

# KENWOOD

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# TK-3178

## SERVICE MANUAL / 维修手册

### SUPPLEMENT / 追补版

# KENWOOD

Kenwood Corporation

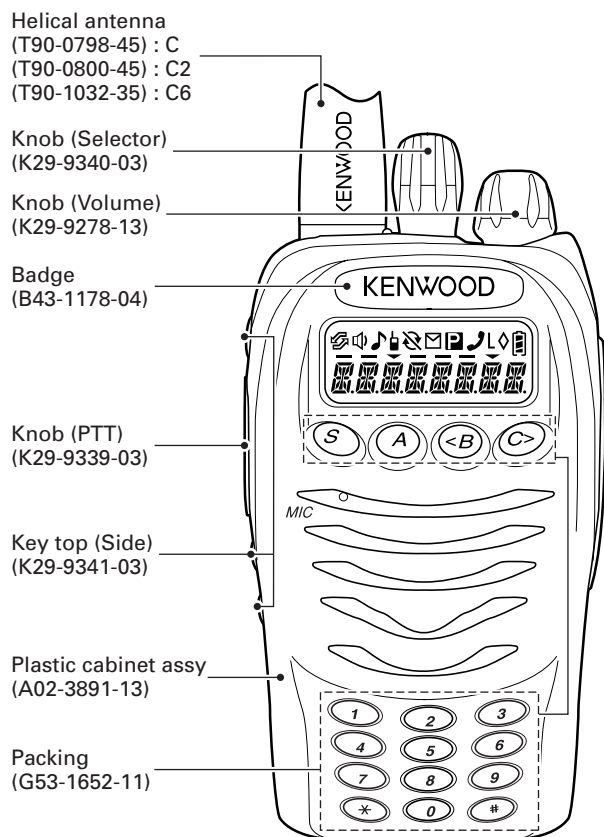
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B51-8752-00 (N) 566

## C6 version

This TK-3178 (C6) service manual contains a number of sections which differ from the service manual (B51-8734-00) for the TK-3178.

For items other than those in this TK-3178 (C6) service manual, please refer to the service manual (B51-8734-00) for the TK-3178.

本TK-3178 (C6) 维修手册记述了不同于TK-3178用维修手册 (B51-8734-00)部分的内容。  
对于本TK-3178 (C6) 维修手册中未予记载的项目, 请参阅TK-3178的维修手册(B51-8734-00)。



## 无铅焊接通信产品 保护环境建伍领先



⚠ 注意：本产品是无铅化焊接产品  
在维修时请使用无铅焊锡  
和相应的焊接工具  
详细事项请访问如下网址了解：  
<http://www.kenwoodhk.com.hk/>

This product uses Lead Free solder.



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## GENERAL / 概述

## INTRODUCTION

## SCOPE OF THIS MANUAL

This manual is intended for use by experienced technicians familiar with similar types of commercial grade communications equipment. It contains all required service information for the equipment and is current as of the publication date. Changes which may occur after publication are covered by either Service Bulletins or Manual Revisions. These are issued as required.

## ORDERING REPLACEMENT PARTS

When ordering replacement parts or equipment information, the full part identification number should be included. This applies to all parts : components, kits, or chassis. If the part number is not known, include the chassis or kit number of which it is a part, and a sufficient description of the required component for proper identification.

## PERSONAL SAFETY

The following precautions are recommended for personnel safety:

- DO NOT transmit until all RF connectors are verified secure and any open connectors are properly terminated.
- SHUT OFF and DO NOT operate this equipment near electrical blasting caps or in an explosive atmosphere.
- This equipment should be serviced by a qualified technician only.

## SERVICE

This radio is designed for easy servicing. Refer to the schematic diagrams, printed circuit board views, and alignment procedures contained within.

## 引言

## 本手册的范围

本手册是提供给熟悉通信专业并且具有维修经验的技术人员使用的。它包括了维修该设备所需要的全部资料和现行出版日期。在出版后可能发生变动, 如果需要, 可以参照《维修通报》或《手册修订本》进行补充。

## 替换零件的订购

当订购替换零件或设备资料时, 应注意完整的零件识别号码。所有的零件均有识别号码: 元件, 组件或机壳。如果不知道零件的号码, 为了正确地识别, 必须注明此元件所属的机壳或组件的号码, 并对元件进行充分的说明。

## 个人安全

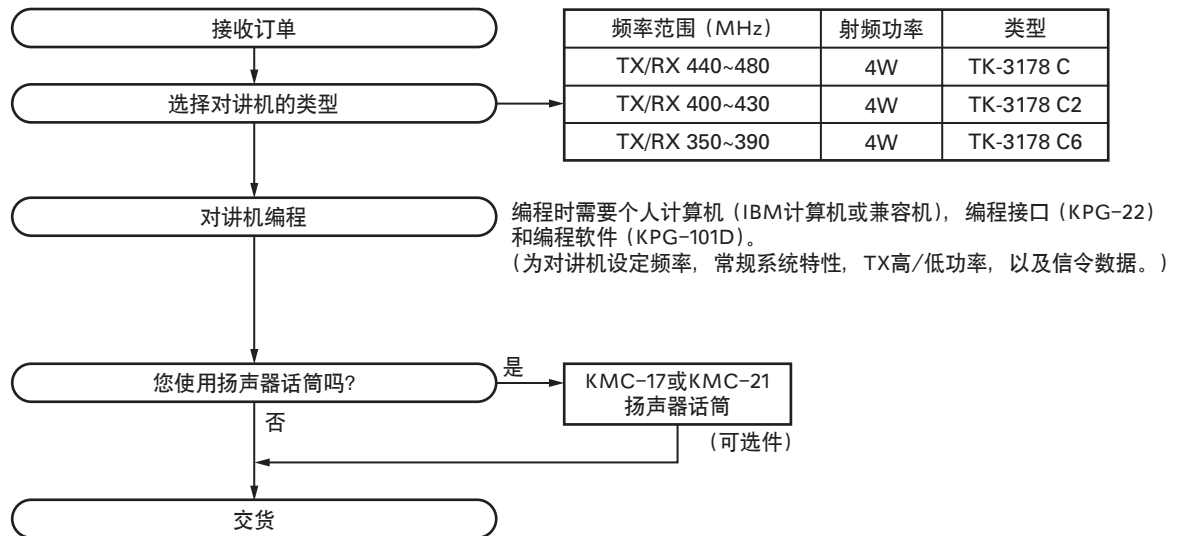
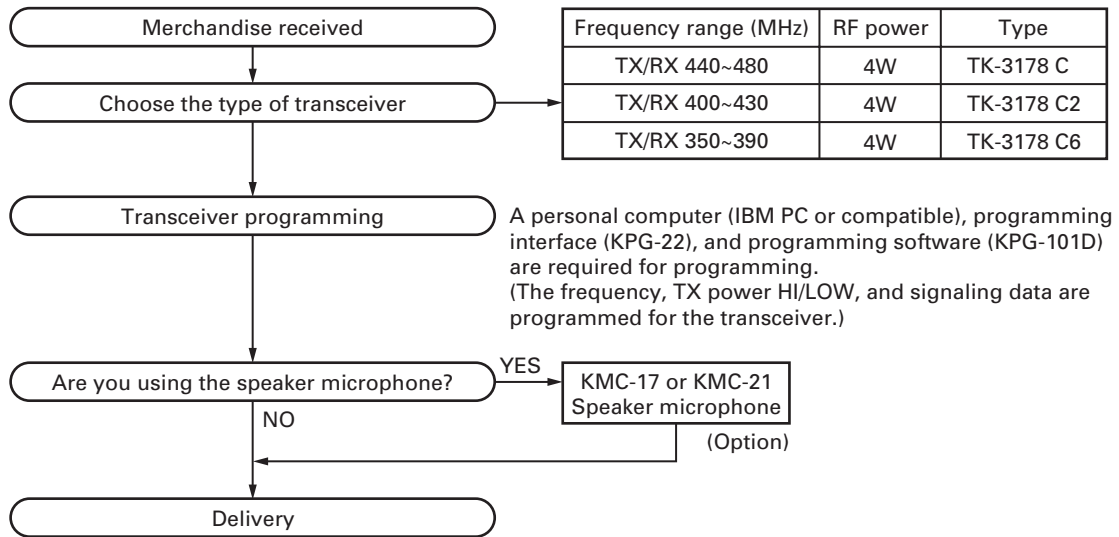
为了个人的安全, 请注意下列事项:

- 在没有认真核实所有射频插头之前或有任何一个脱开的插头没有连接到相应端口上的情况下均不要发射。
- 在电爆管附近或在易燃性气体环境中, 必须关闭电源, 不要操作本设备。
- 本设备只应该由有资格的技术人员进行维修。

## 维修服务

为了便于维修本设备, 建立了完整的维修服务体系, 提供了包括原理图, 印刷电路板图和调整步骤在内的资料供参考。

## SYSTEM SET-UP / 系统体系



# TK-3178

## PARTS LIST / 零件表

\* New Parts.  $\Delta$  indicates safety critical components.

Parts without **Parts No.** are not supplied.

Les articles non mentionnés dans le **Parts No.** ne sont pas fournis.

Teile ohne **Parts No.** werden nicht geliefert.

L : Scandinavia

Y : PX (Far East, Hawaii)

Y : AAFES (Europe)

K : USA

T : England

X : Australia

P : Canada

E : Europe

M : Other Areas

### TK-3178 (Y50-5863-XX)

#### TX-RX UNIT (X57-7013-XX)

Ref. No.	Address	New parts	Parts No.	Description	Destination
<b>TK-3178</b>					
2	1B		A02-3891-23	PLASTIC CABINET ASSY	
3	3A		A10-4088-01	CHASSIS	
5	3A		B01-0694-03	ESCUTCHEON	
6	2D		B09-0686-03	CAP ACCESSORY	
7	2B		B11-1826-03	ILLUMINATION GUIDE	
8	2A		B11-1827-04	ILLUMINATION GUIDE	
9	2B		B11-1828-04	FILTER	
10	2B		B38-0901-05	LCD	
13	1A,1B		B43-1178-14	BADGE	
17	1C	*	B62-1811-00	INSTRUCTION MANUAL	
20	2A		E04-0436-05	RF COAXIAL RECEPTACLE (SMA)	
21	2A		E23-1188-04	TERMINAL	
22	3A		E23-1189-14	TERMINAL	
23	2B		E29-1204-04	INTER CONNECTOR (LCD)	
24	2B		E29-1211-04	INTER CONNECTOR (4-KEY)	
25	2A		E37-1142-05	FLAT CABLE	
26	3A		E72-0421-03	TERMINAL BLOCK	
28	3A		F07-1890-04	COVER	
30	1B		G10-1304-04	FIBROUS SHEET	
31	3A		G11-4315-04	SHEET	
32	2A		G11-4316-04	SHEET	
33	2B		G11-4335-14	SHEET	
34	1A,1B		G11-4351-04	SHEET	
35	2A		G13-1885-04	CUSHION	
36	3A		G13-2001-04	CUSHION	
38	2A		G53-1603-04	PACKING	
39	2B		G53-1650-12	PACKING	
41	1B		G53-1652-11	PACKING	
42	2B		G53-1653-03	PACKING	
43	3A		G53-1654-04	PACKING	
44	3A		G53-1655-04	PACKING	
46	3C		H12-4210-02	PACKING FIXTURE	
47	2D		H25-0029-04	PROTECTION BAG	
48	1D	*	H52-2116-02	ITEM CARTON CASE	
50	2B		J19-5481-03	HOLDER	
51	2D		J19-5483-23	HOLDER ACCESSORY	
52	1B		J21-8488-03	MOUNTING HARDWARE	
53	2C		J29-0701-15	HOOK ACCESSORY	
60	2C		J69-0342-05	HANDSTRAP ACCESSORY	
54	3A		J82-0106-05	FPC	
55	2A		J99-0399-04	ADHESIVE SHEET	
56	1B		K29-9278-13	KNOB (VOLUME)	
57	1B		K29-9339-03	KNOB (PTT)	
58	1B		K29-9340-13	KNOB (SELECTOR)	
59	1B		K29-9341-03	KEY TOP (SIDE)	
A	2A,3A		N09-2438-05	BINDING HEAD SCREW	
B	2A		N14-0583-04	CIRCULAR NUT	
C	3B		N14-0805-04	CIRCULAR NUT	
D	3A		N30-2610-48	PAN HEAD MACHINE SCREW	
E	3A	*	N30-3006-43	PAN HEAD MACHINE SCREW	

Ref. No.	Address	New parts	Parts No.	Description	Destination
F	3A		N79-2030-48	PAN HEAD TAPTITE SCREW	
G	2A,2B		N83-2005-48	PAN HEAD TAPTITE SCREW	
61	3A		R31-0655-05	VARIABLE RESISTOR	
63	1B		T07-0369-15	SPEAKER	
65	2C	*	T90-0798-45	HELICAL ANTENNA ACCESSORY	C
65	2C	*	T90-0800-45	HELICAL ANTENNA ACCESSORY	C2
65	2C		T90-1032-35	HELICAL ANTENNA ACCESSORY	C6
64	2B		T91-0650-05	MIC ELEMENT	
66	2A		W02-3684-05	SELECTOR	
<b>TX-RX UNIT (X57-7013-XX) -01 : C -02 : C2 -03 : C6</b>					
D2			B30-2278-05	LED (RED/YELLOW)	
D5			B30-2210-05	LED (TLY)	
D7			B30-2210-05	LED (TLY)	
D8,9			B30-2050-05	LED	
D12,13			B30-2050-05	LED	
C2			CK73HB1H471K	CHIP C 470PF	K
C3			CK73FB1A475K	CHIP C 4.7UF	K
C4			CK73GB1E105K	CHIP C 1.0UF	K
C5,6			CK73HB1H471K	CHIP C 470PF	K
C7			CK73HB1A104K	CHIP C 0.10UF	K
C9			CK73GB1E105K	CHIP C 1.0UF	K
C11			CK73FB1A225K	CHIP C 2.2UF	K
C13			CK73HB1H471K	CHIP C 470PF	K
C14,15			CK73HB1E472K	CHIP C 4700PF	K
C16,17			CK73HB1H471K	CHIP C 470PF	K
C18			CK73HB1A104K	CHIP C 0.10UF	K
C19			CK73HB1H471K	CHIP C 470PF	K
C20			CK73HB1E472K	CHIP C 4700PF	K
C21			CK73HB1H471K	CHIP C 470PF	K
C22			CK73HB1E472K	CHIP C 4700PF	K
C23,24			CK73GB1E105K	CHIP C 1.0UF	K
C25			CK73HB1E472K	CHIP C 4700PF	K
C26			CK73HB1H471K	CHIP C 470PF	K
C27			CS77AA0J220M	CHIP-TAN 22UF 6.3WV	
C28-31			CK73HB1H471K	CHIP C 470PF	K
C32,33			CK73HB1A104K	CHIP C 0.10UF	K
C34			CK73HB1H471K	CHIP C 470PF	K
C35			CK73HB1A104K	CHIP C 0.10UF	K
C38,39			CK73HB1A473K	CHIP C 0.047UF	K
C40			CK73HB1H471K	CHIP C 470PF	K
C42			CK73HB1H681K	CHIP C 680PF	K
C43,44			CK73HB1C103K	CHIP C 0.010UF	K
C45			CS77AA0J220M	CHIP-TAN 22UF 6.3WV	
C46			CK73HB1H471K	CHIP C 470PF	K
C47			CK73GB1E105K	CHIP C 1.0UF	K
C48-51			CK73HB1H471K	CHIP C 470PF	K
C52			CK73HB1A104K	CHIP C 0.10UF	K
C53			CK73HB1H471K	CHIP C 470PF	K
C55			CK73GB1E105K	CHIP C 1.0UF	K
C56			CK73HB1A104K	CHIP C 0.10UF	K
C57		*	CS77AA0J150M	CHIP-TAN 15UF 6.3WV	

## PARTS LIST / 零件表

TX-RX UNIT (X57-7013-XX)

Ref. No.	Address	New parts	Parts No.	Description	Desti-nation	Ref. No.	Address	New parts	Parts No.	Description	Desti-nation
C58			CK73HB1H471K	CHIP C 470PF K		C133			CK73GB0J475K	CHIP C 4.7UF K	
C59			CC73HCH1H220J	CHIP C 22PF J		C134			CK73HB1A473K	CHIP C 0.047UF K	
C60			CC73HCH1H120J	CHIP C 12PF J		C135			CK73GB1E105K	CHIP C 1.0UF K	
C61			CK73HB1A104K	CHIP C 0.10UF K		C136			CK73HB1H561K	CHIP C 560PF K	
C62			CC73HCH1H010C	CHIP C 1.0PF C		C137			CK73HB1H471K	CHIP C 470PF K	
C63			CC73HCH1H120J	CHIP C 12PF J		C138			CK73HB1A104K	CHIP C 0.10UF K	
C65			CK73HB1A104K	CHIP C 0.10UF K		C140			CK73HB1A104K	CHIP C 0.10UF K	
C66			CK73HB1C103K	CHIP C 0.010UF K		C142,143			CK73GB1E105K	CHIP C 1.0UF K	
C67		*	CS77AA1A2R2M	CHIP-TAN 2.2UF 10WV		C145-148			CK73HB1H471K	CHIP C 470PF K	
C68			CK73HB1H471K	CHIP C 470PF K		C149			CK73HB1H221K	CHIP C 220PF K	
C69			CS77AA0J100M	CHIP-TAN 10UF 6.3WV		C150,151			CK73FB1A225K	CHIP C 2.2UF K	
C70			CK73HB1E682K	CHIP C 6800PF K		C153			CK73GB1E105K	CHIP C 1.0UF K	
C71			CK73HB1H392K	CHIP C 3900PF K		C154,155			CK73HB1H471K	CHIP C 470PF K	
C72			CK73HB1H122K	CHIP C 1200PF K		C157			CK73GB1A224K	CHIP C 0.22UF K	
C73			CC73HCH1H470J	CHIP C 47PF J		C158			CK73HB1A104K	CHIP C 0.10UF K	
C74			CK73HB1H122K	CHIP C 1200PF K		C159			CC73HCH1H101J	CHIP C 100PF J	
C75			CK73HB1C153K	CHIP C 0.015UF K		C161			CC73HCH1H101J	CHIP C 100PF J	
C76			CK73HB1H332K	CHIP C 3300PF K		C162			CS77AA0J100M	CHIP-TAN 10UF 6.3WV	
C77			CK73HB1C153K	CHIP C 0.015UF K		C166			CK73HB1H471K	CHIP C 470PF K	
C78			CK73HB1H221K	CHIP C 220PF K		C168,169			CK73HB1A393K	CHIP C 0.039UF K	
C79			CK73HB1H222K	CHIP C 2200PF K		C170			CK73HB1H471K	CHIP C 470PF K	
C81			CK73HB1A104K	CHIP C 0.10UF K		C171			CS77AA0J100M	CHIP-TAN 10UF 6.3WV	
C82			CC73HCH1H101J	CHIP C 100PF J		C172		*	CS77CC0J101M	CHIP-TAN 100UF 6.3WV	
C84			CK73HB1H471K	CHIP C 470PF K		C173			CK73HB1H221K	CHIP C 220PF K	
C85			CK73HB1C123K	CHIP C 0.012UF K		C174			CK73HB1H471K	CHIP C 470PF K	
C87			CK73HB1A104K	CHIP C 0.10UF K		C175			CK73HB1C103K	CHIP C 0.010UF K	
C88,89			CC73HCH1H010B	CHIP C 1.0PF B		C176			CK73HB1A224K	CHIP C 0.22UF K	
C90,91			CK73GB1E104K	CHIP C 0.10UF K		C177			CK73HB1A104K	CHIP C 0.10UF K	
C93			CK73GB1E105K	CHIP C 1.0UF K		C178			CK73GB1E105K	CHIP C 1.0UF K	
C95			CK73HB1A224K	CHIP C 0.22UF K		C181			CK73GB0J475K	CHIP C 4.7UF K	
C96			CK73GB1E105K	CHIP C 1.0UF K		C182			CK73HB1H681K	CHIP C 680PF K	
C97			CC73HCH1H151J	CHIP C 150PF J		C183			CK73HB1H471K	CHIP C 470PF K	
C98			CK73HB1A683K	CHIP C 0.068UF K		C184			CK73HB1H222K	CHIP C 2200PF K	
C99,100			CK73FB1A475K	CHIP C 4.7UF K		C185			CK73HB1C103K	CHIP C 0.010UF K	
C102			CK73HB1C103K	CHIP C 0.010UF K		C186			CC73HCH1H270J	CHIP C 27PF J	
C104			CK73GB1E104K	CHIP C 0.10UF K		C187			CK73HB1C103K	CHIP C 0.010UF K	
C106			CK73HB1H471K	CHIP C 470PF K		C188			CC73HCH1H270J	CHIP C 27PF J	
C107			CK73HB1A104K	CHIP C 0.10UF K		C189			CK73GB1E104K	CHIP C 0.10UF K	
C108			CK73GB1E105K	CHIP C 1.0UF K		C190,191			CK73HB1H471K	CHIP C 470PF K	
C109			CC73HCH1H100D	CHIP C 10PF D		C192			CK73HB1H102K	CHIP C 1000PF K	
C110			CK73HB1H471K	CHIP C 470PF K		C196			CK73GB1C473K	CHIP C 0.047UF K	
C111			CK73HB1C103K	CHIP C 0.010UF K		C197,198			CK73HB1H471K	CHIP C 470PF K	
C112			CC73HCH1H680J	CHIP C 68PF J		C199,200			CK73HB1A104K	CHIP C 0.10UF K	C,C6
C113-115			CK73HB1A104K	CHIP C 0.10UF K		C200			CK73HB1A104K	CHIP C 0.10UF K	C2
C116			CC73HCH1H220J	CHIP C 22PF J		C201			CK73HB1A224K	CHIP C 0.22UF K	
C117			CK73GB1E105K	CHIP C 1.0UF K		C202			CK73GB1E105K	CHIP C 1.0UF K	
C118			CK73HB1A104K	CHIP C 0.10UF K		C423			CK73FB1A475K	CHIP C 4.7UF K	
C119			CK73HB1C103K	CHIP C 0.010UF K		C501			CK73HB1C103K	CHIP C 0.010UF K	C2
C120			CK73FB1A225K	CHIP C 2.2UF K		C501,502			CK73HB1C103K	CHIP C 0.010UF K	C,C6
C121			CK73HB1A393K	CHIP C 0.039UF K		C502			CC73HCH1H470J	CHIP C 47PF J	C2
C122			CK73HB1H471K	CHIP C 470PF K		C503			CC73HCH1H101J	CHIP C 100PF J	
C123			CC73HCH1H680J	CHIP C 68PF J		C505			CC73HCH1H101J	CHIP C 100PF J	
C125			CK73HB1A104K	CHIP C 0.10UF K		C506			CK73HB1C103K	CHIP C 0.010UF K	
C126			CC73HCH1H470J	CHIP C 47PF J		C507,508			CC73HCH1H101J	CHIP C 100PF J	
C127			CC73HCH1H181J	CHIP C 180PF J		C509			CC73HCH1H100D	CHIP C 10PF D	C6
C128			CK73HB1H471K	CHIP C 470PF K		C509			CC73HCH1H150J	CHIP C 15PF J	C,C2
C129			CK73GB1E105K	CHIP C 1.0UF K		C512			CK73HB1C103K	CHIP C 0.010UF K	
C130			CK73HB1A104K	CHIP C 0.10UF K		C513			CK73HB1H471K	CHIP C 470PF K	
C131			CK73HB1H821K	CHIP C 820PF K		C514			CC73HCH1H101J	CHIP C 100PF J	
C132			CK73HB1A104K	CHIP C 0.10UF K		C515			CK73HB1H471K	CHIP C 470PF K	

## PARTS LIST / 零件表

## TX-RX UNIT (X57-7013-XX)

Ref. No.	Address	New parts	Parts No.	Description	Destination	Ref. No.	Address	New parts	Parts No.	Description	Destination
C519			CC73GCH1H150J	CHIP C 15PF J	C2	C573			CK73HB1H471K	CHIP C 470PF K	
C519			CC73GCH1H330J	CHIP C 33PF J	C,C6	C574			CC73HCH1H100D	CHIP C 10PF D	C6
C520			CK73GB1E105K	CHIP C 1.0UF K	C,C6	C574,575			CC73HCH1H100D	CHIP C 10PF D	C,C2
C522			CC73HCH1H050C	CHIP C 5.0PF C		C575			CC73HCH1H060B	CHIP C 6.0PF B	C6
C523		*	CS77CA1V0R1M	CHIP-TAN 0.1UF 35WV		C577,578			CK73HB1H471K	CHIP C 470PF K	
C524			CC73HCH1H101J	CHIP C 100PF J		C579			CC73HCH1H030B	CHIP C 3.0PF B	C2
C525		*	CS77AA1A2R2M	CHIP-TAN 2.2UF 10WV	C	C579			CC73HCH1H040B	CHIP C 4.0PF B	C,C6
C525			CS77AA1E010M	CHIP-TAN 1.0UF 25WV	C2,C6	C580,581			CK73HB1H471K	CHIP C 470PF K	
C526		*	CS77CA1VR22M	CHIP-TAN 0.22UF 35WV	C,C2	C582			CC73HCH1H020B	CHIP C 2.0PF B	
C526		*	CS77CA1V0R1M	CHIP-TAN 0.1UF 35WV	C6	C583			CK73HB1A104K	CHIP C 0.10UF K	
C527			CC73HCH1H050C	CHIP C 5.0PF C	C,C6	C584			CC73HCH1H060B	CHIP C 6.0PF B	C6
C527			CC73HCH1H080D	CHIP C 8.0PF D	C2	C584			CC73HCH1H100D	CHIP C 10PF D	C,C2
C529			CC73HCH1H020C	CHIP C 2.0PF C	C2	C585			CK73HB1H102K	CHIP C 1000PF K	C,C2
C529			CC73HCH1H030C	CHIP C 3.0PF C	C,C6	C586			CC73HCH1H030C	CHIP C 3.0PF C	C2
C530			CC73HCH1H101J	CHIP C 100PF J		C586			CC73HCH1H150J	CHIP C 15PF J	C,C6
C533			CC73HCH1H030C	CHIP C 3.0PF C	C6	C587			CK73HB1H102K	CHIP C 1000PF K	C2
C533			CC73HCH1H1R5C	CHIP C 1.5PF C	C,C2	C601			CK73HB1H471K	CHIP C 470PF K	
C536			CC73HCH1H030C	CHIP C 3.0PF C	C,C2	C604			CK73HB1A224K	CHIP C 0.22UF K	
C536			CC73HCH1H040C	CHIP C 4.0PF C	C6	C606			CK73HB1H471K	CHIP C 470PF K	
C537			CC73HCH1H050C	CHIP C 5.0PF C		C608			CK73HB1H471K	CHIP C 470PF K	
C538			CC73HCH1H101J	CHIP C 100PF J		C609			CC73HCH1H050C	CHIP C 5.0PF C	
C539			CC73HCH1H1R5B	CHIP C 1.5PF B		C610-613			CK73HB1H471K	CHIP C 470PF K	C2
C540			CC73HCH1H020B	CHIP C 2.0PF B		C611-613			CK73HB1H471K	CHIP C 470PF K	C,C6
C541			CC73HCH1H220J	CHIP C 22PF J	C,C2	C615			CK73HB1H471K	CHIP C 470PF K	
C541			CC73HCH1H330J	CHIP C 33PF J	C6	C617			CC73HCH1H080D	CHIP C 8.0PF D	C6
C542			CC73HCH1H020C	CHIP C 2.0PF C	C6	C617			CC73HCH1H150J	CHIP C 15PF J	C,C2
C542			CC73HCH1H1R5C	CHIP C 1.5PF C	C	C619			CC73HCH1H150J	CHIP C 15PF J	C,C6
C544			CC73HCH1H1R5C	CHIP C 1.5PF C		C622			CC73HCH1H101J	CHIP C 100PF J	
C545			CC73HCH1H090D	CHIP C 9.0PF D	C	C623			CK73HB1H102K	CHIP C 1000PF K	
C545			CC73HCH1H150J	CHIP C 15PF J	C2,C6	C625			CC73HCH1H070D	CHIP C 7.0PF D	C,C6
C546			CC73HCH1H1R5C	CHIP C 1.5PF C	C,C6	C625			CC73HCH1H120J	CHIP C 12PF J	C2
C548			CC73HCH1H330J	CHIP C 33PF J	C2	C626			CC73HCH1H101J	CHIP C 100PF J	
C548			CC73HCH1H470J	CHIP C 47PF J	C	C627			CC73HCH1H270J	CHIP C 27PF J	C2
C548			CC73HCH1H680J	CHIP C 68PF J	C6	C627			CC73HCH1H330J	CHIP C 33PF J	C6
C549			CC73HCH1H080B	CHIP C 8.0PF B	C	C627			CC73HCH1H390J	CHIP C 39PF J	C
C549			CC73HCH1H180J	CHIP C 18PF J	C6	C629			CC73HCH1H150J	CHIP C 15PF J	C
C549			CC73HCH1H270J	CHIP C 27PF J	C2	C629			CC73HCH1H220J	CHIP C 22PF J	C6
C551			CC73HCH1H0R5B	CHIP C 0.5PF B		C629			CC73HCH1H270J	CHIP C 27PF J	C2
C552			CC73HCH1H101J	CHIP C 100PF J		C631			CC73HCH1H180J	CHIP C 18PF J	
C553			CC73HCH1H050B	CHIP C 5.0PF B	C	C632		*	CS77AA1A2R2M	CHIP-TAN 2.2UF 10WV	
C553-555			CC73HCH1H050B	CHIP C 5.0PF B	C2	C633			CK73HB1H471K	CHIP C 470PF K	
C553,554			CC73HCH1H060B	CHIP C 6.0PF B	C6	C635			CC73HCH1H101J	CHIP C 100PF J	
C554-556			CC73HCH1H040B	CHIP C 4.0PF B	C	C636			CC73HCH1H180J	CHIP C 18PF J	C2
C555,556			CC73HCH1H040B	CHIP C 4.0PF B	C6	C636			CC73HCH1H220J	CHIP C 22PF J	C,C6
C556			CC73HCH1H060B	CHIP C 6.0PF B	C2	C637			CK73HB1H102K	CHIP C 1000PF K	
C558			CC73HCH1H050B	CHIP C 5.0PF B	C2,C6	C638,639			CK73HB1H471K	CHIP C 470PF K	
C558			CC73HCH1H060B	CHIP C 6.0PF B	C	C641			CC73HCH1H101J	CHIP C 100PF J	
C559			CC73HCH1H070B	CHIP C 7.0PF B	C6	C643			CK73HB1C103K	CHIP C 0.010UF K	
C559			CC73HCH1H080B	CHIP C 8.0PF B	C2	C645			CC73GCH1H150J	CHIP C 15PF J	C2
C559			CC73HCH1H090B	CHIP C 9.0PF B	C	C645			CC73GCH1H270J	CHIP C 27PF J	C,C6
C560			CC73HCH1H101J	CHIP C 100PF J		C646			CK73HB1H471K	CHIP C 470PF K	
C562,563			CK73HB1H471K	CHIP C 470PF K		C648			CK73HB1H471K	CHIP C 470PF K	
C564,565			CK73HB1A104K	CHIP C 0.10UF K		C651			CK73HB1A104K	CHIP C 0.10UF K	
C566,567			CC73HCH1H0R5B	CHIP C 0.5PF B		C652			CC73GCH1H220J	CHIP C 22PF J	C
C568			CK73HB1C103K	CHIP C 0.010UF K		C655			CC73GCH1H220J	CHIP C 22PF J	C6
C569			CK73HB1H471K	CHIP C 470PF K		C655			CC73GCH1H270J	CHIP C 27PF J	C2
C570			CK73HB1C103K	CHIP C 0.010UF K		C658			CK73HB1H471K	CHIP C 470PF K	
C571			CK73HB1A104K	CHIP C 0.10UF K	C	C659			CC73GCH1H150J	CHIP C 15PF J	C6
C571			CK73HB1H471K	CHIP C 470PF K	C2,C6	C660			CC73GCH1H150J	CHIP C 15PF J	C2
C572			CS77AA1A100M	CHIP-TAN 10UF 10WV		C660			CC73GCH1H220J	CHIP C 22PF J	C

## PARTS LIST / 零件表

TX-RX UNIT (X57-7013-XX)

Ref. No.	Address	New parts	Parts No.	Description	Desti-nation	Ref. No.	Address	New parts	Parts No.	Description	Desti-nation
C662			CC73GCH1H090B	CHIP C 9.0PF B	C6	C736			CK73HB1C103K	CHIP C 0.010UF K	
C665			CK73HB1A104K	CHIP C 0.10UF K		C737			CC73HCH1H040B	CHIP C 4.0PF B	C6
C667			CC73GCH1H090B	CHIP C 9.0PF B	C6	C737			CC73HCH1H060B	CHIP C 6.0PF B	C,C2
C669			CC73GCH1H060B	CHIP C 6.0PF B	C,C6	C738			CC73HCH1H120J	CHIP C 12PF J	
C669			CC73GCH1H080B	CHIP C 8.0PF B	C2	C739			CC73HCH1H020B	CHIP C 2.0PF B	
C670			CC73GCH1H101J	CHIP C 100PF J	C2	C740			CC73HCH1H100D	CHIP C 10PF D	C,C2
C670			CC73GCH1H330J	CHIP C 33PF J	C,C6	C740			CC73HCH1H150J	CHIP C 15PF J	C6
C671			CC73GCH1H050B	CHIP C 5.0PF B	C2	C741			CK73HB1C103K	CHIP C 0.010UF K	
C671			CC73GCH1H3R5B	CHIP C 3.5PF B	C	C742			CC73HCH1H040B	CHIP C 4.0PF B	C6
C673			CK73HB1H471K	CHIP C 470PF K		C743			CC73HCH1H010B	CHIP C 1.0PF B	
C675			CC73GCH1H020B	CHIP C 2.0PF B	C	C744,745			CK73HB1H471K	CHIP C 470PF K	
C675			CC73GCH1H040B	CHIP C 4.0PF B	C2,C6	C746			CC73HCH1H040B	CHIP C 4.0PF B	C,C2
C676			CC73GCH1H101J	CHIP C 100PF J		C746			CC73HCH1H100B	CHIP C 10PF B	C6
C677			CC73GCH1H050B	CHIP C 5.0PF B		C747,748			CK73HB1H471K	CHIP C 470PF K	
C678			CC73GCH1H030B	CHIP C 3.0PF B	C	C749			CC73HCH1H030B	CHIP C 3.0PF B	C6
C678			CC73GCH1H040B	CHIP C 4.0PF B	C2	C749			CC73HCH1H040B	CHIP C 4.0PF B	C2
C678			CC73GCH1H090B	CHIP C 9.0PF B	C6	C749			CC73HCH1H3R5B	CHIP C 3.5PF B	C
C679			CC73GCH1H030B	CHIP C 3.0PF B	C6	C750			CC73HCH1H180J	CHIP C 18PF J	C2,C6
C679			CC73GCH1H1R5B	CHIP C 1.5PF B	C,C2	C750			CC73HCH1H330J	CHIP C 33PF J	C
C680			CC73GCH1H040B	CHIP C 4.0PF B	C	C752			CC73HCH1H020B	CHIP C 2.0PF B	
C680			CC73GCH1H070B	CHIP C 7.0PF B	C2	C754			CC73HCH1H020B	CHIP C 2.0PF B	
C680			CC73GCH1H080B	CHIP C 8.0PF B	C6	C755			CC73HCH1H180J	CHIP C 18PF J	C2,C6
C681			CC73GCH1H020B	CHIP C 2.0PF B	C	C755			CC73HCH1H330J	CHIP C 33PF J	C
C681			CC73GCH1H030B	CHIP C 3.0PF B	C2,C6	C756			CC73HCH1H050B	CHIP C 5.0PF B	C,C2
C682			CC73GCH1H050B	CHIP C 5.0PF B	C	C756,757			CC73HCH1H020B	CHIP C 2.0PF B	C6
C682			CC73GCH1H070B	CHIP C 7.0PF B	C2,C6	C757			CC73HCH1H020B	CHIP C 2.0PF B	C2
C683			CC73GCH1H020B	CHIP C 2.0PF B	C	C757			CC73HCH1H1R5B	CHIP C 1.5PF B	C
C683			CC73GCH1H030B	CHIP C 3.0PF B	C6	C758			CK73HB1H471K	CHIP C 470PF K	
C683			CC73GCH1H2R5B	CHIP C 2.5PF B	C2	C759			CC73HCH1H020B	CHIP C 2.0PF B	C,C2
C684			CC73GCH1H020B	CHIP C 2.0PF B	C6	C759			CC73HCH1H030B	CHIP C 3.0PF B	C6
C684			CC73GCH1H1R5B	CHIP C 1.5PF B	C,C2	C760			CK73HB1H471K	CHIP C 470PF K	
C701,702			CK73HB1A104K	CHIP C 0.10UF K		C761			CC73HCH1H180J	CHIP C 18PF J	C2,C6
C703			CC73HCH1H330J	CHIP C 33PF J		C761			CC73HCH1H330J	CHIP C 33PF J	C
C704			CK73HB1C103K	CHIP C 0.010UF K		C762			CC73HCH1H040B	CHIP C 4.0PF B	C6
C705			CC73HCH1H220J	CHIP C 22PF J		C762			CC73HCH1H050B	CHIP C 5.0PF B	C,C2
C706			CC73HCH1H820J	CHIP C 82PF J		C763			CK73HB1H471K	CHIP C 470PF K	
C707			CK73HB1H331K	CHIP C 330PF K		C765			CK73HB1H471K	CHIP C 470PF K	
C708,709			CK73HB1A104K	CHIP C 0.10UF K		C767			CK73HB1H471K	CHIP C 470PF K	
C710			CC73HCH1H390J	CHIP C 39PF J		C769			CK73HB1H471K	CHIP C 470PF K	
C711			CC73HCH1H820J	CHIP C 82PF J		C771			CK73HB1A104K	CHIP C 0.10UF K	
C712			CK73HB1H331K	CHIP C 330PF K		C772			CK73HB1H471K	CHIP C 470PF K	
C713			CK73HB1A104K	CHIP C 0.10UF K		C773			CC73HCH1H030B	CHIP C 3.0PF B	C,C2
C714			CC73HCH1H390J	CHIP C 39PF J		C773			CC73HCH1H2R5B	CHIP C 2.5PF B	C6
C715			CK73HB1H471K	CHIP C 470PF K		C774			CC73HCH1H180J	CHIP C 18PF J	C2,C6
C716			CK73HB1H182K	CHIP C 1800PF K		C774			CC73HCH1H330J	CHIP C 33PF J	C
C717			CK73GB1E105K	CHIP C 1.0UF K		C776			CC73HCH1H030B	CHIP C 3.0PF B	
C718			CS77AAQJ220M	CHIP-TAN 22UF 6.3WV		C777			CK73HB1H471K	CHIP C 470PF K	
C719			CC73HCH1H820J	CHIP C 82PF J		C778			CC73HCH1H020B	CHIP C 2.0PF B	C6
C720			CK73HB1C103K	CHIP C 0.010UF K		C778			CC73HCH1H030B	CHIP C 3.0PF B	C,C2
C721			CK73HB1H471K	CHIP C 470PF K		C779			CC73HCH1H180J	CHIP C 18PF J	C2,C6
C722			CK73HB1A104K	CHIP C 0.10UF K		C779			CC73HCH1H330J	CHIP C 33PF J	C
C723			CK73HB1A333K	CHIP C 0.033UF K		C780			CC73HCH1H020B	CHIP C 2.0PF B	C6
C724			CC73HCH1H330J	CHIP C 33PF J		C781			CK73HB1H471K	CHIP C 470PF K	
C725			CK73HB1A104K	CHIP C 0.10UF K		C782			CC73HCH1H220J	CHIP C 22PF J	C2
C726			CK73HB1C103K	CHIP C 0.010UF K		C782			CC73HCH1H330J	CHIP C 33PF J	C,C6
C727			CK73HB1H471K	CHIP C 470PF K		C783			CC73HCH1H060B	CHIP C 6.0PF B	C
C728			CK73HB1C103K	CHIP C 0.010UF K		C783			CC73HCH1H080B	CHIP C 8.0PF B	C2
C730			CC73HCH1H080B	CHIP C 8.0PF B		C783			CC73HCH1H110J	CHIP C 11PF J	C6
C732,733			CK73HB1C103K	CHIP C 0.010UF K		C784			CC73HCH1H080B	CHIP C 8.0PF B	C6
C734,735			CK73HB1H471K	CHIP C 470PF K		C784			CC73HCH1H100D	CHIP C 10PF D	C,C2



## PARTS LIST / 零件表

## TX-RX UNIT (X57-7013-XX)

Ref. No.	Address	New parts	Parts No.	Description	Destination	Ref. No.	Address	New parts	Parts No.	Description	Destination
C787			CC73HCH1H020B	CHIP C 2.0PF B	C6	L515		*	L41-1885-45	SMALL FIXED INDUCTOR (180NH)	C
C789			CC73HCH1H020B	CHIP C 2.0PF B	C6	L517		*	L41-2785-45	SMALL FIXED INDUCTOR (270NH)	
C901			CK73HB1H471K	CHIP C 470PF K		L518			L40-1585-92	SMALL FIXED INDUCTOR (150NH)	C
C904			CK73HB1H471K	CHIP C 470PF K		L518			L40-2785-92	SMALL FIXED INDUCTOR (270NH)	C2,C6
C906			CK73HB1C103K	CHIP C 0.010UF K		L519			L92-0138-05	CHIP FERRITE	
C917			CK73HB1A104K	CHIP C 0.10UF K		L521			L40-2775-57	SMALL FIXED INDUCTOR (27.0NH)	C,C2
C921			CK73HB1C223K	CHIP C 0.022UF K		L521			L40-3375-57	SMALL FIXED INDUCTOR (33.0NH)	C6
C923-926			CK73HB1H471K	CHIP C 470PF K		L524			L40-2275-57	SMALL FIXED INDUCTOR (22.0NH)	C,C2
C927			CK73GB1E105K	CHIP C 1.0UF K	C2	L524			L40-3375-57	SMALL FIXED INDUCTOR (33.0NH)	C6
TC501,502			C05-0384-05	CERAMIC TRIMMER CAP (10PF)		L601			L40-2275-57	SMALL FIXED INDUCTOR (22.0NH)	C6
101	2A		E37-1141-15	FLAT CABLE		L601			L40-2775-57	SMALL FIXED INDUCTOR (27.0NH)	C,C2
-		*	E37-1145-05	PROCESSED LEAD WIRE		L602			L40-1875-57	SMALL FIXED INDUCTOR (18.0NH)	
CN1		*	E40-6519-05	PIN ASSY		L603			L92-0138-05	CHIP FERRITE	
CN8			E40-5915-05	FLAT CABLE CONNECTOR		L604			L40-1875-57	SMALL FIXED INDUCTOR (18.0NH)	C
CN18			E40-6420-05	FLAT CABLE CONNECTOR		L605			L40-6865-57	SMALL FIXED INDUCTOR (6.8NH)	
CN60			E40-5932-05	SOCKET FOR PIN ASSY		L606		*	L41-1575-45	SMALL FIXED INDUCTOR (15NH)	
CN71			E40-5915-05	FLAT CABLE CONNECTOR		L607			L92-0149-05	CHIP FERRITE	
CN901			E40-6420-05	FLAT CABLE CONNECTOR		L608			L40-1263-92	SMALL FIXED INDUCTOR (1.2NH)	C2
J1			E11-0457-05	PHONE JACK (2.5/3.5)		L608			L40-2763-92	SMALL FIXED INDUCTOR (2.7NH)	C6
F901			F53-0324-05	FUSE		L610			L40-1875-92	SMALL FIXED INDUCTOR (18NH)	C6
CD701			L79-1474-05	TUNING COIL		L611			L34-4576-05	AIR-CORE COIL	
CF701			L72-1010-05	CERAMIC FILTER		L612			L92-0149-05	CHIP FERRITE	
CF702			L72-1012-05	CERAMIC FILTER		L613			L41-5668-14	SMALL FIXED INDUCTOR (5.6NH)	C,C2
L1			L92-0140-05	CHIP FERRITE		L613			L41-8268-14	SMALL FIXED INDUCTOR (8.2NH)	C6
L2-5			L92-0138-05	CHIP FERRITE		L614		*	L41-2285-45	SMALL FIXED INDUCTOR (220NH)	
L8			L92-0138-05	CHIP FERRITE		L615-618			L34-4564-05	AIR-CORE COIL	
L10			L92-0140-05	CHIP FERRITE		L619			L41-1092-44	SMALL FIXED INDUCTOR (1UH)	
L11			L92-0149-05	CHIP FERRITE		L701			L40-1885-92	SMALL FIXED INDUCTOR (180NH)	
L12,13			L92-0419-15	CHIP FERRITE		L702			L40-1085-57	SMALL FIXED INDUCTOR (100NH)	
L14,15			L92-0138-05	CHIP FERRITE		L703			L40-1591-86	SMALL FIXED INDUCTOR (1.5UH)	
L501			L41-2295-39	SMALL FIXED INDUCTOR (2.2UH)	C2	L704			L92-0138-05	CHIP FERRITE	
L501			L41-4795-39	SMALL FIXED INDUCTOR (4.7UH)	C,C6	L705			L41-5685-39	SMALL FIXED INDUCTOR (0.56UH)	
L502			L40-3363-57	SMALL FIXED INDUCTOR (3.3NH)	C	L706			L40-2785-92	SMALL FIXED INDUCTOR (270NH)	
L502			L40-3963-57	SMALL FIXED INDUCTOR (3.9NH)	C2	L707			L40-1875-57	SMALL FIXED INDUCTOR (18.0NH)	C,C2
L502		*	L40-4763-57	SMALL FIXED INDUCTOR (4.7NH)	C6	L707,708			L40-1875-57	SMALL FIXED INDUCTOR (18.0NH)	C6
L503			L92-0138-05	CHIP FERRITE		L709			L40-2775-57	SMALL FIXED INDUCTOR (27.0NH)	C
L505			L40-2285-92	SMALL FIXED INDUCTOR (220NH)	C2,C6	L709			L40-3375-57	SMALL FIXED INDUCTOR (33.0NH)	C2,C6
L505,506			L40-2285-92	SMALL FIXED INDUCTOR (220NH)	C	L711-713			L41-1278-14	SMALL FIXED INDUCTOR (12NH)	C6
L506			L40-2785-92	SMALL FIXED INDUCTOR (270NH)	C2,C6	L711-713			L41-8268-14	SMALL FIXED INDUCTOR (8.2NH)	C,C2
L507			L40-3363-57	SMALL FIXED INDUCTOR (3.3NH)	C	L714			L92-0138-05	CHIP FERRITE	
L507			L40-3963-57	SMALL FIXED INDUCTOR (3.9NH)	C2	L715		*	L41-2785-45	SMALL FIXED INDUCTOR (270NH)	
L507		*	L40-4763-57	SMALL FIXED INDUCTOR (4.7NH)	C6	L717,718			L41-1278-14	SMALL FIXED INDUCTOR (12NH)	C6
L508			L40-2285-92	SMALL FIXED INDUCTOR (220NH)	C2	L717,718			L41-8268-14	SMALL FIXED INDUCTOR (8.2NH)	C,C2
L508			L40-8275-92	SMALL FIXED INDUCTOR (82NH)	C6	L719		*	L41-4775-45	SMALL FIXED INDUCTOR (47NH)	C,C2
L508,509			L40-8275-92	SMALL FIXED INDUCTOR (82NH)	C	L719		*	L41-5675-45	SMALL FIXED INDUCTOR (56NH)	C6
L509			L40-1285-92	SMALL FIXED INDUCTOR (120NH)	C2	L720			L40-6865-57	SMALL FIXED INDUCTOR (6.8NH)	C,C2
L509			L40-2785-92	SMALL FIXED INDUCTOR (270NH)	C6	L901			L92-0149-05	CHIP FERRITE	
L511			L40-1275-57	SMALL FIXED INDUCTOR (12.0NH)	C	X1			L77-1950-05	CRYSTAL RESONATOR (11.0592MHZ)	
L511			L40-1575-57	SMALL FIXED INDUCTOR (15.0NH)	C2	X2			L77-1976-05	CRYSTAL RESONATOR (3.6864MHZ)	
L511			L40-2275-57	SMALL FIXED INDUCTOR (22.0NH)	C6	X501			L77-1971-05	TCXO (16.8MHZ)	
L512			L40-1875-54	SMALL FIXED INDUCTOR (18NH)	C	XF701			L71-0617-25	MCF (49.95MHZ)	
L512			L40-2275-54	SMALL FIXED INDUCTOR (22NH)	C2	CP1			RK74HB1J473J	CHIP-COM 47K J 1/16W	
L512			L41-2775-43	SMALL FIXED INDUCTOR (27NH)	C6	CP3,4			RK75HA1J102J	CHIP-COM 1.0K J 1/16W	
L513			L41-2278-14	SMALL FIXED INDUCTOR (22NH)	C	CP5			RK74HB1J102J	CHIP-COM 1.0K J 1/16W	
L513			L41-2778-14	SMALL FIXED INDUCTOR (27NH)	C2	CP7,8			RK75HA1J102J	CHIP-COM 1.0K J 1/16W	
L513			L41-3378-14	SMALL FIXED INDUCTOR (33NH)	C6	CP10			RK74HB1J102J	CHIP-COM 1.0K J 1/16W	
L514			L41-1585-45	SMALL FIXED INDUCTOR (150NH)	C	CP11			RK75HA1J102J	CHIP-COM 1.0K J 1/16W	
L514,515		*	L41-2285-45	SMALL FIXED INDUCTOR (220NH)	C2	CP12,13			RK74HB1J102J	CHIP-COM 1.0K J 1/16W	
L514,515		*	L41-2785-45	SMALL FIXED INDUCTOR (270NH)	C6	CP16			RK74HB1J102J	CHIP-COM 1.0K J 1/16W	

## PARTS LIST / 零件表

TX-RX UNIT (X57-7013-XX)

Ref. No.	Address	New parts	Parts No.	Description	Desti-nation	Ref. No.	Address	New parts	Parts No.	Description	Desti-nation
CP18			RK74HB1J102J	CHIP-COM 1.0K J 1/16W		R76-80			RK73HB1J102J	CHIP R 1.0K J 1/16W	
CP19			RK75HA1J473J	CHIP-COM 47K J 1/16W		R82			RK73GB2A391J	CHIP R 390 J 1/10W	
CP22-24			RK74HB1J102J	CHIP-COM 1.0K J 1/16W		R83			RK73GB2A000J	CHIP R 0.0 J 1/10W	
CP28			RK74HB1J102J	CHIP-COM 1.0K J 1/16W		R84			RK73HB1J184J	CHIP R 180K J 1/16W	
CP30			RK74HB1J102J	CHIP-COM 1.0K J 1/16W		R89			RK73HB1J102J	CHIP R 1.0K J 1/16W	
CP32			RK74HB1J102J	CHIP-COM 1.0K J 1/16W		R90			RK73HB1J394J	CHIP R 390K J 1/16W	
CP34			RK74HB1J102J	CHIP-COM 1.0K J 1/16W		R91			RK73HB1J332J	CHIP R 3.3K J 1/16W	
CP36			RK74HB1J102J	CHIP-COM 1.0K J 1/16W		R92			RK73HB1J473J	CHIP R 47K J 1/16W	
CP38			RK74HB1J102J	CHIP-COM 1.0K J 1/16W		R93			RK73HB1J393J	CHIP R 39K J 1/16W	
CP40			RK74HB1J102J	CHIP-COM 1.0K J 1/16W		R94			RK73HB1J684J	CHIP R 680K J 1/16W	
CP42,43			RK75HA1J102J	CHIP-COM 1.0K J 1/16W		R95,96			RK73HB1J102J	CHIP R 1.0K J 1/16W	
CP44			RK75HA1J474J	CHIP-COM 470K J 1/16W		R97			RK73HB1J474J	CHIP R 470K J 1/16W	
CP45-47			RK75HA1J102J	CHIP-COM 1.0K J 1/16W		R98,99			RK73HB1J473J	CHIP R 47K J 1/16W	
CP48,49			RK74HB1J102J	CHIP-COM 1.0K J 1/16W		R100			RK73HB1J223J	CHIP R 22K J 1/16W	
CP50			RK75HA1J102J	CHIP-COM 1.0K J 1/16W		R101			RK73HB1J103J	CHIP R 10K J 1/16W	
CP54			RK75HA1J473J	CHIP-COM 47K J 1/16W		R102			RK73HB1J473J	CHIP R 47K J 1/16W	
R1			RK73GB2A000J	CHIP R 0.0 J 1/10W		R103			RK73HB1J105J	CHIP R 1.0M J 1/16W	
R2			RK73HB1J153J	CHIP R 15K J 1/16W		R104			RK73HB1J103J	CHIP R 10K J 1/16W	
R7			RK73HB1J102J	CHIP R 1.0K J 1/16W		R105			RK73HB1J472J	CHIP R 4.7K J 1/16W	
R8			RK73HB1J272J	CHIP R 2.7K J 1/16W		R106			RK73HB1J473J	CHIP R 47K J 1/16W	
R9			RK73HB1J332J	CHIP R 3.3K J 1/16W		R107			RK73HB1J564J	CHIP R 560K J 1/16W	
R11			RK73HB1J473J	CHIP R 47K J 1/16W		R108			RK73HB1J334J	CHIP R 330K J 1/16W	
R12			RK73HB1J334J	CHIP R 330K J 1/16W		R109			RK73HB1J684J	CHIP R 680K J 1/16W	
R13			RK73HB1J332J	CHIP R 3.3K J 1/16W		R111			RK73HB1J564J	CHIP R 560K J 1/16W	
R14			RK73HB1J102J	CHIP R 1.0K J 1/16W		R112			RK73HB1J334J	CHIP R 330K J 1/16W	
R15			RK73HB1J272J	CHIP R 2.7K J 1/16W		R113			RK73HB1J000J	CHIP R 0.0 J 1/16W	
R16			RK73HB1J331J	CHIP R 330 J 1/16W		R114			RK73HB1J184J	CHIP R 180K J 1/16W	
R17			RK73HB1J821J	CHIP R 820 J 1/16W		R115			RK73GB2A103J	CHIP R 10K J 1/10W	
R18			RK73GB2A100J	CHIP R 10 J 1/10W		R116			RK73HB1J393J	CHIP R 39K J 1/16W	
R20			RK73HB1J103J	CHIP R 10K J 1/16W		R117			RK73HB1J683J	CHIP R 68K J 1/16W	
R21			RK73HB1J821J	CHIP R 820 J 1/16W		R119			RK73HB1J101J	CHIP R 100 J 1/16W	
R22,23			RK73HB1J000J	CHIP R 0.0 J 1/16W		R121			RK73HB1J184J	CHIP R 180K J 1/16W	
R24			RK73HB1J224J	CHIP R 220K J 1/16W		R122			RK73HB1J154J	CHIP R 150K J 1/16W	
R25			RK73HB1J153J	CHIP R 15K J 1/16W		R125			RK73GB2A152J	CHIP R 1.5K J 1/10W	
R26			RK73HB1J000J	CHIP R 0.0 J 1/16W		R129			RK73HB1J105J	CHIP R 1.0M J 1/16W	
R27,28			RK73HH1J474D	CHIP R 470K D 1/16W		R130			RK73HB1J474J	CHIP R 470K J 1/16W	
R31			RK73HB1J103J	CHIP R 10K J 1/16W		R131,132			RK73HB1J000J	CHIP R 0.0 J 1/16W	
R36		*	RK73GB2A433J	CHIP R 43K J 1/10W		R134			RK73HB1J104J	CHIP R 100K J 1/16W	
R37			RK73HB1J103J	CHIP R 10K J 1/16W		R135			RK73HB1J000J	CHIP R 0.0 J 1/16W	
R39,40			RK73HB1J473J	CHIP R 47K J 1/16W		R137			RK73HB1J223J	CHIP R 22K J 1/16W	
R42-44			RK73HB1J103J	CHIP R 10K J 1/16W		R139			RK73HB1J103J	CHIP R 10K J 1/16W	
R45,46			RK73HB1J102J	CHIP R 1.0K J 1/16W		R140			RK73HB1J102J	CHIP R 1.0K J 1/16W	
R48-52			RK73HB1J473J	CHIP R 47K J 1/16W		R141			RK73HB1J105J	CHIP R 1.0M J 1/16W	
R53			RK73HB1J474J	CHIP R 470K J 1/16W		R142			RK73HB1J223J	CHIP R 22K J 1/16W	
R54			RK73HB1J102J	CHIP R 1.0K J 1/16W		R143			RK73HB1J473J	CHIP R 47K J 1/16W	
R55,56			RK73HB1J474J	CHIP R 470K J 1/16W		R144			RK73HB1J472J	CHIP R 4.7K J 1/16W	
R57			RK73HB1J103J	CHIP R 10K J 1/16W		R145			RK73HB1J154J	CHIP R 150K J 1/16W	
R58,59			RK73HB1J473J	CHIP R 47K J 1/16W		R146			RK73HB1J105J	CHIP R 1.0M J 1/16W	
R61			RK73HB1J331J	CHIP R 330 J 1/16W		R147			RK73HB1J103J	CHIP R 10K J 1/16W	
R62			RK73HB1J103J	CHIP R 10K J 1/16W		R149			RK73HB1J105J	CHIP R 1.0M J 1/16W	
R63			RK73HB1J332J	CHIP R 3.3K J 1/16W		R150			RK73HB1J153J	CHIP R 15K J 1/16W	
R64			RK73HB1J102J	CHIP R 1.0K J 1/16W		R151			RK73HB1J183J	CHIP R 18K J 1/16W	
R65,66			RK73HB1J473J	CHIP R 47K J 1/16W		R152			RK73HB1J105J	CHIP R 1.0M J 1/16W	
R67			RK73HB1J472J	CHIP R 4.7K J 1/16W		R153			RK73HB1J332J	CHIP R 3.3K J 1/16W	
R68			RK73GB2A181J	CHIP R 180 J 1/10W		R154			RK73HB1J333J	CHIP R 33K J 1/16W	
R69			RK73HB1J102J	CHIP R 1.0K J 1/16W		R155			RK73HB1J223J	CHIP R 22K J 1/16W	
R71			RK73HB1J102J	CHIP R 1.0K J 1/16W		R156,157		*	RK73HB1J304J	CHIP R 300K J 1/16W	
R72			RK73GB2A181J	CHIP R 180 J 1/10W		R158			RK73HB1J334J	CHIP R 330K J 1/16W	
R73,74			RK73HB1J474J	CHIP R 470K J 1/16W		R159			RK73HB1J474J	CHIP R 470K J 1/16W	
R75			RK73GB2A391J	CHIP R 390 J 1/10W		R160			RK73HB1J224J	CHIP R 220K J 1/16W	

## PARTS LIST / 零件表

## TX-RX UNIT (X57-7013-XX)

Ref. No.	Address	New parts	Parts No.	Description	Destination	Ref. No.	Address	New parts	Parts No.	Description	Destination
R161,162			RK73HB1J124J	CHIP R 120K J 1/16W		R244			RK73HB1J473J	CHIP R 47K J 1/16W	
R163			RK73HB1J393J	CHIP R 39K J 1/16W		R245			RK73HB1J103J	CHIP R 10K J 1/16W	
R164			RK73HB1J184J	CHIP R 180K J 1/16W		R246			RK73HB1J223J	CHIP R 22K J 1/16W	
R165			RK73HB1J154J	CHIP R 150K J 1/16W		R247			RK73HB1J184J	CHIP R 180K J 1/16W	
R166			RK73HB1J103J	CHIP R 10K J 1/16W		R248			RK73GB2A000J	CHIP R 0.0 J 1/10W	
R167			RK73GB2A000J	CHIP R 0.0 J 1/10W		R250			RK73GB2A000J	CHIP R 0.0 J 1/10W	
R168			RK73HB1J474J	CHIP R 470K J 1/16W		R251			RK73HB1J474J	CHIP R 470K J 1/16W	
R169			RK73HB1J223J	CHIP R 22K J 1/16W		R254,255			RK73HB1J474J	CHIP R 470K J 1/16W	
R170			RK73GB2A000J	CHIP R 0.0 J 1/10W		R256-258			RK73GB2A000J	CHIP R 0.0 J 1/10W	
R171			RK73HB1J000J	CHIP R 0.0 J 1/16W		R259			RK73HB1J103J	CHIP R 10K J 1/16W	
R172			RK73HB1J684J	CHIP R 680K J 1/16W		R261			RK73HB1J103J	CHIP R 10K J 1/16W	
R173			RK73HB1J184J	CHIP R 180K J 1/16W		R262			RK73HB1J473J	CHIP R 47K J 1/16W	
R174			RK73HB1J123J	CHIP R 12K J 1/16W		R501			RK73HB1J000J	CHIP R 0.0 J 1/16W	C2
R175			RK73HB1J103J	CHIP R 10K J 1/16W		R501,502			RK73HB1J102J	CHIP R 1.0K J 1/16W	C,C6
R176			RK73HB1J683J	CHIP R 68K J 1/16W		R502			RK73HB1J102J	CHIP R 1.0K J 1/16W	C2
R177			RK73HB1J000J	CHIP R 0.0 J 1/16W		R503			RK73HB1J470J	CHIP R 47 J 1/16W	
R178			RK73HB1J102J	CHIP R 1.0K J 1/16W		R504			RK73HB1J103J	CHIP R 10K J 1/16W	
R180			RK73HB1J103J	CHIP R 10K J 1/16W		R505			RK73HB1J102J	CHIP R 1.0K J 1/16W	
R181			RK73HB1J000J	CHIP R 0.0 J 1/16W		R506			RK73HB1J154J	CHIP R 150K J 1/16W	
R183			RK73HB1J103J	CHIP R 10K J 1/16W		R507			RK73HB1J101J	CHIP R 100 J 1/16W	
R184			RK73HB1J000J	CHIP R 0.0 J 1/16W		R508			RK73HB1J330J	CHIP R 33 J 1/16W	C,C6
R187			RK73HB1J000J	CHIP R 0.0 J 1/16W		R508			RK73HB1J390J	CHIP R 39 J 1/16W	C2
R191			RK73HB1J000J	CHIP R 0.0 J 1/16W		R509			RK73HB1J272J	CHIP R 2.7K J 1/16W	
R192,193			RK73HB1J104J	CHIP R 100K J 1/16W		R510-512			RK73HB1J000J	CHIP R 0.0 J 1/16W	
R194,195			RK73HB1J102J	CHIP R 1.0K J 1/16W		R513			RK73HB1J470J	CHIP R 47 J 1/16W	
R196			RK73HB1J151J	CHIP R 150 J 1/16W		R514			RK73HB1J102J	CHIP R 1.0K J 1/16W	C,C2
R198			RK73GB2A000J	CHIP R 0.0 J 1/10W		R514			RK73HB1J681J	CHIP R 680 J 1/16W	C6
R199			RK73HB1J472J	CHIP R 4.7K J 1/16W		R515			RK73HB1J331J	CHIP R 330 J 1/16W	C2
R200			RK73HB1J473J	CHIP R 47K J 1/16W		R515			RK73HB1J561J	CHIP R 560 J 1/16W	C,C6
R202			RK73HB1J102J	CHIP R 1.0K J 1/16W		R516			RK73HB1J000J	CHIP R 0.0 J 1/16W	
R203			RK73HB1J222J	CHIP R 2.2K J 1/16W		R517			RK73HB1J103J	CHIP R 10K J 1/16W	
R204			RK73HB1J104J	CHIP R 100K J 1/16W		R518			RK73HB1J101J	CHIP R 100 J 1/16W	
R205			RK73HB1J105J	CHIP R 1.0M J 1/16W		R519,520			RK73HB1J103J	CHIP R 10K J 1/16W	
R206			RK73HB1J000J	CHIP R 0.0 J 1/16W		R521			RK73HB1J101J	CHIP R 100 J 1/16W	C
R207			RK73HB1J154J	CHIP R 150K J 1/16W		R521,522			RK73HB1J101J	CHIP R 100 J 1/16W	C2,C6
R210			RK73HB1J471J	CHIP R 470 J 1/16W		R522			RK73HB1J220J	CHIP R 22 J 1/16W	C
R211			RK73HB1J474J	CHIP R 470K J 1/16W		R523			RK73HB1J473J	CHIP R 47K J 1/16W	
R212			RK73GB2A101J	CHIP R 100 J 1/10W		R525			RK73HB1J101J	CHIP R 100 J 1/16W	C,C2
R213			RK73HB1J101J	CHIP R 100 J 1/16W		R525			RK73HB1J331J	CHIP R 330 J 1/16W	C6
R214			RK73HB1J182J	CHIP R 1.8K J 1/16W		R527			RK73HB1J103J	CHIP R 10K J 1/16W	C6
R215			RK73HB1J334J	CHIP R 330K J 1/16W		R527			RK73HB1J104J	CHIP R 100K J 1/16W	C2
R216			RK73HB1J274J	CHIP R 270K J 1/16W		R527			RK73HB1J224J	CHIP R 220K J 1/16W	C
R218			RK73GB2A000J	CHIP R 0.0 J 1/10W		R529			RK73HB1J151J	CHIP R 150 J 1/16W	C,C6
R220			RK73GB2A102J	CHIP R 1.0K J 1/10W		R529,530			RK73HB1J181J	CHIP R 180 J 1/16W	C2
R221			RK73HB1J473J	CHIP R 47K J 1/16W		R530			RK73HB1J181J	CHIP R 180 J 1/16W	C,C6
R222,223			RK73HB1J102J	CHIP R 1.0K J 1/16W		R531,532			RK73HB1J220J	CHIP R 22 J 1/16W	
R224			RK73HB1J104J	CHIP R 100K J 1/16W	C,C2	R533			RK73HB1J472J	CHIP R 4.7K J 1/16W	
R224,225			RK73HB1J104J	CHIP R 100K J 1/16W	C6	R534			RK73HB1J154J	CHIP R 150K J 1/16W	
R225			RK73HB1J154J	CHIP R 150K J 1/16W	C,C2	R535			RK73HB1J101J	CHIP R 100 J 1/16W	
R226			RK73HB1J184J	CHIP R 180K J 1/16W		R541			RK73HB1J103J	CHIP R 10K J 1/16W	C6
R229			RK73HB1J473J	CHIP R 47K J 1/16W		R541			RK73HB1J154J	CHIP R 150K J 1/16W	C,C2
R230			RK73HB1J123J	CHIP R 12K J 1/16W		R542			RK73HB1J331J	CHIP R 330 J 1/16W	C2,C6
R232			RK73HB1J823J	CHIP R 82K J 1/16W		R542			RK73HB1J680J	CHIP R 68 J 1/16W	C
R236			RK73HB1J124J	CHIP R 120K J 1/16W		R544			RK73HB1J101J	CHIP R 100 J 1/16W	C6
R238			RK73HB1J474J	CHIP R 470K J 1/16W	C6	R544			RK73HB1J470J	CHIP R 47 J 1/16W	C,C2
R239			RK73HB1J104J	CHIP R 100K J 1/16W		R545			RK73HB1J333D	CHIP R 33K D 1/16W	
R240			RK73HB1J474J	CHIP R 470K J 1/16W		R546			RK73HB1J104D	CHIP R 100K D 1/16W	
R241			RK73HB1J473J	CHIP R 47K J 1/16W		R547			RK73HB1J472J	CHIP R 4.7K J 1/16W	
R242			RK73HB1J104J	CHIP R 100K J 1/16W		R548			RK73HB1J000J	CHIP R 0.0 J 1/16W	C,C2
R243			RK73HB1J474J	CHIP R 470K J 1/16W		R548			RK73HB1J220J	CHIP R 22 J 1/16W	C6

## PARTS LIST / 零件表

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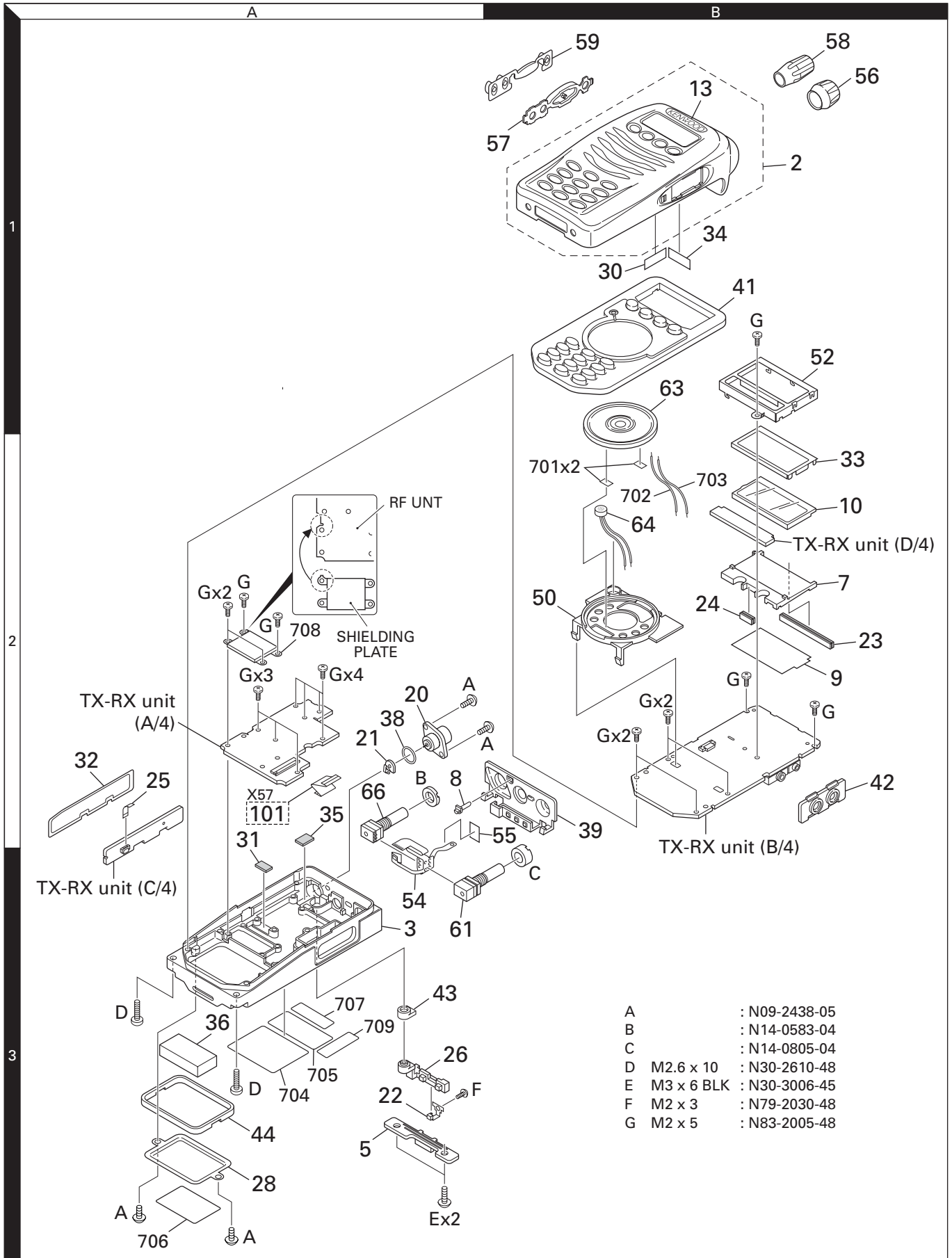
Ref. No.	Address	New parts	Parts No.	Description	Destination	Ref. No.	Address	New parts	Parts No.	Description	Destination
R550			RK73GB2A000J	CHIP R 0.0 J 1/10W		R713			RK73HB1J334J	CHIP R 330K J 1/16W	
R551,552			RK73HB1J000J	CHIP R 0.0 J 1/16W		R715,716			RK73HB1J332J	CHIP R 3.3K J 1/16W	
R555			RK73HB1J682J	CHIP R 6.8K J 1/16W	C6	R717			RK73HB1J272J	CHIP R 2.7K J 1/16W	
R556			RK73HB1J000J	CHIP R 0.0 J 1/16W	C6	R718			RK73HB1J100J	CHIP R 10 J 1/16W	
R557			RK73HB1J682J	CHIP R 6.8K J 1/16W	C6	R719			RK73HB1J332J	CHIP R 3.3K J 1/16W	
R601			RK73HB1J472J	CHIP R 4.7K J 1/16W		R721			RK73HB1J224J	CHIP R 220K J 1/16W	
R602			RK73HB1J000J	CHIP R 0.0 J 1/16W	C2,C6	R722			RK73HB1J101J	CHIP R 100 J 1/16W	
R603			RK73HB1J102J	CHIP R 1.0K J 1/16W		R726			RK73HB1J474J	CHIP R 470K J 1/16W	
R604			RK73HB1J333J	CHIP R 33K J 1/16W		R727			RK73HB1J681J	CHIP R 680 J 1/16W	
R605			RK73HB1J101J	CHIP R 100 J 1/16W	C2,C6	R728			RK73HB1J101J	CHIP R 100 J 1/16W	
R605			RK73HB1J470J	CHIP R 47 J 1/16W	C	R729			RK73HB1J470J	CHIP R 47 J 1/16W	
R606			RK73HB1J471J	CHIP R 470 J 1/16W	C2	R730			RK73HB1J472J	CHIP R 4.7K J 1/16W	
R607			RK73HB1J220J	CHIP R 22 J 1/16W		R731			RK73HB1J222J	CHIP R 2.2K J 1/16W	
R608			RK73HB1J331J	CHIP R 330 J 1/16W		R732			RK73HB1J151J	CHIP R 150 J 1/16W	C,C2
R609			RK73HB1J180J	CHIP R 18 J 1/16W	C6	R732			RK73HB1J331J	CHIP R 330 J 1/16W	C6
R609			RK73HB1J330J	CHIP R 33 J 1/16W	C,C2	R733			RK73HB1J000J	CHIP R 0.0 J 1/16W	C,C2
R610			RK73HB1J331J	CHIP R 330 J 1/16W		R734			RK73HB1J104J	CHIP R 100K J 1/16W	
R611			RK73HB1J823J	CHIP R 82K J 1/16W		R735			RK73HB1J184J	CHIP R 180K J 1/16W	C6
R612			RK73HB1J221J	CHIP R 220 J 1/16W	C,C2	R735			RK73HB1J563J	CHIP R 56K J 1/16W	C,C2
R612			RK73HB1J560J	CHIP R 56 J 1/16W	C6	R736			RK73HB1J104J	CHIP R 100K J 1/16W	
R613			RK73HB1J563J	CHIP R 56K J 1/16W		R737			RK73HB1J184J	CHIP R 180K J 1/16W	C6
R614			RK73HB1J471J	CHIP R 470 J 1/16W		R737			RK73HB1J563J	CHIP R 56K J 1/16W	C,C2
R618			RK73HB1J000J	CHIP R 0.0 J 1/16W		R738			RK73HB1J000J	CHIP R 0.0 J 1/16W	C,C2
R619			RK73HB1J103J	CHIP R 10K J 1/16W		R738			RK73HB1J100J	CHIP R 10 J 1/16W	C6
R620			RK73HB1J000J	CHIP R 0.0 J 1/16W		R739-741			RK73HB1J105J	CHIP R 1.0M J 1/16W	
R621			RK73EB2ER39K	CHIP R 0.39 K 1/4W		R742			RK73HB1J222J	CHIP R 2.2K J 1/16W	C6
R622			RK73HB1J220J	CHIP R 22 J 1/16W		R743			RK73HB1J000J	CHIP R 0.0 J 1/16W	C6
R623			RK73EB2ER39K	CHIP R 0.39 K 1/4W		R743			RK73HB1J101J	CHIP R 100 J 1/16W	C
R624			RK73HB1J104J	CHIP R 100K J 1/16W		R743			RK73HB1J470J	CHIP R 47 J 1/16W	C2
R625			RK73HB1J680J	CHIP R 68 J 1/16W		R744			RK73HB1J221J	CHIP R 220 J 1/16W	C,C2
R626			RK73GB2A000J	CHIP R 0.0 J 1/10W	C	R744			RK73HB1J331J	CHIP R 330 J 1/16W	C6
R627			RK73HB1J223J	CHIP R 22K J 1/16W		R747			RK73HB1J104J	CHIP R 100K J 1/16W	
R628			RK73HB1J183J	CHIP R 18K J 1/16W	C,C2	R748			RK73HB1J824J	CHIP R 820K J 1/16W	C6
R628			RK73HB1J562J	CHIP R 5.6K J 1/16W	C6	R750			RK73HB1J104J	CHIP R 100K J 1/16W	C,C2
R629			RK73EB2ER39K	CHIP R 0.39 K 1/4W		R750,751			RK73HB1J104J	CHIP R 100K J 1/16W	C6
R630,631			RK73HH1J154D	CHIP R 150K D 1/16W		R751			RK73HB1J683J	CHIP R 68K J 1/16W	C,C2
R632,633			RK73HH1J334D	CHIP R 330K D 1/16W		R752			RK73HB1J100J	CHIP R 10 J 1/16W	C6
R634			RK73HB1J103J	CHIP R 10K J 1/16W		R753			RK73HB1J000J	CHIP R 0.0 J 1/16W	
R635			RK73HB1J473J	CHIP R 47K J 1/16W		R754,755			RK73HB1J105J	CHIP R 1.0M J 1/16W	
R636			RK73HB1J000J	CHIP R 0.0 J 1/16W		R756			RK73FB2B000J	CHIP R 0.0 J 1/8W	
R637			RK73HB1J223J	CHIP R 22K J 1/16W		R757			RK73HB1J105J	CHIP R 1.0M J 1/16W	
R638			RK73HB1J474J	CHIP R 470K J 1/16W		R758			RK73HB1J000J	CHIP R 0.0 J 1/16W	
R639			RK73HB1J184J	CHIP R 180K J 1/16W		R759			RK73GB2A000J	CHIP R 0.0 J 1/10W	
R640			RK73HB1J474J	CHIP R 470K J 1/16W		R760			RK73HB1J000J	CHIP R 0.0 J 1/16W	
R641			RK73GB2A000J	CHIP R 0.0 J 1/10W		R903			RK73HB1J102J	CHIP R 1.0K J 1/16W	
R642			RK73HB1J150J	CHIP R 15 J 1/16W	C6	R913-916			RK73HB1J102J	CHIP R 1.0K J 1/16W	
R642			RK73HB1J220J	CHIP R 22 J 1/16W	C,C2	R923			RK73GB2A000J	CHIP R 0.0 J 1/10W	
R643			RK73HB1J683J	CHIP R 68K J 1/16W		S1			S70-0424-05	TACT SWITCH	
R645,646			RK73GB2A271J	CHIP R 270 J 1/10W		S2			S70-0457-05	TACT SWITCH	
R647			RK73GB2A000J	CHIP R 0.0 J 1/10W		S3,4			S70-0424-05	TACT SWITCH	
R648			RK73HB1J000J	CHIP R 0.0 J 1/16W	C,C6	D1			RB521S-30	DIODE	
R648			RK73HB1J5R6J	CHIP R 5.6 J 1/16W	C2	D4			MA2S111	DIODE	
R701			RK73HB1J103J	CHIP R 10K J 1/16W		D17			MA2S111	DIODE	
R702,703			RK73HB1J472J	CHIP R 4.7K J 1/16W		D24-27			MA2S111	DIODE	
R704			RK73HB1J224J	CHIP R 220K J 1/16W		D28-31			RB706F-40	DIODE	
R705,706			RK73HB1J472J	CHIP R 4.7K J 1/16W		D32			DA221	DIODE	
R707			RK73HB1J101J	CHIP R 100 J 1/16W		D33			AVRM1608270MAB	VARIATOR	
R708			RK73HB1J103J	CHIP R 10K J 1/16W		D501			MA2S077	DIODE	
R710			RK73HB1J102J	CHIP R 1.0K J 1/16W		D502,503			HSC277	DIODE	
R711			RK73HB1J474J	CHIP R 470K J 1/16W							

## PARTS LIST / 零件表

## TX-RX UNIT (X57-7013-XX)

Ref. No.	Address	New parts	Parts No.	Description	Desti-nation	Ref. No.	Address	New parts	Parts No.	Description	Desti-nation
D505			1SV325F	VARIABLE CAPACITANCE DIODE		Q35			SSM3K01T(F)	FET	
D507			1SV325F	VARIABLE CAPACITANCE DIODE		Q501			2SC5488	TRANSISTOR	
D509			1SV325F	VARIABLE CAPACITANCE DIODE		Q502,503			2SK508NV(K52)	FET	
D511			1SV325F	VARIABLE CAPACITANCE DIODE		Q504			SSM6P05FU(F)	FET	
D513			1SV278F	VARIABLE CAPACITANCE DIODE		Q505			2SC4617(S)	TRANSISTOR	
D514-516			HSC277	DIODE		Q506,507			2SC5488	TRANSISTOR	
D517			MA2S077	DIODE		Q601			2SC5488	TRANSISTOR	
D601			UDZS4.7B	ZENER DIODE		Q602			2SK3077F	FET	
D604-606			HVC131	DIODE		Q603			RD01MUS1	FET	
D608			HVC131	DIODE		Q604			2SK3476	FET	
D701,702			DAN235E	DIODE		Q605			DTC114EE	DIGITAL TRANSISTOR	
D703-707			HVC355B	VARIABLE CAPACITANCE DIODE	C	Q606			2SK879(GR)F	FET	
D703-708			HVC350B	VARIABLE CAPACITANCE DIODE	C2,C6	Q607			DTC114EE	DIGITAL TRANSISTOR	
D708			HVC350B	VARIABLE CAPACITANCE DIODE	C	Q608			DTA144EE	DIGITAL TRANSISTOR	
D901			1SR154-400	DIODE		Q609			SSM3K15TE(F)	FET	
IC1			XC61CC5002NR	MOS-IC		Q701			2SC4649(N,P)	TRANSISTOR	
IC2			XC6204B502PR	MOS-IC		Q702			DTA144EE	DIGITAL TRANSISTOR	
IC3			XC61CN3402NR	MOS-IC		Q703			2SC4649(N,P)	TRANSISTOR	
IC4,5			BU4094BCFV	MOS-IC		Q704,705			3SK318	FET	
IC6			LC75834W	MOS-IC		TH501			B57331V2104J	THERMISTOR	
IC7			30625MGP234HU	MICROPROCESSOR IC		TH701,702			B57331V2104J	THERMISTOR	
IC8			AT29C040A-90TU	ROM IC							
IC9			CAT24WC64WI	ROM IC							
IC10-12			TK62012F	MOS-IC							
IC13			AQUA-L	MOS-IC							
IC14			TC7W53FK(F)	MOS-IC							
IC15			TK62012F	MOS-IC							
IC16			M62364FP-F	MOS-IC							
IC17			TK62012F	MOS-IC							
IC18			TA7368F	MOS-IC							
IC19			TC75S51FE(F)	MOS-IC							
IC501			ADF411BCP7	MOS-IC							
IC601			TA75W01FUF	MOS-IC							
IC701			TA31136FNG	MOS-IC							
Q1			UMG3N	TRANSISTOR							
Q4			FP210	TRANSISTOR							
Q5			UPA672T	FET							
Q6			UMG3N	TRANSISTOR							
Q7			UPA672T	FET							
Q8			DTA114EE	DIGITAL TRANSISTOR							
Q9			SSM6J08FU(F)	FET							
Q12			2SC4617(S)	TRANSISTOR							
Q13			2SB1132(Q,R)	TRANSISTOR							
Q14,15			SSM3K15TE(F)	FET							
Q16			2SA1774(S)	TRANSISTOR							
Q17			2SC4649(N,P)	TRANSISTOR							
Q19			SSM3K15TE(F)	FET							
Q21			RN4910(F)	TRANSISTOR							
Q22			SSM3K15TE(F)	FET							
Q23			DTC144EE	DIGITAL TRANSISTOR							
Q24			SSM6J08FU(F)	FET							
Q25			2SK1830F	FET							
Q26			2SJ347F	FET							
Q27			DTC144EE	DIGITAL TRANSISTOR							
Q28			SSM3K01T(F)	FET							
Q29			SSM3K15TE(F)	FET							
Q30			2SJ243	FET							
Q31,32			2SC4649(N,P)	TRANSISTOR							
Q33			2SJ347F	FET							
Q34			SSM3K15TE(F)	FET							

## EXPLODED VIEW / 部件分解图

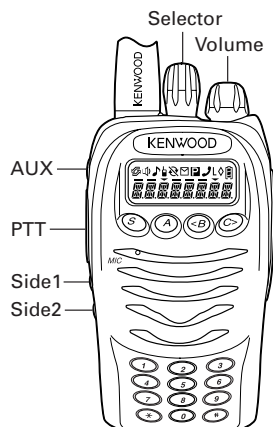


Parts with the exploded numbers larger than 700 are not supplied.



## ADJUSTMENT

### Controls



### Panel Test Mode

#### ■ Test mode operation features

This transceiver has a test mode. **To enter test mode, press [A] key and turn power on. Hold [A] key until frequency version appears on LCD.** Test mode can be inhibited by programming. To exit test mode, switch the power on again. The following functions are available in test mode.

#### ■ Key operation

Key	Function	Display
[S]	Shifts to Panel tuning mode	-
[A]	Low transmit power	"L" appears
[B]	MSK 1200bps and 2400bps	2400bps : ☑ icon appears
[C]	Test signaling CH up	Signaling No.
[Selector]	Test frequency CH up/down	Channel No.
[Side1]	Squelch on/off	🔊
[Side2]	Narrow/Wide	Narrow : "N", Wide : "W"
[PTT]	Transmit	-
[0] to [9] and [#],[*]	Use as the DTMF keypad. If a key is pressed during transmission, the DTMF corresponding to the key that was presses is sent.	-
[AUX]	Segment check	All segment appears

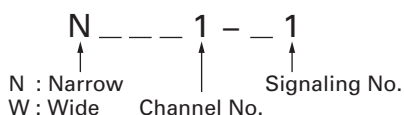
#### Note :

- If a [S], [A], [B], [C] key is pressed during transmission, the DTMF corresponding to the key that was pressed is sent.

#### • LED indicator

Red LED Lights during transmission. Blinks at the low battery voltage warning.  
Green LED Lights when there is carrier.

#### • LCD display in panel test mode



### ■ Frequency and Signaling

The set has been adjusted for the frequencies shown in the following table. When required, readjust them following the adjustment procedure to obtain the frequencies you want in actual operation.

#### • Test frequency

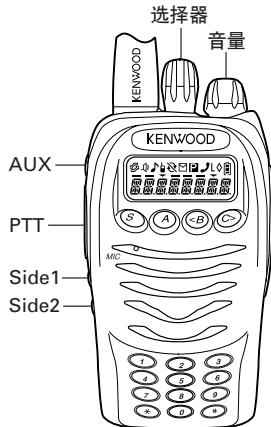
CH	C2		C		C6	
	RX (MHz)	TX (MHz)	RX (MHz)	TX (MHz)	RX (MHz)	TX (MHz)
1	415.05000	415.10000	465.05000	465.10000	370.05000	370.10000
2	400.05000	400.10000	440.05000	440.10000	350.05000	350.10000
3	429.95000	429.90000	489.95000	489.90000	389.95000	389.90000
4	415.00000	415.00000	465.00000	465.00000	370.00000	370.00000
5	415.20000	415.20000	465.20000	465.20000	370.20000	370.20000
6	415.40000	415.40000	465.40000	465.40000	370.40000	370.40000
7~16	-	-	-	-	-	-

#### • Test signaling

No.	RX	TX
1	None	None
2	None	100Hz Square Wave
4	QT : 67.0Hz	QT : 67.0Hz
5	QT : 151.4Hz	QT : 151.4Hz
6	QT : 210.7Hz	QT : 210.7Hz
7	QT : 254.1Hz	QT : 254.1Hz
8	DQT : 023N	DQT : 023N
9	DQT : 754I	DQT : 754I
10	DTMF : 159D	DTMF : 159D
11	None	DTMF Code 9
12	2-tone : A : 304.7Hz B : 3106.0Hz	2-tone : A : 304.7Hz B : 3106.0Hz
13	Single Tone : 979.9Hz	Single Tone : 979.9Hz
14	None	Single Tone : 1000Hz
15	Skip	Skip
16	None	MSK
17	MSK : Preamble : 0xAAAA Sync : 0x23EB Data : 0x230960C6AAAA CRC : 0xC4D7	MSK : Preamble : 0xAAAA Sync : 0x23EB Data : 0x230960C6AAAA CRC : 0xC4D7

## 调 整

## 控制



## 面板测试模式

## ■ 测试模式操作功能

本对讲机有测试模式。要进入测试模式，请按 [A] 键打开电源。按住 [A] 键，直到频率版本出现在LCD上为止。可以通过编程禁用测试模式。要退出测试模式，请再次打开电源。在测试模式可以使用下列功能。

## ■ 键操作

键	功 能	显 示
[S]	换到面板调谐模式	-
[A]	低发射功率	显示“L”
[B]	MSK 1200bps和2400bps	2400bps :  图标出现
[C]	测试信令CH上调	信令号
[选择器]	测试频率CH上调/下调	信道号
[Side1]	静噪打开/关闭	
[Side2]	窄/宽	窄：“N”，宽：“W”
[PTT]	发射	-
[0] 到 [9]、 [#]、[*]	用作DTMF键盘。 如果在发射时按下某个键，则发送与按下的键对应的DTMF。	-
[AUX]	段检查	显示所有的段

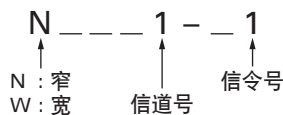
## 注意：

- 如果在发射时按下[S]、[A]、[B]、[C]键，则发送与按下的键对应的DTMF。

## ● LED指示灯

红色LED 发射时点亮。低电池电压警告时闪烁。  
绿色LED 有载波时点亮。

## ● 面板测试模式时的LCD显示



## ■ 频率和信令

已经根据下表所示的频率调整了设置。需要时，按调整步骤重新调整，以获得实际操作时想要的频率。

## ● 测试频率

信道	C2		C		C6	
	接收 (MHz)	发射 (MHz)	接收 (MHz)	发射 (MHz)	接收 (MHz)	发射 (MHz)
1	415.05000	415.10000	465.05000	465.10000	370.05000	370.10000
2	400.05000	400.10000	440.05000	440.10000	350.05000	350.10000
3	429.95000	429.90000	489.95000	489.90000	389.95000	389.90000
4	415.00000	415.00000	465.00000	465.00000	370.00000	370.00000
5	415.20000	415.20000	465.20000	465.20000	370.20000	370.20000
6	415.40000	415.40000	465.40000	465.40000	370.40000	370.40000
7-16	-	-	-	-	-	-

## ● 测试信令

号	接 收	发 射
1	无	无
2	无	100Hz方波
4	QT : 67.0Hz	QT : 67.0Hz
5	QT : 151.4Hz	QT : 151.4Hz
6	QT : 210.7Hz	QT : 210.7Hz
7	QT : 254.1Hz	QT : 254.1Hz
8	DQT : 023N	DQT : 023N
9	DQT : 754I	DQT : 754I
10	DTMF : 159D	DTMF : 159D
11	无	DTMF代码9
12	2-音： A : 304.7Hz B : 3106.0Hz	2-音： A : 304.7Hz B : 3106.0Hz
13	单音：979.9Hz	单音：979.9Hz
14	无	单音：1000Hz
15	跳跃	跳跃
16	无	MSK
17	MSK： 前同步码：0xAAAA 同步：0x23EB 数据：0x230960C6AAAA CRC：0xC4D7	MSK： 前同步码：0xAAAA 同步：0x23EB 数据：0x230960C6AAAA CRC：0xC4D7



## ADJUSTMENT

### Panel Tuning Mode

#### ■ Preparations for tuning the transceiver

Before attempting to tune the transceiver, connect the unit to a suitable power supply.

Whenever the transmitter is turned, the unit must be connected to a suitable dummy load (i.e. power meter).

The speaker output connector must be terminated with a 8Ω dummy load and connected to an AC voltmeter and an audio distortion meter or a SINAD measurement meter at all times during tuning.

#### ■ Transceiver tuning

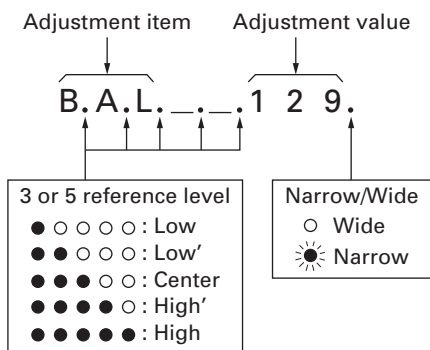
##### (To place transceiver in tuning mode)

Press [S] key, now in tuning mode. Use [B] key to write tuning data through tuning modes, and [Selector] to adjust tuning requirements (1 to 256 appears on LCD).

Use [C] key to select the adjustment item through tuning modes. Use [A] key to adjust 3 or 5 reference level adjustments, and use [Side2] key to switch between Wide/Narrow.

Channel appears on LCD. Set channel according to tuning requirements.

#### • LCD display in panel tuning mode



#### ■ 3 or 5 reference level adjustments frequency

Tuning point	C2		C		C6	
	RX (MHz)	TX (MHz)	RX (MHz)	TX (MHz)	RX (MHz)	TX (MHz)
Low	400.05000	400.10000	440.05000	440.10000	350.05000	350.10000
Low'	407.55000	407.60000	452.55000	452.60000	360.05000	360.10000
Center	415.05000	415.10000	465.05000	465.10000	370.05000	370.10000
High'	422.55000	422.60000	477.55000	477.60000	380.05000	380.10000
High	429.95000	429.90000	489.95000	489.90000	389.95000	389.90000

#### ■ Adjustment item and Display

(\*\*\* : 1~256, MSK only : 1~64)

Order	Adjustment item	Display
1	Frequency	F R E Q _ * * *
2	High power	H P W R _ * * *
3	Low power	L P W R _ * * *
4	DQT balance	B A L _ _ * * *
5	Max deviation	D E V _ _ * * *
6	VOX 1	V X 1 _ _ * * *
7	VOX 10	V X 1 0 _ * * *
8	QT deviation	Q T _ _ _ * * *
9	DQT deviation	D Q T _ _ * * *
10	DTMF deviation	D T M F _ * * *
11	MSK deviation	M S K _ _ _ * *
12	Tone deviation	T O N E _ * * *
13	Sensitivity	S E N S _ * * *
14	Squelch	S Q L _ _ * * *
15	Low RSSI	L R S S I * * *
16	Squelch tight	S Q L T _ * * *
17	High RSSI	H R S S I * * *
18	Battery detection	B A T T _ * * *

#### ■ Key operation

Key	Function	
	Push	Hold (1 second)
[S]	End of panel tuning mode	-
[A]	To enter 3 or 5 reference level adjustments	-
[B]	Writes the adjustment value	-
[C]	Go to next adjustment item	Back to last adjustment item
[Selector]	Adjustment value up/down	
[Volume]	Volume level up/down	
[Side1]	Squelch on/off	-
[Side2]	Selects Narrow, Wide	-
[AUX]	All segment appears	-

## 调 整

## 面板调谐模式

## ■ 调谐对讲机的准备

在尝试调谐对讲机前, 请将对讲机连接到合适的电源上。

发射打开时, 对讲机必须连接到合适的等效负载上 (如功率表)。

扬声器输出连接器必须端接8Ω的等效负载, 调谐期间, 必须始终连接到交流电压表和音频失真仪或SINAD测量仪表上。

## ■ 对讲机调谐

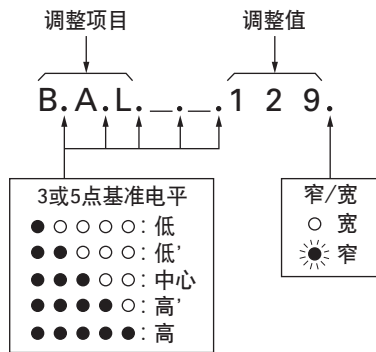
## (要使对讲机进入调谐模式)

按 [S] 键, 现在处于调谐模式。用 [B] 键写入调谐模式的调谐数据, 用[选择器]调整调谐要求 (1~256出现在LCD上)。

用 [C] 键选择调谐模式的调整项目。用 [A] 键调整3或5点基准电平调节, 然后用 [Side2] 键切换宽/窄。

信道出现在LCD上。根据调谐要求设置信道。

## ● 面板调谐模式时的LCD显示。



## ■ 键操作

键	功 能	
	按 下	按住 (1秒钟)
[S]	结束面板调谐模式	-
[A]	进入3或5点基准电平调节	-
[B]	写入调整值	-
[C]	转到下一调整项目	返回到最后调整的项目
[选择器]	调整值增大/减小	
[音量]	音量升高/降低	
[Side1]	静噪打开/关闭	-
[Side2]	选择窄、宽	-
[AUX]	显示所有的段	-

## ■ 3或5点基准电平调节频率

调谐点	C2		C		C6	
	接收 (MHz)	发射 (MHz)	接收 (MHz)	发射 (MHz)	接收 (MHz)	发射 (MHz)
低	400.05000	400.10000	440.05000	440.10000	350.05000	350.10000
低'	407.55000	407.60000	452.55000	452.60000	360.05000	360.10000
中心	415.05000	415.10000	465.05000	465.10000	370.05000	370.10000
高'	422.55000	422.60000	477.55000	477.60000	380.05000	380.10000
高	429.95000	429.90000	489.95000	489.90000	389.95000	389.90000

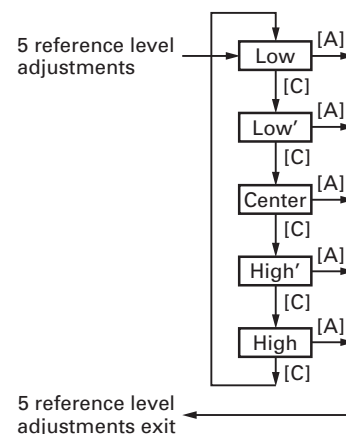
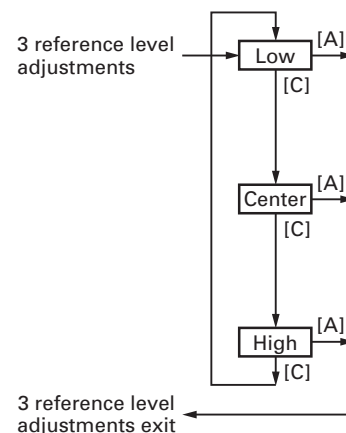
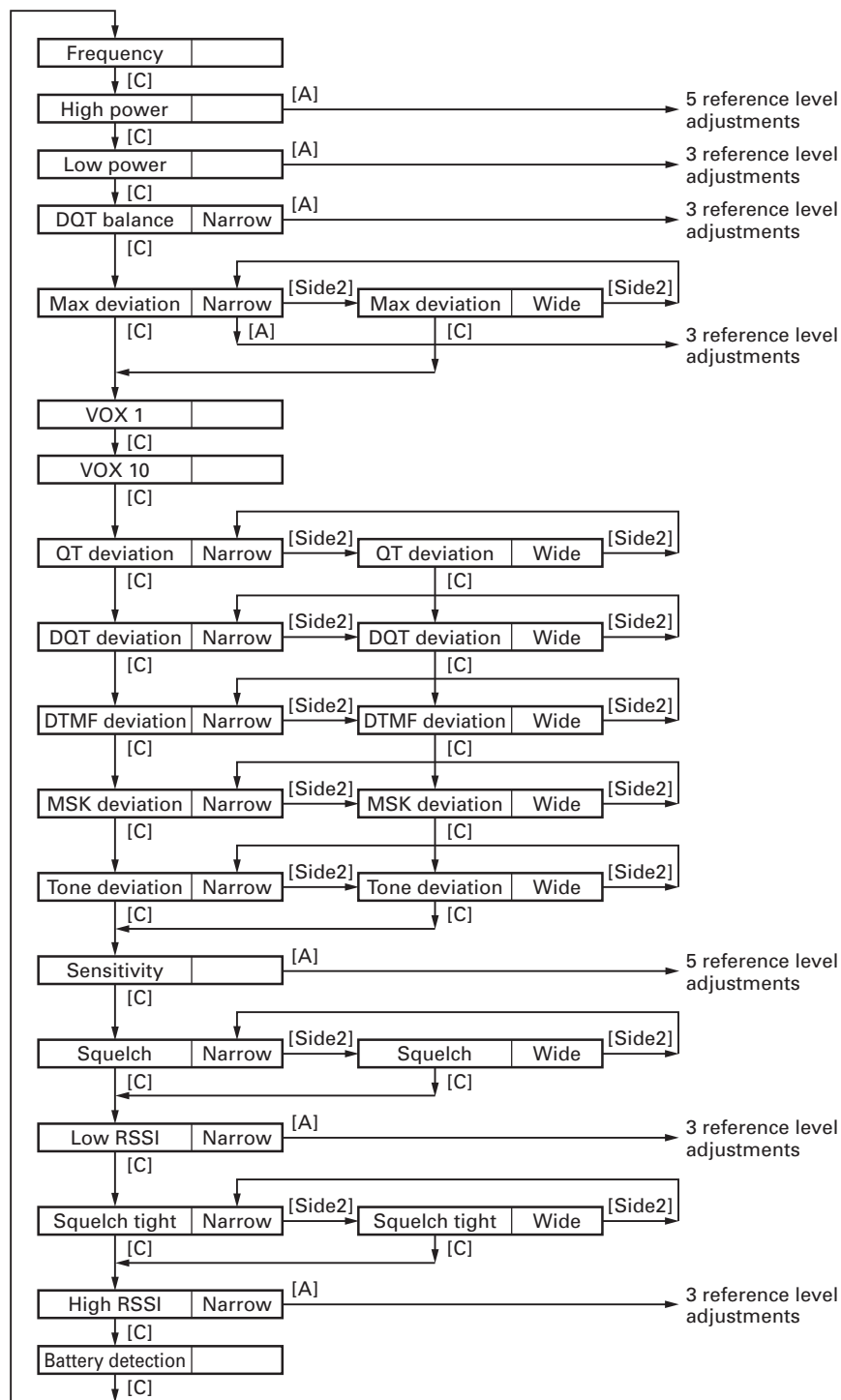
## ■ 调整项目和显示

(\*\*\*: 1~256, 仅MSK: 1~64)

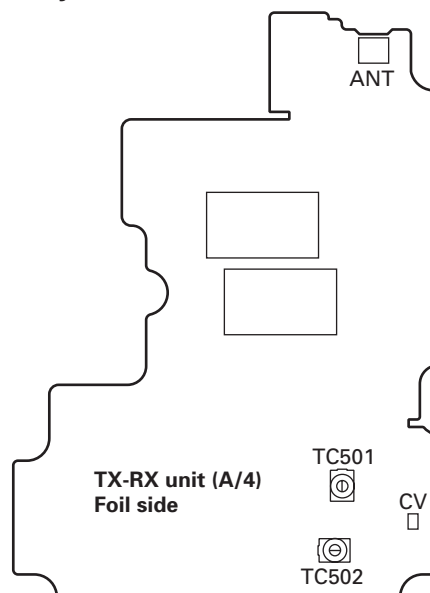
顺序	调整项目	显 示
1	频率	FREQ_***
2	高功率	HPWR_***
3	低功率	LPWR_***
4	DQT平衡	BAL_***
5	最大频偏	DEV_***
6	VOX 1	VX1_***
7	VOX 10	VX10_***
8	QT频偏	QT_***
9	DQT频偏	DQT_***
10	DTMF频偏	DTMF_***
11	MSK频偏	MSK_**
12	单音频偏	TONE_***
13	灵敏度	SENS_***
14	静噪	SQL_***
15	低RSSI	LRSSI***
16	静噪深	SQLT_***
17	高RSSI	HRSSI***
18	电池检测	BATT_***

## ADJUSTMENT

### Flow chart



### Adjustment Points





## ADJUSTMENT

### Test Equipment Required for Alignment

Test Equipment	Major Specifications	
1. Standard Signal Generator (SSG)	Frequency Range	350 to 520MHz
	Modulation	Frequency modulation and external modulation
	Output	-127dBm/0.1μV to greater than -47dBm/1mV
2. Power Meter	Input Impedance	50Ω
	Operation Frequency	350 to 520MHz or more
	Measurement Capability	Vicinity of 10W
3. Deviation Meter	Frequency Range	350 to 520MHz
4. Digital Volt Meter (DVM)	Measuring Range	10mV to 10V DC
	Input Impedance	High input impedance for minimum circuit loading
5. Oscilloscope		DC through 30MHz
6. High Sensitivity Frequency Counter	Frequency Range	10Hz to 1000MHz
	Frequency Stability	0.2ppm or less
7. Ammeter		5A
8. AF Volt Meter (AF VTVM)	Frequency Range	50Hz to 10kHz
	Voltage Range	1mV to 10V
9. Audio Generator (AG)	Frequency Range	50Hz to 5kHz or more
	Output	0 to 1V
10. Distortion Meter	Capability	3% or less at 1kHz
	Input Level	50mV to 10Vrms
11. 8Ω Dummy Load		Approx. 8Ω, 3W
12. Regulated Power Supply		5V to 10V, approx. 5A Useful if ammeter equipped

#### ■ Antenna Connector Adapter

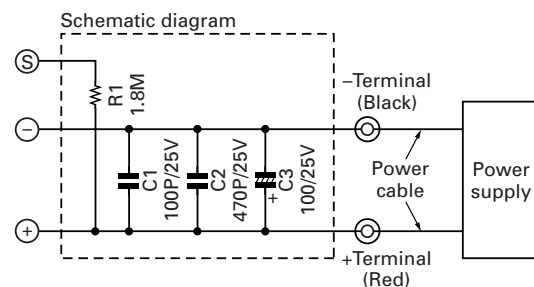
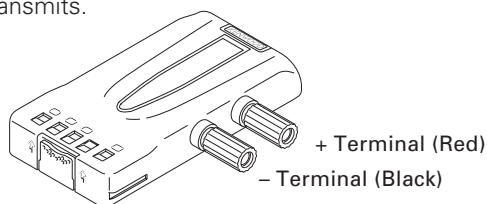
The antenna connector of this radio uses an SMA terminal. Use an antenna connector adapter [SMA(f) – BNC(f) or SMA(f) – N(f)] for adjustment. (The adapter is not provided as an option, so buy a commercially-available one.)

#### ■ Battery Jig (W05-0909-00)

Connect the power cable properly between the battery jig installed in the transceiver and the power supply, and be sure output voltage and the power supply polarity prior to switching the power supply ON, otherwise over voltage and reverse connection may damage the transceiver, or the power supply or both.

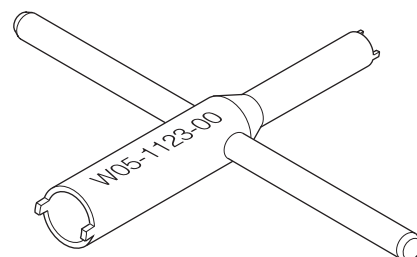
When using the battery jig in user mode, the transceiver assumes that a lithium-ion battery pack is attached to the transceiver. In adjustment mode, battery type detection is not performed.

**Note :** When using the battery jig, you must measure the voltage at the terminals of the battery jig. Otherwise, a slight voltage drop may occur within the power cable, between the power supply and the battery jig, especially while the transceiver transmits.



#### ■ Nut wrench

In order to turn the volume nut and the channel selector nut, use a recommendation tool.  
KENWOOD part No. : W05-1123-00



## 调 整

## 所需的用于调整的测试设备

测 试 设 备	主 要 特 性	
1. 标准信号发生器 (SSG)	频率范围 调制 输出	350到520MHz 调频和外部调制 -127dBm/0.1 $\mu$ V到大于 -47dBm/1mV
2. 功率计	输入阻抗 工作频率 测量范围	50 $\Omega$ 350到520MHz或更高 10W左右
3. 频偏仪	频率范围	350到520MHz
4. 数字电压表 (DVM)	测量范围 输入阻抗	直流10mV到10V 最小电路负载时为高输入阻抗
5. 示波器		直流到30MHz
6. 高灵敏度频率计数器	频率范围 频率稳定性	10Hz到1000MHz 0.2ppm或更低
7. 电流表		5A
8. 音频电压表 (AF VTVM)	频率范围 电压范围	50Hz到10kHz 1mV到10V
9. 音频发生器 (AG)	频率范围 输出	50Hz到5kHz或更高 0到1V
10. 失真测试仪	测量能力 输入电平	在1kHz时3%或更低 50mV到10Vrms
11. 8 $\Omega$ 假负载		大约8 $\Omega$ , 3W
12. 可调电源		5V到10V, 大约5A 最好具备电流表

## ■ 天线接口转换头

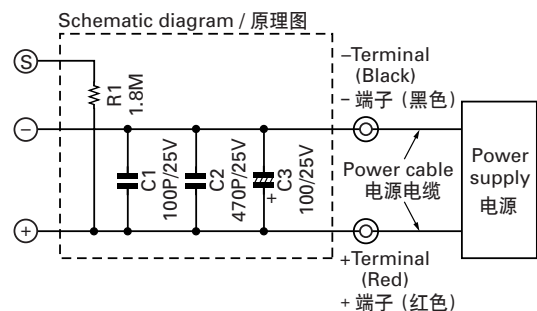
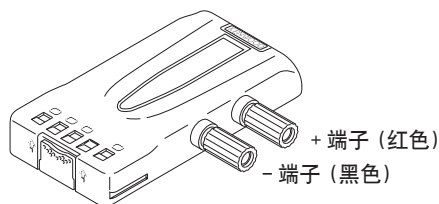
此通信机的天线接口使用SMA终端。使用天线接口转换头 [ SMA(f) - BNC(f)或SMA(f) - N(f) ] 进行调整。(转换头不作为可选件提供, 因此请购买商用转换头。)

## ■ 电池夹具 (W05-0909-00)

在通信机的电池夹具和电源之间连接适当的电源电缆, 确认了输出电压之后接通电源开关, 电压超过或极性颠倒都有可能损坏通信机。

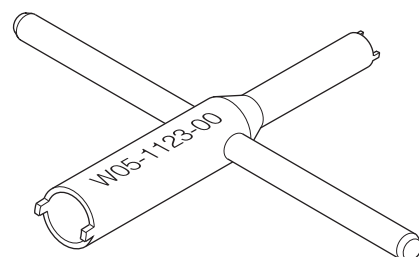
当在用户模式使用电池夹具时, 通信机假定安装的是锂离子电池。在调整模式, 请确认电池类型。

注: 当使用电池夹具时, 你必须测定电池夹具的终端电压。因为, 电源和电池夹具之间会有一些的电压下降, 尤其在通信机发射的时候。



## ■ 螺母扳手

为了转动音量螺母和信道选择螺母, 请使用推荐的工具。  
KENWOOD零件号: W05-1123-00



## ADJUSTMENT

## Common Section

Item	Condition	Measurement			Adjustment			Specifications/Remarks	
		Test-equipment	Unit	Terminal	Unit	Parts	Method		
1. Setting	1) BATT terminal voltage : 7.5V 2) SSG standard modulation [Wide] MOD : 1kHz, DEV : 3kHz [Narrow] MOD : 1kHz, DEV : 1.5kHz								
2. VCO lock voltage • RX	<b>[Panel test mode]</b> 1) CH-Sig : 3-1	Power meter	Panel	ANT	TX-RX (A/4)	TC502	3.6V <b>C</b> 3.4V <b>C2</b> 3.8V <b>C6</b>	±0.1V	
		DVM	TX-RX (A/4)	CV				Check	0.6V or more
	• TX	<b>[Panel tuning mode] LPWR*</b> 3) CH-Sig : 3-1 PTT : ON				TX-RX (A/4)	TC501	3.6V <b>C</b> 3.4V <b>C2</b> 3.8V <b>C6</b>	±0.1V
									Check
	2) CH-Sig : 2-1 4) CH-Sig : 2-1 PTT : ON								

\* TX can be continued on unlock condition in panel tuning mode.

## Transmitter Section

Item	Condition	Measurement			Adjustment			Specifications/Remarks
		Test-equipment	Unit	Terminal	Unit	Parts	Method	
1. Frequency adjust	1) Adj item : [FREQ_] Adjust : [***] CH-Sig : 3-1 PTT : ON	f. counter	Panel	ANT	Panel	Selector knob	High frequency ±50Hz	Note : After replacing the TCXO (X501) align frequency.
2. High power adjust	1) Adj item : [HPWR_] Adjust : [***] 2) Adj item : [H.PWR_] → [H.P.WR_] → [H.P.W.R_] → [H.P.W.R._] Adjust : [***] PTT : ON	Power meter Ammeter					4.0W	±0.1W 1.8A or less
3. High power check	<b>[Panel test mode]</b> 1) CH-Sig : 1-1 PTT : ON						Check	4.5~5.5W 1.9A or less
	2) CH-Sig : 2-1 PTT : ON							
	3) CH-Sig : 3-1 PTT : ON							
4. Low power adjust	1) Adj item : [LPWR_] Adjust : [***] 2) Adj item : [L.PWR_] → [L.P.W.R_] → [L.P.W.R._] Adjust : [***] PTT : ON				Panel	Selector knob	1.0W	±0.1W 1.0A or less

## 调 整

## 公用部分

项 目	条 件	测 量			调 整			规 格 / 备 注	
		测量装置	单元	端子	单元	部件	方 法		
1. 设定	1) BATT端子电压：7.5V 2) 标准信号发生器调制 [宽] 调制：1kHz, 频偏：3kHz [窄] 调制：1kHz, 频偏：1.5kHz								
2. 压控振荡器 锁定电压 ●接收	[面板测试模式] 1) CH-Sig：3-1	功率计  DVM	面板  TX-RX (A/4)	天线  CV	TX-RX (A/4)	TC502	3.6V C 3.4V C2 3.8V C6	± 0.1V	
	2) CH-Sig：2-1						检查	0.6V或更高	
	●发射	[面板调谐模式] LPWR* 3) CH-Sig：3-1 PTT：开启				TX-RX (A/4)	TC501	3.6V C 3.4V C2 3.8V C6	± 0.1V
		4) CH-Sig：2-1 PTT：开启						检查	0.6V或更高

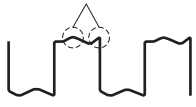
\* 面板调谐模式中失锁条件下TX可持续。

## 发射部分

项 目	条 件	测 量			调 整			规 格 / 备 注			
		测量装置	单元	端子	单元	部件	方 法				
1. 频率调整	1) 调整项目：[FREQ_] 调整：[***] CH-Sig：3-1 PTT：开启	频率计数器	面板	天线	面板	选择器	高频率 ± 50Hz	注意：更换TCXO (X501) 后, 请调整频率。			
2. 高功率调整	1) 调整项目：[HPWR_] 调整：[***] 2) 调整项目：[H.PWR_]→ [H.P.WR_]→[H.P.W.R_]→ [H.P.W.R_]→[H.P.W.R._] 调整：[***] PTT：开启						功率计 电流表			4.0W	± 0.1W 1.8A或更低
3. 高功率检查	[面板测试模式] 1) CH-Sig：1-1 PTT：开启										检查
	2) CH-Sig：2-1 PTT：开启										
	3) CH-Sig：3-1 PTT：开启										
4. 低功率调整	1) 调整项目：[LPWR_] 调整：[***] 2) 调整项目：[L.PWR_]→ [L.P.W.R_]→[L.P.W.R._] 调整：[***] PTT：开启				面板	选择器	1.0W	± 0.1W 1.0A或更低			



## ADJUSTMENT

Item	Condition	Measurement			Adjustment			Specifications/Remarks
		Test-equipment	Unit	Terminal	Unit	Parts	Method	
5. Low power check	<b>[Panel test mode]</b> 1) CH-Sig : 1-1 Set low power (Push [S]) PTT : ON 2) CH-Sig : 2-1 PTT : ON 3) CH-Sig : 3-1 PTT : ON	Power meter Ammeter	Panel	ANT			Check	0.7~1.4W 1.0A or less
6. DQT balance adjust	1) Adj item : [BAL_ _] Adjust : [***.] Deviation meter filter LPF : 3kHz HPF : OFF • Narrow 2) Adj item : [B.AL_ _] → [B.A.L._ _] → [B.A.L._ _] Adjust : [***.] PTT : ON	Deviation meter Oscilloscope AG AF VTVM	Panel	ANT SP/MIC	Panel	Selector knob	Make the demodulation waves into square waves.	These 2 peaks to the same level 
7. Max DEV adjust	1) Adj item : [DEV_ _] Adjust : [***.] AG : 1kHz/75mV at MIC terminal Deviation meter filter LPF : 15kHz HPF : OFF • Narrow 2) Adj item : [D.EV_ _] → [D.E.V._ _] → [D.E.V._ _] Adjust : [***.] PTT : ON							
• Wide	3) Adj item : [DEV_ _] Adjust : [***.] PTT : ON						4.40kHz (According to the larger +, -)	±50Hz
8. MIC sensitivity check	<b>[Panel test mode]</b> 1) CH-Sig : 1-1 AG : 1kHz/15.0mV at MIC terminal PTT : ON						Check	1.3~1.8kHz (Narrow) 2.5~3.5kHz (Wide)
9. VOX1 adjust	1) Adj item : [VOX1_] Adjust : [***] AG : 1kHz/150mV at MIC terminal	AG	Panel	SP/MIC	Panel		After apply signal from AG, press [B] key that numeric will be stored in memory.	
10. VOX10 adjust	1) Adj item : [VOX10] Adjust : [***] AG : 1kHz/2mV at MIC terminal							
11. QT deviation adjust	1) Remove the panel tuning cable assembly from the universal connector. Adj item : [QT_ _ _] Adjust : [***.] Deviation meter filter LPF : 3kHz HPF : OFF PTT : ON • Narrow	Power meter Deviation meter Oscilloscope AG AF VTVM	Panel	ANT SP/MIC	Panel	Selector knob	0.35kHz	±40Hz
• Wide	2) Adj item : [QT_ _ _] Adjust : [***] PTT : ON						0.75kHz	±40Hz

## 调 整

项 目	条 件	测 量			调 整			规 格 / 备 注
		测量装置	单元	端子	单元	部件	方 法	
5. 低功率检查	[面板测试模式] 1) CH-Sig : 1-1 设为低功率 (按 [S] 键) PTT : 开启	功率计 电流表	面板	天线			检查	0.7~1.4W 1.0A或更低
	2) CH-Sig : 2-1 PTT : 开启							
	3) CH-Sig : 3-1 PTT : 开启							
6. DQT平衡 调整  ● 窄	1) 调整项目 : [BAL_ _] 调整 : [***.] 频偏仪滤波器 LPF : 3kHz HPF : OFF 2) 调整项目 : [B.AL_ _]→ [B.A.L._ _]→[B.A.L._ _] 调整 : [***.] PTT : 开启	频偏仪 示波器 AG AF VTVM	面板	天线  SP/MIC	面板	选择器	使解调波形为 方形波	两个尖峰具有同样电平  
	7. 最大频偏 调整  ● 窄						1) 调整项目 : [DEV_ _] 调整 : [***.] AG : 1kHz/75mV (MIC端子) 频偏仪滤波器 LPF : 15kHz HPF : OFF 2) 调整项目 : [D.EV_ _]→ [D.E.V._ _]→[D.E.V._ _] 调整 : [***.] PTT : 开启	
● 宽	3) 调整项目 : [DEV_ _] 调整 : [***.] PTT : 开启					4.40kHz (按照较大 + , -)	± 50Hz	
8. MIC灵敏度 检查	[面板测试模式] 1) CH-Sig : 1-1 AG : 1kHz/15.0mV (MIC端子) PTT : 开启						检查	1.3~1.8kHz (窄) 2.5~3.5kHz (宽)
9. VOX1 调整	1) 调整项目 : [VOX1_] 调整 : [***] AG : 1kHz/150mV (MIC端子)	AG	面板	SP/MIC	面板		施加AG信号后, 按 [B] 键, 数字将 保存在存储器中。	
10. VOX10 调整	1) 调整项目 : [VOX10] 调整 : [***] AG : 1kHz/2mV (MIC端子)							
11. QT频偏 调整  ● 窄	1) 从通用连接器上拆下面板 调谐电缆组件。  调整项目 : [QT_ _ _] 调整 : [***.] 频偏仪滤波器 LPF : 3kHz HPF : OFF PTT : 开启	功率计  频偏仪 示波器 AG AF VTVM	面板	天线  SP/MIC	面板	选择器	0.35kHz	± 40Hz
	● 宽						2) 调整项目 : [QT_ _ _] 调整 : [***] PTT : 开启	0.75kHz

## ADJUSTMENT

Item	Condition	Measurement			Adjustment			Specifications/Remarks
		Test-equipment	Unit	Terminal	Unit	Parts	Method	
12. DQT deviation adjust • Narrow	1) Adj item : [DQT_] Adjust : [***.] Deviation meter filter LPF : 3kHz HPF : OFF PTT : ON	Power meter  Deviation meter Oscilloscope AG AF VTVM	Panel	ANT  SP/MIC	Panel	Selector knob	0.35kHz	±40Hz
	• Wide						2) Adj item : [DQT_] Adjust : [***.] PTT : ON	0.75kHz
13. DTMF deviation adjust • Narrow	1) Adj item : [DTMF_] Adjust : [***.] Deviation meter filter LPF : 15kHz HPF : OFF PTT : ON						1.25kHz	±0.1kHz
	• Wide						2) Adj item : [DTMF_] Adjust : [***.] PTT : ON	2.5kHz
14. MSK deviation adjust • Narrow	1) Adj item : [MSK_] Adjust : [***.] Deviation meter filter LPF : 15kHz HPF : OFF PTT : ON						1.5kHz	±0.1kHz
	• Wide						2) Adj item : [MSK_] Adjust : [***.] PTT : ON	3.0kHz
15. TONE deviation adjust • Narrow	1) Adj item : [TONE_] Adjust : [***.] Deviation meter filter LPF : 15kHz HPF : OFF PTT : ON						1.5kHz	±0.1kHz
	• Wide						2) Adj item : [TONE_] Adjust : [***.] PTT : ON	3.0kHz
16. BATT detection writing	1) Adj item : [BATT_] Adjust : [***.] PTT : ON	Power meter  DVM	Panel	ANT  BATT terminal	Panel		After pressing the PTT switch, confirm that one predetermined numeric in the range 1 to 256 appears and then press [B] key. That numeric will be stored in memory.	BATT terminal voltage : 5.9V
17. BATT detection check	<b>[Panel test mode]</b> 1) CH-Sig : 1-1 BATT terminal voltage : 7.5V PTT : ON						Check	The transceiver can transmit without causing the LED to blink.
	2) BATT terminal voltage : 5.7V PTT : ON							The transceiver should not transmit and LED blinking.

## 调 整

项 目	条 件	测 量			调 整			规 格 / 备 注					
		测量装置	单元	端子	单元	部件	方 法						
12. DQT频偏调整  ●窄	1) 调整项目：[DQT_]调整：[***]频偏仪滤波器 LPF：3kHz HPF：OFF PTT：开启	功率计  频偏仪 示波器 AG AF VTVM	面板	天线  SP/MIC	面板	选择器	0.35kHz	± 40Hz					
	●宽						2) 调整项目：[DQT_]调整：[***]PTT：开启	0.75kHz	± 40Hz				
13. DTMF频偏调整  ●窄	1) 调整项目：[DTMF_]调整：[***]频偏仪滤波器 LPF：15kHz HPF：OFF PTT：开启						1.25kHz	± 0.1kHz					
	●宽						2) 调整项目：[DTMF_]调整：[***]PTT：开启	2.5kHz	± 0.1kHz				
14. MSK频偏调整  ●窄	1) 调整项目：[MSK_]调整：[***]频偏仪滤波器 LPF：15kHz HPF：OFF PTT：开启						1.5kHz	± 0.1kHz					
	●宽						2) 调整项目：[MSK_]调整：[***]PTT：开启	3.0kHz	± 0.1kHz				
15. 单音频偏调整  ●窄	1) 调整项目：[TONE_]调整：[***]频偏仪滤波器 LPF：15kHz HPF：OFF PTT：开启						1.5kHz	± 0.1kHz					
	●宽						2) 调整项目：[TONE_]调整：[***]PTT：开启	3.0kHz	± 0.1kHz				
16. 电池检测写入	1) 调整项目：[BATT_]调整：[***]PTT：开启						功率计  DVM	面板	天线  BATT端子	面板		按PTT开关后, 确认在1~256范围内的预定数字是否出现, 然后按 [B] 键。数字将保存在存储器中。	BATT端子电压：5.9V
17. 电池检测检查	[面板测试模式] 1) CH-Sig：1-1 BATT端子电压：7.5V PTT：开启											检查	对讲机可以发射, 不会引起LED闪烁。
	2) BATT端子电压：5.7V PTT：开启												对讲机不能发射, LED闪烁。

## ADJUSTMENT

## Receiver Section

Item	Condition	Measurement			Adjustment			Specifications/Remarks
		Test-equipment	Unit	Terminal	Unit	Parts	Method	
1. Sensitivity adjust	1) Adj item : [SENS_] Adjust : [***] 2) Adj item : [S.ENS_] → [S.E.N.S_] → [S.E.N.S.] → [S.E.N.S.] → [S.E.N.S.] Adjust : [***] SSG output : -103dBm (1.58μV) (MOD : 1kHz±1.5kHz)	SSG  AF VTVM Oscilloscope	Panel	ANT  SP/MIC	Panel	Selector knob	Adjust for RSSI MAX	Rotate the selector knob and increase the adjustment value starting from "1" to obtain RSSI MAX.
2. Sensitivity check	<b>[Panel test mode]</b> 1) CH-Sig : 1-1 SSG output Wide : -117dBm (0.32μV) (MOD : 1kHz±3kHz) Narrow : -116dBm (0.35μV) (MOD : 1kHz±1.5kHz)						Check	13dB SINAD or more
3. Squelch (Preset) adjust • Narrow	1) Adj item : [SQL_] Adjust : [***] SSG output : -120dBm (0.22μV) <b>C,C2</b> : -119dBm (0.25μV) <b>C6</b> (MOD : 1kHz±1.5kHz)				Panel	Selector knob	After input signal from SSG, press [B] key. That numeric will be stored in memory.	After adjusting SQL, check SQL open/close. SSG -118dBm (0.28μV) <b>C,C2</b> SSG -117dBm (0.32μV) <b>C6</b> : Open SSG OFF : Close
• Wide	2) Adj item : [SQL_] Adjust : [***] SSG output : -120dBm (0.22μV) <b>C,C2</b> : -119dBm (0.25μV) <b>C6</b> (MOD : 1kHz±3.0kHz)							
4. Low RSSI adjust • Narrow	1) Adj item : [LRSSI] Adjust : [***] SSG output : -118dBm (0.28μV) (MOD : 1kHz±1.5kHz) 2) Adj item : [L.RSSI] → [L.R.S.S.I] → [L.R.S.S.I.] Adjust : [***]						After input signal from SSG, press [B] key. That numeric will be stored in memory.	
5. Squelch (Tight) adjust • Narrow	1) Adj item : [SQLT_] Adjust : [***] SSG output : -115dBm (0.4μV) <b>C,C2</b> : -114dBm (0.45μV) <b>C6</b> (MOD : 1kHz±1.5kHz)						After input signal from SSG, press [B] key. That numeric will be stored in memory.	After adjusting SQL, check SQL open/close. SSG -113dBm (0.5μV) <b>C,C2</b> SSG -112dBm (0.56μV) <b>C6</b> : Open SSG OFF : Close
• Wide	2) Adj item : [SQLT_] Adjust : [***] SSG output : -115dBm (0.4μV) <b>C,C2</b> : -114dBm (0.45μV) <b>C6</b> (MOD : 1kHz±3.0kHz)							
6. High RSSI adjust • Narrow	1) Adj item : [HRSSI] Adjust : [***] SSG output : -70dBm (70.8μV) (MOD : 1kHz±1.5kHz) 2) Adj item : [H.RSSI] → [H.R.S.S.I] → [H.R.S.S.I.] Adjust : [***]						After input signal from SSG, press [B] key. That numeric will be stored in memory.	

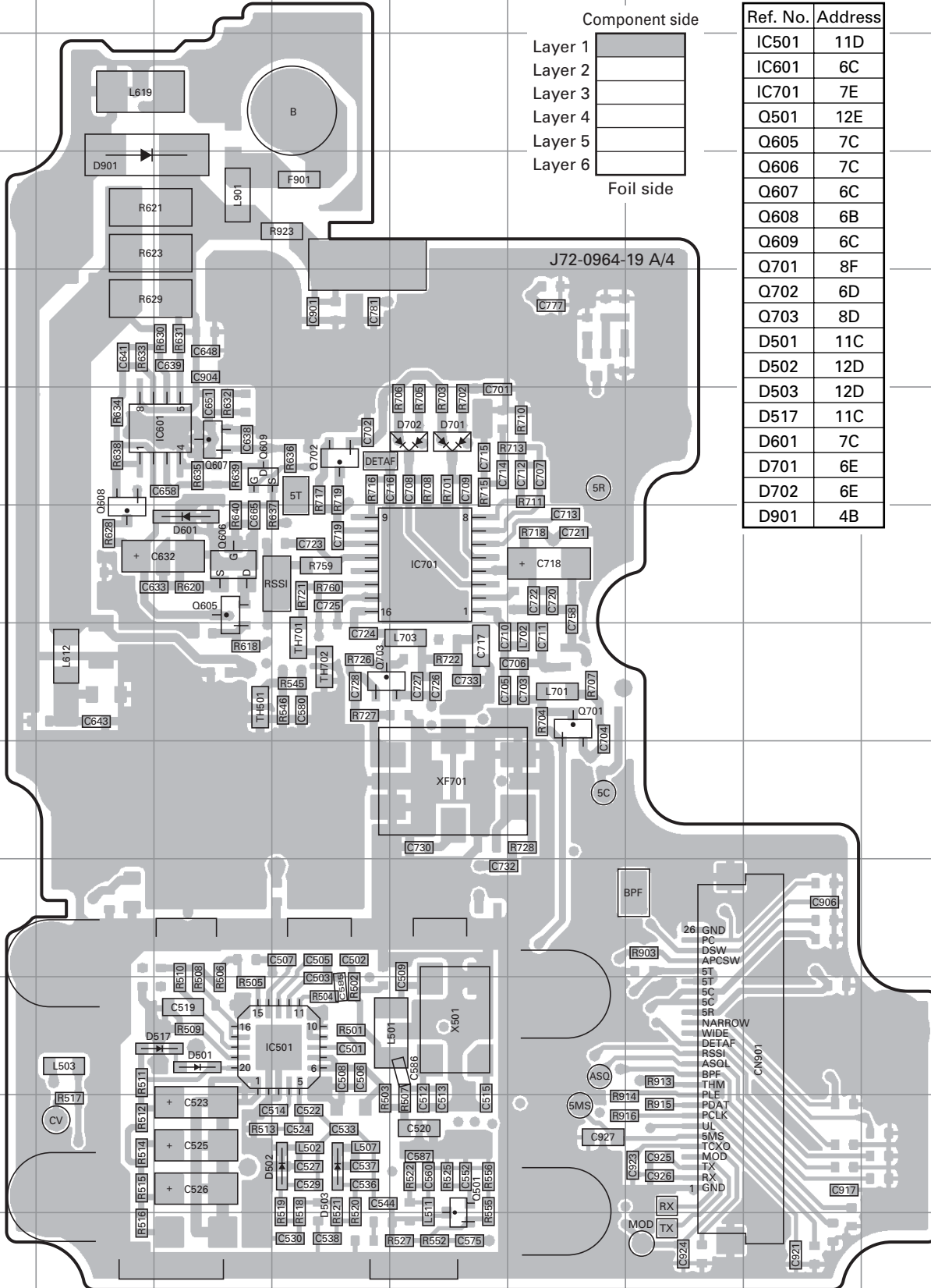
## 调 整

## 接收部分

项 目	条 件	测 量			调 整			规 格 / 备 注
		测量装置	单元	端子	单元	部件	方 法	
1. 灵敏度调整	1) 调整项目：[SENS_] 调整：[***] 2) 调整项目：[S.ENS_]→ [S.E.N.S_]→ [S.E.N.S.]→ [S.E.N.S._] 调整：[***] SSG输出：-103dBm (1.58μV) (调制：1kHz/±1.5kHz)	SSG  AF VTVM 示波器	面板	天线  SP/MIC	面板	选择器	RSSI MAX调节	转动选择旋钮,从“1”开始增大调整值,直到获得RSSI MAX。
2. 灵敏度检查	[面板测试模式] 1) CH-Sig：1-1 SSG输出 宽：-117dBm (0.32μV) (调制：1kHz/±3kHz) 窄：-116dBm (0.35μV) (调制：1kHz/±1.5kHz)						检查	13dB SINAD或更高
3. 静噪 (预设定) 调整 ● 窄	1) 调整项目：[SQL_] 调整：[***] SSG输出 ：-120dBm (0.22μV) C,C2 ：-119dBm (0.25μV) C6 (调制：1kHz/±1.5kHz)				面板	选择器	从SSG输入信号后按[B]键。数字将保存在存储器中。	调节静噪后,检查静噪的打开/关闭。 SSG -118dBm (0.28μV) C,C2 SSG -117dBm (0.32μV) C6 ：打开 SSG OFF：关闭
● 宽	2) 调整项目：[SQL_] 调整：[***] SSG输出 ：-120dBm (0.22μV) C,C2 ：-119dBm (0.25μV) C6 (调制：1kHz/±3.0kHz)							
4. 低RSSI调整 ● 窄	1) 调整项目：[LRSSI] 调整：[***] SSG输出：-118dBm (0.28μV) (调制：1kHz/±1.5kHz)						从SSG输入信号后按[B]键。数字将保存在存储器中。	
	2) 调整项目：[L.RSSI]→ [L.R.S.S.I]→ [L.R.S.S.I.] 调整：[***]							
5. 静噪深调整 ● 窄	1) 调整项目：[SQLT_] 调整：[***] SSG输出 ：-115dBm (0.4μV) C,C2 ：-114dBm (0.45μV) C6 (调制：1kHz/±1.5kHz)						从SSG输入信号后按[B]键。数字将保存在存储器中。	调节静噪后,检查静噪的打开/关闭。 SSG -113dBm (0.5μV) C,C2 SSG -112dBm (0.56μV) C6 ：打开 SSG OFF：关闭
● 宽	2) 调整项目：[SQLT_] 调整：[***] SSG输出 ：-115dBm (0.4μV) C,C2 ：-114dBm (0.45μV) C6 (调制：1kHz/±3.0kHz)							
6. 高RSSI调整 ● 窄	1) 调整项目：[HRSSI] 调整：[***] SSG输出：-70dBm (70.8μV) (调制：1kHz/±1.5kHz)						从SSG输入信号后按[B]键。数字将保存在存储器中。	
	2) 调整项目：[H.RSSI]→ [H.R.S.S.I]→ [H.R.S.S.I.] 调整：[***]							

# TK-3178 PC BOARD / PC板

TX-RX UNIT (X57-7013-XX) (A/4) -01 : C -02 : C2 -03 : C6  
 Component side view (J72-0964-19 A/4)

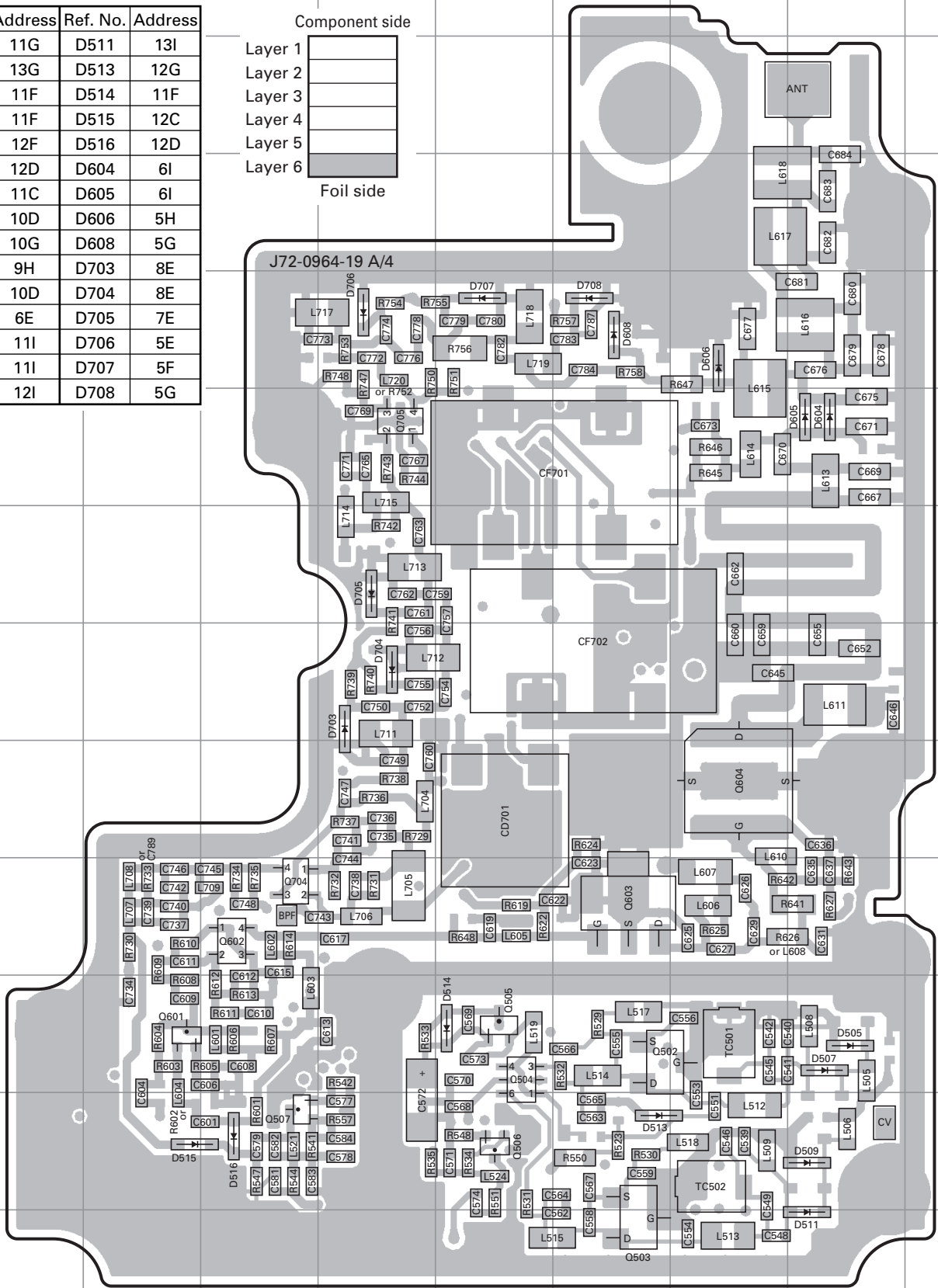
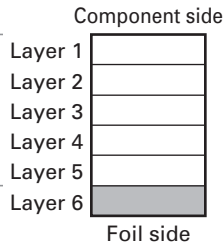


Ref. No.	Address
IC501	11D
IC601	6C
IC701	7E
Q501	12E
Q605	7C
Q606	7C
Q607	6C
Q608	6B
Q609	6C
Q701	8F
Q702	6D
Q703	8D
D501	11C
D502	12D
D503	12D
D517	11C
D601	7C
D701	6E
D702	6E
D901	4B

# PC BOARD / PC板 TK-3178

## TX-RX UNIT (X57-7013-XX) (A/4) -01 : C -02 : C2 -03 : C6 Foil side view (J72-0964-19 A/4)

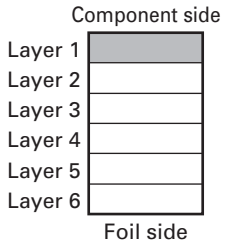
Ref. No.	Address	Ref. No.	Address
Q502	11G	D511	13I
Q503	13G	D513	12G
Q504	11F	D514	11F
Q505	11F	D515	12C
Q506	12F	D516	12D
Q507	12D	D604	6I
Q601	11C	D605	6I
Q602	10D	D606	5H
Q603	10G	D608	5G
Q604	9H	D703	8E
Q704	10D	D704	8E
Q705	6E	D705	7E
D505	11I	D706	5E
D507	11I	D707	5F
D509	12I	D708	5G



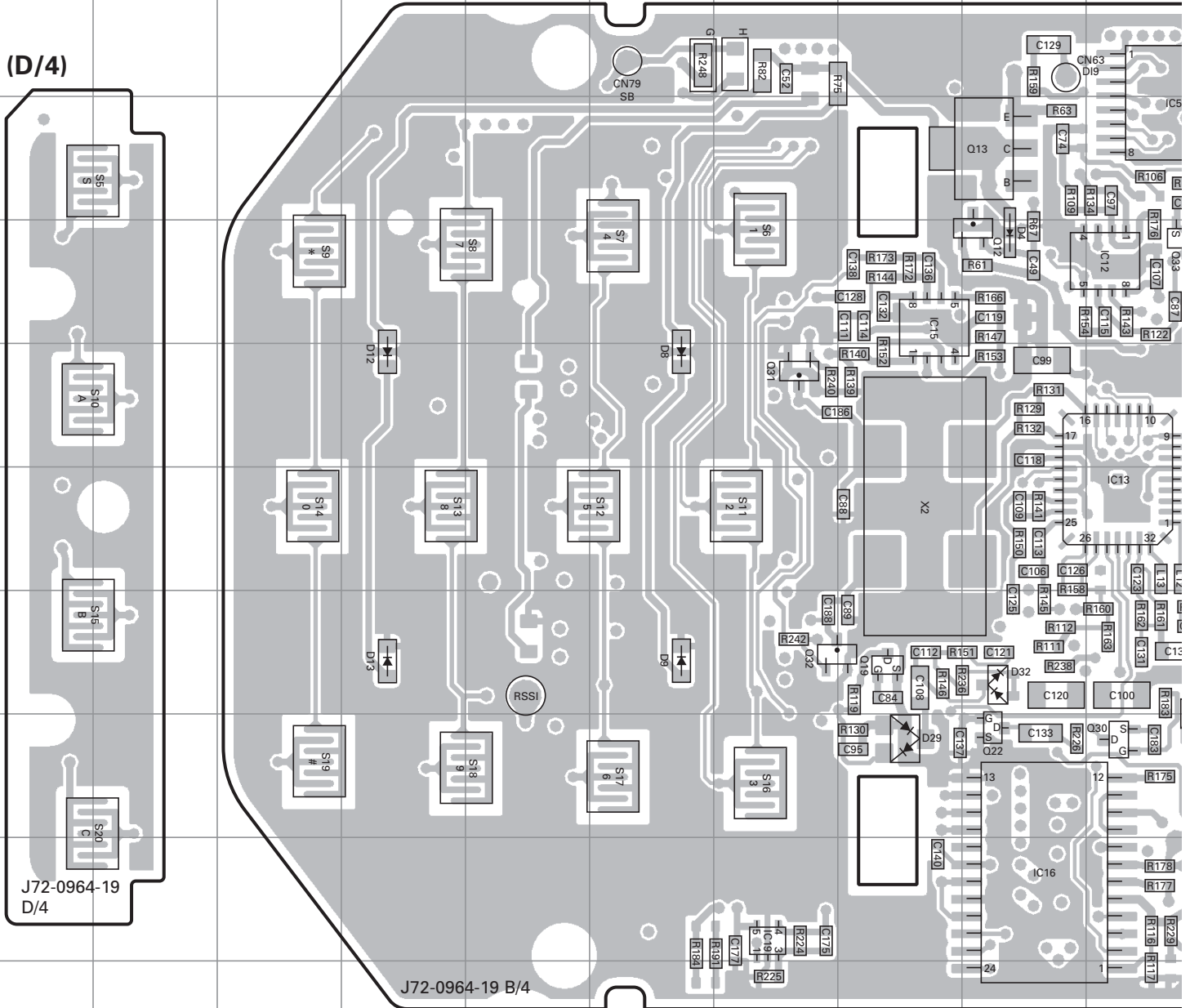


# TK-3178 PC BOARD / PC板

Ref. No.	Address	Ref. No.	Address	Ref. No.	Address	Ref. No.	Address	Ref. No.	Address
IC4	6M	IC17	12K	Q23	8N	Q32	10G	D12	8D
IC5	6J	IC18	8M	Q24	7M	Q33	7J	D13	10D
IC11	8K	IC19	12G	Q25	12K	Q35	9M	D29	11H
IC12	7J	Q12	7I	Q26	12K	D4	7I	D30	10K
IC13	9J	Q13	6I	Q27	9M	D5	8N	D31	10J
IC14	9K	Q19	10H	Q28	9N	D7	10N	D32	10I
IC15	7H	Q21	10K	Q30	11J	D8	8F	D33	12N
IC16	12I	Q22	11I	Q31	8G	D9	10F		

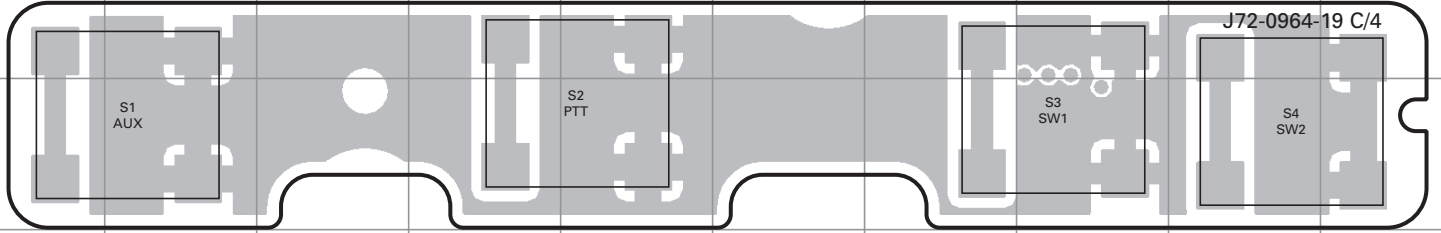


**TX-RX UNIT (X57-7013-XX) (B/4) -01 : C -02 : C2 -03 : C6**  
**Component side view (J72-0964-19 B/4)**

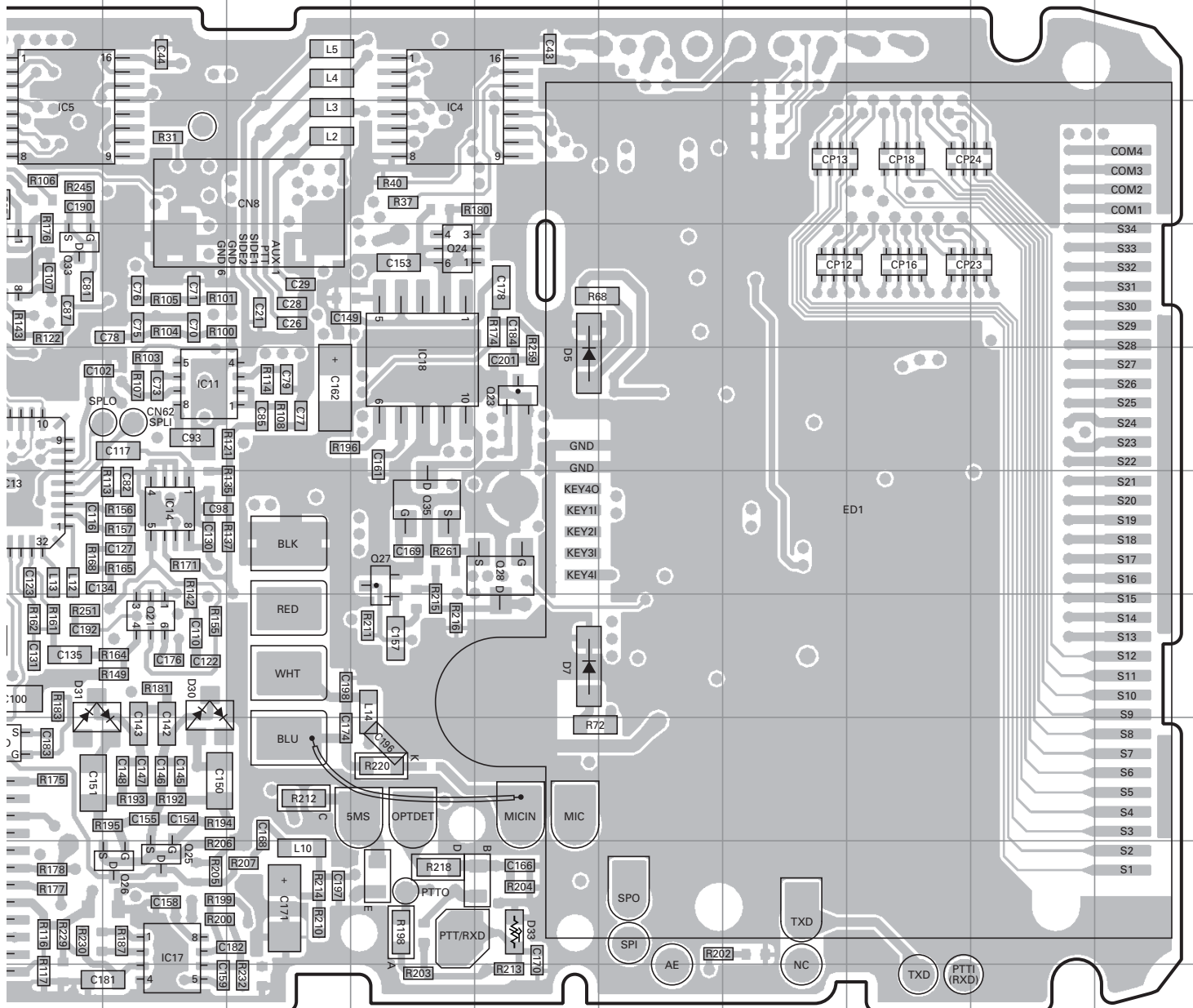


# PC BOARD / PC板 TK-3178

**TX-RX UNIT (X57-7013-XX) (C/4) -01 : C -02 : C2 -03 : C6**  
**Component side view (J72-0964-19 C/4)**



**TX-RX UNIT (X57-7013-XX) (B/4) -01 : C -02 : C2 -03 : C6**  
**Component side view (J72-0964-19 B/4)**

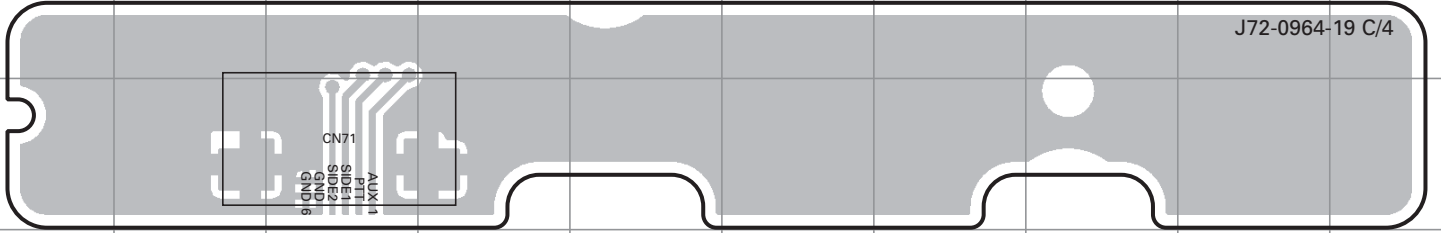




# TK-3178 PC BOARD / PC板

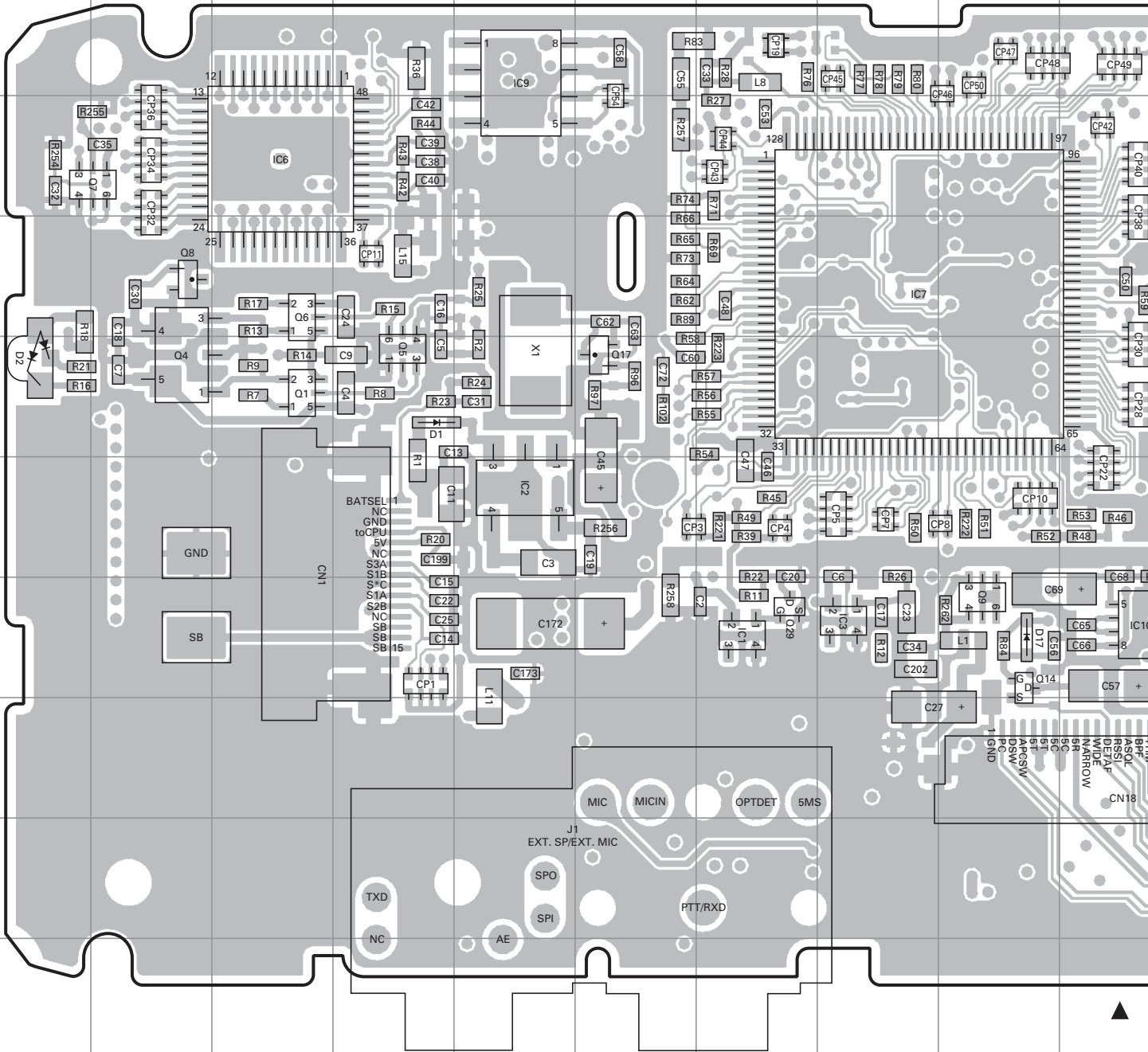
TX-RX UNIT (X57-7013-XX) (C/4) -01 : C -02 : C2 -03 : C6

Foil side view (J72-0964-19 C/4)



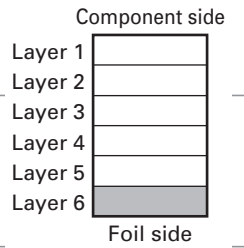
TX-RX UNIT (X57-7013-XX) (B/4) -01 : C -02 : C2 -03 : C6

Foil side view (J72-0964-19 B/4)

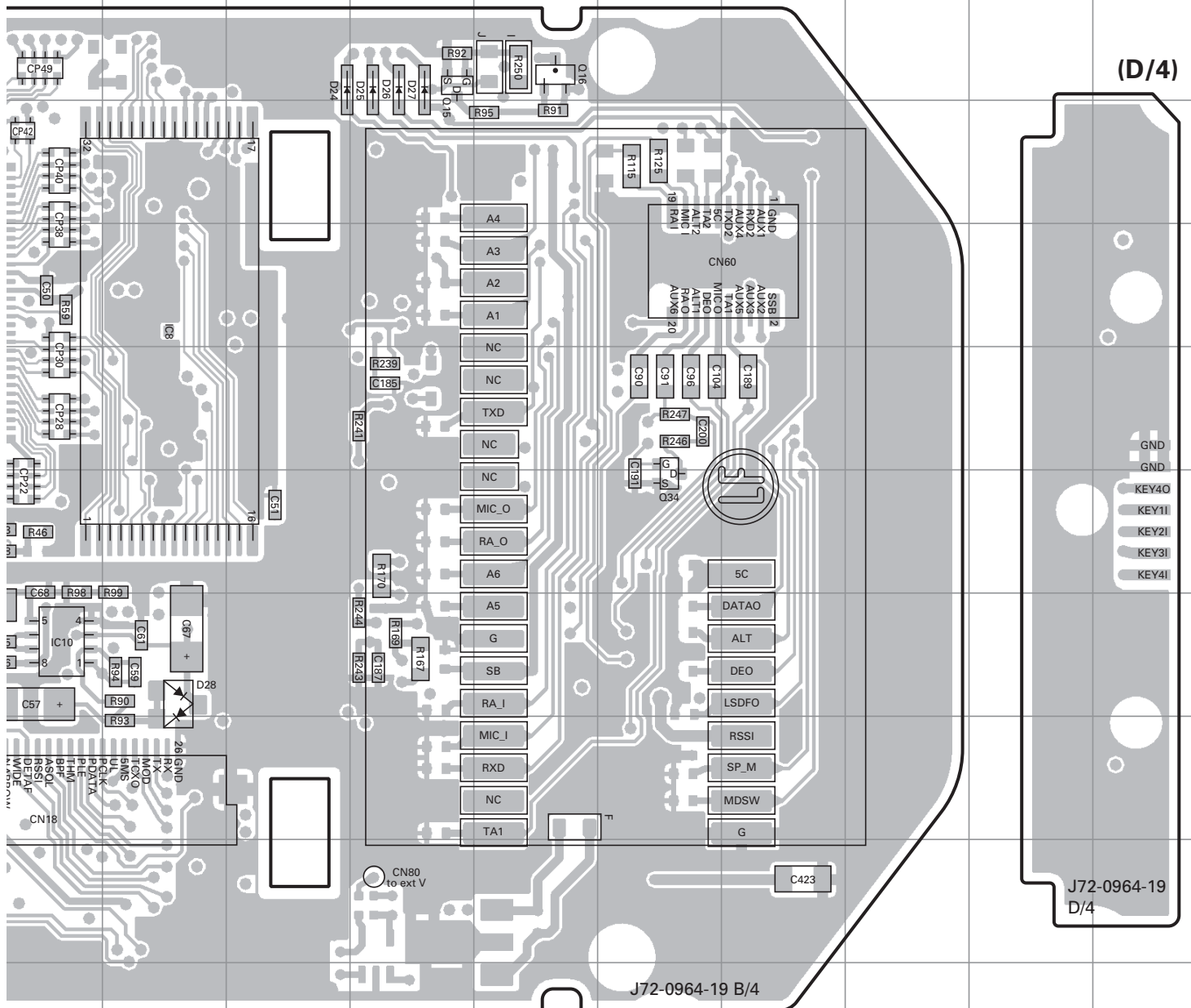


# PC BOARD / PC板 TK-3178

Ref. No.	Address	Ref. No.	Address	Ref. No.	Address	Ref. No.	Address
IC1	10G	Q1	8C	Q15	5M	D24	5L
IC2	9E	Q4	8B	Q16	5N	D25	5M
IC3	10H	Q5	8D	Q17	8F	D26	5M
IC6	6C	Q6	7C	Q29	10G	D27	5M
IC7	7H	Q7	6B	Q34	9O	D28	10K
IC8	7K	Q8	7B	D1	8D		
IC9	5E	Q9	10I	D2	8A		
IC10	10J	Q14	10I	D17	10I		



**TX-RX UNIT (X57-7013-XX) (B/4) -01 : C -02 : C2 -03 : C6**  
**Foil side view (J72-0964-19 B/4)**



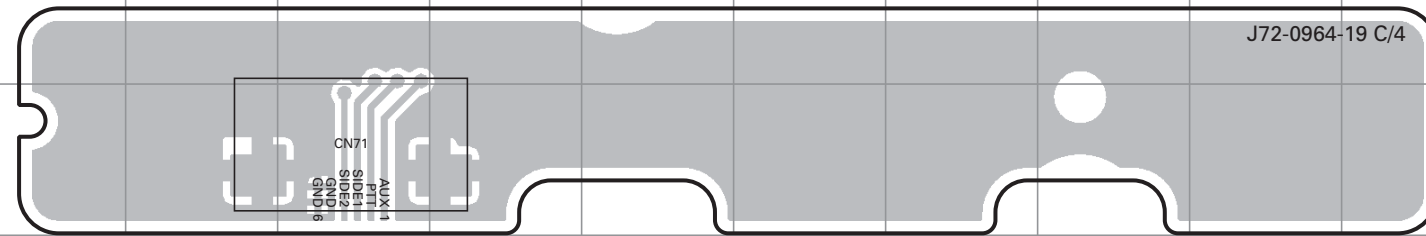


# TK-3178 PC BOARD / PC板

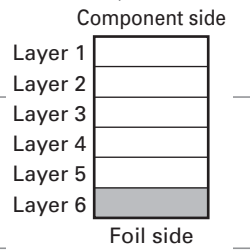
# PC BOARD / PC板 TK-3178

TX-RX UNIT (X57-7013-XX) (C/4) -01 : C -02 : C2 -03 : C6

Foil side view (J72-0964-19 C/4)

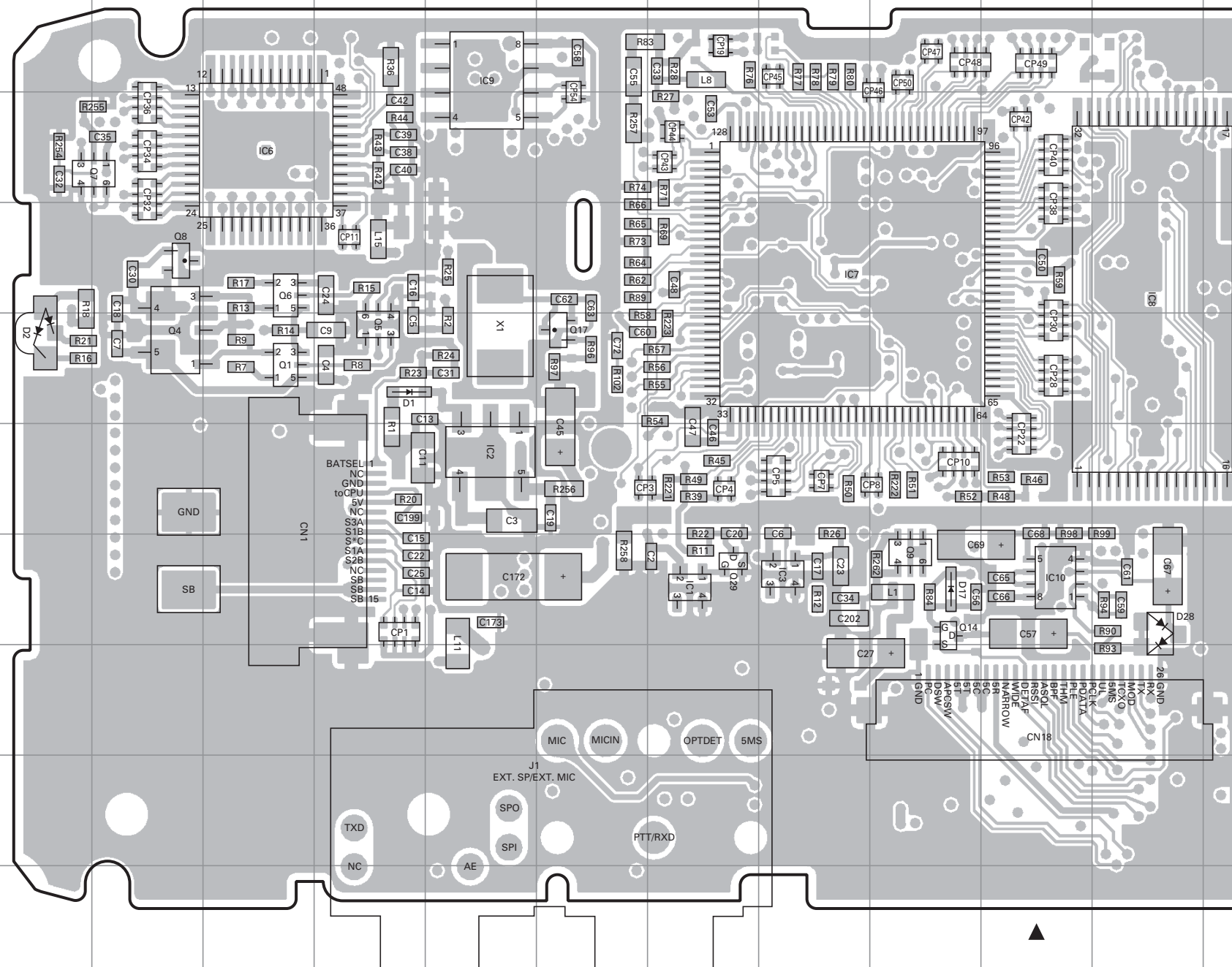


Ref. No.	Address	Ref. No.	Address	Ref. No.	Address	Ref. No.	Address
IC1	10G	Q1	8C	Q15	5M	D24	5L
IC2	9E	Q4	8B	Q16	5N	D25	5M
IC3	10H	Q5	8D	Q17	8F	D26	5M
IC6	6C	Q6	7C	Q29	10G	D27	5M
IC7	7H	Q7	6B	Q34	9O	D28	10K
IC8	7K	Q8	7B	D1	8D		
IC9	5E	Q9	10I	D2	8A		
IC10	10J	Q14	10I	D17	10I		



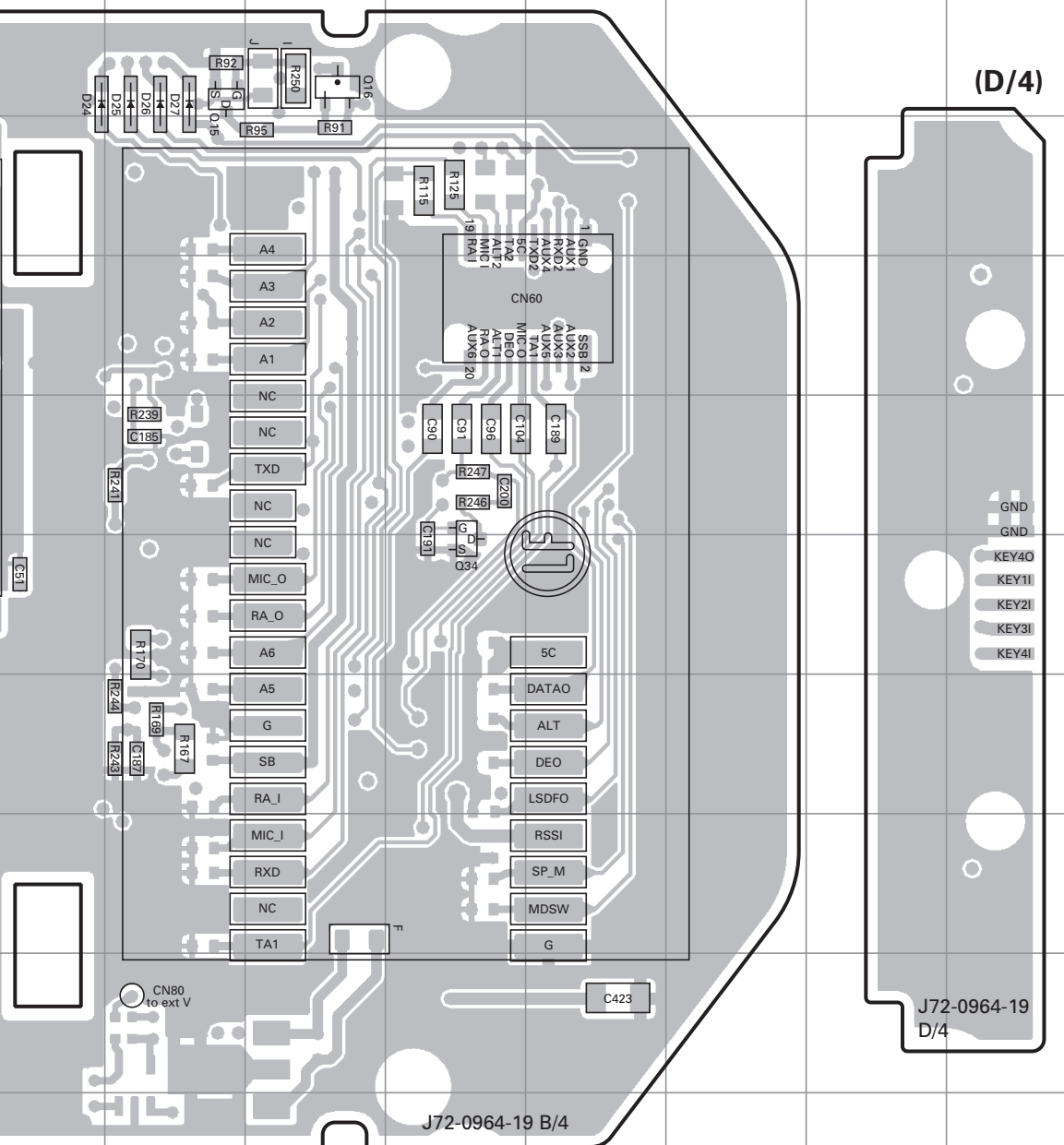
TX-RX UNIT (X57-7013-XX) (B/4) -01 : C -02 : C2 -03 : C6

Foil side view (J72-0964-19 B/4)



TX-RX UNIT (X57-7013-XX) (B/4) -01 : C -02 : C2 -03 : C6

Foil side view (J72-0964-19 B/4)



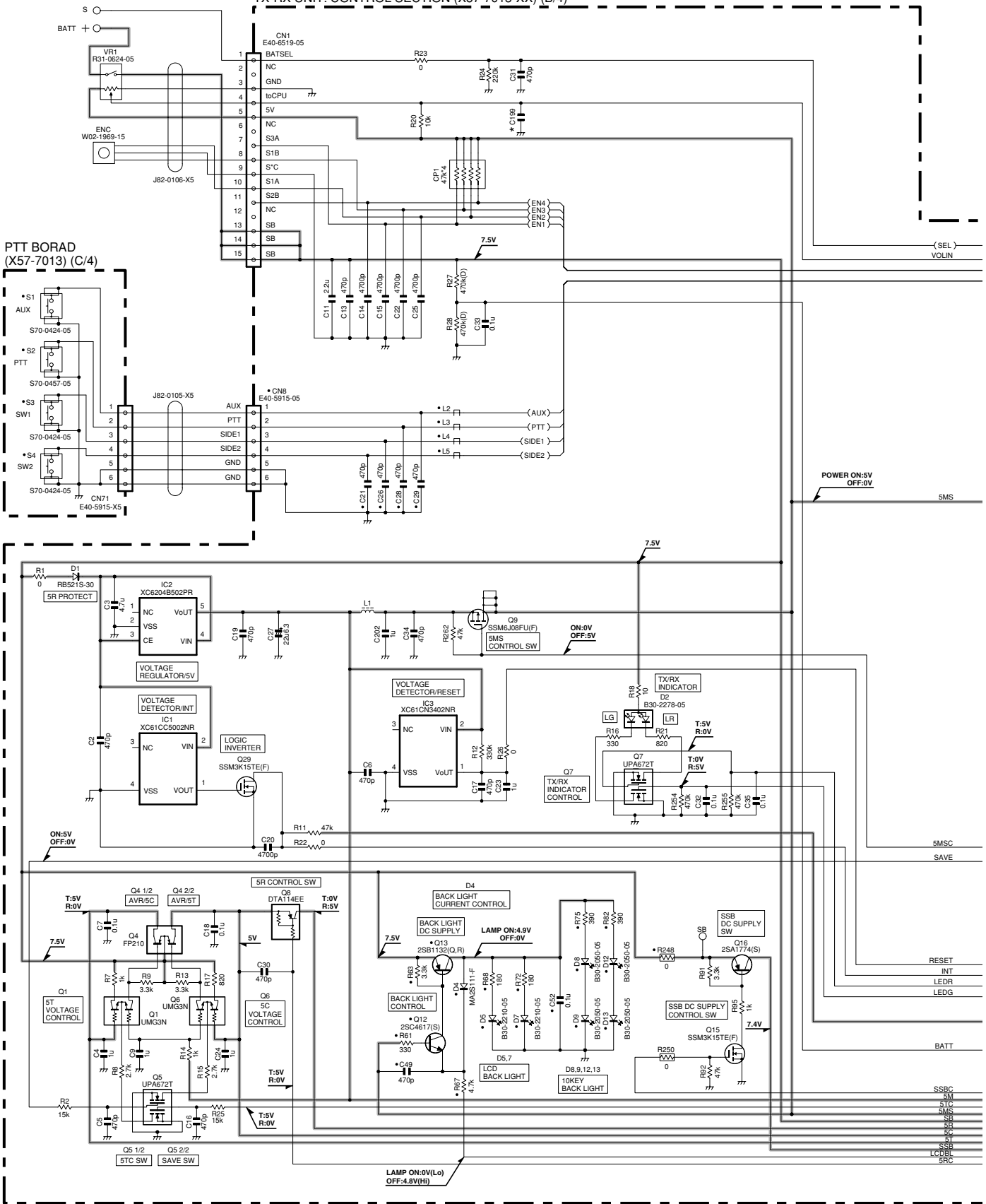
(D/4)

- GND
- GND
- KEY40
- KEY11
- KEY21
- KEY31
- KEY41

J72-0964-19 D/4

# TK-3178 SCHEMATIC DIAGRAM / 原理图

TX-RX UNIT: CONTROL SECTION (X57-7013-XX) (B/4)



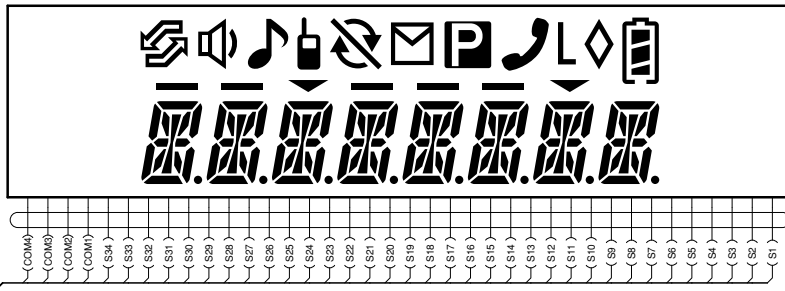
Note : The components marked with a dot (•) are parts of layer 1.

X57-7013-XX	C199
-01	C 0.1u
-02	C2 NO
-03	C6 0.1u

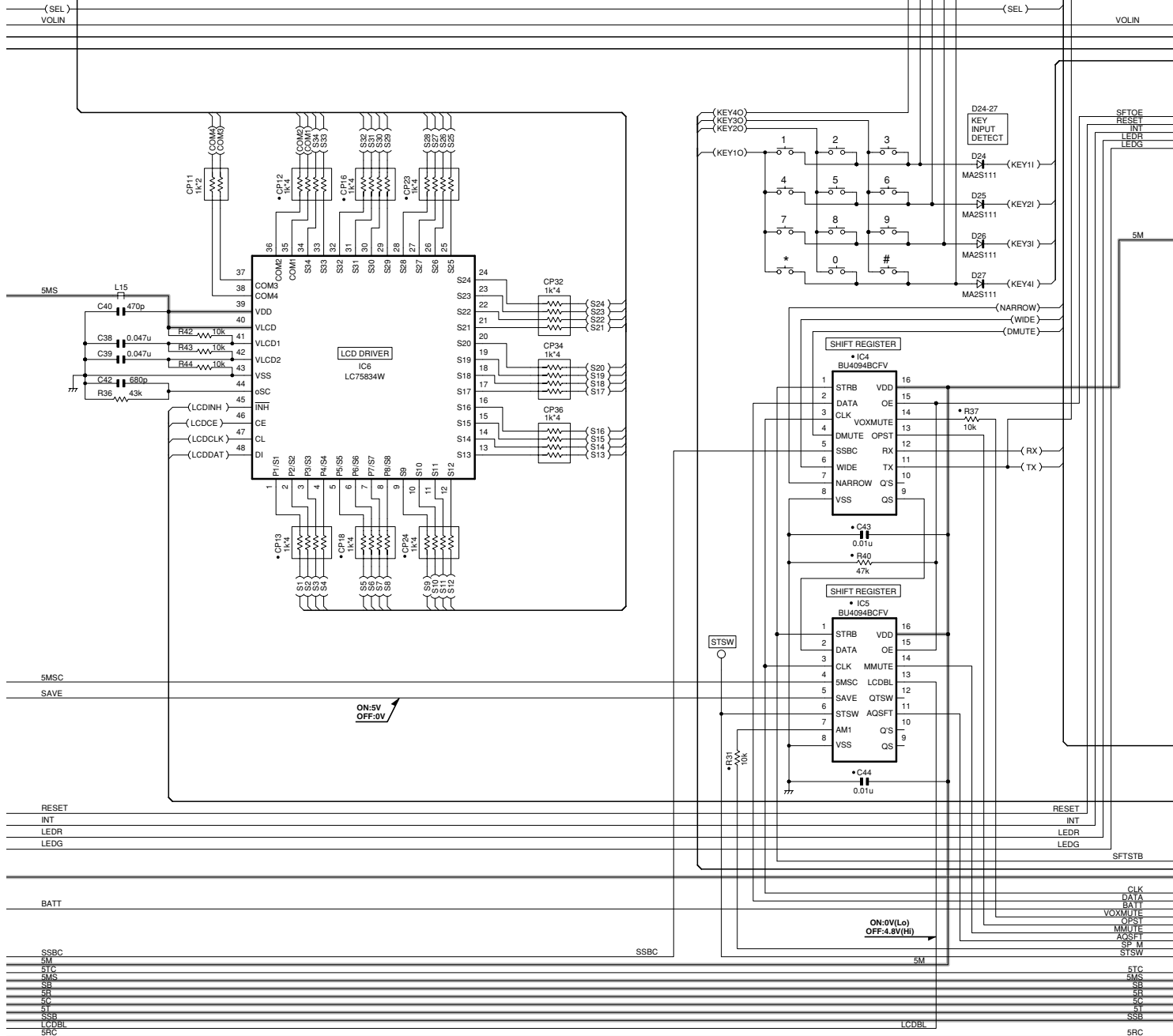
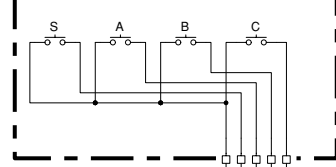
# SCHEMATIC DIAGRAM / 原理图 TK-3178

TX-RX UNIT (X57-7013-XX) (B/4)

B38-0901-05



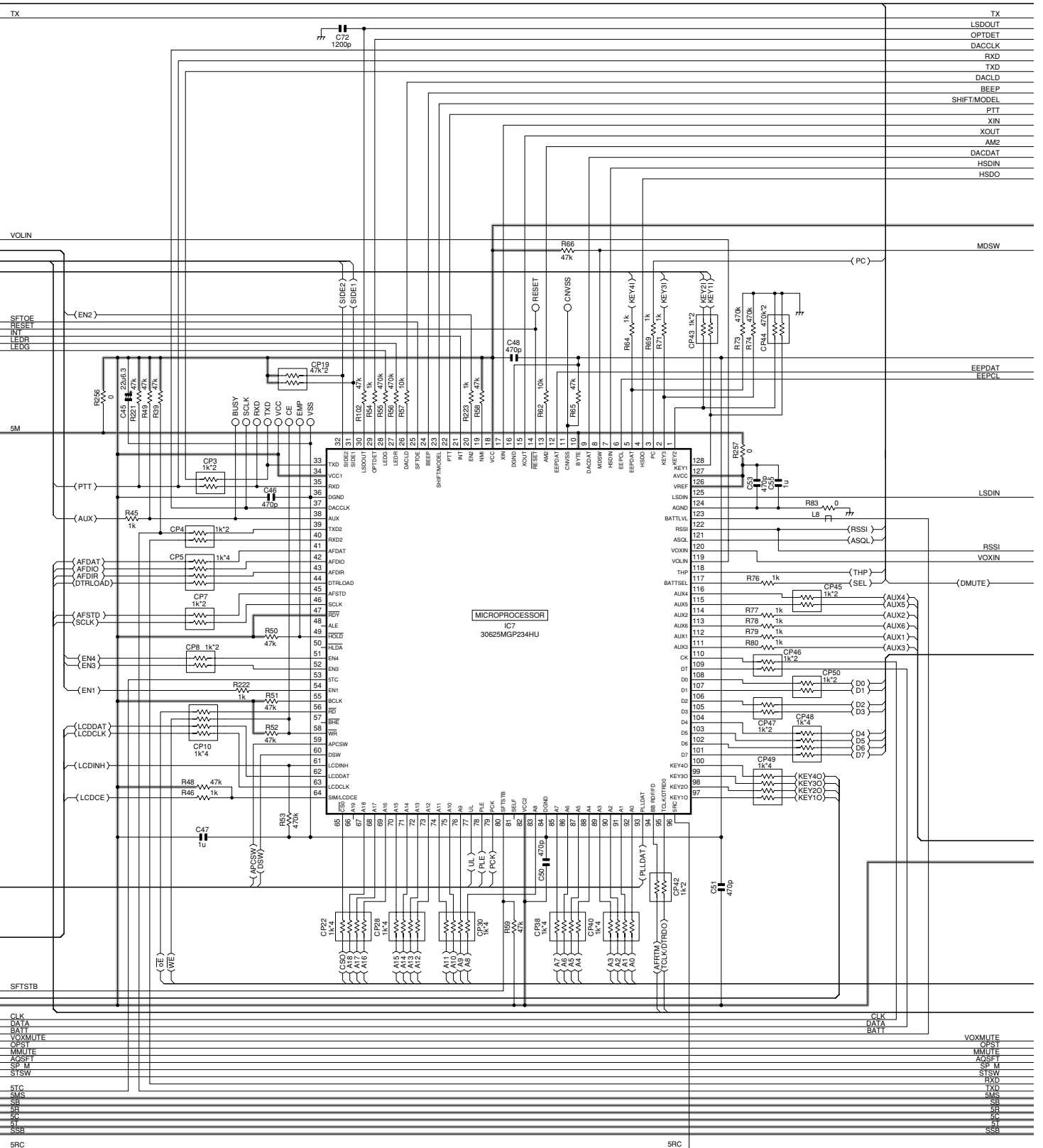
4KEY BOARD (X57-7013) (D/4)





# TK-3178 SCHEMATIC DIAGRAM / 原理图

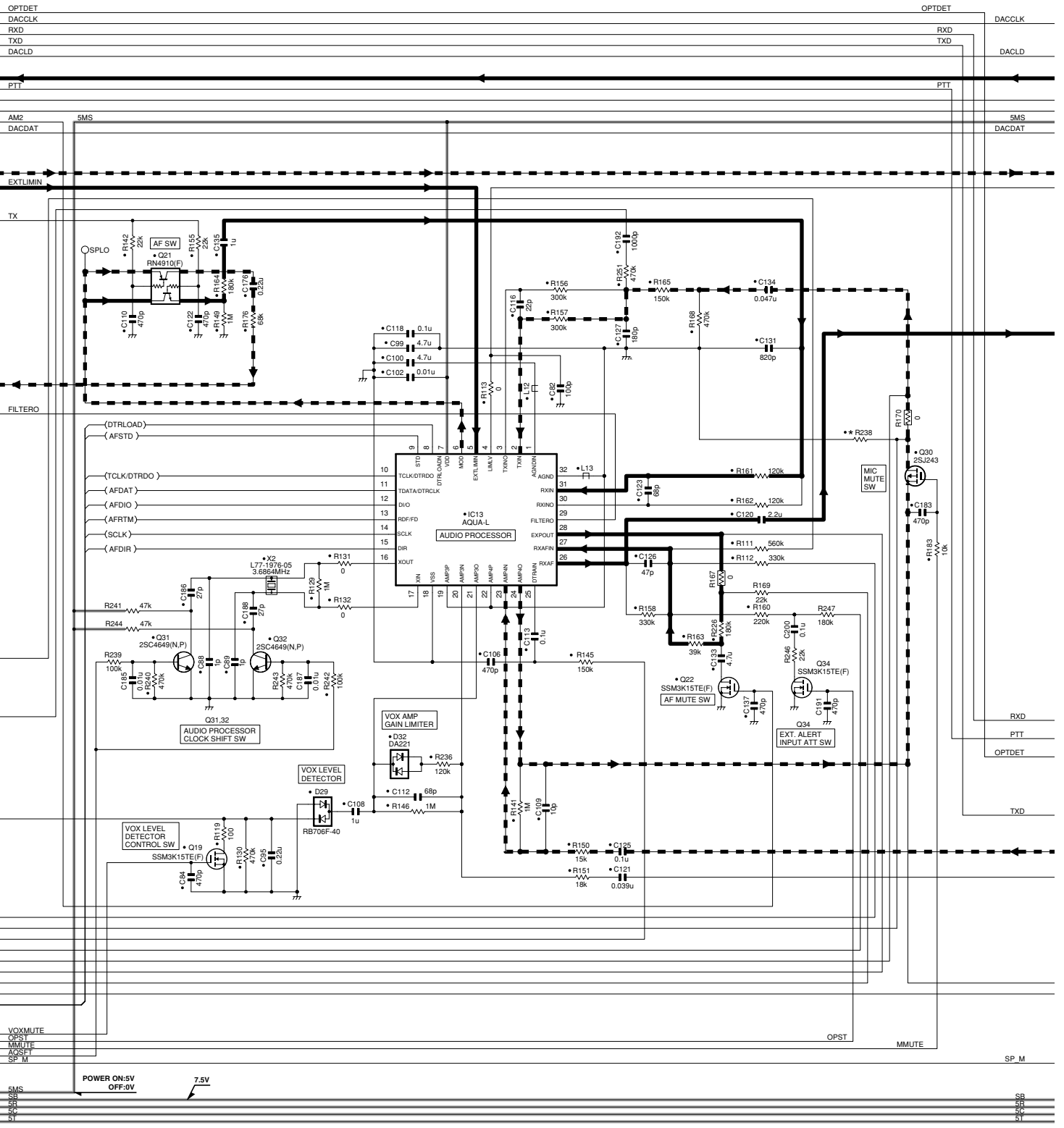
TX-RX UNIT (X57-7013-XX) (B/4)





# TK-3178 SCHEMATIC DIAGRAM / 原理图

TX-RX UNIT (X57-7013-XX) (B/4)

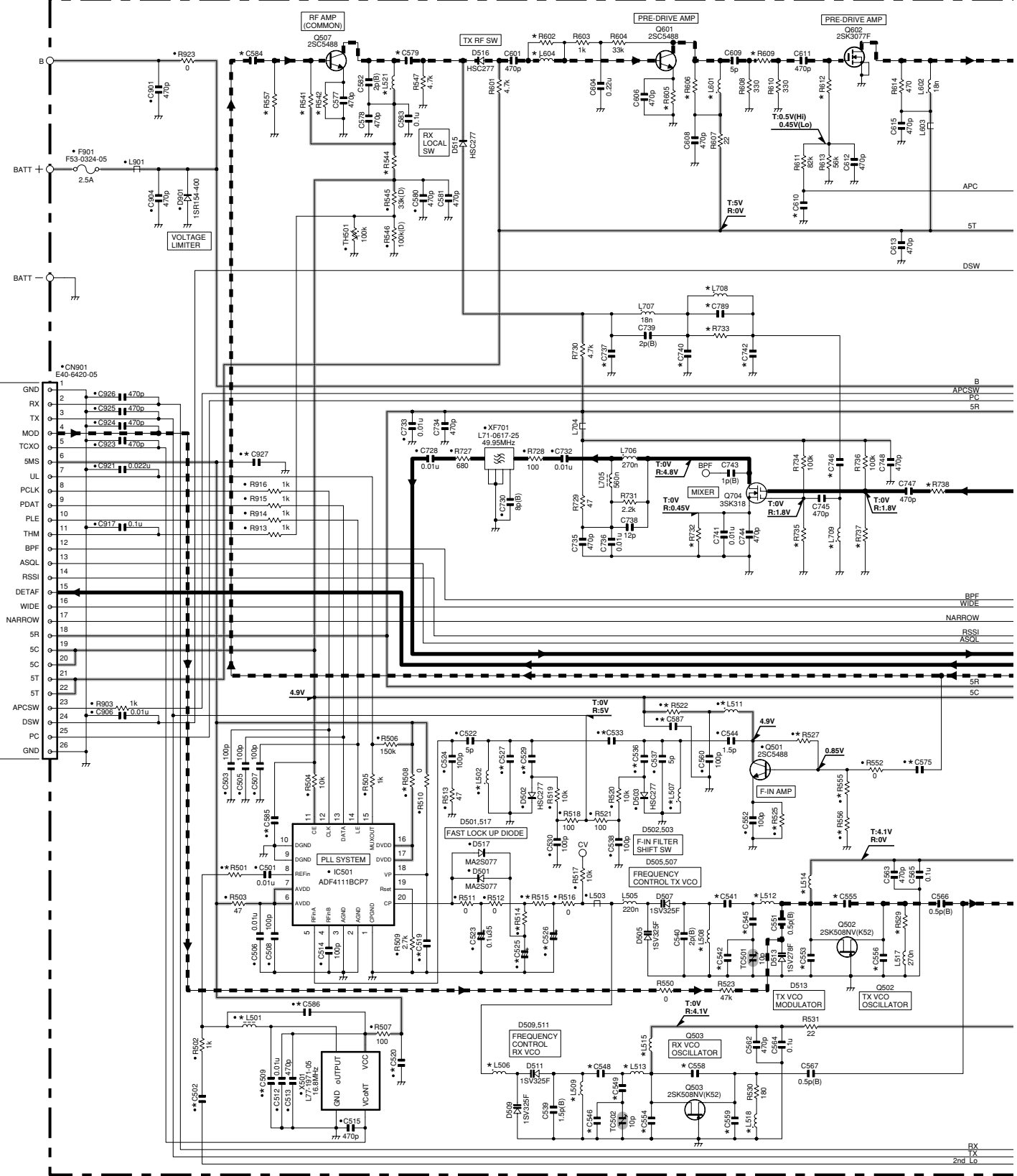


X57-7013-XX	R238
-01	C NO
-02	C2 NO
-03	C6 470K



# TK-3178 SCHEMATIC DIAGRAM / 原理图

TX-RX UNIT (X57-7013-XX) (A/4)



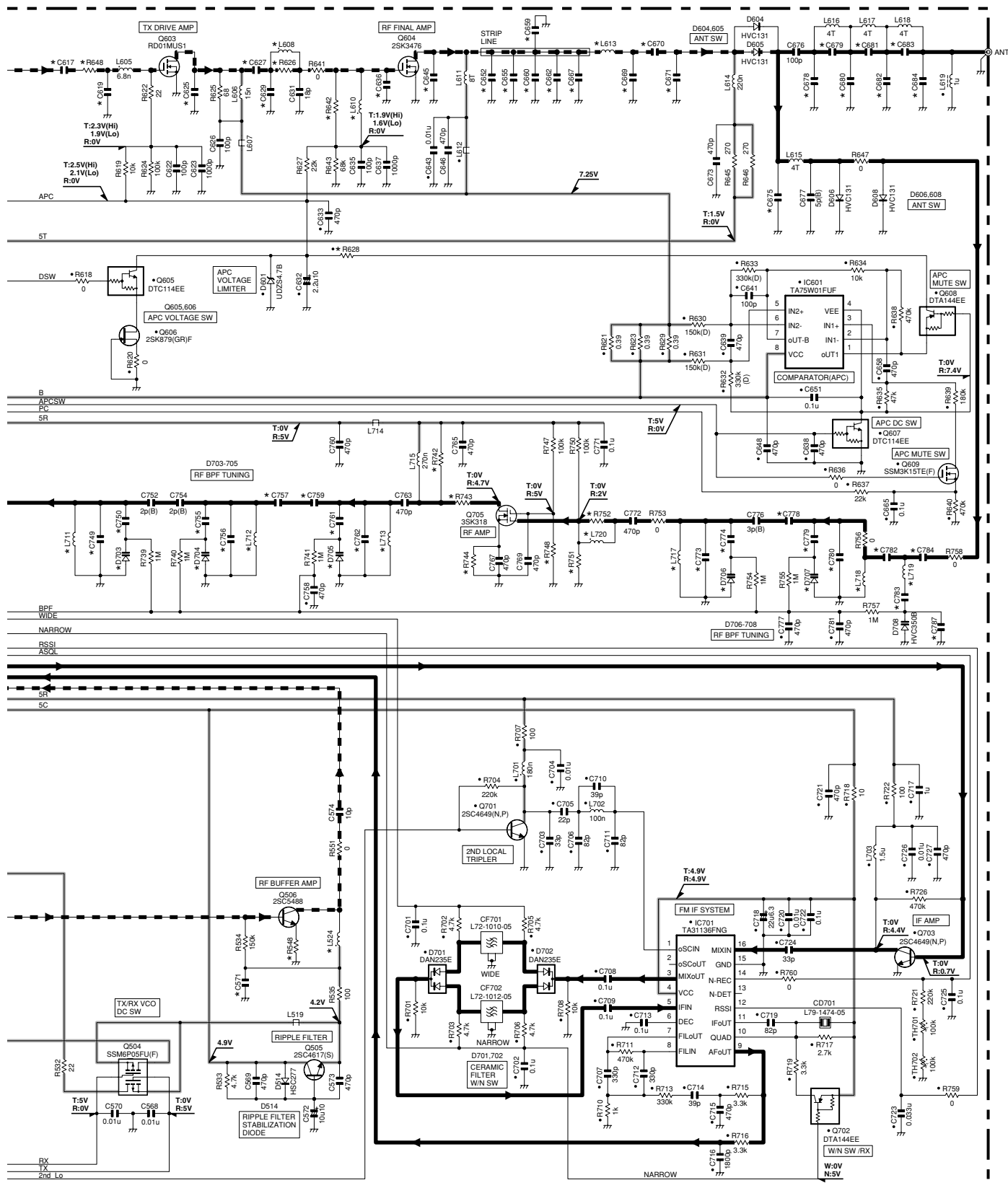
X57-7013-XX	C502	C509	C519	C520	C525	C526	C527	C529	C533	C536	C541	C542	C545	C546	C548	C549	C553	C554	C555	C556	C558	C559	C575	C579	C584	C585	C586	C587
-01	C	0.01u	15p	33p	1u	2.2u/10V	0.22u/35V	5p	3p	1.5p	3p	22p	1.5p	9p	1.5p	47p	8p(B)	5p(B)	4p(B)	4p(B)	6p(B)	9p(B)	10p	4p(B)	10p	1000p	15p	NO
-02	C2	47p	15p	15p	NO	1u/25V	0.22u/35V	8p	2p	1.5p	3p	22p	NO	15p	3p	27p	5p(B)	5p(B)	6p(B)	5p(B)	6p(B)	10p	3p(B)	10p	1000p	3p	1000p	
-03	C6	0.01u	10p	33p	1u	1u/25V	0.1u/35V	5p	3p	3p	4p	33p	NO	2p	15p	1.5p	68p	18p	6p(B)	6p(B)	4p(B)	5p(B)	6p	4p(B)	6p(B)	NO	15p	NO

X57-7013-XX	C610	C737	C740	C742	C746	C789	C927	L501	L502	L506	L507	L508	L509	L511	L512	L513	L514	L515	L518	L521	L601	L604	L708	L709
-01	C	NO	6p(B)	10p	NO	4p(B)	NO	4.7n	3.3n	220n	3.3n	82n	12n	18n	22n	150n	180n	150n	27n	27n	18n	18n	NO	27n
-02	C2	470p	6p(B)	10p	NO	4p(B)	NO	1u	2.2n	3.9n	270n	3.9n	220n	120n	15n	22n	27n	220n	270n	27n	27n	NO	NO	NO
-03	C6	NO	4p(B)	15p	4p(B)	10p(B)	2p(B)	NO	4.7n	4.7n	270n	4.7n	82n	270n	27n	33n	270n	270n	33n	22n	NO	NO	18n	33n

X57-7013-XX	R501	R508	R514	R515	R522	R525	R527	R529	R541	R542	R544	R555	R556	R557	R602	R605	R606	R609	R612	R732	R733	R735	R737	R738
-01	C	1k	33	1k	560	22	100	220k	150	150k	68	47	NO	NO	NO	47	NO	33	220	150	0	56k	56k	0
-02	C2	0	39	1k	330	100	100	100k	180	150k	330	47	NO	NO	NO	0	100	470	33	220	150	0	56k	56k
-03	C6	1k	33	680	560	100	330	10k	150	10k	330	100	6.8k	0	6.8k	0	100	NO	18	56	330	NO	180k	180k

## SCHEMATIC DIAGRAM / 原理图 TK-3178

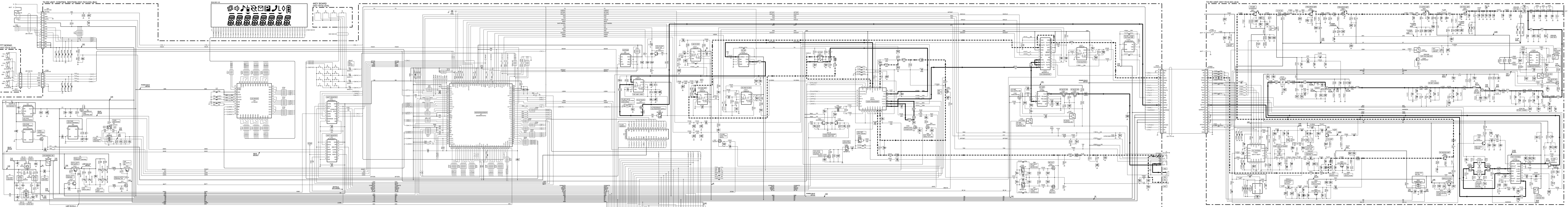
TX-RX UNIT (X57-7013-XX) (A/4)



X57-7013-XX	C571	C617	C619	C625	C627	C629	C636	C645	C652	C655	C659	C660	C662	C667	C669	C670	C671	C675	C678	C679	C680	C681	C682	C683	C684	
-01	C	0.1u	15p	15p	7p	39p	15p	22p	27p	22p	NO	NO	22p	NO	NO	6p(B)	33p	3.5p(B)	2p(B)	3p(B)	1.5p(B)	4p(B)	2p(B)	5p(B)	2p(B)	1.5p(B)
-02	C	470p	15p	NO	12p	27p	27p	18p	15p	NO	27p	NO	15p	NO	8p(B)	100p	5p(B)	4p(B)	4p(B)	1.5p(B)	7p(B)	3p(B)	7p(B)	2.5p(B)	1.5p(B)	
-03	C	470p	8p	15p	7p	33p	22p	22p	27p	NO	22p	15p	NO	9p(B)	9p(B)	6p(B)	33p	NO	4p(B)	9p(B)	3p(B)	8p(B)	3p(B)	7p(B)	2p(B)	

X57-7013-XX	C749	C750	C755	C756	C757	C759	C761	C762	C773	C774	C778	C779	C780	C782	C783	C784	C787	D703	D704	D705	D706	D707	
-01	C	3.5p(B)	33p	33p	5p(B)	1.5p(B)	2p(B)	33p	3p(B)	33p	3p(B)	33p	NO	33p	6p(B)	10p	NO	HVC355B	HVC355B	HVC355B	HVC355B	HVC355B	
-02	C	4p(B)	18p	18p	5p(B)	2p(B)	2p(B)	18p	5p(B)	3p(B)	18p	3p(B)	18p	NO	22p	8p(B)	10p	NO	HVC350B	HVC350B	HVC350B	HVC350B	HVC350B
-03	C	3p(B)	18p	18p	2p(B)	2p(B)	3p(B)	18p	4p(B)	2.5p(B)	18p	2p(B)	18p	NO	33p	11p	8p(B)	2p(B)	HVC350B	HVC350B	HVC350B	HVC350B	HVC350B

X57-7013-XX	L524	L608	L610	L613	L711	L712	L713	L717	L718	L719	L720	R548	R626	R628	R642	R648	R742	R743	R744	R751	R752		
-01	C	22n	NO	NO	5.6n	8.2n	8.2n	8.2n	8.2n	8.2n	47n	6.8n	0	0	18k	22	0	NO	100	220	NO	68k	NO
-02	C	22n	1.2n	NO	5.6n	8.2n	8.2n	8.2n	8.2n	47n	6.8n	0	NO	18k	22	5.6	NO	47	220	NO	68k	NO	NO
-03	C	33n	2.7n	18n	8.2n	12n	12n	12n	12n	12n	56n	NO	22	NO	5.6k	15	0	2.2k	0	330	820k	100k	10



KEY TO SYMBOLS

⊖	C	6.3A
⊖	C	NO
⊖	C	100A
⊖	C	10A

KEY TO SYMBOLS

⊖	C	NO
⊖	C	100A
⊖	C	10A

KEY TO SYMBOLS

⊖	C	NO
⊖	C	100A
⊖	C	10A

KEY TO SYMBOLS

⊖	C	NO
⊖	C	100A
⊖	C	10A

KEY TO SYMBOLS

⊖	C	NO
⊖	C	100A
⊖	C	10A

KEY TO SYMBOLS

⊖	C	NO
⊖	C	100A
⊖	C	10A

KEY TO SYMBOLS

⊖	C	NO
⊖	C	100A
⊖	C	10A

KEY TO SYMBOLS

⊖	C	NO
⊖	C	100A
⊖	C	10A

KEY TO SYMBOLS

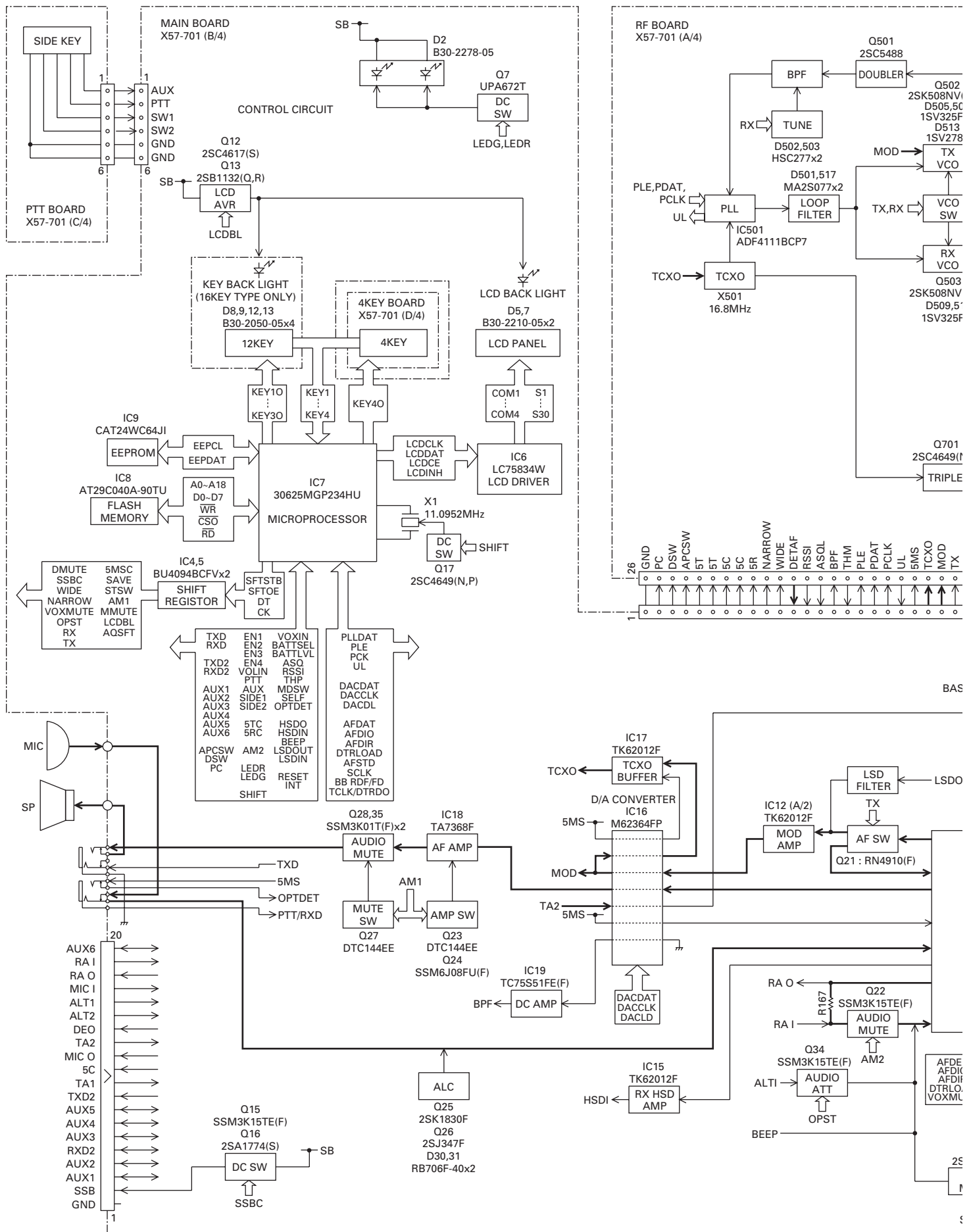
⊖	C	NO
⊖	C	100A
⊖	C	10A

KEY TO SYMBOLS

⊖	C	NO
⊖	C	100A
⊖	C	10A

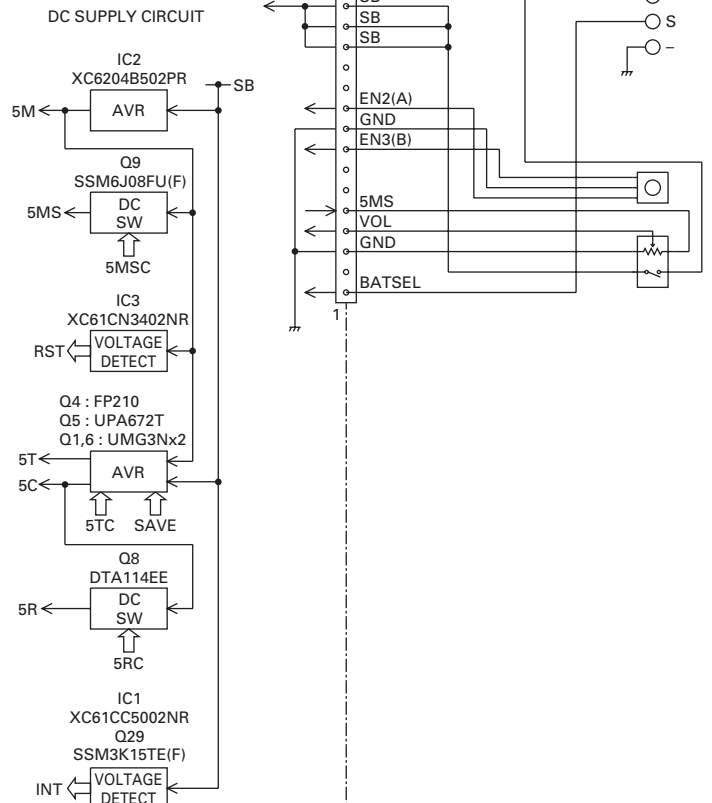
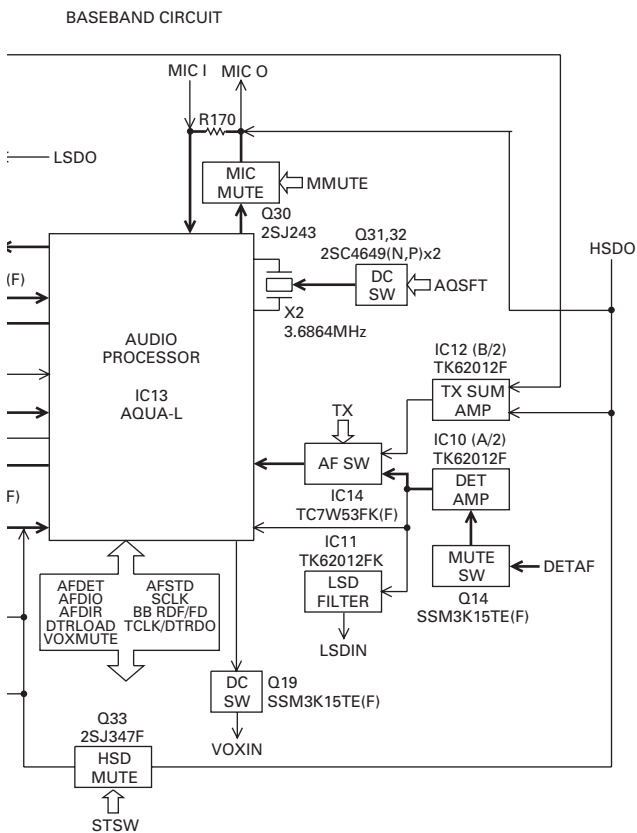
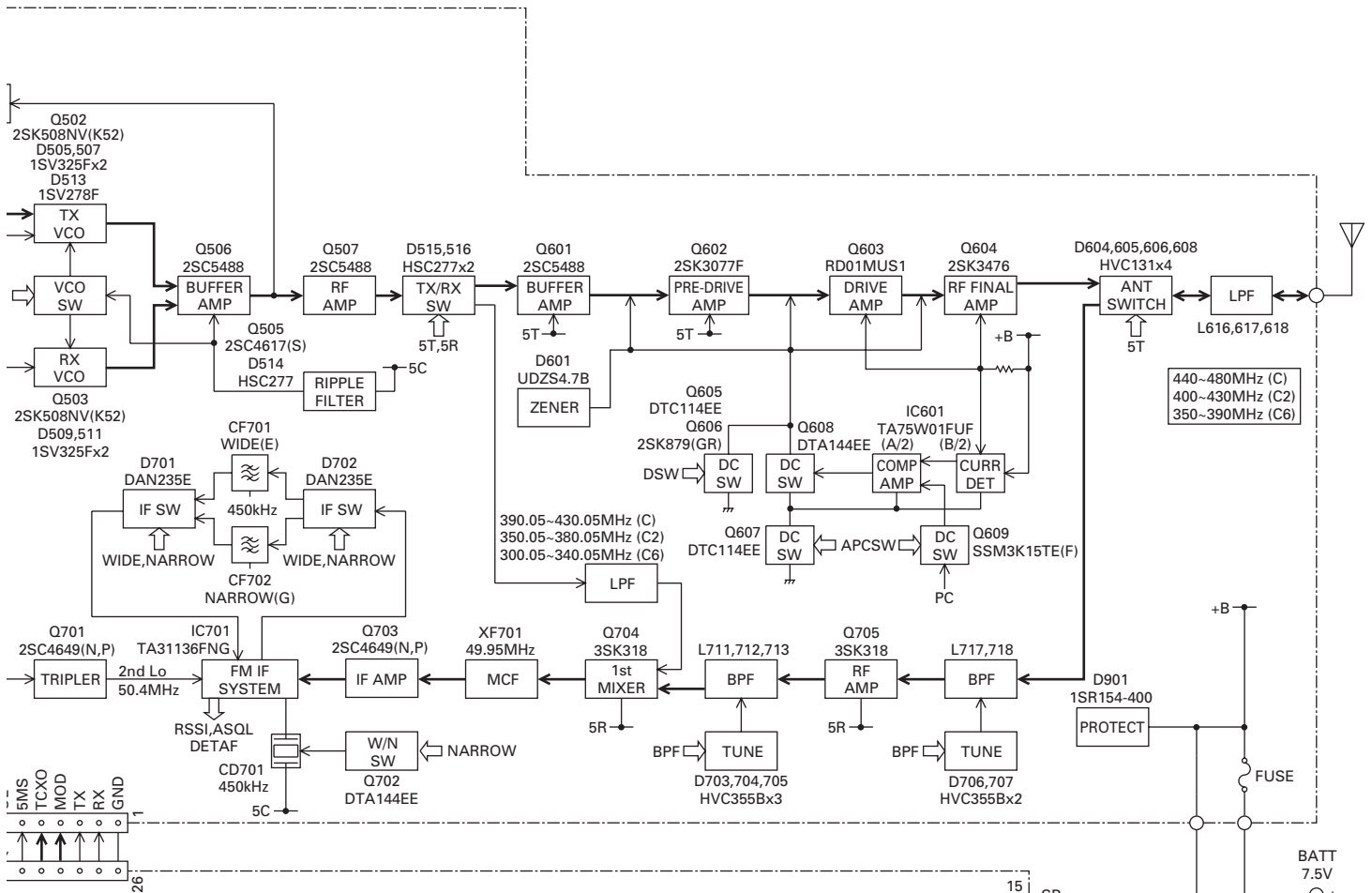


# TK-3178 BLOCK DIAGRAM / 方块图

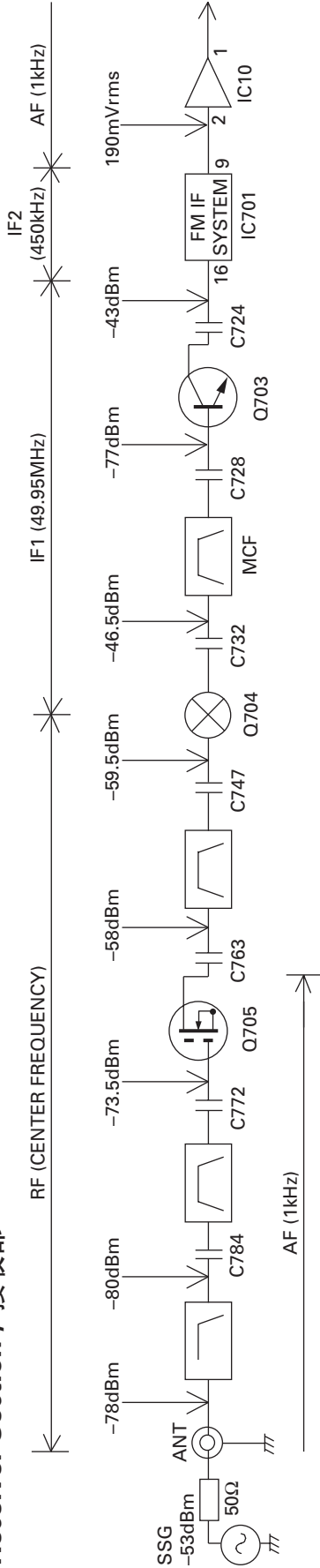




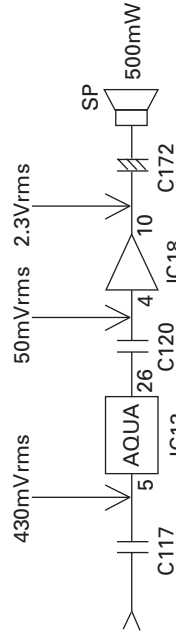
# BLOCK DIAGRAM / 方块图 TK-3178



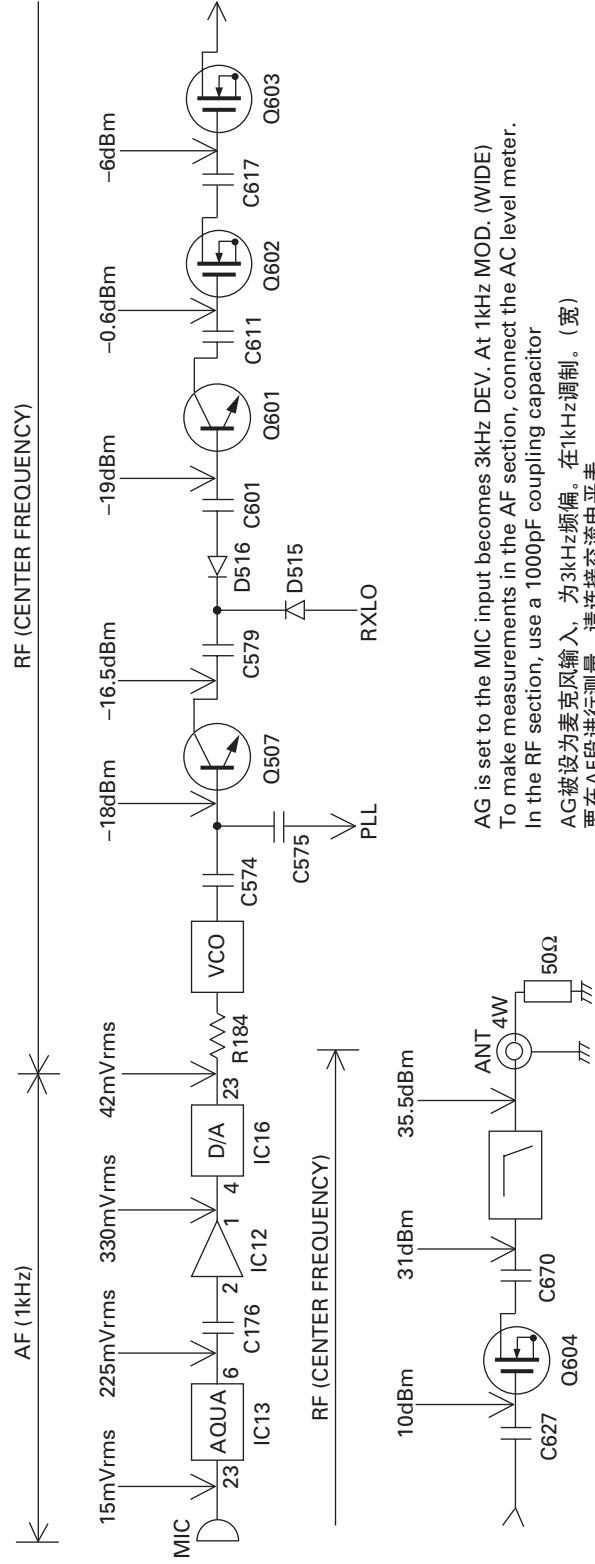
### Receiver Section / 接收部



To make measurements in the AF section, connect the AC level meter. (ANT input : -53dBm, 1kHz FM, 3kHz DEV (WIDE).)  
 In the RF section, use a high impedance probe. (ANT input : -53dBm, MOD off.)  
 要在AF段进行测量, 请连接交流电表。  
 (ANT输入 : -53dBm, 1kHz FM, 3kHz DEV (宽)。)  
 在RF段, 请使用高阻抗探针。(ANT输入 : -53dBm, MOD关。)



### Transmitter Section / 发射部



AG is set to the MIC input becomes 3kHz DEV. At 1kHz MOD. (WIDE)  
 To make measurements in the AF section, connect the AC level meter.  
 In the RF section, use a 1000pF coupling capacitor  
 AG被设为麦克风输入, 为3kHz频偏, 在1kHz调制。(宽)  
 要在AF段进行测量, 请连接交流电表。  
 在RF段, 请使用1000pF耦合电容。

## SPECIFICATIONS

### GENERAL

Frequency range .....	440~480MHz (C)	400~430MHz (C2)	350~390MHz (C6)
Number of channels .....	Zone : Max. 128 per radio		Conv. Ch : Max. 128 per zone
Channel spacing .....	Wide : 25kHz	Narrow : 12.5kHz	
Battery voltage .....	7.5V DC $\pm$ 20%		
Battery life (5-5-90 duty cycle)/Approx. hours			
KNB-24L (1400mAh) .....	9		
KNB-25A (1200mAh) .....	8		
KNB-26N (2000mAh) .....	12		
KNB-35L (1950mAh) .....	11		
Operating temperature range .....	-22°F~+140°F (-30°C~+60°C)		
Frequency stability .....	$\pm$ 0.00025% (-22°F~+140°F)		
Antenna impedance .....	50 $\Omega$		
Channel frequency spread .....	40MHz (C,C6)	30MHz (C2)	
Dimensions (W x H x D) .....	2-7/32 x 4-9/32 x 1-1/4 in. (56 x 109 x 31.7 mm) with KNB-24L or 35L battery		
(Projections not included)	2-7/32 x 4-9/32 x 1-1/2 in. (56 x 109 x 37.9 mm) with KNB-25A or 26N battery		
Weight (net) .....	12.0 oz. (340 g) with battery (KNB-35L), antenna (KRA-23) and beltclip (KBH-12)		

### RECEIVER (Measurements made per EIA/TIA-603)

Sensitivity (12dB SINAD) .....	Wide : 0.25 $\mu$ V	Narrow : 0.28 $\mu$ V
Selectivity .....	Wide : 70dB	Narrow : 65dB
Intermodulation distortion .....	Wide : 65dB	Narrow : 60dB
Spurious response .....	65dB	
Audio output (4 $\Omega$ impedance) .....	500mW with less than 5% distortion	

### TRANSMITTER (Measurements made per EIA/TIA-603)

RF power output .....	HI : 4W	LO : 1W
Spurious response .....	70dB	
Modulation .....	Wide : 16K0F3E	Narrow : 11K0F3E, 8K50F3E
FM hum & noise .....	Wide : 45dB	Narrow : 43dB
Audio distortion .....	W/N : Less than 5%	

## 规 格

## 概 述

频率范围 .....	440~480MHz (C)	400~430MHz (C2)	350~390MHz (C6)
频道数 .....	最大128 / 各个对讲机		
区域数 .....	最大128 / 各个区域		
信道间距 .....	宽：25kHz 窄：12.5kHz		
电池电压 .....	7.5V DC $\pm$ 20%		
电池寿命 (5-5-90工作周期)			
KNB-24L (1400mAh) .....	约9时间		
KNB-25A (1200mAh) .....	约8时间		
KNB-26N (2000mAh) .....	约12时间		
KNB-35L (1950mAh) .....	约11时间		
温度范围 .....	- 30°C 到 + 60°C		
频率稳定性 .....	$\pm$ 0.00025% (- 30°C 到 + 60°C)		
阻 抗 .....	50 $\Omega$		
信道频率扩展 .....	40MHz (C,C6)		30MHz (C2)
尺寸 (宽 $\times$ 高 $\times$ 长)			
带有KNB-24L或KNB-35L .....	56 $\times$ 109 $\times$ 31.7 mm		
带有KNB-25A或KNB-26N .....	56 $\times$ 109 $\times$ 37.9 mm		
重量 (带有KNB-35L, KRA-23和KBH-12) .....	340g		

## 接收部 (根据EIA标准EIA/TIA-603测定)

灵敏度 (EIA 12dB SINAD) .....	宽：0.25 $\mu$ V	窄：0.28 $\mu$ V
选 择 性 .....	宽：70dB	窄：65dB
互 调 .....	宽：65dB	窄：60dB
杂散响应抗扰性 .....	65dB	
音频功率输出 .....	4 $\Omega$ 时500mW, 失真低于5%	

## 发射部 (根据EIA标准EIA/TIA-603测定)

射频功率输出 .....	高：4W	低：1W
杂散射频分量 .....	70dB	
调 制 .....	宽：16K0F3E	窄：11K0F3E, 8K50F3E
FM噪音 .....	宽：45dB	窄：43dB
音频失真 .....	低于5%	

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