

# TEAC



## SERVICE MANUAL

# D-70

## Multi D/A Converter

### CONTENTS

1 SPECIFICATIONS .....	2
2 ADJUSTMENTS AND CHECKS .....	3
3 EXPLODED VIEWS AND PARTS LIST .....	5
4 PC BOARDS AND PARTS LIST .....	9
5 INCLUDED ACCESSORIES .....	17

### NOTES

- PC boards shown are viewed from parts side.
- Parts marked with \* require longer delivery time.
- The parts with no reference number or no parts number in the exploded views are not supplied.
- As regards the resistors and capacitors, refer to the circuit diagrams contained in this manual.
- ⚠ Parts marked with this sign are safety critical components. They must be replaced with identical components - refer to the appropriate parts list and ensure exact replacement.
- [ ] Parts of [ ] mark can be used only with the version designated.  
[US]:U.S.A. [C]:CANADA [E]:EUROPE

# 1 SPECIFICATIONS

## Electrical characteristics (at 24bit/44.1kHz input)

Frequency response .....20Hz-20kHz  $\pm 0.3$ dB  
 S/N ratio .....116dB  
 Dynamic range.....108dB  
 THD .....0.0025%  
 Channel separation .....115dB

Valid sampling frequencies (kHz)  
 32, 44.1, 48, 88.2, 96, 176.4, 192 (each  $\pm 1\%$ )  
 Sampling frequencies (kHz) corresponding to de-emphasis  
 32, 44.1, 48

## Input levels

TOS x 3 .....-24 to -14.5dBm peak ( $\lambda$  :700nm typical)  
 SPDIF x 3 .....0.5 Vp-p $\pm 0.1$ V/75 $\Omega$   
 XLR x 2 .....5.0Vp-p $\pm 0.1$ V/110 $\Omega$

## Output levels

Analog outputs  
 RCA x 1 system .....2.20Vrms $\pm 0.1$ V/47k $\Omega$   
 XLR x 1 system .....2.20Vrms $\pm 0.1$ V/600 $\Omega$

Digital output  
 TOS x 1 .....-21 to -15dBm peak

WORD SYNC output  
 BNC x 2 .....TTL / 75 $\Omega$

## General

Power supply .....AC 230V, 50Hz (Europe model)  
 AC 120V, 60Hz (U.S.A./Canada model)  
 AC 220V, 60Hz (Korea model)  
 Power consumption .....26W  
 Dimensions (WxHxD) .....465 x 162 x 369 (mm)  
 Weight.....about 25 kg

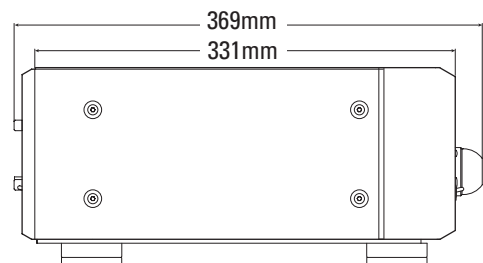
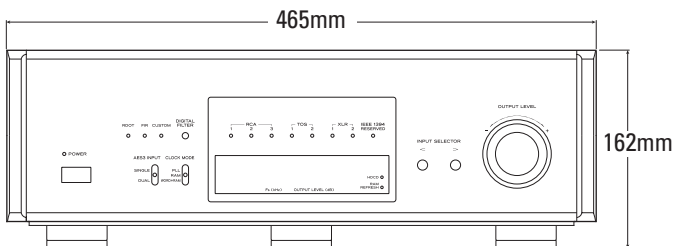
## Remote control unit

Type.....Infrared pulse system  
 Battery .....DC3V (AA batteries, SUM-3 x 2)  
 Dimensions (WxHxD) .....57 x 21 x 216 (mm)  
 Weight.....about 320g (including batteries)

## Accessories

Power cord x 1  
 Remote Control Unit x 1  
 Batteries (AA, SUM-3) x 2  
 Felt x 3  
 Warranty card x 1  
 Owner's manual x 1

Improvements may result in specification or feature changes without notice.



# 2 ADJUSTMENTS AND CHECKS

## 2-1 Test Mode

### 2-1-1 Getting into Test Mode

While holding down the INPUT SELECTOR < and > buttons, power on the unit and hit the DIGITAL FILTER button repeatedly.

### 2-1-2 Version Display

When the test mode is activated, the microcomputer version information, "uComVer X.XX", is displayed. Then, at each press of the INPUT SELECTOR > button, the RDOT version information, "RDOTver XXXX", and the RAM version information, "RAMversionXX", are displayed in sequence.

### 2-1-3 FL Grid Check

After displaying a series of version information, pressing the INPUT SELECTOR > button activates the grid check mode and the display reads "GridChecking". Turn the OUTPUT LEVEL control to check to see that the grids turn off one after another. Continue to turn the OUTPUT LEVEL control to check to see that the grids turn on one after another.

### 2-1-4 FL Segment Check

When the FL grid check is done with, press the INPUT SELECTOR > button to activate the segment check mode. Turn the OUTPUT LEVEL control to check to see that the dot matrix turns on by dot.

### 2-1-5 LED Check

When the FL segment check is done with, press the INPUT SELECTOR > button to activate the LED check mode. The display reads "LEDCHECK RDT". Turn the OUTPUT LEVEL control to check to see that each LED turns on.

### 2-1-6 Resetting EEPROM

When the LED check is done with, press the INPUT SELECTOR > button and "EEPRESET !" is displayed. Press the DIGITAL FILTER button and the display changes to read "EEPSAVE OK" and the ROM is reset.

## 2-2 Audio System

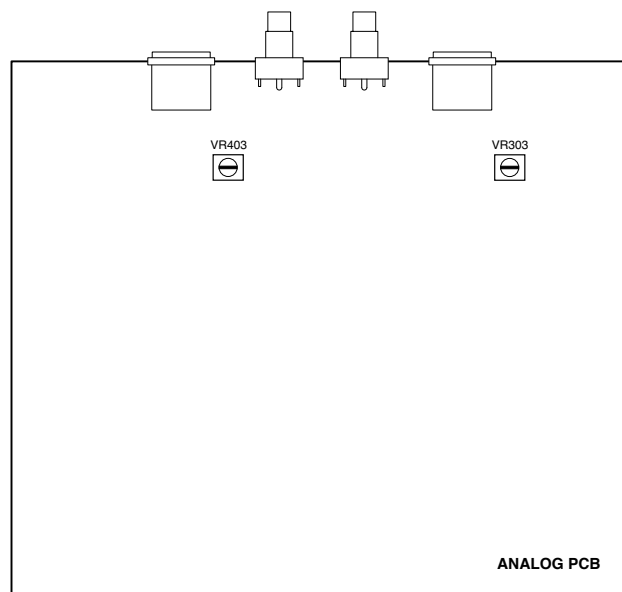
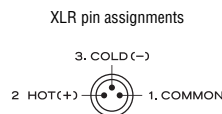
### Setting

CLOCK MODE: PLL  
AES3 INPUT: SINGLE  
DIGITAL FILTER: FIR  
DIGITAL IN: Fs=44.1kHz, FullBit

- If you intend to use a digital output of the P-70 or others for connection to the digital input, use a digital signal that is not unconverted.

### 2-2-1 DC Offset Adjustment

1. Set the OUTPUT SELECT switch on the rear panel to "XLR".
2. Apply a digital signal to the DIGITAL IN and check to see that the input indicator turns on and that a sampling frequency shows in the display. (Check of the lock status.)
3. Turn the OUTPUT LEVEL control counterclockwise, so that the output level is  $-\infty$  (as shown by "....." in the display).
4. Measure the DC offset voltage between pins 2 (+) and 3 (-) of LINE OUT (XLR). Adjust VR303 (L) and VR403 (R) on ANALOG PCB for  $\pm 5\text{mV}$ .



### 2-2-2 Output level check

1. Connect the AC voltmeter to the LINE OUT.
2. Play the track 2 (1kHz, 0dB) of the MCD-111, and check the output level.  
Specifications:  $2.2 \pm 0.2$  Vrms (100k $\Omega$  load, RCA)  
 $4.4 \pm 0.2$  Vrms (100k $\Omega$  load, XLR)

### 2-2-3 Distortion check

1. Connect the distortion meter to the LINE OUT.
2. Play the track 2 (1kHz, 0dB) of the MCD-111, and check the distortion.  
Specification: 0.005% or less (400Hz HPF + 20kHz LPF)

### 2-2-4 Frequency response check

1. Play the track 3-6 (20Hz – 20kHz, 0dB) of the MCD-111, and check that output level are within the specified values with respect to the 1kHz reference level.  
Specifications: 20Hz – 20kHz,  $0 \pm 1$  dB (FIR mode)  
20Hz – 20kHz,  $0 \pm 1$  dB (CUSTOM mode)  
20kHz,  $-3 \pm 1$  dB (RDOT mode)

- The DIGITAL FILTER button cycles through the following modes:



### 2-2-5 S/N check

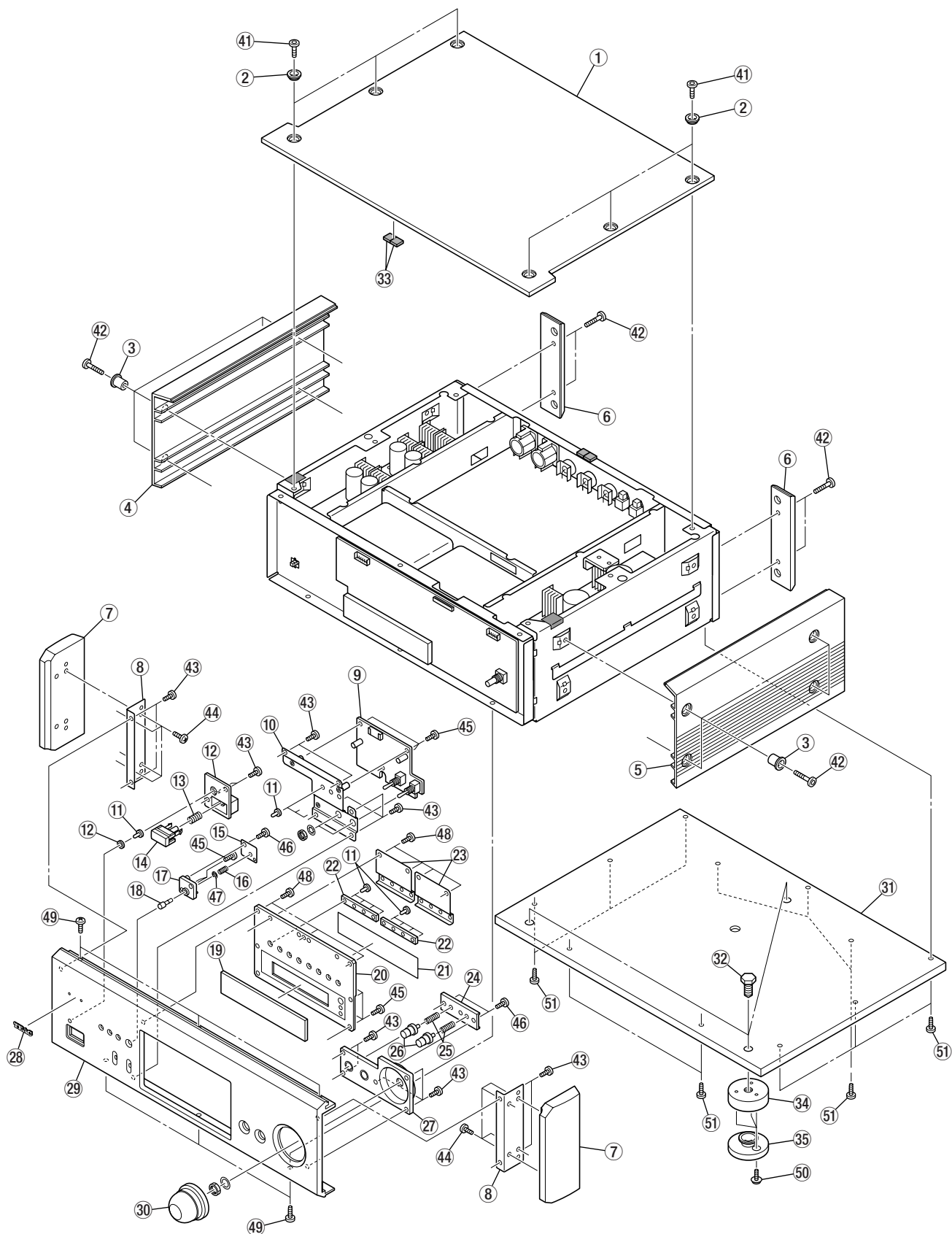
1. Play the track 7 (non-signal) of the MCD-111, and check that noise level are within the specified values with respect to the 1kHz reference level.  
Specification: 100dB or more (IEC-A)

### 2-2-6 Channel separation check

1. Play the track 8 (L:1kHz / R:non-signal) of the MCD-111, and check the leakage from Lch to Rch.
2. In the same way, play the track 10 (R:1kHz / L:non-signal) of the MCD-111, and check the leakage from Rch to Lch.  
Specification: 100dB or more (IEC-A)

# 3 EXPLODED VIEWS AND PARTS LIST

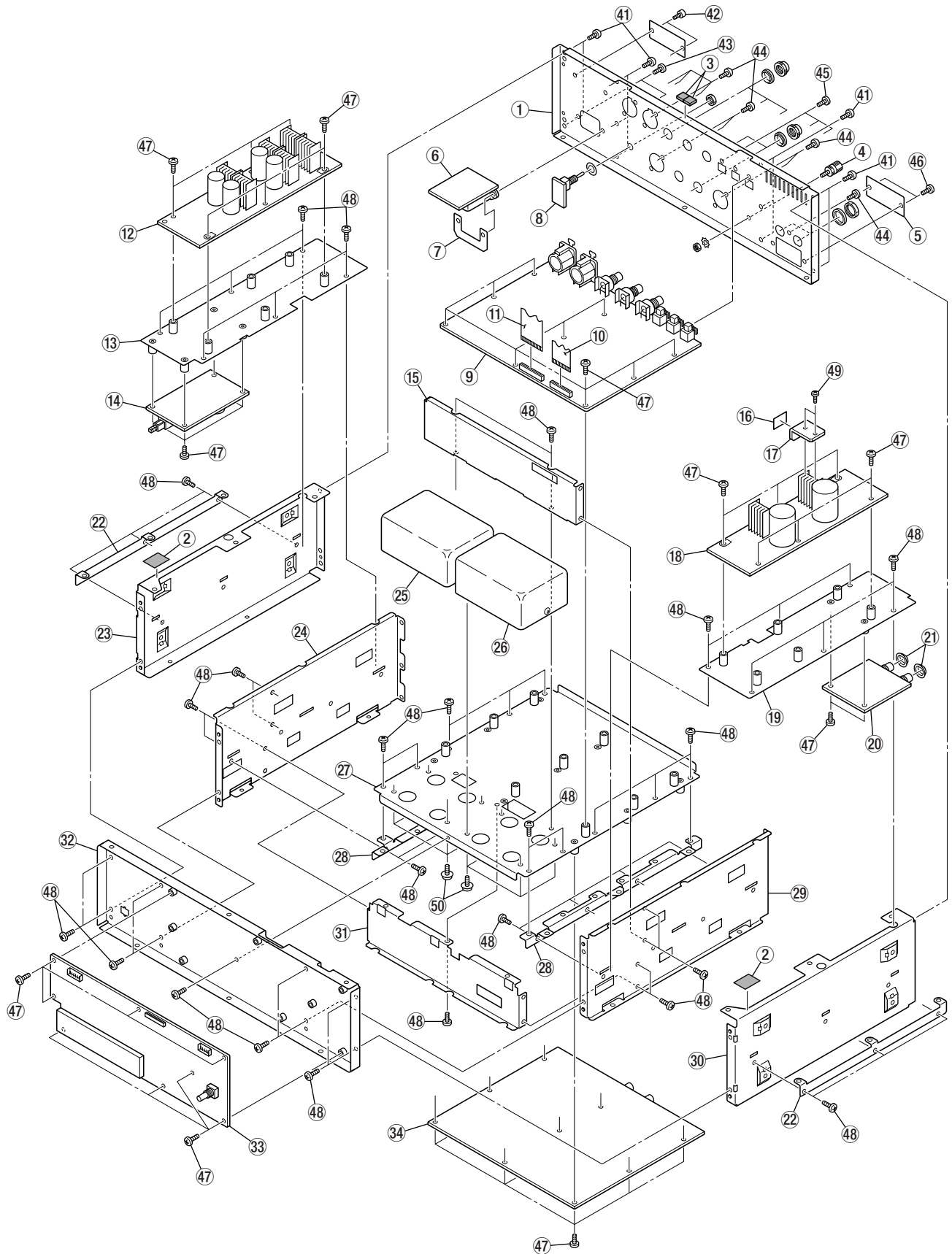
## EXPLODED VIEW-1



## EXPLODED VIEW-1

REF. NO.	PARTS NO.	DESCRIPTION	REMARKS
1- 1	*M00941100A	TOP PANEL	
1- 2	M00260101A	COLLAR, SCREW(S)	
1- 3	M00260100A	COLLAR, SCREW(L)	
1- 4	*M00940501A	SIDE PANEL, L	
1- 5	*M00940601A	SIDE PANEL, R	
1- 6	*M00940800A	END CAP	
1- 7	*M00940700A	FRONT PANEL, CAP	
1- 8	*M00942900A	BRACKET, CAP L	
1- 9	*E95133800A	PCB ASSY, TOGGLED	
1-10	*M01379700A	BRACKET, PCB LED	
1-11	M00481000A	LENS	
1-12	*M00409500A	HOLDER, BUTTON(A)	
1-13	*5801070200	PWR SPR	
1-14	M00941500A	BUTTON ASSY, POWER	
1-15	*M01380700A	PLATE, BUTTON	
1-16	M00701600A	CPRSN SPRING, BUTTON	
1-17	M01379900A	ESCUTCHEON, BTTN	
1-18	M01379800A	BUTTON, D5	
1-19	*M01380800A	COVER, FL	
1-20	*M01378400A	PANEL, SUB	
1-21	*M01254700A	FILTER	
1-22	*M01380300A	SPACER, LENS	
1-23	*M01380200A	HOLDER, LENS	
1-24	*M01380100A	HOLDER, BUTTON	
1-25	*M00404600A	CPRSN SPRING, KNOB	
1-26	M00393102A	BUTTON ASSY, D=8 BR	
1-27	M01380000A	ESCUTCHEON, FRONT	
1-28	*5801533720	NAMEPLATE, TEAC (BLK. BLK)	
1-29	*M01383200A	FRONT PANEL	
1-30	M01380400A	KNOB, D44	
1-31	*M01517901A	CHASSIS, BASE	
1-32	M01494801A	FOOT (A), HEX 21	
1-33	M00689100A	CUSHION, TRAY	
1-34	M01494900A	FOOT (B)	
1-35	M01495000A	STAND, FOOT	
1-41	*5801539500	SCREW, HEXAGON 3X8 BLACK	
1-42	*B00023000A	SCREW, HEXAGON 3X17.5 BLACK	
1-43	*5780023005	SCREW, BPA 3X5 NB	
1-44	*5783033006	SCREW, S-TITE BIND M3X6	
1-45	*5780023006	SCREW, BPA 3X6 NB	
1-46	*5783533008	SCREW, BPB 3X8 NB	
1-47	*5786002500	ERING, E-2.5 (JIS)	
1-48	*5780023008	SCREW, BPA 3X8 NB	
1-49	*B00090900A	SCREW, VPBR 3X8FNB	
1-50	*5783113006	SCREW, ZPAT 3X6 NB	
1-51	*B00091000A	SCREW, VPBR 3X10FNB	

# EXPLODED VIEW-2



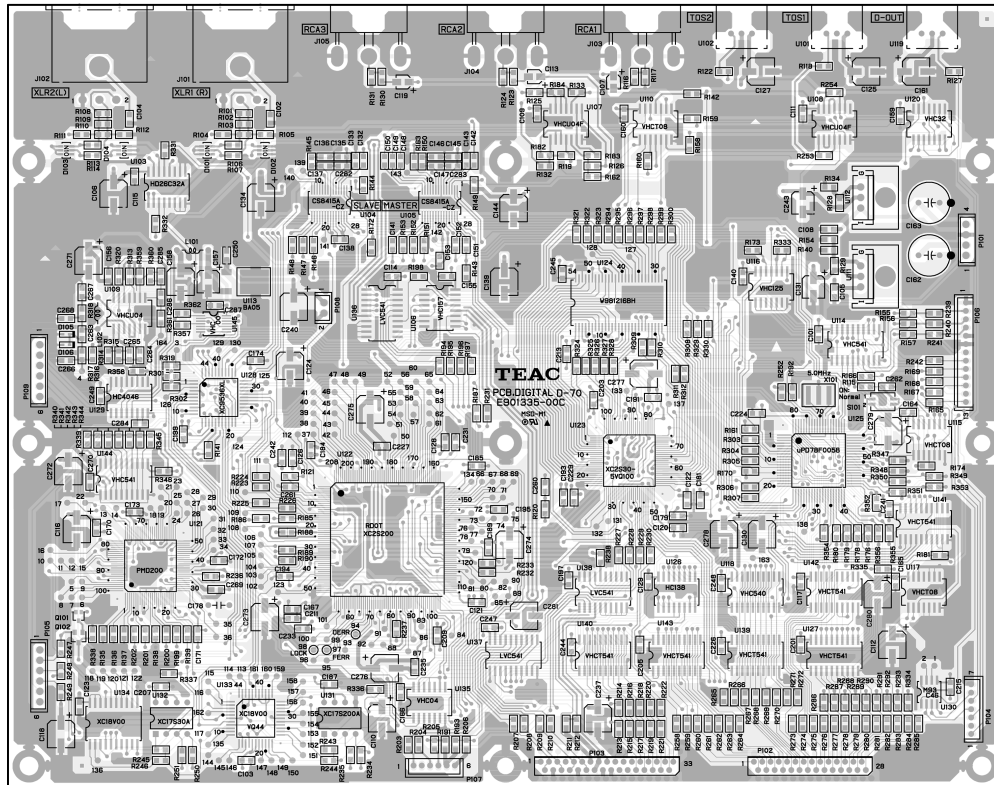
## EXPLODED VIEW-2

REF. NO.	PARTS NO.	DESCRIPTION	REMARKS
2- 1	*M01378500B	REAR PANEL	
2- 2	*M00289000A	SHIELD SHEET	
2- 3	*M00689100A	CUSHION, TRAY	
2- 4	*5332031900	EARTH TERMINAL M3	
2- 5	*M01396100A	COVER, PLATE 1394 RESERVED	
2- 6	*E95134300A	PCB ASSY, INLET	
2- 7	*M00943200A	PLATE, EMI FILTER	
2- 8	E95133900A	PCB ASSY, BAL SW	
2- 9	E95133500A	PCB ASSY, DIGITAL	
2-10	E00699400A	FLAT CABLE, DIGI-FRONT	
2-11	E00699300A	FLAT CABLE, DIGI-ANA	
2-12	E95134100A	PCB ASSY, PWR ANA [US, C]	
	E95134150A	PCB ASSY, PWR ANA [E]	
2-13	*M01379500A	SHIELD PLATE, L	
2-14	E95134200A	PCB ASSY, PWSW	
2-15	*M01379000A	FRAME, B	
2-16	*M00752100A	RUBBER SHEET, IC TO.7	
2-17	*M01431500A	HEATSINK, L	
2-18	E95134000A	PCB ASSY, PWR DIGI [US, C]	
	E95134050A	PCB ASSY, PWR DIGI [E]	
2-19	*M01379600A	SHIELD PLATE, R	
2-20	E95134400A	PCB ASSY, WORD	
2-21	*5730041200	INSULRING, IU-7/16	
2-22	*M01385100A	BRACKET, SHLD PLT	
2-23	*M01378700A	CHASSIS, SIDE L	
2-24	*M01379200A	CHASSIS, CENTER L	
2-25	△ E00690220A	POWER TRANSFORMER, ANALOG [US, C]	
	△ E00690250A	POWER TRANSFORMER, ANALOG [E]	
2-26	△ E00690120A	POWER TRANSFORMER, DIGITAL [US, C]	
	△ E00690150A	POWER TRANSFORMER, DIGITAL [E]	
2-27	*M01385000A	SHIELD PLATE, C ASSY	
2-28	*M01378900A	FRAME, A	
2-29	*M01379300A	CHASSIS, CENTER R	
2-30	*M01378800A	CHASSIS, SIDE R	
2-31	*M01379100A	FRAME, C	
2-32	*M01378600A	CHASSIS, FRONT	
2-33	E95133700A	PCB ASSY, FRONT	
2-34	E95133600A	PCB ASSY, ANALOG	
2-41	*B00091000A	SCREW, VPBR 3X10FNB	
2-42	*5781702606	SCREW, HEXAGON M2. 6X6 (NI)	
2-43	*5730036400	SCREW, CLAW BIND M3X8 (BLK)	
2-44	*5783613008	SCREW, VPCR 3X8 NB	
2-45	*5783543008	SCREW, P-TITE BIND M3X8 NB	
2-46	*5780023008	SCREW, BPA 3X8 NB	
2-47	*5780023006	SCREW, BPA 3X6 NB	
2-48	*5783533008	SCREW, BPB 3X8 NB	
2-49	*5783012006	SCREW, PPB 2X6 ZC	
2-50	*B00100800A	SCREW, PPSB 4X10FZC	



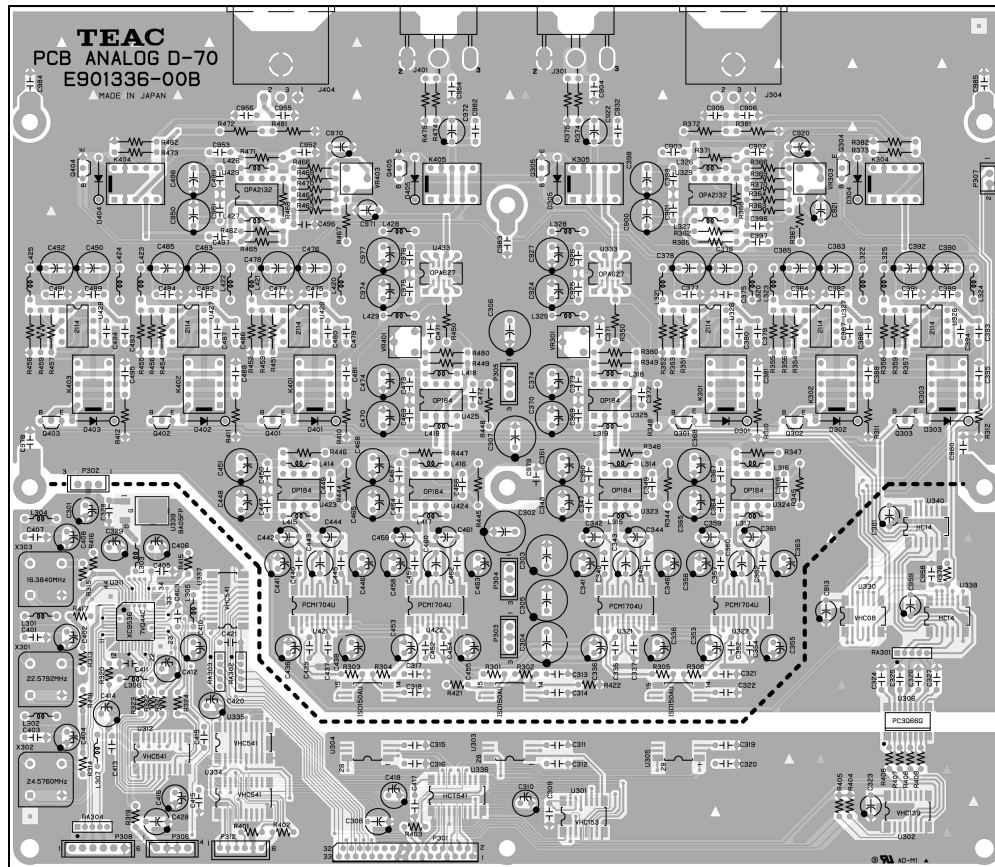
## 4 PC BOARDS AND PARTS LIST

### DIGITAL PCB



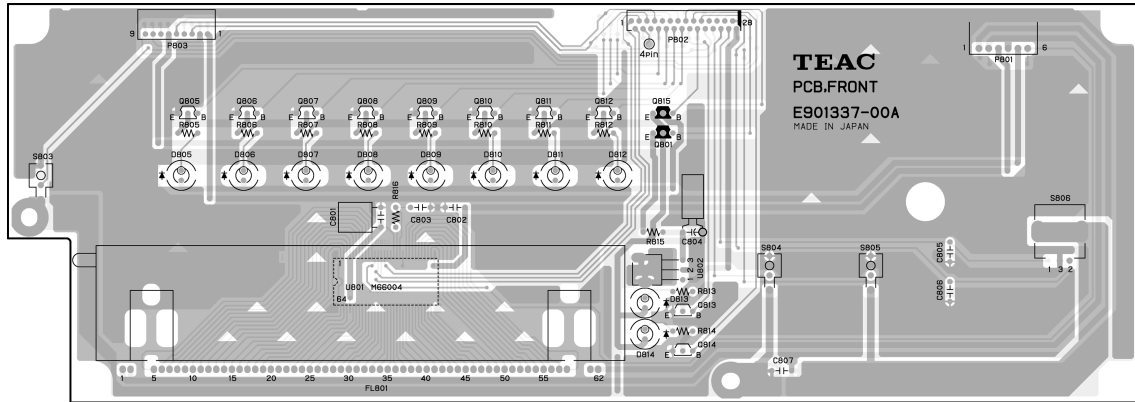
This PCB is a four-layer board.

ANALOG PCB

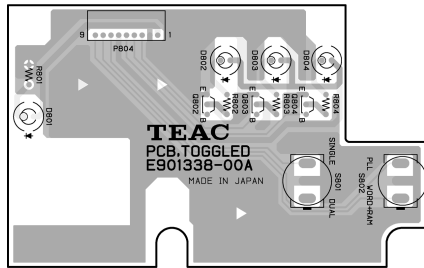


This PCB is a four-layer board.

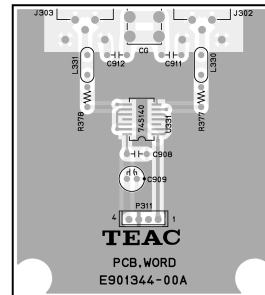
FRONT PCB



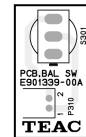
TOGGLED PCB



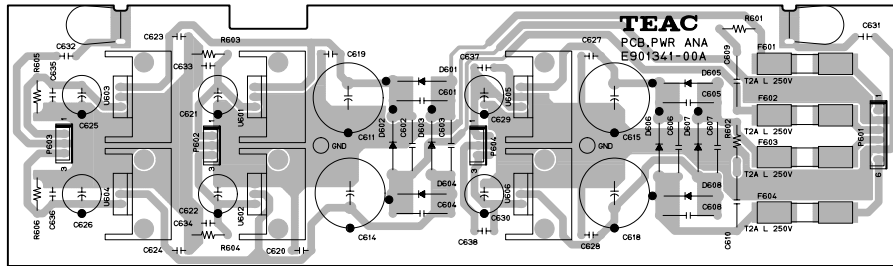
WORD PCB



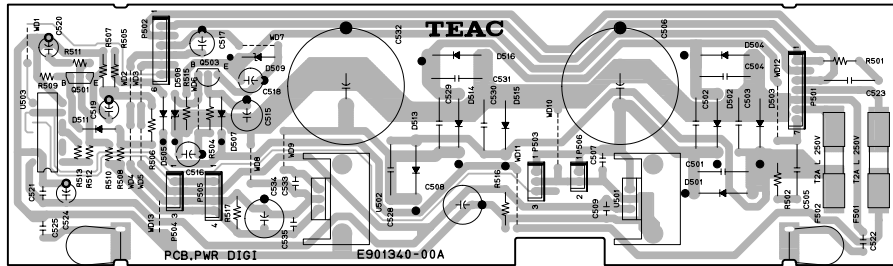
BAL SW PCB



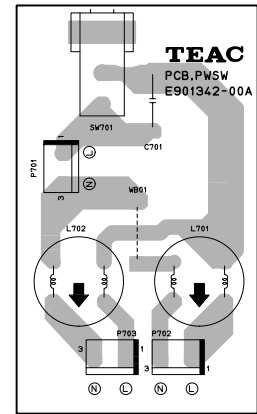
PWR ANA PCB



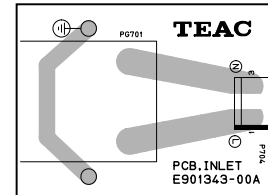
PWR DIGI PCB



PWSW PCB



INLET PCB



## DIGITAL PCB ASSY

REF. NO.	PARTS NO.	DESCRIPTION
	E95133500A	PCB ASSY, DIGITAL
	E90133500C	PCB, DIGITAL
	E0071650	SOCKET, IC30-0803-S4
	*M0052230	HEATSINK, OSH-1525-SP
	*5780023008	SCREW, BPA 3X8 NB
	*5780222606	SCREW, FLAT M2.6X6 NB
C106	C0036264	CE, 47UF 10V M SVP
C107	5260572920	CE, 1.0UF 50V M ECEV
C110	C0036264	CE, 47UF 10V M SVP
C112	C0036264	CE, 47UF 10V M SVP
C113	5260572920	CE, 1.0UF 50V M ECEV
C116	C0036264	CE, 47UF 10V M SVP
C118	C0036264	CE, 47UF 10V M SVP
C119	5260572920	CE, 1.0UF 50V M ECEV
C124, C125	C0036264	CE, 47UF 10V M SVP
C127	C0036264	CE, 47UF 10V M SVP
C130	C0036264	CE, 47UF 10V M SVP
C131	C0030704	CE, 47UF 16V M ECEV
C134	C0036264	CE, 47UF 10V M SVP
C139	C0036264	CE, 47UF 10V M SVP
C144	C0036264	CE, 47UF 10V M SVP
C157	C0030704	CE, 47UF 16V M ECEV
C158	C0036264	CE, 47UF 10V M SVP
C161	C0036264	CE, 47UF 10V M SVP
C237	C0036264	CE, 47UF 10V M SVP
C240	C0025384	CE, 100UF 16V M
C243	C0030704	CE, 47UF 16V M ECEV
C271-C281	C0036264	CE, 47UF 10V M SVP
D101-D104	13411596	DIODE, 1M10
D105	S0035214	DIODE, HVC376B-TRF
J101, J102	*5334078400	CONNECTOR, XLM-3-31PCV
J103-J105	E00353701A	JACK, RCA 1P WHITE NICKING
L101, L102	5286033520	CHC, 4.7UH K(LAP2T)
P101	*5336303400	CONN PLUG, B4B-EH(WHT)
P102	*E0070160	CONNECTOR, FMN 28BTK-A
P103	*E0070170	CONNECTOR, FMN 33BTK-A
P104	*5336249700	CONN PLUG, B07B-PH-K-S W
P105	*5336303600	CONN PLUG, B6B-EH(WHT)
P106	*5336250300	CONN PLUG, B13B-PH-K-S W
P107	*5336249600	CONN PLUG, B06B-PH-K-S W
P108	*5336303200	CONN PLUG, B2B-EH(WHT)
P109	*5336303600	CONN PLUG, B6B-EH(WHT)
Q101	S0022044	TR, DTC114EUA-T106
Q102	S0047644	TR, DTB113EK-T146
S101	E0031064	SW, SLIDE CHS-02TA
U101, U102	S0046390	IC, GP1FA551RZ
U103	S0039444	IC, HD26C32AFPEL
U104, U105	S0049413	IC, CS8415A-CZ
U106	S0019640	IC, TC74VHC157F
U107-U109	S0020700	IC, TC74VHC04F
U110	S0047794	IC, TC74VHCT08AF
U111, U112	△ S0038210	IC, NJM317F
U113	△ S0047403	IC, BA05FP
U114	S0025614	IC, TC74VHCT541AFEL
U115	S0047794	IC, TC74VHCT08AF

## DIGITAL PCB ASSY

REF. NO.	PARTS NO.	DESCRIPTION
U116	S0046423	IC, TC74VHC125F
U117	S0047794	IC, TC74VHCT08AF
U118	5220121000	IC, HD74HC540FPEL
U119	S0046400	IC, GP1FA551TZ
U120	S0027400	IC, TC74VHC32F
U121	S0046433	IC, PMD200
U122	S0046903	IC, XC2S200-5PQ208C
U123	S0046333	IC, XC2S30-5VQ100C
U124	S0046373	IC, W981216BH-8H
U125	S00481500D	IC, MPU D-70 V1.04
U126	5220116400	IC, HD74HC138FP
U127	S0025614	IC, TC74VHCT541AFEL
U128	S00474100A	IC, 512 DIV PLD D-70
U129	5220123500	IC, MC74HC4046AF-FR1
U130	S0033414	IC, M93C46-MN6T
U131	S00464900B	IC, RDOT DF OTPROM
U132	S00465000A	IC, RAM CONTROL OTPROM
U135	S0020334	IC, TC74VHC04
U136	S0037124	IC, TC74LCX541F(EL)
U137	S0025614	IC, TC74VHCT541AFEL
U138	S0037124	IC, TC74LCX541F(EL)
U139-U143	S0025614	IC, TC74VHCT541AFEL
U144	S0020344	IC, TC74VHC541
U145	S0048103	IC, TC74VHC00FT
X101	E0048054	RESONATOR, 5MHZ EFOS

## ANALOG PCB ASSY

REF. NO.	PARTS NO.	DESCRIPTION
	E95133600A	PCB ASSY, ANALOG
	E90133600B	PCB, ANALOG
	*5780222606	SCREW, FLAT M2.6X6 NB
C301	C0007510	CE, 47UF 16V M SA
C308	5260463120	CE, 100UF 16V M AU
C310	C0007510	CE, 47UF 16V M SA
C323	5260462720	CE, 47UF 25V M AU
C329	C0007510	CE, 47UF 16V M SA
C336, C436	C0007510	CE, 47UF 16V M SA
C338, C438	C0007510	CE, 47UF 16V M SA
C341, C441	C0007510	CE, 47UF 16V M SA
C342, C442	5260461820	CE, 22UF 25V M AU
C343, C443	5260463120	CE, 100UF 16V M AU
C344, C444	5260462720	CE, 47UF 25V M AU
C346, C446	C0007510	CE, 47UF 16V M SA
C348, C448	C0035340	CE, 100UF 16V M SA
C351, C451	C0035340	CE, 100UF 16V M SA
C353, C453	C0007510	CE, 47UF 16V M SA
C355, C455	C0007510	CE, 47UF 16V M SA
C358, C458	C0007510	CE, 47UF 16V M SA
C359, C459	5260461820	CE, 22UF 25V M AU
C360, C460	5260463120	CE, 100UF 16V M AU
C361, C461	5260462720	CE, 47UF 25V M AU
C363, C463	C0007510	CE, 47UF 16V M SA
C365, C465	C0035340	CE, 100UF 16V M SA

## ANALOG PCB ASSY

REF. NO.	PARTS NO.	DESCRIPTION
C368, C468	C0035340	CE, 100UF 16V M SA
C370, C470	C0035340	CE, 100UF 16V M SA
C374, C474	C0035340	CE, 100UF 16V M SA
C376, C476	5260463820	CE, 220UF 25V M AU
C378, C478	5260463820	CE, 220UF 25V M AU
C383, C483	5260463820	CE, 220UF 25V M AU
C385, C485	5260463820	CE, 220UF 25V M AU
C390, C490	5260463820	CE, 220UF 25V M AU
C392, C492	5260463820	CE, 220UF 25V M AU
C398, C498	5260463820	CE, 220UF 25V M AU
C402, C404	C0007510	CE, 47UF 16V M SA
C406, C408	C0007510	CE, 47UF 16V M SA
C410, C412	C0007510	CE, 47UF 16V M SA
C414, C416	C0007510	CE, 47UF 16V M SA
C418, C420	C0007510	CE, 47UF 16V M SA
C428	5260463120	CE, 100UF 16V M AU
C900, C950	5260463820	CE, 220UF 25V M AU
C913	5260462720	CE, 47UF 25V M AU
C920, C970	5260461520	CE, 10UF 25V M AU
C921, C971	5260461520	CE, 10UF 25V M AU
C922, C972	C0035340	CE, 100UF 16V M SA
C924, C974	C0035340	CE, 100UF 16V M SA
C927, C977	C0035340	CE, 100UF 16V M SA
C959	5260463120	CE, 100UF 16V M AU
C981	5260462720	CE, 47UF 25V M AU
D301-D305	5224016420	DIODE, S5688G
D401-D405	5224016420	DIODE, S5688G
J301	E00353701A	JACK, RCA 1P WHITE NICKING
J304, J404	5334078800	CONNECTOR, XLM-3-32PCV
J401	E00353801A	JACK, RCA 1P RED NICKING
K301-K305	5290015600	RLY, A-12W-K
K401-K405	5290015600	RLY, A-12W-K
L301-L307	5286033520	CHC, 4. 7UH K (LAP2T)
L314-L329	5286033520	CHC, 4. 7UH K (LAP2T)
L414-L429	5286033520	CHC, 4. 7UH K (LAP2T)
P301	E0070170	CONNECTOR, FMN 33BTK-A
P302	* 5336303300	CONN PLUG, B3B-EH (WHT)
P303	* 5336309300	CONN PLUG, B3B-EH-K (BLK)
P304	* 5336305300	CONN PLUG, B3B-EH-R (RED)
P305	* 5336307300	CONN PLUG, B3B-EH-Y (YEL)
P306	* 5336303400	CONN PLUG, B4B-EH (WHT)
P307	* 5336303200	CONN PLUG, B2B-EH (WHT)
P308	* 5336303600	CONN PLUG, B6B-EH (WHT)
P312	* 5336249600	CONN PLUG, B06B-PH-K-S W
Q301-Q305	5232255620	TR, DTC114ESA
Q401-Q405	5232255620	TR, DTC114ESA
R310-R312	R0108861	RN, 1/4W 8. 2KOHM F
R344, R444	R0108721	RN, 1/4W 2. 2KOHM F
R345, R445	R0108721	RN, 1/4W 2. 2KOHM F
R346, R446	R0108871	RN, 1/4W 9. 1KOHM F
R347, R447	R0108871	RN, 1/4W 9. 1KOHM F
R348, R448	R0108871	RN, 1/4W 9. 1KOHM F
R349, R449	R0108871	RN, 1/4W 9. 1KOHM F
R350, R450	R0108861	RN, 1/4W 8. 2KOHM F
R351, R451	R0108841	RN, 1/4W 6. 8KOHM F

## ANALOG PCB ASSY

REF. NO.	PARTS NO.	DESCRIPTION
R352, R452	R0108841	RN, 1/4W 6. 8KOHM F
R353, R453	R0108811	RN, 1/4W 5. 1KOHM F
R354, R454	R0108841	RN, 1/4W 6. 8KOHM F
R355, R455	R0108841	RN, 1/4W 6. 8KOHM F
R356, R456	R0108811	RN, 1/4W 5. 1KOHM F
R357, R457	R0108841	RN, 1/4W 6. 8KOHM F
R358, R458	R0108841	RN, 1/4W 6. 8KOHM F
R359, R459	R0108811	RN, 1/4W 5. 1KOHM F
R362, R462	R0108641	RN, 1/4W 1. 0KOHM F
R363, R463	R0108641	RN, 1/4W 1. 0KOHM F
R364, R464	R0108641	RN, 1/4W 1. 0KOHM F
R365, R465	R0108641	RN, 1/4W 4. 7KOHM F
R366, R466	R0108801	RN, 1/4W 4. 7KOHM F
R367, R467	R0108801	RN, 1/4W 4. 7KOHM F
R368, R468	R0108641	RN, 1/4W 1. 0KOHM F
R369, R469	R0108641	RN, 1/4W 1. 0KOHM F
R370, R470	R0108641	RN, 1/4W 1. 0KOHM F
R371, R471	R0108641	RN, 1/4W 1. 0KOHM F
R372, R472	R0108561	RN, 1/4W 470 OHM F
R373, R473	R0108561	RN, 1/4W 470 OHM F
R374, R474	R0108561	RN, 1/4W 470 OHM F
R375, R475	R0108631	RN, 1/4W 910 OHM F
R381, R481	R0108631	RN, 1/4W 910 OHM F
R382, R482	R0108631	RN, 1/4W 910 OHM F
R410-R412	R0108861	RN, 1/4W 8. 2KOHM F
RA301-RA304	R0093170	RES ARRAY, RGL4X103J
U301	S0019610	IC, TC74VHC153F
U302	S0024914	IC, TC74VHC139F (EL)
U303-U305	S0046863	IC, ISO150AU
U306	S0047004	IC, PC3066Q
U311	S00472800A	IC, CLOCK PLD D-70
U312	S0020344	IC, TC74VHC541
U321, U421	S0037410	IC, PCM1704U
U322, U422	S0037410	IC, PCM1704U
U323-U325	S0047610	IC, OP184FP
U326-U328	5220448200	IC, NJM2114D
U329, U429	S0025780	IC, OPA2132PA
U330	S0019590	IC, TC74VHC08F
U333, U433	S0049670	IC, OPA627AP
U334	S0020344	IC, TC74VHC541
U335	S0025614	IC, TC74VHCT541AFEL
U336	S0020344	IC, TC74VHC541
U337	S0020344	IC, TC74VHC541
U338	13444936	IC, 74HC14FP
U339	△ S0047403	IC, BA05FP
U340	13444936	IC, 74HC14FP
U423-U425	S0047610	IC, OP184FP
U426-U428	5220448200	IC, NJM2114D
VR303, VR403	5280241000	VR, SEMI-FIXED 4. 7K B
X301	E0071060	CRYSTAL OSC, 22. 5792M HHC
X302	E0070740	CRYSTAL OSC, 24. 576M 50PPM
X303	E0071080	CRYSTAL OSC, 16. 3840M HHC

**FRONT PCB ASSY** Part of GATHER PCB A ASSY

REF. NO.	PARTS NO.	DESCRIPTION
	E95133700A	PCB ASSY, FRONT
	E90133700A	PCB, FRONT
	*M00070302A	SPACER, LED LH-3 L=2
	*M0141680	HOLDER, LED LF-8
	M00070300A	SPACER, LED LH-3 L=6
	M0141690	HOLDER, LED LF-12
	M00539300A	HOLDER ASSY, FL
C804	5260462620	CE, 47UF 16V M AU
D805-D814	S0036900	LED, L-934MBT BLUE
FL801	E00694100A	ELCTR N RAY DSPL
P801	* 13121317	CONNECTOR, S6B-EH
P802	* E0070150	CONNECTOR, FMN 28STK
P803	* 5336287900	CONN PLUG, S9B-PH-K-S W
Q801	5232254720	TR, DTA114ESA
Q805-Q814	5232255620	TR, DTC114ESA
Q815	5232254720	TR, DTA114ESA
S803-S805	5302108600	SW, TACT SKHVBE
S806	E0069030	ENCODER, EC12E2460803
U801	S0018723	IC, M66004FP
U802	S0046410	IC, RPM7138-H4

**TOGGLED PCB ASSY** Part of GATHER PCB A ASSY

REF. NO.	PARTS NO.	DESCRIPTION
	E95133800A	PCB ASSY, TOGGLED
	E90133800A	PCB, TOGGLED
	M00070300A	SPACER, LED LH-3 L=6
	*M0141690	HOLDER, LED LF-12
D801-D804	S0036900	LED, L-934MBT BLUE
P804	* 5336287900	CONN PLUG, S9B-PH-K-S W
Q802-Q804	5232255620	TR, DTC114ESA
S801	13223118	SW, TOGGLE 8A1011
S802	E0022170	SW, TOGGLE 8A1021

**WORD PCB ASSY** Part of GATHER PCB A ASSY

REF. NO.	PARTS NO.	DESCRIPTION
	E95134400A	PCB ASSY, WORD
	E90134400A	PCB, WORD
	* 13180156	TERMINAL
C909	C0007510	CE, 47UF 16V M SA
J302, J303	* E0000760	CONNECTOR, BNC BCJ-FPLHA
L330, L331	14727479	INDUCTOR, FERRITE BEADS
P311	5336303400	CONN PLUG, B4B-EH (WHT)
U331	5220102000	IC, SN74S140NS

**BAL SW PCB ASSY** Part of GATHER PCB A ASSY

REF. NO.	PARTS NO.	DESCRIPTION
	E95133900A	PCB ASSY, BAL SW
	E90133900A	PCB, BAL SW
P310	* 13121313	CONNECTOR, S2B-EH
S301	13223118	SW, TOGGLE 8A1011

**PWR DIGI PCB ASSY** Part of GATHER PCB B ASSY

REF. NO.	PARTS NO.	DESCRIPTION
	E95134000A	PCB ASSY, PWR DIGI [US, C]
	E95134050A	PCB ASSY, PWR DIGI [E]
	E90134000A	PCB, PWR DIGI
	* 5555590000	EARTH PLATE A
	* E0034560	CLIP FUSE, H0446
	* M00350800A	HEATSINK, OSH-2435-SPL
	* 5780023008	SCREW, BPA 3X8 NB
C501-C504	△ 5263341300	C, POLY 100PF 630V G
C505	5263341300	C, POLY 100PF 630V G
C506	△ C0033090	CE, 6800UF 50V M X-PRO
C508	5260531420	CE, 100UF 20V M SA
C515	△ 5260463420	CE, 100UF 50V M AU
C516	△ 5260462920	CE, 47UF 50V M AU
C517, C518	5260462920	CE, 47UF 50V M AU
C519	5260461320	CE, 3.3UF 50V M AU
C520	5260461520	CE, 10UF 25V M AU
C523	5263341300	C, POLY 100PF 630V G
C524	5260462720	CE, 47UF 25V M AU
C528-C531	△ 5263341300	C, POLY 100PF 630V G
C532	△ C0033090	CE, 6800UF 50V M X-PRO
C534	5260531420	CE, 100UF 20V M SA
D501-D504	△ S0015461	DIODE, FE5D
D505	5224016420	DIODE, S5688G
D507	△ 5224016420	DIODE, S5688G
D508	5224592821	ZENER DIODE, RD 33ESB1
D509	5224584921	ZENER DIODE, RD5. 1ESB2
D511	5224016420	DIODE, S5688G
D513-D516	△ S0015461	DIODE, FE5D
F501, F502	△ E0077810	FUSE, 2.0A T-LAG [US, C]
F501, F502	△ E0077630	FUSE, 2.0A T-LAG [E]
P501	* 5336303700	CONN PLUG, B7B-EH (WHT)
P502	* 5336303600	CONN PLUG, B6B-EH (WHT)
P503	* 5336303300	CONN PLUG, B3B-EH (WHT)
P504	* 5336305300	CONN PLUG, B3B-EH-R (RED)
P505	* 5336303400	CONN PLUG, B4B-EH (WHT)
P506	* 5336303200	CONN PLUG, B2B-EH (WHT)
Q501	5230781120	TR, 2SC1740SLN
Q503	△ 5230509100	TR, 2SB562C
R501, R502	R0102351	RN, 1/4W 1.0K OHM FC SN2C
R505	R0102351	RN, 1/4W 1.0K OHM FC SN2C
R506	R0102471	RN, 1/4W 3.3K OHM FC SN2C
R507	R0102511	RN, 1/4W 4.7K OHM FC SN2C
U501, U502	△ S0047390	IC, BA05T
U503	5220051800	IC, TC74HC04AP

**PWR ANA PCB ASSY** Part of GATHER PCB B ASSY

REF. NO.	PARTS NO.	DESCRIPTION
	E95134100A	PCB ASSY, PWR ANA [US, C]
	E95134150A	PCB ASSY, PWR ANA [E]
	E90134100A	PCB, PWR ANA
	*5555590000	EARTH PLATE A
	*E0034560	CLIP FUSE, H0446
	*M00350800A	HEATSINK, OSH-2435-SPL
	*5780023008	SCREW, BPA 3X8 NB
C601-C608	△ 5263341300	C, POLY 100PF 630V G
C609, C610	5263341300	C, POLY 100PF 630V G
C611	△ C0038240	CE, 3900UF 25V M MV-AX
C614, C615	△ C0038240	CE, 3900UF 25V M MV-AX
C618	△ C0038240	CE, 3900UF 25V M MV-AX
C621, C622	5260531420	CE, 100UF 20V M SA
C625, C626	5260531420	CE, 100UF 20V M SA
C629, C630	5260531420	CE, 100UF 20V M SA
D601-D608	△ S0015461	DIODE, FE5D
F601-F604	△ E0077810	FUSE, 2.0A T-LAG [US, C]
F601-F604	△ E0077630	FUSE, 2.0A T-LAG [E]
P601	5336303600	CONN PLUG, B6B-EH(WHT)
P602	5336307300	CONN PLUG, B3B-EH-Y(YEL)
P603	5336305300	CONN PLUG, B3B-EH-R(RED)
P604	5336309300	CONN PLUG, B3B-EH-K(BLK)
R601, R602	R0102351	RN, 1/4W 1.0K OHM FC SN2C
U601	△ 5220454600	IC, LM7812CT
U602	△ 5220454800	IC, LM7912CT
U603, U605	△ 5220454500	IC, LM7805CT
U604, U606	△ 5220454700	IC, LM7905CT

**PWSW PCB ASSY** Part of GATHER PCB B ASSY

REF. NO.	PARTS NO.	DESCRIPTION
	E95134200A	PCB ASSY, PWSW
	E90134200A	PCB, PWSW
C701	△ E0022570	SPK KILLER, 0.0047UF 250V
L701, L702	△ 5292806300	NOISE FILTER, FK0B16MH13
P701-P703	5336376200	CONN PLUG, B2P3-VH
SW701	△ 5300054700	SW, PUSH SDDL1166A

**INLET PCB ASSY** Part of GATHER PCB B ASSY

REF. NO.	PARTS NO.	DESCRIPTION
	E95134300A	PCB ASSY, INLET
	E90134300A	PCB, INLET
P704	5336376200	CONN PLUG, B2P3-VH
PG701	△ 5292813500	EMIFLTR, 06ME3 6A 115/250V

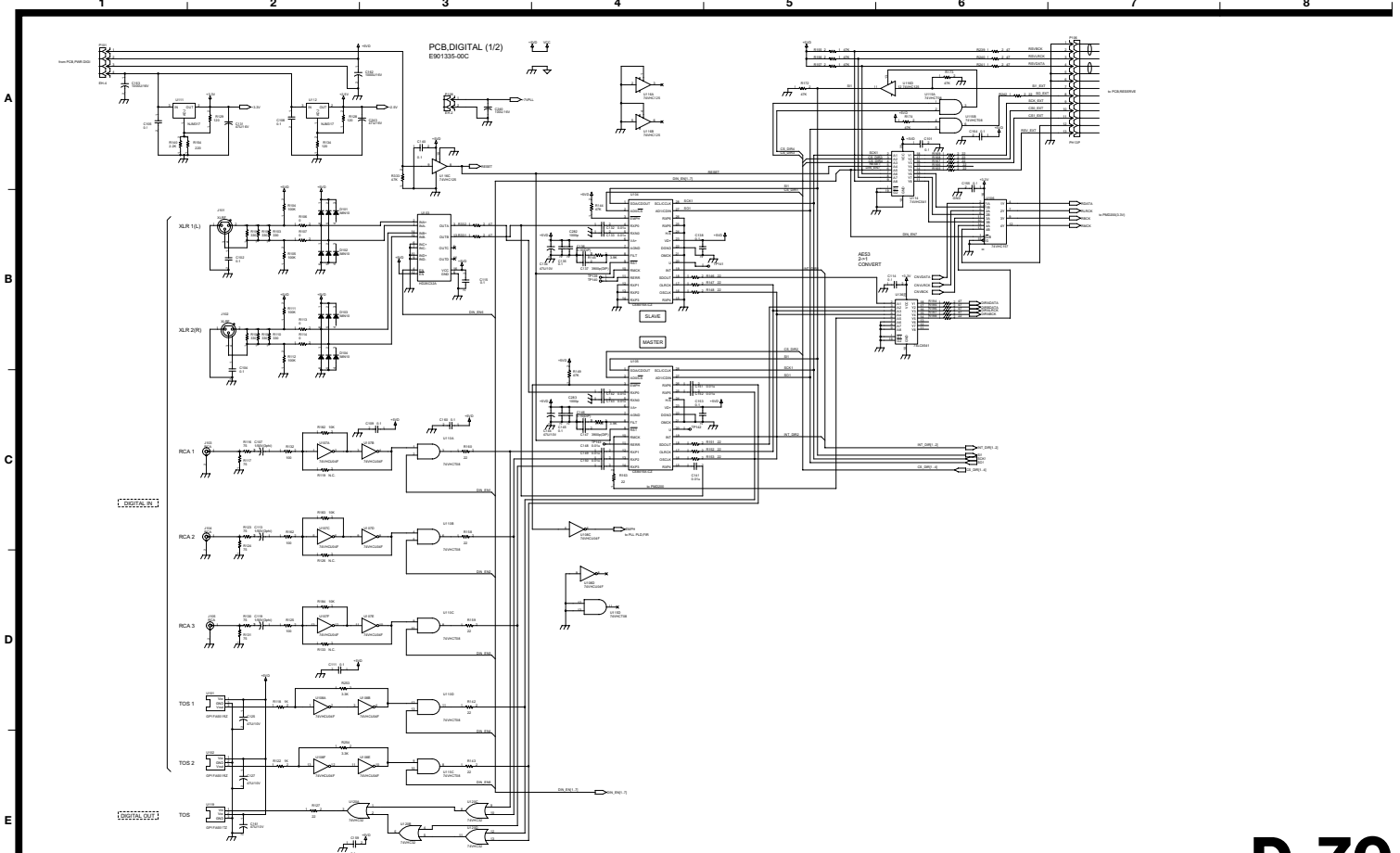


## 5 INCLUDED ACCESSORIES

### INCLUDED ACCESSORIES

REF. NO.	PARTS NO.	DESCRIPTION	REMARKS
	D00712900A	OWNER'S MANUAL, 6MULTI	
	E00699710A	REMOTE CONTROL UNIT, RC-891	
	5347007000	BATTERY, UM-3	
△	5350018800	POWER CORD SET, 3P [US, C]	
△	15922303	POWER CORD SET, 3P [E]	
	*M01499300A	CUSHION, FOOT	

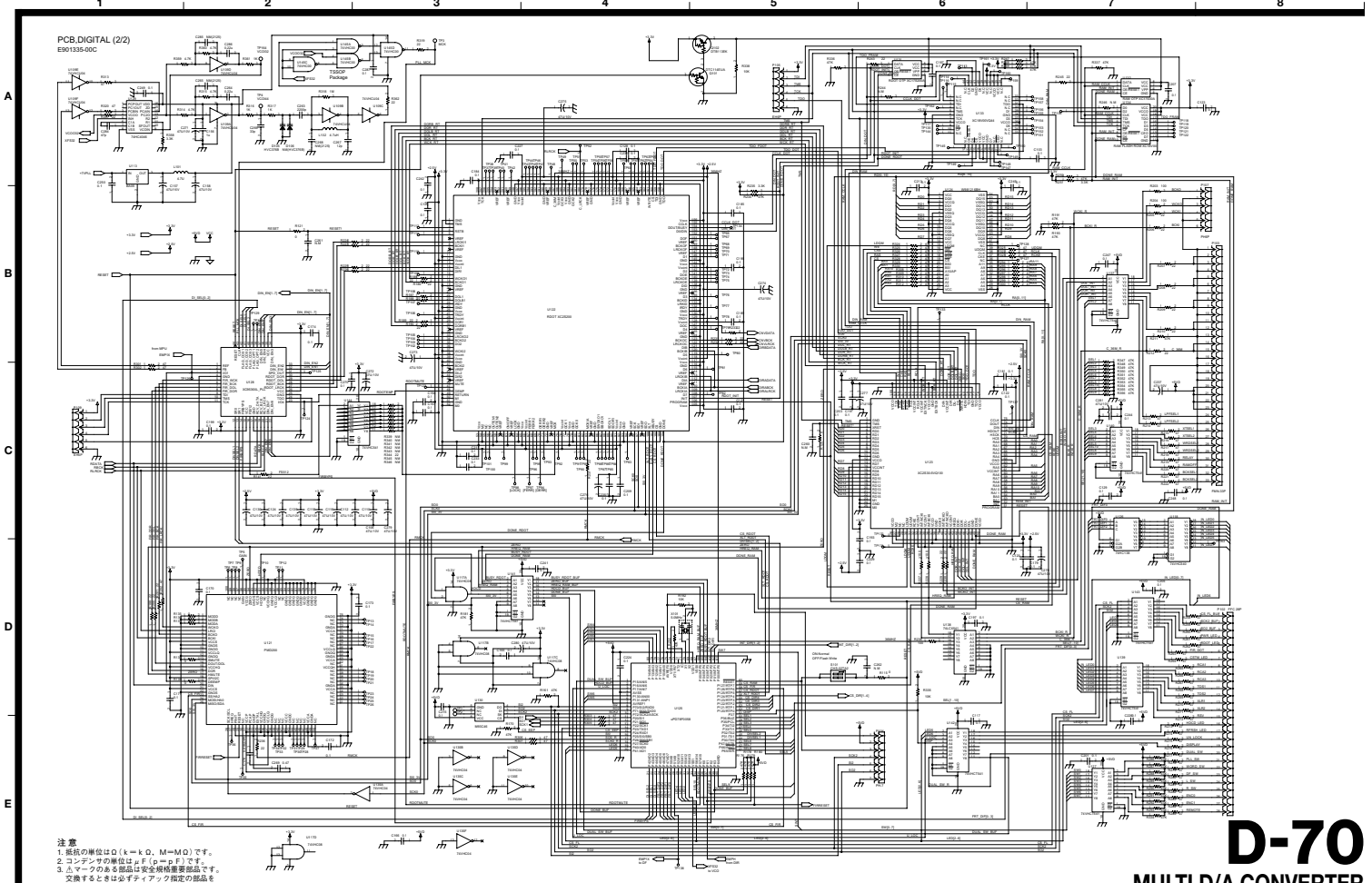
**TEAC** SCHEMATIC DIAGRAM **D-70** DIGITAL PCB (1/2)



注意  
 1. 抵抗の単位はΩ (k=K, M=M) です。  
 2. コンデンサの単位はμF (p=pF) です。  
 3. メーカーのある部品は安全規格準拠部品です。  
 交換するときは必ずデータブック指定の部品を使用してください。

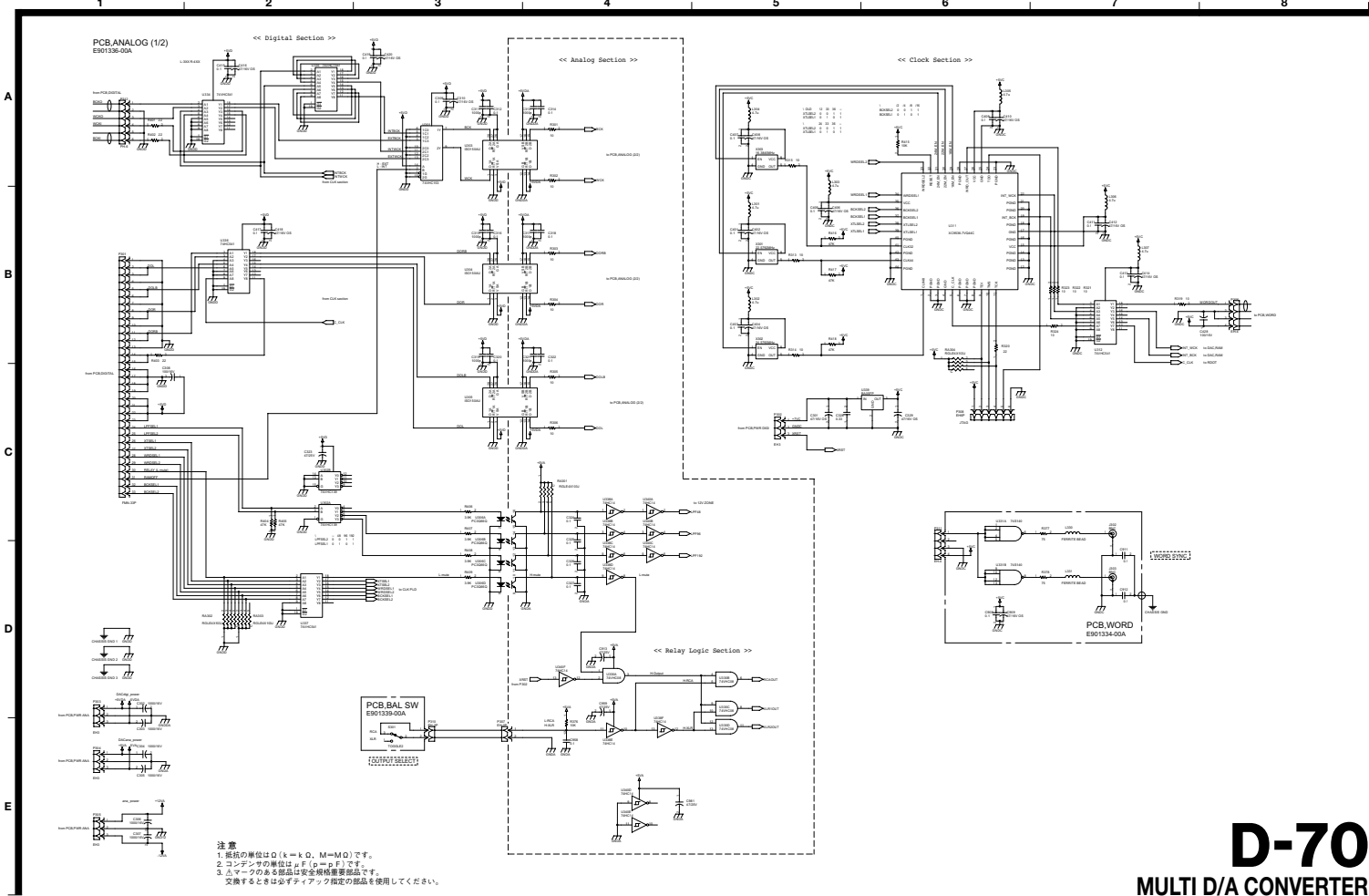
**D-70**  
 MULTI D/A CONVERTER  
 1st Issue; May 2002

**TEAC** SCHEMATIC DIAGRAM **D-70** DIGITAL PCB (2/2)



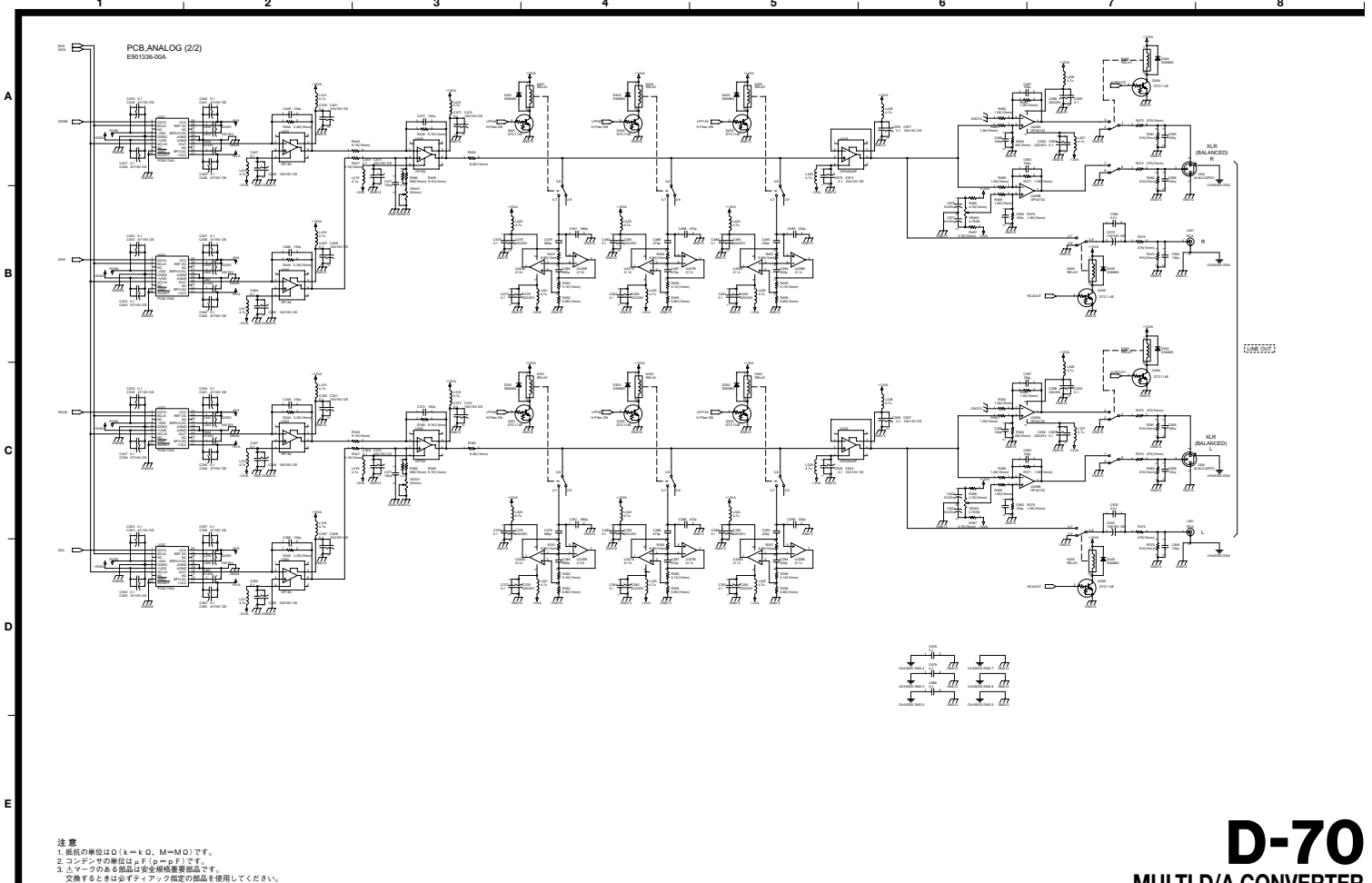
**D-70**  
MULTI D/A CONVERTER  
1st Issue; May 2002

**TEAC** SCHEMATIC DIAGRAM **D-70** ANALOG PCB (1/2), WORD PCB, BAL SW PCB



**D-70**  
**MULTI D/A CONVERTER**  
 1st Issue; May 2002

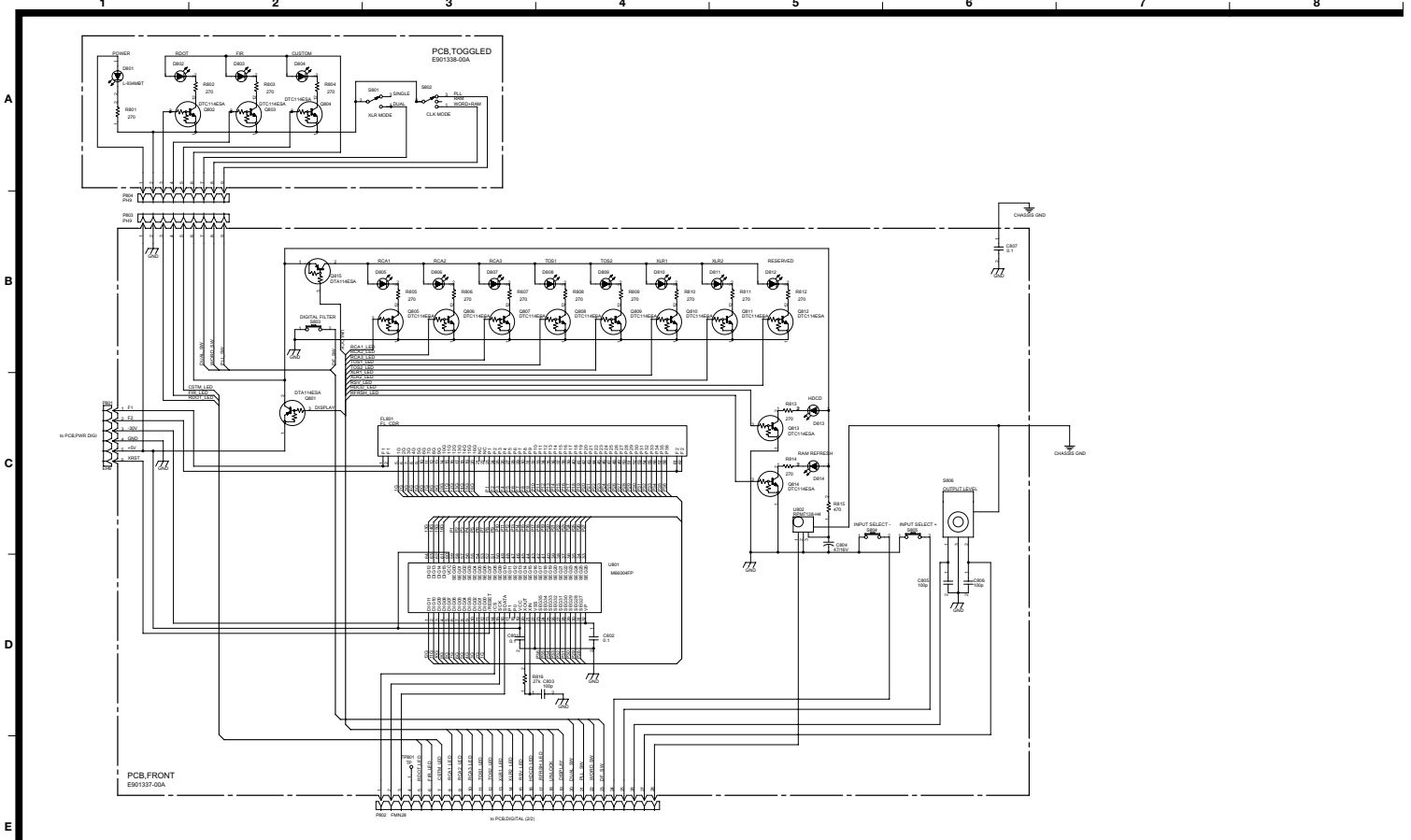
**TEAC** SCHEMATIC DIAGRAM **D-70** ANALOG PCB (2/2)



注意  
 1. 抵抗の単位はΩ (k=千、M=兆) です。  
 2. コンデンサの単位はμF (p=pF) です。  
 3. メーカーのある部品は安全規格準拠部品です。  
 交換するときは必ずデータブック指定の部品を使用してください。

**D-70**  
 MULTI D/A CONVERTER  
 1st Issue; May 2002

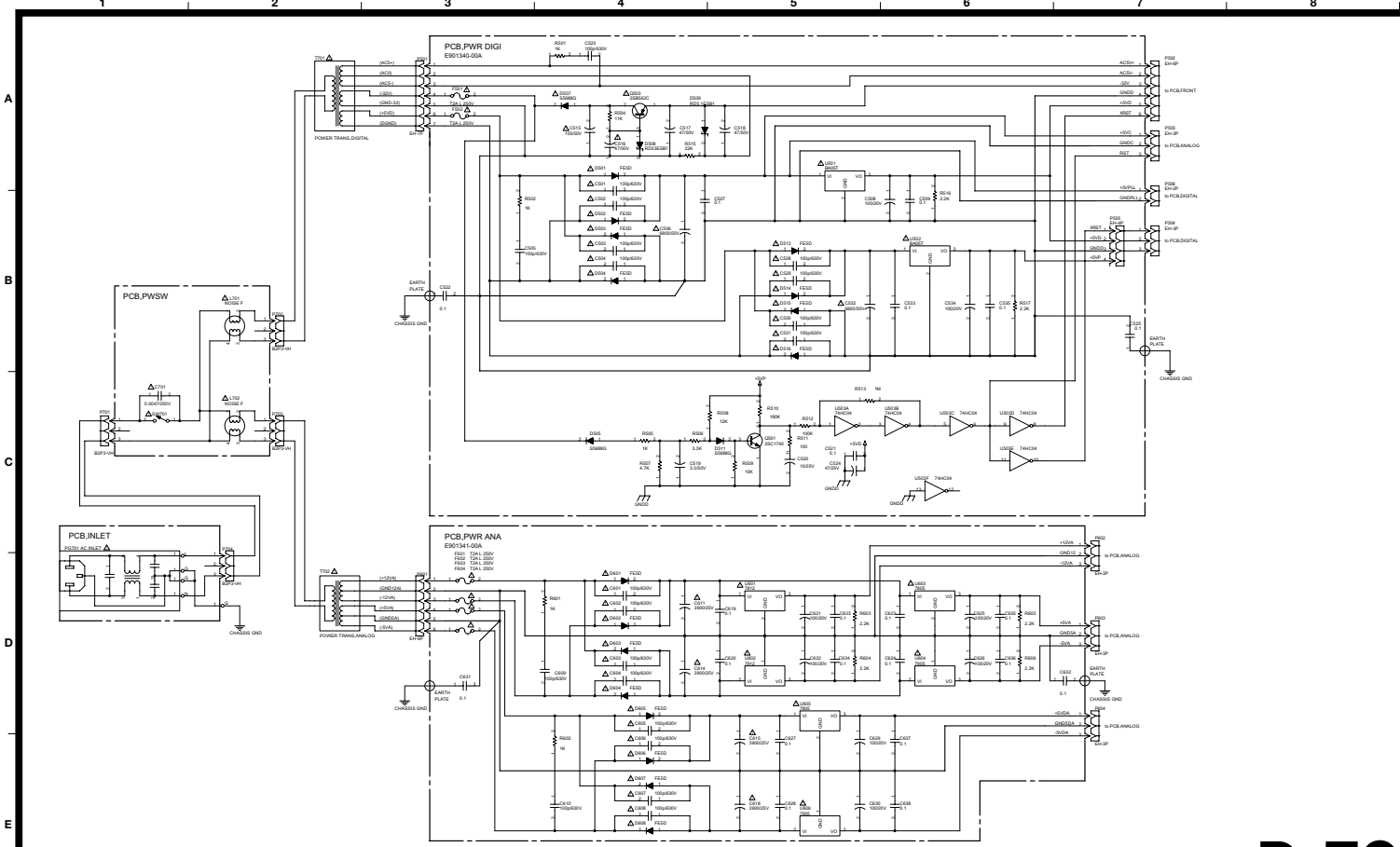
**TEAC** SCHEMATIC DIAGRAM **D-70** TOGGLED PCB, FRONT PCB



注意  
 1. 抵抗の単位はΩ(k=K, M=M)です。  
 2. コンデンサの単位はμF(p=p,F)です。  
 3. メーカーのある部品は安全規格準拠部品です。  
 交換するときは必ずメーカー指定の部品を使用してください。

**D-70**  
**MULTI D/A CONVERTER**  
 1st Issue; May 2002

**TEAC** SCHEMATIC DIAGRAM **D-70** PWR DIGI PCB, PWR ANA PCB, PWSW PCB, INLET PCB



注意  
 1. 抵抗の単位はΩ(k=K, M=M)です。  
 2. コンデンサの単位はμF(p=p,F)です。  
 3. メーカーのある部品は安全規格準拠部品です。  
 交換するときは必ずメーカー指定の部品を使用してください。

**D-70**  
**MULTI D/A CONVERTER**  
 1st Issue; May 2002