

KENWOOD

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TK-3170

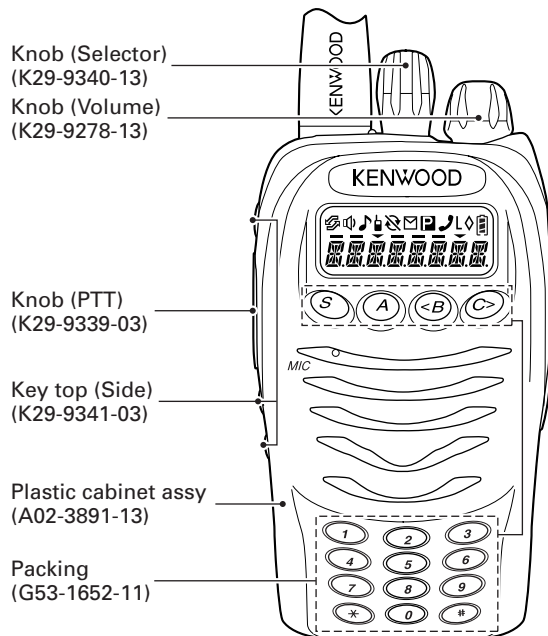
SERVICE MANUAL

SUPPLEMENT E3 version

KENWOOD

Kenwood Corporation

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B51-8740-00 (N) 355



This TK-3170 (E3) service manual contains a number of section which differ from the service manual (B51-8738-00) for the TK-3170 (E, X2 versions). For items other than those in this TK-3170 (E3) service manual please refer to the service manual (B51-8738-00) for the TK-3170 (E, X2 versions).

Does not come with antenna.
Antenna is available as an option.

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TK-3170

GENERAL / SYSTEM SET-UP

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.

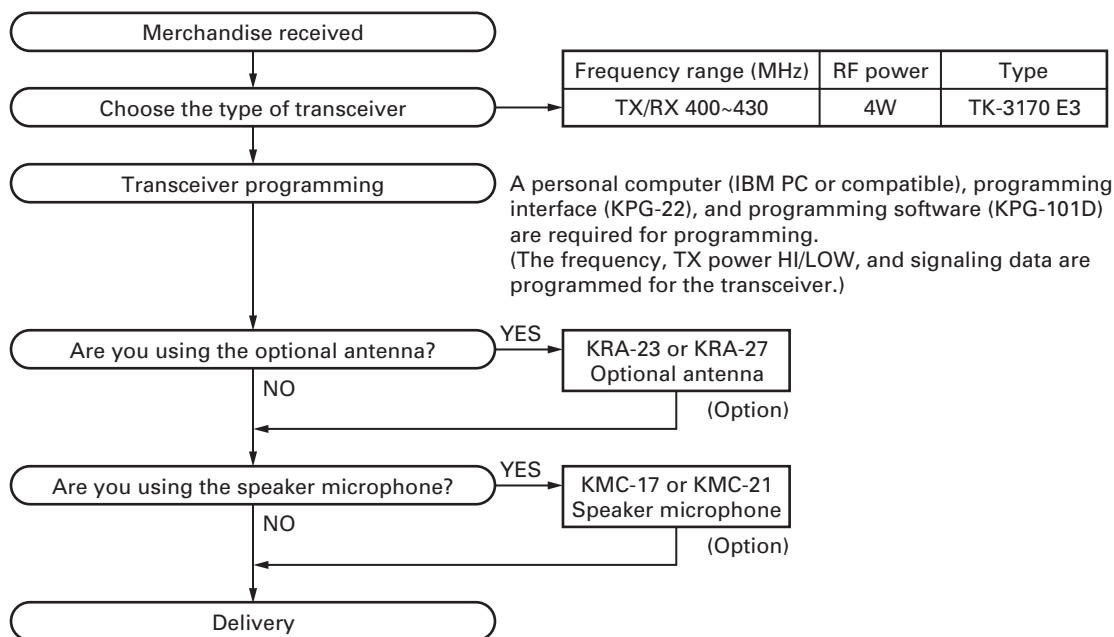
SERVICE

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

Service Manual List

Title	Parts number	Remarks	Market code	TX-RX unit number
TK-3170	B51-8738-00		E, X2	X57-701X-XX J72-0964-19
TK-3170	B51-8740-00	This service manual	E3	X57-7012-72 J72-0964-19

SYSTEM SET-UP



PARTS LIST

* New Parts. Δ 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-3170 (Y50-5862-72)

TX-RX UNIT (X57-7012-72)

Ref. No.	Address	New parts	Parts No.	Description	Desti-nation
TK-3170					
1	1A		A02-3891-13	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	
17	1C		B62-1812-00	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 (CABINET ASSY)	
-			G10-1333-04	FIBROUS SHEET (CABINET ASSY)	
31	3A		G11-4315-04	SHEET	
32	2A		G11-4316-04	SHEET	
33	2B		G11-4335-14	SHEET	
34	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		H12-3150-02	PACKING FIXTURE	
48	1D		H52-2067-02	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	
54	3A		J82-0106-05	FPC	
55	2A		J99-0399-04	ADHESIVE SHEET (4x7mm)	
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	
F	3A		N79-2030-48	PAN HEAD TAPTITE SCREW	
G	2A,2B		N83-2005-48	PAN HEAD TAPTITE SCREW	

Ref. No.	Address	New parts	Parts No.	Description	Desti-nation
61	3A		R31-0655-05	VARIABLE RESISTOR	
63	1B		T07-0369-05	SPEAKER	
64	2B		T91-0650-05	MIC ELEMENT	
66	2A		W02-3684-05	SELECTOR	
TX-RX UNIT (X57-7012-72)					
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			C92-0712-05	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			C92-0712-05	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			C92-0662-05	CHIP-TAN 15UF	6.3WV
C58			CK73HB1H471K	CHIP C 470PF	K
C59			CC73HCH1H220J	CHIP C 22PF	J
C60			CC73HCH1H120J	CHIP C 12PF	J
C61			CK73HB1A104K	CHIP C 0.10UF	K
C62			CC73HCH1H010C	CHIP C 1.0PF	C

PARTS LIST

TX-RX UNIT (X57-7012-72)

Ref. No.	Address	New parts	Parts No.	Description	Destination	Ref. No.	Address	New parts	Parts No.	Description	Destination
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			C92-0514-05	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			C92-0560-05	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			C92-0560-05	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			C92-0560-05	CHIP-TAN 10UF 6.3WV	
C82			CC73HCH1H101J	CHIP C 100PF J		C172			C92-0665-05	TANTAL 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		C200			CK73HB1A104K	CHIP C 0.10UF K	
C113-115			CK73HB1A104K	CHIP C 0.10UF K		C201			CK73HB1A224K	CHIP C 0.22UF K	
C116			CC73HCH1H220J	CHIP C 22PF J		C202			CK73GB1E105K	CHIP C 1.0UF K	
C117			CK73GB1E105K	CHIP C 1.0UF K		C423			CK73FB1A475K	CHIP C 4.7UF K	
C118			CK73HB1A104K	CHIP C 0.10UF K		C501,502			CK73HB1C103K	CHIP C 0.010UF K	
C119			CK73HB1C103K	CHIP C 0.010UF K		C503			CC73HCH1H101J	CHIP C 100PF J	
C120			CK73FB1A225K	CHIP C 2.2UF K		C504			CC73HCH1H100D	CHIP C 10PF D	
C121			CK73HB1A393K	CHIP C 0.039UF K		C505			CC73HCH1H101J	CHIP C 100PF J	
C122			CK73HB1H471K	CHIP C 470PF K		C506			CK73HB1C103K	CHIP C 0.010UF K	
C123			CC73HCH1H680J	CHIP C 68PF J		C507,508			CC73HCH1H101J	CHIP C 100PF J	
C125			CK73HB1A104K	CHIP C 0.10UF K		C509			CC73HCH1H100D	CHIP C 10PF D	
C126			CC73HCH1H470J	CHIP C 47PF J		C512			CK73HB1C103K	CHIP C 0.010UF K	
C127			CC73HCH1H181J	CHIP C 180PF J		C513			CK73HB1H471K	CHIP C 470PF K	
C128			CK73HB1H471K	CHIP C 470PF K		C514			CC73HCH1H101J	CHIP C 100PF J	
C129			CK73GB1E105K	CHIP C 1.0UF K		C515			CK73HB1H471K	CHIP C 470PF K	
C130			CK73HB1A104K	CHIP C 0.10UF K		C518			CC73HCH1H101J	CHIP C 100PF J	
C131			CK73HB1H821K	CHIP C 820PF K		C519			CC73GCH1H101J	CHIP C 100PF J	
C132			CK73HB1A104K	CHIP C 0.10UF K		C520			CK73GB1E105K	CHIP C 1.0UF K	
C133			CK73GB0J475K	CHIP C 4.7UF K		C522			CC73HCH1H050C	CHIP C 5.0PF C	
C134			CK73HB1A473K	CHIP C 0.047UF K		C523			C92-0001-05	CHIP-TAN 0.1UF 35WV	
C135			CK73GB1E105K	CHIP C 1.0UF K		C524			CC73HCH1H101J	CHIP C 100PF J	
C136			CK73HB1H561K	CHIP C 560PF K		C525			C92-0519-05	CHIP-TAN 1.0UF 25WV	
C137			CK73HB1H471K	CHIP C 470PF K		C526			C92-0002-05	CHIP-TAN 0.22UF 35WV	

PARTS LIST

TX-RX UNIT (X57-7012-72)

Ref. No.	Address	New parts	Parts No.	Description	Destination	Ref. No.	Address	New parts	Parts No.	Description	Destination
C527			CC73HCH1H080D	CHIP C 8.0PF D		C643			CK73HB1C103K	CHIP C 0.010UF K	
C528			C92-0001-05	CHIP-TAN 0.1UF 35WV		C645			CC73GCH1H150J	CHIP C 15PF J	
C529			CC73HCH1H020C	CHIP C 2.0PF C		C646			CK73HB1H471K	CHIP C 470PF K	
C530			CC73HCH1H101J	CHIP C 100PF J		C648			CK73HB1H471K	CHIP C 470PF K	
C533			CC73HCH1H1R5C	CHIP C 1.5PF C		C651			CK73HB1A104K	CHIP C 0.10UF K	
C536			CC73HCH1H030C	CHIP C 3.0PF C		C655			CC73GCH1H270J	CHIP C 27PF J	
C537			CC73HCH1H050C	CHIP C 5.0PF C		C658			CK73HB1H471K	CHIP C 470PF K	
C538			CC73HCH1H101J	CHIP C 100PF J		C660			CC73GCH1H150J	CHIP C 15PF J	
C539			CC73HCH1H1R5B	CHIP C 1.5PF B		C665			CK73HB1A104K	CHIP C 0.10UF K	
C540			CC73HCH1H020B	CHIP C 2.0PF B		C669			CC73GCH1H080B	CHIP C 8.0PF B	
C541			CC73HCH1H220J	CHIP C 22PF J		C670			CC73GCH1H101J	CHIP C 100PF J	
C544			CC73HCH1H1R5C	CHIP C 1.5PF C		C671			CC73GCH1H050B	CHIP C 5.0PF B	
C545			CC73HCH1H150J	CHIP C 15PF J		C673			CK73HB1H471K	CHIP C 470PF K	
C548			CC73HCH1H330J	CHIP C 33PF J		C675			CC73GCH1H040B	CHIP C 4.0PF B	
C549			CC73HCH1H270J	CHIP C 27PF J		C676			CC73GCH1H101J	CHIP C 100PF J	
C551			CC73HCH1H0R5B	CHIP C 0.5PF B		C677			CC73GCH1H050B	CHIP C 5.0PF B	
C552			CC73HCH1H101J	CHIP C 100PF J		C678			CC73GCH1H040B	CHIP C 4.0PF B	
C553-555			CC73HCH1H050B	CHIP C 5.0PF B		C679			CC73GCH1H1R5B	CHIP C 1.5PF B	
C556			CC73HCH1H060B	CHIP C 6.0PF B		C680			CC73GCH1H070B	CHIP C 7.0PF B	
C558			CC73HCH1H050B	CHIP C 5.0PF B		C681			CC73GCH1H030B	CHIP C 3.0PF B	
C559			CC73HCH1H080B	CHIP C 8.0PF B		C682			CC73GCH1H070B	CHIP C 7.0PF B	
C560			CC73HCH1H101J	CHIP C 100PF J		C683			CC73GCH1H2R5B	CHIP C 2.5PF B	
C562,563			CK73HB1H471K	CHIP C 470PF K		C684			CC73GCH1H1R5B	CHIP C 1.5PF B	
C564,565			CK73HB1A104K	CHIP C 0.10UF K		C701,702			CK73HB1A104K	CHIP C 0.10UF K	
C566,567			CC73HCH1H0R5B	CHIP C 0.5PF B		C703			CC73HCH1H330J	CHIP C 33PF J	
C568			CK73HB1C103K	CHIP C 0.010UF K		C704			CK73HB1C103K	CHIP C 0.010UF K	
C569			CK73HB1H471K	CHIP C 470PF K		C705			CC73HCH1H220J	CHIP C 22PF J	
C570			CK73HB1C103K	CHIP C 0.010UF K		C706			CC73HCH1H820J	CHIP C 82PF J	
C571			CK73HB1H471K	CHIP C 470PF K		C707			CK73HB1H331K	CHIP C 330PF K	
C572			C92-0628-05	CHIP-TAN 10UF 10WV		C708,709			CK73HB1A104K	CHIP C 0.10UF K	
C573			CK73HB1H471K	CHIP C 470PF K		C710			CC73HCH1H390J	CHIP C 39PF J	
C574,575			CC73HCH1H100D	CHIP C 10PF D		C711			CC73HCH1H820J	CHIP C 82PF J	
C577,578			CK73HB1H471K	CHIP C 470PF K		C712			CK73HB1H331K	CHIP C 330PF K	
C579			CC73HCH1H030B	CHIP C 3.0PF B		C713			CK73HB1A104K	CHIP C 0.10UF K	
C580,581			CK73HB1H471K	CHIP C 470PF K		C714			CC73HCH1H390J	CHIP C 39PF J	
C582			CC73HCH1H020B	CHIP C 2.0PF B		C715			CK73HB1H471K	CHIP C 470PF K	
C583			CK73HB1A104K	CHIP C 0.10UF K		C716			CK73HB1H182K	CHIP C 1800PF K	
C584			CC73HCH1H100D	CHIP C 10PF D		C717			CK73GB1E105K	CHIP C 1.0UF K	
C601			CK73HB1H471K	CHIP C 470PF K		C718			C92-0712-05	CHIP-TAN 22UF 6.3WV	
C604			CK73HB1A224K	CHIP C 0.22UF K		C719			CC73HCH1H820J	CHIP C 82PF J	
C606			CK73HB1H471K	CHIP C 470PF K		C720			CK73HB1C103K	CHIP C 0.010UF K	
C608			CK73HB1H471K	CHIP C 470PF K		C721			CK73HB1H471K	CHIP C 470PF K	
C609			CC73HCH1H050C	CHIP C 5.0PF C		C722			CK73HB1A104K	CHIP C 0.10UF K	
C610-613			CK73HB1H471K	CHIP C 470PF K		C723			CK73HB1A333K	CHIP C 0.033UF K	
C615			CK73HB1H471K	CHIP C 470PF K		C724			CC73HCH1H330J	CHIP C 33PF J	
C617			CC73HCH1H150J	CHIP C 15PF J		C725			CK73HB1A104K	CHIP C 0.10UF K	
C622			CC73HCH1H101J	CHIP C 100PF J		C726			CK73HB1C103K	CHIP C 0.010UF K	
C623			CK73HB1H102K	CHIP C 1000PF K		C727			CK73HB1H471K	CHIP C 470PF K	
C625			CC73HCH1H120J	CHIP C 12PF J		C728			CK73HB1C103K	CHIP C 0.010UF K	
C626			CC73HCH1H101J	CHIP C 100PF J		C730			CC73HCH1H080B	CHIP C 8.0PF B	
C627			CC73HCH1H270J	CHIP C 27PF J		C732,733			CK73HB1C103K	CHIP C 0.010UF K	
C629			CC73HCH1H270J	CHIP C 27PF J		C734,735			CK73HB1H471K	CHIP C 470PF K	
C631			CC73HCH1H180J	CHIP C 18PF J		C736			CK73HB1C103K	CHIP C 0.010UF K	
C632			C92-0514-05	CHIP-TAN 2.2UF 10WV		C737			CC73HCH1H060B	CHIP C 6.0PF B	
C633			CK73HB1H471K	CHIP C 470PF K		C738			CC73HCH1H120J	CHIP C 12PF J	
C635			CC73HCH1H101J	CHIP C 100PF J		C739			CC73HCH1H020B	CHIP C 2.0PF B	
C636			CC73HCH1H180J	CHIP C 18PF J		C740			CC73HCH1H100D	CHIP C 10PF D	
C637			CK73HB1H102K	CHIP C 1000PF K		C741			CK73HB1C103K	CHIP C 0.010UF K	
C638,639			CK73HB1H471K	CHIP C 470PF K		C743			CC73HCH1H010B	CHIP C 1.0PF B	
C641			CC73HCH1H101J	CHIP C 100PF J		C744,745			CK73HB1H471K	CHIP C 470PF K	

PARTS LIST

TX-RX UNIT (X57-7012-72)

Ref. No.	Address	New parts	Parts No.	Description	Destination	Ref. No.	Address	New parts	Parts No.	Description	Destination
C746			CC73HCH1H030B	CHIP C 3.0PF B		L501			L41-5685-39	SMALL FIXED INDUCTOR (0.56UH)	
C747,748			CK73HB1H471K	CHIP C 470PF K		L502			L40-3963-57	SMALL FIXED INDUCTOR (3.9NH)	
C749			CC73HCH1H040B	CHIP C 4.0PF B		L503			L92-0138-05	CHIP FERRITE	
C750			CC73HCH1H180J	CHIP C 18PF J		L505			L40-2285-92	SMALL FIXED INDUCTOR (220NH)	
C752			CC73HCH1H020B	CHIP C 2.0PF B		L506			L40-2785-92	SMALL FIXED INDUCTOR (270NH)	
C754			CC73HCH1H020B	CHIP C 2.0PF B		L507			L40-3963-57	SMALL FIXED INDUCTOR (3.9NH)	
C755			CC73HCH1H180J	CHIP C 18PF J		L508			L40-2285-92	SMALL FIXED INDUCTOR (220NH)	
C756			CC73HCH1H050B	CHIP C 5.0PF B		L509			L40-1285-92	SMALL FIXED INDUCTOR (120NH)	
C757			CC73HCH1H020B	CHIP C 2.0PF B		L511			L40-1575-57	SMALL FIXED INDUCTOR (15.0NH)	
C758			CK73HB1H471K	CHIP C 470PF K		L512			L40-2275-54	SMALL FIXED INDUCTOR (22NH)	
C759			CC73HCH1H020B	CHIP C 2.0PF B		L513			L41-2778-14	SMALL FIXED INDUCTOR (27NH)	
C760			CK73HB1H471K	CHIP C 470PF K		L514,515		*	L41-2285-45	SMALL FIXED INDUCTOR (220NH)	
C761			CC73HCH1H180J	CHIP C 18PF J		L517		*	L41-2785-45	SMALL FIXED INDUCTOR (270NH)	
C762			CC73HCH1H050B	CHIP C 5.0PF B		L518			L40-2785-92	SMALL FIXED INDUCTOR (270NH)	
C763			CK73HB1H471K	CHIP C 470PF K		L519			L92-0138-05	CHIP FERRITE	
C765			CK73HB1H471K	CHIP C 470PF K		L521			L40-2775-57	SMALL FIXED INDUCTOR (27.0NH)	
C766			CC73HCH1H0R5B	CHIP C 0.5PF B		L524			L40-2275-57	SMALL FIXED INDUCTOR (22.0NH)	
C767			CK73HB1H471K	CHIP C 470PF K		L601			L40-2775-57	SMALL FIXED INDUCTOR (27.0NH)	
C769			CK73HB1H471K	CHIP C 470PF K		L602			L40-1875-57	SMALL FIXED INDUCTOR (18.0NH)	
C771			CK73HB1A104K	CHIP C 0.10UF K		L603			L92-0138-05	CHIP FERRITE	
C772			CK73HB1H471K	CHIP C 470PF K		L605			L40-6865-57	SMALL FIXED INDUCTOR (6.8NH)	
C773			CC73HCH1H030B	CHIP C 3.0PF B		L606		*	L41-1575-45	SMALL FIXED INDUCTOR (15NH)	
C774			CC73HCH1H180J	CHIP C 18PF J		L607			L92-0149-05	CHIP FERRITE	
C776			CC73HCH1H030B	CHIP C 3.0PF B		L608			L40-1263-92	SMALL FIXED INDUCTOR (1.2NH)	
C777			CK73HB1H471K	CHIP C 470PF K		L611			L34-4576-05	AIR-CORE COIL	
C778			CC73HCH1H030B	CHIP C 3.0PF B		L612			L92-0149-05	CHIP FERRITE	
C779			CC73HCH1H180J	CHIP C 18PF J		L613			L41-5668-14	SMALL FIXED INDUCTOR (5.6NH)	
C781			CK73HB1H471K	CHIP C 470PF K		L614		*	L41-2285-45	SMALL FIXED INDUCTOR (220NH)	
C782			CC73HCH1H080D	CHIP C 8.0PF D		L615-618			L34-4564-05	AIR-CORE COIL	
C783			CC73HCH1H080B	CHIP C 8.0PF B		L619			L41-1092-44	SMALL FIXED INDUCTOR (1UH)	
C784			CC73HCH1H100D	CHIP C 10PF D		L701			L40-1885-92	SMALL FIXED INDUCTOR (180NH)	
C788			CC73HCH1H100B	CHIP C 10PF B		L702			L40-1085-57	SMALL FIXED INDUCTOR (100NH)	
C901			CK73HB1H471K	CHIP C 470PF K		L703			L40-1591-86	SMALL FIXED INDUCTOR (1.5UH)	
C904			CK73HB1H471K	CHIP C 470PF K		L704			L92-0138-05	CHIP FERRITE	
C906			CK73HB1C103K	CHIP C 0.010UF K		L705			L41-5685-39	SMALL FIXED INDUCTOR (0.56UH)	
C917			CK73HB1A104K	CHIP C 0.10UF K		L706			L40-2785-92	SMALL FIXED INDUCTOR (270NH)	
C921			CK73HB1C223K	CHIP C 0.022UF K		L707			L40-1875-57	SMALL FIXED INDUCTOR (18.0NH)	
C923-926			CK73HB1H471K	CHIP C 470PF K		L709			L40-3375-57	SMALL FIXED INDUCTOR (33.0NH)	
TC501,502			C05-0384-05	CERAMIC TRIMMER (10PF)		L711-713			L41-8268-14	SMALL FIXED INDUCTOR (8.2NH)	
						L714			L92-0138-05	CHIP FERRITE	
101	2A		E37-1141-15	FLAT CABLE		L715		*	L41-1575-45	SMALL FIXED INDUCTOR (15NH)	
-			E37-1145-05	PROCESSED LEAD WIRE		L717,718			L41-8268-14	SMALL FIXED INDUCTOR (8.2NH)	
CN1			E41-2440-05	FLAT CABLE CONNECTOR		L719		*	L41-4775-45	SMALL FIXED INDUCTOR (47NH)	
CN8			E40-5915-05	FLAT CABLE CONNECTOR		L720			L40-6865-57	SMALL FIXED INDUCTOR (6.8NH)	
CN18			E40-6420-05	FLAT CABLE CONNECTOR		L901			L92-0149-05	CHIP FERRITE	
CN60			E40-5932-05	SOCKET FOR PIN ASSY		X1			L77-1950-05	CRYSTAL RESONATOR (11.0592MHZ)	
CN71			E40-5915-05	FLAT CABLE CONNECTOR		X2			L77-1976-05	CRYSTAL RESONATOR (3.6864MHZ)	
CN901			E40-6420-05	FLAT CABLE CONNECTOR		X501			L77-1971-05	TCXO (16.8MHZ)	
J1			E11-0457-05	PHONE JACK (2.5/3.5)		XF701			L71-0617-25	MCF (49.95MHZ)	
F901			F53-0324-05	FUSE		CP1			RK74HB1J473J	CHIP-COM 47K J 1/16W	
CD701			L79-1474-05	TUNING COIL		CP3,4			RK75HA1J102J	CHIP-COM 1.0K J 1/16W	
CF701			L72-1010-05	CERAMIC FILTER		CP5			RK74HB1J102J	CHIP-COM 1.0K J 1/16W	
CF702			L72-1012-05	CERAMIC FILTER		CP7,8			RK75HA1J102J	CHIP-COM 1.0K J 1/16W	
L1			L92-0140-05	CHIP FERRITE		CP10			RK74HB1J102J	CHIP-COM 1.0K J 1/16W	
L2-5			L92-0138-05	CHIP FERRITE		CP11			RK75HA1J102J	CHIP-COM 1.0K J 1/16W	
L8			L92-0138-05	CHIP FERRITE		CP12,13			RK74HB1J102J	CHIP-COM 1.0K J 1/16W	
L10			L92-0140-05	CHIP FERRITE		CP16			RK74HB1J102J	CHIP-COM 1.0K J 1/16W	
L11			L92-0149-05	CHIP FERRITE		CP18			RK74HB1J102J	CHIP-COM 1.0K J 1/16W	
L12,13			L92-0419-15	CHIP FERRITE		CP19			RK75HA1J473J	CHIP-COM 47K J 1/16W	
L14,15			L92-0138-05	CHIP FERRITE							

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Ref. No.	Address	New parts	Parts No.	Description	Desti-nation	Ref. No.	Address	New parts	Parts No.	Description	Desti-nation
CP22-24			RK74HB1J102J	CHIP-COM 1.0K J 1/16W		R83			R92-1252-05	CHIP R 0 OHM J 1/16W	
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			R92-1252-05	CHIP R 0 OHM J 1/16W		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			R92-1368-05	CHIP R 0 OHM	
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			RK73GB1J103J	CHIP R 10K J 1/16W	
R18			RK73GB1J100J	CHIP R 10 J 1/16W		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			R92-1368-05	CHIP R 0 OHM		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			RK73GB1J152J	CHIP R 1.5K J 1/16W	
R26			R92-1368-05	CHIP R 0 OHM		R129			RK73HB1J105J	CHIP R 1.0M J 1/16W	
R27,28			RK73HB1J474D	CHIP R 470K D 1/16W		R130			RK73HB1J474J	CHIP R 470K J 1/16W	
R31			RK73HB1J103J	CHIP R 10K J 1/16W		R131,132			R92-1368-05	CHIP R 0 OHM	
R36			RK73GB1J433J	CHIP R 43K J 1/16W		R134			RK73HB1J104J	CHIP R 100K J 1/16W	
R37			RK73HB1J103J	CHIP R 10K J 1/16W		R135			R92-1368-05	CHIP R 0 OHM	
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			RK73GB1J181J	CHIP R 180 J 1/16W		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			RK73GB1J181J	CHIP R 180 J 1/16W		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			RK73GB1J391J	CHIP R 390 J 1/16W		R160			RK73HB1J224J	CHIP R 220K J 1/16W	
R76-80			RK73HB1J102J	CHIP R 1.0K J 1/16W		R161,162			RK73HB1J124J	CHIP R 120K J 1/16W	
R82			RK73GB1J391J	CHIP R 390 J 1/16W		R163			RK73HB1J393J	CHIP R 39K J 1/16W	

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Ref. No.	Address	New parts	Parts No.	Description	Destination	Ref. No.	Address	New parts	Parts No.	Description	Destination
R164			RK73HB1J184J	CHIP R 180K J 1/16W		R248			R92-1252-05	CHIP R 0 OHM J 1/16W	
R165			RK73HB1J154J	CHIP R 150K J 1/16W		R250			R92-1252-05	CHIP R 0 OHM J 1/16W	
R166			RK73HB1J103J	CHIP R 10K J 1/16W		R251			RK73HB1J474J	CHIP R 470K J 1/16W	
R167			R92-1252-05	CHIP R 0 OHM J 1/16W		R254,255			RK73HB1J474J	CHIP R 470K J 1/16W	
R168			RK73HB1J474J	CHIP R 470K J 1/16W		R256-258			R92-1252-05	CHIP R 0 OHM J 1/16W	
R169			RK73HB1J223J	CHIP R 22K J 1/16W		R259			RK73HB1J103J	CHIP R 10K J 1/16W	
R170			R92-1252-05	CHIP R 0 OHM J 1/16W		R261			RK73HB1J103J	CHIP R 10K J 1/16W	
R171			R92-1368-05	CHIP R 0 OHM		R262			RK73HB1J473J	CHIP R 47K J 1/16W	
R172			RK73HB1J684J	CHIP R 680K J 1/16W		R501,502			RK73HB1J102J	CHIP R 1.0K J 1/16W	
R173			RK73HB1J184J	CHIP R 180K J 1/16W		R503			RK73HB1J470J	CHIP R 47 J 1/16W	
R174			RK73HB1J123J	CHIP R 12K J 1/16W		R504			RK73HB1J103J	CHIP R 10K J 1/16W	
R175			RK73HB1J103J	CHIP R 10K J 1/16W		R505			RK73HB1J102J	CHIP R 1.0K J 1/16W	
R176			RK73HB1J683J	CHIP R 68K J 1/16W		R506			RK73HB1J154J	CHIP R 150K J 1/16W	
R177			R92-1368-05	CHIP R 0 OHM		R507			RK73HB1J101J	CHIP R 100 J 1/16W	
R178			RK73HB1J102J	CHIP R 1.0K J 1/16W		R508			RK73HB1J470J	CHIP R 47 J 1/16W	
R180			RK73HB1J103J	CHIP R 10K J 1/16W		R509			RK73HB1J272J	CHIP R 2.7K J 1/16W	
R181			R92-1368-05	CHIP R 0 OHM		R510-512			R92-1368-05	CHIP R 0 OHM	
R183			RK73HB1J103J	CHIP R 10K J 1/16W		R513			RK73HB1J470J	CHIP R 47 J 1/16W	
R184			R92-1368-05	CHIP R 0 OHM		R514			RK73HB1J102J	CHIP R 1.0K J 1/16W	
R187			R92-1368-05	CHIP R 0 OHM		R515,516			RK73HB1J331J	CHIP R 330 J 1/16W	
R191			R92-1368-05	CHIP R 0 OHM		R517			RK73HB1J103J	CHIP R 10K J 1/16W	
R192,193			RK73HB1J104J	CHIP R 100K J 1/16W		R518			RK73HB1J101J	CHIP R 100 J 1/16W	
R194,195			RK73HB1J102J	CHIP R 1.0K J 1/16W		R519,520			RK73HB1J103J	CHIP R 10K J 1/16W	
R196			RK73HB1J151J	CHIP R 150 J 1/16W		R521,522			RK73HB1J101J	CHIP R 100 J 1/16W	
R198			R92-1252-05	CHIP R 0 OHM J 1/16W		R523			RK73HB1J473J	CHIP R 47K J 1/16W	
R199			RK73HB1J472J	CHIP R 4.7K J 1/16W		R525			RK73HB1J101J	CHIP R 100 J 1/16W	
R200			RK73HB1J473J	CHIP R 47K J 1/16W		R527			RK73HB1J104J	CHIP R 100K J 1/16W	
R202			RK73HB1J102J	CHIP R 1.0K J 1/16W		R529,530			RK73HB1J181J	CHIP R 180 J 1/16W	
R203			RK73HB1J222J	CHIP R 2.2K J 1/16W		R531,532			RK73HB1J220J	CHIP R 22 J 1/16W	
R204			RK73HB1J104J	CHIP R 100K J 1/16W		R533			RK73HB1J472J	CHIP R 4.7K J 1/16W	
R206			R92-1368-05	CHIP R 0 OHM		R534			RK73HB1J154J	CHIP R 150K J 1/16W	
R207			RK73HB1J154J	CHIP R 150K J 1/16W		R535			RK73HB1J101J	CHIP R 100 J 1/16W	
R210			RK73HB1J471J	CHIP R 470 J 1/16W		R541			RK73HB1J154J	CHIP R 150K J 1/16W	
R211			RK73HB1J474J	CHIP R 470K J 1/16W		R542			RK73HB1J331J	CHIP R 330 J 1/16W	
R212			RK73HB1J101J	CHIP R 100 J 1/16W		R544			RK73HB1J470J	CHIP R 47 J 1/16W	
R213			RK73HB1J101J	CHIP R 100 J 1/16W		R545			RK73HH1J333D	CHIP R 33K D 1/16W	
R214			RK73HB1J182J	CHIP R 1.8K J 1/16W		R546			RK73HH1J104D	CHIP R 100K D 1/16W	
R215			RK73HB1J334J	CHIP R 330K J 1/16W		R547			RK73HB1J472J	CHIP R 4.7K J 1/16W	
R216			RK73HB1J274J	CHIP R 270K J 1/16W		R548			R92-1368-05	CHIP R 0 OHM	
R218			R92-1252-05	CHIP R 0 OHM J 1/16W		R550			R92-1252-05	CHIP R 0 OHM J 1/16W	
R220			RK73GB1J102J	CHIP R 1.0K J 1/16W		R551-553			R92-1368-05	CHIP R 0 OHM	
R221			RK73HB1J473J	CHIP R 47K J 1/16W		R601			RK73HB1J472J	CHIP R 4.7K J 1/16W	
R222,223			RK73HB1J102J	CHIP R 1.0K J 1/16W		R602			R92-1368-05	CHIP R 0 OHM	
R224			RK73HB1J104J	CHIP R 100K J 1/16W		R603			RK73HB1J102J	CHIP R 1.0K J 1/16W	
R225			RK73HB1J154J	CHIP R 150K J 1/16W		R604			RK73HB1J333J	CHIP R 33K J 1/16W	
R226			RK73HB1J184J	CHIP R 180K J 1/16W		R605			RK73HB1J101J	CHIP R 100 J 1/16W	
R229			RK73HB1J473J	CHIP R 47K J 1/16W		R606			RK73HB1J471J	CHIP R 470 J 1/16W	
R230			RK73HB1J123J	CHIP R 12K J 1/16W		R607			RK73HB1J220J	CHIP R 22 J 1/16W	
R232			RK73HB1J823J	CHIP R 82K J 1/16W		R608			RK73HB1J331J	CHIP R 330 J 1/16W	
R236			RK73HB1J124J	CHIP R 120K J 1/16W		R609			RK73HB1J330J	CHIP R 33 J 1/16W	
R238			RK73HB1J474J	CHIP R 470K J 1/16W		R610			RK73HB1J331J	CHIP R 330 J 1/16W	
R239			RK73HB1J104J	CHIP R 100K J 1/16W		R611			RK73HB1J823J	CHIP R 82K J 1/16W	
R240			RK73HB1J474J	CHIP R 470K J 1/16W		R612			RK73HB1J221J	CHIP R 220 J 1/16W	
R241			RK73HB1J473J	CHIP R 47K J 1/16W		R613			RK73HB1J563J	CHIP R 56K J 1/16W	
R242			RK73HB1J104J	CHIP R 100K J 1/16W		R614			RK73HB1J471J	CHIP R 470 J 1/16W	
R243			RK73HB1J474J	CHIP R 470K J 1/16W		R618			R92-1368-05	CHIP R 0 OHM	
R244			RK73HB1J473J	CHIP R 47K J 1/16W		R619			RK73HB1J103J	CHIP R 10K J 1/16W	
R245			RK73HB1J103J	CHIP R 10K J 1/16W		R620			R92-1368-05	CHIP R 0 OHM	
R246			RK73HB1J223J	CHIP R 22K J 1/16W		R621			RK73EB2ER39K	CHIP R 0.39 K 1/4W	
R247			RK73HB1J184J	CHIP R 180K J 1/16W		R622			RK73HB1J220J	CHIP R 22 J 1/16W	

PARTS LIST

TX-RX UNIT (X57-7012-72)

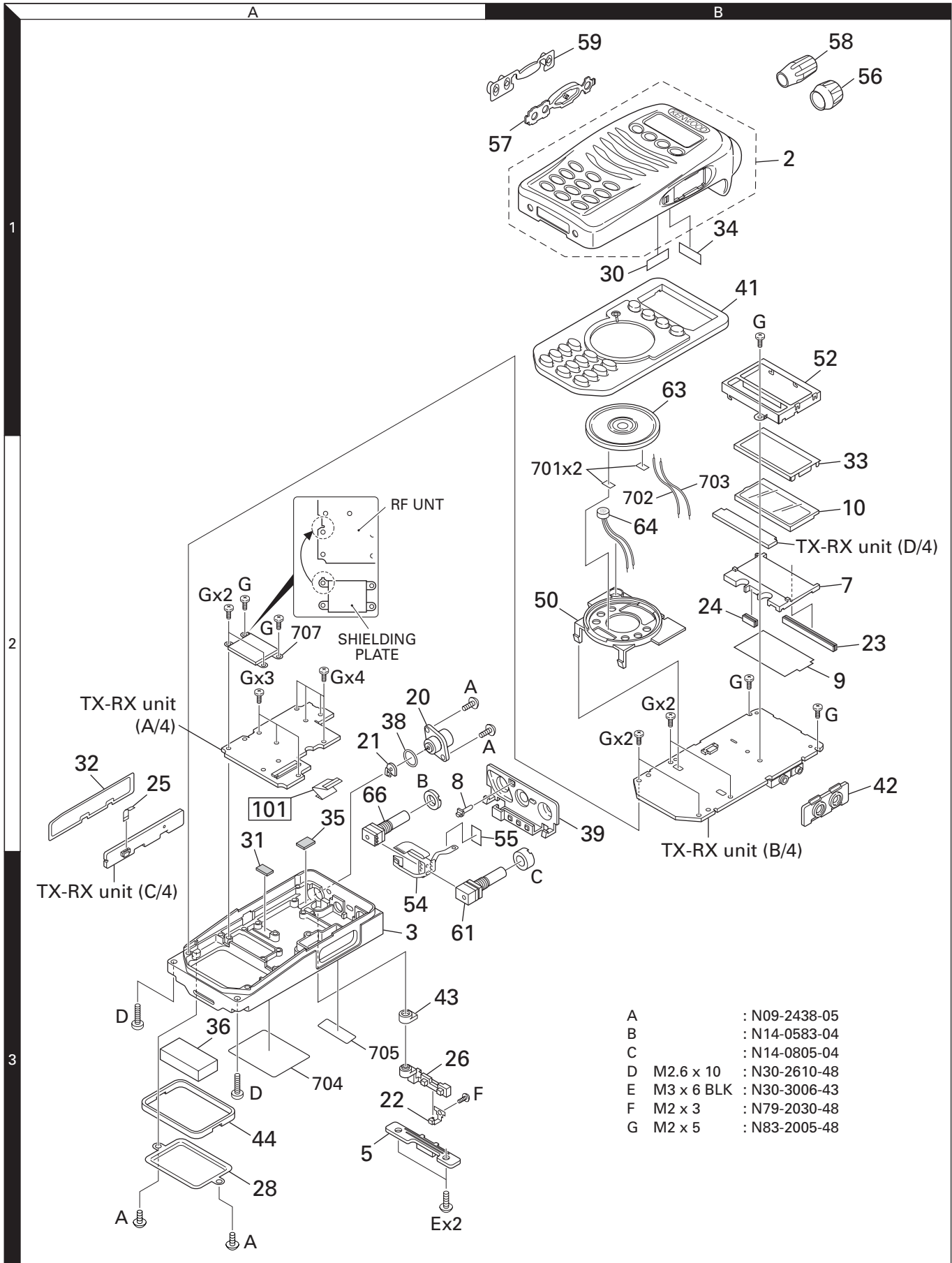
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R623			RK73EB2ER39K	CHIP R 0.39 K 1/4W		R759			R92-1252-05	CHIP R 0 OHM J 1/16W	
R624			RK73HB1J104J	CHIP R 100K J 1/16W		R760			R92-1368-05	CHIP R 0 OHM	
R625			RK73HB1J680J	CHIP R 68 J 1/16W		R903			RK73HB1J102J	CHIP R 1.0K J 1/16W	
R627			RK73HB1J223J	CHIP R 22K J 1/16W		R913-916			RK73HB1J102J	CHIP R 1.0K J 1/16W	
R628			RK73HB1J183J	CHIP R 18K J 1/16W		R923			R92-1252-05	CHIP R 0 OHM J 1/16W	
R629			RK73EB2ER39K	CHIP R 0.39 K 1/4W		S1			S70-0424-05	TACT SWITCH	
R630,631			RK73HH1J154D	CHIP R 150K D 1/16W		S2			S70-0457-05	TACT SWITCH	
R632,633			RK73HH1J334D	CHIP R 330K D 1/16W		S3,4			S70-0424-05	TACT SWITCH	
R634			RK73HB1J103J	CHIP R 10K J 1/16W		D1			RB521S-30	DIODE	
R635			RK73HB1J473J	CHIP R 47K J 1/16W		D4			MA2S111	DIODE	
R636			R92-1368-05	CHIP R 0 OHM		D16,17			MA2S111	DIODE	
R637			RK73HB1J223J	CHIP R 22K J 1/16W		D24-27			MA2S111	DIODE	
R638			RK73HB1J474J	CHIP R 470K J 1/16W		D28-31			RB706F-40	DIODE	
R639			RK73HB1J184J	CHIP R 180K J 1/16W		D32			DA221	DIODE	
R640			RK73HB1J474J	CHIP R 470K J 1/16W		D33			AVRM1608270MAB	VARIATOR	
R641			R92-1252-05	CHIP R 0 OHM J 1/16W		D501			MA2S077	DIODE	
R642			RK73HB1J220J	CHIP R 22 J 1/16W		D502,503			HSC277	DIODE	
R643			RK73HB1J683J	CHIP R 68K J 1/16W		D505			1SV325F	VARIABLE CAPACITANCE DIODE	
R645,646			RK73GB1J271J	CHIP R 270 J 1/16W		D507			1SV325F	VARIABLE CAPACITANCE DIODE	
R647			R92-1252-05	CHIP R 0 OHM J 1/16W		D509			1SV325F	VARIABLE CAPACITANCE DIODE	
R648			RK73HB1J5R6J	CHIP R 5.6 J 1/16W		D511			1SV325F	VARIABLE CAPACITANCE DIODE	
R649			RK73HB1J473J	CHIP R 47K J 1/16W		D513			1SV278F	VARIABLE CAPACITANCE DIODE	
R701			RK73HB1J103J	CHIP R 10K J 1/16W		D514-516			HSC277	DIODE	
R702,703			RK73HB1J472J	CHIP R 4.7K J 1/16W		D517			MA2S077	DIODE	
R704			RK73HB1J224J	CHIP R 220K J 1/16W		D601			UDZS4.7B	ZENER DIODE	
R705,706			RK73HB1J472J	CHIP R 4.7K J 1/16W		D604-606			HVC131	DIODE	
R707			RK73HB1J101J	CHIP R 100 J 1/16W		D608			HVC131	DIODE	
R708			RK73HB1J103J	CHIP R 10K J 1/16W		D701,702			DAN235E	DIODE	
R710			RK73HB1J102J	CHIP R 1.0K J 1/16W		D703-708			HVC350B	VARIABLE CAPACITANCE DIODE	
R711			RK73HB1J474J	CHIP R 470K J 1/16W		D901			1SR154-400	DIODE	
R713			RK73HB1J334J	CHIP R 330K J 1/16W		IC1			XC61CC5002NR	MOS-IC	
R715,716			RK73HB1J332J	CHIP R 3.3K J 1/16W		IC2			XC6204B502PR	MOS-IC	
R717			RK73HB1J272J	CHIP R 2.7K J 1/16W		IC3			XC61CN3402NR	MOS-IC	
R718			RK73HB1J100J	CHIP R 10 J 1/16W		IC4,5			BU4094BCFV	MOS-IC	
R719			RK73HB1J332J	CHIP R 3.3K J 1/16W		IC6			LC75834W	MOS-IC	
R721			RK73HB1J224J	CHIP R 220K J 1/16W		IC7			30625MGP234HU	MICROPROCESSOR IC	
R722			RK73HB1J101J	CHIP R 100 J 1/16W		IC8			AT29C040A-90TU	ROM IC	
R726			RK73HB1J474J	CHIP R 470K J 1/16W		IC9			CAT24WC64WI	ROM IC	
R727			RK73HB1J681J	CHIP R 680 J 1/16W		IC10-12			TK62012F	MOS-IC	
R728			RK73HB1J101J	CHIP R 100 J 1/16W		IC13			AQUA-L	MOS-IC	
R729			RK73HB1J470J	CHIP R 47 J 1/16W		IC14			TC7W53FK(F)	MOS-IC	
R730			RK73HB1J472J	CHIP R 4.7K J 1/16W		IC15			TK62012F	MOS-IC	
R732			RK73HB1J391J	CHIP R 390 J 1/16W		IC16			M62364FP-F	MOS-IC	
R733			R92-1368-05	CHIP R 0 OHM		IC17			TK62012F	MOS-IC	
R734			RK73HB1J563J	CHIP R 56K J 1/16W		IC18			TA7368F	MOS-IC	
R735			RK73HB1J104J	CHIP R 100K J 1/16W		IC19			TC75S51FE(F)	MOS-IC	
R736			RK73HB1J563J	CHIP R 56K J 1/16W		IC501			ADF4111BCP7	MOS-IC	
R737			RK73HB1J104J	CHIP R 100K J 1/16W		IC601			TA75W01FUF	MOS-IC	
R738			RK73HB1J180J	CHIP R 18 J 1/16W		IC701			TA31136FNG	MOS-IC	
R739-741			RK73HB1J105J	CHIP R 1.0M J 1/16W		Q1			UMG3N	TRANSISTOR	
R743			RK73HB1J220J	CHIP R 22 J 1/16W		Q2			FP210	TRANSISTOR	
R744			RK73HB1J221J	CHIP R 220 J 1/16W		Q5			UPA672T	FET	
R747			RK73HB1J104J	CHIP R 100K J 1/16W		Q6			UMG3N	TRANSISTOR	
R748			RK73HB1J824J	CHIP R 820K J 1/16W		Q7			UPA672T	FET	
R750,751			RK73HB1J104J	CHIP R 100K J 1/16W		Q8			DTA114EE	DIGITAL TRANSISTOR	
R753			R92-1368-05	CHIP R 0 OHM		Q9			SSM6J08FU(F)	FET	
R754,755			RK73HB1J105J	CHIP R 1.0M J 1/16W		Q12			2SC4617(S)	TRANSISTOR	
R756			R92-0670-05	CHIP R 0 OHM		Q13			2SB1132(Q,R)	TRANSISTOR	
R757			RK73HB1J105J	CHIP R 1.0M J 1/16W		Q14,15			SSM3K15TE(F)	FET	
R758			R92-1368-05	CHIP R 0 OHM							

PARTS LIST

TX-RX UNIT (X57-7012-72)

Ref. No.	Address	New parts	Parts No.	Description	Destination	Ref. No.	Address	New parts	Parts No.	Description	Destination
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							
Q35			SSM3K01T(F)	FET							
Q501			2SC5488	TRANSISTOR							
Q502,503			2SK508NV(K52)	FET							
Q504			SSM6P05FU(F)	FET							
Q505			2SC4617(S)	TRANSISTOR							
Q506,507			2SC5488	TRANSISTOR							
Q601			2SC5488	TRANSISTOR							
Q602			2SK3077F	FET							
Q603			RD01MUS1	FET							
Q604			2SK3476	FET							
Q605			DTC114EE	DIGITAL TRANSISTOR							
Q606			2SK879(GR)	FET							
Q607			DTC114EE	DIGITAL TRANSISTOR							
Q608			DTA144EE	DIGITAL TRANSISTOR							
Q609			SSM3K15TE(F)	FET							
Q701			2SC4649(N,P)	TRANSISTOR							
Q702			DTA144EE	DIGITAL TRANSISTOR							
Q703			2SC4649(N,P)	TRANSISTOR							
Q704,705			3SK318	FET							
TH501			B57331V2104J	THERMISTOR							
TH701,702			B57331V2104J	THERMISTOR							

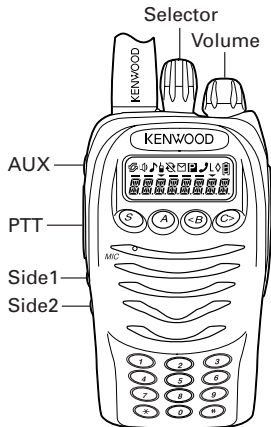
EXPLODED VIEW



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 : <input checked="" type="checkbox"/> 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

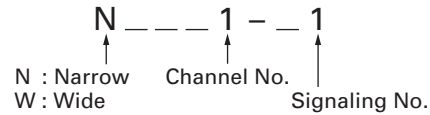
Note :

- 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	RX (MHz)	TX (MHz)
1	415.05000	415.10000
2	400.05000	400.10000
3	429.95000	429.90000
4	415.00000	415.00000
5	415.20000	415.20000
6	415.40000	415.40000
7~16	-	-

• Test signaling

No.	RX	TX
1	None	None
2	None	100Hz Square Wave
3	Skip	Skip
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	Skip	Skip
13	Single Tone : 979.9Hz	Single Tone : 979.9Hz
14	None	Single Tone : 1000Hz
15	5-tone : 12345 (CCIR)	5-tone : 12345 (CCIR)
16	None	MSK
17	MSK : Preamble : 0xAAAA Sync : 0x23EB Data : 0x230960C6AAAA CRC : 0xC4D7	MSK : Preamble : 0xAAAA Sync : 0x23EB Data : 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

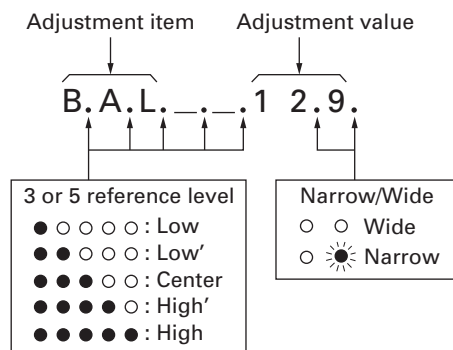
(To place transceiver in tuning mode)

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	RX (MHz)	TX (MHz)
Low	400.05000	400.10000
Low'	407.55000	407.60000
Center	415.05000	415.10000
High'	422.55000	422.60000
High	429.95000	429.90000

■ Adjustment item and Display

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

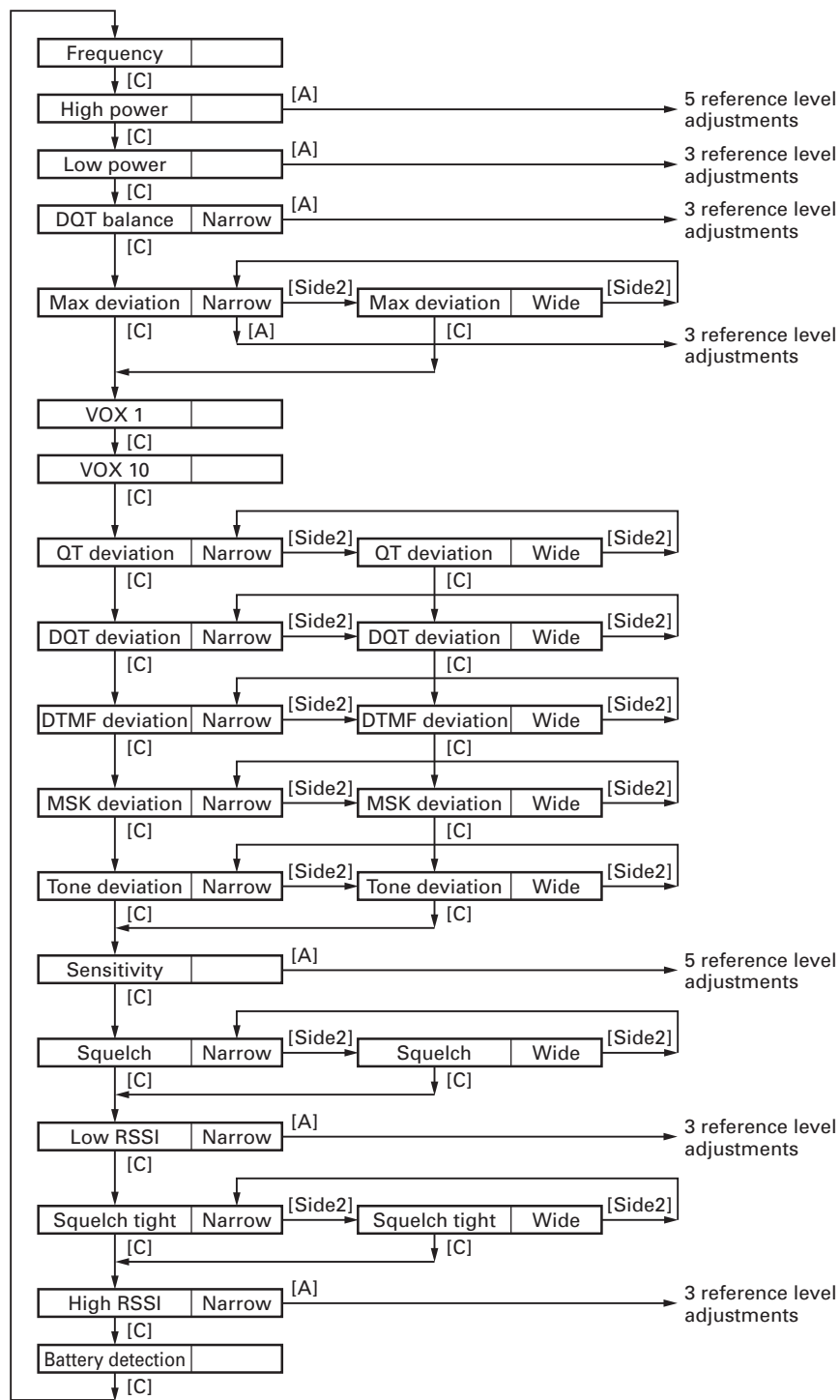
Order	Adjustment item	Display
1	Frequency	F R E Q _ * * *
2	High power	H P W R _ * * *
3	Low power	L P W R _ * * *
4	DQT balance	B A L _ _ * * *
5	Max deviation	D E V _ _ * * *
6	VOX 1	V X 1 _ _ * * *
7	VOX 10	V X 1 0 _ * * *
8	QT deviation	Q T _ _ _ * * *
9	DQT deviation	D Q T _ _ * * *
10	DTMF deviation	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

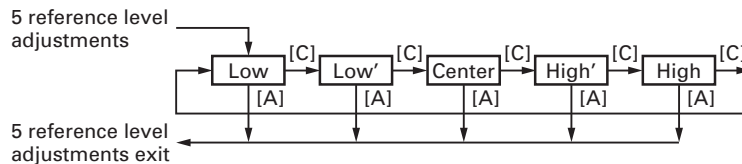
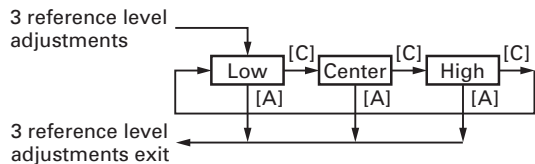
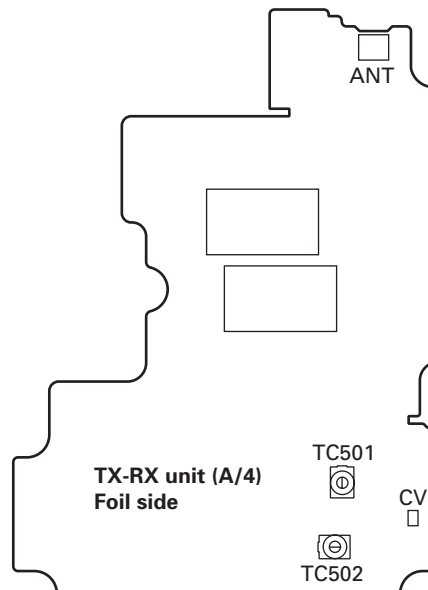
Key	Function	
	Push	Hold (1 second)
[S]	End of panel tuning mode	-
[A]	To enter 3 or 5 reference level adjustments	-
[B]	Writes the adjustment value	-
[C]	Go to next adjustment item	Back to last adjustment item
[Selector]	Adjustment value up/down	
[Volume]	Volume level up/down	
[Side1]	Squelch on/off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

ADJUSTMENT

Flow chart



Adjustment Points



ADJUSTMENT

Test Equipment Required for Alignment

Test Equipment	Major Specifications	
1. Standard Signal Generator (SSG)	Frequency Range	400 to 520MHz
	Modulation	Frequency modulation and external modulation
	Output	-127dBm/0.1 μ V to greater than -47dBm/1mV
2. Power Meter	Input Impedance	50 Ω
	Operation Frequency	400 to 520MHz or more
	Measurement Capability	Vicinity of 10W
3. Deviation Meter	Frequency Range	400 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. 4 Ω Dummy Load		Approx. 4 Ω , 3W
12. Regulated Power Supply		5V to 10V, approx. 5A Useful if ammeter equipped

■ Antenna Connector Adapter

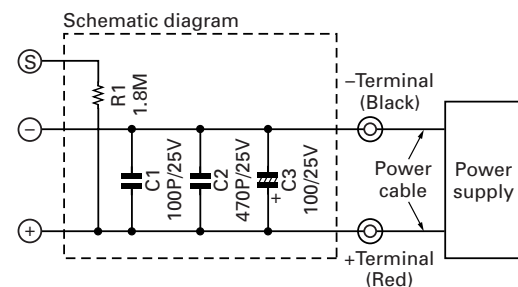
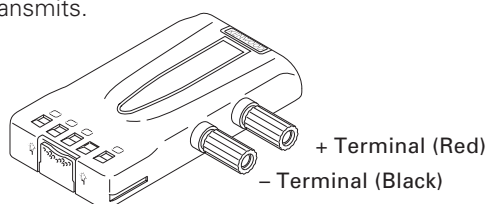
The antenna connector of this radio uses an SMA terminal. Use an antenna connector adapter [SMA(f) – BNC(f) or SMA(f) – N(f)] for adjustment. (The adapter is not provided as an option, so buy a commercially-available one.)

■ 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.

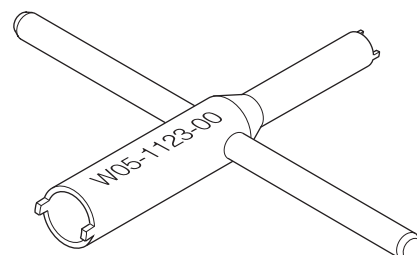
Note : When using the battery jig, you must measure the voltage at the terminals of the battery jig. Otherwise, a slight voltage drop may occur within the power cable, between the power supply and the battery jig, especially while the transceiver transmits.



■ Nut wrench

In order to turn the volume nut and the channel selector nut, use a recommendation tool.

KENWOOD part No. : W05-1123-00



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	[Panel test mode] 1) CH-Sig : 3-1	Power meter	Panel	ANT	TX-RX (A/4)	TC502	3.4V	±0.1V
	2) CH-Sig : 2-1	DVM	TX-RX (A/4)	CV			Check	0.6V or more
	[Panel tuning mode] LPWR* 3) CH-Sig : 3-1 PTT : ON				TX-RX (A/4)	TC501	3.4V	±0.1V
	4) CH-Sig : 2-1 PTT : ON						Check	0.6V or more

* 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._] → [H.P.W.R._] Adjust : [***] PTT : ON	Power meter Ammeter					4.0W	±0.1W 1.8A or less
3. High power check	[Panel test mode] 1) CH-Sig : 1-1 PTT : ON						Check	3.0~5.0W 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 0.9A or less

ADJUSTMENT

Item	Condition	Measurement			Adjustment			Specifications/Remarks
		Test-equipment	Unit	Terminal	Unit	Parts	Method	
5. Low power check	[Panel test mode] 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 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 2) Adj item : [D.EV_ _] → [D.E.V_ _] → [D.E.V_ _] Adjust : [***.] PTT : ON						2.20kHz (According to the larger +, -)	±50Hz
	3) Adj item : [DEV_ _] Adjust : [***.] PTT : ON						4.40kHz (According to the larger +, -)	±50Hz
8. MIC sensitivity check	[Panel test mode] 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	Power meter Deviation meter Oscilloscope AG AF VTVM	Panel	ANT SP/MIC	Panel	Selector knob	0.35kHz	±40Hz
	2) Adj item : [QT_ _ _] Adjust : [***.] PTT : ON						0.75kHz	±40Hz

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	[Panel test mode] 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.

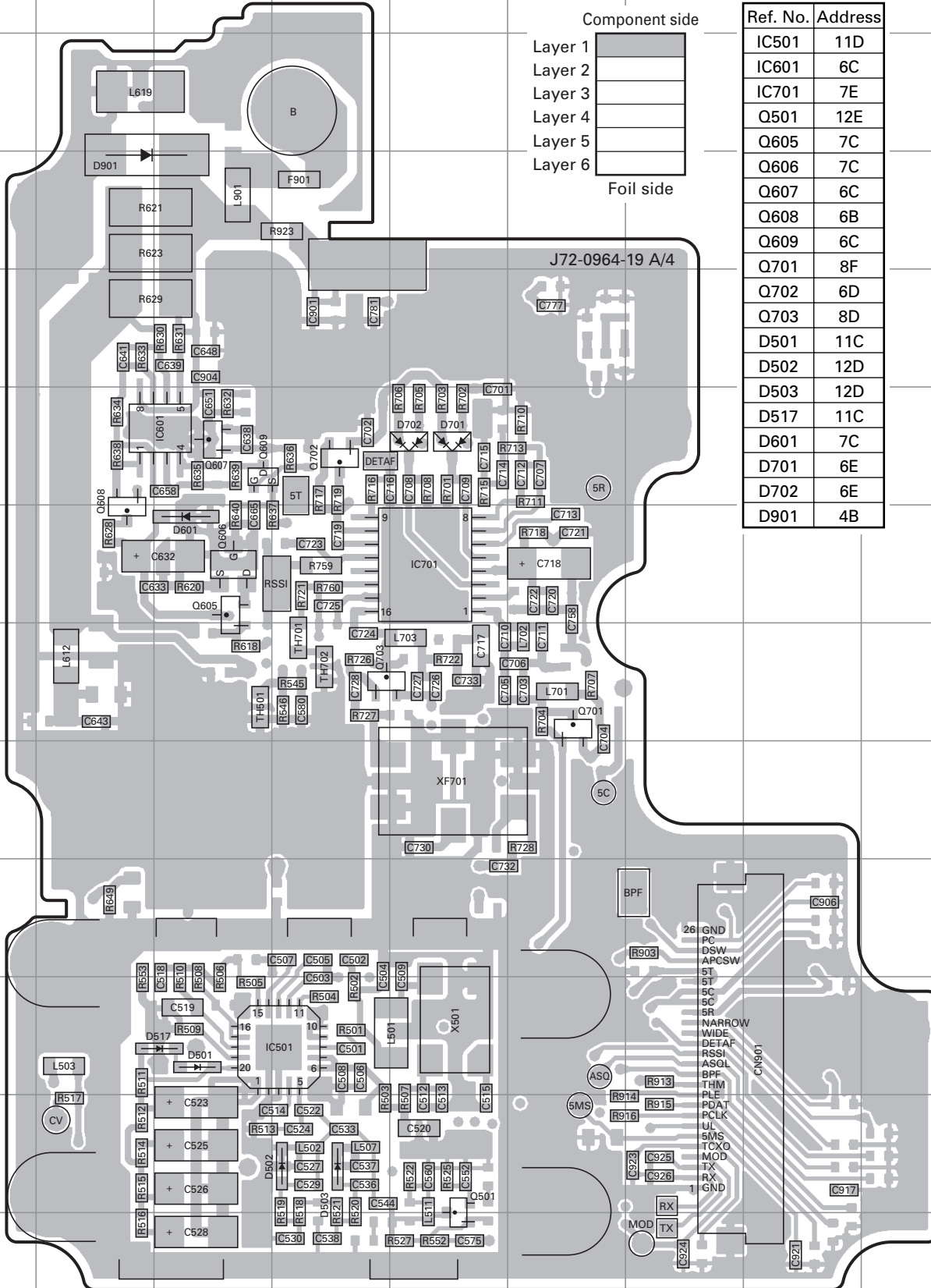
ADJUSTMENT

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	[Panel test mode] 1) CH-Sig : 1-1 SSG output Wide : -117dBm (0.32μV) (MOD : 1kHz±3.0kHz) Narrow : -115dBm (0.4μV) (MOD : 1kHz±1.5kHz)						Check	13dB SINAD or more
3. Squelch (Preset) adjust • Narrow	1) Adj item : [SQL_] Adjust : [***] SSG output : -118dBm (0.28μV) (MOD : 1kHz±1.5kHz)				Panel		After input signal from SSG, press [B] key. That numeric will be stored in memory.	After adjusting SQL, check SQL open/close. SSG -116dBm : Open SSG OFF : Close
• Wide	2) Adj item : [SQL_] Adjust : [***] SSG output : -118dBm (0.28μV) (MOD : 1kHz±3.0kHz)							
4. Low RSSI adjust • Narrow	1) Adj item : [LRSSI] Adjust : [***] SSG output : -118dBm (0.28μV) (MOD : 1kHz±1.5kHz)						After input signal from SSG, press [B] key. That numeric will be stored in memory.	
	2) Adj item : [L.RSSI] → [L.R.S.SI] → [L.R.S.S.I.] Adjust : [***]							
5. Squelch (Tight) adjust • Narrow	1) Adj item : [SQLT_] Adjust : [***] SSG output : -113dBm (0.5μV) (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 -111dBm : Open SSG OFF : Close
• Wide	2) Adj item : [SQLT_] Adjust : [***] SSG output : -114dBm (0.45μV) (MOD : 1kHz±3.0kHz)							
6. High RSSI adjust • Narrow	1) Adj item : [HRSSI] Adjust : [***] SSG output : -70dBm (70.8μV) (MOD : 1kHz±1.5kHz)						After input signal from SSG, press [B] key. That numeric will be stored in memory.	
	2) Adj item : [H.RSSI] → [H.R.S.SI] → [H.R.S.S.I.] Adjust : [***]							

TK-3170 PC BOARD

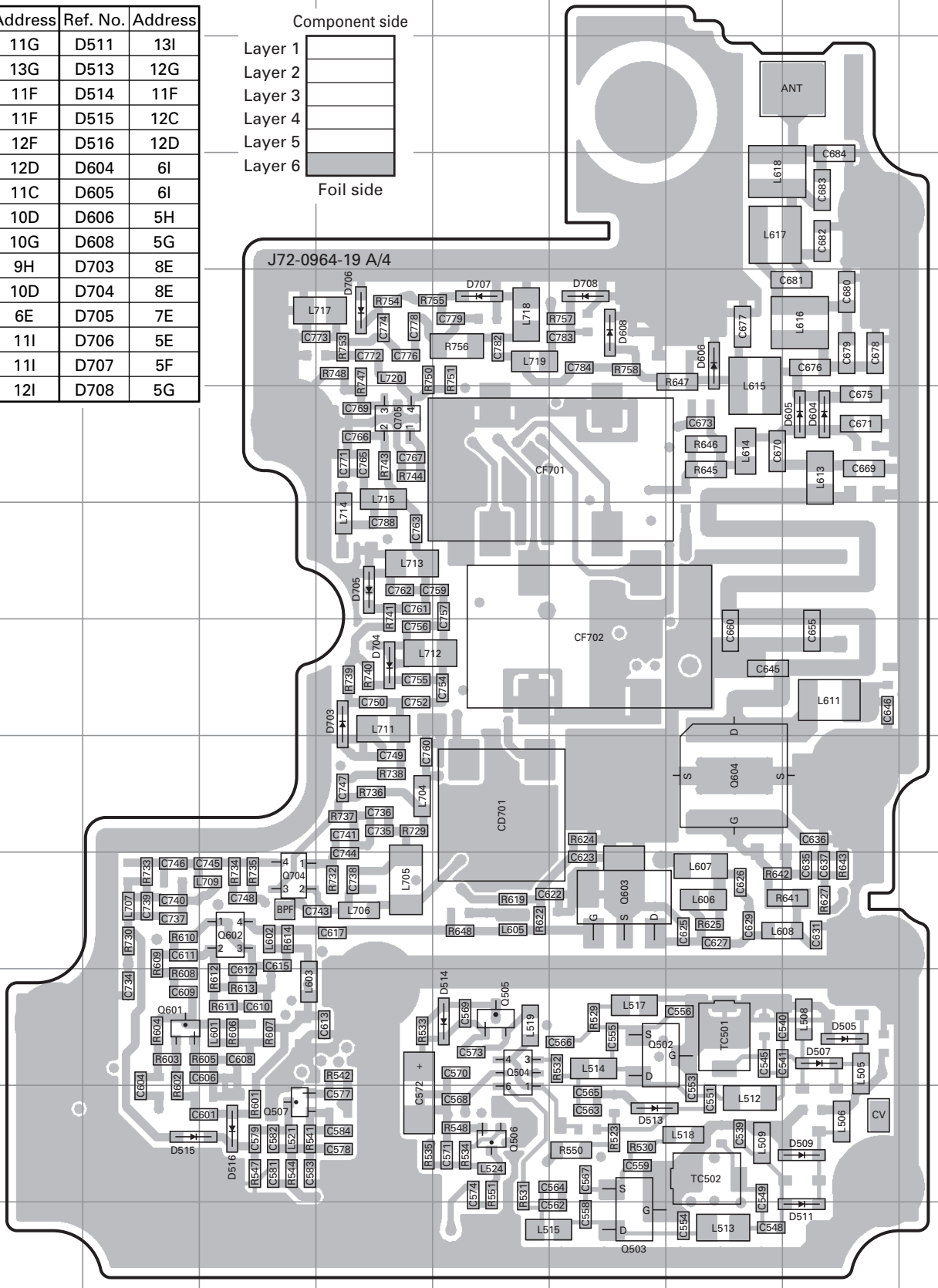
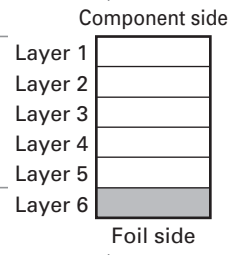
TX-RX UNIT (X57-7012-72) (A/4) Component side view (J72-0964-19 A/4)



PC BOARD TK-3170

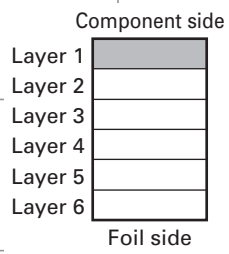
TX-RX UNIT (X57-7012-72) (A/4) Foil side view (J72-0964-19 A/4)

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

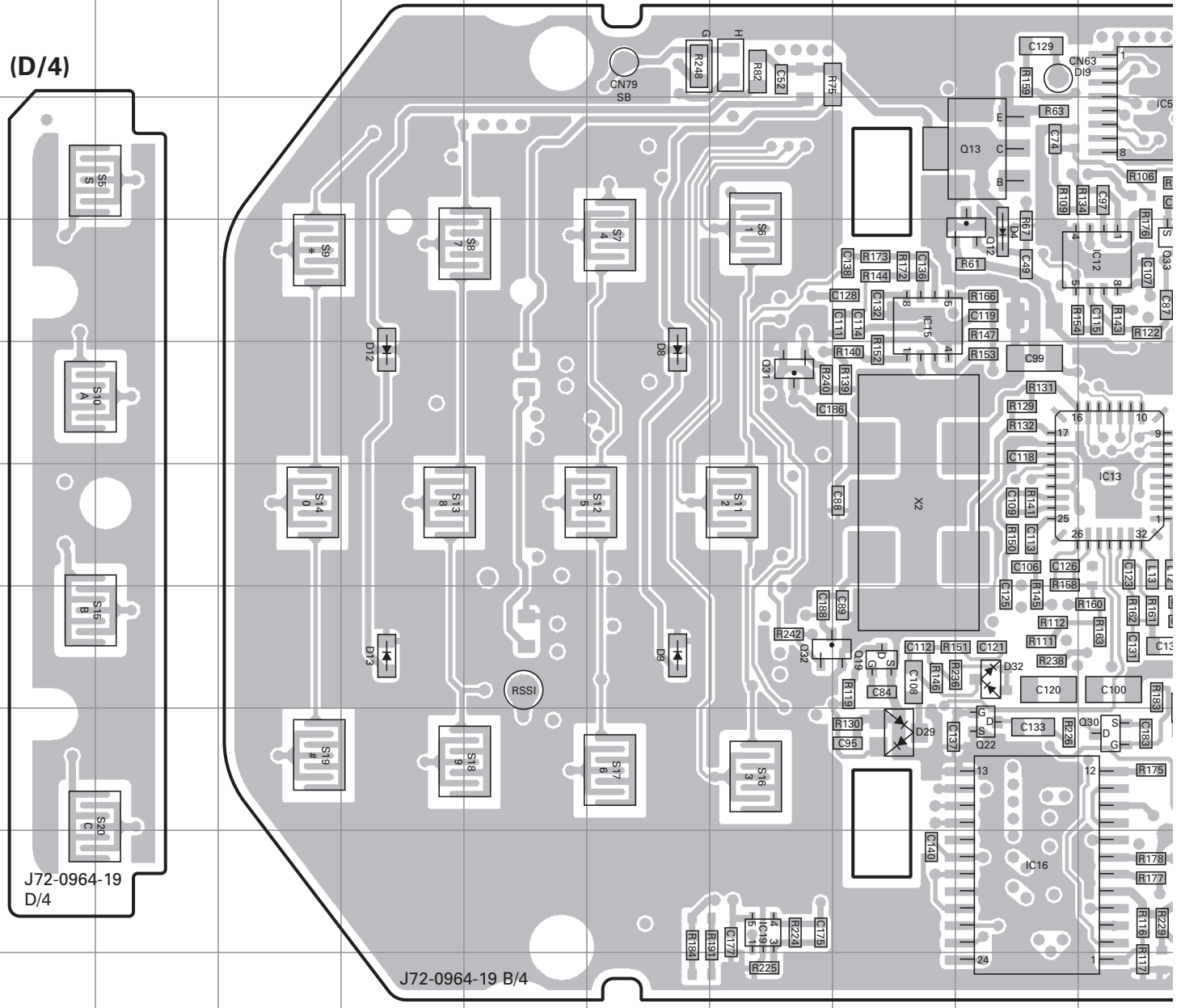


TK-3170 PC BOARD

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		



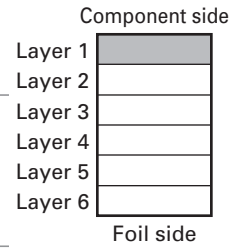
TX-RX UNIT (X57-7012-72) (B/4)
Component side view (J72-0964-19 B/4)



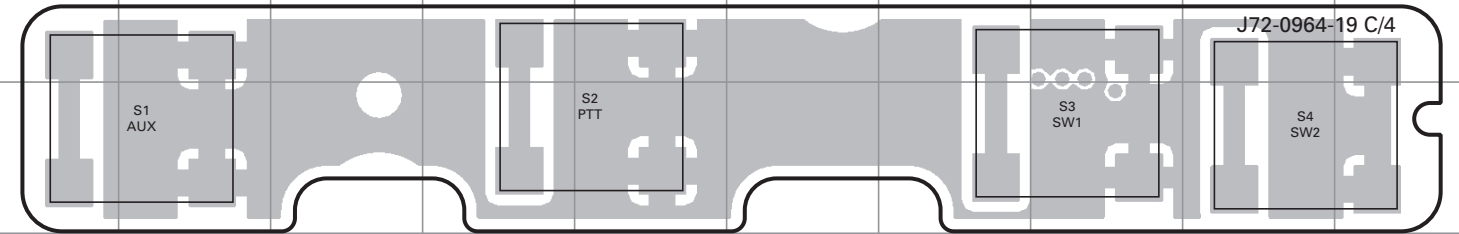
TK-3170 PC BOARD

PC BOARD TK-3170

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		

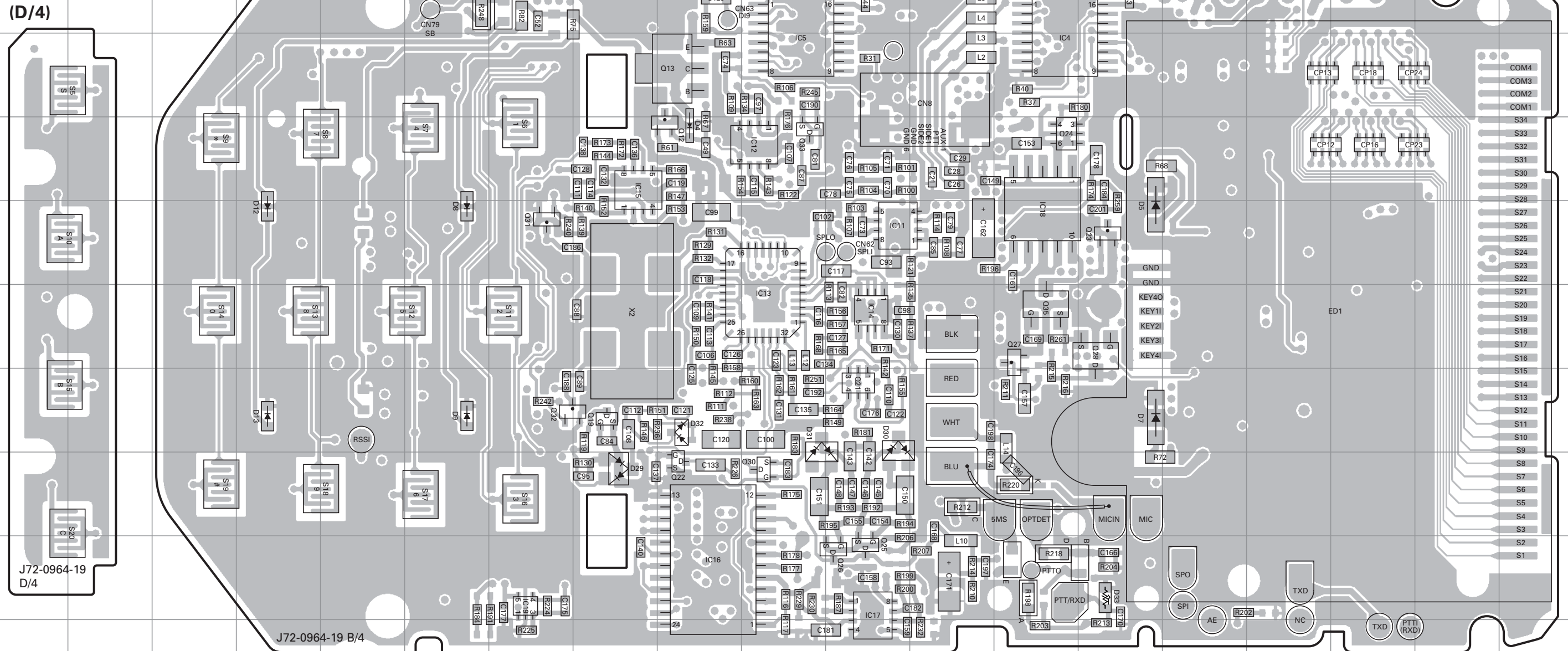


TX-RX UNIT (X57-7012-72) (C/4)
Component side view (J72-0964-19 C/4)



TX-RX UNIT (X57-7012-72) (B/4)
Component side view (J72-0964-19 B/4)

TX-RX UNIT (X57-7012-72) (B/4)
Component side view (J72-0964-19 B/4)



(D/4)

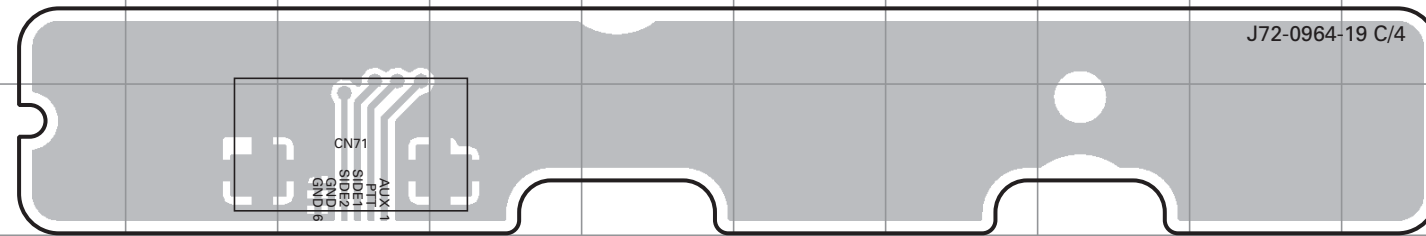
J72-0964-19 D/4

J72-0964-19 B/4

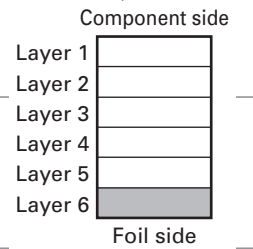
TK-3170 PC BOARD

PC BOARD TK-3170

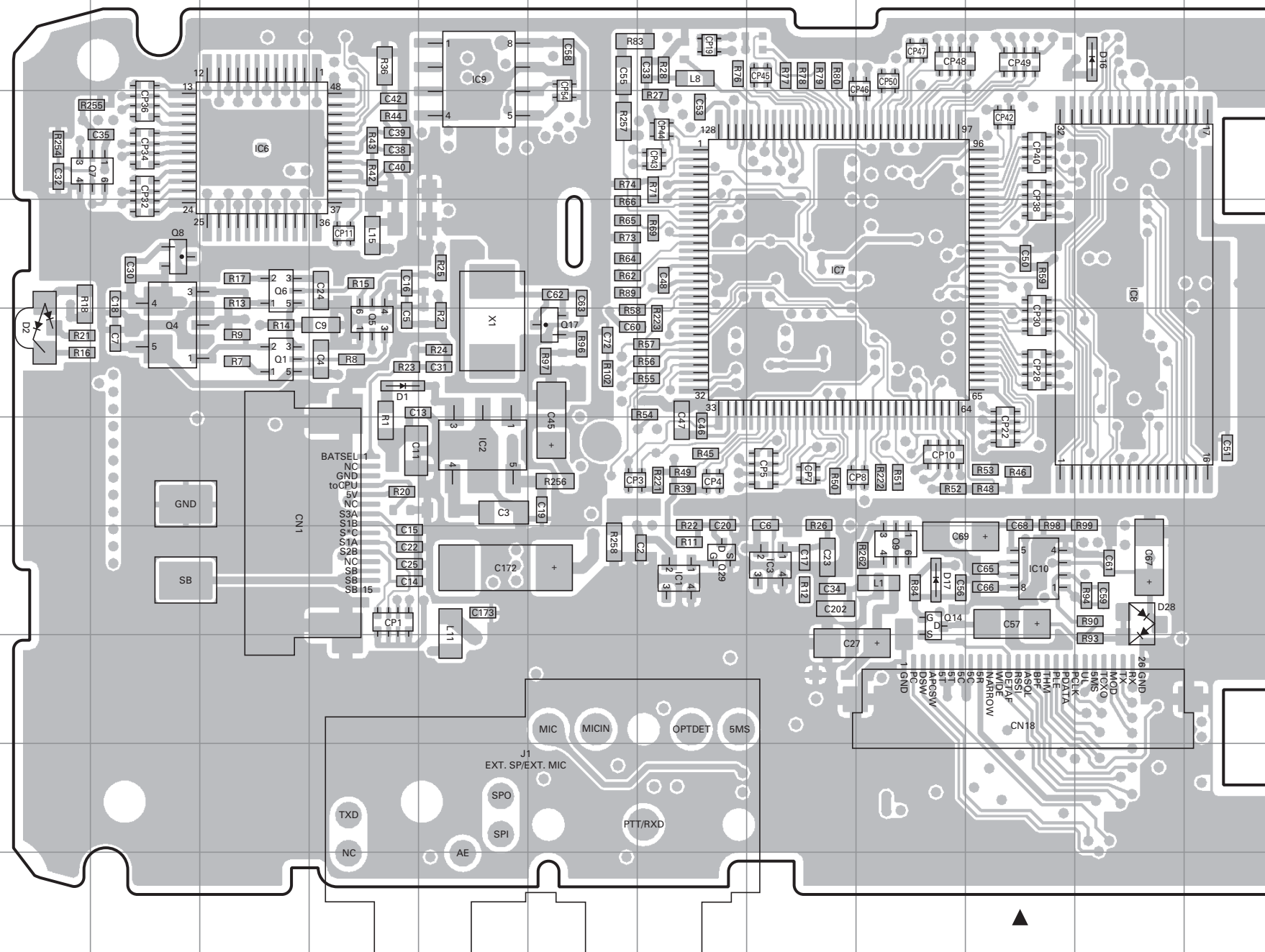
TX-RX UNIT (X57-7012-72) (C/4)
Foil side view (J72-0964-19 C/4)



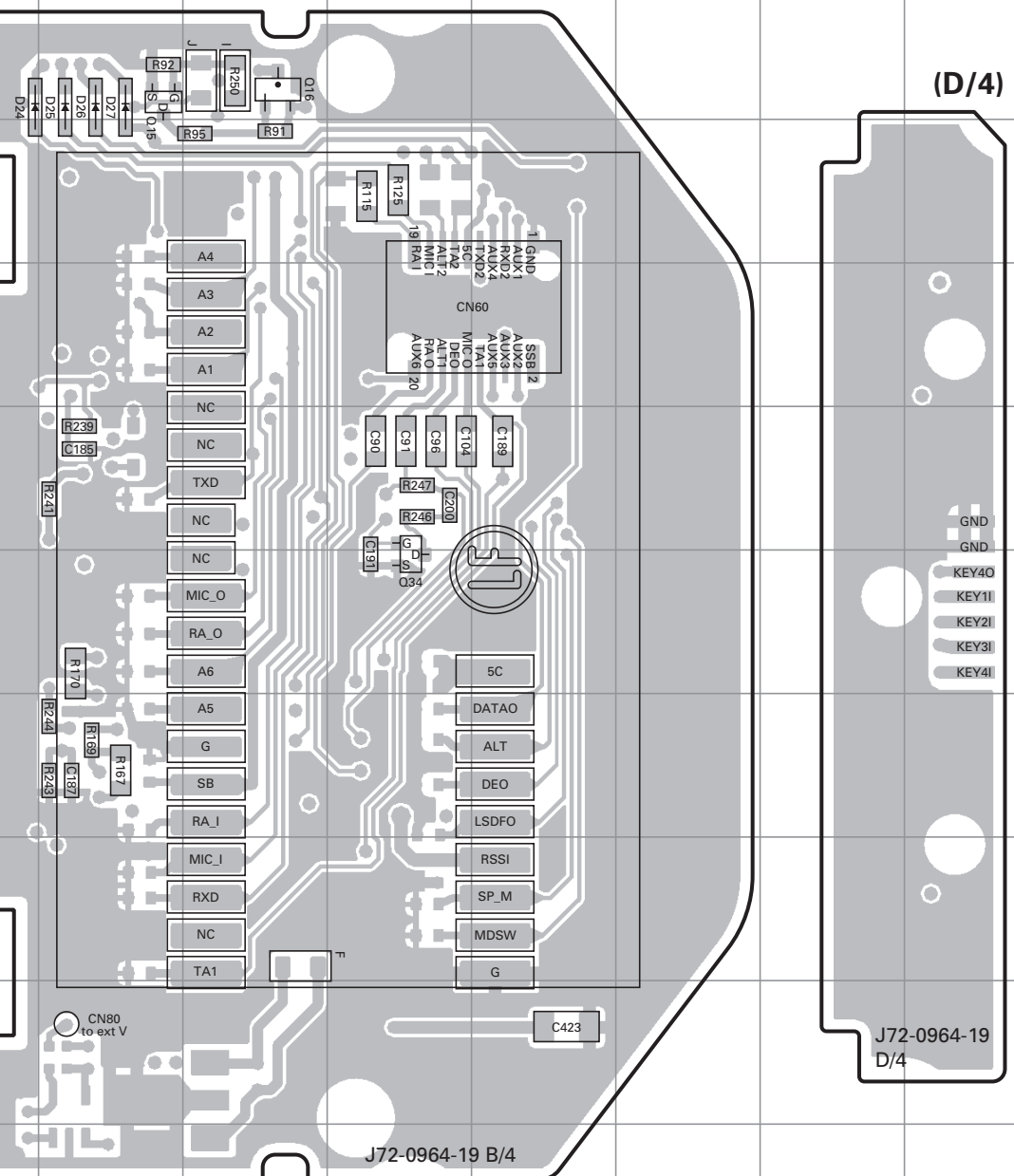
Ref. No.	Address	Ref. No.	Address	Ref. No.	Address	Ref. No.	Address
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IC2	9E	Q4	8B	Q16	5N	D24	5L
IC3	10H	Q5	8D	Q17	8F	D25	5M
IC6	6C	Q6	7C	Q29	10G	D26	5M
IC7	7H	Q7	6B	Q34	9O	D27	5M
IC8	7K	Q8	7B	D1	8D	D28	10K
IC9	5E	Q9	10I	D2	8A		
IC10	10J	Q14	10I	D16	5K		



TX-RX UNIT (X57-7012-72) (B/4)
Foil side view (J72-0964-19 B/4)



TX-RX UNIT (X57-7012-72) (B/4)
Foil side view (J72-0964-19 B/4)



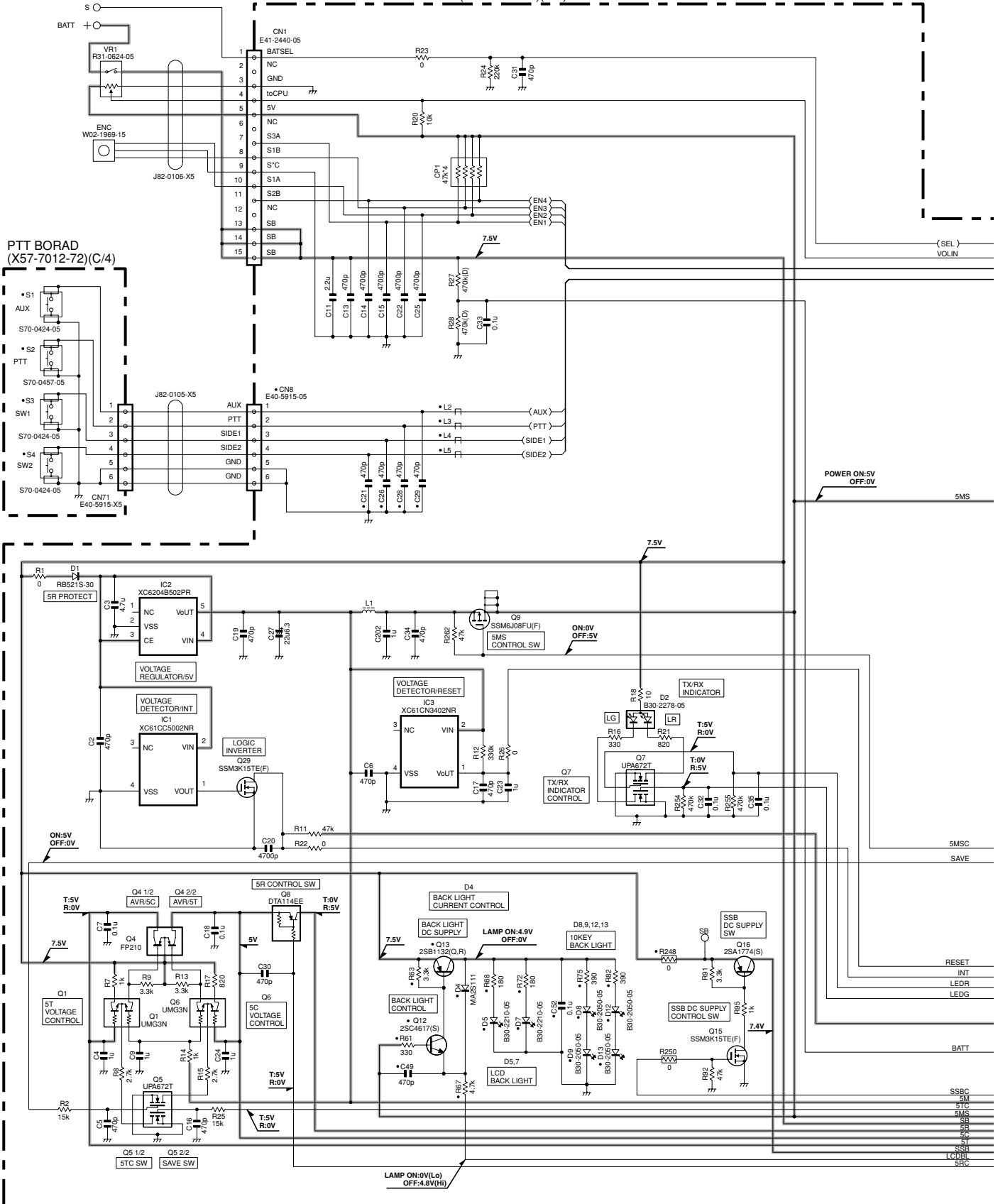
(D/4)

J72-0964-19 D/4

J72-0964-19 B/4

TK-3170 SCHEMATIC DIAGRAM

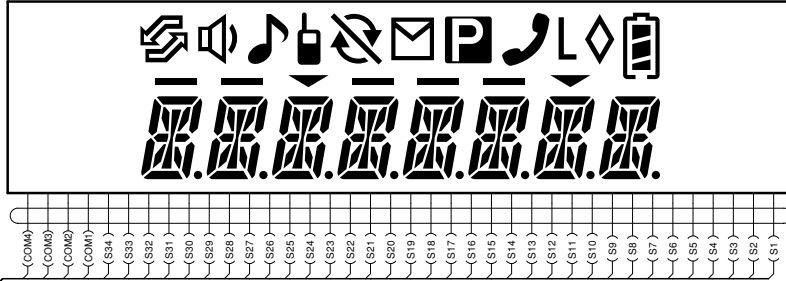
TX-RX UNIT : CONTROL SECTION (X57-7012-72)(B/4)



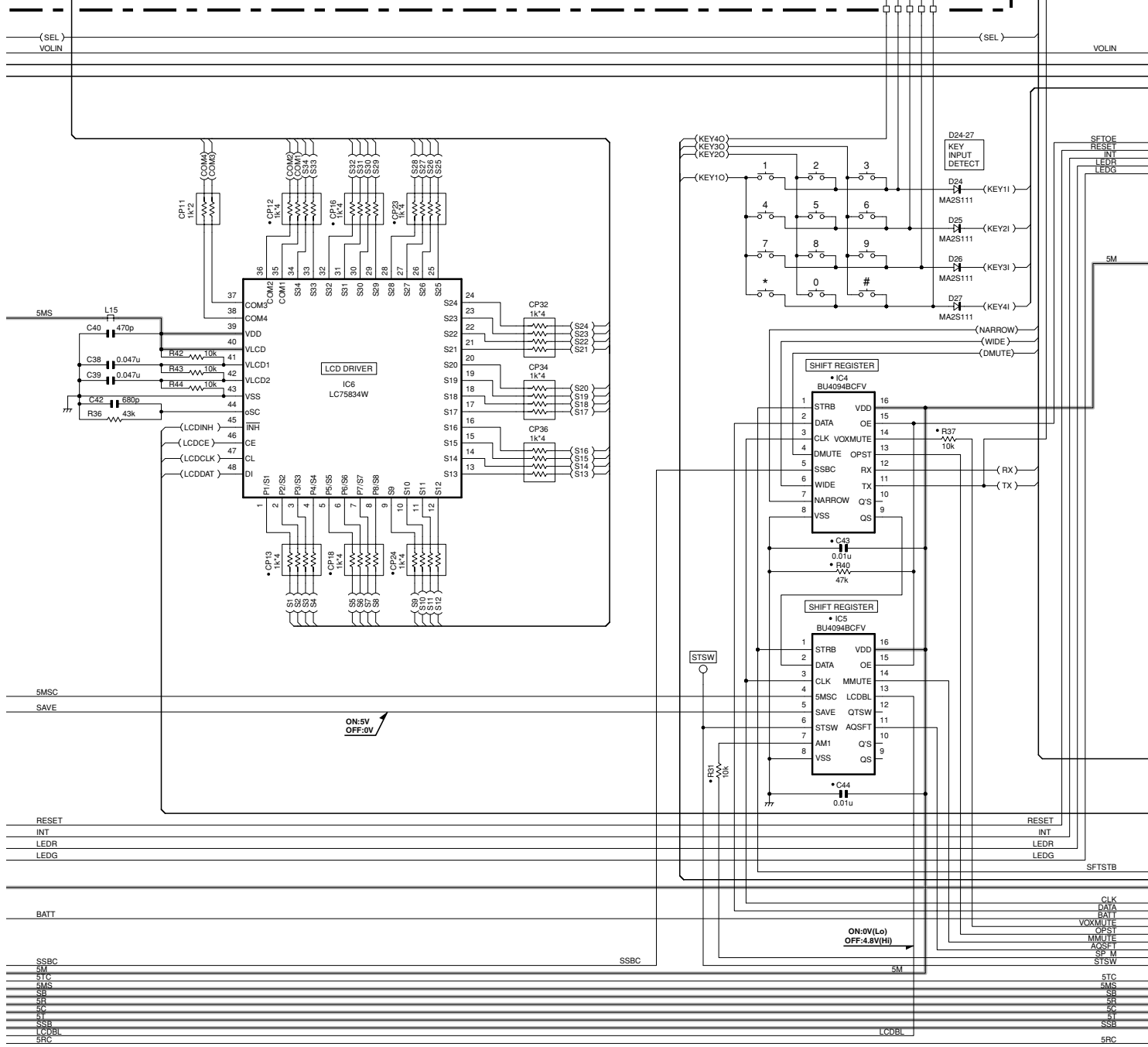
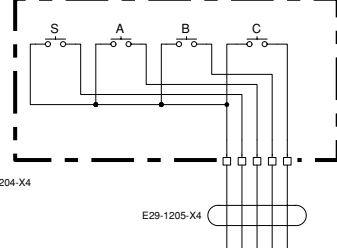
SCHEMATIC DIAGRAM TK-3170

TX-RX UNIT (X57-7012-72) (B/4)

B38-0901-05



4KEY BOARD (X57-7012-72)(D/4)

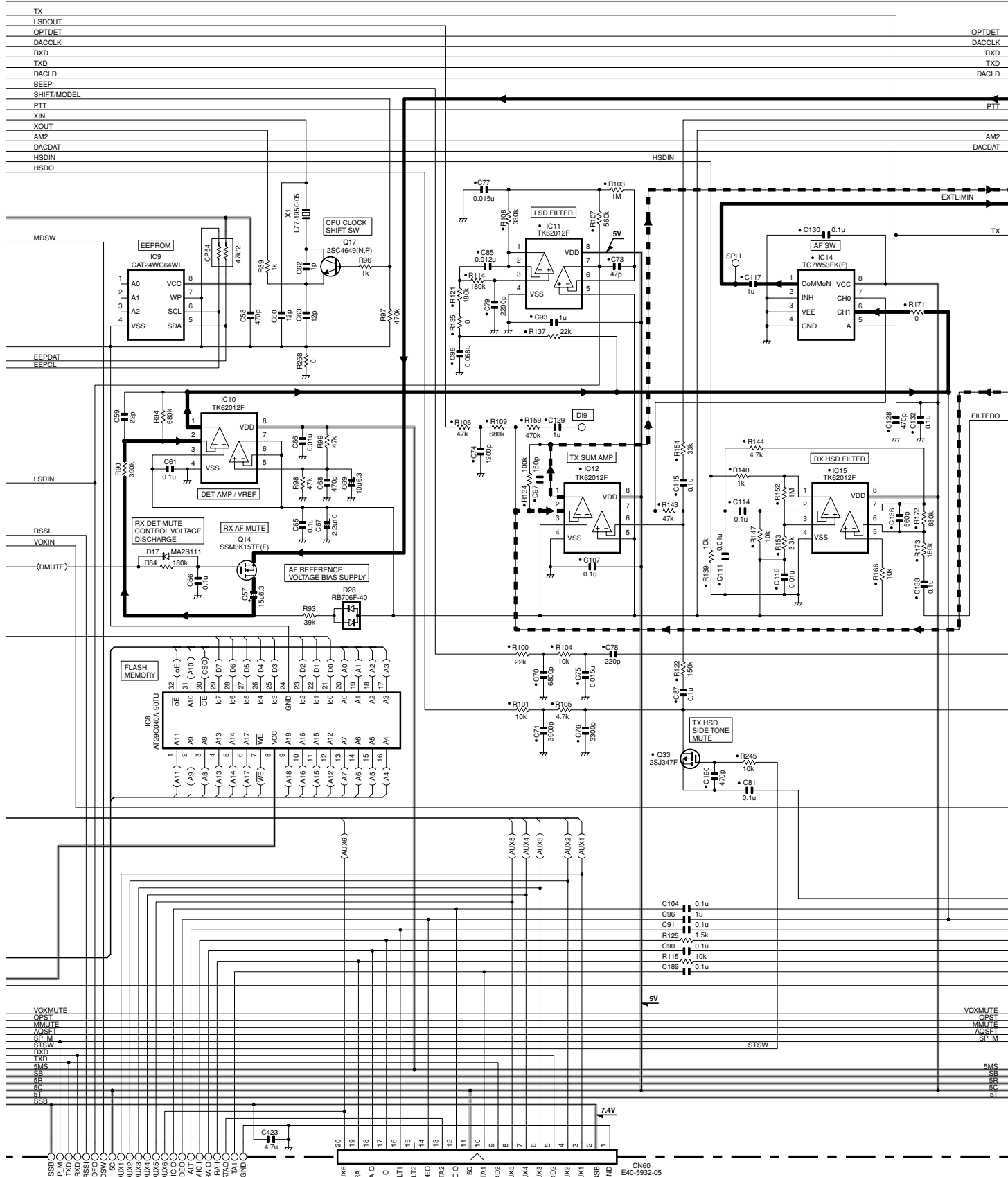


ON:5V OFF:0V

ON:0V(Lo) OFF:4.8V(HI)

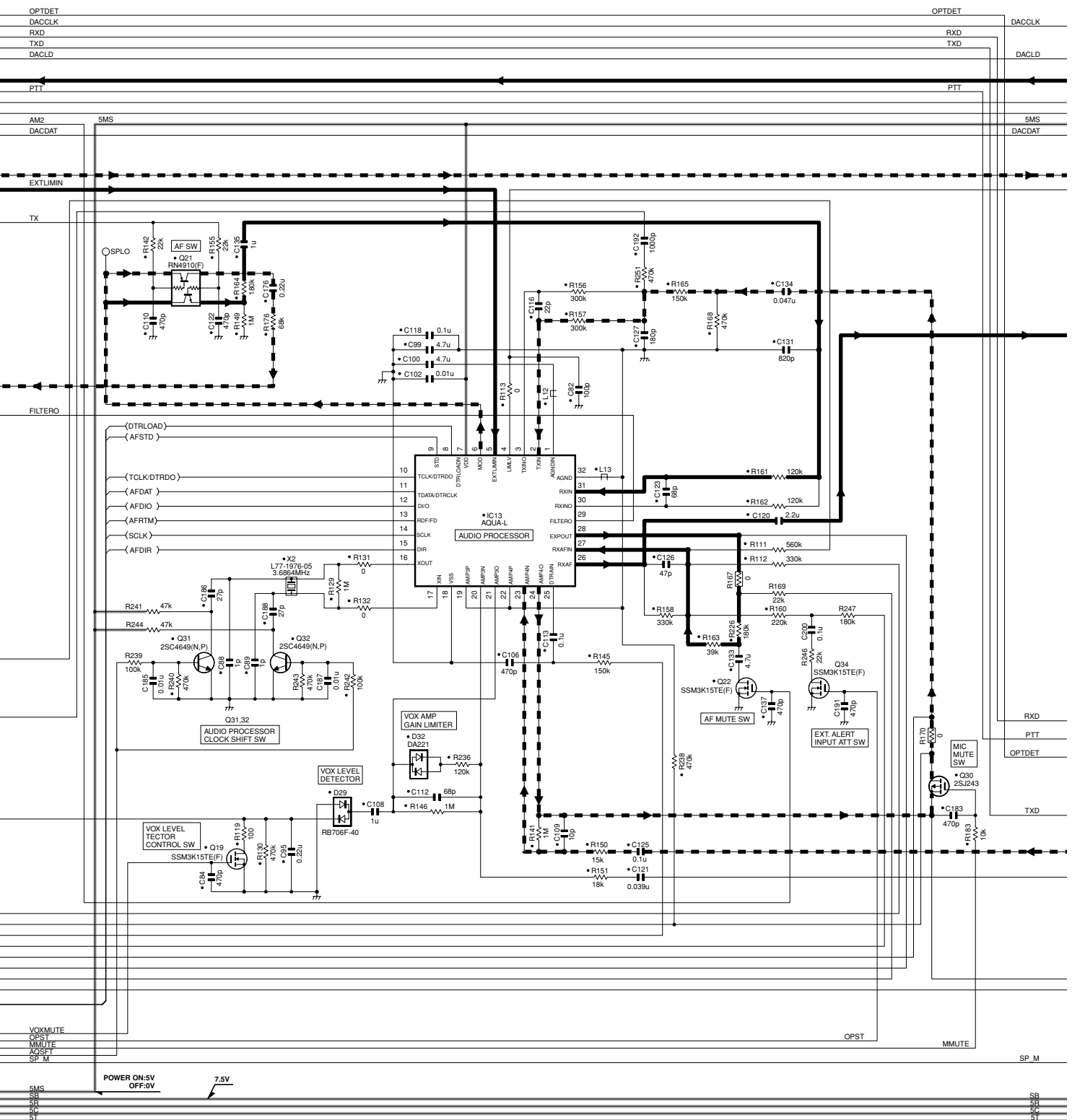
SCHEMATIC DIAGRAM TK-3170

TX-RX UNIT (X57-7012-72) (B/4)



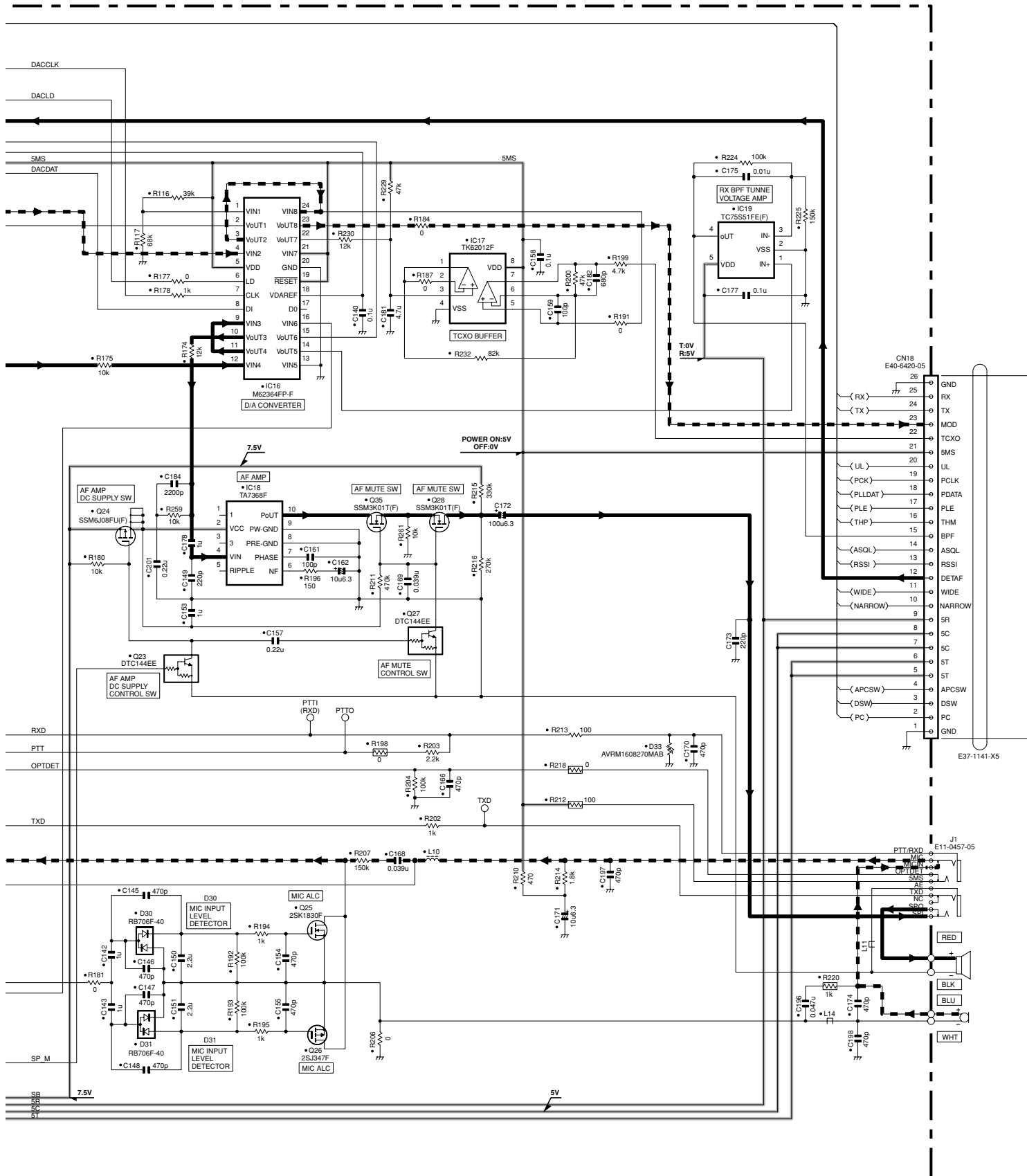
TK-3170 SCHEMATIC DIAGRAM

TX-RX UNIT (X57-7012-72) (B/4)



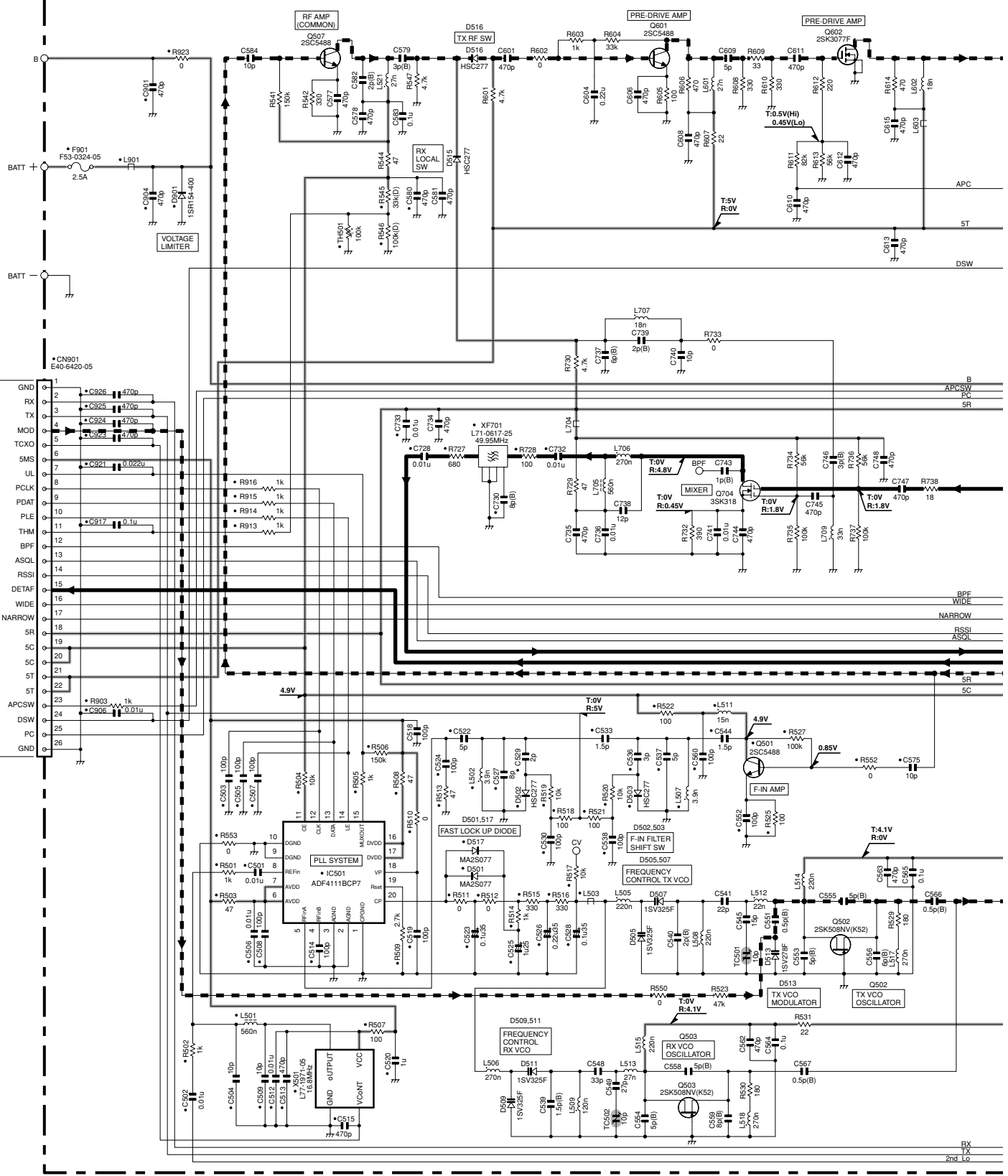
SCHEMATIC DIAGRAM TK-3170

TX-RX UNIT (X57-7012-72) (B/4)



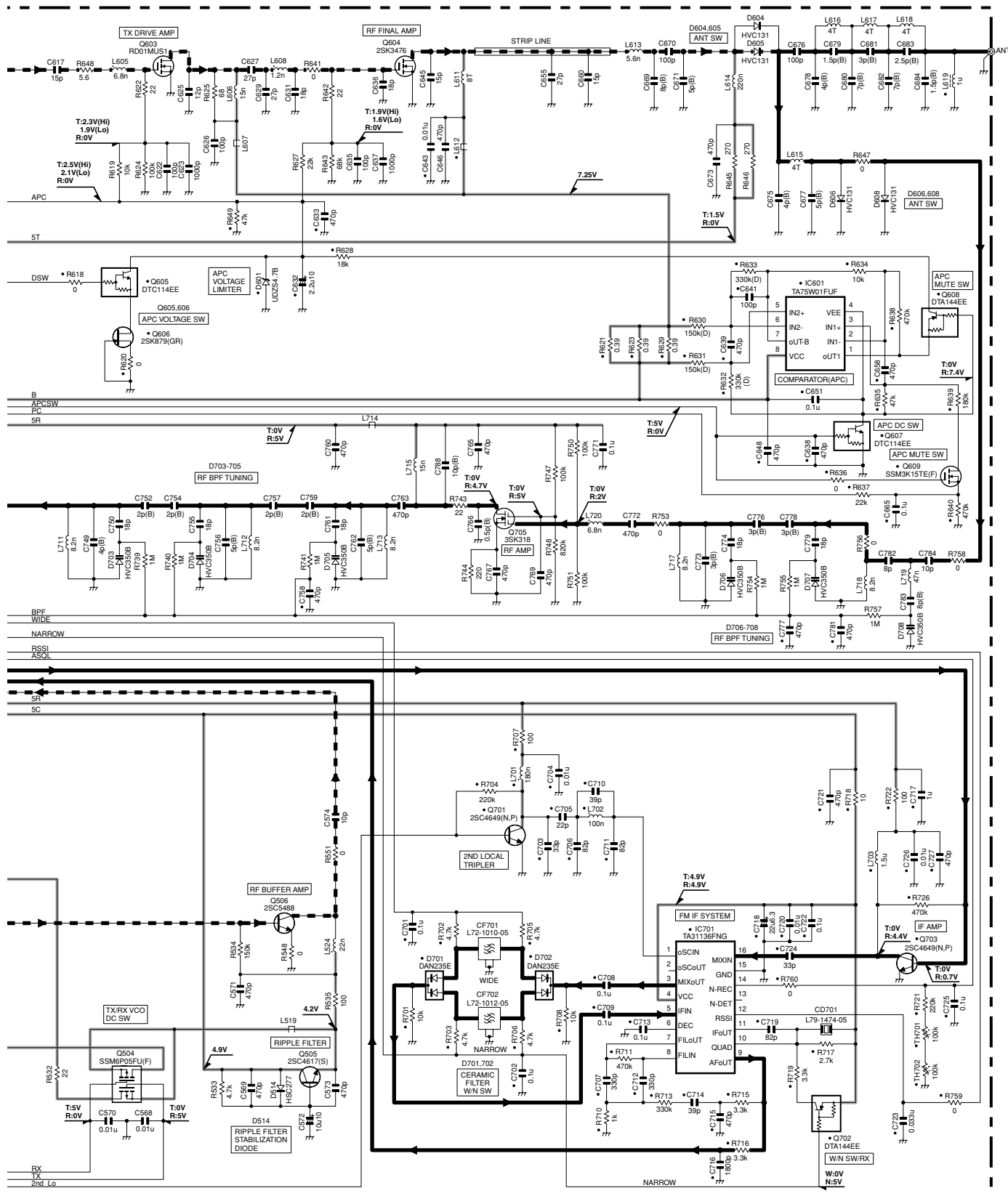
TK-3170 SCHEMATIC DIAGRAM

TX-RX UNIT (X57-7012-72)(A/4)

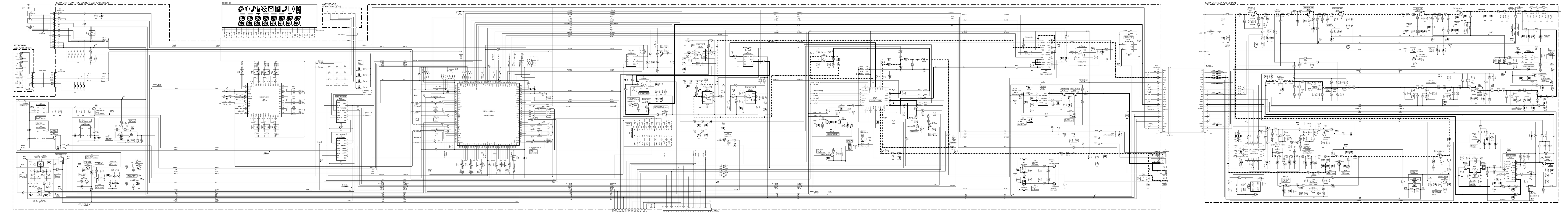


SCHEMATIC DIAGRAM TK-3170

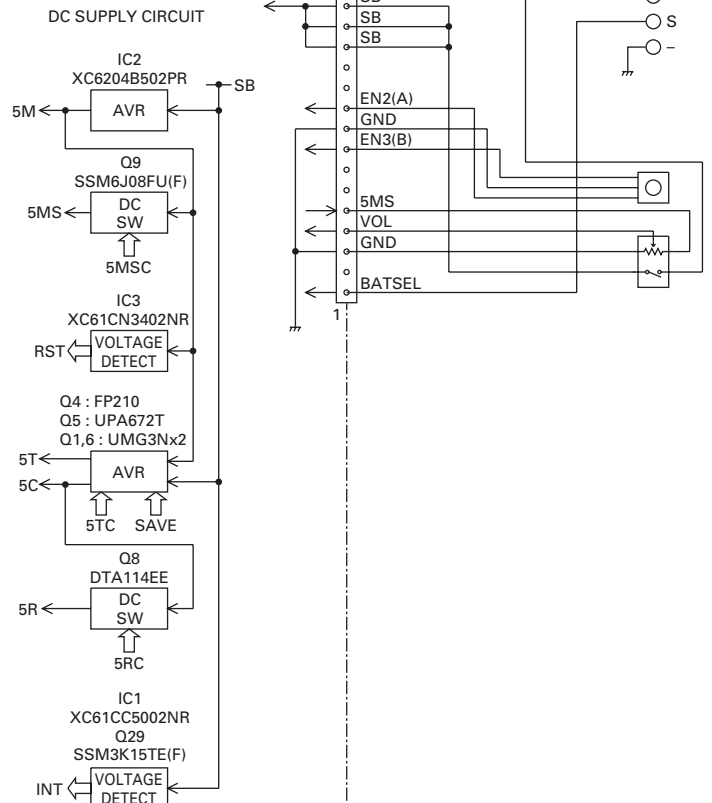
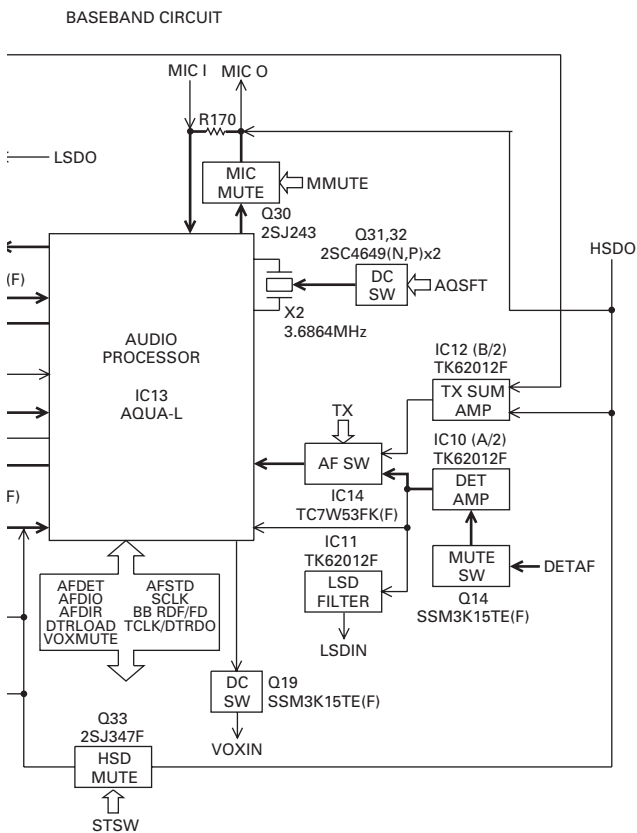
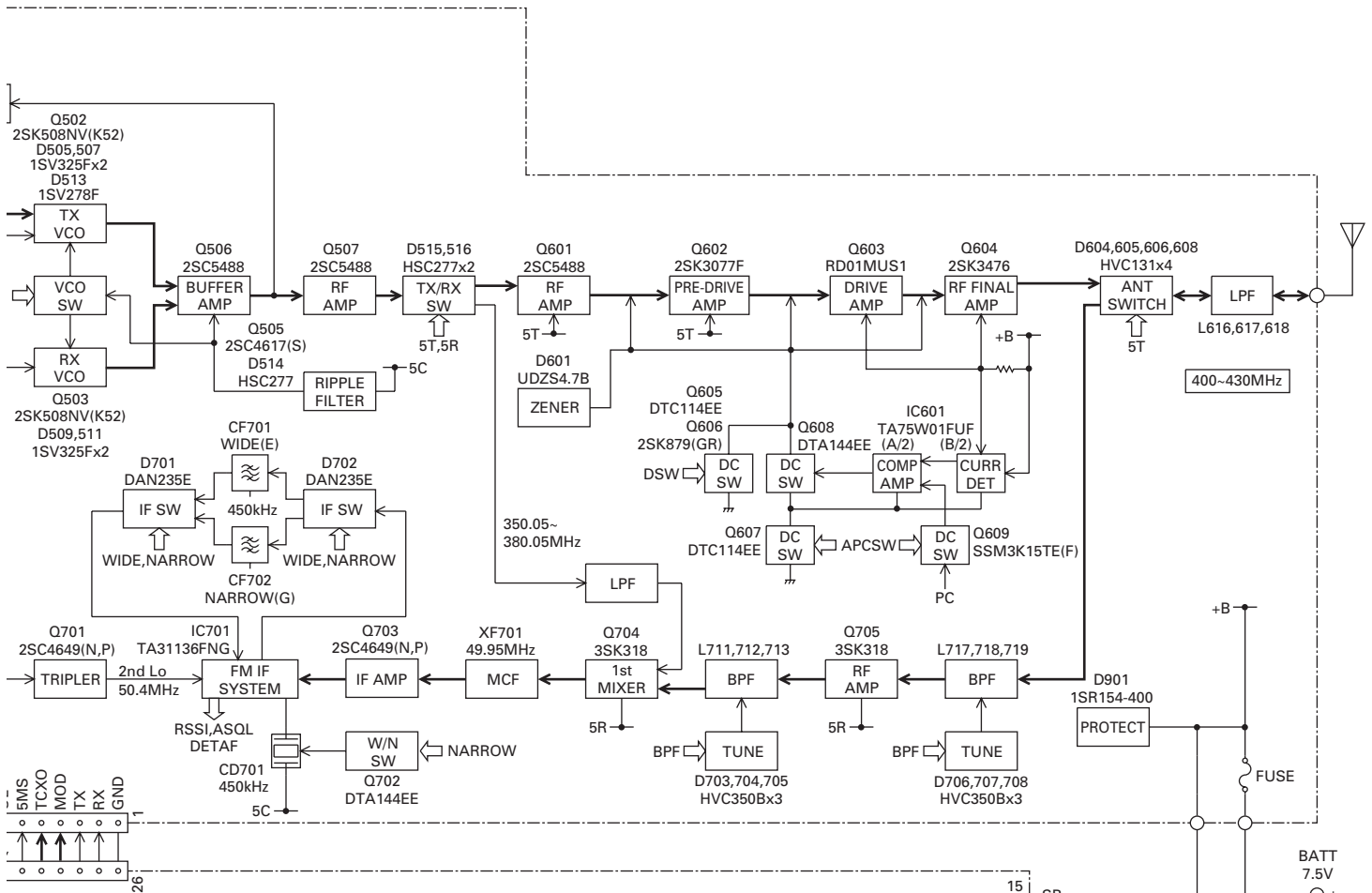
TX-RX UNIT (X57-7012-72) (A/4)



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



BLOCK DIAGRAM TK-3170



SPECIFICATIONS

GENERAL (Applicable standards : EN standards, AS4295)

Frequency range	400~430MHz
Number of channels	Zone : Max. 128 per radio Channel : 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	-30°C~+60°C
Frequency stability	\pm 0.00025% (-30°C~+60°C)
Antenna impedance	50 Ω
Channel frequency spread	30MHz
Dimensions (W x H x D)	56 x 109 x 31.7 mm with KNB-24L or 35L battery
(Projections not included)	56 x 109 x 37.9 mm with KNB-25A or 26N battery
Weight (net)	340 g with battery (KNB-35L), antenna (KRA-23) and beltclip (KBH-12)

RECEIVER (Measurements made per EN standards)

Sensitivity		
EIA 12dB SINAD	Wide : 0.25 μ V	Narrow : 0.32 μ V
EN 20dB SINAD	Wide : 0.63 μ V	Narrow : 0.70 μ V
Adjacent channel selectivity	Wide : 70dB	Narrow : 62dB
Intermodulation	65dB	
Spurious response rejection	70dB	
Audio output (4 Ω impedance)	500mW with less than 5% distortion	

TRANSMITTER (Measurements made per EN standards)

RF power output	HI : 4W	LO : 1W
Spurious emission	\leq -36dBm < 1GHz	\leq -30dBm > 1GHz
Modulation	Wide : 16K0F3E	Narrow : 11K0F3E
FM noise (EIA)	Wide : 45dB	Narrow : 40dB
Audio distortion	Less than 5%	

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