly select Video, S-Video, Component1, Component2 or RGB1, RGB2.



⑯ VCR control buttons
Controls VCR tape functions: Stop, Rewind, Play / Pause, Fast Forward.

⑰ Set button
Used during set up of this remote control, so that it will work compatibly with other devices (VCR, cable box, DVD, etc.)

⑱ Clock set button
Press to set clock.

⑲ PIP control buttons
Source : Press to select one of the available signal sources for the PIP window.

Swap : In Video and S-Video mode, press to exchange to video signal that is currently displayed on the main screen with the signal in the PIP window.

Size : Press to make the PIP window larger or smaller.

Locate : Press to move the PIP window to any on the four corners of the screen.

⑳ PC control buttons
Auto Adjust
Scaling
Zoom

㉑ Sleep button
Press to select a preset time interval for automatic shutoff.

9-2 Wall Mount

9-2-1 Notice for installing

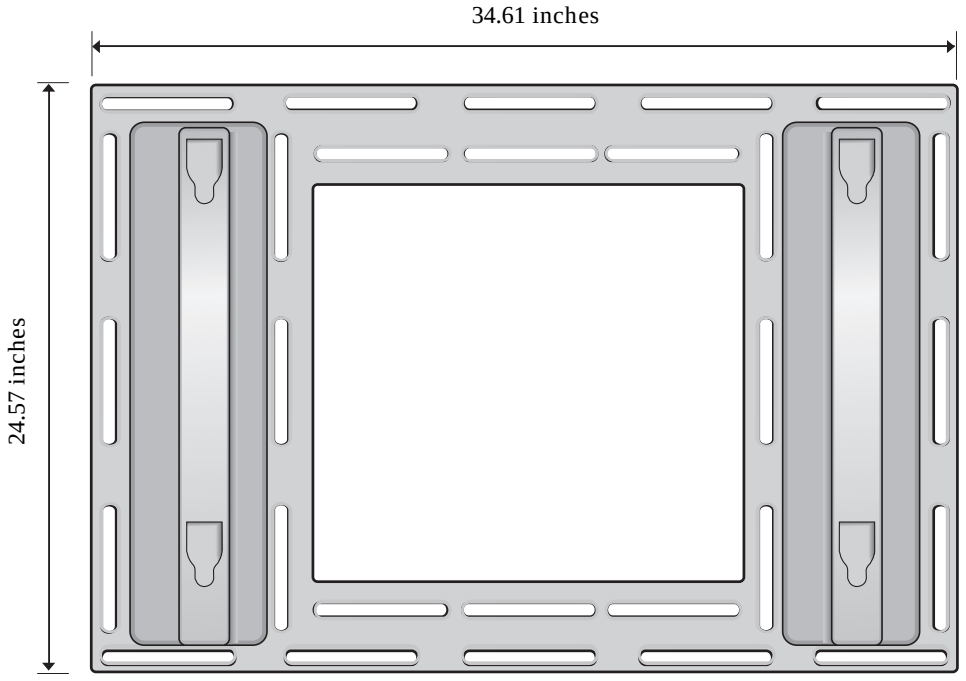
1. Do not install the PDP in any location other than vertical walls.

2. To protect the performance of the PDP and prevent problems, avoid the following places.

   - Do not install next to smoke and fire detectors.
   - Do not install in an area subjected to vibration.
   - Do not install in an area subjected to high voltage.
   - Do not install near or around any heating apparatus.

3. Use only recommended parts and components

9-2-2 Parts (Wall attachment panel is sold separately. Check with your dealer or Samsung)

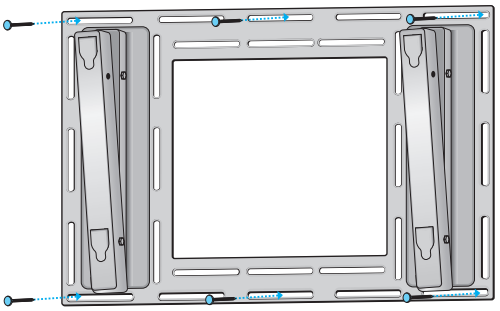


bolt Insulation holder

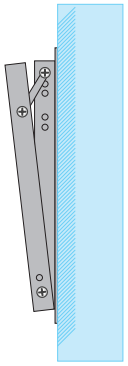
9-2-3 Installing the Display on the Wall Attachment Panel :

1. See the drawing of the wall attachment panel shown in page 14 to check for the stability of the wall where the PDP is to be installed. If the wall is not strong enough to support the PDP, strengthen the wall before installation.

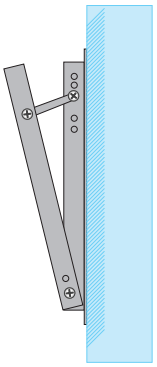
2. Fix the wall attachment panel on the wall using bolts as shown in the following figure: Fixing bolts must protrude from the wall appox. 0.6 inches



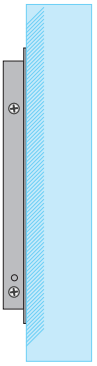
3. Using the wall attachment panel, you may adjust the angle of the display from 0 to 20 degrees. The angle can be set in 5 stages with 5 degrees of distance each, using the angle control holes on the sides of the pane.



When the angle has been set to 5 degrees.

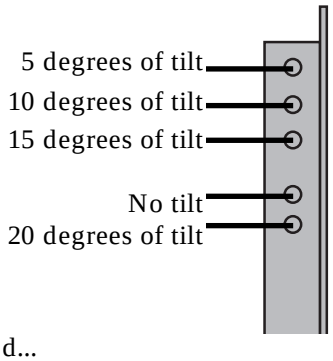


When the angle has been set to 15 degrees.



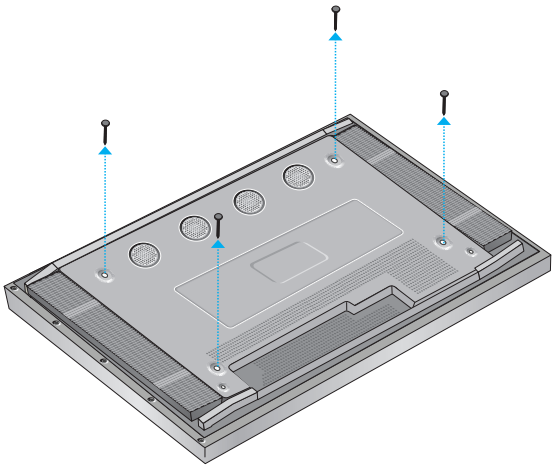
When the panel hasn't been tilted.

Angle control holes



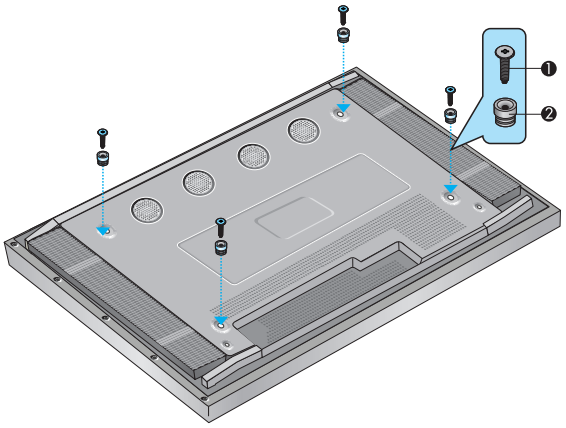
Continued...

4. Remove four large screws from the rear side of the display.

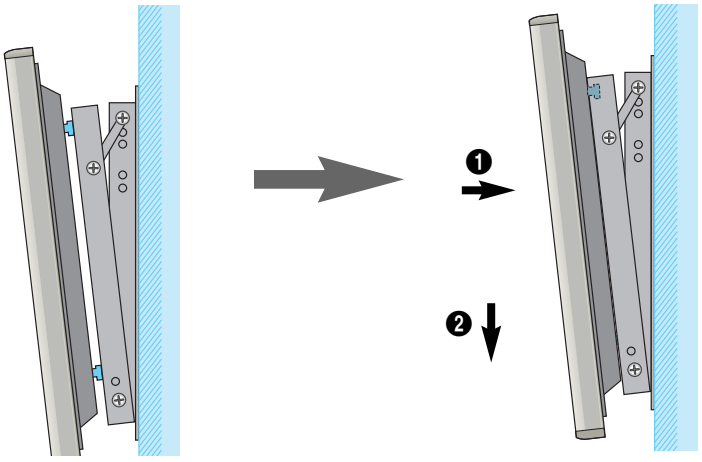


5. nsert the bolts and insulations into the four screwholes as shown in the following figure:

❶ Bolt
❷ Insulation holder

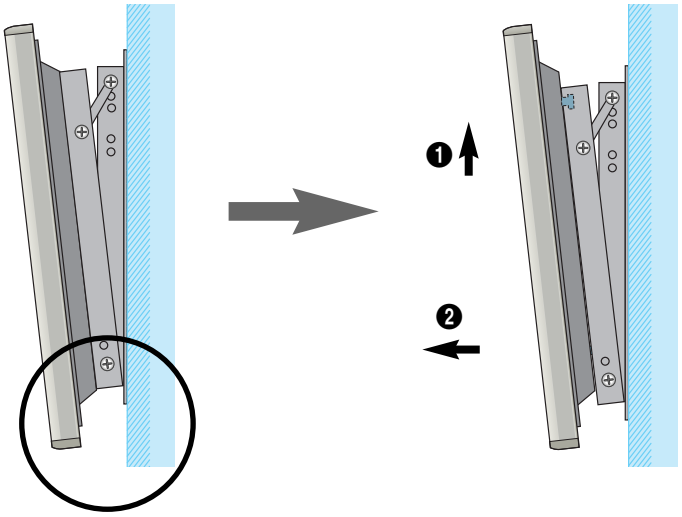


6. Put the insulation rubber point protruding from the rear top of the display in the groove on the top of the wall attachment panel. Lift up the display a little bit so that the insulation rubber point at the bottom of the rear side of the display is put in the groove at the bottom of the wall attachment panel. (Do not lift the display with any pressure. The insulation rubber at the top may be taken off.)



9-2-4 Separating the Display from the Wall Attachment Panel :

Remove the fixing bolts from both sides (left and right) of the wall attachment panel. Lift and pull the bottom of the display a small amount, to separate the insulation holder point from the bottom of the wall attachment panel.
Lift the display and separate the insulation holder point from the groove on top of the wall attachment panel.



10. Glossary

AC PDP :
Plasma display driven by alternating current plasma electric discharge.

Address discharge(Reference : scan and data) :
Term with two meanings that can be used for both scan and data (write or erase) discharge.

Address Electrode(Reference : scan and data electrode) :
Term with two meanings that can be used for both scan and data electrodes.

Address pulse(Reference : scan and data pulse) :
Address drive wave form

Address voltage(reference; scan and data voltage) :
Address drive amplitude of vibration

Addressing :
Process that gives authorization to cells to allow for turning on and off by drive wave form.

Addressing speed :
Time necessary for writing and erasing.

ADS, address display separation :
Drive tech that separates address pulse temporarily from sustained voltage.

Aging :
The change of operation expectancy- for example, operation voltage change and luminance decline-related characteristics.

Angular distribution :
Characteristics which change as function of angles between perpendicularity and surface.
referring to dependency on angles of, for example, luminance or chromaticity.

Aperture ratio :
Referring to the ratio of an element activation area to the gross area.

Area luminance :
Luminance measured in relatively large area.

Aspect ratio :
The ratio of screen width to height.

Auto power control :
Circuit means for controlling panel's average or maximum power.
Auxillary anode :
Anode where discharge of DC panel has little contribution to light output power.

Back ground luminance :
Referring to the panel luminance in off mode or black screen, in other words, luminance in the vicinity of the screen.

Barrier rib :
barriers that cross all the gaps of wafers dividing the cells in panel.

Black stripe :
black substance located in between the fluorescent areas to bring about improvement in contrast by reflection ratio decline. Generally, this is striped.

Bright defect :
defects that occur when the image is rather bright than accurate.

Brightness(Reference : luminance) :
visible and subjective quality, for example, how bright matters look or how much visible rays are perceived.
Notice) Do not get confused luminance with brightness because those two are not the same. Brightness is subjective while luminance is objective.

Brun in :
element's initial operation section that takes place until the element stabilizes or the initial expectancy expiration is detected.

Bus electrode :
aggregate of sustained electrodes that are bussed together.

Cathode electrode :
cathode electrified electrode that releases electrode from element. In AC plasma panel, polarity switches in every half a cycle.

Cell :
capacity corresponding to each electric discharge. In general, it is defined by the shape of substrates and electrodes but can be defined by partitions.

Cell gap :
measurements identifying the gaps between substrates.

Cell pitch :
measurement that identifies the cells from the surface of substrates. It varies depending on the direction of rows and columns.

Charge transfer curves :
curves expressing the quantity of electric charge that is transferred, as the function of drive wave form characteristics.(for example, voltage, time and others)

Color arrangement(in other words, sub-pixel arrangement) :
term expressing the location of one pixel consisted of sub color pixels.

Color coordinates, CIE 1931 :
Color image expressing method in color dimension, originated from CIE standard of 1931, expressed by X, Y and Z. Among those three, Y element corresponds to luminous flux that is expressed as lumen while X and Y are values that express red and purple element of luminous flux. Colors of matter are expressed as color coordinates pair (x, y). Here $x=X/(X+Y+Z)$, $y=Y/(X+Y+Z)$.
Method for colors, known as (u, v), where image colors are expressed in more even color dimension. Colors of matter are expressed as color coordinates pair (u, v). Here, $u=4X/(X+15Y+3Z)$, $y=6Y/(X+15Y+3Z)$.

Color coordinates, CIE 1960 :
Method for colors, known as (u, v), where image colors are expressed in more even color dimension. colors of matter are expressed as color coordinates pair(u, v). Here, u=4X(X+15Y+32), y=6Y / (X+15Y+32Z).

Color coordinates, CIE 1976
Method for colors, known as (u', v'), where revised image colors are expressed in more even color dimension. v' is 1.5-fold of recommended v value of 1960. The color of matter is expressed as color coordinates pair (u', v'). Here, u'=4X / (X+15Y+3Z) , v'= 9Y / (X+15Y+3Z).

Color coordinates, CIE 1976 CIELUV and CIELAB :
Three dimensional parameters expressing with u' and v' including Ω√∞®º∫ against chromaticity and luminance of standard white light in display. Among the parameters, only CIELUV gets to have proper color space where additional two blend light appears in line segment. (refer to CIE Publication 15.2, Colorimetry 1st edition 1976, 2nd edition 1986)

Color depth :
The number of digital bit alocated to each major color.

Color gamut :
Physically realizable color space area.

Color reproducibility (Refer to color gamut) :
The expression of realizable colors limited by color information distinction or fluorescent substance chromaticity.

Color temperature, correlated (symbol CCT) :
Seemingly temperature expressed with absolute temperature of black body radiation with the closest chromaticity. This can be expressed as CCT, in the form of C. S. McCamy. CCT=437N3+3601n2+5517, n=(x-0.3320) / (0.1858-y) and x, y=color coordinates of CIE 1931.

Columm electrode :
Vertically successive electrodes. It generally refers to data electrodes. When panel is installed along the photograph, this can be arranged along the horizontal direction.

Concurrent driving method :
Driving method to disperse address pulse and scan pulse at equal distance.

Contrast ratio Columm electrode :
Ratio of white luminance to black luminance of image. This measurement has many parameters, so measurers are required to explain the consideration for measurement to make understood the meaning of the measurement. The parameters of contrast ratio are as follows.

- CA - ratio of center luminance in all white screen to center luminance of all black screen on the condition of light being spreading around.
- CG - ratio of white luminance to black luminance in successive arrangement of white and black lines at equal distance.
- CL - ratio of white luminance to black luminance in white line against black screen of black line against white screen.
- CR - the ratio of white luminance to black luminance.

- Cm - Michelson contrast or contrast modulation:
  Here, Lw is the luminance of the color white while Lb is the luminance of the color black.

- CT - Threshold contrast ratio: the minimum contrast ratio that is permissive, in general.

Chip on board(COB) :
PCB with IC on substrate.

Dark defect :
Defects in the brighter image realization than normal one.

Data electrode :
Electrodes allowed for controlling electric discharge by changing the cell's state to switch on from off (and vise versa) in AC plasma panel.

Data electrode driver :
Driving circuit to be attached to dada electrode.

Data write pulse :
Wave form for data electrode that switches from off to on.

Data erase pulse :
Wave form for data electrode that switches from on to off.

DC PDP :
Display panel whose plasma discharge is driven by direct current.

Decay time :
Time required for parameters to drop from certain level to another. It can be time necessary for dropping from 90% to 10%, or to e-1 level of the initial value, or to certain irreversibility.

Dielectric layer :
Dielectric layer with larger sustained electric constant.

Discharge :
1. neutralization of electric charge (for example, voltage decrease of capacitor)
2. electric current flow in dielectric media such as gas.

Discharge current :
Discharge electric current.

Discharge electrode :
Another term for sustained electrode.

Discharge efficiency :
Another term for gloss efficiency

Discharge gap :
The gap among sustained electrodes in discharge space of three-electrode plasma panel.

Discharge slit :
(Refer to discharge gap)

Displacement current :
Electric current flow through capacitor that includes atomic rearrangement of discharge within electric matter.

Display color number (color number possible to be displayed with other words.) :
displayable individual color's number.

Display Diagonal :
Diagonal size of display contour

Display efficiency :
The ratio of gloss output divided by the entire display power.

Display height :
Height of display contour

Display scan electrode :
(Refer to scan electrode)

Display width :
Width of display contour

Displayed color :
Refer to displayed color number.

Displayed color number :
Color numbers that can be made by display.

Dot (Refer to cell, pixel and subpixel) :
The term is hard to be defined because it is not clear if the term refers to full color pixel or subpixel. The term is used when referring to color related elements that make up full color pixel or subpixel.

Dot pitch :
(Ambiguous expression. Refer to dot, cell pitch, pixel pitch and subpixel pitch.)

Driving waveform :
Expressing ∞ÊΩ√ change of driving signal voltage.

Driving scheme :
Expressing the thought applying driving voltage to display.

Effcacy :
Refer to luminous efficacy.

Energy recovery circuit :
Circuit degauss caught after reusing the power that drove AC plasma panel.

Erase :
Process where cells are erased from AC plasma panel.

Erase pulse :
Cell erasing waveform

Erase voltage :
Erase pulse voltage required for erasing cells from AC plasma panel.[symbol : Ve]

Evacuating (Interchangeable terms : evacuation, exhaust) :
Process where unwanted gas is rid from device.

Exhaust tubulation (Interchangeable terms: exhaust tube, exhaust pipe) :
Tube shaped hole in device connected to external vacuum pump, for controlling the initiation from device during process. This is usually glass tube that prevents with flannelet after filling proper gas

Filling gas (Refer to gas mixture) :
After removing air, plasma panel goes through filling with proper electric and optical gas. Therefore, panel gas composition is commonly called "filling gas".

Firing voltage :
Minimum voltage where triggers discharge in plasma device[symbol : Vf]

Flicker :
Fast and instant changes in luminance, perceivable in almost regular luminance experiment pattern.

Front substrate :
Substrates closer to the viewers, made of transparent material such as glass

Full color display :
Full color image (for example, image with more than 8 bit color tone) realizable display

Fpc(Flexible Printed Curcuit) :
Flexible substrates with circuited copper foil on polyimide

Gas mixing ratio (Interchangeable terms: gas mixture, gas composition) :
Gas composition within plasma device. It is usually expressed with ratio of the constituent gas.

Gas voltage (Interchangeable terms: gas break down voltage) :
Voltage where electrode and ion within plasma device can generate additional electrodes and ions.
-Thus, increasing the electric current within the device sharply. (break down or overflowing)

Glass substrate :
Substrates consisted of glass

Glow discharge :
Plasma discharge taking place under pressure of tens of millimeter. This is defined by ionization generated by activated electrons in discharge space and electron release in cathode by ion bombardment.

Gradation :
Gradual change in characteristics such as luminance and chromaticity

Gray scale :
The range of luminance acquired when displayed from black to white.

High strain point glass :
Glass of which strain point (temperature with viscosity of 1014.5 poise) is relatively high

Image retention :
Continuous existence of image after the stimulation is removed.

Image sticking :
(Refer to Image retention.)

Interconnect pad groups :
A group of connection terminals that attach to individual connector. (also referred to as terminal block.)

Interconnect pad pitch :
Mutual measurements for individual of interconnect pad group.

Interconnect pad spacing :
The size of non-electric conductive area between individual terminal.

Inter-electrode gap :
In Three electrodes plasma panel, the measurement of sustained voltage separated from outside discharge space.

Ion bombardment :
The bombardment of energetic ions in the surface of solid matter. The transfer of kinetic energy toward surface from ions can cause electron release, ion or neutron release and temperature change in surface.

Life time :
Time during device exerts its function. Commonly known as mean time failure (MTTF).

Low melting point glass :
Glass of which melting point (temperature with viscosity of 1014.5 poise) is relatively low.
Since glass is non- crystalline, the word melting is not appropriate, but it gets more fluid as it becomes hot.

Luminance :
Colloquial term for measurement of brightness of display.
It also refers to display related CIE Y constituent. it is expressed by cd / m2.

Luminance efficacy :
It refers to gloss output against the total display consumption power. It is calculated by the value generated through dividing gloss output of ∞Ìª Û white substance with gross consumption power. It is expressed as lumen / watt.

Luminance efficiency :
Gloss output value according to consumption power increase, calculated by the value generated through dividing gloss output of ∞Ìª Û white substance with white screen power consumption increase against black screen. It is expressed as lumen / watt.

Luminance loading :
Luminance decline that takes place when white square luminance increases into full size all white square.

Matrix(type) PDP :
Plasma display panel made up of matrix with rows and columns.

Matrix type :
Refer to matrix PDP
Maximum firing voltage :
Voltage value required for triggering discharge in all cells.

Maximum sustain voltage :
Maximum drive voltage required not to turn off the cells.

Memory margin :
The disparity between the maximum sustained voltage for keeping discharge and the sustained voltage for turning off the cells

Memory type PDP :
Refer to AC Plasma Panel that has memory. PDP made up of cells that keep turned on or off until switch occurs.

MgO layer :
In bombardment of electrons and ions, MgO's high electron release rate, like cathode application, makes it easier to release electrons.

MgO protecting layer (Refer MgO layer) :
MgO layer on fluorescent material has secondary benefit that prevents fluorescent degradation by ion bombardment.

Minimum firing voltage :
Minimum voltage that can turn on any cells.[symbol : V1]

Minimum sustain voltage :
Minimum sustain voltage that keeps turned on cell on.[symbol : Vsm1]

Monochrome display Minimum sustain voltage :
Display that only expresses a limited color such as white, green and amber.

Multi-color display :
Display that can express multiple colors .if not all colors.

Non-discharge slit :
(Refer to inter electrode gap)

Operating margin :
AC PDP voltage range that keeps cells turned on or off. Generally, its value gets less than memory margin because of additional factors such as temperature effect, gloss ionization effect and waveform change.

Operating window :
Actual voltage range that keeps cells turned on or off in any drive levels and surrounding environment.

Operating window degradation :
Gradual decline in operating window, according to operating time.

Opposed discharge :
Traditional two-electrode plasma panel structure where discharge occurs between the two sustained electrodes across from each other.

Opposed discharge PDP :
(Refer to opposed discharge.)

Peak luminance :
Maximum luminance generated in one pixel in panel.

Peak luminance enhancement :
Circuit and drive technology that accommodates increasing peak luminance.

Phosphor degradation :
Gradual decline in fluorescence efficiency according to operating expectancy.

Phosphor layer :
Thin layer made up of phosphor. Fluorescenc**Pl**e substance must be thick enough to optimize transferring the ultraviolet rays from plasma discharge to visible light

Pixel, picture element :
The smallest unit that can display the entire range of luminance and chromaticity. Generally, pixel consists of sub pixels (or dots).

Pixel arrangement :
Expression of sub pixels within a pixel.

Pixel count :
The number of pixels that make up a display. It is described as the number of column pixels against the number of row pixels.

Pixel pitch :
The distance between the centers of the two closest pixels. Move as far as the pitch and reach the identical location.

Plasma display :
Electrically driven display device for causing electric discharge in gas within device. Electric energy generates light with atomic light release or from proper colored fluorescence substance.

Positive column discharge :
The plasma area for long glow discharge. This area is a low electric field but relatively electric conductive plasma area.

Pre discharge :
Cell's state where pre discharge is taking place. In this case, cell's state becomes electric conductive due to formation of discharge generated by ionization process of gas.

Priming :
The stage where ions are generated for forming discharge. Generally, this is required for injection.

Priming pulse :
Electric waveform to define the proper conditions for the next cell discharge.[symbol : Pp]

Priming voltage :
Voltage of priming pulse.[symbol : Vp]

Protecting layer :
The layers applied to the device function constituents (for example, fluorescence, electrode and glass layers).

Quantum efficiency :
Substrates farther from the viewers. These can be opaque.

Rear substrate :
Efficiency measurement that is directly expressed with the number of output particles against the number of input particles. In case of plasma panel, the number of photons in visible area, generated from photons in ultraviolet area

Reset :
(Refer to erase.)

Reset discharge, Reset pulse :
(Refer to erase.)

Resolution :
Display's ability to enable to distinguish the matters close to each other. It is confusing with addressibility that generates pattern undistinguishable to the eyes.

Row electrodes :
Horizontally successive electrodes. In terms of traditional drive concept, these are the sustained electrodes. If the panel is installed toward portrait, these row electrodes can be arranged horizontally.

Sand discharge :
Process where grinding of surface occurs. It is used for making three dimensional surface in lithography or silt in sheet.

Scan discharge :
Discharge injected along the pair of sustained electrodes.

Scan electrode :
Electrodes of the pair of sustained electrodes that inject discharge downward along the panel columns.

Scan pulse :
Waveform that injects discharge with new columns.
Optic defects where scratches display over certain size.

Seal :
Combining the substrates or substrate with ventilation tube.

Seal layer :
Material layer that provides the connection of substrates. This can be a single layer of solder glass (frit) or the combination of solder glass and ring.

Sealing :
Process where free electrons that get out of the surface by extracting static electricity field when energetic electrons or ions are limited to a surface.

Secondary electron emission :
Process where drags discharged cell to certain waveform. This could occur before ionization offset when cell voltage decreases.

Self erase :
Plasma display in the form where stimulating discharge occurs for discharge process precedes below panel.

Self-scan type PDP :
Plasma display in the form where stimulating discharge occurs for discharge process precedes below panel.

Self-shift type PDP :
Process of combining substrates. High temperature process that melts solder glass combining substrates.

Space charge :
Mutual repulsion caused by accumulation of electric charge of similar signal.

Stripe rib :
Stripe shaped partition structure. It follows panel column direction.

Sub frame :
(Refer to sub field)

Sub field :
A part of panel

Surface charge :
It refers to the location of discharge in AS plasma panel where sustained electrodes are on the same surface.

Surface charge PDP :
AS plasma panel where sustained electrodes are on the same surface.

Sustain :
Discharge in AC plasma panel that keeps on or off until the cell is erased or written. Sustained electrodes are divided into bus (common electrodes) and addressable electrodes.

Sustain driver :
Circuit that drives sustained electrodes.

Sustain electrode :
Electrodes driven by AC voltage that provides plasma with energy major parts. This electrode is driven by enough waveform to keep discharge of turned on state. In turned off cell, trigger discharge does not takes place.

Sustain magin :
The disparity between sustained voltage that keeps turned on cells and sustained voltage that can turn off cells.

Sustain pulse :
Sustained drive waveform[symbol : Ps]

Sustain vlotage :
Voltage level of sustained waveform
Thermal compaction :
Substrates successive density increase observed by substrates pattern contraction.

Thermal radiation :
Radiation in infrared rays over 800nm.

Three electrode type :
Modern AC panel has three electrodes for each cell and a pair of thermal electrodes provide cells with AC power. Data electrodes in opposite substrates provide unique writing and erasing signals to each cell

Time modulation driving method (Other terms: time division multiplex method) :
Modulation method in proportion to certain time applied to stimulation with regular output. Output strength is changed according to input time.

Tip pipe :
(Refer to exhaust turbulation.)

Townsend discharge :
Self sustained plasma discharge expressed by Townsend in 1901. This discharge requires 200v voltage.

Transparent electrode :
Electrode made up of transparent electric conductive matter such as ITO.

Two eledtrode type :
Original AC plasma panel used two electrodes that provide not only sustained waveform but also write and erase waveform.

Ultraviolet ray :
Ultraviolet light below 380nm in spectrum.

Vacuum ultraviolet :
Ultraviolet ray of wavelength below 200nm.

Viewing angle :
Vertical angle that can display the image. It is normally limited by the change in luminance and chromaticity.

Viewrable screen diagonal :
Releasable screen diagonal length measured between outmost pixel edges

Viewrabel screen height :
Releasable screen height measured between outmost pixel edges

Viewrable screen width :
Releasable screen width measured between outmost pixel edges.

Visible defect :
Imperfection that prevents displaying with proper image.

Wall charge :
Pure accumulation of positive and negative charges in cell wall.

Wall charge erase pulse :
Pulse that neutralizes wall charge

Wall charge transfer curve :
Curve related to wall charge pulse parameters and the changes in wall charge.

Wall voltage transfer curve :
Curve expressed with wall transfer that is caused by any changes in electric charges including wall charges and wall charge pulse related parameters.

White back :
White coating for minimize absorbing valid gloss, located black contrast improvement layer and fluorescent material.

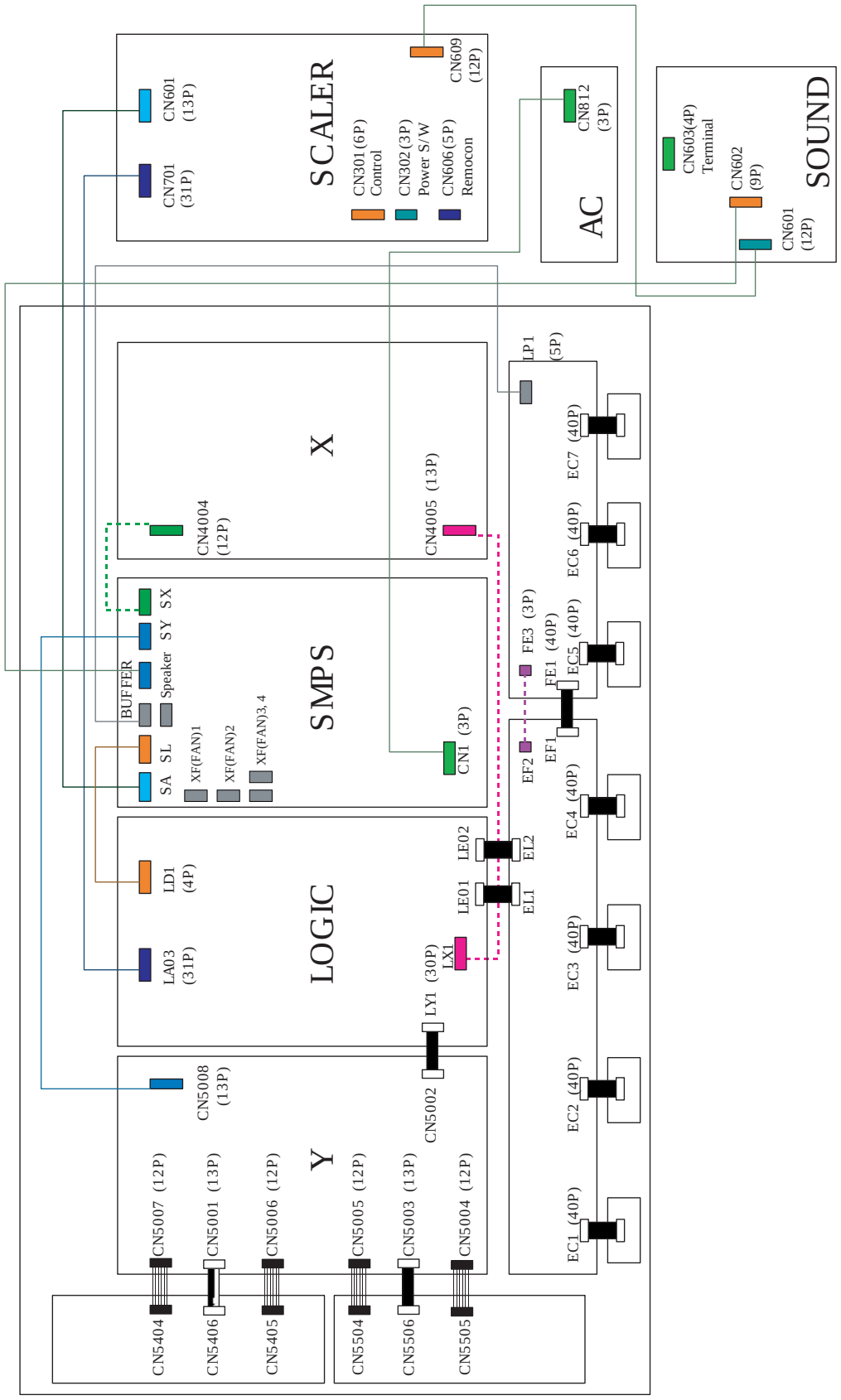
Write electrode :
(Refer to data electrode.)

Write electrode :
(Refer to data electrode)[symbol : Pw]

Write electrode :
(Refer to data electrode)[symbol : Vw]

MEMO

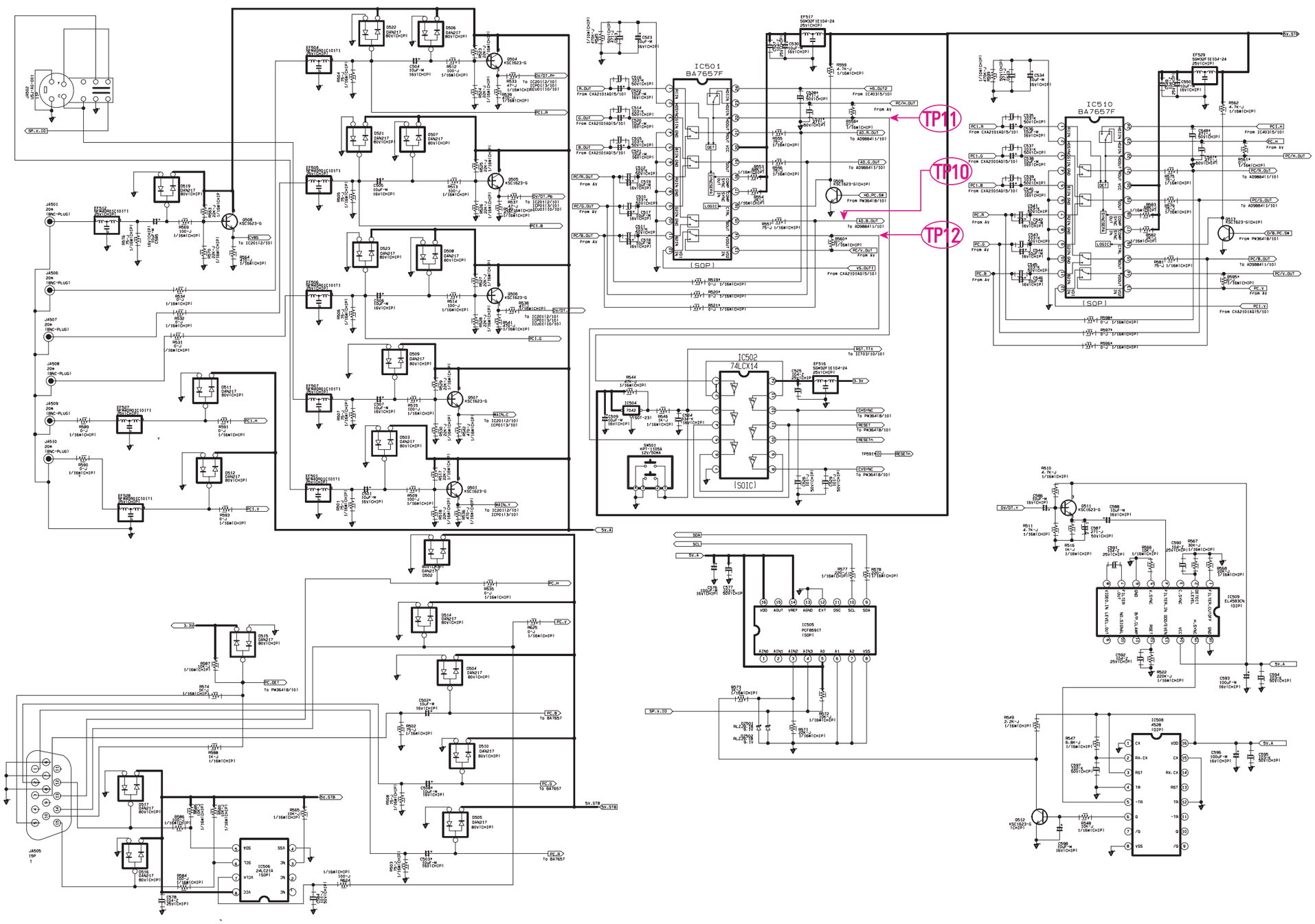
11. Wirng Diagram



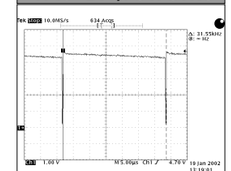
MENO

12. Schematic Diagrams

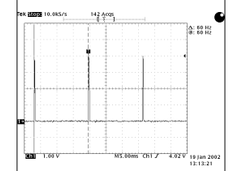
12-1 SCALER1 SIGNAL INPUT, LVDS OUTPUT



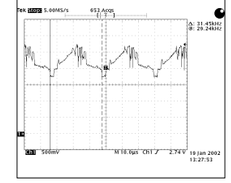
TP10 DTV/PC H-SYNC



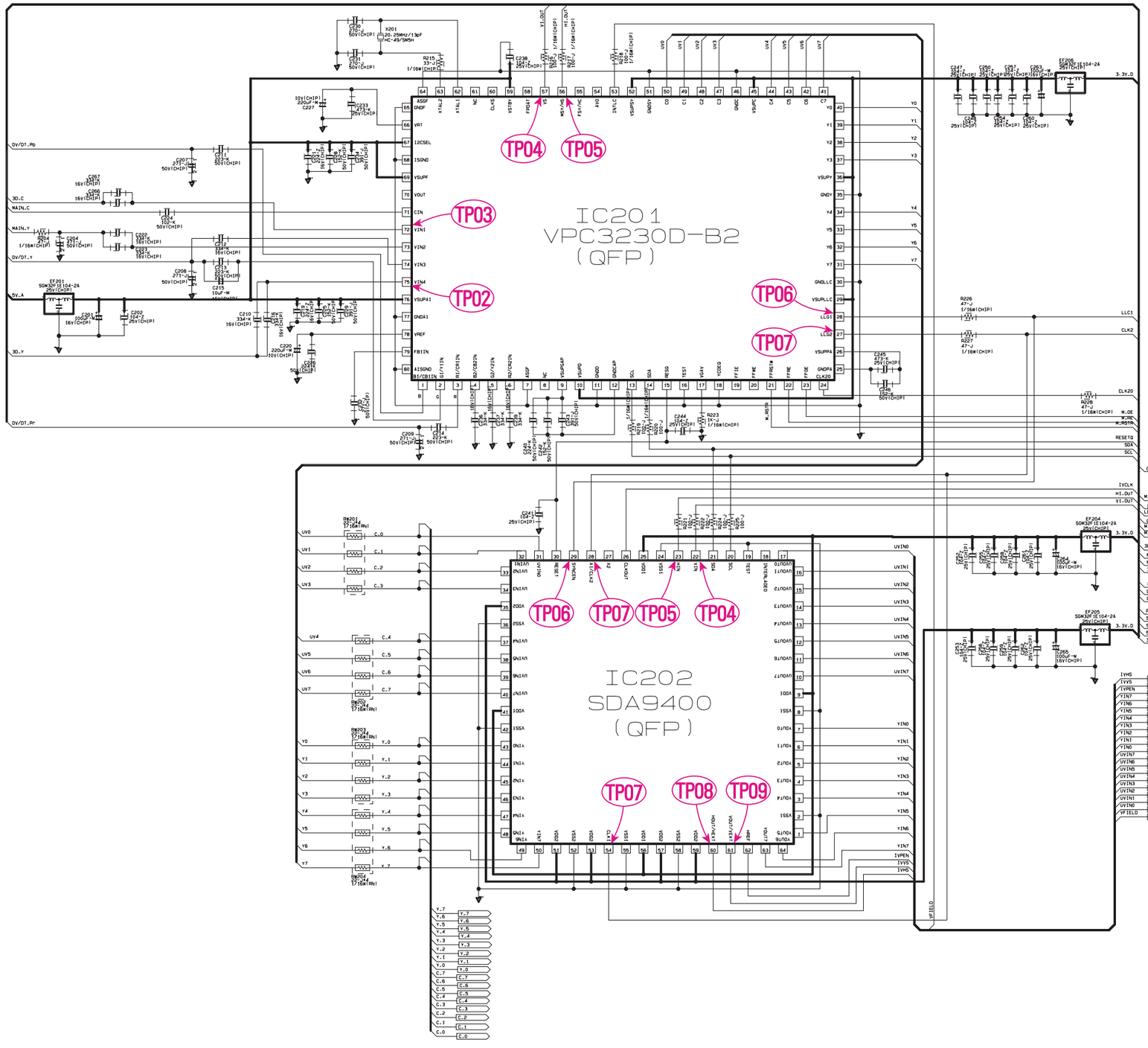
TP11 DTV/PC V-SYNC

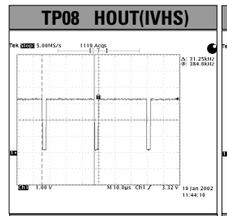


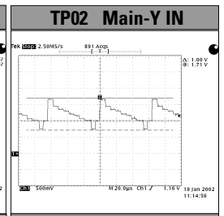
TP12 DTV/PC B-OUT

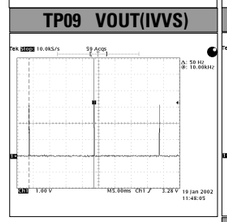


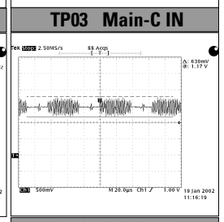
12-2 SCALER2 VIDEO DECODER MAIN, PROGRESSIVE CON.

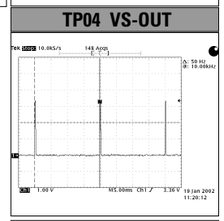


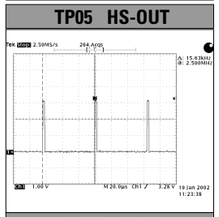


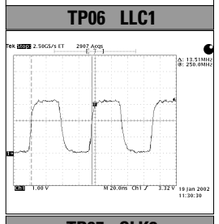


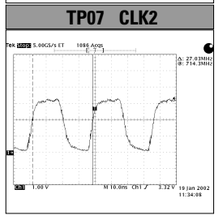




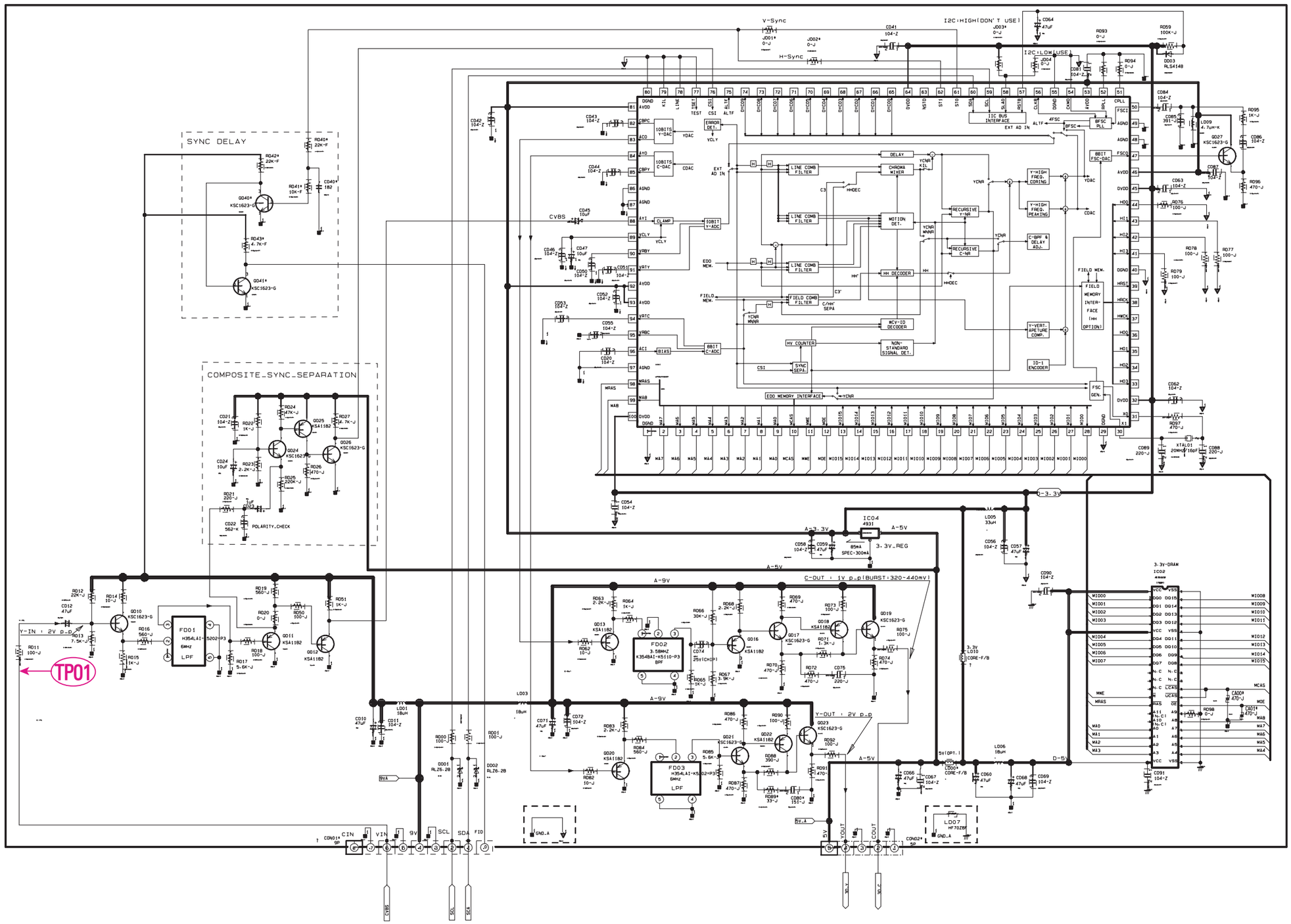




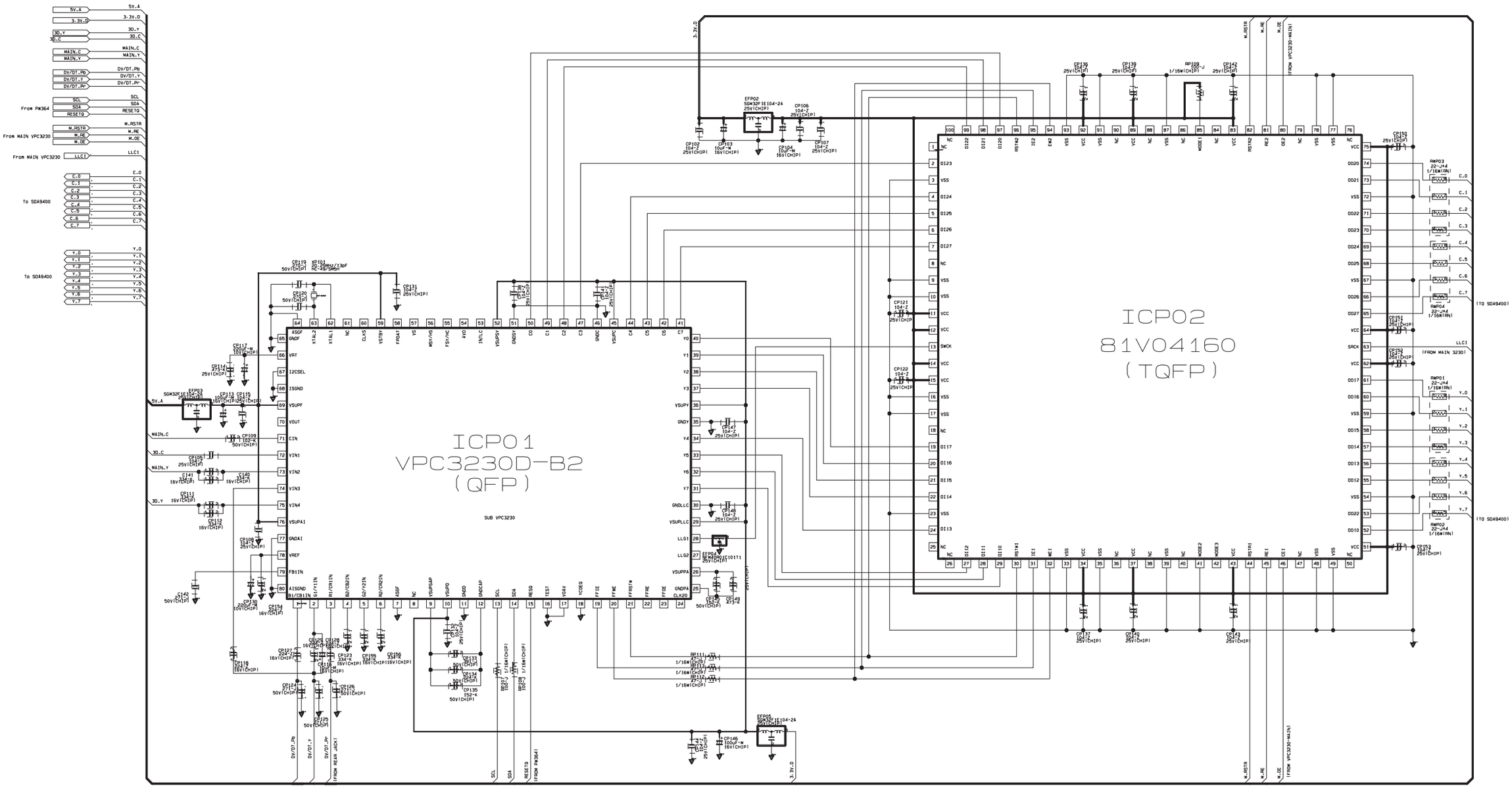




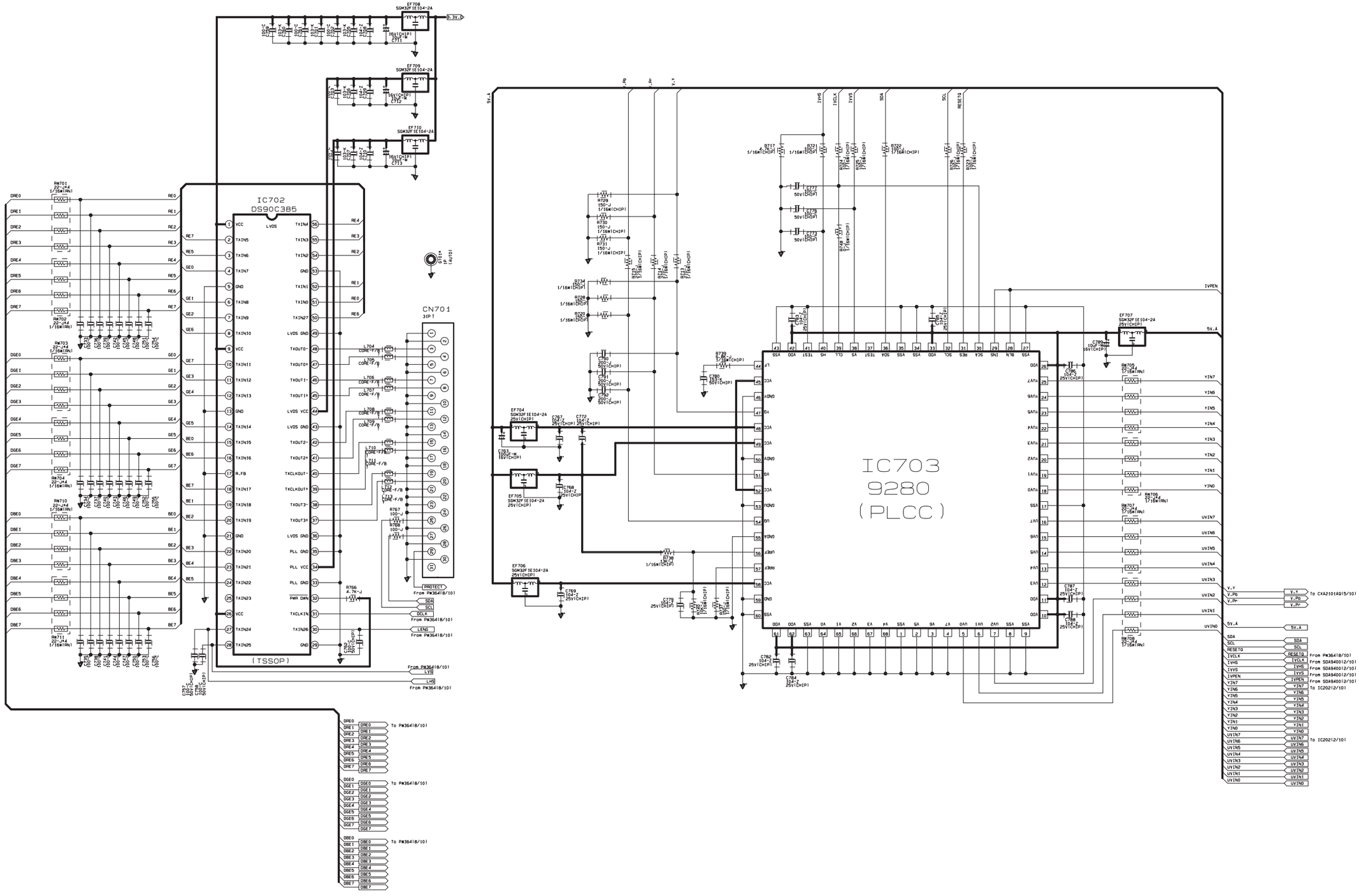
12-3 SCALER3 3D- COMB FILTER



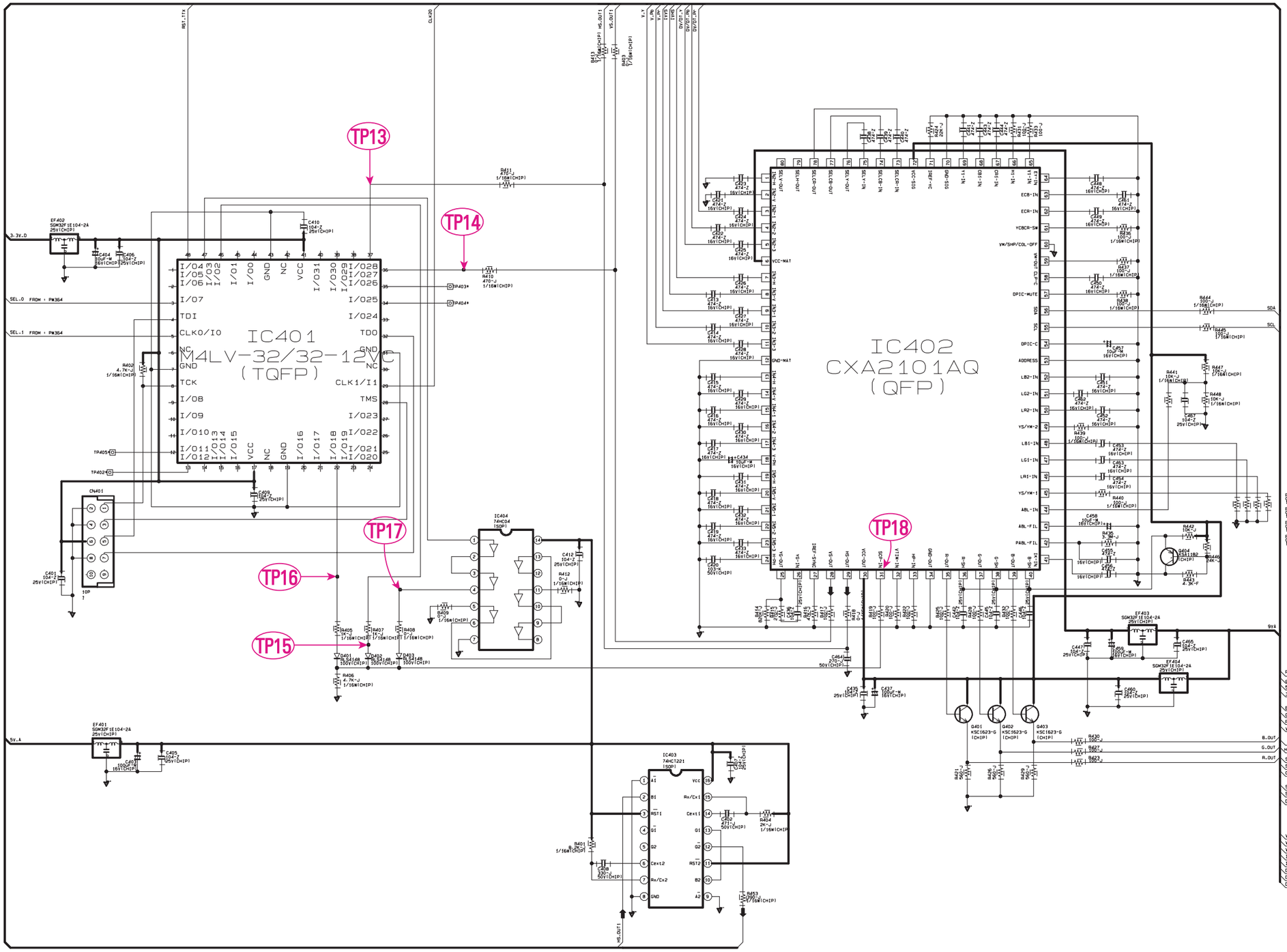
12-4 SCALER4 VIDEO DECODER PIP, FIRST IN/OUTPUT



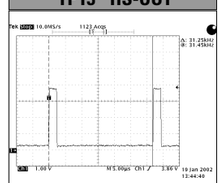
12-5 SCALER5 VIDEO DA CON.



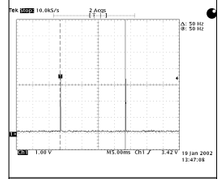
12-6 SCALER6 VIDEO PROCESSOR, SAND CASTLE PULSE GEN.



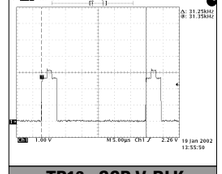
TP13 HS-OUT



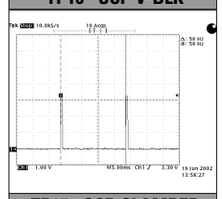
TP14 VS-OUT



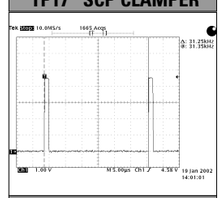
TP15 SCP H-BLK



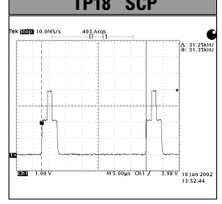
TP16 SCP V-BLK



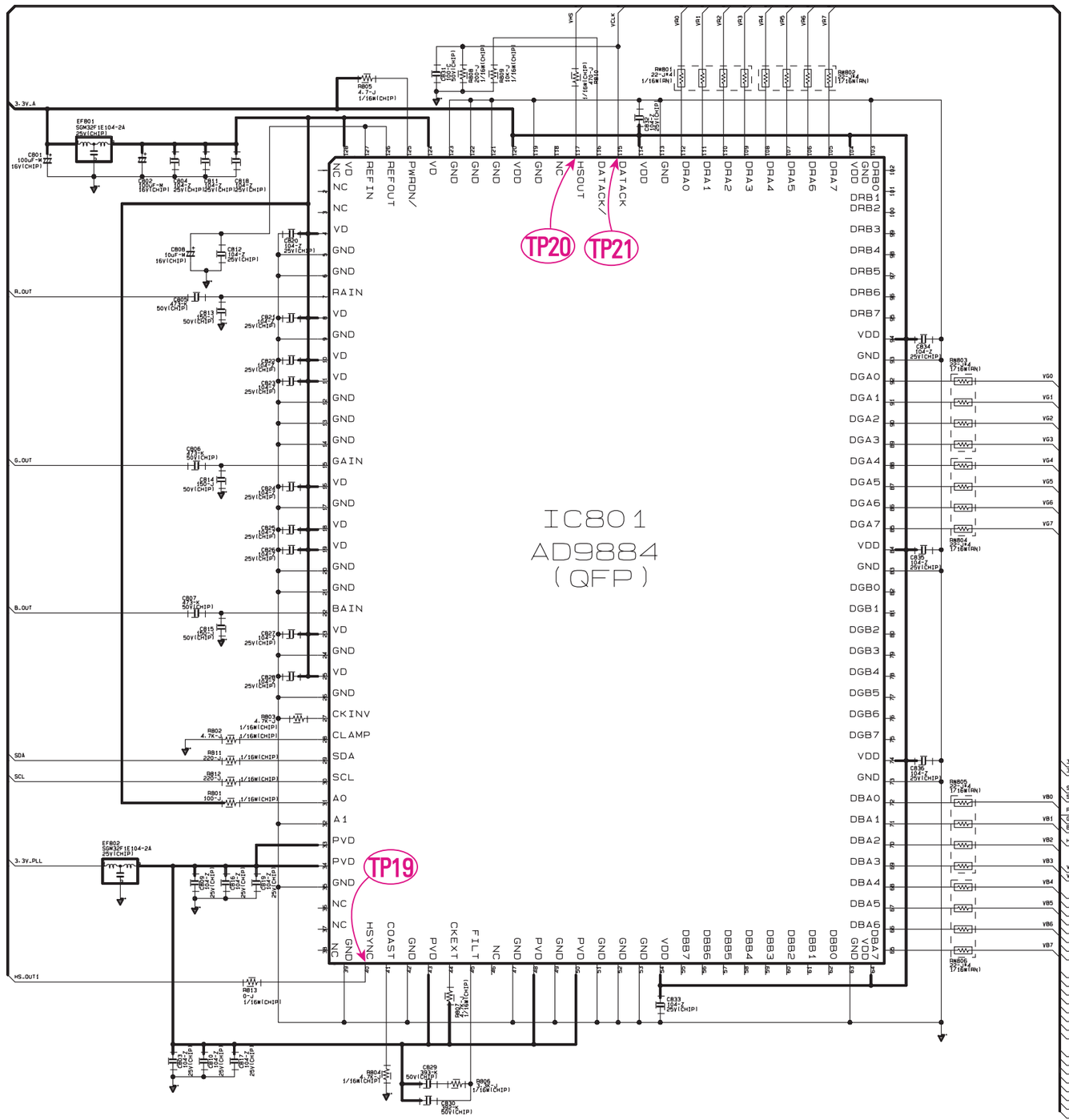
TP17 SCP CLAMPER



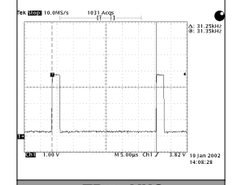
TP18 SCP



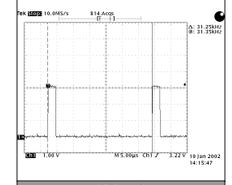
12-7 SCALER7 ADC(VIDEO)



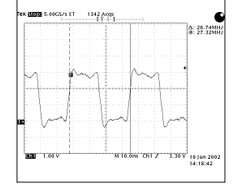
TP19 HS-OUT



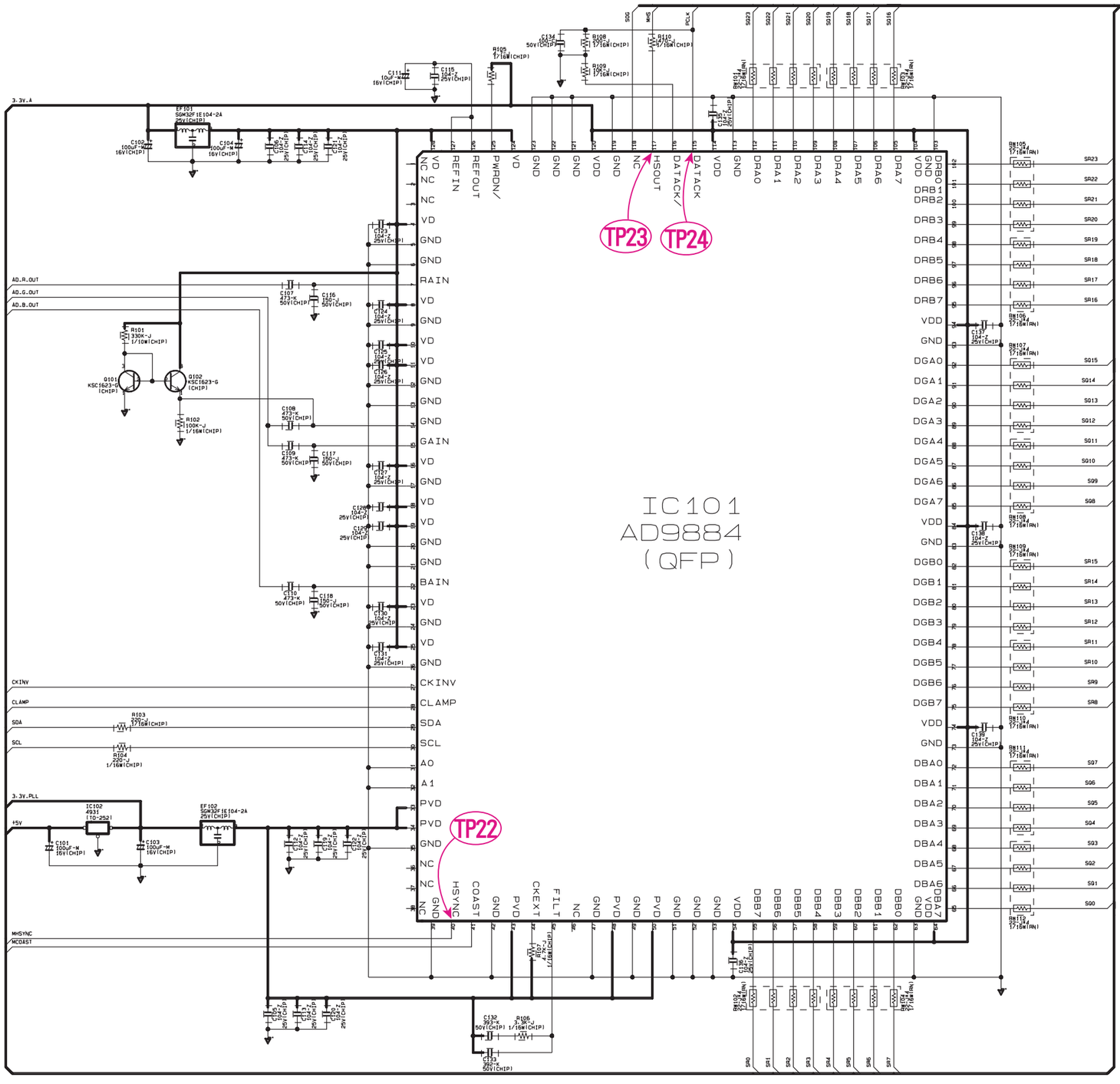
TP20 VHS



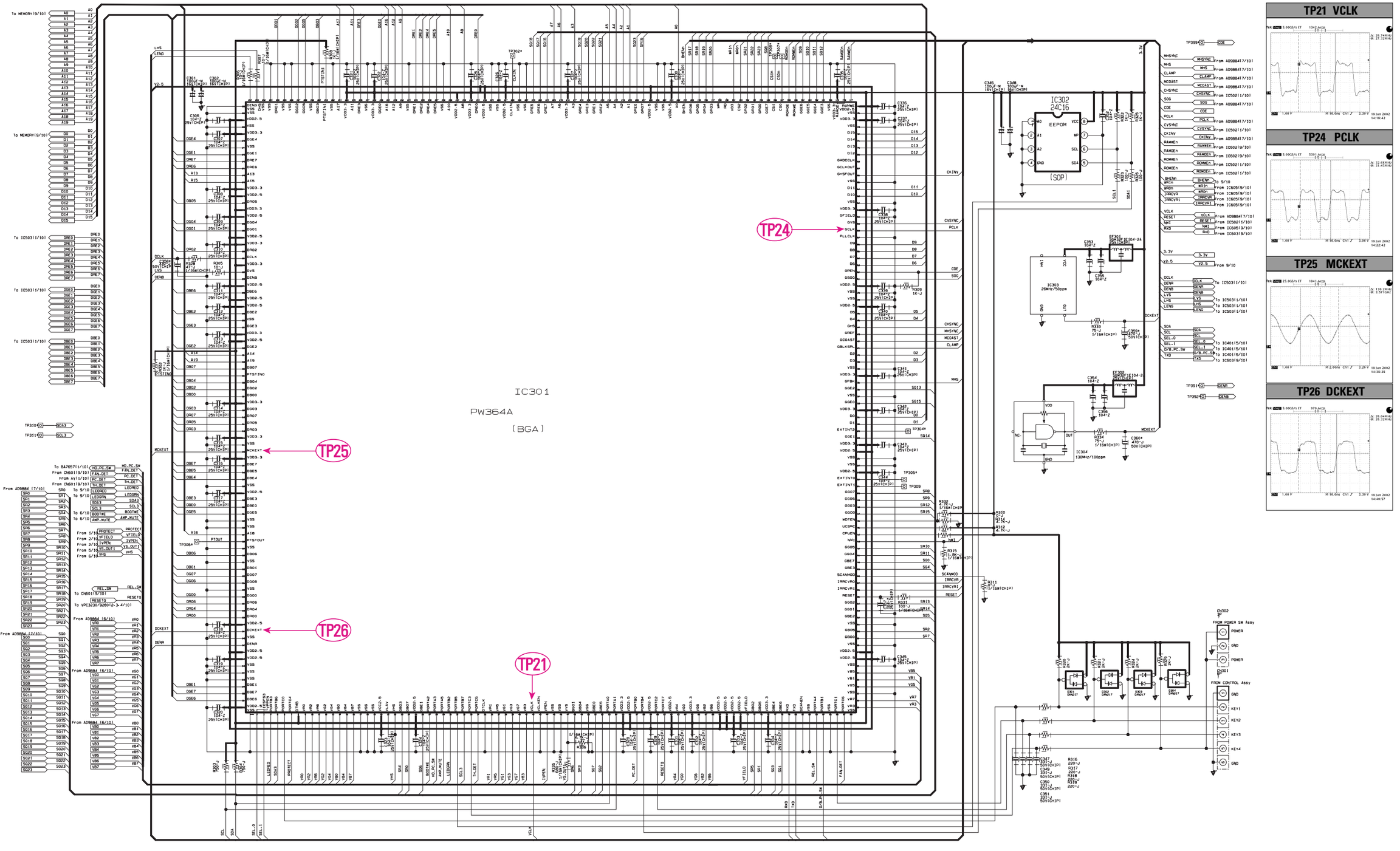
TP21 VCLK



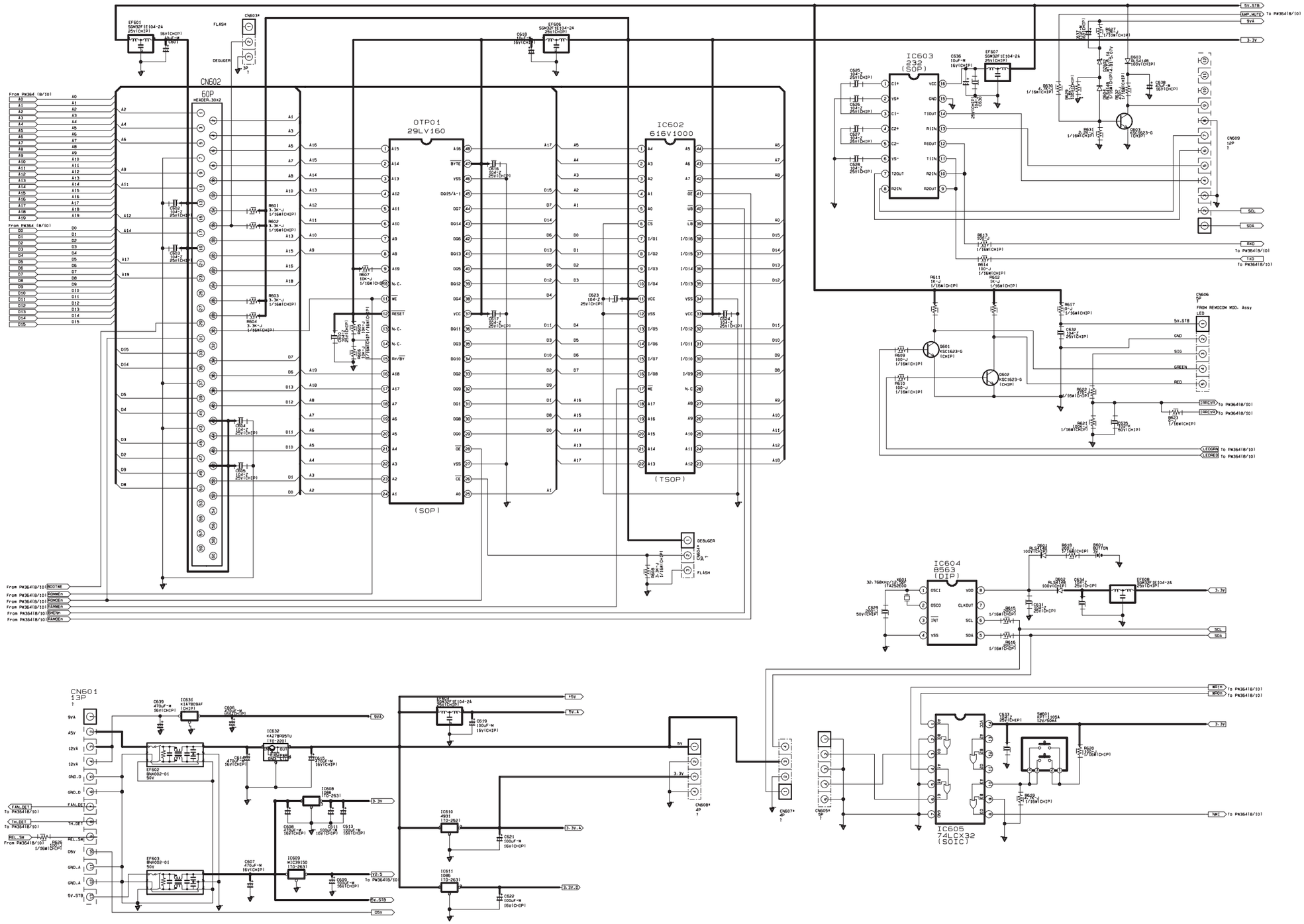
12-8 SCALER8 ADC(PC)



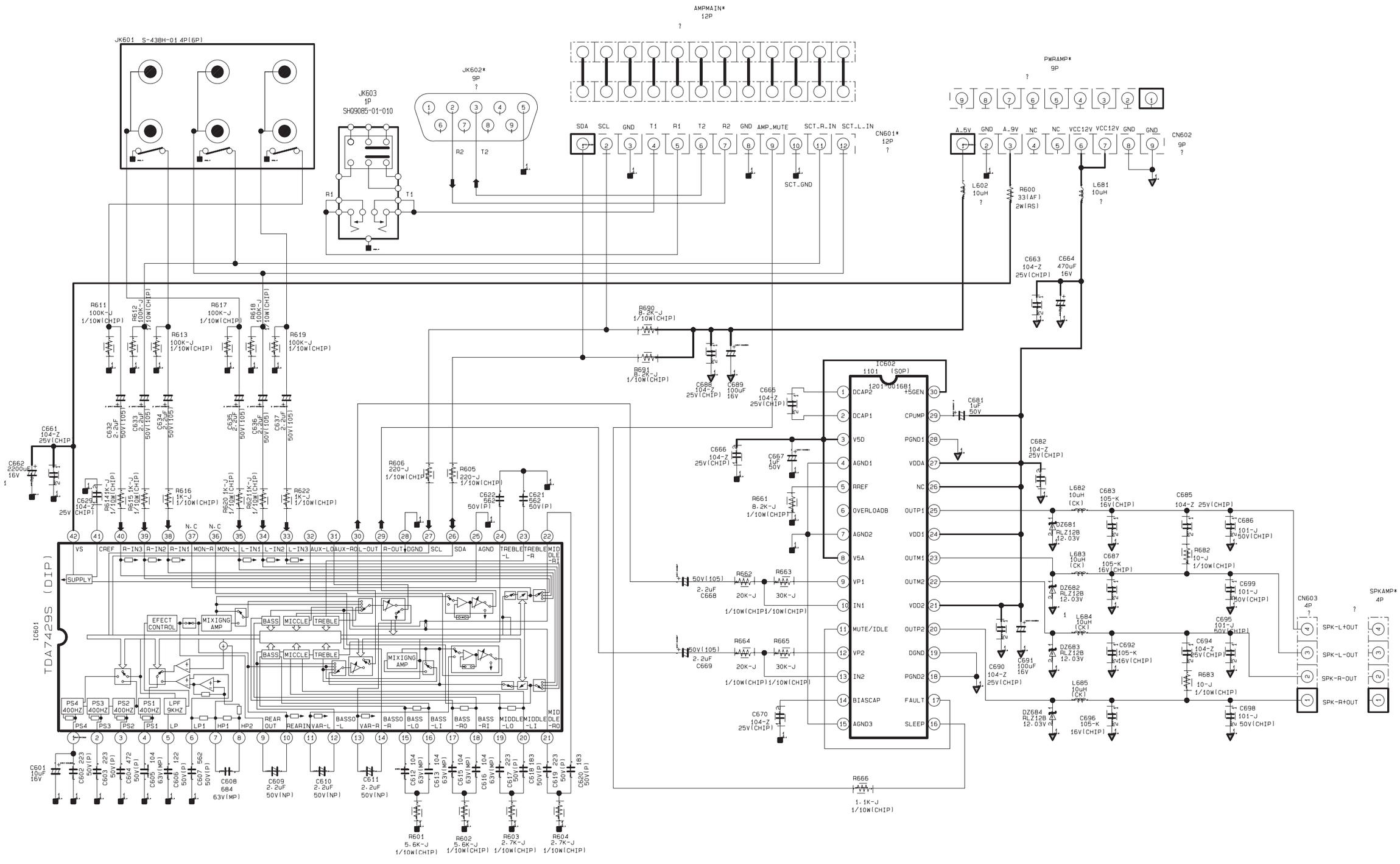
12-9 SCALER9 PW364



12-10 SCALER10 POWER, DEGUGER, MEMORY, REMOCON, RS232, RTC

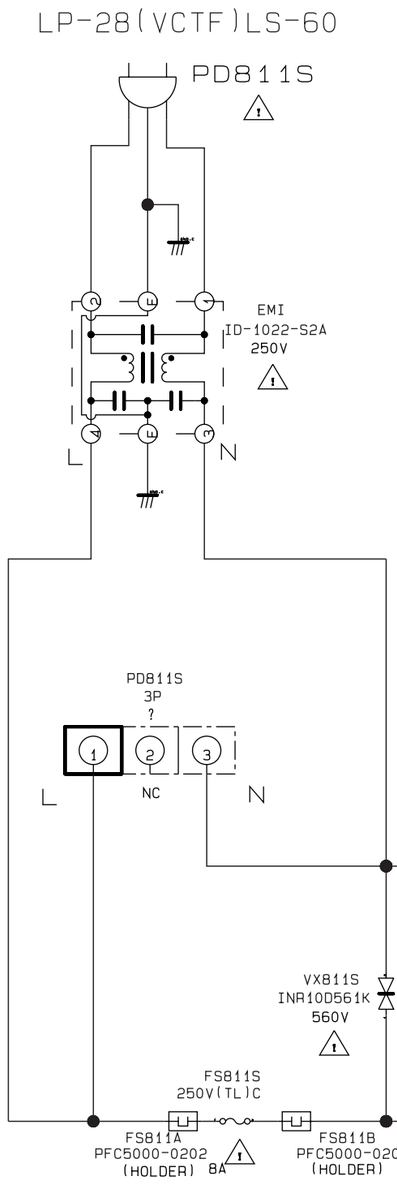


12-11 SOUND

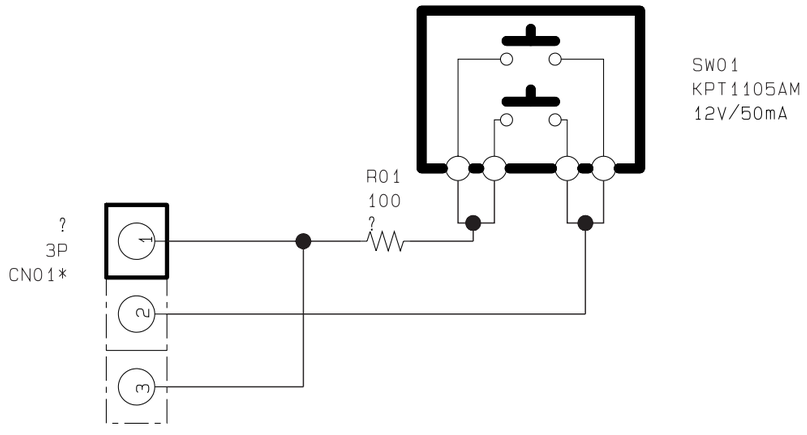

AMPMAIN*
12P
JK601 S-438H-014P(6P)
JK602*
9P
JK603
1P
SH09085-01-010
PWRAMP*
9P
CN601*
12P
CN602
9P
SDA SCL GND T1 R1 T2 R2 GND AMP_MUTE SCT_R_IN SCT_L_IN
SCT_GND
A_5V GND A_9V NC NC VCC12V VCC12V GND GND
L602 10uH
L681 10uH
R600 33(AF) 2W(RS)
C663 104-Z 25V(CHIP)
C664 470uF 16V
IC601
TDA7429S (DIP)
VS CREF R-IN3 R-IN2 R-IN1 MON-R MON-L L-IN1 L-IN2 L-IN3 AUX-LO AUX-RO L-OUT R-OUT DGND SCL SDA AGND TREBLE -L TREBLE -R MID DLE -RI
SUPPLY
EFECT CONTROL
MIXIGNG AMP
BASS MICCLE TREBLE
PS4 400HZ PS3 400HZ PS2 400HZ PS1 400HZ LPF 9KHZ
PS4 PS3 PS2 PS1 LP LP1 HP1 HP2 REAR OUT REARIN VAR-L BASSO -L VAR-R BASSO -R BASS -LO BASS -LI BASS -RO BASS -RI MIDDLE -LO MIDDLE -LI MID DLE -RO
R611 100K-J 1/10W(CHIP)
R612 100K-J 1/10W(CHIP)
R613 100K-J 1/10W(CHIP)
R617 100K-J 1/10W(CHIP)
R618 100K-J 1/10W(CHIP)
R619 100K-J 1/10W(CHIP)
C632 2.2uF 50V(105)
C633 2.2uF 50V(105)
C634 2.2uF 50V(105)
C635 2.2uF 50V(105)
C636 2.2uF 50V(105)
C637 2.2uF 50V(105)
C661 104-Z 25V(CHIP)
C662 2200uF 16V
C629 104-Z 25V(CHIP)
R614 1K-J 1/10W(CHIP)
R615 1K-J 1/10W(CHIP)
R616 1K-J 1/10W(CHIP)
R620 1K-J 1/10W(CHIP)
R621 1K-J 1/10W(CHIP)
R622 1K-J 1/10W(CHIP)
R606 220-J 1/10W(CHIP)
R605 220-J 1/10W(CHIP)
C622 562 50V(P)
C621 562 50V(P)
C601 10uF 16V
C602 223 50V(P)
C603 223 50V(P)
C604 472 50V(P)
C605 104 63V(MP)
C606 122 50V(P)
C607 562 50V(P)
C608 684 63V(MP)
C609 2.2uF 50V(NP)
C610 2.2uF 50V(NP)
C611 2.2uF 50V(NP)
C612 104 63V(MP)
C613 104 63V(MP)
C615 104 63V(MP)
C616 104 63V(MP)
C617 223 50V(P)
C618 183 50V(P)
C619 223 50V(P)
C620 183 50V(P)
R601 5.6K-J 1/10W(CHIP)
R602 5.6K-J 1/10W(CHIP)
R603 2.7K-J 1/10W(CHIP)
R604 2.7K-J 1/10W(CHIP)
R690 8.2K-J 1/10W(CHIP)
R691 8.2K-J 1/10W(CHIP)
C688 104-Z 25V(CHIP)
C689 100uF 16V
C665 104-Z 25V(CHIP)
IC602
1101 (SOP)
1201-001681
DCAP2 DCAP1 V5D AGND1 RREF OVERLOADB AGND2 V5A VP1 IN1 MUTE/IDLE VP2 IN2 BIASCAP AGND3
+5GEN CPUMP PGND1 VDDA NC OUTP1 VDD1 OUTM1 OUTM2 VDD2 OUTP2 DGND PGND2 FAULT SLEEP
C681 1uF 50V
C682 104-Z 25V(CHIP)
C666 104-Z 25V(CHIP)
C667 1uF 50V
R661 8.2K-J 1/10W(CHIP)
C668 2.2uF 50V(105)
R662 20K-J
R663 30K-J
1/10W(CHIP) 1/10W(CHIP)
C669 2.2uF 50V(105)
R664 20K-J
R665 30K-J
1/10W(CHIP) 1/10W(CHIP)
C670 104-Z 25V(CHIP)
R666 1.1K-J 1/10W(CHIP)
C690 104-Z 25V(CHIP)
C691 100uF 16V
L682 10uH (CK)
L683 10uH (CK)
L684 10uH (CK)
L685 10uH (CK)
C683 105-K 16V(CHIP)
C687 105-K 16V(CHIP)
C692 105-K 16V(CHIP)
C696 105-K 16V(CHIP)
DZ681 RLZ12B 12.03V
DZ682 RLZ12B 12.03V
DZ683 RLZ12B 12.03V
DZ684 RLZ12B 12.03V
C685 104-Z 25V(CHIP)
C686 101-J 50V(CHIP)
R682 10-J 1/10W(CHIP)
C699 101-J 50V(CHIP)
C695 101-J 50V(CHIP)
C694 104-Z 25V(CHIP)
R683 10-J 1/10W(CHIP)
C698 101-J 50V(CHIP)
CN603 4P
SPKAMP* 4P
SPK-L+OUT
SPK-L-OUT
SPK-R-OUT
SPK-R+OUT

12-12 LINE-FILTER, POWER SW, SPEAKER TERMINAL

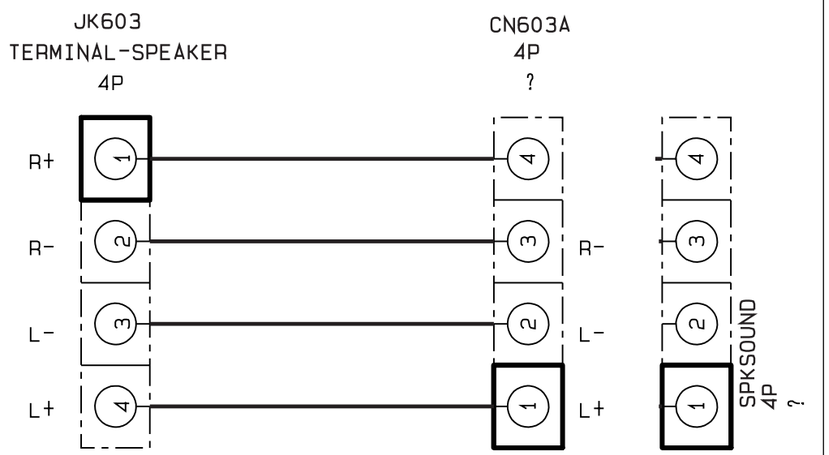
LINE-FILTER



POWER SW

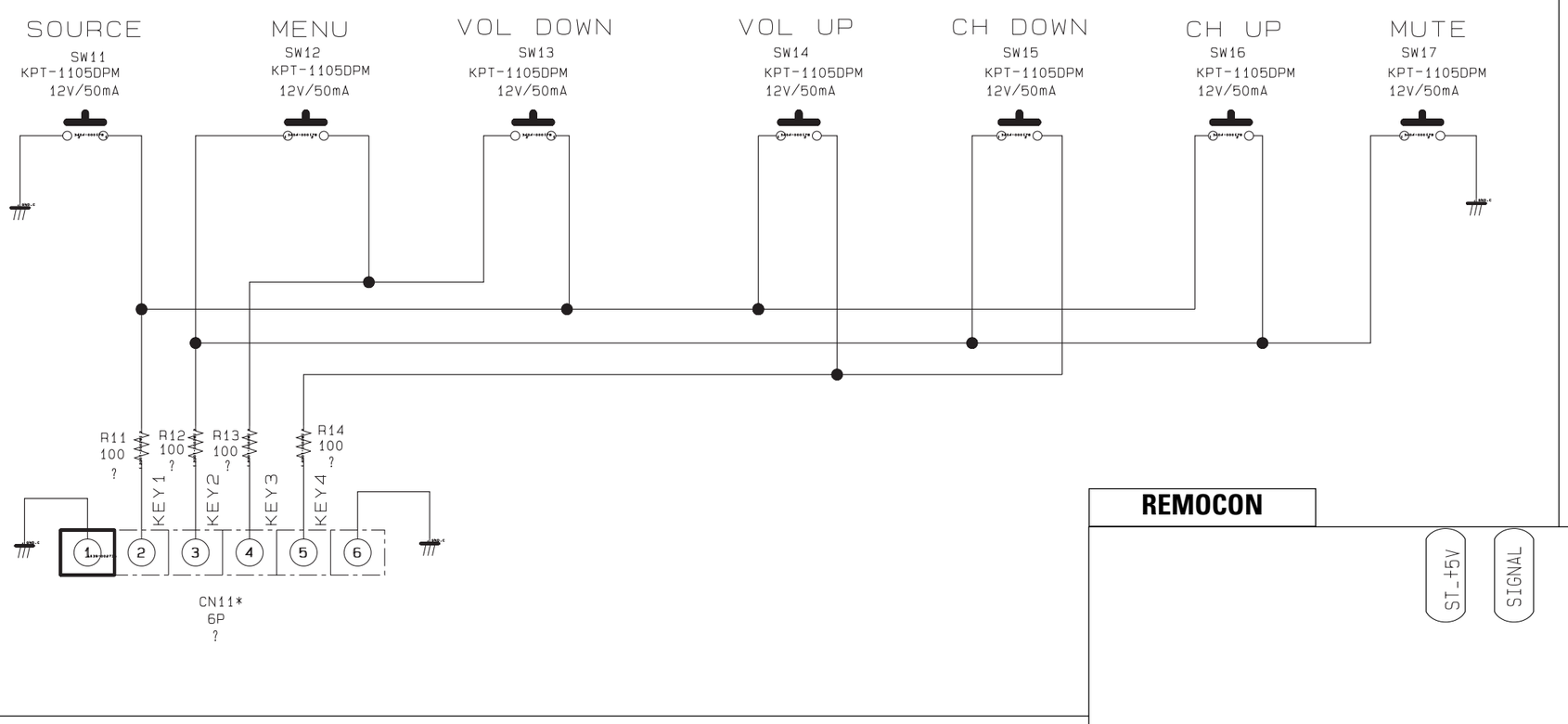


SPEAKER TERMINAL



12-13 CONTROL, REMOCON

CONTROL



REMOCON