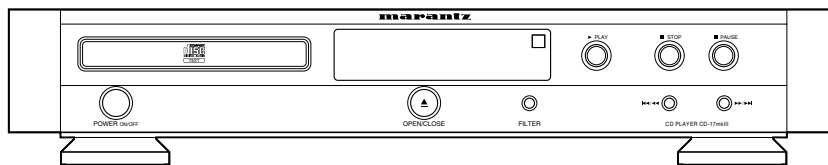


# Service Manual

CD17MK3 /K1G/N1G/S1G  
/N1S

CD Player

CD-17mkIII



## TABLE OF CONTENTS

SECTION	PAGE
1. TECHNICAL SPECIFICATIONS .....	1
2. SERVICE HINTS .....	2
3. SERVICE TOOLS .....	2
4. SERVICE MODE .....	3
5. MICROPROCESSOR AND IC DATA .....	4
6. BLOCK DIAGRAM .....	7
7. FLAG NO. ....	7
8. SCHEMATIC DIAGRAM .....	9
9. PARTS LOCATIONS (Chip parts Side) .....	15
10. EXPLODED VIEW AND PARTS LIST .....	19
11. ELECTRICAL PARTS LIST .....	22

Please use this service manual with referring to the user guide ( D.F.U. ) without fail.  
修理の際は、必ず取扱説明書を準備し操作方法を確認の上作業を行ってください。

# marantz®

## CD-17mkIII

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**MARANTZ AMERICA, INC**  
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BEEMDSTRAAT 11, 5653 MA EINDHOVEN  
THE NETHERLANDS  
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FAX : +31 - 40 - 2507860

#### CANADA

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PICKERING, ONTARIO L1W 3K1  
CANADA  
PHONE : 905 - 831 - 6333  
FAX : 905 - 831 - 6936

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**SUPERSCOPE TECHNOLOGIES, INC.**  
MARANTZ PROFESSIONAL PRODUCTS  
2640 WHITE OAK CIRCLE, SUITE A  
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PHONE : 630 - 820 - 4800  
FAX : 630 - 820 - 8103

#### PROFESSIONAL AUSTRALIA

**TECHNICAL AUDIO GROUP PTY, LTD**  
43-53 Bridge Rd.,  
STANMORE NSW 2048  
AUSTRALIA  
PHONE : +61 - (0)2 - 9519 - 0900  
FAX : +61 - (0)2 - 9519 - 0600

#### PROFESSIONAL HONG KONG

**Jolly ProAudio Broadcast Engineering Ltd.**  
UNIT 2, 10F, WAH HUNG CENTRE,  
41 HUNG TO ROAD, KWUN TONG, KLN.,  
HONG KONG  
PHONE : 852 - 21913660  
FAX : 852 - 21913990

#### AUSTRALIA

**QualiFi Pty Ltd,**  
24 LIONEL ROAD,  
MT. WAVERLEY VIC 3149  
AUSTRALIA  
PHONE : +61 - (0)3 - 9543 - 1522  
FAX : +61 - (0)3 - 9543 - 3677

#### THAILAND

**MRZ STANDARD CO., LTD**  
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BANGKOK, 10200 THAILAND  
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FAX : +66 - 2 - 224 6795

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FAX : +65 6858 6078

#### NEW ZEALAND

**WILDASH AUDIO SYSTEMS NZ**  
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AUCKLAND NEW ZEALAND  
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FAX : +64 - 9 - 8463554

#### TAIWAN

**PAI- YUING CO., LTD.**  
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TAIPEI, 10429, TAIWAN R.O.C.  
PHONE : +886 - 2 - 25221304  
FAX : +886 - 2 - 25630415

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**WO KEE HONG ELECTRONICS SDN. BHD.**  
2ND FLOOR BANGUNAN INFINITE CENTRE  
LOT 1, JALAN 13/6, 46200 PETALING JAYA  
SELANGOR DARUL EHSAN, MALAYSIA  
PHONE : +60 - 3 - 7954 8088  
FAX : +60 - 3 - 7954 7088

#### JAPAN Technical

**MARANTZ JAPAN, INC.**  
35- 1, 7- CHOME, SAGAMIONO  
SAGAMIHARA - SHI, KANAGAWA  
JAPAN 228-8505  
PHONE : +81 42 748 1013  
FAX : +81 42 741 9190

#### 日本マランツ株式会社

本社 〒228-8505  
神奈川県相模原市相模大野7-35-1  
営業本部 〒150-0022  
東京都渋谷区恵比寿南1-11-9

#### KOREA

**MK ENTERPRISES LTD.**  
ROOM 604/605, ELECTRO-OFFICETEL, 16-58,  
3GA, HANGANG-RO, YONGSAN-KU, SEOUL  
KOREA  
PHONE : +822 - 3232 - 155  
FAX : +822 - 3232 - 154

### SHOCK, FIRE HAZARD SERVICE TEST :

**CAUTION :** After servicing this appliance and prior to returning to customer, measure the resistance between either primary AC cord connector pins ( with unit NOT connected to AC mains and its Power switch ON ), and the face or Front Panel of product and controls and chassis bottom.

Any resistance measurement less than 1 Megohms should cause unit to be repaired or corrected before AC power is applied, and verified before it is return to the user/customer.

Ref. UL Standard No. 1492.

In case of difficulties, do not hesitate to contact the Technical Department at above mentioned address.

# 1. TECHNICAL SPECIFICATIONS

## Audio Characteristics

Channels .....2 channels  
Sampling frequency.....44.1 kHz  
Quantization .....16-bit linear/channel  
Error correction..... Cross-interleave read solomon code (CIRC)  
Wow & flutter ..... Precision of quartz

## Optical Readout System

Laser ..... GaAlAs semiconductor  
Wavelength..... 780 nm

## Frequency Characteristics

Frequency range ..... 5 Hz-20 kHz  
Dynamic range .....98 dB  
S/N ratio (WTD).....103 dB  
Channel separation (1 kHz).....100 dB  
THD (1 kHz).....0.002 %  
Analog output  
Output level (cinch JACKS) .....2.2 V RMS  
Output impededance ..... 150 ohms  
Digital output  
output level (cinch JACK) .....0.5 Vp-p/75 ohms  
output level (optical) ..... -19 dBm

## Power Supply

Input Voltage, Frequency ..... AC 230 V 50 Hz (/N/S)  
.....AC 110 / 220 V 50 /60 Hz (/K)  
Power Consumption ..... 12 W

## Cabinet, etc.

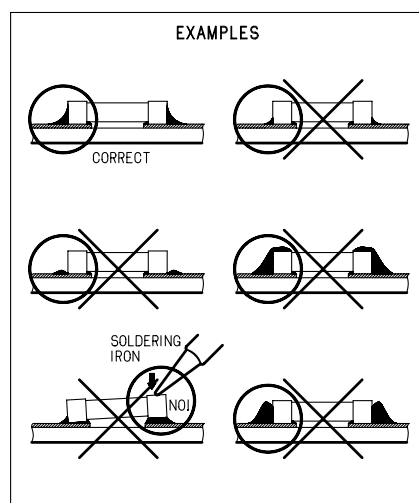
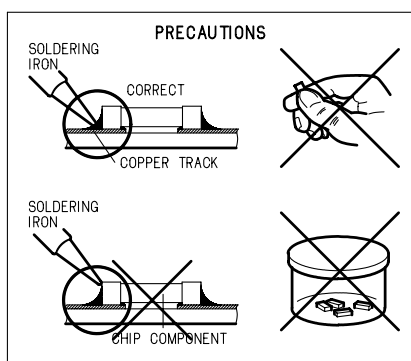
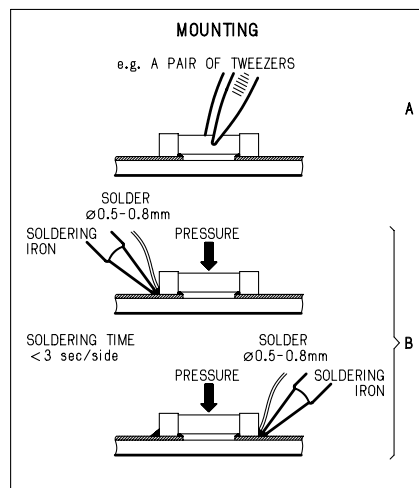
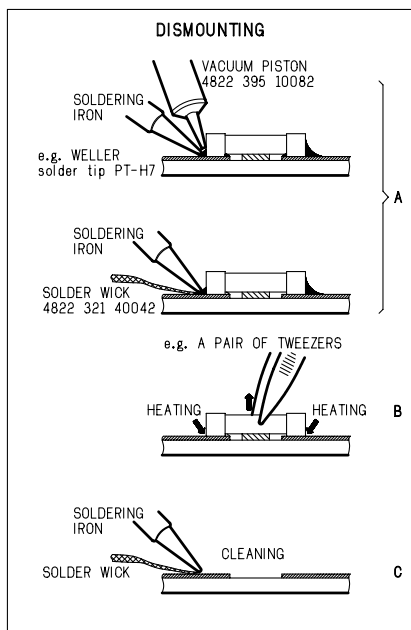
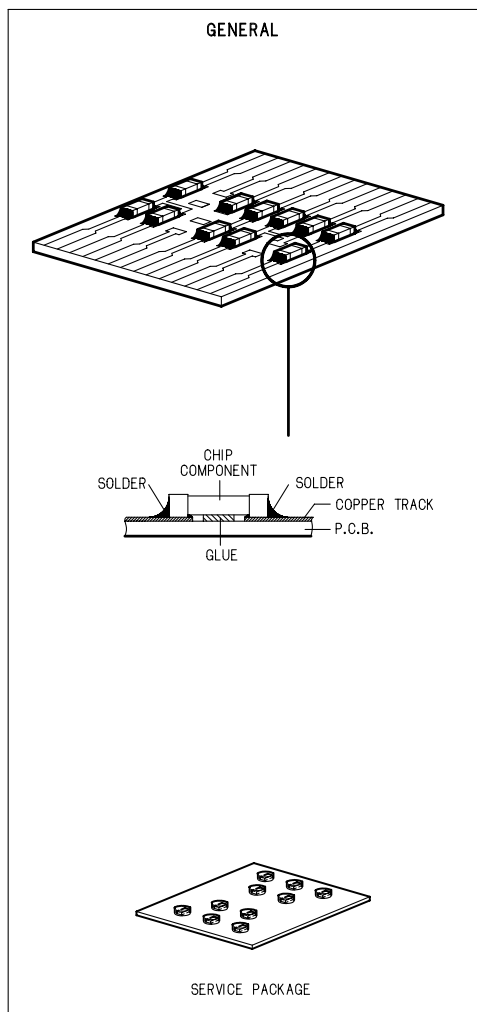
Dimensions  
Width .....458 mm  
Height.....83 mm  
Depth.....315 mm  
Net weight ..... 8.0 kg

Operating temperatures.....+5 °C~ +35 °C  
Operating humidity ..... 5 % ~ 90 % (without dew)

## Accessories

Remote control unit (RC-DA17CD) ..... 1  
AAA (R03) Batteries .....2  
Stereo audio cable with cinch pins ..... 1 pair  
Remote cable with cinch pins ..... 1  
AC Power Cord..... 1

## 2. SERVICE HINTS



## 3. SERVICE TOOLS

Audio signals disc	4822 397 30184
Disc without errors (SBC444)+	
Disc with DO errors, black spots and fingerprints (SBC444A)	4822 397 30245
Disc (65 min 1kHz) without no pause	4822 397 30155
Max. diameter disc (58.0 mm)	4822 397 60141
Torx screwdrivers	
Set (straight)	4822 395 50145
Set (square)	4822 395 50132
13th order filter	4822 395 30204
DVD test disc (PAL)	4822 397 10131
DVD test disc (NTSC) ALMEDIO	TDV-540

## 4. SERVICE MODE

### 1. How to enter into the Service Mode

Turn the power on while pressing [PLAY]+[OPEN/CLOSE] buttons together.

The display shows “model number”, “microprocessor version” and “mode”.

CD19:10P00  
 |           |           |           |  
   Mode number   Microprocessor version  
 Model number (The model number is indicated with CD19 because this set uses the microprocessor of CD19.)

### 2. Mode 0 (display “P 00”)

Condition: [FOCUS OFF], [SPINDLE OFF], [RADIAL OFF], [MUTE ON]

While pressing [▶▶](Remote Control unit only) button, the sledge moves outside.

And, release from this button. The sledge return to neutral position.

Press [NEXT ▶▶] button, the function will change to “Mode 1”.

### 3. Mode 1 (display “P 01”)

Condition: [FOCUS ON], [SPINDLE OFF], [RADIAL OFF], [MUTE ON]

Press [NEXT ▶▶] button, the function will change to “Mode 2”.

Press [PREV ◀◀] button, the function will change to “Mode 0”.

### 4. Mode 2 (display “P 02”)

Condition: [FOCUS ON], [SPINDLE ON], [RADIAL OFF], [MUTE ON]

Press [NEXT ▶▶] button, the function will change to “Mode 3”.

Press [PREV ◀◀] button, the function will change to “Mode 1”.

### 5. Mode 3 (display “P 03”)

Condition: [FOCUS ON], [SPINDLE ON], [RADIAL ON], [MUTE OFF]

Press [PREV ◀◀] button, the function will change to “Mode 2”.

The following button operations are available at the Service Mode.

- 1) While pressing [STOP] button, FL display shows all segments.
- 2) Press [PAUSE] button. FL display shows each segments one by one automatically. (Segments test mode) And, press [PAUSE] button again, this mode will be stopped.
- 3) The same as Normal operation is performed by pressing [PLAY] button. (Except segments test mode.) However if some default is detected, display shows an error code. (For example: “Err 10”) Refer to the “Table 1 ERROR CODE”.

### 6. Canceling the Service Mode

The Service Mode is canceled by turning the power off.

## 4. サービスモード

### 1. サービスモードへの入り方

[PLAY]と[OPEN/CLOSE] ボタンを押しながら電源を入れます。モデル番号及びプロセッサバージョン番号、モード番号を表示します。

CD19:10P00  
 |           |           |           |  
   モデル番号   プロセッサバージョン番号   モード番号  
 モデル番号(本機はCD19のマイコンを使用していますので、表示はCD19と表示されます。)

### 2. モード0 (表示 P 00)

状態：[FOCUS OFF] [SPINDLE OFF] [RADIAL OFF] [MUTE ON]

- リモコンの[▶▶] ボタンを押している間だけスレッドが外周へ移動します。ボタンを放すと原点に戻ります。
- [NEXT ▶▶] ボタンを押すとモード1へ移行します。

### 3. モード1 (表示 P 01)

状態：[FOCUS ON] [SPINDLE OFF] [RADIAL OFF] [MUTE ON]

- [NEXT ▶▶] ボタンを押すとモード2へ移行します。
- [PREV ◀◀] ボタンを押すとモード0へ移行します。

### 4. モード2 (表示 P 02)

状態：[FOCUS ON] [SPINDLE ON] [RADIAL OFF] [MUTE ON]

- [NEXT ▶▶] ボタンを押すとモード3へ移行します。
- [PREV ◀◀] ボタンを押すとモード1へ移行します。

### 5. モード3 (表示 P 03)

状態：[FOCUS ON] [SPINDLE ON] [RADIAL ON] [MUTE OFF]

- [PREV ◀◀] ボタンを押すとモード2へ移行します。

\* サービスモードの全ての状態で以下のボタンが有効です。

- 1) [STOP] ボタンを押している間だけFLが全点灯します。
- 2) [PAUSE] ボタンを押すとFL各部自動点灯テストを行いません。もう一度押すとテストを中止します。
- 3) [PLAY] ボタンを押すと通常（サービスモード以外）と同じ動作となります。ただし、上記のFL各部自動点灯テスト中を除きます。  
動作中、異常が確認された時にエラー番号が表示されます。(例：Err 10)  
下記の表を参考にしてください。

### 6. サービスモードの解除

電源を切るとサービスモードが解除されます。

**Table 1 ERROR CODE**

Error Code	Error
Err 02	FOCUS Error
Err 07	SUB CODE Error
Err 08	T. O. C. Error
Err 09	DECODER Error
Err 10	RADIAL Error
Err 11, 12	SLEDGE Error
Err 13	SPINDLE Error
Err 16 ~ 20	SEARCH Error
Err 30	DOOR Error
Err 31	TRAY Error
Err 32 ~ 47	BUTTON INPUT Error

## 5. MICROPROCESSOR AND IC DATA

### Q102 SAA7372GP

PIN	SYMBOL	DESCRIPTION
1	VSSA1	*analog ground 1
2	VDDA1	* analog supply voltage 1
3	D1	unipolar current input (central diode signal input)
4	D2	unipolar current input (central diode signal input)
5	D3	unipolar current input (central diode signal input)
6	VRL	reference voltage input for ADC
7	D4	unipolar current input (central diode signal input)
8	R1	unipolar current input (satellite diode signal input)
9	R2	unipolar current input (satellite diode signal input)
10	IrefT	current reference output for ADC calibration
11	VRH	reference voltage output from ADC
12	VSSA2	* analog ground 2
13	SELPLL	selects whether internal clock multiplier PLL is used
14	ISLICE	current feedback output from data slicer
15	HFIN	comparator signal input
16	VSSA3	* analog ground 3
17	HFREF	comparator common mode input
18	Iref	reference current output pin (nominally 0.5VDD )
19	VDDA2	* analog supply voltage 2
20	TEST1	test control input 1; this pin should be tied LOW
21	CRIN	crystal/resonator input
22	CROUT	crystal/resonator output
23	TEST2	test control input 2; this pin should be tied LOW
24	CL16	16.9344 MHz system clock output
25	CL11	11.2896 or 5.6448 MHz clock output (3-state)
26	RA	radial actuator output
27	FO	focus actuator output
28	SL	sledge control output
29	TEST3	test control input 3; this pin should be tied LOW
30	VDDD1(P)	* digital supply voltage 1 for periphery
31	DOBM	bi-phase mark output (externally buffered; 3-state)
32	VSSD1	* digital ground 1
33	MOTO1	motor output 1; versatile (3-state)
34	MOTO2	motor output 2; versatile (3-state)
35	SBSY	subcode block sync output (3-state)
36	SFSY	subcode frame sync output (3-state)
37	RCK	subcode clock input
38	SUB	P-to-W subcode output bits (3-state)
39	VSSD2	* digital ground 2
40	V5	versatile output pin 5
41	V4	versatile output pin 4
42	V3	versatile output pin 3 (open-drain)
43	KILL	kill output (programmable; open-drain)
44	EF	C2 error flag; output only defined in CD ROM modes and 1fs modes (3-state)
45	DATA	serial data output (3-state)
46	WCLK	word clock output (3-state)
47	VDDD2(P)	* digital supply voltage 2 for periphery
48	SCLK	serial bit clock output (3-state)
49	VSSD3	* digital ground 3
50	CL4	4.2336 MHz microcontroller clock output
51	SDA	microcontroller interface data I/O line (open-drain output)
52	SCL	microcontroller interface clock line input
53	RAB	microcontroller interface R/W and load control line input (4-wire bus mode)
54	SILD	microcontroller interface R/W and load control line input (4-wire-bus mode)
55	n.c.	not connected
56	VSSD4	* digital ground 4
57	RESET	power-on reset input (active LOW)
58	STATUS	servo interrupt request line/decoder status register output (open-drain)
59	VDDD3(C)	* digital supply voltage 3 for core
60	C2FAIL	indication of correction failure output (open-drain)
61	CFLG	correction flag output (open-drain)
62	V1	versatile input pin 1
63	V2	versatile input pin 2
64	LDON	laser drive on output (open-drain)

\* Note : All supply pins must be connected to the same external power supply voltage.

### Q101 TDA1302T

PIN	SYMBOL	DESCRIPTION
1	O4	output of diode current amplifier 4
2	O6	output of diode current amplifier 6
3	O3	output of diode current amplifier 3
4	O1	output of diode current amplifier 1
5	O5	output of diode current amplifier 5
6	O2	output of diode current amplifier 2
7	LDON	control pin for switching the laser ON and OFF
8	VDDL	laser supply voltage
9	RFE	equalized output voltage of sum signal of amplifiers 1 to 4
10	RF	unequalized output
11	HG	control pin for gain switch
12	LS	control pin for speed switch
13	CL	external capacitor
14	ADJ	reference input normally connected to ground via a resistor
15	GND	0 V supply; substrate connection (ground)
16	LO	current output to the laser diode
17	MI	laser monitor diode input
18	VDD	amplifier supply voltage
19	I2	photo detector input 2 (central)
20	I5	photo detector input 5 (satellite)
21	I1	photo detector input 1 (central)
22	I3	photo detector input 3 (central)
23	I6	photo detector input 6 (satellite)
24	I4	photo detector input 4 (central)

### Q106/Q107/Q108 TDA7073A

PIN	SYMBOL	DESCRIPTION
1	IN1-	negative input 1
2	IN1+	positive input 1
3	n.c.	not connected
4	n.c.	not connected
5	VP	positive supply voltage
6	IN2+	positive input 2
7	IN2-	negative input 2
8	n.c.	not connected
9	OUT2+	positive output 2
10	GND2	ground 2
11	n.c.	not connected
12	OUT2-	negative output 2
13	OUT1-	negative output 1
14	GND1	ground 1
15	n.c.	not connected
16	OUT1+	positive output 1

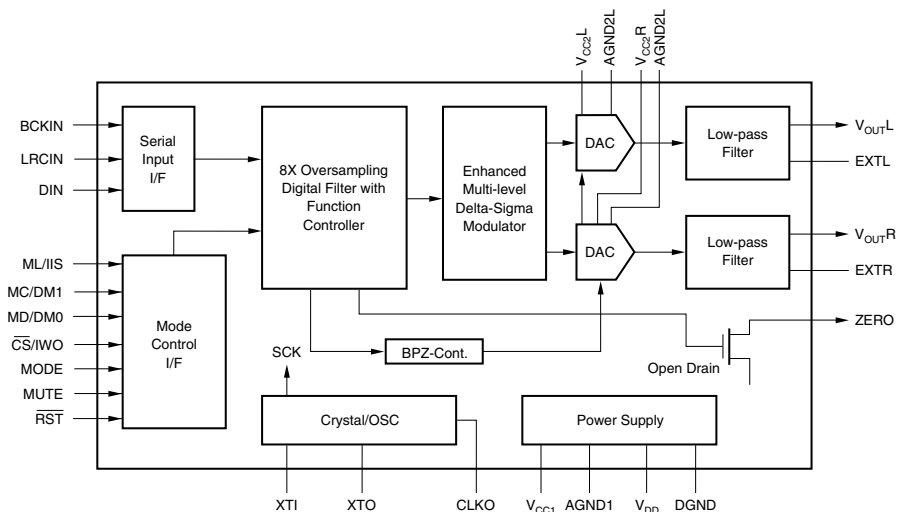
### Q201 LC89170M

PIN	SYMBOL	I/O	FUNCTION
1	EXCK	I/O	Subcode interface shift clock input and output
2	SBSO	I	Subcode interface data Input
3	SCOR	I	Subcode interface block synchronization Input
4	WFCK	I	Subcode interface frame synchronization Input
5	MCK	I	Clock input (16.9344 MHz)
6	XMODE	I	System reset and low power mode
7	GND		Ground
8	TEST	I	Test pin (Must be connected to ground in normal operation.)
9	SW1	I	EXCK I/O setting (L: clock output, H: clock input)
10	SW2	I	EXCK clock output pulse width selection (L: double speed support, H: normal speed)
11	SCLK	I	Command interface shift clock input
12	SRDT	O	Command interface data output
13	DOSY	O	Command interface readout enable output
14	VDD		Power supply

**QD01/QD51 PCM1716**

PIN	NAME	I/O	DESCRIPTION
1	LRCIN	IN	Left and Right Clock Input. This clock is equal to the sampling rate - $f_s$ . <sup>(1)</sup>
2	DIN	IN	Serial Audio Data Input <sup>(1)</sup>
3	BCKIN	IN	Bit Clock Input for Serial Audio Data. <sup>(1)</sup>
4	CLKO	OUT	Buffered Output of Oscillator. Equivalent to System Clock.
5	XTI	IN	Oscillator Input (External Clock Input)
6	XTO	OUT	Oscillator Output
7	DGND	-	Digital Ground
8	V <sub>DD</sub>	-	Digital Power +5V
9	V <sub>CC2R</sub>	-	Analog Power +5V
10	AGND2R	-	Analog Ground
11	EXTR	OUT	Rch, Common Pin of Analog Output Amp
12	NC	-	No Connection
13	V <sub>OUTR</sub>	OUT	Rch, Analog Voltage Output of Audio Signal
14	AGND1	-	Analog Ground
15	V <sub>CC1</sub>	-	Analog Power +5V
16	V <sub>OUTL</sub>	OUT	Lch, Analog Voltage Output of Audio Signal
17	NC	-	No Connection
18	EXTL	OUT	Lch, Common Pin of Analog Output Amp
19	AGND2L	-	Analog Ground
20	V <sub>CC2L</sub>	-	Analog Power +5V
21	ZERO	OUT	Zero Data Flag
22	RST	IN	Reset. When this pin is low, the DF and modulators are held in reset. <sup>(2)</sup>
23	CS/IWO	IN	Chip Select/Input Format Selection. When this pin is low, the Mode Control is effective. <sup>(3)</sup>
24	MODE	IN	Mode Control Select. (H: Software, L: Hardware) <sup>(2)</sup>
25	MUTE	IN	Mute Control
26	MD/DM0	IN	Mode Control, DATA/De-emphasis Selection 1 <sup>(2)</sup>
27	MC/DM1	IN	Mode Control, BCK/De-emphasis Selection 2 <sup>(2)</sup>
28	ML/I <sup>2</sup> S	IN	Mode Control, WDCK/Input Format Selection <sup>(2)</sup>

NOTES: (1) Pins 1, 2, 3; Schmitt Trigger input. (2) Pins 22, 24, 25, 26, 27, 28; Schmitt Trigger input with pull-up resistor. (3) Pin 23; Schmitt Trigger input with pull-down resistor.



**QD02 TC160G11AU-1305**

PIN	SYMBOL	To/From	Description
1	Vss	GND	
2	BCLK1	Q102	Serial bit clock input
3	Vdd	+5V	+5V Power supply
4	Vss	GND	
5	Vdd	+5V	+5V Power supply
6	Vss	GND	
7	24/32/SEI	GND	
8	IIS/SONY	GND	
9	DINV	GND	
10	MODE1	GND	
11	MODE2	GND	
12	Vdd	+5V	+5V Power supply
13	Vss	GND	
14	DOL	QD01	Data output left channel
15	BCLK01	---	Not connected
16	Vss	GND	
17	Vdd	+5V	+5V Power supply
18	WCLK01	---	Not connected
19	Vss	GND	
20	Vss	GND	
21	DIN	QD12	Data input
22	Vdd	+5V	+5V Power supply
23	Vss	GND	
24	DOR	QD51	Data output right channel
25	BCLK02	QD01/QD51	Bit clock output
26	Vdd	+5V	+5V Power supply
27	WCLK02	QD01/QD51	Word clock output
28	Vss	GND	
29	Vdd	+5V	+5V Power supply
30	CKOUT3	---	Not connected
31	CKOUT2	Q102/QD01/QD51	System clock output
32	CKOUT1	---	Not connected
33	Vss	GND	
34	Vss	GND	
35	Vdd	+5V	+5V Power supply
36	XIN	XD01	Clock input(16.9344MHz)
37	XOUT	XD01	Clock input(16.9344MHz)
38	Vss	GND	
39	Vdd	+5V	+5V Power supply
40	Vss	GND	
41	Vss	GND	
42	WCLKI	Q102	Word clock input
43	Vdd	+5V	+5V Power supply
44	Vss	GND	

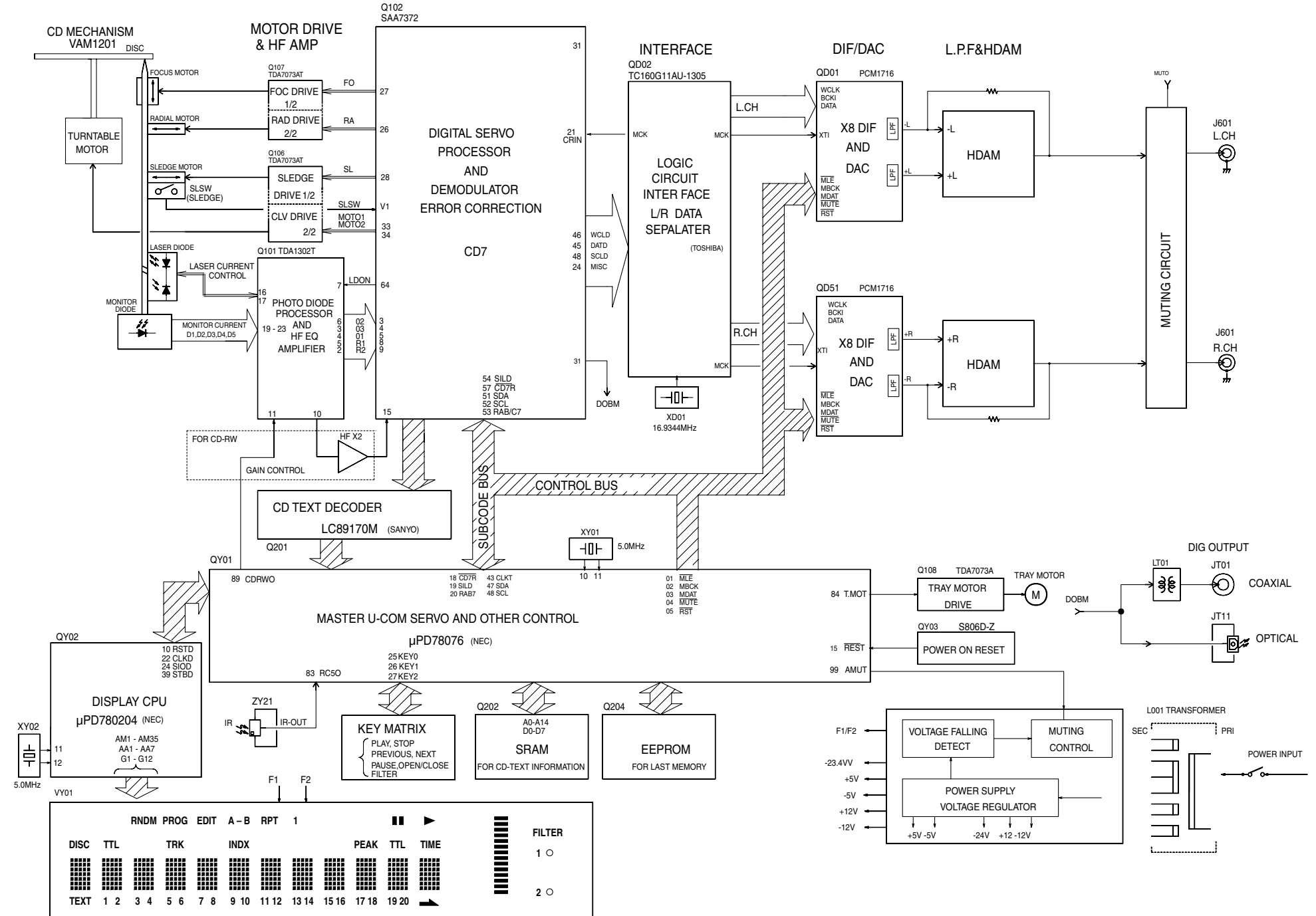
**QY01 μPD78076**

No.	Name	I/O	Port	Active	To/From	Description
1	MLE	OUT	P120/RTP0	-	QD01/QD5	Latch signal for mode control of DAC QD01/QD51
2	MBCK	IN/OUT	P121/RTP1	H	QD01/QD5	Serial clock for mode control of DAC QD01/QD51
3	MDAT	OUT	P122/RTP2	L	QD01/QD5	Serial data for mode control of DAC QD01/QD51
4	MUTEN	OUT	P123/RTP3	-	QD01/QD5	Mute control signal for DAC QD01/QD51
5	RSTN	IN	P124/RTP4	L	QD01/QD5	Reset signal for DAC QD01/QD51
6	OPEN	IN	P125/RTP5	-	OPEN	
7	OPEN	IN	P126/RTP6	-	OPEN	
8	OPEN	IN	P127/RTP7	-	OPEN	
9	GND		IC	-	GND	
10	5MHz XTAL		X2	-	XY01	Clock out
11	5MHz XTAL		X1	-	XY01	Clock in
12	+5VD		Vdd	-	Q811	
13	OPEN		XT2	-	OPEN	
14	+5VD		XT1/P07	-	Q811	
15	RESTN	IN	RESET	L	QY03	Reset
16	RC5IN	IN	P00/INTP0/TI00	↑	ZY21/EXT	IR Sensor signal input
17	DQSTN	IN	P01/INTP1/TI01	↓	Q201	Data request from Q201
18	CD7RN	OUT	P02/INTP2	L	Q102	Reset signal for Q102
19	SILDN	OUT	P03/INTP3	L	Q102	Strobe signal for servo part of Q102
20	RAB7N	OUT	P04/INTP4	L	Q102	Strobe signal for servo part of Q102
21	OPEN	IN	P05/INTP5	-	OPEN	
22	OPEN	IN	P06/INTP6	-	OPEN	
23	+5VD		Avdd	-	Q811	
24	+5VD		Avref0	-	Q811	
25	KEY0	IN	P10/ANI0	Lev	Tact switch	Key Sensor
26	KEY1	IN	P11/ANI1	Lev	Tact switch	Key Sensor
27	KEY2	IN	P12/ANI2	Lev	Tact switch	Key Sensor
28	GND	IN	P13/ANI3	-	GND	
29	GND	IN	P14/ANI4	-	GND	
30	GND	IN	P15/ANI5	-	GND	
31	GND	IN	P16/ANI6	-	GND	
32	GND	IN	P17/ANI7	-	GND	
33	GND		Avss	-	GND	
34	OPEN	IN	P130/ANQ0	-	OPEN	
35	RSTDN	OUT	P131/ANO1	L	QY02	Reset signal for Display driver QY02
36	+5VD		Avref1	-	Q811	
37	STBD	OUT	P70/SI2/RxD	H	QY02	Strobe signal for Display driver QY02
38	SIOD	OUT	P71/SO2/TxD	H	QY02	Serial data for Display driver QY02
39	CLKD	OUT	P72/SCK2/ASCK	H	QY02	Serial clock for Display driver QY02
40	GND		Vss	-	GND	
41	SIDT	IN	P20/SI1	H	Q201	Serial data for CD-TEXT decoder Q201
42	OPEN	IN	P21/SO1	-	OPEN	
43	CLKT	OUT	P22/SCK1	H	Q201	Serial clock for CD-TEXT decoder Q201
44	OPEN		P23/STB	-	OPEN	
45	OPEN	OUT	P24/BUSY	-	OPEN	
46	OPEN	IN	P25/SIO/SB0/SDA0	-	OPEN	
47	SDA	IN/OUT	P26/SO0/SB1/SDA1	H	Q202	Serial data for Q102
48	SCL	OUT	P27/SCK0/SCL	H	Q202	Serial clock for Q102
49	A0	OUT	P80/A0	H	Q202	Address signal for Q202
50	A1	OUT	P81/A1	H	Q202	Address signal for Q202
51	A2	OUT	P82/A2	H	Q202	Address signal for Q202
52	A3	OUT	P83/A3	H	Q202	Address signal for Q202
53	A4	OUT	P84/A4	H	Q202	Address signal for Q202
54	A5	OUT	P85/A5	H	Q202	Address signal for Q202
55	A6	OUT	P86/A6	H	Q202	Address signal for Q202
56	A7	OUT	P87/A7	H	Q202	Address signal for Q202
57	D0	OUT	P40/AD0	H	Q202	Data signal for Q202
58	D1	IN/OUT	P41/AD1	H	Q202	Data signal for Q202
59	D2	IN/OUT	P42/AD2	H	Q202	Data signal for Q202
60	D3	IN/OUT	P43/AD3	H	Q202	Data signal for Q202
61	D4	IN/OUT	P44/AD4	H	Q202	Data signal for Q202
62	D5	IN/OUT	P45/AD5	H	Q202	Data signal for Q202
63	D6	IN/OUT	P46/AD6	H	Q202	Data signal for Q202
64	D7	IN/OUT	P47/AD7	H	Q202	Data signal for Q202
65	A8	OUT	P50/A8	H	Q202	Address signal for Q202
66	A9	OUT	P51/A9	H	Q202	Address signal for Q202
67	A10	OUT	P52/A10	H	Q202	Address signal for Q202
68	A12	OUT	P54/A12	H	Q202	Address signal for Q202
69	A11	OUT	P53/A11	H	Q202	Address signal for Q202
70	A13	OUT	P55/A13	H	Q202	Address signal for Q202
71	OPEN		Vss	-	GND	
72	A14	OUT	P56/A14	H	Q202	Address signal for Q202
73	OPEN	IN	P57/A15	-	OPEN	
74	OPEN	IN	P60	-	OPEN	
75	OPEN	IN	P61	-	OPEN	
76	OPEN	IN	P62	-	OPEN	
77	OPEN	IN	P63	-	OPEN	
78	RDN	OUT	P64/RD	L	Q202	Read signal for Q202
79	WRN	OUT	P65/WR	L	Q202	Write signal for Q202
80	OPEN	IN	P66/WAIT	-	OPEN	
81	OPEN	IN	P67/ASTB	-	OPEN	
82	KILL	OUT	P100/TI5/TO5	H	QF03	Cancel RC5 from IR sensor during output RC5
83	RC5O	OUT	P101/TI6/TO6	-	QF01	Synchronized recording signal output
84	TRM	OUT	P102	-	Q108	Tray motor control signal
85	OPEN	IN	P103	-	OPEN	
86	OPEN	IN	P30/TO0	-	OPEN	
87	OPEN	IN	P31/TO1	-	OPEN	
88	OPEN	IN	P32/TO2	-	OPEN	
89	CDRWO	OUT	P33/TI1	H	Q101	In case of CD-RW disc, gain up control for Q101
90	SLSWN	IN	P34/TI2	L	VAM1201	Sledge detect switch (LOW in end)
91	TROSN	IN	P35/PCL	L	TRAY	Tray in/out detect switch (LOW : out end)
92	TRISN	IN	P36/BUZ	L	TRAY	Tray in/out detect switch (LOW : in end)
93	OPEN	IN	P37	-	OPEN	
94	CS	OUT	P90	H	Q204	CS for EEPROM Q204
95	SK	OUT	P91	H	Q204	Serial clock for EEPROM Q204
96	DI	OUT	P92	H	Q204	Serial data output for EEPROM Q204
97	DO	IN	P93	H	Q204	Serial data input for EEPROM Q204
98	OPEN	IN	P94	-	OPEN	
99	AMUTN	OUT	P95	L	QN04	Analog muting on
100	LEDN	OUT	P96	L	QY04/QY08	LED control signal (HIGH : Filter1, LOW : Filter2)

QY02  $\mu$ PD780204

Pin No.	Port Name	Function	To/From	Descriptio	Active
1	+5Vd	Vdd	+5Vd	LED On/Off	Low
2	OPEN	P37	---	LED On/Off	Low
3	OPEN	P36/BUZ	---	LED On/Off	Low
4	OPEN	P35/PCL	---	LED On/Off	Low
5	OPEN	P34/TI2	---	LED On/Off	Low
6	OPEN	P33/TI1	---	LED On/Off	Low
7	OPEN	P32/TO2	---	LED On/Off	Low
8	OPEN	P31/TO1	---	LED On/Off	Low
9	OPEN	P30/TO0	---	LED On/Off	Low
10	RESD	RESET	QY01		
11	5MHz X'tal	X2	XY02		
12	5MHz X'tal	X1	XY02		
13	GND	IC	GND		
14	OPEN	XT2	---		
15	OPEN	P04/XT1	---		
16	+5Vd	Vdd	+5Vd		
17	OPEN	P27/SCK0	---		
18	OPEN	P26/SO0/SB1	---		
19	OPEN	P25/SI0/SB0	---		
20	OPEN	P24/BUSY	---		
21	OPEN	P23/STB	---		
22	CLKD	P22/SCK1	---		
23	OPEN	P21/SO1	---		
24	SIOD	P20/SI1	QY01		
25	GND	Avss	GND		
26	OPEN	P17/ANI7	---		
27	OPEN	P16/ANI6	---		
28	OPEN	P15/ANI5	---		
29	OPEN	P14/ANI4	---		
30	OPEN	P13/ANI3	---		
31	OPEN	P12/ANI2	---		
32	OPEN	P11/ANI1	---		
33	OPEN	P10/ANI0	---		
34	OPEN	Avdd	---		
35	GND	Avref	GND		
36	OPEN	P03/INTP3	---		
37	OPEN	P02/INTP2	---		
38	OPEN	P01/INTP1	---		
39	STBD	P00/INTP0/TI0	QY01		
40	GND	Vss	GND		
41	OPEN	P74	---		
42	OPEN	P73	---		
43	OPEN	P72	---		
44	GND	P71	GND	Scroll rule select (LOW : CD-17)	
45	GND	P70	GND	Character select (LOW : CD-17)	
46	+5Vd	Vdd	+5Vd		
47	S40	P127/FIP52	FL	Segment output	
48	S39	P126/FIP51	FL	Segment output	
49	S38	P125/FIP50	FL	Segment output	
50	S37	P124/FIP49	FL	Segment output	
51	S36	P123/FIP48	FL	Segment output	
52	S35	P122/FIP47	FL	Segment output	
53	S34	P121/FIP46	FL	Segment output	
54	S33	P120/FIP45	FL	Segment output	
55	S32	P117/FIP44	FL	Segment output	
56	S31	P116/FIP43	FL	Segment output	
57	S30	P115/FIP42	FL	Segment output	
58	S29	P114/FIP41	FL	Segment output	
59	S28	P113/FIP40	FL	Segment output	
60	S27	P112/FIP39	FL	Segment output	
61	S26	P111/FIP38	FL	Segment output	
62	S25	P110/FIP37	FL	Segment output	
63	S24	P107/FIP36	FL	Segment output	
64	S23	P106/FIP35	FL	Segment output	
65	S22	P105/FIP34	FL	Segment output	
66	S21	P104/FIP33	FL	Segment output	
67	S20	P103/FIP32	FL	Segment output	
68	S19	P102/FIP31	FL	Segment output	
69	S18	P101/FIP30	FL	Segment output	
70	S17	P100/FIP29	FL	Segment output	
71	S16	P97/FIP28	FL	Segment output	
72	S15	P96/FIP27	FL	Segment output	
73	S14	P95/FIP26	FL	Segment output	
74	S13	P94/FIP25	FL	Segment output	
75	S12	P93/FIP24	FL	Segment output	
76	S11	P92/FIP23	FL	Segment output	
77	S10	P91/FIP22	FL	Segment output	
78	S9	P90/FIP21	FL	Segment output	
79	-VFT	Vload	-VFT		
80	S8	P87/FIP20	FL	Segment output	
81	S7	P86/FIP19	FL	Segment output	
82	S6	P85/FIP18	FL	Segment output	
83	S5	P84/FIP17	FL	Segment output	
84	S4	P83/FIP16	FL	Segment output	
85	S3	P82/FIP15	FL	Segment output	
86	S2	P81/FIP14	FL	Segment output	
87	S1	P80/FIP13	FL	Gird output or Segment output	
88	G13	FIP12	FL	Gird output or Segment output	
89	G12	FIP11	FL	Gird output or Segment output	
90	G11	FIP10	FL	Gird output or Segment output	
91	G10	FIP9	FL	Gird output or Segment output	
92	G9	FIP8	FL	Gird output or Segment output	
93	G8	FIP7	FL	Gird output or Segment output	
94	G7	FIP6	FL	Gird output or Segment output	
95	G6	FIP5	FL	Gird output or Segment output	
96	G5	FIP4	FL	Gird output or Segment output	
97	G4	FIP3	FL	Gird output or Segment output	
98	G3	FIP2	FL	Gird output or Segment output	
99	G2	FIP1	FL	Gird output	
100	G1	FIP0	FL	Gird output	

6. BLOCK DIAGRAM



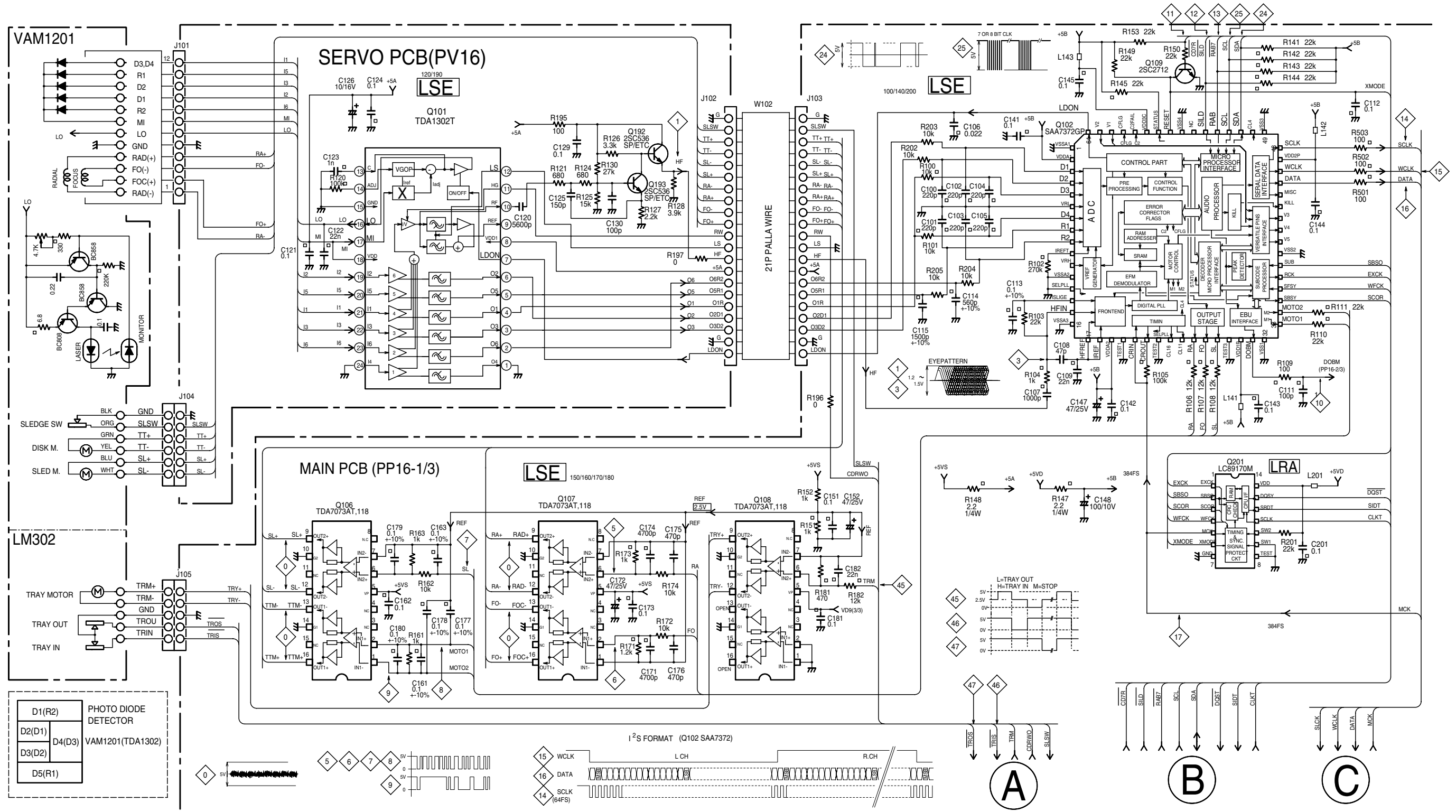
7. FLAG NO.

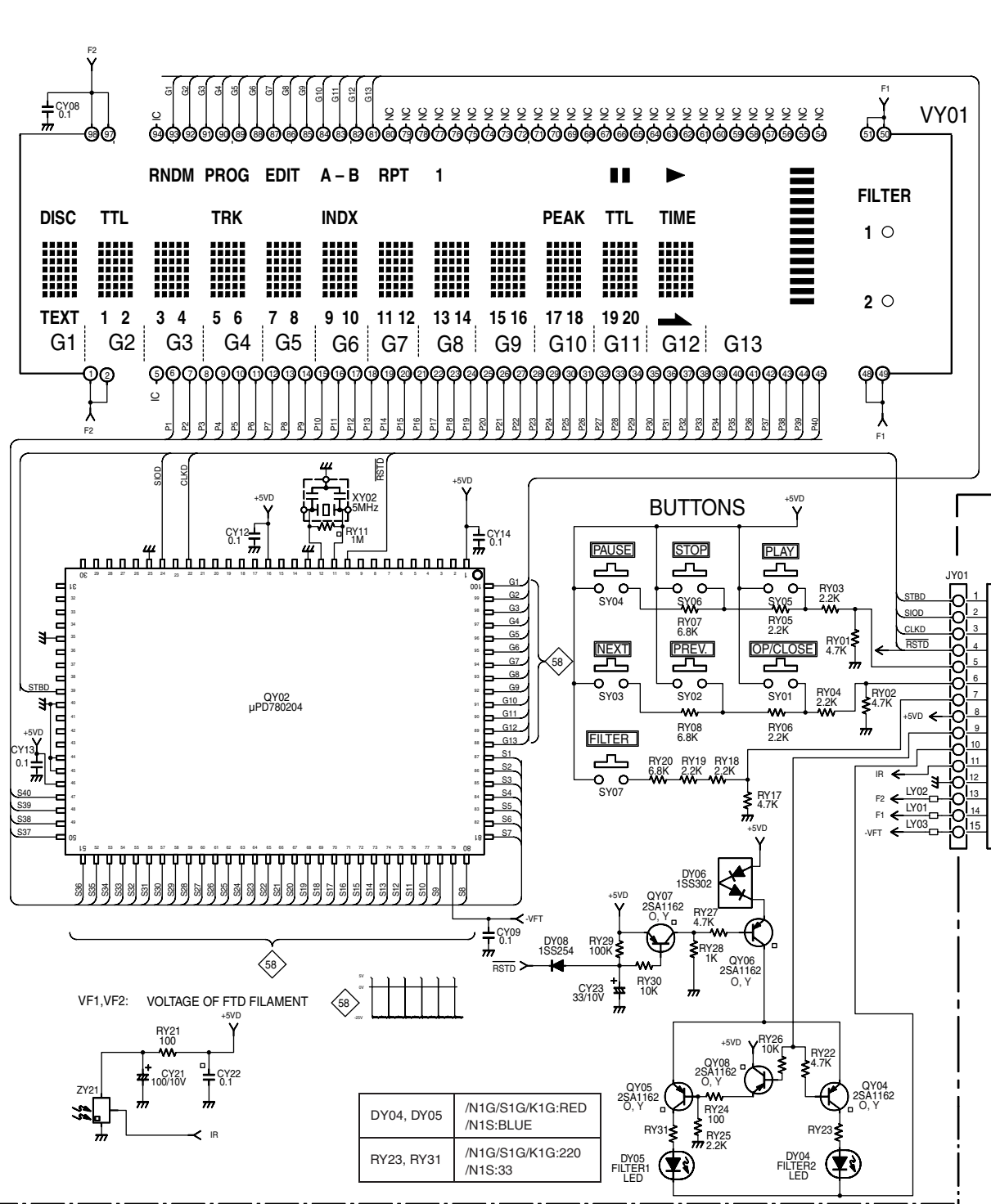
◇ FLAG CONTENTS

NO.	ITEM	FUNCTION	NO.	ITEM	FUNCTION	NO.	ITEM	FUNCTION
0	MT-OUT	MOTOR DRIVE OUTPUT	24	SDA	MPU DATA FOR SAA7372	48	DOL+	+L CH AUDIO SIGNAL AT DAC OUTPUT
1	HF-OUT	TDA1302T HF SIGNAL OUT	25	SCL	MPU CLOCK FOR SAA7372	49	DOL-	-L CH AUDIO SIGNAL AT DAC OUTPUT
2			26			50	DOR+	+R CH AUDIO SIGNAL AT DAC OUTPUT
3	HF HPF	HF SIGNAL HPF OUT	27	REST	RESET SIGNAL FOR QY01 AND QY02	51	DOR-	-R CH AUDIO SIGNAL AT DAC OUTPUT
4			28			52		
5	RA	RADIAL MOTOR CONTROL PULSE(PDM)	29			53		
6	FO	FOCUS MOTOR CONTROL PULSE(PDM)	30			54		
7	SL	SLEDGE MOTOR CONTROL PULSE(PDM)	31			55		
8	MOTO1	TURNTABLE CONTROL PULSE(PDM)	32	MLE	LATCH ENABLE FOR DAC	56		
9	MOTO2	TURNTABLE CONTROL PULSE(PDM)	33	MBCK	BIT CLOCK FOR DAC	57		
10	DOBM	DIGITAL OUTPUT SIGNAL	34	MDAT	SERIAL DATA FOR DAC	58	FLGS	FL GRID AND SEGMENT DRIVE
11	CD7R	CD7 RESET PULSE	35	MUTE	MUTE SIGNAL FOR DAC	59		
12	SILD	DATA BUS R/W AND LORD CONTROL SERVO	36	RST	RESET SIGNAL FOR DAC	60		
13	RAB7	DATA BUS R/W AND LORD CONTROL DECODER	37			61	RC I/O	RC-5 SIGNAL INPUT/OUTPUT
14	SCLK	AUDIO SERIAL DATA CLOCK	38			62	IRSW	RC-5 INTERNAL/EXTERNAL SWITCH
15	WCLK	AUDIO WORD CLOCK	39	SLSW	SLEDGE SWITCH L:IN END	63	RC5I	RC-5 SIGNAL MPU INPUT
16	DATA	AUDIO I/S DATA	40	AMUT	AUDIO MUTE H:MUTED	64	IR	RC-5 IR RECEIVE SIGNAL OUT
17	MCK	SYSTEM CLOCK 16.9344MHz	41	LED	FILTER 1/2 LED SIGNAL H:FILTER1 L: FILTER2	65		
18	WCLK	WORD CLOCK OUT OF L/R SEPALATING IC QD02	42			66		
19	DOL	LCH DATA OUTPUT OF L/R SEPALATING IC QD02	43			67	LROUT	AUDIO SIGNAL OUTPUTS
20	DOR	RCH DATA OUTPUT OF L/R SEPALATING IC QD02	44			68	MUTO	MUTE SIGNAL OUT FOR AUDIO SIGNAL
21	BCLK	BIT CLOCK OUT OF L/R SEPALATING IC QD02	45	T.MOT	TRAY MOTOR CONTROL SIGNAL	69	PWMU	POWER ON/OFF MUTING SET SIGNAL
22			46	TRIS	TRAY IN/OUT DETECT SWITCH L:INSIDE END	70		
23			47	TROS	TRAY IN/OUT DETECT SWITCH L:OUTSIDE END	71		



8. SCHEMATIC DIAGRAM





**LAST MEMORY FUNCTION**

The defaults (factory settings) of the above items are as listed below.

Text display priority : When a CD - TEXT disc is played, the text display mode is activated in priority.

Time display mode : Elapsed play time display.

Analog/headphone output levels : Maximum value (0 dB).

Filter position : Filter 1

\* When the STOP button is held depressed for more than 5 seconds in stop mode, all stored items are cleared and return to the defaults.

**ラストメモリー機能**

各目の初期設定 (工場出荷時) は、以下のように設定されています。

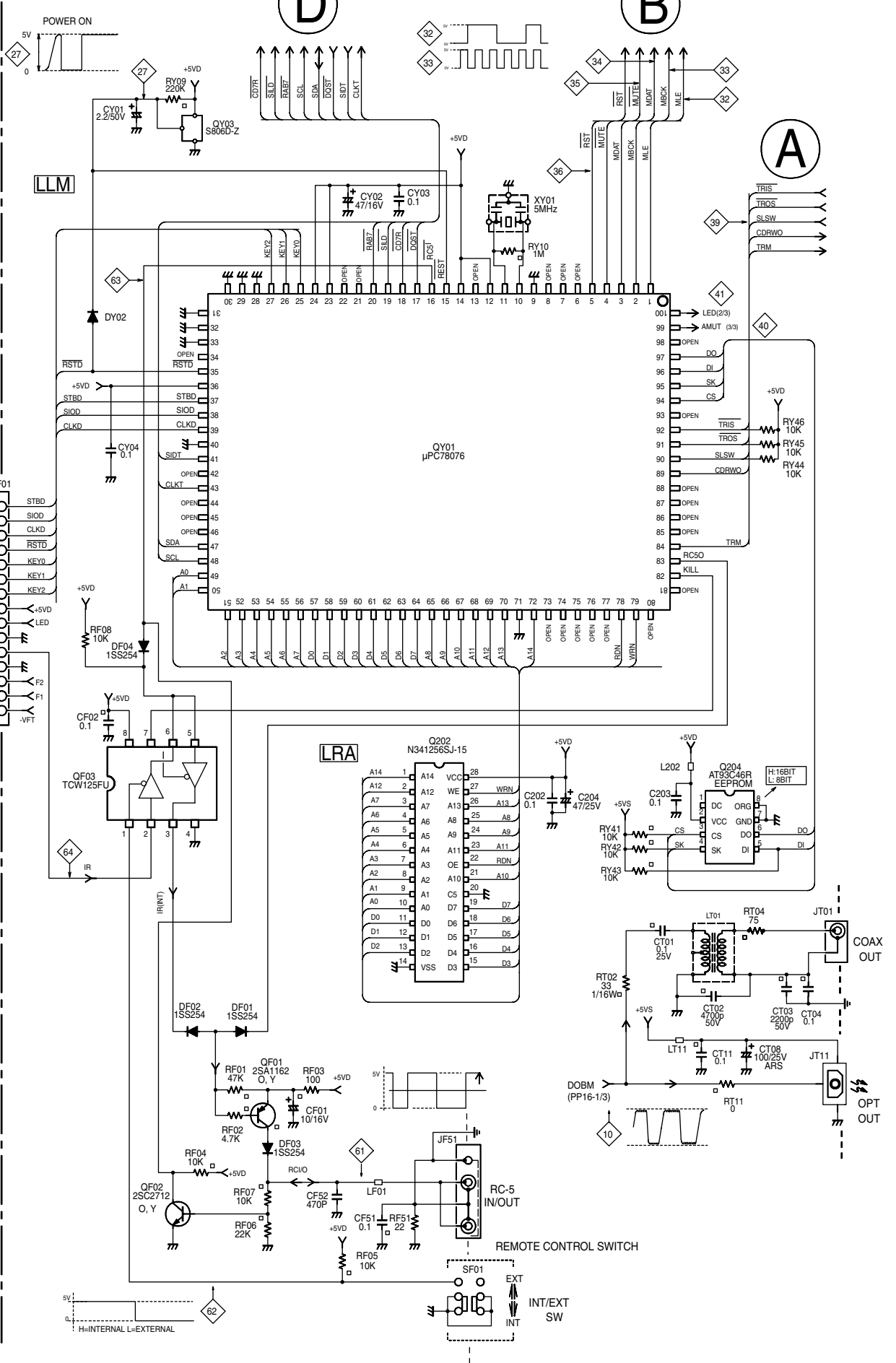
テキスト表示優先 : CD テキストのディスクの場合にテキスト表示モードで表示。

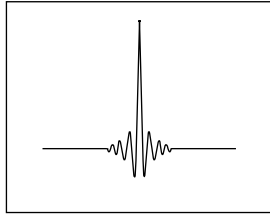
時間表示モード : 経過時間表示。

アナログ/ヘッドホン出力レベル : 最大値 (0dB)

フィルターポジション : FILTER 1

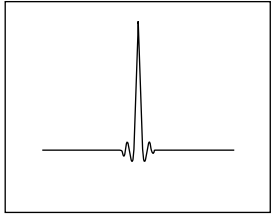
※ 停止状態で、STOP ボタンを5秒間以上押しつづけますと全項目はクリアされ、初期設定に戻ります。





**Filter-1(Sharp roll-off)**  
The pre-echo and after-echo characteristics in the impulse response are even. This tone can be treated as a reference tone regardless of the source.

**FILTER-1 (シャープロールオフ)**  
インパルス応答では、プリエコー、アフターエコー共に均等にある特性です。ソースを選ばないリファレンスの音質傾向です。



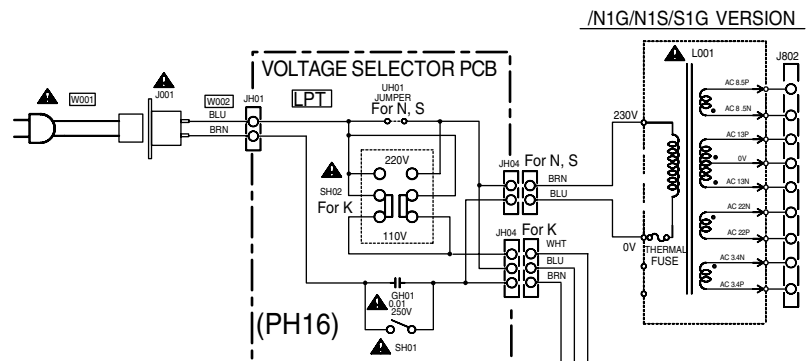
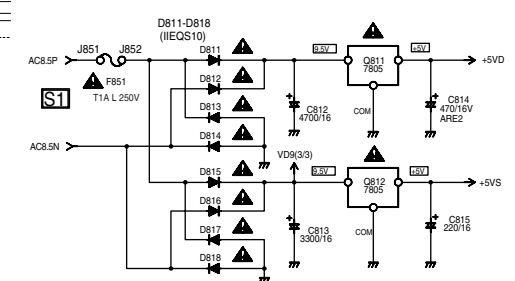
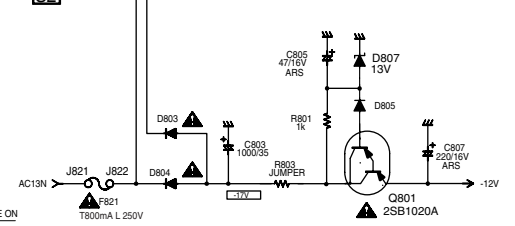
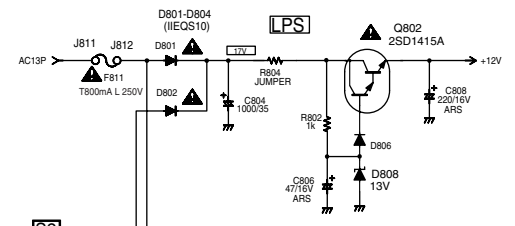
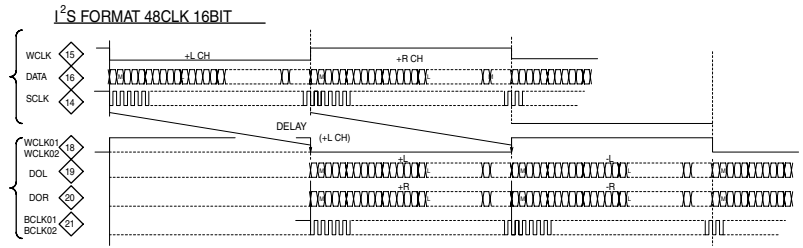
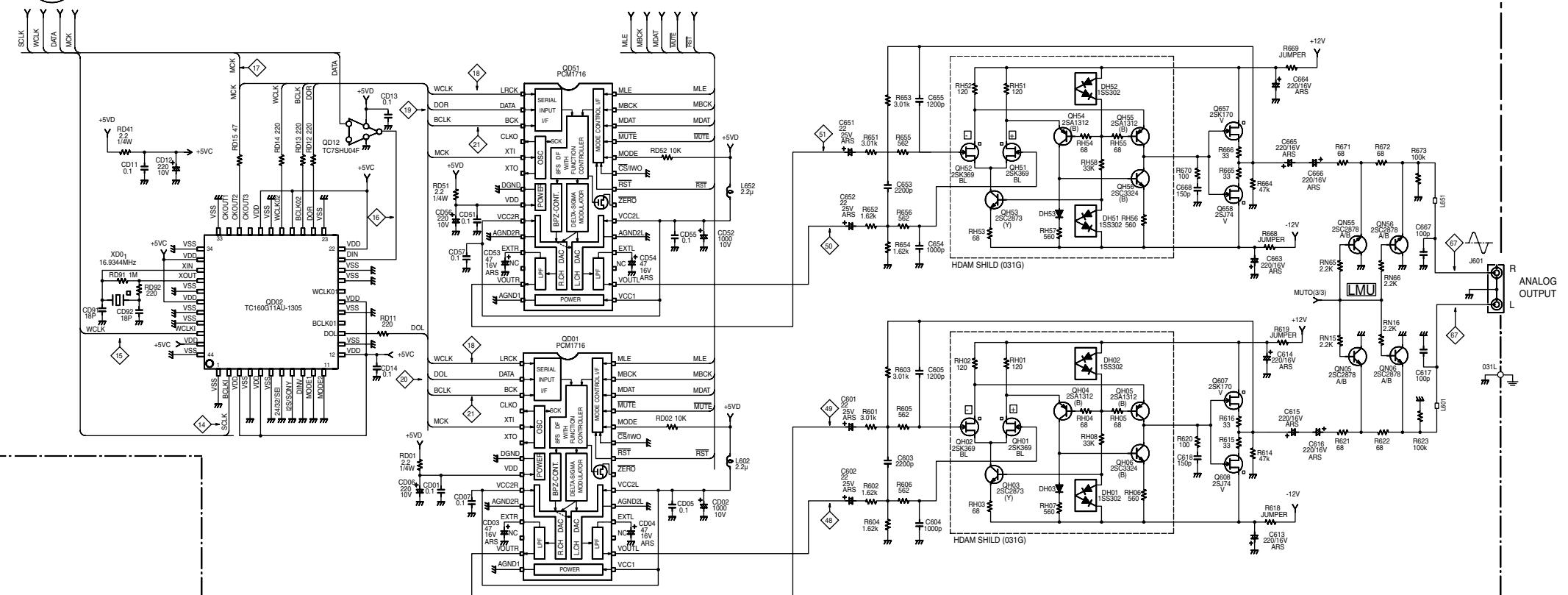
**Filter-2(Slow roll-off)**  
Both the pre-echo and after-echo characteristics in the impulse response are small. The tone sounds and features rich expression of reverberations.

**FILTER-2 (スローロールオフ)**  
インパルス応答では、プリエコー、アフターエコー共に少ない特性です。滑らかに残響表現の豊かな音質傾向です。

FOR Q102  
**(C)**

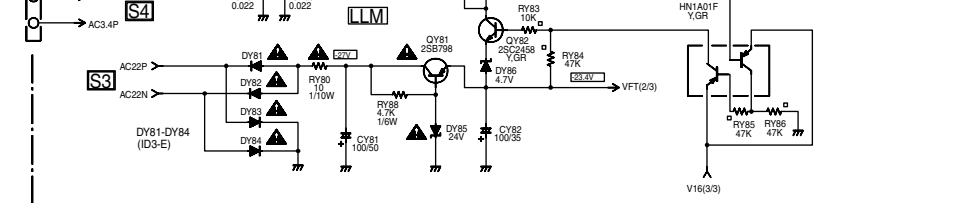
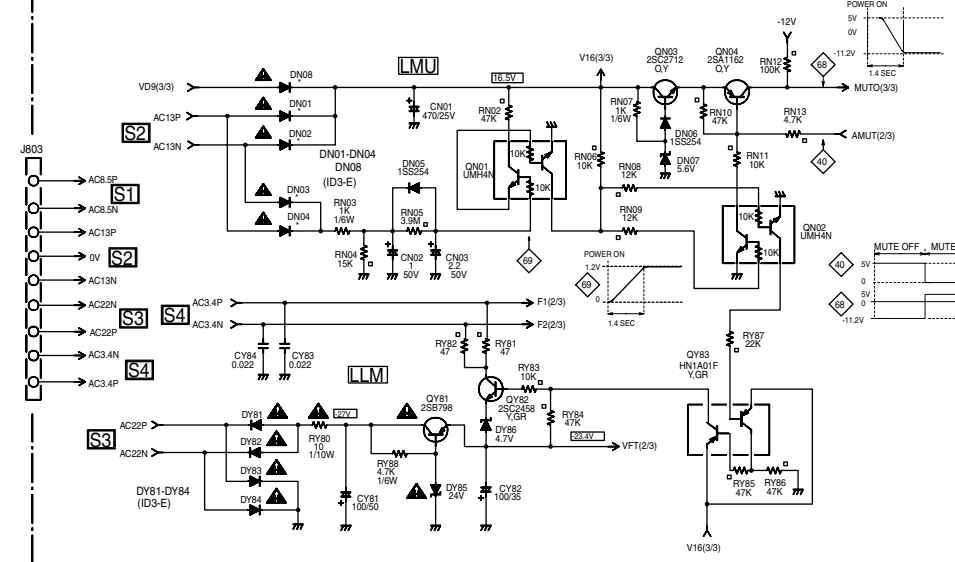
MAIN PCB (PP16-3/3)

FOR MPU  
**(D)**

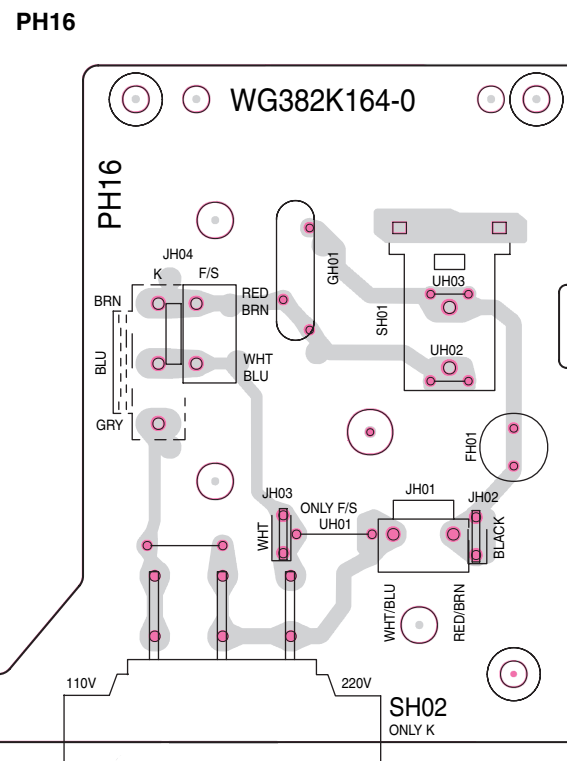
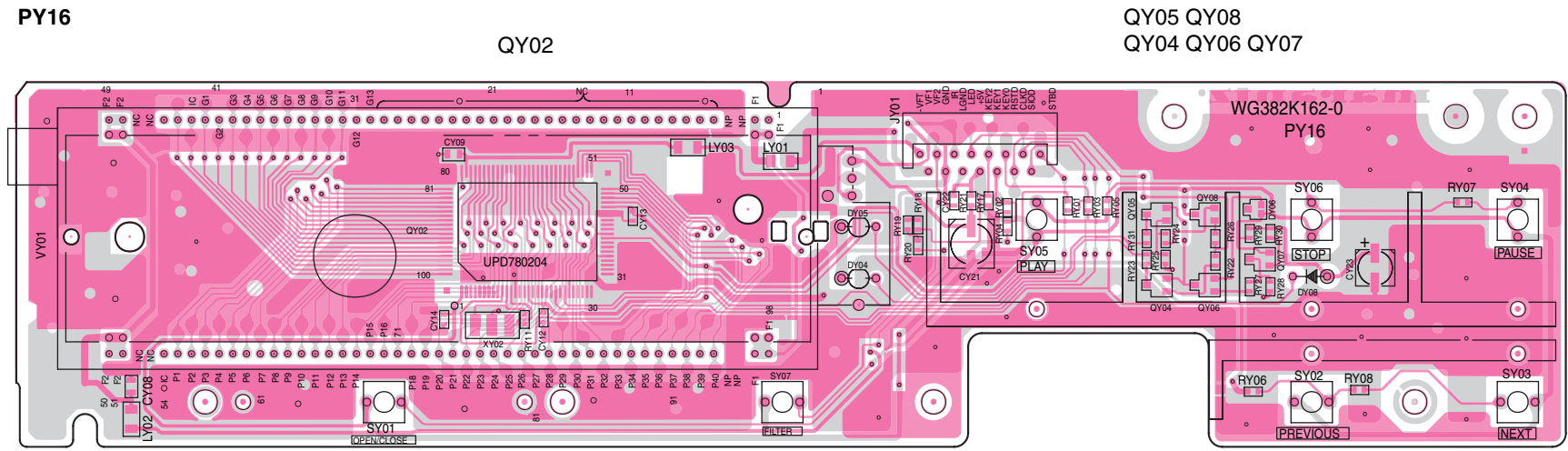
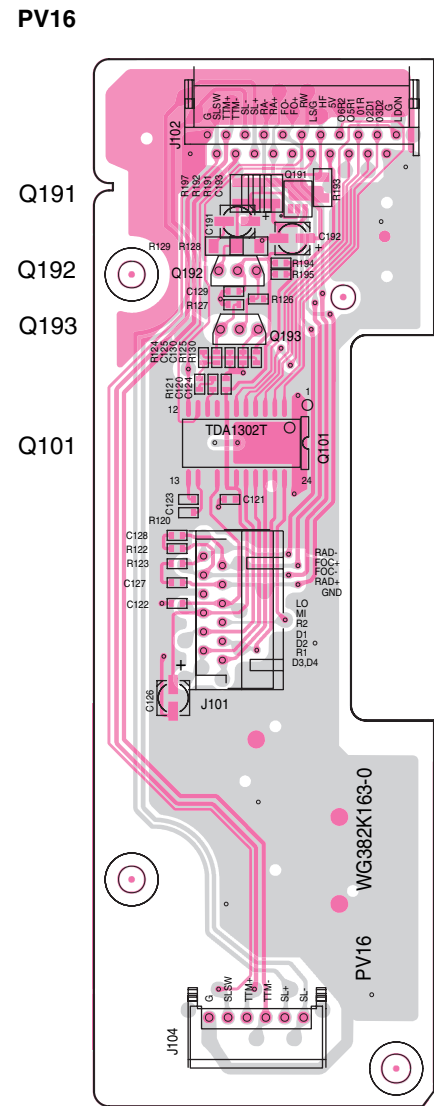


**/N1G/N1S/S1G VERSION**

**/K1G VERSION**



9. PARTS LOCATION (Chip parts Side)





PP16

QN55  
QN56  
QN06  
QN05

Q658  
Q657 QH56 ~ QH51  
Q608 QH06 ~ QH01  
Q607

QD51  
QD01

Q92  
Q901 QN91  
QD12 QD02  
Q204

Q801

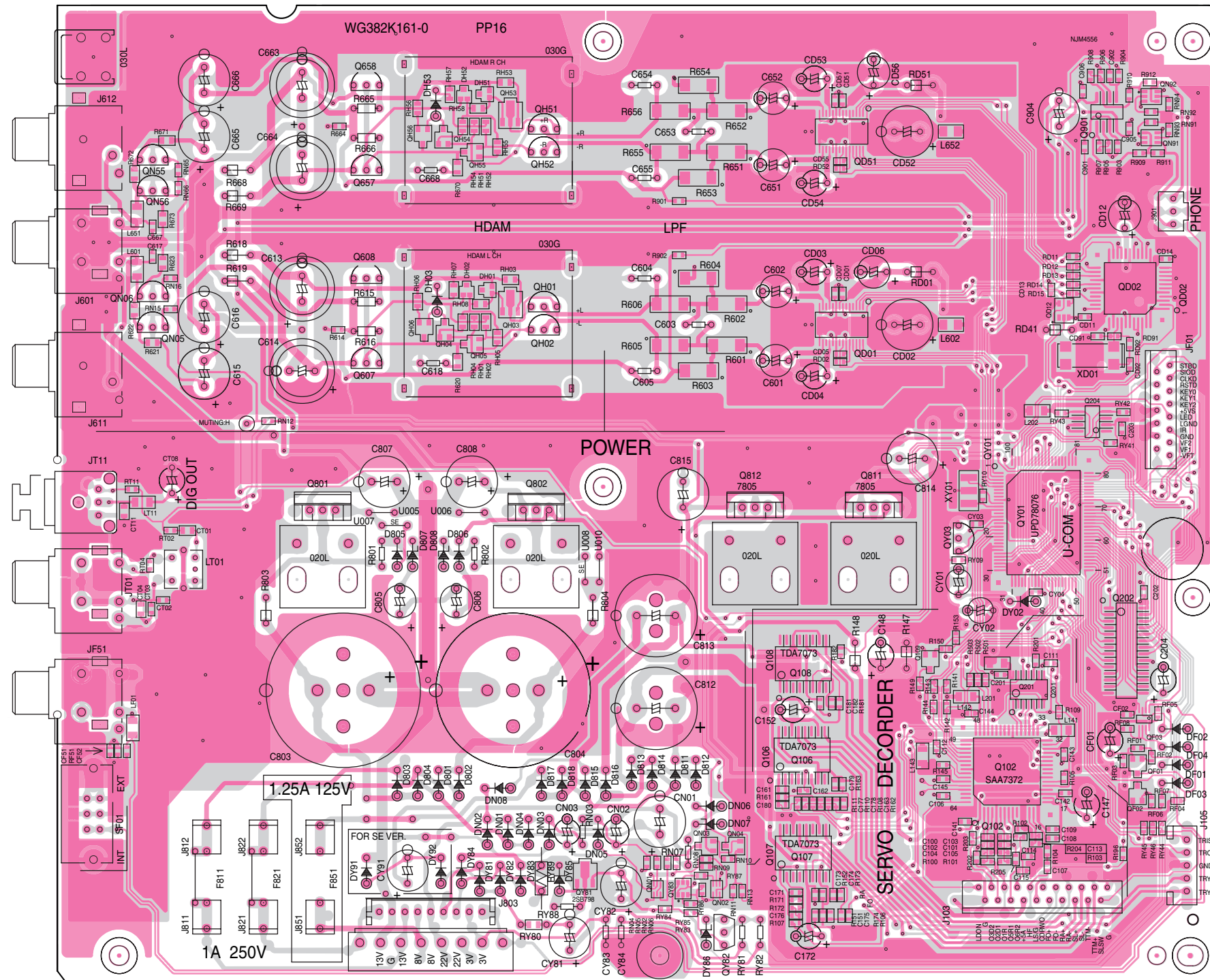
Q802

Q812

Q811

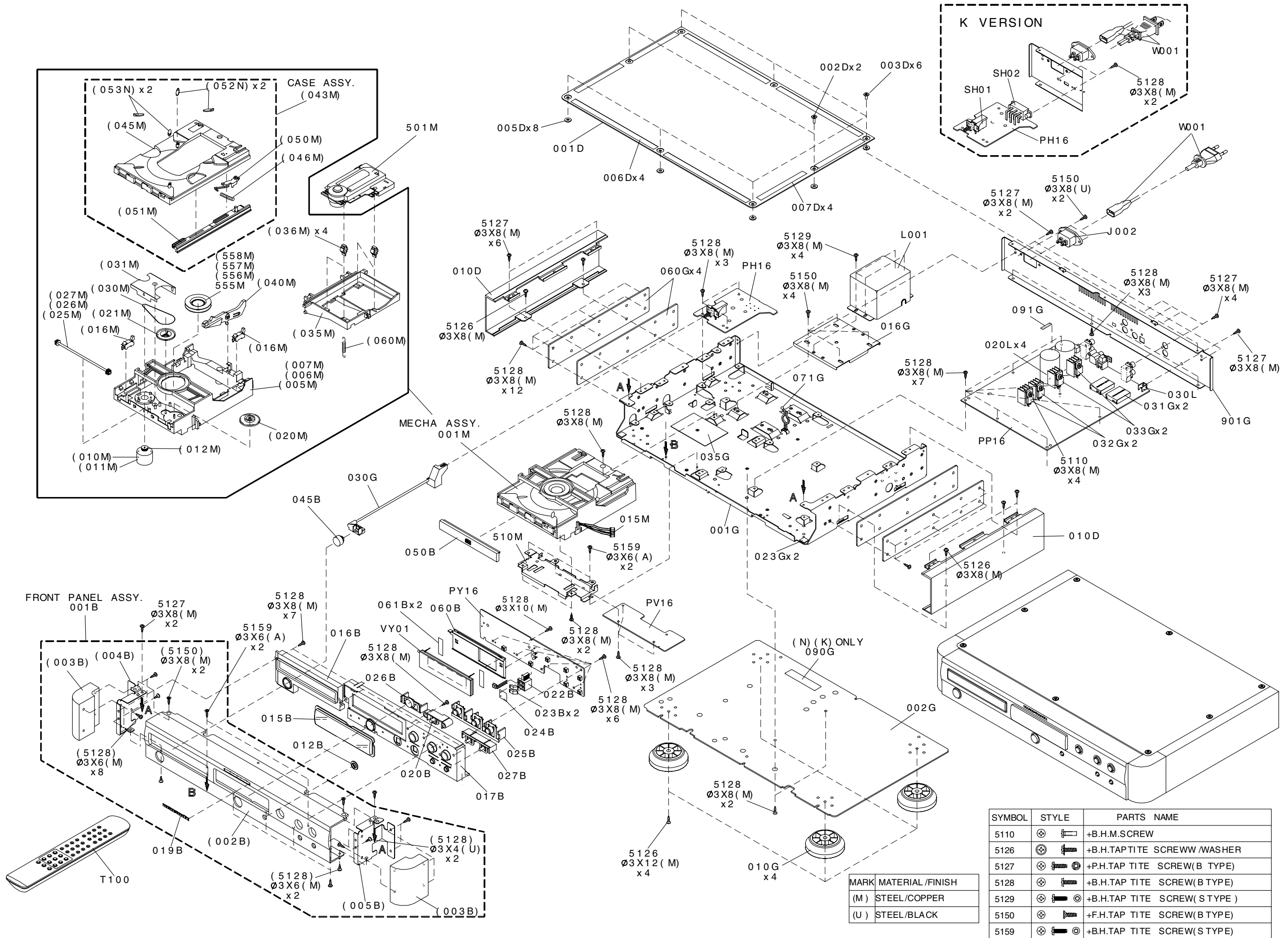
QY03

QY01



QN03 QN04 Q108  
 QY81 QN01 QY83 QN02 Q106  
 QY82 Q107  
 Q109 Q201 Q202 QF01  
 Q102 QF02

# 10. EXPLODED VIEW AND PARTS LIST



SYMBOL	STYLE	PARTS NAME
5110	⊕	+B.H.M.SCREW
5126	⊕	+B.H.TAPTITE SCREWW/WASHER
5127	⊕	+P.H.TAP TITE SCREW(B TYPE)
5128	⊕	+B.H.TAP TITE SCREW(B TYPE)
5129	⊕	+B.H.TAP TITE SCREW(S TYPE)
5150	⊕	+F.H.TAP TITE SCREW(B TYPE)
5159	⊕	+B.H.TAP TITE SCREW(S TYPE)

MARK	MATERIAL /FINISH
(M)	STEEL/COPPER
(U)	STEEL/BLACK

POS. NO	VERS. COLOR	PART NO. (FOR EUR)	DESCRIPTION	PART NO. (MJI)	POS. NO	VERS. COLOR	PART NO. (FOR EUR)	DESCRIPTION	PART NO. (MJI)
001B	GOLD	10AK248510	FRONT PANEL ASSY GLD	10AK248510	036M		305K056010	BUFFER SUSPENSION	305K056010
001B	SILVER	10AK248540	FRONT PANEL ASSY SIL	10AK248540	040M		305K002050	ARM FOR VAM1201	305K002050
002B	GOLD	356K248140	FRONT PANEL AL GLD	356K248140	043M	GOLD	329K064610	CASE K NEW STYLING BROWN	329K064610
002B	SILVER	356K248240	FRONT PANEL AL SIL	356K248240	043M	SILVER	329K064600	CASE K NEW STYLING BLACK	329K064600
003B	GOLD	318K063110	ESCUTCHEON CORNER COLUMN AL GOLD	318K063110	046M		305K115010	SPRING	305K115010
003B	SILVER	318K063210	ESCUTCHEON CORNER COLUMN AL SILVER	318K063210	050M		305K054010	CAM	305K054010
012B	GOLD	382K259110	BUSHING FOR FILTER SW GOLD	382K259110	051M		305K058050	GEAR FOR VAM1201	305K058050
012B	SILVER	382K259140	BUSHING FOR FILTER SW SILVER	382K259140	060M		305K115020	SPRING	305K115020
015B	GOLD	318K158130	WINDOW PINK SMOKE FOR GOLD	318K158130	501M		356K304500	MECHANISM TRAVERSE VAM 1201 9305 022 20100	356K304500
015B	SILVER	318K158310	WINDOW HARF MIRROR FOR SIL	318K158310	555M		305K005600	CLAMPER ASSY 3104 147 12080	305K005600
016B	GOLD	342K259110	BUSHING FOR TRAY OPENING W18 GLD	342K259110	▲ J001		YJ04002550	JACK MAINS INLET HF-301	YJ04002550
016B	SILVER	342K259210	BUSHING FOR TRAY OPENING W18 SIL	342K259210	▲ L001	/N/S	TS15742040	MAINS TRANSF. EI57-35 OFC CASE 230V	TS15742040
017B	GOLD	318K104110	RETAINER GOLD	318K104110	▲ L001	/K		MAINS TRANSF. EI57-35 OFC CASE 110/220V	TS15742050
017B	SILVER	318K104210	RETAINER SILVE	318K104210					
019B	GOLD	313J251110	BADGE NEW MARANTZ GOLD	313J251110					
019B	SILVER	313J251040	BADGE NEW MARANTZ SILVER	313J251040					
020B	GOLD	382K270110	BUTTON FILTER 1/2 GOLD	382K270110	001T	/N	10AK851310	PACKING USER GUIDE 9 LANG	10AK851310
020B	SILVER	382K270140	BUTTON FILTER 1/2 SILVER	382K270140	001T	/K/S		USER GUIDE 2 LANG	10AK851350
023B		382K355010	LENS FOR FILTER 1/2	382K355010	T100	GOLD	ZK356K0010	REMOTE CONTROLLER RC-DA17CD GOLD	ZK356K0010
025B	GOLD	318K270120	BUTTON PLAY/STOP/PAUSE GOLD	318K270120	T100	SILVER	ZK356K0020	REMOTE CONTROLLER RC-DA17CD SILVER	ZK356K0020
025B	SILVER	318K270220	BUTTON PLAY/STOP/PAUSE SILVER	318K270220	▲ W001	/N	ZC01803080	MAINS CORD 10A 250V CLASS2	ZC01803080
026B	GOLD	318K270130	BUTTON OPEN/CLOSE GOLD	318K270130	▲ W001	/K		MAINS CORD CCEE 2.5A 250V	ZC01803090
026B	SILVER	318K270230	BUTTON OPEN/CLOSE SILVER	318K270230	▲ W001	/S		MAINS CORD 250V 10A FOR UK	ZC01804100
027B	GOLD	318K270140	BUTTON TRACK GOLD	318K270140					
027B	SILVER	318K270240	BUTTON TRACK SILVER	318K270240					
045B	GOLD	318K270110	BUTTON POWER GOLD	318K270110					
045B	SILVER	318K270210	BUTTON POWER SILVER	318K270210					
050B	GOLD	342K063150	ESCUTCHEON TRAY LID AL W14/R25/4-R2 GLD	342K063150					
050B	SILVER	342K063210	ESCUTCHEON TRAY LID AL W14/R25/4-R2 SIL	342K063210					
001D	GOLD	318K257110	LID TOP COVER AL GOLD	318K257110					
001D	SILVER	318K257210	LID TOP COVER AL SILVER	318K257210					
002D	GOLD	323S010020	SCREW THINHEAD 3X8NI TOP+CHASSIS	323S010020					
002D	SILVER	323S010060	SCREW THINHEAD 3X8HGNI TOP+CHASS	323S010060					
003D	GOLD	318K010020	SCREW.THINHEAD 3X5NI TOP+CHASSIS	318K010020					
003D	SILVER	318K010040	SCREW.THINHEAD 3X5HGNI TOP+CHASS	318K010040					
005D		318K118010	SPACER TOP COVER D10/D5.5	318K118010					
010D	GOLD	318K249110	SIDE PANEL GOLD	318K249110					
010D	SILVER	318K249210	SIDE PANEL SILVER	318K249210					
010G	GOLD	291K057010	LEG D60/H18 GOLD	291K057010					
010G	SILVER	291K057120	LEG D60/H18 SILVER	291K057120					
030G		318K121010	LINK POWER SW	318K121010					
001M	GOLD	305K304650	MECHANISM LOADER LM302 NEW TRAY BROWN	305K304650					
001M	SILVER	305K304640	MECHANISM LOADER LM302 NEW TRAY BLACK	305K304640					
005M		305K401500	FRAME K	305K401500					
010M		MM00300020	D.C MOTOR K	MM00300020					
016M		SM01020620	MINI SWITCH	SM01020620					
020M		305K058030	GEAR	305K058030					
021M		305K262010	PULLEY	305K262010					
025M		305K058500	GEAR K	305K058500					
030M		305K264010	BELT	305K264010	001S			NOT STANDARD SPARE PARTS PACKING CASE	10AK801010
035M		305K064110	CASE	305K064110	002S			CUSHION 4 PIECE	318K809010

NOTE : \*nsp\* PART IS LISTED FOR REFERENCE ONLY, MARANTZ WILL NOT SUPPLY THESE PARTS.

# 11. ELECTRICAL PARTS LIST

## ASSIGNMENT OF COMMON PARTS CODES.

### RESISTORS

**R\*\*\*:** 1) GD05××× 140, Carbon film fixed resistor, ±5% 1/4W  
**R\*\*\*:** 2) GD05××× 160, Carbon film fixed resistor, ±5% 1/6W

① — Resistance value

Examples ;

① Resistance value

0.1 Ω .... 001    10 Ω .... 100    1 kΩ .... 102    100 kΩ .... 104  
0.5 Ω .... 005    18 Ω .... 180    2.7 kΩ .... 272    680 kΩ .... 684  
1 Ω .... 010    100 Ω .... 101    10 kΩ .... 103    1 MΩ .... 105  
6.8 Ω .... 068    390 Ω .... 391    22 kΩ .... 223    4.7 MΩ .... 475

**Note :** Please distinguish 1/4W from 1/6W by the shape of parts used actually.

### CAPACITORS

**C\*\*\*:** CERAMIC CAP.

3) DD1×××× 370, Ceramic capacitor  
Disc type  
Temp.coeff.P350 ~N1000, 50V  
② Capacity value  
③ Tolerance

Examples ;

② Tolerance (Capacity deviation)

±0.25 pF .... 0  
±0.5 pF .... 1  
±5% .... 5

\* Tolerance of COMMON PARTS handled here are as follows :

0.5 pF ~ 5 pF .... ±0.25 pF  
6 pF ~ 10 pF .... ±0.5 pF  
12 pF ~ 560 pF .... ±5%

③ Capacity value

0.5 pF .... 005    3 pF .... 030    100 pF .... 101  
1 pF .... 010    10 pF .... 100    220 pF .... 221  
1.5 pF .... 015    47 pF .... 470    560 pF .... 561

**C\*\*\*:** CERAMIC CAP.

4) DK16××× 300, High dielectric constant ceramic capacitor  
Disc type  
Temp.chara. 2B4, 50V  
④ Capacity value

Examples ;

④ Capacity value

100 pF .... 101    1000 pF .... 102    10000 pF .... 103  
470 pF .... 471    2200 pF .... 222

**C\*\*\*:** 5) ELECTROLY CAP. (  $\text{E}$  ), 6) FILM CAP. (  $\text{F}$  )

5) EA××××× 10, Electrolytic capacitor  
One-way lead type, Tolerance ±20%  
⑤ Working voltage  
⑥ Capacity value

Examples ;

⑤ Capacity value

0.1 μF .... 104    4.7 μF .... 475    100 μF .... 107  
0.33 μF .... 334    10 μF .... 106    330 μF .... 337  
1 μF .... 105    22 μF .... 226    1100 μF .... 118  
2200 μF .... 228

⑥ Working voltage

6.3V .... 006    25V .... 025  
10V .... 010    35V .... 035  
16V .... 016    50V .... 050

6) DF15××× 350 → Plastic film capacitor  
DF15××× 310 → One-way type, Mylar ±5% 50V  
DF16××× 310 → Plastic film capacitor  
One-way type, Mylar ±10% 50V  
⑦ Capacity value

Examples ;

⑦ Capacity value

0.001 μF (1000 pF) ..... 102    0.1 μF .... 104  
0.0018 μF ..... 182    0.56 μF .... 564  
0.01 μF ..... 103    1 μF .... 105  
0.015 μF ..... 153

**NOTE :** 1) The above CODES ( **R\*\*\***, **R\*\*\***, **C\*\*\***, **C\*\*\*** and **C\*\*\*** ) are omitted on the schematic diagram in some case.  
2) On the occasion, be confirmed the common parts on the parts list.  
3) Refer to "Common Parts List" for the other common parts (**RI05**, **DD4**, **DK4**).

## NOTE ON SAFETY FOR FUSIBLE RESISTOR :

The suppliers and their type numbers of fusible resistors are as follows;

1. KOA Corporation

Part No. (MJI)	Type No. (KOA)	Description
NH05××× 140	RF25S×××× ΩJ	(±5% 1/4W)
NH05××× 120	RF50S×××× ΩJ	(±5% 1/2W)
NH85××× 110	RF73B2A×××× ΩJ	(±5% 1/10W)
NH95××× 140	RF73B2E×××× ΩJ	(±5% 1/4W)

\* Resistance value    \* Resistance value  
(0.1 Ω – 10 kΩ)

2. Matsushita Electronic Components Co., Ltd

Part No. (MJI)	Type No. (MEC)	Description
NF05××× 140	ERD-2FCJ×××	(±5% 1/4W)
RF05××× 140		
NF02××× 140	ERD-2FCG×××	(±2% 1/4W)
RF02××× 140		

\* Resistance value    \* Resistance value

Examples ;

\* Resistance value

0.1 Ω .... 001    10 Ω .... 100    1 kΩ .... 102    100 kΩ .... 104  
0.5 Ω .... 005    18 Ω .... 180    2.7 kΩ .... 272    680 kΩ .... 684  
1 Ω .... 010    100 Ω .... 101    10 kΩ .... 103    1 MΩ .... 105  
6.8 Ω .... 068    390 Ω .... 391    22 kΩ .... 223    4.7 MΩ .... 475



## ABBREVIATION AND MARKS

ANT. : ANTENNA	BATT. : BATTERY
CAP. : CAPACITOR	CER. : CERAMIC
CONN. : CONNECTING	DIG. : DIGITAL
HP : HEADPHONE	MIC. : MICROPHONE
μ-PRO : MICROPROCESSOR	REC. : RECORDING
RES. : RESISTOR	SPK : SPEAKER
SW : SWITCH	TRANSF. : TRANSFORMER
TRIM. : TRIMMING	TRS. : TRANSISTOR
VAR. : VARIABLE	X'TAL : CRYSTAL


## NOTE ON FUSE :

Regarding to all parts of parts code **FS20xxx2xx**, replace only with Wickmann-Werke GmbH, Type 372 non glass type fuse.

## NOTE ON SAFETY :

Symbol  Fire or electrical shock hazard. Only original parts should be used to replaced any part marked with symbol . Any other component substitution (other than original type), may increase risk of fire or electrical shock hazard.

## 安全上の注意 :

 が付いている部品は、安全上重要な部品です。必ず指定されている部品番号の部品を使用して下さい。



POS. NO	VERS. COLOR	PART NO. (FOR EUR)	DESCRIPTION	PART NO. (MJJ)	POS. NO	VERS. COLOR	PART NO. (FOR EUR)	DESCRIPTION	PART NO. (MJJ)
			<b>PH16-POWER SW/VOLTAGE SEL.SW. CIRCUIT BOARD</b>						
▲ GH01		DF77103500	FILM. 0.01µF M 250V AC	DF77103500	C667		nsp	CER. CHIP 100pF ±5% CG 50V	DD95101300
▲ JH01		YP04000760	PLUG 2P BASE POST	YP04000760	C803		OB10803520	ELECT. 35V 1000µF BLOCK	OB10803520
▲ JH04	/N/S	YP04000760	PLUG 2P BASE POST B3P-VH	YP04000760	C804		OB10803520	ELECT. 35V 1000µF BLOCK	OB10803520
▲ JH04	/K		PLUG 3P BASE POST B3P5-VH	YP04000920	C805		nsp	ELECT. 47µF ±20 16V SILMIC	OA47601640
▲ SH01		SP01011990	PUSH SWITCH SDDL1 POWER SWITCH TV-3	SP01011990	C806		nsp	ELECT. 47µF ±20 16V SILMIC	OA47601640
▲ SH02	/K		SLIDE SWITCH SDKGA4	SS02021510	C807		nsp	ELECT. 220µF 16V ARS	OA22701640
			<b>PP16-AUDIO/POWER CIRCUIT BOARD</b>		C808		nsp	ELECT. 220µF 16V ARS	OA22701640
			<b>PP16-CAPACITORS</b>		C812		nsp	ELECT. 4700µF 16V RA-2	OA47801620
C100			CER. CHIP 220pF	DK96221300	C813		nsp	ELECT. 3300µF 16V RA2	OA33801620
}		nsp			C814		OC47701620	ELECT. 470µF 16V 10X12.5 ARE2	OC47701620
C105		nsp	CER. CHIP 220pF	DK96221300	C815		nsp	ELECT. 220µF M 16V RA-2	OA22701620
C106		nsp	CER. CHIP 0.022µF ±10% XTR16V	DK96223200	CD01		nsp	CER. CHIP 0.1µF GRM39F104Z16	DK98104200
C107		nsp	CER. CHIP 1000pF ±10% B 50V	DK96102300	CD02		nsp	ELECT. 1000µF 10V M RA-2	OA10801020
C108		nsp	CER. CHIP 47pF ±5% CG 50V	DD95470300	CD03		nsp	ELECT. 47µF M 16V ARS	OA47601640
C109		nsp	CER. CHIP 0.022µF ±10% XTR16V	DK96223200	CD04		nsp	ELECT. 47µF M 16V ARS	OA47601640
C111		nsp	CER. CHIP 100pF ±5% CG 50V	DD95101300	CD05		nsp	CER. CHIP 0.1µF GRM39F104Z16	DK98104200
C112		nsp	CER. CHIP 0.1µF GRM39F104Z16	DK98104200	CD06		nsp	ELECT. 220µF M 10V RA-2	OA22701020
C113		nsp	CER. CHIP 0.1µF ±10% B 10V	DK96104200	CD07		nsp	CER. CHIP 0.1µF GRM39F104Z16	DK98104200
C114		nsp	CER. CHIP 560pF	DK96561300	CD11		nsp	CER. CHIP 0.1µF GRM39F104Z16	DK98104200
C115		nsp	CER. CHIP 1500pF	DK96152300	CD12		nsp	ELECT. 220µF M 10V RA-2	OA22701020
C141					CD13		nsp	CER. CHIP 0.1µF GRM39F104Z16	DK98104200
}		nsp	CER. CHIP 0.1µF GRM39F104Z16	DK98104200	CD14		nsp	CER. CHIP 0.1µF GRM39F104Z16	DK98104200
C145		nsp	ELECT. 47µF M 25V RA-2	OA47602520	CD51		nsp	CER. CHIP 0.1µF GRM39F104Z16	DK98104200
C147		nsp	ELECT. 100µF M 10V RA-2	OA10701020	CD52		nsp	ELECT. 1000µF 10V M RA-2	OA10801020
C148		nsp	CER. CHIP 0.1µF GRM39F104Z16	DK98104200	CD53		nsp	ELECT. 47µF M 16V ARS	OA47601640
C151		nsp	ELECT. 47µF M 25V RA-2	OA47602520	CD54		nsp	ELECT. 47µF M 16V ARS	OA47601640
C152		nsp	CER. CHIP 0.1µF ±10% B 10V	DK96104200	CD55		nsp	CER. CHIP 0.1µF GRM39F104Z16	DK98104200
C161		nsp	CER. CHIP 0.1µF GRM39F104Z16	DK98104200	CD56		nsp	ELECT. 220µF M 10V RA-2	OA22701020
C162		nsp	CER. CHIP 0.1µF ±10% B 10V	DK96104200	CD57		nsp	CER. CHIP 0.1µF GRM39F104Z16	DK98104200
C163		nsp	CER. CHIP 4700pF ±10% B 50V	DK96472300	CD91		nsp	CER. CHIP 18pF	DD95180300
C171		nsp	ELECT. 47µF M 25V RA-2	OA47602520	CD92		nsp	CER. CHIP 18pF	DD95180300
C172		nsp	CER. CHIP 0.1µF GRM39F104Z16	DK98104200	CF01		nsp	ELECT. 10µF M 16V RA-2	OA10601620
C173		nsp	CER. CHIP 0.1µF ±10% B 10V	DK96104200	CF02		nsp	CER. CHIP 0.1µF GRM39F104Z16	DK98104200
C174		nsp	CER. CHIP 4700pF ±10% B 50V	DK96472300	CF51		nsp	CER. CHIP 0.1µF GRM39F104Z16	DK98104200
C175		nsp	ELECT. 47µF M 25V RA-2	OA47602520	CF52		nsp	CER. CHIP 470pF	DK96471300
C176		nsp	CER. CHIP 0.1µF GRM39F104Z16	DK98104200	CN01		nsp	ELECT. 470µF 25V RA-2	OA47702520
C177		nsp	CER. CHIP 4700pF ±10% B 50V	DK96472300	CN02		nsp	ELECT. 1µF 50V RA-2	OA10505020
}		nsp	CER. CHIP 0.1µF ±10% B 10V	DK96104200	CN03		nsp	ELECT. 2.2µF 50V RA-2	OA22505020
C180		nsp	CER. CHIP 0.1µF GRM39F104Z16	DK98104200	CT02		nsp	CER. CHIP 4700pF ±10% B 50V	DK96472300
C181		nsp	CER. CHIP 0.022µF ±10% XTR 16V	DK96223200	CT03		nsp	CER. CHIP 2200pF	DK96222300
C182		nsp			CT08		nsp	ELECT. 100µF 25V ARS	OA10702540
C201		nsp	CER. CHIP 0.1µF GRM39F104Z16	DK98104200	CY01		nsp	ELECT. 2.2µF M 50V RA-2	OA22505020
C202		nsp	CER. CHIP 0.1µF GRM39F104Z16	DK98104200	CY02		nsp	ELECT. 47µF M 25V RA-2	OA47602520
C203		nsp	CER. CHIP 0.1µF GRM39F104Z16	DK98104200	CY03		nsp	CER. CHIP 0.1µF GRM39F104Z16	DK98104200
C204		nsp	ELECT. 47µF M 25V RA-2	OA47602520	CY04		nsp	CER. CHIP 0.1µF GRM39F104Z16	DK98104200
C601		nsp	ELECT. 22µF M 25V ARS	OA22602540	CY81		nsp	ELECT. 100µF M 50V RA-2	OA10705020
C602		nsp	ELECT. 22µF M 25V ARS	OA22602540	CY82		nsp	ELECT. 100µF M 35V RA-2	OA10703520
C603	OF55222570		FILM 2200pF 100V DTG	OF55222570	R100		nsp	CHIP . 10kΩ ±5% 1/16W	NN05103610
C604	OF55102570		FILM 1000pF 100V DTG	OF55102570	R101		nsp	CHIP . 10kΩ ±5% 1/16W	NN05103610
C605	OF55122570		FILM 1200pF 100V DTG	OF55122570	R102		nsp	CHIP . 270kΩ ±5% 1/16W	NN05274610
C613	nsp		ELECT. 220µF 16V ARS	OA22701640	R103		nsp	CHIP . 22kΩ ±5% 1/16W	NN05223610
C614	nsp		ELECT. 220µF 16V ARS	OA22701640	R104		nsp	CHIP . 1kΩ ±5% 1/16W	NN05102610
C615	nsp		ELECT. 220µF ±20 16V SILMIC	OA22701640	R105		nsp	CHIP . 100kΩ ±5% 1/16W	NN05104610
C616	nsp		ELECT. 220µF ±20 16V SILMIC	OA22701640	R106		nsp	CHIP . 12kΩ ±5% 1/16W	NN05123610
C617	nsp		CER. CHIP 100pF ±5% CG 50V	DD95101300	R107		nsp	CHIP . 12kΩ ±5% 1/16W	NN05123610
C651	nsp		ELECT. 22µF M 25V ARS	OA22602540	R108		nsp	CHIP . 12kΩ ±5% 1/16W	NN05123610
C652	nsp		ELECT. 22µF M 25V ARS	OA22602540	R109		nsp	CHIP . 100Ω ±5% 1/16W	NN05101610
C653	OF55222570		FILM 2200pF 100V DTG	OF55222570	R110		nsp	CHIP . 22kΩ ±5% 1/16W	NN05223610
C654	OF55102570		FILM 1000pF 100V DTG	OF55102570	R111		nsp	CHIP . 22kΩ ±5% 1/16W	NN05223610
C655	OF55122570		FILM 1200pF 100V DTG	OF55122570	R141		}		
C663	nsp		ELECT. 220µF 16V ARS	OA22701640	}		nsp	CHIP . 22kΩ ±5% 1/16W	NN05223610
C664	nsp		ELECT. 220µF 16V ARS	OA22701640	R145				
C665	nsp		ELECT. 220µF ±20 16V SILMIC	OA22701640	R147		NH05022140	FUSIBLE . 2.2Ω J 1/4W	NH05022140
C666	nsp		ELECT. 220µF ±20 16V SILMIC	OA22701640	R148		NH05022140	FUSIBLE . 2.2Ω J 1/4W	NH05022140
					R149		nsp	CHIP . 22kΩ ±5% 1/16W	NN05223610
					R150		nsp	CHIP . 22kΩ ±5% 1/16W	NN05223610
								<b>PP16-RESISTORS</b>	

NOTE : \*nsp\* PART IS LISTED FOR REFERENCE ONLY, MARANTZ WILL NOT SUPPLY THESE PARTS.

POS. NO	VERS. COLOR	PART NO. (FOR EUR)	DESCRIPTION	PART NO. (MJJ)	POS. NO	VERS. COLOR	PART NO. (FOR EUR)	DESCRIPTION	PART NO. (MJJ)
R151		nsp	CHIP . 1kΩ ±5% 1/16W	NN05102610	RN02		nsp	CHIP . 47kΩ ±5% 1/16W	NN05473610
R152		nsp	CHIP . 1kΩ ±5% 1/16W	NN05102610	RN03		nsp	RES. 1kΩ ±5% 1/6W	GD05102160
R153		nsp	CHIP . 22kΩ ±5% 1/16W	NN05223610	RN04		nsp	CHIP . 15kΩ ±5% 1/16W	NN05153610
R161		nsp	CHIP . 1kΩ ±5% 1/16W	NN05102610	RN05		nsp	CHIP . 3.9MΩ ±5% 1/16W	NN05395610
R162		nsp	CHIP . 10kΩ ±5% 1/16W	NN05103610	RN06		nsp	CHIP . 10kΩ ±5% 1/16W	NN05103610
R163		nsp	CHIP . 1kΩ ±5% 1/16W	NN05102610	RN07		nsp	RES. 1kΩ ±5% 1/6W	GD05102160
R171		nsp	CHIP . 1.2kΩ ±5% 1/16W	NN05122610	RN08		nsp	CHIP . 12kΩ ±5% 1/16W	NN05123610
R172		nsp	CHIP . 10kΩ ±5% 1/16W	NN05103610	RN09		nsp	CHIP . 12kΩ ±5% 1/16W	NN05123610
R173		nsp	CHIP . 1kΩ ±5% 1/16W	NN05102610	RN10		nsp	CHIP . 47kΩ ±5% 1/16W	NN05473610
R174		nsp	CHIP . 10kΩ ±5% 1/16W	NN05103610	RN11		nsp	CHIP . 10kΩ ±5% 1/16W	NN05103610
R181		nsp	CHIP . 470Ω ±5% 1/16W	NN05471610	RN12		nsp	CHIP . 100kΩ ±5% 1/16W	NN05104610
R182		nsp	CHIP . 12kΩ ±5% 1/16W	NN05123610	RN13		nsp	CHIP . 4.7kΩ ±5% 1/16W	NN05472610
R201		nsp	CHIP . 22 kΩ ±5% 1/16W	NN05223610	RN15		nsp	CHIP . 2.2kΩ ±5% 1/16W	NN05222610
R202		nsp	CHIP . 10kΩ ±5% 1/16W	NN05103610	RN16		nsp	CHIP . 2.2kΩ ±5% 1/16W	NN05222610
R205		nsp	CHIP . 100Ω ±5% 1/16W	NN05101610	RN65		nsp	CHIP . 2.2kΩ ±5% 1/16W	NN05222610
R501		nsp	CHIP . 100Ω ±5% 1/16W	NN05101610	RN66		nsp	CHIP . 2.2kΩ ±5% 1/16W	NN05222610
R502		nsp	CHIP . 100Ω ±5% 1/16W	NN05101610	RT02		nsp	CHIP . 33Ω ±5% 1/16W	NN05330610
R503		nsp	CHIP . 100Ω ±5% 1/16W	NN05101610	RT04		nsp	CHIP . 75Ω ±5% 1/16W	NN05750610
R614		nsp	CHIP . 47kΩ ±5% 1/16W	NN05473610	RT11		nsp	CHIP . 0Ω ±5% 1/16W	NN05000610
R620	NI05101110	CHIP . 100Ω ±5% 1/10W	NI05101110	RY09		nsp	CHIP . 220kΩ ±5% 1/16W	NN05224610	
R621	NI05680110	CHIP . 68Ω ±5% 1/10W	NI05680110	RY10		nsp	CHIP . 1MΩ ±5% 1/16W	NN05105610	
R622	NI05680110	CHIP . 68Ω ±5% 1/10W	NI05680110	RY26		nsp	CHIP . 10kΩ ±5% 1/16W	NN05103610	
R623	NI05104110	CHIP . 100kΩ ±5% 1/10W	NI05104110	RY41		nsp	CHIP . 10kΩ ±5% 1/16W	NN05103610	
R664	nsp	CHIP . 47kΩ ±5% 1/16W	NN05473610	RY42		nsp	CHIP . 10kΩ ±5% 1/16W	NN05103610	
R670	NI05101110	CHIP . 100Ω ±5% 1/10W	NI05101110	RY46		nsp	CHIP . 10kΩ ±5% 1/16W	NN05103610	
R671	NI05680110	CHIP . 68Ω ±5% 1/10W	NI05680110	RY80	NH85100110	FUSIBLE . 10Ω	NH85100110		
R672	NI05680110	CHIP . 68Ω ±5% 1/10W	NI05680110	RY81	nsp	RES. 47Ω ±5% 1/6W	GD05470160		
R673	NI05104110	CHIP . 100kΩ ±5% 1/10W	NI05104110	RY82	nsp	RES. 47Ω ±5% 1/6W	GD05470160		
R801	nsp	RES. 1kΩ ±5% 1/6W	GD05102160	RY83	nsp	CHIP . 10kΩ ±5% 1/16W	NN05103610		
R802	nsp	RES. 1kΩ ±5% 1/6W	GD05102160	RY84	nsp	CHIP . 47kΩ ±5% 1/16W	NN05473610		
RD01	NH05022140	FUSIBLE . 2.2Ω J 1/4W	NH05022140	RY85	nsp	CHIP . 47kΩ ±5% 1/16W	NN05473610		
RD02	nsp	CHIP . 10kΩ ±5% 1/16W	NN05103610	RY86	nsp	CHIP . 47kΩ ±5% 1/16W	NN05473610		
RD11	nsp	CHIP . 220Ω ±5% 1/16W	NN05221610	RY87	nsp	CHIP . 22kΩ ±5% 1/16W	NN05223610		
RD14	nsp	CHIP . 47Ω ±5% 1/16W	NN05470610	RY88	nsp	RES. 4.7kΩ ±5% 1/6W	GD05472160		
RD41	NH05022140	FUSIBLE . 2.2Ω J 1/4W	NH05022140	<b>PP16-SEMICONDUCTORS</b>					
RD51	NH05022140	FUSIBLE . 2.2Ω J 1/4W	NH05022140	▲ D801					
RD52	nsp	CHIP . 10kΩ ±5% 1/16W	NN05103610	▲ }	HD20055100	DIODE SHOTTKY	HD20055100		
RD91	nsp	CHIP . 1MΩ ±5% 1/16W	NN05105610	▲ D804		11EQS10 1A 100V			
RD92	nsp	CHIP . 220Ω ±5% 1/16W	NN05221610	D805	nsp	DIODE	HD20002000		
RF01	nsp	CHIP . 47kΩ ±5% 1/16W	NN05473610	D806	nsp	1SS176 MA165 1SS254 30V 0.1A	HD20002000		
RF02	nsp	CHIP . 4.7kΩ ±5% 1/16W	NN05472610	D807	HD31301000	ZENER DIODE 13V	HD31301000		
RF03	nsp	CHIP . 100Ω ±5% 1/16W	NN05101610	D808	HD31301000	ZENER DIODE 13V	HD31301000		
RF04	nsp	CHIP . 10kΩ ±5% 1/16W	NN05103610	▲ D811					
RF05	nsp	CHIP . 10kΩ ±5% 1/16W	NN05103610	▲ }	HD20055100	DIODE SHOTTKY	HD20055100		
RF06	nsp	CHIP . 2.2kΩ ±5% 1/16W	NN05222610	▲ D818		11EQS10 1A 100V			
RF07	nsp	CHIP . 10kΩ ±5% 1/16W	NN05103610	DF01	nsp	DIODE	HD20002000		
RF08	nsp	CHIP . 10kΩ ±5% 1/6W	NN05103610	DF04		1SS176 MA165 1SS254 30V 0.1A			
RF51	nsp	CHIP . 22Ω ±5% 1/16W	NN05220610	DH01	HZ20018050	CHIP DIODE 1SS302	HZ20018050		
RH01	NI05121110	CHIP . 120Ω ±5% 1/10W	NI05121110	DH02	HZ20018050	CHIP DIODE 1SS302	HZ20018050		
RH02	NI05121110	CHIP . 120Ω ±5% 1/10W	NI05121110	DH03	nsp	DIODE	HD20002000		
RH03	NI05680110	CHIP . 68Ω ±5% 1/10W	NI05680110	DH51	HZ20018050	CHIP DIODE 1SS302	HZ20018050		
RH04	NI05680110	CHIP . 68Ω ±5% 1/10W	NI05680110	DH52	HZ20018050	CHIP DIODE 1SS302	HZ20018050		
RH05	NI05680110	CHIP . 68Ω ±5% 1/10W	NI05680110	DH53	nsp	DIODE	HD20002000		
RH06	NI05561110	CHIP . 560Ω ±5% 1/10W	NI05561110			1SS176 MA165 1SS254 30V 0.1A			
RH07	NI05561110	CHIP . 560Ω ±5% 1/10W	NI05561110	▲ DN01	HD20002710	DIODE 1D3 1A/200V	HD20002710		
RH08	NI01333110	CHIP . 33kΩ ±1% 1/10W	NI01333110	▲ DN02	HD20002710	DIODE 1D3 1A/200V	HD20002710		
RH51	NI05121110	CHIP . 120Ω ±5% 1/10W	NI05121110	▲ DN03	HD20002710	DIODE 1D3 1A/200V	HD20002710		
RH52	NI05121110	CHIP . 120Ω ±5% 1/10W	NI05121110	▲ DN04	HD20002710	DIODE 1D3 1A/200V	HD20002710		
RH53	NI05680110	CHIP . 68Ω ±5% 1/10W	NI05680110	DN05	nsp	DIODE ISS176 MA165 ISS254 30V 0.1A	HD20002000		
RH54	NI05680110	CHIP . 68Ω ±5% 1/10W	NI05680110	DN06	nsp	DIODE	HD20002000		
RH55	NI05680110	CHIP . 68Ω ±5% 1/10W	NI05680110	DN07	HD30561000	ZENER DIODE 5.6V	HD30561000		
RH56	NI05561110	CHIP . 560Ω ±5% 1/10W	NI05561110						
RH57	NI05561110	CHIP . 560Ω ±5% 1/10W	NI05561110						
RH58	NI01333110	CHIP . 33kΩ ±1% 1/10W	NI01333110						

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POS. NO	VERS. COLOR	PART NO. (FOR EUR)	DESCRIPTION	PART NO. (MJI)	POS. NO	VERS. COLOR	PART NO. (FOR EUR)	DESCRIPTION	PART NO. (MJI)
▲ DN08		HD20002710	DIODE 1D3 1A/200V	HD20002710	▲ F821		FS10080850	FUSE T800 MA 250V BS LISTED	FS10080850
DY02		nsp	DIODE	HD20002000	▲ F851		FS10100850	FUSE T1A 250V BS LISTED	FS10100850
DY08		nsp	1SS176 MA165 1SS254 30V 0.1A DIODE	HD20002000	J601		YT02021080	TERMINAL YKC21-3337 CINCH P-JACK W/R GOLD	YT02021080
▲ DY81					JF51		YT02020890	TERMINAL 2P	YT02020890
▲ S		HD20002710	DIODE 1D3 1A/200V	HD20002710	JT01		YT02010790	CINCH PIN JACK FOR RC-5 TERMINAL 14X14 RA 1L1P BLK	YT02010790
▲ DY84					JT11		YJ15000190	AU FLM-GND OPT. CONNECTOR GP1FA550TZ	YJ15000190
DY85		HD32401000	ZENER DIODE 24V	HD32401000	L141			OPT OUTPUT	
DY86		HD30471000	ZENER DIODE 4.7V	HD30471000	S		FC90030070	FERRITE CORE BLM31A02	FC90030070
Q102		HC10132490	IC SAA7372GP CD7 CD DECORDER	HC10132490	L143		FC90030070	CHIP INDUCTOR	FC90030070
Q106					L201		FC90030070	FERRITE CORE BLM31A02 CHIP INDUCTOR	FC90030070
Q108		HC10165490	IC TDA7073AT SOP	HC10165490	L202		FC90030070	FERRITE CORE	FC90030070
Q109		HX327122A0	DUAL BTL DRIVER	HX327122A0	L601		FC90030070	BLM31A02 CHIP INDUCTOR	FC90030070
Q201		HC10390030	CHIP TRS. 2SC2712 0 Y	HC10390030	L602		LU12222010	FERRITE CORE BLM31A02 CHIP INDUCTANCE	LU12222010
Q202		HC10076000	IC CD TEXT DECODER LC89170M	HC10076000	L651		FC90030070	FERRITE CORE BLM31A02 CHIP INDUCTOR	FC90030070
Q204		HC10004990	IC 8X32K SRAM <35NS SOJ	HC10004990	L652		LU12222010	CHIP INDUCTANCE	LU12222010
Q204		HC10004990	IC AT93C46R-10SI-2.7 EEPROM	HC10004990	LF01		FC90030070	FERRITE CORE BLM31A02 CHIP INDUCTOR	FC90030070
Q607		HF201701H0	F.E.T. 2SK170 V	HF201701H0	LT01		TP41042030	PULSE TRANSF. TPS247MN-0386AN	TP41042030
Q608		HF100741H0	F.E.T. 2SJ74 V	HF100741H0	LT11		FC90030070	FERRITE CORE BLM31A02 CHIP INDUCTOR	FC90030070
Q657		HF201701H0	F.E.T. 2SK170 V	HF201701H0	SF01		SS02021150	SLIDE SWITCH INT/EXT	SS02021150
Q658		HF100741H0	F.E.T. 2SJ74 V	HF100741H0	W102		nsp	JUMPER LEAD SUMI CARD 210MM 21P	YU21100520
▲ Q801		HT21020100	TRS. 2SB1020A	HT21020100	XD01		JX16002360	CRYSTAL 16.9344 MHz CM309S	JX16002360
▲ Q802		HT41415100	TRS. 2SD41415A	HT41415100	XY01		FQ05004040	CER. VIB. CSTCC5.00MG-TC 5MHz RESONATOR	FQ05004040
▲ Q811		HC3890509F	AVR NJM7805FA +5V 1A	HC3890509F				<b>PV16-SERVO CIRCUIT BOARD PV16-CAPACITORS</b>	
▲ Q812		HC3890509F	AVR NJM7805FA +5V 1A	HC3890509F	C120	nsp		CER. CHIP 5600pF ±10% B50V	DK96562300
QD01		HC10011610	IC PCM1716 24BIT D/A CONVERTER	HC10011610	C121	nsp		CER. CHIP 0.1µF GRM39F104Z16	DK98104200
QD02		HC10438050	IC IC TC160G11AU-1305	HC10438050	C122	nsp		CER. CHIP 0.022µF 16V	DK98223300
QD12		HC10427050	IC TC7SHU04F 1PACKINV	HC10427050	C123	nsp		CER. CHIP 1000pF ±10% B 50V	DK96102300
QD51		HC10011610	IC PCM1716 24BIT D/A CONVERTER	HC10011610	C124	nsp		CER. CHIP 0.1µF GRM39F104Z16	DK98104200
QF01		HX111622A0	CHIP TRS. 2SA1162 0 OR Y	HX111622A0	C125	nsp		CER. CHIP 150pF ±5% CG 50V	DD95151300
QF02		HX327122A0	CHIP TRS. 2SC2712 0 Y	HX327122A0	C126	nsp	EY10601620	TANTL.CAP CHIP 10µF/16V	EY10601620
QF03		HC10409050	IC TCW125FU	HC10409050	C129	nsp		CER. CHIP 0.1µF GRM39F104Z16	DK98104200
QH01		HF203691B0	F.E.T. 2SK369 BL VGDS-40V PD0.4W	HF203691B0	C130	nsp		CER. CHIP 100pF ±5% CG 50V	DD95101300
QH02		HF203691B0	F.E.T. 2SK369 BL VGDS-40V PD0.4W	HF203691B0	R120	nsp		<b>PV16-RESISTORS</b>	
QH03		HX328731B0	CHIP TRS. 2SC2873 Y	HX328731B0	R121	nsp		CHIP . 100kΩ ±5% 1/16W	NN05104610
QH04		HX113121B0	CHIP TRS. 2SA1312 B	HX113121B0	R124	nsp		CHIP . 680Ω ±5% 1/16W	NN05681610
QH05		HX113121B0	CHIP TRS. 2SA1312 B	HX113121B0	R125	nsp		CHIP . 680Ω ±5% 1/16W	NN05681610
QH06		HX333241B0	CHIP TRS. 2SC3324 B	HX333241B0	R126	nsp		CHIP . 15kΩ ±5% 1/16W	NN05153610
QH51		HF203691B0	F.E.T. 2SK369 BL VGDS-40V PD0.4W	HF203691B0	R127	nsp		CHIP . 3.3kΩ ±5% 1/16W	NN05332610
QH52		HF203691B0	F.E.T. 2SK369 BL VGDS-40V PD0.4W	HF203691B0	R128	nsp		CHIP . 2.2kΩ ±5% 1/16W	NN05222610
QH53		HX328731B0	CHIP TRS. 2SC2873 Y	HX328731B0	R128	nsp		CHIP . 3.9kΩ ±5% 1/16W	NN05392610
QH54		HX113121B0	CHIP TRS. 2SA1312 B	HX113121B0	R130	nsp		CHIP . 27kΩ ±5% 1/16W	NN05273610
QH55		HX113121B0	CHIP TRS. 2SA1312 B	HX113121B0	R195	nsp		CHIP . 100Ω ±5% 1/16W	NN05101610
QH56		HX333241B0	CHIP TRS. 2SC3324 B	HX333241B0	R196	nsp		CHIP . 0Ω ±5% 1/16W	NN05000610
QN01		BA20070210	DIG.TR.S. UMH4N (NPN X2 R=10K)	BA20070210	R197	nsp		CHIP . 0Ω ±5% 1/16W	NN05000610
QN02		BA20070210	DIG.TR.S. UMH4N (NPN X2 R=10K)	BA20070210	Q101		HC10136490	<b>PV16-SEMICONDUCTORS</b>	
QN03		HX327122A0	CHIP TRS. 2SC2712 0 Y FLAT	HX327122A0	Q192		HT30001000	IC TDA1302T SERVO PRIAMP TRS.	HC10136490
QN04		HX111622A0	CHIP TRS. 2SA1162 0 Y FLAT	HX111622A0				2SC2458 2SC1740S 2SC3199 ETC	HT30001000
QN05		HT328782A0	TRS. 2SC2878 A OR B	HT328782A0					
QN06		HT328782A0	TRS. 2SC2878 A OR B	HT328782A0					
QN55		HT328782A0	TRS. 2SC2878 A OR B	HT328782A0					
QN56		HT328782A0	TRS. 2SC2878 A OR B	HT328782A0					
QY01		HU382KN00F	MICROPROCESSOR MAIN 100P QFP NEC UPD78076	HU382KN00F					
QY03		HC10098550	IC PST600D-2 ET	HC10098550					
QY81		HX207982A0	CHIP TRS. 2SB798 DL DK	HX207982A0					
QY82		HT324582B0	TRS. 2SC2458 Y OR GR	HT324582B0					
QY83		BA10011050	DIG.TR.S. HN1A01F Y GR	BA10011050					
▲ F811		FS10080850	<b>PP16-MISCELLANEOUS</b> FUSE T800 MA 250V BS LISTED	FS10080850					

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Q193		HT30001000	TRS. 2SC2458 2SC1740S 2SC3199 ETC	HT30001000	VY01		HQ31302410	DISPLAY UNIT FTD 13-ST-35G	HQ31302410
J101		YJ07018790	<b>PY16-MISCELLANEOU</b> JACK SLD 12 R-1 FFC CONNECTOR ANGLE	YJ07018790	WY01		nsp	JUMPER LEAD SMCD-15X120-BDX10-P1.25-S6.0	YU15120500
CY12		nsp	<b>PY16-FRONT</b> <b>CIRCUIT BOARD</b> <b>PY16-CAPACITORS</b> CER. CHIP 0.1µF GRM39F104Z16	DK98104200	XY02		FQ05004040	CER. VIB. CSTCC5.00MG-TC 5MHZ RESONATOR	FQ05004040
CY13		nsp	CER. CHIP 0.1µF GRM39F104Z16	DK98104200	ZY21		HW10004210	PHOTO UNIT RPM6936-V4 IR SENSOR	HW10004210
CY14		nsp	CER. CHIP 0.1µF GRM39F104Z16	DK98104200					
CY21		EY10701020	TANTL. CHIP 100µF 10V PSND1A107M	EY10701020					
CY22		nsp	CER. CHIP 0.1µF GRM39F104Z16	DK98104200					
CY23		EY33601020	TANTL. CHIP 33µF 10V	EY33601020					
			<b>PY16-RESISTORS</b>						
RY01		nsp	CHIP . 4.7kΩ ±5% 1/16W	NN05472610					
RY02		nsp	CHIP . 4.7kΩ ±5% 1/16W	NN05472610					
RY03		nsp	CHIP . 2.2kΩ ±5% 1/16W	NN05222610					
RY06		nsp	CHIP . 6.8kΩ ±5% 1/16W	NN05682610					
RY07		nsp	CHIP . 6.8kΩ ±5% 1/16W	NN05682610					
RY08		nsp	CHIP . 1MΩ ±5% 1/16W	NN05105610					
RY11		nsp	CHIP . 4.7kΩ ±5% 1/16W	NN05472610					
RY17		nsp	CHIP . 2.2kΩ ±5% 1/16W	NN05222610					
RY18		nsp	CHIP . 2.2kΩ ±5% 1/16W	NN05222610					
RY19		nsp	CHIP . 2.2kΩ ±5% 1/16W	NN05222610					
RY20		nsp	CHIP . 6.8kΩ ±5% 1/16W	NN05682610					
RY21		nsp	CHIP . 100Ω ±5% 1/16W	NN05101610					
RY22		nsp	CHIP . 4.7kΩ ±5% 1/16W	NN05472610					
RY23	/K1G	nsp	CHIP . 220Ω ±5% 1/16W	NN05221610					
RY23	/N1G	nsp	CHIP . 220Ω ±5% 1/16W	NN05221610					
RY23	/S1G	nsp	CHIP . 220Ω ±5% 1/16W	NN05221610					
RY23	/N1S	nsp	CHIP . 33Ω ±5% 1/16W	NN05330610					
RY24		nsp	CHIP . 100Ω ±5% 1/16W	NN05101610					
RY25		nsp	CHIP . 2.2kΩ ±5% 1/16W	NN05222610					
RY27		nsp	CHIP . 4.7kΩ ±5% 1/16W	NN05472610					
RY28		nsp	CHIP . 1kΩ ±5% 1/16W	NN05102610					
RY29		nsp	CHIP . 100kΩ ±5% 1/16W	NN05104610					
RY30		nsp	CHIP . 10kΩ ±5% 1/16W	NN05103610					
RY31	/K1G	nsp	CHIP . 220Ω ±5% 1/16W	NN05221610					
RY31	/N1G	nsp	CHIP . 220Ω ±5% 1/16W	NN05221610					
RY31	/S1G	nsp	CHIP . 220Ω ±5% 1/16W	NN05221610					
RY31	/N1S	nsp	CHIP . 33Ω ±5% 1/16W	NN05330610					
			<b>PY16-SEMICONDUCTORS</b>						
DY04		HI10062320	L.E.D. LT3D8B RED 30	HI10062320					
DY05		HI10162320	L.E.D. GL3BC802B0SC	HI10162320					
DY06		HZ20018050	CHIP DIODE 1SS302	HZ20018050					
QY02		HU356KN10F	MICROPROCESSOR DISPLAY µPC 100P QFP µPD780204	HU356KN10F					
QY04		HX111622A0	CHIP TRS. 2SA1162 0 OR Y	HX111622A0					
QY08									
			<b>PY16-MISCELLANEOUS</b>						
LY01		FC90030070	FERRITE CORE BLM31A02 CHIP INDUCTOR	FC90030070					
LY02		FC90030070	FERRITE CORE BLM31A02 CHIP INDUCTOR	FC90030070					
LY03		FC90030070	FERRITE CORE BLM31A02 CHIP INDUCTOR	FC90030070					
SY01		SP01013370	PUSH SWITCH EVQ11L05R H/5MM 160GF	SP01013370					
SY07									

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