

# BOSS BE-5

**GUITAR MULTIPLE EFFECTS**  
5 SPECIAL SELECTED EFFECTS FOR GUITARISTS

## SERVICE NOTES

First Edition

### SPECIFICATIONS

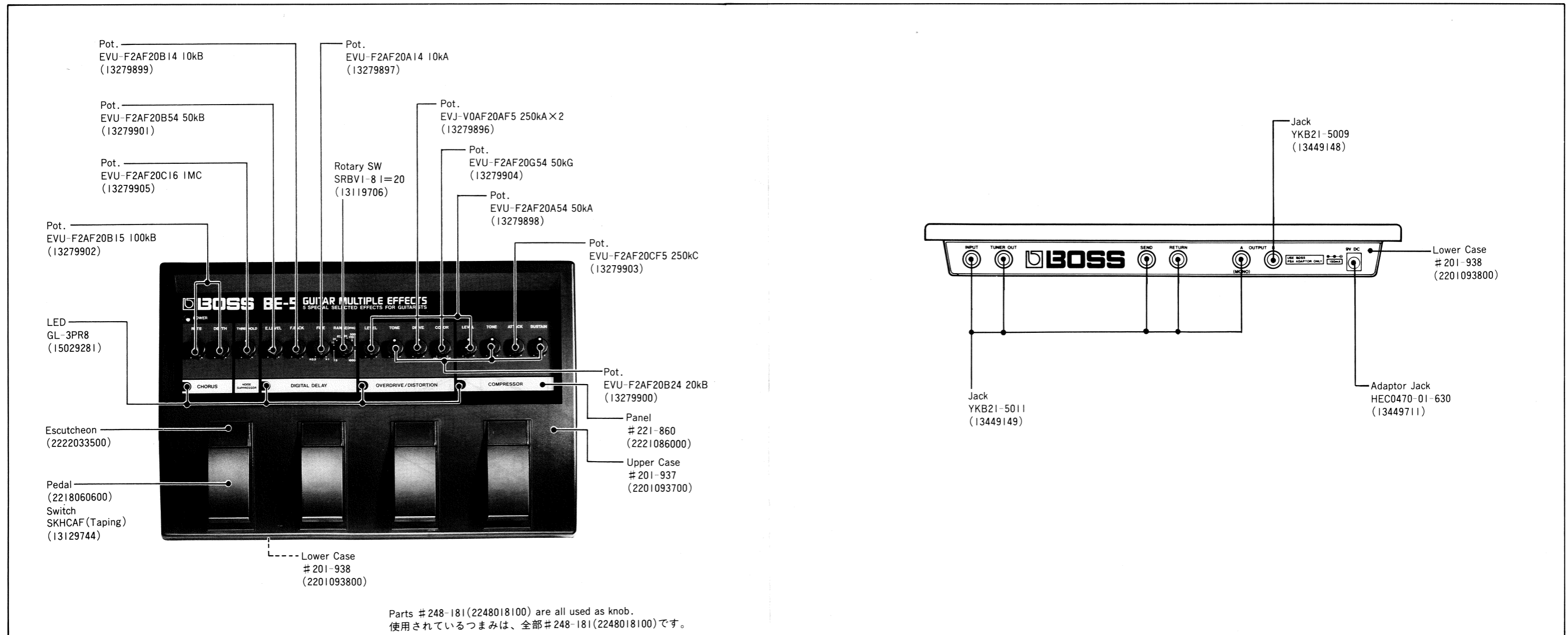
Input Level/Impedance	: -20dBm/1MΩ
Tuner Out	: Output Level: -20dBm
	: Output Impedance: 2kΩ
	: Output Load Impedance: Over 20kΩ
Effect Send	: Output Level: -20dBm
	: Output Impedance: 1kΩ
	: Output Load Impedance: Over 10kΩ
Effect Return	: Input Level: -20dBm
	: Input Impedance: 47kΩ
Built-in Effects	1. Compressor
	2. Overdrive/Distortion
	3. Digital Delay
	4. Noise Suppressor
	5. Chorus

<b>Digital Delay</b>	Analog logarithmic compression and 12bit quantizing system (1000ms:8bit quantizing system)	
	Delay Time	: from 3.8msec to 1000ms
	Frequency Response	: 20Hz to 15kHz(+1, -3dB)
	Residual Noise	: Less than -90dBm (IHF-A)
<b>Chorus</b>	Frequency Response	: 30Hz to 13kHz(+1, -3dB)
	Residual Noise	: Less than -90dBm (IHF-A)
<b>Power</b>	AC Adaptor (PSA Series)	
<b>Current Draw</b>	: 150mA	
<b>Dimensions</b>	: 300(W) × 40(H) × 200(D)mm	
	: 11-13/16x1-9/16x7-7/8 inch	
<b>Weight</b>	: 950g / 21b 2oz	
<b>Accessories</b>	: Owner's Manual	
<b>Options</b>	AC adaptor (PSA Series)	
	Chromatic Tuner	TU-12, TU-12S
	Foot Volume	FV-50L
	Equalizer	GE-7
	Pitch Shifter	PS-2

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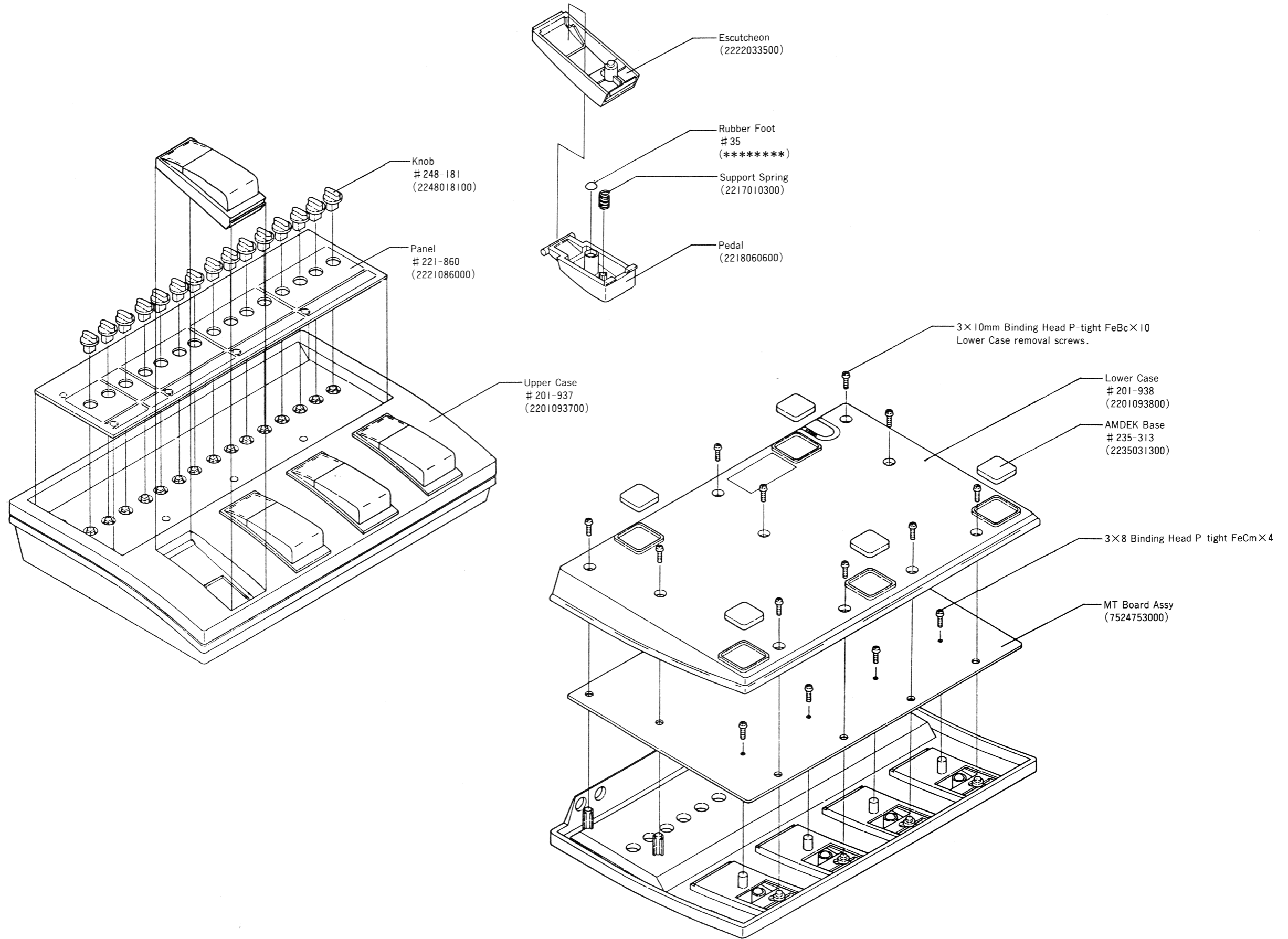


1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40

**EXPLODED VIEW**

分解図

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**PARTS LIST**

**CONSIDERATIONS ON PARTS ORDERING**

When ordering any parts listed in the parts list, please specify the following items in the order sheet.

Ex.	QTY	PART NUMBER	DESCRIPTION	MODEL NUMBER
	10	22575241	Sharp Key	C-20/50
	15	2247017300	Knob (orange)	DAC-15D

Failure to completely fill the above items with correct number and description will result in delayed or even undelivered replacement.

**パーツ発注に関するお願い**

オーダーシートには、必ず下記の4項目は正確に記入して下さい。(例外は除く)

例)	必要数	パーツナンバー	品名	使用機種
	10	22575241	Sharp Key	C-20/50
	15	2247017300	Knob (orange)	DAC-15D

もし記入漏れ、誤記等がある場合、必要部品が発送出来なかったり、大幅な遅れの原因になります。御協力をお願いします。

**PANEL, CASING**

2201093700	BE-5 Upper Case #201-937
2201093800	BE-5 Lower Case #201-938
2221086000	BE-5 Panel #221-860
2218060600	BE-5 Pedal
2222033500	BE-5 Escutcheon
2217010300	Support Spring

**KNOB, BUTTON**

2248018100	BE-5 Knob #248-181
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**SWITCH**

13129744	Tact SW SKHCAF (Taping)
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**JACK, SOCKET**

13449148	YKB21-5009	OUTPUT B
13449149	YKB21-5011	INPUT/TUNER OUT/SEND/RETURN/OUTPUT A
13449711	HEC0470-01-630	Adaptor Jack

**POTENTIOMETER**

13279897	10kA	EVU-F2AF20A14	D.D.:D. TIME
13279899	10kB	EVU-F2AF20B14	D.D.:F. BACK
13279900	20kB	EVU-F2AF20B24	COMP:SUSTAIN, TONE;OD/DIST:TONE
13279898	50kA	EVU-F2AF20A54	COMP:LEVEL;OD/DIST:LEVEL
13279901	50kB	EVU-F2AF20B54	D.D.:E. LEVEL
13279904	50kG	EVU-F2AF20G54	OD/DIST:COLOR
13279902	100kB	EVU-F2AF20B15	CHORUS:DEPTH,RATE
13279903	250kC	EVU-F2AF20CF5	COMP:ATTACK
13279905	1MC	EVU-F2AF20C16	NOISE SUPPRESSOR:THRESHOLD
13279896	250kAx2	EVJ-V0AF20AF5	OD/DIST:DRIVE
13119706	SRBV1-8	1=20 (Rotary SW)	D.D.MODE
13299224	2.2kB	Trimmer (Taping)	RT1
13299225	10kB	Trimmer (Taping)	RT2

**PCB ASSY**

7524753000	MT Board (pcb 2292067800)
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**IC**

15189136	M5218L	IC1,3,4,5,8,9,10,11,12,16,18,26	OP Amp
15189225	NJM072S	IC20	OP Amp
15189224	NJM1458D	IC6	OP Amp
15189190	M5216L	IC22	OP Amp
15189111J1	NJM311D	IC25	Comparator
15219181	M5207L01	IC7	VCA
15159115T1	TC4066BP	IC19	Quad Bilateral Switch
15209114	TC9130P	IC24	
15219124	μPC1252H2	IC2	VCA
15219143	μPC1571C	IC14,17	NR
15219211	MN3207	IC13	BBD
15219210	MN3102	IC15	BBD Driver
15229875	MN51010 RBA BOS-008	IC21	Gate Array
15179359	M5M4464P-12	IC23	D-RAM

**TRANSISTOR**

15129602	2SD667-C		
15119149	2SA1048GR		
15119143	2SA1335GR		
	or 15119111 2SA970GR		
15129179	2SC2458GR		
	or 15129144 2SC2458GR		
15129178	2SC3378GR		
	or 15129120 2SC2240GR		
15129203	RN1211		Digital TR
15199109J0	NJM78L05		
15139123	2SK184GR		FET
	or 15139106 2SK117GR		

**DIODE, LED, PHOTO COUPLER**

15029281	LED GL-3PR8	RED
15019209T0	S5500G	
15019122	1S188FM	
15019125	1SS133	
15019420	RD3.0ESB2 (Taping)	Zener

**RESISTOR**

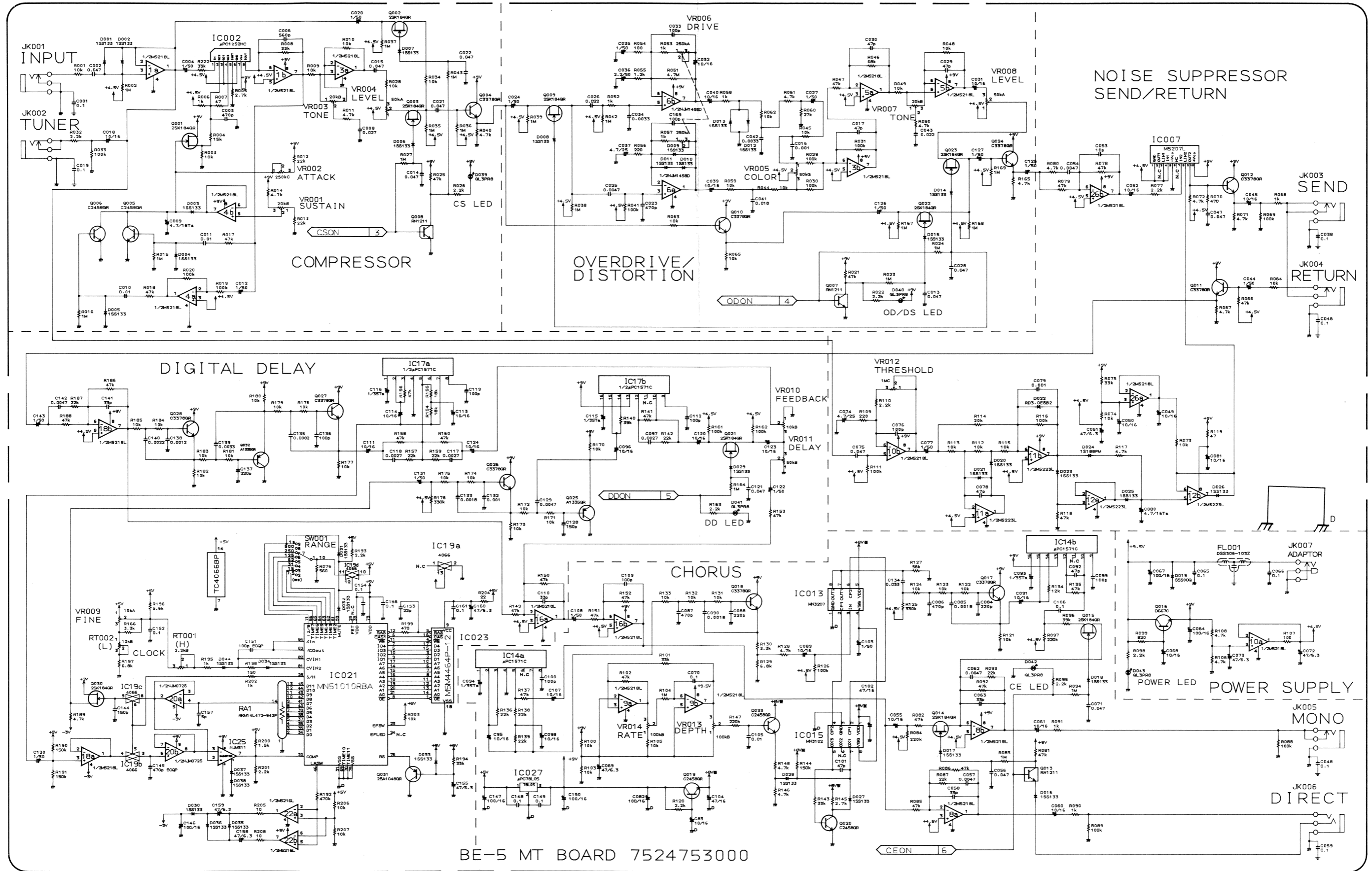
13919175	RKM14L472-942F	R-2R Ladder
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**MISCELLANEOUS**

2235031300	AMDEK Base #235-313	
13529145	DSS306-55FZ103N	EMI Filter
2217010300	Support Spring	
*****	Rubber Foot #35	

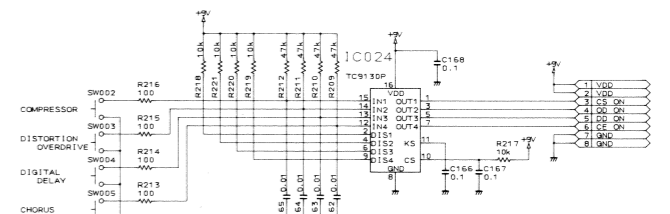
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40

CIRCUIT DIAGRAM



BE-5 MT BOARD 7524753000

Voltage 電圧	+4.5V	+5V	+8V※	+9V	-3V	Analog Earth アナログ アース	Digital Earth デジタル アース
Symbol	↑	↑	↑	↑	↓	⏏	⏏ D
記号	↑	↑	↑	↑	↓	⏏	⏏ D

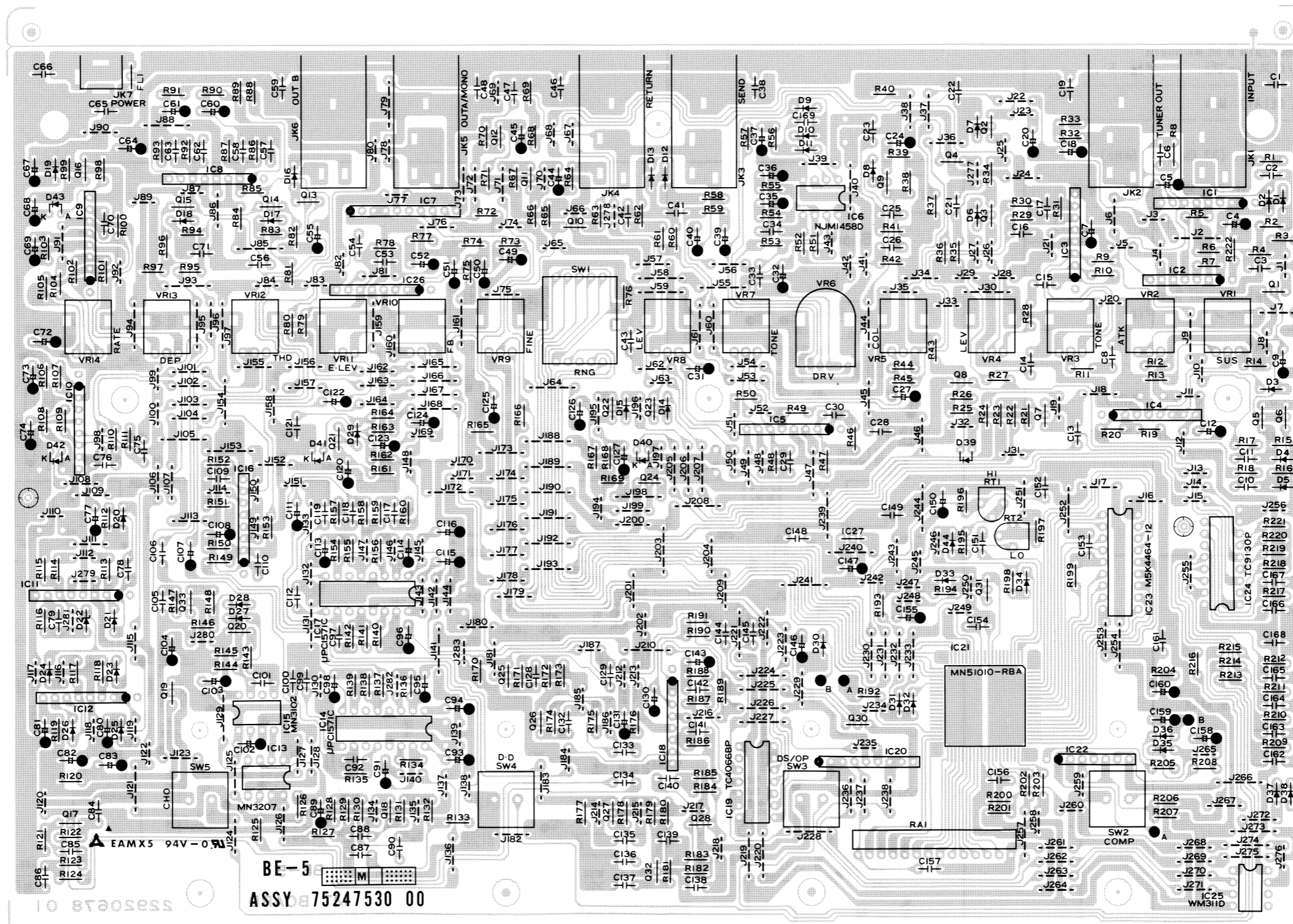


1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40

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# MT BOARD

Assy 752475300  
(pcb 2292067801)



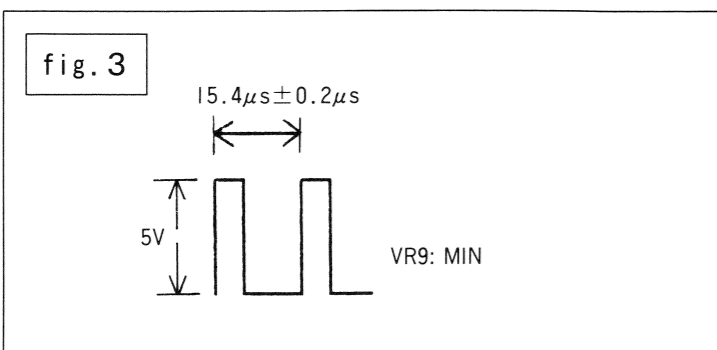
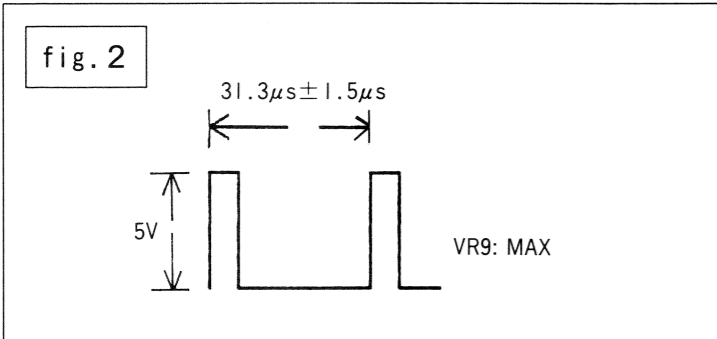
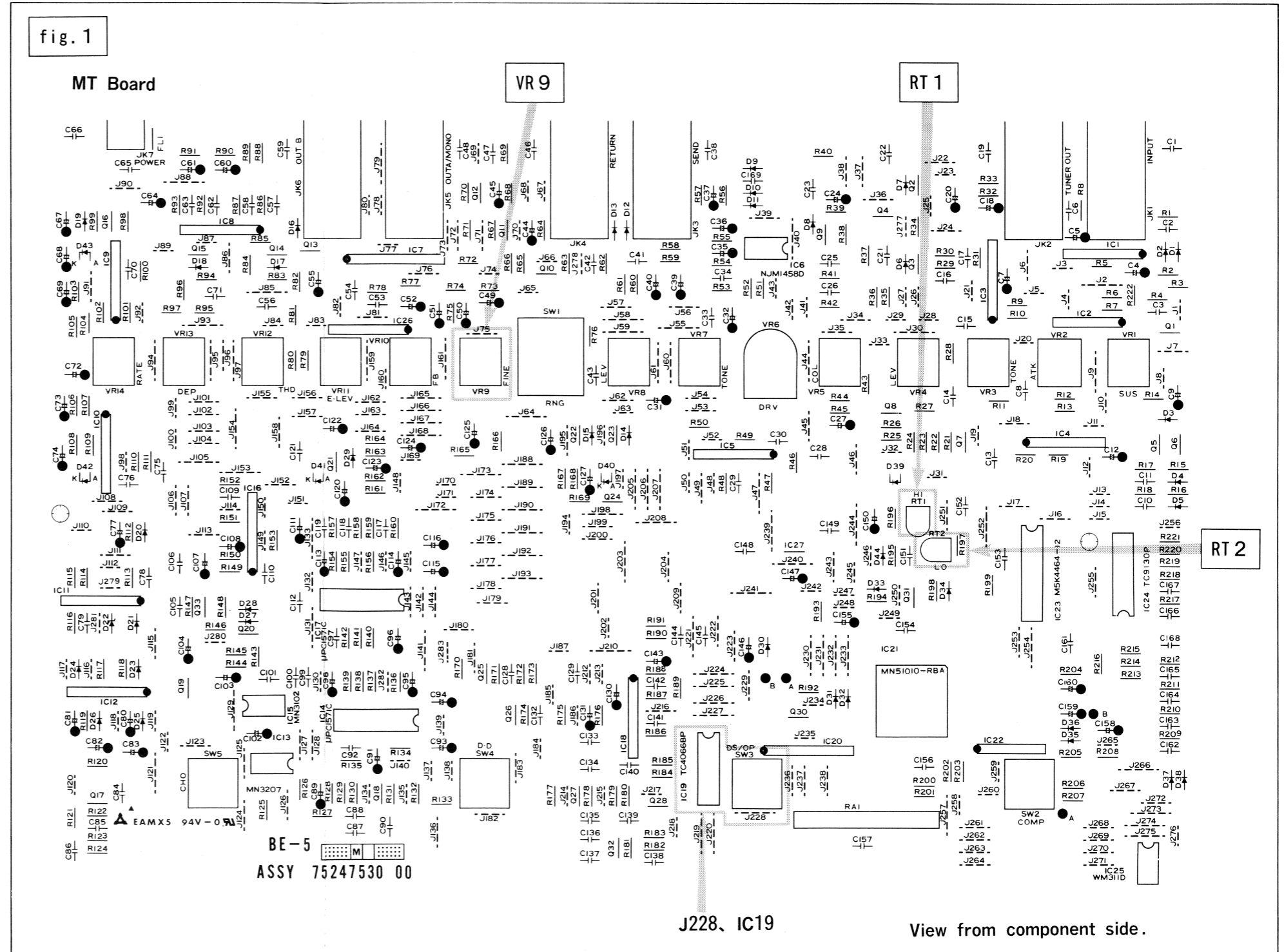
View from component side

# ADJUSTMENTS

## 調整仕様

You can adjust the BE-5 only from component side of MT Board.  
 (調整は、部品面側からしかできません。)

1	DIGITAL DELAY CLOCK	デジタル・ディレイ・クロック	(RT2)
	INPUT POINT	-----	
	OUTPUT POINT	J228 or IC19(TC4066BP)pin 6 on MT Board (oscilloscope オシロスコープ) fig. 1	
	SETTING	VR 9 FINE (DIGITAL DELAY): MAX	
fig. 2 Adjust RT2 on MT Board for $31.3\mu s \pm 1.5\mu s$ ( $32.0\text{kHz} \pm 1.5\text{kHz}$ ). 出力が $31.3\mu s \pm 1.5\mu s$ ( $32.0\text{kHz} \pm 1.5\text{kHz}$ )になる様にRT2を調整する			
2	DIGITAL DELAY CLOCK	デジタル・ディレイ・クロック	(RT1)
	INPUT POINT	-----	
	OUTPUT POINT	J228 or IC19(TC4066BP)pin 6 on MT Board (oscilloscope オシロスコープ) fig. 1	
	SETTING	VR 9 FINE (DIGITAL DELAY): MIN	
fig. 3 Adjust RT1 on MT Board for $15.4\mu s \pm 0.2\mu s$ ( $65.0\text{kHz} \pm 1.0\text{kHz}$ ). 出力が $15.4\mu s \pm 0.2\mu s$ ( $65.0\text{kHz} \pm 1.0\text{kHz}$ )になる様にRT1を調整する			



1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40

### CHANGING INFORMATIONS

#### 変更案内

Regarding circuit boards earlier than SNo. 973049: the insertion conditions of circuit board silk and parts are different. Refer to the following for the changes. Refer to Fig. 4 for changes in location. (SNo. 973050 has already been corrected.)

SNo. 973049以前の基板に付いては部品挿入の際、基板シルクと部品の挿入条件が異なります。変更内容については、下記を参照して下さい。また、変更場所はfig. 4を参照して下さい。(SNo. 973050以降は、修正されています。)

**変更 1**

Changes in insertion conditions (挿入条件の変更)

Insert the Electrolytic Capacitor in C45 on the side of jack 4 in a direction opposite that of the polarity symbols. Jack4横のC45を、シンボルの極性とは逆にケミコンを挿入します。

SNo.960100-973049  
(pcb 22920678 00)

SNo.973050 up  
(pcb 22920678 01)

View from foil side

**変更 2**

Insert IC 7 on the bottom of jack 5 and jack 6 in a direction opposite that of the symbols. Jack 5, Jack 6下部のIC7をシンボルと逆方向に挿入します。

SNo.960100-973049  
(pcb 22920678 00)

SNo.973050 up  
(pcb 22920678 01)

View from components side

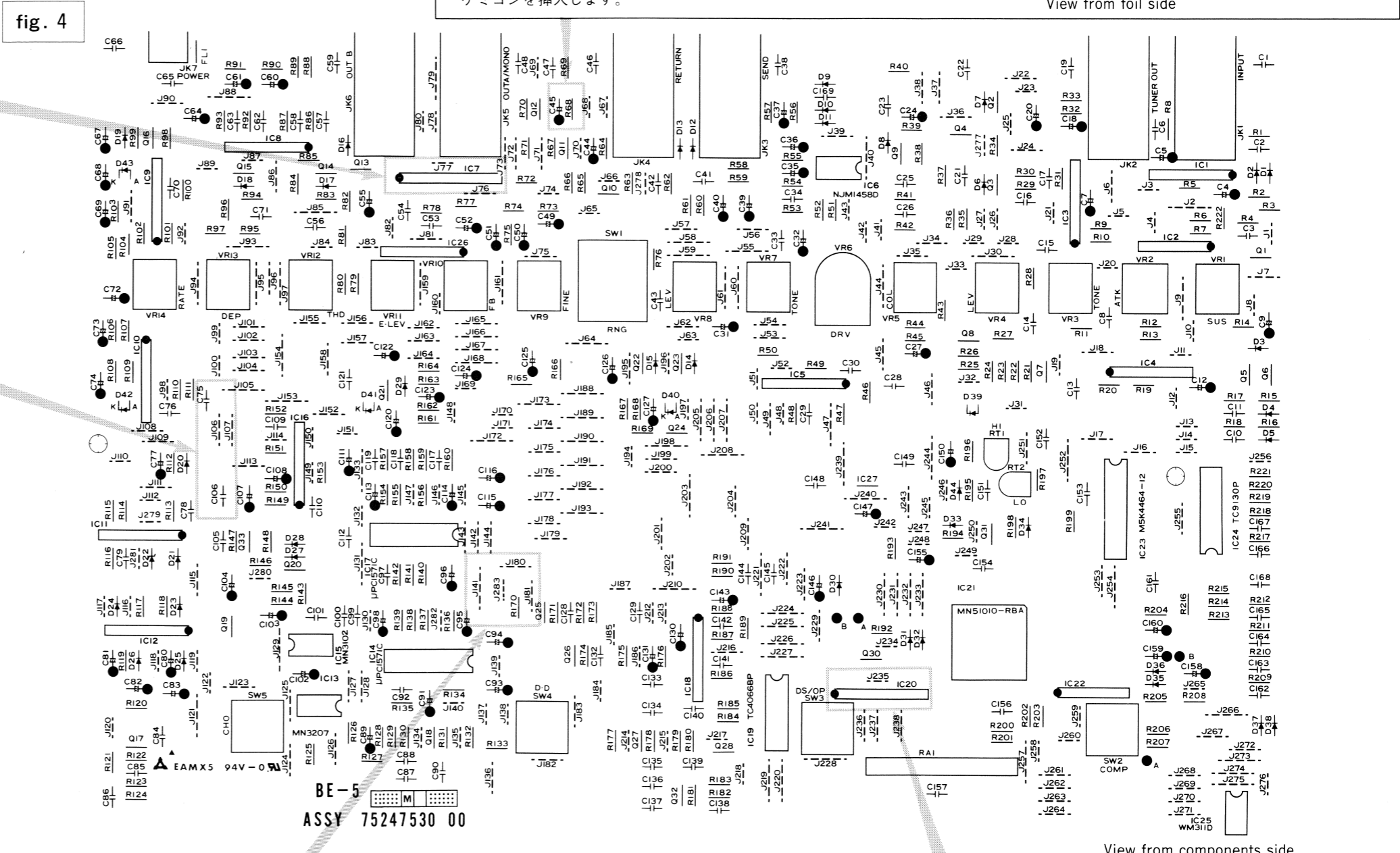
**変更 3** SILK Typographic error (シルク誤植)

The silk of C75 and C106 underneath VR13 is wrong. It shows the Electrolytic Capacitor symbol, but Polyester Film Capacitor (Mylar) should be printed there instead. VR13下部のC75、C106のシルクが誤っています。ケミコンのシンボルになっていますが、マイラーが入ります。

SNo.960100-973049  
(pcb 22920678 00)

SNo.973050 up  
(pcb 22920678 01)

View from components side



**変更 4**

SILK Addition (シルク追加)

The jumper line symbol (J283) is missing for the 2 holes below the J180 that is located above SW 4. SW 4 上部のJ180下部の2穴にジャンパー線のシンボル(J283)が抜けています。

SNo.960100-973049  
(pcb 22920678 00)

SNo.973050 up  
(pcb 22920678 01)

View from components side

**変更 5** SILK Typographic error (シルク誤植)

The symbol of IC20 located above SW 3 is wrong. SW 3 上部のIC20のシンボルが誤っています。

SNo.960100-973049  
(pcb 22920678 00)

SNo.973050 up  
(pcb 22920678 01)

View from components side

 Roland®

17059110

UPC

17059110



18981

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