

DENON

For U.K. model

SERVICE MANUAL

Ver. 1

MODEL TU-1800DAB

AM-FM STEREO/DAB TUNER

注 意

サービスをおこなう前に、このサービスマニュアルを必ずお読みください。本機は、火災、感電、けがなどに対する安全性を確保するために、さまざまな配慮をおこなっており、また法的には「電気用品安全法」にもとづき、所定の許可を得て製造されております。従ってサービスをおこなう際は、これらの安全性が維持されるよう、このサービスマニュアルに記載されている注意事項を必ずお守りください。

● For purposes of improvement, specifications and design are subject to change without notice.

- 本機の仕様は性能改良のため、予告なく変更することがあります。
- 補修用性能部品の保有期間は、製造打切後8年です。

● Please use this service manual with referring to the operating instructions without fail.

- 修理の際は、必ず取扱説明書を参照の上、作業を行ってください。

● Some illustrations using in this service manual are slightly different from the actual set.

- 本文中に使用しているイラストは、説明の都合上現物と多少異なる場合があります。

DENON

TOKYO JAPAN
Denon Brand Company, D&M Holdings Inc.

SAFETY PRECAUTIONS

The following check should be performed for the continued protection of the customer and service technician.

LEAKAGE CURRENT CHECK

Before returning the unit to the customer, make sure you make either (1) a leakage current check or (2) a line to chassis resistance check. If the leakage current exceeds 0.5 milliamps, or if the resistance from chassis to either side of the power cord is less than 460 kohms, the unit is defective.

注 意

サービス、点検時には次のことにご注意願います。

●注意事項をお守りください！

サービスのとき特に注意を必要とする個所については、キャビネット、部品、シャーシなどにラベルや捺印で、注意事項を表示しています。これらの注意書きおよび取扱説明書などの注意事項を必ずお守りください。

●感電に注意！

- (1) このセットは、交流電圧が印加されていますので、通電時に内部金属部に触れると感電することがあります。従って通電サービス時には、絶縁トランスの使用や手袋の着用、部品交換には、電源プラグを抜くなどして、感電にご注意ください。
- (2) 内部には、高電圧の部分がありますので、通電時の取扱には、十分ご注意ください。

●指定部品の使用！

セットの部品は難燃性や耐電圧など安全上の特性を持ったものとなっています。従って交換部品は、使用されていたものと同じ特性の部品を使用してください。特に配線図、部品表に△印で指定されている安全上重要な部品は必ず指定のものをご使用ください。

●部品の取付けや配線の引きまわしは、元どおりに！

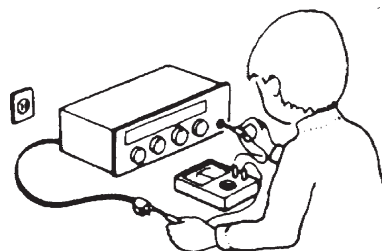
安全上、テープやチューブなどの絶縁材料を使用したり、プリント基板から浮かして取付けた部品があります。また内部配線は引きまわしやクランプによって発熱部品や高圧部品に接近しないように配慮されていますので、これらは必ず元どおりにしてください。

●サービス後は安全点検を！

サービスのために取り外したねじ、部品、配線などが元どおりになっているか、またサービスした個所の周辺を劣化させてしまったところがないかなどを点検し、外部金属端子部と、電源プラグの刃の間の絶縁チェックをおこなうなど、安全性が確保されていることを確認してください。

(絶縁チェックの方法)

電源コンセントから電源プラグを抜き、アンテナや、プラグなどを外し、電源スイッチを入れます。500V 絶縁抵抗計を用いて、電源プラグのそれぞれの端子と、外部露出金属部〔アンテナ端子、ヘッドホン端子、マイク端子、入力端子など〕との間で、絶縁抵抗値が1MΩ以上であること、この値以下のときは、セットの点検修理が必要です。



注 意

安全上重要な部品について

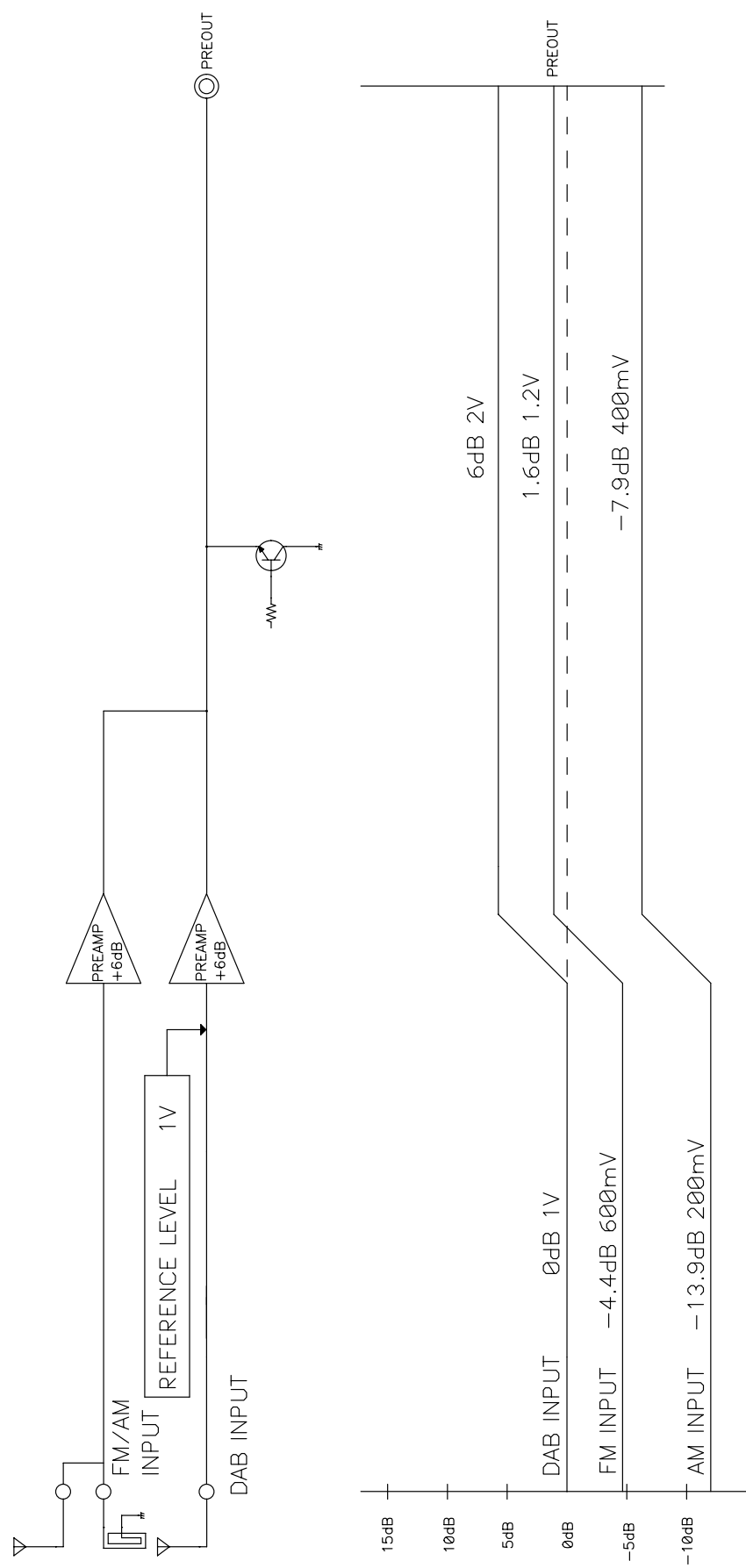
本機に使用している多くの電気部品、および機構部品は安全上、特別な特性を持っています。この特性はほとんどの場合、外観では判別つきにくく、また、もとの部品より高い定格（定格電力、耐圧）を持ったものを使用しても安全性が維持されるとは、限りません。安全上の特性を持った部品は、このサービスマニュアルの配線図、部品表につぎのように表示していますので、必ず指定されている部品番号のものを使用願います。

(1) 配線図… △マークで表示しています。

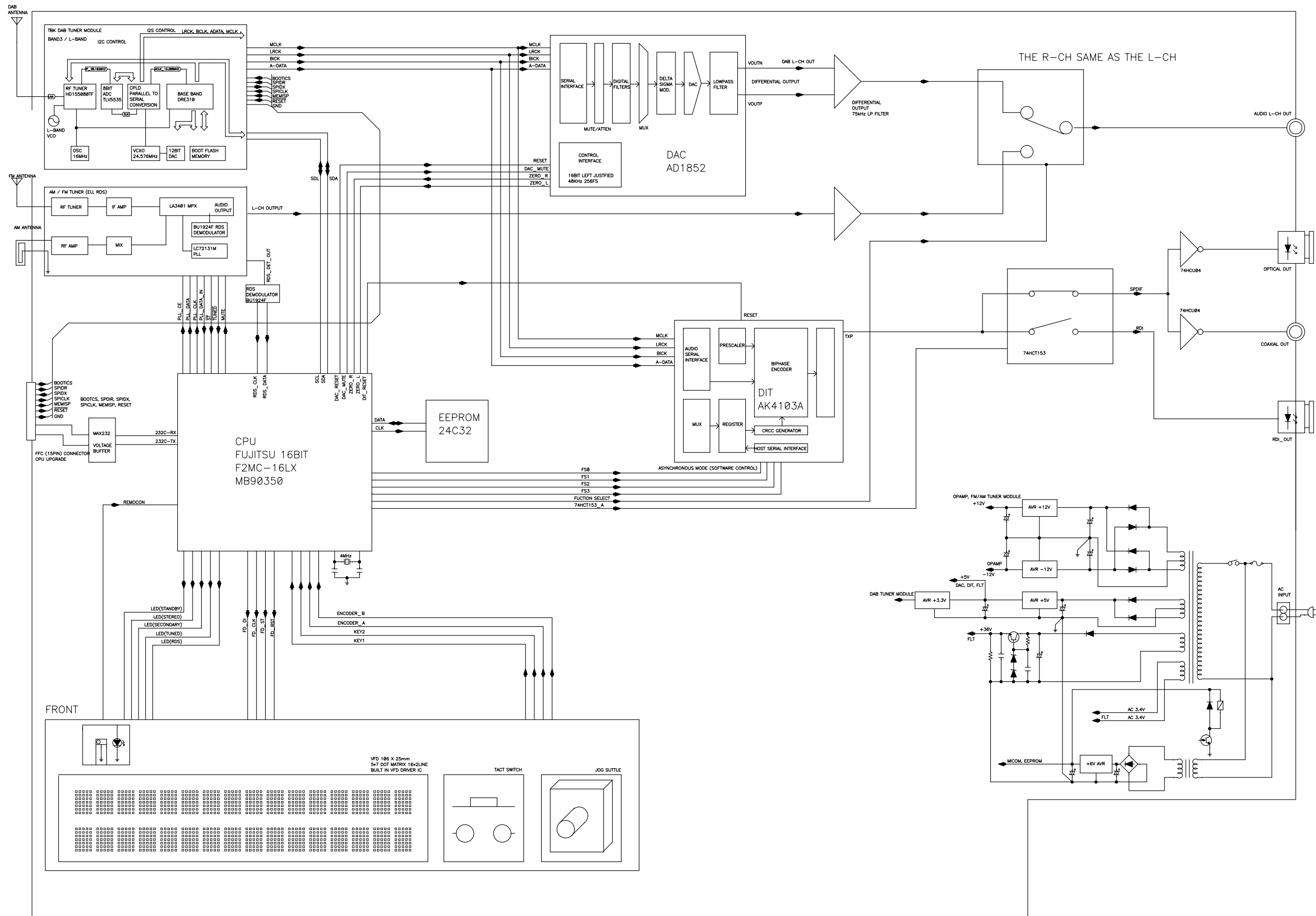
(2) 部品表… △マークで表示しています。

指定された部品と異なるものを使用した場合には、感電、火災などの危険を生じる恐れがあります。

LEVEL DIAGRAM



BLOCK DIAGRAMS

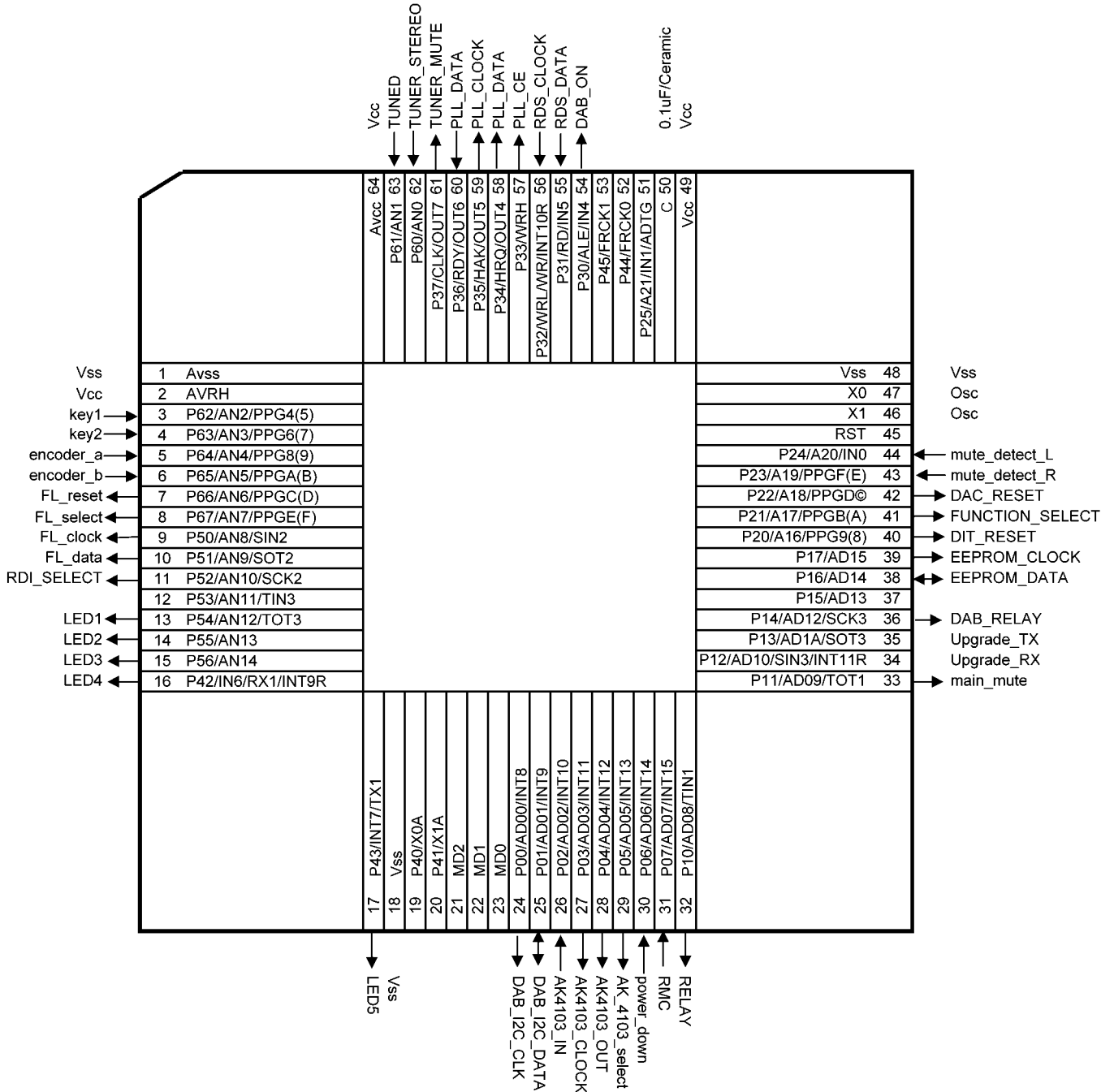


SEMICONDUCTORS

Only major semiconductors are shown, general semiconductors etc. are omitted to list.
 主な半導体を記載しています。汎用の半導体は記載を省略しています。

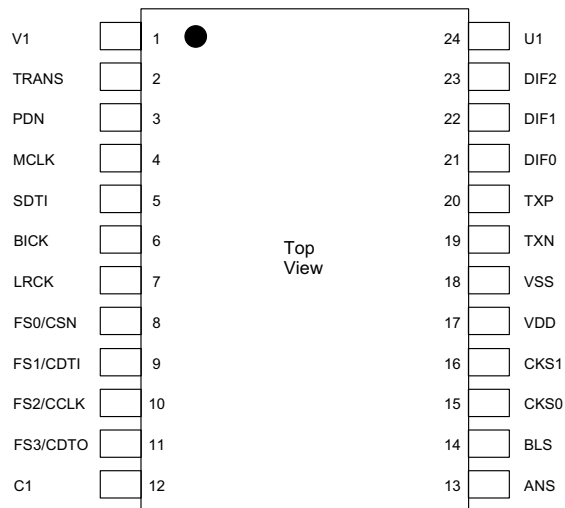
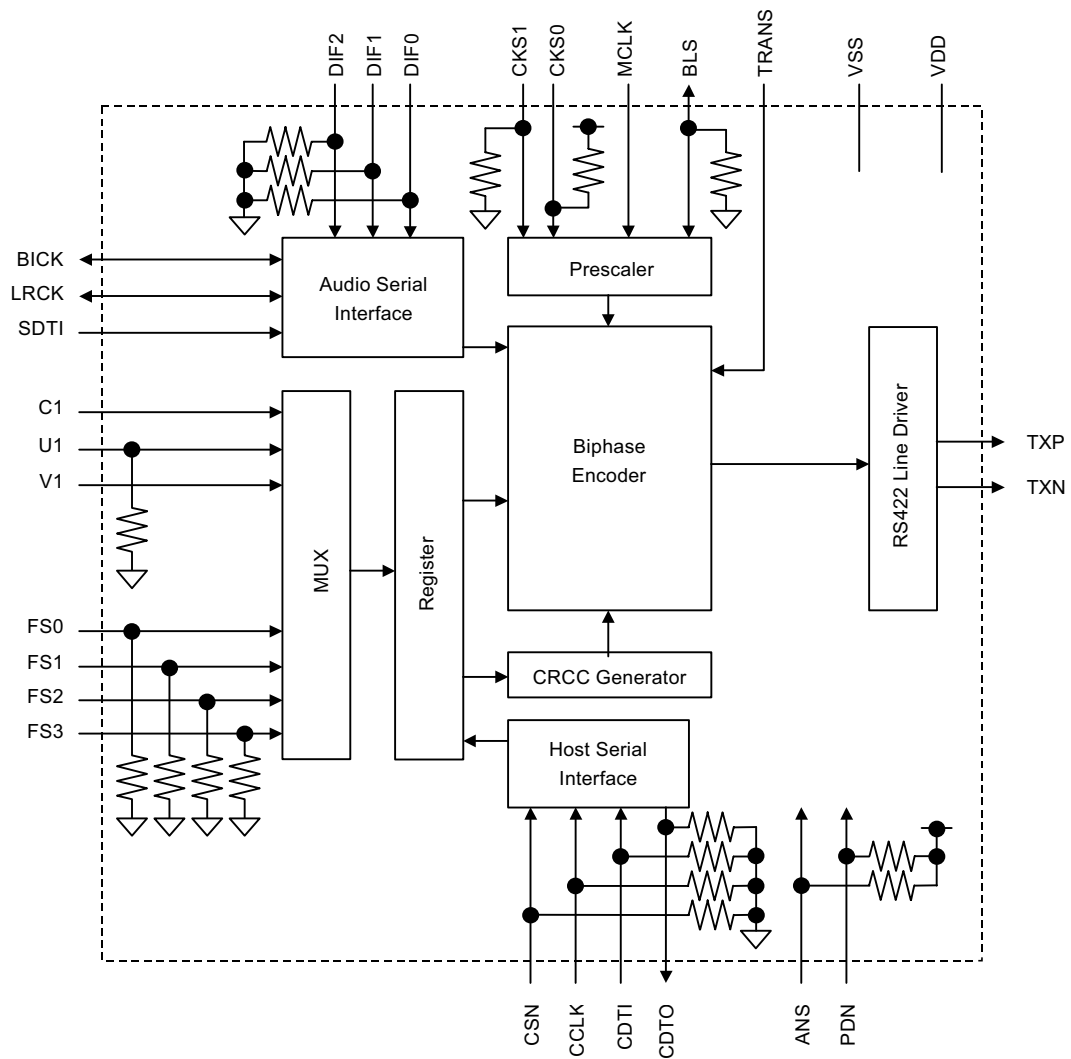
1. IC's

MB90F352C (IC300)



MB90F352C Terminal Function

Pin No.	Pin Name	I/O	Function
1	Avss		Vss
2	AVRH		Vcc
3	P62/AN2/PPG4(5)	I	key1
4	P63/AN3/PPG6(7)	I	key2
5	P64/AN4/PPG8(9)	I	encoder_a
6	P65/AN5/PPGA(B)	I	encoder_b
7	P66/AN6/PPGC(D)	O	FLT_RESET
8	P67/AN7/PPGE(F)	O	FLT_SELECT
9	P50/AN8/SIN2	O	FLT_CLOCK
10	P51/AN9/SOT2	O	FLT_DATA
11	P52/AN10/SCK2	O	RDI_SELECT
12	P53/AN11/TIN3	O	
13	P54/AN12/TOT3	O	LED_STANDBY
14	P55/AN13	O	LED_STEREO
15	P56/AN14	O	LED_SECONDARY
16	P42/IN6/RX1/INT9R	O	LED_TUNED
17	P43/INT7/TX1	O	LED_RDS
18	Vss		GND
19	P40/X0A		
20	P41/X1A		
21	MD2		MICOM UPGRADE
22	MD1		MICOM UPGRADE
23	MD0		MICOM UPGRADE
24	P00/AD00/INT8	O	DAB_I2C_CLOCK
25	P01/AD01/INT9	O	DAB_I2C_DATA
26	P02/AD02/INT10	I	AK4103_DATA_IN
27	P03/AD03/INT11	O	AK4103_CLOCK
28	P04/AD04/INT12	O	AK4103_DATA_OUT
29	P05/AD05/INT13	O	AK4103_SELECT
30	P06/AD06/INT14	I	POWER_DOWN
31	P07/AD07/INT15	I	REMOCON
32	P10/AD08/TIN1	O	POWER_RELAY
33	P11/AD09/TOT1	O	MAIN_MUTE
34	P12/AD10/SIN3/INT11R	O	UPGRADE_RX
35	P13/AD1A/SOT3	O	UPGRADE_TX
36	P14/AD12/SCK3	O	POWER_DAB
37	P15/AD13	O	
38	P16/AD14	O	EEPROM_DATA
39	P17/AD15	O	EEPROM_CLOCK
40	P20/A16/PPG9(8)	O	DIT_RESET
41	P21/A17/PPGB(A)	O	FUNCTION_RELAY
42	P22/A18/PPGD?	O	DAC_RESET
43	P23/A19/PPGF(E)	I	DAC_MUTE_DETECT_R
44	P24/A20/IN0	I	DAC_MUTE_DETECT_L
45	RST		
46	X1		4MHz
47	X0		4MHz
48	Vss		
49	Vcc		
50	C		0.1UF/CERAMIC
51	P25/A21/IN1/ADTG	O	DAC_MUTE
52	P44/FRCK0	O	
53	P45/FRCK1	O	
54	P30/ALE/IN4	O	DAB_ON
55	P31/RD/IN5	I	RDS_DATA
56	P32/WRL/WR/INT10R	I	RDS_CLOCK
57	P33/WRH	O	PLL_CE
58	P34/HRQ/OUT4	O	PLL_DATA_OUT(PLL DATA TRANS)
59	P35/HAK/OUT5	O	PLL_CLOCK
60	P36/RDY/OUT6	I	PLL_DATA_IN(IF READ)
61	P37/CLK/OUT7	O	TUNER_MUTE
62	P60/AN0	I	TUNER_STEREO
63	P61/AN1	I	TUNER_TUNED
64	Avcc		VCC

AK4103A (IC304)**AK4103A BLOCK DIAGRAM**

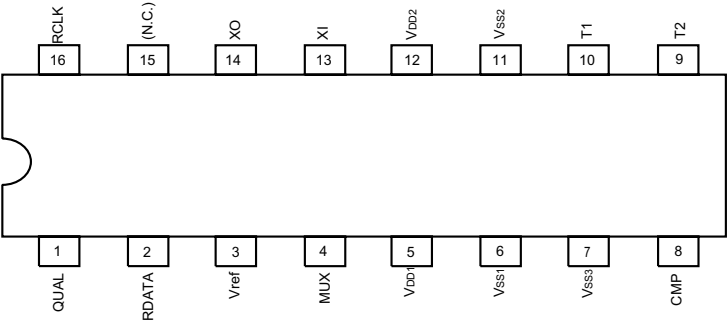
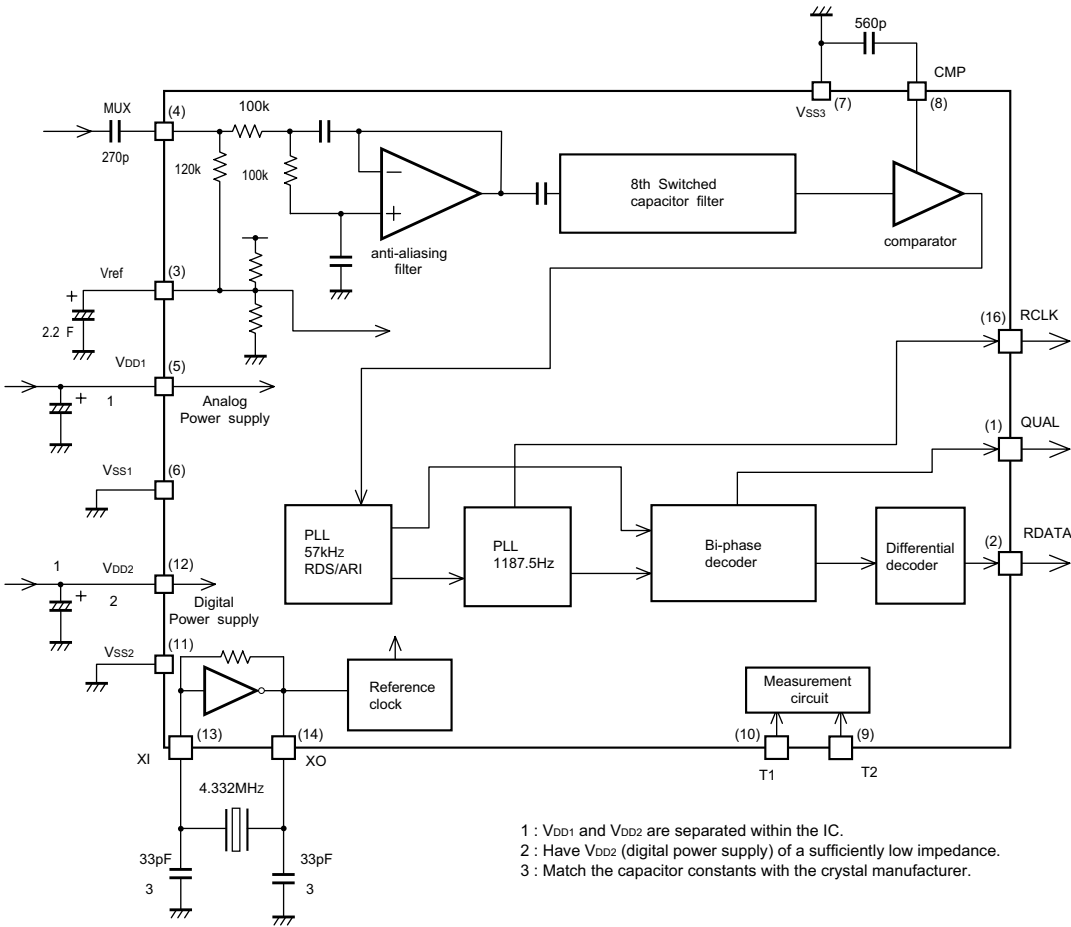
AK4103A TERMINAL FUNCTION

No.	Pin Name	I/O	Description
1	V1	I	Validity Bit Input Pin
2	TRANS	I	Audio Routing Mode (Transparent Mode) Pin at Synchronous mode 0: Normal mode, 1: Audio routing mode (transparent mode)
3	PDN	I	Power Down & Reset Pin (Pull-up Pin) When “L”, the AK4103A is powered-down, TXP/N pins are “L” and the control registers are reset to default values.
4	MCLK	I	Master Clock Input Pin
5	SDTI	I	Audio Serial Data Input Pin
6	BICK	I/O	Audio Serial Data Clock Input/Output Pin Serial Clock for SDTI pin which can be configured as an output based on the DIF2-0 inputs.
7	LRCK	I/O	Input/Output Channel Clock Pin Indicates left or right channel, and can be configured as an output based on the DIF2-0 inputs.
8	FS0	I	Sampling Frequency Select 0 Pin at Synchronous mode (Pull-down Pin)
	CSN	I	Host Interface Chip Select Pin at Asynchronous mode (Pull-down Pin)
	AKMODE	I	AK4112B Mode Pin at Audio routing mode (Pull-down Pin) 0: Non-AKM receivers mode, 1: AK4112B mode
9	FS1	I	Sampling Frequency Select 1 Pin at Synchronous mode (Pull-down Pin)
	CDTI	I	Host Interface Data Input Pin at Asynchronous mode (Pull-down Pin)
10	FS2	I	Sampling Frequency Select 2 Pin at Synchronous mode (Pull-down Pin)
	CCLK	I	Host Interface Bit Clock Input Pin at Asynchronous mode (Pull-down Pin)
11	FS3	I	Sampling Frequency Select 3 Pin at Synchronous mode (Pull-down Pin)
	CDTO	O	Host Interface Data Output Pin at Asynchronous mode (Pull-down Pin)
12	C1	I	Channel Status Bit Input Pin
13	ANS	I	Asynchronous/Synchronous Mode Select Pin (Pull-up Pin) 0: Asynchronous mode, 1: Synchronous mode
14	BLS	I/O	Block Start Input/Output Pin (Pull-down Pin) In normal mode, the channel status block output is “H” for the first four bytes. In audio routing mode, the pin is configured as an input. When PDN pin = “L”, BLS pin goes “H” at Normal mode.
15	CKS0	I	Clock Mode Select 0 Pin (Pull-up Pin)
16	CKS1	I	Clock Mode Select 1 Pin (Pull-down Pin)
17	VDD	-	Power Supply Pin, 4.75V~5.25V
18	VSS	-	Ground Pin, 0V
19	TXN	O	Negative Differential Output Pin
20	TXP	O	Positive Differential Output Pin
21	DIF0	I	Audio Serial Interface Select 0 Pin (Pull-down Pin)
22	DIF1	I	Audio Serial Interface Select 1 Pin (Pull-down Pin)
23	DIF2	I	Audio Serial Interface Select 2 Pin (Pull-down Pin)
24	U1	I	User Data Bit Input Pin for Channel 1 (Pull-down Pin)

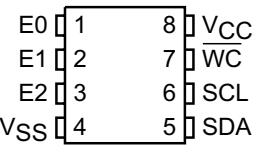
Notes:

1. Internal pull-up and pull-down resistors are connected on-chip. The value of the resistors is 43k Ω (typ).
2. All input pins except internal pull-down/pull-up pins/should not be left floating.

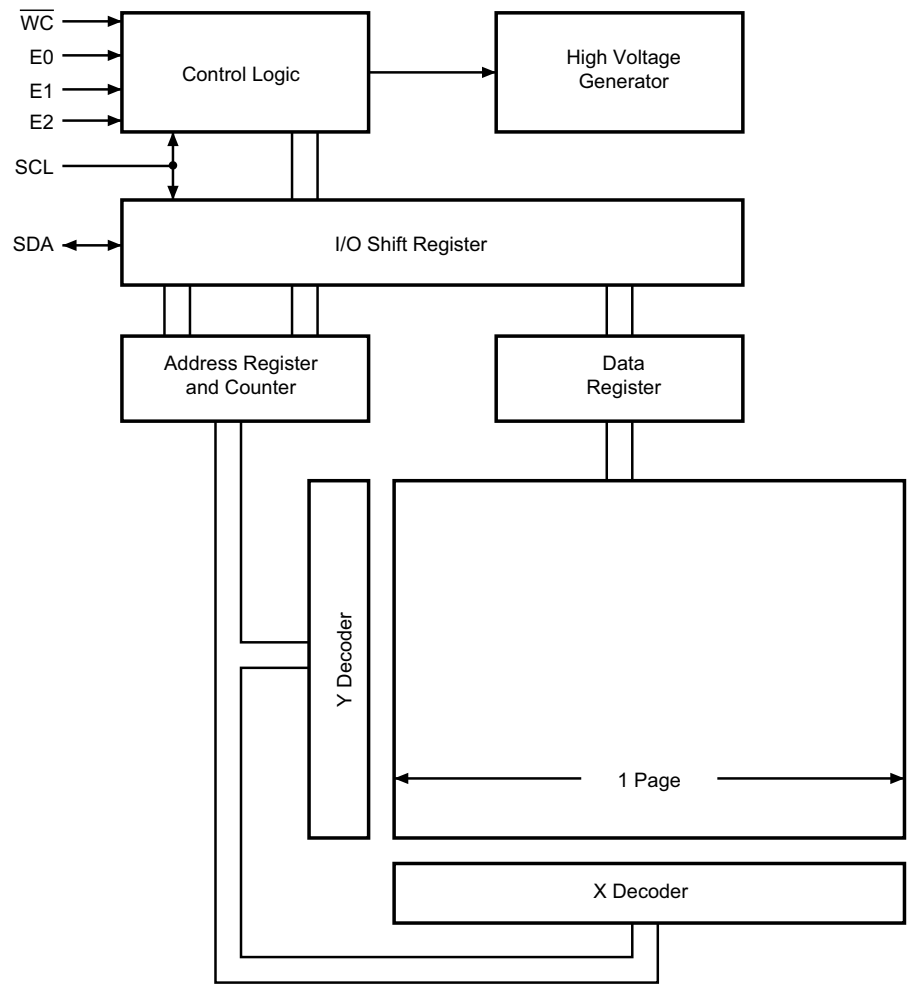
BU1924F (IC306)



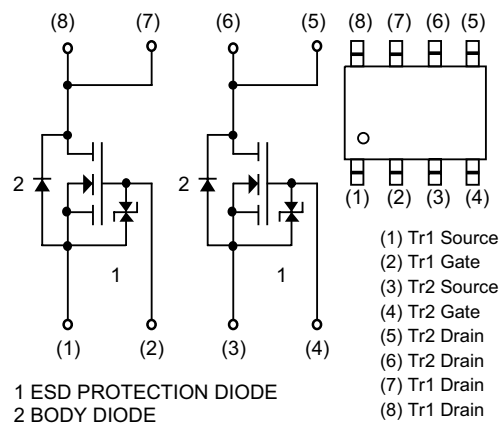
M24C32 (IC704)



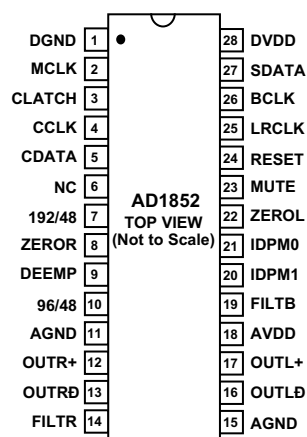
BLOCK DIAGRAM



SP8K5TB (IC105)



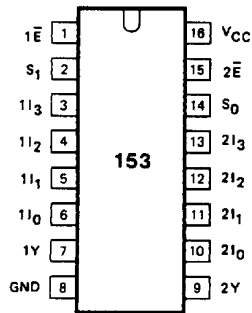
AD1852JRS (IC102)



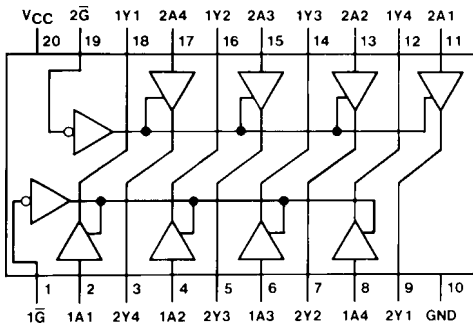
TERMINAL FUNCTION

Pin	Input/Output	Pin Name	Description
1	I	DGND	Digital Ground.
2	I	MCLK	Master Clock Input. Connect to an external clock source at either 256 F _S , 384 F _S , 512 F _S , 768 F _S , or 1024 F _S .
3	I	CLATCH	Latch Input for Control Data. This input is rising-edge sensitive.
4	I	CCLK	Control Clock Input for Control Data. Control input data must be valid on the rising edge of CCLK. CCLK may be continuous or gated.
5	I	CDATA	Serial Control Input, MSB first, containing 16 bits of unsigned data per channel. Used for specifying channel-specific attenuation and mute.
6		NC	No Connect.
7	I	192/48	Selects 48 kHz (LO) or 192 kHz Sample Frequency.
8	O	ZEROR	Right Channel Zero Flag Output. This pin goes HI when Right Channel has no signal input for more than 1024 LR Clock Cycles.
9	I	DEEMP	De-Emphasis. Digital de-emphasis is enabled when this input signal is HI. This is used to impose a 50µs/15µs response characteristic on the output audio spectrum at an assumed 44.1 kHz sample rate. Curves for 32 kHz and 48 kHz sample rates may be selected via SPI control register.
10	I	96/48	Selects 48 kHz (LO) or 96 kHz Sample Frequency.
11, 15	I	AGND	Analog Ground.
12	O	OUTR+	Right Channel Positive Line Level Analog Output.
13	O	OUTRØ	Right Channel Negative Line Level Analog Output.
14	O	FILTR	Voltage Reference Filter Capacitor Connection. Bypass and decouple the voltage reference with parallel 10 µF and 0.1 µF capacitors to the AGND.
16	O	OUTLØ	Left Channel Negative Line Level Analog Output.
17	O	OUTL+	Left Channel Positive Line Level Analog Output.
18	I	AVDD	Analog Power Supply. Connect to Analog 5 V Supply.
19		FILTB	Filter Capacitor Connection. Connect 10 µF capacitor to AGND (Pin 15).
20	I	IDPM1	Input Serial Data Port Mode Control One. With IDPM0, defines 1 of 4 serial modes.
21	I	IDPM0	Input Serial Data Port Mode Control Zero. With IDPM1, defines 1 of 4 serial modes.
22	O	ZEROL	Left Channel Zero Flag Output. This pin goes HI when Left Channel has no signal input for more than 1024 LR Clock Cycles.
23	I	MUTE	Mute. Assert HI to mute both stereo analog outputs. DeassertLO for normal operation.
24	I	RESET	Reset. The AD1852 is reset on the rising edge of this signal. The serial control port registers are reset to the default values. Connect HI for normal operation.
25	I	L/RCLK	Left/Right Clock Input for Input Data. Must run continuously.
26	I	BCLK	Bit Clock Input for Input Data. Need not run continuously; may be gated or used in a burst fashion.
27	I	SDATA	Serial Input, MSB first, containing two channels of 16, 18, 20, and 24 bits of twos complement data per channel.
28	I	DVDD	Digital Power Supply Connect to digital 5 V supply.

74HCT153D (IC200)

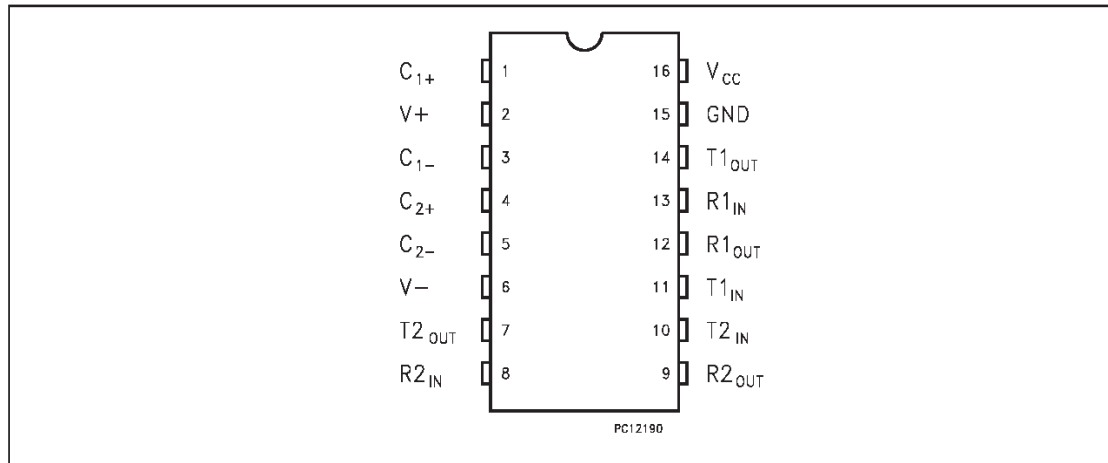


MM74HCT244 (IC205)



ST232C (IC303)

PIN CONFIGURATION

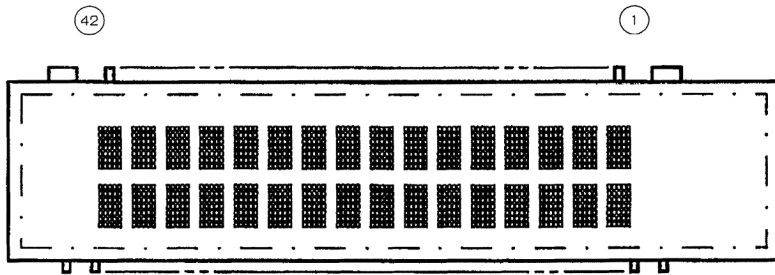


PIN DESCRIPTION

PIN No	SYMBOL	NAME AND FUNCTION
1	C ₁₊	Positive Terminal for the first Charge Pump Capacitor
2	V+	Doubled Voltage Terminal
3	C ₁₋	Negative Terminal for the first Charge Pump Capacitor
4	C ₂₊	Positive Terminal for the second Charge Pump Capacitor
5	C ₂₋	Negative Terminal for the second Charge Pump Capacitor
6	V-	Inverted Voltage Terminal
7	T _{2OUT}	Second Transmitter Output Voltage
8	R _{2IN}	Second Receiver Input Voltage
9	R _{2OUT}	Second Receiver Output Voltage
10	T _{2IN}	Second Transmitter Input Voltage
11	T _{1IN}	First Transmitter Input Voltage
12	R _{1OUT}	First Receiver Output Voltage
13	R _{1IN}	First Receiver Input Voltage
14	T _{1OUT}	First Transmitter Output Voltage
15	GND	Ground
16	V _{CC}	Supply Voltage

2. FL DISPLAY

162-SD-10GINK (FLT100)



PIN CONNECTION

PIN NO.	42	41	40	39	38	37	36	35	34	33	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
CONNECTION	F1	NPP	NPP	N	X	X	T	S	B	C	T	S	A	A	D	P	C	C	S	I	S	C	I	T	H	E	R	I	O	O	O	O	O	O	V	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O

ROM CODE

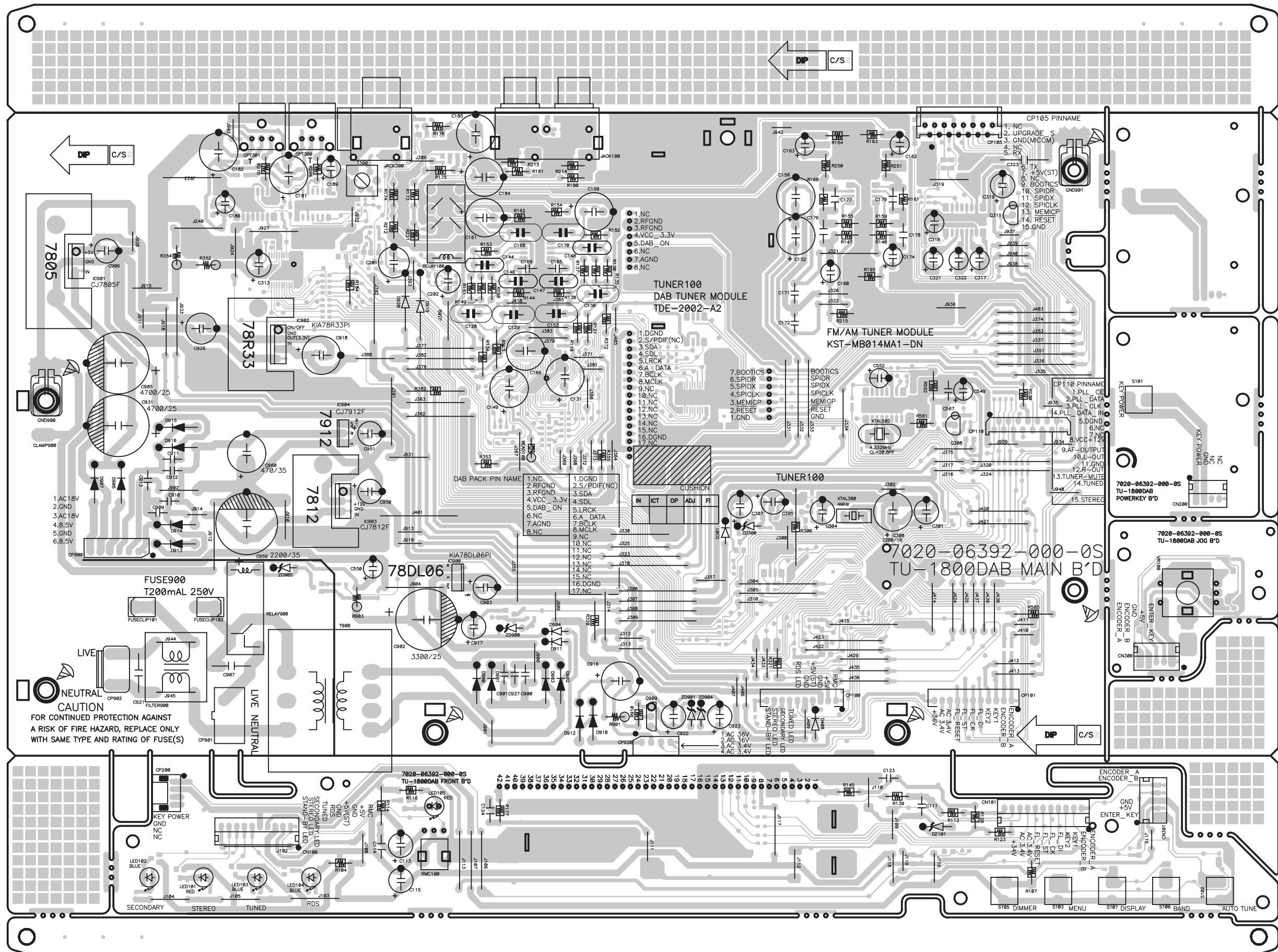
* ROM CODE_A(B) is the character set for A0/B34 to A34/B0.

* 00000000B(00H) to 00000111B(07H) are the CGRAM_A(B) addresses.

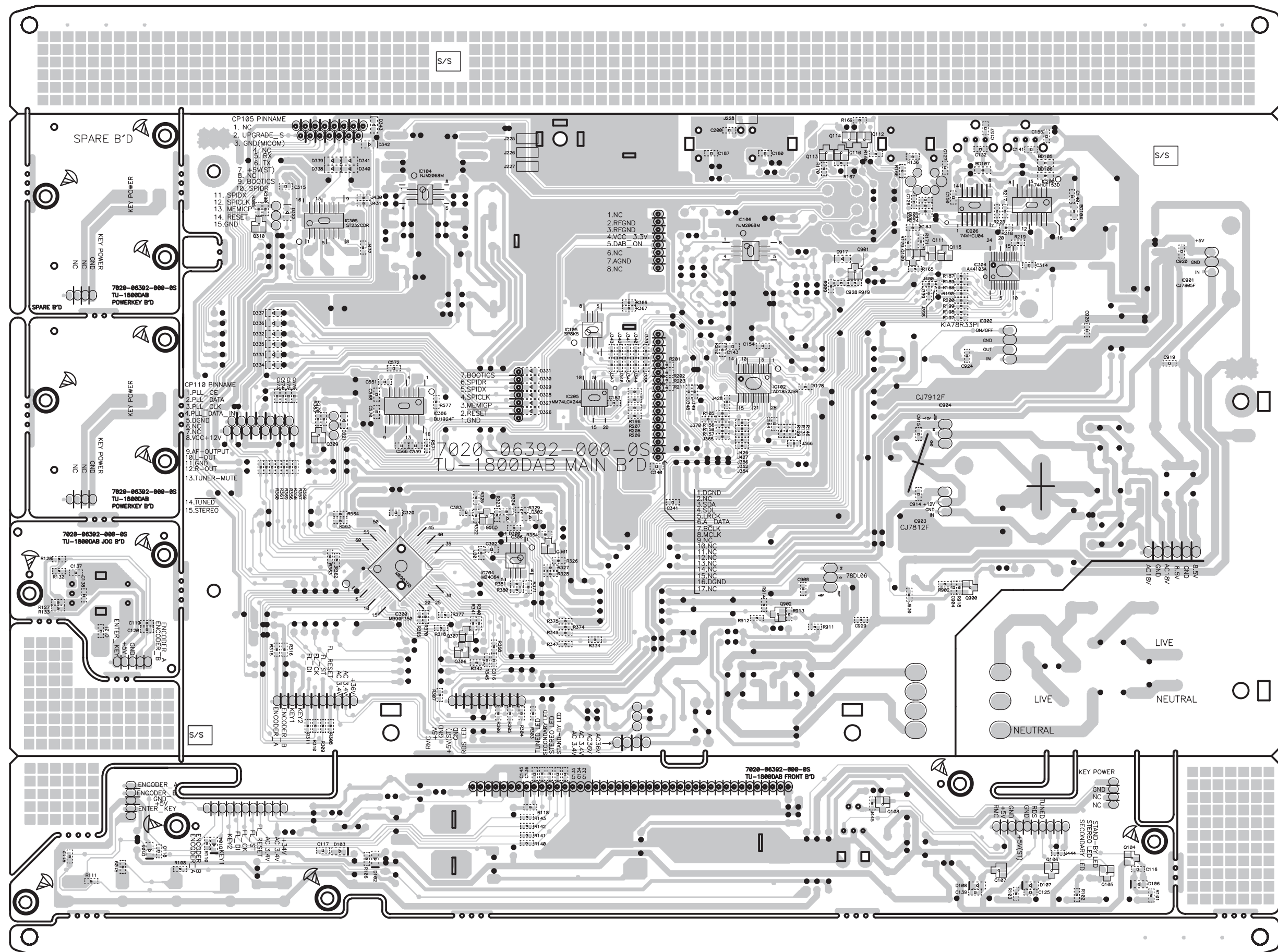
MSB LSB		0000	0001	0010	0011	0100	0101	0110	0111	1000	1001	1010	1011	1100	1101	1110	1111
0000	RAM0																
0001	RAM1																
0010	RAM2																
0011	RAM3																
0100	RAM4																
0101	RAM5																
0110	RAM6																
0111	RAM7																
1000																	
1001																	
1010																	
1011																	
1100																	
1101																	
1110																	
1111																	

PRINTED WIRING BOARDS

TU-1800DAB P.W.B. UNIT (1/2)



TU-1800DAB P.W.B. UNIT (2/2)



NOTE FOR PARTS LIST

- Part indicated with the mark "nsp" are not always in stock and possibly to take a long period of time for supplying, or in some case supplying of part may be refused.
- When ordering of part, clearly indicate "1" and "I" (i) to avoid mis-supplying.
- Ordering part without stating its part number can not be supplied.
- Part indicated with the mark "★" is not illustrated in the exploded view.
- Not including Carbon Film Resistor $\pm 5\%$, 1/4W Type in the P.W.Board parts list. (Refer to the Schematic Diagram for those parts.)
- Not including Carbon Chip Resistor 1/16W Type in the P.W.Board parts list. (Refer to the Schematic Diagram for those parts.)

WARNING:

Parts marked with this symbol $\triangle$ have critical characteristics.

Use ONLY replacement parts recommended by the manufacturer.

● Resistors

Ex.: $\frac{RN}{\text{Type}} \frac{14K}{\text{Shape and performance}} \frac{2E}{\text{Power}} \frac{182}{\text{Resistance}} \frac{G}{\text{Allowable error}} \frac{FR}{\text{Others}}$

RD : Carbon RC : Composition RS : Metal oxide film RW : Winding RN : Metal film RK : Metal mixture	2B : 1/8W 2E : 1/4W 2H : 1/2W 3A : 1W 3D : 2W 3F : 3W 3H : 5W	F : $\pm 1\%$ G : $\pm 2\%$ J : $\pm 5\%$ K : $\pm 10\%$ M : $\pm 20\%$	P : Pulse-resistant type NL : Low noise type NB : Non-burning type FR : Fuse-resistor F : Lead wire forming
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* Resistance

$\frac{1}{\text{Unit}} \frac{8}{\text{Effective digit}} \frac{2}{\text{Zero digit}} \Rightarrow 1800 \text{ ohm} = 1.8 \text{ kohm}$
Indicates number of zeros after effective number.
2-digit effective number.

• Units: ohm

$\frac{1}{\text{Unit}} \frac{R}{\text{Effective digit}} \frac{2}{\text{Zero digit}} \Rightarrow 1.2 \text{ ohm}$
1-digit effective number.
2-digit effective number, decimal point indicated by R.

• Units: ohm

● Capacitors

Ex.: $\frac{CE}{\text{Type}} \frac{04W}{\text{Shape and performance}} \frac{1H}{\text{Dielectric strength}} \frac{2R2}{\text{Capacity}} \frac{M}{\text{Allowable error}} \frac{BP}{\text{Others}}$

CE : Aluminum foil electrolytic CA : Aluminum solid electrolytic CS : Tantalum electrolytic CQ : Film CK : Ceramic CC : Ceramic CP : Oil CM : Mica CF : Metallized CH : Metallized	0J : 6.3V 1A : 10V 1C : 16V 1E : 25V 1V : 35V 1H : 50V 2A : 100V 2B : 125V 2C : 160V 2D : 200V 2E : 250V 2H : 500V 2J : 630V	F : $\pm 1\%$ G : $\pm 2\%$ J : $\pm 5\%$ K : $\pm 10\%$ M : $\pm 20\%$ Z : $\pm 80\%$ P : $\pm 100\%$ C : $\pm 0.25\text{pF}$ D : $\pm 0.5\text{pF}$ = : Others	HS : High stability type BP : Non-polar type HR : Ripple-resistant type DL : For change and discharge HF : For assuring high frequency U : UL part C : CSA part W : UL-CSA type F : Lead wire forming
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* Capacity (electrolyte only)

$\frac{2}{\text{Unit}} \frac{2}{\text{Effective digit}} \frac{2}{\text{Zero digit}} \Rightarrow 2200\mu\text{F}$
Indicates number of zeros after effective number.
2-digit effective number.

• Units: μF .

$\frac{2}{\text{Unit}} \frac{R}{\text{Effective digit}} \frac{2}{\text{Zero digit}} \Rightarrow 2.2\mu\text{F}$
1-digit effective number.
2-digit effective number, decimal point indicated by R.

• Units: μF .

* Capacity (except electrolyte)

$\frac{2}{\text{Unit}} \frac{2}{\text{Effective digit}} \frac{2}{\text{Zero digit}} \Rightarrow 2200\text{pF} = 0.0022\mu\text{F}$
(More than 2) — Indicates number of zeros after effective number.
2-digit effective number.

• Units: pF.

$\frac{2}{\text{Unit}} \frac{2}{\text{Effective digit}} \frac{1}{\text{Zero digit}} \Rightarrow 220\text{pF}$
(0 or 1) — Indicates number of zeros after effective number.
2-digit effective number.

• Units: pF.

- When the dielectric strength is indicated in AC, "AC" is included after the dielectric strength value.

部品表について

- nsp 印の部品は常時在庫していませんので供給に長時間を要することがあります。
場合によっては、供給をお断りすることがあります。
- 部品を発注する際は特に数字の "1" と英字の "I" との区別をはっきり記入してください。
- 部品番号を表示していない部品は供給できません。
- $\triangle$ 印の部品は安全上重要な部品です。交換するときは、安全および性能維持のため必ず指定の部品をご使用ください。
- ★印のついている部品は分解図中には記載していません。
- カーボン抵抗器 $\pm 5\%$ 、1/4W 型は記載していません。定数は回路図を参照願います。
- カーボンチップ抵抗器 1/16W 型は記載していません。定数は回路図を参照願います。
- 部品表の抵抗器、コンデンサの品名記号の読み方は表を参照してください。

●抵抗器

例) $\frac{RN}{\text{種類}} \frac{14K}{\text{形状特性}} \frac{2E}{\text{電力}} \frac{182}{\text{抵抗値}} \frac{G}{\text{許容差}} \frac{FR}{\text{その他}}$

RD : カーボン RC : 固定体 RS : 金属系皮膜 RW : 巻線 RN : 金属皮膜 RK : 金属混合体	2B : 1/8 W 2E : 1/4 W 2H : 1/2 W 3A : 1 W 3D : 2 W 3F : 3 W 3H : 5 W	F : $\pm 1\%$ G : $\pm 2\%$ J : $\pm 5\%$ K : $\pm 10\%$ M : $\pm 20\%$	P : 耐パルス形 NL : 低雑音形 NB : 不燃形 FR : ヒューズ抵抗 F : リード線成形
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* 抵抗値

$\frac{18}{\text{Unit}} \frac{2}{\text{Effective digit}} \Rightarrow 1800\Omega = 1.8\text{k}\Omega$
有効数字につづく0の数を表わす。
2桁の有効数字を表わす。

$\frac{1R}{\text{Unit}} \frac{2}{\text{Effective digit}} \Rightarrow 1.2\Omega$
1桁の有効数字を表わす。
2桁の有効数字で小数点はRで表わす。
: 単位は Ω

●コンデンサ

例) $\frac{CE}{\text{種類}} \frac{04W}{\text{形状特性}} \frac{1H}{\text{耐圧}} \frac{2R2}{\text{容量}} \frac{M}{\text{許容差}} \frac{BP}{\text{その他}}$

CE : アルミ箔電解 CA : アルミ固体電解 CS : タンタル電解 CQ : フィルム CK : セラミック CC : セラミック CP : オイル CM : マイカ CF : メタライズド CH : メタライズド	0J : 6.3 V 1A : 10 V 1C : 16 V 1E : 25 V 1V : 35 V 1H : 50 V 2A : 100 V 2B : 125 V 2C : 160 V 2D : 200 V 2E : 250 V 2H : 500 V 2J : 630 V	F : $\pm 1\%$ G : $\pm 2\%$ J : $\pm 5\%$ K : $\pm 10\%$ M : $\pm 20\%$ Z : $\pm 80\%$ P : $\pm 100\%$ C : $\pm 0.25\text{pF}$ D : $\pm 0.5\text{pF}$ = : その他	HS : 高安定形 BP : 無極性形 HR : 耐リップル形 DL : 充放電対策用 HF : 高周波保証用 U : UL 部品 C : CSA 部品 W : UL-CSA 部品 F : リード線成形
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* 容量値

●電解コンデンサの場合

$\frac{22}{\text{Unit}} \frac{2}{\text{Effective digit}} \Rightarrow 2200\mu\text{F}$
有効数字につづく0の数を表わす。
2桁の有効数字を表わす。
: 単位は μF

$\frac{2R}{\text{Unit}} \frac{2}{\text{Effective digit}} \Rightarrow 2.2\mu\text{F}$
1桁の有効数字を表わす。
2桁の有効数字で小数点はRで表わす。
: 単位は μF

●電解コンデンサ以外の場合

$\frac{22}{\text{Unit}} \frac{2}{\text{Effective digit}} \Rightarrow 2200\text{pF} = 0.0022\mu\text{F}$
有効数字につづく0の数を表わす。
(0の数が2以上の場合)
2桁の有効数字を表わす。
: 単位はpF

$\frac{22}{\text{Unit}} \frac{1}{\text{Effective digit}} \Rightarrow 220\text{pF}$
有効数字につづく0の数を表わす。
(0の数が0または1の場合)
2桁の有効数字を表わす。
: 単位はpF

- 耐圧を交流で表示する場合は、耐圧表示の次に「AC」を表示します。

PARTS LIST OF P.W.B. UNIT ASS'Y

* 本表に記載されている部品は、補修用部品のため製品に使用している部品とは一部、形状、寸法などが異なる場合があります。

* The parts listed below are for maintenance only, might differ from the parts used in the unit in appearances or dimensions.

* "nsp" 印の部品は常時在庫していませんので供給に長時間を要することがあります。場合によっては、供給をお断りする場合があります。

* Part indicated with the mark "nsp" are not always in stock and possibly to take a long period of time for supplying, or in some case supplying of part may be refused.

Note: The symbols in the column "Remarks" indicate the following destinations.

SP : Premium Silver Color model

BK : Black Color model

P.W.B. UNIT ASS'Y

	Ref. No.	nsp	Part No.	Part Name	Remarks	Q'ty	New
SEMICONDUCTORS GROUP							
	IC102		00D 963 0226 200	AD1852JRS			*
	IC104		00D 262 3555 901	SA5532ADR			
	IC105		00D 963 0227 005	SP8K5TB			*
	IC106		00D 262 3555 901	SA5532ADR			
	IC200		00D 960 0275 304	74HCT153D			
	IC205		00D 960 0266 902	MM74HCT244			
	IC206		00D 963 0073 903	74VHC04			
	IC300		00D 963 0226 103	MB90F352PFM-G			*
	IC304		00D 963 0226 307	AK4103A			*
	IC305		00D 963 0226 404	ST232CDR			*
	IC306		00D 963 0226 501	BU1924F			*
	IC704		00D 963 0226 006	M24C32-WMN6TP			*
	IC900		00D 960 0188 909	KIA78DL06PI			
	IC901		00D 960 0296 008	CJ7805F			
	IC902		00D 963 0226 608	KIA78R33API			*
	IC903		00D 960 0296 105	CJ7812F			
	IC904		00D 960 0296 202	CJ7912F			
	D102-108		00D 963 0219 709	1N4148W			
	D300		00D 963 0219 709	1N4148W			
	D301		00D 276 0401 905	1SS133T			
	D302		00D 963 0219 709	1N4148W			
	D321-322		00D 963 0219 709	1N4148W			
	D326-341		00D 276 0401 905	1SS133T			
	D408		00D 276 0401 905	1SS133T			
	D900-903		00D 963 0058 407	IN4007			
	D904		00D 276 0401 905	1SS133T			
	D905		00D 963 0219 709	1N4148W			
	D906-907		00D 963 0058 407	IN4007			
	D911		00D 276 0401 905	1SS133T			
	D912-916		00D 963 0058 407	IN4007			
	D917		00D 963 0219 709	1N4148W			
	D918		00D 963 0058 407	IN4007			
	D919		00D 276 0401 905	1SS133T			
	DZ101		00D 960 0095 500	MTZJ5.1B			
	LED101		00D 963 0227 209	HL-50RDR			*
	LED102-104		00D 963 0227 306	EOL-5UBSCCJ-EG			*
	LED105		00D 963 0227 102	SLR342VC3			*
	OPT300-301		00D 963 0225 104	JST1165-B			*
	Q104-108		00D 960 0111 808	KRC107S			
	Q109		00D 963 0226 802	DTA143EK			*
	Q110		00D 963 0044 301	KTC2875B			
	Q111		00D 960 0111 808	KRC107S			
	Q112-114		00D 963 0044 301	KTC2875B			
	Q300		00D 963 0066 606	KTC3875Y			
	Q301		00D 960 0285 006	KRC104S			

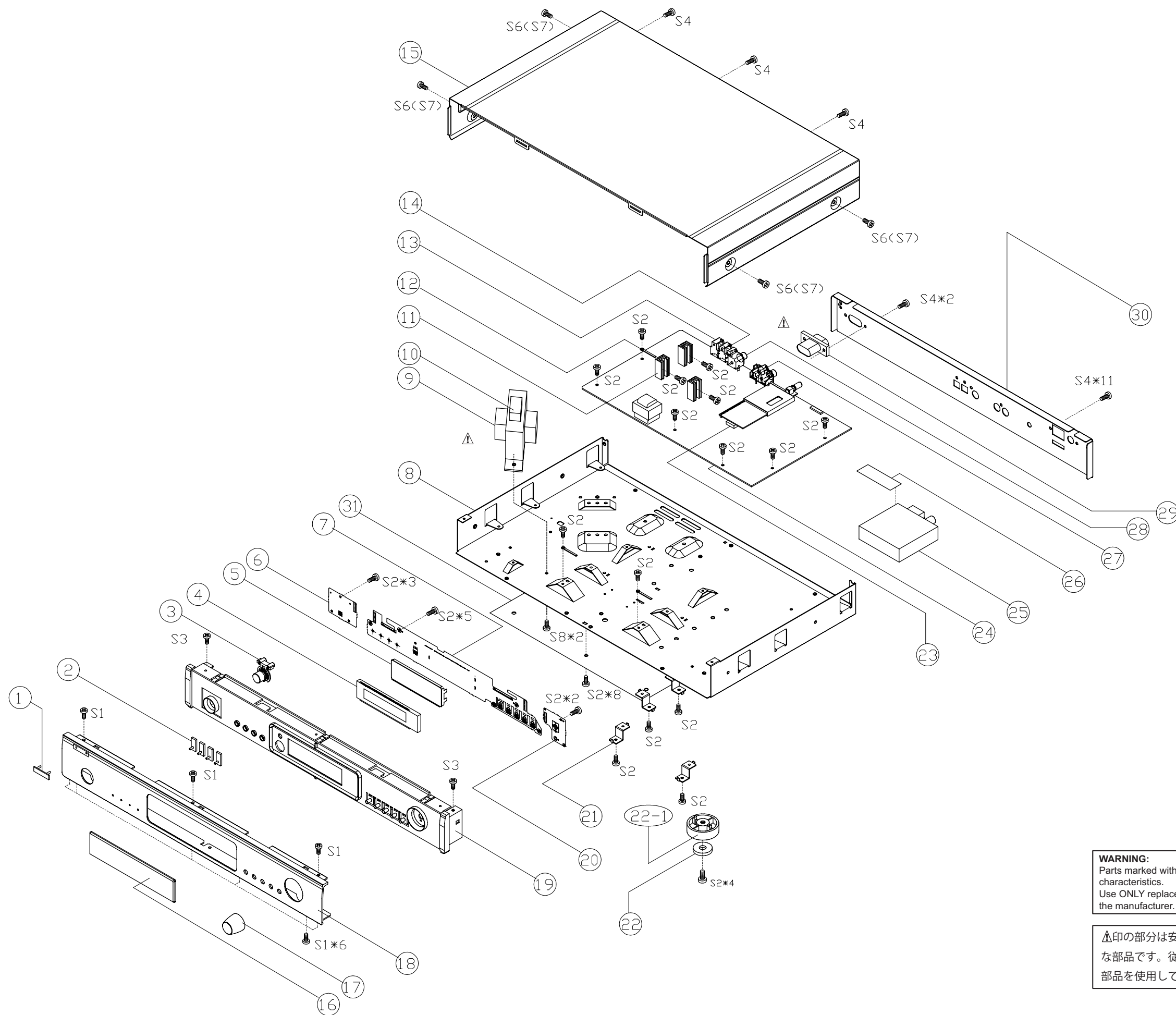
	Ref. No.	nsp	Part No.	Part Name	Remarks	Q'ty	New
	Q306		00D 963 0066 606	KTC3875Y			
	Q307		00D 963 0226 909	KRC114S			*
	Q308		00D 963 0102 803	2SA933S			
	Q309-310		00D 960 0111 808	KRC107S			
	Q311		00D 963 0102 803	2SA933S			
	Q900-901		00D 963 0066 606	KTC3875Y			
	Q902		00D 963 0066 606	KTC3875Y			
	Q909		00D 963 0226 705	KTC1027Y			*
	RMC100		00D 963 0225 405	NJL33H380A			*
	XTAL300		00D 963 0225 201	CSTLS4M00G53-A0			*
	XTAL502		00D 963 0217 604	HC-49U			
	ZD300		00D 963 0047 502	MTZJ3.3B			
	ZD900		00D 960 0132 803	MTZJ4.7B			
	ZD901		00D 963 0046 202	MTZJ18B			
	ZD904		00D 963 0046 202	MTZJ18B			
	FLT100		00D 963 0227 403	FLT 162-SD-10GINK			*
RESISTORS GROUP							
	R901		00D 963 0222 903	R,METAL FILM 22 1W			*
	R903		00D 960 9010 803	R,METAL FILM 68-J,1W			
	VR100		00D 963 0225 502	ENCODER EC11B20D2-ZZZ			*
CAPACITORS GROUP							
	C111	nsp	00D 960 9010 816	C,CERAMIC 0.1UF-Z/50V			
	C113	nsp	00D 960 9009 911	C,ELECT 100UF-M/10V			
	C114	nsp	00D 963 0020 202	C,CERAMIC 0.1UF-Z/50V			
	C115	nsp	00D 960 9009 911	C,ELECT 100UF-M/10V			
	C116	nsp	00D 963 0020 202	C,CERAMIC 0.1UF-Z/50V			
	C117-118	nsp	00D 963 9004 698	C,CERAMIC 0.01UF-K/50V			*
	C119-120		00D 963 0224 309	C,CERAMIC 820PF-K/50V			
	C121	nsp	00D 963 9004 708	C,CERAMIC 0.1UF-K/50V			*
	C123	nsp	00D 963 0223 504	C,CERAMIC 0.047UF-Z/50V			*
	C124	nsp	00D 963 0225 609	C,CERAMIC 0.047UF-Z/50V			*
	C125	nsp	00D 963 0020 202	C,CERAMIC 0.1UF-Z/50V			
	C126	nsp	00D 963 9004 708	C,CERAMIC 0.1UF-K/50V			*
	C127		00D 963 0223 601	C,CERAMIC 100PF-J/50V			*
	C128-130		00D 963 0224 406	C,FILM 0.001UF-J/50V			*
	C131	nsp	00D 254 4573 981	C,ELECT 10UF-M/50V			
	C132	nsp	00D 963 0224 202	C,CERAMIC 0.022UF-K/25V			*
	C133-136		00D 963 0223 601	C,CERAMIC 100PF-J/50V			*
	C137-138		00D 963 0224 105	C,CERAMIC 1000PF-K/50V			*
	C139	nsp	00D 963 0020 202	C,CERAMIC 0.1UF-Z/50V			
	C140-141	nsp	00D 963 0224 202	C,CERAMIC 0.022UF-K/25V			*
	C142-143	nsp	00D 963 9004 708	C,CERAMIC 0.1UF-K/50V			*
	C144		00D 963 0223 407	C,CERAMIC 220PF-J/50V			*
	C145	nsp	00D 963 0223 902	C,CERAMIC 39PF-J/50V			*
	C146-148		00D 963 0223 407	C,CERAMIC 220PF-J/50V			*
	C149	nsp	00D 963 9005 778	C,ELECT 10UF-M/50V			
	C150	nsp	00D 963 9004 698	C,CERAMIC 0.01UF-K/50V			
	C151	nsp	00D 963 9004 708	C,CERAMIC 0.1UF-K/50V			
	C152	nsp	00D 963 9005 794	C,ELECT 100UF-M/16V			
	C153		00D 963 0224 406	C,FILM 0.001UF-J/50V			*
	C154-155	nsp	00D 963 9004 708	C,CERAMIC 0.1UF-K/50V			
	C156	nsp	00D 963 9005 794	C,ELECT 100UF-M/16V			
	C157	nsp	00D 963 9004 708	C,CERAMIC 0.1UF-K/50V			
	C159-161	nsp	00D 254 4573 981	C,ELECT 10UF-M/50V			

	Ref. No.	nsp	Part No.	Part Name	Remarks	Q'ty	New
	C162-163	nsp	00D 960 9010 832	C,ELECT 10UF-M/16V			
	C164	nsp	00D 963 9004 708	C,CERAMIC 0.1UF-K/50V			
	C165	nsp	00D 963 9004 698	C,CERAMIC 0.01UF-K/50V			
	C166	nsp	00D 254 4573 981	C,ELECT 10UF-M/50V			
	C168		00D 963 0144 706	C,FILM 0.01UF-J/50V			
	C169	nsp	00D 963 9004 698	C,CERAMIC 0.01UF-K/50V			
	C170		00D 963 0144 706	C,FILM 0.01UF-J/50V			
	C171-172	nsp	00D 963 9004 698	C,CERAMIC 0.01UF-K/50V			
	C174	nsp	00D 960 9010 832	C,ELECT 10UF-M/16V			
	C176	nsp	00D 963 0223 106	C,CERAMIC 10PF-J/50V			*
	C177	nsp	00D 963 0223 203	C,CERAMIC 33PF-J/50V			*
	C178	nsp	00D 963 0223 106	C,CERAMIC 10PF-J/50V			*
	C179	nsp	00D 963 0223 203	C,CERAMIC 33PF-J/50V			*
	C180		00D 963 0224 008	C,CERAMIC 470PF-J/50V			*
	C181-182	nsp	00D 963 9005 778	C,ELECT 10UF-M/50V			
	C183	nsp	00D 963 9004 698	C,CERAMIC 0.01UF-K/50V			
	C184-185	nsp	00D 254 4573 981	C,ELECT 10UF-M/50V			
	C186	nsp	00D 963 9005 862	C,ELECT 47UF-M/16V			*
	C187		00D 963 0224 008	C,CERAMIC 470PF-J/50V			
	C200	nsp	00D 963 9004 708	C,CERAMIC 0.1UF-K/50V			*
	C201		00D 963 0224 600	C,ELECT 220UF-M/16V			
	C202	nsp	00D 963 9005 927	C,ELECT 0.1UF-M/50V			
	C300		00D 960 0133 501	C,ELECT 2200UF-M/16V			
	C301	nsp	00D 963 9005 794	C,ELECT 100UF-M/16V			
	C302		00D 963 0224 105	C,CERAMIC 1000PF-K/50V			*
	C303	nsp	00D 963 9004 708	C,CERAMIC 0.1UF-K/50V			
	C305	nsp	00D 963 9005 914	C,ELECT 4.7UF-M/50V			
	C306	nsp	00D 963 9004 698	C,CERAMIC 0.01UF-K/50V			
	C307	nsp	00D 963 9005 794	C,ELECT 100UF-M/16V			
	C313	nsp	00D 963 9005 794	C,ELECT 100UF-M/16V			
	C314	nsp	00D 963 9004 698	C,CERAMIC 0.01UF-K/50V			
	C315	nsp	00D 963 9005 927	C,ELECT 0.1UF-M/50V			
	C315	nsp	00D 963 9004 698	C,CERAMIC 0.01UF-K/50V			*
	C316		00D 963 0224 105	C,CERAMIC 1000PF-K/50V			
	C317	nsp	00D 963 9005 927	C,ELECT 0.1UF-M/50V			
	C320	nsp	00D 963 9004 698	C,CERAMIC 0.01UF-K/50V			
	C321-322	nsp	00D 963 9005 927	C,ELECT 0.1UF-M/50V			
	C549	nsp	00D 963 9005 862	C,ELECT 47UF-M/16V			
	C550	nsp	00D 963 9005 927	C,ELECT 0.1UF-M/50V			
	C551		00D 963 9006 146	C,CERAMIC 560PF-J/50V			*
	C552	nsp	00D 963 0224 503	C,ELECT 22UF-M/50V			*
	C559	nsp	00D 963 0223 805	C,CERAMIC 33PF-J/50V			
	C566	nsp	00D 963 0223 805	C,CERAMIC 33PF-J/50V			*
	C567	nsp	00D 963 0223 300	C,CERAMIC 0.001UF-K/50V			*
	C568	nsp	00D 963 9004 698	C,CERAMIC 0.01UF-K/50V			
	C570	nsp	00D 963 9004 698	C,CERAMIC 0.01UF-K/50V			*
	C572		00D 963 0223 708	C,CERAMIC 270PF-J/50V			
	C575-576		00D 963 0223 601	C,CERAMIC 100PF-J/50V			*
	C900-901	nsp	00D 960 0215 801	C,CERAMIC 0.01UF-Z/500V			
	C902		00D 963 0224 804	C,ELECT 3300UF-M/25V			*
	C903	nsp	00D 963 9005 862	C,ELECT 47UF-M/16V			
	C904	nsp	00D 963 0224 105	C,CERAMIC 1000PF-K/50V			*
	C905		00D 963 0183 301	C,ELECT 4700UF-M/25V			
	C906	nsp	00D 963 9005 862	C,ELECT 47UF-M/16V			
	C907		00D 963 9006 191	C,CERAMIC AC13F472MDOA			
	C908	nsp	00D 963 9004 698	C,CERAMIC 0.01UF-K/50V			

	Ref. No.	nsp	Part No.	Part Name	Remarks	Q'ty	New
	C909-913	nsp	00D 960 0215 801	C,CERAMIC 0.01UF-Z/500V			
	C914-915	nsp	00D 963 9004 698	C,CERAMIC 0.01UF-K/50V			
	C916	nsp	00D 963 0224 901	C,ELECT 47UF-M/100V			*
	C917	nsp	00D 963 9005 749	C,ELECT 1UF-M/50V			
	C918	nsp	00D 963 9005 862	C,ELECT 47UF-M/16V			
	C919-920	nsp	00D 963 9004 698	C,CERAMIC 0.01UF-K/50V			
	C922	nsp	00D 963 9005 888	C,ELECT 47UF-M/50V			
	C923	nsp	00D 963 9005 749	C,ELECT 1UF-M/50V			
	C924-925	nsp	00D 963 9004 698	C,CERAMIC 0.01UF-K/50V			
	C926		00D 963 0224 600	C,ELECT 220UF-M/16V			*
	C927	nsp	00D 960 0215 801	C,CERAMIC 0.01UF-Z/500V			
	C928		00D 963 0224 105	C,CERAMIC 1000PF-K/50V			*
	C929	nsp	00D 963 9004 698	C,CERAMIC 0.01UF-K/50V			
	C931		00D 963 0183 301	C,ELECT 4700UF-M/25V			
	C950-951	nsp	00D 963 9005 862	C,ELECT 47UF-M/16V			
	C959		00D 963 0224 707	C,ELECT 2200UF-M/35V			*
	C960		00D 960 0186 406	C,ELECT 470UF-M/35V			
OTHER PARTS GROUP							
	BD104-107	nsp	00D 963 0220 002	BEAD,COIL HB-IT2012-121JT			*
	BEAD100	nsp	00D 963 0126 504	BEAD,COIL BFS 3550R2F			
⚠	FUSE900		00D 963 0228 402	FUSE T200MA /250V			*
	FUSECL1	nsp	00D 960 0005 804	HOLDER,FUSE CLIP			
	FUSECL2	nsp	00D 960 0005 804	HOLDER,FUSE CLIP			
	GND900		00D 963 0221 001	TERMINAL			*
	JACK100		00D 963 0225 803	TER,RCA 2PIN			*
	JACK300		00D 963 0225 706	TER,RCA 1PIN			*
	RELAY100		00D 963 0218 409	RELAY BC3-12 24V 2A			
	RELAY900		00D 963 0225 900	RELAY G5PA-1 DC6V			*
	S101-103		00D 963 0045 708	SW,TACT SKHV10920A			
	S105-107		00D 963 0045 708	SW,TACT SKHV10920A			
⚠	T300		00D 963 0025 207	COIL,CHOKE			*
	T900		00D 963 0222 709	POWER TRANS			*
	TUNER100		00D 963 0225 308	TUNER,DAB			
	CN101	nsp	00D 963 0227 500	CN,WIRE 160MM/11P			*
	CN112	nsp	00D 963 0228 305	CN.FPC 15P			*
	CN200	nsp	00D 963 0227 801	CN,WIRE 70MM/4P			*
	CN301	nsp	00D 963 0227 908	CN,WIRE 70MM/5P			*
	CN900	nsp	00D 960 0128 804	CN.WAFER 6P			
	CP100	nsp	00D 963 0228 208	CN.WAFER 10P			*
	CP101	nsp	00D 963 0060 806	CN.WAFER 11P			
	CP110	nsp	00D 963 0149 303	CN.FPC 15P			
	CP200	nsp	00D 963 0228 101	CN.WAFER 4P			*
	CP901	nsp	00D 960 0123 304	CN.WAFER 3.96MM			
	CP902	nsp	00D 960 0118 908	CN.WAFER 7.92MM			
	*	nsp	00D 963 0018 007	SCREW 3*8 B-TYPE ZNY/BH			
	*	nsp	-	HEAT SINK			
	*	nsp	00D 963 0221 409	HOLDER FLT			*
	*	nsp	00D 963 0227 704	CN,WIRE 310MM/10P			*

EXPLODED VIEWS

TU-1800DAB



WARNING:
Parts marked with this symbol  have critical characteristics.
Use ONLY replacement parts recommended by the manufacturer.

△印の部分は安全を維持するために重要な部品です。従って交換時は必ず指定の部品を使用してください。

PARTS LIST OF EXPLODED VIEW

* 本表に記載されている部品は、補修用部品のため製品に使用している部品とは一部、形状、寸法などが異なる場合があります。

* The parts listed below are for maintenance only, might differ from the parts used in the unit in appearances or dimensions.

* "nsp" 印の部品は常時在庫していませんので供給に長時間を要することがあります。場合によっては、供給をお断りする場合があります。

* Part indicated with the mark "nsp" are not always in stock and possibly to take a long period of time for supplying, or in some case supplying of part may be refused.

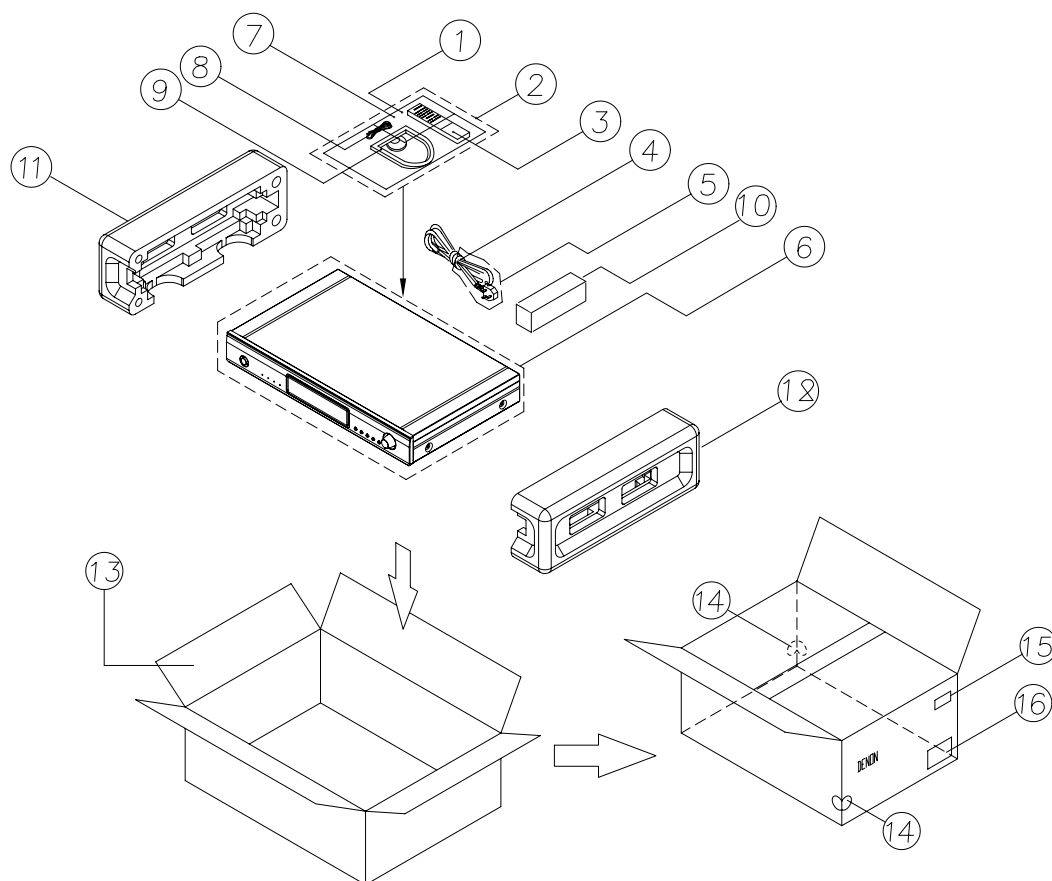
Note: The symbols in the column "Remarks" indicate the following destinations.

SP : Premium Silver Color model

BK : Black Color model

	Ref. No.	nsp	Part No.	Part Name	Remarks	Q'ty	New
	A		00D9630222602	PWB ASS'Y-MAIN			*
	6		-	ONSTAND BY			
	7		-	FRONT			
	20		-	TUNING			
	24		-	MAIN			
	1		00D9630051514	BADGE		1	
	2		00D9630051310	LENS LED		1	
	3		00D9630221904	BUTTON ONSTAND BY	SP model	1	*
	3		00D9630184106	BUTTON ONSTAND BY	BK model		
	4		00D9630227403	FLT			*
	5	nsp	00D9630221409	HOLDER FLT			*
	8	nsp	00D9630220808	MAIN CHASSIS		1	*
	9		00D9630222806	POWER TRANS		1	*
	10	nsp	00D9630221205	CUSHION TRANS			*
	11		-	HEAT SINK TR			
	12	nsp	00D9600244403	CLAMP		3	
	13		00D9630225007	MODULE(JACK RDI)			*
	14		00D9630225007	MODULE(JACK OPT)			*
	15	nsp	00D9630220206	TOP COVER	SP model	1	*
	15	nsp	00D9630220303	TOP COVER	BK model		*
	16		00D9630221603	WINDOW		1	*
	17		00D9630221700	KNOB TUNING	SP model	1	*
	17		00D9630221807	KNOB TUNING	BK model		*
	18		00D9630220400	FRONT PANEL	SP model	1	*
	18		00D9630220507	FRONT PANEL	BK model		*
	19		00D9630220604	FRAME PANEL	SP model	1	*
	19		00D9630220701	FRAME PANEL	BK model		*
	21		-	BRACKET PCB		4	
	22	nsp	00D9630221302	CUSHION FOOT			*
	22-1	nsp	00D9630221108	FOOT		4	*
	23	nsp	00D9600281709	CUSHION DAB			
	25		00D9630145705	TUNER,FM/AM		1	
	26		-	ACETATE CLOTH TAPE (15*60)		1	
	27		00D9630225803	RCA JACK 2PIN			*
	28		00D9630225706	RCA JACK 1PIN			*
	29		00D9630227607	2P AC INLET ASS'Y		1	*
	30	nsp	00D9630220905	BACK PANEL		1	*
	31	nsp	00D9630221506	PLATE BOTTOM			*
	S1	nsp	00D9609008006	SCREW 3*8 B-TYPE BK/FH		9	
	S2	nsp	00D9630018007	SCREW 3*8 B-TYPE ZNY/BH	SP model	37	
	S2	nsp	00D9630018007	SCREW 3*8 B-TYPE ZNY/BH	BK model	29	
	S3	nsp	00D9639004038	SCREW 3*8 B-TYPE ZNY/BH		2	
	S4		00D9630127707	SCREW 3*10 B-TYPE(DOT) BK/BH		16	
	S6		00D9639004012	SCREW 4*8 B-TYPE(DOT) NI/BH	SP model	4	
	S7		00D9630048307	SCREW 4*8 B-TYPE(DOT) NI/BH	BK model	4	
	S8	nsp	00D9609009610	SCREW 4*10 P+S-WASHER ZNY/BH		2	
	*	nsp	00D9630193003	CABLE,FLAT CARD		1	

PACKING VIEW



PARTS LIST OF PACKING & ACCESSORIES

* 本表に記載されている部品は、補修用部品のため製品に使用している部品とは一部、形状、寸法などが異なる場合があります。

* The parts listed below are for maintenance only, might differ from the parts used in the unit in appearances or dimensions.

* "nsp" 印の部品は常時在庫していませんので供給に長時間を要することがあります。場合によっては、供給をお断りする場合があります。

* Part indicated with the mark "nsp" are not always in stock and possibly to take a long period of time for supplying, or in some case supplying of part may be refused.

Note: The symbols in the column "Remarks" indicate the following destinations.

SP : Premium Silver Color model

	Ref. No.	nsp	Part No.	Part Name	Remarks	Q'ty	New
!	1		00D 963 0222 000	INSTRUCTION MANUAL		1	*
	2	nsp	00D 960 0107 809	POLY BAG		1	
	3		00D 963 0220 109	REMOCON RC1013		1	*
	4		00D 963 0228 004	CORD ASS'Y		1	*
	5	nsp	00D 963 0222 505	POLY BAG		1	*
	6	nsp	00D 963 0222 408	PE,SHEET		1	*
	7		-	S.S LIST		1	
	8		00D 963 0158 006	FM ANT.		1	
	9		00D 963 0145 307	AM LOOP ANT.		1	
	10		00D 963 0246 905	ADT-355F DAB TUNER ANT		1	*
	11	nsp	00D 963 0222 301	CUSHION,SNOW L		1	*
	12	nsp	00D 963 0222 204	CUSHION,SNOW R		1	*
	13	nsp	00D 963 0222 107	BOX,GIFT		1	*
	14		-	COLOR LABEL	SP model	2	
	15		-	EK POS LABEL		1	
	16		-	CONTROL LABEL		2	
	*		-	BATTERY, DRY		2	



NOTE FOR SCHEMATIC DIAGRAM

WARNING:

Parts marked with this symbol  have critical characteristics. Use ONLY replacement parts recommended by the manufacturer.

CAUTION:

Before returning the unit to the customer, make sure you make either (1) a leakage current check or (2) a line to chassis resistance check. If the leakage current exceeds 0.5 milliamps, or if the resistance from chassis to either side of the power cord is less than 460 kohms, the unit is defective.

WARNING:

DO NOT return the unit to the customer until the problem is located and corrected.

NOTICE:

ALL RESISTANCE VALUES IN OHM. k=1,000 OHM

M=1,000,000 OHM

ALL CAPACITANCE VALUES IN MICRO FARAD.

P=MICRO-MICRO FARAD

EACH VOLTAGE AND CURRENT ARE MEASURED AT NO SIGNAL INPUT CONDITION.

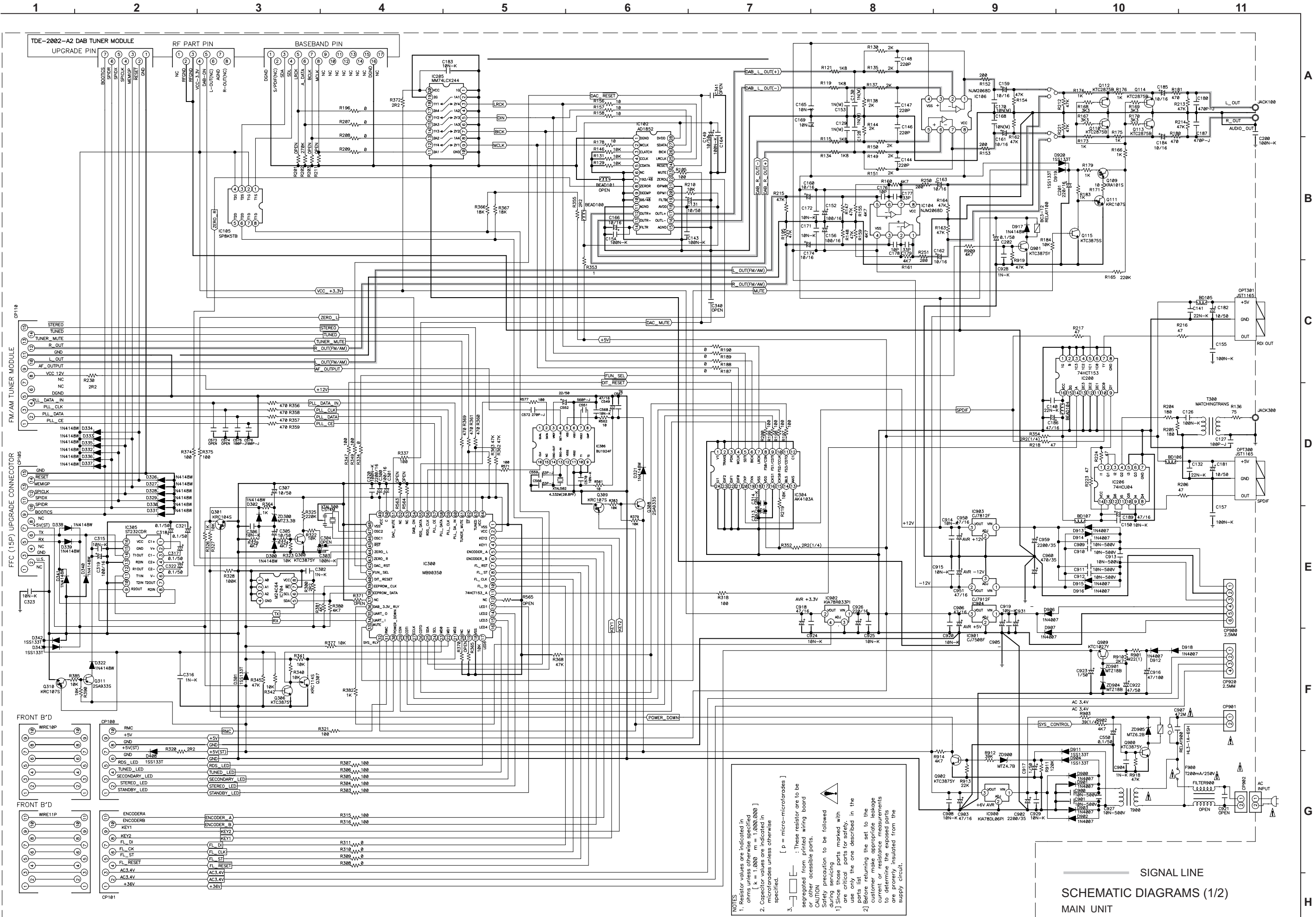
CIRCUIT AND PARTS ARE SUBJECT TO CHANGE WITHOUT PRIOR NOTICE.

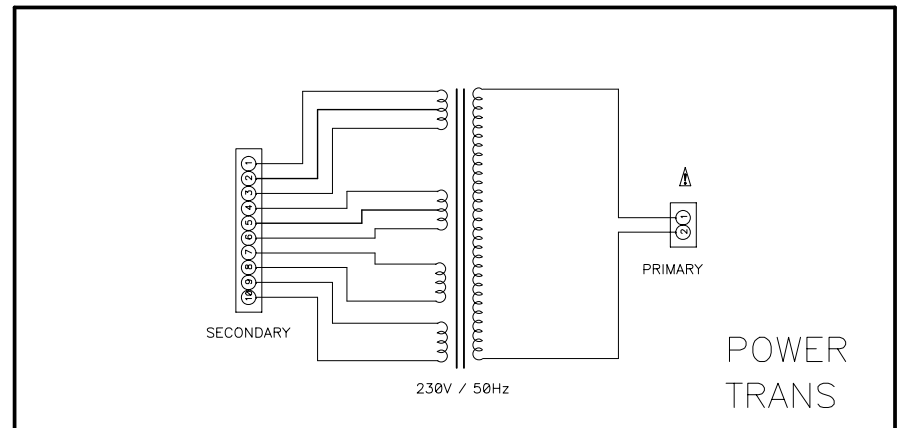
配線図について

 印の部品は安全を維持するために重要な部品です。従って交換時は必ず指定の部品を使用してください。

注)

- (1) 指定なき抵抗値は Ω 、k は $k\Omega$ 、M は $M\Omega$ を示す。
- (2) 指定なきコンデンサーの値は μF 、p は pF を示す。
- (3) 各部の電圧は無信号の値を示す。
- (4) この配線図は基本配線図です。改良等のため変更することがありますのでご了承ください。





DOCUMENTS FOR WEEE

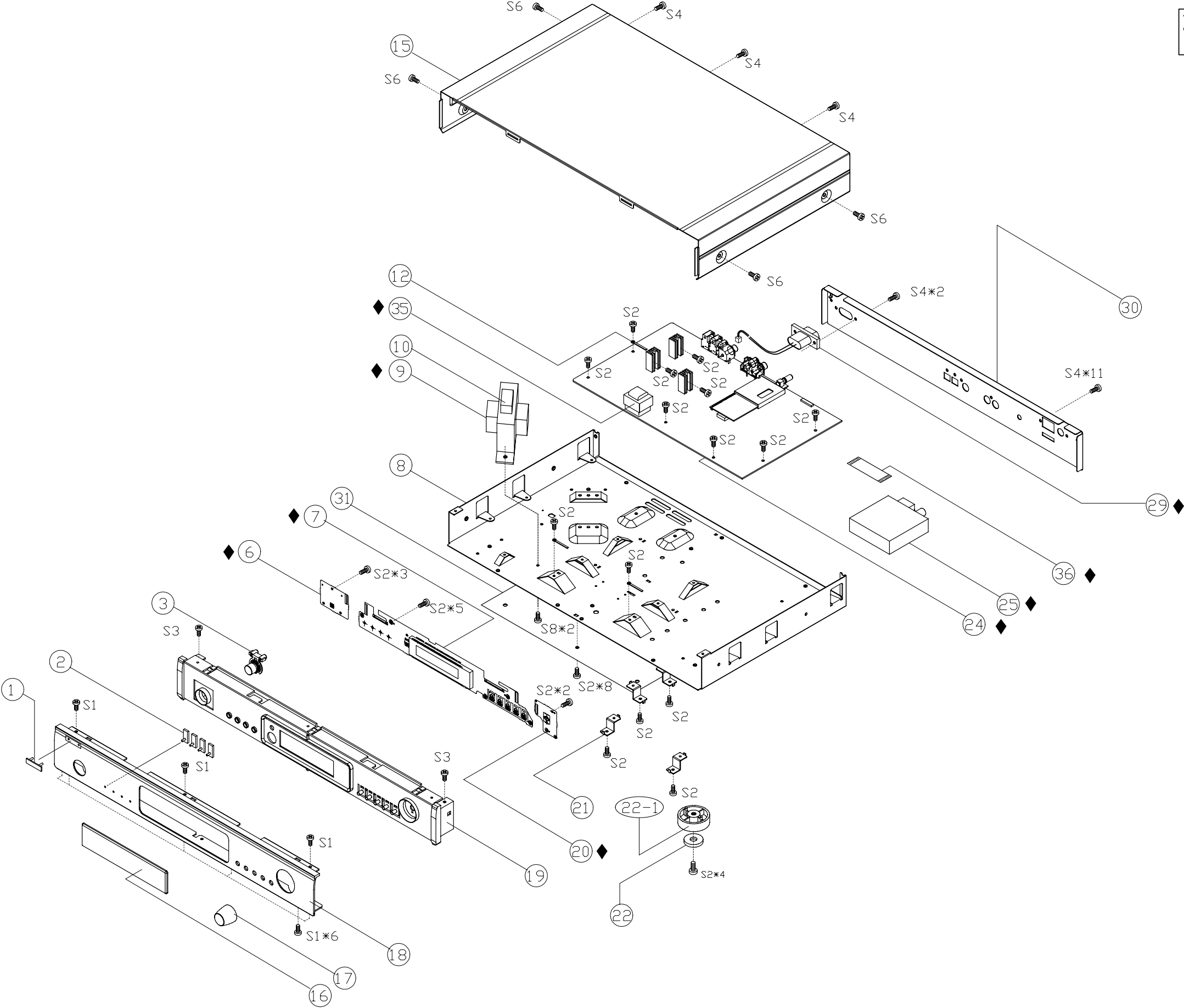
Details of Recycle Parts

* You have to remove the parts that marked "WEEE Mark ◆" when the recycling processing. (Europe model only)

Ref. No.	WEEE Mark	Part Name	Material	Q'ty
1		BADGE	Aluminum	1
2		LENS LED	PMMA	1
3		BUTTON ONSTAND BY	Complex	1
6	◆	ONSTAND BY UNIT	Complex	1
7	◆	FRONT UNIT	Complex	1
8		MAIN CHASSIS	Steel	1
9	◆	POWER TRANS	Complex	1
10		CUSHION TRANS	CR	
12		CLAMP	Complex	3
15		TOP COVER	PVC+Steel	1
16		WINDOW	PMMA	1
17		KNOB TUNING	Complex	1
18		FRONT PANEL	Aluminum	1
19		FRAME PANEL	ABS	1
20	◆	TUNING UNIT	Complex	1
21		BRACKET PCB	Steel	4
22		CUSHION FOOT	CR	4
22-1		FOOT	ABS	4
24	◆	MAIN UNIT	Complex	1
25	◆	TUNER,FM/AM	Complex	1
29	◆	2P AC INLET ASS'Y	Complex	1
30		BACK PANEL	Steel	1
31		PLATE BOTTOM	Steel	1
35	◆	POWER TRANS(MINI)	Complex	1
36	◆	CABLE,FLAT CARD 1.25MM	Complex	1
SCREWS				
S1		SCREW 3*8 B-TYPE BK/FH	Steel	9
S2		SCREW 3*8 B-TYPE ZNY/BH	Steel	37
S3		SCREW 3*8 B-TYPE ZNY/BH	Steel	2
S4		SCREW 3*10 B-TYPE(DOT) BK/BH	Steel	16
S6		SCREW 4*8 B-TYPE(DOT) NI/BH	Steel	4
S8		SCREW 4*10 P+S-WASHER ZNY/BH	Steel	2

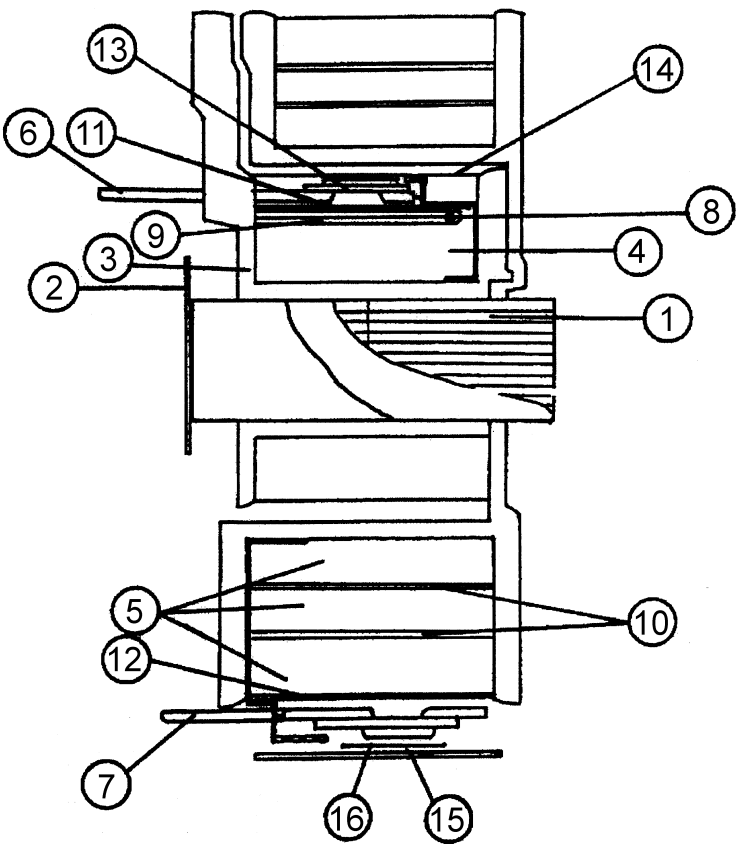
Exploded view of TU-1800DAB

You have to remove the parts that marked
"WEEE mark ♠" when the recycling processing.
(Europe model only)



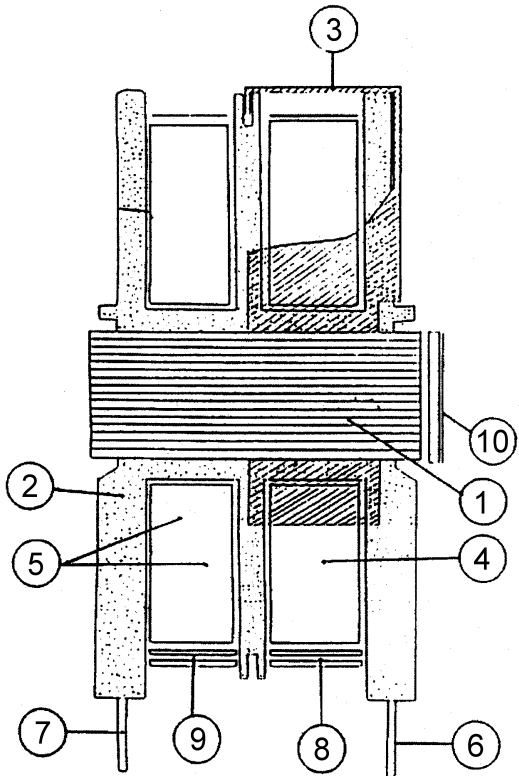
Details of Recycle parts for Power transformer

Part No.9 : POWER TRANS



No.	Material
1	STEEL
2	STEEL
3	PBTP
4	COPPER WIRE
5	COPPER WIRE
6	COPPER ALLOY
7	COPPER ALLOY
8	COMPLEX
9	SR
10	PET
11	PET/PRESS BOARD
12	PET/PRESS BOARD
13	PRESS BOARD
14	PET
15	PET/PRESS BOARD
16	PET

Part No.35 : POWER TRANS



No.	Material
1	STEEL
2	PETP
3	PA
4	COPPER WIRE
5	COPPER WIRE
6	COPPER ALLOY
7	COPPER ALLOY
8	PET
9	PET
10	PET