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# LCD MONITOR SERVICE MANUAL

CHASSIS : MF-02HA

**MODEL : MW-30LZ10**

**CAUTION**

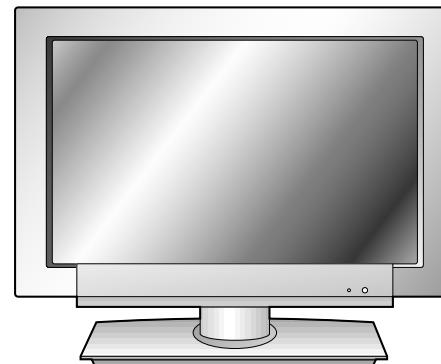
BEFORE SERVICING THE CHASSIS,  
READ THE SAFETY PRECAUTIONS IN THIS MANUAL.



**LG Electronics Inc.**

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# SAFETY PRECAUTIONS

## IMPORTANT SAFETY NOTICE

Many electrical and mechanical parts in this chassis have special safety-related characteristics. These parts are identified by  $\Delta$  in the Schematic Diagram and Replacement Parts List.

It is essential that these special safety parts should be replaced with the same components as recommended in this manual to prevent X-RADIATION, Shock, Fire, or other Hazards.

Do not modify the original design without permission of manufacturer.

### General Guidance

An **Isolation Transformer should always be used** during the servicing of a receiver whose chassis is not isolated from the AC power line. Use a transformer of adequate power rating as this protects the technician from accidents resulting in personal injury from electrical shocks.

It will also protect the receiver and its components from being damaged by accidental shorts of the circuitry that may be inadvertently introduced during the service operation.

If any fuse (or Fusible Resistor) in this TV receiver is blown, replace it with the specified.

When replacing a high wattage resistor (Oxide Metal Film Resistor, over 1W), keep the resistor 10mm away from PCB.

Keep wires away from high voltage or high temperature parts.

Due to high vacuum and large surface area of picture tube, extreme care should be used in **handling the Picture Tube**. Do not lift the Picture tube by its Neck.

### Before returning the receiver to the customer,

always perform an **AC leakage current check** on the exposed metallic parts of the cabinet, such as antennas, terminals, etc., to be sure the set is safe to operate without damage of electrical shock.

### Leakage Current Cold Check(Antenna Cold Check)

With the instrument AC plug removed from AC source, connect an electrical jumper across the two AC plug prongs. Place the AC switch in the on position, connect one lead of ohm-meter to the AC plug prongs tied together and touch other ohm-meter lead in turn to each exposed metallic parts such as antenna terminals, phone jacks, etc.

If the exposed metallic part has a return path to the chassis, the measured resistance should be between  $1M\Omega$  and  $5.2M\Omega$ .

When the exposed metal has no return path to the chassis the reading must be infinite.

An other abnormality exists that must be corrected before the receiver is returned to the customer.

### Leakage Current Hot Check (See below Figure)

Plug the AC cord directly into the AC outlet.

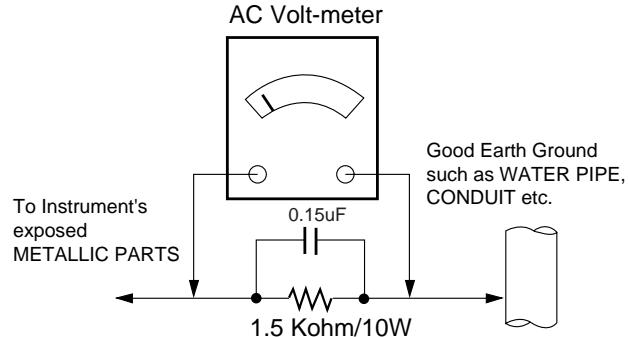
**Do not use a line Isolation Transformer during this check.** Connect 1.5K/10watt resistor in parallel with a 0.15uF capacitor between a known good earth ground (Water Pipe, Conduit, etc.) and the exposed metallic parts.

Measure the AC voltage across the resistor using AC voltmeter with 1000 ohms/volt or more sensitivity.

Reverse plug the AC cord into the AC outlet and repeat AC voltage measurements for each exposed metallic part. Any voltage measured must not exceed 0.75 volt RMS which corresponds to 0.5mA.

In case any measurement is out of the limits specified, there is possibility of shock hazard and the set must be checked and repaired before it is returned to the customer.

### Leakage Current Hot Check circuit



# ADJUSTMENT INSTRUCTION

## 1. Application Object

These instructions are applied to all of the MODELS of LCD MONITOR, MF-02HA.

## 2. Notes

- (1) Because this is not a hot chassis, it is not necessary to use an isolation transformer. However, the use of isolation transformer will help protect test instrument.
- (2) Adjustment must be done in the correct order. But, it can be changed in consideration of mass production.
- (3) The adjustment must be performed in the circumstance of  $25\pm5^{\circ}\text{C}$  of temperature and  $65\pm10\%$  of relative humidity if there is no specific designation.
- (4) The input voltage of the receiver must keep 220V, 60Hz in adjusting.  
\* Input voltage is possible from 85V to 260V because the power voltage applied to this chassis is Wide-Range. But, adjustment should be operated in 220V/60Hz if there is no specific designation.
- (5) The receiver must be operated for about 15 minutes prior to the adjustment.
  - After receiving 100% white pattern(06CH), the receiver must be operate prior to adjustment.(Or white condition in HEAT-RUN mode)

### ▫ Enter into HEAT-RUN mode

- Select HEAT RUN OFF by pressing ADJ button on Remote Control for adjustment.
- Press the VOL + button in HEAT-RUN OFF. (OSD displays HEAT-RUN WHITE and screen displays 100% full WHITE PATTERN)  
\* Set is activated HEAT-RUN without signal generator in this mode.
- \* Single color pattern of HEAT-RUN mode can be used to check PANEL.(RED/BLUE/GREEN)

**[Caution]** If you turn on a still screen more than 20 minutes (especially, Digital pattern[13 CH], Cross Hatch Pattern[09CH]), a afterimage may be occur in the black level part of the screen.

## 3. Adjustment Items

### 3-1. Whole Assembly Adjustment

- (1) White Balance Adjustment
- (2) SUB-BRIGHT Adjustment : Sub-Bright adjustment in LCD panel is not necessary. Do not adjust sub-bright if there is no specific designation.
- (3) RGB CUT-OFF Adjustment : Under examination about auto adjustment which correspond to the new Rembrandt 1A.

### 3-2. EDID (The Extended Display Identification Data) Adjustment

(1) This is the function that is made for the realization of "Plug and Play" which makes possible to use the user environment right after reorganization by communicating with monitor automatically.

(2) EDID DATA for DVI of MF-02HA

EDID table =

00 01 02 03 04 05 06 07 08 09

000	00	FF	FF	FF	FF	FF	FF	00	1E	6D
010	D7	3A	01	01	01	01	33	0B	01	01
020	81	40	26	96	08	B7	FB	A1	56	48
030	98	24	13	48	4B	AF	EF	00	81	00
040	31	59	45	59	61	59	81	80	71	4F
050	01	01	01	01	BC	34	00	98	51	00
060	2A	40	10	90	13	00	40	26	00	00
070	00	1E	00	00	00	FC	00	4D	57	20
080	33	30	4C	5A	31	30	0A	20	20	20
090	00	00	00	FD	00	3C	78	1F	5B	10
100	00	0A	20	20	20	20	20	20	D5	09
110	80	A0	20	E0	2D	10	10	60	A2	00
120	EE	F0	75	00	00	18	00	BD		

(3) EDID DATA for RGB of MF-02HA

EDID table =

00 01 02 03 04 05 06 07 08 09

000	00	FF	FF	FF	FF	FF	FF	00	1E	6D
010	D7	3A	01	01	01	01	33	0B	01	01
020	1E	40	26	96	08	B7	FB	A1	56	48
030	98	24	13	48	4B	AF	EF	00	81	00
040	31	59	45	59	61	59	81	80	71	4F
050	01	01	01	01	BC	34	00	98	51	00
060	2A	40	10	90	13	00	40	26	00	00
070	00	1E	00	00	00	FC	00	4D	57	20
080	33	30	4C	5A	31	30	0A	20	20	20
090	00	00	00	FD	00	3C	78	1F	5B	10
100	00	0A	20	20	20	20	20	20	D5	09
110	80	A0	20	E0	2D	10	10	60	A2	00
120	EE	F0	75	00	00	18	00	BD		

(4) Refer to Service Manual related to EDID communication.

## 4. Whole Assembly Adjustment

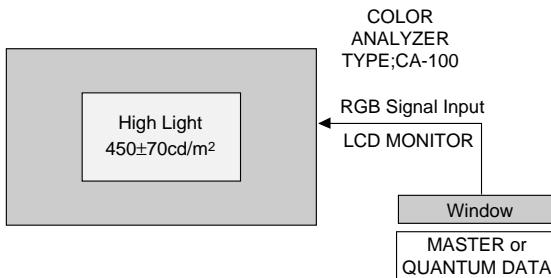
**<Caution>** Each PCB Assy must be checked by Check JIG Set before assembling.(Be careful about power PCB ASSY which can give a fatal damage to the LCD Module)

### 4-1. White Balance Adjustment

#### (1) Required Equipment

Color analyzer(CA-100 or same production)

## (2) Connection Diagram of Equipment for Measuring (Automatic Adjustment)



(Fig. 1) Connection Diagram of Automatic Adjustment

Connect RS-232C to Adjustment Equipment and SET.  
 Automatization operating room has in charge of managing and repairing about adjusting equipment.  
 Only adjust HIGH LIGHT and RGB input adjusts R-GAIN/G-GAIN/B-GAIN automatically.  
 Automatic adjustment equipment decides the values of R-GAIN/G-GAIN/B-GAIN by correcting color coordinates/white balance and transmits them into SET and finally the SET saves data values.

## (3) White Balance Adjustment(Manual Adjustment)

- Operate Zero Calibration of CA-100 and Sensor must be stick completely to the surface of LCD module
- Devide Manual adjustment into AV/PC and operate adjustment by the following sequence.
- Manual adjustment is a temporary method when automatic adjustment is not correspondent.

### 1. AV W/B adjustment

- 1) Select WHITE PATTERN of HEAT RUN mode by pressing ADJ button on Remote Control for adjustment then operate HEAT RUN more than 15 minute
- 2) Supply pattern signal for WB adjustment in pattern generator. (AV INPUT)
- 3) Low Light has no special adjustment.
- 4) To adjust High Light, stick sensor to 2th pattern(White), select and adjust the AV GAIN by pressing INSTSRT button on Remote Control for adjustment.  
 After select the R GAIN and G GAIN, enter Adjustment Mode by pressing ENTER button and press the VOL +/- Key and adjust it until color coordination becomes (B GAIN is fixed)  
 color coordination : X=0.283±0.003, Y=0.296±0.003  
 color temperature : 9,350°K ± 500°K

- 5) Exit adjustment mode using Enter button.

### 2. PC W/B Adjustment

- 1) Select WHITE PATTERN of HEAT RUN mode by pressing ADJ button on Remote Control for adjustment then operate HEAT RUN more than 15 minute.
- 2) Supply pattern signal for WB adjustment in pattern generator.(RGB1 INPUT)
- 3) Low Light has no special adjustment.
- 4) To adjust High Light, stick sensor to 2th pattern(White), select and adjust the PC GAIN by pressing INSTSRT button on Remote Control for adjustment.  
 After select the R GAIN and G GAIN, enter Adjustment Mode by pressing ENTER button and press the VOL +/-

Key and adjust it until color coordination becomes (B GAIN is fixed)  
 color coordination : X=0.283±0.003, Y=0.296±0.003  
 color temperature : 9,350°K ± 500°K

(R Gain is used to adjust X-coordinates while adjusting and X-coordinates could be shortened when R Gain is increased.  
 G Gain is used to adjust Y-coordinates while adjusting and Y-coordinates could be shortened when G Gain is increased.)

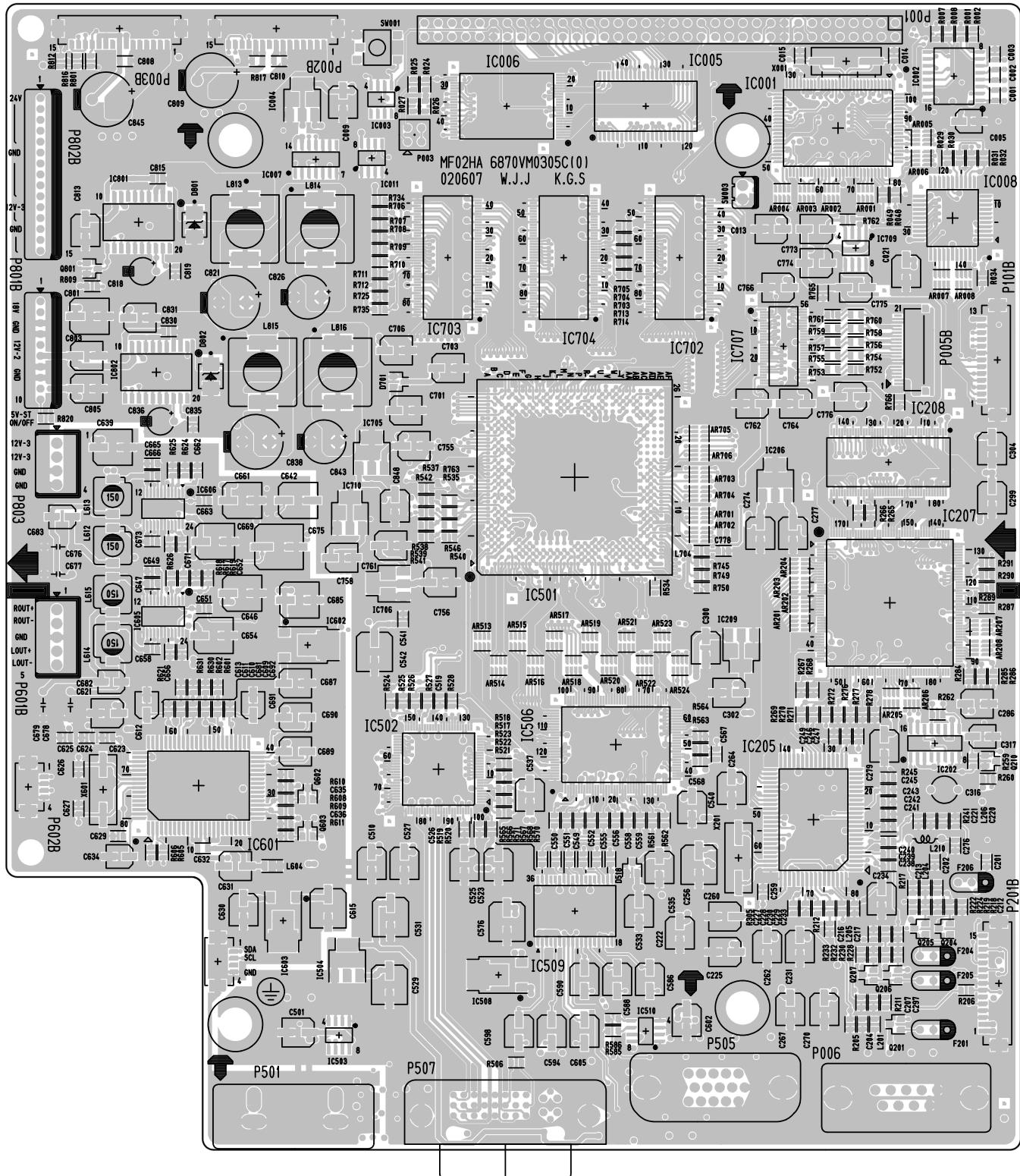
- 5) Exit adjustment mode using Enter button.
3. Component (480p~1080i) Offset Adjustment
  - Use this adjustment when the Grayscale out of Ch13. Pattern has red or blue while producing set.
  - This adjustment is used to remove the declination of YPbPr Offset in AD9888.
- 1) Operate the adjustment after PC/AV White Balance adjustment progress.
- 2) Select Ch.14 after connect DTV STB to Component (480p~1080i) terminal and AV terminal.
- 3) When you press ADJ button twice on the R/C for adjustment, the SET goes to DWI condition and Main Window(right side)/Sub Window(left side) are set to AV mode.
- 4) In this condition, adjust R with 'DTV R OFFSET' and B with 'DTV B OFFSET' based on 'foundation color(Gray)' of Ch.14.
- 5) Exit adjustment mode using Enter button.

## TROUBLESHOOTING

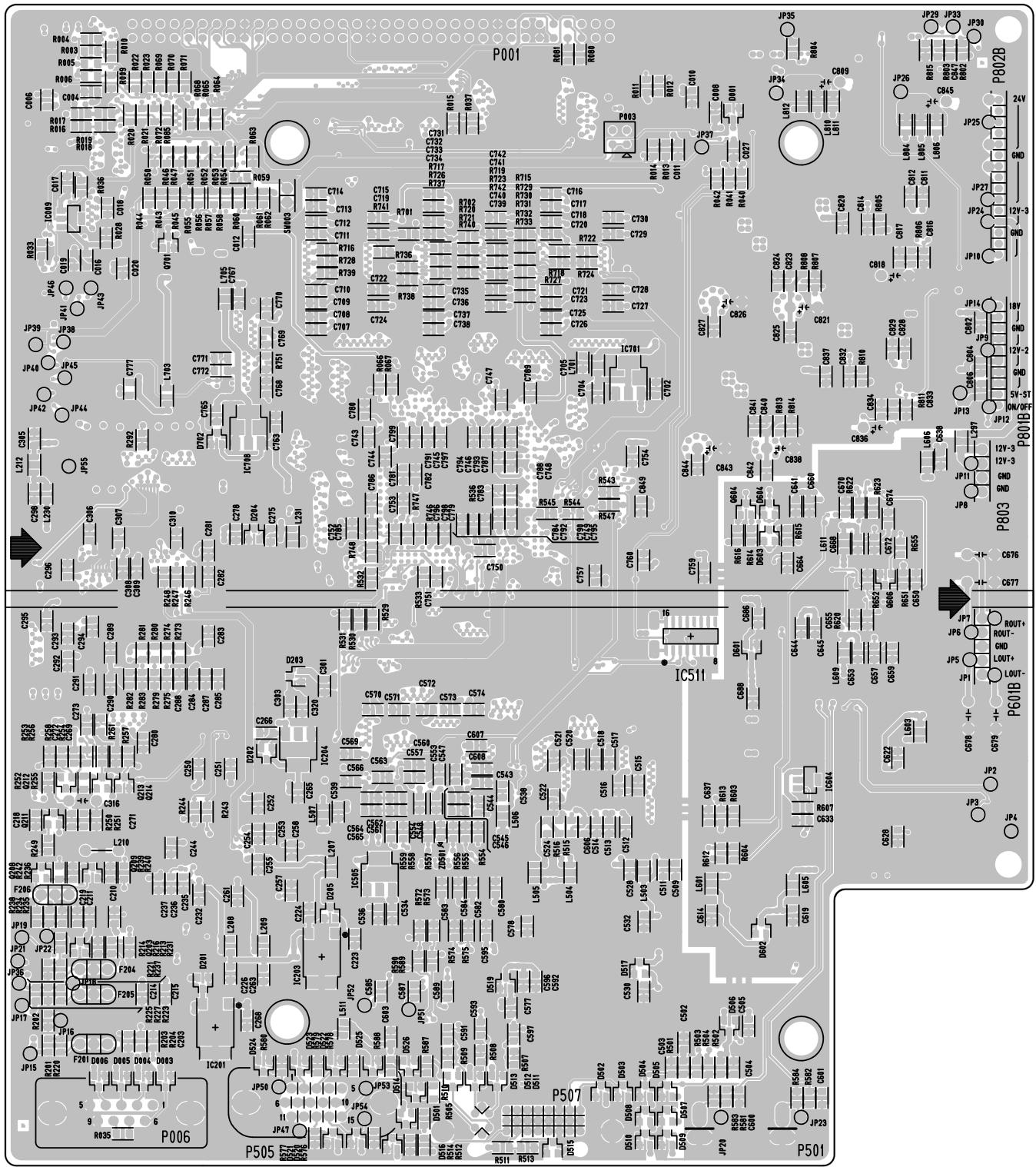
<b>Symptom</b>	<b>Cause</b>	<b>Check Point</b>
1. No power from all outputs	1) Fuse open 2) Error of rectifying circuit/EMI Filter	1) Check BD801, Q801, Q802, Q804 2) Check BD801, L801, L802, TH800, TH801
2. No power from +24V/+12V /+18V	1) Short of output terminal 2) Input error of parts 3) Error of U902 and peripheral circuits.  4) Error of T803	1) Check the second side parts and Pattern short 2) Check reverse input of PH801, D916, CR802 3) Check R941~R944 when the Pin Bias power no7. of U902 is abnormal. (normal: 15V~25V) - Replace U902(FAN7554) parts - Check the error of Q804  4) Replace T803
3. No power from +18V	1) Short of output terminal 2) Input error of parts 3) Error of U802 and peripheral circuits.	1) Check the peripheral parts of 18V and Pattern short. 2) Check reverse input of D916(SB560) 3) No Input of L812 when both terminal voltage of C830 are low. (normal voltage: +24V) - Replace U802(PQ1CG203) parts when there is no error.
4. No power from +5VS	1) Short of output terminal 2) Input error of parts 3) Error of U903 and peripheral circuits.  4) Error of T802	1) Check the peripheral parts of 5VS and Pattern short. 2) Check reverse input of D802, CR801 3) Check R937~R939 when the Pin Bias power no7. of U903 is abnormal. (normal: 15V~25V) - Replace U903(FAN7554) parts - Check the error of Q802  4) Replace T802
5. No power from +24V/+12V /+18V in 110VAC Input	1) Drop of output power due to the error of PFC circuit.  2) Error of T801	1) Replace U901(MC33368D) when there is no error in the peripheral parts. - Check the error of Q801  2) Replace T801

# **PRINTED CIRCUIT BOARD**

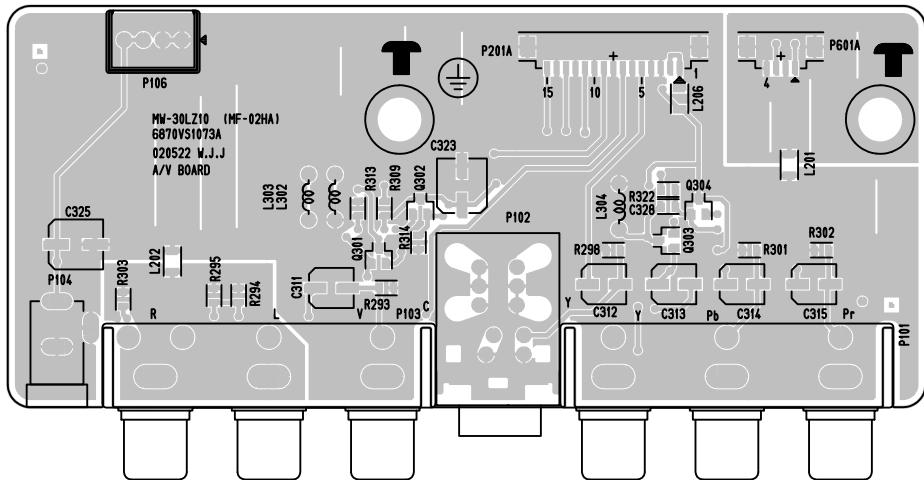
## MAIN(TOP)



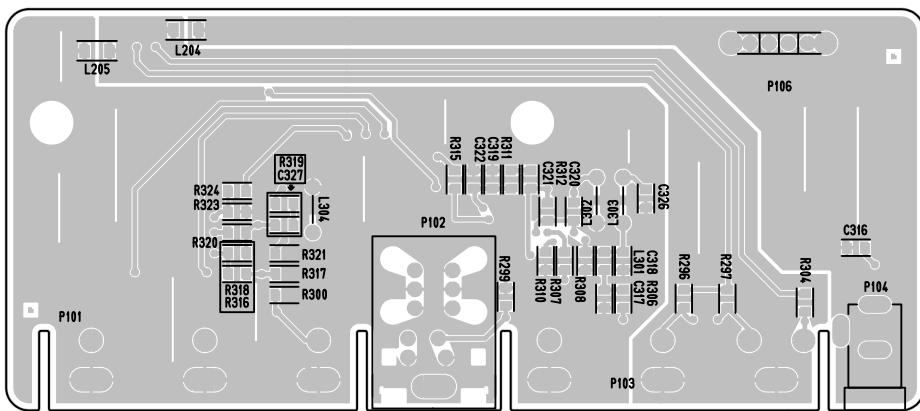
## MAIN(BOTTOM)



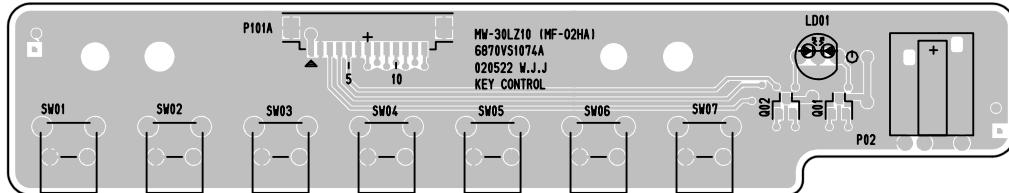
SIDE A/V(TOP)



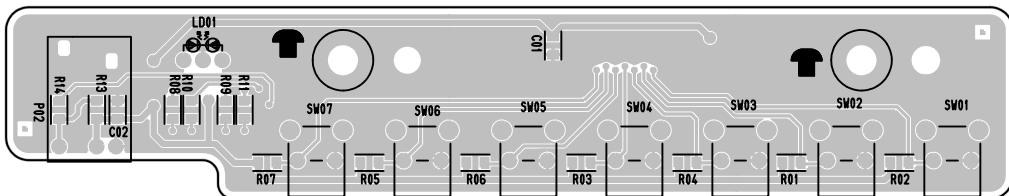
## SIDE A/V(BOTTOM)



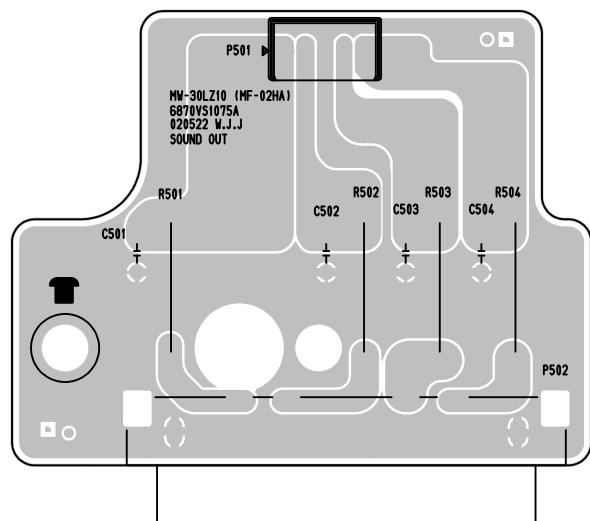
## CONTROL(TOP)



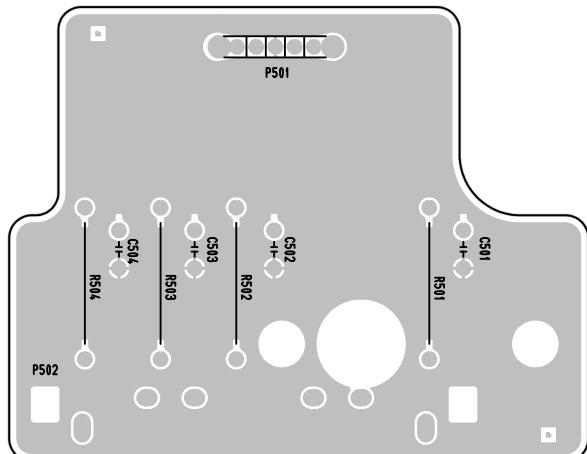
## CONTROL(BOTTOM)



## POWER(TOP)

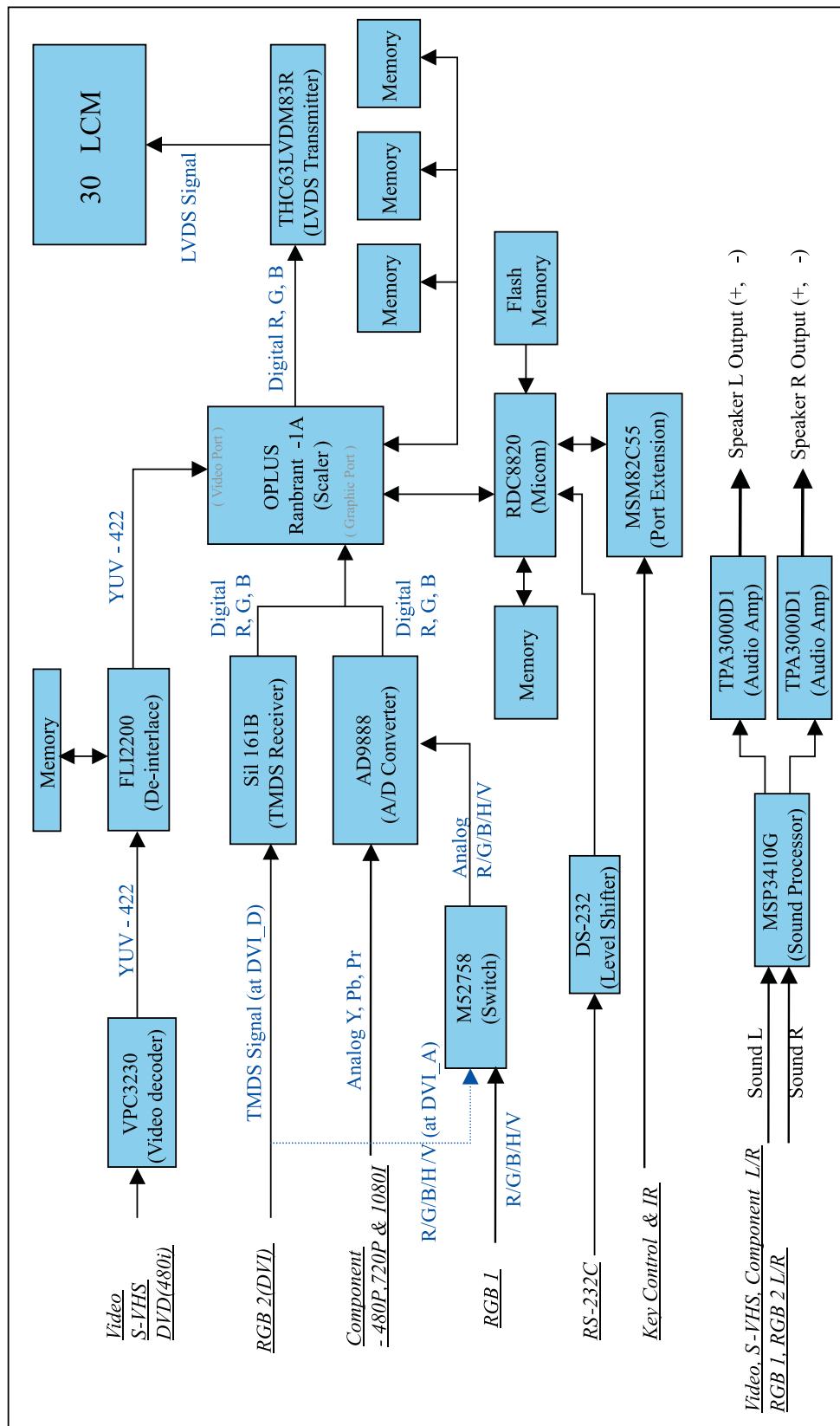


## POWER(BOTTOM)

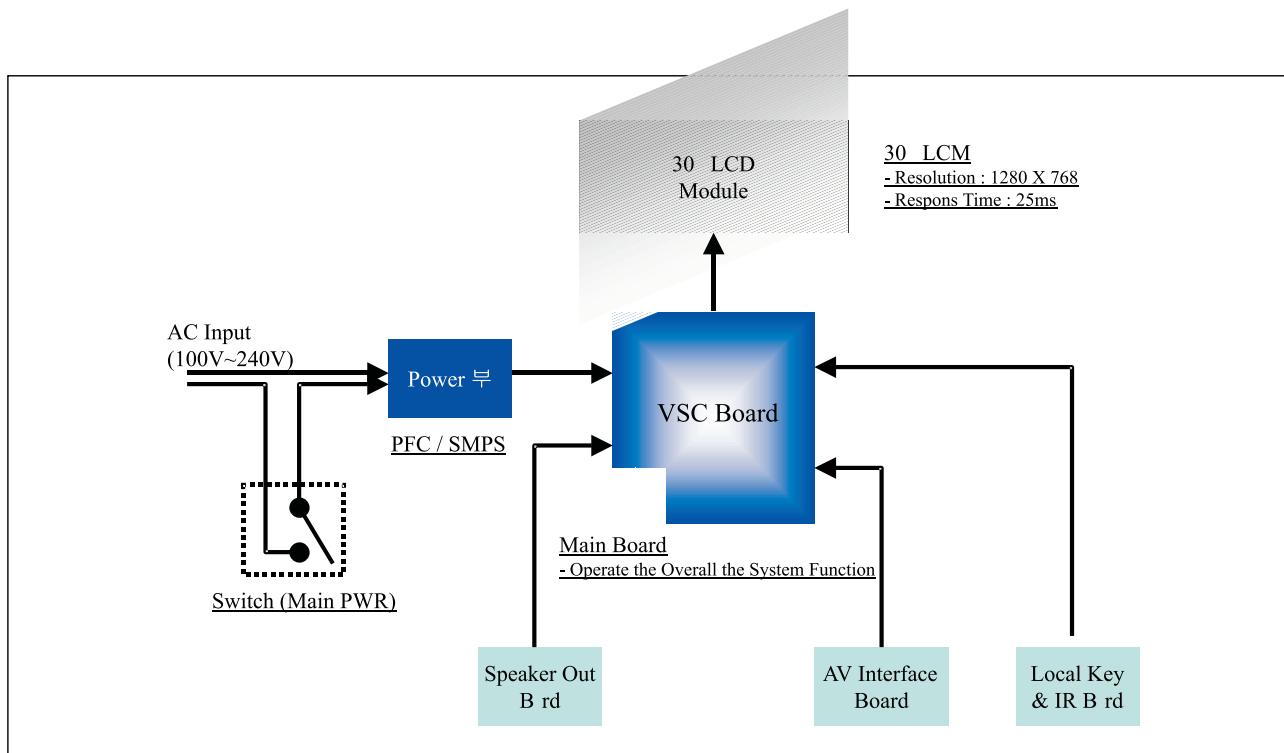


# BLOCK DIAGRAM

## 1. VSC Board



## 2. System Block Diagram & Function



### 2-1. Input Source Ranges

- (1) Input Paths : CVBS, S-Video, Component (480i, 480p, 720p, 1080i), RGB 1, RGB 2, RS-232C
- (2) Video System Recognition (Multi-system ; Refer to Product Specification) : NTSC M, NTSC 4.43, PAL, PAL M, PAL N, PAL 4.43, SECAM
- (3) RGB 1 Mode Compatibility : Up to SXGA 75Hz (See Compatibility Table in Product Specification in detail.)
- (4) RGB 2 Mode Compatibility : Up to SXGA 60Hz (See Compatibility Table in Product Specification in detail.)

### 2-2. Video Controls

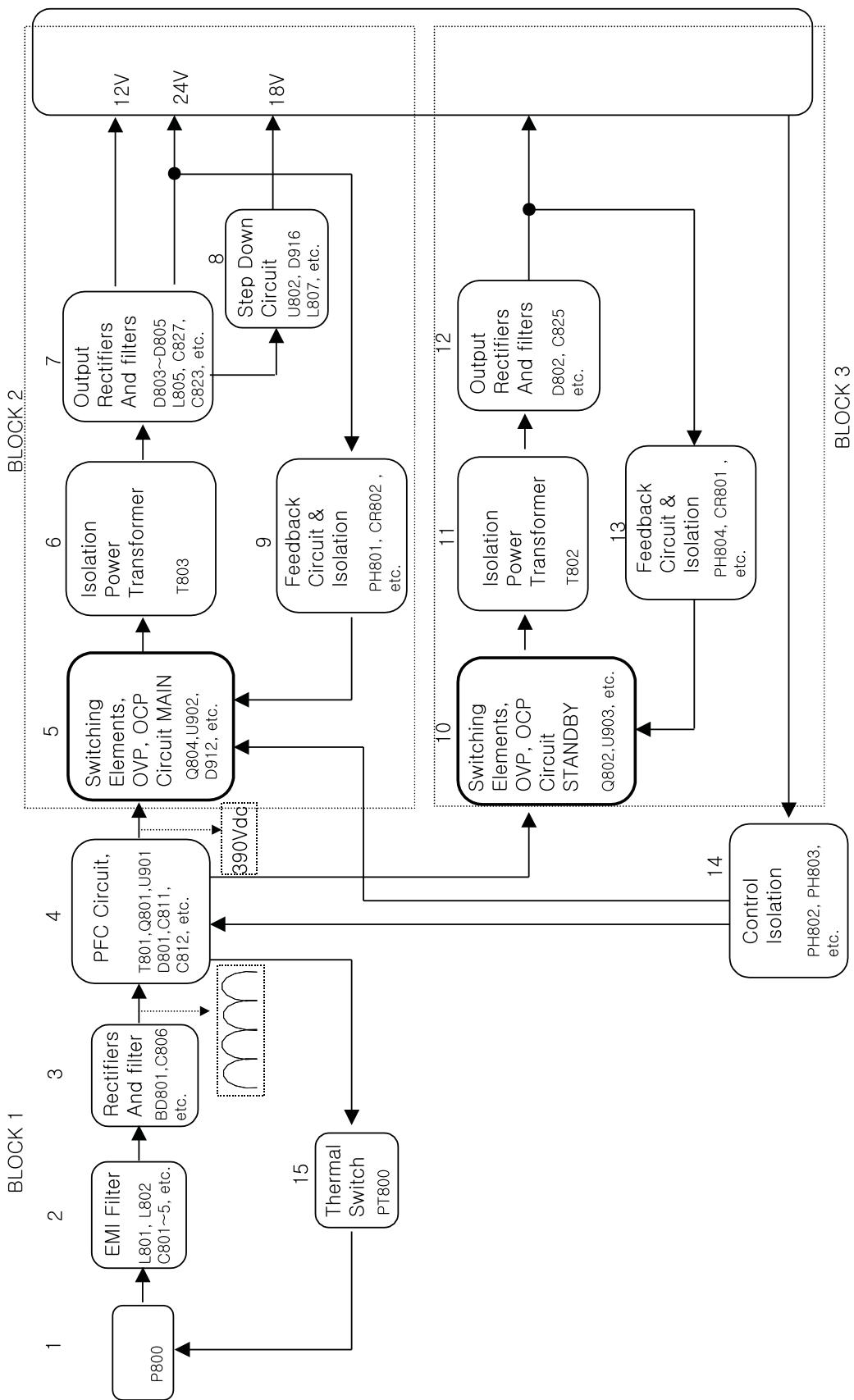
- (1) RGB Video Controls : Contrast, Brightness, Color Red, Color Green, Color Blue, User Setting Reset : Clock, Phase, Auto Tracking (Automatic Clock & Phase Optimization)
- (2) AV Video Controls (AV1, AV2, S-Video, Component 1, Component 2) : Contrast, Brightness, Color Level(Saturation), Tint(Hue), Sharpness, User Setting Reset

† See the OSD Spec. for more detail information of video controls.

### 2-3. Audio Controls

- (1) Volume, Treble, Bass, Balance Control
- (2) Sound Mute

### 3. Power



### **3-1. Explanation of Circuit Movement**

If the AC Input voltage(1) is confirmed to power device, this Input voltage is adjusted as DC wave form through EMI FILTER(2) and the first adjusting part(3). This adjusted wave form is input to PFC(4, Power Factor Correction) and makes the PFC circuit works and the output voltage(+390Vdc) by PFC circuit becomes a Main Input voltage of MAIN(5), STANBY(10) Switching part.

Input voltage is input to Switching part(5, 10) and make this High voltage DC voltage(390Vdc) to be a High Voltage spherical wave with high frequency through the Switching by the elements such as FET, PWM IC.

To keep the secondary adjusted voltage to be regular and safe in changing Input voltage and Output load, the output voltage is watched and feedback to switching part(5, 10) through the control circuit(9).

BLOCK 2 works as Forward converter method by receiving Input of BLOCK 1 and supplies MAIN DC(+24V, +12V) voltage and the Step Down circuit(8) supplies +18V.

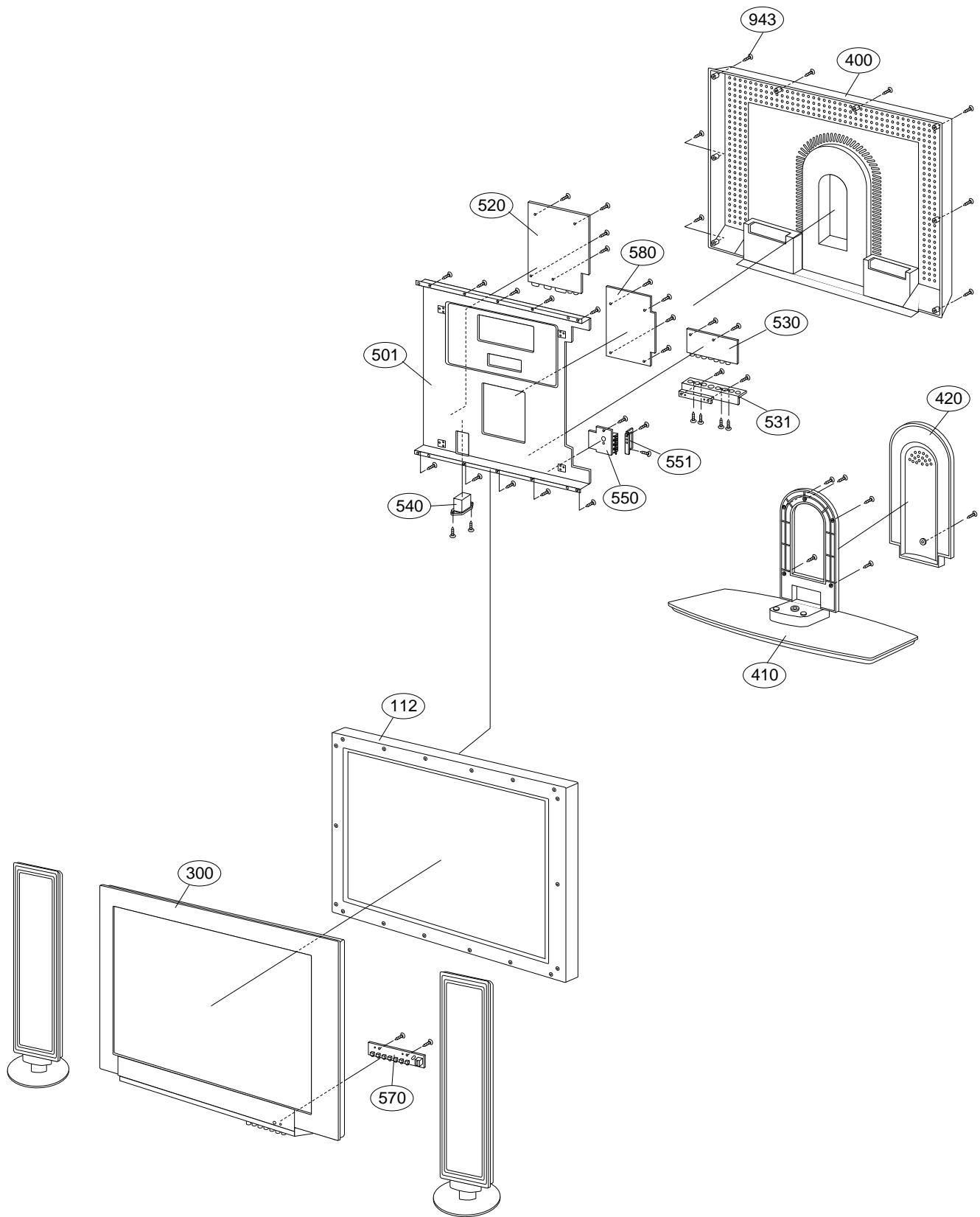
Also, BLOCK 3 works as Flyback converter method by receiving Input of BLOCK 1 and supplies +5V for Stanby.

Protection circuit is built in switching part(5, 10) to protect over electric-current, short, over voltage of the secondary output. This circuit protects the output and stick the Terminal Switch(15) to radiator while PFC and protect a fire or other accident by turning the AC voltage off while overheating.

To minimize power consumption, if the OFF signal is transmitted to PFC part(4), Main part(5) through the control circuit connected from Main board to Power board, only the +5V circuit for Standby works and others are OFF.

# **MEMO**

## EXPLODED VIEW



## EXPLODED VIEW PARTS LIST

No.	PART NO.	DESCRIPTION
112	6305V00001A	LCD ASSEMBLY,30" LCD PANEL LC30W01-A3 AND I
300	3091V00A73E	CABINET ASSEMBLY
400	3809V00A33B	BACK COVER ASSEMBLY
	3809V00A33D	BACK COVER ASSEMBLY
410	3501V00083A	BOARD ASSEMBLY,BASE MW-30LZ10
420	3508V00306A	DECO,REAR COVER
501	4980V00505B	SUPPORTER ASSY,MODULE
520	6871VMN648A	PCB ASSEMBLY,MAIN MF-02HA MW-30LZ10 MAIN BO
	6871VMN637A	PCB ASSEMBLY,MAIN MF-02HA MW-30LZ10 MAIN BO
530	6871VSN182B	PCB ASSEMBLY,SUB A/V MF-02HA MW-30LZ10 AV BOARD
531	4930V00226E	HOLDER,AV
540	3141VPN048A	CHASSIS ASSEMBLY,SMPS MF-02HA LCD30 SWITCH
550	6871VSN181A	PCB ASSEMBLY,SUB SPK MF-02HA MW-30LZ10 SPK BOAR
551	4930V00224C	HOLDER,SPK JACK
560	6633VA0004A	INVERTER ASSEMBLY,24VOLT 1100VOLT K.S. KLS300W1
570	6871VSN180A	PCB ASSEMBLY,SUB CONT MF-02HA MW-30LZ10 CONTROL
580	3501V00091A	BOARD ASSEMBLY,SMPS PFC MW-30LZ10 MF-02HA LCD
943	1FBF0403122	SCREW,D4.0 L16.0

## REPLACEMENT PARTS LIST

LOCA. NO	PART NO	DESCRIPTION
<b>IC</b>		
IC001	0IMCRRS001A	R8820LV RDC SEMICONDUCTOR LTD
IC002	0IDS232000A	DS232AS 16P,SOP TP RS-232 DRIV
IC003	0IDS170800A	DS1708S 8P SOIC ST MICROMONITO
IC004	0ISJ111733A	EZ1117CST-3.3 3P,SOT-223 TP 3.
IC005	0IMMRSS064A	K6R4016V1C-TC10 SAMSUNG ELECTR
IC006	0IMMRMR006A	MX29LV160TTC-70 MACRONIX 48P T
IC007	0IPH748600D	74HC86 SOIC-14 TP QUAD 2-INPUT
IC008	0IOK825522A	MSM82C55A-2GS-2K 44P QFP ST CM
IC009	0IKE704200J	KIA7042AF SOT-89 TP 4.2V VOLTA
IC011	0IAL241610A	AT24C16N-10SI 8P SOIC ST EEPROM
IC201	0IMCRFA008A	KA78M05RTM, FAIRCHILD 2P D-PAK
IC202	0IFA741230A	DM74LS123MX 16SOP TP DUAL RETR
IC203	0IMCRFA008A	KA78M05RTM, FAIRCHILD 2P D-PAK
IC204	0ISJ111733A	EZ1117CST-3.3 3P,SOT-223 TP 3.
IC205	0IIT323000E	VPC3230D C5 80P QFP
IC206	0IPRPML001A	MIC39100 MICREL 3P SOT223 R/TP
IC207	0IMCRG2001A	FLI2200 SAGE 176P,QFP TRAY VID
IC208	0ISS464323A	K4S643232E(C)-TC/L60(70) (KM43
IC209	0ISJ111733A	EZ1117CST-3.3 3P,SOT-223 TP 3.
IC501	0IMCRT001A	REMBRANT-1A OPLUS TECHNOLOGIES
IC502	0IMCRS5002A	SIL161BCT RX SILICON IMAGE 100
IC503	0IAL242110A	AT24C21-10SI-2.5 8P,SOP TP 1K
IC504	0ISJ111733A	EZ1117CST-3.3 3P,SOT-223 TP 3.
IC505	0ISJ111733A	EZ1117CST-3.3 3P,SOT-223 TP 3.
IC506	0IMCRAD003A	AD988KS-140 ANALOG DEVICE 128
IC508	0IMCRFA008A	KA78M05RTM, FAIRCHILD 2P D-PAK
IC509	0IMCRM006A	M52758FP MITSUBISHI 36PIN, R/T
IC510	0IAL242110A	AT24C21-10SI-2.5 8P,SOP TP 1K
IC511	0IMCRTI001A	SN74HCT157D TEXAS INSTRUMENT 1
IC601	0IMCRMN011D	MSP3410G QA B8 V3 MICRONAS 80P
IC602	0IMCRFA009A	KA78M08RTM, FAIRCHILD 2P D-PAK
IC603	0IMCRFA008A	KA78M05RTM, FAIRCHILD 2P D-PAK
IC604	0IKE704200J	KIA7042AF SOT-89 TP 4.2V VOLTA
IC605	0IMCRTI015A	TPA3000D1 TEXAS INSTRUMENT 24P
IC606	0IMCRTI015A	TPA3000D1 TEXAS INSTRUMENT 24P
IC701	0ISJ111733A	EZ1117CST-3.3 3P,SOT-223 TP 3.
IC702	0ISS464323A	K4S643232E(C)-TC/L60(70) (KM43
IC703	0ISS464323A	K4S643232E(C)-TC/L60(70) (KM43
IC704	0ISS464323A	K4S643232E(C)-TC/L60(70) (KM43
IC705	0IMCRSJ001A	SC1565IST-1.8 SEMTECH 3P SOT22
IC706	0ISJ111733A	EZ1117CST-3.3 3P,SOT-223 TP 3.
IC707	0IMCRTH001A	THC63LVDM83R THINE ELECTRONICS
IC708	0ISJ111733A	EZ1117CST-3.3 3P,SOT-223 TP 3.
IC710	0ISJ111733A	EZ1117CST-3.3 3P,SOT-223 TP 3.
IC801	0IMCRSG003A	L4973D5.1 SGS-THOMSON 20P SOP

LOCA. NO	PART NO	DESCRIPTION
IC802	0IMCRSG003A	L4973D5.1 SGS-THOMSON 20P SOP
<b>TRANSISTOR</b>		
IC709	0TF492509AA	FET,SI4925DY TP TEMIC 30V 6.1A SO
Q01	0TR387500AA	CHIP 2SC3875S(ALY) KEC
Q02	0TR387500AA	CHIP 2SC3875S(ALY) KEC
Q201	0TR387500AA	CHIP 2SC3875S(ALY) KEC
Q203	0TR387500AA	CHIP 2SC3875S(ALY) KEC
Q204	0TR387500AA	CHIP 2SC3875S(ALY) KEC
Q205	0TR387500AA	CHIP 2SC3875S(ALY) KEC
Q206	0TR387500AA	CHIP 2SC3875S(ALY) KEC
Q207	0TR387500AA	CHIP 2SC3875S(ALY) KEC
Q208	0TR387500AA	CHIP 2SC3875S(ALY) KEC
Q209	0TR387500AA	CHIP 2SC3875S(ALY) KEC
Q210	0TR102009AG	CHIP KRC102S SOT-23 TP KEC
Q211	0TR387500AA	CHIP 2SC3875S(ALY) KEC
Q212	0TR387500AA	CHIP 2SC3875S(ALY) KEC
Q213	0TR150400BA	CHIP 2SA1504S(ASY) KEC
Q214	0TR387500AA	CHIP 2SC3875S(ALY) KEC
Q301	0TR150400BA	CHIP 2SA1504S(ASY) KEC
Q302	0TR387500AA	CHIP 2SC3875S(ALY) KEC
Q303	0TR150400BA	CHIP 2SA1504S(ASY) KEC
Q304	0TR387500AA	CHIP 2SC3875S(ALY) KEC
Q602	0TR150400BA	CHIP 2SA1504S(ASY) KEC
Q603	0TR150400BA	CHIP 2SA1504S(ASY) KEC
Q604	0TR150400BA	CHIP 2SA1504S(ASY) KEC
Q606	0TR387500AA	CHIP 2SC3875S(ALY) KEC
Q701	0TR102009AG	CHIP KRC102S SOT-23 TP KEC
Q801	0TR102009AG	CHIP KRC102S SOT-23 TP KEC
<b>DIODE</b>		
D001	0DD226239AA	CHIP KDS226 SOT-23
D003	0DD226239AA	CHIP KDS226 SOT-23
D004	0DD226239AA	CHIP KDS226 SOT-23
D005	0DD226239AA	CHIP KDS226 SOT-23
D006	0DD226239AA	CHIP KDS226 SOT-23
D201	0DD226239AA	CHIP KDS226 SOT-23
D202	0DD226239AA	CHIP KDS226 SOT-23
D203	0DD226239AA	CHIP KDS226 SOT-23
D204	0DD226239AA	CHIP KDS226 SOT-23
D205	0DD226239AA	CHIP KDS226 SOT-23
D501	0DD226239AA	CHIP KDS226 SOT-23
D502	0DD226239AA	CHIP KDS226 SOT-23
D503	0DD226239AA	CHIP KDS226 SOT-23
D504	0DD226239AA	CHIP KDS226 SOT-23
D505	0DD226239AA	CHIP KDS226 SOT-23
D506	0DD184009AA	KDS184S CHIP 85V 300MA KEC TP
D507	0DD226239AA	CHIP KDS226 SOT-23
D508	0DD226239AA	CHIP KDS226 SOT-23

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	CQ : Polyester	RS : Metal Oxide Film
	CE : Electrolytic	RN : Metal Film
		RF : Fusible

LOCA. NO	PART NO	DESCRIPTION	LOCA. NO	PART NO	DESCRIPTION
D509	0DD226239AA	CHIP KDS226 SOT-23	C286	0CE476SF6DC	47UF MVG 16V M SMD R/TP
D510	0DD226239AA	CHIP KDS226 SOT-23	C299	0CE476SF6DC	47UF MVG 16V M SMD R/TP
D511	0DD226239AA	CHIP KDS226 SOT-23	C300	0CE476SF6DC	47UF MVG 16V M SMD R/TP
D512	0DD226239AA	CHIP KDS226 SOT-23	C302	0CE476SF6DC	47UF MVG 16V M SMD R/TP
D513	0DD226239AA	CHIP KDS226 SOT-23	C304	0CE476SF6DC	47UF MVG 16V M SMD R/TP
D514	0DD226239AA	CHIP KDS226 SOT-23	C311	0CE476SF6DC	47UF MVG 16V M SMD R/TP
D515	0DD226239AA	CHIP KDS226 SOT-23	C312	0CE476SF6DC	47UF MVG 16V M SMD R/TP
D516	0DD226239AA	CHIP KDS226 SOT-23	C313	0CE476SF6DC	47UF MVG 16V M SMD R/TP
D517	0DD226239AA	CHIP KDS226 SOT-23	C314	0CE476SF6DC	47UF MVG 16V M SMD R/TP
D518	0DD226239AA	CHIP KDS226 SOT-23	C315	0CE476SF6DC	47UF MVG 16V M SMD R/TP
D519	0DD226239AA	CHIP KDS226 SOT-23	C316	181-064P	10UF 0 16V K CA TP 5
D520	0DD226239AA	CHIP KDS226 SOT-23	C317	0CE106SF6DC	10UF MVG 16V 20% R/TP(SMD) SMD
D521	0DD226239AA	CHIP KDS226 SOT-23	C323	0CE107VF6DC	1000UF MV 16V 20% R/TP(SMD) SMD
D522	0DD226239AA	CHIP KDS226 SOT-23	C325	0CE107VF6DC	1000UF MV 16V 20% R/TP(SMD) SMD
D523	0DD226239AA	CHIP KDS226 SOT-23	C501	0CE476SF6DC	47UF MVG 16V M SMD R/TP
D524	0DD226239AA	CHIP KDS226 SOT-23	C510	0CE476SF6DC	47UF MVG 16V M SMD R/TP
D525	0DD226239AA	CHIP KDS226 SOT-23	C523	0CE476SF6DC	47UF MVG 16V M SMD R/TP
D526	0DD226239AA	CHIP KDS226 SOT-23	C525	0CE476SF6DC	47UF MVG 16V M SMD R/TP
D601	0DD226239AA	CHIP KDS226 SOT-23	C527	0CE476SF6DC	47UF MVG 16V M SMD R/TP
D602	0DD226239AA	CHIP KDS226 SOT-23	C529	0CE107SF6DC	1000UF MVG 16V M SMD R/TP
D603	0DD181009AB	KDS181 TP KEC - 85V - - 300M	C531	0CE107SF6DC	1000UF MVG 16V M SMD R/TP
D604	0DD181009AB	KDS181 TP KEC - 85V - - 300M	C533	0CE476SF6DC	47UF MVG 16V M SMD R/TP
D701	0DD226239AA	CHIP KDS226 SOT-23	C535	0CE476SF6DC	47UF MVG 16V M SMD R/TP
D702	0DD226239AA	CHIP KDS226 SOT-23	C537	0CE476SF6DC	47UF MVG 16V M SMD R/TP
D801	0DR190309AA	MBRS190T3 TP MOTOROLA - 90V 1A	C540	0CE476SF6DC	47UF MVG 16V M SMD R/TP
D802	0DR190309AA	MBRS190T3 TP MOTOROLA - 90V 1A	C542	0CE107SF6DC	1000UF MVG 16V M SMD R/TP
LD01	0DL200000CA	LED,SAM5670(DL-2LRG) BK Y-GREEN -	C576	0CE107SF6DC	1000UF MVG 16V M SMD R/TP
ZD501	0DZRM00178A	ZENERS,UDZS TE-17 5.1B	C586	0CE476SF6DC	47UF MVG 16V M SMD R/TP
<b>CAPACITOR</b>					
C005	0CE106SF6DC	10UF MVG 16V 20% R/TP(SMD) SMD	C588	0CE476SF6DC	47UF MVG 16V M SMD R/TP
C009	0CE476SF6DC	47UF MVG 16V M SMD R/TP	C590	0CE476SF6DC	47UF MVG 16V M SMD R/TP
C013	0CE476SF6DC	47UF MVG 16V M SMD R/TP	C594	0CE476SF6DC	47UF MVG 16V M SMD R/TP
C016	0CK224DF56A	220000PF 2012 16V 10% R/TP X7R	C598	0CE476SF6DC	47UF MVG 16V M SMD R/TP
C021	0CE476SF6DC	47UF MVG 16V M SMD R/TP	C602	0CE476SF6DC	47UF MVG 16V M SMD R/TP
C222	0CE476SF6DC	47UF MVG 16V M SMD R/TP	C605	0CE476SF6DC	47UF MVG 16V M SMD R/TP
C225	0CE476SF6DC	47UF MVG 16V M SMD R/TP	C612	0CE106SF6DC	10UF MVG 16V 20% R/TP(SMD) SMD
C231	0CE476SF6DC	47UF MVG 16V M SMD R/TP	C615	0CE476VH6DC	47UF MV 25V 20% R/TP(SMD) SMD
C234	0CE476SF6DC	47UF MVG 16V M SMD R/TP	C621	0CE476SF6DC	47UF MVG 16V M SMD R/TP
C238	0CK224DF56A	220000PF 2012 16V 10% R/TP X7R	C630	0CE476SF6DC	47UF MVG 16V M SMD R/TP
C239	0CK224DF56A	220000PF 2012 16V 10% R/TP X7R	C631	0CE476SF6DC	47UF MVG 16V M SMD R/TP
C240	0CK224DF56A	220000PF 2012 16V 10% R/TP X7R	C634	0CE106SF6DC	10UF MVG 16V 20% R/TP(SMD) SMD
C241	0CK224DF56A	220000PF 2012 16V 10% R/TP X7R	C639	0CE476VH6DC	47UF MV 25V 20% R/TP(SMD) SMD
C256	0CE107SF6DC	100UF MVG 16V M SMD R/TP	C642	0CE476VH6DC	47UF MV 25V 20% R/TP(SMD) SMD
C260	0CE476SF6DC	47UF MVG 16V M SMD R/TP	C646	0CE476VH6DC	47UF MV 25V 20% R/TP(SMD) SMD
C262	0CE476SF6DC	47UF MVG 16V M SMD R/TP	C654	0CE476VH6DC	47UF MV 25V 20% R/TP(SMD) SMD
C264	0CE476SF6DC	47UF MVG 16V M SMD R/TP	C661	0CE476VH6DC	47UF MV 25V 20% R/TP(SMD) SMD
C267	0CE476SF6DC	47UF MVG 16V M SMD R/TP	C669	0CE476VH6DC	47UF MV 25V 20% R/TP(SMD) SMD
C270	0CE476SF6DC	47UF MVG 16V M SMD R/TP	C676	181-007F	MPE ECQ-V1H224JL3(TR), 50V 0.2
C274	0CE476SF6DC	47UF MVG 16V M SMD R/TP	C677	181-007F	MPE ECQ-V1H224JL3(TR), 50V 0.2
C277	0CE476SF6DC	47UF MVG 16V M SMD R/TP	C678	181-007F	MPE ECQ-V1H224JL3(TR), 50V 0.2
C279	0CE476SF6DC	47UF MVG 16V M SMD R/TP	C679	181-007F	MPE ECQ-V1H224JL3(TR), 50V 0.2
			C682	0CE105SK6DC	1UF MVG 50V M SMD R/TP
			C683	0CE105SK6DC	1UF MVG 50V M SMD R/TP

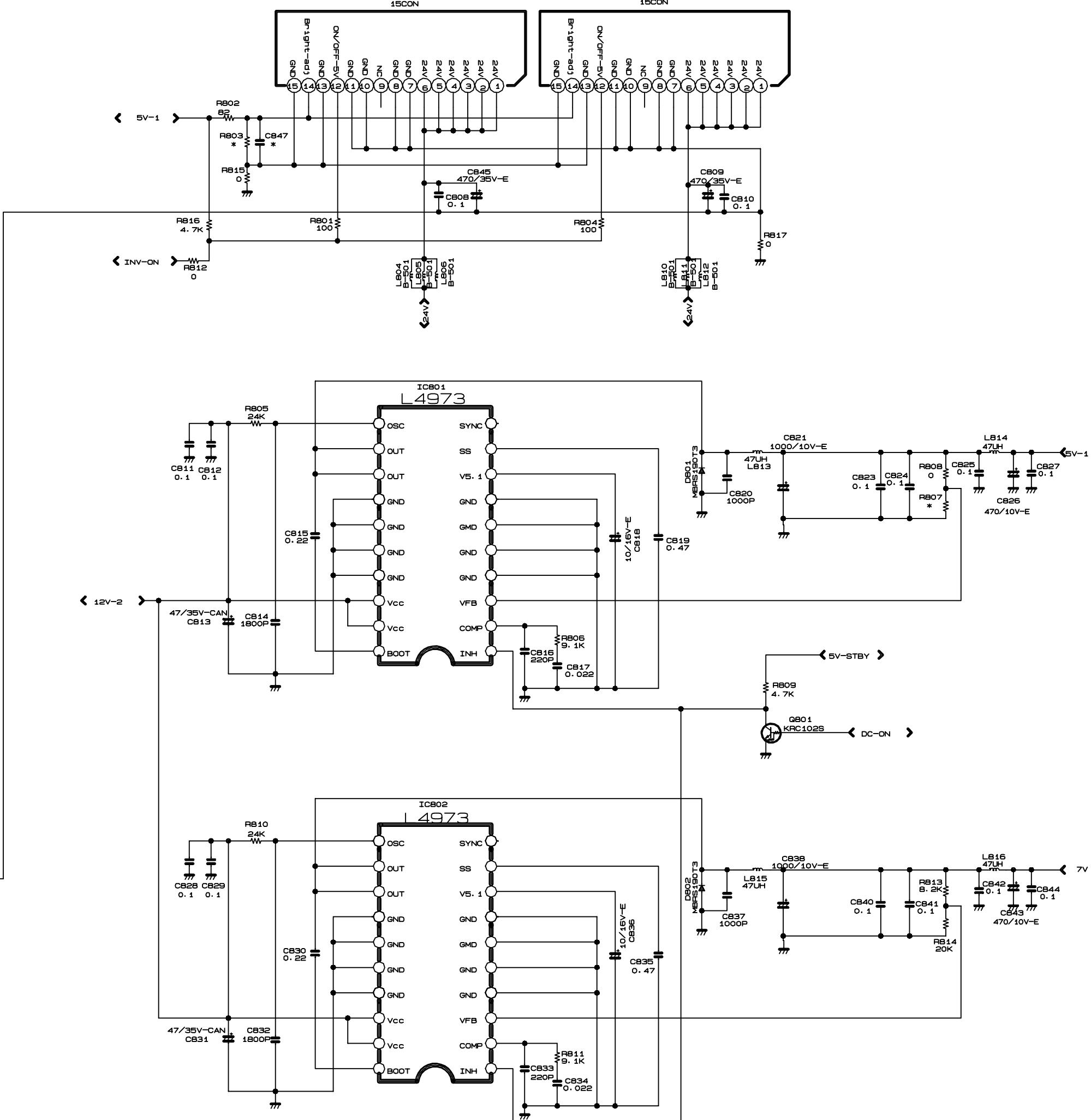
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LOCA. NO	PART NO	DESCRIPTION	LOCA. NO	PART NO	DESCRIPTION
C685	OCE476VH6DC	47UF MV 25V 20% R/TP(SMD) SMD	P102	380-363K	JACK,DIN PJ6046G H=8.0 W/O S/W
C687	OCE476SF6DC	47UF MVG 16V M SMD R/TP	P103	6612J00010B	JACK,RCA PPJ128A-2 A/V 3P WITH
C689	OCE476SF6DC	47UF MVG 16V M SMD R/TP	P104	6612TAH002A	JACK,PHONE DC-001 UNITOP DC-001
C690	OCE476SF6DC	47UF MVG 16V M SMD R/TP	P501	6612VJH018A	JACK,RCA PJ6058C-A A/V 2P MON
C691	OCE335SK6DC	3.3UF MVG 50V 20% SMD R/TP	P502	6612JH003EA	JACK,RCA UST-AG-013 UGCOM 2P SPK TERMIN
C701	OCE476SF6DC	47UF MVG 16V M SMD R/TP	P507	6612BBBHN6A	JACK,DIN 440062-1 AMP DVI INTERACED
C703	OCE476SF6DC	47UF MVG 16V M SMD R/TP	<b>RESISTOR</b>		
C706	OCE476SF6DC	47UF MVG 16V M SMD R/TP	AR001	0RRZVTA001D	22 OHM 1 / 16 W 1608 5%
C755	OCE476SF6DC	47UF MVG 16V M SMD R/TP	AR002	0RRZVTA001D	22 OHM 1 / 16 W 1608 5%
C756	OCE476SF6DC	47UF MVG 16V M SMD R/TP	AR003	0RRZVTA001D	22 OHM 1 / 16 W 1608 5%
C758	OCE476SF6DC	47UF MVG 16V M SMD R/TP	AR004	0RRZVTA001D	22 OHM 1 / 16 W 1608 5%
C761	OCE476SF6DC	47UF MVG 16V M SMD R/TP	AR005	0RRZVTA001D	22 OHM 1 / 16 W 1608 5%
C762	OCE476SF6DC	47UF MVG 16V M SMD R/TP	AR006	0RRZVTA001D	22 OHM 1 / 16 W 1608 5%
C764	OCE476SF6DC	47UF MVG 16V M SMD R/TP	AR007	0RRZVTA001D	22 OHM 1 / 16 W 1608 5%
C766	OCE476SF6DC	47UF MVG 16V M SMD R/TP	AR008	0RRZVTA001D	22 OHM 1 / 16 W 1608 5%
C773	OCE476SF6DC	47UF MVG 16V M SMD R/TP	AR201	0RRZVTA001D	22 OHM 1 / 16 W 1608 5%
C774	OCE476SF6DC	47UF MVG 16V M SMD R/TP	AR202	0RRZVTA001D	22 OHM 1 / 16 W 1608 5%
C775	OCE476SF6DC	47UF MVG 16V M SMD R/TP	AR203	0RRZVTA001D	22 OHM 1 / 16 W 1608 5%
C776	OCE476SF6DC	47UF MVG 16V M SMD R/TP	AR204	0RRZVTA001D	22 OHM 1 / 16 W 1608 5%
C801	OCE476VH6DC	47UF MV 25V 20% R/TP(SMD) SMD	AR205	0RRZVTA001D	22 OHM 1 / 16 W 1608 5%
C803	OCE476SF6DC	47UF MVG 16V M SMD R/TP	AR206	0RRZVTA001D	22 OHM 1 / 16 W 1608 5%
C805	OCE476SF6DC	47UF MVG 16V M SMD R/TP	AR207	0RRZVTA001D	22 OHM 1 / 16 W 1608 5%
C809	OCE477BJ618	470UF KME TYPE 35V 20% FL TP 5	AR208	0RRZVTA001D	22 OHM 1 / 16 W 1608 5%
C813	OCE476SF6DC	47UF MVG 16V M SMD R/TP	AR513	0RRZVTA001D	22 OHM 1 / 16 W 1608 5%
C815	OCK224DF56A	220000PF 2012 16V 10% R/TP X7R	AR514	0RRZVTA001D	22 OHM 1 / 16 W 1608 5%
C818	OCE106BF618	10UF KME 16V M FL TP5	AR515	0RRZVTA001D	22 OHM 1 / 16 W 1608 5%
C821	OCE108DD618	1000UF STD 10V M FL TP5	AR516	0RRZVTA001D	22 OHM 1 / 16 W 1608 5%
C826	OCE477DD618	470UF STD 10V M FL TP5	AR517	0RRZVTA001D	22 OHM 1 / 16 W 1608 5%
C830	OCK224DF56A	220000PF 2012 16V 10% R/TP X7R	AR518	0RRZVTA001D	22 OHM 1 / 16 W 1608 5%
C831	OCE476SF6DC	47UF MVG 16V M SMD R/TP	AR519	0RRZVTA001D	22 OHM 1 / 16 W 1608 5%
C836	OCE106BF618	10UF KME 16V M FL TP5	AR520	0RRZVTA001D	22 OHM 1 / 16 W 1608 5%
C838	OCE108DD618	1000UF STD 10V M FL TP5	AR521	0RRZVTA001D	22 OHM 1 / 16 W 1608 5%
C843	OCE477DD618	470UF STD 10V M FL TP5	AR522	0RRZVTA001D	22 OHM 1 / 16 W 1608 5%
C845	OCE477BJ618	470UF KME TYPE 35V 20% FL TP 5	AR523	0RRZVTA001D	22 OHM 1 / 16 W 1608 5%
C848	OCE476SF6DC	47UF MVG 16V M SMD R/TP	AR524	0RRZVTA001D	22 OHM 1 / 16 W 1608 5%
<b>COIL &amp; TRANSFORMER</b>			AR701	0RRZVTA001D	22 OHM 1 / 16 W 1608 5%
L210	OLA0101K119	INDUCTOR,1.0UH K	AR702	0RRZVTA001D	22 OHM 1 / 16 W 1608 5%
L302	OLA0472K119	INDUCTOR,47UH K	AR703	0RRZVTA001D	22 OHM 1 / 16 W 1608 5%
L303	OLA0101K119	INDUCTOR,1.0UH K	AR704	0RRZVTA001D	22 OHM 1 / 16 W 1608 5%
L304	OLA0102K119	INDUCTOR,10UH K	AR705	0RRZVTA001D	22 OHM 1 / 16 W 1608 5%
L612	6140VR0005A	COIL,SLF7045T-150M1R1 TDK 15UF	AR706	0RRZVTA001D	22 OHM 1 / 16 W 1608 5%
L613	6140VR0005A	COIL,SLF7045T-150M1R1 TDK 15UF	R501	0RF0111K607	1.1 OHM 2 W 5.00%
L614	6140VR0005A	COIL,SLF7045T-150M1R1 TDK 15UF	R502	0RF0111K607	1.1 OHM 2 W 5.00%
L615	6140VR0005A	COIL,SLF7045T-150M1R1 TDK 15UF	R503	0RF0111K607	1.1 OHM 2 W 5.00%
L813	6140VR0001C	COIL,SB1260-470 GET 47UH	R504	0RF0111K607	1.1 OHM 2 W 5.00%
L814	6140VR0001C	COIL,SB1260-470 GET 47UH	<b>SWITCH</b>		
L815	6140VR0001C	COIL,SB1260-470 GET 47UH	SW01	140-315A	SWITCH,TACT SKHV17910B NON 12V
L816	6140VR0001C	COIL,SB1260-470 GET 47UH	SW001	6600VR1004A	SWITCH,TACT SKHMPW 5P CHIP TACT NON
<b>JACK</b>			SW02	140-315A	SWITCH,TACT SKHV17910B NON 12V
P101	6612J00010A	JACK,RCA PPJ128A-1 A/V 2P MONO	SW03	140-315A	SWITCH,TACT SKHV17910B NON 12V

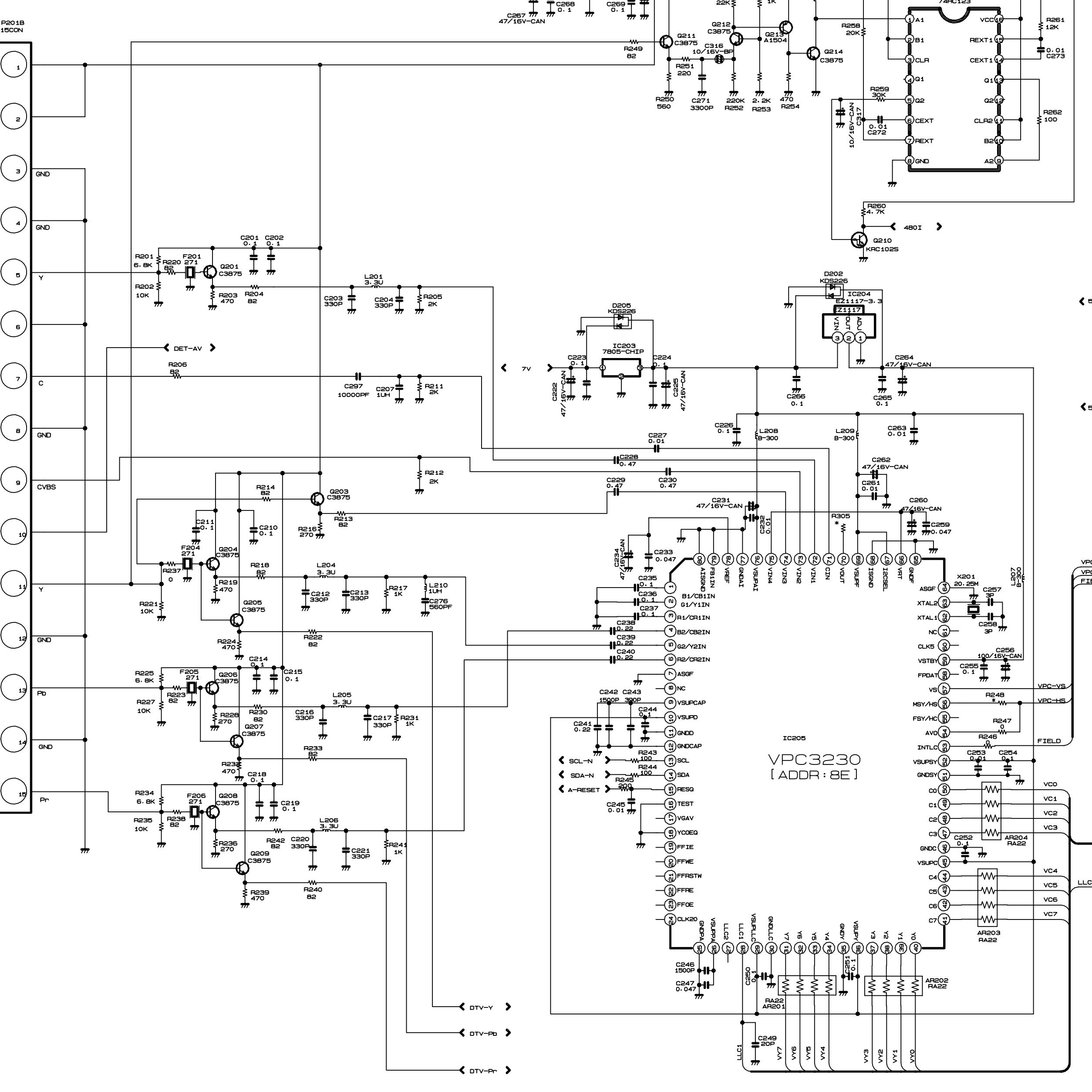
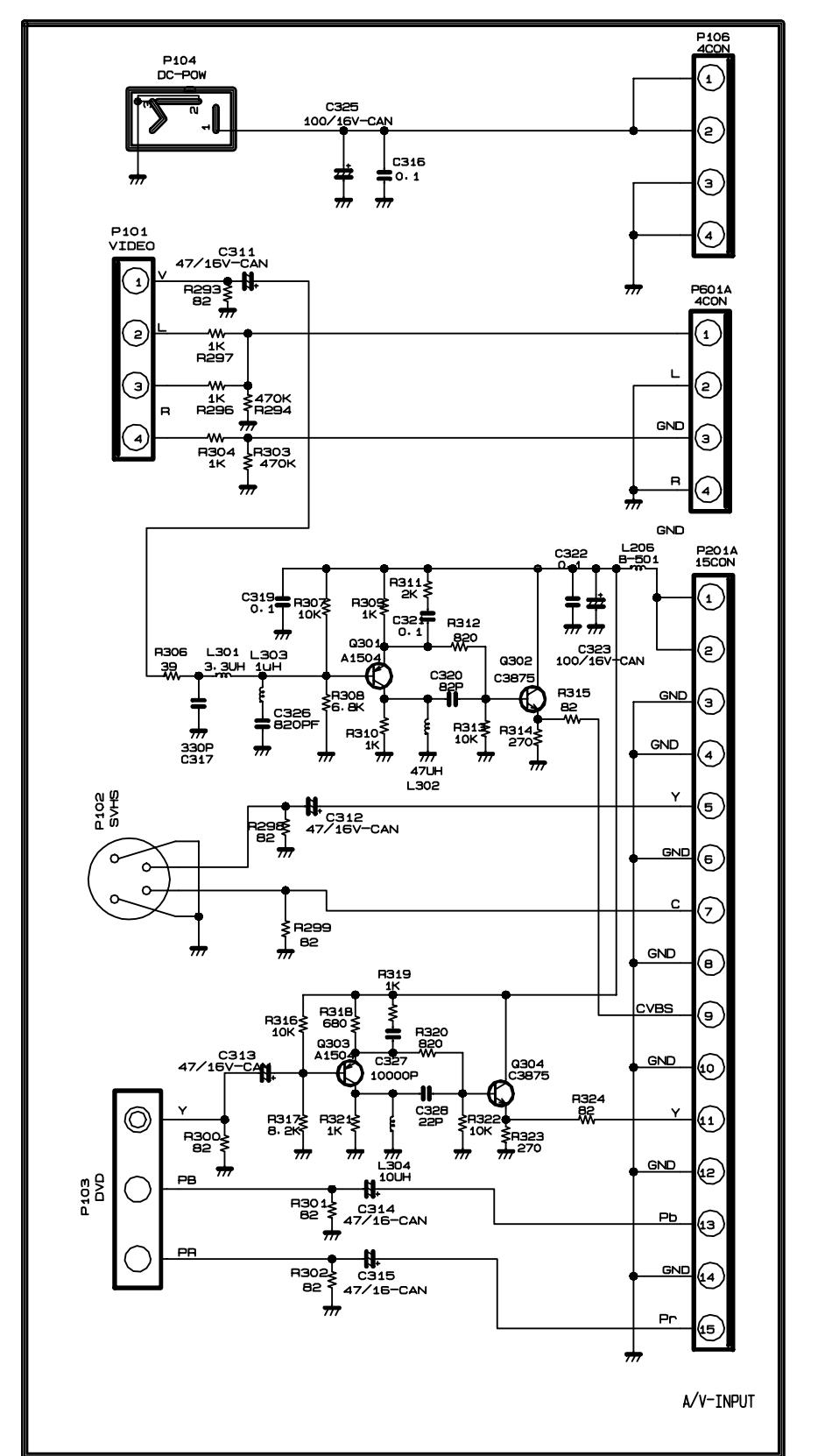
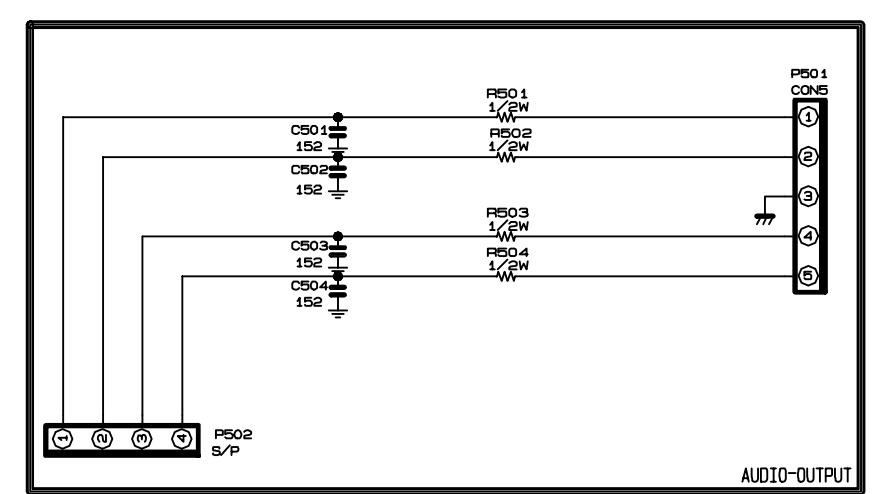
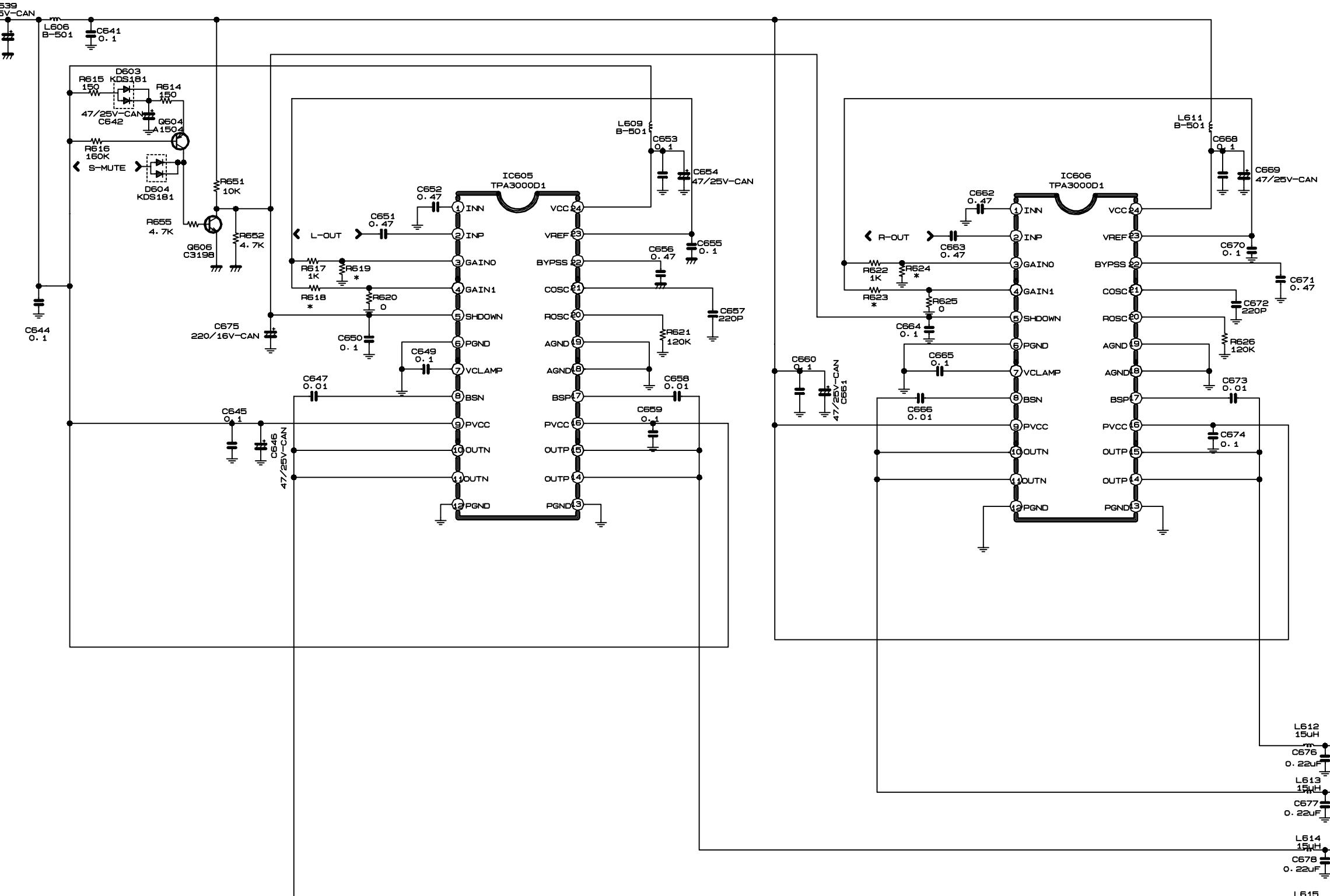
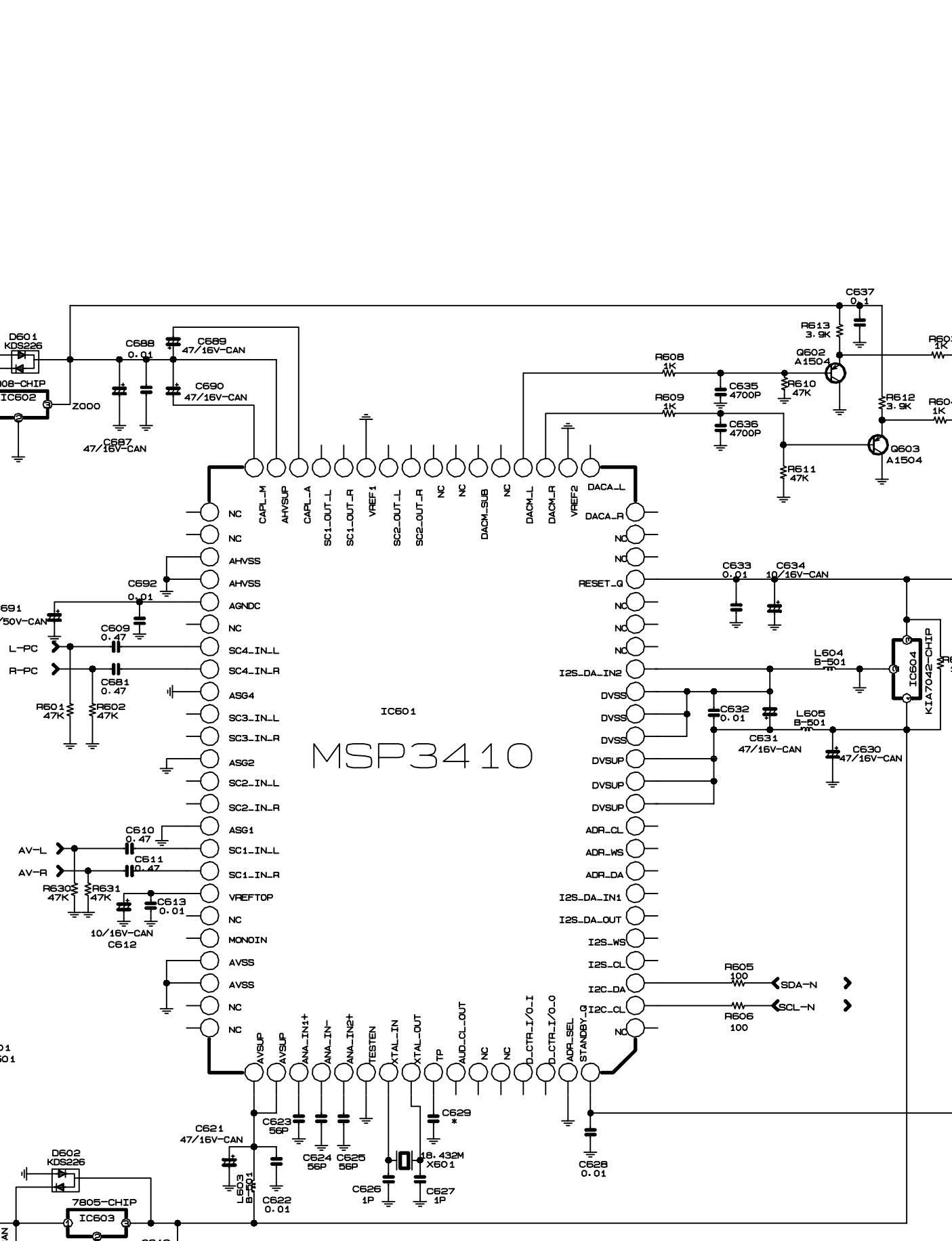
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	CQ : Polyester	RS : Metal Oxide Film
	CE : Electrolytic	RN : Metal Film
		RF : Fusible

LOCA. NO	PART NO	DESCRIPTION	LOCA. NO	PART NO	DESCRIPTION
SW04	140-315A	SWITCH,TACT SKHV17910B NON 12V	A3	6410VBH003A	POWER CORD,MP5004 VOLEX
SW05	140-315A	SWITCH,TACT SKHV17910B NON 12V	A4	174-208D	CORD,A/V(3P,3.0M)
SW06	140-315A	SWITCH,TACT SKHV17910B NON 12V	A5	6850V00001A	CABLE,FLAT 1566075-1 DVI A/D TO A/D 2000M
SW07	140-315A	SWITCH,TACT SKHV17910B NON 12V	A6	6851V00001F	CABLE ASSEMBLY,3M RCA-PLUG(2P) TO STEREO 118
<b>FILTER &amp; CRYSTAL</b>			A7	6866VA9001A	CONNECTOR,2990-9C,AT,L1830,COOL GRAY 3C
F201	166-F01D	FILTER,EMC DSN6NC51H271Q93A			
F204	166-F01D	FILTER,EMC DSN6NC51H271Q93A			
F205	166-F01D	FILTER,EMC DSN6NC51H271Q93A			
F206	166-F01D	FILTER,EMC DSN6NC51H271Q93A			
L206	6210TCE001G	FILTER,EMC HH-1M3216-501			
L207	6210TCT002B	FILTER,EMC ACB2012M-300-T			
L208	6210TCT002B	FILTER,EMC ACB2012M-300-T			
L209	6210TCT002B	FILTER,EMC ACB2012M-300-T			
L212	6210TCE001G	FILTER,EMC HH-1M3216-501			
L231	6210TCE001G	FILTER,EMC HH-1M3216-501			
L503	6210TCE001G	FILTER,EMC HH-1M3216-501			
L504	6210TCE001G	FILTER,EMC HH-1M3216-501			
L505	6210TCE001G	FILTER,EMC HH-1M3216-501			
L506	6210TCE001G	FILTER,EMC HH-1M3216-501			
L507	6210TCE001G	FILTER,EMC HH-1M3216-501			
L511	6210VC0005A	FILTER,EMC BK2125 HS 750			
L601	6210TCE001G	FILTER,EMC HH-1M3216-501			
L603	6210TCE001G	FILTER,EMC HH-1M3216-501			
L604	6210TCE001G	FILTER,EMC HH-1M3216-501			
L605	6210TCE001G	FILTER,EMC HH-1M3216-501			
L609	6210TCE001G	FILTER,EMC HH-1M3216-501			
L611	6210TCE001G	FILTER,EMC HH-1M3216-501			
L701	6210TCE001G	FILTER,EMC HH-1M3216-501			
L703	6210TCE001G	FILTER,EMC HH-1M3216-501			
L704	6210TCE001A	FILTER,EMC HB-1S2012-080JT			
L705	6210TCE001G	FILTER,EMC HH-1M3216-501			
L804	6210TCE001G	FILTER,EMC HH-1M3216-501			
L805	6210TCE001G	FILTER,EMC HH-1M3216-501			
L806	6210TCE001G	FILTER,EMC HH-1M3216-501			
L810	6210TCE001G	FILTER,EMC HH-1M3216-501			
L811	6210TCE001G	FILTER,EMC HH-1M3216-501			
L812	6210TCE001G	FILTER,EMC HH-1M3216-501			
X001	6212AB2015C	RESONATOR,CRYSTAL HC-49/SM4H 25MHZ +/- 50			
X201	6202VDT002E	RESONATOR,CRYSTAL SX-1SMD 2025000H			
X601	6202VDT002H	RESONATOR,CRYSTAL SX-1 18.432MHZ			
<b>MISCELLANEOUS</b>					
P02	6726VH0001A	REMOTE CONTROLLER RECEIVER,38KHZ			
P006	6630VGA004B	CONNECTOR,D-SUB 9P 2.77MM FOR			
P106	366-922C	CONNECTOR,2.5MM 4P			
P505	6630VGA001C	CONNECTOR,D-SUB 15PIN 2.29MM			
<b>ACCESSORIES</b>					
A1	3828VA0338D	MANUAL,OWNERS MF02HA MW-30LZ10 LG			
A2	6710V00092E	REMOTE CONTROLLER,MF-02HA W/O TXT			
A3	6410VWH005B	POWER CORD,SA16A+V1625 VOLEX			

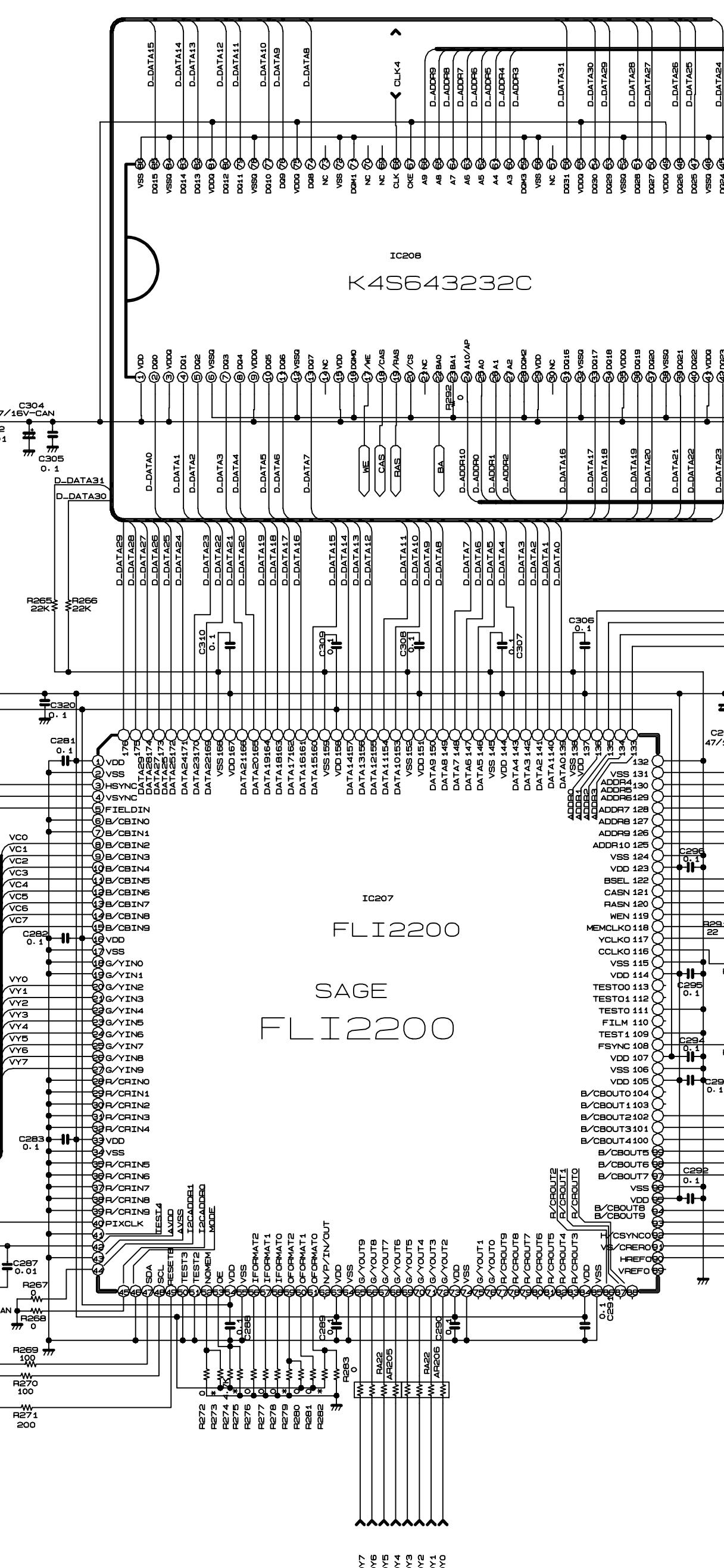
POWER-INPUT



MSP3410



VFOE2020  
[ADDR: 8E]



FLI2200  
SAGE  
FLI2200

