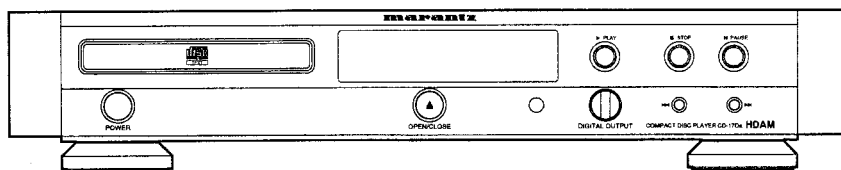
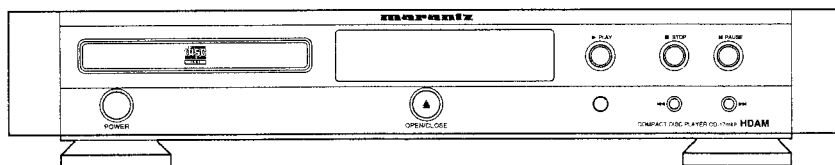


Service Manual

74 CD17 /22B/22G
CD-17Da F_N K_{GL}
CD-17mkII K_{BL} K_{GL} U_{BL}
Compact disc player



V24937



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Please use this service manual with referring to the user guide (D.F.U.) without fail.

The Allen wrench (No. 1.5) is necessary to open the top cover.

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。

又、六角棒スパナNO. 1.5が必要です。

marantz®

model CD-17mkII/CD-17Da

4822 725 51178
First Issue 1998.10
356k855010 MIT

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Using superior design and selected high grade components, **MARANTZ** company has created the ultimate in stereo sound. Only original **MARANTZ** parts can insure that your **MARANTZ** product will continue to perform to the specifications for which it is famous.

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1. Complete address
2. Complete part numbers and quantities required
3. Description of parts
4. Model number for which part is required
5. Way of shipment
6. Signature : any order form or Fax. must be signed, otherwise such part order will be considered as null and void.

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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 (CD mode)	44.1 kHz
*Sampling frequency (D/A mode)	32/44.1/48 kHz
Quantization	16-bit linear/channel
Error correction	Cross-interleave read solomon code (CIRC)
D/A conversion	1-bit linear/channel
Wow & flutter	Precision of quartz

Optical Readout System

Laser	AlGaAs semiconductor
Wavelength	780 nm

Frequency Characteristics

Frequency range	5 Hz - 20 kHz
Dynamic range	> 98 dB
S/N ratio	> 110 dB
Channel separation (1 kHz)	> 103 dB
THD (1 kHz)	0.0015 %
Analog output	
Output level (cinch JACKS)	2.2 V RMS
Output impedance	250 ohms
Digital output	
Output level (cinch JACK)	0.5 Vp-p/75 ohms
Output level (optical JACK)	-19 dBm
*Digital input	
Input level (cinch JACK)	0.5 Vp-p/75 ohms
Input level (optical JACK)	-19 dBm

Power Supply

Power requirement	
K version	110 / 220V AC 50/60 Hz
J22 version	230V AC 50 Hz
U version	120V AC 60 Hz
Power Consumption	19 W

Cabinet, etc.

Dimensions	
Width	458 mm
Height	83mm
Depth	313mm
Netweight	7.8 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
Remote cable with cinch pin	1
AC power cord	1

* : CD-17Da type only

Improvement may result in changes in specifications and design without notice.

オーディオ特性

チャンネル	2チャンネル
周波数特性	2Hz~20,000Hz, ±0.3dB
ダイナミックレンジ	98dB以上
S/N比	110dB
チャンネルセパレーション	103dB (1kHz)
高調波歪率	0.0015% (1kHz)
ワウフラッター	水晶精度
誤り訂正方式	クロス・インターリーブ・リードソロン・コード (CIRC)
音声出力	2.2V RMSステレオ
デジタル出力	ピンジャック 0.5Vp-p/75Ω (角型光コネクタ) 光出力 -19dBm
デジタル入力	ピンジャック 0.5Vp-p/75Ω (角型光コネクタ) 光出力 -19dBm

光学読み取り方式

レーザー	AlGaAs 半導体
波長	780nm

信号方式

サンプリング周波数 (CD モード)	44.1kHz
(D/A モード)	32/44.1/48kHz
量子化	16ビットリニア / チャンネル

電源部

電源	AC 100V 50/60Hz
消費電力 (電気用品取締法)	19W

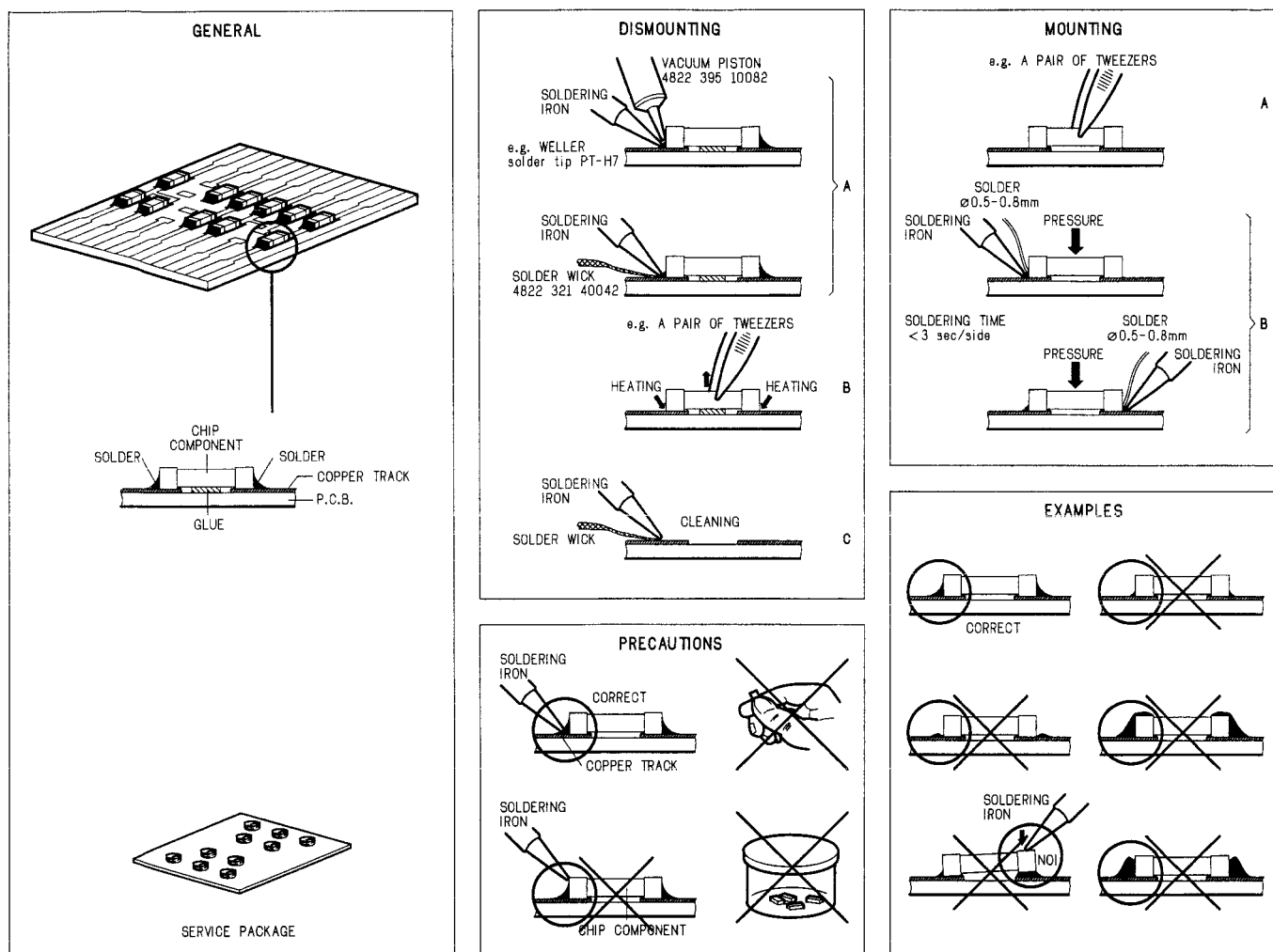
キャビネット・その他

最大外形寸法 (幅×高さ×奥行)	458×83×313mm
質量	7.8kg
許容動作温度	+5°C ~ +35°C
許容動作湿度	5%~90% (結露のないこと)

付属品

リモートコントロール送信機 (RC-DA17CD)	1
外形寸法 (幅×高さ×奥行)	44×17.5×239mm
質量 (電池なし)	175g
単四電池 (SUM-4)	2個
RCAピンコード	1組
リモート接続コード	1本
電源コード	1本

2. SERVICING 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
Allen wrench (No. 1.5)	

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

Q301 TDA1315H

SYMBOL	PIN	PADCELL	DESCRIPTION
RC ₁₁	1	E029	PLL loop filter input
V _{ref}	2	E029	decoupling internal reference voltage output
V _{DDA}	3	E008	analog supply voltage
V _{SSA}	4	E004	analog ground
IECIN1	5	E007	high sensitivity IEC input
IECIN0	6	IPP04	TTL level IEC input
IECSEL	7	IUP04	select IEC input 0 or 1 (0 = IECIN0; 1 = IECIN1); this input has an internal pull-up resistor
IECO	8	OPFH3	digital audio output for optical and transformer link
IECOEN	9	IUP04	digital audio output enable (0 = enabled; 1 = disabled/3-state); this input has an internal pull-up resistor
TESTB	10	IPP04	enable factory test input (0 = normal application; 1 = scan mode)
TESTC	11	IPP04	enable factory test input (0 = normal application; 1 = observation outputs)
UNLOCK	12	OPP41A	PLL out-of-lock (0 = not locked; 1 = locked); this output can drive an LED
FS32	13	OPP41A	indicates sample frequency = 32 kHz (active LOW); this output can drive an LED
FS44	14	OPP41A	indicates sample frequency = 44.1 kHz (active LOW); this output can drive an LED
FS48	15	OPP41A	indicates sample frequency = 48 kHz (active LOW); this output can drive an LED
CHMODE	16	OPP41A	use of channel status block (0 = professional use; 1 = consumer use); this output can drive an LED
V _{DD2}	17	E008	digital supply voltage 2
V _{SS2}	18	E009	digital ground 2
RESET	19	IDP09	initialization after power-on, requires only an external capacitor connected to V _{DD2} ; this is a Schmitt-trigger input with an internal pull-down resistor
PD	20	IPP04	enable power-down input in the standby mode (0 = normal application; 1 = standby mode)
CTRLMODE	21	IUP04	select microcontroller/stand-alone mode (0 = microcontroller; 1 = stand-alone); this input has an internal pull-up resistor
LADDR	22	IPP04	microcontroller interface address switch input (0 = 000001; 1 = 000010)
LMODE	23	IPP09	microcontroller interface mode line input
LCLK	24	IPP09	microcontroller interface clock line input
LDATA	25	IOF24	microcontroller interface data line input/output
STROBE	26	IDP04	strobe for control register (active HIGH); this input has an internal pull-down resistor
UDAVAIL	27	OPF23	synchronization for output user data (0 = data available; 1 = no data)
TESTA	28	IPP04	enable factory (scan) test input (0 = normal application; 1 = test clock enable)
COPY	29	OPP41A	copyright status bit (0 = copyright asserted; 1 = no copyright asserted); this output can drive an LED
INVALID	30	IOD24	validity of audio sample input/output (0 = valid sample; 1 = invalid sample); this pin has an internal pull-down resistor
DEEM	31	OPF23	pre-emphasis output bit (0 = no pre-emphasis; 1 = pre-emphasis)
MUTE	32	IUP04	audio mute input (0 = permanent mute; 1 = mute on receive error); this pin has an internal pull-up resistor
I ² SSEL	33	IUP04	select auxiliary input or normal input in transmit mode
SDAUX	34	IPP04	auxiliary serial data input; I ² S-bus
SD	35	IOF24	serial audio data input/output; I ² S-bus
WS	36	IOF24	word select input/output; I ² S-bus
SCK	37	IOF29	serial audio clock input/output; I ² S-bus
I ² SOEN	38	IUP04	serial audio output enable (0 = enabled; 1 = disabled/3-state); this input has an internal pull-up resistor
SYSCLKI	39	IPP09	system clock input (transmit mode)
SYSCLKO	40	OPFA3	system clock output (receive mode)
V _{SSD1}	41	E009	digital ground 1
V _{DD1}	42	E008	digital supply voltage 1
CLKSEL	43	IUP04	select system clock (0 = 384f _s ; 1 = 256f _s); this input has an internal pull-up resistor
RC _{int}	44	E029	integrating capacitor output

QD01 TDA1547

SYMBOL	PIN	DESCRIPTION
DGND	1	0 V digital supply
V _{DD}	2	5 V digital supply for both channels
IN R	3	serial one-bit data input for the right channel
n.c.	4	pin not connected; should preferably be connected to digital ground
CLK R	5	clock input for the right channel
V _{DD R}	6	5 V digital supply for the right channel; this voltage determines the internal logic HIGH level in the right channel
V _{SS R}	7	-3.5 V digital supply for the right channel; this voltage determines the internal logic LOW level in the right channel
V _{ref R}	8	-4 V reference voltage for the right channel switched capacitor DAC
AGND DAC R	9	0 V reference voltage for the right channel switched capacitor DAC; this pin should be connected to analog ground
-DAC R	10	output from the right negative switched capacitor DAC; feedback connection for the right negative operational amplifier
+DAC R	11	output from the right positive switched capacitor DAC; feedback connection for the right positive operational amplifier
AGND R	12	0 V reference voltage for both right channel operational amplifiers
n.c.	13	pin not connected; should preferably be connected to analog ground
+OUT R	14	+ output of the switched capacitor operational amplifier
-OUT R	15	- output of the switched capacitor operational amplifier
V _{SSA}	16	-5 V analog supply

Q501 TDA1307

SYMBOL	PIN	TYPE, I/O	DESCRIPTION
WS	1	I	word select input to data interface
SCK	2	I	clock input to data interface
SD	3	I	data input to interface
EFAB	4	I ⁽¹⁾	error flag (active HIGH); input from decoder chip indicating unreliable data
SBCL	5	I	subcode clock: a 10-bit burst clock (typ. 2.8224 MHz) input which synchronizes the subcode data
SBDA	6	I	subcode data: a 10-bit burst of data, including flags and sync bits, serially input once per frame, clocked by burst clock input SBCL
CDEC	7	O	decoder clock output: frequency division programmable by means of pins 14 (CLC1) and 17 (CLC2) to output 192, 256, 384 or 768 times f _s
V _{DDC3}	8		positive supply 3
V _{SSC2}	9		ground 2
DOBM	10	O	digital audio output: this output contains digital audio samples which have received interpolation, attenuation and muting plus subcode data; transmission is in biphase-mark code
DSL	11	O	digital silence detected (active LOW) on left channel
DSR	12	O	digital silence detected (active LOW) on right channel
DSTB	13	I ⁽²⁾	DOBM standby mode enforce pin (active HIGH)
CLC1	14	I	application mode programming pin for CDEC (pin 7) frequency division
CMIC	15	O	clock output, provided to be used as running clock by microprocessor (in master mode only), output 96f _s
V _{SSC3}	16		ground 3
CLC2	17	I	application mode programming pin for CDEC (pin 7) frequency division
CDCC	18	I	master / slave mode selection pin
RESYNC	19	O	resynchronization: out-of-lock indication from data input section (active HIGH)
POR	20	I ⁽²⁾	power-on reset (active LOW)
V _{DDC1}	21		supply voltage 1
XTAL1	22	I	crystal oscillator terminal: local crystal oscillator sense forced input in slave mode
XTAL2	23	O	crystal oscillator output: drive output to crystal
V _{DDOSC}	24		positive supply connection to crystal oscillator circuitry
V _{SSOSC}	25		ground connection to crystal oscillator circuitry
MODE	26	I ⁽²⁾	evaluation mode programming pin (active LOW); in normal operation, this pin should be left open-circuit or connected to the positive supply
DOL	27	O	data output left channel to bitstream DAC TDA1547
NDOL	28	O	complementary data output left channel to TDA1547 in double differential mode
V _{DDAL}	29		positive supply connection to output data driving circuitry, left channel
V _{SSAL}	30		ground connection to output data driving circuitry, left channel
V _{SSAR}	31		ground connection to output data driving circuitry, right channel
V _{DDAR}	32		positive supply connection to output data driving circuitry, right channel
DOR	33	O	data output right channel to TDA1547
NDOR	34	O	complementary data output right channel to TDA1547 in double differential mode
CDAC	35	O	clock output to bitstream DAC TDA1547
TEST1	36	I ⁽¹⁾	test mode input; in normal operation this pin should be connected to ground
TEST2	37	I ⁽¹⁾	test mode input; in normal operation this pin should be connected to ground
DA	38	I/O ⁽²⁾	bidirectional data line intended for control data from the microprocessor and peak data from the TDA1307
CL	39	I ⁽²⁾	clock input, to be generated by the microprocessor
V _{SSC1}	40		ground 1
V _{DDC2}	41		supply voltage 2
RAB	42	I ⁽²⁾	command / peak data request line

Notes

- These pins are configured as internal pull-down.
- These pins are configured as internal pull-up.

SYMBOL	PIN	DESCRIPTION
V _{DDA}	17	5 V analog supply
-OUT L	18	- output of the switched capacitor operational amplifier
+OUT L	19	+ output of the switched capacitor operational amplifier
n.c.	20	pin not connected; should preferably be connected to analog ground
AGND L	21	0 V reference voltage for both left channel operational amplifiers
+DAC L	22	output from the left positive switched capacitor DAC; feedback connection for the left positive operational amplifier
-DAC L	23	output from the left negative switched capacitor DAC; feedback connection for left negative operational amplifier
AGND DAC L	24	0 V reference voltage for the left channel switched capacitor DAC; this pin should be connected to analog ground
V _{ref L}	25	-4 V reference voltage for the left channel switched capacitor DAC
V _{SSD L}	26	-3.5 V digital supply for the left channel; this voltage determines the internal logic LOW level in the left channel
V _{DDD L}	27	5 V digital supply for the left channel; this voltage determines the internal logic HIGH level in the left channel
CLK L	28	clock input for the left channel
n.c.	29	pin not connected; should preferably be connected to digital ground
IN L	30	serial one-bit data input for the left channel
V _{SSD}	31	-5 V digital supply for both channels
V _{SUB}	32	-5 V substrate voltage

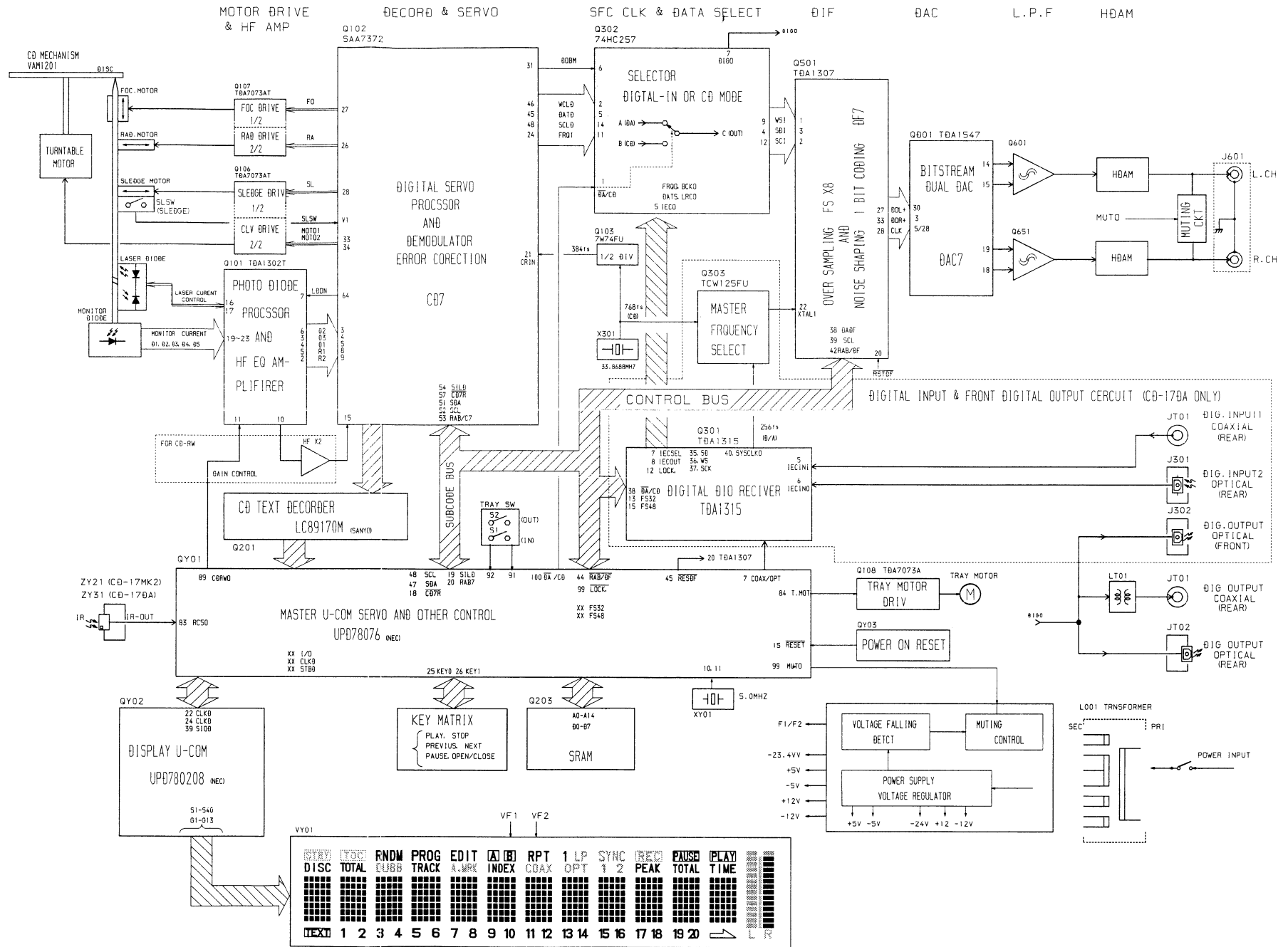
QY01 µPD78076 MAIN

Pin No.	Port Name	Function	In/Out	Active	To/From	Description
1	STRB	P120	Out	High	Q301	Strobe signal for control register
2	LMOD	P121	Out	Low	Q301	Interface mode line
3	OPT OFF	P122	In	High	Q308/Q309	Control signal a front digital output's power
4	EMPHA	P123	In	High	Q301	Emphasys signal (H = Emphasys on)
5	FS32	P124	In	Low	Q301	Sampling frequency signal (L = 32kHz Receiving)
6	FS48	P125	In	Low	Q301	Sampling frequency signal (L = 48kHz Receiving)
7	OPTIN	P126	Out	Low	Q301	Digital input select signal (L = Optical, H = Coaxial)
8	DMUT	P127	Out	Low	Q301	Digital muting control signal
9	GND	IC			GND	
10	X2	X2			XY01	Clock out(5MHz)
11	X1	X1			XY01	Clock in(5MHz)
12	+5VD	Vdd			+5VD	Power supply +5V
13	OPEN	XT2			OPEN	
14	+5VD	XT1			+5VD	
15	REST	RESET	In		QY03	Reset signal input
16	RC5I	INTP0	In	↑ ↓	ZY21/ZY31/EXT	Input remote control signal
17	DQST	INTP1	In	↓	Q201	Request signal to read datas from Q201
18	CD7R	P02	Out	Low	Q102	CD7 Reset signal
19	SILD	P03	Out	Low	Q102	Strobe signal for servo part of Q102
20	RAB7	P04	Out	Low	Q102	Strobe signal for servo part of Q102
21	LOCK	P05	Out	Low	Q301	Unlock signal for digital interface
22	OPEN	P06	Out		---	
23	+5VD	Avdd			+5VD	
24	+5VD	Avref0			+5VD	
25	KEY0	ANI0	In	Level	Tact Switch	Key Sensor
26	KEY1	ANI1	In	Level	Tact Switch	Key Sensor
27	GND	ANI2	In		GND	Key Sensor
28	GND	ANI3	In		GND	Key Sensor(REERVED)
29	GND	ANI4	In		GND	Key Sensor(REERVED)
30	GND	ANI5			GND	
31	GND	ANI6			GND	
32	GND	ANI7			GND	
33	GND	Avss			GND	
34	SDADF	P130	In/Out		Q501	Serial data signal for Q501
35	RSTD	P131	Out		QY02	Reset signal for QY02
36	+5VD	Avref			+5VD	
37	STBD	F70	Out		QY02	Strobe signal for QY02
38	SIOD	SO2	Out		QY02	Serial data for QY02
39	CLKD	SCK2	Out		QY02	Serial clock for QY02
40	RSTD	Vss			GND	
41	SIDT	SI1	In		Q201	Serial data signal from Q201
42	OPEN	SO1			---	
43	CLKT	SCK1	Out		Q201	Serial clock signal from Q201
44	RABDF	P23	Out	Low	Q501	Serial data's Strobe signal for Q501
45	RSTDF	P24	Out	Low	Q501	Reset signal for Q501
46	OPEN	SB0	---			
47	SDA	SB1	In/Out		Q102/Q301	Serial data signal for Q102/Q301
48	SCL	SCK0	Out		Q102/Q301/Q501	Serial clock signal for Q102/Q301/Q501
49	A0	A0	Out		Q203	Address signal for Q203
50	A1	A1	Out		Q203	Address signal for Q203
51	A2	A2	Out		Q203	Address signal for Q203
52	A3	A3	Out		Q203	Address signal for Q203
53	A4	A4	Out		Q203	Address signal for Q203
54	A5	A5	Out		Q203	Address signal for Q203
55	A6	A6	Out		Q203	Address signal for Q203
56	A7	A7	Out		Q203	Address signal for Q203
57	AD0	D0	In/Out		Q203	Data signal for Q203
58	AD1	D1	In/Out		Q203	Data signal for Q203
59	AD2	D2	In/Out		Q203	Data signal for Q203
60	AD3	D3	In/Out		Q203	Data signal for Q203
61	AD4	D4	In/Out		Q203	Data signal for Q203
62	AD5	D5	In/Out		Q203	Data signal for Q203
63	AD6	D6	In/Out		Q203	Data signal for Q203
64	AD7	D7	In/Out		Q203	Data signal for Q203
65	A8	A8	Out		Q203	Address signal for Q203
66	A9	A9	Out		Q203	Address signal for Q203
67	A10	A10	Out		Q203	Address signal for Q203
68	A11	A11	Out		Q203	Address signal for Q203
69	A12	A12	Out		Q203	Address signal for Q203
70	A13	A13	Out		Q203	Address signal for Q203
71	OPEN	Vss			---	
72	OPEN	A14	Out		---	
73	OPEN	A15	Out		---	
74	OPEN	P60	Out		---	
75	OPEN	P61	Out		---	
76	OPEN	P62	Out		---	
77	OPEN	P63	Out		---	
78	RDN	RD	Out		Q203	Read signal for Q203
79	WRN	WR	Out		Q203	Write signal for Q203
80	OPEN	P66	Out		---	
81	OPEN	P67	Out		---	
82	KILL	P100	Out		QF03	Cancel RC5 from IR sensor during output RC5
83	RC5OUT	TO6	Out		QF01	Sync/recording signal output
84	TRM	P102			Q108	Tray motor control signal
85	OPEN	P103			---	
86	MDSEL1	P30	In	Low	+5VD or GND	Model Select(HIGH : CD-17DA / LOW : CD-17M2)
87	MDSEL2	P31	In	Low	+5VD	Model Select(HIGH : CD-17DA&17MK2 / LOW : CD-17)
88	OPEN	P32	In	High	---	Detect switch for CD-RW Disc (HIGH : CD-RW Disc, LOW : CD)
89	CDRWO	P33	In	High	Q101	In case of CD-RW disc, Gain up RF signal
90	SLSW	P34	In	Low	VAM1201	Sledge detect switch (LOW : in end)
91	TROS	P35	In	Low	TRAY	Tray in/out detect switch (LOW : out end)
92	TRIS	P36	In	Low	TRAY	Tray in/out detect switch (LOW : in end)
93	OPEN	P37	In		---	
94	OPEN	P90	In		---	
95	OPEN	P91	Out		---	
96	OPEN	P93	Out		---	
97	OPEN	P94	Out		---	
98	OPEN	P95	Out		---	
99	AMUT	P95	Out	Low	QN04	Analog muting on
100	DA/CD	P96	Out	Low	Q302	Mode select (LOW : D/A Mode, HIGH : CD Mode)

QY02 μPD780204 DISPLAY

Pin No.	Port Name	Function	To/From	Descriptio	Active
1	+5VD	Vdd	+5VD		
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	SI0D	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 rate 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	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

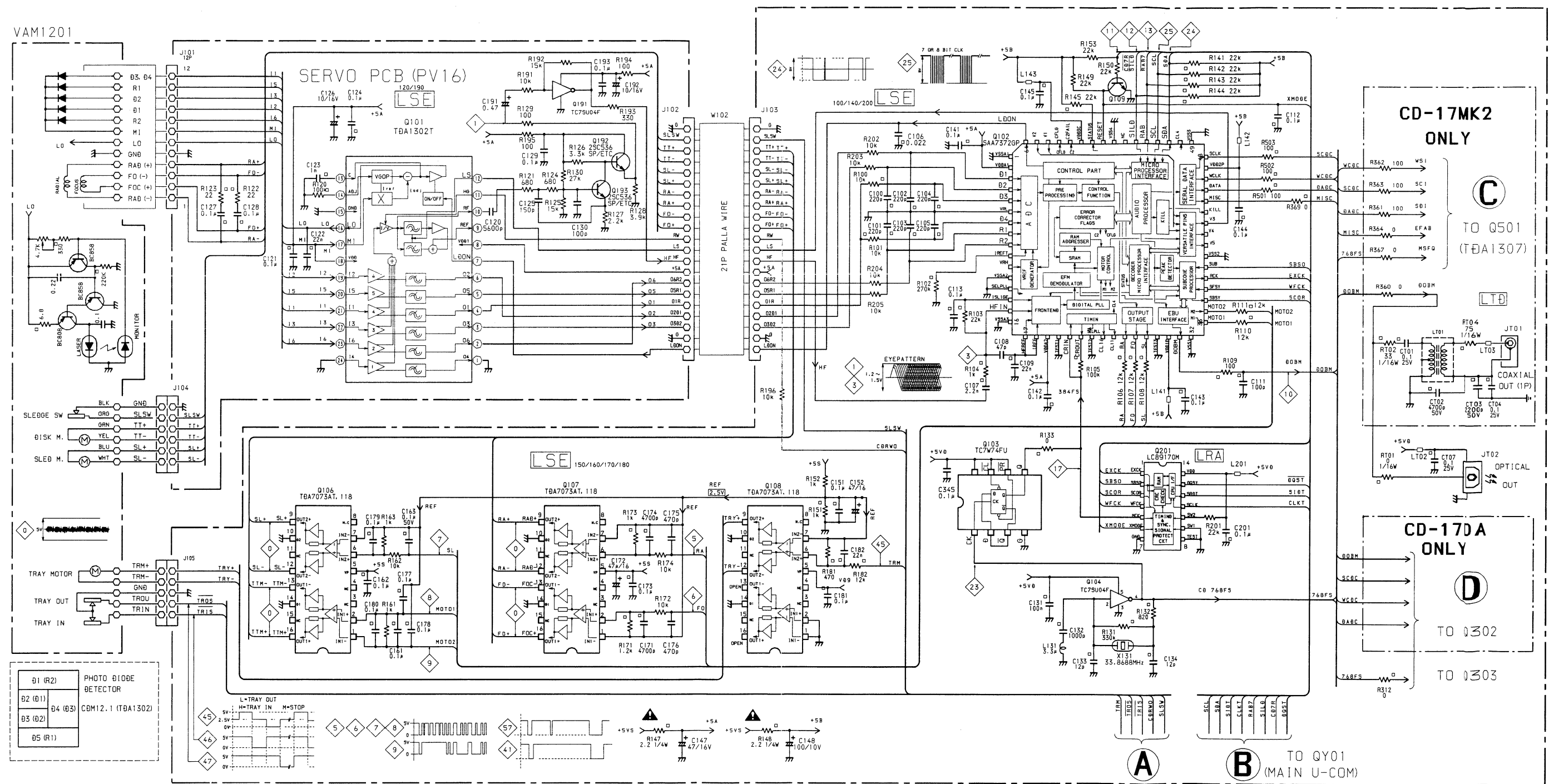


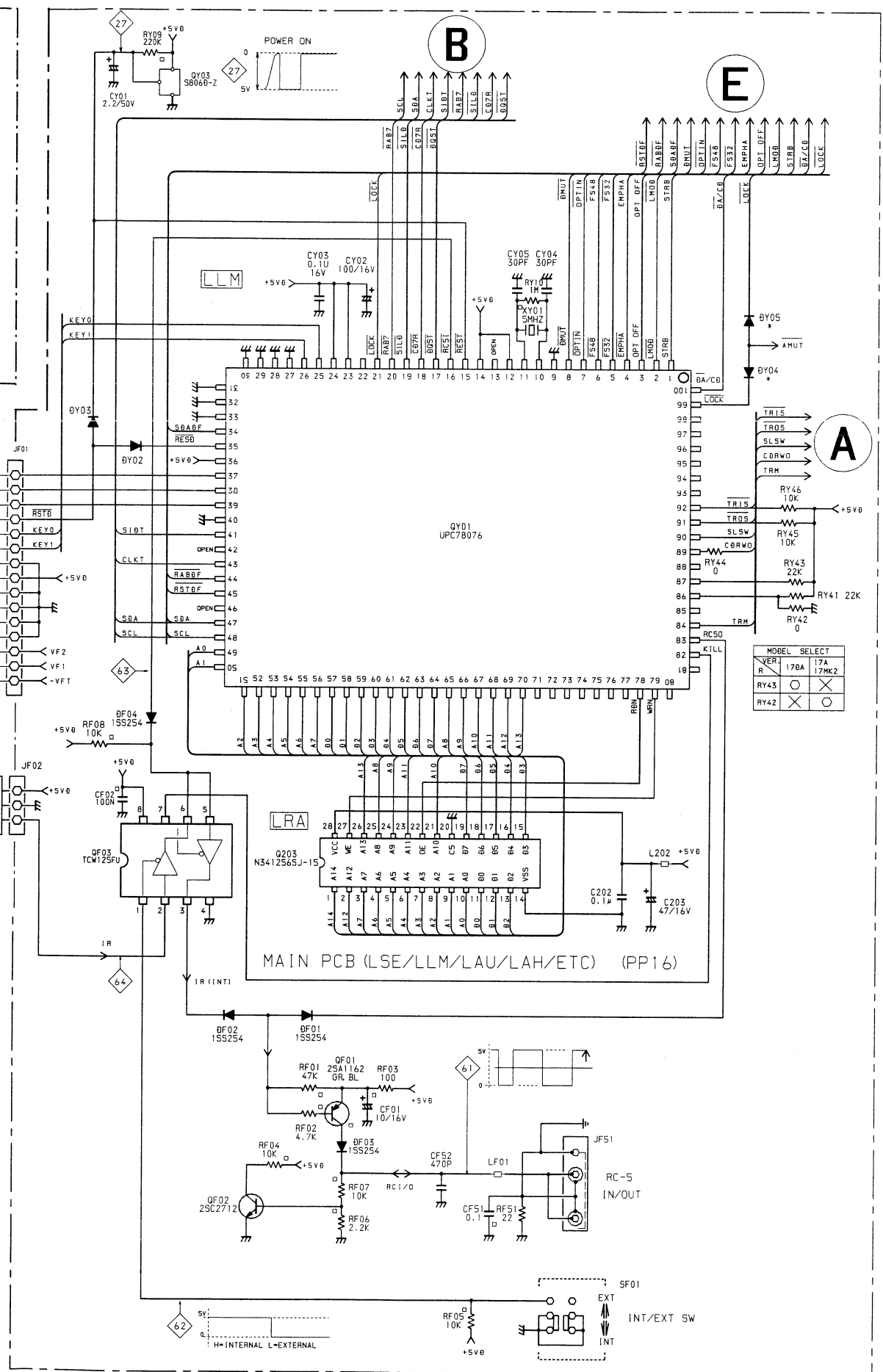
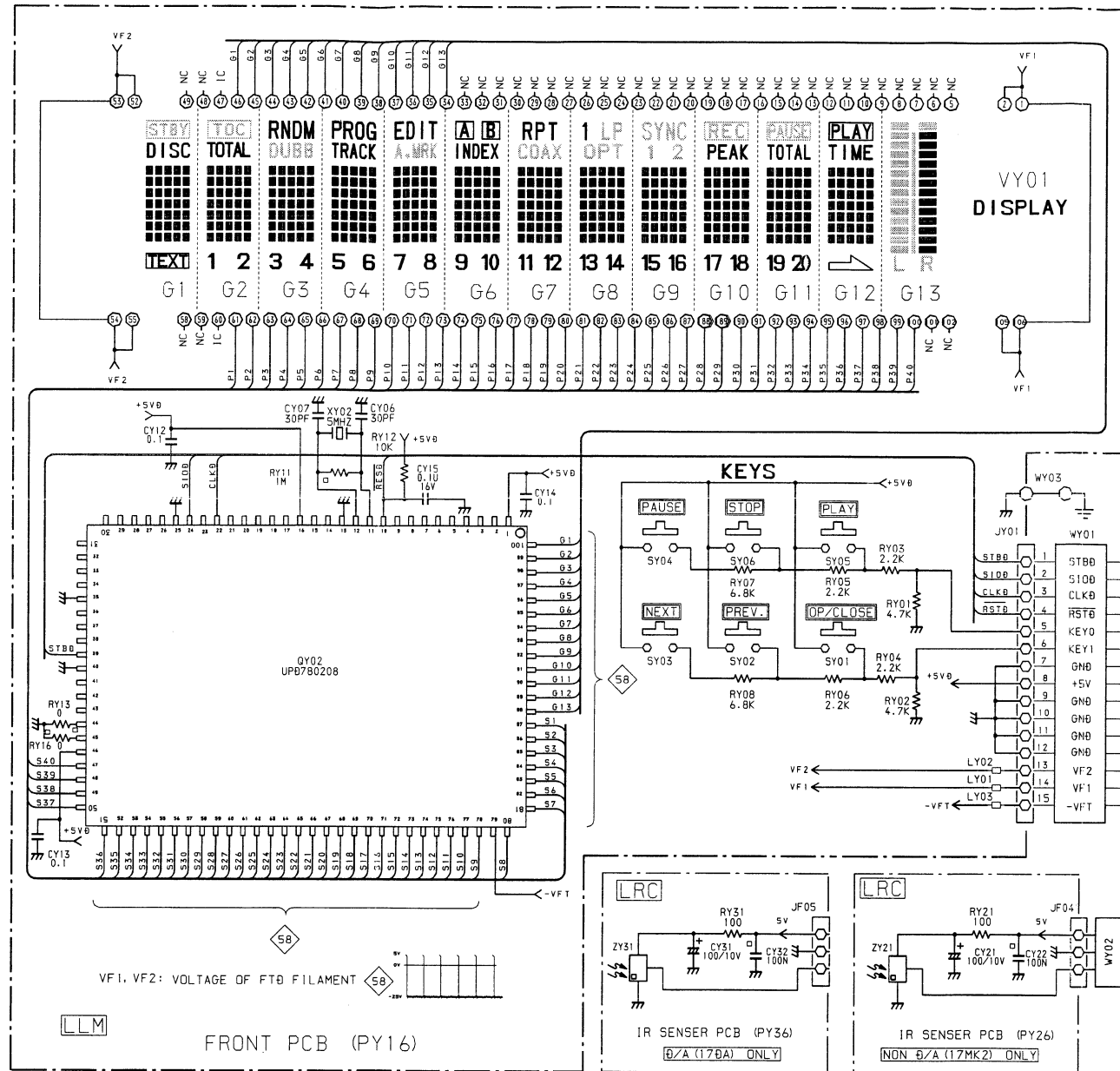
7. FLAG NO.

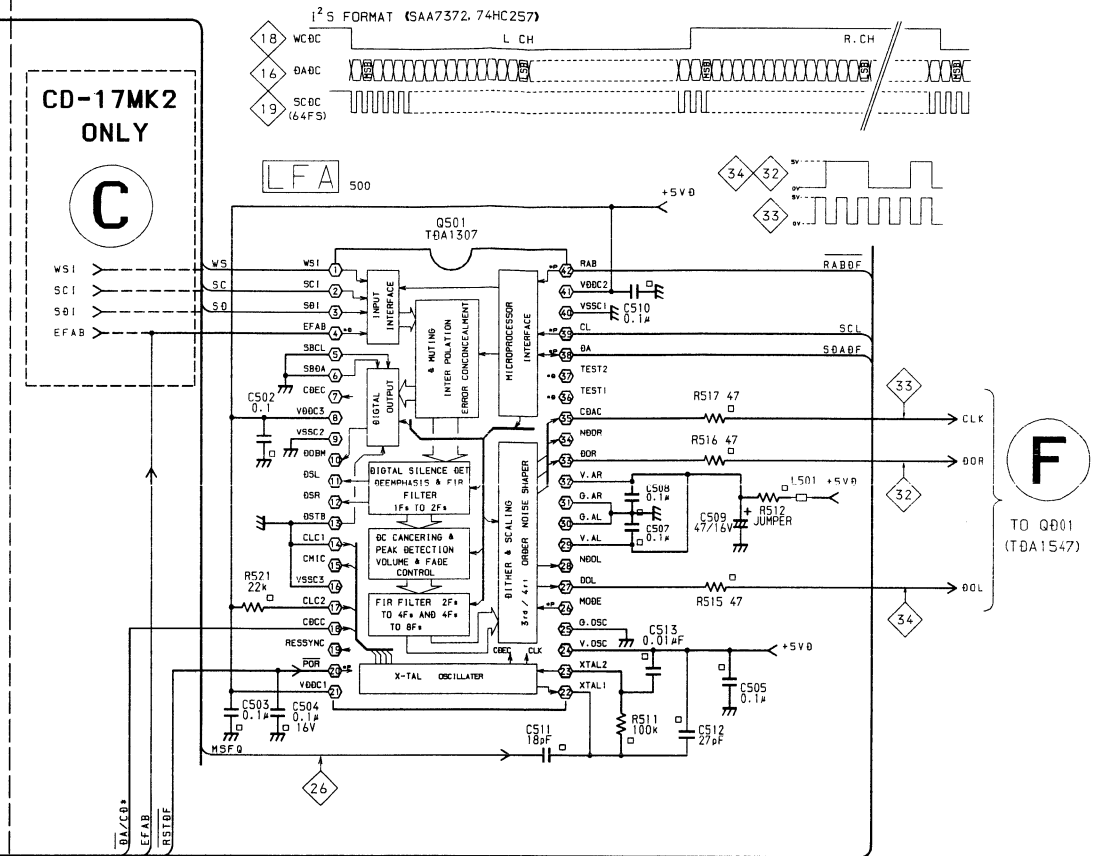
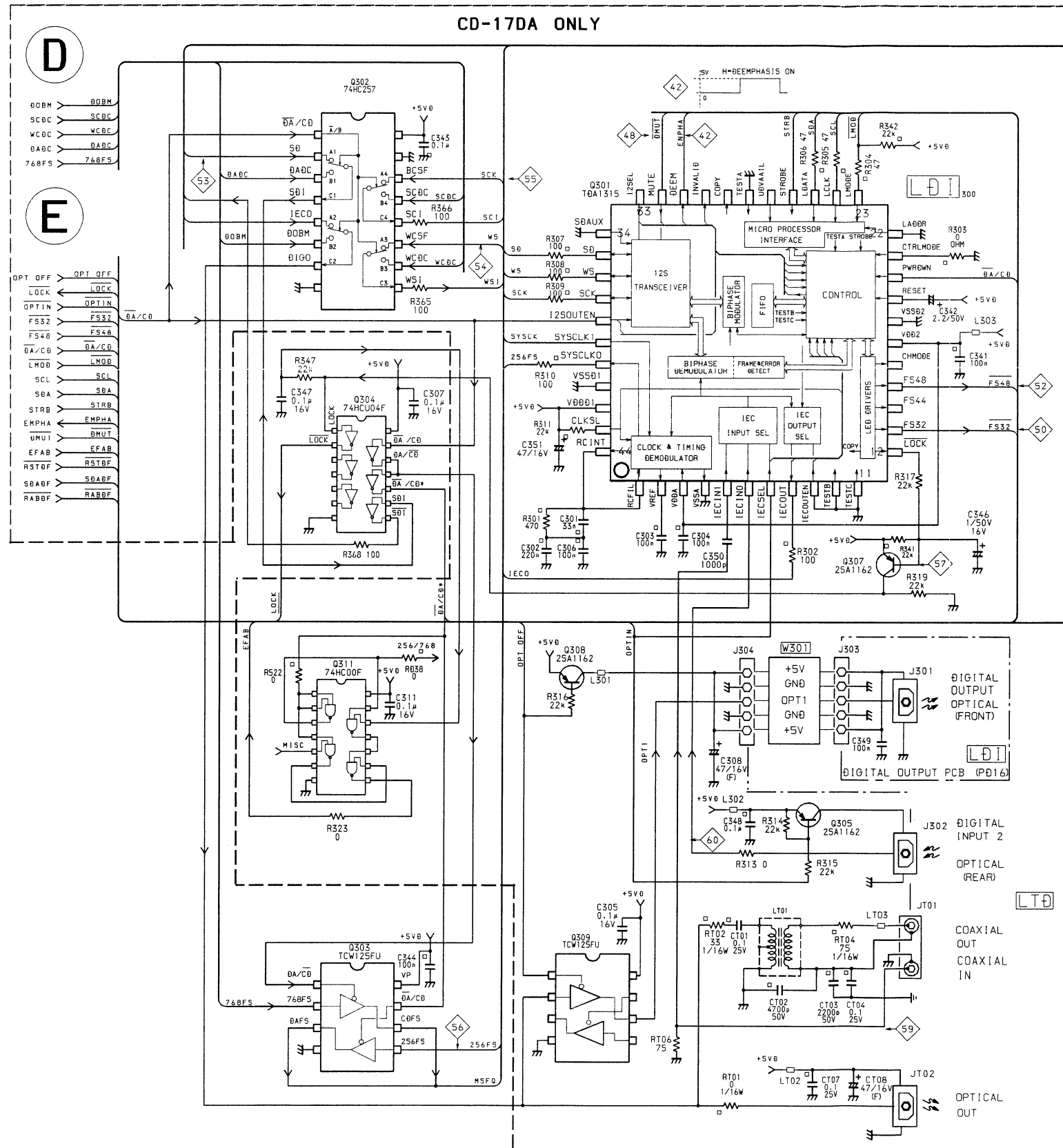
◇ FLAG

NO.	ITEM	FUNCTION	NO.	ITEM	FUNCTION	NO.	ITEM	FUNCTION
0	MT-OUT	MOTOR DRIVE OUTPUT	24	SBA	MPU DATA FOR CB7/TDA1307/TDA1315	48	DMUT	TDA1315 MUTING SIGNAL
1	HF-OUT	TDA1302T HF SIGNAL OUT	25	SCL	MPU CLOCK FOR CB7/TDA1307/TDA1315	49	OPT/COAX	DIGITAL INPUT SELECT L:OPT H:COAX
2			26	MSFG	MASTER FREQUENCY CLK FOR TDA1307	50	32K	INDICATES SAMPLE FREQUENCY=32kHz (ACTIVE LOW)
3	HF HPF	HF SIGNAL HPF OUT	27			51	44K	INDICATES SAMPLE FREQUENCY=44kHz (ACTIVE LOW)
4			28			52	48K	INDICATES SAMPLE FREQUENCY=48kHz (ACTIVE LOW)
5	RA	RADIO MOTOR CONT PULSE (PDM)	29			53	S0	SERIAL AUDIO DATA INPUT/OUTPUT: I ² S-BUS
6	FO	FOCUS MOTOR CONT PULSE (PDM)	30			54	WS	WORD SELECT INPUT/OUTPUT: I ² S-BUS
7	SL	SLEDDGE MOTOR CONT PULSE (PDM)	31			55	SCK	SERIAL AUDIO CLOCK INPUT/OUTPUT: I ² S-BUS
8	MOT01	TURNTABLE CONT PULSE (PDM)	32	00R	1 BIT DATA R	56	SYSCLOCK	TDA1315H SYSTEM CLOCK OUTPUT
9	MOT02	TURNTABLE CONT PULSE (PDM)	33	CLK	1 BIT DATA CLOCK OUT	57	UNLOCK	PLL OUT-OF-LOCK (0=NOT LOCKED)
10	00BM	DIGITAL OUTPUT SIGNAL	34	00L	1 BIT DATA L	58	FLGS	FL GRD AND SEGMENT DRIVE
11	007R	007 RESET PULSE	35	OSC2	UPC IN CLK (5.0MHz)	59	COAX	COAX INPUT SIGNAL
12	SIL0	DATA BUS R/W AND LOR0 CONTROL SERVO	36	OSC1	UPC OUT CLK (5.0MHz)	60	OPT	OPTICAL INPUT SIGNAL
13	RAB7	DATA BUS R/W AND LOR0 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	SLEDDGE SWITCH L:IN END	63	RCSI	RC-5 SIGNAL MPU INPUT
16	0AT	AUDIO I ² S DATA	40	A.MUTE	AUDIO MUTE H:MUTED	64	IR	RC-5 IR RECEIVE SIGNAL OUT
17	CL16	SYSTEM CLOCK 16.9344MHz	41	LOCK	DELAYED UNLOCK SIGNAL (L:UNLOCK H:LOCK)	65		
18	WCK0/LRCI	WORD CLOCK SWITCH OUT	42	EMPHA	TDA1315 EMPHA SIGNAL OUT (H:ON)	66	LPFD	AUDIO SIGNAL AT LPF OUTPUT
19	0AT0	SERIAL DATA SWITCH OUT	43	0A/CD	MODE SELECT 0:A OR CD (L:0/A H:CD)	67	LROUT	AUDIO SIGNAL OUTPUTS
20	0AT0/0IN	INV SERIAL 0AT0 DATA	44			68	MUTO	MUTING SIGNAL OUTPUT FOR AUDIO SIGNAL
21	BCK1/SCK0	SERIAL DATA BIT CLOCK SWITCH OUT	45	T.MOT	TRAY MOTOR CONTROL SIGNAL	69	PWMO	POWER ON/OFF MUTING SET SIGNAL
22			46	TRIS	TRAY IN/OUT DETECT SWITCH L:IN END	70		
23	X1	SYSTEM CLOCK (33.8688MHz)	47	TROS	TRAY IN/OUT DETECT SWITCH L:OUT END	71		

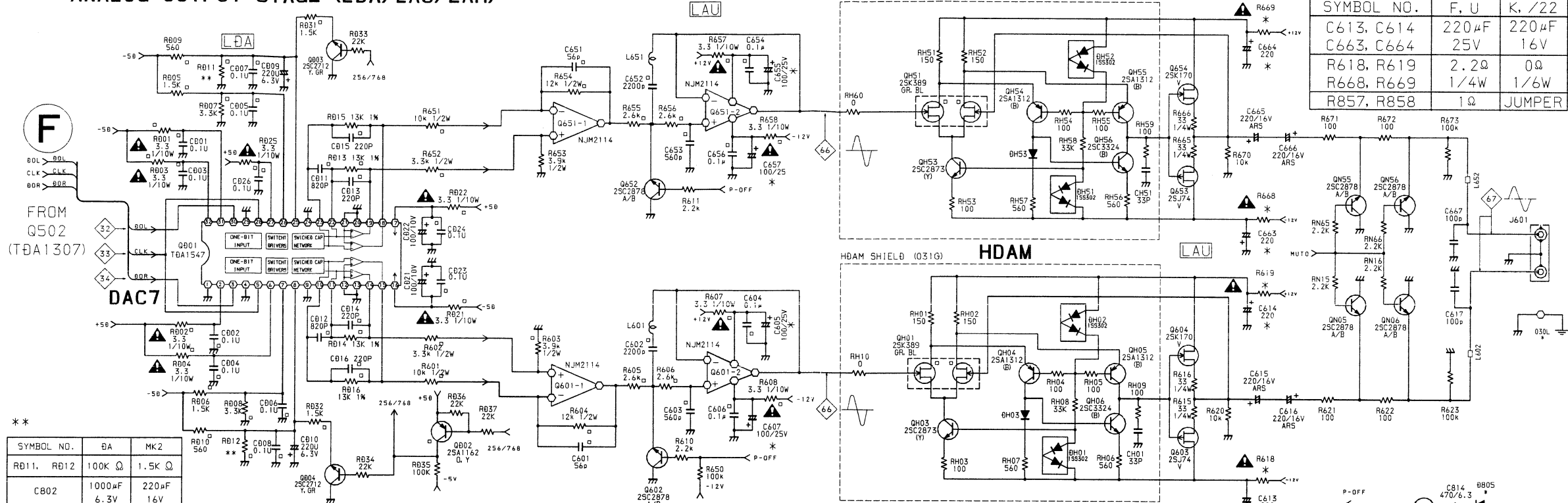
8. SCHEMATIC DIAGRAM AND PARTS LOCATION







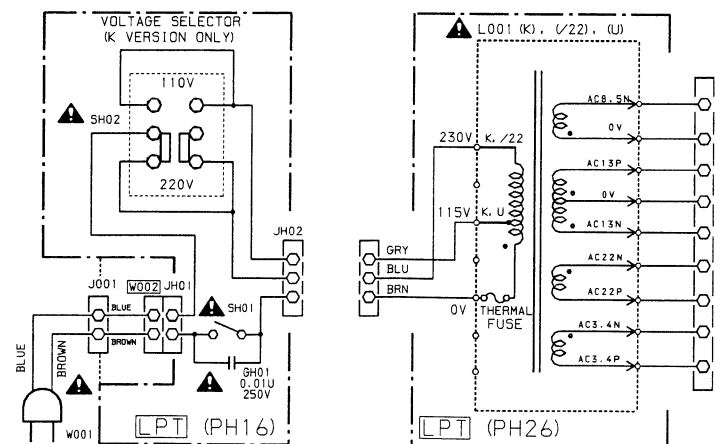
ANALOG OUTPUT STAGE (LDA/LAU/LAH)



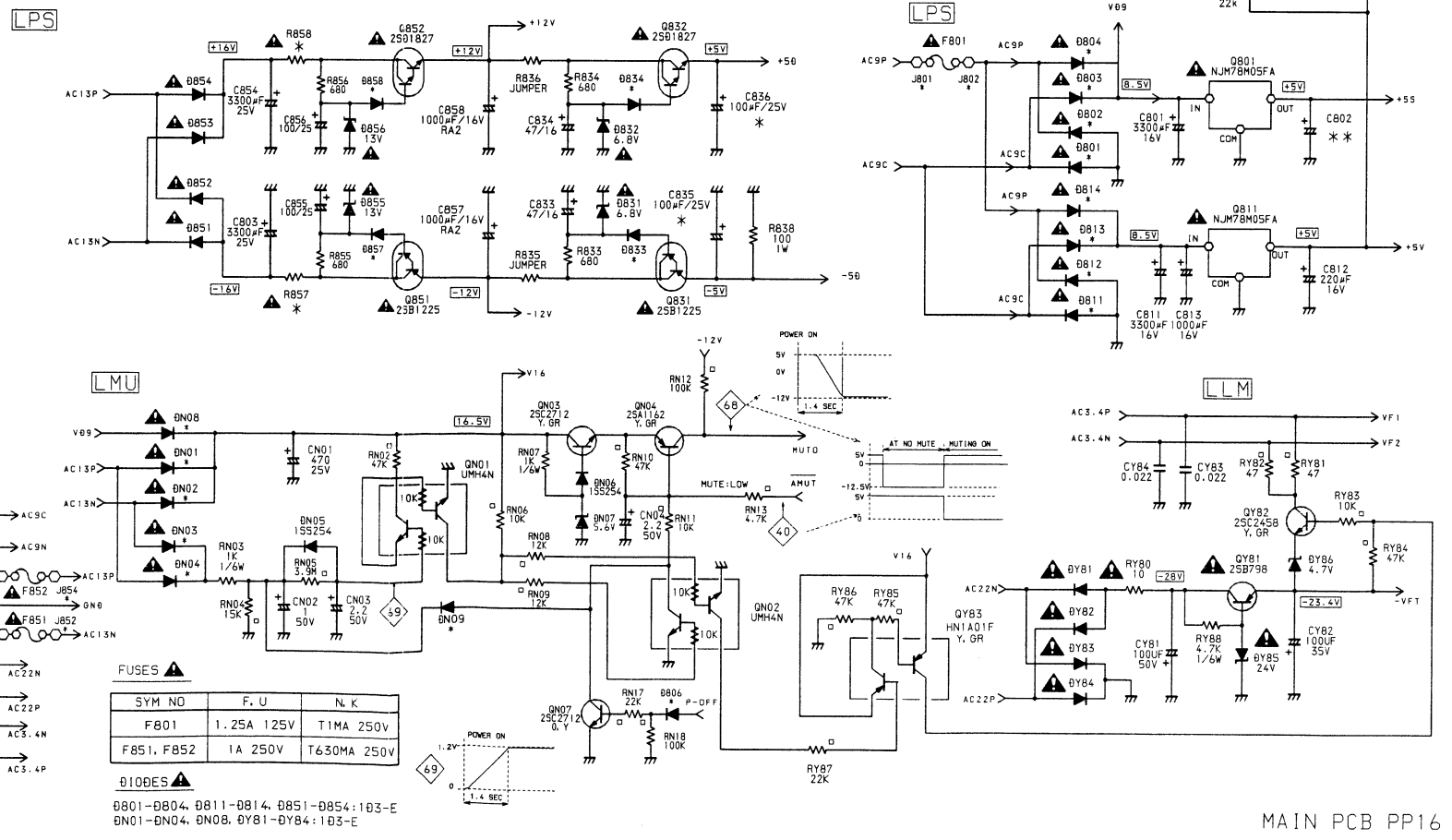
SYMBOL NO.	F. U.	K. /22
C613, C614	220µF	220µF
C663, C664	25V	16V
R618, R619	2.2Ω	0Ω
R668, R669	1/4W	1/6W
R857, R858	1Ω	JUMPER

SYMBOL NO.	DA	MK2
RD11, RD12	100K Ω	1.5K Ω
CB02	1000µF	220µF
	6.3V	16V

FOR K VERSION



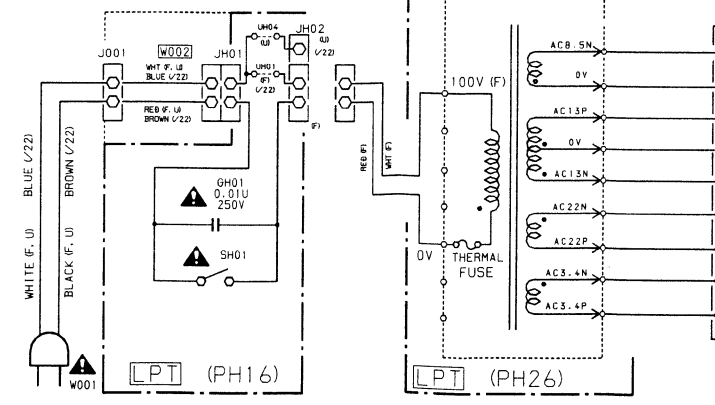
POWER SUPPLY/MUTE (LPS/LLM/LMU)



SYM NO	F. U.	N. K.
F801	1.25A 125V	T1MA 250V
F851, F852	1A 250V	T630MA 250V

DIODES
 D801-D804, D811-D814, D851-D854: 103-E
 D801-D804, D808, D811-D814: 103-E

FOR VERSION F. U. /22



MAIN PCB PP16

PP16

QN55
QN56
QN06
QN05
Q305

Q603
Q604
Q653
Q654
Q851

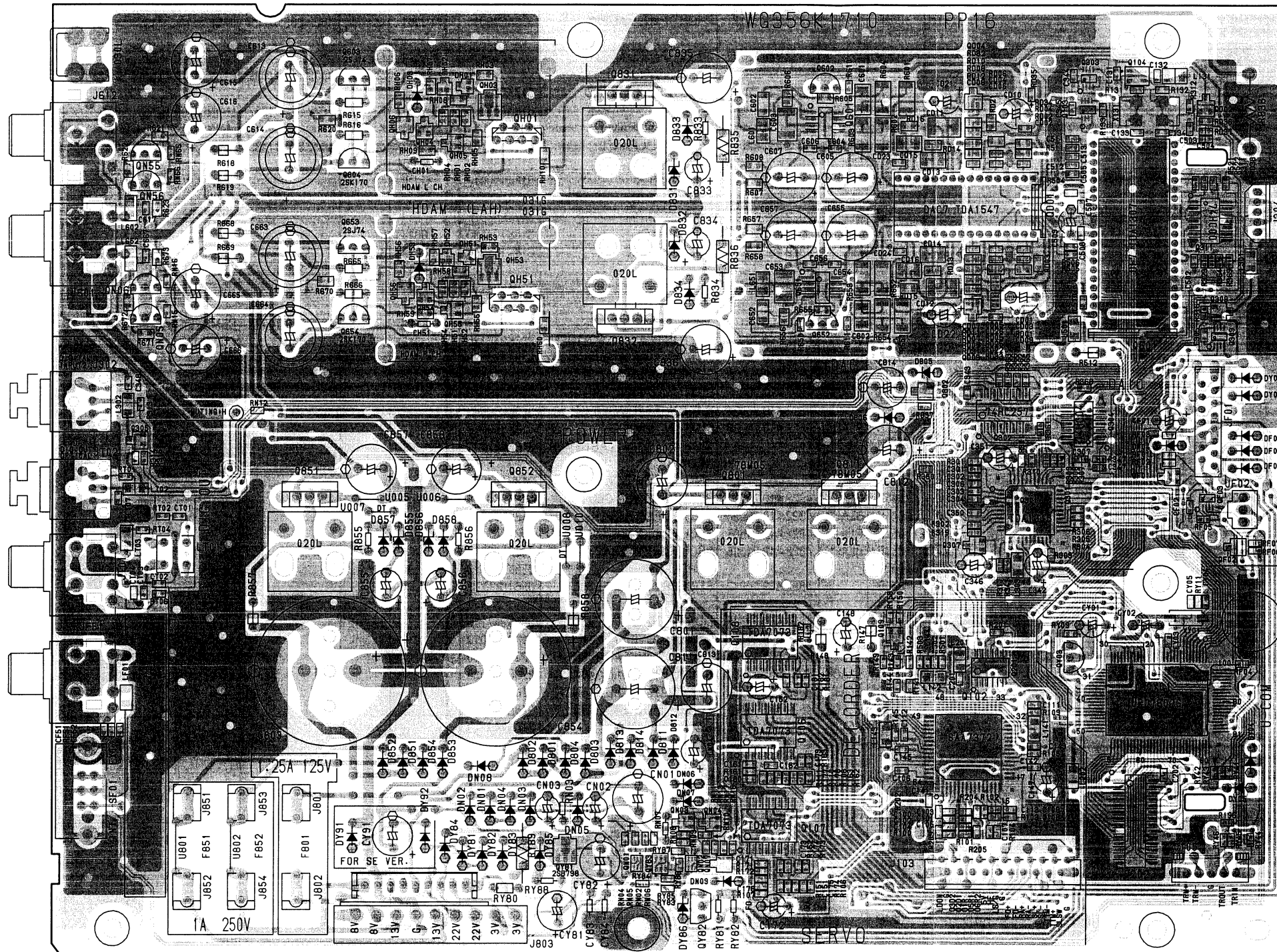
QH06 ~ QH03
QH56 ~ QH53
Q852

Q831
Q832

Q601
Q601
Q651
Q652

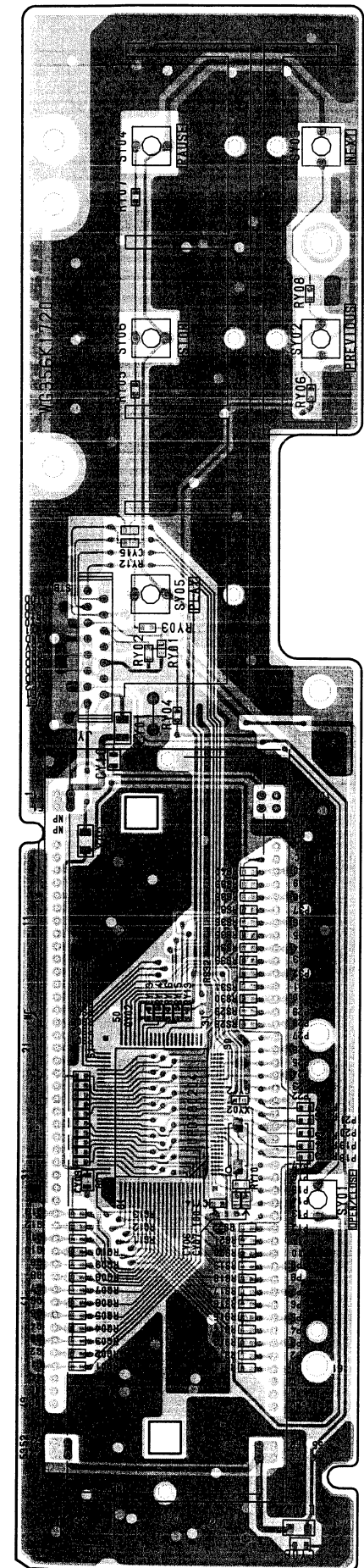
QD04
QD01

Q103 Q303 Q104
Q501 Q311
Q308
Q802 QD03 Q302 Q301 Q304 QF01



QY81 QN01 QY83 QN02 QN07 QY82
QN03 QN04 Q108 Q106 Q107
Q109 Q101 QY03 QY01 Q202

PY16

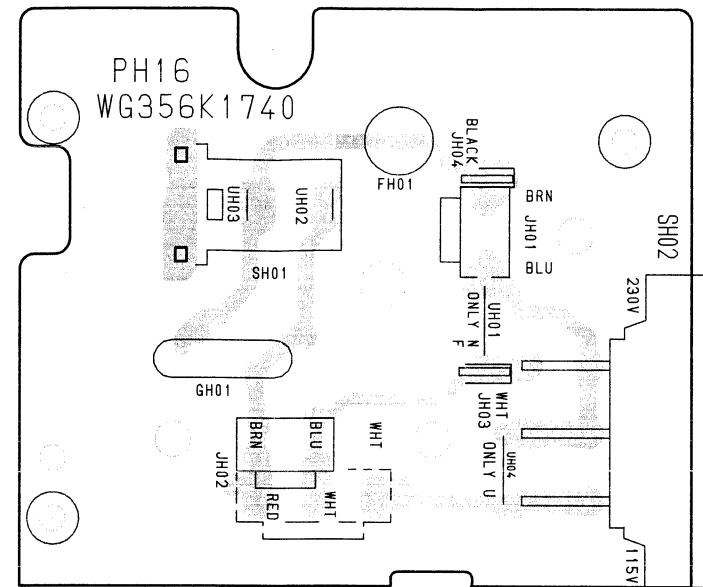


QY02

9. EXPLODED VIEW AND PARTS LIST

(VERS.:VERSION, U:U.S.A., F:JAPAN, K:FAR EAST, **EUROPE)

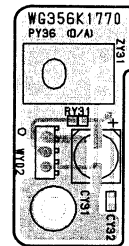
PH16



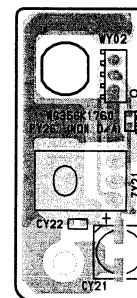
PD16



PY36

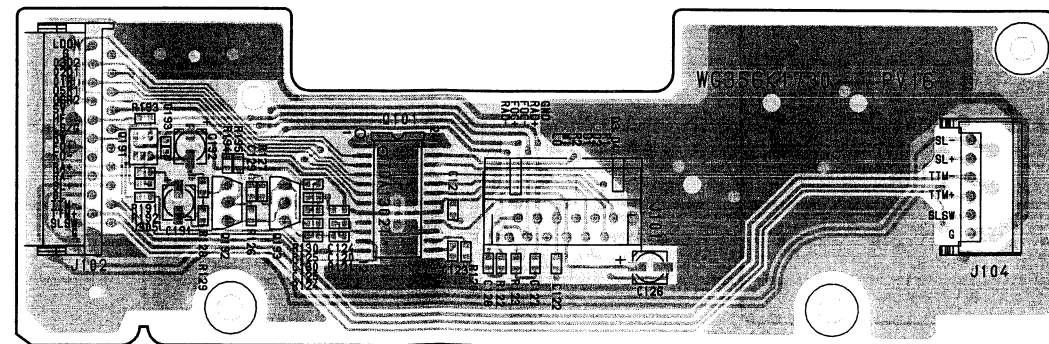


PY26

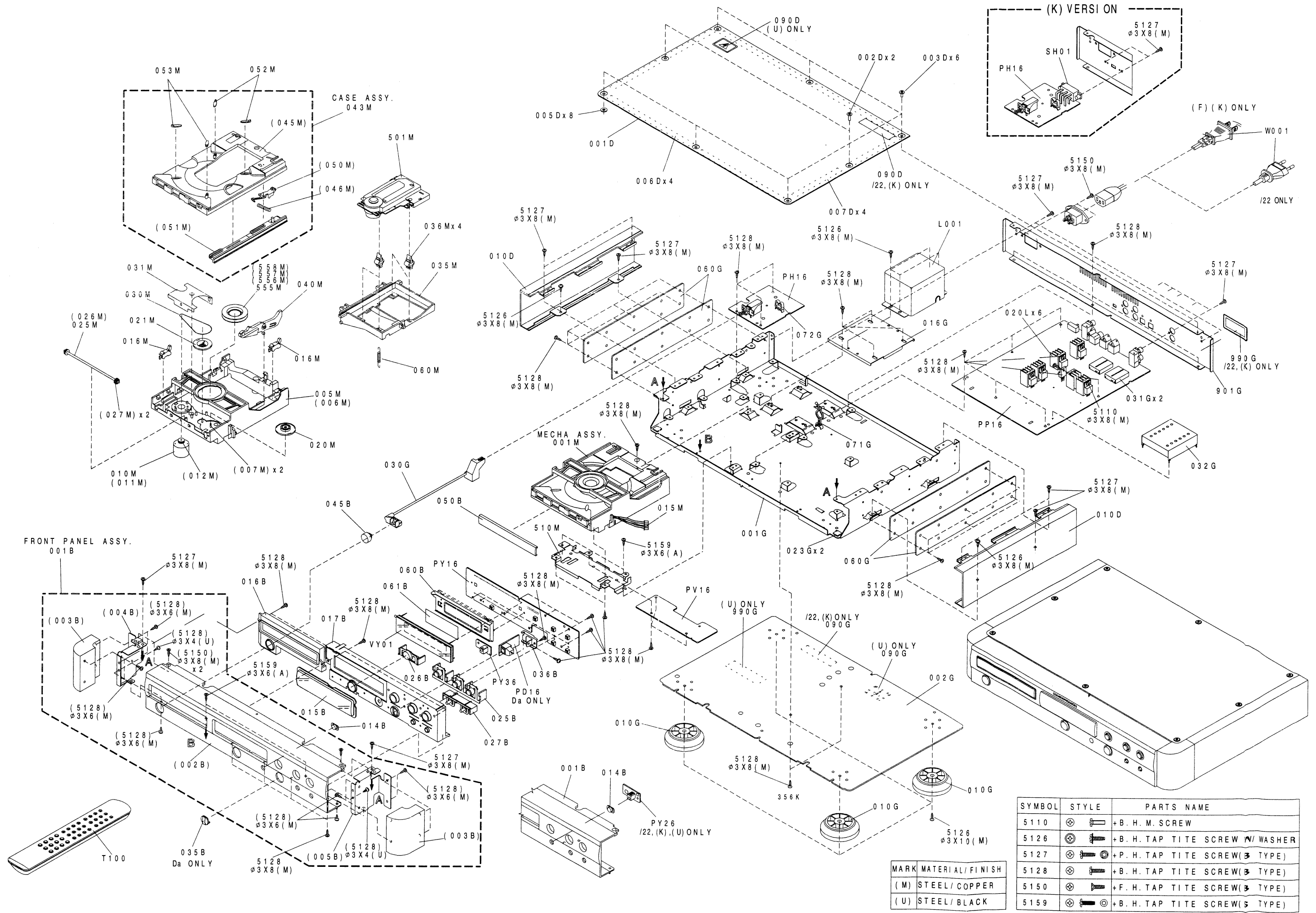


PV16

Q191 Q191 Q193 Q101



POS. NO	VERS. COLOR	PART NO. (FOR PCS)	DESCRIPTION	PART NO. (MJI)	POS. NO	VERS. COLOR	PART NO. (FOR PCS)	DESCRIPTION	PART NO. (MJI)
001B	DA		FRONT PANEL ASSY GLD	356K248550	050M		4822 528 30429	CAM	305K054010
001B	MK2		FRONT PANEL ASSY BLK	356K248500	051M		4822 522 10738	NEW GEAR FOR VAM1201	305K058050
	BLK				060M		4822 492 33495	SPRING	305K115020
001B	MK2		FRONT PANEL ASSY GLD	356K248510	501M		4822 691 10615	MECHANISM,VAM 1201	356K304500
002B	DA		FRONT PANEL AL GLD	356K248130	▲ J001	F		JACK 3P AC INLET	YJ04002160
002B	MK2	4822 459 05171	FRONT PANEL AL BLK	356K248010	▲ J001	/22,K,U	4822 265 11399	JACK 2P AC INLET	YJ04002360
	BLK				▲ L001	F		POWER TRANSF. 100V	TS15742010
002B	MK2	4822 459 05172	FRONT PANEL AL GLD	356K248110	▲ L001	/22,K,U	4822 146 11089	POWER TRANSF. 115V/230V	TS15742020
	GLD				▲ W001	F		MAINS CORD	ZC01802080
003B	GOLD	4822 444 40853	ESCUTCHEON AL GLD	318K063110	▲ W001	K		MAINS CORD,2.5A 250V	ZC01803090
003B	BLACK	4822 444 40852	ESCUTCHEON AL BLK	318K063010	▲ W001	/22	4822 321 11439	MAINS CORD,10A 250V	ZC01803080
014B	GOLD	4822 381 12025	IR LENS GLD PANEL	290J355110	▲ W001	U		MAINS CORD,10A 125V	ZC01803100
014B	BLACK	4822 381 12024	IR LENS BLK PANEL	290J355010					
015B	GOLD	4822 450 10143	WINDOW GLD	318K158110					
015B	BLACK	4822 450 10141	WINDOW BLK	318K158010					
016B	GOLD	4822 532 13091	BUSHING GLD	342K259110					
016B	BLACK	4822 532 13089	BUSHING BLK	342K259010					
017B	DA		RETAINER GL	318K104130					
017B	MK2	4822 459 50977	RETAINER BLK	318K104010	001T	F		PACKING USER GUIDE	356K851110
	BLK				001T	K		USER GUIDE,ENG/CHINA	356K851350
017B	MK2	4822 459 50978	RETAINER GLD	318K104110	001T	/22	4822 736 16577	USER GUIDE	356K851310
	GLD				001T	U		USER GUIDE	356K851250
					T100		4822 219 10595	REMOTE COMMANDER RC-DA17CD	ZK356K0010
025B	GOLD	4822 410 70032	BUTTON,PLAY STOP PAUSE	318K270120					
025B	BLACK	4822 410 70027	BUTTON,PLAY STOP PAUSE	318K270020					
026B	GOLD	4822 410 70033	BUTTON,OPEN CLOSE GLD	318K270130					
026B	BLACK	4822 410 70028	BUTTON,OPEN CLOSE BLK	318K270030					
027B	GOLD	4822 410 70034	BUTTON,TRACK GLD	318K270140					
027B	BLACK	4822 410 70029	BUTTON,TRACK BLK	318K270040					
035B	DA		DIGITAL CAP IN ELASTOMER BROWN	318K067110					
036B	DA		RETAINER OPTICAL JACK	318K104040					
045B	GOLD	4822 410 70031	BUTTON,POWER GLD	318K270110					
045B	BLACK	4822 410 70026	BUTTON,POWER BLK	318K270010					
050B	GOLD	4822 442 01607	ESCUTCHEON,TRAY LID GLD	342K063150					
050B	BLACK	4822 442 01606	ESCUTCHEON,TRAY LID BLK	342K063050					
060B			FL HOLDER	356K271010					
061B		4822 459 10942	STICKER ADHESIVE	056J122020					
001D	GOLD	4822 444 30517	LID, TOP COVER AL GLD	318K257110					
001D	BLACK	4822 444 30516	LID, TOP COVER AL BLK	318K257010					
002D	GOLD	4822 502 14425	SCREW, THINHEAD 3X8NI	323S010020					
002D	BLACK	4822 502 21693	SCREW, THINHEAD 3X8NI	323S010030					
003D	GOLD	4822 502 14462	SCREW, THINHEAD 3X5NI	318K010020					
003D	BLACK	4822 502 14461	SCREW, THINHEAD 3X5BL	318K010030					
010D	GOLD	4822 444 40855	SIDE PANEL, GLD	318K249110					
010D	BLACK	4822 444 40854	SIDE PANEL, BLK	318K249010					
001M	GOLD	4822 691 10763	MECHANISM, LOADER LM302 NEW TRAY BROWN	305K304650					
001M	BLACK	4822 691 10762	MECHANISM, LOADER LM302 NEW TRAY BLACK	305K304640					
005M		4822 464 10054	FRAME, K	305K401500					
010M		4822 361 21741	D.C MOTOR, K	MM0030002R					
016M		4822 271 30873	MINI	SM01020620					
020M		4822 522 33521	GEAR	305K058030					
021M		4822 528 81537	PULLEY	305K262010					
025M		4822 522 33522	GEAR	305K058500					
030M		4822 358 31314	BELT	305K264010	001S	F		NOT STANDARD SPARE PARTS PACKING CASE, GL	356K01060
035M		4822 443 51265	CASE	305K064110	001S	U BLK		PACKING CASE, BL	356K01010
036M		4822 462 72118	BUFFER, SUSPENSION	305K056010	001S	U GLD		PACKING CASE, GL	356K01020
040M		4822 402 11212	NEW ARM FOR VAM1201	305K002050	002S	F U		CUSHION, PIECE	318K09010
043M	GOLD	4822 449 80311	CASE K, NEW STYLING BROWN	329K064610	B001			BATTERY	ZF2402000
					J051		4822 321 62012	CONNECTIVE CORD RCA	ZD0000100
043M	BLACK	4822 449 80312	CASE K, NEW STYLING BLACK	329K064600	J081	K	4822 265 10092	JACK AC	YJ0401240
046M		4822 492 33494	SPRING	305K115010	J082		4822 321 22611	CONNECTIVE CORD RCA	ZD0100010



10. 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 ③
 Capacity value
 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. ($\frac{\square}{\square}$), 6) FILM CAP. ($\frac{\square}{\square}$)

5) EA × × × × × 10, Electrolytic capacitor
 One-way lead type, Tolerance ±20%

⑤ ⑥
 Working voltage
 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 (R105, 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 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 :

▲がついている部品は、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。

(VERS.:VERSION, U:U.S.A., F:JAPAN, K:FAR EAST, *:EUROPE)

POS. NO	VERS. COLOR	PART NO. (FOR PCS)	DESCRIPTION	PART NO. (MJI)	POS. NO	VERS. COLOR	PART NO. (FOR PCS)	DESCRIPTION	PART NO. (MJI)
			PH16-POWER SW CIRCUIT BOARD		C141		4822 126 11687	CER. 0.1μF +80-20%	DK98104200
GH01		4822 121 43732	FILM CAP. 0.01μF ±20% 250V	DF77103500	C145				
LH02		4822 526 10691	FERRITE CORE TFCK-16-8-13	FC50160030	C147		4822 124 41539	ELECT 47μF ±20% 16V	OA47601620
SH01		4822 276 13364	PUSH SW SDDL1 POWER	SP01011990	C148		4822 124 90353	ELECT 100μF ±20% 10V	OA10701020
SH02	K	4822 277 21825	SLIDE SW SDKGA4	SS02021510	C151		4822 126 11687	CER. 0.1μF +80-20%	DK98104200
			PP16-AUDIO/POWER CIRCUIT BOARD		C152		4822 124 41539	ELECT 47μF ±20% 16V	OA47601620
			PP16-CAPACITORS		C161		4822 126 13837	CER. 0.1μF ±10% 10V	DK98104200
CD01		4822 126 13837	CER. 0.1μF ±10% 10V	DK96104200	C162		4822 126 11687	CER. 0.1μF +80-20%	DK98104200
CD08					C163		4822 126 13837	CER. 0.1μF ±10% 10V	DK96104200
CD09		4822 124 41537	ELECT 220μF ±20% 6.3V	OA22700620	C171		4822 126 11685	CER. 4700pF ±10% 50V	DK96472300
CD10		4822 124 41537	ELECT 220μF ±20% 6.3V	OA22700620	C172		4822 124 41539	ELECT 47μF ±20% 16V	OA47601620
CD11		4822 123 30363	MICA CHIP 820pF ±5% 100WV	DF95821510	C173		4822 126 11687	CER. 0.1μF ±10% 10V	DK98104200
CD12		4822 123 30363	MICA CHIP 820pF ±5% 100WV	DF95821510	C174		4822 126 11685	CER. 4700pF ±10% 50V	DK96472300
CD13		4822 123 30359	MICA CHIP 220pF ±5% 100WV	DF95221510	C175		4822 126 11568	CER. 470pF ±10%	DK96471300
CD16					C176		4822 126 11568	CER. 470pF ±10%	DK96471300
CD21		4822 124 90353	ELECT 100μF ±20% 10V	OA10701020	C177				
CD22		4822 124 90353	ELECT 100μF ±20% 10V	OA10701020	C180		4822 126 13837	CER. 0.1μF ±10% 10V	DK96104200
CD23		4822 126 13837	CER. 0.1μF ±10% 10V	DK96104200	C181		4822 126 11687	CER. 0.1μF +80-20%	DK98104200
CD24		4822 126 13837	CER. 0.1μF ±10% 10V	DK96104200	C182		4822 126 11567	CER. 0.022μF ±10% 16V	DK96223200
CD26		4822 126 13837	CER. 0.1μF ±10% 10V	DK96104200	C193		4822 126 11687	CER. 0.1μF +80-20%	DK98104200
CF01		4822 124 90352	ELECT 10μF ±20% 16V	OA10601620	C201		4822 126 11687	CER. 0.1μF +80-20%	DK98104200
CF02		4822 126 11687	CER. 0.1μF +80-20%	DK98104200	C202		4822 126 11687	CER. 0.1μF +80-20%	DK98104200
CF51		4822 126 11687	CER. 0.1μF +80-20%	DK98104200	C301	DA		CER. 0.033μF ±10%	DK96333200
CF52		4822 126 11568	CER. 470pF ±20%	DK96471300	C302	DA		CER. 0.22μF ±10%	DK96224200
CH01		4822 126 13089	CER. 33pF ±5%	DA15330110	C303	DA	4822 126 11687	CER. 0.1μF +80-20%	DK98104200
CH51		4822 126 13089	CER. 33pF ±5%	DA15330110	C304	DA	4822 126 11687	CER. 0.1μF +80-20%	DK98104200
CN01		4822 124 23649	ELECT 470μF 25V	OA47702520	C305	DA	4822 126 11687	CER. 0.1μF +80-20%	DK98104200
CN02		4822 124 41543	ELECT 1μF 50V	OA10505020	C306	DA	4822 126 13837	CER. 0.1μF ±10% 10V	DK96104200
CN03		4822 124 90357	ELECT 2.2μF 50V	OA22505020	C307		4822 126 11687	CER. 0.1μF +80-20%	DK98104200
CN04		4822 124 90357	ELECT 2.2μF 50V	OA22505020	C308	DA F	4822 124 22275	ELECT 47μF ±20% 10V	OA47601020
CT01		4822 126 13837	CER. 0.1μF ±10% 10V	DK96104200	C311		4822 126 11687	CER. 0.1μF +80-20%	DK98104200
CT02		4822 126 11685	CER. 4700pF ±10% 50V	DK96472300	C342	DA	4822 124 90357	ELECT 2.2μF ±20% 50V	OA22505020
CT03		4822 126 12339	CER. 2200pF ±20%	DK96223200	C343	DA	4822 126 13837	CER. 0.1μF ±10% 10V	DK96104200
CT04		4822 126 13837	CER. 0.1μF ±10% 10V	DK96104200	C344		4822 126 11687	CER. 0.1μF +80-20%	DK98104200
CT07		4822 126 13837	CER. 0.1μF ±10% 10V	DK96104200	C345		4822 126 11687	CER. 0.1μF +80-20%	DK98104200
CT08	F	4822 124 22275	ELECT 47μF ±20% 10V	OA47601020	C346	DA	4822 124 41543	ELECT 1μF ±20% 50V	OA10505020
CY01		4822 124 90357	ELECT 2.2μF ±20% 50V	OA22505020	C347	DA	4822 126 13837	CER. 0.1μF ±10% 10V	DK96104200
CY02		4822 124 41539	ELECT 47μF ±20% 16V	OA47601620	C348	DA	4822 126 13837	CER. 0.1μF ±10% 10V	DK96104200
CY03		4822 126 11687	CER. 0.1μF +80-20%	DK98104200	C349	DA	4822 126 13837	CER. 0.1μF ±10% 10V	DK96104200
CY04			CER. 30pF ±5%	DD95300300	C350	DA	4822 126 12516	CER. 1000pF ±10% 50V	DK96102300
CY05			CER. 30pF ±5%	DD95300300	C351	DA	4822 124 41539	ELECT 47μF ±20% 16V	OA47601620
CY81		4822 124 90355	ELECT 100μF ±20% 50V	OA10705020	C502				
CY82		4822 124 41536	ELECT 100μF ±20% 35V	OA10703520	C505		4822 126 11687	CER. 0.1μF ±10% 10V	DK98104200
CY83		4822 122 40588	CER. 0.022μF ±20%	DA17223110	C507		4822 126 11687	CER. 0.1μF ±10% 10V	DK98104200
CY84		4822 122 40588	CER. 0.022μF ±20%	DA17223110	C508		4822 126 11687	CER. 0.1μF ±10% 10V	DK98104200
C100		4822 126 11682	CER. 220pF ±10%	DK96221300	C509	F,U	4822 124 41539	ELECT 47μF ±20% 16V	OA47601620
C105					C510		4822 126 11687	CER. 0.1μF ±10% 10V	DK98104200
C106		4822 126 11567	CER. 0.022μF ±10% 16V	DK96223200	C511		4822 126 11669	CER. 18pF ±5%	DD95180300
C107		4822 126 12339	CER. 2200pF ±10% 50V	DK96223200	C512		4822 126 14417	CER. 0.01μF ±10% 50V	DK96103300
C108		4822 122 33777	CER. 47pF ±5% 50V	DD95470300	C601		4822 123 30361	MICA CHIP 56pF ±5% 500WV	DF95560500
C109		4822 126 11567	CER. 0.022μF ±10% 16V	DK96223200	C602		4822 123 30387	MICA CHIP 2200pF ±5%	DF95222030
C112		4822 126 13837	CER. 0.1μF ±10% 10V	DK96104200	C603		4822 123 30362	MICA CHIP 560pF ±5% 100WV	DF95561510
C113		4822 126 13837	CER. 0.1μF ±10% 10V	DK96104200	C604		4822 126 13837	CER. 0.1μF ±10% 10V	DK96104200
C131		4822 126 11687	CER. 0.1μF +80-20%	DK98104200	C605	F,U	4822 124 22238	ELECT 100μF 25V	OA10702550
C132		4822 126 12516	CER. 1000pF ±10% 50V	DK96102300	C605	K/22		ELECT 100μF 25V	OA10702540
C133		4822 126 11663	CER. 12pF ±5%	DD95120300	C606		4822 126 13837	CER. 0.1μF ±10% 10V	DK96104200
C134		4822 126 11663	CER. 12pF ±5%	DD95120300	C607	F,U	4822 124 22238	ELECT 100μF 25V	OA10702550
					C613	F,U	4822 124 90051	ELECT 220μF ±20% 25V	OA22702550
					C613	K/22			

POS. NO	VERS. COLOR	PART NO. (FOR PCS)	DESCRIPTION	PART NO. (MJ)	POS. NO	VERS. COLOR	PART NO. (FOR PCS)	DESCRIPTION	PART NO. (MJ)
C652		4822 123 30387	MICA CHIP 2200pF ±5%	DF95222030	RF04		4822 051 30103	10kΩ ±5% 1/16W	NN05103610
C653		4822 123 30362	MICA CHIP 560pF ±5% 100WV	DF95561510	RF05		4822 051 30103	10kΩ ±5% 1/16W	NN05103610
C654		4822 126 13837	CER. 0.1μF ±10% 10V	DK96104200	RF06		4822 051 30222	2.2kΩ ±5% 1/16W	NN05222610
C655	F,U	4822 124 22238	ELECT 100μF 25V	OA10702550	RF07		4822 051 30103	10kΩ ±5% 1/16W	NN05103610
C655	K/22		ELECT 100μF 25V	OA10702540	RF51		4822 117 12139	22Ω ±5% 1/16W	NN05220610
C656		4822 126 13837	CER. 0.1μF ±10% 10V	DK96104200	RH01		4822 116 90503	150Ω ±5% 1/10W	NI05151110
C657	F,U	4822 124 22238	ELECT 100μF 25V	OA10702550	RH02		4822 116 90503	150Ω ±5% 1/10W	NI05151110
C657	K/22		ELECT 100μF 25V	OA10702540	RH03		4822 111 90893	100Ω ±5% 1/10W	NI05101110
C663	F,U	4822 124 90051	ELECT 220μF ±20% 25V	OA22702550	RH03		4822 111 90893	100Ω ±5% 1/10W	NI05101110
C663	K/22	4822 124 80123	ELECT 220μF 16V	OA22701640	RH04		4822 111 90893	100Ω ±5% 1/10W	NI05101110
C664	F,U	4822 124 90051	ELECT 220μF ±20% 25V	OA22702550	RH05		4822 111 90893	100Ω ±5% 1/10W	NI05101110
C664	K/22	4822 124 80123	ELECT 220μF 16V	OA22701640	RH06		4822 116 83352	560Ω ±5% 1/10W	NI05561110
C665		4822 124 80123	ELECT 220μF 16V	OA22701640	RH07		4822 116 83352	560Ω ±5% 1/10W	NI05561110
C666		4822 124 80123	ELECT 220μF 16V	OA22701640	RH08		4822 116 83229	33kΩ ±1% 1/10W	NI01333110
C667		4822 126 11759	CER. 100pF ±5% 50V	DD95101300	RH09		4822 111 90893	100Ω ±5% 1/10W	NI05101110
C801		4822 124 23782	ELECT 3300μF ±20% 16V	OC33801620	RH10		4822 111 90892	0Ω ±5% 1/10W	NI05000110
C802	DA	4822 124 22694	ELECT 1000μF 6.3V	OA10800620	RH51		4822 116 90503	150Ω ±5% 1/10W	NI05151110
C802	MK2	4822 124 90364	ELECT 220μF ±20% 16V	OA22701620	RH52		4822 116 90503	150Ω ±5% 1/10W	NI05151110
C803		4822 124 81318	ELECT 3300μF ±20% 25V	OB33802510	RH53		4822 111 90893	100Ω ±5% 1/10W	NI05101110
C811		4822 124 23782	ELECT 3300μF ±20% 16V	OC33801620	RH54		4822 111 90893	100Ω ±5% 1/10W	NI05101110
C812		4822 124 90364	ELECT 220μF ±20% 16V	OA22701620	RH55		4822 111 90893	100Ω ±5% 1/10W	NI05101110
C813		4822 124 22722	ELECT 1000μF ±20% 16V	OA10801620	RH56		4822 116 83352	560Ω ±5% 1/10W	NI05561110
C814		4822 124 41544	ELECT 470μF ±20% 6.3V	OA47700620	RH57		4822 116 83352	560Ω ±5% 1/10W	NI05561110
C833		4822 124 41539	ELECT 47μF ±20% 16V	OA47601620	RH58		4822 116 83229	33kΩ ±1% 1/10W	NI01333110
C834		4822 124 41539	ELECT 47μF ±20% 16V	OA47601620	RH59		4822 111 90893	100Ω ±5% 1/10W	NI05101110
C835	F,U	4822 124 22238	ELECT 100μF ±20% 25V	OA10702550	RH60		4822 111 90892	0Ω ±5% 1/10W	NI05000110
C835	K/22		ELECT 100μF ±20% 25V	OA10702540	RN02		4822 051 30473	47kΩ ±5% 1/16W	NN05473610
C836	F,U	4822 124 22238	ELECT 100μF ±20% 25V	OA10702550	RN04		4822 051 30223	22kΩ ±5% 1/16W	NN05223610
C836	K/22		ELECT 100μF ±20% 25V	OA10702540	RN05		4822 117 11977	3.9MΩ ±5% 1/16W	NN05395610
C854		4822 124 81318	ELECT 3300μF ±20% 25V	OB33802510	RN06		4822 051 30103	10kΩ ±5% 1/16W	NN05103610
C855		4822 124 41535	ELECT 100μF ±20% 25V	OA10702520	RN08		4822 116 83208	12kΩ ±5% 1/16W	NN05123610
C856		4822 124 41535	ELECT 100μF ±20% 25V	OA10702520	RN09		4822 116 83208	12kΩ ±5% 1/16W	NN05123610
C857		4822 124 22722	ELECT 1000μF ±20% 16V	OA10801620	RN10		4822 051 30473	47kΩ ±5% 1/16W	NN05473610
C858		4822 124 22722	ELECT 100μF ±20% 16V	OA10801620	RN11		4822 051 30103	10kΩ ±5% 1/16W	NN05103610
			PP16-RESISTORS CHIP		RN12		4822 051 30104	100kΩ ±5% 1/16W	NN05104610
▲ RD01		4822 117 10145	3.3Ω ±5% 1/10W FUSIBLE	NH85033110	RN13		4822 051 30472	4.7kΩ ±5% 1/16W	NN05472610
▲ RD04					RN15		4822 051 30222	2.2kΩ ±5% 1/16W	NN05222610
RD05		4822 116 83253	1.5kΩ ±1% 1/10W	NI01152110	RN16		4822 051 30222	2.2kΩ ±5% 1/16W	NN05222610
RD06		4822 116 83253	1.5kΩ ±1% 1/10W	NI01152110	RN17		4822 051 30223	22kΩ ±5% 1/16W	NN05223610
RD07		4822 116 83255	3.3kΩ ±1% 1/10W	NI01332110	RN18		4822 051 30104	100kΩ ±5% 1/16W	NN05104610
RD08		4822 116 83255	3.3kΩ ±1% 1/10W	NI01332110	RN65		4822 051 30222	2.2kΩ ±5% 1/16W	NN05222610
RD09		4822 116 83352	560Ω ±5% 1/10W	NI05561110	RN66		4822 051 30222	2.2kΩ ±5% 1/16W	NN05222610
RD10		4822 116 83352	560Ω ±5% 1/10W	NI05561110	RT01		4822 116 82487	0Ω ±5% 1/16W	NN05000610
RD11	DA	4822 111 90884	100kΩ ±1% 1/10W	NI01104110	RT02		4822 051 30339	33Ω ±5% 1/16W	NN05330610
RD11	MK2	4822 116 83253	1.5kΩ ±1% 1/10W	NI01152110	RT04		4822 051 30759	75Ω ±5% 1/16W	NN05750610
RD12	DA	4822 111 90884	100kΩ ±1% 1/10W	NI01104110	RT06		4822 051 30759	75Ω ±5% 1/16W	NN05750610
RD12	MK2	4822 116 83253	1.5kΩ ±1% 1/10W	NI01152110	RY09		4822 051 30224	220kΩ ±5% 1/16W	NN05224610
RD13		4822 117 11976	13kΩ ±1% 1/10W	NI01133110	RY10		4822 051 30105	1MΩ ±5% 1/16W	NN05105610
RD14		4822 117 11976	13kΩ ±1% 1/10W	NI01133110	RY12		4822 051 30103	10kΩ ±5% 1/16W	NN05103610
RD15		4822 117 11976	13kΩ ±1% 1/10W	NI01133110	RY41		4822 051 30223	22kΩ ±5% 1/16W	NN05223610
RD16		4822 117 11976	13kΩ ±1% 1/10W	NI01133110	RY42	MK2	4822 116 82487	0Ω ±5% 1/16W	NN05000610
▲ RD21		4822 117 10145	3.3Ω ±5% 1/10W FUSIBLE	NH85033110	RY43	DA	4822 051 30223	22kΩ ±5% 1/16W	NN05223610
▲ RD22		4822 117 10145	3.3Ω ±5% 1/10W FUSIBLE	NH85033110	RY44		4822 051 30223	22kΩ ±5% 1/16W	NN05223610
▲ RD25		4822 117 10145	3.3Ω ±5% 1/10W FUSIBLE	NH85033110	RY45		4822 051 30103	10kΩ ±5% 1/16W	NN05103610
RD31	DA	4822 116 83253	1.5kΩ ±1% 1/10W	NI01152110	RY46		4822 051 30103	10kΩ ±5% 1/16W	NN05103610
RD32	DA	4822 116 83253	1.5kΩ ±1% 1/10W	NI01152110	▲ RY80			10Ω ±5% FUSIBLE	NH85100110
RD33	DA	4822 051 30223	22kΩ ±5% 1/16W	NN05223610	RY83		4822 051 30103	10kΩ ±5% 1/16W	NN05103610
RD34	DA	4822 051 30223	22kΩ ±5% 1/16W	NN05223610	RY84		4822 051 30473	47kΩ ±5% 1/16W	NN05473610
RD35	DA	4822 051 30104	100kΩ ±5% 1/16W	NN05104610	RY85		4822 051 30473	47kΩ ±5% 1/16W	NN05473610
RD36	DA	4822 051 30223	22kΩ ±5% 1/16W	NN05223610	RY86		4822 051 30473	47kΩ ±5% 1/16W	NN05473610
RD37	DA	4822 051 30223	22kΩ ±5% 1/16W	NN05223610	RY87		4822 051 30223	22kΩ ±5% 1/16W	NN05223610
RD38	DA	4822 116 82487	0Ω ±5% 1/16W	NN05000610	R100		4822 051 30103	10kΩ ±5% 1/16W	NN05103610
RF01		4822 051 30473	47kΩ ±5% 1/16W	NN05473610	R101		4822 051 30103	10kΩ ±5% 1/16W	NN05103610
RF02		4822 051 30472	4.7kΩ ±5% 1/16W	NN05472610	R102		4822 051 30274	270kΩ ±5% 1/16W	NN05274610
RF03		4822 051 30101	100Ω ±5% 1/16W	NN05101610	R103		4822 051 30223	22kΩ ±5% 1/16W	NN05223610
					R104		4822 051 30102	1kΩ ±5% 1/16W	NN05102610

POS. NO	VERS. COLOR	PART NO. (FOR PCS)	DESCRIPTION	PART NO. (MJ)	POS. NO	VERS. COLOR	PART NO. (FOR PCS)	DESCRIPTION	PART NO. (MJ)
R105		4822 051 30104	100kΩ ±5% 1/16W	NN05104610	R506		4822 051 30479	47Ω ±5% 1/16W	NN05470610
R106		4822 116 83208	12kΩ ±5% 1/16W	NN05123610	R511		4822 051 30104	100kΩ ±5% 1/16W	NN05104610
R107		4822 116 83208	12kΩ ±5% 1/16W	NN05123610	R521		4822 051 30223	22kΩ ±5% 1/16W	NN05223610
R108		4822 116 83208	12kΩ ±5% 1/16W	NN05123610	R522		4822 116 82487	0Ω ±5% 1/16W	NN05000610
R109		4822 051 30101	100Ω ±5% 1/16W	NN05101610	R601			10kΩ ±1% 1/4W NON CHIP	GM11410020
R110		4822 116 83208	12kΩ ±5% 1/16W	NN05123610	R602		4822 117 11981	3.3kΩ ±5% 1/2W	RI05332120
R111		4822 116 83208	12kΩ ±5% 1/16W	NN05123610	R603		4822 117 11982	3.9kΩ ±5% 1/2W	RI05392120
R131		4822 051 30334	330kΩ ±5% 1/16W	NN05334610	R604		4822 117 11979	12kΩ ±5% 1/2W	RI05123120
R132		4822 117 12968	820Ω ±5% 1/16W	NN05821610	R605		4822 117 10183	2.6kΩ ±1% 1/10W	NI01262110
R133		4822 116 82487	0Ω ±5% 1/6W	NN05000610	R606		4822 117 10183	2.6kΩ ±1% 1/10W	NI01262110
R141					▲ R607		4822 117 10145	3.3Ω ±5% 1/10W FUSIBLE	NH85033110
R145		4822 051 30223	22kΩ ±5% 1/16W	NN05223610	▲ R608		4822 117 10145	3.3Ω ±5% 1/10W FUSIBLE	NH85033110
▲ R147		4822 116 60309	2.2Ω ±5% 1/4W FUSIBLE	NH05022140	R610		4822 051 30222	2.2kΩ ±5% 1/16W	NN05222610
▲ R148		4822 116 60309	2.2Ω ±5% 1/4W FUSIBLE	NH05022140	R611		4822 051 30222	2.2kΩ ±5% 1/16W	NN05222610
R149		4822 051 30223	22kΩ ±5% 1/16W	NN05223610	R615			33Ω ±5% 1/6W NON CHIP	GG05330160
R150		4822 051 30223	22kΩ ±5% 1/16W	NN05223610	R616			33Ω ±5% 1/6W NON CHIP	GG05330160
R151		4822 051 30102	1kΩ ±5% 1/16W	NN05102610	▲ R618	F,U	4822 116 60309	2.2Ω ±5% 1/4W FUSIBLE	NH05022140
R152		4822 051 30102	1kΩ ±5% 1/16W	NN05102610	▲ R619	F,U	4822 116 60309	2.2Ω ±5% 1/4W FUSIBLE	NH05022140
R153		4822 051 30223	22kΩ ±5% 1/16W	NN05223610	R620		4822 111 90895	10kΩ ±5% 1/10W	NI05103110
R161		4822 051 30102	1kΩ ±5% 1/16W	NN05102610	R621		4822 111 90893	100Ω ±5% 1/10W	NI05101110
R162		4822 051 30103	10kΩ ±5% 1/16W	NN05103610	R622		4822 111 90893	100Ω ±5% 1/10W	NI05101110
R163		4822 051 30102	1kΩ ±5% 1/16W	NN05102610	R623		4822 111 90896	100kΩ ±5% 1/10W	NI05104110
R171		4822 116 83207	1.2kΩ ±5% 1/16W	NN05122610	R650		4822 051 30104	100kΩ ±5% 1/16W	NN05104610
R172		4822 051 30103	10kΩ ±5% 1/16W	NN05103610	R651			10kΩ ±1% 1/4W NON CHIP	GM11410020
R173		4822 051 30102	1kΩ ±5% 1/16W	NN05102610	R652		4822 117 11981	3.3kΩ ±5% 1/2W	RI05332120
R174		4822 051 30103	10kΩ ±5% 1/16W	NN05103610	R653		4822 117 11982	3.9kΩ ±5% 1/2W	RI05392120
R181		4822 051 30471	470Ω ±5% 1/16W	NN05471610	R654		4822 117 11979	12kΩ ±5% 1/2W	RI05123120
R182		4822 116 83208	12kΩ ±5% 1/16W	NN05123610	R655		4822 117 10183	2.6kΩ ±1% 1/10W	NI01262110
R201		4822 051 30223	22kΩ ±5% 1/16W	NN05223610	R656		4822 117 10183	2.6kΩ ±1% 1/10W	NI01262110
R202					▲ R657		4822 117 10145	3.3Ω ±5% 1/10W FUSIBLE	NH85033110
R205		4822 051 30103	10kΩ ±5% 1/16W	NN05103610	▲ R658		4822 117 10145	3.3Ω ±5% 1/10W FUSIBLE	NH85033110
R301	DA	4822 051 30471	470Ω ±5% 1/16W	NN05471610	R665			33Ω ±5% 1/6W NON CHIP	GG05330160
R302	DA	4822 051 30101	100Ω ±5% 1/16W	NN05101610	R666			33Ω ±5% 1/6W NON CHIP	GG05330160
R303	DA	4822 116 82487	0Ω ±5% 1/16W	NN05000610	▲ R668	F,U	4822 116 60309	2.2Ω ±5% 1/4W FUSIBLE	NH05022140
R304	DA	4822 051 30479	47Ω ±5% 1/16W	NN05470610	▲ R669	F,U	4822 116 60309	2.2Ω ±5% 1/4W FUSIBLE	NH05022140
R305	DA	4822 051 30479	47Ω ±5% 1/16W	NN05470610	R670		4822 111 90895	10kΩ ±5% 1/10W	NI05103110
R306	DA	4822 051 30479	47Ω ±5% 1/16W	NN05470610	R671		4822 111 90893	100Ω ±5% 1/10W	NI05101110
R307	DA	4822 051 30101	100Ω ±5% 1/16W	NN05101610	R672		4822 111 90893	100Ω ±5% 1/10W	NI05101110
R308	DA	4822 051 30101	100Ω ±5% 1/16W	NN05101610	R673		4822 111 90896	100kΩ ±5% 1/10W	NI05104110
R309	DA	4822 051 30101	100Ω ±5% 1/16W	NN05101610	R837		4822 051 30223	22kΩ ±5% 1/16W	NN05223610
R310	DA	4822 051 30101	100Ω ±5% 1/16W	NN05101610	R838		4822 116 60327	100Ω ±5% 1W NON CHIP	GA05101010
R311	DA	4822 051 30223	22kΩ ±5% 1/16W	NN05223610	▲ R857	F,U	4822 116 60307	1Ω ±5% 1/4W FUSIBLE	NH05010140
R312		4822 116 82487	0Ω ±5% 1/16W	NN05000610	▲ R858	F,U	4822 116 60307	1Ω ±5% 1/4W FUSIBLE	NH05010140
R313	DA	4822 116 82487	0Ω ±5% 1/16W	NN05000610	R***			PP16-RESISTORS (COMMON) CARBON FILM FIXED RES. ±5% 1/6W : RF08 RN03 RN07 RY81 RY82 RY88 [R618 R619 R668 R669 : K/22] R833 R834 R855 R856	
R314	DA	4822 051 30223	22kΩ ±5% 1/16W	NN05223610				PP16-SEMICONDUCTORS	
R315	DA	4822 051 30223	22kΩ ±5% 1/16W	NN05223610	DF01				
R316		4822 051 30223	22kΩ ±5% 1/16W	NN05223610	}		4822 130 32362	DIODE 1SS176 MA165	HD20 02000
R317	DA	4822 051 30223	22kΩ ±5% 1/16W	NN05223610	DF04			1SS254 30V 0.1A	
R319		4822 051 30223	22kΩ ±5% 1/16W	NN05223610	DH01		4822 130 81324	CHIP DIODE 1SS302	HZ20 18050
R323	DA	4822 116 82487	0Ω ±5% 1/16W	NN05000610	DH02		4822 130 81324	CHIP DIODE 1SS302	HZ20 18050
R341	DA	4822 051 30223	22kΩ ±5% 1/16W	NN05223610	DH03		4822 130 32362	DIODE 1SS176 MA165 1SS254 30V 0.1A	HD20 02000
R347	DA	4822 051 30223	22kΩ ±5% 1/16W	NN05223610	DH51		4822 130 81324	CHIP DIODE 1SS302	HZ20 18050
R360	MK2	4822 116 82487	0Ω ±5% 1/16W	NN05000610	DH52		4822 130 81324	CHIP DIODE 1SS302	HZ20 18050
R361	MK2	4822 051 30101	100Ω ±5% 1/16W	NN05101610	DH53		4822 130 32362	DIODE 1SS176 MA165 1SS254 30V 0.1A	HD20 02000
R362	MK2	4822 051 30101	100Ω ±5% 1/16W	NN05101610	▲ DN01				
R363	MK2	4822 051 30101	100Ω ±5% 1/16W	NN05101610	}		4822 130 82421	DIODE 1D3 1A 200V	HD20 02710
R364	MK2	4822 116 82487	0Ω ±5% 1/16W	NN05000610	▲ DN04				
R365	DA	4822 051 30101	100Ω ±5% 1/16W	NN05101610	DN05		4822 130 32362	DIODE 1SS176 MA165 1SS254 30V 0.1A	HD20 02000
R366	DA	4822 051 30101	100Ω ±5% 1/16W	NN05101610					
R368		4822 051 30101	100Ω ±5% 1/16W	NN05101610					
R369		4822 116 82487	0Ω ±5% 1/16W	NN05000610					
R501		4822 051 30101	100Ω ±5% 1/16W	NN05101610					
R502		4822 051 30101	100Ω ±5% 1/16W	NN05101610					
R503		4822 051 30101	100Ω ±5% 1/16W	NN05101610					
R504		4822 051 30479	47Ω ±5% 1/16W	NN05470610					
R505		4822 051 30479	47Ω ±5% 1/16W	NN05470610					

(VERS.:VERSION, U:U.S.A., F:JAPAN, K:FAR EAST, **:EUROPE)

POS. NO	VERS. COLOR	PART NO. (FOR PCS)	DESCRIPTION	PART NO. (MJI)	POS. NO	VERS. COLOR	PART NO. (FOR PCS)	DESCRIPTION	PART NO. (MJI)
DN06		4822 130 32362	DIODE 1SS176 MA165 1SS254 30V 0.1A	HD20002000	QN01			DIG.TR.S. UMH4N	BA20070210
DN07		4822 130 33948	ZENER DIODE RD5.6JB2 MTZJ5.6B	HD30561000	QN02			DIG.TR.S. UMH4N	BA20070210
▲ DN08		4822 130 82421	DIODE 1D3 1A 200V	HD20002710	QN03		4822 130 61355	CHIP TRS. 2SC2712 0 Y	HX327122A0
DN09		4822 130 32362	DIODE 1SS176 MA165 1SS254 30V 0.1A	HD20002000	QN04		4822 130 61311	CHIP TRS. 2SA1162 0 Y	HX111622A0
DY02		4822 130 32362	DIODE 1SS176 MA165 1SS254 30V 0.1A	HD20002000	QN05		4822 130 43818	TRS. 2SC2878 A BRANK	HT328782A0
DY04		4822 130 32362	DIODE 1SS176 MA165 1SS254 30V 0.1A	HD20002000	QN06		4822 130 43818	TRS. 2SC2878 A BRANK	HT328782A0
DY05	DA	4822 130 32362	DIODE 1SS176 MA165 1SS254 30V 0.1A	HD20002000	QN07		4822 130 61355	CHIP TRS. 2SC2712 0 Y	HX327122A0
▲ DY81		4822 130 82421	DIODE 1D3 1A/200V	HD20002710	QN55		4822 130 43818	TRS. 2SC2878 A BRANK	HT328782A0
▲ DY84		4822 130 80116	ZENER DIODE RD24JB2 MTZJ24D	HD32401000	QN56		4822 130 43818	TRS. 2SC2878 A BRANK	HT328782A0
DY85		4822 130 80116	ZENER DIODE RD4.7JB2 MTZJ4.7B	HD30471000	QY01			MICROPROCESSOR μPD78076	HU356KN00F
DY86		4822 130 10667	ZENER DIODE RD4.7JB2 MTZJ4.7B	HD30471000	QY03		4822 209 15921	IC S-806D-Z	HC10077530
▲ D801		4822 130 82421	DIODE 1D3 1A 200V	HD20002710	QY81		4822 130 42734	CHIP TRS. 2SB798 DL DK	HX207982A0
▲ D804		4822 130 32362	DIODE 1SS176 MA165 1SS254 30V 0.1A	HD20002000	QY82		4822 130 60839	TRS. 2SC2458 Y GR	HT324582B0
D805		4822 130 32362	DIODE 1SS176 MA165 1SS254 30V 0.1A	HD20002000	QY83		4822 111 92195	DIG.TR.S. HN1A01F Y GR	BA10011050
D806		4822 130 32362	DIODE 1SS176 MA165 1SS254 30V 0.1A	HD20002000	Q102		4822 209 91174	IC SAA7372GP	HC10132490
▲ D811		4822 130 82421	DIODE 1D3 1A 200V	HD20002710	Q103		4822 209 90909	IC TC7W74FU	HC10400050
▲ D814		4822 130 80318	ZENER DIODE RD6.8JB2 MTZJ6.8C	HD30681000	Q104		4822 209 32984	IC TC7SHU04F	HC10427050
D831		4822 130 80318	ZENER DIODE RD6.8JB2 MTZJ6.8C	HD30681000	Q106		4822 209 16372	IC TDA7073AT	HC10165490
D832		4822 130 80318	ZENER DIODE RD6.8JB2 MTZJ6.8C	HD30681000	Q107		4822 209 16372	IC TDA7073AT	HC10165490
D833		4822 130 32362	DIODE 1SS176 MA165 1SS254 30V 0.1A	HD20002000	Q108		4822 209 16372	IC TDA7073AT	HC10165490
D834		4822 130 32362	DIODE 1SS176 MA165 1SS254 30V 0.1A	HD20002000	Q109		4822 130 61355	CHIP TRS. 2SC2712 0 Y	HX327122A0
▲ D851		4822 130 82421	DIODE 1D3 1A 200V	HD20002710	Q201		4822 209 14864	IC LC89170M	HC10390030
▲ D854		4822 130 80623	ZENER DIODE RD13JB2 MTZJ13B	HD31301000	Q202		4822 209 33578	IC 8X32K SRAM <35NS	HC10076000
D855		4822 130 80623	ZENER DIODE RD13JB2 MTZJ13B	HD31301000	Q301	DA	4822 209 91176	IC TDA1315	HC10117490
D856		4822 130 80623	ZENER DIODE RD13JB2 MTZJ13B	HD31301000	Q302	DA	4822 209 91176	IC 74HC257AF	HC725705R0
D857		4822 130 32362	DIODE 1SS176 MA165 1SS254 30V 0.1A	HD20002000	Q303		4822 209 90597	IC TCW125FU	HC10409050
D858		4822 130 32362	DIODE 1SS176 MA165 1SS254 30V 0.1A	HD20002000	Q304		4822 130 61311	IC 74HCU04	HC700400Z0
QD01		4822 209 31355	IC TDA1547	HC10066490	Q305	DA	4822 130 61311	CHIP TRS. 2SA1162 0 Y	HX111622A0
QD02	DA	4822 130 61311	CHIP TRS. 2SA1162 0 Y	HX111622A0	Q307	DA	4822 130 61311	CHIP TRS. 2SA1162 0 Y	HX111622A0
QD03	DA	4822 130 61355	CHIP TRS. 2SC2712 0 Y	HX327122A0	Q308	DA	4822 130 61311	CHIP TRS. 2SA1162 0 Y	HX111622A0
QD04	DA	4822 130 61355	CHIP TRS. 2SC2712 0 Y	HX327122A0	Q309	DA	4822 209 90597	IC TCW125FU	HC10409050
QF01		4822 130 61311	CHIP TRS. 2SA1162 0 Y	HX111622A0	Q311	DA	4822 209 30426	IC 74HC00	HC700000Z0
QF02		4822 130 61355	CHIP TRS. 2SC2712 0 Y	HX327122A0	Q501		4822 209 15923	IC TDA1307	HC10139490
QF03		4822 209 90597	IC TCW125FU	HC10409050	Q601		4822 209 91175	IC NJM2114	HC10175090
QH01		4822 130 42843	F.E.T. 2SK389 GR BL	HF203892A0	Q602		4822 130 43818	TRS. 2SC2878 A BRANK	HT328782A0
QH03		4822 130 61425	CHIP TRS. 2SC2873 Y	HX328731B0	Q603		4822 130 62649	F.E.T. 2SJ74 V LANK	HF100741H0
QH04		4822 130 63928	CHIP TRS. 2SA1312 B	HX113121B0	Q604		5322 130 41844	F.E.T. 2SK170 V LANK	HF201701H0
QH05		4822 130 63928	CHIP TRS. 2SA1312 B	HX113121B0	Q651		4822 209 91175	IC NJM2114	HC10175090
QH06		4822 130 63929	CHIP TRS. 2SC3324 B	HX333241B0	Q652		4822 130 43818	TRS. 2SC2878 A BRANK	HT328782A0
QH51		4822 130 42843	F.E.T. 2SK389 GR BL	HF203892A0	Q653		4822 130 62649	F.E.T. 2SJ74 V LANK	HF100741H0
QH53		4822 130 61425	CHIP TRS. 2SC2873 Y	HX328731B0	Q654		5322 130 41844	F.E.T. 2SK170 V LANK	HF201701H0
QH54		4822 130 63928	CHIP TRS. 2SA1312 B	HX113121B0	▲ Q801		4822 209 61847	IC NJM78M05FA 5V 0.5A	HC38505090
QH55		4822 130 63928	CHIP TRS. 2SA1312 B	HX113121B0	Q802		4822 130 61311	CHIP TRS. 2SA1162 0 Y	HX111622A0
QH56		4822 130 63929	CHIP TRS. 2SC3324 B	HX333241B0	▲ Q811		4822 209 61847	IC NJM78M05FA 5V 0.5A	HC38505090
					▲ Q831		4822 130 62704	TRS. 2SB1225 PNP	HT212251A0
					▲ Q832		5322 130 41842	TRS. 2SD1827 NPN	HT418271A0
					▲ Q851		4822 130 62704	TRS. 2SB1225 PNP	HT212251A0
					▲ Q852		5322 130 41842	TRS. 2SD1827 NPN	HT418271A0
					▲ F801	F,U		PP16-MISCELLANEOUS FUSE 1.25A 125V	FS10125350
					▲ F801	K/22	4822 070 31002	FUSE T1A 250V	FS10100850
					▲ F851	F,U		FUSE 1A 250V	FS10100350
					▲ F851	K/22	4822 070 36301	FUSE T630MA 250V	FS10063850
					▲ F852	F,U		FUSE 1A 250V	FS10100350
					▲ F852	K/22	4822 070 36301	FUSE T630MA 250V	FS10063850
					JF51		4822 267 41009	TERMINAL 2P RCA	YT02020890
					JT01	DA	4822 290 81598	TERMINAL 2P RCA GOLD	YT02021130
					JT01	MK2	4822 290 81638	TERMINAL RCA 1P	YT02010790
					J601		4822 265 31045	TERMINAL RCA GOLD	YT02021080
					▲ J801		4822 256 30329	JACK FUSE CLIP	YJ08000430
					▲ J802		4822 267 30978	JACK FUSE CLIP	YJ08000450
					▲ J851		4822 256 30329	JACK FUSE CLIP	YJ08000430
					▲ J852		4822 267 30978	JACK FUSE CLIP	YJ08000450

(VERS.:VERSION, U:U.S.A., F:JAPAN, K:FAR EAST, **:EUROPE)

POS. NO	VERS. COLOR	PART NO. (FOR PCS)	DESCRIPTION	PART NO. (MJI)	POS. NO	VERS. COLOR	PART NO. (FOR PCS)	DESCRIPTION	PART NO. (MJI)	
▲ J853		4822 256 30329	JACK FUSE CRIP	YJ08000430				PY16-FRONT CIRCUIT BOARD		
▲ J854		4822 267 30978	JACK FUSE CRIP	YJ08000450				PY16-CAPACITORS CHIP		
LF01		4822 158 60654	FERRITE CORE BLM31A02	FC90030070	CY06			CER. 30pF ±5%	DD95300300	
LT01		4822 142 60422	PULSE TRANSF.	TP41042030	CY07			CER. 30pF ±5%	DD95300300	
LT02		4822 158 60654	FERRITE CORE BLM31A02	FC90030070	CY12			4822 126 11687	CER. 0.1μF +80-20%	DK98104200
LT03		4822 158 60654	FERRITE CORE BLM31A02	FC90030070	Y					
					CY15					
L131			INDUCTANCE CHIP 3.3μH	LU12332010				PY16-RESISTORS CHIP		
L141		4822 158 60654	FERRITE CORE BLM31A02	FC90030070	RY01		4822 051 30472	4.7kΩ ±5% 1/16W	NN05472610	
L142		4822 158 60654	FERRITE CORE BLM31A02	FC90030070	RY02		4822 051 30472	4.7kΩ ±5% 1/16W	NN05472610	
L143		4822 158 60654	FERRITE CORE BLM31A02	FC90030070	RY03			4822 051 30222	2.2kΩ ±5% 1/16W	NN05222610
L201		4822 158 60654	FERRITE CORE BLM31A02	FC90030070	Y					
L202		4822 158 60654	FERRITE CORE BLM31A02	FC90030070	RY06					
L301	DA	4822 158 60654	FERRITE CORE BLM31A02	FC90030070	RY07		4822 051 30682	6.8kΩ ±5% 1/16W	NN05682610	
L302	DA	4822 158 60654	FERRITE CORE BLM31A02	FC90030070	RY08		4822 051 30682	6.8kΩ ±5% 1/16W	NN05682610	
L303	DA	4822 158 60654	FERRITE CORE BLM31A02	FC90030070	RY11		4822 051 30105	1MΩ ±5% 1/16W	NN05105610	
L501		4822 158 60654	FERRITE CORE BLM31A02	FC90030070	RY13		4822 116 82487	0Ω ±5% 1/16W	NN05000610	
L601		4822 157 53873	INDUCTANCE CHIP 100μH	LU12104010	RY16		4822 116 82487	0Ω ±5% 1/16W	NN05000610	
L602		4822 158 60654	FERRITE CORE BLM31A02	FC90030070				PY16-SEMICONDUCTORS		
L651		4822 157 53873	CHIP INDUCTANCE 100μH	LU12104010	QY02			MICROPROCESSOR	HU356KN10F	
L652		4822 158 60654	FERRITE CORE BLM31A02	FC90030070				μPD780204		
SF01		4822 277 21559	SLIDE INT/EXT	SS02021150				PY16-MISCELLANEOUS		
XY01			CERAMIC RESONATOR 5MHz	FQ05004030	LY01		4822 158 60654	FERRITE CORE BLM31A02	FC90030070	
X131		4822 242 10818	CRYSTAL 33.8688MHz	JX33001380	LY02		4822 158 60654	FERRITE CORE BLM31A02	FC90030070	
					LY03		4822 158 60654	FERRITE CORE BLM31A02	FC90030070	
			PV16-SERVO CIRCUIT BOARD							
			PV16-CAPACITORS CHIP							
C120			CER. 5600pF ±10% 50V	DK96562300	SY01			4822 276 14009	PUSH TACT	SP01013310
C121		4822 126 13837	CER. 0.1μF ±10% 10V	DK96104200	Y					
C122		4822 126 11704	CER. 0.022μF +80-20% 16V	DK98223300	SY06					
C123		4822 126 12516	CER. 1000pF ±10% 50V	DK96102300	VY01			DISPLAY UNIT	HQ31301410	
C124		4822 126 13837	CER. 0.1μF ±10% 10V	DK96104200				FTD DISP 13-MT-79G		
C125		4822 122 33753	CER. 150pF ±5% 50V	DD95151300	XY02			CERAMIC RESONATOR 5MHz	FQ05004030	
C126		4822 124 11074	ELECT 10μF 16V	EY10601620				PY26-IR SENSOR		
C127		4822 126 13837	CER. 0.1μF ±10% 10V	DK96104200				CIRCUIT BOARD		
C128		4822 126 13837	CER. 0.1μF ±10% 10V	DK96104200				PY26-CAPACITORS CHIP		
C129		4822 126 13837	CER. 0.1μF ±10% 10V	DK96104200	CY21	MK2	4822 124 11432	ELECT 100μF 10V	EY10701020	
C130		4822 126 11759	CER. 100pF ±5% 50V	DD95101300	CY22	MK2	4822 126 11687	CER. 0.1μF +80-20%	DK98104200	
C191			ELECT 0.47μF 50V	EY47405020				PY26-RESISTORS CHIP		
C192		4822 124 11074	ELECT 10μF 16V	EY10601620	RY21	MK2	4822 051 30101	100Ω ±5% 1/16W	NN05101610	
			PV16-RESISTORS CHIP					PY26-MISCELLANEOUS		
R120		4822 051 30104	100kΩ ±5% 1/16W	NN05104610				PHOTO UNIT PNA4655M00HB	HV10006020	
R121		4822 051 30681	680Ω ±5% 1/16W	NN05681610				PY36-IR SENSOR		
R122		4822 117 12139	22Ω ±5% 1/16W	NN05220610	ZY21	MK2	4822 209 16735	CIRCUIT BOARD		
R123		4822 117 12139	22Ω ±5% 1/16W	NN05220610				PY36-CAPACITORS CHIP		
R124		4822 051 30681	680Ω ±5% 1/16W	NN05681610				ELECT 100μF 10V	EY10701020	
R125		4822 051 30153	15kΩ ±5% 1/16W	NN05153610	CY31	DA	4822 124 11432	CER. 0.1μF +80-20%	DK98104200	
R126		4822 051 30332	3.3kΩ ±5% 1/16W	NN05332610	CY32	DA	4822 126 11687			
R127		4822 051 30222	2.2kΩ ±5% 1/16W	NN05222610				PY36-RESISTORS CHIP		
R128		4822 051 30392	3.9kΩ ±5% 1/16W	NN05392610				100Ω ±5% 1/16W	NN05101610	
R129		4822 051 30101	100Ω ±5% 1/16W	NN05101610	RY31	DA	4822 051 30101		NN05101610	
R130		4822 051 30273	27kΩ ±5% 1/16W	NN05273610				PY36-MISCELLANEOUS		
R191		4822 051 30103	10kΩ ±5% 1/16W	NN05103610				PHOTO UNIT PNA4655M00HB	HV10006020	
R192		4822 051 30153	15kΩ ±5% 1/16W	NN05153610						
R193		4822 051 30331	330Ω ±5% 1/16W	NN05331610						
R194		4822 051 30101	100Ω ±5% 1/16W	NN05101610	ZY31	DA	4822 209 16735			
R195		4822 051 30101	100Ω ±5% 1/16W	NN05101610						
R196		4822 116 82487	0Ω ±5% 1/16W	NN05000610						
			PV16-SEMICONDUCTORS							
Q101		4822 209 33992	IC TDA1302T	HC10136490						
Q191		4822 209 32984	IC TC7SHU04F	HC10427050						
Q192		4822 130 41947	TRS. 2SC2458	HT30001000						
			2SC1740S 2SC3199							
Q193		4822 130 41947	TRS. 2SC2458	HT30001000						
			2SC1740S 2SC3199							