

UHF FM TRANSCEIVER

# TK-8302H

## SERVICE MANUAL

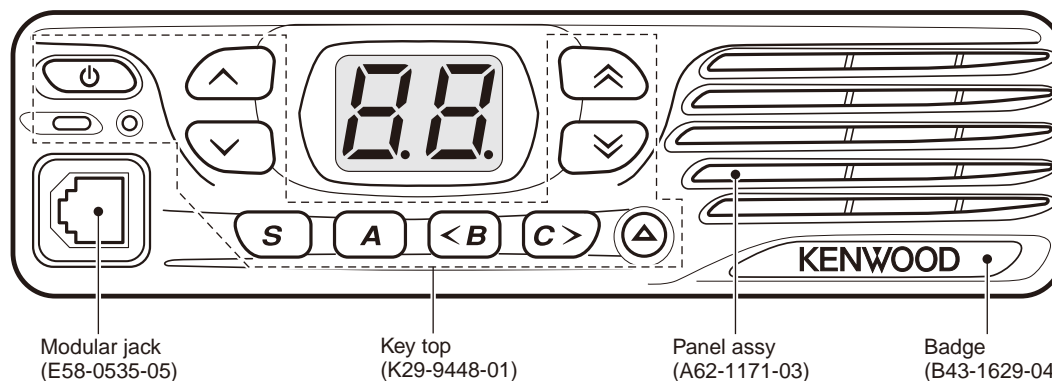
### SUPPLEMENT M4 version

# KENWOOD

Kenwood Corporation

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This TK-8302H (M4) service manual contains a number of sections which differ from the service manual (B51-8907-00) for the TK-8302 (M,M2)/ 8302(U) (K)/ 8302H (K,K2,M)/ 8302H(U) (K). For items other than those in this TK-8302H (M4) service manual, please refer to the service manual (B51-8907-00) for the TK-8302 (M,M2)/ 8302(U) (K)/ 8302H (K,K2,M)/ 8302H(U) (K).



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# TK-8302H

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# GENERAL

## 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 this 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 personal safety :

- DO NOT transmit if someone is within two feet (0.6 meter) of the antenna.
- DO NOT transmit until all RF connectors are secure and any open connectors are properly terminated.
- SHUT OFF this equipment when near electrical blasting caps or while in an explosive atmosphere.
- All equipment should be properly grounded before power-up for safe operation.
- This equipment should be serviced by only qualified technicians.

## PRE-INSTALLATION CONSIDERATIONS

### 1. UNPACKING

Unpack the radio from its shipping container and check for accessory items. If any item is missing, please contact KENWOOD immediately.

### 2. PRE-INSTALLATION CHECKOUT

#### 2-1. Introduction

Each radio is adjusted and tested before shipment. However, it is recommended that receiver and transmitter operation be checked for proper operation before installation.

#### 2-2. Testing

The radio should be tested complete with all cabling and accessories as they will be connected in the final installation. Transmitter frequency, deviation, and power output should be checked, as should receiver sensitivity, squelch operation, and audio output. Signaling equipment operation should be verified.

### 3. PLANNING THE INSTALLATION

#### 3-1. General

Inspect the vehicle and determine how and where the radio antenna and accessories will be mounted.

Plan cable runs for protection against pinching or crushing wiring, and radio installation to prevent overheating.

#### 3-2. Antenna

The favored location for an antenna is in the center of a large, flat conductive area, usually at the roof center. The trunk lid is preferred, bond the trunk lid and vehicle chassis using ground straps to ensure the lid is at chassis ground.

## GENERAL

### 3-3. Radio

The universal mount bracket allows the radio to be mounted in a variety of ways. Be sure the mounting surface is adequate to support the radio's weight. Allow sufficient space around the radio for air cooling. Position the radio close enough to the vehicle operator to permit easy access to the controls when driving.

### 3-4. DC Power and wiring

1. This radio may be installed in negative ground electrical systems only. Reverse polarity will cause the cable fuse to blow. Check the vehicle ground polarity before installation to prevent wasted time and effort.
2. Connect the positive power lead directly to the vehicle battery positive terminal. Connecting the Positive lead to any other positive voltage source in the vehicle is not recommended.
3. Connect the ground lead directly to the battery negative terminal.
4. The cable provided with the radio is sufficient to handle the maximum radio current demand. If the cable must be extended, be sure the additional wire is sufficient for the current to be carried and length of the added lead.

## 4. INSTALLATION PLANNING – CONTROL STATIONS

### 4-1. Antenna system

Control station. The antenna system selection depends on many factors and is beyond the scope of this manual. Your KENWOOD dealer can help you select an antenna system that will best serve your particular needs.

### 4-2. Radio location

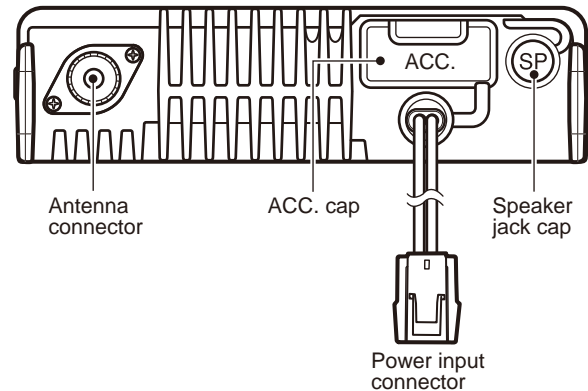
Select a convenient location for your control station radio which is as close as practical to the antenna cable entry point. Secondly, use your system's power supply (which supplies the voltage and current required for your system). Make sure sufficient air can flow around the radio and power supply to allow adequate cooling.

## SERVICE

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

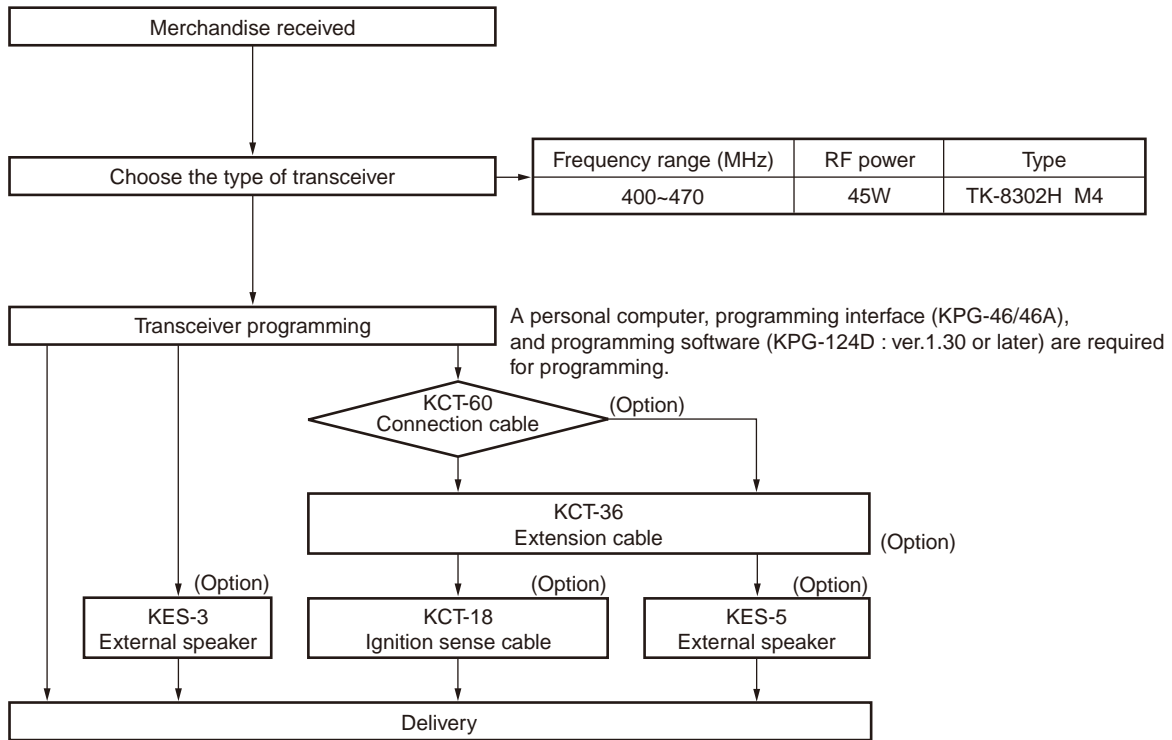
## NOTE

If you do not intend to use the speaker 3.5-mm jack and the D-sub 15-pin connector, fit the supplied speaker-jack cap and ACC. cap to stop dust and sand from getting in.



# TK-8302H

## SYSTEM SET-UP



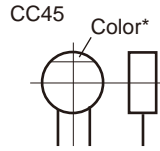
## PARTS LIST

### CAPACITORS

$\frac{C}{1} \frac{C}{2} \frac{45}{3} \frac{TH}{4} \frac{1H}{5} \frac{220}{6} \frac{J}{7}$

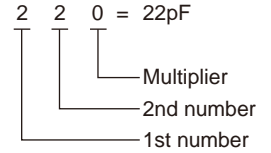
- 1 = Type ... ceramic, electrolytic, etc.
- 2 = Shape ... round, square, etc.
- 3 = Temp. coefficient

- 4 = Voltage rating
- 5 = Value
- 6 = Tolerance



#### • Capacitor value

- 010 = 1pF
- 100 = 10pF
- 101 = 100pF
- 102 = 1000pF = 0.001μF
- 103 = 0.01μF



#### • Temperature coefficient

1st Word	C	L	P	R	S	T	U
Color*	Black	Red	Orange	Yellow	Green	Blue	Violet
ppm/°C	0	-80	-150	-220	-330	-470	-750

2nd Word	G	H	J	K	L
ppm/°C	±30	±60	±120	±250	±500

Example : CC45TH = -470±60ppm/°C

#### • Tolerance (More than 10pF)

Code	C	D	G	J	K	M	X	Z	P	No code
(%)	±0.25	±0.5	±2	±5	±10	±20	+40 -20	+80 -20	+100 -0	More than 10μF : -10~+50 Less than 4.7μF : -10~+75

#### (Less than 10pF)

Code	B	C	D	F	G
(pF)	±0.1	±0.25	±0.5	±1	±2

#### • Voltage rating

2nd word	A	B	C	D	E	F	G	H	J	K	V
1st word											
0	1.0	1.25	1.6	2.0	2.5	3.15	4.0	5.0	6.3	8.0	-
1	10	12.5	16	20	25	31.5	40	50	63	80	35
2	100	125	160	200	250	315	400	500	630	800	-
3	1000	1250	1600	2000	2500	2150	4000	5000	6300	8000	-

#### • Chip capacitors

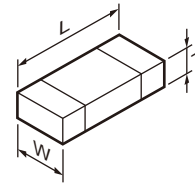
(EX)  $\frac{C}{1} \frac{C}{2} \frac{73}{3} \frac{F}{4} \frac{SL}{5} \frac{1H}{6} \frac{000}{7} \frac{J}{8}$   
(Chip) (CH, RH, UJ, SL)

(EX)  $\frac{C}{1} \frac{K}{2} \frac{73}{3} \frac{F}{4} \frac{F}{5} \frac{1H}{6} \frac{000}{7} \frac{Z}{8}$   
(Chip) (B, F)

Refer to the table above.

- 1 = Type
- 2 = Shape
- 3 = Dimension
- 4 = Temp. coefficient
- 5 = Voltage rating
- 6 = Value
- 7 = Tolerance

#### • Dimension



#### Chip capacitor

Code	L	W	T
Empty	5.6±0.5	5.0±0.5	Less than 2.0
A	4.5±0.5	3.2±0.4	Less than 2.0
B	4.5±0.5	2.0±0.3	Less than 2.0
C	4.5±0.5	1.25±0.2	Less than 1.25
D	3.2±0.4	2.5±0.3	Less than 1.5
E	3.2±0.2	1.6±0.2	Less than 1.25
F	2.0±0.3	1.25±0.2	Less than 1.25
G	1.6±0.2	0.8±0.2	Less than 1.0
H	1.0±0.05	0.5±0.05	0.5±0.05

#### Chip resistor

Code	L	W	T
E	3.2±0.2	1.6±0.2	1.0
F	2.0±0.3	1.25±0.2	1.0
G	1.6±0.2	0.8±0.2	0.5±0.1
H	1.0±0.05	0.5±0.05	0.35±0.05

### RESISTORS

#### • Chip resistor (Carbon)

(EX)  $\frac{R}{1} \frac{D}{2} \frac{73}{3} \frac{E}{4} \frac{B}{5} \frac{2B}{6} \frac{000}{7} \frac{J}{8}$   
(Chip) (B, F)

#### • Carbon resistor (Normal type)

(EX)  $\frac{R}{1} \frac{D}{2} \frac{14}{3} \frac{B}{4} \frac{B}{5} \frac{2C}{6} \frac{000}{7} \frac{J}{8}$

- 1 = Type
- 2 = Shape
- 3 = Dimension
- 4 = Temp. coefficient
- 5 = Rating wattage
- 6 = Value
- 7 = Tolerance

#### • Rating wattage

Code	Wattage	Code	Wattage	Code	Wattage
1J	1/16W	2C	1/6W	3A	1W
2A	1/10W	2E	1/4W	3D	2W
2B	1/8W	2H	1/2W		

# TK-8302H

## 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

K : USA

P : Canada

Y : PX (Far East, Hawaii)

T : England

E : Europe

C : China

X : Australia

M : Other Areas

### TK-8302H

#### DISPLAY UNIT (X54-3670-20)

#### TX-RX UNIT (X57-7680-25)

Ref. No.	Address	New parts	Parts No.	Description	Destination
<b>TK-8302H</b>					
1	1B		A02-4073-21	PLASTIC CABINET	
2	3A		A62-1171-03	PANEL ASSY	
4	2B		B09-0732-03	CAP(D-SUB)	
5	3A		B10-2794-03	FRONT GLASS	
6	3A		B43-1629-04	BADGE	
7	2D	*	B62-2150-20	INSTRUCTION MANUAL	
8	2B		E04-0167-15	RF COAXIAL RECEPTACLE(M)	
9	2A		E23-1344-04	GROUND TERMINAL (AF AMP)	
10	1C		E30-7523-55	DC CORD ASSY ACCESSORY	
11	2B		E30-7684-05	DC CORD	
12	2A		E37-1461-05	FLAT CABLE(30P PANEL)	
14	1C		F52-0024-05	FUSE(BLADE TYPE)15A ACCESSORY	
16	2B		G53-1643-04	PACKING(DC CORD)	
17	2B		G53-1662-04	PACKING(RECEPTACLE)	
18	1B		G53-1819-21	PACKING(CHASSIS)	
19	3A		G53-1820-03	PACKING(PANEL)	
21	1C,1D		H12-3178-05	PACKING FIXTURE	
22	2D		H52-2310-22	ITEM CARTON CASE	
25	3B		J19-5528-03	HOLDER(SPEAKER)	
26	1C		J29-0726-03	BRACKET ACCESSORY	
28	3A		K29-9448-01	KEY TOP	
A	1A,1B		N35-2604-43	BINDING HEAD MACHINE SCREW	
B	1A,2A,2B		N67-3008-48	PAN HEAD SEMS SCREW	
C	3A,3B		N80-2008-48	PAN HEAD TAPTITE SCREW	
D	2A,2B		N87-2608-48	BRAZIER HEAD TAPTITE SCREW	
30	3D		N99-2039-05	SCREW SET ACCESSORY	
32	3A		T07-0785-15	SPEAKER	

<b>DISPLAY UNIT (X54-3670-20)</b>					
D1 -5			B30-2282-05	LED(Y)	
D22	3A		B30-2321-05	LED(BLUE LED)	
D23	3A		B30-2151-05	LED(RED/GREEN)	
C1			CK73HB1E103K	CHIP C 0.010UF	K
C8			CC73HCH1H101J	CHIP C 100PF	J
C9			CK73HB1H102K	CHIP C 1000PF	K
C10			CK73HB1E103K	CHIP C 0.010UF	K
C16			CK73HB1E103K	CHIP C 0.010UF	K
C27			CC73HCH1H101J	CHIP C 100PF	J
C29 -36			CK73HB1H102K	CHIP C 1000PF	K
C38 ,39			CC73HCH1H101J	CHIP C 100PF	J
C40			CK73HB1H102K	CHIP C 1000PF	K
C41 ,42			CC73HCH1H101J	CHIP C 100PF	J
C43 -46			CK73HB1H471K	CHIP C 470PF	K
C47			CK73HB1H102K	CHIP C 1000PF	K
CN1			E40-6851-05	FLAT CABLE CONNECTOR(30P)	
CN2			E23-1262-05	TERMINAL	
J1	3A		E58-0535-05	MODULAR JACK(MIC)	
101	3A		J31-0565-15	COLLAR	

Ref. No.	Address	New parts	Parts No.	Description	Destination
L1			L92-0138-05	CHIP FERRITE	
CP1			RK74HB1J102J	CHIP-COM 1.0K J	1/16W
R1			RK73HB1J101J	CHIP R 100 J	1/16W
R2			RK73FB2B100J	CHIP R 10 J	1/8W
R3 -8			RK73HB1J102J	CHIP R 1.0K J	1/16W
R10 ,11			RK73HB1J102J	CHIP R 1.0K J	1/16W
R12			RK73HB1J122J	CHIP R 1.2K J	1/16W
R21			RK73HB1J222J	CHIP R 2.2K J	1/16W
R22			RK73HB1J820J	CHIP R 82 J	1/16W
R23			RK73HB1J121J	CHIP R 120 J	1/16W
R26 ,27			RK73HB1J000J	CHIP R 0 J	1/16W
R28 ,29			RK73HB1J103J	CHIP R 10K J	1/16W
R34			RK73HB1J102J	CHIP R 1.0K J	1/16W
R35			RK73HB1J223J	CHIP R 22K J	1/16W
R36			RK73HB1J822J	CHIP R 8.2K J	1/16W
R37 ,38			RK73HB1J100J	CHIP R 10 J	1/16W
R39			RK73HB1J150J	CHIP R 15 J	1/16W
R40			RK73HB1J100J	CHIP R 10 J	1/16W
R41			RK73HB1J222J	CHIP R 2.2K J	1/16W
R42			RK73HB1J102J	CHIP R 1.0K J	1/16W
D20			DA221	DIODE	
D33			02DZ6.2F-Y	ZENER DIODE	
D37	3A		HDSP-521A	LED	
IC1			TCA62746AFNAG	MOS-IC	
Q1 ,2			RT1N441U-T111	TRANSISTOR	
Q3			KRA225S	DIGITAL TRANSISTOR	
Q4			KRC102S-P	DIGITAL TRANSISTOR	
Q5 ,6			2SC3928A	TRANSISTOR	
Q7 ,8			RT1P141U-T111	TRANSISTOR	
Q9			2SC3928A	TRANSISTOR	

<b>TX-RX UNIT (X57-7680-25)</b>					
C2			CC73HCH1H020B	CHIP C 2.0PF	B
C4			CC73HCH1H101J	CHIP C 100PF	J
C5			CK73HB1H471K	CHIP C 470PF	K
C7			CC73HCH1H101J	CHIP C 100PF	J
C8			CC73GCH1H101J	CHIP C 100PF	J
C10			CK73HB1A104K	CHIP C 0.10UF	K
C11			CC73HCH1H101J	CHIP C 100PF	J
C14			CC73HCH1H101J	CHIP C 100PF	J
C15			CC73HCH1H080B	CHIP C 8.0PF	B
C16			CK73HB0J105K	CHIP C 1.0UF	K
C17 ,18			CK73HB1A104K	CHIP C 0.10UF	K
C19 ,20			CK73HB1E103K	CHIP C 0.010UF	K
C22			CK73FB0J106K	CHIP C 10UF	K
C23			CK73HB1A104K	CHIP C 0.10UF	K
C24			CK73FB0J106K	CHIP C 10UF	K
C26			CK73HB1C103K	CHIP C 0.010UF	K
C27			CK73HB1A104K	CHIP C 0.10UF	K
C28			CC73HCH1H3R5B	CHIP C 3.5PF	B
C29			C92-0863-05	CHIP TNTL 0.047UF	35WV
C32			CK73HB1H471K	CHIP C 470PF	K

## PARTS LIST

TX-RX UNIT (X57-7680-25)

Ref. No.	Address	New parts	Parts No.	Description	Desti- nation	Ref. No.	Address	New parts	Parts No.	Description	Desti- nation
C33			CC73HCH1H020B	CHIP C 2.0PF B		C338			CC73GCH1H220J	CHIP C 22PF J	
C34			CC73HCH1H101J	CHIP C 100PF J		C339			CK73GB1H102K	CHIP C 1000PF K	
C35			CC73HCH1H3R5B	CHIP C 3.5PF B		C340,341			CC73GCH1H101J	CHIP C 100PF J	
C36			CK73GB1H102K	CHIP C 1000PF K		C342			CK73HB1A104K	CHIP C 0.10UF K	
C37			CK73HB1H471K	CHIP C 470PF K		C344			CK73GB1H471K	CHIP C 470PF K	
C41			CC73HCH1H330J	CHIP C 33PF J		C348			CC73GCH1H470J	CHIP C 47PF J	
C43			CS77CA1V0R1M	CHIP TNTL 0.1UF 35WV		C350			CC73GCH1H220J	CHIP C 22PF J	
C45			C92-0588-05	CHIP TNTL 1.5UF 16WV		C351			C93-0554-05	CHIP C 4.0PF C	
C46			CK73HB1H471K	CHIP C 470PF K		C353			C93-0552-05	CHIP C 2.0PF C	
C48			C93-0787-05	CHIP C 0.1UF J		C354			CK73HB1A104K	CHIP C 0.10UF K	
C49			C92-0863-05	CHIP TNTL 0.047UF 35WV		C355			CK73GB1H471K	CHIP C 470PF K	
C52			CK73HB1H471K	CHIP C 470PF K		C360			CK73GB1H471K	CHIP C 470PF K	
C54			CC73HCH1H470J	CHIP C 47PF J		C361,362			CK73GB1H103K	CHIP C 0.010UF K	
C56			CC73HCH1H470J	CHIP C 47PF J		C363			CC73GCH1H040B	CHIP C 4.0PF B	
C57 ,58			CK73HB1H471K	CHIP C 470PF K		C364			C93-0553-05	CHIP C 3.0PF C	
C59			CK73FB0J106K	CHIP C 10UF K		C365,366			C93-0603-05	CHIP C 1000PF K	
C61			CC73HCH1H120J	CHIP C 12PF J		C367			CC73GCH1H070B	CHIP C 7.0PF B	
C62			CC73HCH1H150J	CHIP C 15PF J		C368			CC73GCH1H270J	CHIP C 27PF J	
C63			CC73HCH1H101J	CHIP C 100PF J		C372			C93-0552-05	CHIP C 2.0PF C	
C64			CC73HCH1H0R5B	CHIP C 0.5PF B		C373			C93-0550-05	CHIP C 1.0PF C	
C65 ,66			CC73HCH1H101J	CHIP C 100PF J		C374			CM73F2H070D	CHIP C 7.0PF D	
C67 ,68			CK73GB1H471K	CHIP C 470PF K		C376			CK73GB1H102K	CHIP C 1000PF K	
C69			CC73HCH1H050B	CHIP C 5.0PF B		C381			C93-0551-05	CHIP C 1.5PF C	
C70			CC73HCH1H2R5B	CHIP C 2.5PF B		C383			C93-0553-05	CHIP C 3.0PF C	
C71 ,72			CK73GB1H471K	CHIP C 470PF K		C384			CK73GB1H102K	CHIP C 1000PF K	
C73			CC73HCH1H060B	CHIP C 6.0PF B		C391,392			CK73HB1H471K	CHIP C 470PF K	
C74			CC73HCH1H080B	CHIP C 8.0PF B		C500			CC73HCH1H470J	CHIP C 47PF J	
C75 ,76			CC73HCH1H050B	CHIP C 5.0PF B		C501			CC73HCH1H180J	CHIP C 18PF J	
C77			CK73HB1H471K	CHIP C 470PF K		C503			CK73HB1H561K	CHIP C 560PF K	
C78			CC73HCH1H0R3B	CHIP C 0.3PF B		C504			CK73HB1C103K	CHIP C 0.010UF K	
C79			CC73HCH1H0R5B	CHIP C 0.5PF B		C505			CC73HCH1H300J	CHIP C 30PF J	
C80			CS77BB21C100M	CHIP TNTL 10UF 16WV		C506			CC73HCH1H100B	CHIP C 10PF B	
C81 -83			CK73HB1H471K	CHIP C 470PF K		C508			CC73HCH1H270J	CHIP C 27PF J	
C84			CC73HCH1H060B	CHIP C 6.0PF B		C509			CK73HB1C103K	CHIP C 0.010UF K	
C85			CC73HCH1H020B	CHIP C 2.0PF B		C510			CK73HB1A224K	CHIP C 0.22UF K	
C86			CC73GCH1H020B	CHIP C 2.0PF B		C511-514			CK73HB1A104K	CHIP C 0.10UF K	
C87 -89			CK73HB1H471K	CHIP C 470PF K		C515			CK73HB1A224K	CHIP C 0.22UF K	
C90			CC73GCH1H2R5B	CHIP C 2.5PF B		C516			CK73HB1H471K	CHIP C 470PF K	
C91			CK73HB1H471K	CHIP C 470PF K		C517			CK73HB1E103K	CHIP C 0.010UF K	
C92			CK73HB1C103K	CHIP C 0.010UF K		C518			CK73HB1H271K	CHIP C 270PF K	
C94			CK73HB1H471K	CHIP C 470PF K		C519			CK73FB0J106K	CHIP C 10UF K	
C95			CK73HB1A104K	CHIP C 0.10UF K		C520			CK73HB1H271K	CHIP C 270PF K	
C98			CK73GB1H471K	CHIP C 470PF K		C521,522			CK73HB1A104K	CHIP C 0.10UF K	
C99			CK73HB1H471K	CHIP C 470PF K		C523			CK73GB1C104K	CHIP C 0.10UF K	
C100			CC73HCH1H0R5B	CHIP C 0.5PF B		C524			CK73HB1H102K	CHIP C 1000PF K	
C102			CC73HCH1H050B	CHIP C 5.0PF B		C525			CK73GB0J475K	CHIP C 4.7UF K	
C300			CC73GCH1H150J	CHIP C 15PF J		C526			CK73HB1H102K	CHIP C 1000PF K	
C301			CC73HCH1H060B	CHIP C 6.0PF B		C527			CC73HCH1H680J	CHIP C 68PF J	
C302			CC73HCH1H110J	CHIP C 11PF J		C528			CC73GCH1H330J	CHIP C 33PF J	
C303			CC73HCH1H330J	CHIP C 33PF J		C529			CK73HB1E103K	CHIP C 0.010UF K	
C305			CK73HB1H471K	CHIP C 470PF K		C530			CK73HB1A104K	CHIP C 0.10UF K	
C307			CK73HB1H102K	CHIP C 1000PF K		C531			CK73HB1H471K	CHIP C 470PF K	
C313			CK73HB1H471K	CHIP C 470PF K		C535			CK73HB1H471K	CHIP C 470PF K	
C314			CC73HCH1H120J	CHIP C 12PF J		C538			CK73HB1E103K	CHIP C 0.010UF K	
C315			CK73HB1C223K	CHIP C 0.022UF K		C541			CK73HB1E103K	CHIP C 0.010UF K	
C316			CC73HCH1H1R5B	CHIP C 1.5PF B		C543			CC73HCH1H010B	CHIP C 1.0PF B	
C320			CK73GB1H471K	CHIP C 470PF K		C545			CC73HCH1H180J	CHIP C 18PF J	
C322			CK73GB1H271K	CHIP C 270PF K		C546			CC73HCH1H030B	CHIP C 3.0PF B	
C333			CK73HB1H471K	CHIP C 470PF K		C550			CK73HB1E103K	CHIP C 0.010UF K	
C336			CK73GB1H221K	CHIP C 220PF K		C551			CK73GB1A334K	CHIP C 0.33UF K	

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## PARTS LIST

### TX-RX UNIT (X57-7680-25)

Ref. No.	Address	New parts	Parts No.	Description	Destination	Ref. No.	Address	New parts	Parts No.	Description	Destination
C553			CK73HB1A104K	CHIP C 0.10UF K		C749,750			CK73HB1A104K	CHIP C 0.10UF K	
C554			CC73HCH1H040B	CHIP C 4.0PF B		C751			CC73HCH1H820J	CHIP C 82PF J	
C555			CK73HB1H471K	CHIP C 470PF K		C753			CK73GB0J106K	CHIP C 10UF K	
C556			CC73HCH1H150G	CHIP C 15PF G		C754,755			CK73HB1A104K	CHIP C 0.10UF K	
C557			CK73HB1E103K	CHIP C 0.010UF K		C756			CC73HCH1H391J	CHIP C 390PF J	
C558			CK73HB1H471K	CHIP C 470PF K		C758			CK73HB1H471K	CHIP C 470PF K	
C559			CK73GB1H471K	CHIP C 470PF K		C760			CK73HB0J105K	CHIP C 1.0UF K	
C560,561			CK73HB1H471K	CHIP C 470PF K		C762,763			CK73HB1A104K	CHIP C 0.10UF K	
C562			CK73HB1E103K	CHIP C 0.010UF K		C764			CK73HB1E103K	CHIP C 0.010UF K	
C563-565			CK73HB1H471K	CHIP C 470PF K		C765			CK73GB0J106K	CHIP C 10UF K	
C569			CK73HB1H471K	CHIP C 470PF K		C767			CK73GB1C104K	CHIP C 0.10UF K	
C570			CC73HCH1H680J	CHIP C 68PF J		C768			CK73GB1H471K	CHIP C 470PF K	
C571			CC73HCH1H030B	CHIP C 3.0PF B		C769			CK73HB0J105K	CHIP C 1.0UF K	
C572			CC73HCH1H010B	CHIP C 1.0PF B		C770			CK73FB0J106K	CHIP C 10UF K	
C573			CC73HCH1H040B	CHIP C 4.0PF B		C771			CC73HCH1H101J	CHIP C 100PF J	
C574			CC73HCH1H680J	CHIP C 68PF J		C772			CK73HB0J105K	CHIP C 1.0UF K	
C575			CC73HCH1H020B	CHIP C 2.0PF B		C773			CC73HCH1H101J	CHIP C 100PF J	
C576			CK73HB1H102K	CHIP C 1000PF K		C774			CK73HB0J105K	CHIP C 1.0UF K	
C577			CC73HCH1H010B	CHIP C 1.0PF B		C775			CC73HCH1H391J	CHIP C 390PF J	
C578			CC73HCH1H680J	CHIP C 68PF J		C777			CK73HB0J105K	CHIP C 1.0UF K	
C581			CC73HCH1H030B	CHIP C 3.0PF B		C778			CK73HB1E562K	CHIP C 5600PF K	
C582,583			CK73HB1H471K	CHIP C 470PF K		C779			CK73HB1E103K	CHIP C 0.010UF K	
C585			CK73HB1A104K	CHIP C 0.10UF K		C780			CK73HB1A683K	CHIP C 0.068UF K	
C586			CK73HB1H471K	CHIP C 470PF K		C784			CK73GB0J106K	CHIP C 10UF K	
C587			CK73GB1A105K	CHIP C 1.0UF K		C785			CK73HB1H102K	CHIP C 1000PF K	
C588-591			CK73HB1H471K	CHIP C 470PF K		C787			CK73HB1H332K	CHIP C 3300PF K	
C592			CC73GCH1H471J	CHIP C 470PF J		C788			CK73HB1A683K	CHIP C 0.068UF K	
C593			CC73HCH1H2R5B	CHIP C 2.5PF B		C790			CK73GB1H102K	CHIP C 1000PF K	
C594			CC73HCH1H470J	CHIP C 47PF J		C792-794			CK73HB1H471K	CHIP C 470PF K	
C595			CC73HCH1H040B	CHIP C 4.0PF B		C795			CK73GB1H102K	CHIP C 1000PF K	
C596			CK73HB1H102K	CHIP C 1000PF K		C796			CK73HB0J105K	CHIP C 1.0UF K	
C597			CC73HCH1H050B	CHIP C 5.0PF B		C797			CK73HB1H102K	CHIP C 1000PF K	
C598			CC73HCH1H470J	CHIP C 47PF J		C807			CK73HB1H102K	CHIP C 1000PF K	
C599			CC73HCH1H050B	CHIP C 5.0PF B		C808			CK73HB1A105K	CHIP C 1.0UF K	
C601			CC73HCH1H200G	CHIP C 20PF G		C809			CK73GB1C104K	CHIP C 0.10UF K	
C603			CC73HCH1H080B	CHIP C 8.0PF B		C810			CK73GB1H102K	CHIP C 1000PF K	
C604			CC73HCH1H050B	CHIP C 5.0PF B		C813,814			CK73HB1H102K	CHIP C 1000PF K	
C606			CK73HB1H471K	CHIP C 470PF K		C816			CK73HB1A104K	CHIP C 0.10UF K	
C700-709			CK73HB1H471K	CHIP C 470PF K		C817			CK73HB1E103K	CHIP C 0.010UF K	
C711			CK73HB1H471K	CHIP C 470PF K		C819			CS77BB21C220M	CHIP TNTL 22UF 16WV	
C713			CK73HB1H471K	CHIP C 470PF K		C820			CK73HB1H102K	CHIP C 1000PF K	
C715			CK73HB1H471K	CHIP C 470PF K		C821			CK73GB1A105K	CHIP C 1.0UF K	
C717			CK73HB1H471K	CHIP C 470PF K		C822			CK73HB0J105K	CHIP C 1.0UF K	
C719			CK73HB1H471K	CHIP C 470PF K		C824			CS77BB21C220M	CHIP TNTL 22UF 16WV	
C721			CK73HB1H471K	CHIP C 470PF K		C825			CK73HB1A104K	CHIP C 0.10UF K	
C723			CK73HB1H471K	CHIP C 470PF K		C828,829			CK73HB1A104K	CHIP C 0.10UF K	
C725			CK73HB1H471K	CHIP C 470PF K		C831			CK73HB1A104K	CHIP C 0.10UF K	
C727			CK73HB1H471K	CHIP C 470PF K		C832			CK73GB1A224K	CHIP C 0.22UF K	
C729			CK73HB1H471K	CHIP C 470PF K		C833			CK73HB1H102K	CHIP C 1000PF K	
C731,732			CK73HB1H471K	CHIP C 470PF K		C835			CK73GB1H102K	CHIP C 1000PF K	
C735			CK73HB1A104K	CHIP C 0.10UF K		C837,838			CK73HB1H102K	CHIP C 1000PF K	
C736			CK73GB0J475K	CHIP C 4.7UF K		C839			CS77CB21D4R7M	CHIP TNTL 4.7UF 20WV	
C739			CK73GB1C104K	CHIP C 0.10UF K		C840			CK73GB1H102K	CHIP C 1000PF K	
C740			CK73HB1A104K	CHIP C 0.10UF K		C841			CK73GB1A105K	CHIP C 1.0UF K	
C743			CK73HB1C333K	CHIP C 0.033UF K		C842			CS77BA1A100M	CHIP TNTL 10UF 10WV	
C744			CK73HB1H471K	CHIP C 470PF K		C843			C92-0873-05	ELECTRO 47UF 16WV	
C745			CK73HB1H271K	CHIP C 270PF K		C844			CK73HB1H102K	CHIP C 1000PF K	
C746			CK73FB0J106K	CHIP C 10UF K		C845			CK73HB1E103K	CHIP C 0.010UF K	
C747			CK73HB1A104K	CHIP C 0.10UF K		C846			CK73GB1H102K	CHIP C 1000PF K	
C748			CC73HCH1H680J	CHIP C 68PF J		C847			CK73HB1H102K	CHIP C 1000PF K	



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Ref. No.	Address	New parts	Parts No.	Description	Desti-nation	Ref. No.	Address	New parts	Parts No.	Description	Desti-nation
C849			C92-0716-05	ELECTRO 220UF 16WV		C952			CC73GCH1H220J	CHIP C 22PF J	
C850			CK73GB1H102K	CHIP C 1000PF K		C953			CK73FB1E225K	CHIP C 2.2UF K	
C851			CK73GB1A105K	CHIP C 1.0UF K		C954,955			CK73HB1H102K	CHIP C 1000PF K	
C852			CK73HB1E103K	CHIP C 0.010UF K		C956			CK73HB1H471K	CHIP C 470PF K	
C853,854			CK73HB1H102K	CHIP C 1000PF K		C957			CK73EB1E106K	CHIP C 10UF K	
C855			CK73GB1H102K	CHIP C 1000PF K		C958			CK73HB0J105K	CHIP C 1.0UF K	
C856			CK73HB1A104K	CHIP C 0.10UF K		C959-961			CK73HB1H471K	CHIP C 470PF K	
C857			CC73HCH1H220J	CHIP C 22PF J		CN702			E40-5932-05	SOCKET FOR PIN ASSY(20P)	
C858			CK73GB1H221K	CHIP C 220PF K		CN724			E40-6847-05	FLAT CABLE CONNECTOR(30P)	
C859			CC73HCH1H470J	CHIP C 47PF J		CN751			E23-1262-05	TERMINAL	
C860			CC73HCH1H101J	CHIP C 100PF J		J700	1B		E58-0536-05	D-SUB SOCKET(ACC)	
C861			CK73GB1H471K	CHIP C 470PF K		J701	2A		E11-0425-05	3.5D PHONE JACK(EXT SP)	
C862			CK73HB1H102K	CHIP C 1000PF K		F700			F53-0327-15	FUSE(4A)	
C863			CC73HCH1H220J	CHIP C 22PF J		CD500			L79-1866-05	TUNING COIL	
C864			CC73GCH1H470J	CHIP C 47PF J		CF500			L72-0993-05	CERAMIC FILTER(450KHZ/WIDE)	
C865			CC73HCH1H220J	CHIP C 22PF J		CF501			L72-0999-05	CERAMIC FILTER(450KHZ/NARROW)	
C866			CK73GB1H102K	CHIP C 1000PF K		L2			L41-4791-08	SMALL FIXED INDUCTOR(4.7NH)	
C867			CK73GB1H471K	CHIP C 470PF K		L3			L92-0442-05	CHIP FERRITE	
C868			CK73HB1A334K	CHIP C 0.33UF K		L4			L92-0443-05	CHIP FERRITE	
C869			CK73GB1H221K	CHIP C 220PF K		L5 ,6			L40-2785-92	SMALL FIXED INDUCTOR(270NH)	
C870			CK73HB1H102K	CHIP C 1000PF K		L7			L92-0163-05	BEADS CORE	
C871			CC73HCH1H010B	CHIP C 1.0PF B		L9			L92-0163-05	BEADS CORE	
C874			CK73GB0J105K	CHIP C 1.0UF K		L11 -16			L40-2285-92	SMALL FIXED INDUCTOR(220NH)	
C875-877			CK73HB0J105K	CHIP C 1.0UF K		L17			L92-0443-05	CHIP FERRITE	
C878			CC73HCH1H100D	CHIP C 10PF D		L18 ,19			L41-2778-14	SMALL FIXED INDUCTOR(27NH)	
C879			CC73HCH1H040B	CHIP C 4.0PF B		L20			L40-2702-86	SMALL FIXED INDUCTOR(27UH)	
C880			CK73HB1H102K	CHIP C 1000PF K		L23			L40-2785-92	SMALL FIXED INDUCTOR(270NH)	
C881			CK73HB0J105K	CHIP C 1.0UF K		L24			L92-0443-05	CHIP FERRITE	
C882			CK73GB1A105K	CHIP C 1.0UF K		L25			L40-3375-71	SMALL FIXED INDUCTOR(33NH)	
C883			CK73HB1A224K	CHIP C 0.22UF K		L26			L40-3975-71	SMALL FIXED INDUCTOR(39NH)	
C884			C92-0716-05	ELECTRO 220UF 16WV		L34			L40-2702-86	SMALL FIXED INDUCTOR(27UH)	
C885,886			CK73GB1H102K	CHIP C 1000PF K		L39			L40-1575-71	SMALL FIXED INDUCTOR(15NH)	
C887			CK73HB1H471K	CHIP C 470PF K		L300			L40-6865-71	SMALL FIXED INDUCTOR(6.8NH)	
C889-891			CK73HB1H471K	CHIP C 470PF K		L301			L40-4763-71	SMALL FIXED INDUCTOR(4.7NH)	
C898			CK73HB1H471K	CHIP C 470PF K		L302			L40-8265-92	SMALL FIXED INDUCTOR(8.2NH)	
C915			CK73HB1H471K	CHIP C 470PF K		L303			L40-2775-92	SMALL FIXED INDUCTOR(27NH)	
C917			CC73HCH1H200J	CHIP C 20PF J		L304,305			L40-1275-92	SMALL FIXED INDUCTOR(12NH)	
C918,919			CC73HCH1H150J	CHIP C 15PF J		L308-310			L92-0179-05	CHIP FERRITE	
C920			CK73HB1E103K	CHIP C 0.010UF K		L311			L34-1039-05	AIR-CORE COIL(1.5T)	
C921			CK73GB1A105K	CHIP C 1.0UF K		L312			L34-4902-05	AIR-CORE COIL(9.5T)	
C922			CK73HB1H102K	CHIP C 1000PF K		L313-315			L34-1039-05	AIR-CORE COIL(1.5T)	
C923			CK73HB1A104K	CHIP C 0.10UF K		L316			L34-4902-05	AIR-CORE COIL(9.5T)	
C924,925			CK73HB0J105K	CHIP C 1.0UF K		L501			L40-4781-86	SMALL FIXED INDUCTOR(0.47UH)	
C926,927			CK73HB1H102K	CHIP C 1000PF K		L502			L40-3381-86	SMALL FIXED INDUCTOR(0.33UH)	
C928			CK73HB1A104K	CHIP C 0.10UF K		L503			L40-5681-86	SMALL FIXED INDUCTOR(0.56UH)	
C929			CK73HB1H102K	CHIP C 1000PF K		L504			L40-1875-71	SMALL FIXED INDUCTOR(18NH)	
C930			CK73HB1A104K	CHIP C 0.10UF K		L505,506			L41-4785-39	SMALL FIXED INDUCTOR(0.47UH)	
C931			CK73HB1H102K	CHIP C 1000PF K		L507			L40-1875-71	SMALL FIXED INDUCTOR(18NH)	
C932			CK73HB1A104K	CHIP C 0.10UF K		L511-513			L41-6868-14	SMALL FIXED INDUCTOR(6.8NH)	
C933			CK73HB1H471K	CHIP C 470PF K		L514			L41-2788-45	SMALL FIXED INDUCTOR(270NH)	
C936			CC73HCH1H020B	CHIP C 2.0PF B		L515			L40-1875-92	SMALL FIXED INDUCTOR(18NH)	
C937			CK73HB1E103K	CHIP C 0.010UF K		L517,518			L41-6868-14	SMALL FIXED INDUCTOR(6.8NH)	
C938			CK73HB1H471K	CHIP C 470PF K		L519			L41-8275-45	SMALL FIXED INDUCTOR(82NH)	
C939			CK73HB1A104K	CHIP C 0.10UF K		L700			L92-0443-05	CHIP FERRITE	
C940			CK73FB0J106K	CHIP C 10UF K		L702			L92-0443-05	CHIP FERRITE	
C941			CK73HB1H471K	CHIP C 470PF K		L705			L40-1575-71	SMALL FIXED INDUCTOR(15NH)	
C945			CK73GB1H471K	CHIP C 470PF K		L709			L92-0161-05	BEADS CORE	
C947			CK73HB1H471K	CHIP C 470PF K		L710			L40-2285-92	SMALL FIXED INDUCTOR(220NH)	
C949			CC73HCH1H2R5B	CHIP C 2.5PF B							
C950			CC73HCH1H101J	CHIP C 100PF J							

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## PARTS LIST

### TX-RX UNIT (X57-7680-25)

Ref. No.	Address	New parts	Parts No.	Description	Destination	Ref. No.	Address	New parts	Parts No.	Description	Destination
L711,712			L92-0163-05	BEADS CORE		R321			RK73GB2A151J	CHIP R 150 J 1/10W	
L713			L92-0161-05	BEADS CORE		R323			RK73GB2A390J	CHIP R 39 J 1/10W	
X1			L77-3055-05	TCXO (19.2MHZ)		R324			RK73GB2A000J	CHIP R 0 J 1/10W	
XF500			L71-0659-05	MCF (38.85MHZ)		R325			RK73GB2A151J	CHIP R 150 J 1/10W	
CP700-702			RK75HA1J102J	CHIP-COM 1.0K J 1/16W		R327			RK73HB1J101J	CHIP R 100 J 1/16W	
CP704-706			RK75HA1J102J	CHIP-COM 1.0K J 1/16W		R329			RK73GB2A470J	CHIP R 47 J 1/10W	
R3			RK73HB1J823J	CHIP R 82K J 1/16W		R330			RK73HB1J000J	CHIP R 0 J 1/16W	
R5 -7			RK73HB1J102J	CHIP R 1.0K J 1/16W		R331			RK73HB1J224J	CHIP R 220K J 1/16W	
R8			RK73HB1J152J	CHIP R 1.5K J 1/16W		R333,334			RK73HB1J103J	CHIP R 10K J 1/16W	
R10			RK73HB1J100J	CHIP R 10 J 1/16W		R336			RK73HB1J000J	CHIP R 0 J 1/16W	
R12			RK73HB1J100J	CHIP R 10 J 1/16W		R338			RK73HB1J223J	CHIP R 22K J 1/16W	
R15			RK73HB1J473J	CHIP R 47K J 1/16W		R341			RK73HB1J000J	CHIP R 0 J 1/16W	
R20			RK73HB1J102J	CHIP R 1.0K J 1/16W		R342			RK73HB1J104J	CHIP R 100K J 1/16W	
R21			RK73HB1J182J	CHIP R 1.8K J 1/16W		R343			RK73HB1J000J	CHIP R 0 J 1/16W	
R22			RK73HB1J000J	CHIP R 0 J 1/16W		R345			RK73HB1J104J	CHIP R 100K J 1/16W	
R23			RK73HB1J223J	CHIP R 22K J 1/16W		R346			RK73HB1J473J	CHIP R 47K J 1/16W	
R25			RK73HB1J000J	CHIP R 0 J 1/16W		R347			RK73GH2A201D	CHIP R 200 D 1/10W	
R26			RK73HB1J153J	CHIP R 15K J 1/16W		R348			RK73HB1J104J	CHIP R 100K J 1/16W	
R27 ,28			RK73HB1J000J	CHIP R 0 J 1/16W		R349			RK73HB1J000J	CHIP R 0 J 1/16W	
R29			RK73HB1J181J	CHIP R 180 J 1/16W		R352			RK73GH2A201D	CHIP R 200 D 1/10W	
R30			RK73HB1J000J	CHIP R 0 J 1/16W		R353			RK73RB2H101J	CHIP R 100 J 1/2W	
R31			RK73HB1J225J	CHIP R 2.2M J 1/16W		R354,355			RK73GB2A000J	CHIP R 0 J 1/10W	
R32 ,33			RK73HB1J000J	CHIP R 0 J 1/16W		R357,358			RK73GB2A000J	CHIP R 0 J 1/10W	
R34			RK73HB1J272J	CHIP R 2.7K J 1/16W		R361			RK73GH2A121D	CHIP R 120 D 1/10W	
R35			RK73HB1J102J	CHIP R 1.0K J 1/16W		R367			RK73GH2A181D	CHIP R 180 D 1/10W	
R36			RK73HB1J154J	CHIP R 150K J 1/16W		R369,370			RK73HB1J104J	CHIP R 100K J 1/16W	
R37			RK73HB1J103J	CHIP R 10K J 1/16W		R374	2B		R92-1061-05	JUMPER REST 0 OHM	
R38			RK73HB1J000J	CHIP R 0 J 1/16W		R375			RK73HB1J104J	CHIP R 100K J 1/16W	
R39			RK73HB1J473J	CHIP R 47K J 1/16W		R376			RK73HB1J103J	CHIP R 10K J 1/16W	
R40			RK73HB1J000J	CHIP R 0 J 1/16W		R381			RK73GB2A102J	CHIP R 1.0K J 1/10W	
R41			RK73HB1J393J	CHIP R 39K J 1/16W		R382-384			RK73HB1J000J	CHIP R 0 J 1/16W	
R43			RK73HB1J393J	CHIP R 39K J 1/16W		R387,388			RK73HB1J104J	CHIP R 100K J 1/16W	
R45			RK73HB1J473J	CHIP R 47K J 1/16W		R500			RK73HB1J122J	CHIP R 1.2K J 1/16W	
R46 ,47			RN73HH1J391D	CHIP R 390 D 1/16W		R501			RK73HB1J334J	CHIP R 330K J 1/16W	
R48			RK73GB2A104J	CHIP R 100K J 1/10W		R502			RK73HB1J101J	CHIP R 100 J 1/16W	
R49			RK73HB1J472J	CHIP R 4.7K J 1/16W		R503-508			RK73HB1J103J	CHIP R 10K J 1/16W	
R50			RN73HH1J680D	CHIP R 68 D 1/16W		R509			RK73GB2A100J	CHIP R 10 J 1/10W	
R51			RN73HH1J101D	CHIP R 100 D 1/16W		R510			RK73HB1J272J	CHIP R 2.7K J 1/16W	
R52			RK73HB1J102J	CHIP R 1.0K J 1/16W		R511			RK73HB1J394J	CHIP R 390K J 1/16W	
R53			RK73HB1J124J	CHIP R 120K J 1/16W		R512			RK73HB1J272J	CHIP R 2.7K J 1/16W	
R54			RK73HB1J000J	CHIP R 0 J 1/16W		R513			RK73HB1J394J	CHIP R 390K J 1/16W	
R55			RK73HB1J101J	CHIP R 100 J 1/16W		R515			RK73GB2A472J	CHIP R 4.7K J 1/10W	
R57			RK73HB1J473J	CHIP R 47K J 1/16W		R517			RK73HB1J000J	CHIP R 0 J 1/16W	
R58			RK73HB1J100J	CHIP R 10 J 1/16W		R519			RK73HB1J392J	CHIP R 3.9K J 1/16W	
R59			RK73HB1J101J	CHIP R 100 J 1/16W		R520			RK73HB1J272J	CHIP R 2.7K J 1/16W	
R60			RK73HB1J391J	CHIP R 390 J 1/16W		R522			RK73HB1J000J	CHIP R 0 J 1/16W	
R61			RK73HB1J000J	CHIP R 0 J 1/16W		R524			RK73HB1J101J	CHIP R 100 J 1/16W	
R62			RK73HB1J222J	CHIP R 2.2K J 1/16W		R525			RK73HB1J000J	CHIP R 0 J 1/16W	
R63			RK73HB1J472J	CHIP R 4.7K J 1/16W		R527			RK73HB1J224J	CHIP R 220K J 1/16W	
R64			RK73GB2A472J	CHIP R 4.7K J 1/10W		R528			RK73HB1J000J	CHIP R 0 J 1/16W	
R65			RK73HB1J103J	CHIP R 10K J 1/16W		R530			RK73HB1J391J	CHIP R 390 J 1/16W	
R68 ,69			RK73HB1J000J	CHIP R 0 J 1/16W		R531			RK73HB1J000J	CHIP R 0 J 1/16W	
R73			RK73HB1J000J	CHIP R 0 J 1/16W		R532			RK73GB2A000J	CHIP R 0 J 1/10W	
R74			RK73HB1J560J	CHIP R 56 J 1/16W		R533			RK73HB1J000J	CHIP R 0 J 1/16W	
R75 -78			RK73HB1J000J	CHIP R 0 J 1/16W		R534			RK73HB1J391J	CHIP R 390 J 1/16W	
R81			RK73HB1J000J	CHIP R 0 J 1/16W		R537			RK73HB1J104J	CHIP R 100K J 1/16W	
R83			RK73FB2B102J	CHIP R 1.0K J 1/8W		R539			RK73HB1J470J	CHIP R 47 J 1/16W	
R303			RK73HB1J472J	CHIP R 4.7K J 1/16W		R543,544			RK73HB1J823J	CHIP R 82K J 1/16W	
R306			RK73HB1J223J	CHIP R 22K J 1/16W		R545			RK73HB1J224J	CHIP R 220K J 1/16W	
						R546			RK73HB1J684J	CHIP R 680K J 1/16W	

## PARTS LIST

TX-RX UNIT (X57-7680-25)

Ref. No.	Address	New parts	Parts No.	Description	Desti- nation	Ref. No.	Address	New parts	Parts No.	Description	Desti- nation
R547			RK73HB1J151J	CHIP R 150 J 1/16W		R747			RK73HB1J000J	CHIP R 0 J 1/16W	
R548			RK73HB1J394J	CHIP R 390K J 1/16W		R748			RK73HB1J104J	CHIP R 100K J 1/16W	
R549			RK73HB1J154J	CHIP R 150K J 1/16W		R749			RK73GB2A100J	CHIP R 10 J 1/10W	
R550			RK73HB1J270J	CHIP R 27 J 1/16W		R751			RK73HB1J104J	CHIP R 100K J 1/16W	
R553			RK73HB1J000J	CHIP R 0 J 1/16W		R752			RK73HB1J101J	CHIP R 100 J 1/16W	
R554			RK73HB1J105J	CHIP R 1.0M J 1/16W		R753			RK73GB2A104J	CHIP R 100K J 1/10W	
R560			RK73HB1J000J	CHIP R 0 J 1/16W		R754			RK73HB1J104J	CHIP R 100K J 1/16W	
R562			RK73HB1J270J	CHIP R 27 J 1/16W		R755			RK73HB1J101J	CHIP R 100 J 1/16W	
R563			RK73HB1J000J	CHIP R 0 J 1/16W		R756			RK73HB1J104J	CHIP R 100K J 1/16W	
R564			RK73HB1J223J	CHIP R 22K J 1/16W		R758			RK73HB1J000J	CHIP R 0 J 1/16W	
R565			RK73HB1J221J	CHIP R 220 J 1/16W		R759			RK73HB1J154J	CHIP R 150K J 1/16W	
R566			RK73HB1J104J	CHIP R 100K J 1/16W		R760			RK73HB1J104J	CHIP R 100K J 1/16W	
R567			RK73HB1J564J	CHIP R 560K J 1/16W		R761			RK73HB1J101J	CHIP R 100 J 1/16W	
R568			RK73HB1J223J	CHIP R 22K J 1/16W		R762			RK73HB1J104J	CHIP R 100K J 1/16W	
R569			RK73HB1J823J	CHIP R 82K J 1/16W		R763			RK73HB1J101J	CHIP R 100 J 1/16W	
R570			RK73HB1J683J	CHIP R 68K J 1/16W		R764			RK73HB1J682J	CHIP R 6.8K J 1/16W	
R572			RK73HB1J000J	CHIP R 0 J 1/16W		R765			RK73HB1J000J	CHIP R 0 J 1/16W	
R573,574			RK73HB1J223J	CHIP R 22K J 1/16W		R766			RK73HB1J682J	CHIP R 6.8K J 1/16W	
R576			RK73HB1J000J	CHIP R 0 J 1/16W		R767			RK73HB1J393J	CHIP R 39K J 1/16W	
R577			RK73FB2B000J	CHIP R 0 J 1/8W		R770			RK73GB2A000J	CHIP R 0 J 1/10W	
R579			RK73HB1J104J	CHIP R 100K J 1/16W		R771			RK73HB1J000J	CHIP R 0 J 1/16W	
R580			RK73GB2A000J	CHIP R 0 J 1/10W		R773			RK73HB1J562J	CHIP R 5.6K J 1/16W	
R589			RK73HB1J000J	CHIP R 0 J 1/16W		R774			RK73HB1J222J	CHIP R 2.2K J 1/16W	
R590			RK73HB1J823J	CHIP R 82K J 1/16W		R775			RK73HB1J154J	CHIP R 150K J 1/16W	
R591			RK73HB1J000J	CHIP R 0 J 1/16W		R776			RK73HB1J103J	CHIP R 10K J 1/16W	
R701			RK73HB1J000J	CHIP R 0 J 1/16W		R778,779			RK73HB1J473J	CHIP R 47K J 1/16W	
R703			RK73HB1J000J	CHIP R 0 J 1/16W		R780			RK73HB1J222J	CHIP R 2.2K J 1/16W	
R704			RK73HB1J102J	CHIP R 1.0K J 1/16W		R781			RK73HB1J104J	CHIP R 100K J 1/16W	
R705			RK73HB1J681J	CHIP R 680 J 1/16W		R782			RK73HB1J102J	CHIP R 1.0K J 1/16W	
R708			RK73HB1J472J	CHIP R 4.7K J 1/16W		R783			RK73HB1J473J	CHIP R 47K J 1/16W	
R709			RK73HB1J561J	CHIP R 560 J 1/16W		R784			RK73HB1J104J	CHIP R 100K J 1/16W	
R710			RK73GB2A124J	CHIP R 120K J 1/10W		R785			RK73HB1J105J	CHIP R 1.0M J 1/16W	
R711			RK73HB1J821J	CHIP R 820 J 1/16W		R786			RK73GB2A102J	CHIP R 1.0K J 1/10W	
R712			RK73HB1J561J	CHIP R 560 J 1/16W		R787			RK73HB1J153J	CHIP R 15K J 1/16W	
R713			RK73HB1J104J	CHIP R 100K J 1/16W		R789			RK73GB2A472J	CHIP R 4.7K J 1/10W	
R714,715			RK73HB1J223J	CHIP R 22K J 1/16W		R790			RK73HB1J123J	CHIP R 12K J 1/16W	
R716			RK73HB1J000J	CHIP R 0 J 1/16W		R791			RK73HB1J102J	CHIP R 1.0K J 1/16W	
R717			RK73GB2A000J	CHIP R 0 J 1/10W		R792			RK73GH2A134D	CHIP R 130K D 1/10W	
R718			RK73HB1J563J	CHIP R 56K J 1/16W		R793			RK73GH2A183D	CHIP R 18K D 1/10W	
R719			RK73HB1J000J	CHIP R 0 J 1/16W		R794-797			RK73HB1J102J	CHIP R 1.0K J 1/16W	
R720			RK73HB1J101J	CHIP R 100 J 1/16W		R798			RK73GB2A000J	CHIP R 0 J 1/10W	
R722			RK73HB1J222J	CHIP R 2.2K J 1/16W		R799-801			RK73HB1J102J	CHIP R 1.0K J 1/16W	
R723			RK73HB1J334J	CHIP R 330K J 1/16W		R802			RK73HB1J000J	CHIP R 0 J 1/16W	
R724			RK73HB1J000J	CHIP R 0 J 1/16W		R803			RK73HB1J103J	CHIP R 10K J 1/16W	
R725,726			RK73HH1J473D	CHIP R 47K D 1/16W		R807,808			RK73HB1J000J	CHIP R 0 J 1/16W	
R727			RK73HB1J473J	CHIP R 47K J 1/16W		R811			RK73HB1J102J	CHIP R 1.0K J 1/16W	
R728			RK73HB1J000J	CHIP R 0 J 1/16W		R812			RK73HB1J473J	CHIP R 47K J 1/16W	
R729			RK73HB1J104J	CHIP R 100K J 1/16W		R815			RK73HB1J102J	CHIP R 1.0K J 1/16W	
R730			RK73HB1J000J	CHIP R 0 J 1/16W		R817-819			RK73HB1J000J	CHIP R 0 J 1/16W	
R731			RK73HB1J104J	CHIP R 100K J 1/16W		R820			RK73HB1J473J	CHIP R 47K J 1/16W	
R732			RK73HB1J102J	CHIP R 1.0K J 1/16W		R821			RK73HB1J471J	CHIP R 470 J 1/16W	
R733			RK73HB1J103J	CHIP R 10K J 1/16W		R823			RK73GB2A102J	CHIP R 1.0K J 1/10W	
R734,735			RK73HB1J102J	CHIP R 1.0K J 1/16W		R824			RK73HB1J152J	CHIP R 1.5K J 1/16W	
R736			RK73GB2A000J	CHIP R 0 J 1/10W		R825			RK73HB1J473J	CHIP R 47K J 1/16W	
R737			RK73HB1J273J	CHIP R 27K J 1/16W		R826			RK73HB1J223J	CHIP R 22K J 1/16W	
R738			RK73HB1J562J	CHIP R 5.6K J 1/16W		R827			RK73HB1J473J	CHIP R 47K J 1/16W	
R739			RK73HB1J000J	CHIP R 0 J 1/16W		R829			RK73HB1J000J	CHIP R 0 J 1/16W	
R741			RK73HB1J563J	CHIP R 56K J 1/16W		R831,832			RK73HB1J000J	CHIP R 0 J 1/16W	
R742			RK73HB1J000J	CHIP R 0 J 1/16W		R833-835			RK73HB1J103J	CHIP R 10K J 1/16W	
R743			RK73HB1J104J	CHIP R 100K J 1/16W		R836			RK73HB1J472J	CHIP R 4.7K J 1/16W	

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## PARTS LIST

### TX-RX UNIT (X57-7680-25)

Ref. No.	Address	New parts	Parts No.	Description	Destination	Ref. No.	Address	New parts	Parts No.	Description	Destination
R837			RK73HB1J152J	CHIP R 1.5K J 1/16W		R965			RK73HB1J473J	CHIP R 47K J 1/16W	
R838			RK73HB1J472J	CHIP R 4.7K J 1/16W		R967			RK73HB1J000J	CHIP R 0 J 1/16W	
R839			RK73HB1J473J	CHIP R 47K J 1/16W		R968			RK73HB1J104J	CHIP R 100K J 1/16W	
R840			RK73HB1J683J	CHIP R 68K J 1/16W		R971			RK73HB1J000J	CHIP R 0 J 1/16W	
R841			RK73HB1J473J	CHIP R 47K J 1/16W		R972			RK73HB1J102J	CHIP R 1.0K J 1/16W	
R842			RK73HB1J823J	CHIP R 82K J 1/16W		R973,974			RK73HB1J100J	CHIP R 10 J 1/16W	
R843			RK73HB1J222J	CHIP R 2.2K J 1/16W		R975,976			RK73HB1J471J	CHIP R 470 J 1/16W	
R845			RK73HB1J102J	CHIP R 1.0K J 1/16W		R977,978			RK73HB1J473J	CHIP R 47K J 1/16W	
R846			RK73GB2A221J	CHIP R 220 J 1/10W		R979-998			RK73HB1J000J	CHIP R 0 J 1/16W	
R847			RK73HB1J391J	CHIP R 390 J 1/16W		R999			RK73HB1J473J	CHIP R 47K J 1/16W	
R848			RK73GB2A473J	CHIP R 47K J 1/10W		D1			1SS389-F	DIODE	
R849			RK73FB2B000J	CHIP R 0 J 1/8W		D4 -11			1SV325F	VARIABLE CAPACITANCE DIODE	
R850			RK73GB2A334J	CHIP R 330K J 1/10W		D12			1SV278F	VARIABLE CAPACITANCE DIODE	
R851			RK73HB1J474J	CHIP R 470K J 1/16W		D300			UDZW5.1(B)	ZENER DIODE	
R852			RK73HB1J564J	CHIP R 560K J 1/16W		D301			1SS355	DIODE	
R853			RK73HB1J000J	CHIP R 0 J 1/16W		D302,303			L407CDB	DIODE (50V/1W)	
R854			RK73GB2A104J	CHIP R 100K J 1/10W		D304,305			L709CER-T	DIODE	
R855			RK73HB1J101J	CHIP R 100 J 1/16W		D310,311			UDZW3.3(B)	ZENER DIODE	
R856			RK73HB1J000J	CHIP R 0 J 1/16W		D312			HSC277	DIODE	
R857			RK73HB1J102J	CHIP R 1.0K J 1/16W		D313,314			MA3J742	DIODE	
R858			RK73HB1J332J	CHIP R 3.3K J 1/16W		D500,501			MC2858-T111	DIODE	
R859-863			RK73HB1J000J	CHIP R 0 J 1/16W		D505,506			1SV305F	VARIABLE CAPACITANCE DIODE	
R867,868			RK73HB1J000J	CHIP R 0 J 1/16W		D508-510			1SV305F	VARIABLE CAPACITANCE DIODE	
R869			RK73HB1J104J	CHIP R 100K J 1/16W		D511			HVC369B	VARIABLE CAPACITANCE DIODE	
R870,871			RK73HB1J000J	CHIP R 0 J 1/16W		D700-710			DA221	DIODE	
R873-876			RK73HB1J000J	CHIP R 0 J 1/16W		D711			MC2858-T111	DIODE	
R877			RK73HB1J473J	CHIP R 47K J 1/16W		D712			1SS372F	DIODE	
R878,879			RK73HB1J105J	CHIP R 1.0M J 1/16W		D715			UDZW18(B)	ZENER DIODE	
R880,881			RK73HB1J104J	CHIP R 100K J 1/16W		D717			Z5W27V	SURGE ABSORBER	
R882			RK73HB1J823J	CHIP R 82K J 1/16W		D718			MA2S111-F	DIODE	
R884			RK73HB1J472J	CHIP R 4.7K J 1/16W		D719,720			HVC131	DIODE	
R885			RK73GB2A683J	CHIP R 68K J 1/10W		IC1			MB15E03SL-E1	MOS-IC	
R886			RK73HB1J823J	CHIP R 82K J 1/16W		IC2			BD7542FVM	MOS-IC	
R887			RK73FB2B000J	CHIP R 0 J 1/8W		IC300			HA17358BFEL-E	MOS-IC	
R888			RK73GB2A473J	CHIP R 47K J 1/10W		IC301	2B		RA60H40471101	MOS-IC(POWER MODULE)	
R889			RK73GB2A221J	CHIP R 220 J 1/10W		IC500			TA31136FNG	MOS-IC	
R890			RK73HB1J102J	CHIP R 1.0K J 1/16W		IC501			HA17358BFEL-E	MOS-IC	
R891-893			RK73HB1J000J	CHIP R 0 J 1/16W		IC700			NJM2100V-ZB	MOS-IC	
R894,895			RK73HB1J102J	CHIP R 1.0K J 1/16W		IC701			CD686Q3	MOS-IC	
R896			RK73GB2A000J	CHIP R 0 J 1/10W		IC702	*		F364AEDFBKCUF	MICROCONTROLLER IC	
R899			RK73HB1J000J	CHIP R 0 J 1/16W		IC703			EX24064ASAS0A	ROM IC	
R928,929			RK73HB1J472J	CHIP R 4.7K J 1/16W		IC704			TA4809BF	ANALOGUE IC	
R930			RK73HB1J223J	CHIP R 22K J 1/16W		IC705	2A		LA4600	BI-POLAR IC	
R931			RK73HB1J103J	CHIP R 10K J 1/16W		IC706			XC6221B332N-G	MOS-IC	
R932			RK73HB1J000J	CHIP R 0 J 1/16W		IC707			TA7805F-NQ	MOS-IC	
R933			RK73GB2A000J	CHIP R 0 J 1/10W		IC708			BD4740G	MOS-IC	
R935			RK73HB1J473J	CHIP R 47K J 1/16W		IC709			XC6120N402N-G	MOS-IC	
R938			RK73HB1J473J	CHIP R 47K J 1/16W		IC710			XC6221B332N-G	MOS-IC	
R939,940			RK73GB2A000J	CHIP R 0 J 1/10W		Q3			2SC5108(Y)F	TRANSISTOR	
R950			RK73HB1J473J	CHIP R 47K J 1/16W		Q4			MCH3914(7)-H	FET	
R951,952			RK73GB2A000J	CHIP R 0 J 1/10W		Q5			2SJ347F	FET	
R955			RK73HB1J563J	CHIP R 56K J 1/16W		Q6			MCH3914(7)-H	FET	
R956			RK73HB1J561J	CHIP R 560 J 1/16W		Q7			KRX102U	TRANSISTOR	
R957			RK73HB1J563J	CHIP R 56K J 1/16W		Q8			KTC4075E(Y,GR)	TRANSISTOR	
R958			RK73HB1J561J	CHIP R 560 J 1/16W		Q9 ,10			2SC5108(Y)F	TRANSISTOR	
R959			RK73HB1J184J	CHIP R 180K J 1/16W		Q11			SSM3J05FU-F	FET	
R960			RK73HB1J222J	CHIP R 2.2K J 1/16W		Q12			2SK1830F	FET	
R961			RK73HB1J184J	CHIP R 180K J 1/16W		Q300			RD00HVS1-T113	FET	
R962			RK73HB1J152J	CHIP R 1.5K J 1/16W							
R963,964			RK73GH2A101D	CHIP R 100 D 1/10W							

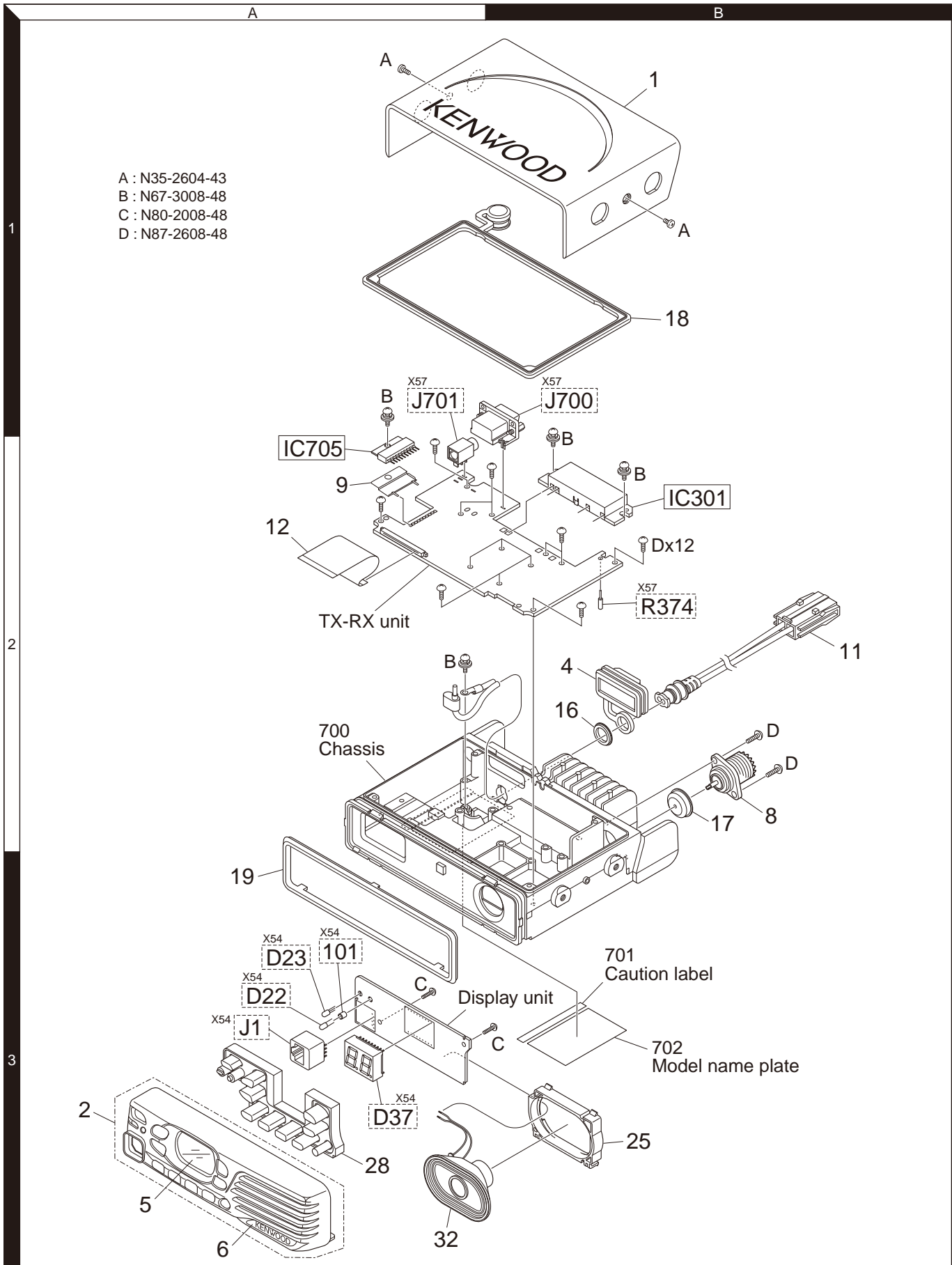
## PARTS LIST

TX-RX UNIT (X57-7680-25)

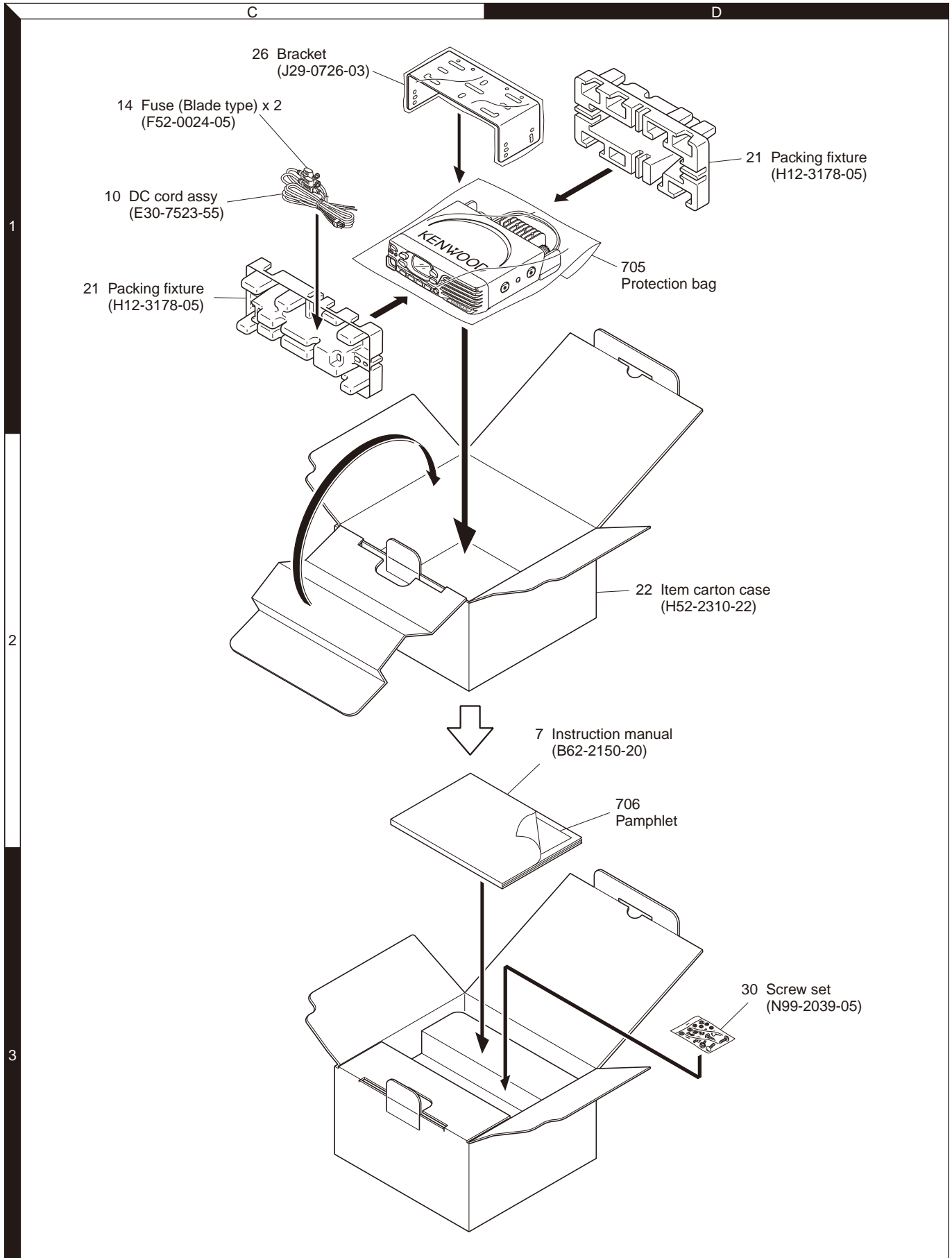
Ref. No.	Address	New parts	Parts No.	Description	Destination	Ref. No.	Address	New parts	Parts No.	Description	Destination
Q500			2SC5108(Y)F	TRANSISTOR							
Q501			RT1P441U-T111	TRANSISTOR							
Q502			2SC5108(Y)F	TRANSISTOR							
Q504			3SK318	FET							
Q506			3SK318	FET							
Q507			RT1N441U-T111	TRANSISTOR							
Q510			RT1N441U-T111	TRANSISTOR							
Q511			KTC4075E(Y,GR)	TRANSISTOR							
Q701			2SK1830F	FET							
Q702			2SC4919	TRANSISTOR							
Q703			KTC4075E(Y,GR)	TRANSISTOR							
Q705			SSM3J05FU-F	FET							
Q707			RT1N440M-T111	TRANSISTOR							
Q710-712			RT1N441U-T111	TRANSISTOR							
Q713,714			2SB1694	TRANSISTOR							
Q715			SSM3K05FU	FET							
Q717,718			SSM3J05FU-F	FET							
Q719			KTC4075E(Y,GR)	TRANSISTOR							
Q720			2SJ645	FET							
Q721			RT1N441U-T111	TRANSISTOR							
Q722			KTC4075E(Y,GR)	TRANSISTOR							
Q723			SSM3K05FU	FET							
Q724			2SJ645	FET							
Q725			KTC4075E(Y,GR)	TRANSISTOR							
Q728			2SC4116(Y)F	TRANSISTOR							
Q729			KTC4075E(Y,GR)	TRANSISTOR							
Q730-732			2SC5108(Y)F	TRANSISTOR							
TH300-302			B57331V2104J	THERMISTOR							
TH501			NCP18WM224J0S	THERMISTOR							

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## EXPLODED VIEW



## PACKING



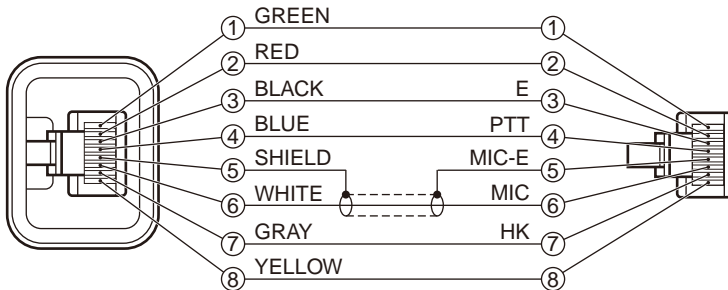
Parts with the exploded numbers larger than 700 are not supplied.

## ADJUSTMENT

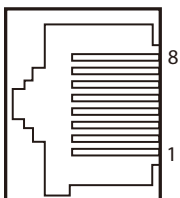
### Test Equipment Required for Alignment

Test Equipment	Major Specifications	
1. Standard Signal Generator (SSG)	Frequency Range Modulation Output	400 to 520MHz Frequency modulation and external modulation -127dBm/0.1μV to greater than -7dBm/100mV
2. Power Meter	Input Impedance Operation Frequency Measurement Range	50Ω 400 to 520MHz or more Vicinity of 100W
3. Deviation Meter	Frequency Range	400 to 520MHz
4. Digital Volt Meter (DVM)	Measuring Range Input Impedance	1 to 20V DC High input impedance for minimum circuit loading
5. Oscilloscope		DC through 30MHz
6. High Sensitivity Frequency Counter	Frequency Range Frequency Stability	10Hz to 1000MHz 0.2ppm or less
7. Ammeter		20A or more
8. AF Volt Meter (AF VM)	Frequency Range Voltage Range	50Hz to 10kHz 1mV to 3V
9. Audio Generator (AG)	Frequency Range Output	20Hz to 20kHz or more 0 to 1V
10. Distortion Meter	Capability Input Level	3% or less at 1kHz 50mV to 10Vrms
11. 4Ω Dummy Load		Approx. 4Ω, 10W or more
12. Regulated Power Supply		13.6V, approx. 20A (adjustable from 9 to 17V) Useful if ammeter equipped
13. Spectrum Analyzer	Center Frequency	50kHz to 600MHz
14. Tracking Generator	Output Voltage	100mV or more

### Test cable for microphone input (E30-3360-28)



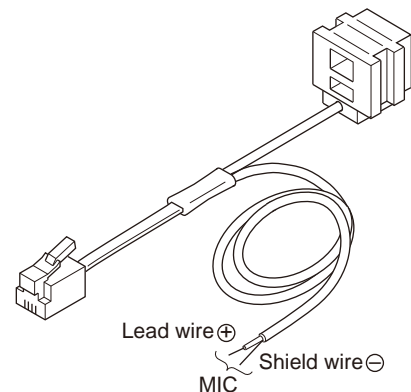
### MIC connector (Front panel view)



- 1 : MBL
- 2 : SB
- 3 : GND
- 4 : PTT
- 5 : ME
- 6 : MIC
- 7 : HOOK
- 8 : DM

### Tuning cable (E30-3383-05)

Adapter cable (E30-3383-05) is required for injecting an audio if PC tuning is used.





## ADJUSTMENT

### Test Frequency

Channel	RX (MHz)	TX (MHz)
1	435.05	435.10
2	400.05	400.10
3	469.95	469.90
4	435.00	435.00
5	435.20	435.20
6	435.40	435.40

### Single or 5 Reference Level Adjustment Frequency

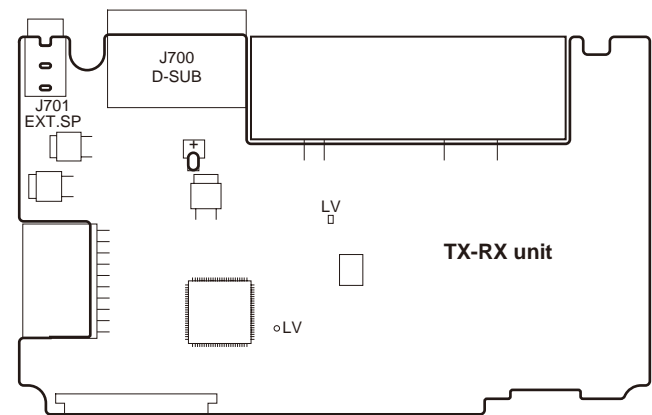
Tuning point	RX (MHz)	TX (MHz)
Low	400.05	400.10
Low'	417.55	417.50
Center	435.05	435.10
High'	452.55	452.50
High	469.95	469.90

### Test Signaling

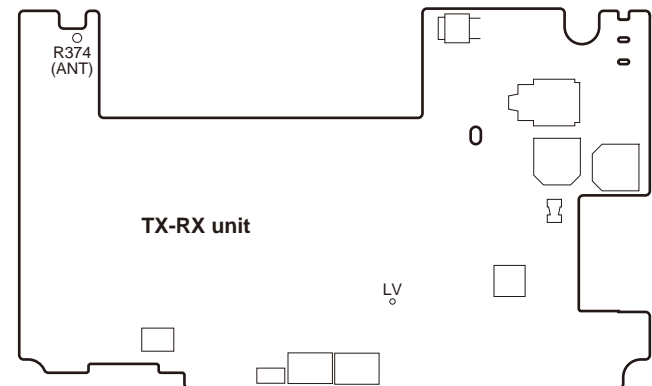
No.	RX	TX
1	None	None
2	None	20Hz Square wave
3	QT: 67.0Hz	QT: 67.0Hz
4	QT: 151.4Hz	QT: 151.4Hz
5	QT: 210.7Hz	QT: 210.7Hz
6	QT: 254.1Hz	QT: 254.1Hz
7	DQT: D023N	DQT: D023N
8	DQT: D754I	DQT: D754I
9	DTMF: 159D	DTMF: 159D
10	None	DTMF Code 9
11	None	MSK (1010..)
12	FleetSync: 100-1000	Fleet Sync: 100-1000
13	None	Single Tone : 1000Hz
14	2-Tone A: 304.7Hz, B: 3106.0Hz	2-Tone A: 304.7Hz, B: 3106.0Hz
15	None	DTMF Tone: 1477Hz
16	Single Tone: 979.9Hz	Single Tone: 979.9Hz
17	None	MSK PN9

### Adjustment Points

#### ■ Component side



#### ■ Foil side



## ADJUSTMENT

### Common Section

Item	Condition	Measurement			Adjustment			Specifications / Remarks
		Test-equipment	Unit	Terminal	Unit	Parts	Method	
1. Setting	1) Power supply voltage DC power supply terminal : 13.6V							
2. Rx Assist (Auto)	1) CH: RX low CH: RX low' CH: RX center CH: RX high' CH: RX high					FPU	"Voltage Level" indicator on the PC window shows VCO lock voltage. Change the adjustment value to get VCO lock voltage within the limit of the specified voltage.	2.5V±0.2V
3. Tx Assist (Auto)	1) CH: TX low CH: TX low' CH: TX center CH: TX high' CH: TX high 2) Transmit						<b>Note:</b> Confirm the VCO lock voltage approximately 3 seconds after the adjustment value is changed.	
4. VCO lock voltage	1) CH: RX low CH: RX low' CH: RX center CH: RX high' CH: RX high	Power meter DVM	TX-RX	LV			Check	2.5V±0.2V
• RX								
• TX	2) CH: TX low CH: TX low' CH: TX center CH: TX high' CH: TX high 3) Transmit							

### Transmitter Section

Item	Condition	Measurement			Adjustment			Specifications / Remarks
		Test-equipment	Unit	Terminal	Unit	Parts	Method	
1. Frequency (Narrow)	1) TEST CH: TX center 2) Transmit	Frequency counter		ANT		FPU	Adjust to center frequency	Within ±100Hz
2. High Power (Narrow)	1) CH: TX low CH: TX low' CH: TX center CH: TX high' CH: TX high 2) Transmit	Power meter Ammeter					low, low', center, high': 45W high: 40W	±2.0W 14.0A or less

## ADJUSTMENT

Item	Condition	Measurement			Adjustment			Specifications / Remarks
		Test-equipment	Unit	Terminal	Unit	Parts	Method	
3. Low Power (Narrow)	1) CH: TX low CH: TX low' CH: TX center CH: TX high' CH: TX high 2) Transmit	Power meter Ammeter		ANT		FPU	25W	±1.0W 7.5A or less
4. DQT Balance (Wide)	1) CH: TX low CH: TX low' CH: TX center CH: TX high' CH: TX high 2) Deviation meter filter LPF: 3kHz HPF: OFF 3) Transmit	Deviation meter					The Deviation of 20Hz frequency is fixed. (FL=30, FLC=35, FC=40, FCH=45, FH=50) Change the 1kHz adjustment value to become the same deviation of 20Hz within the specified range.	±0.4dB
5. Maximum Deviation (Wide)	1) CH: TX low CH: TX low' CH: TX center CH: TX high' CH: TX high 2) Deviation meter filter LPF: 15kHz HPF: OFF 3) Transmit	Deviation meter Oscilloscope AG AF VM		ANT			4.4kHz (According to the larger +, -)	±0.1kHz  <b>Note:</b> FPU auto input 1kHz/50mV
6. MIC sensitivity (Wide)	1) CH: TX center AG: 1kHz/5mV 2) Deviation meter filter LPF: 15kHz 3) Transmit			ANT MIC			Check	2.2kHz~3.6kHz
7. DQT Deviation (Wide)	1) CH: TX center 2) Deviation meter filter LPF: 3kHz HPF: OFF 3) Transmit			ANT		FPU	0.75kHz	±0.05kHz
8. QT Deviation (Wide)	1) CH: TX center 2) Deviation meter filter LPF: 3kHz HPF: OFF 3) Transmit						0.75kHz	±0.05kHz
9. DTMF Deviation (Wide)	1) CH: TX center 2) Deviation meter filter LPF: 15kHz HPF: OFF 3) Transmit						3.0kHz	±0.1kHz
10. MSK Deviation (Wide)	1) CH: TX center 2) Deviation meter filter LPF: 15kHz HPF: OFF 3) Transmit						3.0kHz	±0.1kHz

## ADJUSTMENT

### Receiver Section

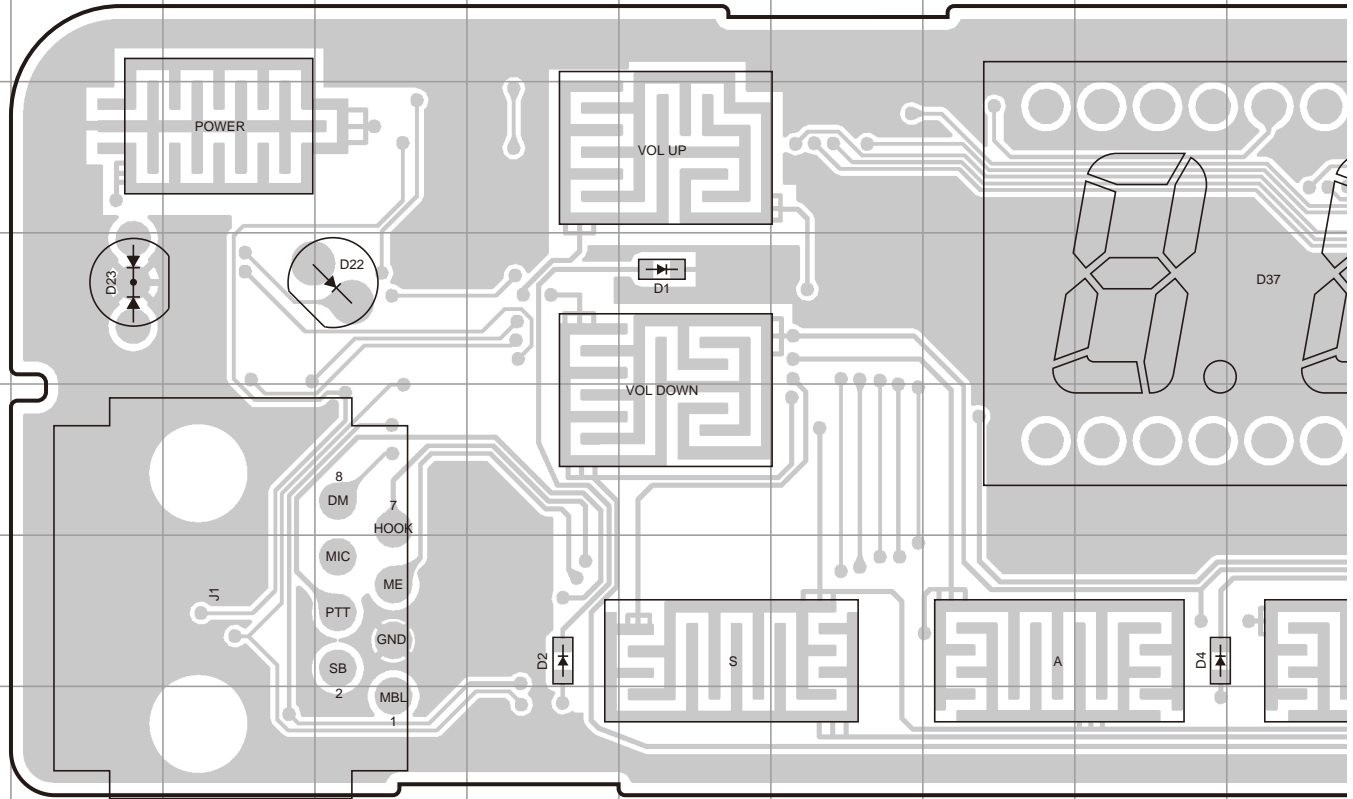
Item	Condition	Measurement			Adjustment			Specifications / Remarks
		Test-equipment	Unit	Terminal	Unit	Parts	Method	
1. RX Sensitivity (Semi-auto)	1) CH: RX low (Wide) CH: RX low' (Wide) CH: RX center (Wide) CH: RX high' (Wide) CH: RX high (Wide) 2) SSG output: -90dBm (7.08 $\mu$ V) Mod: 1kHz Dev: $\pm$ 3.0kHz	SSG Oscilloscope AF VM Distortion meter		ANT Ext.SP		FPU	Auto tuning	
2. Squelch open (5) (Wide)	1) CH: RX low CH: RX low' CH: RX center CH: RX high' CH: RX high 2) SSG output: -120dBm (0.22 $\mu$ V) Mod: 1kHz Dev: $\pm$ 3.0kHz							
(Narrow)	1) CH: RX low CH: RX low' CH: RX center CH: RX high' CH: RX high 2) SSG output: -120dBm (0.22 $\mu$ V) Mod: 1kHz Dev: $\pm$ 1.5kHz							
3. Squelch tight (Wide)	1) CH: RX low CH: RX low' CH: RX center CH: RX high' CH: RX high 2) SSG output: -116dBm (0.35 $\mu$ V) Mod: 1kHz Dev: $\pm$ 3.0kHz							
(Narrow)	1) CH: RX low CH: RX low' CH: RX center CH: RX high' CH: RX high 2) SSG output: -116dBm (0.35 $\mu$ V) Mod: 1kHz Dev: $\pm$ 1.5kHz							
4. Low RSSI (Wide)	1) CH: RX low CH: RX low' CH: RX center CH: RX high' CH: RX high 2) SSG output: -120dBm (0.22 $\mu$ V) Mod: 1kHz Dev: $\pm$ 3.0kHz							

## ADJUSTMENT

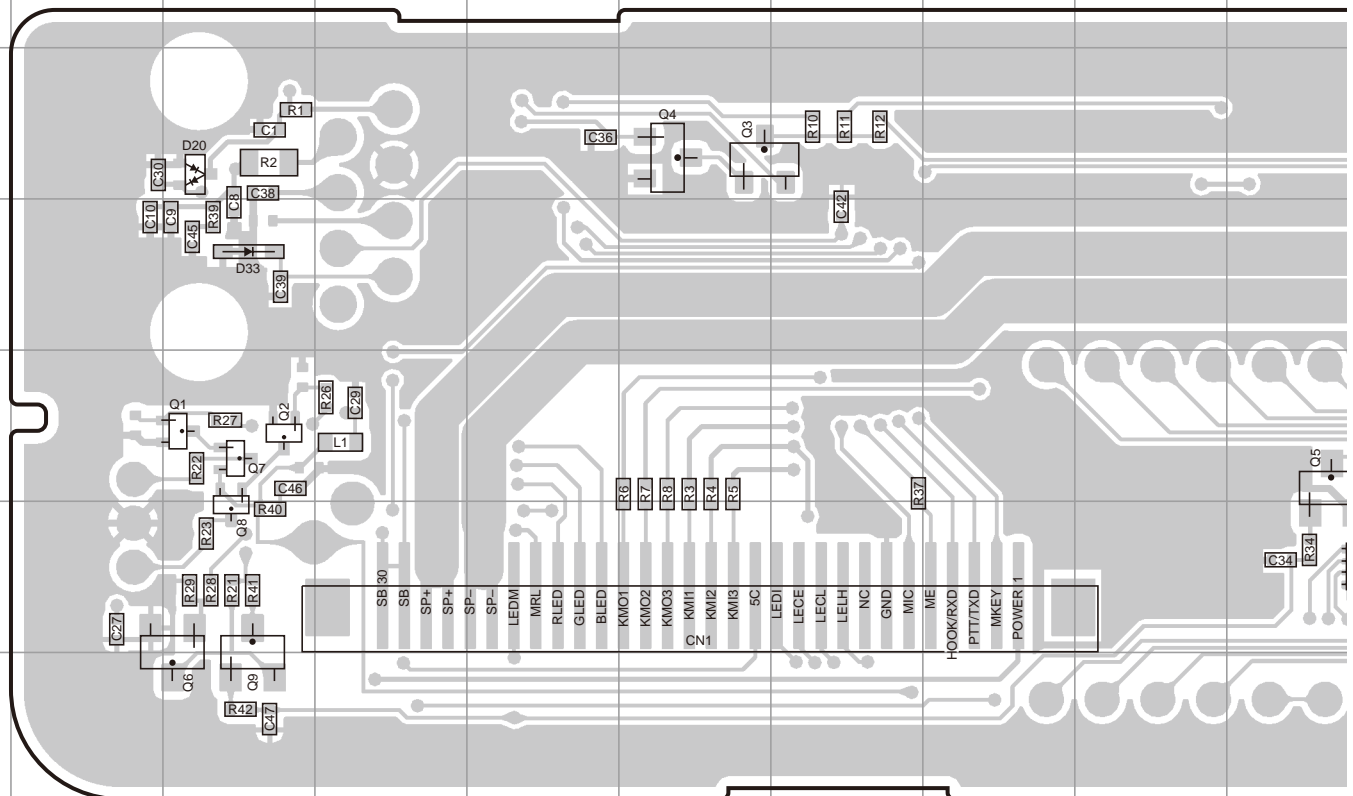
Item	Condition	Measurement			Adjustment			Specifications / Remarks
		Test-equipment	Unit	Terminal	Unit	Parts	Method	
Low RSSI (Narrow)	1) CH: RX low CH: RX low' CH: RX center CH: RX high' CH: RX high 2) SSG output: -120dBm (0.22 $\mu$ V) Mod: 1kHz Dev: $\pm$ 1.5kHz	SSG Oscillo- scope AF VM Distortion meter		ANT Ext.SP		FPU	Auto tuning	
5. High RSSI (Wide)	1) CH: RX low CH: RX low' CH: RX center CH: RX high' CH: RX high 2) SSG output: -80dBm (22.4 $\mu$ V) Mod: 1kHz Dev: $\pm$ 3.0kHz							
(Narrow)	1) CH: RX low CH: RX low' CH: RX center CH: RX high' CH: RX high 2) SSG output: -80dBm (22.4 $\mu$ V) Mod: 1kHz Dev: $\pm$ 1.5kHz							

# TK-8302H PC BOARD

DISPLAY UNIT (X54-3670-20) Component side view (J79-0249-19)



DISPLAY UNIT (X54-3670-20) Foil side view (J79-0249-19)



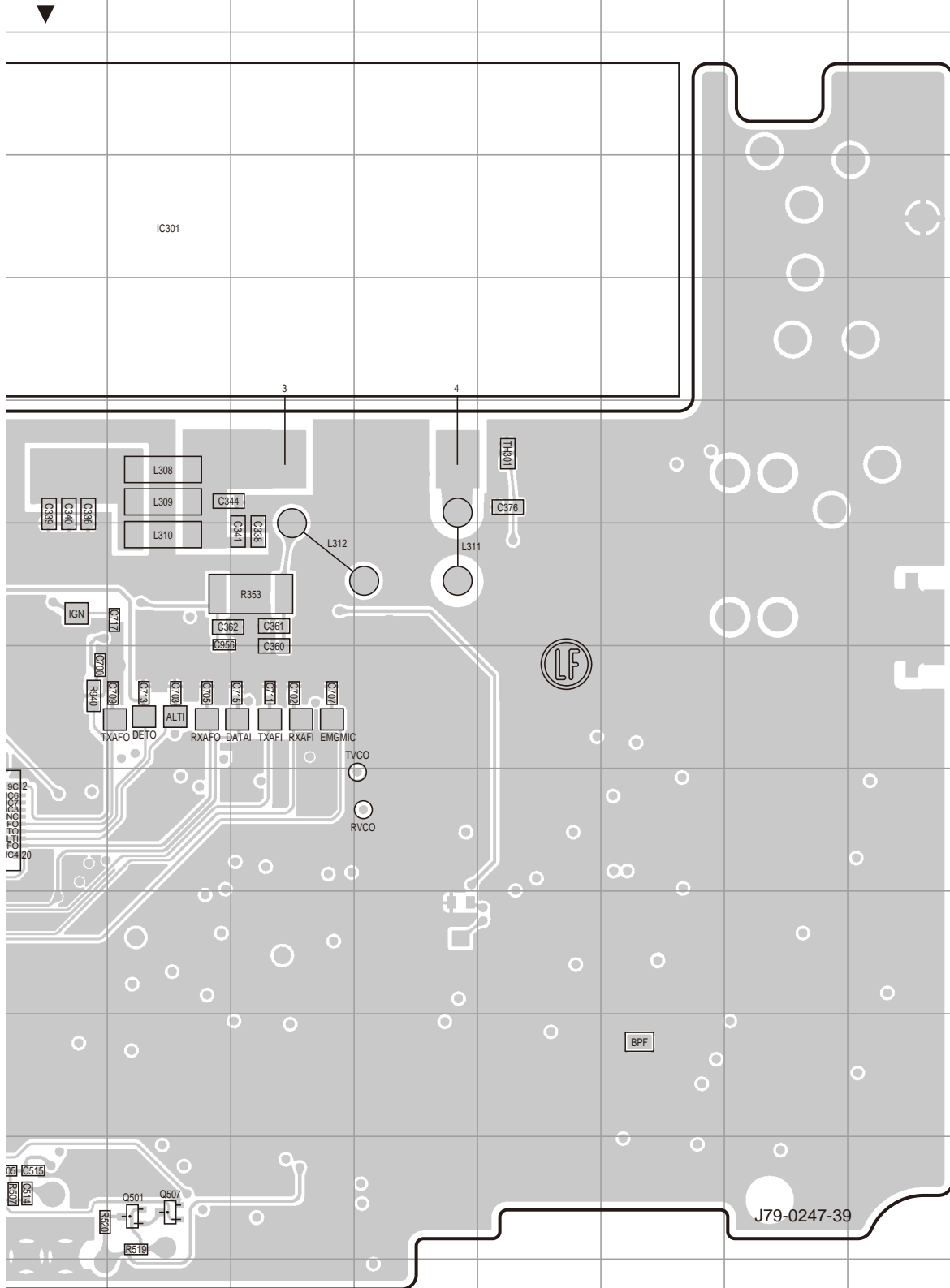




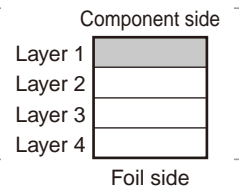


# PC BOARD TK-8302H

## TX-RX UNIT (X57-7680-25) Component side view (J79-0247-39)



Ref. No.	Address
IC301	4K
IC702	10F
IC703	9D
IC704	7B
IC705	9B
IC706	7G
IC707	7F
IC708	9H
IC709	11H
Q501	12K
Q507	12K
Q707	7D
Q710	9H
Q711	6C
Q712	7C
Q713	6C
Q714	7C
Q715	8D
Q717	8F
Q718	7G
Q719	6C
Q720	6B
Q721	9D
Q722	9H
Q723	9D
Q728	7G
Q731	10H
Q732	10H
D500	12I
D501	12J
D700	8I
D701	8I
D702	12G
D703	8I
D704	12F
D705	8H
D706	12G
D707	8H
D708	8H
D709	8H
D710	8G
D715	9H
D718	7H

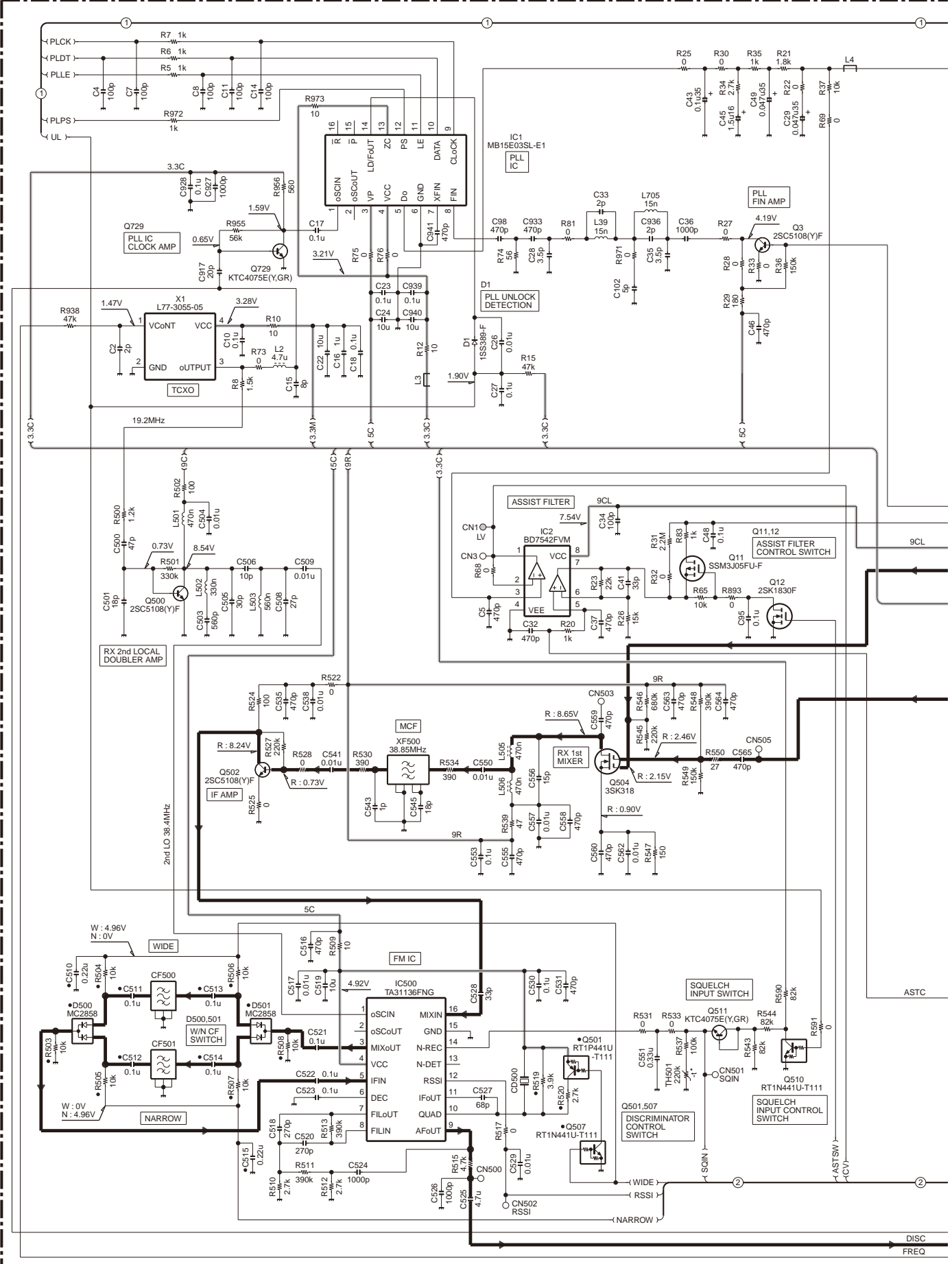






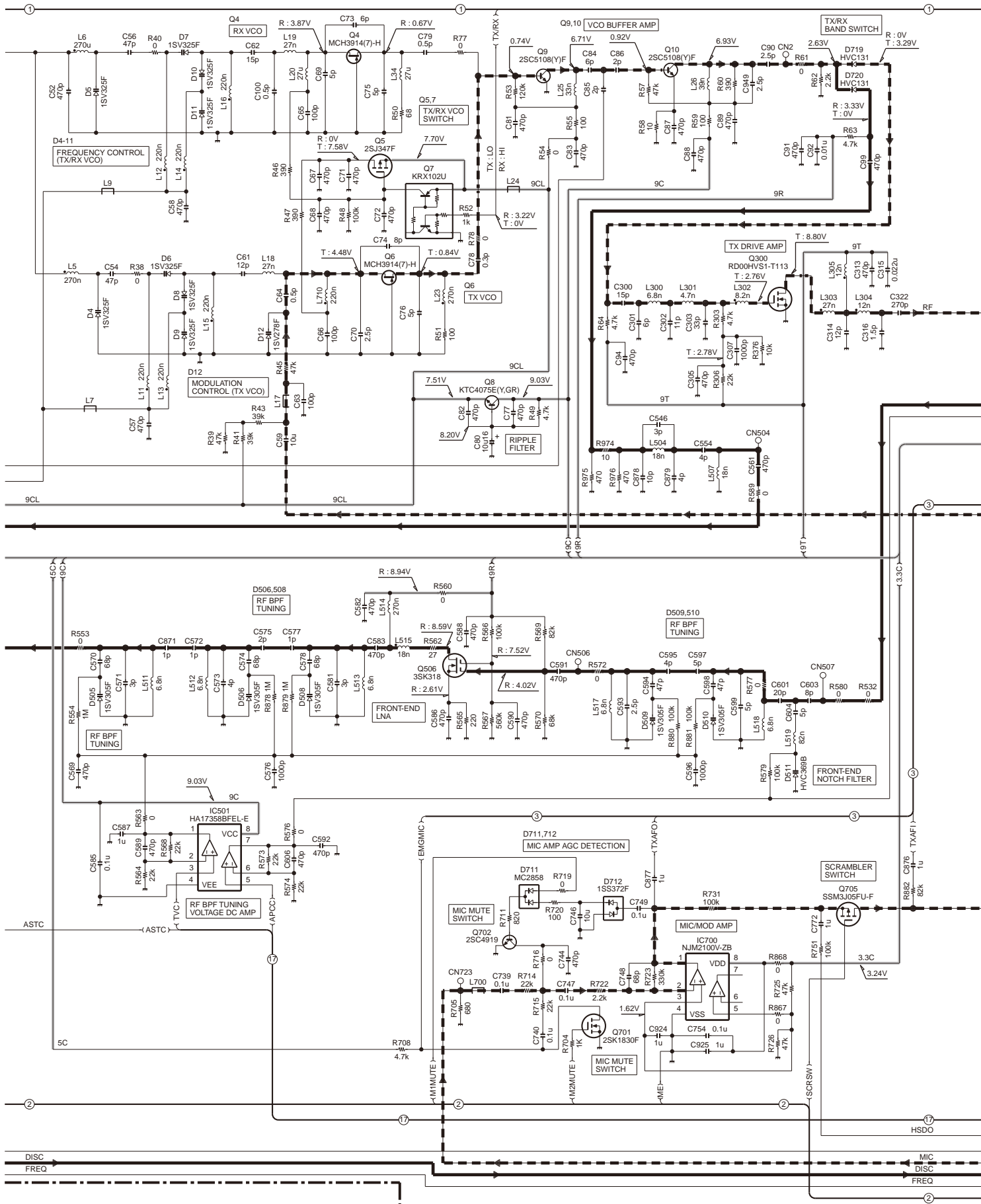
# TK-8302H SCHEMATIC DIAGRAM

TX-RX UNIT (X57-7680-25)



# SCHEMATIC DIAGRAM TK-8302H

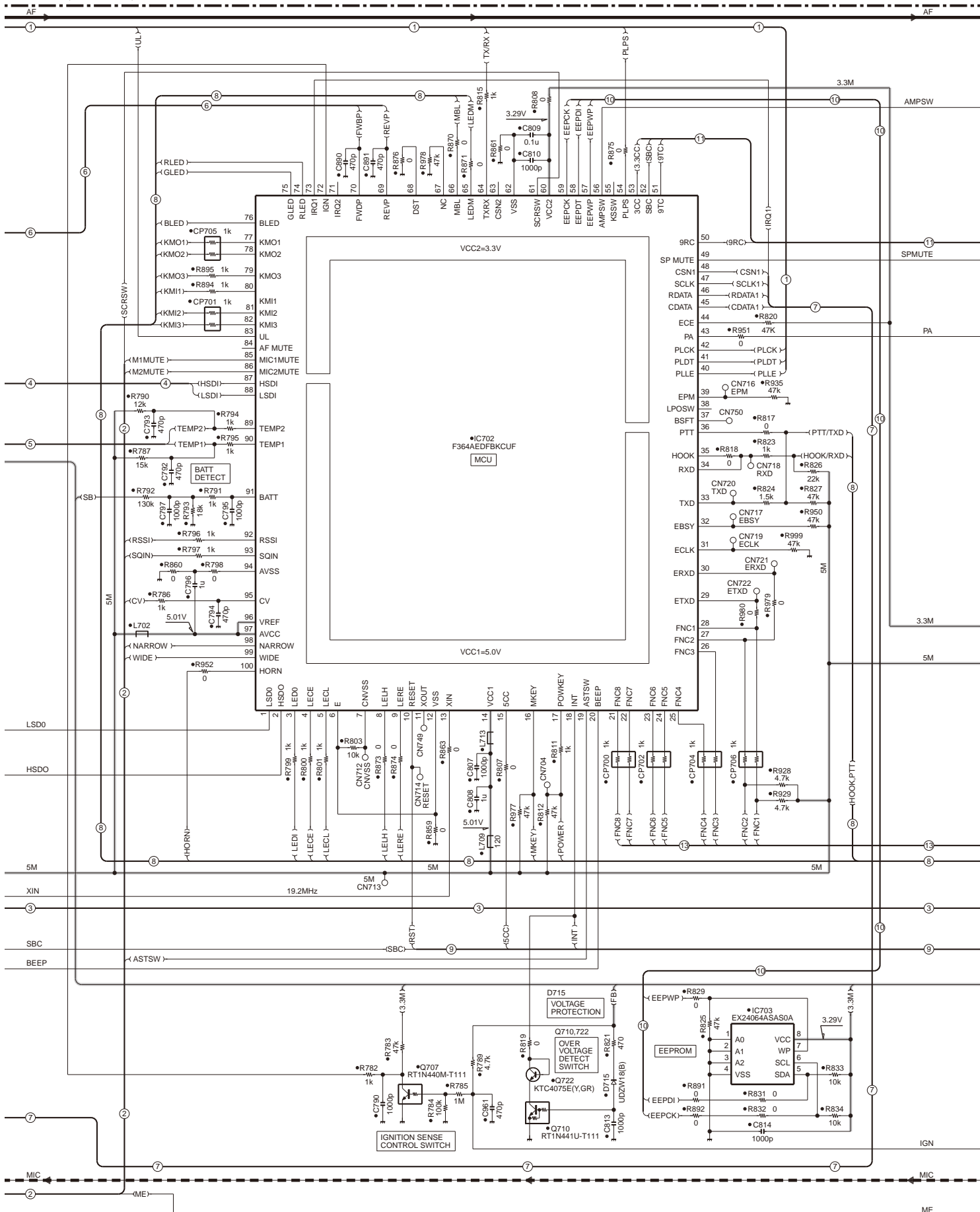
TX-RX UNIT (X57-7680-25)





# SCHEMATIC DIAGRAM TK-8302H

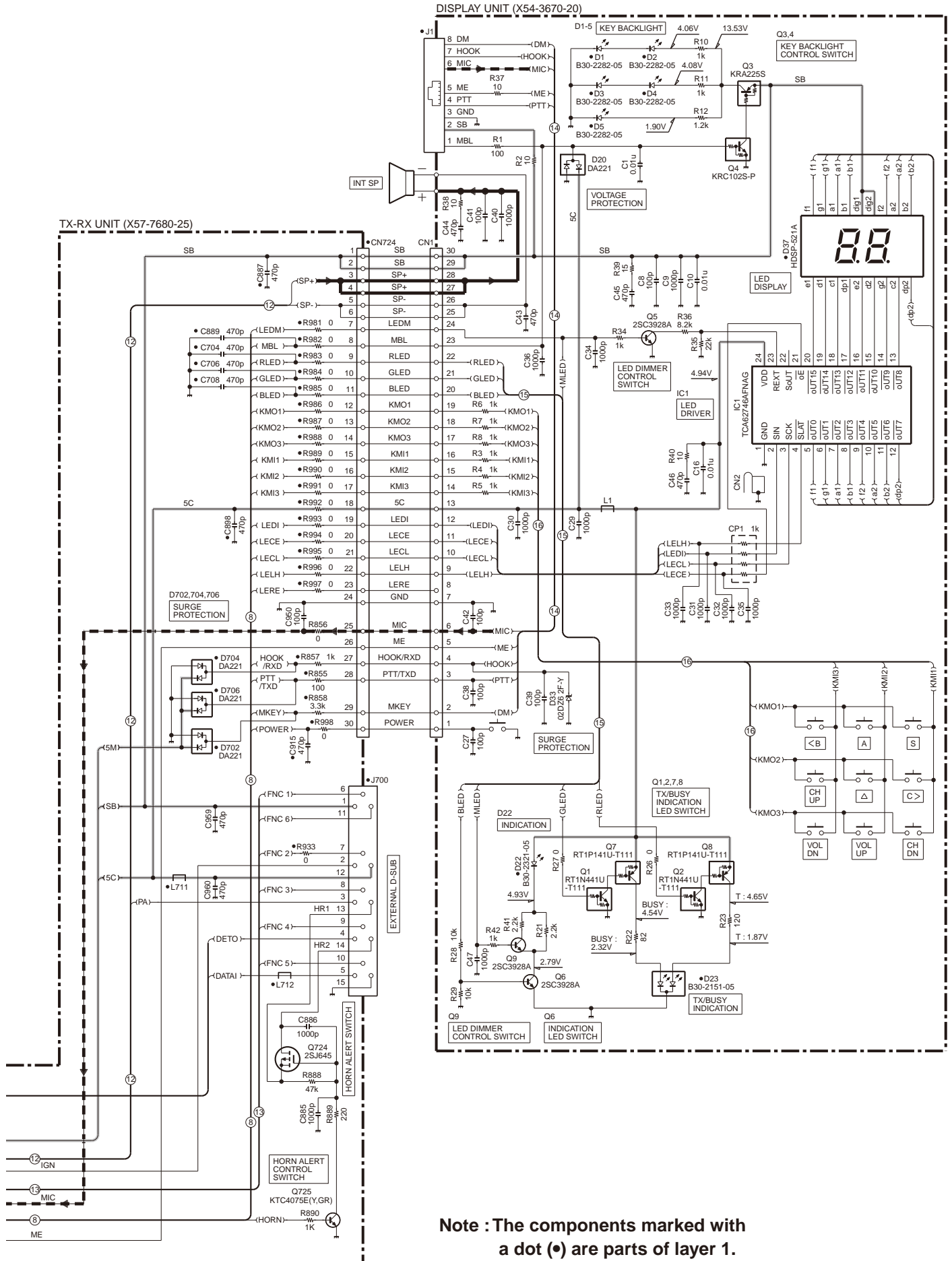
TX-RX UNIT (X57-7680-25)







# SCHEMATIC DIAGRAM TK-8302H



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

# TK-8302H

## SPECIFICATIONS

### GENERAL

Frequency Range .....	400 to 470MHz
Number of Channels.....	100
Zones.....	4
Channel Spacing .....	Wide: 25kHz    Narrow: 12.5kHz
Operating Voltage .....	13.6V DC $\pm$ 15%
Operating Temperature Range .....	-30°C to +60°C
Frequency Stability .....	$\pm$ 2.5ppm
Antenna Impedance .....	50 $\Omega$
Dimensions (W x H x D) (Projections not included).....	160 x 43 x 122.6 mm
Weight (net) .....	1.10kg

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

Sensitivity (12dB SINAD).....	Wide: 0.28 $\mu$ V    Narrow: 0.35 $\mu$ V
Selectivity .....	Wide: 75dB    Narrow: 65dB
Intermodulation Distortion .....	Wide: 70dB    Narrow: 60dB
Spurious Response .....	75dB
Audio Output (4 $\Omega$ impedance).....	4W with less than 5% distortion

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

RF Power Output .....	5~45W
Spurious Response .....	70dB
FM Hum & Noise .....	Wide: 45dB    Narrow: 40dB
Audio Distortion .....	Wide: Less than 3%    Narrow: Less than 5%
Modulation .....	Wide: 16K0F3E    Narrow: 11K0F3E

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### Kenwood Electronics Deutschland GmbH

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### Kenwood Electronics Belgium N.V.

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Bp 58416 Villepinte, 95944 Roissy Ch De Gaulle Cedex

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WD18 9EB United Kingdom

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### Kenwood Electronics Italia S.p.A.

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Barcelona, Spain

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Talavera Business Park Building A, 4 Talavera Road,  
North Ryde NSW 2113 Australia

### Kenwood Electronics (Hong Kong) Ltd.

Suite 2504, 25/F, Tower 2, Nina Tower, No. 8 Yeung Uk Road,  
Tsuen Wan, New Territories, Hong Kong

### Kenwood Electronics Singapore Pte Ltd

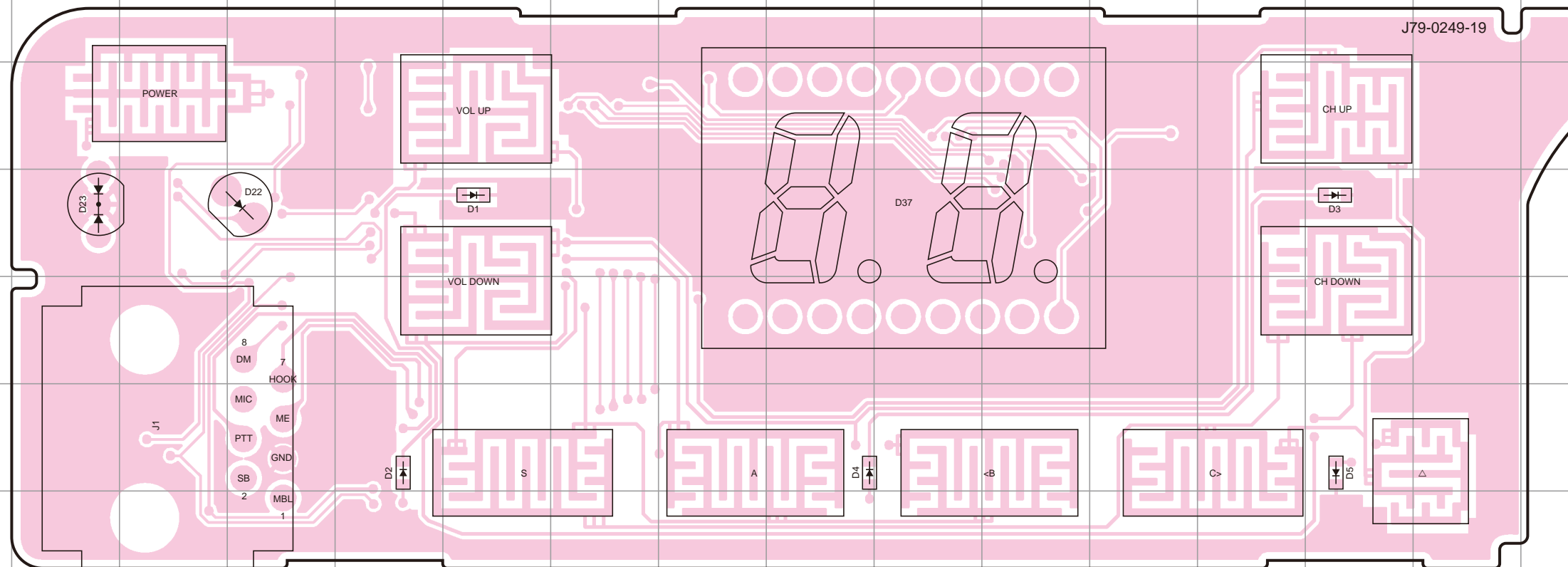
1 Ang Mo Kio Street 63, Singapore 569110

# TK-8302H PC BOARD

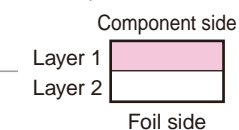
# PC BOARD TK-8302H

DISPLAY UNIT (X54-3670-20) Component side view (J79-0249-19)

DISPLAY UNIT (X54-3670-20) Component side view (J79-0249-19)

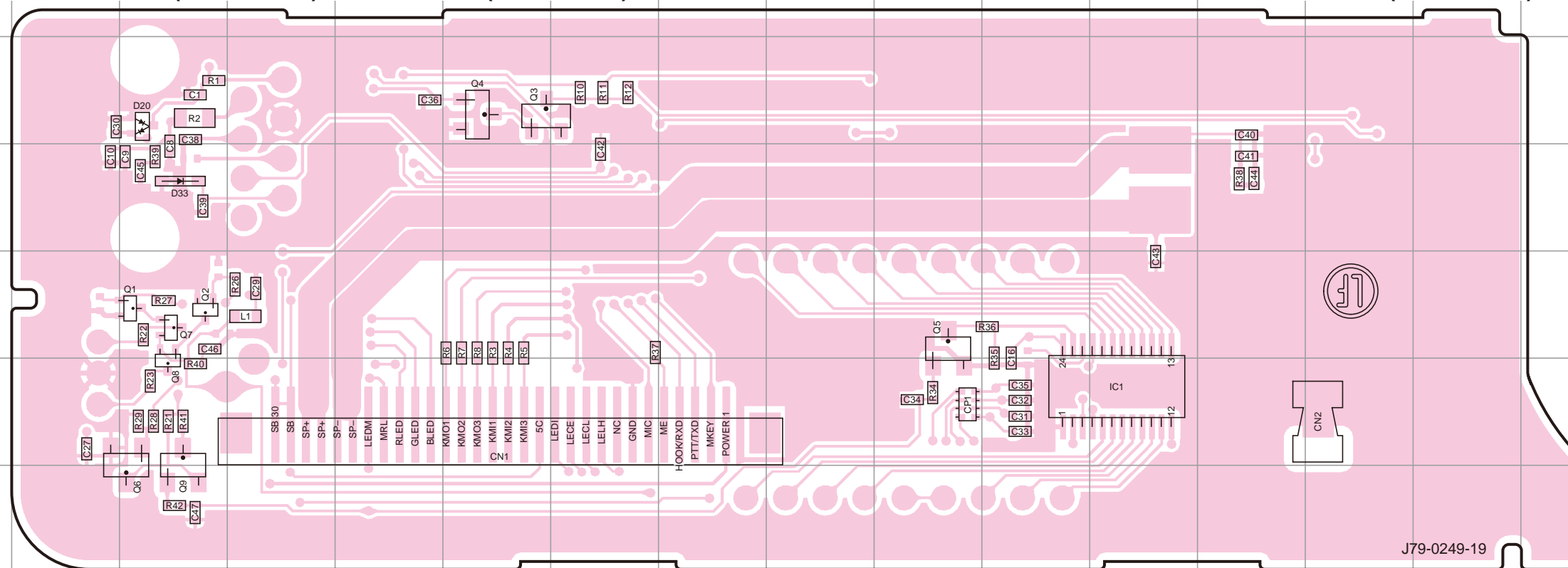


Ref. No.	Address
D1	4F
D2	6E
D3	4N
D4	6I
D5	6N
D22	4D
D23	4B
D37	4J

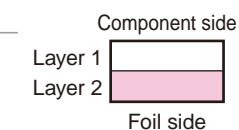


DISPLAY UNIT (X54-3670-20) Foil side view (J79-0249-19)

DISPLAY UNIT (X54-3670-20) Foil side view (J79-0249-19)



Ref. No.	Address
IC1	12L
Q1	11C
Q2	11C
Q3	9F
Q4	9F
Q5	11J
Q6	13C
Q7	11C
Q8	12C
Q9	13C
D20	9C
D33	10C

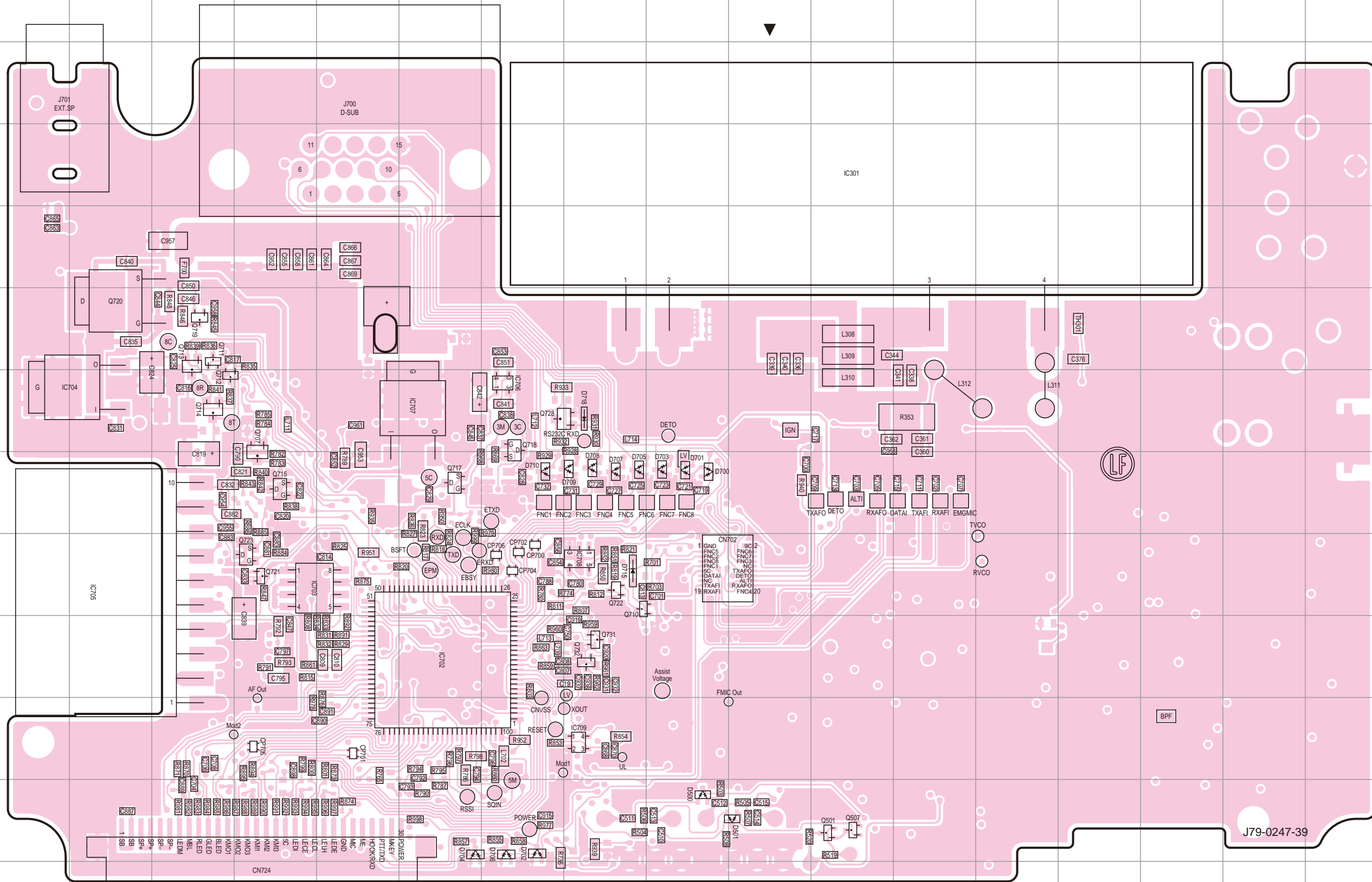


# TK-8302H PC BOARD

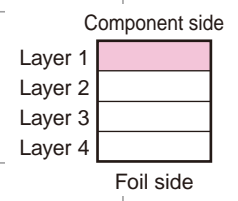
# PC BOARD TK-8302H

TX-RX UNIT (X57-7680-25) Component side view (J79-0247-39)

TX-RX UNIT (X57-7680-25) Component side view (J79-0247-39)



Ref. No.	Address
IC301	4K
IC702	10F
IC703	9D
IC704	7B
IC705	9B
IC706	7G
IC707	7F
IC708	9H
IC709	11H
Q501	12K
Q507	12K
Q707	7D
Q710	9H
Q711	6C
Q712	7C
Q713	6C
Q714	7C
Q715	8D
Q717	8F
Q718	7G
Q719	6C
Q720	6B
Q721	9D
Q722	9H
Q723	9D
Q728	7G
Q731	10H
Q732	10H
D500	12I
D501	12J
D700	8I
D701	8I
D702	12G
D703	8I
D704	12F
D705	8H
D706	12G
D707	8H
D708	8H
D709	8H
D710	8G
D715	9H
D718	7H

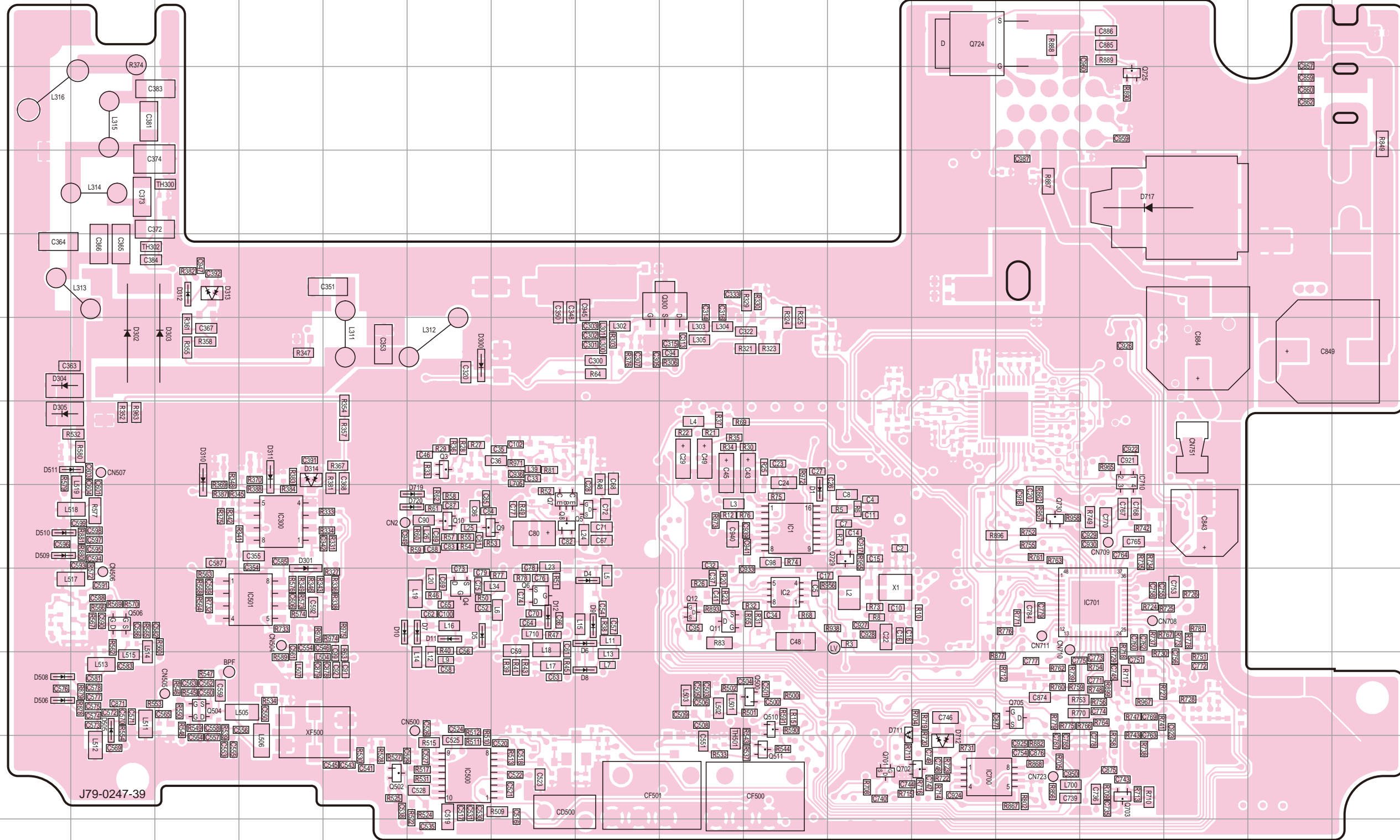


# TK-8302H PC BOARD

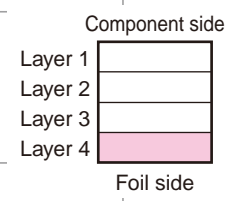
# PC BOARD TK-8302H

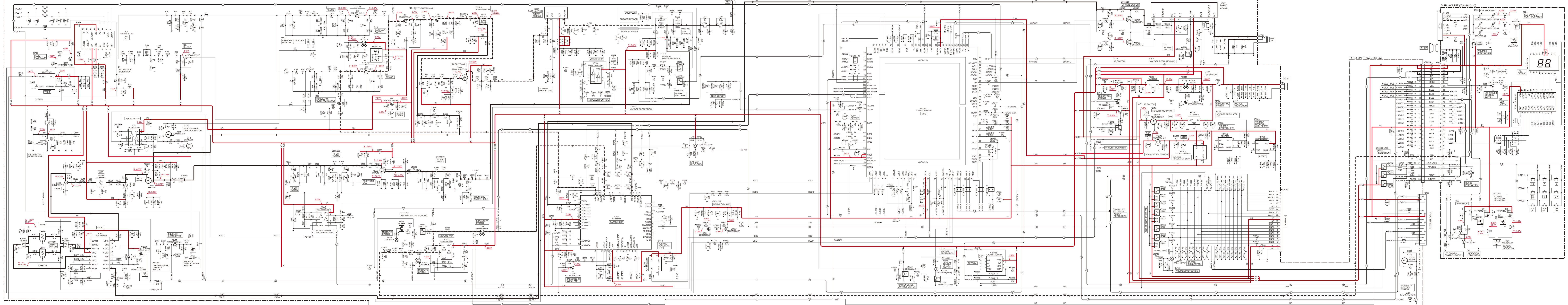
TX-RX UNIT (X57-7680-25) Foil side view (J79-0247-39)

TX-RX UNIT (X57-7680-25) Foil side view (J79-0247-39)



Ref. No.	Address	Ref. No.	Address
IC1	9J	D1	9J
IC2	10J	D4	10H
IC300	9D	D5	10F
IC500	12F	D6	10H
IC501	10D	D7	10F
IC700	12L	D8	11H
IC701	10N	D9	10H
IC710	8N	D10	10E
Q3	8F	D11	10F
Q4	10F	D12	10G
Q5	9H	D300	7F
Q6	10G	D301	9D
Q7	9G	D302	7B
Q8	9G	D303	7C
Q9	9G	D304	7A
Q10	9F	D305	8A
Q11	10I	D310	8C
Q12	10I	D311	8D
Q300	6I	D312	6C
Q500	11J	D313	6C
Q502	12E	D314	8D
Q504	11C	D505	11B
Q506	10B	D506	11A
Q510	11J	D508	11A
Q511	12J	D509	9A
Q701	12K	D510	9A
Q702	12L	D511	8A
Q703	12N	D711	11K
Q705	11M	D712	12L
Q724	3L	D717	5N
Q725	4N	D719	9F
Q729	9K	D720	9F
Q730	9M		





TX-RX UNIT (X57-7690-25)

