144/220/440MHz FM TRIBANDER

TH-F6A

144/430MHz FM DUAL BANDER

TH-F7A/F7E

SERVICE MANUAL

KENWOOD

Kenwood Corporation

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This service manual applies to products with 80600001 (TH-F6A), 80700001 (TH-F7A), 80600291 (TH-F7E) or subsequent serial numbers.
Additionally, this TH-F7E has been prepared for RoHS.
Refer to the TH-F6A/F7E service manuals (B51-8580-00, B51-8608-00) and TH-F7A service manual (B51-8742-00) for any information which has not been covered in this manual.

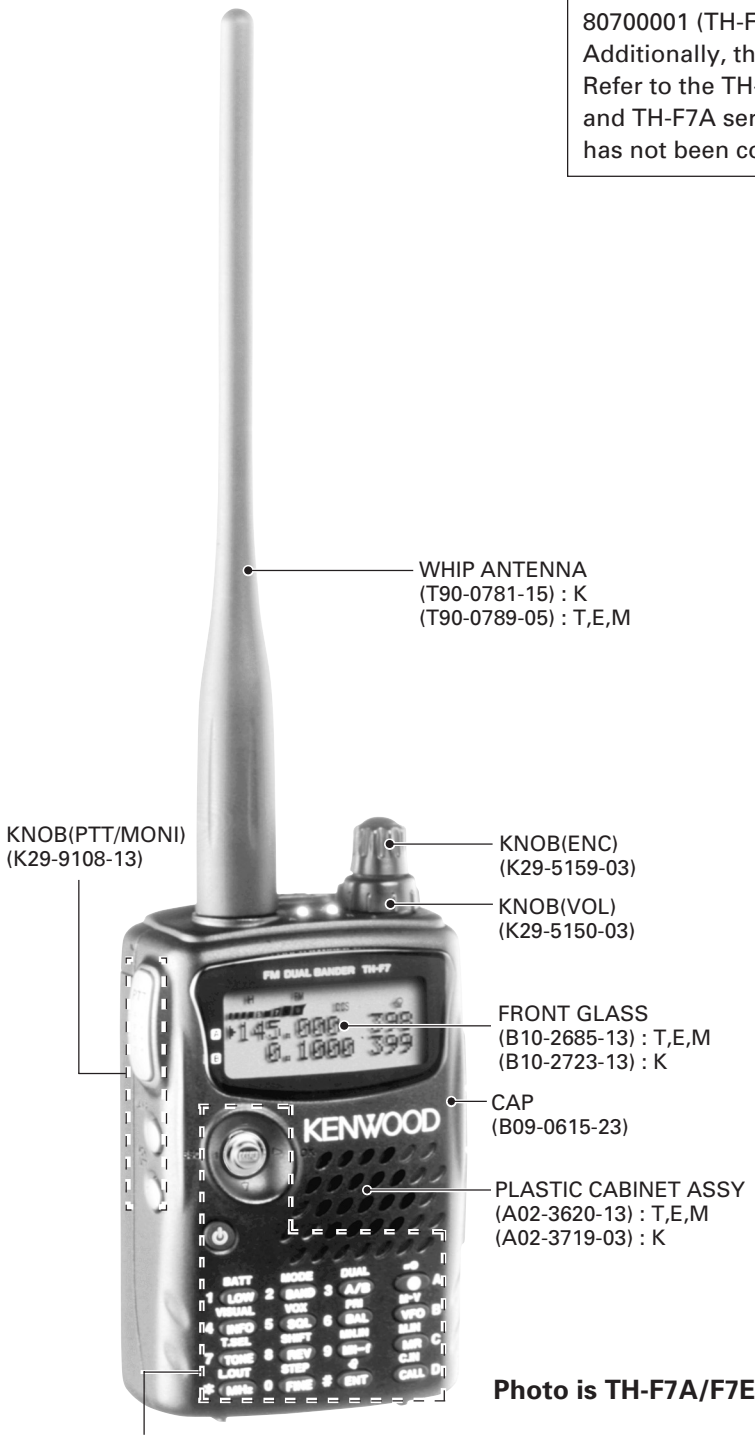

Photo is TH-F7A/F7E.

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This product complies with the **RoHS** directive for the European market.

This product uses Lead Free solder.

TERMINAL FUNCTION

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TX-RX unit (X57-636X-XX)

Connector No.	Pin No.	Name	Description
CN7 ↕ CN716	1	APC & TUNEA	APC&A band BPF tuning voltage
	2	BMS	Band matching switch
	3	PLF1	PLL filter switch
	4	CHGI	Charge detect interrupt
	5	LDB	B band PLL lock detection
	6	BVCOSW	B band VCO doubler SW
	7	DCDET	DC-IN detection
	8	LDA	A band PLL lock detection
	9	SW1	Prescaler divide
	10	SW2	Prescaler divide
	11	LEB	B band PLL enable
	12	AFB	B band audio output
	13	LEA	A band PLL enable
	14	AFA	A band audio output
	15	FINE2	3rd local control voltage
	16	B	Battery power
	17	FINE1	2nd local control voltage
	18	MOD	Modulation signal input
	19	LCK	Shift register enable
	20	CLK	Common clock
	21	TXL	VCO shift
	22	DATA	Common data
	23	THM&SQA	Thermal detection & A band squelch voltage
	24	C8	Charge pump power supply
	25	SMB	B band S-meter voltage
	26	VTX	Transmission power supply
	27	SQB	B band squelch voltage
	28	VRB	B band RX voltage
	29	SMA	A band S-meter voltage
	30	VRA	A band RX power supply
	31	M4S	AVR power supply
	32	VCV	B band VCO, PLL power supply
	33	VTUNEB	B band BPF tuning voltage
	34	VC	Power supply
	35	BAMS	B band AM power supply
	36	BSS	B band PLL fin filter switch
	37	VXTAL	TCXO modulation signal
	38	WFMS	W-FM power supply
	39	GND	GND
	40	VSSB	SSB, CW power supply
CN8	1	GND	GND
	2	DBCV	B band VCO control voltage
	3	DACV	A band VCO control voltage
	4	DMOD	Modulation signal
	5	DAVCOS	A band VCO SW
	6	DBSS	B band PLL fin filter SW
	7	DA220S	A band PLL fin filter SW
	8	DTXL	B band VCO shift
	9	DVRA	A band RX power supply
	10	DVCV	B band VCO, PLL power supply
	11	DAOUT	A band VCO output signal
	12	DBOUT	B band VCO output signal

TERMINAL FUNCTION

Connector No.	Pin No.	Name	Description
CN9	1	GND	GND
	2	MBCV	B band VCO control voltage
	3	MACV	A band VCO control voltage
	4	MOD	Modulation signal
	5	MAVCOS	A band VCO SW
	6	BSS	B band VCO SW
	7	A220S	A band VCO shift
	8	TXL	B band VCO shift
	9	VRA	A band RX power supply
	10	VCV	B band VCO, PLL power supply
	11	MAOUT	A band VCO output signal
	12	MBOUT	B band VCO output signal
CN713	1	RES	LCD driver reset
	2	Vdd	Power supply
	3	Vss	GND
	4	T2	LCD power supply control
	5	T1	LCD power supply control
	6	CS	Chip select signal (L)
	7	A0	LCD driver input selection signal
	8	WR	LCD driver read/write
	9	RD	LCD driver enable
	10	DUTY/ CDIR	Duty selection/Common output state selection
	11-18	D0-D7	LCD driver data bus
	19	Vss	GND
	20	C1+	Voltage booster circuit
	21	C2+	Voltage booster circuit
	22	C2-	Voltage booster circuit
	23	Vout	Voltage booster circuit output
	24	Vdd	Power supply
	25	VR	Voltage adjustment
	26	V5	Output voltage V5
	27	V4	Output voltage V4
	28	V3	Output voltage V3
	29	V2	Output voltage V2
	30	V1	Output voltage V1
CN714	1	GND	GND
	2	AFVO	AF output
	3	AFVI	AF input
	4	EN2	Encoder pulse 2
	5	GND	GND
	6	EN1	Encoder pulse 1
CN715	1	SP+	SP
	2	SP-	GND

TH-F6A/F7A/F7E

PARTS LIST

∗ New Parts. ⚠ indicates safety critical components.
Parts without **Parts No.** are not supplied.
Les articles non mentionnes 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
Y: AAFES (Europe) **X**: Australia **M**: Other Areas

TH-F6A/F7A/F7E (Y50-552X-XX)
TX-RX UNIT (X57-636X-XX)

Ref. No.	Address	New parts	Parts No.	Description	Destination
TH-F6A/F7A/F7E					
1	1A		A02-3620-13	PLASTIC CABINET ASSY	T,E,M
1	1A		A02-3719-03	PLASTIC CABINET ASSY	K
2	1A		A02-3727-03	CABINET ASSY(FRONT CASE)	
3	2C		A02-3937-02	CABINET ASSY(BATT CASE)	M
4	3A		A10-4050-01	CHASSIS	
5	3B	∗	A82-0046-12	REAR PANEL	
6	1B	∗	B09-0615-23	CAP(MIC/SP/DC)	
7	1A		B10-2685-13	FRONT GLASS	T,E,M
7	1A		B10-2723-13	FRONT GLASS	K
11	1C	∗	B62-1441-20	INSTRUCTION MANUAL(ENG/SPA)	K,T,E
11	1C	∗	B62-1442-20	INSTRUCTION MANUAL(FRE/ITA)	E
11	1C	∗	B62-1443-30	INSTRUCTION MANUAL(NET/GER)	E
11	1C		B62-1899-00	INSTRUCTION MANUAL(ENG)	M
12	3A	∗	B72-2054-14	MODEL NAME-PLATE	K
12	3A		B72-2055-04	MODEL NAME-PLATE	T,E
12	3A		B72-2377-04	MODEL NAME-PLATE	M
13	3B		D21-0856-04	SHAFT(RELEASE)	
14	3B		E04-0407-15	RF COAXIAL RECEPTACLE(SMA)	
15	2B	∗	E23-1177-14	RELAY TERMINAL(BATTERY)	
16	2B		E23-1180-04	GROUND TERMINAL(SMA)	
17	1B		E37-0695-05	LEAD WIRE WITH CONNECTOR(SP)	
18	2C		F07-1859-03	COVER(BELT HOOK)	
19	2B		F10-2411-04	SHIELDING COVER(ANTENNA)	
20	2A	∗	F10-2437-04	SHIELDING PLATE(BAR-ANTENNA)	
23	2B	∗	F12-0469-04	SHIELDING SHEET(ANTENNA)	
25	2B		G01-4532-04	COIL SPRING(RELEASE)	
26	3A	∗	G11-4060-14	RUBBER SHEET	
28	2A		G13-1860-04	CUSHION(BAR-ANTENNA)	
29	3B		G53-1529-04	PACKING(VOL/ENC)	
30	3A	∗	G53-1532-12	PACKING(CASE)	
31	2A		G53-1533-03	PACKING(MULTI-F)	
32	2B	∗	G53-1534-13	PACKING(SP/MIC)	
33	3C	∗	H52-1923-02	ITEM CARTON CASE	K
33	3C	∗	H52-1924-02	ITEM CARTON CASE	E
33	3C	∗	H52-1925-02	ITEM CARTON CASE	T
33	3C		H52-2132-02	ITEM CARTON CASE	M
34	3A		J19-5428-03	HOLDER(TERMINAL)	
35	2A	∗	J19-5429-13	HOLDER(BAR-ANTENNA)	
37	2C		J29-0623-14	BELT HOOK ACCESSORY	
38	2A		J32-0927-04	CYLINDRICAL BOSS	
39	1D		J69-0342-05	HANDSTRAP ACCESSORY	
40	3B	∗	J82-0114-05	FPC(VOL/ENC)	
41	1B		K29-5150-03	KNOB(VOL)	
42	1B		K29-5159-03	KNOB(ENC)	
43	2A	∗	K29-9107-22	KEY TOP	
44	1A	∗	K29-9108-13	KNOB(PTT/MONI)	
45	2B		K29-9109-03	LEVER KNOB(RELEASE)	
46	1A		K29-9110-03	KNOB(PTT)	
47	2A		K29-9111-03	KNOB(MULTI-F)	
48	2D		L79-1417-05	LINE FILTER ACCESSORY	T,E
A	3B	∗	N09-2489-05	PAN HEAD SCREW(SMA)	
B	2C	∗	N09-6509-05	PAN HEAD SCREW(BELT HOOK)	
C	1B		N14-0573-14	CIRCULAR NUT(SMA)	
D	1B	∗	N14-0593-14	CIRCULAR NUT(VOL/ENC)	
E	2A	∗	N79-2035-43	PAN HEAD TAPTITE SCREW	
F	2A,2B,3B	∗	N79-2040-48	PAN HEAD TAPTITE SCREW	
G	3A	∗	N80-2008-43	PAN HEAD TAPTITE SCREW	
H	2A		N83-2006-43	PAN HEAD TAPTITE SCREW	
49	2B	∗	R39-0602-15	VARIABLE RESISTOR(VOL/ENC)	
SP	1B	∗	T07-0266-25	SPEAKER	
50	1C	∗	T90-0781-15	WHIP ANTENNA ACCESSORY	K
ANT	2A	∗	T90-0787-15	ANTENNA(BAR-ANTENNA)	
50	1C		T90-0789-05	WHIP ANTENNA ACCESSORY	T,E,M
51	2D	∗	W08-0927-35	AC ADAPTER ACCESSORY	K
51	2D	∗	W08-0928-35	AC ADAPTER ACCESSORY	E
51	2D	∗	W08-0929-35	AC ADAPTER ACCESSORY	T
TX-RX UNIT (X57-636X-XX) 0-11: K 2-71: E, T, M					
101	2B		B11-1280-04	ILLUMINATION GUIDE(LCD)	
102	2B		B11-1281-04	FILTER(LCD)	
D712,713			B30-2131-05	LED	
D714-717			B30-2210-05	LED(TLY)	
D720-725			B30-2157-05	LED(YELLOW)	
103	2B	∗	B38-0852-35	LCD ASSY	
C1			CK73HB1H471K	CHIP C 470PF K	
C2			CK73HB1H102K	CHIP C 1000PF K	
C3 ,4			CC73HCH1H101J	CHIP C 100PF J	
C5			CK73HB1H102K	CHIP C 1000PF K	
C6			CK73HB1C103K	CHIP C 0.010UF K	
C7			CK73HB1A104K	CHIP C 0.10UF K	
C8			CK73HB1H471K	CHIP C 470PF K	
C9 ,10			CK73HB1C103K	CHIP C 0.010UF K	
C11			CK73HB1H471K	CHIP C 470PF K	
C12			CC73HCH1H680J	CHIP C 68PF J	
C13			CK73HB1A104K	CHIP C 0.10UF K	
C14			CC73HCH1H120J	CHIP C 12PF J	
C15 ,16			CK73HB1A104K	CHIP C 0.10UF K	
C17 ,18			CK73HB1H471K	CHIP C 470PF K	
C19			CK73GB0J105K	CHIP C 1.0UF K	
C20			CK73HB1C103K	CHIP C 0.010UF K	
C21			CK73HB1H102K	CHIP C 1000PF K	
C22			CK73HB1H471K	CHIP C 470PF K	
C23			CK73HB1H102K	CHIP C 1000PF K	
C24			CC73HCH1H101J	CHIP C 100PF J	
C25			CC73HCH1H680J	CHIP C 68PF J	
C26 -28			CC73HCH1H220J	CHIP C 22PF J	
C29 ,30			CK73HB1A104K	CHIP C 0.10UF K	
C31 ,32			CK73HB1H471K	CHIP C 470PF K	
C33			CK73HB1H102K	CHIP C 1000PF K	
C34			CC73HCH1H101J	CHIP C 100PF J	
C36		∗	CS77AA21DR22M	CHIP TNTL 0.22UF 20WV	
C37			CK73HB1H471K	CHIP C 470PF K	
C40			CK73HB1C103K	CHIP C 0.010UF K	
C41		∗	CS77AP0J4R7M	CHIP TNTL 4.7UF 6.3WV	
C42			CK73HB1C103K	CHIP C 0.010UF K	

K : TH-F6A (K) E : TH-F7E (E) T : TH-F7E (T) M : TH-F7A (M)

PARTS LIST

TX-RX UNIT (X57-636X-XX)

Ref. No.	Address	New parts	Parts No.	Description	Destination
C43			C92-0863-05	CHIP TNTL 0.047UF 35WV	
C44			CK73HB1H471K	CHIP C 470PF K	
C45		*	CS77CA21D0R1M	CHIP TNTL 0.1UF 20WV	
C46			CK73HB1C103K	CHIP C 0.010UF K	
C47 ,48			CK73HB1H471K	CHIP C 470PF K	
C49			CC73HCH1H0R5B	CHIP C 0.5PF B	
C50			CC73HCH1H010B	CHIP C 1.0PF B	
C51			CK73HB1H471K	CHIP C 470PF K	
C52		*	C92-0888-05	CHIP TNTL 10UF 6.3WV	
C53			CK73HB1H471K	CHIP C 470PF K	
C54			CK73HB1A104K	CHIP C 0.10UF K	
C55 -57			CK73HB1H471K	CHIP C 470PF K	
C58 ,59			CK73HB1A104K	CHIP C 0.10UF K	
C60 -62			CK73HB1H471K	CHIP C 470PF K	
C64			CK73HB1C103K	CHIP C 0.010UF K	
C65			CC73HCH1H060B	CHIP C 6.0PF B	
C66			CC73HCH1H150J	CHIP C 15PF J	
C67			CC73HCH1H060B	CHIP C 6.0PF B	
C68 ,69			CK73HB1H471K	CHIP C 470PF K	
C70			CK73HB1C103K	CHIP C 0.010UF K	
C71			CC73HCH1H070B	CHIP C 7.0PF B	
C72			CK73HB1H471K	CHIP C 470PF K	
C75			CC73HCH1H100C	CHIP C 10PF C	
C76 ,77			CK73HB1H471K	CHIP C 470PF K	
C78			CC73HCH1H0R5B	CHIP C 0.5PF B	
C79 ,80			CK73HB1H471K	CHIP C 470PF K	
C82			CC73HCH1H0R5B	CHIP C 0.5PF B	
C83			CC73HCH1H220J	CHIP C 22PF J	
C84 ,85			CK73HB1C103K	CHIP C 0.010UF K	
C86 ,87			CK73HB1H471K	CHIP C 470PF K	
C88			CK73HB1A104K	CHIP C 0.10UF K	
C89			CK73HB1H471K	CHIP C 470PF K	
C90 ,91			CC73HCH1H100C	CHIP C 10PF C	
C94			CC73HCH1H080B	CHIP C 8.0PF B	
C95			CC73HCH1H030C	CHIP C 3.0PF C	
C97			CC73HCH1H080B	CHIP C 8.0PF B	
C102,103			CK73HB1C103K	CHIP C 0.010UF K	
C104			CK73HB1H471K	CHIP C 470PF K	
C105			CK73HB1H102K	CHIP C 1000PF K	
C106			CK73HB1H471K	CHIP C 470PF K	
C107			CC73HCH1H050C	CHIP C 5.0PF C	
C108			CC73HCH1H100C	CHIP C 10PF C	
C109,110			CK73HB1H471K	CHIP C 470PF K	
C112			CK73HB1H102K	CHIP C 1000PF K	
C113			CK73HB1H471K	CHIP C 470PF K	
C114,115			CC73HCH1H101J	CHIP C 100PF J	
C116			CC73HCH1H050C	CHIP C 5.0PF C	
C117			CC73HCH1H101J	CHIP C 100PF J	
C119			CK73HB1C103K	CHIP C 0.010UF K	
C121			CC73HCH1H060B	CHIP C 6.0PF B	
C123			CC73HCH1H101J	CHIP C 100PF J	
C126			CK73FB1C105K	CHIP C 1.0UF K	
C127			CK73HB1C103K	CHIP C 0.010UF K	
C129			CK73HB1C103K	CHIP C 0.010UF K	
C130			CK73HB1H332K	CHIP C 3300PF K	
C133,134			CK73HB1C103K	CHIP C 0.010UF K	
C135			CK73HB1A104K	CHIP C 0.10UF K	
C137			CK73HB1H152K	CHIP C 1500PF K	
C138			CK73HB1A104K	CHIP C 0.10UF K	

Ref. No.	Address	New parts	Parts No.	Description	Destination
C139			CC73HCH1H101J	CHIP C 100PF J	
C140			CK73HB1H821K	CHIP C 820PF K	
C141			CK73HB1C103K	CHIP C 0.010UF K	
C143			CK73HB1C103K	CHIP C 0.010UF K	
C145			CK73HB1H102K	CHIP C 1000PF K	
C147		*	C92-0888-05	CHIP TNTL 10UF 6.3WV	
C149			CK73GB1A474K	CHIP C 0.47UF K	
C150			CK73HB1A104K	CHIP C 0.10UF K	
C151			CK73HB1H102K	CHIP C 1000PF K	
C152			CK73HB1A104K	CHIP C 0.10UF K	
C154			CK73HB1H102K	CHIP C 1000PF K	
C155		*	C92-0888-05	CHIP TNTL 10UF 6.3WV	
C156,157			CK73HB1H102K	CHIP C 1000PF K	
C158-160			CK73HB1A104K	CHIP C 0.10UF K	
C161			CK73HB1H102K	CHIP C 1000PF K	
C162			CK73HB1A104K	CHIP C 0.10UF K	
C163,164			CC73HCH1H101J	CHIP C 100PF J	
C165			CK73HB1A104K	CHIP C 0.10UF K	
C166			CC73HCH1H330J	CHIP C 33PF J	
C167			CC73HCH1H070B	CHIP C 7.0PF B	
C168			CK73HB1A104K	CHIP C 0.10UF K	
C169		*	C92-0888-05	CHIP TNTL 10UF 6.3WV	
C170-173			CK73HB1A104K	CHIP C 0.10UF K	
C174			CK73HB1H102K	CHIP C 1000PF K	
C175			CK73HB1A104K	CHIP C 0.10UF K	
C177		*	C92-0888-05	CHIP TNTL 10UF 6.3WV	
C178			CK73HB1H102K	CHIP C 1000PF K	
C179			CK73HB1A104K	CHIP C 0.10UF K	
C180			CC73HCH1H030C	CHIP C 3.0PF C	
C181			CK73HB1C103K	CHIP C 0.010UF K	
C182			CC73HCH1H120J	CHIP C 12PF J	
C183,184			CK73HB1C103K	CHIP C 0.010UF K	
C186			CC73HCH1H560J	CHIP C 56PF J	
C188			CC73HCH1H050C	CHIP C 5.0PF C	
C189			CC73HCH1H100C	CHIP C 10PF C	
C190			CC73HCH1H120J	CHIP C 12PF J	
C191			CK73HB1A104K	CHIP C 0.10UF K	
C192			CK73HB1C103K	CHIP C 0.010UF K	
C193			CC73HCH1H060B	CHIP C 6.0PF B	
C195			CK73HB1H471K	CHIP C 470PF K	
C196			CC73HCH1H200J	CHIP C 20PF J	
C199			CC73HCH1H121J	CHIP C 120PF J	
C200			CK73HB1H102K	CHIP C 1000PF K	
C202			CK73HB1C103K	CHIP C 0.010UF K	
C203			CC73HCH1H330J	CHIP C 33PF J	
C205,206			CK73HB1C103K	CHIP C 0.010UF K	
C208			CK73HB1C103K	CHIP C 0.010UF K	
C209			CC73HCH1H101J	CHIP C 100PF J	
C210			CC73HCH1H330J	CHIP C 33PF J	
C211			CK73HB1C103K	CHIP C 0.010UF K	
C212,213			CC73HCH1H101J	CHIP C 100PF J	
C214			CK73HB1H102K	CHIP C 1000PF K	
C215			CK73HB1C103K	CHIP C 0.010UF K	
C217			CC73HCH1H100C	CHIP C 10PF C	
C218			CC73HCH1H470J	CHIP C 47PF J	
C219			CK73HB1H471K	CHIP C 470PF K	
C220,221			CK73HB1A104K	CHIP C 0.10UF K	
C222			CK73HB1H471K	CHIP C 470PF K	
C223			CK73HB1H102K	CHIP C 1000PF K	
C224			CC73HCH1H470J	CHIP C 47PF J	

K : TH-F6A (K) E : TH-F7E (E) T : TH-F7E (T) M : TH-F7A (M)

PARTS LIST

TX-RX UNIT (X57-636X-XX)

Ref. No.	Address	New parts	Parts No.	Description	Destination
C225,226			CK73HB1H471K	CHIP C 470PF K	
C227			CK73HB1H561K	CHIP C 560PF K	
C228			CS77CA1ER47M	CHIP TNTL 0.47UF 25WV	
C229		*	CS77AP0J4R7M	CHIP TNTL 4.7UF 6.3WV	
C230			C92-0863-05	CHIP TNTL 0.047UF 35WV	
C231,232			CK73HB1H471K	CHIP C 470PF K	
C233			CK73HB1A104K	CHIP C 0.10UF K	
C234			CK73HB1H561K	CHIP C 560PF K	
C235		*	C92-0888-05	CHIP TNTL 10UF 6.3WV	
C236			CK73HB1H471K	CHIP C 470PF K	
C237			CK73HB1A104K	CHIP C 0.10UF K	
C238			CK73HB1C103K	CHIP C 0.010UF K	
C239			CK73HB1H561K	CHIP C 560PF K	
C240,241			CC73HCH1H010B	CHIP C 1.0PF B	
C242			CC73HCH1E181J	CHIP C 180PF J	
C245			CK73HB1H102K	CHIP C 1000PF K	
C246			CC73HCH1H070B	CHIP C 7.0PF B	
C247			CC73HCH1H100C	CHIP C 10PF C	
C248			CC73HCH1H120J	CHIP C 12PF J	
C249			CK73HB1H471K	CHIP C 470PF K	
C251			CK73HB1H471K	CHIP C 470PF K	
C252			CC73HCH1H070B	CHIP C 7.0PF B	
C253			CK73HB1H561K	CHIP C 560PF K	
C254			CC73HCH1H0R5B	CHIP C 0.5PF B	
C255			CK73HB1H471K	CHIP C 470PF K	
C256			CK73HB1C103K	CHIP C 0.010UF K	
C259			CC73HCH1H0R5B	CHIP C 0.5PF B	
C260			CC73HCH1H100C	CHIP C 10PF C	
C261			CK73HB1H471K	CHIP C 470PF K	
C263			CC73HCH1H100C	CHIP C 10PF C	
C264			CC73HCH1H220J	CHIP C 22PF J	
C265			CK73HB1H471K	CHIP C 470PF K	
C266			CK73HB1A104K	CHIP C 0.10UF K	
C269			CC73HCH1H120J	CHIP C 12PF J	
C270			CC73HCH1H020B	CHIP C 2.0PF B	
C271			CC73HCH1H120J	CHIP C 12PF J	
C272			CC73HCH1H100C	CHIP C 10PF C	
C274			CC73HCH1H101J	CHIP C 100PF J	
C277			CK73HB1H561K	CHIP C 560PF K	
C278			CC73HCH1H0R5B	CHIP C 0.5PF B	
C280			CK73FB1C105K	CHIP C 1.0UF K	
C281			CK73HB1C103K	CHIP C 0.010UF K	
C282			CC73HCH1H150J	CHIP C 15PF J	
C283			CK73HB1H471K	CHIP C 470PF K	
C284			CC73HCH1H090D	CHIP C 9.0PF D	
C285			CC73HCH1H820J	CHIP C 82PF J	
C286-288			CK73HB1A104K	CHIP C 0.10UF K	
C289			CC73HCH1H330J	CHIP C 33PF J	
C290,291			CC73HCH1E181J	CHIP C 180PF J	
C292			CK73HB1A104K	CHIP C 0.10UF K	
C293			CK73HB1H102K	CHIP C 1000PF K	
C295			CK73HB1C103K	CHIP C 0.010UF K	
C296			CC73HCH1H150J	CHIP C 15PF J	
C297			CC73HCH1H560J	CHIP C 56PF J	
C298,299			CK73HB1H102K	CHIP C 1000PF K	
C301		*	C92-0888-05	CHIP TNTL 10UF 6.3WV	
C302			CK73HB1H471K	CHIP C 470PF K	
C303			CC73HCH1H080B	CHIP C 8.0PF B	
C305			CK73HB1H102K	CHIP C 1000PF K	
C306			CC73HCH1H150J	CHIP C 15PF J	

Ref. No.	Address	New parts	Parts No.	Description	Destination
C307			CK73HB1C103K	CHIP C 0.010UF K	
C308			CK73HB1H471K	CHIP C 470PF K	
C309			CK73HB1C103K	CHIP C 0.010UF K	
C310-314			CK73HB1H471K	CHIP C 470PF K	
C315			CC73HCH1H220J	CHIP C 22PF J	
C317-322			CK73HB1H471K	CHIP C 470PF K	
C323		*	C92-0888-05	CHIP TNTL 10UF 6.3WV	
C324-328			CK73HB1H471K	CHIP C 470PF K	
C331,332			CK73HB1H471K	CHIP C 470PF K	
C333			CC73HCH1H330G	CHIP C 33PF G	T,E,M
C333			CC73HCH1H390G	CHIP C 39PF G	K
C334,335			CK73HB1H471K	CHIP C 470PF K	
C336			CK73HB1H102K	CHIP C 1000PF K	
C337		*	CC73HCH1H510G	CHIP C 51PF G	
C338			CC73HCH1H270G	CHIP C 27PF G	
C339			CK73GB1H471K	CHIP C 470PF K	
C340			CK73HB1A104K	CHIP C 0.10UF K	
C341			CC73HCH1H070B	CHIP C 7.0PF B	
C343			CC73HCH1H120J	CHIP C 12PF J	
C344			CC73HCH1H150G	CHIP C 15PF G	
C345-347			CK73HB1H471K	CHIP C 470PF K	
C348,349			CC73GCH1H101J	CHIP C 100PF J	T,E,M
C348,349		*	CC73GCH1H680G	CHIP C 68PF G	K
C350		*	C93-0764-05	CHIP C 47PF 50WV	
C351			CC73GCH1H120G	CHIP C 12PF G	T,E,M
C352			CK73HB1H471K	CHIP C 470PF K	
C353			CK73FB1C105K	CHIP C 1.0UF K	
C356		*	C93-0768-05	CHIP C 68PF 50WV	
C357			CC73GCH1H060D	CHIP C 6.0PF D	
C360,361			CK73HB1H471K	CHIP C 470PF K	
C362			CK73HB1C103K	CHIP C 0.010UF K	
C363		*	C93-0758-05	CHIP C 27PF 50WV	
C368			CK73HB1H471K	CHIP C 470PF K	
C373			CC73GCH1H220G	CHIP C 22PF G	K
C373			CC73GCH1H270G	CHIP C 27PF G	T,E,M
C376			CC73HCH1H050B	CHIP C 5.0PF B	K
C377			CK73HB1A104K	CHIP C 0.10UF K	
C378			CK73HB1H471K	CHIP C 470PF K	
C381			CC73HCH1H101J	CHIP C 100PF J	
C382			CC73GCH1H200G	CHIP C 20PF G	K
C387,388			CK73HB1H102K	CHIP C 1000PF K	
C389			CC73HCH1H080B	CHIP C 8.0PF B	
C390			CK73HB1A104K	CHIP C 0.10UF K	
C392			CC73HCH1H150G	CHIP C 15PF G	
C394			CC73GCH1H270G	CHIP C 27PF G	K
C394			CC73GCH1H330G	CHIP C 33PF G	T,E,M
C395			CK73HB1H102K	CHIP C 1000PF K	
C396			CK73HB1H471K	CHIP C 470PF K	
C398,399			CC73GCH1H070D	CHIP C 7.0PF D	T,E,M
C407			CC73GCH1H100C	CHIP C 10PF C	
C408			CC73HCH1H050B	CHIP C 5.0PF B	K
C408			CC73HCH1H070B	CHIP C 7.0PF B	T,E,M
C409			CC73GCH1H150G	CHIP C 15PF G	K
C409			CC73GCH1H220G	CHIP C 22PF G	T,E,M
C410			CC73GCH1H2R5B	CHIP C 2.5PF B	K
C410			CC73GCH1H3R5B	CHIP C 3.5PF B	T,E,M
C411			CK73HB1H471K	CHIP C 470PF K	
C412			CC73HCH1H020B	CHIP C 2.0PF B	
C413			CC73HCH1H050C	CHIP C 5.0PF C	
C414			CC73GCH1H080B	CHIP C 8.0PF B	

K : TH-F6A (K) E : TH-F7E (E) T : TH-F7E (T) M : TH-F7A (M)

PARTS LIST

TX-RX UNIT (X57-636X-XX)

Ref. No.	Address	New parts	Parts No.	Description	Destination
C415			CC73HCH1H010B	CHIP C 1.0PF B	
C416		*	CC73GCH1H110G	CHIP C 11PF G	
C417			CC73HCH1H0R5B	CHIP C 0.5PF B	
C418			CC73GCH1H040B	CHIP C 4.0PF B	
C419			CC73GCH1H220G	CHIP C 22PF G	
C420			CC73HCH1H101J	CHIP C 100PF J	
C421			CC73HCH1H100C	CHIP C 10PF C	
C428			CC73HCH1H050B	CHIP C 5.0PF B	K
C428			CC73HCH1H070B	CHIP C 7.0PF B	T,E,M
C429			CC73GCH1H180G	CHIP C 18PF G	
C430			CC73GCH1H070B	CHIP C 7.0PF B	
C436			CC73HCH1H090D	CHIP C 9.0PF D	
C437			CC73HCH1H220J	CHIP C 22PF J	
C438			CC73HCH1H050C	CHIP C 5.0PF C	
C439			CC73HCH1H040C	CHIP C 4.0PF C	
C440			CC73HCH1H060B	CHIP C 6.0PF B	
C441		*	CC73HCH1H120G	CHIP C 12PF G	
C442			CK73HB1A104K	CHIP C 0.10UF K	
C443			CK73HB1H471K	CHIP C 470PF K	
C444			CK73HB1C103K	CHIP C 0.010UF K	
C445			CC73HCH1H101J	CHIP C 100PF J	
C446			CK73HB1A104K	CHIP C 0.10UF K	
C447			CC73HCH1H1R5B	CHIP C 1.5PF B	
C448			CK73HB1C103K	CHIP C 0.010UF K	
C449			CK73HB1H471K	CHIP C 470PF K	
C450			CK73HB1C103K	CHIP C 0.010UF K	
C451			CK73HB1A104K	CHIP C 0.10UF K	
C453			CK73HB1C103K	CHIP C 0.010UF K	
C454,455			CK73HB1A104K	CHIP C 0.10UF K	
C457			CK73HB1C223K	CHIP C 0.022UF K	
C458			CK73HB1A104K	CHIP C 0.10UF K	
C460			CK73HB1H471K	CHIP C 470PF K	
C461,462			CK73HB1A104K	CHIP C 0.10UF K	
C463-474			CK73HB1C103K	CHIP C 0.010UF K	
C475			CK73HB1H471K	CHIP C 470PF K	
C476,477			CK73HB1C103K	CHIP C 0.010UF K	
C484			CC73GCH1H020B	CHIP C 2.0PF B	
C485			CC73HCH1H470J	CHIP C 47PF J	
C488			CC73HCH1H030C	CHIP C 3.0PF C	
C489			CC73HCH1H101J	CHIP C 100PF J	
C490			CC73HCH1H470J	CHIP C 47PF J	
C491,492			CC73HCH1H101J	CHIP C 100PF J	
C494			CK73HB1H471K	CHIP C 470PF K	
C495			CC73HCH1H150J	CHIP C 15PF J	T,E,M
C497			CC73HCH1H040C	CHIP C 4.0PF C	
C498			CC73HCH1H030C	CHIP C 3.0PF C	T,E,M
C498			CC73HCH1H150J	CHIP C 15PF J	K
C499			CC73HCH1H050C	CHIP C 5.0PF C	K
C499		*	CC73HCH1H130J	CHIP C 13PF J	T,E,M
C500			CC73HCH1H080B	CHIP C 8.0PF B	K
C500,501			CC73HCH1H040C	CHIP C 4.0PF C	T,E,M
C501			CC73HCH1H040C	CHIP C 4.0PF C	K
C502			CC73HCH1H050C	CHIP C 5.0PF C	K
C502			CC73HCH1H150J	CHIP C 15PF J	T,E,M
C503			CC73HCH1H101J	CHIP C 100PF J	
C504			CC73HCH1H070B	CHIP C 7.0PF B	T,E,M
C504			CC73HCH1H120J	CHIP C 12PF J	K
C505			CK73HB1H471K	CHIP C 470PF K	
C506			CC73HCH1H060B	CHIP C 6.0PF B	K
C506			CC73HCH1H180J	CHIP C 18PF J	T,E,M

Ref. No.	Address	New parts	Parts No.	Description	Destination
C507			CC73HCH1H080B	CHIP C 8.0PF B	K
C507			CC73HCH1H220J	CHIP C 22PF J	T,E,M
C508-510			CK73HB1H471K	CHIP C 470PF K	
C511			CC73HCH1H050C	CHIP C 5.0PF C	K
C511			CC73HCH1H060B	CHIP C 6.0PF B	T,E,M
C512,513			CK73HB1H102K	CHIP C 1000PF K	
C515,516			CK73HB1H102K	CHIP C 1000PF K	
C517			CC73HCH1H0R5B	CHIP C 0.5PF B	
C518			CC73HCH1H010B	CHIP C 1.0PF B	
C519-521			CK73HB1H102K	CHIP C 1000PF K	
C522			CC73HCH1H101J	CHIP C 100PF J	
C523			CC73GCH1H101J	CHIP C 100PF J	
C524			CK73HB1H561K	CHIP C 560PF K	
C525			CK73HB1H102K	CHIP C 1000PF K	
C527			CC73HCH1H010B	CHIP C 1.0PF B	
C528			CK73HB1H102K	CHIP C 1000PF K	
C529			CC73HCH1H101J	CHIP C 100PF J	
C531			CC73HCH1H101J	CHIP C 100PF J	
C532			CC73HCH1H560J	CHIP C 56PF J	
C533			CC73HCH1H330J	CHIP C 33PF J	
C534			CC73HCH1H220J	CHIP C 22PF J	
C535			CC73HCH1H330J	CHIP C 33PF J	
C536			CK73HB1H102K	CHIP C 1000PF K	
C537			CC73HCH1H560J	CHIP C 56PF J	
C538			CK73HB1H102K	CHIP C 1000PF K	
C539			CC73HCH1H470J	CHIP C 47PF J	
C543			CK73HB1H102K	CHIP C 1000PF K	
C544,545			CC73HCH1H680J	CHIP C 68PF J	
C546-548			CK73HB1E472K	CHIP C 4700PF K	
C549			CK73HB1H102K	CHIP C 1000PF K	
C551			CC73HCH1H560J	CHIP C 56PF J	
C552			CC73HCH1H121J	CHIP C 120PF J	
C553			CC73HCH1H560J	CHIP C 56PF J	
C554			CC73HCH1H270J	CHIP C 27PF J	
C555			CK73HB1E472K	CHIP C 4700PF K	
C556			CK73HB1H102K	CHIP C 1000PF K	
C557			CK73HB1E472K	CHIP C 4700PF K	
C558,559			CK73HB1C103K	CHIP C 0.010UF K	
C560			CC73HCH1H060B	CHIP C 6.0PF B	
C561-563			CK73HB1H471K	CHIP C 470PF K	
C565		*	CC73HCH1H680G	CHIP C 68PF G	K
C567			CC73HCH1H101J	CHIP C 100PF J	
C568-570			CK73HB1H471K	CHIP C 470PF K	
C571			CC73HCH1H030C	CHIP C 3.0PF C	K
C571			CC73HCH1H050C	CHIP C 5.0PF C	T,E,M
C575,576			CK73HB1H102K	CHIP C 1000PF K	
C577			CC73HCH1H220J	CHIP C 22PF J	
C578			CC73HCH1H150G	CHIP C 15PF G	K
C579			CC73HCH1H220G	CHIP C 22PF G	K
C579			CC73HCH1H240G	CHIP C 24PF G	T,E,M
C580			CC73GCH1H270G	CHIP C 27PF G	K
C582			CK73HB1H102K	CHIP C 1000PF K	
C584		*	C93-0771-05	CHIP C 91PF 50WV	K
C585			CC73GCH1H150G	CHIP C 15PF G	K
C587			CK73GB1H102K	CHIP C 1000PF K	
C588			CK73HB1H102K	CHIP C 1000PF K	
C592			CC73HCH1H040B	CHIP C 4.0PF B	
C596			CC73HCH1H121J	CHIP C 120PF J	
C597			CK73HB1A104K	CHIP C 0.10UF K	
C611			CK73HB1E472K	CHIP C 4700PF K	

K : TH-F6A (K) E : TH-F7E (E) T : TH-F7E (T) M : TH-F7A (M)

PARTS LIST

TX-RX UNIT (X57-636X-XX)

Ref. No.	Address	New parts	Parts No.	Description	Destination
C616			CK73HB1A104K	CHIP C 0.10UF K	
C618			CC73HCH1H390J	CHIP C 39PF J	
C619			CC73HCH1H150J	CHIP C 15PF J	
C620			CC73HCH1H220J	CHIP C 22PF J	
C621			CC73HCH1H150J	CHIP C 15PF J	
C624			CC73HCH1H100C	CHIP C 10PF C	
C625			CK73HB1H471K	CHIP C 470PF K	
C627			CC73GCH1H331J	CHIP C 330PF J	K
C627			CK73GB1H102K	CHIP C 1000PF K	T,E,M
C628			CK73HB1A104K	CHIP C 0.10UF K	
C630			CC73HCH1H470J	CHIP C 47PF J	
C631			CK73HB1H102K	CHIP C 1000PF K	
C632		*	C92-0888-05	CHIP TNTL 10UF 6.3WV	
C634,635			CK73HB1H102K	CHIP C 1000PF K	
C636			CC73HCH1H030C	CHIP C 3.0PF C	
C637,638			CC73HCH1H040C	CHIP C 4.0PF C	
C640-643			CK73HB1H471K	CHIP C 470PF K	
C644			CC73HCH1H010B	CHIP C 1.0PF B	
C645			CC73HCH1H100C	CHIP C 10PF C	
C646			CK73HB1H471K	CHIP C 470PF K	
C647			CK73HB1C103K	CHIP C 0.010UF K	
C648			CC73HCH1H100C	CHIP C 10PF C	
C652,653			CK73HB1H471K	CHIP C 470PF K	K
C653			CK73HB1H471K	CHIP C 470PF K	T,E,M
C655			CK73HB1H471K	CHIP C 470PF K	
C656,657			CK73HB1A104K	CHIP C 0.10UF K	
C658			CC73HCH1H020B	CHIP C 2.0PF B	
C659			CC73HCH1H090B	CHIP C 9.0PF B	
C660			CC73GCH1H180G	CHIP C 18PF G	K
C661,662			CK73HB1H471K	CHIP C 470PF K	K
C663			CK73HB1C103K	CHIP C 0.010UF K	
C664			CK73HB1H471K	CHIP C 470PF K	
C666			CK73HB1A104K	CHIP C 0.10UF K	
C667			CK73HB1H471K	CHIP C 470PF K	
C668-670			CK73HB1C103K	CHIP C 0.010UF K	
C671			CC73HCH1H330J	CHIP C 33PF J	
C672			CK73GB1H102K	CHIP C 1000PF K	
C673,674			CK73HB1H102K	CHIP C 1000PF K	
C675			CK73HB1H471K	CHIP C 470PF K	
C676,677			CK73HB1H102K	CHIP C 1000PF K	
C678,679			CK73HB1H471K	CHIP C 470PF K	K
C680-683			CK73HB1H102K	CHIP C 1000PF K	
C684			CC73HCH1H030C	CHIP C 3.0PF C	
C701			CK73GB1A224K	CHIP C 0.22UF K	
C702,703			CK73HB1A104K	CHIP C 0.10UF K	
C704			CK73HB1H392K	CHIP C 3900PF K	
C705			CK73GB0J105K	CHIP C 1.0UF K	
C706		*	C92-0888-05	CHIP TNTL 10UF 6.3WV	
C707		*	CS77CP0J2R2M	CHIP TNTL 2.2UF 6.3WV	
C709		*	CS77CP0J2R2M	CHIP TNTL 2.2UF 6.3WV	
C710			CK73HB1H471K	CHIP C 470PF K	
C711			CC73HCH1H151J	CHIP C 150PF J	
C712			CK73HB1H471K	CHIP C 470PF K	
C713			CK73FB0J475K	CHIP C 4.7UF K	
C714			CK73HB1A104K	CHIP C 0.10UF K	
C715			CK73HB1C103K	CHIP C 0.010UF K	
C716			CK73HB1H182K	CHIP C 1800PF K	
C717			CK73HB1C822K	CHIP C 8200PF K	
C718			CK73HB1H332K	CHIP C 3300PF K	
C719			CK73HB1A473K	CHIP C 0.047UF K	

Ref. No.	Address	New parts	Parts No.	Description	Destination
C720,721			CK73GB0J105K	CHIP C 1.0UF K	
C722			CK73HB1H681K	CHIP C 680PF K	
C723		*	CS77AP0J4R7M	CHIP TNTL 4.7UF 6.3WV	
C724			CC73HCH1H470J	CHIP C 47PF J	
C725			CK73HB1H471K	CHIP C 470PF K	
C726			CC73GCH1H221J	CHIP C 220PF J	
C727			CC73HCH1H060B	CHIP C 6.0PF B	
C728			CC73HCH1H220J	CHIP C 22PF J	
C729			CC73HCH1H150J	CHIP C 15PF J	
C730			CK73HB1H102K	CHIP C 1000PF K	
C732			CK73HB1C103K	CHIP C 0.010UF K	
C733			CK73HB1E472K	CHIP C 4700PF K	
C734			CK73HB1H471K	CHIP C 470PF K	
C735			CS77AA1A100M	CHIP TNTL 10UF 10WV	
C737			CK73GB0J105K	CHIP C 1.0UF K	
C738			CK73HB1C103K	CHIP C 0.010UF K	
C739			CK73HB1H332K	CHIP C 3300PF K	
C740			CK73HB1A104K	CHIP C 0.10UF K	
C741			CK73HB1H471K	CHIP C 470PF K	
C742			CC73HCH1H101J	CHIP C 100PF J	
C743			CS77AA1A100M	CHIP TNTL 10UF 10WV	
C744,745			CK73HB1H471K	CHIP C 470PF K	
C746			CK73GB0J105K	CHIP C 1.0UF K	
C747			CK73HB1H471K	CHIP C 470PF K	
C748			CS77AB20J101M	CHIP TNTL 100UF 6.3WV	
C749,750			CK73HB1H471K	CHIP C 470PF K	
C751			CK73GB0J105K	CHIP C 1.0UF K	
C752			CK73HB1H471K	CHIP C 470PF K	
C753			CK73GB0J105K	CHIP C 1.0UF K	
C754-758			CK73HB1H471K	CHIP C 470PF K	
C759			CK73HB1A104K	CHIP C 0.10UF K	
C760			CK73HB1H471K	CHIP C 470PF K	
C761			CK73GB0J105K	CHIP C 1.0UF K	
C762			CK73HB1A104K	CHIP C 0.10UF K	
C763			CK73HB1H471K	CHIP C 470PF K	
C764			CK73HB1C103K	CHIP C 0.010UF K	
C765			CK73HB1H471K	CHIP C 470PF K	
C766			CS77AB20J101M	CHIP TNTL 100UF 6.3WV	
C767			CK73HB1H471K	CHIP C 470PF K	
C768			CK73HB1A104K	CHIP C 0.10UF K	
C769			CK73HB1H471K	CHIP C 470PF K	
C770			CC73HCH1H470J	CHIP C 47PF J	
C771			CK73HB1A333K	CHIP C 0.033UF K	
C772		*	CS77CP0J2R2M	CHIP TNTL 2.2UF 6.3WV	
C773			CC73HCH1H121J	CHIP C 120PF J	
C774			CK73HB1C103K	CHIP C 0.010UF K	
C775			CK73HB1H222K	CHIP C 2200PF K	
C776			CK73HB1C123K	CHIP C 0.012UF K	
C777			CK73HB1A473K	CHIP C 0.047UF K	
C778			CK73HB1A104K	CHIP C 0.10UF K	
C780			CK73HB1A104K	CHIP C 0.10UF K	
C781			CK73GB0J105K	CHIP C 1.0UF K	
C782			CK73HB1H332K	CHIP C 3300PF K	
C783,784			CS77AB20J101M	CHIP TNTL 100UF 6.3WV	
C787			CK73GB0J105K	CHIP C 1.0UF K	
C788			CK73HB1A104K	CHIP C 0.10UF K	
C789			CK73HB1E682K	CHIP C 6800PF K	
C791			CK73GB0J105K	CHIP C 1.0UF K	
C792,793			CK73HB1A333K	CHIP C 0.033UF K	
C794			CK73GB1A224K	CHIP C 0.22UF K	

K : TH-F6A (K) E : TH-F7E (E) T : TH-F7E (T) M : TH-F7A (M)

PARTS LIST

TX-RX UNIT (X57-636X-XX)

Ref. No.	Address	New parts	Parts No.	Description	Destination
C795			CK73HB1A104K	CHIP C 0.10UF K	
C796			CK73GB0J105K	CHIP C 1.0UF K	
C797			CK73HB1C223K	CHIP C 0.022UF K	
C798,799			CK73HB1H102K	CHIP C 1000PF K	
C800-802			CK73HB1H471K	CHIP C 470PF K	
C803			CK73HB1H102K	CHIP C 1000PF K	
C804			CK73HB1H471K	CHIP C 470PF K	
C805,806			CK73FB0J475K	CHIP C 4.7UF K	
C807			CK73HB1H471K	CHIP C 470PF K	
C808			CK73FB0J475K	CHIP C 4.7UF K	
C809			CK73GB1A474K	CHIP C 0.47UF K	
C810			CK73GB0J105K	CHIP C 1.0UF K	
C811-813			CK73HB1A104K	CHIP C 0.10UF K	
C814			CK73HB1E103K	CHIP C 0.010UF K	
C815-819			CK73HB1A224K	CHIP C 0.22UF K	
C820			CS77AA1A100M	CHIP TNTL 10UF 10WV	
C822			CK73HB1A473K	CHIP C 0.047UF K	
C823,824			CK73FB0J475K	CHIP C 4.7UF K	
C825,826			CK73HB1H471K	CHIP C 470PF K	
C827,828			CK73HB1C103K	CHIP C 0.010UF K	
C829			CK73HB1H471K	CHIP C 470PF K	
C833			CK73HB1H471K	CHIP C 470PF K	
C834			CK73HB1A104K	CHIP C 0.10UF K	
C835			CK73GB1E105K	CHIP C 1.0UF K	
C836			CK73HB0J105K	CHIP C 1.0UF K	
C837-839			CK73HB1A104K	CHIP C 0.10UF K	
C841-843			CK73HB1A104K	CHIP C 0.10UF K	
C844,845			CK73FB0J475K	CHIP C 4.7UF K	
C846			CC73HCH1H101J	CHIP C 100PF J	
C847			CK73GB0J105K	CHIP C 1.0UF K	
C848			CS77AA1A100M	CHIP TNTL 10UF 10WV	
C849		*	CS77BA0J470M	CHIP TNTL 47UF 6.3WV	
C852			CK73HB1A104K	CHIP C 0.10UF K	
C853		*	CS77CP0J2R2M	CHIP TNTL 2.2UF 6.3WV	
C854-856			CC73HCH1H470J	CHIP C 47PF J	
C870			CK73HB1H471K	CHIP C 470PF K	
C871			CK73GB0J105K	CHIP C 1.0UF K	
C872			CK73HB1E682K	CHIP C 6800PF K	
C873			CK73HB1C223K	CHIP C 0.022UF K	
C874			CC73HCH1H680J	CHIP C 68PF J	
C875			CK73HB1H221K	CHIP C 220PF K	
C878			CK73FB0J475K	CHIP C 4.7UF K	
C879			CK73GB1A474K	CHIP C 0.47UF K	
C880		*	C92-0888-05	CHIP TNTL 10UF 6.3WV	
C881			CK73GB1C104K	CHIP C 0.10UF K	
C882			CK73HB1H471K	CHIP C 470PF K	
C883			CK73HB1A104K	CHIP C 0.10UF K	
C884			CK73GB1E105K	CHIP C 1.0UF K	
C885		*	CS77BA0J470M	CHIP TNTL 47UF 6.3WV	
-			E23-1059-04	TERMINAL	
CN7			E40-6171-05	PIN ASSY	
CN8		*	E40-6215-15	PIN ASSY	
CN9		*	E40-6216-15	SOCKET FOR PIN ASSY	
CN713		*	E40-6465-05	FLAT CABLE CONNECTOR	
CN714			E40-6568-05	FLAT CABLE CONNECTOR	
CN715			E40-5929-05	PIN ASSY	
CN716			E40-6172-05	SOCKET FOR PIN ASSY	
J1			E03-0190-05	DC JACK	
J701			E11-0707-05	PHONE JACK(2.5D/3.5D)	

Ref. No.	Address	New parts	Parts No.	Description	Destination
105	2B		F10-2423-04	SHIELDING PLATE	
106	3A	*	F10-2426-14	SHIELDING COVER	
107	2A	*	F10-2440-04	SHIELDING COVER	T,E,M
110	1B	*	F12-0464-14	SHIELDING SHEET(LCD)	
111	2B		F15-1002-04	SHADE(LCD)	
112	1B		F15-1004-04	SHADE(TX-RX)	
-			F15-1012-04	SHADE(LCD)	
114	2A		F20-3325-04	INSULATING SHEET	
115	1B,2B		F20-3336-04	INSULATING SHEET	
-		*	F20-3343-04	INSULATING SHEET(LCD)	
F1			F53-0324-05	FUSE(2.5A)	
F2			F53-0327-05	FUSE(4.0A)	
F3		*	F53-0317-05	FUSE(0.5A)	
F10		*	F01-1019-14	RADIATION PLATE	
117	2B	*	G11-4101-14	RUBBER SHEET	
118	3A	*	G13-1912-04	CUSHION	
-		*	G13-1927-04	CUSHION(LCD)	
119	2B		J21-8419-03	MOUNTING HARDWARE(LCD)	
CD1			L79-1474-05	TUNING COIL	
CF1		*	L72-1024-05	CERAMIC FILTER	
CF2			L72-0957-05	CERAMIC FILTER	
CF3			L72-0990-05	CERAMIC FILTER	
CF4			L72-0989-05	CERAMIC FILTER	
CF5			L72-0957-05	CERAMIC FILTER	
L1 ,2			L40-1091-86	SMALL FIXED INDUCTOR(1.0UH)	
L3			L92-0149-05	CHIP FERRITE	
L5			L41-1278-14	SMALL FIXED INDUCTOR(12NH)	
L6			L41-3978-14	SMALL FIXED INDUCTOR(39NH)	
L7			L41-2778-14	SMALL FIXED INDUCTOR(27NH)	
L8			L41-1878-14	SMALL FIXED INDUCTOR(18NH)	
L9 ,10			L40-2291-37	SMALL FIXED INDUCTOR(2.200UH)	
L13			L40-1275-71	SMALL FIXED INDUCTOR(12NH)	
L18		*	L34-4659-15	COIL	
L19		*	L34-4660-35	COIL	
L21 ,22			L40-5681-86	SMALL FIXED INDUCTOR(0.56UH)	
L23		*	L41-1098-40	SMALL FIXED INDUCTOR(1000NH)	
L26			L40-6881-37	SMALL FIXED INDUCTOR(0.680UH)	
L27			L41-5678-14	SMALL FIXED INDUCTOR(56NH)	
L28			L40-2291-37	SMALL FIXED INDUCTOR(2.200UH)	
L29			L41-2778-14	SMALL FIXED INDUCTOR(27NH)	
L30			L41-5678-14	SMALL FIXED INDUCTOR(56NH)	
L31			L40-2291-37	SMALL FIXED INDUCTOR(2.200UH)	
L32			L41-1578-14	SMALL FIXED INDUCTOR(15NH)	
L34			L40-5668-71	SMALL FIXED INDUCTOR(5.6NH)	
L35			L40-2275-71	SMALL FIXED INDUCTOR(22NH)	
L36			L40-5681-86	SMALL FIXED INDUCTOR(0.56UH)	
L38			L40-4781-86	SMALL FIXED INDUCTOR(0.47UH)	
L42			L34-1230-05	AIR-CORE COIL	T,E,M
L42		*	L34-4726-05	AIR-CORE COIL	K
L44			L40-1075-71	SMALL FIXED INDUCTOR(10NH)	T,E,M
L44			L40-1275-71	SMALL FIXED INDUCTOR(12NH)	K
L45 ,46			L34-4565-05	AIR-CORE COIL	
L48			L34-1230-05	AIR-CORE COIL	
L49			L40-4775-92	SMALL FIXED INDUCTOR(47NH)	
L50		*	L41-4775-40	SMALL FIXED INDUCTOR(47NH)	
L56			L34-4565-05	AIR-CORE COIL	K
L58			L34-4577-05	AIR-CORE COIL	
L59			L41-1005-39	SMALL FIXED INDUCTOR(10UH)	

K : TH-F6A (K) E : TH-F7E (E) T : TH-F7E (T) M : TH-F7A (M)

PARTS LIST

TX-RX UNIT (X57-636X-XX)

Ref. No.	Address	New parts	Parts No.	Description	Destination
L60			L34-4573-05	AIR-CORE COIL	
L61		*	L41-1085-43	SMALL FIXED INDUCTOR(100NH)	
L63			L34-4572-05	AIR-CORE COIL	
L65			L34-4572-05	AIR-CORE COIL	
L67			L34-4572-05	AIR-CORE COIL	
L68 ,69			L34-4576-05	AIR-CORE COIL	
L75			L34-4576-05	AIR-CORE COIL	
L77			L34-4574-05	AIR-CORE COIL	
L78			L34-4572-05	AIR-CORE COIL	
L79			L34-4689-05	AIR-CORE COIL	
L80			L41-8268-14	SMALL FIXED INDUCTOR(8.2NH)	
L81			L41-1278-14	SMALL FIXED INDUCTOR(12NH)	
L89			L41-1575-01	SMALL FIXED INDUCTOR(15NH)	T,E,M
L90		*	L41-1075-01	SMALL FIXED INDUCTOR(10NH)	K
L90			L41-1875-01	SMALL FIXED INDUCTOR(18NH)	T,E,M
L91			L41-2775-01	SMALL FIXED INDUCTOR(27NH)	T,E,M
L91		*	L41-3975-01	SMALL FIXED INDUCTOR(39NH)	K
L92			L79-1525-05	FILTER MODULE	T,E,M
L92			L79-1526-05	FILTER MODULE	K
L93			L41-2775-01	SMALL FIXED INDUCTOR(27NH)	T,E,M
L93		*	L41-3975-01	SMALL FIXED INDUCTOR(39NH)	K
L94 ,95			L41-1875-01	SMALL FIXED INDUCTOR(18NH)	
L96			L41-1575-01	SMALL FIXED INDUCTOR(15NH)	T,E,M
L96		*	L41-2275-01	SMALL FIXED INDUCTOR(22NH)	K
L97			L41-1085-03	SMALL FIXED INDUCTOR(100NH)	T,E,M
L97			L41-8275-03	SMALL FIXED INDUCTOR(82NH)	K
L98			L41-3978-03	SMALL FIXED INDUCTOR(39NH)	
L99			L41-1575-01	SMALL FIXED INDUCTOR(15NH)	T,E,M
L99			L41-1875-01	SMALL FIXED INDUCTOR(18NH)	K
L101			L41-4775-03	SMALL FIXED INDUCTOR(47NH)	
L102			L41-8278-14	SMALL FIXED INDUCTOR(82NH)	
L104,105			L41-1085-14	SMALL FIXED INDUCTOR(100NH)	
L106			L41-2775-03	SMALL FIXED INDUCTOR(27NH)	
L108			L92-0161-05	BEADS CORE	
L109			L41-6875-03	SMALL FIXED INDUCTOR(68NH)	
L110			L41-1085-03	SMALL FIXED INDUCTOR(100NH)	
L111,112			L40-1885-92	SMALL FIXED INDUCTOR(180NH)	
L115			L41-1285-03	SMALL FIXED INDUCTOR(120NH)	
L116,117			L41-1085-03	SMALL FIXED INDUCTOR(100NH)	
L121			L40-3975-92	SMALL FIXED INDUCTOR(39NH)	
L123			L40-3975-71	SMALL FIXED INDUCTOR(39NH)	
L124			L41-2285-43	SMALL FIXED INDUCTOR(220NH)	K
L125			L34-1230-05	AIR-CORE COIL	K
L126			L34-4573-05	AIR-CORE COIL	K
L128		*	L41-1098-40	SMALL FIXED INDUCTOR(1000NH)	
L131			L41-8275-03	SMALL FIXED INDUCTOR(82NH)	
L132			L41-1278-14	SMALL FIXED INDUCTOR(12NH)	
L133			L34-4690-05	AIR-CORE COIL	
L134			L41-1885-03	SMALL FIXED INDUCTOR(180NH)	
L138			L41-5675-01	SMALL FIXED INDUCTOR(56NH)	
L141			L40-1275-71	SMALL FIXED INDUCTOR(12NH)	
L142			L40-6865-71	SMALL FIXED INDUCTOR(6.8NH)	
L146			L41-2285-43	SMALL FIXED INDUCTOR(220NH)	
L151-154			L92-0161-05	BEADS CORE	
L157			L34-4576-05	AIR-CORE COIL	K
L159			L40-1075-71	SMALL FIXED INDUCTOR(10NH)	K
L160			L40-1875-71	SMALL FIXED INDUCTOR(18NH)	
L161			L41-4775-03	SMALL FIXED INDUCTOR(47NH)	
L162			L41-1085-03	SMALL FIXED INDUCTOR(100NH)	

Ref. No.	Address	New parts	Parts No.	Description	Destination
L163		*	L41-5675-03	SMALL FIXED INDUCTOR(56NH)	
L164			L41-2775-03	SMALL FIXED INDUCTOR(27NH)	
L165		*	L41-2275-03	SMALL FIXED INDUCTOR(22NH)	
L167		*	L41-3378-14	SMALL FIXED INDUCTOR(33NH)	
L168,169			L40-3391-86	SMALL FIXED INDUCTOR(3.3UH)	
L172			L41-8275-03	SMALL FIXED INDUCTOR(82NH)	
L173			L41-1285-03	SMALL FIXED INDUCTOR(120NH)	
L176			L92-0163-05	BEADS CORE	
L177			L40-1275-71	SMALL FIXED INDUCTOR(12NH)	
L179			L40-6881-37	SMALL FIXED INDUCTOR(0.680UH)	
L180			L40-4768-71	SMALL FIXED INDUCTOR(4.7NH)	
L181			L40-1875-71	SMALL FIXED INDUCTOR(18NH)	
L182			L40-2285-92	SMALL FIXED INDUCTOR(220NH)	
L183			L41-5685-14	SMALL FIXED INDUCTOR(560NH)	
L184			L40-3381-37	SMALL FIXED INDUCTOR(0.330UH)	
L185			L40-1075-71	SMALL FIXED INDUCTOR(10NH)	
L186			L40-1091-37	SMALL FIXED INDUCTOR(1.000UH)	
L188			L41-1875-03	SMALL FIXED INDUCTOR(18NH)	K
L190			L40-2775-71	SMALL FIXED INDUCTOR(27NH)	K
L191			L40-1091-37	SMALL FIXED INDUCTOR(1.000UH)	
L192			L41-2285-43	SMALL FIXED INDUCTOR(220NH)	
L193			L40-1068-71	SMALL FIXED INDUCTOR(1.0NH)	
L194			L40-4775-71	SMALL FIXED INDUCTOR(47NH)	
L195		*	L41-1895-39	SMALL FIXED INDUCTOR(1.8UH)	
L196			L40-8275-57	SMALL FIXED INDUCTOR(82.0NH)	
L198			L92-0161-05	BEADS CORE	
L199			L40-1091-86	SMALL FIXED INDUCTOR(1.0UH)	K
L202			L40-1875-71	SMALL FIXED INDUCTOR(18NH)	
L203			L92-0138-05	CHIP FERRITE	
L702			L92-0131-05	CHIP FERRITE	
L703			L92-0140-05	CHIP FERRITE	
L704,705			L92-0163-05	BEADS CORE	
L706			L40-3301-37	SMALL FIXED INDUCTOR(33.00UH)	
L707,708			L92-0163-05	BEADS CORE	
X1		*	L77-3009-05	TCXO (19.8MHZ)	
X2			L78-0496-05	RESONATOR (453KHZ)	
X3			L77-1856-05	CRYSTAL RESONATOR(19.05MHZ)	
X701			L78-1418-05	RESONATOR (9.8304MHz)	
XF1			L71-0597-05	MCF (57.6MHZ)	
XF2			L71-0589-05	MCF (59.85MHZ)	
CP2			RK75HA1J392J	CHIP-COM 3.9K J 1/16W	
CP7			RK75HA1J103J	CHIP-COM 10K J 1/16W	
CP9			RK75HA1J392J	CHIP-COM 3.9K J 1/16W	
CP12			RK75HA1J392J	CHIP-COM 3.9K J 1/16W	
CP13			RK75HA1J473J	CHIP-COM 47K J 1/16W	
CP21			RK75HA1J473J	CHIP-COM 47K J 1/16W	
CP22			RK75HA1J392J	CHIP-COM 3.9K J 1/16W	
CP701-712			R90-0741-05	MULTIPLE RESISTOR	
CP713			RK75HA1J392J	CHIP-COM 3.9K J 1/16W	
R1			RK73HB1J102J	CHIP R 1.0K J 1/16W	
R2		*	RK73RB2H150J	CHIP R 15 J 1/2W	
R4			RK73HB1J101J	CHIP R 100 J 1/16W	
R5		*	RK73FB2B122J	CHIP R 1.2K J 1/8W	
R6			RK73HB1J104J	CHIP R 100K J 1/16W	
R7			RK73HB1J393J	CHIP R 39K J 1/16W	
R8			RK73HB1J102J	CHIP R 1.0K J 1/16W	
R9			RK73HB1J124J	CHIP R 120K J 1/16W	
R10			RK73HB1J474J	CHIP R 470K J 1/16W	

K : TH-F6A (K) E : TH-F7E (E) T : TH-F7E (T) M : TH-F7A (M)

PARTS LIST

TX-RX UNIT (X57-636X-XX)

Ref. No.	Address	New parts	Parts No.	Description	Destination
R11			RK73HB1J180J	CHIP R 18 J 1/16W	
R12			RK73HB1J122J	CHIP R 1.2K J 1/16W	
R13			RK73HB1J562J	CHIP R 5.6K J 1/16W	
R14			RK73HB1J000J	CHIP R 0.0 J 1/16W	
R15			RK73HB1J151J	CHIP R 150 J 1/16W	
R16			RK73HB1J562J	CHIP R 5.6K J 1/16W	
R17			RK73HB1J473J	CHIP R 47K J 1/16W	
R18			RK73HB1J332J	CHIP R 3.3K J 1/16W	
R19		*	RK73RB2H120J	CHIP R 12 J 1/2W	
R20			RK73HB1J152J	CHIP R 1.5K J 1/16W	
R21			RK73HB1J104J	CHIP R 100K J 1/16W	
R22			RK73HB1J152J	CHIP R 1.5K J 1/16W	
R23			RK73HB1J223J	CHIP R 22K J 1/16W	
R24			RK73HB1J472J	CHIP R 4.7K J 1/16W	
R26 ,27			RK73HB1J102J	CHIP R 1.0K J 1/16W	
R28			RK73HB1J152J	CHIP R 1.5K J 1/16W	
R29			RK73HB1J105J	CHIP R 1.0M J 1/16W	
R30 ,31			RK73HB1J472J	CHIP R 4.7K J 1/16W	
R32			RK73HB1J152J	CHIP R 1.5K J 1/16W	
R33			RK73HB1J105J	CHIP R 1.0M J 1/16W	
R34 ,35			RK73HB1J472J	CHIP R 4.7K J 1/16W	
R37			RK73HB1J393J	CHIP R 39K J 1/16W	
R39			RK73HB1J221J	CHIP R 220 J 1/16W	
R40			RK73HB1J101J	CHIP R 100 J 1/16W	
R41 ,42			RK73HB1J121J	CHIP R 120 J 1/16W	
R43			RK73HB1J470J	CHIP R 47 J 1/16W	
R44			RK73HB1J121J	CHIP R 120 J 1/16W	
R45			RK73HB1J223J	CHIP R 22K J 1/16W	
R46			RK73HB1J221J	CHIP R 220 J 1/16W	
R48			RK73HB1J474J	CHIP R 470K J 1/16W	
R51			RK73HB1J222J	CHIP R 2.2K J 1/16W	
R55			RK73HB1J103J	CHIP R 10K J 1/16W	
R56 ,57			RK73HB1J104J	CHIP R 100K J 1/16W	
R58			RK73HB1J470J	CHIP R 47 J 1/16W	
R59			RK73HB1J471J	CHIP R 470 J 1/16W	
R60			RK73HB1J222J	CHIP R 2.2K J 1/16W	
R61			RK73HB1J683J	CHIP R 68K J 1/16W	
R62			RK73HB1J104J	CHIP R 100K J 1/16W	
R64			RK73HB1J470J	CHIP R 47 J 1/16W	
R68			RK73HB1J474J	CHIP R 470K J 1/16W	
R69			RK73HB1J562J	CHIP R 5.6K J 1/16W	
R70			RK73HB1J474J	CHIP R 470K J 1/16W	
R71			RK73HB1J470J	CHIP R 47 J 1/16W	
R72			RK73HB1J474J	CHIP R 470K J 1/16W	
R73			RK73HB1J562J	CHIP R 5.6K J 1/16W	
R74			RK73HB1J332J	CHIP R 3.3K J 1/16W	
R75			RK73HB1J152J	CHIP R 1.5K J 1/16W	
R76			RK73HB1J822J	CHIP R 8.2K J 1/16W	
R77			RK73HB1J223J	CHIP R 22K J 1/16W	
R79			RK73HB1J102J	CHIP R 1.0K J 1/16W	
R80			RK73HB1J271J	CHIP R 270 J 1/16W	
R81			RK73HB1J154J	CHIP R 150K J 1/16W	
R82			RK73HB1J471J	CHIP R 470 J 1/16W	
R86			RK73HB1J223J	CHIP R 22K J 1/16W	
R87			RK73HB1J183J	CHIP R 18K J 1/16W	
R88			RK73HB1J562J	CHIP R 5.6K J 1/16W	
R89			RK73HB1J683J	CHIP R 68K J 1/16W	
R90			RK73HB1J331J	CHIP R 330 J 1/16W	
R92			RK73HB1J153J	CHIP R 15K J 1/16W	
R93			RK73HB1J102J	CHIP R 1.0K J 1/16W	
R94			RK73HB1J474J	CHIP R 470K J 1/16W	
R95			RK73HB1J472J	CHIP R 4.7K J 1/16W	
R96			RK73HB1J104J	CHIP R 100K J 1/16W	
R97 ,98			RK73HB1J153J	CHIP R 15K J 1/16W	
R102			RK73HB1J101J	CHIP R 100 J 1/16W	
R103			RK73HB1J224J	CHIP R 220K J 1/16W	
R105			RK73HB1J152J	CHIP R 1.5K J 1/16W	
R106			RK73HB1J470J	CHIP R 47 J 1/16W	
R107			RK73HB1J101J	CHIP R 100 J 1/16W	
R109,110			RK73HB1J222J	CHIP R 2.2K J 1/16W	
R112			RK73HB1J473J	CHIP R 47K J 1/16W	
R113			RK73HB1J102J	CHIP R 1.0K J 1/16W	
R114			RK73HB1J152J	CHIP R 1.5K J 1/16W	
R115			RK73HB1J104J	CHIP R 100K J 1/16W	
R116			RK73HB1J471J	CHIP R 470 J 1/16W	
R119			RK73HB1J331J	CHIP R 330 J 1/16W	
R122			RK73HB1J562J	CHIP R 5.6K J 1/16W	
R124			RK73HB1J105J	CHIP R 1.0M J 1/16W	
R125			RK73HB1J224J	CHIP R 220K J 1/16W	
R126			RK73HB1J331J	CHIP R 330 J 1/16W	
R128			RK73HB1J104J	CHIP R 100K J 1/16W	
R129			RK73HB1J470J	CHIP R 47 J 1/16W	
R130			RK73HB1J101J	CHIP R 100 J 1/16W	
R131			RK73HB1J123J	CHIP R 12K J 1/16W	
R134,135			RK73HB1J102J	CHIP R 1.0K J 1/16W	
R136,137			RK73HB1J333J	CHIP R 33K J 1/16W	
R138			RK73HB1J681J	CHIP R 680 J 1/16W	
R139			RK73HB1J151J	CHIP R 150 J 1/16W	
R140			RK73HB1J121J	CHIP R 120 J 1/16W	
R141			RK73HB1J000J	CHIP R 0.0 J 1/16W	
R142			RK73HB1J103J	CHIP R 10K J 1/16W	
R143			RK73HB1J102J	CHIP R 1.0K J 1/16W	
R144			RK73HB1J124J	CHIP R 120K J 1/16W	
R145			RK73HB1J180J	CHIP R 18 J 1/16W	
R146			RK73HB1J332J	CHIP R 3.3K J 1/16W	
R147-149			RK73HB1J152J	CHIP R 1.5K J 1/16W	
R151			RK73HB1J562J	CHIP R 5.6K J 1/16W	
R152			RK73HB1J104J	CHIP R 100K J 1/16W	
R153			RK73HB1J102J	CHIP R 1.0K J 1/16W	
R154			RK73HB1J152J	CHIP R 1.5K J 1/16W	
R156			RK73HB1J472J	CHIP R 4.7K J 1/16W	
R157			RK73HB1J562J	CHIP R 5.6K J 1/16W	
R158			RK73HB1J472J	CHIP R 4.7K J 1/16W	
R159			RK73HB1J271J	CHIP R 270 J 1/16W	
R160			RK73HB1J121J	CHIP R 120 J 1/16W	
R162			RK73HB1J472J	CHIP R 4.7K J 1/16W	
R163			RK73HB1J101J	CHIP R 100 J 1/16W	
R164			RK73HB1J222J	CHIP R 2.2K J 1/16W	
R165			RK73HB1J000J	CHIP R 0.0 J 1/16W	
R166			RK73HB1J563J	CHIP R 56K J 1/16W	
R167			RK73HB1J101J	CHIP R 100 J 1/16W	
R168			RK73HB1J222J	CHIP R 2.2K J 1/16W	
R170			RK73HB1J473J	CHIP R 47K J 1/16W	
R172			RK73HB1J100J	CHIP R 10 J 1/16W	
R177			RK73HB1J273J	CHIP R 27K J 1/16W	
R178			RK73HB1J221J	CHIP R 220 J 1/16W	
R179			RK73HB1J101J	CHIP R 100 J 1/16W	
R181			RK73HB1J333J	CHIP R 33K J 1/16W	

K : TH-F6A (K) E : TH-F7E (E) T : TH-F7E (T) M : TH-F7A (M)

PARTS LIST

TX-RX UNIT (X57-636X-XX)

Ref. No.	Address	New parts	Parts No.	Description			Destination
R182			RK73HB1J221J	CHIP R	220	J 1/16W	
R183			RK73HB1J222J	CHIP R	2.2K	J 1/16W	
R184			RK73HB1J561J	CHIP R	560	J 1/16W	
R185			RK73HB1J273J	CHIP R	27K	J 1/16W	
R186			RK73HB1J182J	CHIP R	1.8K	J 1/16W	
R188			RK73HB1J152J	CHIP R	1.5K	J 1/16W	
R189			RK73HB1J000J	CHIP R	0.0	J 1/16W	
R190			RK73HB1J474J	CHIP R	470K	J 1/16W	
R191,192			RK73HB1J222J	CHIP R	2.2K	J 1/16W	
R193			RK73HB1J101J	CHIP R	100	J 1/16W	
R194			RK73HB1J334J	CHIP R	330K	J 1/16W	
R195			RK73HB1J181J	CHIP R	180	J 1/16W	
R196			RK73HB1J334J	CHIP R	330K	J 1/16W	
R197			RK73HB1J470J	CHIP R	47	J 1/16W	
R198			RK73HB1J102J	CHIP R	1.0K	J 1/16W	
R199			RK73HB1J181J	CHIP R	180	J 1/16W	
R200			RK73HB1J184J	CHIP R	180K	J 1/16W	
R201			RK73HB1J102J	CHIP R	1.0K	J 1/16W	
R202			RK73HB1J224J	CHIP R	220K	J 1/16W	
R203			RK73HB1J472J	CHIP R	4.7K	J 1/16W	
R204		*	R92-3512-05	CARBON R	0.1	1/2W	
R206		*	R92-3512-05	CARBON R	0.1	1/2W	
R207			RK73HB1J222J	CHIP R	2.2K	J 1/16W	
R208			RK73HB1J473J	CHIP R	47K	J 1/16W	
R209			RK73HB1J222J	CHIP R	2.2K	J 1/16W	
R210			RK73HB1J473J	CHIP R	47K	J 1/16W	
R211			RK73HB1J104J	CHIP R	100K	J 1/16W	
R212			RK73HB1J273J	CHIP R	27K	J 1/16W	
R213			RK73HB1J101J	CHIP R	100	J 1/16W	
R214			RK73HB1J474J	CHIP R	470K	J 1/16W	
R220			RK73HB1J224J	CHIP R	220K	J 1/16W	
R221			RK73HB1J122J	CHIP R	1.2K	J 1/16W	
R222			RK73HB1J100J	CHIP R	10	J 1/16W	
R224			RK73HB1J470J	CHIP R	47	J 1/16W	
R225			RK73HB1J223J	CHIP R	22K	J 1/16W	
R226			RK73HB1J473J	CHIP R	47K	J 1/16W	
R227			RK73HB1J222J	CHIP R	2.2K	J 1/16W	
R228			RK73HB1J330J	CHIP R	33	J 1/16W	
R229			RK73HB1J473J	CHIP R	47K	J 1/16W	
R231			RK73HB1J153J	CHIP R	15K	J 1/16W	T,E,M
R232			RK73HB1J222J	CHIP R	2.2K	J 1/16W	
R233			RK73HB1J330J	CHIP R	33	J 1/16W	K
R234			RK73HB1J473J	CHIP R	47K	J 1/16W	
R236			RK73HB1J680J	CHIP R	68	J 1/16W	
R237			RK73HB1J390J	CHIP R	39	J 1/16W	
R239,240			RK73HB1J560J	CHIP R	56	J 1/16W	
R242			RK73HB1J560J	CHIP R	56	J 1/16W	
R243,244			RK73HB1J332J	CHIP R	3.3K	J 1/16W	
R245			RK73HB1J473J	CHIP R	47K	J 1/16W	
R246			RK73HB1J682J	CHIP R	6.8K	J 1/16W	
R248			RK73HB1J471J	CHIP R	470	J 1/16W	
R249			RK73HB1J100J	CHIP R	10	J 1/16W	
R251			RK73HB1J154J	CHIP R	150K	J 1/16W	
R252-256			RK73HB1J104J	CHIP R	100K	J 1/16W	
R257			RK73HB1J392J	CHIP R	3.9K	J 1/16W	
R264			RK73HB1J332J	CHIP R	3.3K	J 1/16W	
R267			RK73HB1J470J	CHIP R	47	J 1/16W	
R269			RK73HB1J104J	CHIP R	100K	J 1/16W	
R270			RK73HB1J000J	CHIP R	0.0	J 1/16W	

Ref. No.	Address	New parts	Parts No.	Description			Destination
R271			RK73HB1J682J	CHIP R	6.8K	J 1/16W	
R272			RK73HB1J332J	CHIP R	3.3K	J 1/16W	
R273			RK73HB1J101J	CHIP R	100	J 1/16W	
R274			RK73HB1J470J	CHIP R	47	J 1/16W	
R275			RK73HB1J222J	CHIP R	2.2K	J 1/16W	
R278			RK73HB1J104J	CHIP R	100K	J 1/16W	
R279			RK73HB1J105J	CHIP R	1.0M	J 1/16W	
R280			RK73HB1J682J	CHIP R	6.8K	J 1/16W	
R281			RK73HB1J105J	CHIP R	1.0M	J 1/16W	
R282			RK73HB1J332J	CHIP R	3.3K	J 1/16W	
R284			RK73HB1J100J	CHIP R	10	J 1/16W	
R285			RK73HB1J103J	CHIP R	10K	J 1/16W	
R286			RK73HB1J105J	CHIP R	1.0M	J 1/16W	
R287			RK73HB1J332J	CHIP R	3.3K	J 1/16W	
R288			RK73HB1J000J	CHIP R	0.0	J 1/16W	
R291			RK73HB1J000J	CHIP R	0.0	J 1/16W	
R292			RK73HB1J470J	CHIP R	47	J 1/16W	
R293,294			RK73HB1J104J	CHIP R	100K	J 1/16W	
R297			RK73HB1J223J	CHIP R	22K	J 1/16W	
R298			RK73HB1J273J	CHIP R	27K	J 1/16W	
R299			RK73HB1J000J	CHIP R	0.0	J 1/16W	
R300-303			RK73HB1J392J	CHIP R	3.9K	J 1/16W	
R304			RK73HB1J152J	CHIP R	1.5K	J 1/16W	
R305,306			RK73HB1J101J	CHIP R	100	J 1/16W	
R307			RK73HB1J473J	CHIP R	47K	J 1/16W	
R308			RK73HB1J472J	CHIP R	4.7K	J 1/16W	
R309			RK73HB1J392J	CHIP R	3.9K	J 1/16W	
R310-312			RK73HB1J332J	CHIP R	3.3K	J 1/16W	
R313,314			RK73HB1J101J	CHIP R	100	J 1/16W	
R315			RK73HB1J332J	CHIP R	3.3K	J 1/16W	
R316			RK73HB1J100J	CHIP R	10	J 1/16W	T,E,M
R316			RK73HB1J220J	CHIP R	22	J 1/16W	K
R317			RK73HB1J332J	CHIP R	3.3K	J 1/16W	
R318,319			RK73HB1J473J	CHIP R	47K	J 1/16W	
R320			RK73HB1J472J	CHIP R	4.7K	J 1/16W	
R321			RK73HB1J474J	CHIP R	470K	J 1/16W	
R322			RK73HB1J100J	CHIP R	10	J 1/16W	
R324			RK73HB1J103J	CHIP R	10K	J 1/16W	
R326			RK73HB1J221J	CHIP R	220	J 1/16W	
R327			RK73HB1J102J	CHIP R	1.0K	J 1/16W	
R329			RK73HB1J220J	CHIP R	22	J 1/16W	
R331			RK73HB1J101J	CHIP R	100	J 1/16W	
R332			RK73HB1J223J	CHIP R	22K	J 1/16W	
R333			RK73HB1J682J	CHIP R	6.8K	J 1/16W	
R334			RK73HB1J820J	CHIP R	82	J 1/16W	
R336			RK73HB1J470J	CHIP R	47	J 1/16W	
R337			RK73HB1J104J	CHIP R	100K	J 1/16W	
R339			RK73HB1J104J	CHIP R	100K	J 1/16W	
R340			RK73HB1J102J	CHIP R	1.0K	J 1/16W	
R341			RK73HB1J332J	CHIP R	3.3K	J 1/16W	
R343			RK73HB1J470J	CHIP R	47	J 1/16W	
R347-350			RK73HB1J473J	CHIP R	47K	J 1/16W	
R351			RK73HB1J103J	CHIP R	10K	J 1/16W	
R352			RK73HB1J473J	CHIP R	47K	J 1/16W	
R353			RK73HB1J472J	CHIP R	4.7K	J 1/16W	
R354			RK73HB1J104J	CHIP R	100K	J 1/16W	
R356			RK73HB1J104J	CHIP R	100K	J 1/16W	
R357			RK73HB1J223J	CHIP R	22K	J 1/16W	
R359			RK73HB1J332J	CHIP R	3.3K	J 1/16W	

K : TH-F6A (K) E : TH-F7E (E) T : TH-F7E (T) M : TH-F7A (M)

PARTS LIST

TX-RX UNIT (X57-636X-XX)

Ref. No.	Address	New parts	Parts No.	Description	Destination
R360			RK73HB1J152J	CHIP R 1.5K J 1/16W	
R361			RK73HB1J332J	CHIP R 3.3K J 1/16W	
R362			RK73HB1J000J	CHIP R 0.0 J 1/16W	
R365			RK73HB1J105J	CHIP R 1.0M J 1/16W	
R366			RK73HB1J000J	CHIP R 0.0 J 1/16W	
R373,374			RK73HB1J000J	CHIP R 0.0 J 1/16W	
R375			RK73HB1J473J	CHIP R 47K J 1/16W	
R376,377			RK73HB1J103J	CHIP R 10K J 1/16W	
R378			RK73HB1J333J	CHIP R 33K J 1/16W	
R379			RK73HB1J103J	CHIP R 10K J 1/16W	
R381			RK73HB1J470J	CHIP R 47 J 1/16W	
R382			RK73HB1J103J	CHIP R 10K J 1/16W	
R384			RK73HB1J103J	CHIP R 10K J 1/16W	
R387			RK73HB1J000J	CHIP R 0.0 J 1/16W	
R390			RK73HB1J153J	CHIP R 15K J 1/16W	
R391			RK73HB1J000J	CHIP R 0.0 J 1/16W	
R392			RK73HB1J123J	CHIP R 12K J 1/16W	
R394			RK73HB1J472J	CHIP R 4.7K J 1/16W	
R396			RK73HB1J472J	CHIP R 4.7K J 1/16W	
R397			RK73HB1J151J	CHIP R 150 J 1/16W	
R398			RK73HB1J103J	CHIP R 10K J 1/16W	
R399			RK73HB1J101J	CHIP R 100 J 1/16W	
R400			RK73HB1J000J	CHIP R 0.0 J 1/16W	
R401			RK73HB1J102J	CHIP R 1.0K J 1/16W	
R402			RK73HB1J333J	CHIP R 33K J 1/16W	
R403			RK73HB1J151J	CHIP R 150 J 1/16W	
R404			RK73HB1J103J	CHIP R 10K J 1/16W	
R407			RK73HB1J102J	CHIP R 1.0K J 1/16W	
R408			RK73HB1J152J	CHIP R 1.5K J 1/16W	
R409			RK73HB1J102J	CHIP R 1.0K J 1/16W	
R410			RK73HB1J000J	CHIP R 0.0 J 1/16W	
R411			RK73HB1J104J	CHIP R 100K J 1/16W	
R412,413			RK73HB1J181J	CHIP R 180 J 1/16W	K
R414			RK73HB1J684J	CHIP R 680K J 1/16W	
R415			RK73HB1J102J	CHIP R 1.0K J 1/16W	K
R415			RK73HB1J472J	CHIP R 4.7K J 1/16W	T,E,M
R416			RK73HB1J332J	CHIP R 3.3K J 1/16W	
R417			RK73HB1J104J	CHIP R 100K J 1/16W	
R418			RK73HB1J103J	CHIP R 10K J 1/16W	
R420,421			RK73HB1J474J	CHIP R 470K J 1/16W	
R422,423			RK73HB1J103J	CHIP R 10K J 1/16W	
R425			RK73GB2A000J	CHIP R 0.0 J 1/10W	
R426			RK73HB1J102J	CHIP R 1.0K J 1/16W	
R429			RK73HB1J331J	CHIP R 330 J 1/16W	
R430			RK73HB1J221J	CHIP R 220 J 1/16W	
R431			RK73HB1J222J	CHIP R 2.2K J 1/16W	T,E,M
R431,432			RK73HB1J222J	CHIP R 2.2K J 1/16W	K
R701			RK73GB2A000J	CHIP R 0.0 J 1/10W	
R702			RK73HB1J824J	CHIP R 820K J 1/16W	
R703			RK73HB1J224J	CHIP R 220K J 1/16W	
R704			RK73HB1J561J	CHIP R 560 J 1/16W	
R705			RK73HB1J101J	CHIP R 100 J 1/16W	
R706			RK73HB1J473J	CHIP R 47K J 1/16W	
R707			RK73HH1J683D	CHIP R 68K D 1/16W	
R708,709			RK73HH1J273D	CHIP R 27K D 1/16W	
R710			RK73HB1J103J	CHIP R 10K J 1/16W	
R711			RK73HB1J472J	CHIP R 4.7K J 1/16W	
R712			RK73HB1J222J	CHIP R 2.2K J 1/16W	
R713			RK73HB1J391J	CHIP R 390 J 1/16W	
R714			RK73HB1J474J	CHIP R 470K J 1/16W	

Ref. No.	Address	New parts	Parts No.	Description	Destination
R715			RK73HB1J103J	CHIP R 10K J 1/16W	
R716			RK73HB1J472J	CHIP R 4.7K J 1/16W	
R717			RK73HB1J103J	CHIP R 10K J 1/16W	
R718,719			RK73HB1J104J	CHIP R 100K J 1/16W	
R720			RK73HB1J824J	CHIP R 820K J 1/16W	
R721			RK73HB1J183J	CHIP R 18K J 1/16W	
R722			RK73HB1J000J	CHIP R 0.0 J 1/16W	
R723			RK73HB1J824J	CHIP R 820K J 1/16W	
R724			RK73HB1J823J	CHIP R 82K J 1/16W	
R725			RK73HB1J103J	CHIP R 10K J 1/16W	
R726			RK73HB1J100J	CHIP R 10 J 1/16W	
R728,729			RK73HB1J103J	CHIP R 10K J 1/16W	
R730			RK73HB1J471J	CHIP R 470 J 1/16W	
R731			RK73HB1J104J	CHIP R 100K J 1/16W	
R732			RK73HB1J182J	CHIP R 1.8K J 1/16W	
R733			RK73HB1J101J	CHIP R 100 J 1/16W	
R734			RK73HB1J121J	CHIP R 120 J 1/16W	
R735			RK73HB1J151J	CHIP R 150 J 1/16W	
R736			RK73HB1J121J	CHIP R 120 J 1/16W	
R737			RK73HB1J151J	CHIP R 150 J 1/16W	
R738			RK73HB1J102J	CHIP R 1.0K J 1/16W	
R739			RK73HB1J104J	CHIP R 100K J 1/16W	
R740			RK73GB2A473J	CHIP R 47K J 1/10W	
R741			RK73HB1J104J	CHIP R 100K J 1/16W	
R742			RK73HB1J472J	CHIP R 4.7K J 1/16W	
R743			RK73HB1J000J	CHIP R 0.0 J 1/16W	
R744			RK73HB1J102J	CHIP R 1.0K J 1/16W	
R745			RK73HB1J331J	CHIP R 330 J 1/16W	
R746			RK73HB1J152J	CHIP R 1.5K J 1/16W	
R747			RK73GB2A000J	CHIP R 0.0 J 1/10W	
R749-751			RK73HB1J103J	CHIP R 10K J 1/16W	
R752			RK73HB1J223J	CHIP R 22K J 1/16W	
R753			RK73GB2A000J	CHIP R 0.0 J 1/10W	
R754			RK73HB1J182J	CHIP R 1.8K J 1/16W	
R755-757			RK73HB1J102J	CHIP R 1.0K J 1/16W	
R758			RK73GB2A221J	CHIP R 220 J 1/10W	
R759			RK73HB1J101J	CHIP R 100 J 1/16W	
R760			RK73GB2A560J	CHIP R 56 J 1/10W	
R761			RK73HB1J100J	CHIP R 10 J 1/16W	
R763			RK73HB1J563J	CHIP R 56K J 1/16W	
R764			RK73HB1J184J	CHIP R 180K J 1/16W	
R765			RK73HB1J821J	CHIP R 820 J 1/16W	
R766			RK73HB1J222J	CHIP R 2.2K J 1/16W	
R767			RK73HB1J105J	CHIP R 1.0M J 1/16W	
R768			RK73HB1J332J	CHIP R 3.3K J 1/16W	
R769			RK73HB1J224J	CHIP R 220K J 1/16W	
R770			RK73HB1J221J	CHIP R 220 J 1/16W	
R771			RK73HB1J471J	CHIP R 470 J 1/16W	
R772			RK73HB1J561J	CHIP R 560 J 1/16W	
R773			RK73HB1J473J	CHIP R 47K J 1/16W	
R774			RK73HB1J102J	CHIP R 1.0K J 1/16W	
R775			RK73HB1J474J	CHIP R 470K J 1/16W	
R776			RK73HB1J102J	CHIP R 1.0K J 1/16W	
R777			RK73HB1J334J	CHIP R 330K J 1/16W	
R778			RK73HB1J000J	CHIP R 0.0 J 1/16W	
R779,780			RK73HB1J153J	CHIP R 15K J 1/16W	
R781			RK73HB1J334J	CHIP R 330K J 1/16W	
R782			RK73HB1J104J	CHIP R 100K J 1/16W	
R783			RK73HB1J000J	CHIP R 0.0 J 1/16W	
R784,785			RK73HB1J184J	CHIP R 180K J 1/16W	

K : TH-F6A (K) E : TH-F7E (E) T : TH-F7E (T) M : TH-F7A (M)

PARTS LIST

TX-RX UNIT (X57-636X-XX)

Ref. No.	Address	New parts	Parts No.	Description	Destination
R786			RK73HB1J473J	CHIP R 47K J 1/16W	
R787,788			RK73HB1J472J	CHIP R 4.7K J 1/16W	
R789			RK73HB1J103J	CHIP R 10K J 1/16W	
R790			RK73HB1J102J	CHIP R 1.0K J 1/16W	
R793,794			RK73HB1J000J	CHIP R 0.0 J 1/16W	
R796			RK73HB1J000J	CHIP R 0.0 J 1/16W	
R797			RK73HB1J101J	CHIP R 100 J 1/16W	
R798			RK73HB1J332J	CHIP R 3.3K J 1/16W	
R799			RK73HB1J102J	CHIP R 1.0K J 1/16W	
R800			RK73HB1J104J	CHIP R 100K J 1/16W	
R801			RK73HB1J103J	CHIP R 10K J 1/16W	
R802			RK73HB1J000J	CHIP R 0.0 J 1/16W	
R803			RK73HB1J154J	CHIP R 150K J 1/16W	
R804,805			RK73HB1J472J	CHIP R 4.7K J 1/16W	
R806			RK73HB1J154J	CHIP R 150K J 1/16W	
R807			RK73HB1J273J	CHIP R 27K J 1/16W	
R808			RK73GB2A155J	CHIP R 1.5M J 1/10W	
R809			RK73HB1J222J	CHIP R 2.2K J 1/16W	
R810			RK73HB1J681J	CHIP R 680 J 1/16W	
R811			RK73HB1J470J	CHIP R 47 J 1/16W	
R812			RK73HB1J222J	CHIP R 2.2K J 1/16W	
R813			RK73HB1J104J	CHIP R 100K J 1/16W	
R814,815			RK73HB1J472J	CHIP R 4.7K J 1/16W	
R816,817			RK73HB1J103J	CHIP R 10K J 1/16W	
R818			RK73HB1J101J	CHIP R 100 J 1/16W	
R819			RK73HB1J102J	CHIP R 1.0K J 1/16W	
R820			RK73HB1J123J	CHIP R 12K J 1/16W	
R821			RK73HB1J101J	CHIP R 100 J 1/16W	
R824			RK73HB1J472J	CHIP R 4.7K J 1/16W	
R825			RK73HB1J223J	CHIP R 22K J 1/16W	
R826			RK73HB1J104J	CHIP R 100K J 1/16W	
R827,828			RK73HB1J823J	CHIP R 82K J 1/16W	
R829			RK73HB1J104J	CHIP R 100K J 1/16W	
R830			RK73HB1J102J	CHIP R 1.0K J 1/16W	
R831			RK73HB1J103J	CHIP R 10K J 1/16W	
R832			RK73HB1J474J	CHIP R 470K J 1/16W	
R833			RK73HB1J000J	CHIP R 0.0 J 1/16W	
R834			RK73HB1J473J	CHIP R 47K J 1/16W	
R835			RK73HB1J100J	CHIP R 10 J 1/16W	
R837			RK73HB1J104J	CHIP R 100K J 1/16W	
R839,840			RK73HB1J104J	CHIP R 100K J 1/16W	
R841			RK73HB1J273J	CHIP R 27K J 1/16W	
R842			RK73HB1J472J	CHIP R 4.7K J 1/16W	
R843			RK73HB1J104J	CHIP R 100K J 1/16W	
R844,845			RK73HB1J392J	CHIP R 3.9K J 1/16W	
R846			RK73HB1J272J	CHIP R 2.7K J 1/16W	
R848			RK73HB1J824J	CHIP R 820K J 1/16W	
R849			RK73HB1J000J	CHIP R 0.0 J 1/16W	
R852			RK73HB1J000J	CHIP R 0.0 J 1/16W	
R853			RK73HB1J224J	CHIP R 220K J 1/16W	
R854			RK73HB1J104J	CHIP R 100K J 1/16W	
R855			RK73HB1J334J	CHIP R 330K J 1/16W	
R856			RK73HB1J104J	CHIP R 100K J 1/16W	
R857			RK73HB1J334J	CHIP R 330K J 1/16W	
R858,859			RK73HB1J152J	CHIP R 1.5K J 1/16W	
R860,861			RK73HB1J103J	CHIP R 10K J 1/16W	
R862			RK73HB1J184J	CHIP R 180K J 1/16W	
R863			RK73HB1J103J	CHIP R 10K J 1/16W	
R864			RK73HB1J333J	CHIP R 33K J 1/16W	
R865			RK73HB1J000J	CHIP R 0.0 J 1/16W	

Ref. No.	Address	New parts	Parts No.	Description	Destination
R866			RK73GB2A000J	CHIP R 0.0 J 1/10W	
R867			RK73HB1J102J	CHIP R 1.0K J 1/16W	
R868			RK73HB1J274J	CHIP R 270K J 1/16W	
R869			RK73HB1J823J	CHIP R 82K J 1/16W	
R870			RK73HB1J822J	CHIP R 8.2K J 1/16W	
R871			RK73HB1J474J	CHIP R 470K J 1/16W	
R872			RK73HB1J472J	CHIP R 4.7K J 1/16W	
R875			RK73HB1J000J	CHIP R 0.0 J 1/16W	
R876			RK73HB1J223J	CHIP R 22K J 1/16W	
R877			RK73HB1J000J	CHIP R 0.0 J 1/16W	
R878			RK73HB1J101J	CHIP R 100 J 1/16W	
R879			RK73HB1J104J	CHIP R 100K J 1/16W	
R890			RK73HB1J101J	CHIP R 100 J 1/16W	
R891			RK73HB1J000J	CHIP R 0.0 J 1/16W	
VR701		*	R32-0739-05	TRIMMING POT.(220K)	
S701-703			S70-0483-05	TACT SWITCH	
S704			S70-0477-05	TACT SWITCH	
MIC701			T91-0580-05	MIC ELEMENT	
D1			HZU2ALL	ZENER DIODE	
D2			RB051L-40	DIODE	
D4			HZU2ALL	ZENER DIODE	
D5			1SS361-F	DIODE	
D6			RB051L-40	DIODE	
D7			DA221	DIODE	
D8 ,9			MA2S111-F	DIODE	
D10 -12		*	HVC375B-E	VARIABLE CAPACITANCE DIODE	
D16		*	HVC375B-E	VARIABLE CAPACITANCE DIODE	
D18			HVC131	DIODE	
D20		*	KV1610S	VARIABLE CAPACITANCE DIODE	
D21			HVC131	DIODE	
D25			DAN235E	DIODE	
D28 ,29		*	HVC375B-E	VARIABLE CAPACITANCE DIODE	
D32		*	HVU187-E	DIODE	
D33			MA2S111-F	DIODE	
D34			MA2S304	VARIABLE CAPACITANCE DIODE	
D35		*	1SV305F	VARIABLE CAPACITANCE DIODE	
D36			MA2S304	VARIABLE CAPACITANCE DIODE	
D37		*	1SV305F	VARIABLE CAPACITANCE DIODE	
D38			MA2S111-F	DIODE	
D40			HVC131	DIODE	
D41		*	1SS360-F	DIODE	
D44			MA2S728	DIODE	
D45			015AZ3.9F	ZENER DIODE	
D49			HVC131	DIODE	
D51			HVC131	DIODE	
D52			L709CER	DIODE	
D53		*	HVU131-E	DIODE	
D54			HVC131	DIODE	
D57			HSC277	DIODE	
D58			1SS388F	DIODE	
D59			RB717F	DIODE	
D60		*	HVR100	VARIABLE CAPACITANCE DIODE	
D62		*	HVU131-E	DIODE	
D63		*	1SS385F	DIODE	
D65			HSC277	DIODE	
D67 ,68			HSC277	DIODE	
D69			RB717F	DIODE	
D70		*	HVU131-E	DIODE	

K : TH-F6A (K) E : TH-F7E (E) T : TH-F7E (T) M : TH-F7A (M)

PARTS LIST

TX-RX UNIT (X57-636X-XX)

Ref. No.	Address	New parts	Parts No.	Description	Destination
D71			HSC277	DIODE	
D72		*	BBY65-02V	VARIABLE CAPACITANCE DIODE	
D73		*	HVU131-E	DIODE	
D74			HSC277	DIODE	
D75 -77		*	BBY65-02V	VARIABLE CAPACITANCE DIODE	
D78			HSC277	DIODE	
D80			HSC277	DIODE	
D81		*	BBY65-02V	VARIABLE CAPACITANCE DIODE	
D82			MA2S111-F	DIODE	
D83		*	BBY65-02V	VARIABLE CAPACITANCE DIODE	
D85			L709CER	DIODE	K
D87 -90		*	BBY65-02V	VARIABLE CAPACITANCE DIODE	
D91			HSC277	DIODE	
D93 ,94			HSC277	DIODE	
D95 -97		*	BBY65-02V	VARIABLE CAPACITANCE DIODE	
D99 -103			HSC277	DIODE	
D104			MA2S111-F	DIODE	
D106		*	HVC375B-E	VARIABLE CAPACITANCE DIODE	
D107-110			HVC131	DIODE	
D112,113			HVC131	DIODE	
D114		*	HVU131-E	DIODE	
D115,116			HSC277	DIODE	
D117,118			MA2S111-F	DIODE	
D119,120			HVC131	DIODE	K
D122			02DZ15F-X,Y	ZENER DIODE	
D123		*	MAZS0360(H)	ZENER DIODE	
D124,125			HSC277	DIODE	
D126			02DZ15F-X,Y	ZENER DIODE	
D128			MA2S111-F	DIODE	T,E,M
D702			MA2S111-F	DIODE	T,E,M
D702-704			MA2S111-F	DIODE	K
D704			MA2S111-F	DIODE	T,E,M
D705			RB706F-40	DIODE	
D706			MA2S111-F	DIODE	
D707,708			DA227	DIODE	
D709			RB706F-40	DIODE	
D710,711			DA221	DIODE	
D718			DAN222	DIODE	
D719			MA2S111-F	DIODE	
D726		*	MAZS0360(H)	ZENER DIODE	
D727			1SS388F	DIODE	
D730,731			1SS388F	DIODE	
D732,733			MA2S111-F	DIODE	
IC1		*	LM3420-8.4N	MOS-IC	
IC2			LMX2316TMX	MOS-IC	T,E,M
IC2			LMX2326TMX	MOS-IC	K
IC3			UPB1509GV	BI-POLAR IC	
IC4			TA4101F-F	ANALOGUE IC	
IC5		*	TK10931VTL-G	ANALOGUE IC	
IC6			LMX2316TMX	MOS-IC	T,E,M
IC6			LMX2326TMX	MOS-IC	K
IC7			TA31136FNG	MOS-IC	
IC8 ,9			LMC7101BIM5	MOS-IC	
IC10		*	UPC2746TB-A	BI-POLAR IC	
IC11			BU2099FV	MOS-IC	
IC701			TA75W558FU-F	MOS-IC	
IC702			NJM2107F-ZB	ANALOGUE IC	
IC703			TC7S66FUF	MOS-IC	
IC704			AT25128A10SU27	ROM IC	

Ref. No.	Address	New parts	Parts No.	Description	Destination
IC705		*	784216AGC257A	MICROPROCESSOR IC	K
IC705		*	784216AGC258A	MICROPROCESSOR IC	T,E,M
IC706			M62364FP-F	MOS-IC	
IC707			TA7368FG	MOS-IC	
IC708			XC6202P402PR	MOS-IC	
IC709			PST9130NR	MOS-IC	
IC710		*	R3111N351A-F	MOS-IC	
IC711			TA75W01FUF	MOS-IC	
IC712		*	TC4W53FU-F	MOS-IC	
IC713			LM2681	MOS-IC	
IC714			TA75W01FUF	MOS-IC	
IC715		*	TK11240CMCL-G	BI-POLAR IC	
IC717			TC75S51F-F	MOS-IC	
IC718			LMC7101BIM5	MOS-IC	
IC719,720			NJM2107F-ZB	ANALOGUE IC	
Q1			2SD1760	TRANSISTOR	
Q2			DTC123JE	DIGITAL TRANSISTOR	
Q3			DTA143ZE	DIGITAL TRANSISTOR	
Q4			HN1K02FU-F	FET	
Q5			2SK1830F	FET	
Q6			2SK1824-A	FET	
Q7			2SC4617(S)	TRANSISTOR	
Q8			2SK1830F	FET	
Q9		*	MT6C03AE*J-F	TRANSISTOR	
Q10		*	UPA573T-A	FET	
Q11 -13			2SC5010-T1-A	TRANSISTOR	
Q14		*	SSM3J05FU-F	FET	
Q15		*	UPA573T-A	FET	
Q17			2SJ243-A	FET	
Q19			2SC5108(Y)F	TRANSISTOR	
Q21			2SC5010-T1-A	TRANSISTOR	
Q22			UPA672T-A	FET	
Q23			UMX2N	TRANSISTOR	
Q24		*	2SC4915-F	TRANSISTOR	
Q25			2SC4617(R)	TRANSISTOR	
Q26 ,27		*	2SC4915-F	TRANSISTOR	
Q28		*	MT6C03AE*J-F	TRANSISTOR	
Q29			UPA672T-A	FET	
Q30			2SJ347F	FET	
Q31			2SC4617(S)	TRANSISTOR	
Q32			2SK1830F	FET	
Q34		*	MT6C03AE*J-F	TRANSISTOR	
Q35		*	HN1J02FUF	FET	
Q37			2SC5108(Y)F	TRANSISTOR	
Q40 ,41			2SC5010-T1-A	TRANSISTOR	
Q43			2SC5108(Y)F	TRANSISTOR	
Q44		*	2SC4915-F	TRANSISTOR	
Q45		*	MT6C04AE-F	TRANSISTOR	
Q46		*	3SK320-FP	FET	
Q47			DTA114YE	DIGITAL TRANSISTOR	
Q48			2SK1824-A	FET	
Q49			2SK1830F	FET	
Q50			2SC4617(R)	TRANSISTOR	
Q51			2SK1830F	FET	
Q52			2SK1824-A	FET	
Q53			UMA6N	TRANSISTOR	
Q54			RD01MUS1-T113	FET	T,E,M
Q54			2SK2973	FET	K
Q55		*	2SK3476B-F	FET	

K : TH-F6A (K) E : TH-F7E (E) T : TH-F7E (T) M : TH-F7A (M)

PARTS LIST

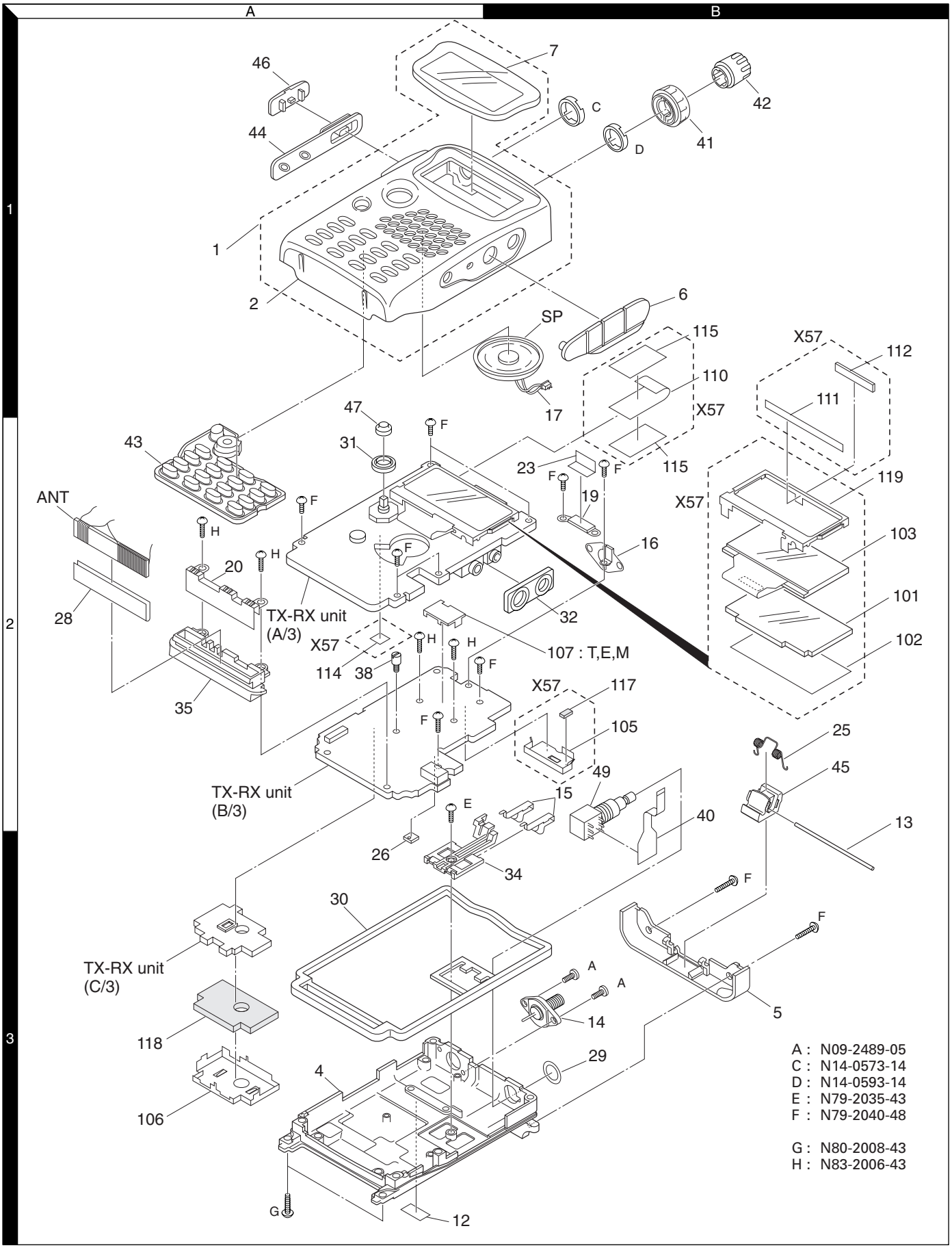
TX-RX UNIT (X57-636X-XX)

Ref. No.	Address	New parts	Parts No.	Description	Destination
Q56			RD01MUS1-T113	FET	T,E,M
Q56			2SK2973	FET	K
Q57		*	2SK3476B-F	FET	K
Q58			2SC4617(R)	TRANSISTOR	
Q59		*	3SK320-FP	FET	
Q62 -64		*	3SK320-FP	FET	
Q65			2SK3019	FET	
Q66			2SJ243-A	FET	
Q68			RN47A5-F	TRANSISTOR	
Q69			DTC144EE	DIGITAL TRANSISTOR	
Q70			2SJ243-A	FET	
Q71			2SC4226-A(R24)	TRANSISTOR	
Q72			2SC5192-A	TRANSISTOR	
Q73			2SC4617(R)	TRANSISTOR	
Q74			2SK1824-A	FET	
Q76			2SC4725	TRANSISTOR	
Q92			DTA143ZE	DIGITAL TRANSISTOR	
Q93		*	MT6C03AE*J-F	TRANSISTOR	
Q94			DTC144EE	DIGITAL TRANSISTOR	
Q95 ,96			2SK1830F	FET	
Q97			2SC5010-T1-A	TRANSISTOR	
Q98			2SK1830F	FET	
Q99			UMA6N	TRANSISTOR	K
Q701			2SC4617(R)	TRANSISTOR	
Q702			2SJ347F	FET	
Q703			2SC4081	TRANSISTOR	
Q704			2SJ347F	FET	
Q705			2SK1830F	FET	
Q706		*	2SK1588-AZ	FET	
Q707			2SJ347F	FET	
Q708			2SK1830F	FET	
Q709			2SC4617(R)	TRANSISTOR	
Q710			2SB1184(Q,R)	TRANSISTOR	
Q712		*	CPH3317	FET	
Q713			UMA10N	TRANSISTOR	
Q714			RN47A5-F	TRANSISTOR	
Q715			UMA10N	TRANSISTOR	
Q716			DTA143ZE	DIGITAL TRANSISTOR	
Q719,720			2SC4617(R)	TRANSISTOR	
Q721			2SJ347F	FET	
Q722			2SK1830F	FET	
Q723			DTC114EE	DIGITAL TRANSISTOR	
Q725			2SB1184(Q,R)	TRANSISTOR	
Q726			2SC4919	TRANSISTOR	
Q728			UMX2N	TRANSISTOR	
Q729			2SK1830F	FET	
TH1			ERTJ0EV104H	THERMISTOR	
TH2			157-471-65001	THERMISTOR	
TH701			157-503-65001	THERMISTOR	
-			X57-6360-01	VCO PCB	

Ref. No.	Address	New parts	Parts No.	Description	Destination

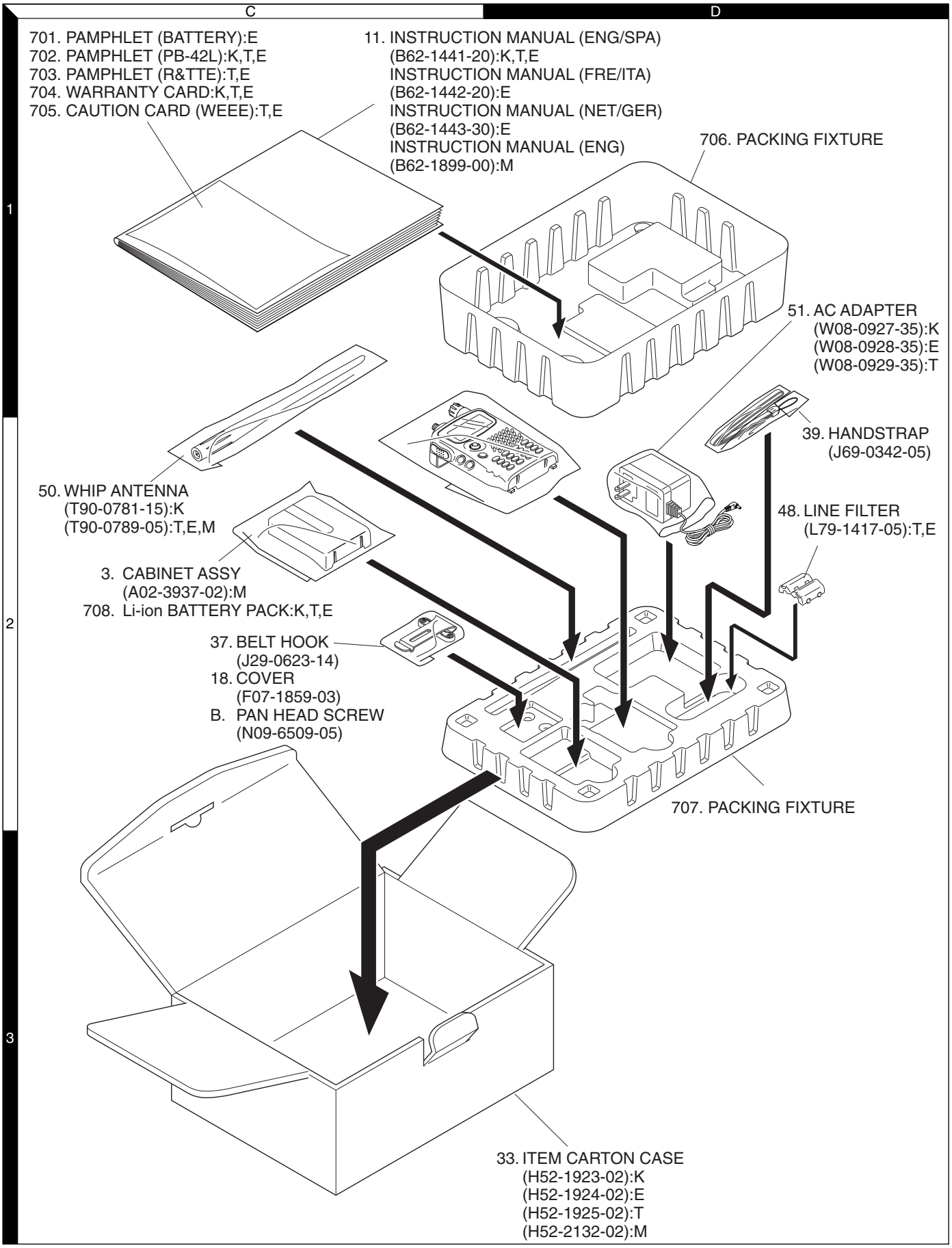
K : TH-F6A (K) E : TH-F7E (E) T : TH-F7E (T) M : TH-F7A (M)

EXPLODED VIEW



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

PACKING



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

ADJUSTMENT

REQUIRED TEST EQUIPMENT

1. Stabilized Power Supply
① The supply voltage can be changed between 3 V and 16 V and the current is 5 A or more.
② The standard voltage is 13.8 V.

2. DC Ammeter (DC.A)
① Class 1 ammeter (17 ranges and other features)
② The full scale can be switched between 300 mA and 3 A.
③ A cable with low internal loss must be used.

3. Frequency Counter (f. counter)
① Frequencies of up to 1.3 GHz or so can be measured.
② The sensitivity can be changed to 250 MHz or below and measurements are highly stable and accurate (about 0.2 ppm).

4. Power Meter (terminal type)
① Measurable frequency: Up to 1.3 GHz
② Impedance: 50 Ω, unbalanced
③ Measuring range: Full scale of 10 W
④ The specified special connection cable must be used.

5. RF Voltmeter (RF V.M)
① Measurable frequency: Up to 500 MHz or so

6. Digital Voltmeter
① Voltage range: FS=18 V or so
② Input resistance: 1M Ω or more

7. Oscilloscope
① Measuring range: DC to 30 MHz
② Provides highly accurate measurements for 5 to 25 MHz

8. AF Voltmeter (AF V.M)
① Measurable frequency: 50 Hz to 1 MHz
② Maximum sensitivity: 1 mV or more

9. Spectrum Analyzer
① Measuring range: DC to 1.3 GHz or more

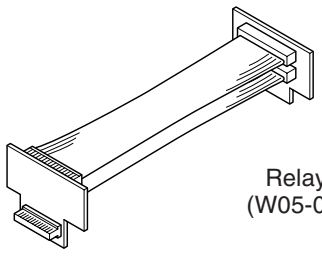
10. Standard Signal Generator (SSG)
① Maximum frequency: 1.3 GHz or more
② Output: -133 dBm (0.05 µV) to –13 dBm (50 mV)
③ Output impedance: 50 Ω

11. Linear Detector
① Measurable frequency: Up to 500 MHz
② Characteristic is flat and CN is 60 dB or more.

12. AF Generator (AG)
① Output frequency: 100 Hz to 10 kHz
② Output voltage: 0.5 mV to 1 V

13. Dummy Load
① 8 Ω, 3 W or more

Adjustment service jig



Used to connect the control unit with the RF unit.

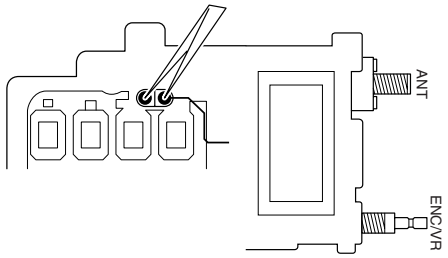
Service Setup Mode

Function Overview

VOLT	: Set power supply voltage to 6.5 V.
TCXO	: PLL reference TCXO adjustment
BPF	: Adjust the BPF tune level.
2nd	: Adjust the B band 2nd local oscillator.
BFO	: Adjust the SSB offset frequency (LSB, USB) level
SQ	: Adjust the squelch threshold and level 2 voltage.
SM	: Adjust the first segment and all segment ON level of the S-meter.
P	: Adjustment Hi, Low, EL transmission power.
BAL	: Adjust the DCS modulation balance.
MAX	: Adjust the max deviation.
TON	: Adjust the tone deviation
DCS	: Adjust the DCS deviation
96	: Adjust the 9600 deviation
VOX	: Adjust the VOX gain.

Operation

1) Set the tone frequency and DCS code of each of the frequency bands of the A band to specified values.
2) Set single band mode.
3) Service Setup Mode appears when accessing two illustrated lands on the component mounted side of the TX-RX Unit (A/3) while the transceiver is switched ON.



When the Service Setup Mode is set, the following is displayed and adjustment item setting state is displayed on the non-operation band side.

▭ A pict flashes.

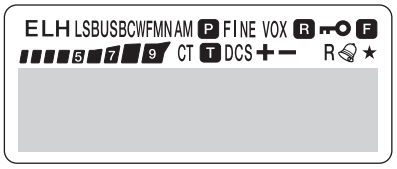
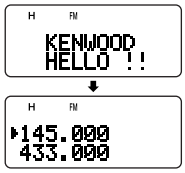
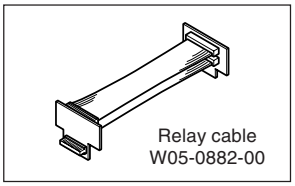
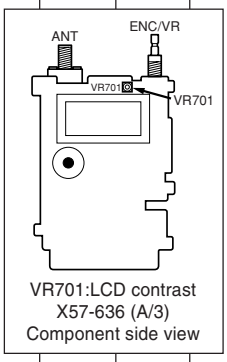
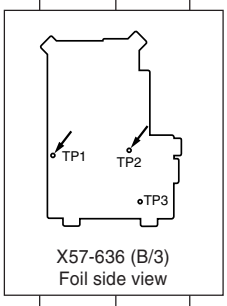
```
►144.000
VOLT : 83      : FF
```

- [◄], [►] : Changes adjustment items.
- [▲], [▼] : Increase or decrease frequency and memory channel number.
- Tuning control : Increase or decrease the adjustment value (real-time value)
- [MNU] : Set the adjusted real-time value in the EEPROM.
- Press [LAMP] : Press the [LAMP] key to enter into the menu modes. To release the mode, press the key once again.
- Keys other than the above can be operated normally.

To terminate the Service Setup mode, turn the power supply OFF.

ADJUSTMENT

Common Section

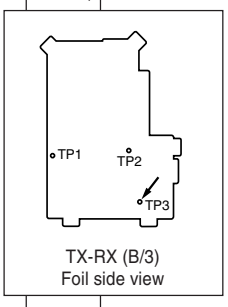
Item	Conditions	Measurement			Adjustment			Specifications/Remarks
		Test equipment	Unit	Terminal	Unit	Parts	Method	
Setting and resetting	Connect the optional PG-2W DC cable to the power supply. DC-IN terminal voltage: 13.8V 1) Total illumination display confirmation Press and hold [F], then switch ON the transceiver power by pressing Power Switch. 2) Reset Release [F]. Select the reset mode by turning the tuning control or press [▲]/[▼]. If you select "NO", the transceiver exits the reset mode. Press [MNU]. Press [MNU].	LCD total illumination display  Internal value setting display after all resetting  Example : E,T Type						
LCD contrast	+25˚C Connect the operational PG-2W DC cable to the power supply. DC-IN terminal voltage: 13.8V Remove 5 screws from the X57-636 (A/3) then using the relay cable (W05-0882-00), connect the X57-636 (A/3) to the X57-636 (B/3).  	Digital voltmeter	TX-RX (A/3)	LCD	TX-RX (A/3)	VR701	Adjust VR701 to set the LCD contrast to an optimal level.  VR701:LCD contrast X57-636 (A/3) Component side view		
VCO Lock voltage	A-Band 1) Frequency : 137.000MHz 2) Frequency : 173.990MHz 3) Frequency : 216.000MHz (K) 4) Frequency : 259.990MHz (K) 5) Frequency : 410.000MHz 6) Frequency : 469.990MHz	Digital voltmeter	TX-RX (B/3)	TP1			Check	0.7V or more 5.5V or less 0.7V or more 5.5V or less 0.7V or more 5.5V or less
	B-Band 7) Frequency : 23.000MHz 8) Frequency : 42.390MHz 9) Frequency : 142.400MHz 10) Frequency : 182.390MHz 11) Frequency : 182.400MHz 12) Frequency : 222.390MHz 13) Frequency : 502.400MHz 14) Frequency : 591.990MHz			TP2			Check  X57-636 (B/3) Foil side view	0.7V or more 5.5V or less 0.7V or more 5.5V or less 0.7V or more 5.5V or less 0.7V or more 5.5V or less
	Adjustments for those items must be made after removing R701. After the adjustments, ensure that R701 is restored as before.							
TCXO adjust	1) Set the Service Setup Mode to display the [TCXO] item. 2) Set the operation band to A band. 3) Set the display frequency and mode. 4) Press [PTT] and turn the tuning control while transmitting to change the "real-time value". 5) Press [MNU] to set the "real-time value" in the EEPROM. ►435.000 TCXO : 83 : FF Real-time value EEPROM setting							
	POWER : EL Frequency : 444.000MHz (K) Frequency : 435.100MHz (E,T,M) Transmission	f. counter		ANT		Tuning control MNU key	Write	444.000MHz ± 500Hz 435.100MHz ± 500Hz

ADJUSTMENT

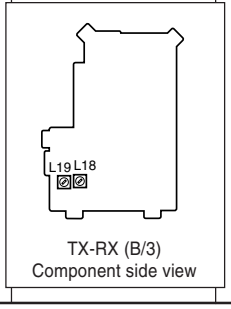
Item	Conditions	Measurement			Adjustment			Specifications/Remarks
		Test equipment	Unit	Terminal	Unit	Parts	Method	
Battery voltage adjust	1) Set the power supply voltage to 6.5V. (Via PG-2W cable) 2) Set the Service Setup Mode to display the [VOLT] item. 3) Press [MNU] to set the "real-time value" in the EEPROM. Based on the parameters, over voltage alert, battery remaining indication and APC are control. ►145.000 VOLT : 83 : FF Real-time value / EEPROM setting							
	DC-IN terminal voltage : 6.5V Frequency : 145.000MHz (E,T,M) Frequency : 146.000MHz (K)	DC power supply		DC IN		MNU key	Write	
Battery voltage check	DC-IN terminal voltage : 17V Frequency : 145.000MHz (E,T,M) Frequency : 146.000MHz (K)	DC power supply		DC IN				Check for alarm sound and message "VOLTAGE ERROR"
	Battery terminal : 7.5V Frequency : 145.000MHz (E,T,M) Frequency : 146.000MHz (K)	DC power supply		Battery terminal			Press [F], and then press [LOW]	Segment display : 1 ~ 2 bars
	Turn the transceiver OFF to exit the Service Adjustment Mode.							

Receiver Section

Item	Conditions	Measurement			Adjustment			Specifications/Remarks
		Test equipment	Unit	Terminal	Unit	Parts	Method	
B-Band 2nd local	1) Using the relay cable, connect the control PCB (TX-RX A/3) and RF PCB (TX-RX B/3). 2) Set the operation band to the B band. 3) Set the Service Setup Mode to the display the [2nd] item. 4) Select the adjustment point (-25, 0 or 25) by pressing [◄]/[►]. 5) Set the display frequency and mode. 6) By turning the tuning control, vary the real-time parameter until the 2nd local oscillating frequency satisfies the specifications. 7) Press [MNU] to set the "real-time value" in the EEPROM. •Adjustment in B band only. Adjustments are not required in the A band; it appears as shown on the right side. At the same time, the operation No. 6) and 7) become invalid. Adjustment point Real-time value / EEPROM setting 2nd: 83 -25: FF ►433.000 ►145.000 2nd: ** -25: **							
	B-Band Frequency:146.050MHz (USB) 1) -2.5kHz shift 2) 0 3) +2.5kHz shift	f.counter Spectrum analyzer	TX-RX (B/3)	TP3		Tuning control MNU key	Write	57.1475MHz ±50Hz 57.1500MHz ±50Hz 57.1525MHz ±50Hz
	Only when the EEPROM (IC704) is replaced, adjustment for this item is required.							
RX demodulation	B-Band 1) Frequency:146.050MHz (FM) SSG Output: -53dBm (501µV) DEV:3kHz, MOD:1kHz 2) Frequency:90.100MHz (W-FM) SSG Output: -53dBm (501µV) DEV:50kHz, MOD:1kHz	SSG Distortion meter AF V.M Oscilloscope	TX-RX (B/3)	ANT SP	TX-RX (B/3)	L19 L18	Tune L19, L18 to obtain max AF output	Max. AF output
	Only when L18 or L19 is replaced, adjustment for this item is required.							

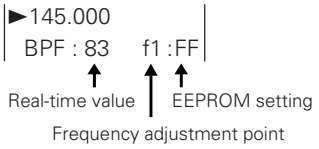
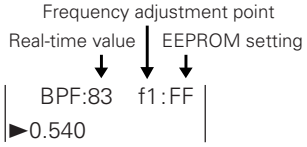


TX-RX (B/3)
Foil side view

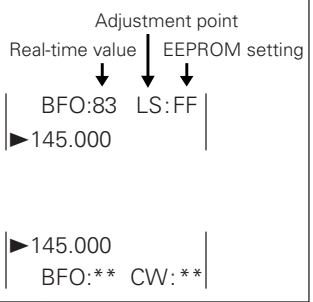
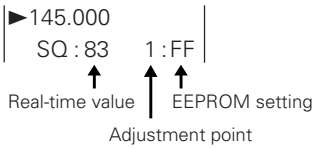


TX-RX (B/3)
Component side view

ADJUSTMENT

Item	Conditions	Measurement			Adjustment			Specifications/Remarks
		Test equipment	Unit	Terminal	Unit	Parts	Method	
RX BPF adjust	Adjustments for those items must be made after removing R701. After the adjustments, ensure that R701 is restored as before.							
	1) Set the Service Setup Mode to display the [BPF] item. 2) Select the frequency adjustment point (f1, f2 or f3) by pressing [◄]/[►]. 3) Set the display frequency and mode. 4) Apply signals from the SSG to the ANT connector, and monitor the audible sound from the speaker. 5) Turn the tuning control, change the "real-time value", and maximize the sensitivity. 6) Press [MNU] to set the "real-time value" in the EEPROM. 							
	SSG DEV:3kHz, MOD:1kHz AF VR:0.63V/8Ω A-Band 144MHz Band (FM) 1) Frequency:137.000MHz (f1) Output: -119dBm (0.25μV) 2) Frequency:144.000MHz (f2) Output: -121dBm (0.199μV) 3) Frequency:173.990MHz (f3) Output: -121dBm (0.199μV)	SSG Oscilloscope Distortion meter AF V.M Dummy load	TX-RX (B/3)	ANT SP		Tuning control MNU key	Write	Max. Sensitivity
	A-Band (K type only) 220MHz Band (FM) 1) Frequency:216.000MHz (f1) Output: -120dBm (0.22μV) 2) Frequency:223.550MHz (f2) Output: -120dBm (0.22μV) 3) Frequency:259.990MHz (f3) Output: -112dBm (0.562μV)							
	B-Band 144MHz Band (FM) 1) Frequency:118.100MHz (f1) Output: -112dBm (0.562μV) 2) Frequency:146.100MHz (f2) Output: -119dBm (0.25μV) 3) Frequency:175.900MHz (f3) Output: -120dBm (0.22μV)							
	B-Band 50 ~ 108MHz Band (FM) 1) Frequency:50.100MHz (f1) Output: -115dBm (0.4μV) 2) Frequency:90.100MHz (f2) Output: -117dBm (0.32μV) 3) Frequency:107.900MHz (f3) Output: -115dBm (0.4μV)							
	1) Select "ENABLED" in the Menu No.26 [Bar antenna] settings. 2) Set the Service Setup Mode, display the [BPF] item. 3) Select the frequency adjustment point (f1, f2 or f3) by pressing [◄]/[►]. 4) Set the display frequency and mode. 5) With no device connected to the antenna terminal, put the transceiver in receive mode. 6) Connect the AM loop antenna to the SSG. (Refer to the diagram for sensitivity checking items.) 7) Adjust the SSG signal output until the RX sensitivity reaches approximately 10 dB S/N. 8) Turn the tuning control, change the "real-time value", and maximize the receiver volume. 9) Press [MNU] to set the "real-time value" in the EEPROM. 							
	SSG MOD:60%, 1kHz Output : -45dBm (1.26mV) (Reference value) B-Band 0.1 ~ 3.0MHz Band (MW) 1) Frequency:0.540MHz (f1) 2) Frequency:0.800MHz (f2) 3) Frequency:1.200MHz (f3)	SSG Oscilloscope Distortion meter AF V.M Dummy load	TX-RX (B/3)	ANT SP		Tuning control MNU key	Turn the Tuning control to obtain max AF output. Write	Max. AF level
	B-Band 3.0 ~ 10MHz Band (SW) 1) Frequency:3.000MHz (f1) 2) Frequency:6.550MHz (f2) 3) Frequency:10.090MHz (f3)							

ADJUSTMENT

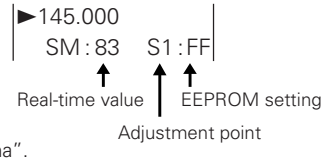
Item	Conditions	Measurement			Adjustment			Specifications/Remarks
		Test equipment	Unit	Terminal	Unit	Parts	Method	
SSB BFO adjust	1) Set the operation band to the B band. 2) Set the Service Setup Mode to display the [BFO] item. 3) Select the adjustment point (LS or US) by pressing [◄]/[►]. 4) Set the display frequency and mode. 5) Apply signals from the SSG to the ANT connector, and monitor the audible sound from the speaker. By turning the tuning control, vary the real-time parameter until the detective frequency becomes 1kHz. 6) Press [MNU] to set the "real-time value" in the EEPROM. • Adjustment in B band only. • The LS and US are the only adjusting points required. Adjustments for the CW are not required. If the operation band is the A band, no adjustment is required and the following message appears. Operations 5) and 6) are invalid. 							
	SSG: FM OFF, Output -53dBm (501µV) B-Band Frequency:145.800MHz 1) Mode:LSB 2) Mode:USB	SSG Oscilloscope Distortion meter f.counter AF V.M	TX-RX (B/3)	ANT		Tuning control MNU key	Write	1kHz ±50Hz
Squelch write	1) Set the Service Setup Mode to display the [SQ] item. 2) Select the adjustment point (1 or 2) by pressing [◄]/[►]. 3) Set the display frequency and mode. 4) Apply signals from the SSG to the ANT connector. 5) Press [MNU] to set the "real-time value" in the EEPROM. After completing the B band adjustment, select "DISABLED" in the Menu No. 26 "Bar Antenna". 							
	SSG DEV:3kHz, MOD:1kHz A-Band 1) Frequency:145.150MHz (K) (FM) Frequency:145.200MHz (E,T,M) (FM) ① SQL1 Output: -127dBm (0.1µV) ② SQL2 Output: -124dBm (0.14µV) 2) Frequency:223.550MHz (K) (FM) ① SQL1 Output: -125dBm (0.126µV) ② SQL2 Output: -120dBm (0.22µV) 3) Frequency:434.700MHz (E,T,M) (FM) Frequency:444.100MHz (K) (FM) ① SQL1 Output: -125dBm (0.126µV) ② SQL2 Output: -120dBm (0.22µV)	SSG	TX-RX (B/3)	ANT		MNU key	Write	
	SSG DEV:3kHz, MOD:1kHz B-Band 1) Frequency:51.100MHz (FM) ① SQL1 Output: -120dBm (0.22µV) ② SQL2 Output: -115dBm (0.4µV) 2) Frequency:145.800MHz (FM) ① SQL1 Output: -122dBm (0.178µV) ② SQL2 Output: -117dBm (0.32µV) 3) Frequency:222.100MHz (K) (FM) Frequency:230.100MHz (E,T,M) (FM) ① SQL1 Output: -122dBm (0.178µV) (K) Output: -115dBm (0.4µV) (E,T,M) ② SQL2 Output: -117dBm (0.32µV) (K) Output: -110dBm (0.707µV) (E,T,M)	SSG	TX-RX (B/3)	ANT		MNU key	Write	

ADJUSTMENT

Item	Conditions	Measurement			Adjustment			Specifications/Remarks
		Test equipment	Unit	Terminal	Unit	Parts	Method	
Squelch write	SSG DEV:3kHz, MOD:1kHz 4) Frequency:438.100MHz (FM) ① SQL1 Output: -125dBm (0.126μV) ② SQL2 Output: -120dBm (0.22μV) 5) Frequency:1270.100MHz (FM) ① SQL1 Output: -113dBm (0.501μV) ② SQL2 Output: -108dBm (0.89μV)	SSG	TX-RX (B/3)	ANT		MNU key	Write	
	SSG MOD:60%, 1kHz B-Band 1) Frequency:14.100MHz (AM) ① SQL1 Output: -110dBm (0.707μV) ② SQL2 Output: -105dBm (1.3μV) 2) Frequency:120.100MHz (AM) ① SQL1 Output: -110dBm (0.707μV) ② SQL2 Output: -105dBm (1.3μV)	SSG	TX-RX (B/3)	ANT		MNU key	Write	
Squelch check	SSG DEV:3kHz, MOD:1kHz A-Band 1) Frequency:145.150MHz (K) (FM) Frequency:145.200MHz (E,T,M) (FM) ① Output: -123dBm (0.158μV) ② Output: OFF 2) Frequency:223.550MHz (K) (FM) ① Output: -122dBm (0.178μV) ② Output: OFF 3) Frequency:434.700MHz (E,T,M) (FM) Frequency:440.100MHz (K) (FM) ① Output: -122dBm (0.178μV) ② Output: OFF	SSG Oscilloscope	TX-RX (B/3)	ANT			Check	 open squelch close squelch open squelch close squelch open squelch close squelch
	SSG DEV:3kHz, MOD:1kHz B-Band 1) Frequency:51.100MHz (FM) ① Output: -117dBm (0.32μV) ② Output: OFF 2) Frequency:145.800MHz (FM) ① Output: -120dBm (0.22μV) ② Output: OFF 3) Frequency:222.100MHz (K) (FM) Frequency:230.100MHz (E,T,M) (FM) ① Output: -119dBm (0.25μV) (K) Output: -108dBm (0.89μV) (E,T,M) ② Output: OFF 4) Frequency:438.100MHz (FM) ① Output: -120dBm (0.22μV) ② Output: OFF 5) Frequency:1270.100MHz (FM) ① Output: -109dBm (0.794μV) ② Output: OFF	SSG Oscilloscope	TX-RX (B/3)	ANT			Check	 open squelch close squelch open squelch close squelch open squelch close squelch open squelch close squelch open squelch close squelch
	SSG MOD:60%, 1kHz B-Band 1) Frequency:14.100MHz (AM) ① Output: -107dBm (1μV) ② Output: OFF 2) Frequency:120.100MHz (AM) ① Output: -103dBm (1.58μV) ② Output: OFF	SSG Oscilloscope	TX-RX (B/3)	ANT			Check	 open squelch close squelch open squelch close squelch

ADJUSTMENT

Item	Conditions	Measurement			Adjustment			Specifications/Remarks
		Test equipment	Unit	Terminal	Unit	Parts	Method	
S-meter write	1) Set the Service Setup Mode to display the [SM] item. 2) Select the adjustment point (S1 or S9) by pressing [◄]/[►]. 3) Set the display frequency and mode. 4) Apply the required signals from the SSG to the ANT connector. 5) Press [MNU] to set the "real-time value" in the EEPROM. After completing the B band adjustment, select "DISABLED" in the Menu No. 26 "Bar Antenna".							
	SSG DEV:3kHz, MOD:1kHz A-Band 1) Frequency:145.150MHz (K) (FM) Frequency:145.200MHz (E,T,M) (FM) ① S1 SSG Output: -124dBm (0.14μV) ② S9 SSG Output: -109dBm (0.794μV) 2) Frequency:223.550MHz (K) (FM) ① S1 SSG Output: -120dBm (0.22μV) ② S9 SSG Output: -105dBm (1.3μV) 3) Frequency:434.700MHz (E,T,M) (FM) Frequency:440.100MHz (K) (FM) ① S1 SSG Output: -120dBm (0.22μV) ② S9 SSG Output: -105dBm (1.3μV)	SSG	TX-RX (B/3)	ANT		MNU key	Write	
	SSG DEV:3kHz, MOD:1kHz B-Band 1) Frequency:51.100MHz (FM) ① S1 SSG Output: -115dBm (0.4μV) ② S9 SSG Output: -100dBm (2.24μV) 2) Frequency:145.800MHz (FM) ① S1 SSG Output: -117dBm (0.32μV) ② S9 SSG Output: -105dBm (1.3μV) 3) Frequency:222.100MHz (K) (FM) Frequency:230.100MHz (E,T,M) (FM) ① S1 SSG Output: -117dBm (0.316μV) (K) SSG Output: -110dBm (0.707μV) (E,T,M) ② S9 SSG Output: -105dBm (1.3μV) (K) SSG Output: -97dBm (3.2μV) (E,T,M) 4) Frequency:438.100MHz (FM) ① S1 SSG Output: -120dBm (0.22μV) ② S9 SSG Output: -105dBm (1.3μV) 5) Frequency:1270.100MHz (FM) ① S1 SSG Output: -108dBm (0.89μV) ② S9 SSG Output: -93dBm (5.01μV)	SSG	TX-RX (B/3)	ANT		MNU key	Write	
	SSG MOD:60%, 1kHz B-Band 1) Frequency:0.800MHz (AM) ① S1 SSG Output: -95dBm (3.98μV) ② S9 SSG Output: -75dBm (39.8μV)	SSG	TX-RX (B/3)	ANT		MNU key	Write	



ADJUSTMENT

Item	Conditions	Measurement			Adjustment			Specifications/Remarks
		Test equipment	Unit	Terminal	Unit	Parts	Method	
S-meter write	2) Frequency:14.100MHz (AM) ① S1 SSG Output: -105dBm (1.3µV) ② S9 SSG Output: -90dBm (7.08µV) 3) Frequency:120.100MHz (AM) ① S1 SSG Output: -105dBm (1.3µV) ② S9 SSG Output: -95dBm (3.98µV)	SSG	TX-RX (B/3)	ANT		MNU key	Write	
	SSG DEV:50kHz, MOD:1kHz B-Band 1) Frequency:90.100MHz (W-FM) ① S1 SSG Output: -95dBm (3.98µV) ② S9 SSG Output: -70dBm (70.8µV) 2) Frequency:200.100MHz (W-FM) ① S1 SSG Output: -95dBm (3.98µV) ② S9 SSG Output: -70dBm (70.8µV) 3) Frequency:500.100MHz (W-FM) ① S1 SSG Output: -95dBm (3.98µV) ② S9 SSG Output: -70dBm (70.8µV)	SSG	TX-RX (B/3)	ANT		MNU key	Write	
S-meter check	SSG DEV:3kHz, MOD:1kHz A-Band 1) Frequency:145.150MHz (K) (FM) Frequency:145.200MHz (E,T,M) (FM) Output: -124dBm (0.14µV) ±3dB Output: -109dBm (0.794µV) ±3dB 2) Frequency:223.550MHz (K) (FM) Output: -120dBm (0.22µV) ±3dB Output: -105dBm (1.3µV) ±3dB 3) Frequency:434.700MHz (E,T,M) (FM) Frequency:440.100MHz (K) (FM) Output: -120dBm (0.22µV) ±3dB Output: -105dBm (1.3µV) ±3dB	SSG	TX-RX (B/3)	ANT		LCD	Check	 Two segments in S-meter lights All segments in S-meter lights Two segments in S-meter lights All segments in S-meter lights Two segments in S-meter lights All segments in S-meter lights
	SSG DEV:3kHz, MOD:1kHz B-Band 1) Frequency:51.100MHz (FM) Output: -115dBm (0.4µV) ±3dB Output: -100dBm (2.24µV) ±3dB 2) Frequency:145.800MHz (FM) Output: -117dBm (0.32µV) ±3dB Output: -105dBm (1.3µV) ±3dB 3) Frequency:222.100MHz (K) (FM) Frequency:230.100MHz (E,T,M) (FM) Output: -117dBm (0.32µV) ±3dB (K) Output: -100dBm (2.24µV) ±3dB (E,T,M) Output: -105dBm (1.3µV) ±3dB (K) Output: -97dBm (3.2µV) ±3dB (E,T,M) 4) Frequency:438.100MHz (FM) Output: -120dBm (0.22µV) ±3dB Output: -105dBm (1.3µV) ±3dB 5) Frequency:1270.100MHz (FM) Output: -108dBm (0.89µV) ±3dB Output: -93dBm (5.01µV) ±3dB	SSG	TX-RX (B/3)	ANT		LCD	Check	 Two segments in S-meter lights All segments in S-meter lights Two segments in S-meter lights All segments in S-meter lights Two segments in S-meter lights Two segments in S-meter lights All segments in S-meter lights All segments in S-meter lights Two segments in S-meter lights All segments in S-meter lights Two segments in S-meter lights All segments in S-meter lights

ADJUSTMENT

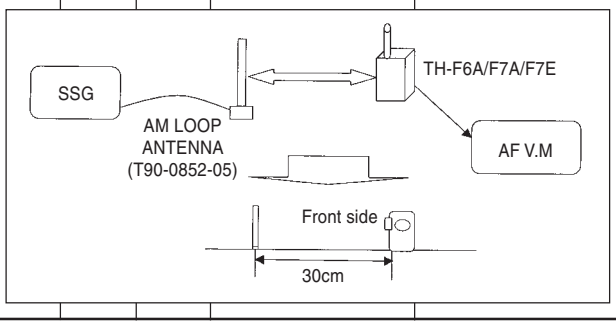
Item	Conditions	Measurement			Adjustment			Specifications/Remarks
		Test equipment	Unit	Terminal	Unit	Parts	Method	
S-meter check	SSG MOD:60%, 1kHz B-Band 1) Frequency:0.800MHz (AM) Output: -95dBm (3.98μV) ±3dB Output: -75dBm (39.8μV) ±3dB 2) Frequency:14.100MHz (AM) Output: -105dBm (1.3μV) ±3dB Output: -90dBm (7.08μV) ±3dB 3) Frequency:120.100MHz (AM) Output: -105dBm (1.3μV) ±3dB Output: -95dBm (3.98μV) ±3dB	SSG	TX-RX (B/3)	ANT		LCD	Check	 Two segments in S-meter lights All segments in S-meter lights Two segments in S-meter lights All segments in S-meter lights Two segments in S-meter lights All segments in S-meter lights
	SSG DEV:50kHz MOD:1kHz B-Band 1) Frequency:90.100MHz (W-FM) Output: -95dBm (3.98μV) ±3dB Output: -70dBm (70.8μV) ±3dB 2) Frequency:200.100MHz (W-FM) Output: -95dBm (3.98μV) ±3dB Output: -70dBm (70.8μV) ±3dB 3) Frequency:500.100MHz (W-FM) Output: -95dBm (3.98μV) ±3dB Output: -70dBm (70.8μV) ±3dB	SSG	TX-RX (B/3)	ANT		LCD	Check	 Two segments in S-meter lights All segments in S-meter lights Two segments in S-meter lights All segments in S-meter lights Two segments in S-meter lights All segments in S-meter lights
High level input S/N	SSG: DEV 3kHz, MOD: 1kHz, Output -53dBm (501μV) AF VR: 0.63V/8Ω A-Band 1) Frequency:145.050MHz (FM) Output: -53dBm (501μV) AF output:0.63V/8Ω 2) Frequency:225.560MHz (K) Output: -53dBm (501μV) AF output:0.63V/8Ω 3) Frequency:435.050MHz (E,T,M) Frequency:440.000MHz (K) Output: -53dBm (501μV) AF output:0.63V/8Ω B-Band 1) Frequency:145.050MHz (FM) Output: -53dBm (501μV) AF output:0.63V/8Ω 2) Frequency:222.050MHz Output: -53dBm (501μV) AF output:0.63V/8Ω 3) Frequency:435.050MHz (E,T,M) Frequency:444.050MHz (K) Output: -53dBm (501μV) AF output:0.63V/8Ω	SSG Distortion meter Oscilloscope AF V.M Dummy load	TX-RX (B/3)	ANT SP			Check	 38dB or more 36dB or more 34dB or more 36dB or more 34dB or more 32dB or more
AF distortion check	SSG: DEV 3kHz, MOD: 1kHz, Output -53dBm (501μV) AF VR: 0.63V/8Ω A-Band Frequency:145.050MHz (FM) B-Band Frequency:146.050MHz (FM)	SSG Distortion meter Oscilloscope AF V.M	TX-RX (B/3)	ANT SP			Check	 5% or less 5% or less
	SSG DEV:50kHz MOD:1kHz B-Band Frequency:146.050MHz (W-FM)						Check	 10% or less

ADJUSTMENT

Item	Conditions	Measurement			Adjustment			Specifications/Remarks
		Test equipment	Unit	Terminal	Unit	Parts	Method	
Sensitivity check	SSG: DEV 3kHz, MOD: 1kHz, AF VR: 0.63V/8Ω A-Band 1) Frequency:144.000MHz (E,T,M) (FM) Frequency:144.100MHz (K) (FM) Output: -121dBm (0.199μV) 2) Frequency:145.990MHz (E,T,M) (FM) Frequency:147.990MHz (K) (FM) Output: -121dBm (0.199μV) 3) Frequency:216.000MHz (K) (FM) Output: -103dBm (1.58μV) 4) Frequency:223.550MHz (K) (FM) Output: -120dBm (0.22μV) 5) Frequency:259.990MHz (K) (FM) Output: -103dBm (1.58μV) 6) Frequency:430.040MHz (E,T,M) (FM) Frequency:438.000MHz (K) (FM) Output: -121dBm (0.199μV) 7) Frequency:434.700MHz (E,T,M) (FM) Output: -121dBm (0.199μV) 8) Frequency:439.900MHz (E,T,M) (FM) Frequency:449.990MHz (K) (FM) Output: -121dBm (0.199μV)	SSG Distortion meter Oscilloscope AF V.M Dummy load	TX-RX (B/3)	ANT SP			Check	12dB SINAD or more
	SSG: DEV 3kHz, MOD: 1kHz, AF VR: 0.63V/8Ω B-Band 1) Frequency:107.900MHz (FM) Output: -93dBm (5.01μV) 2) Frequency:144.075MHz (FM) Output: -117dBm (0.32μV) 3) Frequency:147.950MHz (FM) Output: -117dBm (0.32μV) 4) Frequency:173.900MHz (FM) Output: -100dBm (2.24μV) 5) Frequency:51.100MHz (FM) Output: -110dBm (0.707μV) 6) Frequency:224.950MHz (FM) Output: -108dBm (0.89μV) (E,T,M) Output: -117dBm (0.32μV) (K) 7) Frequency:444.050MHz (FM) Output: -115dBm (0.4μV) (E,T,M) Output: -117dBm (0.32μV) (K) 8) Frequency:500.100MHz (FM) Output: -93dBm (5.01μV) 9) Frequency:800.100MHz (FM) Output: -93dBm (5.01μV) 10) Frequency:1280.10MHz (FM) Output: -110dBm (0.707μV)	SSG Distortion meter Oscilloscope AF V.M Dummy load	TX-RX (B/3)	ANT SP			Check	12dB SINAD or more
	SSG MOD:60%, 1kHz B-Band 1) Frequency:118.100MHz (AM) Output: -103dBm (1.58μV)							10dB SINAD or more
	SSG: DEV 50kHz, MOD: 1kHz, AF VR: 0.63/8Ω B-Band 1) Frequency:90.100MHz (W-FM) Output: -90dBm (7.08μV)							12dB SINAD or more

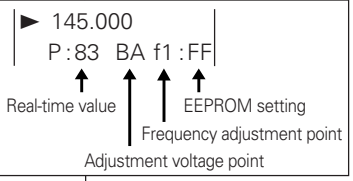
ADJUSTMENT

Item	Conditions	Measurement			Adjustment			Specifications/Remarks
		Test equipment	Unit	Terminal	Unit	Parts	Method	
Sensitivity check	SSG MOD:60%, 1kHz B-Band For the initial bar antenna connect SSG output to the Loop ANTENNA as shown in figure. Frequency:1080kHz (AM) Output: 0dBm (224mV)	SSG Distortion meter Oscilloscope AF V.M Dummy load	TX-RX (B/3)	AM Loop ANTENNA			Check	10dB S/N or more

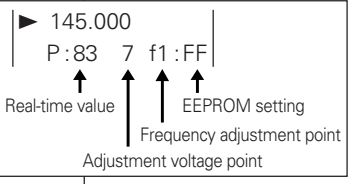


Transmitter Section

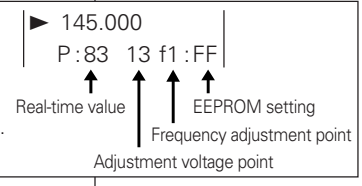
Item	Conditions	Measurement			Adjustment			Specifications/Remarks
		Test equipment	Unit	Terminal	Unit	Parts	Method	
Power write Battery terminal: 6.0V	1) Set the battery terminal voltage to 6.0V. 2) Set the operation band to the A band. 3) Set the Service Setup Mode to display the [P: BAf1] item. 4) Select the frequency adjustment point (f1, f2 or f3) by pressing [◄]/[►]. 5) Press [PTT] and turn the tuning control while transmitting to change the "real-time value". 6) Press [MNU] to set the "real-time value" in the EEPROM.							
	Power: Hi (FM) 1) Frequency:144.050MHz (f1) 2) Frequency:145.000MHz (E,T,M) (f2) Frequency:146.000MHz (K) (f2) 3) Frequency:145.995MHz (E,T,M) (f3) Frequency:147.995MHz (K) (f3)	Power meter Am meter	TX-RX (B/3)	ANT		Tuning control MNU key	Adjustment (Write)	0.5W ±0.1W
	Power: Low (FM) 1) Frequency:144.050MHz (f1) 2) Frequency:145.000MHz (E,T,M) (f2) Frequency:146.000MHz (K) (f2) 3) Frequency:145.995MHz (E,T,M) (f3) Frequency:147.995MHz (K) (f3)							0.3W ±0.1W
	Power: EL (FM) 1) Frequency:144.050MHz (f1) 2) Frequency:145.000MHz (E,T,M) (f2) Frequency:146.000MHz (K) (f2) 3) Frequency:145.995MHz (E,T,M) (f3) Frequency:147.995MHz (K) (f3)							0.08W ~ 0.1W
	Power: Hi (FM) 1) Frequency:430.050MHz (E,T,M) (f1) Frequency:438.050MHz (K) (f1) 2) Frequency:435.000MHz (E,T,M) (f2) Frequency:444.000MHz (K) (f2) 3) Frequency:439.995MHz (E,T,M) (f3) Frequency:449.995MHz (K) (f3)							0.5W ±0.1W
	Power: Low (FM) 1) Frequency:430.050MHz (E,T,M) (f1) Frequency:438.050MHz (K) (f1) 2) Frequency:435.000MHz (E,T,M) (f2) Frequency:444.000MHz (K) (f2) 3) Frequency:439.995MHz (E,T,M) (f3) Frequency:449.995MHz (K) (f3)							0.3W ±0.1W
	Power: EL (FM) 1) Frequency:430.050MHz (E,T,M) (f1) Frequency:438.050MHz (K) (f1) 2) Frequency:435.000MHz (E,T,M) (f2) Frequency:444.000MHz (K) (f2) 3) Frequency:439.995MHz (E,T,M) (f3) Frequency:449.995MHz (K) (f3)							0.08W ~ 0.1W



ADJUSTMENT

Item	Conditions	Measurement			Adjustment			Specifications/Remarks
		Test equipment	Unit	Terminal	Unit	Parts	Method	
Power write Battery terminal: 6.0V	Power: Hi (FM) 1) Frequency:222.050MHz (K) (f1) 2) Frequency:224.000MHz (K) (f2) 3) Frequency:224.995MHz (K) (f3)	Power meter Am meter	TX-RX (B/3)	ANT		Tuning control MNU key	Adjustment (Write)	0.5W ±0.1W
	Power: Low (FM) 1) Frequency:222.050MHz (K) (f1) 2) Frequency:224.000MHz (K) (f2) 3) Frequency:224.995MHz (K) (f3)							0.3W ±0.1W
	Power: EL (FM) 1) Frequency:222.050MHz (K) (f1) 2) Frequency:224.000MHz (K) (f2) 3) Frequency:224.995MHz (K) (f3)							0.08W ~ 0.1W
Power write Battery terminal: 7.4V	1) Set the battery terminal voltage to 7.4V. 2) Set the operation band to the A band. 3) Set the Service Setup Mode to display the [P: 7f1] item. 4) Select the frequency adjustment point (f1, f2 or f3) by pressing [◄]/[►]. 5) Press [PTT] and turn the tuning control while transmitting to change the "real-time value". 6) Press [MNU] to set the "real-time value" in the EEPROM. 							
	Power: Hi (FM) 1) Frequency:144.050MHz (f1) 2) Frequency:145.000MHz (E,T,M) (f2) Frequency:146.000MHz (K) (f2) 3) Frequency:145.995MHz (E,T,M) (f3) Frequency:147.995MHz (K) (f3)	Power meter Am meter	TX-RX (B/3)	ANT		Tuning control MNU key	Adjustment (Write)	4.6W ±0.05W
	Power: Low (FM) 1) Frequency:144.050MHz (f1) 2) Frequency:145.000MHz (E,T,M) (f2) Frequency:146.000MHz (K) (f2) 3) Frequency:145.995MHz (E,T,M) (f3) Frequency:147.995MHz (K) (f3)							0.5W ±0.1W
	Power: EL (FM) 1) Frequency:144.050MHz (f1) 2) Frequency:145.000MHz (E,T,M) (f2) Frequency:146.000MHz (K) (f2) 3) Frequency:145.995MHz (E,T,M) (f3) Frequency:147.995MHz (K) (f3)							75mW ±25mW
	Power: Hi (FM) 1) Frequency:430.050MHz (E,T,M) (f1) Frequency:438.050MHz (K) (f1) 2) Frequency:435.000MHz (E,T,M) (f2) Frequency:444.000MHz (K) (f2) 3) Frequency:439.995MHz (E,T,M) (f3) Frequency:449.995MHz (K) (f3)							4.6W ±0.05W
	Power: Low (FM) 1) Frequency:430.050MHz (E,T,M) (f1) Frequency:438.050MHz (K) (f1) 2) Frequency:435.000MHz (E,T,M) (f2) Frequency:444.000MHz (K) (f2) 3) Frequency:439.995MHz (E,T,M) (f3) Frequency:449.995MHz (K) (f3)							0.5W ±0.1W
	Power: EL (FM) 1) Frequency:430.050MHz (E,T,M) (f1) Frequency:438.050MHz (K) (f1) 2) Frequency:435.000MHz (E,T,M) (f2) Frequency:444.000MHz (K) (f2) 3) Frequency:439.995MHz (E,T,M) (f3) Frequency:449.995MHz (K) (f3)							75mW ±25mW
	Power: Hi (FM) 1) Frequency:222.050MHz (K) (f1) 2) Frequency:224.000MHz (K) (f2) 3) Frequency:224.995MHz (K) (f3)							4.6W ±0.05W
	Power: Low (FM) 1) Frequency:222.050MHz (K) (f1) 2) Frequency:224.000MHz (K) (f2) 3) Frequency:224.995MHz (K) (f3)							0.5W ±0.1W

ADJUSTMENT

Item	Conditions	Measurement			Adjustment			Specifications/Remarks
		Test equipment	Unit	Terminal	Unit	Parts	Method	
Power write Battery terminal: 7.4V	Power: EL (FM) 1) Frequency:222.050MHz (K) (f1) 2) Frequency:224.000MHz (K) (f2) 3) Frequency:224.995MHz (K) (f3)	Power meter Am meter	TX-RX (B/3)	ANT		Tuning control MNU key	Adjustment (Write)	75mW ±25mW
Power write DC IN: 13.8V	1) Set the DC IN terminal voltage to 13.8V.(Via PG-2W cable) 2) Set the operation band to the A band. 3) Set Service Setup Mode to display the [P: 13f1] item. 4) Select the frequency adjustment point (f1, f2 or f3) by pressing [◄]/[►]. 5) Press [PTT] and turn the tuning control while transmitting to change the "real-time value". 6) Press [MNU] to set the "real-time value" in the EEPROM. 							
	Power: Hi (FM) 1) Frequency:144.050MHz (f1) 2) Frequency:145.000MHz (E,T,M) (f2) Frequency:146.000MHz (K) (f2) 3) Frequency:145.995MHz (E,T,M) (f3) Frequency:147.995MHz (K) (f3)	Power meter Am meter	TX-RX (B/3)	ANT		Tuning control MNU key	Adjustment (Write)	4.8W ±0.05W
	Power: Low (FM) 1) Frequency:144.050MHz (f1) 2) Frequency:145.000MHz (E,T,M) (f2) Frequency:146.000MHz (K) (f2) 3) Frequency:145.995MHz (E,T,M) (f3) Frequency:147.995MHz (K) (f3)							2.0W ±0.1W
	Power: EL (FM) 1) Frequency:144.050MHz (f1) 2) Frequency:145.000MHz (E,T,M) (f2) Frequency:146.000MHz (K) (f2) 3) Frequency:145.995MHz (E,T,M) (f3) Frequency:147.995MHz (K) (f3)							0.5W ±0.05W (E,T,M) 0.5W ±0.02W (K)
	Power: Hi (FM) 1) Frequency:430.050MHz (E,T,M) (f1) Frequency:438.050MHz (K) (f1) 2) Frequency:435.000MHz (E,T,M) (f2) Frequency:444.000MHz (K) (f2) 3) Frequency:439.995MHz (E,T,M) (f3) Frequency:449.995MHz (K) (f3)							4.6W ±0.05W
	Power: Low (FM) 1) Frequency:430.050MHz (E,T,M) (f1) Frequency:438.050MHz (K) (f1) 2) Frequency:435.000MHz (E,T,M) (f2) Frequency:444.000MHz (K) (f2) 3) Frequency:439.995MHz (E,T,M) (f3) Frequency:449.995MHz (K) (f3)							2.0W ±0.1W
	Power: EL (FM) 1) Frequency:430.050MHz (E,T,M) (f1) Frequency:438.050MHz (K) (f1) 2) Frequency:435.000MHz (E,T,M) (f2) Frequency:444.000MHz (K) (f2) 3) Frequency:439.995MHz (E,T,M) (f3) Frequency:449.995MHz (K) (f3)							0.5W ±0.05W
	Power: Hi (FM) 1) Frequency:222.050MHz (K) (f1) 2) Frequency:224.000MHz (K) (f2) 3) Frequency:224.995MHz (K) (f3)							4.6W ±0.05W
	Power: Low (FM) 1) Frequency:222.050MHz (K) (f1) 2) Frequency:224.000MHz (K) (f2) 3) Frequency:224.995MHz (K) (f3)							2.0W ±0.1W
	Power: EL (FM) 1) Frequency:222.050MHz (K) (f1) 2) Frequency:224.000MHz (K) (f2) 3) Frequency:224.995MHz (K) (f3)							0.5W ±0.05W

ADJUSTMENT

Item	Conditions	Measurement			Adjustment			Specifications/Remarks
		Test equipment	Unit	Terminal	Unit	Parts	Method	
Power check Battery terminal: 6.0V	Power: Hi (FM) 1) Frequency:144.050MHz (f1) 2) Frequency:145.000MHz (E,T,M) (f2) Frequency:146.000MHz (K) (f2) 3) Frequency:145.995MHz (E,T,M) (f3) Frequency:147.995MHz (K) (f3)	Power meter Am meter	TX-RX (B/3)	ANT			Check	0.3W ~ 0.7W 0.9A or less
	Power: Hi (FM) 1) Frequency:430.050MHz (E,T,M) (f1) Frequency:438.050MHz (K) (f1) 2) Frequency:435.000MHz (E,T,M) (f2) Frequency:444.000MHz (K) (f2) 3) Frequency:439.995MHz (E,T,M) (f3) Frequency:449.995MHz (K) (f3)							0.3W ~ 0.7W 0.9A or less
	Power: Hi (FM) 1) Frequency:222.050MHz (K) (f1) 2) Frequency:224.000MHz (K) (f2) 3) Frequency:224.995MHz (K) (f3)							0.3W ~ 0.7W 0.9A or less
Power check Battery terminal: 7.4V	Power: Hi (FM) 1) Frequency:144.050MHz (f1) 2) Frequency:145.000MHz (E,T,M) (f2) Frequency:146.000MHz (K) (f2) 3) Frequency:145.995MHz (E,T,M) (f3) Frequency:147.995MHz (K) (f3)	Power meter Am meter	TX-RX (B/3)	ANT			Check	4.3W ~ 5.1W 2.25A or less
	Power: Low (FM) 1) Frequency:144.050MHz (f1) 2) Frequency:145.995MHz (E,T,M) (f3) Frequency:147.995MHz (K) (f3)							0.3W ~ 0.7W 0.9A or less
	Power: EL (FM) 1) Frequency:144.050MHz (f1) 2) Frequency:145.995MHz (E,T,M) (f3) Frequency:147.995MHz (K) (f3)							40mW ~ 150mW 0.6A or less
	Power: Hi (FM) 1) Frequency:430.050MHz (E,T,M) (f1) Frequency:438.050MHz (K) (f1) 2) Frequency:435.000MHz (E,T,M) (f2) Frequency:444.000MHz (K) (f2) 3) Frequency:439.995MHz (E,T,M) (f3) Frequency:449.995MHz (K) (f3)							4.3W ~ 5.1W 2.18A or less
	Power: Low (FM) 1) Frequency:430.050MHz (E,T,M) (f1) Frequency:438.050MHz (K) (f1) 2) Frequency:439.995MHz (E,T,M) (f3) Frequency:449.995MHz (K) (f3)							0.3W ~ 0.7W 0.9A or less
	Power: EL (FM) 1) Frequency:430.050MHz (E,T,M) (f1) Frequency:438.050MHz (K) (f1) 2) Frequency:439.995MHz (E,T,M) (f3) Frequency:449.995MHz (K) (f3)							40mW ~ 150mW 0.6A or less
	Power: Hi (FM) 1) Frequency:222.050MHz (K) (f1) 2) Frequency:224.000MHz (K) (f2) 3) Frequency:224.995MHz (K) (f3)							4.3W ~ 5.1W 2.18A or less
	Power: Low (FM) 1) Frequency:222.050MHz (K) (f1) 2) Frequency:224.995MHz (K) (f3)							0.3W ~ 0.7W 0.9A or less
	Power: EL (FM) 1) Frequency:222.050MHz (K) (f1) 2) Frequency:224.995MHz (K) (f3)							40mW ~ 150mW 0.6A or less
Power check DC IN: 13.8V	Power: Hi (FM) 1) Frequency:144.050MHz (f1) 2) Frequency:145.000MHz (E,T,M) (f2) Frequency:146.000MHz (K) (f2) 3) Frequency:145.995MHz (E,T,M) (f3) Frequency:147.995MHz (K) (f3)	Power meter Am meter	TX-RX (B/3)	ANT			Check	4.5W ~ 5.4W 2.18A or less
	Power: Low (FM) 1) Frequency:144.050MHz (f1) 2) Frequency:145.995MHz (E,T,M) (f3) Frequency:147.995MHz (K) (f3)							1.6W ~ 2.4W 1.8A or less

ADJUSTMENT

Item	Conditions	Measurement			Adjustment			Specifications/Remarks
		Test equipment	Unit	Terminal	Unit	Parts	Method	
Power check DC IN: 13.8V	Power: EL (FM) 1) Frequency:144.050MHz (f1) 2) Frequency:145.995MHz (E,T,M) (f3) Frequency:147.995MHz (K) (f3)	Power meter Am meter	TX-RX (B/3)	ANT			Check	0.3W ~ 0.7W (E,T,M) 0.15W ~ 0.7W (K) 0.9A or less
	Power: Hi (FM) 1) Frequency:430.050MHz (E,T,M) (f1) Frequency:438.050MHz (K) (f1) 2) Frequency:435.000MHz (E,T,M) (f2) Frequency:444.000MHz (K) (f2) 3) Frequency:439.995MHz (E,T,M) (f3) Frequency:449.995MHz (K) (f3)							4.3W ~ 5.4W 2.18A or less
	Power: Low (FM) 1) Frequency:430.050MHz (E,T,M) (f1) Frequency:438.050MHz (K) (f1) 2) Frequency:439.995MHz (E,T,M) (f3) Frequency:449.995MHz (K) (f3)							1.6W ~ 2.4W 1.8A or less
	Power: EL (FM) 1) Frequency:430.050MHz (E,T,M) (f1) Frequency:438.050MHz (K) (f1) 2) Frequency:439.995MHz (E,T,M) (f3) Frequency:449.995MHz (K) (f3)							0.3W ~ 0.7W 1.1A or less
	Power: Hi (FM) 1) Frequency:222.050MHz (K) (f1) 2) Frequency:224.000MHz (K) (f2) 3) Frequency:224.995MHz (K) (f3)							4.3W ~ 5.4W 2.18A or less
	Power: Low (FM) 1) Frequency:222.050MHz (K) (f1) 2) Frequency:224.995MHz (K) (f3)							1.6W ~ 2.4W 1.8A or less
	Power: EL (FM) 1) Frequency:222.050MHz (K) (f1) 2) Frequency:224.995MHz (K) (f3)							0.3W ~ 0.7W 0.9A or less
MAX DEV	1) Set the operation band to the A band. 2) Set the Service Setup Mode to display the [MAX] item. 3) Select the frequency adjustment point (f1, f2 or f3) by pressing [◄]/[►]. 4) Apply the voltage required for the MIC connector from the Audio signal generator. 5) Press [PTT] and turn the tuning control while transmitting to change the "real-time value". 6) Press [MNU] to set the "real-time value" in the EEPROM. If no adjustment is necessary for an item (for example, 50MHz f2), the following message appears. Operations 5) and 6) are invalid. MAX:** f2:** ►50.000 ►145.000 MAX : 83 f1 : FF Real-time value ↑ EEPROM setting Frequency adjustment point							
	MIC input AG:1kHz/80mV Detector:+P,-P HPF:OFF LPF:15kHz De-emphasis:OFF Power: Low (FM) 1) Frequency:144.050MHz (f1) 2) Frequency:145.000MHz (E,T,M) (f2) Frequency:146.000MHz (K) (f2) 3) Frequency:145.995MHz (E,T,M) (f3) Frequency:147.995MHz (K) (f3)	Power meter Linear detector Oscilloscope AG	TX-RX (B/3)	ANT MIC		Tuning control MNU key	Write	4.2kHz ±200Hz (According to the larger +P, -P.)
	Power: Low (FM) 1) Frequency:430.050MHz (E,T,M) (f1) Frequency:438.050MHz (K) (f1) 2) Frequency:435.000MHz (E,T,M) (f2) Frequency:444.000MHz (K) (f2) 3) Frequency:439.995MHz (E,T,M) (f3) Frequency:449.995MHz (K) (f3)							
	Power: Low (FM) 1) Frequency:222.050MHz (K) (f1) 2) Frequency:224.000MHz (K) (f2) 3) Frequency:224.995MHz (K) (f3)							

ADJUSTMENT

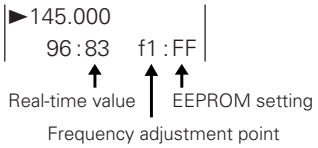
Item	Conditions	Measurement			Adjustment			Specifications/Remarks
		Test equipment	Unit	Terminal	Unit	Parts	Method	
MIC sensitivity check	MIC input AG:1kHz/8mV Detector:P-P/2 HPF:OFF LPF:15kHz De-emphasis:OFF 1) Frequency:145.000MHz (E,T,M) Frequency:146.000MHz (K)	Power meter Linear detector Oscilloscope AG	TX-RX (B/3)	ANT MIC			Check	2.4kHz ~ 4.0kHz (E,T,M) 2.4kHz ~ 3.9kHz (K)
	2) Frequency:435.000MHz (E,T,M) Frequency:444.000MHz (K) 3) Frequency:224.000MHz (K)						Check	2.4kHz ~ 3.9kHz
VOX sensitivity	1) To adjust switch VOX ON. 2) Set the operation band to the A band. 3) Set the Service Setup Mode to display the [VOX] item. 4) Select the adjustment point (1 or 9) by pressing [◄]/[►]. 5) Apply the voltage required for the MIC connector from the Audio signal generator. 6) Press [MNU] to set the "real-time value" in the EEPROM. ►145.000 VOX : 83 1 : FF Real-time value / EEPROM setting Adjustment point							
	1) Frequency:145.000MHz (E,T,M) Frequency:146.000MHz (K) ① VOX1 AG:1kHz/50mV ② VOX9 AG:1kHz/2mV	AG		MIC		MNU key	Write	
DCS balance	1) Set the operation band to the A band. 2) Set the Service Setup Mode to display the [BAL] item. 3) Select the frequency adjustment point (f1, f2 or f3) by pressing [◄]/[►]. 4) Set the display frequency and mode. 5) Press [PTT] and turn the tuning control during transmission to change the "real-time value". 6) Press [MNU] to set the "real-time value" in the EEPROM. ►145.000 BAL : 83 f1 : FF Real-time value / EEPROM setting Frequency adjustment point When transmission is performed in DCS balance adjustment mode, a 100Hz square waveform is modulated. If no adjustment is necessary for an item (for example, 50MHz f2), the following message appears. Operations 5) and 6) are invalid. BAL:** f2:** ►50.000							
	Detector: +P HOLD HPF: OFF LPF: 3kHz De-emphasis: OFF Power: Low (FM) 1) Frequency:144.050MHz (f1) 2) Frequency:145.000MHz (E,T,M) (f2) Frequency:146.000MHz (K) (f2) 3) Frequency:145.995MHz (E,T,M) (f3) Frequency:147.995MHz (K) (f3) Transmission	Power meter Linear detector Oscilloscope	TX-RX (B/3)	ANT		Tuning control MNU key	By turning the tuning control, adjust the modulation wave until if becomes the square wave. Write	
	Power: Low (FM) 1) Frequency:430.050MHz (E,T,M) (f1) Frequency:438.050MHz (K) (f1) 2) Frequency:435.000MHz (E,T,M) (f2) Frequency:444.000MHz (K) (f2) 3) Frequency:439.995MHz (E,T,M) (f3) Frequency:449.995MHz (K) (f3) Transmission							
	Power: Low (FM) 1) Frequency:222.050MHz (K) (f1) 2) Frequency:224.000MHz (K) (f2) 3) Frequency:224.995MHz (K) (f3) Transmission							
DTMF Dev. check Battery terminal:7.4V	Detector: P-P/2 HPF: OFF LPF: 15kHz De-emphasis: OFF Frequency:145.000MHz (E,T,M) Frequency:146.000MHz (K) D key	AG AF V.M Power meter Linear detector Oscilloscope	TX-RX (B/3)	ANT MIC			Check	2.0kHz ~ 4.2kHz

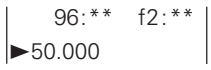
ADJUSTMENT

Item	Conditions	Measurement			Adjustment			Specifications/Remarks
		Test equipment	Unit	Terminal	Unit	Parts	Method	
1750Hz Tone Dev. check	Detector: P-P/2 HPF: OFF LPF: 15kHz De-emphasis: OFF Frequency:145.000MHz (E,T,M) Frequency:146.000MHz (K) Send 1750Hz Tone	AG AF V.M Power meter Linear detector Oscilloscope	TX-RX (B/3)	ANT MIC			Check	2.5kHz ~ 4.5kHz
Protection check Battery terminal:7.4V	ANT: Open Transmission Power: Hi (FM) 1) Frequency:145.000MHz (E,T,M) Frequency:146.000MHz (K) 2) Frequency:435.000MHz (E,T,M) Frequency:444.000MHz (K)	AG AF V.M Power meter Linear detector Oscilloscope	TX-RX (B/3)	ANT MIC			Check	2.4A or less
DCS Dev.	1) Set the operation band to the A band. 2) Turn the DCS on, then set the DCS code to be "D023". 3) Set the Service Setup Mode to display the [DCS] item. 4) Select the frequency adjustment point (f1, f2 or f3) by pressing [◄]/[►]. 5) Set the display frequency and mode. 6) Press [PTT] and turn the tuning control while transmitting to change the "real-time value". 7) Press [MNU] to set the "real-time value" in the EEPROM. If no adjustment is necessary for an item (for example, 50MHz f2), the following message appears. Operations 6) and 7) are invalid. ►145.000 DCS : 83 f1 : FF Real-time value / EEPROM setting Frequency adjustment point DCS : ** f2 : ** ►50.000							
	Detector: +P HOLD HPF: OFF LPF: 3kHz De-emphasis: OFF Power: Low (FM) 1) Frequency:144.050MHz (f1) 2) Frequency:145.000MHz (E,T,M) (f2) Frequency:146.000MHz (K) (f2) 3) Frequency:145.995MHz (E,T,M) (f3) Frequency:147.995MHz (K) (f3) Transmission	Power meter Linear detector Oscilloscope	TX-RX (B/3)	ANT		Tuning control MNU key	Write	0.9kHz ±100Hz
	Power: Low (FM) 1) Frequency:430.050MHz (E,T,M) (f1) Frequency:438.050MHz (K) (f1) 2) Frequency:435.000MHz (E,T,M) (f2) Frequency:444.000MHz (K) (f2) 3) Frequency:439.995MHz (E,T,M) (f3) Frequency:449.995MHz (K) (f3) Transmission							
	Power: Low (FM) 1) Frequency:222.050MHz (K) (f1) 2) Frequency:224.000MHz (K) (f2) 3) Frequency:224.995MHz (K) (f3) Transmission							
CTCSS Dev.	1) Set the operation band to the A band. 2) Turn the TONE On, then set the TONE to be 151.4 Hz. 3) Set the Service Setup Mode to display the [TON] item. 4) Select the frequency adjustment point (f1, f2 or f3) by pressing [◄]/[►]. 5) Set the display frequency and mode. 6) Press [PTT] and turn the tuning control while transmitting to change the "real-time value". 7) Press [MNU] to set the "real-time value" in the EEPROM. If no adjustment is necessary for an item (for example, 50MHz f2), the following message appears. Operations 6) and 7) are invalid. ►145.000 TON : 83 f1 : FF Real-time value / EEPROM setting Frequency adjustment point TON : ** f2 : ** ►50.000							
	Detector: P-P/2 HPF: OFF LPF: 3kHz De-emphasis: OFF	Power meter Linear detector Oscilloscope	TX-RX (B/3)	ANT		Tuning control MNU key	Write	0.8kHz ±100Hz

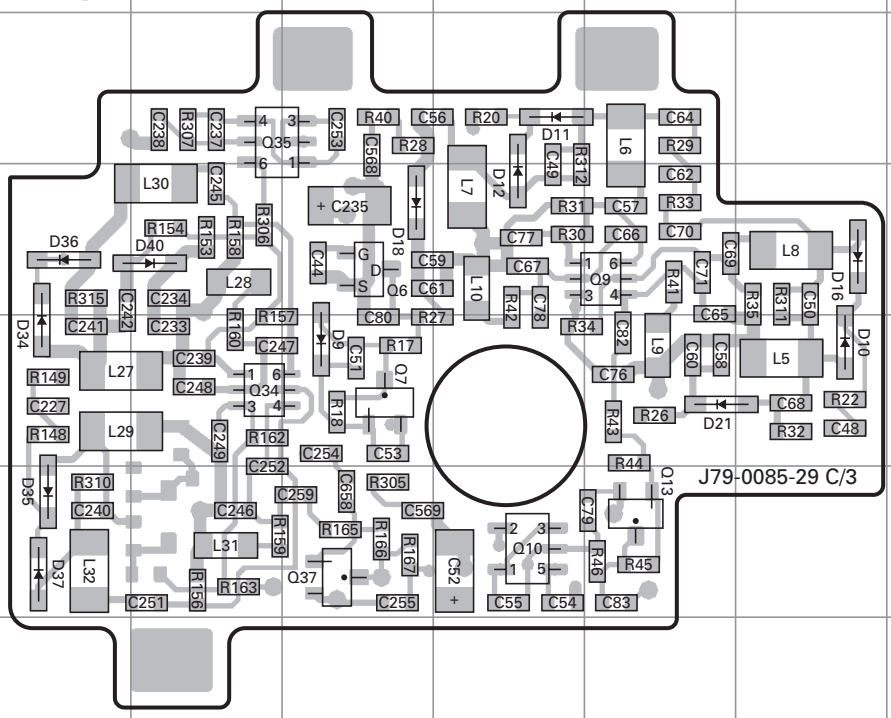
ADJUSTMENT

Item	Conditions	Measurement			Adjustment			Specifications/Remarks
		Test equipment	Unit	Terminal	Unit	Parts	Method	
CTCSS Dev.	Power: Low (FM) 1) Frequency:144.050MHz (f1) 2) Frequency:145.000MHz (E,T,M) (f2) Frequency:146.000MHz (K) (f2) 3) Frequency:145.995MHz (E,T,M) (f3) Frequency:147.995MHz (K) (f3) Transmission	Power meter Linear detector Oscilloscope	TX-RX (B/3)	ANT		Tuning control MNU key	 Write	0.8kHz ±100Hz
	Power: Low (FM) 1) Frequency:430.050MHz (E,T,M) (f1) Frequency:438.050MHz (K) (f1) 2) Frequency:435.000MHz (E,T,M) (f2) Frequency:444.000MHz (K) (f2) 3) Frequency:439.995MHz (E,T,M) (f3) Frequency:449.995MHz (K) (f3) Transmission							
	Power: Low (FM) 1) Frequency:222.050MHz (K) (f1) 2) Frequency:224.000MHz (K) (f2) 3) Frequency:224.995MHz (K) (f3) Transmission							
9600bps Dev.	1) Change the Packet Speed in Menu No. 28 to 9600 bps. 2) Set the operation band to the A band. 3) Set the Service Setup Mode to display the [96] item. 4) Select the frequency adjustment point (f1, f2 or f3) by pressing [◄]/[►]. 5) Set the display frequency and mode. 6) Apply the voltage required for the MIC connector from the Audio signal generator. 7) Press [PTT] and turn the tuning control while transmitting to change the "real-time value". 8) Press [MNU] to set the "real-time value" in the EEPROM. Press [LAMP] in Service Setup mode to enter a menu mode. If no adjustment is necessary for an item (for example, 50MHz f2), the following message appears. Operations 7) and 8) are invalid.							
	Detector: P-P/2 HPF: OFF LPH: 15kHz De-emphasis: OFF MICterminal input AG:1kHz/0.566V Power: Low (FM) 1) Frequency:144.050MHz (f1) 2) Frequency:145.000MHz (E,T,M) (f2) Frequency:146.000MHz (K) (f2) 3) Frequency:145.995MHz (E,T,M) (f3) Frequency:147.995MHz (K) (f3) Transmission	Power meter Linear detector Oscilloscope AG	TX-RX (B/3)	ANT		Tuning control MNU key	 Write	2.2kHz ±500Hz
	Power: Low (FM) 1) Frequency:430.050MHz (E,T,M) (f1) Frequency:438.050MHz (K) (f1) 2) Frequency:435.000MHz (E,T,M) (f2) Frequency:444.000MHz (K) (f2) 3) Frequency:439.995MHz (E,T,M) (f3) Frequency:449.995MHz (K) (f3) Transmission							
	Power: Low (FM) 1) Frequency:222.050MHz (K) (f1) 2) Frequency:224.000MHz (K) (f2) 3) Frequency:224.995MHz (K) (f3) Transmission							





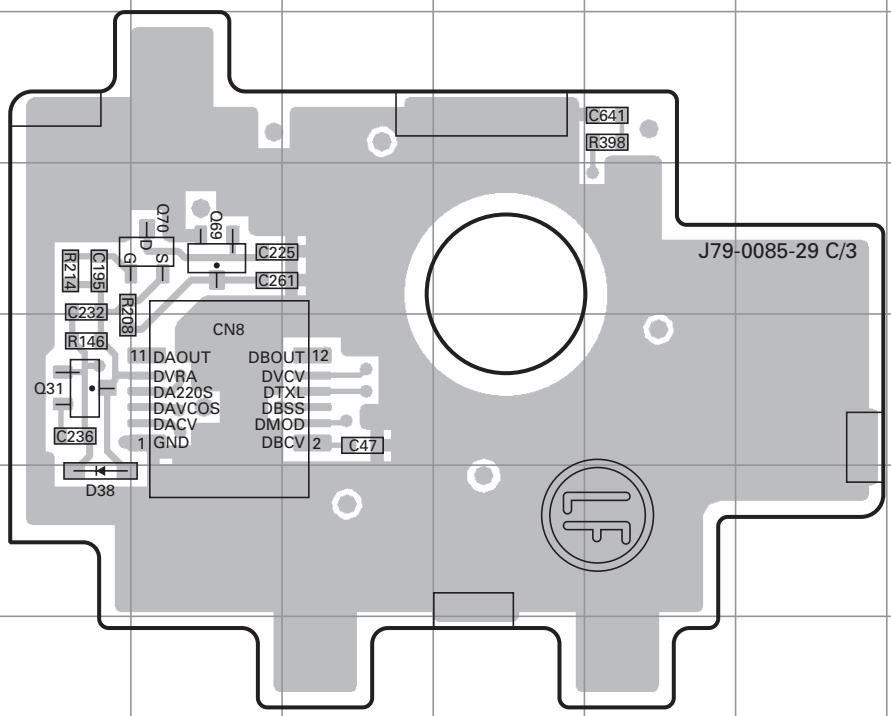
TX-RX UNIT (X57-636X-XX) (C/3) : VCO Section
0-11 : TH-F6A (K) 2-71 : TH-F7E (E,T), TH-F7A (M)
Component side view (J79-0085-29 C/3)



Ref. No.	Address	Ref. No.	Address
Q6	4D	D11	3E
Q7	5D	D12	4E
Q9	4F	D16	4G
Q10	6E	D18	4D
Q13	6F	D21	5F
Q34	5C	D34	5B
Q35	3C	D35	6B
Q37	6D	D36	4B
D9	5D	D37	6B
D10	5G	D40	4C

Component side
Layer 1
Layer 2
Layer 3
Layer 4
Layer 5
Layer 6
Foil side

TX-RX UNIT (X57-636X-XX) (C/3) : VCO Section
0-11 : TH-F6A (K) 2-71 : TH-F7E (E,T), TH-F7A (M)
Foil side view (J79-0085-29 C/3)

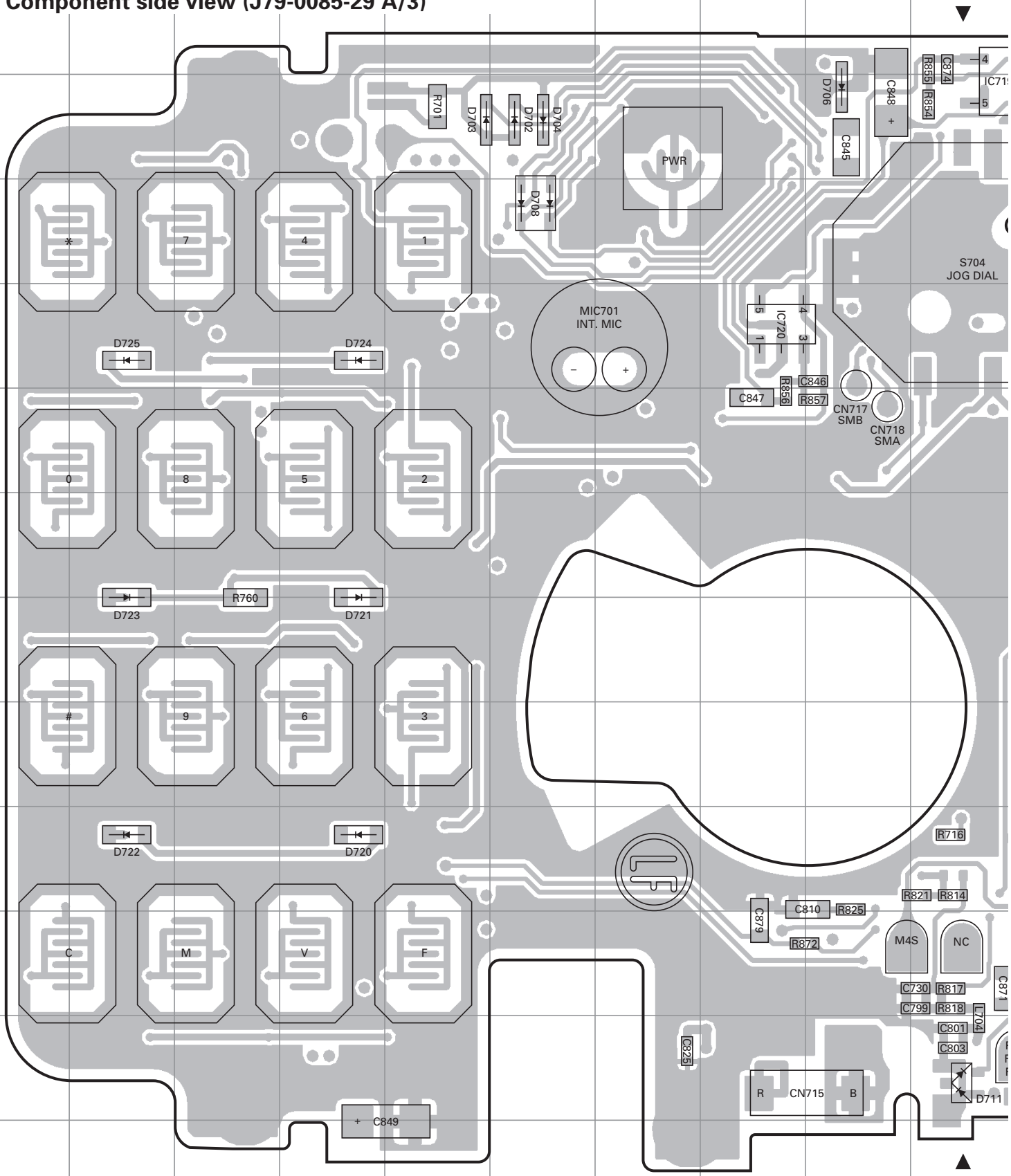


Ref. No.	Address
Q31	11B
Q69	10C
Q70	10C
D38	12B

Component side
Layer 1
Layer 2
Layer 3
Layer 4
Layer 5
Layer 6
Foil side

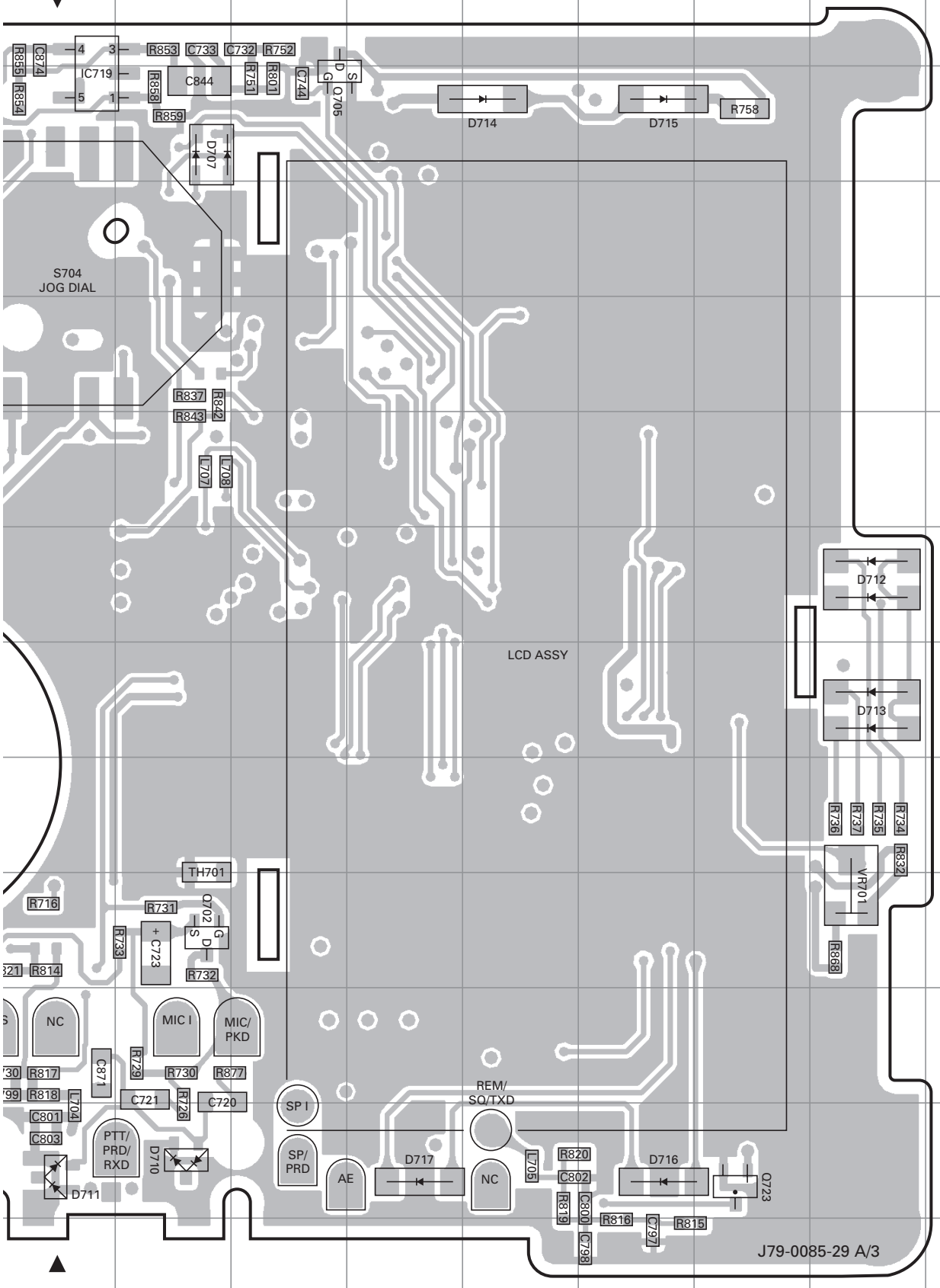
TH-F6A/F7A/F7E PC BOARD

TX-RX UNIT (X57-636X-XX) (A/3) : Control Section
0-11 : TH-F6A (K) 2-71 : TH-F7E (E,T), TH-F7A (M)
Component side view (J79-0085-29 A/3)

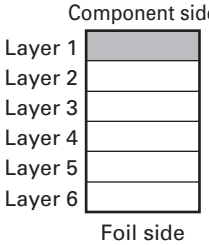


PC BOARD TH-F6A/F7A/F7E

TX-RX UNIT (X57-636X-XX) (A/3) : Control Section
0-11 : TH-F6A (K) 2-71 : TH-F7E (E,T), TH-F7A (M)
Component side view (J79-0085-29 A/3)

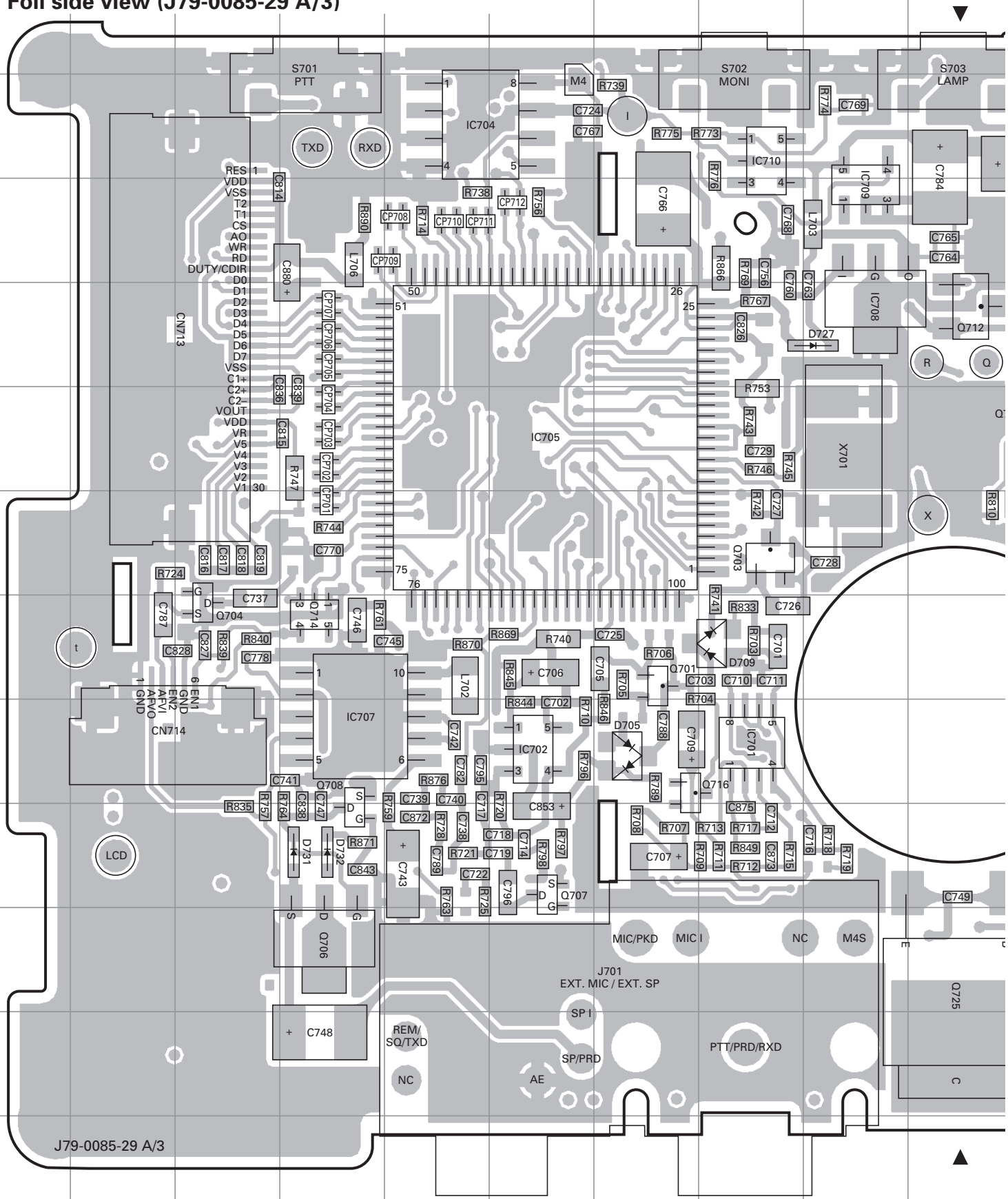


Ref. No.	Address
IC719	3J
IC720	5H
Q702	10K
Q705	3L
Q723	12P
D702	3F
D703	3E
D704	3F
D706	3I
D707	3K
D708	4F
D710	12K
D711	12J
D712	7Q
D713	8Q
D714	3N
D715	3O
D716	12O
D717	12M
D720	10D
D721	8D
D722	10B
D723	8B
D724	5D
D725	5B



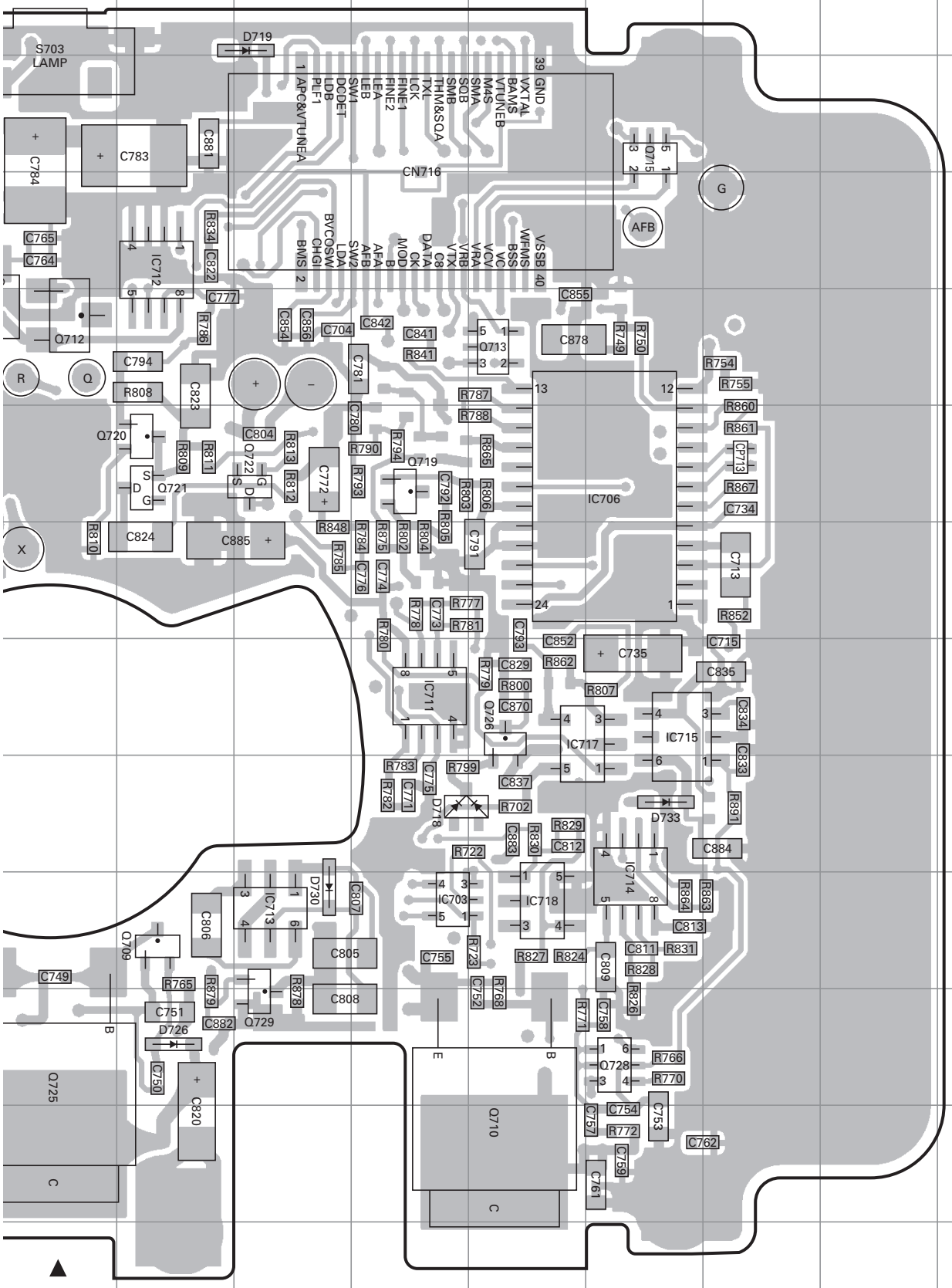
TH-F6A/F7A/F7E PC BOARD

TX-RX UNIT (X57-636X-XX) (A/3) : Control Section
0-11 : TH-F6A (K) 2-71 : TH-F7E (E,T), TH-F7A (M)
Foil side view (J79-0085-29 A/3)



PC BOARD TH-F6A/F7A/F7E

TX-RX UNIT (X57-636X-XX) (A/3) : Control Section
0-11 : TH-F6A (K) 2-71 : TH-F7E (E,T), TH-F7A (M)
Foil side view (J79-0085-29 A/3)

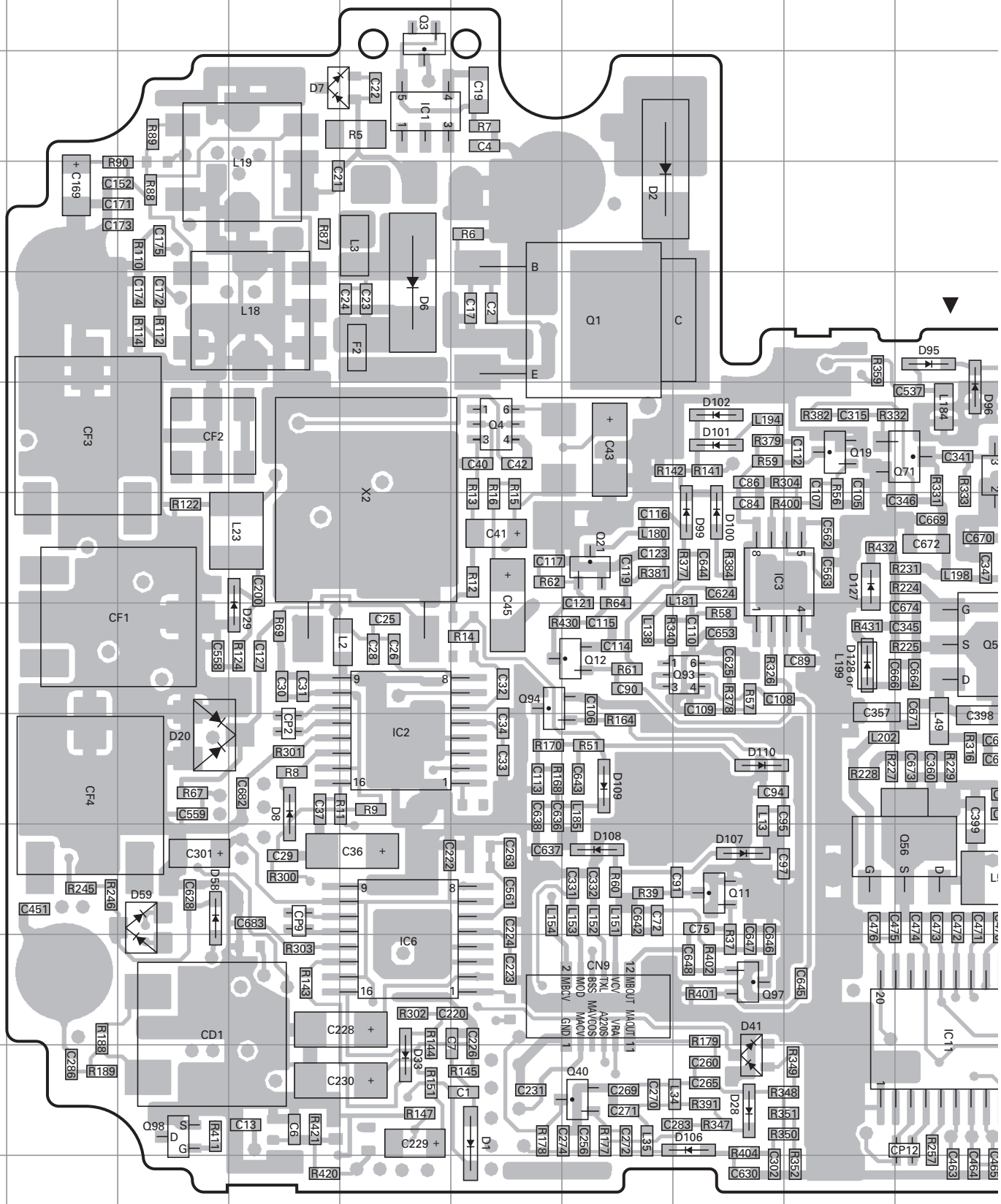


Ref. No.	Address
IC701	9H
IC702	9F
IC703	10M
IC704	3E
IC705	6F
IC706	6O
IC707	9D
IC708	5I
IC709	4I
IC710	3H
IC711	8M
IC712	4K
IC713	10L
IC714	10O
IC715	8O
IC717	8N
IC718	10N
Q701	8G
Q703	7H
Q704	8C
Q706	11D
Q707	10F
Q708	10D
Q709	10K
Q710	12N
Q712	5J
Q713	5N
Q714	8D
Q715	3O
Q716	9G
Q719	6M
Q720	6K
Q721	6K
Q722	6L
Q725	11J
Q726	8N
Q728	11O
Q729	11L
D705	9G
D709	8H
D718	9M
D719	2L
D726	11K
D727	5I
D730	10L
D731	10D
D732	10D
D733	9O

Component side
Layer 1
Layer 2
Layer 3
Layer 4
Layer 5
Layer 6
Foil side

TH-F6A/F7A/F7E PC BOARD

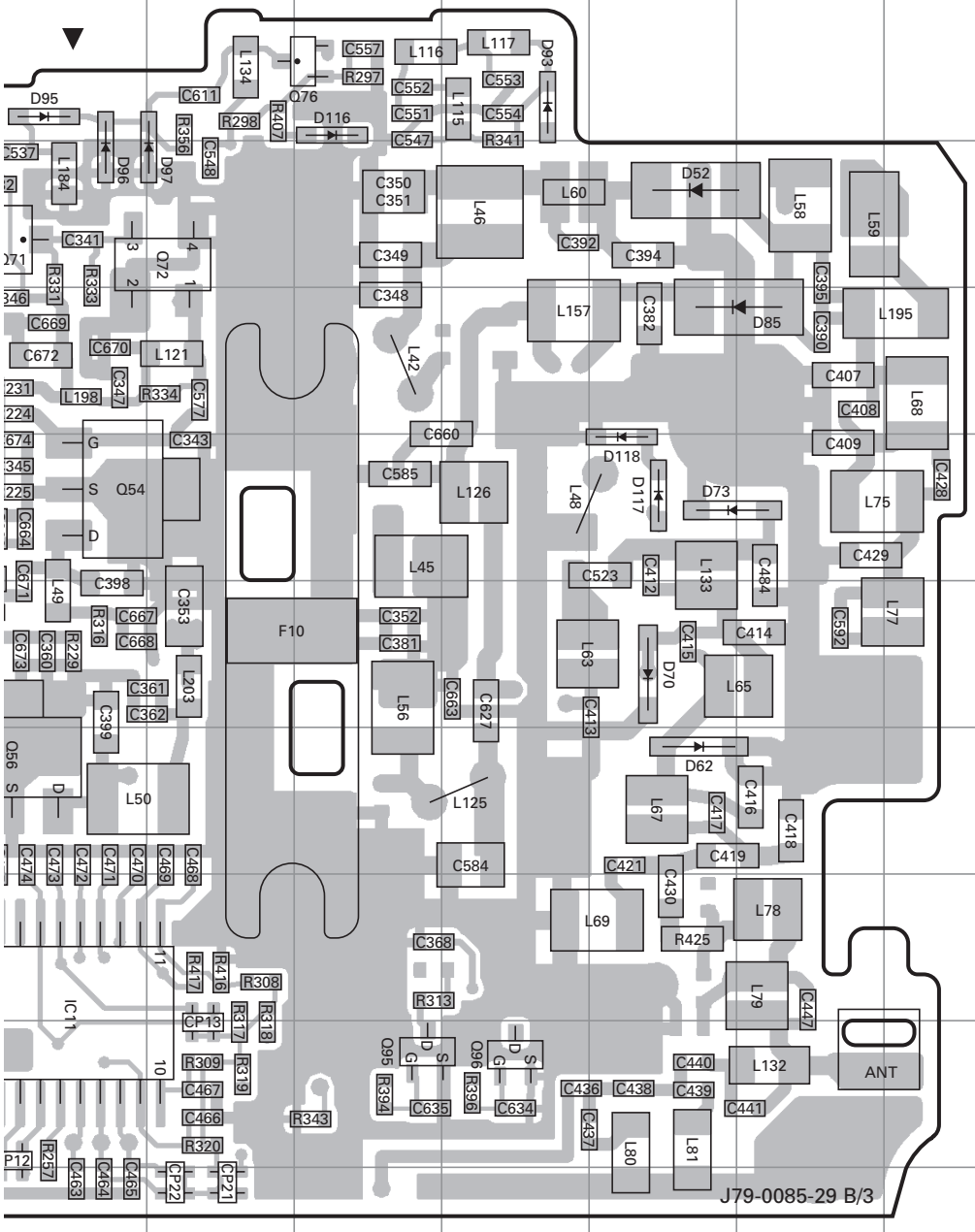
TX-RX UNIT (X57-636X-XX) (B/3) : RF Section
0-11 : TH-F6A (K) 2-71 : TH-F7E (E,T), TH-F7A (M)
Component side view (J79-0085-29 B/3)



PC BOARD TH-F6A/F7A/F7E

TX-RX UNIT (X57-636X-XX) (B/3) : RF Section
0-11 : TH-F6A (K) 2-71 : TH-F7E (E,T), TH-F7A (M)
Component side view (J79-0085-29 B/3)

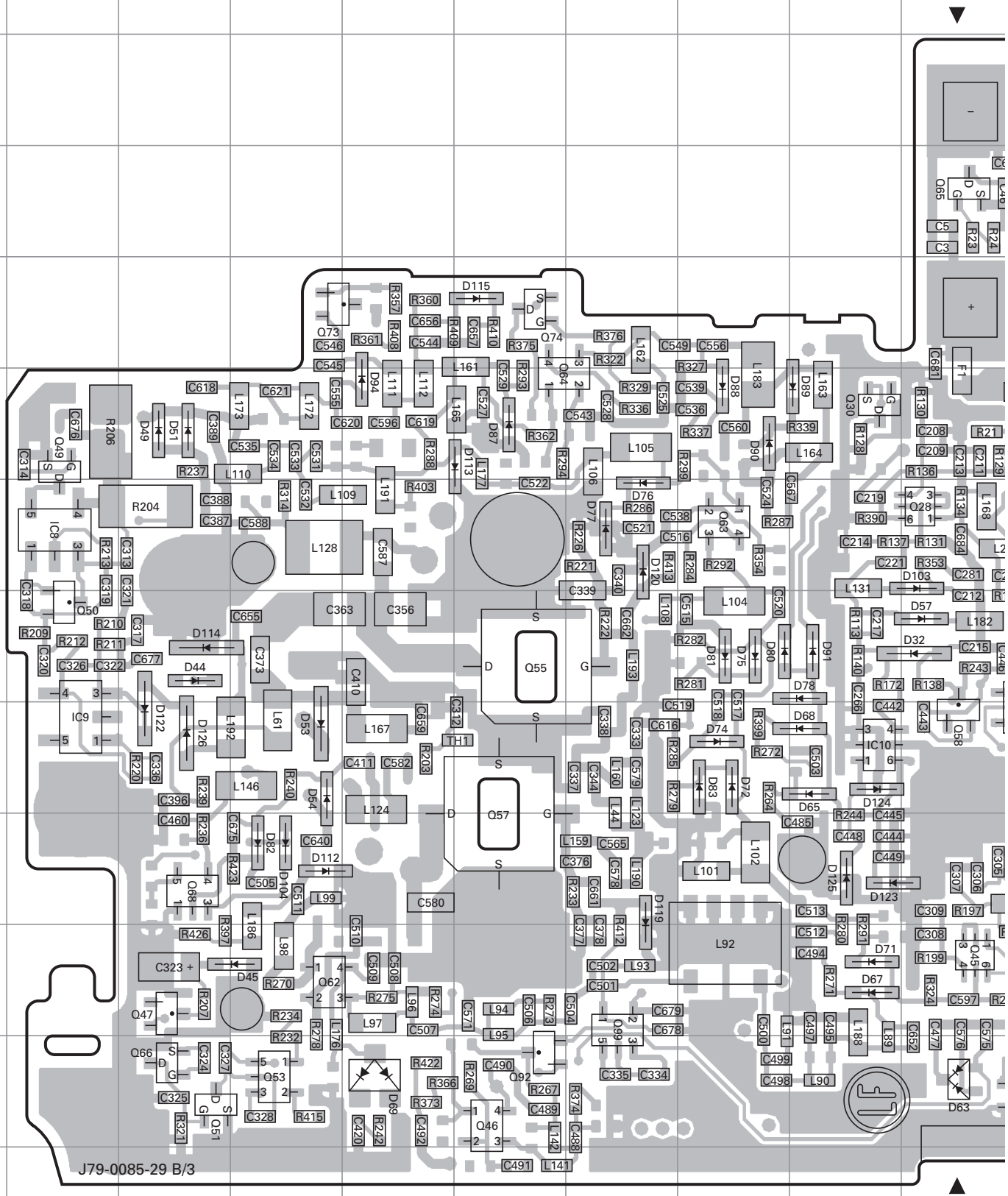
Ref. No.	Address	Ref. No.	Address
IC1	3E	D28	12H
IC2	9E	D29	8D
IC3	7H	D33	12E
IC6	11E	D41	12H
IC11	11J	D52	6N
Q1	5G	D58	10C
Q3	2E	D59	10C
Q4	6F	D62	10N
Q11	10H	D70	9N
Q12	8G	D73	8N
Q19	6I	D85	7O
Q21	7G	D93	5M
Q40	12G	D95	5J
Q54	8J	D96	6J
Q56	10J	D97	6K
Q71	6J	D99	7H
Q72	6K	D100	7H
Q76	5L	D101	6H
Q93	8H	D102	6H
Q94	8F	D106	12H
Q95	12L	D107	10H
Q96	12M	D108	10G
Q97	11H	D109	9G
Q98	12C	D110	9H
D1	12F	D116	5L
D2	4G	D117	8N
D6	5E	D118	8N
D7	3D	D127	7I
D8	9D	D128	8I
D20	9C		



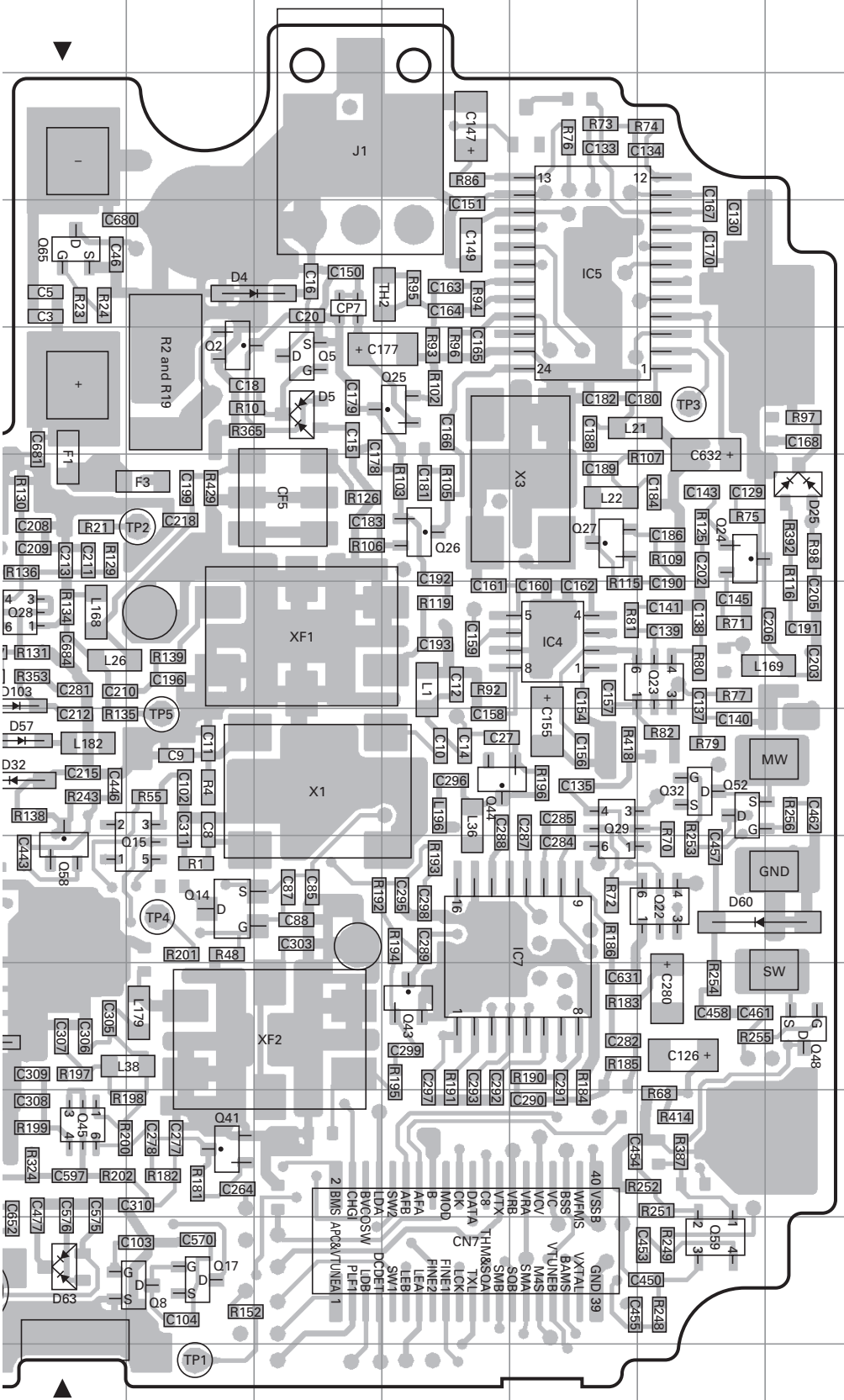
Component side
Layer 1
Layer 2
Layer 3
Layer 4
Layer 5
Layer 6
Foil side

TH-F6A/F7A/F7E PC BOARD

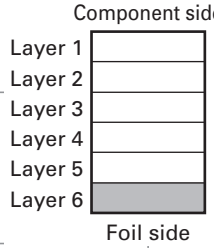
TX-RX UNIT (X57-636X-XX) (B/3) : RF Section
0-11 : TH-F6A (K) 2-71 : TH-F7E (E,T), TH-F7A (M)
Foil side view (J79-0085-29 B/3)



TX-RX UNIT (X57-636X-XX) (B/3) : RF Section
0-11 : TH-F6A (K) 2-71 : TH-F7E (E,T), TH-F7A (M)
Foil side view (J79-0085-29 B/3)

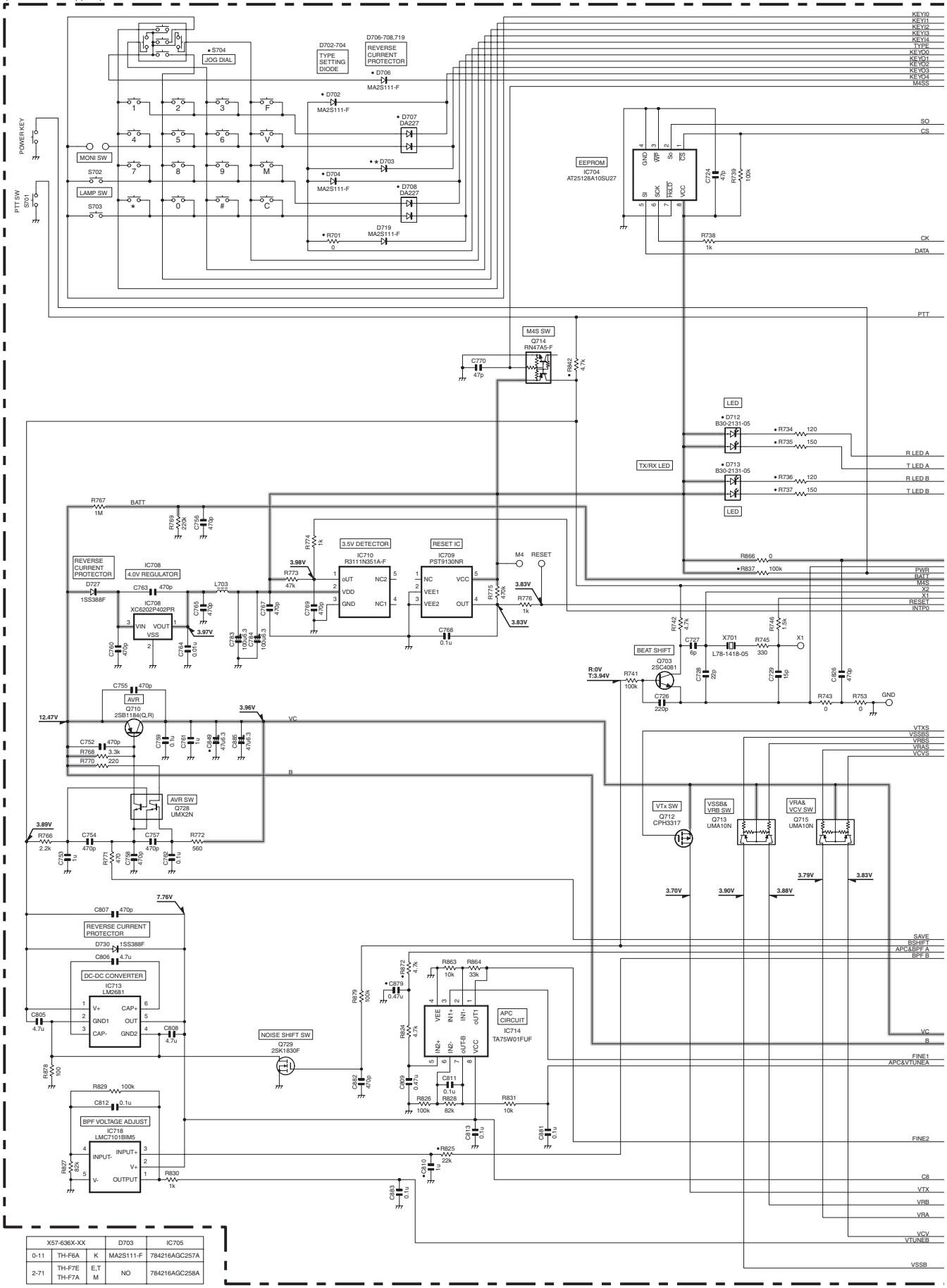


Ref. No.	Address	Ref. No.	Address
IC4	7N	D4	4K
IC5	4N	D5	5L
IC7	9N	D25	6P
IC8	7B	D32	8J
IC9	9B	D44	8C
IC10	9I	D45	11D
Q2	5K	D49	6C
Q5	5L	D51	6C
Q8	12K	D53	9D
Q14	9K	D54	9D
Q15	9K	D57	8J
Q17	12K	D60	9O
Q22	9O	D63	12J
Q23	7O	D65	9I
Q24	6O	D67	11I
Q25	5M	D68	9I
Q26	6M	D69	12E
Q27	6N	D71	11I
Q28	7J	D72	9H
Q29	8N	D74	9H
Q30	6I	D75	8H
Q32	8O	D76	7G
Q41	11K	D77	7G
Q43	10M	D78	8I
Q44	8M	D80	8H
Q45	11J	D81	8H
Q46	12F	D82	10D
Q47	11C	D83	9H
Q48	10P	D87	6F
Q49	6B	D88	6H
Q50	8B	D89	6I
Q51	12C	D90	6H
Q52	8O	D91	8I
Q53	12D	D94	6E
Q55	8F	D103	7J
Q57	10F	D104	10D
Q58	9J	D112	10D
Q59	12O	D113	6F
Q62	11D	D114	8C
Q63	7H	D115	5F
Q64	6F	D119	10G
Q65	4J	D120	7G
Q66	12C	D122	9C
Q68	10C	D123	10I
Q73	5D	D124	9I
Q74	5F	D125	10I
Q92	12F	D126	9C
Q99	11G		



TH-F6A/F7A/F7E SCHEMATIC DIAGRAM

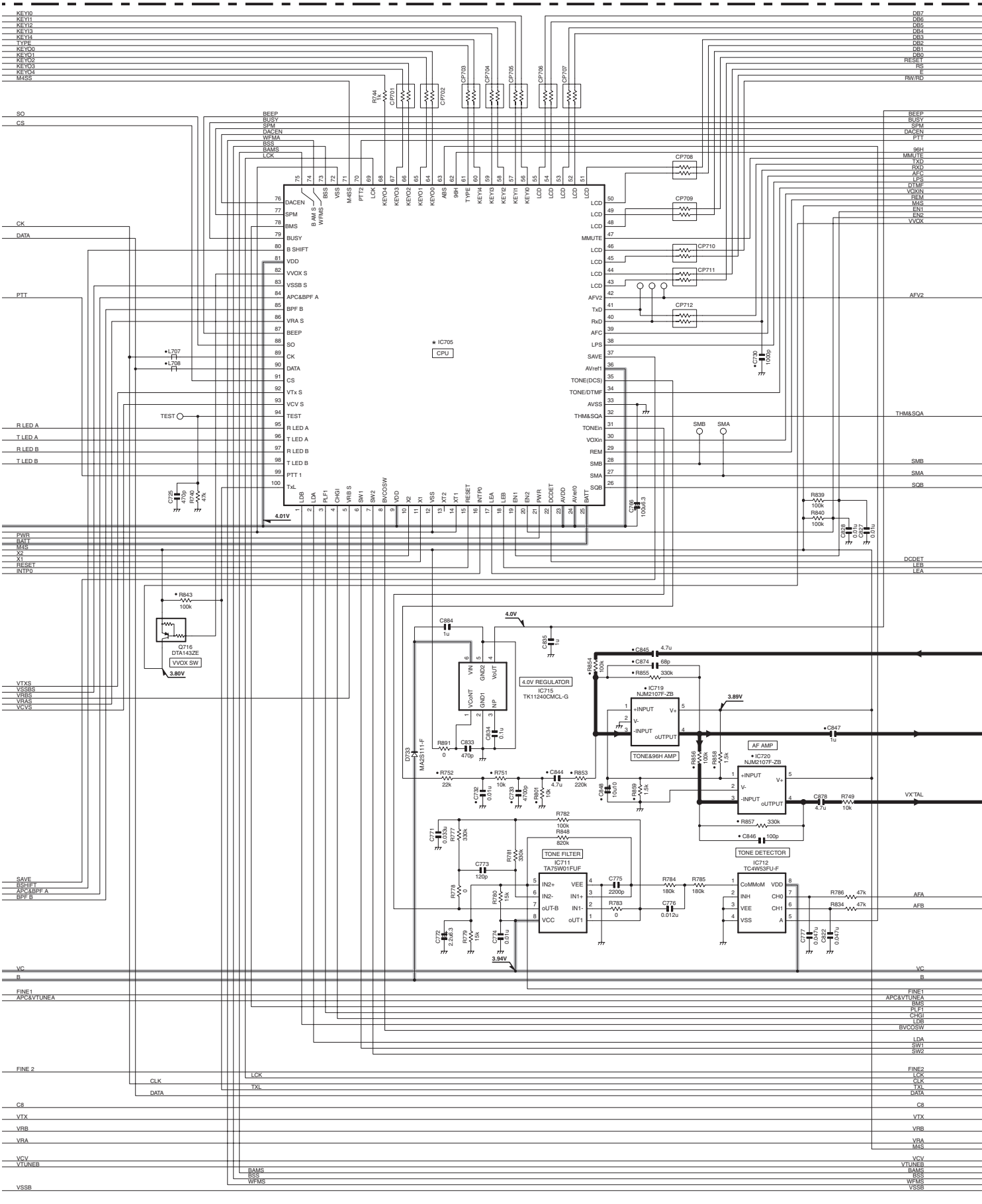
TX-RX UNIT (CONTROL SECTION)
(X57-636X-XX)(A/3)



X57-636X-XX			D703	IC705
0-11	TH-F6A	K	MA2S111-F	784216AGC257A
2-71	TH-F7E TH-F7A	E,T M	NO	784216AGC258A

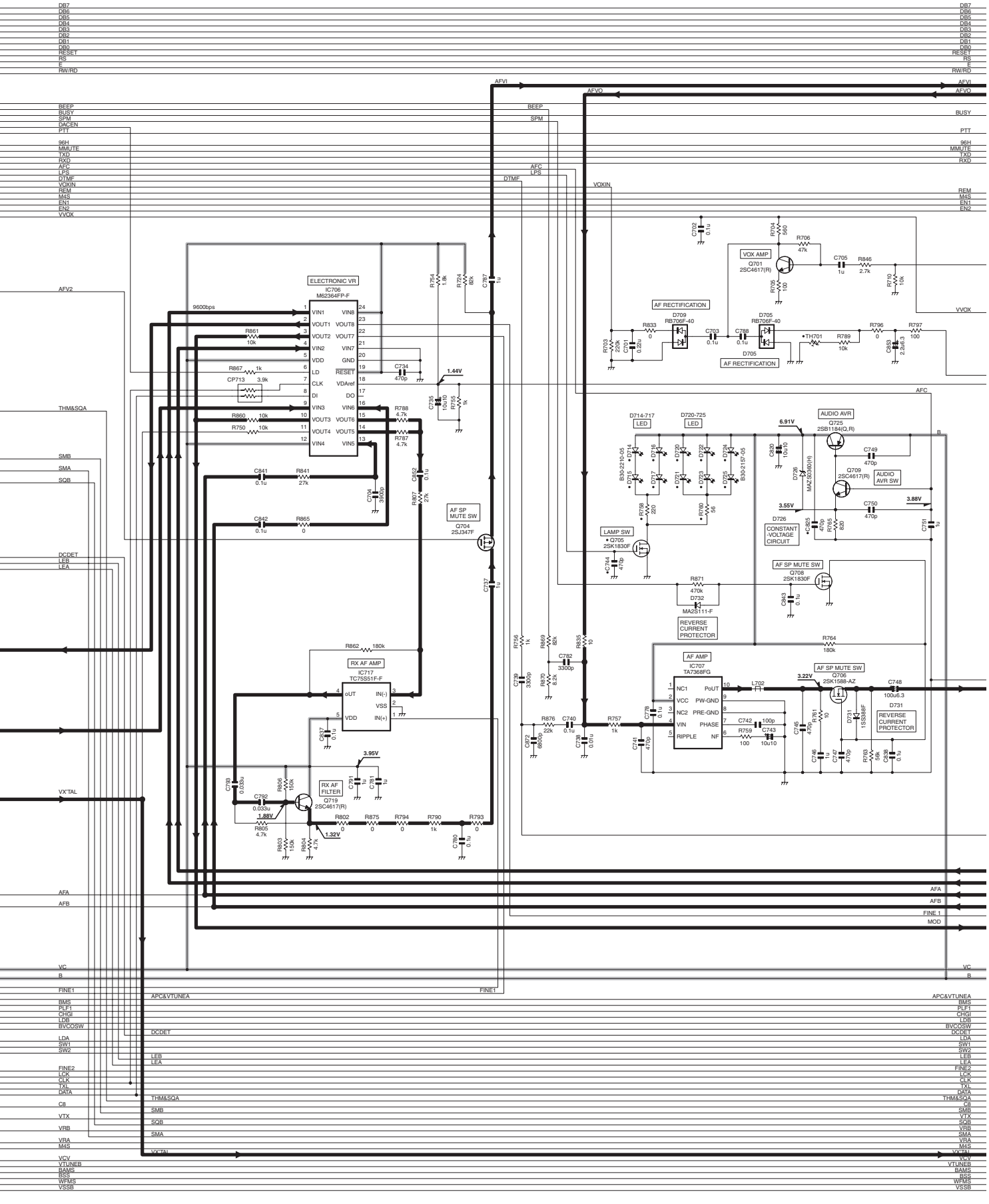
SCHEMATIC DIAGRAM TH-F6A/F7A/F7E

TX-RX UNIT (CONTROL SECTION)
(X57-636X-XX)(A/3)



TH-F6A/F7A/F7E SCHEMATIC DIAGRAM

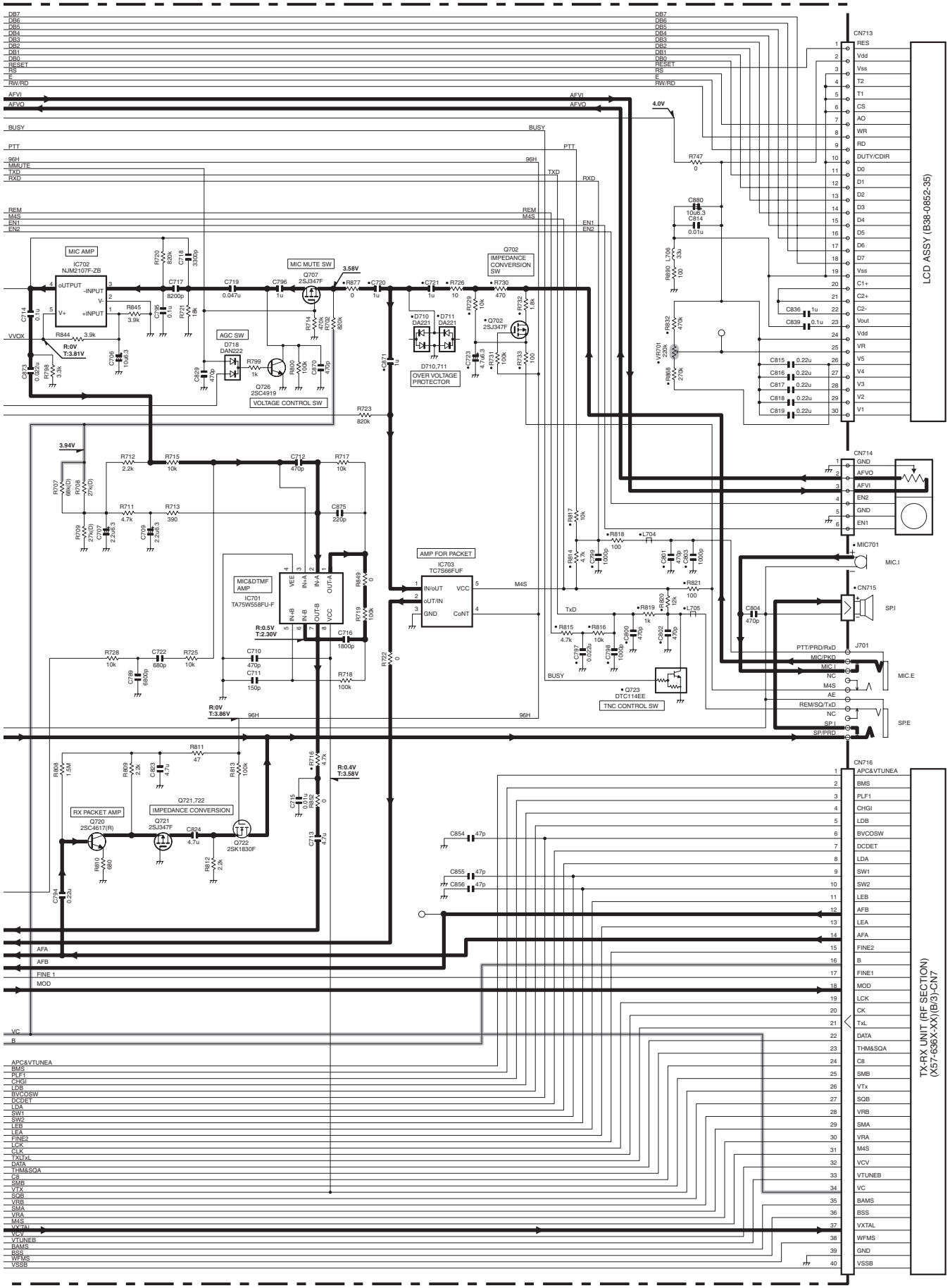
TX-RX UNIT (CONTROL SECTION)
(X57-636X-XX)(A/3)



SCHEMATIC DIAGRAM TH-F6A/F7A/F7E

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

TX-RX UNIT (CONTROL SECTION)
(X57-636X-XX)(A/3)



TH-F6A/F7A/F7E SCHEMATIC DIAGRAM

X57-636X-XX			IC6
0-11	TH-F6A	K	LMX2326TMX
2-71	TH-F7E TH-F7A	E,T M	LMX2316TMX

TX-RX UNIT (RF SECTION)
(X57-636X-XX)(B/3)

TX-RX UNIT (VCO SECTION)
(X57-636X-XX)(C/3)

TX-RX UNIT (CONTROL SECTION)
(X57-636X-XX)(A/3)-CN716

CN7

APC&TUNEA
BMS
PLF1
CHGI
LDB
BVCOSW
DCDET
LDA
SW1
SW2
LEB
AFB
LEA
AFA
FINE2
B
FINE1
MOD
LCK
CK
TxL
DATA
THM&SQA
C8
SMB
VTx
SQB
VRB
SMA
VRA
M4S
VCV
VTUNEB
VC
BAMS
BSS
VXTAL
WFMS
GND
VSSB

F3 0.5A

CN8 E40-6215-15

CN9 E40-6216-15

VCO
VCO B
VCO A
OSCILLATOR
BUFFER AMP
RIPPLE FILTER
DC SW
RF SW
VCO SWITCHING
VOLTAGE SHIFT
REVERSE CURRENT PROTECTOR
DC IN DETECT SW
CHARGE CONTROL
CHARGE IC
LIMITER
CONSTANT -CURRENT CIRCUIT
PLL IC A
PLL LOCK VOLTAGE DETECT SW

Q9 MT6C03AE*J-F
Q13 2SC5010-T1-A
Q7 2SC4617(S)
Q10 UPA573T-A
Q6 2SK1824-A
Q34 MT6C03AE*J-F
Q37 2SC5108(Y)F
Q70 2SJ243-A
Q69 DTC144EE
Q31 2SC4617(S)
Q35 HN1J02FUF
Q65 2SK3019
Q3 DTA143ZE
IC1 LM3420-8.4N
Q1 2SD1760
Q2 DTC123JE
Q5 2SK1830F
X1 L77-3009-05
IC6

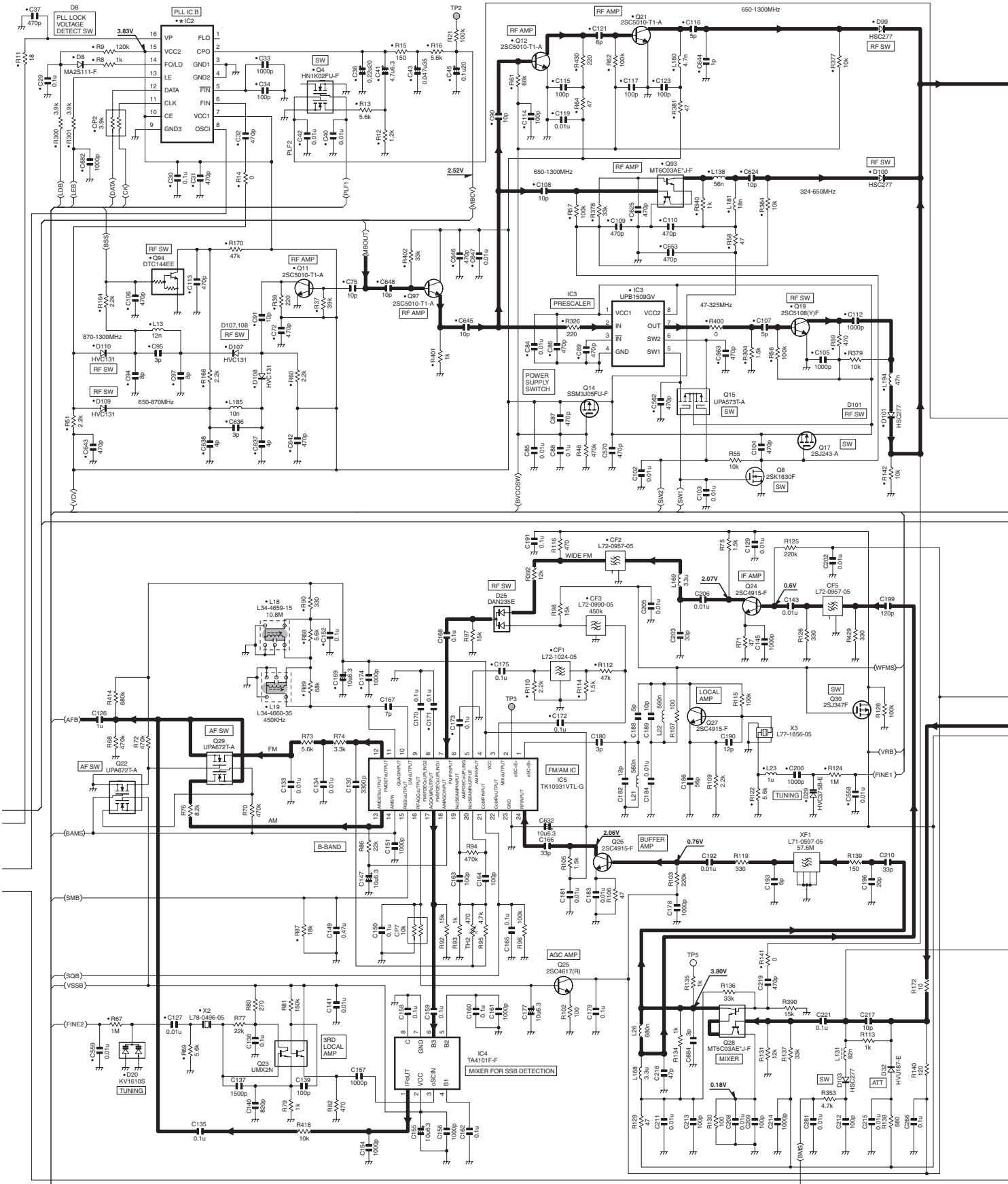
3.80V
3.58V
0V
1.60V
13.35V
3.73V

X57-636(B/3) 1/4, X57-636(C/3) 1/1

SCHEMATIC DIAGRAM TH-F6A/F7A/F7E

X57-636X-XX			IC2
0-11	TH-F6A	K	LMX2326TMX
2-71	TH-F7E TH-F7A	E,T M	LMX2316TMX

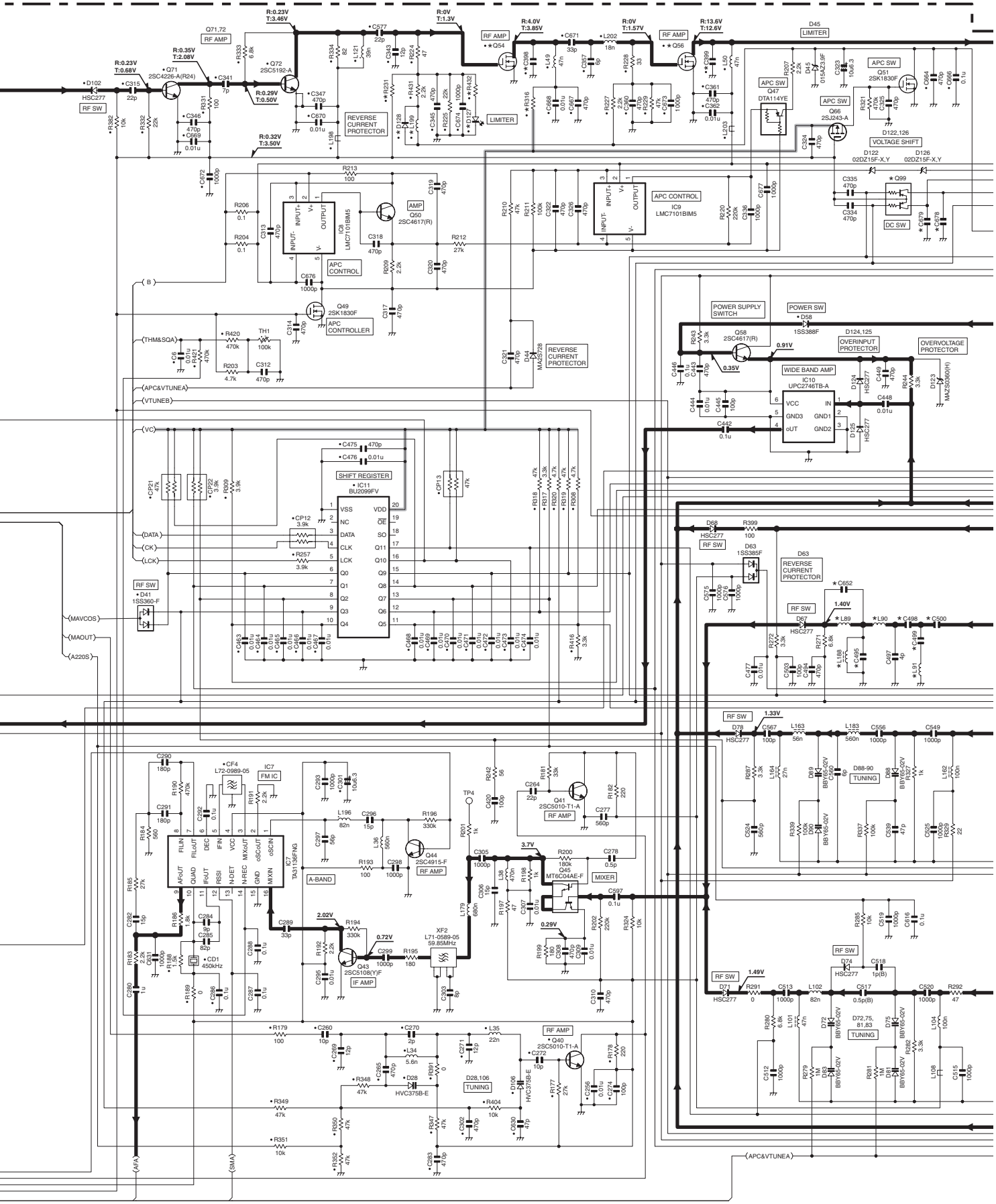
TX-RX UNIT (RF SECTION)
(X57-636X-XX)(B/3)



TH-F6A/F7A/F7E SCHEMATIC DIAGRAM

X57-636X-XX			D127	D128	Q54	Q56	Q99	L89	L90	L91	L188	L199	R231	R316	R432	C398	C399	C495	C498	C499	C500	C652	C678	C679
0-11	TH-F6A	K	B30-2281-05	NO	2SK2973	2SK2973	UMA6N	NO	10n	39n	18n	1u	NO	22	2.2k	NO	NO	NO	15p	5p	8p	470p	470p	470p
2-71	TH-F7E TH-F7A	E,T M	NO	MA2S111-F	RD01MUS1-T113	RD01MUS1-T113	NO	15n	18n	27n	NO	NO	15k	10	NO	7p	7p	15p	3p	13p	4p	NO	NO	NO

TX-RX UNIT (RF SECTION)
(X57-636X-XX)(B/3)



SCHEMATIC DIAGRAM TH-F6A/F7A/F7E

TX-RX UNIT (RF SECTION)
(X57-636X-XX)(B/3)

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

X57-636X-XX			D85	D119	D120	Q57	L42	L44	L56	L92	L93	L96	L97	L124	L125	L126	L157	L159	L190	R233	R412	R413	R415
0-11	TH-F6A	K	L709CER	HVC131	HVC131	2SK3476B-F	L34-4726-05	12n	L34-4565-05	L79-1526-05	39n	22n	82n	220n	L34-1230-05	L34-4573-05	L34-4576-05	10n	27n	33	180	180	1k
2-71	TH-F7E TH-F7A	E,T M	NO	NO	NO	NO	L34-1230-05	10n	NO	L79-1525-05	27n	15n	100n	NO	NO	NO	NO	NO	NO	NO	NO	NO	4.7k

X57-636X-XX			C333	C348	C349	C351	C373	C376	C382	C394	C408	C409	C410	C428	C502	C504	C506	C507	C511	C565	C571	C578	C579	C580	C584	C585	C627	C660	C661	C662
0-11	TH-F6A	K	39p	68p	68p	NO	22p	5p	20p	27p	5p	15p	2.5p	5p	5p	12p	6p	8p	5p	68p	3p	15p	22p	27p	91.0p	15p	330p	18p	470p	470p
2-71	TH-F7E TH-F7A	E,T M	33p	100p	100p	12p	27p	NO	NO	33p	7p	22p	3.5p	7p	15p	7p	18p	22p	6p	NO	5p	NO	24p	NO	NO	NO	1000p	NO	NO	NO	NO

TH-F6A/F7A/F7E

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(A.C.N. 001 499 074)
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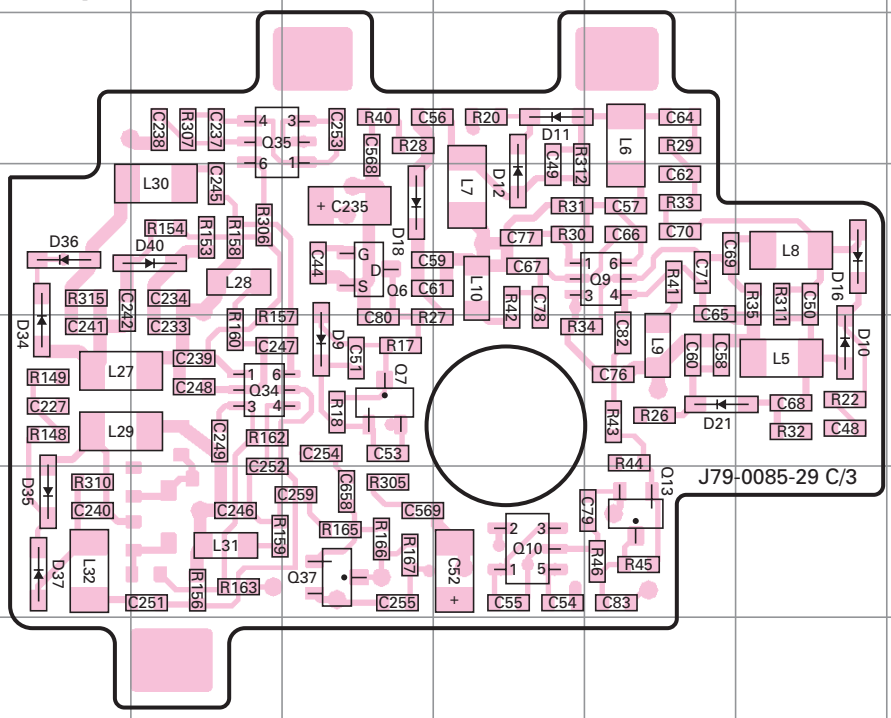
Kenwood Electronics (Hong Kong) Ltd.

Unit 3712-3724, Level 37, Tower one Metroplaza, 223 Hing Fong Road, Kwai Fong, N.T., Hong Kong

Kenwood Electronics Singapore Pte Ltd

1 Ang Mo Kio Street 63, Singapore 569110

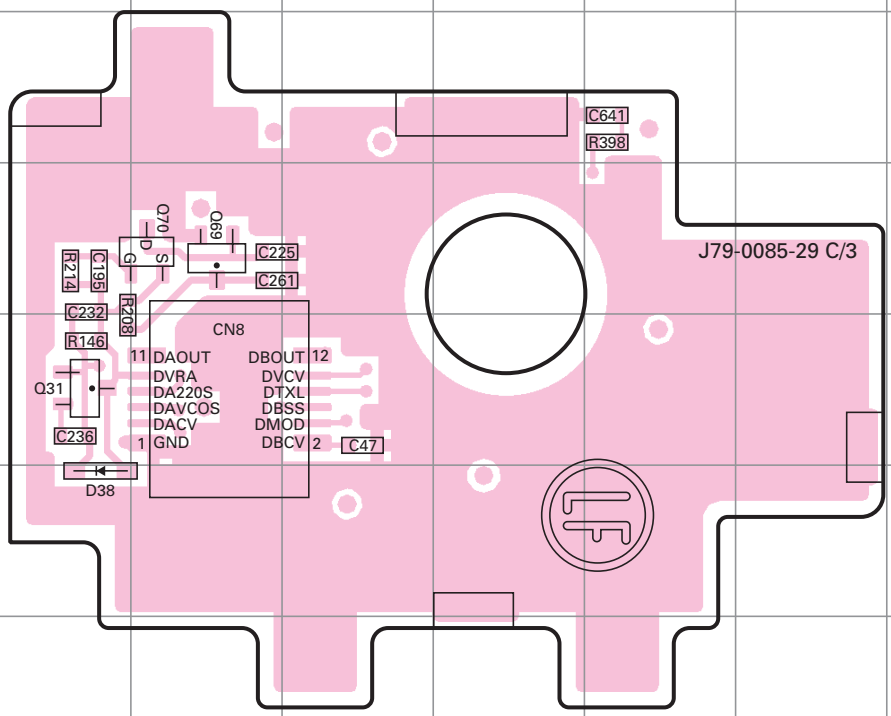
TX-RX UNIT (X57-636X-XX) (C/3) : VCO Section
0-11 : TH-F6A (K) 2-71 : TH-F7E (E,T), TH-F7A (M)
Component side view (J79-0085-29 C/3)



Ref. No.	Address	Ref. No.	Address
Q6	4D	D11	3E
Q7	5D	D12	4E
Q9	4F	D16	4G
Q10	6E	D18	4D
Q13	6F	D21	5F
Q34	5C	D34	5B
Q35	3C	D35	6B
Q37	6D	D36	4B
D9	5D	D37	6B
D10	5G	D40	4C

Component side
Layer 1
Layer 2
Layer 3
Layer 4
Layer 5
Layer 6
Foil side

TX-RX UNIT (X57-636X-XX) (C/3) : VCO Section
0-11 : TH-F6A (K) 2-71 : TH-F7E (E,T), TH-F7A (M)
Foil side view (J79-0085-29 C/3)



Ref. No.	Address
Q31	11B
Q69	10C
Q70	10C
D38	12B

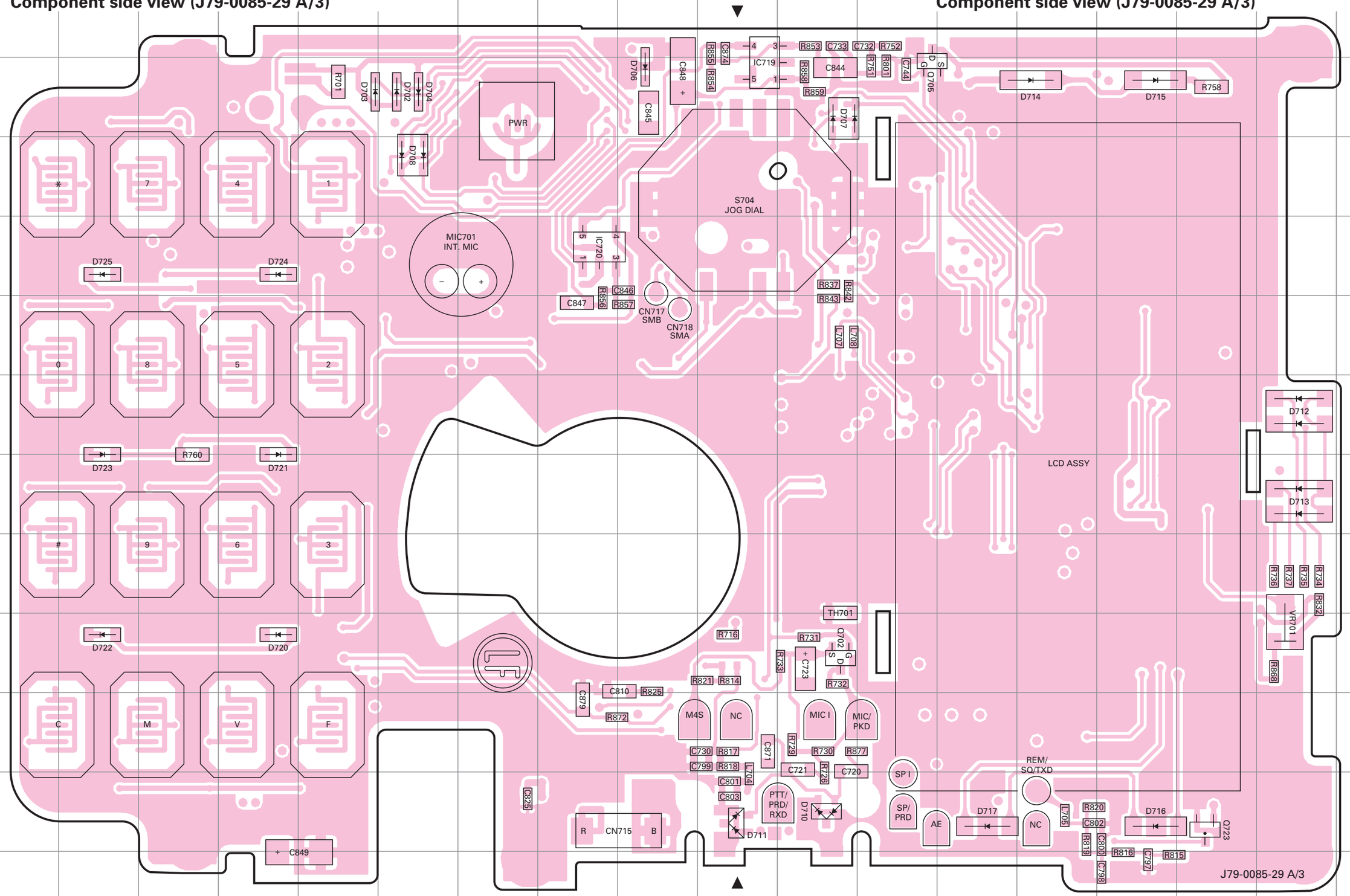
Component side
Layer 1
Layer 2
Layer 3
Layer 4
Layer 5
Layer 6
Foil side

TH-F6A/F7A/F7E PC BOARD

TX-RX UNIT (X57-636X-XX) (A/3) : Control Section
0-11 : TH-F6A (K) 2-71 : TH-F7E (E,T), TH-F7A (M)
Component side view (J79-0085-29 A/3)

PC BOARD TH-F6A/F7A/F7E

TX-RX UNIT (X57-636X-XX) (A/3) : Control Section
0-11 : TH-F6A (K) 2-71 : TH-F7E (E,T), TH-F7A (M)
Component side view (J79-0085-29 A/3)



Ref. No.	Address
IC719	3J
IC720	5H
Q702	10K
Q705	3L
Q723	12P
D702	3F
D703	3E
D704	3F
D706	3I
D707	3K
D708	4F
D710	12K
D711	12J
D712	7Q
D713	8Q
D714	3N
D715	3O
D716	12O
D717	12M
D720	10D
D721	8D
D722	10B
D723	8B
D724	5D
D725	5B

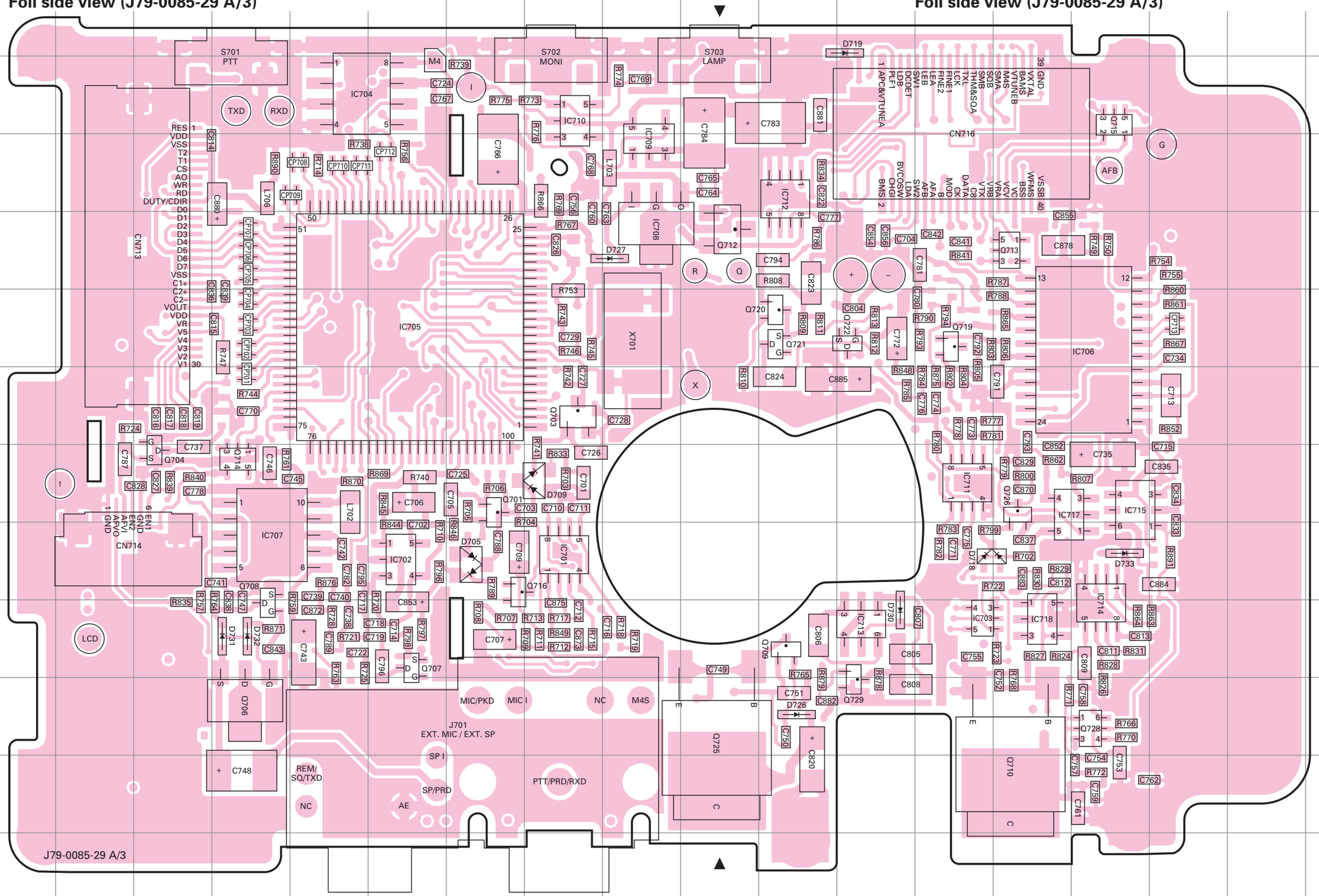
Component side
Layer 1
Layer 2
Layer 3
Layer 4
Layer 5
Layer 6
Foil side

TH-F6A/F7A/F7E PC BOARD

TX-RX UNIT (X57-636X-XX) (A/3) : Control Section
0-11 : TH-F6A (K) 2-71 : TH-F7E (E,T), TH-F7A (M)
Foil side view (J79-0085-29 A/3)

PC BOARD TH-F6A/F7A/F7E

TX-RX UNIT (X57-636X-XX) (A/3) : Control Section
0-11 : TH-F6A (K) 2-71 : TH-F7E (E,T), TH-F7A (M)
Foil side view (J79-0085-29 A/3)



Ref. No.	Address
IC701	9H
IC702	9F
IC703	10M
IC704	3E
IC705	6F
IC706	6O
IC707	9D
IC708	5I
IC709	4I
IC710	3H
IC711	8M
IC712	4K
IC713	10L
IC714	10O
IC715	8O
IC717	8N
IC718	10N
Q701	8G
Q703	7H
Q704	8C
Q706	11D
Q707	10F
Q708	10D
Q709	10K
Q710	12N
Q712	5J
Q713	5N
Q714	8D
Q715	3O
Q716	9G
Q719	6M
Q720	6K
Q721	6K
Q722	6L
Q725	11J
Q726	8N
Q728	11O
Q729	11L
D705	9G
D709	8H
D718	9M
D719	2L
D726	11K
D727	5I
D730	10L
D731	10D
D732	10D
D733	9O

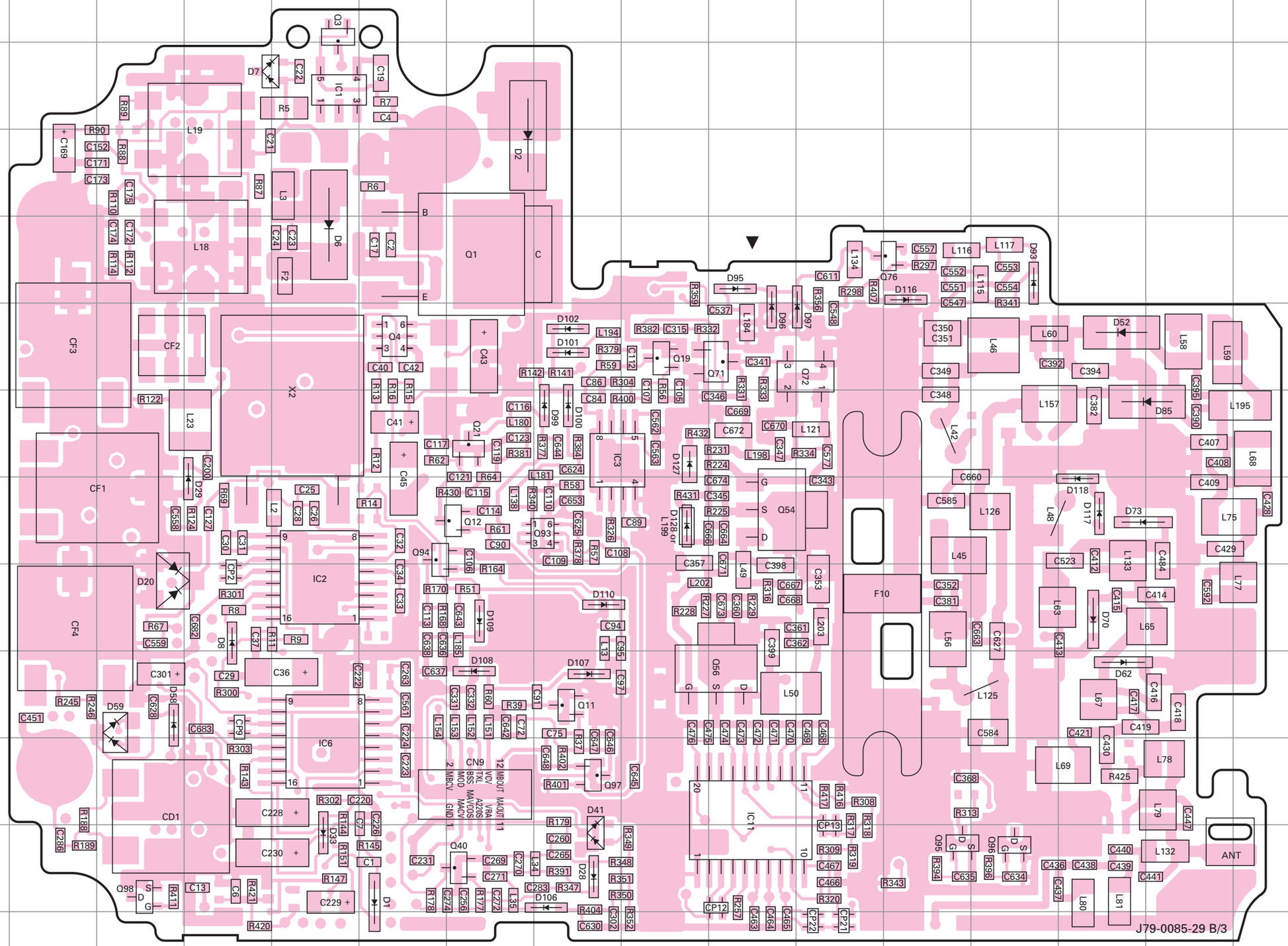
Component side
Layer 1
Layer 2
Layer 3
Layer 4
Layer 5
Layer 6
Foil side

TH-F6A/F7A/F7E PC BOARD

TX-RX UNIT (X57-636X-XX) (B/3) : RF Section
0-11 : TH-F6A (K) 2-71 : TH-F7E (E,T), TH-F7A (M)
Component side view (J79-0085-29 B/3)

PC BOARD TH-F6A/F7A/F7E

TX-RX UNIT (X57-636X-XX) (B/3) : RF Section
0-11 : TH-F6A (K) 2-71 : TH-F7E (E,T), TH-F7A (M)
Component side view (J79-0085-29 B/3)



Ref. No.	Address	Ref. No.	Address
IC1	3E	D28	12H
IC2	9E	D29	8D
IC3	7H	D33	12E
IC6	11E	D41	12H
IC11	11J	D52	6N
Q1	5G	D58	10C
Q3	2E	D59	10C
Q4	6F	D62	10N
Q11	10H	D70	9N
Q12	8G	D73	8N
Q19	6I	D85	7O
Q21	7G	D93	5M
Q40	12G	D95	5J
Q54	8J	D96	6J
Q56	10J	D97	6K
Q71	6J	D99	7H
Q72	6K	D100	7H
Q76	5L	D101	6H
Q93	8H	D102	6H
Q94	8F	D106	12H
Q95	12L	D107	10H
Q96	12M	D108	10G
Q97	11H	D109	9G
Q98	12C	D110	9H
D1	12F	D116	5L
D2	4G	D117	8N
D6	5E	D118	8N
D7	3D	D127	7I
D8	9D	D128	8I
D20	9C		

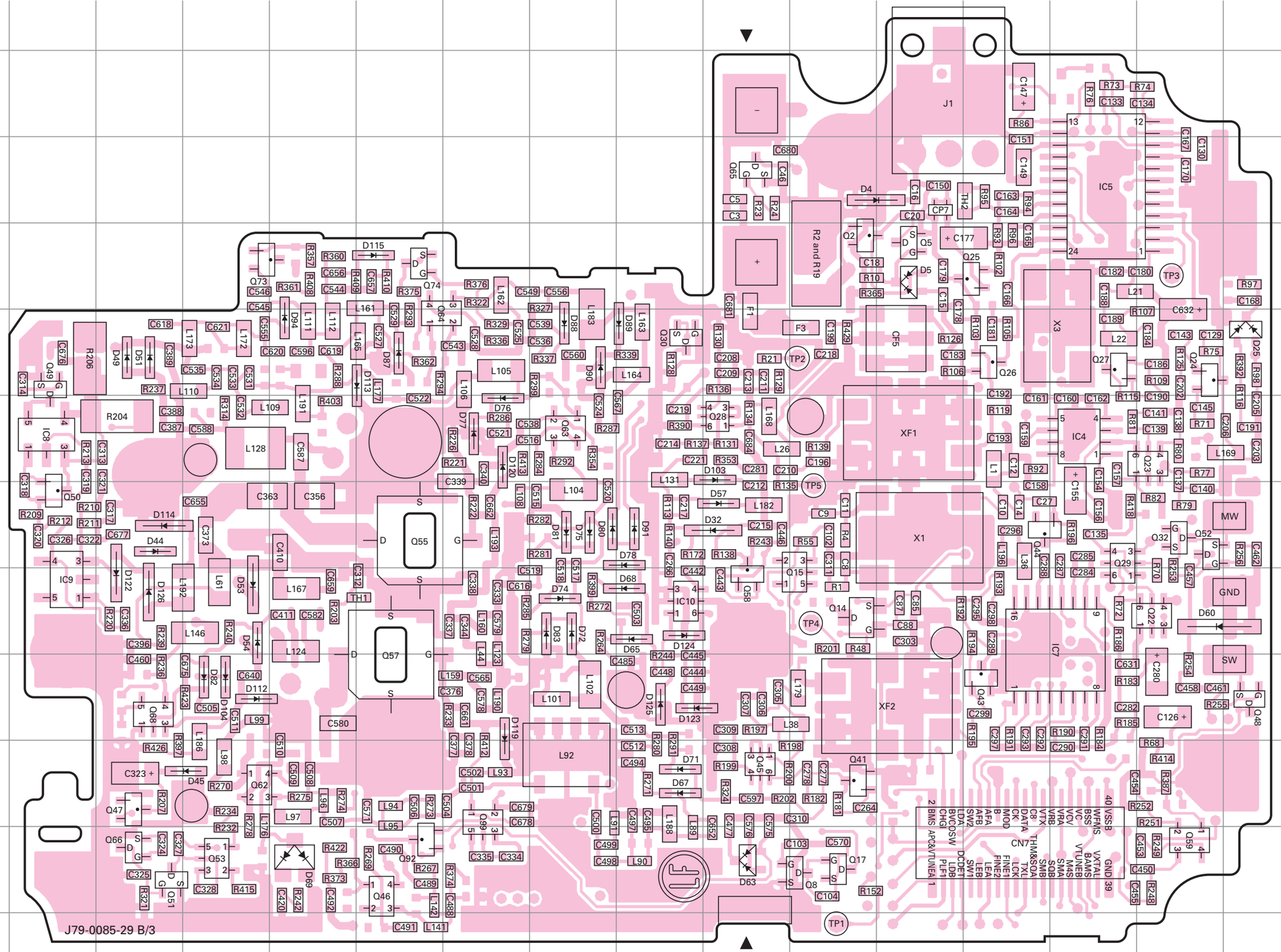
Component side
Layer 1
Layer 2
Layer 3
Layer 4
Layer 5
Layer 6
Foil side

TH-F6A/F7A/F7E PC BOARD

TX-RX UNIT (X57-636X-XX) (B/3) : RF Section
0-11 : TH-F6A (K) 2-71 : TH-F7E (E,T), TH-F7A (M)
Foil side view (J79-0085-29 B/3)

PC BOARD TH-F6A/F7A/F7E

TX-RX UNIT (X57-636X-XX) (B/3) : RF Section
0-11 : TH-F6A (K) 2-71 : TH-F7E (E,T), TH-F7A (M)
Foil side view (J79-0085-29 B/3)



Ref. No.	Address	Ref. No.	Address
IC4	7N	D4	4K
IC5	4N	D5	5L
IC7	9N	D25	6P
IC8	7B	D32	8J
IC9	9B	D44	8C
IC10	9I	D45	11D
Q2	5K	D49	6C
Q5	5L	D51	6C
Q8	12K	D53	9D
Q14	9K	D54	9D
Q15	9K	D57	8J
Q17	12K	D60	9O
Q22	9O	D63	12J
Q23	7O	D65	9I
Q24	6O	D67	11I
Q25	5M	D68	9I
Q26	6M	D69	12E
Q27	6N	D71	11I
Q28	7J	D72	9H
Q29	8N	D74	9H
Q30	6I	D75	8H
Q32	8O	D76	7G
Q41	11K	D77	7G
Q43	10M	D78	8I
Q44	8M	D80	8H
Q45	11J	D81	8H
Q46	12F	D82	10D
Q47	11C	D83	9H
Q48	10P	D87	6F
Q49	6B	D88	6H
Q50	8B	D89	6I
Q51	12C	D90	6H
Q52	8O	D91	8I
Q53	12D	D94	6E
Q55	8F	D103	7J
Q57	10F	D104	10D
Q58	9J	D112	10D
Q59	12O	D113	6F
Q62	11D	D114	8C
Q63	7H	D115	5F
Q64	6F	D119	10G
Q65	4J	D120	7G
Q66	12C	D122	9C
Q68	10C	D123	10I
Q73	5D	D124	9I
Q74	5F	D125	10I
Q92	12F	D126	9C
Q99	11G		

Component side
Layer 1
Layer 2
Layer 3
Layer 4
Layer 5
Layer 6
Foil side

TH-F6A/F7A/F7E SCHEMATIC DIAGRAM

TX-RX UNIT (CONTROL SECTION)
(X57-636X-XX)(A/3)

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

X57-636X-XX			D703	IC705
0-11	TH-F6A	K	MA2S111-F	784216AGC257A
2-71	TH-F7E TH-F7A	E,T M	NO	784216AGC258A

TH-F6A/F7A/F7E SCHEMATIC DIAGRAM

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