

800MHz/900MHz FM TRANSCEIVER

# TK-480/481

## SERVICE MANUAL

### SUPPLEMENT K3, K4, M4 versions

# KENWOOD

Kenwood Corporation

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B51-8977-00 (Y) PDF

This service manual applies to products with A8A00001 (TK-480), B160001 (TK-481) or subsequent serial numbers. Refer to the TK-480/481 series service manual for any information which has not been covered in this manual.

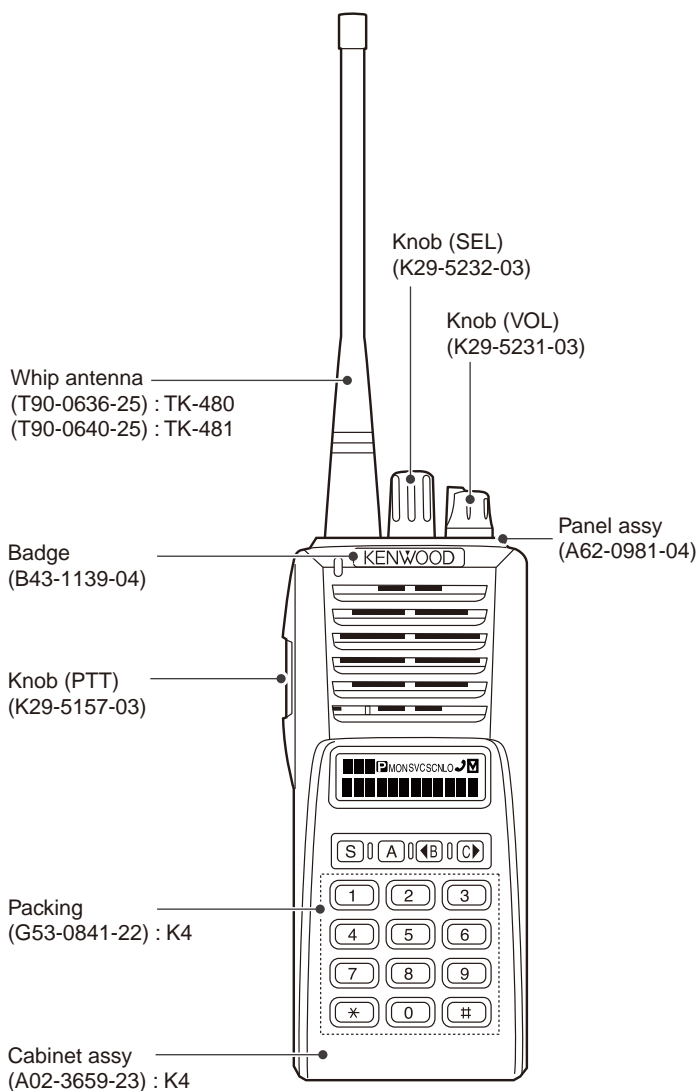


Illustration is TK-480/481 K4 type.

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### CAUTION

When using an external power connector, please use with maximum final module protection of 9V.

# TK-480/481

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# GENERAL

## SERVICE MANUAL LIST

Title	Part number	Remarks	Unit number	PCB number
TK-480/481	B51-8408-00	Hardware Ver. 1.0 ~ S/No. 212xxxx	X57-5370-10: J X57-5630-10: S	J72-0516-12 J72-0516-22
TK-480/481 Revised	B51-8408-10		X57-5370-10: J X57-5630-10: S	J72-0516-32 J72-0516-32
TK-480/481 Revised II	B51-8408-20	Hardware Ver. 2.0 ~ S/No. 313xxxx	X57-5630-10: S	J72-0812-02 J72-1006-09
TK-480 M2 Version	B51-8665-00 (PDF ONLY)	For TK-480 M2 Hardware Ver. 2.0	X57-5630-10: S	J72-0812-02 J72-1006-09
TK-480/481 Supplement K3, K4, M4 Versions	B51-8977-00 This service manual (PDF ONLY)	The modification of the PLL IC	X57-5630-10: S	J79-0201-09

**Note:** X57-5370-XX : Produced in Japan

X57-5630-XX : Produced in Singapore

## DISASSEMBLY FOR REPAIR

### Compatibility information

The PLL IC (IC1: SA7025DK <SUB: CD8468>) has been discontinued by the supplier, so New PLL IC (IC11: LMX2352TMX/NP) has been applied on to X57-5630-XX production.

TK-480 K3, K4, M4 / TK-481 K3, K4 (TX-RX UNIT: X57-5630-10/ -11/ -21)			
		OLD	NEW
		S/No.006xxxxx and befor	TK-480: S/No.A8A00001~ TK-481: S/No.B1600001~
IC11	PLL IC	SA7025 or CD8468	LMX2352TMX/NP
	PC board (X57-5630-XX)	J72-0812-02 J72-1006-09	J79-0201-09

Compatibility Chart		Firmware	
		OLD	NEW
		Firmware REV. 25 Sum = "2574" or earlier version	Firmware REV. 25 Sum = "2DF2" or later version
TX-RX Unit	<b>OLD:</b> (PLL IC: SA7025 or CD8468)	<b>Available</b>	<b>Available</b>
	<b>NEW:</b> (PLL IC: LMX2352TMX/NP)	<b>NOT available</b> Causes unlock condition	<b>Available</b>

## 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.

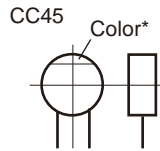
2 = Shape ... round, square, etc.

3 = Temp. coefficient

4 = Voltage rating

5 = Value

6 = Tolerance



#### • Capacitor value

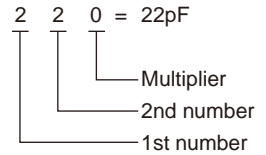
010 = 1pF

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 1st word	A	B	C	D	E	F	G	H	J	K	V
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

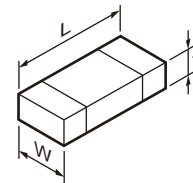
4 = Temp. coefficient

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		

## 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)

C : China

K : USA

T : England

X : Australia

P : Canada

E : Europe

M : Other Areas

### TX-RX UNIT (X57-5630-XX)

Ref. No.	Address	New parts	Parts No.	Description	Desti-nation	Ref. No.	Address	New parts	Parts No.	Description	Desti-nation
<b>TX-RX UNIT (X57-5630-XX) -10, -21: TK-480 -11: TK-481</b>											
C1 ,2			CK73GB1E103K	CHIP C 0.010UF K		C66			CK73GB1C104K	CHIP C 0.10UF K	
C3 ,4			CC73GCH1H101J	CHIP C 100PF J		C67			CK73GB1H122J	CHIP C 1200PF J	481
C5			CK73GB1E103K	CHIP C 0.010UF K		C68			CC73GCH1H040C	CHIP C 4.0PF C	
C6			CS77BA0J4R7M	CHIP TNTL 4.7UF 6.3WV		C69			CC73GCH1H101J	CHIP C 100PF J	
C7			CC73GCH1H101J	CHIP C 100PF J		C70 -72			CK73GB1E103K	CHIP C 0.010UF K	
C8			CK73GB1C683K	CHIP C 0.068UF K		C74			CK73GB1C104K	CHIP C 0.10UF K	
C9			CK73GB1C104K	CHIP C 0.10UF K		C75			CK73GB1C333K	CHIP C 0.033UF K	
C10			CS77BA0J4R7M	CHIP TNTL 4.7UF 6.3WV		C76			CK73GB1C104K	CHIP C 0.10UF K	
C11			CK73GB1C104K	CHIP C 0.10UF K		C77			CK73GB1H562J	CHIP C 5600PF J	
C12 ,13			CS77BA0J4R7M	CHIP TNTL 4.7UF 6.3WV		C78			CK73GB1E103K	CHIP C 0.010UF K	
C14			CS77CP0J010M	CHIP TNTL 1.0UF 6.3WV		C79			CC73GCH1H121J	CHIP C 120PF J	
C15			CC73GCH1H100D	CHIP C 10PF D		C80			CK73GB1C683K	CHIP C 0.068UF K	
C16 ,17			CC73GCH1H101J	CHIP C 100PF J		C81			CC73GCH1H101J	CHIP C 100PF J	
C18			CK73GB1C104K	CHIP C 0.10UF K		C82 ,83			CK73GB1H562J	CHIP C 5600PF J	
C19 -23			CC73GCH1H101J	CHIP C 100PF J		C84			CC73GCH1H150J	CHIP C 15PF J	
C24			CS77BA0J4R7M	CHIP TNTL 4.7UF 6.3WV		C85			CK73GB1H272J	CHIP C 2700PF J	
C25			CK73FB1A105K	CHIP C 1.0UF K		C86			CK73GB1C333K	CHIP C 0.033UF K	
C26			CK73GB1E123K	CHIP C 0.012UF K		C87			CC73GCH1H030C	CHIP C 3.0PF C	
C27			CK73GB1C104K	CHIP C 0.10UF K		C89 ,90			CK73GB1H272J	CHIP C 2700PF J	
C28 -30			CC73GCH1H101J	CHIP C 100PF J		C91			CK73GB1E103K	CHIP C 0.010UF K	
C31			CK73GB1C104K	CHIP C 0.10UF K		C92			CK73GB1C104K	CHIP C 0.10UF K	
C32			CK73GB1H472K	CHIP C 4700PF K		C93			CC73GCH1H151J	CHIP C 150PF J	
C33			CK73GB1H471K	CHIP C 470PF K		C94			CC73GCH1H101J	CHIP C 100PF J	
C34			CS77BA0J100M	CHIP TNTL 10UF 6.3WV		C95		*	CS77AA1A3R3M	CHIP TNTL 3.3UF 10WV	
C35			CK73GB1C333K	CHIP C 0.033UF K		C96			CK73GB1H122K	CHIP C 1200PF K	480
C36			CC73GCH1H820J	CHIP C 82PF J		C96 ,97			CK73GB1H102K	CHIP C 1000PF K	481
C37			CS77BA0J100M	CHIP TNTL 10UF 6.3WV		C97			CK73GB1H102K	CHIP C 1000PF K	480
C38			CC73GCH1H101J	CHIP C 100PF J		C98			CC73GCH1H030C	CHIP C 3.0PF C	
C39			CC73GCH1H221J	CHIP C 220PF J		C99			CC73GCH1H020B	CHIP C 2.0PF B	480
C40			CC73GCH1H101J	CHIP C 100PF J		C99			CC73GCH1H1R5B	CHIP C 1.5PF B	481
C41			CK73FB1C334K	CHIP C 0.33UF K		C100			CC73GCH1H391J	CHIP C 390PF J	480
C42			CK73GB1E103K	CHIP C 0.010UF K		C100			CK73GB1H821K	CHIP C 820PF K	481
C43			CS77CP1A4R7M	CHIP TNTL 4.7UF 10WV		C101			CS77BA0J100M	CHIP TNTL 10UF 6.3WV	
C44		*	CS77CA0J150M	CHIP TNTL 15UF 6.3WV		C102			CK73GB1C104K	CHIP C 0.10UF K	
C45			CC73GCH1H220J	CHIP C 22PF J		C103,104			CC73GCH1H101J	CHIP C 100PF J	
C46			CC73GCH1H221J	CHIP C 220PF J		C105			CK73GB1C473K	CHIP C 0.047UF K	
C47			CK73GB1E223K	CHIP C 0.022UF K		C106-108			CK73GB1C104K	CHIP C 0.10UF K	
C48			CC73GCH1H220J	CHIP C 22PF J		C109			CS77BA0J4R7M	CHIP TNTL 4.7UF 6.3WV	
C49 ,50			CK73GB1H102K	CHIP C 1000PF K		C110			CC73GCH1H1R5B	CHIP C 1.5PF B	
C51			CK73GB1E223K	CHIP C 0.022UF K		C111,112			CK73GB1C104K	CHIP C 0.10UF K	
C52			CK73GB1H102K	CHIP C 1000PF K		C113			CK73GB1C473K	CHIP C 0.047UF K	
C54			CK73GB1H102K	CHIP C 1000PF K		C114,115			CK73GB1H332K	CHIP C 3300PF K	481
C55			CC73GCH1H150J	CHIP C 15PF J		C114,115			CK73GB1H472K	CHIP C 4700PF K	480
C56			CK73GB1H222K	CHIP C 2200PF K		C116			CK73HB1H102K	CHIP C 1000PF K	
C57			CK73GB1C683K	CHIP C 0.068UF K	481	C117			CC73HCH1H470J	CHIP C 47PF J	
C57			CK73GB1E153K	CHIP C 0.015UF K	480	C118			CK73GB1E103K	CHIP C 0.010UF K	
C58			CK73GB1C104K	CHIP C 0.10UF K		C119			CC73GCH1HR75C	CHIP C 0.75PF C	480
C59			CC73GCH1H101J	CHIP C 100PF J		C119			CC73GCH1H010C	CHIP C 1.0PF C	481
C60			CC73GCH1H100D	CHIP C 10PF D		C120			CC73GCH1H101J	CHIP C 100PF J	
C61			CC73GCH1H040C	CHIP C 4.0PF C	481	C121			CK73GB1E153K	CHIP C 0.015UF K	
C62			CK73GB1E103K	CHIP C 0.010UF K		C122			CC73GCH1H030C	CHIP C 3.0PF C	481
C63			CC73GCH1H101J	CHIP C 100PF J		C122			CC73GCH1H1R5C	CHIP C 1.5PF C	480
C64			CC73GCH1H271J	CHIP C 270PF J		C123			CS77BA0J4R7M	CHIP TNTL 4.7UF 6.3WV	
C65			CK73GB1H103K	CHIP C 0.010UF K		C124			CK73GB1E103K	CHIP C 0.010UF K	
						C125			CK73GB1H102K	CHIP C 1000PF K	

480: TK-480 K3, K4, M4

481: TK-481 K3, K4

## PARTS LIST

## TX-RX UNIT (X57-5630-XX)

Ref. No.	Address	New parts	Parts No.	Description	Destination	Ref. No.	Address	New parts	Parts No.	Description	Destination
C126			CK73GB1C104K	CHIP C 0.10UF K		C208,209			CC73GCH1H101J	CHIP C 100PF J	
C127-129			CC73GCH1H101J	CHIP C 100PF J		C211,212			CK73GB1C104K	CHIP C 0.10UF K	
C130			CC73GCH1H100D	CHIP C 10PF D		C213			CK73HB1E103K	CHIP C 0.010UF K	
C131			CC73GCH1H101J	CHIP C 100PF J		C214			CK73HB1A104K	CHIP C 0.10UF K	
C132			CC73GCH1HR75C	CHIP C 0.75PF C	481	C215			CK73HB1H102K	CHIP C 1000PF K	
C132			CC73GCH1H010C	CHIP C 1.0PF C	480	C216			CK73HB1E103K	CHIP C 0.010UF K	
C133			CC73GCH1H101J	CHIP C 100PF J		C217			CC73HCH1H560J	CHIP C 56PF J	
C134			CC73GCH1H010B	CHIP C 1.0PF B	480	C218			CK73HB1H102K	CHIP C 1000PF K	
C135			CC73GCH1H101J	CHIP C 100PF J		C219			CC73HCH1H101J	CHIP C 100PF J	
C136			CC73GCH1H030C	CHIP C 3.0PF C		C221			CK73HB1H102K	CHIP C 1000PF K	
C137			CC73GCH1H101J	CHIP C 100PF J		C222			CK73HB1E103K	CHIP C 0.010UF K	
C138			CK73GB1E103K	CHIP C 0.010UF K		C224			CC73HCH1H101J	CHIP C 100PF J	
C139			CC73GCH1H020C	CHIP C 2.0PF C	481	C225			CK73HB1H102K	CHIP C 1000PF K	
C139			CC73GCH1H3R5B	CHIP C 3.5PF B	480	C226			CK73HB1A104K	CHIP C 0.10UF K	
C140			CK73FB1A105K	CHIP C 1.0UF K		C227			CC73HCH1H101J	CHIP C 100PF J	
C141			CK73GB1H472K	CHIP C 4700PF K		C228			CK73HB1H102K	CHIP C 1000PF K	
C142,143			CC73GCH1H101J	CHIP C 100PF J		C229			CK73HB1A104K	CHIP C 0.10UF K	
C144			CK73GB1C273K	CHIP C 0.027UF K		C230			CC73HCH1H101J	CHIP C 100PF J	
C145,146			CC73GCH1H101J	CHIP C 100PF J		C231			CK73HB1H102K	CHIP C 1000PF K	
C147,148			CK73HB1C103K	CHIP C 0.010UF K		C232			CK73HB1A104K	CHIP C 0.10UF K	
C149			CC73GCH1H040C	CHIP C 4.0PF C		C233,234			CK73GB1E103K	CHIP C 0.010UF K	
C150,151			CC73GCH1H101J	CHIP C 100PF J		C242			CK73GB1E103K	CHIP C 0.010UF K	480
C152			CC73GCH1H020C	CHIP C 2.0PF C		C261,262			CK73HB1C103K	CHIP C 0.010UF K	
C153			CC73GCH1H101J	CHIP C 100PF J		C263			CS77BA1A100M	CHIP TNL 10UF 10WV	
C154			CK73GB1C104K	CHIP C 0.10UF K		CN1			E40-6452-05	FLAT CABLE CONNECTOR	
C155			CC73GCH1H101J	CHIP C 100PF J		CN2	*		E40-6468-05	PIN ASSY	
C156			CS77BA0J4R7M	CHIP TNL 4.7UF 6.3WV		CN3			E40-5890-05	FLAT CABLE CONNECTOR	
C157			CC73GCH1H1R5C	CHIP C 1.5PF C	480	CN4 -9	*		E23-1002-15	TERMINAL	
C158			CC73GCH1H120J	CHIP C 12PF J		CN10			E23-1293-05	TEST TERMINAL	
C159			CK73FB1H563K	CHIP C 0.056UF K		CN11,12	*		E23-1002-15	TERMINAL	
C160,161			CC73GCH1H101J	CHIP C 100PF J		F1			F53-0392-05	FUSE(3A)	
C162			CC73GCH1H120J	CHIP C 12PF J		CD1			L79-1834-05	TUNING COIL(455KHZ)	
C163			CK73FB1C474K	CHIP C 0.47UF K		CF1 ,2			L72-0939-05	CERAMIC FILTER(455KHZ)	481
C164,165			CC73GCH1H101J	CHIP C 100PF J		CF1 ,2	*		L72-1032-05	CERAMIC FILTER(455KHZ)	480
C166			CC73GCH1HR75C	CHIP C 0.75PF C	481	L1			L92-0149-05	CHIP FERRITE	
C166			CC73GCH1H010C	CHIP C 1.0PF C	480	L3			L41-1095-33	SMALL FIXED INDUCTOR(1.0UH)	
C167			CC73GCH1H101J	CHIP C 100PF J		L4			L40-4791-86	SMALL FIXED INDUCTOR(4.7UH)	
C168			CC73GCH1H020C	CHIP C 2.0PF C		L5			L92-0138-05	CHIP FERRITE	
C169-172			CC73GCH1H101J	CHIP C 100PF J		L6 ,7			L40-3985-45	SMALL FIXED INDUCTOR(0.39UH)	
C173			CC73GCH1H020C	CHIP C 2.0PF C		L9 ,10			L40-6865-92	SMALL FIXED INDUCTOR(6.8NH)	481
C174			CC73GCH1H1R5C	CHIP C 1.5PF C		L9 ,10			L40-8265-92	SMALL FIXED INDUCTOR(8.2NH)	480
C175			CC73GCH1H030C	CHIP C 3.0PF C		L11	*		L79-1921-15	DIELECTRIC FILTER(860MHZ)	480
C176			CC73GCH1HR75C	CHIP C 0.75PF C	481	L11	*		L79-1923-15	DIELECTRIC FILTER(938MHZ)	481
C177			CK73GB1E103K	CHIP C 0.010UF K		L12			L92-0138-05	CHIP FERRITE	
C184			CC73GCH1H030C	CHIP C 3.0PF C		L13			L40-6865-92	SMALL FIXED INDUCTOR(6.8NH)	481
C185			CC73GCH1H101J	CHIP C 100PF J		L13 ,14			L40-1075-92	SMALL FIXED INDUCTOR(10NH)	480
C186			CC73GCH1H1R5C	CHIP C 1.5PF C		L14			L40-1075-92	SMALL FIXED INDUCTOR(10NH)	481
C187			CC73GCH1H101J	CHIP C 100PF J		L15			L40-2763-92	SMALL FIXED INDUCTOR(2.7NH)	481
C188-191			CC73GCH1H470J	CHIP C 47PF J		L15			L40-5663-92	SMALL FIXED INDUCTOR(5.6NH)	480
C192			CC73GCH1H101J	CHIP C 100PF J		L16			L92-0138-05	CHIP FERRITE	
C193			CC73GCH1H020C	CHIP C 2.0PF C	480	L17			L40-1075-92	SMALL FIXED INDUCTOR(10NH)	480
C193			CC73GCH1H1R5C	CHIP C 1.5PF C	481	L17			L40-8265-92	SMALL FIXED INDUCTOR(8.2NH)	481
C194-199			CC73GCH1H101J	CHIP C 100PF J		L18			L40-2275-92	SMALL FIXED INDUCTOR(22NH)	480
C200			CK73GB1E103K	CHIP C 0.010UF K		L18			L40-6865-92	SMALL FIXED INDUCTOR(6.8NH)	481
C201			CC73GCH1H470J	CHIP C 47PF J		L19			L40-1075-92	SMALL FIXED INDUCTOR(10NH)	480
C202			CK73GB1E103K	CHIP C 0.010UF K		L19			L40-1275-92	SMALL FIXED INDUCTOR(12NH)	481
C203			CC73GCH1H470J	CHIP C 47PF J		L20	*		L79-1922-15	DIELECTRIC FILTER(860MHZ)	480
C204			CS77CA1ER47M	CHIP TNL 0.47UF 25WV		L20	*		L79-1924-15	DIELECTRIC FILTER(938MHZ)	481
C205,206			CK73HB1C103K	CHIP C 0.010UF K							
C207			CK73GB1C104K	CHIP C 0.10UF K							

## PARTS LIST

TX-RX UNIT (X57-5630-XX)

Ref. No.	Address	New parts	Parts No.	Description	Destination	Ref. No.	Address	New parts	Parts No.	Description	Destination
L21			L40-5663-92	SMALL FIXED INDUCTOR(5.6NH)	481	R28			RK73GB2A220J	CHIP R 22 J 1/10W	
L21			L40-6865-92	SMALL FIXED INDUCTOR(6.8NH)	480	R29			RK73GB2A123J	CHIP R 12K J 1/10W	481
L22 ,23			L92-0138-05	CHIP FERRITE		R29			RK73GB2A183J	CHIP R 18K J 1/10W	480
L24			L40-5663-92	SMALL FIXED INDUCTOR(5.6NH)	481	R31			RK73HB1J472J	CHIP R 4.7K J 1/16W	
L24			L40-6865-92	SMALL FIXED INDUCTOR(6.8NH)	480	R32			RK73GB2A000J	CHIP R 0 J 1/10W	
L25			L92-0149-05	CHIP FERRITE		R33			RK73GB2A123J	CHIP R 12K J 1/10W	
L26			L92-0138-05	CHIP FERRITE		R34			RK73GB2A334J	CHIP R 330K J 1/10W	
L27			L40-6875-54	SMALL FIXED INDUCTOR(68NH)		R35			RK73GB2A101J	CHIP R 100 J 1/10W	
L28			L33-0761-15	SMALL FIXED INDUCTOR(10.5NH)		R36			RK73GB2A472J	CHIP R 4.7K J 1/10W	
L29			L40-1075-92	SMALL FIXED INDUCTOR(10NH)		R37			RK73GB2A104J	CHIP R 100K J 1/10W	
L30			L79-1468-05	FILTER MODULE(870MHZ)	480	R38			RK73GB2A151J	CHIP R 150 J 1/10W	
L30			L79-1469-05	FILTER MODULE(960MHZ)	481	R39			RK73GB2A560J	CHIP R 56 J 1/10W	
L31		*	L33-0760-15	SMALL FIXED INDUCTOR(6.8NH)		R40			RK73GB2A681J	CHIP R 680 J 1/10W	
L32			L40-6875-54	SMALL FIXED INDUCTOR(68NH)		R41			RK73GB2A471J	CHIP R 470 J 1/10W	
L34			L40-1075-92	SMALL FIXED INDUCTOR(10NH)	481	R42 ,43			RK73HB1J101J	CHIP R 100 J 1/16W	
L34			L40-8265-92	SMALL FIXED INDUCTOR(8.2NH)	480	R44			RK73FB2B000J	CHIP R 0 J 1/8W	
L35			L92-0138-05	CHIP FERRITE		R45			RN73GH1J913D	CHIP R 91K D 1/16W	
L53 -56			L92-0138-05	CHIP FERRITE		R46			RN73GH1J683D	CHIP R 68K D 1/16W	
X1			L77-1760-15	CRYSTAL RESONATOR(44.395MHZ)		R47			RN73GH1J913D	CHIP R 91K D 1/16W	
X2			L77-3028-05	TCXO(16.8MHZ)		R48			RN73GH1J333D	CHIP R 33K D 1/16W	
X3			L77-1708-15	CRYSTAL RESONATOR(3.579545MHZ)		R49			RK73GB2A684J	CHIP R 680K J 1/10W	
X4		*	L77-3038-05	CRYSTAL RESONATOR(9.8304MHZ)		R50			RK73GB2A564J	CHIP R 560K J 1/10W	
XF1			L71-0501-05	MCF(44.85MHZ)	480	R51			RK73GB2A331J	CHIP R 330 J 1/10W	
XF1			L71-0502-05	MCF(44.85MHZ)	481	R53			RN73GH1J274D	CHIP R 270K D 1/16W	
CP1			RK75GB1J472J	CHIP-COM 4.7K J 1/16W		R54			RK73GB2A334J	CHIP R 330K J 1/10W	
CP3			R90-0743-05	MULTIPLE RESISTOR		R55			RN73GH1J913D	CHIP R 91K D 1/16W	
CP5			R90-0743-05	MULTIPLE RESISTOR		R56			RK73GB2A223J	CHIP R 22K J 1/10W	
CP6 -21			R90-0741-05	MULTIPLE RESISTOR		R57			RK73GB2A334J	CHIP R 330K J 1/10W	
CP22			R90-0743-05	MULTIPLE RESISTOR		R58			RN73GH1J682D	CHIP R 6.8K D 1/16W	
CP24			R90-0743-05	MULTIPLE RESISTOR		R59			RK73GB2A154J	CHIP R 150K J 1/10W	
R1 ,2			RK73GB2A104J	CHIP R 100K J 1/10W		R60			RK73GB2A101J	CHIP R 100 J 1/10W	
R3			RK73GB2A473J	CHIP R 47K J 1/10W		R61			RK73GB2A155J	CHIP R 1.5M J 1/10W	
R4			RK73GB2A563J	CHIP R 56K J 1/10W		R62			RK73GB2A101J	CHIP R 100 J 1/10W	
R5			RK73GB2A104J	CHIP R 100K J 1/10W		R63			RN73GH1J683D	CHIP R 68K D 1/16W	
R6			RK73GB2A103J	CHIP R 10K J 1/10W		R64			RK73GB2A474J	CHIP R 470K J 1/10W	
R7			RK73GB2A104J	CHIP R 100K J 1/10W		R65			RK73GB2A390J	CHIP R 39 J 1/10W	480
R8			RK73GB2A183J	CHIP R 18K J 1/10W	480	R65			RK73GB2A560J	CHIP R 56 J 1/10W	481
R8			RK73GB2A273J	CHIP R 27K J 1/10W	481	R66			RN73GH1J682D	CHIP R 6.8K D 1/16W	
R9			RK73GB2A154J	CHIP R 150K J 1/10W		R67			RK73GB2A101J	CHIP R 100 J 1/10W	
R10			RK73GB2A334J	CHIP R 330K J 1/10W		R71			RK73GB2A224J	CHIP R 220K J 1/10W	
R11			RK73GB2A223J	CHIP R 22K J 1/10W	481	R72			RK73GB2A151J	CHIP R 150 J 1/10W	480
R11			RK73GB2A473J	CHIP R 47K J 1/10W	480	R72			RK73GB2A331J	CHIP R 330 J 1/10W	481
R12			RK73GB2A104J	CHIP R 100K J 1/10W		R73			RK73GB2A103J	CHIP R 10K J 1/10W	
R13			RK73GB2A683J	CHIP R 68K J 1/10W		R74			RK73GB2A223J	CHIP R 22K J 1/10W	
R14			RK73GB2A394J	CHIP R 390K J 1/10W		R75			RK73GB2A152J	CHIP R 1.5K J 1/10W	
R15			RK73GB2A472J	CHIP R 4.7K J 1/10W		R76			RK73GB2A103J	CHIP R 10K J 1/10W	
R16			RK73GB2A104J	CHIP R 100K J 1/10W		R77			RK73GB2A153J	CHIP R 15K J 1/10W	
R17			RK73GB2A473J	CHIP R 47K J 1/10W		R78			RK73GB2A102J	CHIP R 1.0K J 1/10W	
R18			RK73GB2A332J	CHIP R 3.3K J 1/10W		R79			RK73HB1J473J	CHIP R 47K J 1/16W	
R19			RK73GB2A152J	CHIP R 1.5K J 1/10W		R80			RK73GB2A394J	CHIP R 390K J 1/10W	480
R20			RK73GB2A683J	CHIP R 68K J 1/10W		R80			RK73GB2A684J	CHIP R 680K J 1/10W	481
R21			RK73GB2A154J	CHIP R 150K J 1/10W		R81			RK73GB2A102J	CHIP R 1.0K J 1/10W	
R22			RK73GB2A182J	CHIP R 1.8K J 1/10W		R82			RK73GB2A333J	CHIP R 33K J 1/10W	480
R23			RK73GB2A124J	CHIP R 120K J 1/10W	481	R82			RK73GB2A393J	CHIP R 39K J 1/10W	481
R23			RK73GB2A563J	CHIP R 56K J 1/10W	480	R83			RK73GB2A000J	CHIP R 0 J 1/10W	
R24			RK73GB2A274J	CHIP R 270K J 1/10W		R84			RK73GB2A473J	CHIP R 47K J 1/10W	
R25			RK73GB2A473J	CHIP R 47K J 1/10W		R85			RK73GB2A681J	CHIP R 680 J 1/10W	
R26			RK73GB2A332J	CHIP R 3.3K J 1/10W		R86			RK73GB2A154J	CHIP R 150K J 1/10W	
R27			RK73GB2A222J	CHIP R 2.2K J 1/10W		R87			RK73GB2A470J	CHIP R 47 J 1/10W	
						R88			RK73GB2A220J	CHIP R 22 J 1/10W	



## PARTS LIST

### TX-RX UNIT (X57-5630-XX)

Ref. No.	Address	New parts	Parts No.	Description	Destination	Ref. No.	Address	New parts	Parts No.	Description	Destination
R89			RK73GB2A103J	CHIP R 10K J 1/10W		R159			RK73HB1J101J	CHIP R 100 J 1/16W	
R90			RK73GB2A104J	CHIP R 100K J 1/10W		R160			RK73GB2A102J	CHIP R 1.0K J 1/10W	
R91			RK73GB2A100J	CHIP R 10 J 1/10W		R161,162			RK73GB2A184J	CHIP R 180K J 1/10W	
R92 ,93			RK73GB2A150J	CHIP R 15 J 1/10W		R163			RK73GB2A104J	CHIP R 100K J 1/10W	
R94			RK73GB2A272J	CHIP R 2.7K J 1/10W		R164			RK73GB2A473J	CHIP R 47K J 1/10W	
R95			RK73GB2A150J	CHIP R 15 J 1/10W		R165			RK73GB2A000J	CHIP R 0 J 1/10W	481
R96			RK73GB2A223J	CHIP R 22K J 1/10W		R165			RK73GB2A150J	CHIP R 15 J 1/10W	480
R97			RK73GB2A104J	CHIP R 100K J 1/10W		R166			RK73HB1J220J	CHIP R 22 J 1/16W	
R98			RK73GB2A184J	CHIP R 180K J 1/10W		R167			RK73GB2A123J	CHIP R 12K J 1/10W	
R99			RK73GB2A121J	CHIP R 120 J 1/10W	480	R168			RK73GB2A333J	CHIP R 33K J 1/10W	
R100			RK73GB2A221J	CHIP R 220 J 1/10W	481	R169			RK73GB2A223J	CHIP R 22K J 1/10W	
R100			RK73GB2A820J	CHIP R 82 J 1/10W	480	R170			RK73GB2A473J	CHIP R 47K J 1/10W	
R101			RK73GB2A223J	CHIP R 22K J 1/10W		R171			RK73GB2A823J	CHIP R 82K J 1/10W	
R102			RK73GB2A182J	CHIP R 1.8K J 1/10W		R172			RK73HB1J103J	CHIP R 10K J 1/16W	
R103			RK73GB2A102J	CHIP R 1.0K J 1/10W		R173			RK73HB1J100J	CHIP R 10 J 1/16W	
R104			RK73HB1J000J	CHIP R 0 J 1/16W		R174,175			RK73HB1J221J	CHIP R 220 J 1/16W	
R105			RK73GB2A122J	CHIP R 1.2K J 1/10W		R176			RK73HB1J220J	CHIP R 22 J 1/16W	
R106			RK73GB2A473J	CHIP R 47K J 1/10W		R177-179			RK73GB2A000J	CHIP R 0 J 1/10W	480
R107			RK73GB2A103J	CHIP R 10K J 1/10W		R177-180			RK73GB2A000J	CHIP R 0 J 1/10W	481
R108			RK73GB2A682J	CHIP R 6.8K J 1/10W		R190			RK73GB2A182J	CHIP R 1.8K J 1/10W	480
R109			RK73GB2A470J	CHIP R 47 J 1/10W		R200-207			RK73HB1J102J	CHIP R 1.0K J 1/16W	
R110			RK73GB2A473J	CHIP R 47K J 1/10W		R211			RK73HB1J103J	CHIP R 10K J 1/16W	
R111			RK73GB2A223J	CHIP R 22K J 1/10W		R218			RK73HB1J473J	CHIP R 47K J 1/16W	
R112			RK73GB2A103J	CHIP R 10K J 1/10W		R248			RK73GB2A000J	CHIP R 0 J 1/10W	
R113			RK73GB2A101J	CHIP R 100 J 1/10W	480	R250			RK73GB2A000J	CHIP R 0 J 1/10W	
R113			RK73GB2A220J	CHIP R 22 J 1/10W	481	R259			RK73GB2A000J	CHIP R 0 J 1/10W	
R114			RK73GB2A152J	CHIP R 1.5K J 1/10W		R276			RK73GB2A000J	CHIP R 0 J 1/10W	
R115			RK73GB2A681J	CHIP R 680 J 1/10W		R297,298			RK73HB1J473J	CHIP R 47K J 1/16W	
R116			RK73HB1J000J	CHIP R 0 J 1/16W		R299			RK73GB2A101J	CHIP R 100 J 1/10W	
R117			RK73GB2A470J	CHIP R 47 J 1/10W		R300			RK73HB1J472J	CHIP R 4.7K J 1/16W	
R118			RK73GB2A000J	CHIP R 0 J 1/10W		R408			RK73HB1J473J	CHIP R 47K J 1/16W	
R120			RK73HB1J102J	CHIP R 1.0K J 1/16W		R417			RK73GB2A474J	CHIP R 470K J 1/10W	
R121			RK73GB2A473J	CHIP R 47K J 1/10W		R418			RK73GB2A104J	CHIP R 100K J 1/10W	
R122			RK73GB2A000J	CHIP R 0 J 1/10W		R419-422			RK73GB2A000J	CHIP R 0 J 1/10W	
R123			RK73HB1J102J	CHIP R 1.0K J 1/16W		R423			RK73GB2A473J	CHIP R 47K J 1/10W	
R124,125			RK73HB1J473J	CHIP R 47K J 1/16W		D1			GN1G	DIODE	
R126			RK73GB2A103J	CHIP R 10K J 1/10W		D2			MA2S111-F	DIODE	
R127-129			RK73EB2ER39K	CHIP R 0.39 K 1/4W		D3			MA3J742	DIODE	
R130-135			RN73GH1J154D	CHIP R 150K D 1/16W		D4 ,5			MA2S077G	DIODE	
R136,137			RK73GB2A271J	CHIP R 270 J 1/10W		D6			UDZW4.7(B)	ZENER DIODE	
R138			RK73HB1J103J	CHIP R 10K J 1/16W		D7			HVU131-E	DIODE	
R139			RK73HB1J000J	CHIP R 0 J 1/16W		D8			MA2S111-F	DIODE	
R140			RK73GB2A103J	CHIP R 10K J 1/10W		D9 ,10			MA2S077G	DIODE	
R141,142			RK73GB2A104J	CHIP R 100K J 1/10W		D11			MA3J742	DIODE	
R143			RK73GB2A105J	CHIP R 1.0M J 1/10W		D12			1SS360-F	DIODE	
R144			RK73GB2A473J	CHIP R 47K J 1/10W		D17 ,18			DA221	DIODE	
R145			RK73GB2A000J	CHIP R 0 J 1/10W		D19			MA2S111-F	DIODE	
R146			RK73GB2A222J	CHIP R 2.2K J 1/10W		IC1			TA75W01FUF	MOS-IC	
R147			RK73GB2A000J	CHIP R 0 J 1/10W		IC2			R311N421C-F	MOS-IC	
R148			RK73GB2A223J	CHIP R 22K J 1/10W		IC3			TC75W51FUF	MOS-IC	
R149			RK73HB1J473J	CHIP R 47K J 1/16W		IC4			M62364FP-F	MOS-IC	
R150			RK73HB1J102J	CHIP R 1.0K J 1/16W		IC5		*	XC6201P502P-G	MOS-IC	
R151			RK73GB2A102J	CHIP R 1.0K J 1/10W		IC6			NJU7201U50	MOS-IC	
R152			RK73GB2A332J	CHIP R 3.3K J 1/10W		IC7			TK11250CMCL-G	BI-POLAR IC	
R153			RK73GB2A123J	CHIP R 12K J 1/10W		IC8			TC75W51FUF	MOS-IC	
R154			RK73GB2A221J	CHIP R 220 J 1/10W		IC9			TA31136FNG	MOS-IC	
R155			RK73GB2A101J	CHIP R 100 J 1/10W		IC10			TA75W01FUF	MOS-IC	
R156			RK73GB2A103J	CHIP R 10K J 1/10W		IC11			LMX2352TMX/NP	ANALOGUE IC	
R157			RK73GB2A102J	CHIP R 1.0K J 1/10W		IC12			TC35453FG6	MOS-IC	
R158			RK73GB2A223J	CHIP R 22K J 1/10W		IC13			LC73872M	MOS-IC	



## PARTS LIST

TX-RX UNIT (X57-5630-XX)

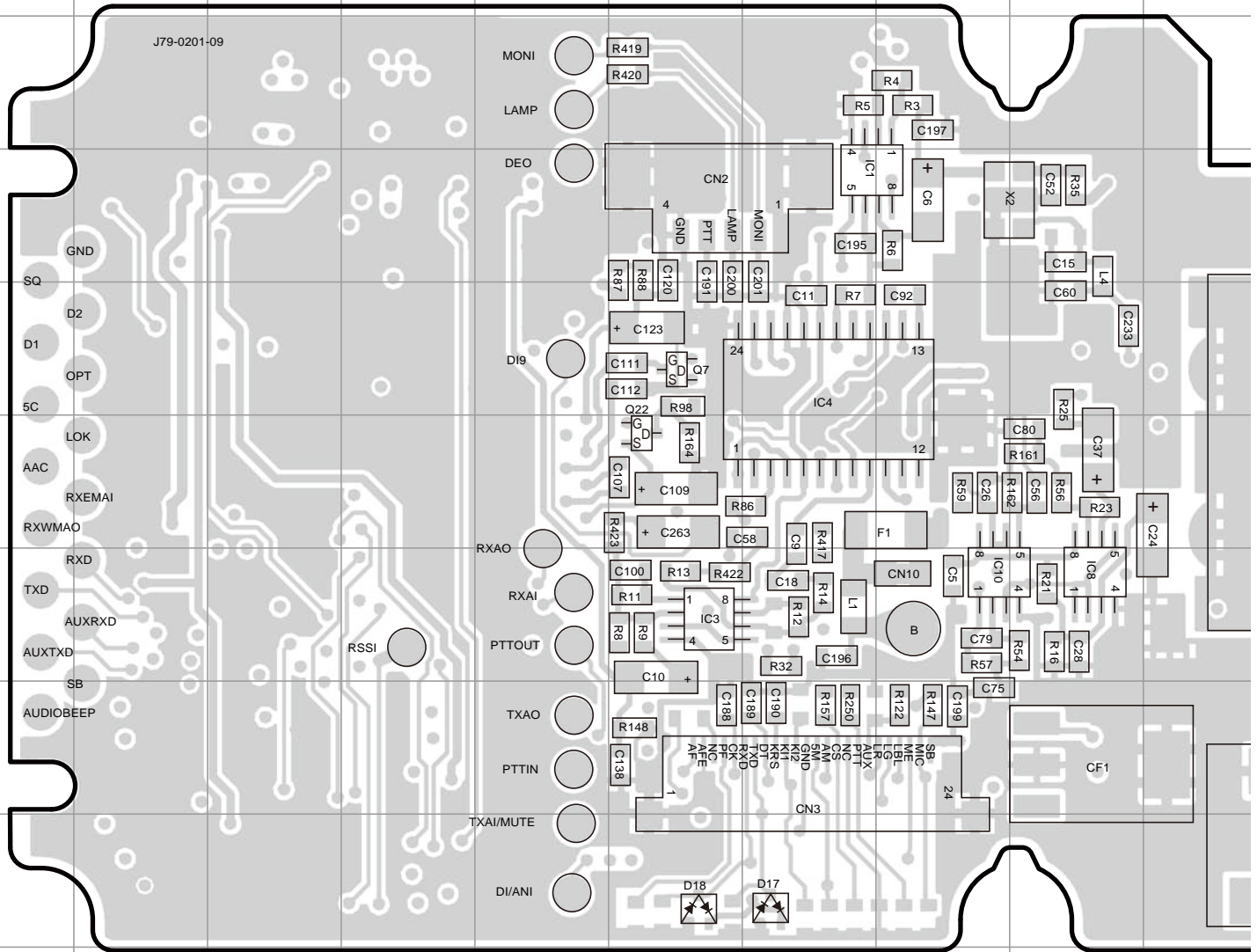
Ref. No.	Address	New parts	Parts No.	Description	Destination	Ref. No.	Address	New parts	Parts No.	Description	Destination
IC14			L78-1428-15	VCO	480						
IC14			KCH32	HIC(VCO)	481						
IC15			30622MEP525GU	MCU							
IC16			AT24C08BN-SH	ROM IC							
IC17			AT29C02090TU	ROM IC							
IC18,19			BU4094BCFV	MOS-IC							
IC21			NJM2904V-ZB	MOS-IC							
IC23			TA75S01F-F	MOS-IC							
IC30			RA03M8087M101	POWER MODULE	480						
IC30			RA03M8894M101	POWER MODULE	481						
Q1			2SJ243-A	FET							
Q2		*	KTA2014E-P(GR)	TRANSISTOR							
Q3 ,4			2SC4617(S)	TRANSISTOR							
Q5			2SC4619	TRANSISTOR	480						
Q5			2SC5108(Y)F	TRANSISTOR	481						
Q6			3SK318	FET							
Q7			2SK1824-A	FET							
Q8			2SC5108(Y)F	TRANSISTOR							
Q9			3SK274*J-FP	FET							
Q10 ,11			2SC5108(Y)F	TRANSISTOR							
Q12			2SC4988-E	TRANSISTOR							
Q13			2SK1824-A	FET							
Q14			RT1N141U-T111	TRANSISTOR							
Q15			RT1P441U-T111	TRANSISTOR							
Q16			RT1N141U-T111	TRANSISTOR							
Q17			2SC5108(Y)F	TRANSISTOR							
Q18			2SK1824-A	FET							
Q19			2SC4617(S)	TRANSISTOR							
Q20			RT1N441U-T111	TRANSISTOR							
Q21 -23			2SK1824-A	FET							
Q24			2SA1832(GR)F	TRANSISTOR							
Q25			2SC4725	TRANSISTOR	480						
TH2			157-503-65001	THERMISTOR(50K)							

480: TK-480 K3, K4, M4  
481: TK-481 K3, K4

If a part reference number is listed in a shaded box, that part does not come with the PCB. 9

# TK-480/481 PC BOARD

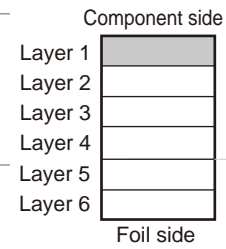
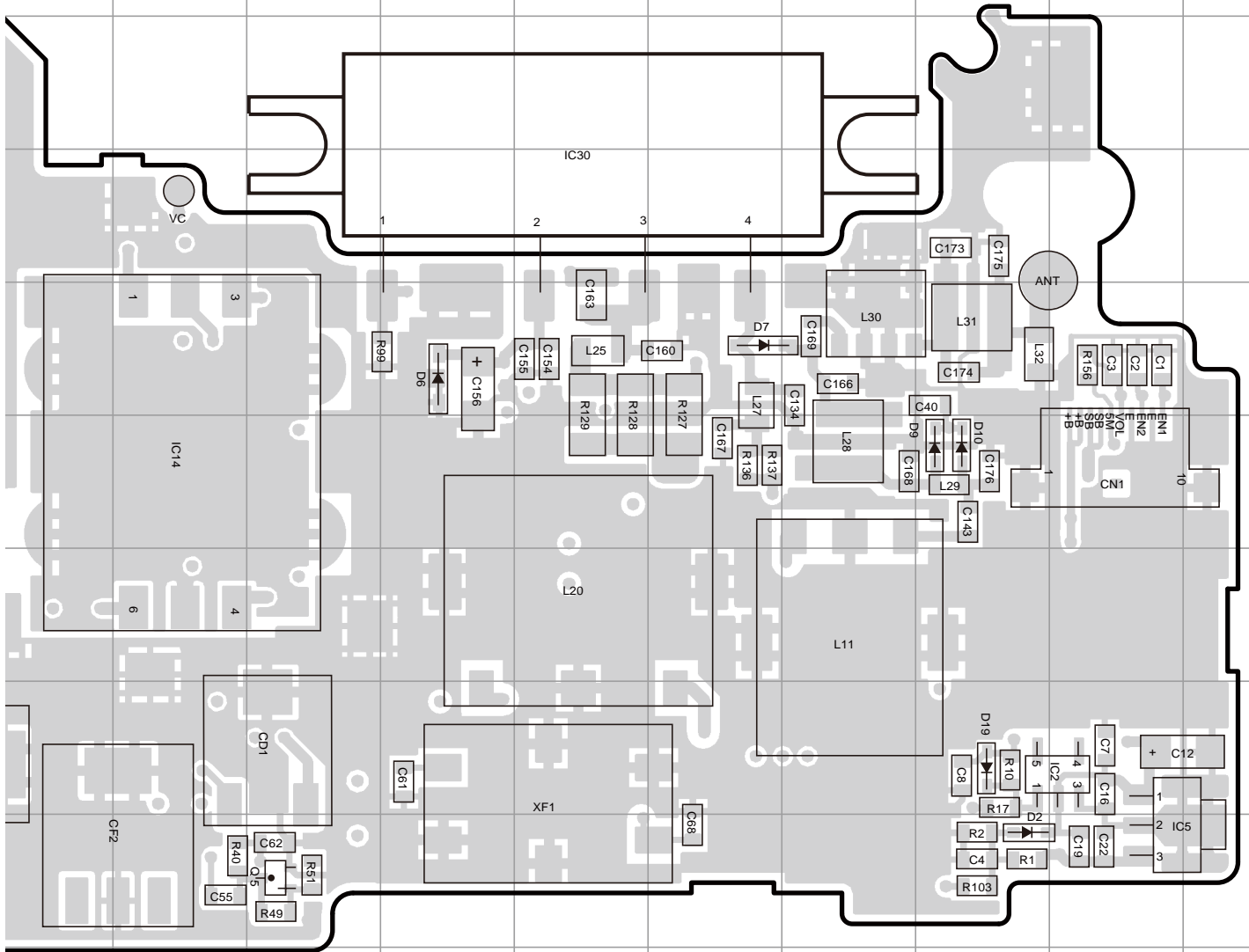
TX-RX UNIT (X57-5630-XX) -10, -21: TK-480 -11: TK-481  
 Component side view (J79-0201-09)



Ref. No.	Address	Ref. No.	Address	Ref. No.	Address
IC1	4G	IC30	4N	D10	6Q
IC2	8R	Q5	9L	D17	9G
IC3	7F	Q7	5F	D18	9F
IC4	5G	Q22	6F	D19	8Q
IC5	9R	D2	9Q		
IC8	7I	D6	5M		
IC10	7H	D7	5O		
IC14	6K	D9	6Q		

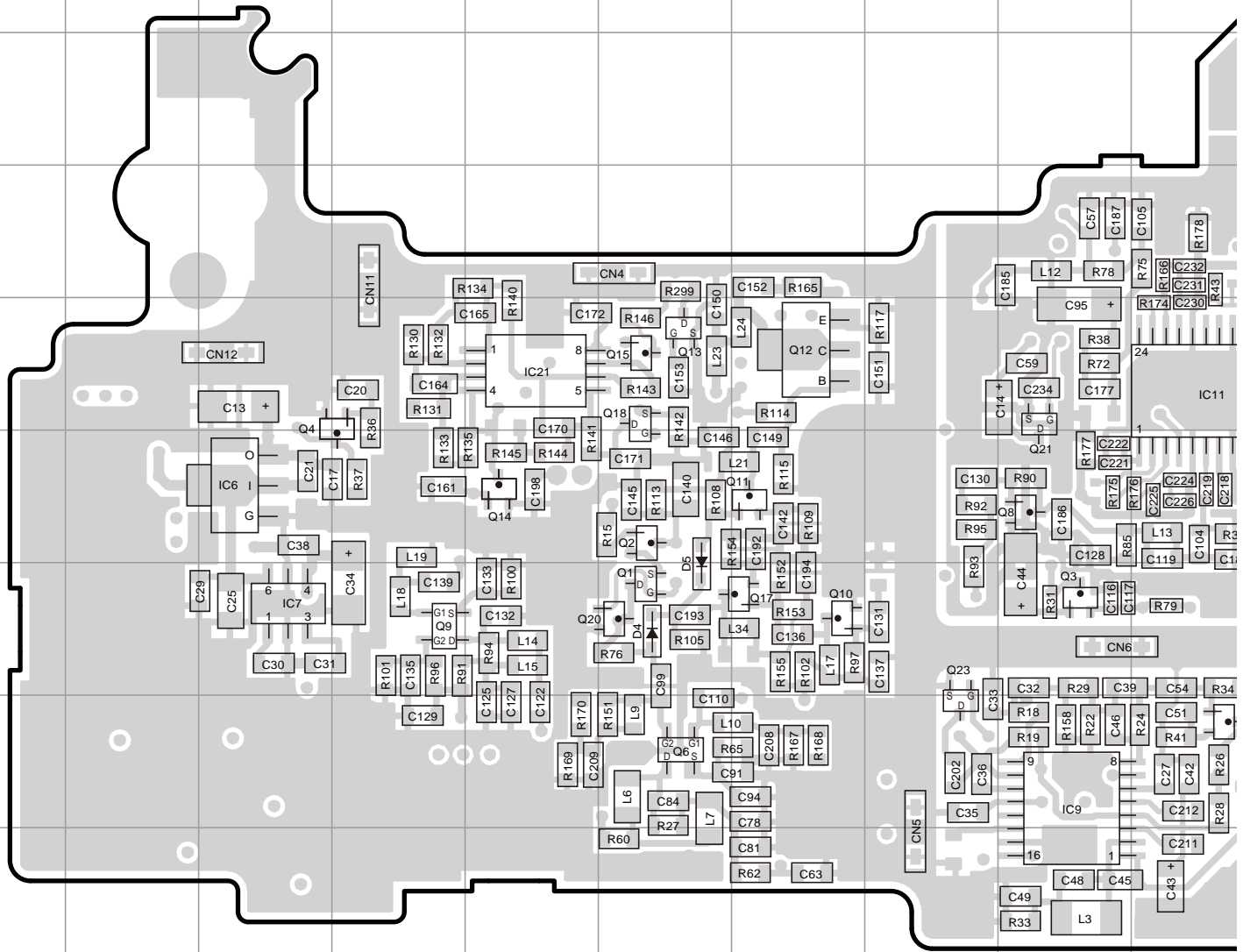
# PC BOARD TK-480/481

TX-RX UNIT (X57-5630-XX) -10, -21: TK-480 -11: TK-481  
 Component side view (J79-0201-09)



# TK-480/481 PC BOARD

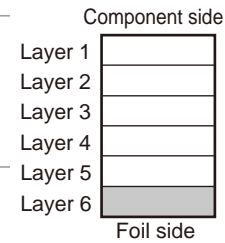
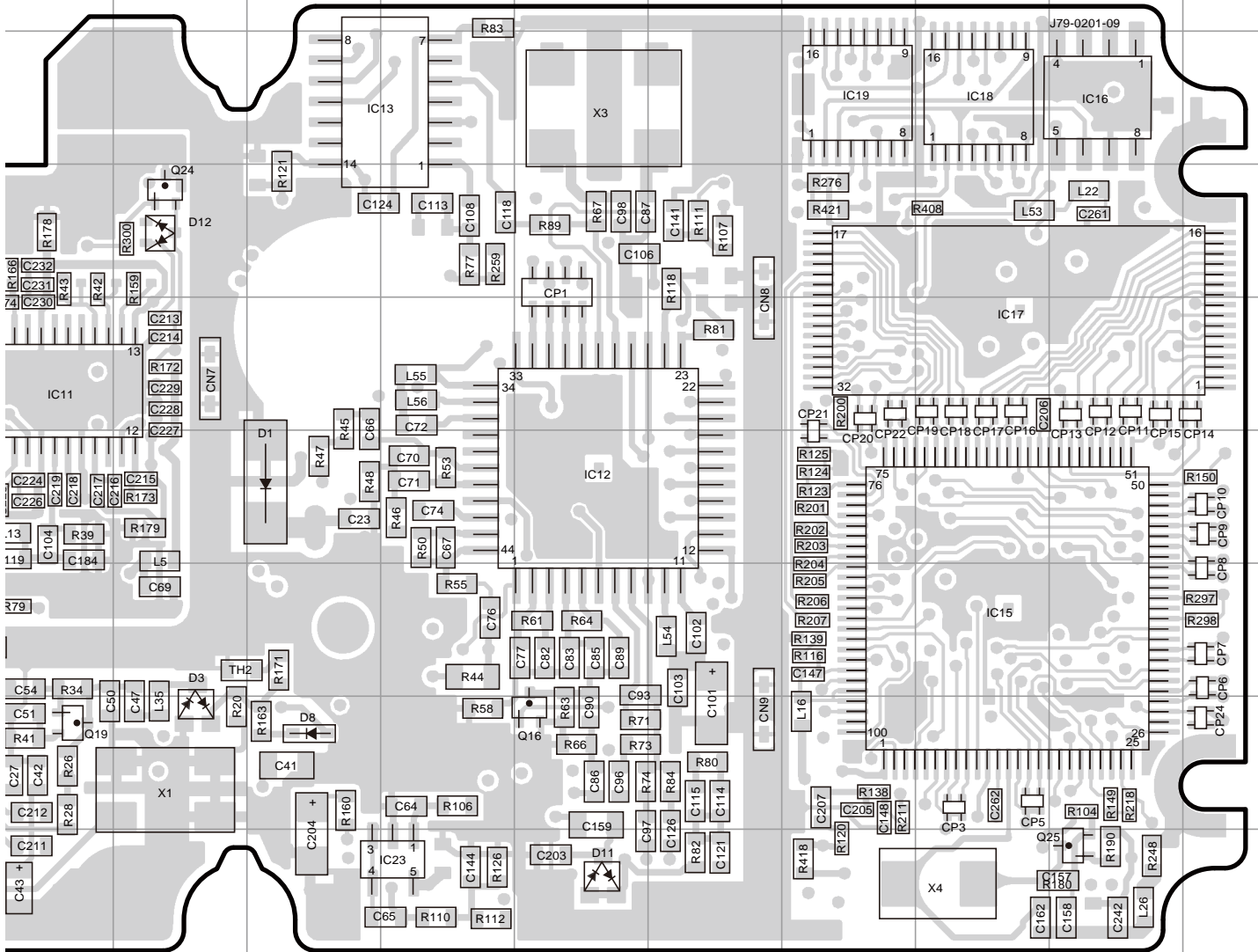
TX-RX UNIT (X57-5630-XX) -10, -21: TK-480 -11: TK-481  
 Foil side view (J79-0201-09)



Ref No.	Address	Ref No.	Address	Ref No.	Address
IC6	6C	Q2	6F	Q18	5F
IC7	7C	Q3	7I	Q19	8J
IC9	8I	Q4	5D	Q20	7F
IC11	5J	Q6	8F	Q21	5I
IC12	6N	Q8	6I	Q23	8H
IC13	3M	Q9	7D	Q24	4K
IC15	7Q	Q10	7G	Q25	9R
IC16	3R	Q11	6G	D1	6L
IC17	5Q	Q12	5G	D3	8K
IC18	3Q	Q13	5F	D4	7F
IC19	3P	Q14	6E	D5	6F
IC21	5E	Q15	5F	D8	8L
IC23	9M	Q16	8N	D11	9N
Q1	7F	Q17	7G	D12	4K

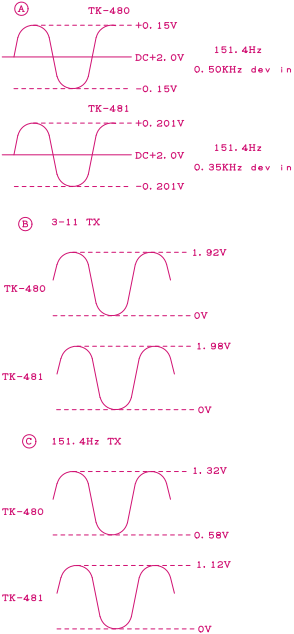
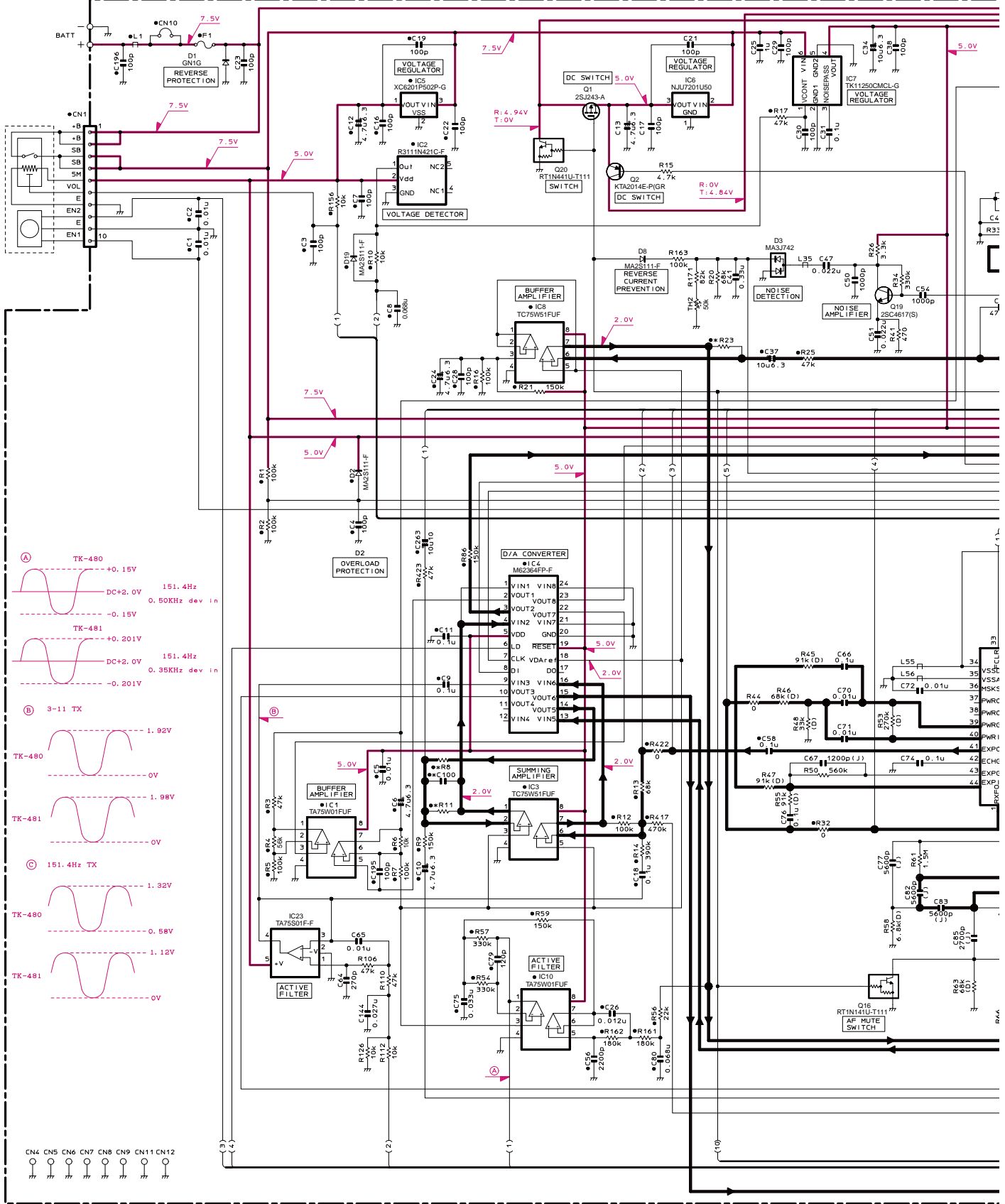
# PC BOARD TK-480/481

TX-RX UNIT (X57-5630-XX) -10, -21: TK-480 -11: TK-481  
Foil side view (J79-0201-09)



# TK-480/481 SCHEMATIC DIAGRAM

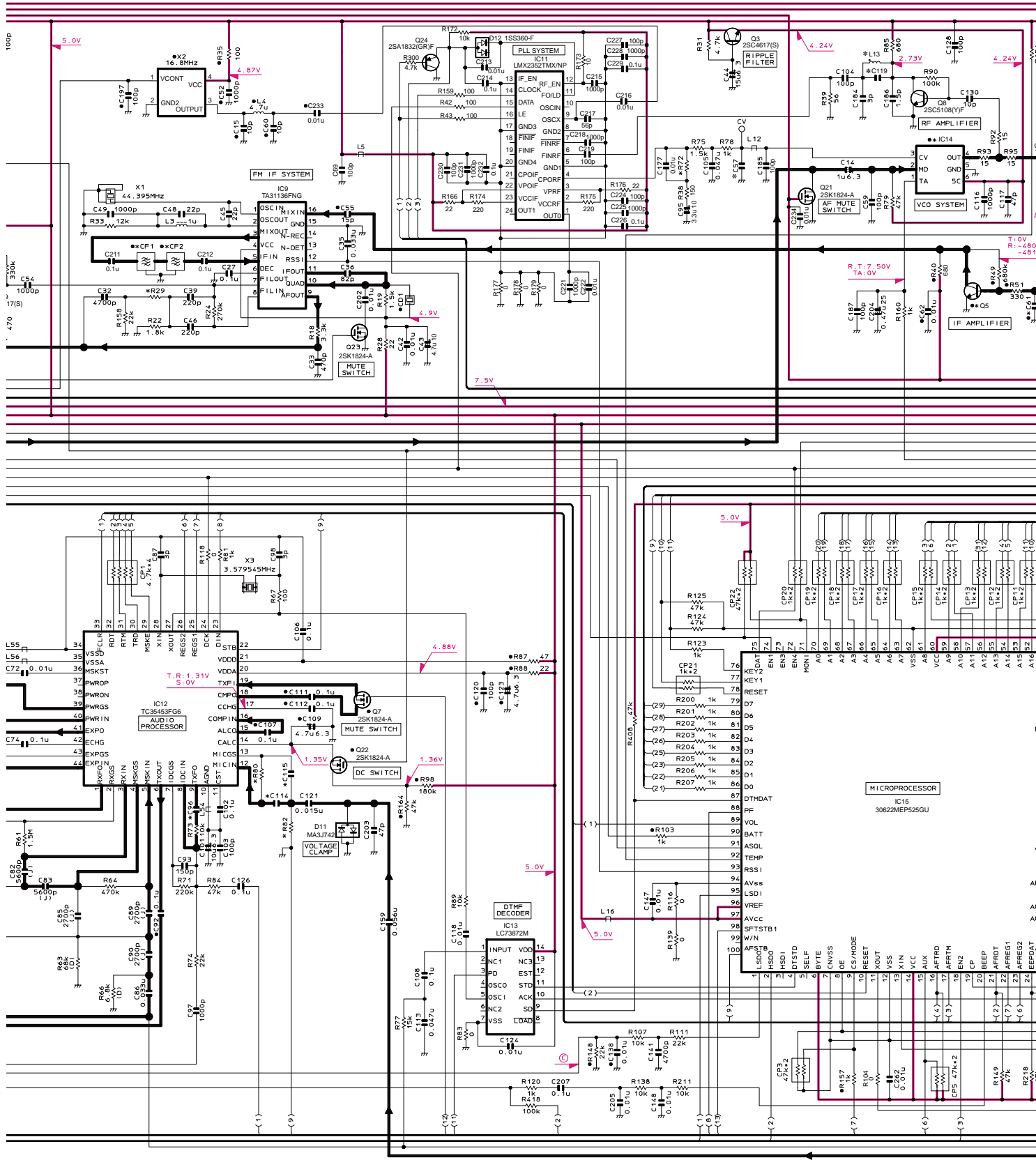
X57-5630-XX TX-RX UNIT



	X57-5630-XX	C57	C61	C68	C96	C99	C100	C114	C115	C119	C122	C132	C134	C139	C157	C166	C176	C193	C242	L9	L10	L11	L13	L15	L17	L18	L19	L20	L21	L24	L30	L34	R8	R11	
-10	TK-480	K3, K4	0.015u	NO	NO	1200p	2p	390p	4700p	4700p	0.75p	1.5p	1p	1p(B)	3.5p	1.5p	1p	NO	2p	0.01u	8.2n	8.2n	L79-1921-15	10n	5.6n	10n	22n	10n	L79-1922-15	6.8n	6.8n	L79-1468-05	8.2n	18k	47k
-21	TK-480	M4	0.015u	NO	NO	1200p	2p	390p	4700p	4700p	0.75p	1.5p	1p	1p(B)	3.5p	1.5p	1p	NO	2p	0.01u	8.2n	8.2n	L79-1921-15	10n	5.6n	10n	22n	10n	L79-1922-15	6.8n	6.8n	L79-1468-05	8.2n	18k	47k
-11	TK-481	K3, K4	0.068u	4p	4p	1000p	1.5p	820p	3300p	3300p	1p	3p	0.75p	NO	NO	0.75p	0.75p	1.5p	NO	NO	8.8n	8.8n	L79-1923-15	6.8n	2.7n	8.2n	6.8n	12n	L79-1924-15	5.6n	5.6n	L79-1469-05	10n	27k	22k

# SCHEMATIC DIAGRAM TK-480/481

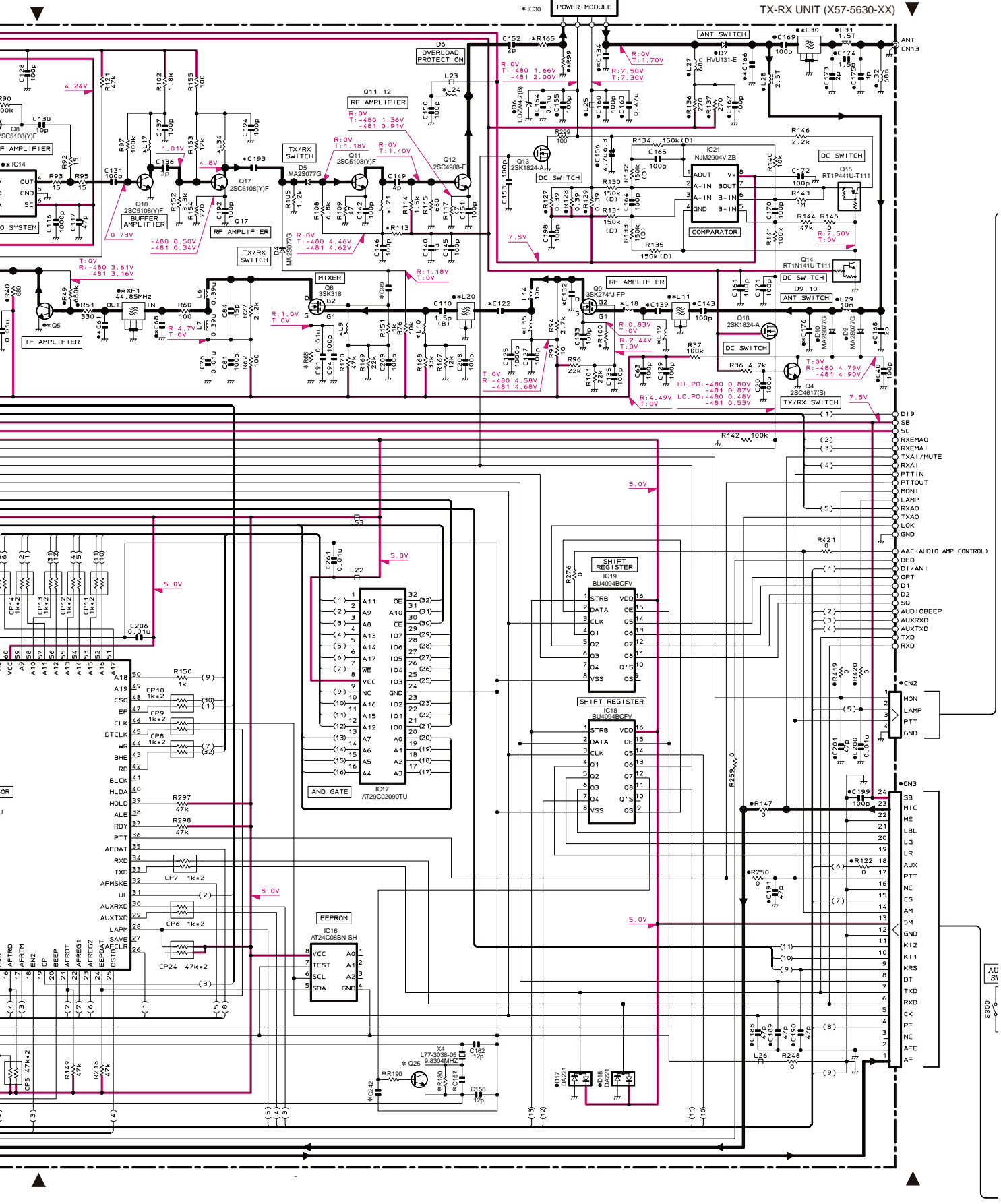
TX-RX UNIT (X57-5630-XX)



L30	L34	R8	R11	R23	R29	R65	R72	R80	R82	R99	R100	R113	R165	R180	R190	CF1	CF2	IC14	IC30	Q5	Q25	XF1
9-1468-05	8.2n	18k	47k	56k	18k	39	150	390k	33k	120	82	100	15	NO	1.8k	L72-1032-05	L72-1032-05	L78-1428-15	RA03M8087M101	2SC4619	2SC4725	L71-0501-05
9-1468-05	8.2n	18k	47k	56k	18k	39	150	390k	33k	120	82	100	15	NO	1.8k	L72-1032-05	L72-1032-05	L78-1428-15	RA03M8087M101	2SC4619	2SC4725	L71-0501-05
9-1469-05	10n	27k	22k	120k	12k	56	330	680k	39k	NO	220	22	0	0	NO	L72-0939-05	L72-0939-05	KCH32	RA03M8894M101	2SC5108(Y)F	NO	L71-0502-05



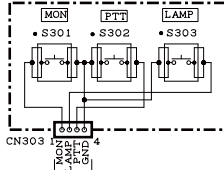
# TK-480/481 SCHEMATIC DIAGRAM



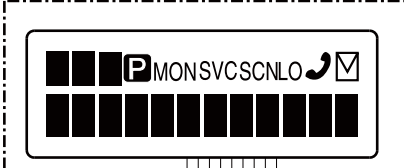
# SCHEMATIC DIAGRAM TK-480/481

X54-3210-XX	16KEY	R320, R321	R325	D307-D310	D315	D316	CP302
-10 TK-480/481	K3	NO	NO	NO	NO	NO	NO
-11 TK-480/481	K4, M4/K4	YES	82	1k	B30-2171-05	1M10	MA2S111 R90-0724-05(1KX4)

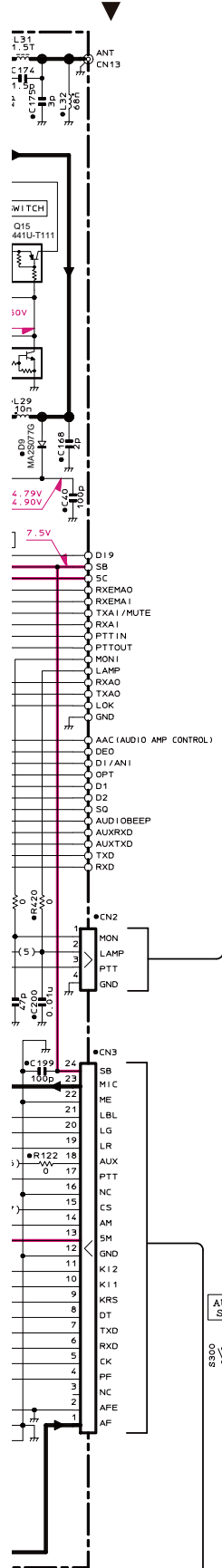
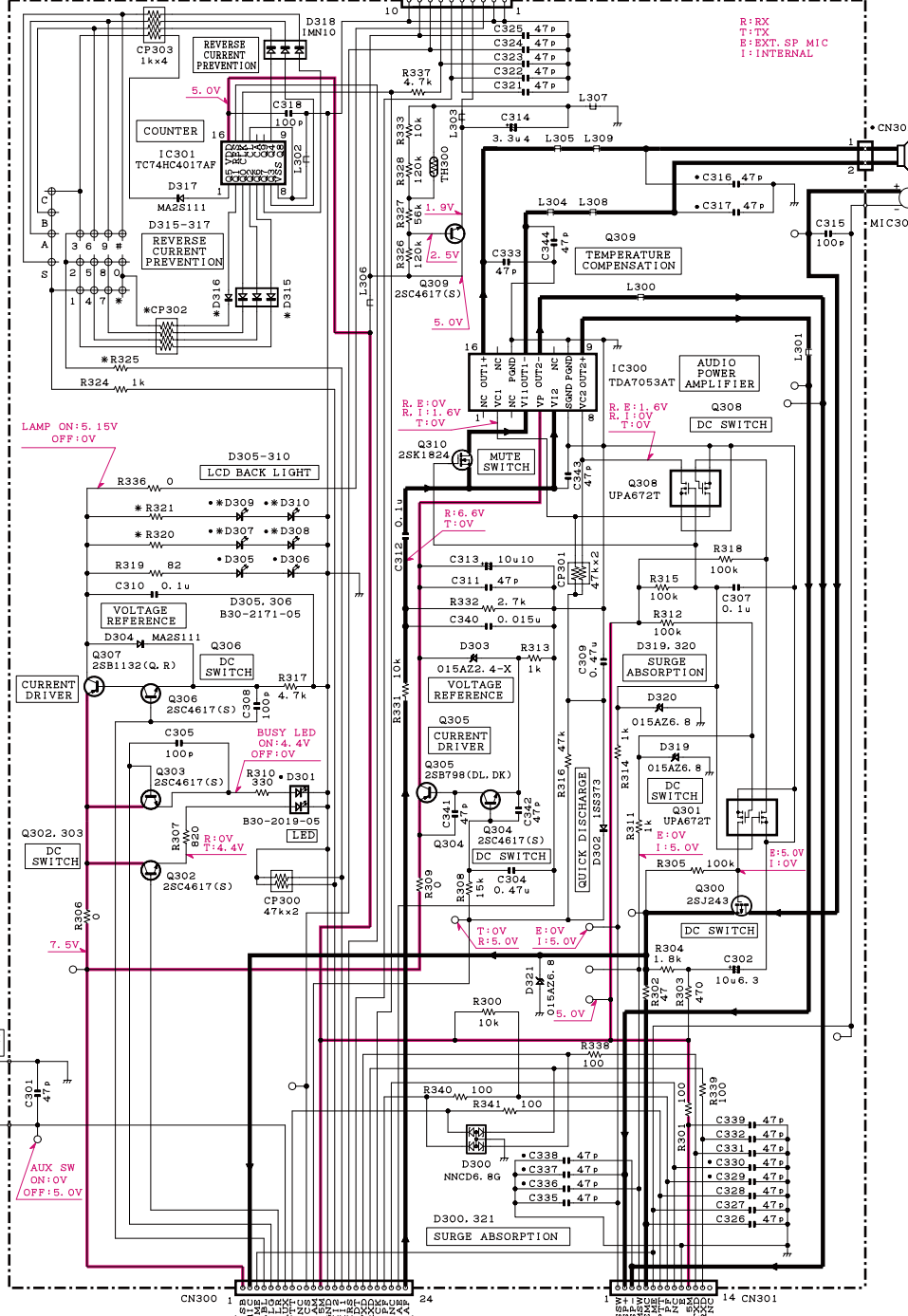
## X54-3210-XX B/2 SWITCH SECTION



## LCD ASSY



## X54-3210-XX A/2 DISPLAY UNIT



R: RX  
T: TX  
E: EXT. SP MIC  
I: INTERNAL

LAMP ON: 5.15V  
OFF: 0V

CURRENT DRIVER

DC SWITCH

AUX SW ON: 0V  
OFF: 5.0V

BUSY LED ON: 4.4V  
OFF: 0V

QUICK DISCHARGE

R: 6.6V  
T: 0V

R: 1.6V  
T: 0V

R: 6.6V  
T: 0V

R: 1.6V  
T: 0V

R: 5.0V  
T: 0V

R: 5.0V  
T: 0V

R: 5.0V  
T: 0V

R: 5.0V  
T: 0V

R: 5.0V  
T: 0V

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

# TK-480/481

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CA 90801-5745, U.S.A.

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### Kenwood Electronics Deutschland GmbH

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### Kenwood Electronics Belgium N.V.

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Via G. Sirtori, 7/9 20129 Milano, Italy

### Kenwood Ibérica, S.A.

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Barcelona, Spain

### Kenwood Electronics Australia Pty. Ltd.

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

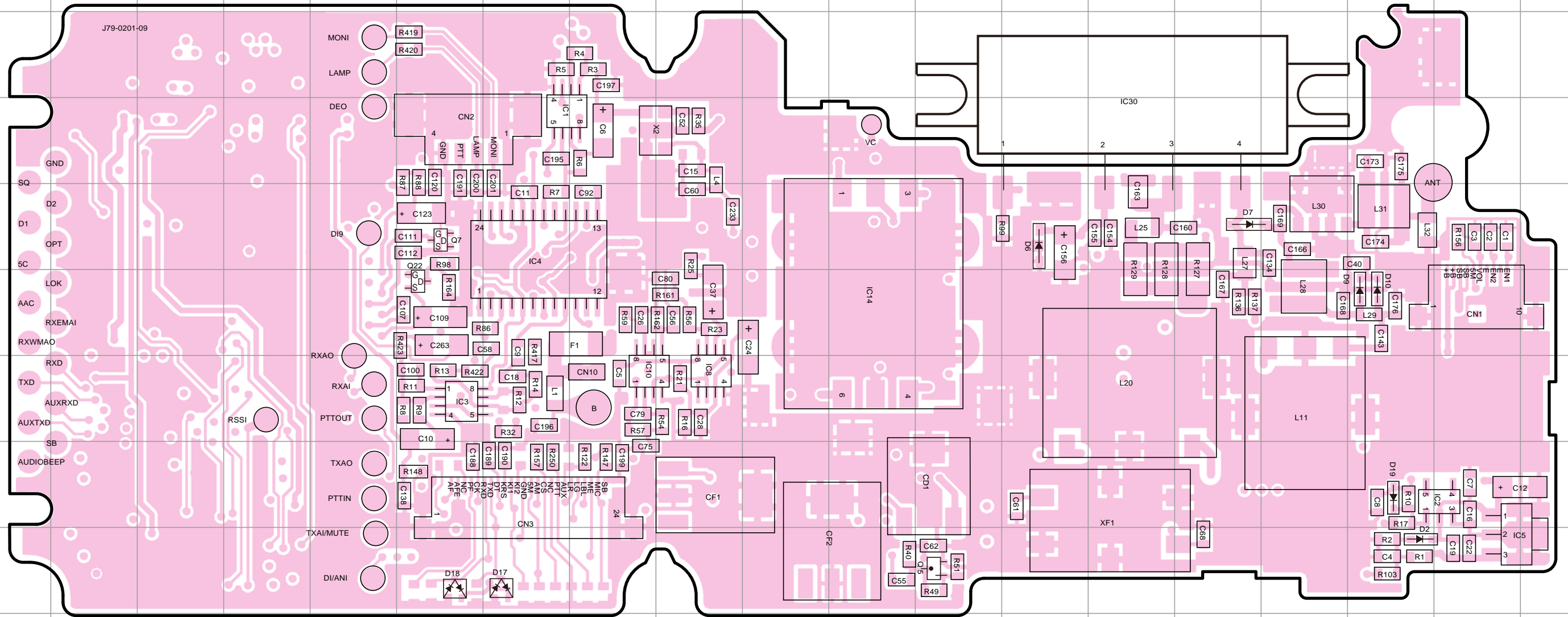
1 Ang Mo Kio Street 63, Singapore 569110

# TK-480/481 PC BOARD

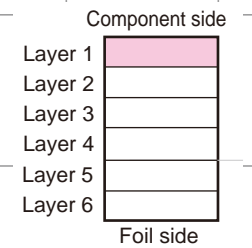
# PC BOARD TK-480/481

TX-RX UNIT (X57-5630-XX) -10, -21: TK-480 -11: TK-481  
Component side view (J79-0201-09)

TX-RX UNIT (X57-5630-XX) -10, -21: TK-480 -11: TK-481  
Component side view (J79-0201-09)



Ref. No.	Address	Ref. No.	Address	Ref. No.	Address
IC1	4G	IC30	4N	D10	6Q
IC2	8R	Q5	9L	D17	9G
IC3	7F	Q7	5F	D18	9F
IC4	5G	Q22	6F	D19	8Q
IC5	9R	D2	9Q		
IC8	7I	D6	5M		
IC10	7H	D7	5O		
IC14	6K	D9	6Q		



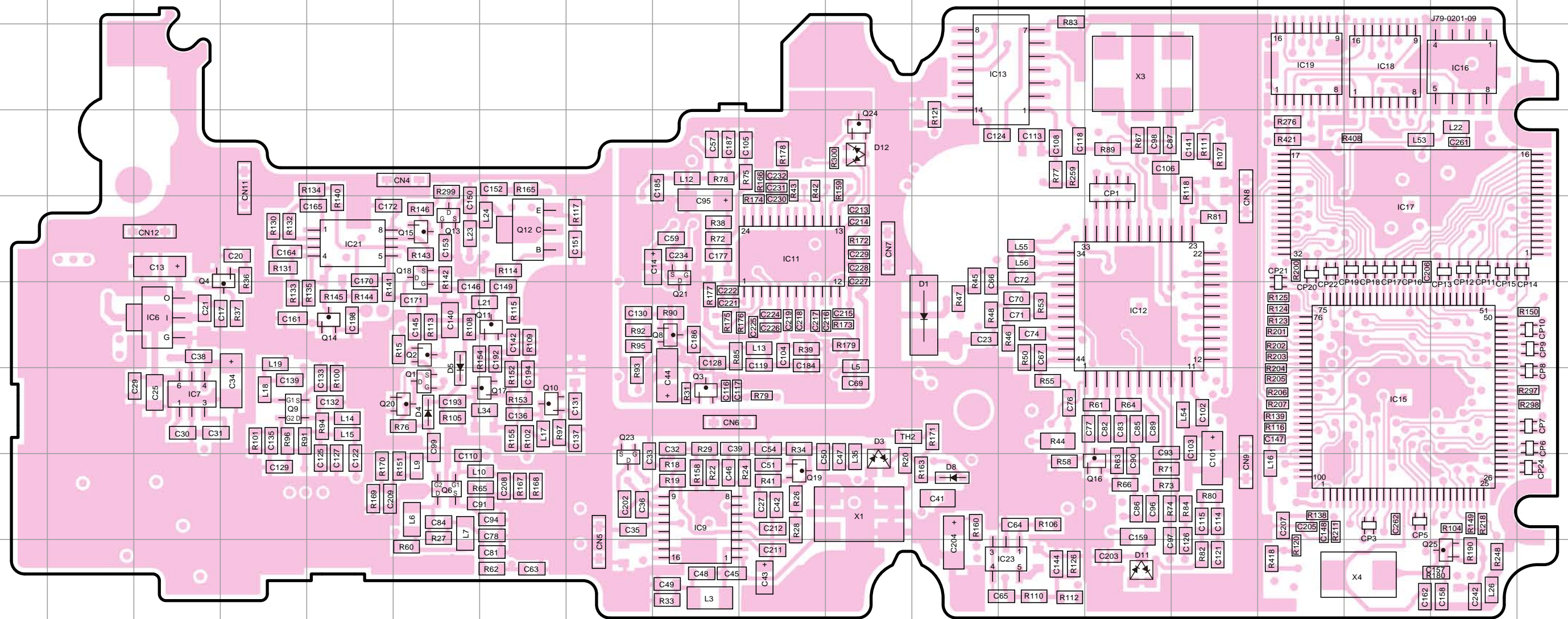


# TK-480/481 PC BOARD

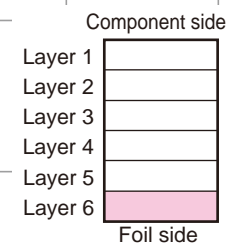
# PC BOARD TK-480/481

TX-RX UNIT (X57-5630-XX) -10, -21: TK-480 -11: TK-481  
Foil side view (J79-0201-09)

TX-RX UNIT (X57-5630-XX) -10, -21: TK-480 -11: TK-481  
Foil side view (J79-0201-09)

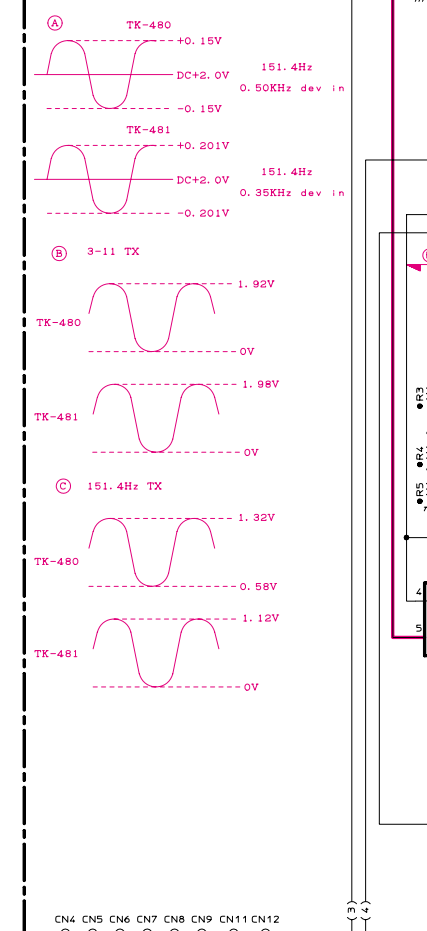
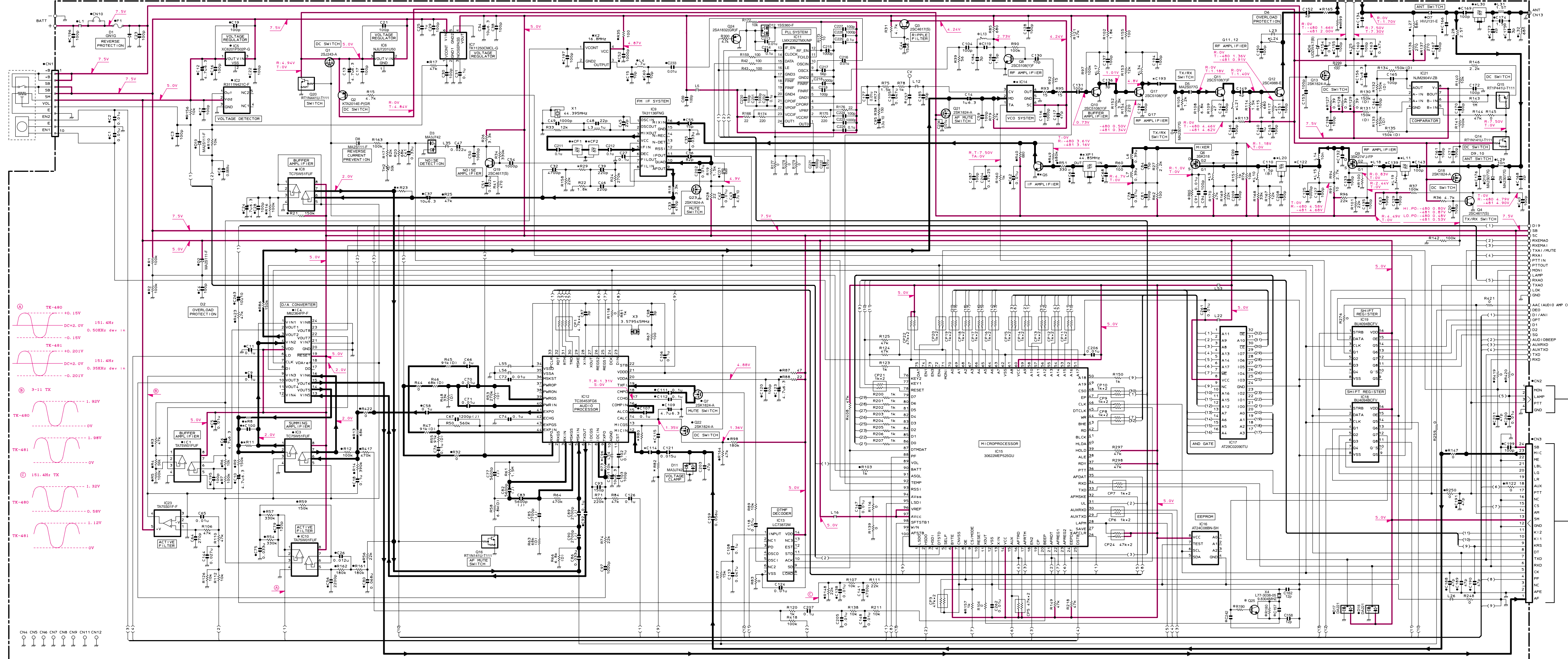


Ref No.	Address	Ref No.	Address	Ref No.	Address
IC6	6C	Q2	6F	Q18	5F
IC7	7C	Q3	7I	Q19	8J
IC9	8I	Q4	5D	Q20	7F
IC11	5J	Q6	8F	Q21	5I
IC12	6N	Q8	6I	Q23	8H
IC13	3M	Q9	7D	Q24	4K
IC15	7Q	Q10	7G	Q25	9R
IC16	3R	Q11	6G	D1	6L
IC17	5Q	Q12	5G	D3	8K
IC18	3Q	Q13	5F	D4	7F
IC19	3P	Q14	6E	D5	6F
IC21	5E	Q15	5F	D8	8L
IC23	9M	Q16	8N	D11	9N
Q1	7F	Q17	7G	D12	4K





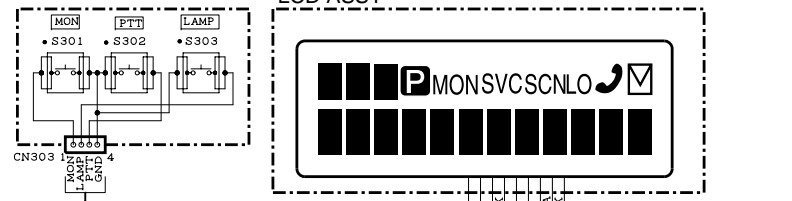
X57-5630-XX TX-RX UNIT



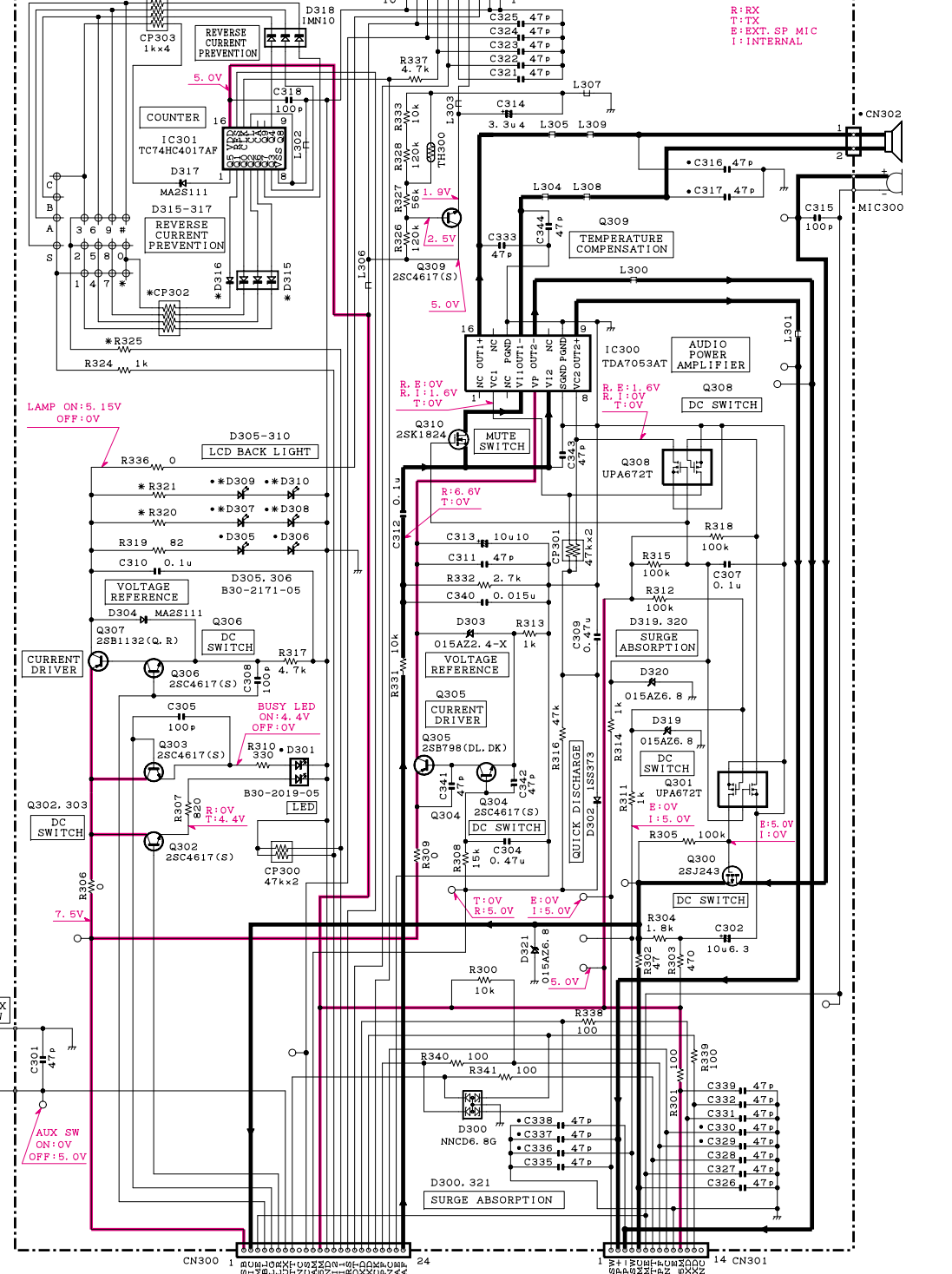
Component list table for X57-5630-XX TX-RX UNIT, listing part numbers, quantities, and descriptions for components like resistors, capacitors, and ICs.

Component list table for X54-3210-XX, listing part numbers, quantities, and descriptions for components like keys, switches, and ICs.

X54-3210-XX B/2 SWITCH SECTION



X54-3210-XX A/2 DISPLAY UNIT



Component list table for X54-3210-XX A/2 DISPLAY UNIT, listing part numbers, quantities, and descriptions for components like resistors, capacitors, and ICs.