144/430MHz FM DUAL BANDER

TM-733A/E

SERVICE MANUAL

REVISED

KENWOOD

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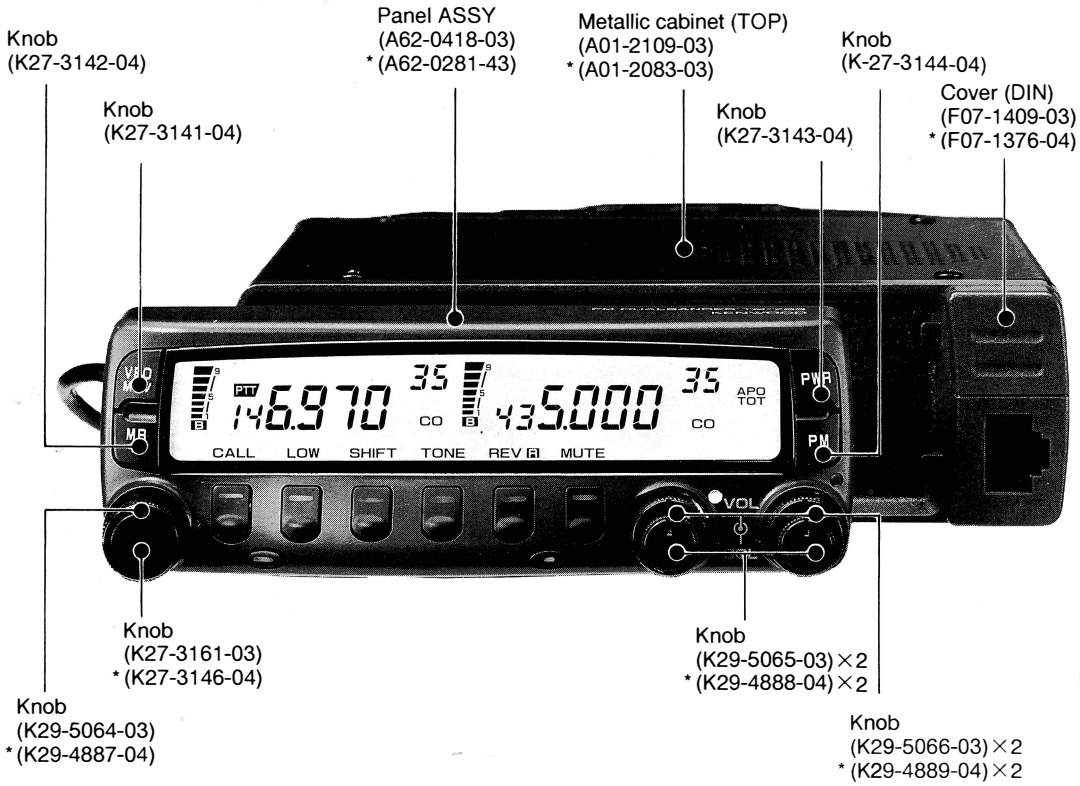
B51-8264-10 (B) 1099

This service manual (B51-8264-10) has been revised based on production specifications for the end of MAY 1995. It applies to products with serial numbers. 70200001~
Please refer to the original manual (B51-8264-00) concerning items not included in this revised edition.



*( ) : compliment parts.

Photo is M2 Type

CONTENTS

PARTS LIST 3
EXPLODED VIEW 13
PACKING 15
ADJUSTMENT 16
PC BOARD VIEWS/CIRCUIT DIAGRAMS
TX-RX UNIT (X57-4840-XX) (A/4) 25
***TX-RX UNIT (X57-4842-71) (A/4)** 27
TX-RX UNIT (X57-4840-XX) (B/4, D/4) 33
***TX-RX UNIT (X57-4842-71) (B/4, D/4)** 35
TX-RX UNIT (X57-4840-XX) (C/4) 41
***TX-RX UNIT (X57-4842-71) (C/4)** 42
LCD ASSY (B38-070X-45) 45
BLOCK DIAGRAM 47
SPECIFICATIONS ..... **BACK COVER**

*** : PC BOARD (E,E3,E9 only) for CE SCHEME. Additionaly , Serial No, 7100XXXX~.**

ATENÇÃO! Não falta nenhuma pagina no manual. Algumas paginas de esquema nao tem numero, esta igual ao original!

GENERAL

Outline

The TM-733A/E are 144/430MHz FM dual band car transceivers designed for armature radio communications.

- **Features**

1. The current operating state can be stored in six programmable memory channels.
2. Complete compact dual band function.
3. The extended cable kit (option) car be used to disconnect the panel with one touch of a finger. Free setting is made possible.
4. Independent receiving function enables the simultaneous receiving of 144MHz and 430MHz bands. (Both bands independent, full display, volume, squelch, signaling, external loudspeaker.)
5. Large LCD (97.0 x 19.0 mm).
6. Simple operation like monoband type.
7. Both 144MHz and 430MHz bands can be received at a time.
8. Duplexer built in (Types K,K2 and P excluded).
9. S-meter squelch function built in. Switching to noise squelch provides the adjustment of S-meter squelch level with a squelch volume.
10. With a maximum of 70 memory channels, the switching of a memory channel mode permits the number of memory channels for each band to be changed. (All channels in full split memory)
11. DTSS and paging functions built in.
12. Wireless (DTMF) coulomb function built in.
13. Equipped with packet communication connector.

Accessories

*( ) : compliments parts

Parts name	Parts No.	Destination code								
		K	K2	P	M2	M3	M4	E	E3	E9
Warranty card	B46-0310-03							1	1	1
Warranty card	B46-0410-40	1	1							
Warranty card	B46-0422-00			1						
Instruction manual	B62-0549-00 *(B62-0391-60)	1		1	1	1	1	1	1	1
Instruction manual	B62-0550-00 *(B62-0392-40)							1		
Instruction manual	B62-0551-00 *(B62-0393-40)				1	1			1	
Instruction manual	B62-0552-00 *(B62-0394-40)			1	1	1			1	1
Instruction manual	B62-0553-00 *(B62-0466-40)						1			
Instruction manual	B62-0630-00		1							
DC power cord	E30-2111-15	1	1	1	1	1	1	1	1	1
Fuse(15A)	F51-0017-05	1	1	1	1	1	1	1	1	1
Mic hook	J20-0319-24	1		1						
Mobile mount bracket	J29-0436-03	1	1	1	1	1	1	1	1	1
Screw set	N99-0331-05		1		1	1	1	1	1	1
Screw set	N99-0382-05	1		1						
Microphone	T91-0516-05				1		1	1	1	1
Microphone	T91-0517-05	1		1		1				
Microphone	T91-0568-05		1							
Spanner	W01-0414-05	1	1	1	1	1	1	1	1	1
Panflet	B59-0487-00						1			

Units for Each Model and Destination

Parts name	Parts No.	Destination code								
		K	K2	P	M2	M3	M4	E	E3	E9
X57-4840-11 *(X57-4360-11)	TX-RX unit	1		1						
X57-4840-12	TX-RX unit		1							
X57-4840-22 *(X57-4360-22)	TX-RX unit				1	1				
X57-4840-23 *(X57-4360-23)	TX-RX unit						1			
X57-4842-71 *(X57-4362-71)	TX-RX unit							1	1	1
B38-0708-45	LCD Ass'y						1			
B38-0709-45	LCD Ass'y	1	1	1	1	1		1	1	1

List of Destinations

Model	Destination	Destination code	Frequency range (MHz) 144	Frequency range (MHz) 430	Output power (W) 144	Output power (W) 430
TM-733A	North America	K,K2	TX 144.00~147.995 *1 RX 118.00~173.995	TX 438.00~449.995 *3 RX 410.00~469.995	50	35
TM-733A	Canada	P	TX 144.00~147.995 *1 RX 118.00~173.995	TX 438.00~449.995 *3 RX 410.00~469.995	50	35
TM-733A	Other countries	M2	TX 136.00~173.995 *1 RX 118.00~173.995	*2 410.00~469.995	50	35
TM-733A	Other countries	M3	TX 136.00~173.995 *1 RX 118.00~173.995	*2 410.00~469.995	50	35
TM-733A	China	M4	TX 136.00~173.995 *1 RX 118.00~173.995	*2 410.00~469.995	50	35
TM-733E	European countries	E,E3,E9	144.00~145.995	430.00~439.995	50	35

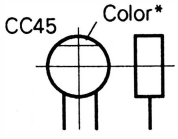
*1 : Guarantee frequency range 144.00~147.995 *3 : Guarantee frequency range 438.00~449.995
*2 : Guarantee frequency range 430.00~439.995

PARTS LIST

CAPACITORS

CC 45 TH 1H 220 J
1 2 3 4 5 6

1 = Type ... ceramic, electrolytic, etc.
2 = Shape ... round, square, ect.
3 = Temp. coefficient
4 = Voltage rating
5 = Value
6 = Tolerance



• Capacitor value

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

2 2 0 = 22pF
Multiplier
2nd number
1st number

• Temperature coefficient

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

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

Example : CC45TH = –470 ± 60ppm/°C

• Tolerance (More than 10pF)

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

(Less than 10pF)

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

• Voltage rating

1st word \ 2nd word	A	B	C	D	E	F	G	H	J	K	V
0	1.0	1.25	1.6	2.0	2.5	3.15	4.0	5.0	6.3	8.0	–
1	10	12.5	16	20	25	31.5	40	50	63	80	35
2	100	125	160	200	250	315	400	500	630	800	–
3	1000	1250	1600	2000	2500	3150	4000	5000	6300	8000	–

• Chip capacitors

(EX) C C 7 3 F S L 1 H 0 0 0 J
1 2 3 4 5 6 7

(Chip) (CH, RH, UJ, SL)

(EX) C K 7 3 F F 1 H 0 0 0 Z
1 2 3 4 5 6 7

(Chip) (B, F)

Refer to the table above.

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

Dimension (Chip capacitors)

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

RESISTORS

• Chip resistor (Carbon)

(EX) R K 7 3 E B 2 B 0 0 0 J
1 2 3 4 5 6 7

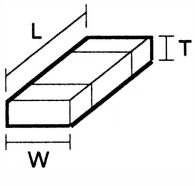
(Chip) (B,F)

• Carbon resistor (Normal type)

(EX) R D 1 4 B B 2 C 0 0 0 J
1 2 3 4 5 6 7

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

Dimension



Dimension (Chip resistor)

Dimension code	L	W	T
E	3.2 ± 0.2	1.6 ± 0.2	1.0
F	2.0 ± 0.3	1.25 ± 0.2	1.0
G	1.6±0.2	0.8±0.2	0.5±0.1

Rating wattage

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

TM-733A/E

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

TM-733A/E

Ref. No.	Address	New parts	Parts No.	Description	Destination
			TM-733A/E		
1	3C	*	A01-2108-03	METALLIC CABINET(BOTTOM)	
			(A01-2082-03)		
2	1C	*	A01-2109-03	METALLIC CABINET(TOP)	
			(A01-2083-03)		
3	2D	*	A62-0417-02	PANEL(BODY)	
			(A62-0280-22)		
4	3A	*	A62-0418-03	PANEL ASSY(SEPARATE)	
			(A62-0281-43)		
5	3B	*	A82-0023-02	BACK PANEL(SEPARATE)	
			(A82-0016-12)		
6	3B		B38-0708-45	LCD ASSY	M4
7	3B		B38-0709-45	LCD ASSY	KK2P
7	3B		B38-0709-45	LCD ASSY	M2M3
7	3B		B38-0709-45	LCD ASSY	EE3E9
8	2D		B42-3322-14	LABEL(ANT)	KP
9	3C		B42-3343-04	LABEL(S/NO)	
10	3C		B42-3394-14	LABEL(FCC)	KK2
11	-		B42-5526-04	LABEL(HYATT)	KK2
-		*	B42-5661-04	LABEL(CE)	EE3E9
			(B42-5653-04)		
-		*	B42-5663-04	LABEL	K2
12	-		B46-0310-03	USER & WARRNTY CARD:ACSY	EE3E9
13	-		B46-0410-40	USER & WARRNTY CARD:ACSY	KK2
14	-		B46-0422-00	USER & WARRNTY CARD:ACSY	P
24	-		B59-0487-00	PANFLET :ACSY	M4
15	-	*	B62-0549-00	INSTRUCTION MANUAL :ACSY	KP
15	-	*	B62-0549-00	INSTRUCTION MANUAL :ACSY	M2M3M4
15	-	*	B62-0549-00	INSTRUCTION MANUAL :ACSY	EE3E9
			(B62-0391-60)		
15	-		B62-0630-00	INSTRUCTION MANUAL :ACSY	K2
16	-	*	B62-0550-00	INSTRUCTION MANUAL :ACSY	E
			(B62-0392-40)		
17	-	*	B62-0551-00	INSTRUCTION MANUAL :ACSY	M2M3E3
			(B62-0393-40)		
18	-	*	B62-0552-00	INSTRUCTION MANUAL :ACSY	M2M3P
18	-	*	B62-0552-00	INSTRUCTION MANUAL :ACSY	E3E9
			(B62-0394-40)		
19	-	*	B62-0553-00	INSTRUCTION MANUAL :ACSY	M4
			(B62-0466-40)		
20	3C	*	B72-0900-04	MODEL NAME PLATE	M2M3M4
21	3C	*	B72-0901-04	MODEL NAME PLATE	EE3E9
22	3C		B72-0782-04	MODEL NAME PLATE(TA)	E9
23	3C	*	B72-0903-04	MODEL NAME PLATE	KK2P
-			E23-0984-04	TERMINAL(RELAY)	
25	2D		E30-2108-05	ANT CABLE ASSY(N)	EE3E9
26	-		E30-2111-15	DC POWER CORD ASSY :ACSY	
27	2D		E30-2145-15	ANT CABLE ASSY(M)	KK2P
27	2D		E30-2145-15	ANT CABLE ASSY(M)	M2M3M4
28	1D		E30-3007-05	DC CORD ASSY(BODY)	
29	2D		E30-3009-15	ANT CABLE ASSY(M WITH COVER)	KP
-			E30-3206-08	CUAL CORD ASSY (MIC)	M2M4
-			E30-3206-08	CUAL CORD ASSY(MIC)	EE3E9
-			E30-3208-08	CUAL CORD ASSY(MIC)	KPM3
-			E30-3240-08	CUAL CORD ASSY(MIC)	K2

Ref. No.	Address	New parts	Parts No.	Description	Destination
32	1C		E31-3197-15	CONNECTING WIRE(SP)	
33	2C		E37-0401-05	FLAT CABLE(21P)	
34	2C		E37-0402-05	FLAT CABLE(19P)	
35	2C		E40-5021-05	PIN ASSY(7P:CN202)	
36	1C		E40-5537-05	PIN CONNECTOR ASSY(7P:CN3)	
37	1D	*	F07-1408-03	COVER(FAN)	
			(F07-1347-03)		
38	3B	*	F07-1409-03	COVER(DIN:6P)	
			(F07-1376-04)		
39	1C	*	F10-2185-04	SHIELDING COVER(VHF)	
			(F10-2039-04)		
40	3D	*	F10-2186-04	SHIELDING COVER(UHF)	
			(F10-2128-04)		
-		*	F10-2215-04	SHIELDING COVER(VCO)	EE3E9
41	-		F51-0017-05	FUSE(15A):ACSY	
42	1D		F51-0017-05	FUSE(15A)	
-			F51-0018-05	FUSE(20A:DC POWER CORD)	
44	2A	*	G01-0878-04	COIL SPRING(RELEASE)	
45	1C	*	G02-0779-04	FLAT SPRING(IC6)	
			(G02-0748-04)		
46	2C	*	G02-0778-04	FLAT SPRING(THERMAL SW)	
			(G02-0743-04)		
49	2B,3B		G10-0655-04	AUXILIARY PART(BODY PANEL)	
50	3A	*	G11-0749-03	SHEET	
51	3B		G11-0710-14	SHEET	
52	2B		G11-0713-04	SHEET	
-		*	G11-0759-04	SHEET(CE)	EE3E9
53	3C		G13-0820-14	CUSHION(to C355)	
54	3A,3B		G13-1407-04	CUSHION(PANEL)	
55	-	*	H10-2799-02	POLYSTYRENE FOAMED FIXTURE	KP
55	-	*	H10-2799-02	POLYSTYRENE FOAMED FIXTURE	M2M3M4
55	-	*	H10-2799-02	POLYSTYRENE FOAMED FIXTURE	EE3E9
	-		(H10-2776-02)		
55	-	*	H10-6604-02	POLYSTYRENE FOAMED FIXTURE	K2
56	-		H13-0814-04	CARTON BOARD(BRACKET)	
57	-		H13-0825-04	CARTON BOARD	
58	-		H13-0843-04	CARTON BOARD	E
59	-		H25-0117-04	BAG (80X250)	
60	-		H25-0720-04	BAG (200X350)	
61	-		H25-0750-04	BAG (170X270)	
62	-	*	H52-0708-02	ITEM CARTON BOX	KK2P
63	-	*	H52-0709-02	ITEM CARTON BOX	M2M3M4
64	-	*	H52-0710-02	ITEM CARTON BOX	EE3E9
65	-		J20-0319-24	HOOK:ACSY	KP
66	1B	*	J21-4491-04	HARDWARE FIXTURE(SP)	
			(J21-4446-04)		
67	-		J29-0436-03	BRACKET:ACSY	
68	2D		J42-0453-05	BUSHING(ANT)	M2,M3,M4
68	2D		J42-0453-05	BUSHING(ANT)	EE3,E9
68	2D		J42-0453-05	BUSHING(ANT)	K2
-			K27-3140-12	KNOB(8 KEYS)	
70	3A		K27-3141-04	KNOB(VFO)	
71	3A		K27-3142-04	KNOB(MR)	
72	3A		K27-3143-04	KNOB(PWR)	

 Parts for ( ) in intem of Parts No. is compliment parts.

PARTS LIST

TM-733A/E

TX-RX UNIT (X57-484X-XX)

Ref. No.	Address	New parts	Parts No.	Description	Destination
73	3A		K27-3144-04	KNOB(PM)	
74	2A	*	K27-3160-03	KNOB(RELEASE)	
			(K27-3145-23)		
75	3A	*	K27-3161-03	KNOB(MAIN PUSH)	
			(K27-3146-04)		
76	3A	*	K29-5064-03	KNOB(MAIN)	
			(K29-4887-04)		
77	3A	*	K29-5065-03	KNOB(VOL)	
			(K29-4888-04)		
78	3A	*	K29-5066-03	KNOB(SQL)	
			(K29-4889-04)		
79	3A		N14-0552-05	NUT(VOL)	
A	1C,3C		N33-2606-45	OVALHEAD MACHIN SCREW(CASE)	
B	1D		N35-2608-45	BINDING HEAD MACHINE SCREW	
C	1C,3D		N67-3010-46	SCREW(M3X10)	
D	2B,3B		N80-2010-45	SCREW (PANEL)	
E	1C,2D		N80-2610-45	SCREW (FAN)	
F	1C,3C		N87-2606-46	BRAZIER HEAD TAP TITE SCREW	
G			N87-2608-46	BRAZIER HEAD TAPTITE SCREW(APC)	
80	-		N99-0331-05	SCREW SET:ACSY	M2M3M4
80	-		N99-0331-05	SCREW SET:ACSY	EE3E9
80	-		N99-0331-05	SCREW SET:ACSY	K2
81	-		N99-0382-05	SCREW SET:ACSY	KP
SP	1B		T07-0246-05	LOUDSPEAKER(16 ohm 1w)	
FAN	2D		T42-0311-15	DC MOTOR(FAN)	
MIC	-		T91-0516-05	MICROPHONE:ACSY	M2M4
MIC	-		T91-0516-05	MICROPHONE:ACSY	EE3E9
MIC	-		T91-0517-05	MICROPHONE:ACSY	KPM3
MIC	-		T91-0568-05	MICROPHONE:ACSY	K2
IC501	2C		M57788MR	IC(POWER MODULE/430-450MHZ)	
IC502	1C		S-AV17	IC(POWER MODULE FOR 144MHZ)	
82	-		W01-0414-04	SPANNER:ACSY	

TX-RX UNIT (X57-484X-XX)

Ref. No.	Address	New parts	Parts No.	Description	Destination
C1			CC73FCH1H010C	CHIP C 1PF C	
C2			CC73FCH1H060D	CHIP C 6PF D	
C3-8			CK73FB1H102K	CHIP C 1000PF K	
C9			CC73FCH1H060D	CHIP C 6PF D	KK2P
C9			CC73FCH1H060D	CHIP C 6PF D	M2M3M4
C9			CC73FCH1H050C	CHIP C 5PF C	EE3E9
C10			CK73FB1H102K	CHIP C 1000PF K	
C11			CC73FCH1H060D	CHIP C 6PF D	KK2P
C11			CC73FCH1H060D	CHIP C 6PF D	M2M3M4
C11			CC73FCH1H030C	CHIP C 3PF C	EE3E9
C12-14			CK73FB1H102K	CHIP C 1000PF K	
C15			CC73FCH1H221J	CHIP C 220PF J	
C16			CC73FCH1H0R5C	CHIP C 0.5PF C	
C17-19			CK73FB1H102K	CHIP C 1000PF K	
C20,21			CC73FCH1H150J	CHIP C 15PF J	
C22			CC73FCH1H060D	CHIP C 6PF D	
C24			CC73FCH1H040C	CHIP C 4PF C	
C25			CK73FB1H102K	CHIP C 1000PF K	
C26,27			CK73FB1E103K	CHIP C 0.01UF K	
C28			CC73FCH1H080D	CHIP C 8PF D	
C29			CK73FB1E103K	CHIP C 0.01UF K	
C30-32			CK73FB1H102K	CHIP C 1000PF K	
C33			CK73FB1E103K	CHIP C 0.01UF K	
C34			CE04NW1C470M	ELECTRO 47UF 16WV	
C35			CC73FCH1H270J	CHIP C 27PF J	
C36			CK73FB1H102K	CHIP C 1000PF K	
C37			CC73FCH1H180J	CHIP C 18PF J	
C38			CE04NW1E100M	ELECTRO 10UF 25WV	
C39			CK73FB1H102K	CHIP C 1000PF K	
C40			C92-0003-05	CHIP TAN 0.47UF 25WV	
C41			CK73FF1C105Z	CHIP C 1.0UF Z	
C42			CK73FF1C474Z	CHIP C 0.47UF Z	
C43,44			CK73FF1C105Z	CHIP C 1.0UF Z	
C45-48			CK73FB1H102K	CHIP C 1000PF K	
C49			CK73FB1E103K	CHIP C 0.01UF K	
C50			CK73FF1C105Z	CHIP C 1.0UF Z	
C51-53			CK73FB1H102K	CHIP C 1000PF K	
C54			CC73FCH1H120J	CHIP C 12PF J	
C55			CC73FCH1H150J	CHIP C 15PF J	
C56			CC73FCH1H060D	CHIP C 6PF D	
C57			CC73FCH1H150J	CHIP C 15PF J	
C58			CC73FCH1H060D	CHIP C 6PF D	
C59			CC73FCH1H100D	CHIP C 10PF D	
C60			CC73FCH1H040C	CHIP C 4PF C	
C61			CC73FCH1H030C	CHIP C 3PF C	
C62			CC73FCH1H050C	CHIP C 5PF C	
C63-65			CC73FCH1H060D	CHIP C 6PF D	
C66			CC73FCH1H080D	CHIP C 8PF D	
C67			CC73FCH1H180J	CHIP C 18PF J	
C68			CC73FCH1H120J	CHIP C 12PF J	
C69			CC73FCH1H101J	CHIP C 100PF J	
C70			CK73FB1H102K	CHIP C 1000PF K	
C71			CK73FB1E103K	CHIP C 0.01UF K	
C72,73			CE04EW1C470M	ELECTRO 47UF 16WV	
C74			C92-0504-05	CHIP TAN 0.68UF 20WV	
C75			CE04EW1C470M	ELECTRO 47UF 16WV	
C76			CK73FB1E103K	CHIP C 0.01UF K	
C77			CK73FB1E123K	CHIP C 0.012UF K	
C78			CE04EW1C101M	ELECTRO 100UF 16WV	
C79			CC73FSL1H101J	CHIP C 100PF J	
C80			CE04EW1H470M	ELECTRO 47UF 50WV	
C81			CE04EW1C470M	ELECTRO 47UF 16WV	
C82			CE04EW1C471M	ELECTRO 470UF 16WV	
C83,84			CK73FB1E104K	CHIP C 0.10UF K	
C85			CE04EW1C471M	ELECTRO 470UF 16WV	
C86			CE04EW1C470M	ELECTRO 47UF 16WV	
C87			CE04EW1H470M	ELECTRO 47UF 50WV	
C88			CK73FB1E123K	CHIP C 0.012UF K	
C89,90			CK73FB1H102K	CHIP C 1000PF K	
C91-93			CC73FSL1H101J	CHIP C 100PF J	
C94			CK73FB1H102K	CHIP C 1000PF K	
C96			CK73FB1H102K	CHIP C 1000PF K	
C97,98			CC73FSL1H101J	CHIP C 100PF J	
C99			CK73FB1E473K	CHIP C 0.047PF K	
C100			CK73FB1H102K	CHIP C 1000PF K	
C101			CE04CW1C100M	ELECTRO 10UF 16WV	
C102			CC73FUJ1H150J	CHIP C 15PF J	
C103			CC73FUJ1H180J	CHIP C 18PF J	
C104			CE04EW1C470M	ELECTRO 47UF 16WV	
C105			CK73FB1H102K	CHIP C 1000PF K	
C106			C92-0606-05	CHIP TAN 4.7UF 10WV	
C107,108			CK73FB1H102K	CHIP C 1000PF K	
C109			CC73FSL1H101J	CHIP C 100PF J	
C110			CE04EW1A221M	ELECTRO 220UF 10WV	

Parts for ( ) in intem of Parts No. is compliment parts.

TM-733A/E

PARTS LIST

TX-RX UNIT (X57-484X-XX)

Ref. No.	Address	New parts	Parts No.	Description			Destination
C111			CK73FB1H102K	CHIP C	1000PF	K	
C112			CK73FB1E103K	CHIP C	0.01UF	K	
C113			CE04EW1E100M	ELECTRO	10UF	25WV	
C114			CE04EW1A330M	ELECTRO	33UF	10WV	
C115			CK73FB1E103K	CHIP C	0.01UF	K	
C116			CC73FCH1H560J	CHIP C	56PF	J	
C117			CK73FB1H102K	CHIP C	1000PF	K	
C118			CC73FCH1H100D	CHIP C	10PF	D	
C119			CK73FB1E103K	CHIP C	0.01UF	K	
C120			CE04EW1C470M	ELECTRO	47UF	16WV	
C121			CC73FCH1H020C	CHIP C	2.0PF	C	
C122			CK73FB1H102K	CHIP C	1000PF	K	
C123			CK73FB1E223K	CHIP C	0.022UF	K	
C124			CK73FB1H102K	CHIP C	1000PF	K	
C125			CK73FB1H472K	CHIP C	4700PF	K	
C126,127			CK73FB1H102K	CHIP C	1000PF	K	
C128			CK73FF1C105Z	CHIP C	1.0UF	Z	
C129			CE04EW1E100M	ELECTRO	10UF	25WV	
C130			CK73FB1H102K	CHIP C	1000PF	K	
C131			CK73FF1C105Z	CHIP C	1.0UF	Z	
C132			CK73FB1H102K	CHIP C	1000PF	K	
C133			CK73FB1E103K	CHIP C	0.01UF	K	
C134			CK73FB1H102K	CHIP C	1000PF	K	
C135			CE04CW1C100M	ELECTRO	10UF	16WV	
C137			CC45SL2H100D	CERAMIC	10PF	D	
C138			CK45B2H102K	CERAMIC	1000PF	K	
C139			CC45SL2H330J	CERAMIC	33PF	J	
C140			CC73FCH1H0R5C	CHIP C	0.5PF	C	
C141			CC73FCH1H030C	CHIP C	3PF	C	
C142			CK73FB1H102K	CHIP C	1000PF	K	
C143			CC45SL2H560J	CERAMIC	56PF	J	
C144			CC45SL2H470J	CERAMIC	47PF	J	
C145,146			CK73FB1H102K	CHIP C	1000PF	K	
C147			CC73FCH1H030C	CHIP C	3PF	C	
C148			CC73FCH1H0R5C	CHIP C	0.5PF	C	
C149			CM73F2H300J	CHIP C	30PF	J	KP
C149			CM73F2H330J	CHIP C	33PF	J	M2M3M4
C149			CM73F2H330J	CHIP C	33PF	J	EE3E9
C149			CM73F2H330J	CHIP C	33PF	J	K2
C150			CM73F2H080D	CHIP C	8.0PF	D	KP
C151			CC73FCH1H220J	CHIP C	22PF	J	
C153			CC73FCH1H050C	CHIP C	5PF	C	
C155,156			CK73FF1C105Z	CHIP C	1.0UF	Z	
C157,158			CK73FB1E103K	CHIP C	0.01UF	K	
C159			CC73FCH1H050C	CHIP C	5PF	C	
C161			CK73FB1E103K	CHIP C	0.01UF	K	
C162-165			CK73FB1H102K	CHIP C	1000PF	K	
C166			CC73FCH1H560J	CHIP C	56PF	J	EE3E9
C167			CC73FCH1220J	CHIP C	22PF	J	
C201			CC73FCH1H010C	CHIP C	1PF	C	
C202-205			CK73FB1H102K	CHIP C	1000PF	K	
C206			CC73FCH1H060D	CHIP C	6PF	D	
C207			CK73FB1H102K	CHIP C	1000PF	K	
C209			CC73FSL1H101J	CHIP C	100PF	J	
C210-212			CK73FB1H102K	CHIP C	1000PF	K	
C213			CC73FCH1H1R5C	CHIP C	1.5PF	C	
C215			CC73FCH1H010C	CHIP C	1PF	C	
C216-220			CK73FB1H102K	CHIP C	1000PF	K	
C221			CC73FCH1H050C	CHIP C	5PF	C	

Ref. No.	Address	New parts	Parts No.	Description			Destination
C222			CC73FCH1H040C	CHIP C	4PF	C	
C223-225			CK73FB1H102K	CHIP C	1000PF	K	
C226			CC73FCH1H030C	CHIP C	3PF	C	M2M3M4
C226			CC73FCH1H030C	CHIP C	3PF	C	EE3E9
C226			CC73FCH1H050C	CHIP C	5PF	C	KK2P
C227			CK73FB1H102K	CHIP C	1000PF	K	
C228			CC73FCH1H120J	CHIP C	12PF	J	
C229-231			CK73FB1H102K	CHIP C	1000PF	K	
C232,233			CC73FCH1H180J	CHIP C	18PF	J	
C234,235			CK73FB1H102K	CHIP C	1000PF	K	
C236			CE04NW1C470M	ELECTRO	47UF	16WV	
C237			CK73FB1H102K	CHIP C	1000PF	K	
C239			C92-0003-05	CHIP TAN	0.47UF	25WV	
C240,241			CK73FF1C105Z	CHIP C	1.0UF	Z	
C242			CK73FF1C474Z	CHIP C	0.47UF	Z	
C243			CK73FB1H102K	CHIP C	1000PF	K	
C244			CK73FF1C105Z	CHIP C	1.0UF	Z	
C245-248			CK73FB1H102K	CHIP C	1000PF	K	
C251			CC73FCH1H150J	CHIP C	15PF	J	
C252,253			CK73FB1H102K	CHIP C	1000PF	K	
C254			CC73FCH1H270J	CHIP C	27PF	J	
C255			CC73FCH1H180J	CHIP C	18PF	J	
C256			CC73FCH1H220J	CHIP C	22PF	J	
C257			CC73FCH1H060D	CHIP C	6PF	D	
C258			CC73FCH1H180J	CHIP C	18PF	J	
C259			CC73FCH1H100D	CHIP C	10PF	D	
C260			CC73FCH1H090D	CHIP C	9PF	D	
C261,262			CK73FB1H102K	CHIP C	1000PF	K	
C263			CE04NW1C470M	ELECTRO	47UF	16WV	
C264			C92-0504-05	CHIP TAN	0.68UF	20WV	
C265,266			CE04NW1C470M	ELECTRO	47UF	16WV	
C267,268			CK73FB1H102K	CHIP C	1000PF	K	
C269,270			CC73FSL1H101J	CHIP C	100PF	J	
C271,272			CK73FB1H102K	CHIP C	1000PF	K	
C273			CC73FSL1H101J	CHIP C	100PF	J	
C274			CK73FB1H102K	CHIP C	1000PF	K	
C275,276			CC73FSL1H101J	CHIP C	100PF	J	
C277-282			CK73FB1H102K	CHIP C	1000PF	K	
C283			CE04NW1C470M	ELECTRO	47UF	16WV	
C284			CK73FB1H102K	CHIP C	1000PF	K	
C285			CK73FB1H822K	CHIP C	8200PF	K	
C286			CK73FB1H102K	CHIP C	1000PF	K	
C287			C92-0606-05	CHIP TAN	4.7UF	10WV	
C289			CE04NW1C100M	ELECTRO	10UF	16WV	
C290-292			CC73FSL1H101J	CHIP C	100PF	J	
C300			CC73FSL1H101J	CHIP C	100PF	J	
C301			CK73FB1H102K	CHIP C	1000PF	K	
C302			CE04NW1A221M	ELECTRO	220UF	10WV	
C303			CK73FB1H102K	CHIP C	1000PF	K	
C304			CE04NW1A330M	ELECTRO	33UF	10WV	
C305			CE04NW1A221M	ELECTRO	220UF	10WV	
C306-308			CK73FB1H102K	CHIP C	1000PF	K	
C309			CE04NW1C101M	ELECTRO	100UF	16WV	
C310			CC73FCH1H030C	CHIP C	3PF	C	
C311			CK73FB1H102K	CHIP C	1000PF	K	
C312			CC73FCH1H060D	CHIP C	6PF	D	
C313			CK73FB1H102K	CHIP C	1000PF	K	
C314			CE04NW1C101M	ELECTRO	100UF	16WV	
C315-323			CK73FB1H102K	CHIP C	1000PF	K	
C325			CK73FB1H102K	CHIP C	1000PF	K	

 Parts for ( ) in intem of Parts No. is compliment parts.

PARTS LIST

TX-RX UNIT (X57-484X-XX)

Ref. No.	Address	New parts	Parts No.	Description			Desti-nation
C326			CK73FB1E104K	CHIP C	0.10UF	K	
C327			CK73FB1H102K	CHIP C	1000PF	K	
C328			CK73FB1E333K	CHIP C	0.033UF	K	
C329			CK73FB1E103K	CHIP C	0.01UF	K	
C330			CM73F2H040D	CHIP C	4.0PF	D	KK2P
C330			CM73F2H050D	CHIP C	5.0PF	D	M2M3M4
C330			CM73F2H050D	CHIP C	5.0PF	D	EE3E9
C331,332			CK73FB1H102K	CHIP C	1000PF	K	
C333			CC45SL2H060D	CERAMIC	6.0PF	D	
C334			CC45SL2H090D	CERAMIC	9.0PF	D	
C335			CC73FCH1H0R5C	CHIP C	0.5PF	C	
C336			CC73FCH1H020C	CHIP C	2.0PF	C	
C337			CK73FB1H102K	CHIP C	1000PF	K	
C338			CC45SL2H070D	CERAMIC	7.0PF	D	
C339			CC73FCH1H0R5C	CHIP C	0.5PF	C	
C340			CK73FB1H102K	CHIP C	1000PF	K	
C341			CC73FCH1H020C	CHIP C	2.0PF	C	
C342			CC45SL2H070D	CERAMIC	7.0PF	D	
C343			CC45SL2H050C	CERAMIC	5.0PF	C	
C344			CC45SL2H390J	CERAMIC	39PF	J	
C345			CC45SL2H070D	CERAMIC	7.0PF	D	
C346			CC73FCH1HR75C	CHIP C	0.75PF	C	M2M3M4
C346			CC73FCH1HR75C	CHIP C	0.75PF	C	EE3E9
C347			CC73FCH1H010C	CHIP C	1PF	C	M2M3M4
C347			CC73FCH1H010C	CHIP C	1PF	C	EE3E9
C349			CK73FB1H102K	CHIP C	1000PF	K	
C350			CK73FB1E103K	CHIP C	0.01UF	K	
C351			CE04NW1A101M	ELECTRO	100UF	10WV	
C352			CK73FB1E103K	CHIP C	0.01UF	K	
C353,354			CK73FB1H102K	CHIP C	1000PF	K	
C355			C90-2092-05	ELECTRO	1800UF	16WV	
C356			CK73FB1H471K	CHIP C	470PF	K	
C358			CK73FB1H102K	CHIP C	1000PF	K	
C361,362			CK73FF1C105Z	CHIP C	1.0UF	Z	
C363-365			CK73FB1H102K	CHIP C	1000PF	K	
C367			CC73FCH1H220J	CHIP C	22PF	J	
C368,369			CK73FB1H102K	CHIP C	1000PF	K	
C372-374			CK73FB1H102K	CHIP C	1000PF	K	
C401,402			CK73FB1E103K	CHIP C	0.01UF	K	
C404			CK73FB1H103K	CHIP C	0.010UF	K	
C405			CK73FB1H102K	CHIP C	1000PF	K	
C406			CK73FB1H332K	CHIP C	3300PF	K	
C407			CC73FSL1H151J	CHIP C	150PF	J	
C408			CC73FSL1H121J	CHIP C	120PF	J	
C409-411			CC73FSL1H101J	CHIP C	100PF	J	
C412			CK73FF1C105Z	CHIP C	1.0UF	Z	
C413			C92-0606-05	CHIP TAN	4.7UF	10WV	
C416-418			CK73FB1E103K	CHIP C	0.01UF	K	
C419			CK73FB1H332K	CHIP C	3300PF	K	
C420			CC73FSL1H101J	CHIP C	100PF	J	
C421			CK73FB1E103K	CHIP C	0.01UF	K	
C422,423			CC73FSL1H101J	CHIP C	100PF	J	
C424			CK73FB1H102K	CHIP C	1000PF	K	
C425,426			CC73FCH1H100D	CHIP C	10PF	D	
C427,428			CK73FB1H102K	CHIP C	1000PF	K	
C429			CK73FB1H102K	CHIP C	1000PF	K	EE3E9
C430-433			CK73FB1H1104K	CHIP C	0.1UF	K	
C434			CK73FF1C105Z	CHIP C	1.0UF	Z	
C435,436			CK73FB1E104K	CHIP C	0.10UF	K	

Ref. No.	Address	New parts	Parts No.	Description			Desti-nation
C437,438			C92-0507-05	CHIP TAN	4.7UF	6.3WV	
C439			CE04CW1A101M	ELECTRO	100UF	10WV	
C440,441			CC73FSL1H101J	CHIP C	100PF	J	
C442,443			CK73FB1H102K	CHIP C	1000PF	K	
C444			CE04CW1A221M	ELECTRO	220UF	10WV	
C445			CK73FF1C105Z	CHIP C	1.0UF	Z	
C446			CK73FB1E103K	CHIP C	0.01UF	K	
C447			CK73FB1E473K	CHIP C	0.047UF	K	
C448			CK73FB1H102K	CHIP C	1000PF	K	
C449			CC73FSL1H101J	CHIP C	100PF	J	
C450			CK73FF1C105Z	CHIP C	1.0UF	Z	
C451-453			CC73FSL1H101J	CHIP C	100PF	J	
C454			CK73FB1H102K	CHIP C	1000PF	K	
C455			CK73FB1E104K	CHIP C	0.10UF	K	
C456			CK73FB1E103K	CHIP C	0.01UF	K	
C457			C92-0606-05	CHIP TAN	4.7UF	10WV	
C458			C92-0523-05	ELECTRO	10UF	16WV	
C459			CK73FB1E104K	CHIP C	0.10UF	K	
C460,461			CC73FSL1H101J	CHIP C	100PF	J	
C462			CK73FB1E393K	CHIP C	0.039UF	K	
C463			C92-0507-05	CHIP TAN	4.7UF	6.3WV	
C464			CK73FB1E333K	CHIP C	0.033UF	K	
C465			CC73FCH1H270J	CHIP C	27PF	J	
C466			CK73FB1E333K	CHIP C	0.033UF	K	
C467			CK73FB1H821K	CHIP C	820PF	K	
C468			CK73FB1H332K	CHIP C	3300PF	K	
C469			CC73FSL1H820J	CHIP C	82PF	J	
C470			CC73FSL1H101J	CHIP C	100PF	J	
C471			CK73FB1E104K	CHIP C	0.10UF	K	
C472			CK73FB1E223K	CHIP C	0.022UF	K	
C473-477			CK73FF1C105Z	CHIP C	1.0UF	Z	
C478			C92-0507-05	CHIP TAN	4.7UF	6.3WV	
C479			CK73FB1E103K	CHIP C	0.01UF	K	
C480,481			CK73FF1C105Z	CHIP C	1.0UF	Z	
C482			CK73FB1H563K	CHIP C	0.056UF	K	
C483			C92-0559-05	CHIP TAN	6.8UF	6.3WV	
C484			C92-0606-05	CHIP TAN	4.7UF	10WVV	
C601-606			CK73FB1E103K	CHIPC	0.01UF	K	
TC1			C05-0371-05	TRIM CAP	10PF		
A1,2		*	E72-0407-04	TERMINAL BOARD			
			(E72-0405-04)				
CN1			E40-5637-05	FLAT CABLE CONNECTOR(19P)			
CN2			E40-3237-05	PIN CONNECTOR ASSY(2P:SP)			
CN201			E40-3299-05	PIN CONNECTOR ASSY(2P:FAN)			
CN203			E40-5498-05	FLAT CABLE CONNECTOR(21P)			
CN401			E40-5638-05	FLAT CABLE CONNECTOR(21P)			
CN402			E40-5639-05	FLAT CABLE CONNECTOR(19P)			
CN403			E40-5652-45	PIN CONNECTOR ASSY(4P)			
CN404			E40-5618-05	FLAT CABLE CONNECTOR(8P)			
CN601-603			E40-5409-05	PIN CONNECTOR ASSY(5P)			
J1,2			E11-0448-05	PHONE JACK			
J401			E08-0877-05	RECTANGULAR RECEPTACLE			
J402			E56-0404-05	CYLINDRICAL RECEPTACLE(6P)			
W1,2			E37-0458-05	CABLE			KP
-			F10-2028-04	SHIELDING CASE			
F201			F53-0108-05	FUSE (1.8A)			
F202			F53-0110-05	FUSE (1.2A)			
F401			F53-0110-05	FUSE (1.2A)			

Parts for ( ) in intem of Parts No. is compliment parts.

PARTS LIST

TX-RX UNIT (X57-484X-XX)

Ref. No.	Address	New parts	Parts No.	Description	Destination
100	3C	*	G02-0780-04	FLAT SPRING	
			(G02-0760-04)		
-			G13-1438-34	CUSHION(LITHIUM BATT)	
-			J30-0545-05	SPACER(CRYSTAL RESONATOR)	
CD1			L79-1013-05	FILTER(455KHZ)	
CD201			L79-1013-05	FILTER(455KHZ)	
CF1			L72-0400-05	CERAMIC FILTER(455KHZ)	
CF201			L72-0400-05	CERAMIC FILTER(455KHZ)	
L2			L40-1885-34	SMALL FIXED INDUCTOR(180NH)	
L3			L40-2285-34	SMALL FIXED INDUCTOR(220NH)	E
L3			L40-2785-34	SMALL FIXED INDUCTOR(270NH)	KK2
L3			L40-2785-34	SMALL FIXED INDUCTOR(270NH)	M2M3M4
L3			L40-2785-34	SMALL FIXED INDUCTOR(270NH)	E3E9
L4			L34-4343-05	COIL	
L5			L34-4344-05	COIL	
L6			L40-1005-34	SMALL FIXED INDUCTOR(10UH)	
L7			L34-4344-05	COIL	
L8			L40-1585-34	SMALL FIXED INDUCTOR(150NH)	
L10			L34-4345-05	COIL	
L11			L40-1095-34	SMALL FIXED INDUCTOR(1UH)	
L12			L92-0131-05	CORE	
L13 ,14			L40-1871-34	SMALL FIXED INDUCTOR(18NH)	
L15			L40-1271-34	SMALL FIXED INDUCTOR(12NH)	
L16			L40-1071-34	SMALL FIXED INDUCTOR(10NH)	
L17			L40-3371-34	SMALL FIXED INDUCTOR(33NH)	
L18			L40-2271-34	SMALL FIXED INDUCTOR(22NH)	
L19			L40-1005-34	SMALL FIXED INDUCTOR(107U)	
L20			L40-3385-34	SMALL FIXED INDUCTOR(330NH)	
L21			L40-8271-34	SMALL FIXED INDUCTOR(82NH)	
L22			L40-4785-34	SMALL FIXED INDUCTOR(470NH)	
L23			L34-1239-05	COIL (10.5T)	
L24			L34-0895-05	COIL (6T)	
L25			L34-0742-05	COIL (5T)	
L26			L34-1239-05	COIL (10.5T)	
L27 ,28			L34-0499-05	COIL (4T)	
L29			L34-0742-05	COIL (5T)	
L30			L40-8271-34	SMALL FIXED INDUCTOR(82NH)	E
L31-33			L92-0156-05	CORE	EE3E9
L201			L40-4771-34	SMALL FIXED INDUCTOR(47NH)	
L202			L40-1871-34	SMALL FIXED INDUCTOR(18NH)	
L203			L79-1037-05	FILTER(435MHZ)	M2M3M4
L203			L79-1037-05	FILTER(435MHZ)	EE3E9
L203			L79-1038-05	FILTER(445MHZ)	KK2P
L204			L40-3971-34	SMALL FIXED INDUCTOR(39NH)	
L205			L79-1037-05	FILTER(435MHZ)	M2M3M4
L205			L79-1037-05	FILTER(435MHZ)	EE3E9
L205			L79-1038-05	FILTER(445MHZ)	KK2P
L211			L40-1095-34	SMALL FIXED INDUCTOR(1UH)	
L212			L40-3371-34	SMALL FIXED INDUCTOR(33NH)	
L213			L40-2271-34	SMALL FIXED INDUCTOR(22NH)	
L214			L34-4346-05	COIL	
L215			L40-3985-34	SMALL FIXED INDUCTOR(390NH)	
L217			L40-1071-34	SMALL FIXED INDUCTOR(10NH)	
L218			L40-1095-34	SMALL FIXED INDUCTOR(1UH)	
L219			L40-1271-34	SMALL FIXED INDUCTOR(12NH)	
L220			L40-6871-34	SMALL FIXED INDUCTOR(68NH)	
L221,222			L40-4771-34	SMALL FIXED INDUCTOR(47NH)	
L223			L40-1005-34	SMALL FIXED INDUCTOR(10UH)	
L230			L40-2771-34	SMALL FIXED INDUCTOR(27NH)	

Ref. No.	Address	New parts	Parts No.	Description	Destination
L231			L34-1238-05	COIL (9.5T)	
L232			L34-4404-05	COIL (3.5T)	
L233,234			L34-1185-05	COIL (2.5T)	
L235			L34-1226-05	COIL (1.5T)	
L236,237			L34-4402-05	COIL (2.5T)	
L238,239			L34-4403-05	COIL (1.5T)	M2M3M4
L238,239			L34-4403-05	COIL (1.5T)	EE3E9P
L241			L34-0742-05	COIL (5T)	
L243			L92-0131-05	CORE	
L244			L40-3371-34	SMALL FIXED INDUCTOR(33NH)	
L245-247			L92-0156-05	CORE	EE3E9
L401			L92-0131-05	CORE	
X1			L77-1478-05	CRYSTAL RESONATOR(45.505MHZ)	
X2			L77-1570-05	CRYSTAL RESONATOR(12.8MHZ)	
X201			L77-1479-05	CRYSTAL RESONATOR(58.07MHZ)	
X401			L78-0089-05	RESONATOR (48KHZ)	
X402			L77-1397-05	CRYSTAL RESONATOR(4.19MHZ)	
XF1			L71-0443-05	CRYSTAL FILTER(45.050MHZ)	
XF201			L71-0447-05	CRYSTAL FILTER(58.525MHZ)	
CP401			R90-0711-05	MULTI-COMP	
CP402			R90-0714-05	MULTI-COMP 10KX4	
CP403			R90-0720-05	MULTI COMP 100K	
R1			RK73FB2A104J	CHIP R 100K J 1/10W	
R2			RK73FB2A101J	CHIP R 100 J 1/10W	
R3			RK73FB2A104J	CHIP R 100K J 1/10W	
R4			RK73FB2A274J	CHIP R 270K J 1/10W	
R5			RK73FB2A223J	CHIP R 22K J 1/10W	
R6			RK73FB2A123J	CHIP R 12K J 1/10W	
R7			RK73FB2A680J	CHIP R 68 J 1/10W	
R8			RK73FB2A103J	CHIP R 10K J 1/10W	
R9			RK73FB2A470J	CHIP R 47 J 1/10W	
R10			RK73FB2A220J	CHIP R 22 J 1/10W	
R11			RK73FB2A103J	CHIP R 10K J 1/10W	
R12			RK73FB2A152J	CHIP R 1.5K J 1/10W	
R13			RK73FB2A104J	CHIP R 100K J 1/10W	
R14			RK73FB2A100J	CHIP R 10 J 1/10W	
R15			RK73FB2A103J	CHIP R 10K J 1/10W	
R16			RK73FB2A471J	CHIP R 470 J 1/10W	
R17 ,18			RK73FB2A104J	CHIP R 100K J 1/10W	
R19			RK73FB2A101J	CHIP R 100 J 1/10W	
R20			RK73FB2A104J	CHIP R 100K J 1/10W	
R21			RK73FB2A473J	CHIP R 47K J 1/10W	
R22			RK73FB2A472J	CHIP R 4.7K J 1/10W	
R23			RK73FB2A104J	CHIP R 100K J 1/10W	
R25			RK73FB2A470J	CHIP R 47 J 1/10W	
R26			RK73FB2A331J	CHIP R 330 J 1/10W	
R27			RK73FB2A102J	CHIP R 1.0K J 1/10W	
R28			RK73FB2A101J	CHIP R 100 J 1/10W	
R29			RK73FB2A331J	CHIP R 330 J 1/10W	
R30			RK73FB2A471J	CHIP R 470 J 1/10W	
R31			RK73FB2A101J	CHIP R 100 J 1/10W	
R32			RK73FB2A103J	CHIP R 10K J 1/10W	
R33			RK73FB2A473J	CHIP R 47K J 1/10W	
R34			RK73FB2A103J	CHIP R 10K J 1/10W	
R35			RK73FB2A221J	CHIP R 220 J 1/10W	
R37			RK73FB2A103J	CHIP R 10K J 1/10W	
R38			RK73FB2A104J	CHIP R 100K J 1/10W	
R39			RK73FB2A473J	CHIP R 47K J 1/10W	
R40			RK73FB2A154J	CHIP R 150K J 1/10W	

 Parts for ( ) in intem of Parts No. is compliment parts.

PARTS LIST

TX-RX UNIT (X57-484X-XX)

Ref. No.	Address	New parts	Parts No.	Description			Destination
R41			RK73FB2A102J	CHIP R	1.0K	J 1/10W	
R42			RK73FB2A101J	CHIP R	100	J 1/10W	
R43			RK73FB2A473J	CHIP R	47K	J 1/10W	
R44			RK73FB2A470J	CHIP R	47	J 1/10W	
R45			RK73FB2A222J	CHIP R	2.2K	J 1/10W	
R46			RK73FB2A273J	CHIP R	27K	J 1/10W	
R47			RK73FB2A223J	CHIP R	22K	J 1/10W	
R48			RK73FB2A182J	CHIP R	1.8K	J 1/10W	
R49 -51			RK73FB2A103J	CHIP R	10K	J 1/10W	
R52			RK73FB2A182J	CHIP R	1.8K	J 1/10W	
R53			RK73FB2A273J	CHIP R	27K	J 1/10W	
R54			RK73FB2A123J	CHIP R	12K	J 1/10W	
R55			RK73FB2A682J	CHIP R	6.8K	J 1/10W	
R56			RK73FB2A332J	CHIP R	3.3K	J 1/10W	
R57			RK73FB2A182J	CHIP R	1.8K	J 1/10W	
R58			RK73FB2A473J	CHIP R	47K	J 1/10W	
R59			RK73FB2A223J	CHIP R	22K	J 1/10W	
R60 ,61			RK73FB2A4R7J	CHIP R	4.7	J 1/10W	
R62			RK73FB2A274J	CHIP R	270K	J 1/10W	
R63			RK73FB2A473J	CHIP R	47K	J 1/10W	
R64			RK73FB2A153J	CHIP R	15K	J 1/10W	
R65			RK73FB2A474J	CHIP R	470K	J 1/10W	
R66			RK73FB2A471J	CHIP R	470	J 1/10W	
R67			RK73FB2A473J	CHIP R	47K	J 1/10W	
R68			RK73FB2A223J	CHIP R	22K	J 1/10W	
R69 ,70			RK73FB2A153J	CHIP R	15K	J 1/10W	
R71			RK73FB2A472J	CHIP R	4.7K	J 1/10W	
R72			RK73FB2A274J	CHIP R	270K	J 1/10W	
R73 ,74			R92-0670-05	CHIP R	0 OHM		
R75 -78			RK73FB2A223J	CHIP R	22K	J 1/10W	
R79			RK73FB2A104J	CHIP R	100K	J 1/10W	
R80			RK73FB2A105J	CHIP R	1.0M	J 1/10W	
R81			RK73FB2A471J	CHIP R	470	J 1/10W	
R82			RK73FB2A184J	CHIP R	180K	J 1/10W	
R83			RK73FB2A103J	CHIP R	10K	J 1/10W	
R84			RK73FB2A471J	CHIP R	470	J 1/10W	
R85 ,86			RK73FB2A222J	CHIP R	2.2K	J 1/10W	
R87			RK73FB2A220J	CHIP R	22	J 1/10W	
R88			RK73FB2A122J	CHIP R	1.2K	J 1/10W	
R89 ,90			R92-0670-05	CHIP R	0 OHM		
R91			RK73FB2A473J	CHIP R	47K	J 1/10W	
R92			RK73FB2A471J	CHIP R	470	J 1/10W	
R93			RK73FB2A101J	CHIP R	100	J 1/10W	
R94			RK73FB2A223J	CHIP R	22K	J 1/10W	
R95			RK73FB2A154J	CHIP R	150K	J 1/10W	
R96			RK73FB2A470J	CHIP R	47	J 1/10W	
R97			R92-0685-05	CHIP R	22	J 1/2W	
R99			RK73FB2A5R6J	CHIP R	5.6	J 1/10W	
R101			R92-1213-05	CARBON	100	J 1/2W	
R102,103			RK73FB2A223J	CHIP R	22K	J 1/10W	
R104			RK73FB2A220J	CHIP R	22	J 1/10W	
R105			RK73FB2A471J	CHIP R	470	J 1/10W	
R107			RK73FB2A471J	CHIP R	470	J 1/10W	
R108			RK73FB2A182J	CHIP R	1.8K	J 1/10W	
R109			RK73FB2A151J	CHIP R	150	J 1/10W	
R110			RK73FB2A220J	CHIP R	22	J 1/10W	
R111			R92-0670-05	CHIP R	0 OHM		KK2P
R111			R92-0670-05	CHIP R	0 OHM		M2M3M4
R201			RK73FB2A104J	CHIP R	100K	J 1/10W	

Ref. No.	Address	New parts	Parts No.	Description			Destination
R202			RK73FB2A223J	CHIP R	22K	J 1/10W	
R203			RK73FB2A121J	CHIP R	120	J 1/10W	
R204			RK73FB2A101J	CHIP R	100	J 1/10W	
R205			RK73FB2A470J	CHIP R	47	J 1/10W	
R206			RK73FB2A220J	CHIP R	22	J 1/10W	
R207			RK73FB2A222J	CHIP R	2.2K	J 1/10W	
R208			RK73FB2A101J	CHIP R	100	J 1/10W	
R209			RK73FB2A104J	CHIP R	100K	J 1/10W	
R210			RK73FB2A101J	CHIP R	100	J 1/10W	
R211			RK73FB2A332J	CHIP R	3.3K	J 1/10W	
R213			RK73FB2A470J	CHIP R	47	J 1/10W	
R214			RK73FB2A223J	CHIP R	22K	J 1/10W	
R215,216			RK73FB2A102J	CHIP R	1.0K	J 1/10W	
R217			RK73FB2A221J	CHIP R	220	J 1/10W	
R218			RK73FB2A102J	CHIP R	1.0K	J 1/10W	
R219			RK73FB2A470J	CHIP R	47	J 1/10W	
R220			RK73FB2A221J	CHIP R	220	J 1/10W	
R221			RK73FB2A151J	CHIP R	150	J 1/10W	
R222			RK73FB2A334J	CHIP R	330K	J 1/10W	
R223			RK73FB2A102J	CHIP R	1.0K	J 1/10W	
R224			RK73FB2A103J	CHIP R	10K	J 1/10W	
R225			RK73FB2A221J	CHIP R	220	J 1/10W	
R226			RK73FB2A104J	CHIP R	100K	J 1/10W	
R227			RK73FB2A473J	CHIP R	47K	J 1/10W	
R228			RK73FB2A101J	CHIP R	100	J 1/10W	
R229			RK73FB2A154J	CHIP R	150K	J 1/10W	
R230			RK73FB2A102J	CHIP R	1.0K	J 1/10W	
R231			RK73FB2A470J	CHIP R	47	J 1/10W	
R232			RK73FB2A223J	CHIP R	22K	J 1/10W	
R233			RK73FB2A682J	CHIP R	6.8K	J 1/10W	
R234,235			RK73FB2A101J	CHIP R	100	J 1/10W	
R236			RK73FB2A470J	CHIP R	47	J 1/10W	
R237			RK73FB2A223J	CHIP R	22K	J 1/10W	
R238			RK73FB2A472J	CHIP R	4.7K	J 1/10W	
R239			RK73FB2A470J	CHIP R	47	J 1/10W	
R240			RK73FB2A220J	CHIP R	22	J 1/10W	
R241			RK73FB2A473J	CHIP R	47K	J 1/10W	
R242			RK73FB2A223J	CHIP R	22K	J 1/10W	
R243,244			RK73FB2A103J	CHIP R	10K	J 1/10W	
R245			RK73FB2A182J	CHIP R	1.8K	J 1/10W	
R246			RK73FB2A103J	CHIP R	10K	J 1/10W	
R247			RK73FB2A182J	CHIP R	1.8K	J 1/10W	
R248			RK73FB2A273J	CHIP R	27K	J 1/10W	
R249			RK73FB2A123J	CHIP R	12K	J 1/10W	
R250			RK73FB2A332J	CHIP R	3.3K	J 1/10W	
R251			RK73FB2A682J	CHIP R	6.8K	J 1/10W	
R252			RK73FB2A182J	CHIP R	1.8K	J 1/10W	
R253-255			RK73FB2A223J	CHIP R	22K	J 1/10W	
R256			RK73FB2A474J	CHIP R	470K	J 1/10W	
R257			R92-0670-05	CHIP R	0 OHM		
R262,263			R92-0670-05	CHIP R	0 OHM		
R266			RK73FB2A152J	CHIP R	1.5K	J 1/10W	
R267			RK73FB2A221J	CHIP R	220	J 1/10W	
R268			RK73FB2A222J	CHIP R	2.2K	J 1/10W	
R269			RK73FB2A103J	CHIP R	10K	J 1/10W	
R270			RK73FB2A471J	CHIP R	470	J 1/10W	
R271			R92-0685-05	CHIP R	22	J 1/2W	
R272			R92-0670-05	CHIP R	0 OHM		
R273			RK73FB2A102J	CHIP R	1.0K	J 1/10W	

Parts for ( ) in intem of Parts No. is compliment parts.

TM-733A/E

PARTS LIST

TX-RX UNIT (X57-484X-XX)

Ref. No.	Address	New parts	Parts No.	Description			Destination
R274			RK73FB2A222J	CHIP R	2.2K	J 1/10W	
R275			RK73FB2A272J	CHIP R	2.7K	J 1/10W	
R276			RK73FB2A154J	CHIP R	150K	J 1/10W	
R277			R92-0699-05	CHIP R		J 1/2W	
R279			R92-0670-05	CHIP R	0 OHM		
R282			R92-0679-05	CHIP R	0 OHM		
R283			R92-1214-05	CHIP R	120	J 1/2W	
R284,285			RK73FB2A103J	CHIP R	10K	J 1/10W	
R287			RK73FB2A471J	CHIP R	470	J 1/10W	
R288			RK73FB2A103J	CHIP R	10K	J 1/10W	
R290			RK73FB2A473J	CHIP R	47K	J 1/10W	
R291			RK73FB2A184J	CHIP R	180K	J 1/10W	
R292			RK73FB2A102J	CHIP R	1.0K	J 1/10W	
R293			RK73FB2A151J	CHIP R	150	J 1/10W	
R401			RK73FB2A103J	CHIP R	10K	J 1/10W	
R402			RK73FB2A224J	CHIP R	220K	J 1/10W	
R403			RK73FB2A473J	CHIP R	47K	J 1/10W	
R404			RK73FB2A682J	CHIP R	6.8K	J 1/10W	
R405			R92-0670-05	CHIP R	0 OHM		
R407			R92-0670-05	CHIP R	0 OHM		
R408			RK73FB2A472J	CHIP R	4.7K	J 1/10W	
R409			RK73FB2A470J	CHIP R	47	J 1/10W	
R410			R92-0670-05	CHIP R	0 OHM		EE3E9
R411			R92-0670-05	CHIP R	0 OHM		EE3E9
R412			R92-0670-05	CHIP R	0 OHM		KK2P
R412			R92-0670-05	CHIP R	0 OHM		M2M3
R413			R92-0670-05	CHIP R	0 OHM		M4
R414			R92-0670-05	CHIP R	0 OHM		KK2P M4
R414			R92-0670-05	CHIP R	0 OHM		EE3E9
R415			RK73FB2A274J	CHIP R	270K	J 1/10W	
R417			RK73FB2A122J	CHIP R	1.2K	J 1/10W	
R418			RK73FB2A473J	CHIP R	47K	J 1/10W	
R419			RK73FB2A394J	CHIP R	390K	J 1/10W	
R420			RK73FB2A392J	CHIP R	3.9K	J 1/10W	
R421			RK73FB2A102J	CHIP R	1.0K	J 1/10W	
R422			RK73FB2A103J	CHIP R	10K	J 1/10W	
R423,424			RK73FB2A102J	CHIP R	1.0K	J 1/10W	
R425			RK73FB2A224J	CHIP R	220K	J 1/10W	
R427			RK73FB2A102J	CHIP R	1.0K	J 1/10W	
R428			R92-0670-05	CHIP R	0 OHM		
R429			RK73FB2A152J	CHIP R	1.5K	J 1/10W	
R432			RK73FB2A473J	CHIP R	47K	J 1/10W	
R433			RK73FB2A103J	CHIP R	10K	J 1/10W	
R434			RK73FB2A273J	CHIP R	27K	J 1/10W	
R435			RK73FB2A103J	CHIP R	10K	J 1/10W	
R436			RK73FB2A102J	CHIP R	1.0K	J 1/10W	
R437			RK73FB2A824J	CHIP R	820K	J 1/10W	
R438			RK73FB2A562J	CHIP R	5.6K	J 1/10W	KK2P
R438			RK73FB2A562J	CHIP R	5.6K	J 1/10W	M2M3
R439			RK73FB2A273J	CHIP R	27K	J 1/10W	
R440			RK73FB2A274J	CHIP R	270K	J 1/10W	
R441			RK73FB2A474J	CHIP R	470K	J 1/10W	
R442-444			RK73FB2A102J	CHIP R	1.0K	J 1/10W	
R446			RK73FB2A473J	CHIP R	47K	J 1/10W	
R447,448			R92-0670-05	CHIP R	0 OHM		
R449			RK73FB2A473J	CHIP R	47K	J 1/10W	
R450,451			RK73FB2A472J	CHIP R	4.7K	J 1/10W	
R452			RK73FB2A223J	CHIP R	22K	J 1/10W	
R453			RK73FB2A472J	CHIP R	4.7K	J 1/10W	

Ref. No.	Address	New parts	Parts No.	Description			Destination
R454-458			RK73FB2A473J	CHIP R	47K	J 1/10W	
R459,460			RK73FB2A472J	CHIP R	4.7K	J 1/10W	
R461			RK73FB2A103J	CHIP R	10K	J 1/10W	
R462			RK73FB2A104J	CHIP R	100K	J 1/10W	
R463			RK73FB2A473J	CHIP R	47K	J 1/10W	
R466			RK73FB2A104J	CHIP R	100K	J 1/10W	EE3E9
R467			RK73FB2A103J	CHIP R	10K	J 1/10W	
R468			RK73FB2A104J	CHIP R	100K	J 1/10W	
R470			RK73FB2A472J	CHIP R	4.7K	J 1/10W	
R471			RK73FB2A684J	CHIP R	680K	J 1/10W	
R472			RK73FB2A392J	CHIP R	3.9K	J 1/10W	
R474			RK73FB2A472J	CHIP R	4.7K	J 1/10W	
R475			RK73FB2A684J	CHIP R	680K	J 1/10W	
R476			RK73FB2A392J	CHIP R	3.9K	J 1/10W	
R477			R92-0670-05	CHIP R	0 OHM		
R478			RK73FB2A153J	CHIP R	15K	J 1/10W	
R480			RK73FB2A153J	CHIP R	15K	J 1/10W	
R481			RK73FB2A101J	CHIP R	100	J 1/10W	
R482			RK73FB2A223J	CHIP R	22K	J 1/10W	
R484,485			RK73FB2A473J	CHIP R	47K	J 1/10W	
R486			RK73FB2A472J	CHIP R	4.7K	J 1/10W	
R487			RK73FB2A103J	CHIP R	10K	J 1/10W	
R488			RK73FB2A102J	CHIP R	1.0K	J 1/10W	
R489			RK73FB2A563J	CHIP R	56K	J 1/10W	
R490-492			RK73FB2A473J	CHIP R	47K	J 1/10W	
R493,494			RK73FB2A102J	CHIP R	1.0K	J 1/10W	
R495			RK73FB2A472J	CHIP R	4.7K	J 1/10W	
R496			RK73FB2A102J	CHIP R	1.0K	J 1/10W	
R497			RK73FB2A474J	CHIP R	470K	J 1/10W	
R498			RK73FB2A103J	CHIP R	10K	J 1/10W	
R500			RK73FB2A273J	CHIP R	27K	J 1/10W	
R501			RK73FB2A224J	CHIP R	220K	J 1/10W	
R503			RK73FB2A102J	CHIP R	1.0K	J 1/10W	
R504			RK73FB2A472J	CHIP R	4.7K	J 1/10W	
R505			RK73FB2A272J	CHIP R	2.7K	J 1/10W	
R506			RK73FB2A473J	CHIP R	47K	J 1/10W	
R507			RK73FB2A333J	CHIP R	33K	J 1/10W	
R508,509			RK73FB2A102J	CHIP R	1.0K	J 1/10W	
R510			RK73FB2A392J	CHIP R	3.9K	J 1/10W	M4
R510			RK73FB2A392J	CHIP R	3.9K	J 1/10W	EE3E9
R510			RK73FB2A562J	CHIP R	5.6K	J 1/10W	KK2P
R510			RK73FB2A562J	CHIP R	5.6K	J 1/10W	M2M3
R511			RK73FB2A122J	CHIP R	1.2K	J 1/10W	KK2P
R511			RK73FB2A122J	CHIP R	1.2K	J 1/10W	M2M3
R511			RK73FB2A222J	CHIP R	2.2K	J 1/10W	M4EE3
R511			RK73FB2A222J	CHIP R	2.2K	J 1/10W	E9
R512			RK73FB2A184J	CHIP R	180K	J 1/10W	
R513			RK73FB2A224J	CHIP R	220K	J 1/10W	
R514			RK73FB2A103J	CHIP R	10K	J 1/10W	
R515			RK73FB2A334J	CHIP R	330K	J 1/10W	
R516			RK73FB2A561J	CHIP R	560	J 1/10W	
R517			RK73FB2A394J	CHIP R	390K	J 1/10W	
R518			RK73FB2A333J	CHIP R	33K	J 1/10W	
R519			RK73FB2A473J	CHIP R	47K	J 1/10W	
R520			RK73FB2A224J	CHIP R	220K	J 1/10W	
R521-523			RK73FB2A823J	CHIP R	82K	J 1/10W	
R524			RK73FB2A472J	CHIP R	4.7K	J 1/10W	
R525			RK73FB2A151J	CHIP R	150	J 1/10W	
R526			RK73FB2A102J	CHIP R	1.0K	J 1/10W	

Parts for ( ) in intem of Parts No. is compliment parts.

PARTS LIST

TX-RX UNIT (X57-484X-XX)

Ref. No.	Address	New parts	Parts No.	Description	Destination
R527			RK73FB2A393J	CHIP R 39K J 1/10W	
R528			RK73FB2A474J	CHIP R 470K J 1/10W	
R529			RK73FB2A103J	CHIP R 10K J 1/10W	
R530			RK73FB2A823J	CHIP R 82K J 1/10W	
R531			RK73FB2A103J	CHIP R 10K J 1/10W	
R532			RK73FB2A473J	CHIP R 47K J 1/10W	
R533			RK73FB2A224J	CHIP R 220K J 1/10W	
R534			RK73FB2A103J	CHIP R 10K J 1/10W	
R535			RK73FB2A393J	CHIP R 39K J 1/10W	
R536			RK73FB2A563J	CHIP R 56K J 1/10W	
R537			RK73FB2A223J	CHIP R 22K J 1/10W	
R538			RK73FB2A273J	CHIP R 27K J 1/10W	
R540			RK73FB2A224J	CHIP R 220K J 1/10W	
R541			RK73FB2A102J	CHIP R 1.0K J 1/10W	
R542			RK73FB2A272J	CHIP R 2.7K J 1/10W	
R543			RK73FB2A332J	CHIP R 3.3K J 1/10W	
R544			RK73FB2A472J	CHIP R 4.7K J 1/10W	
R545			RK73FB2A682J	CHIP R 6.8K J 1/10W	
R546-549			RK73FB2A103J	CHIP R 10K J 1/10W	
R550			RK73FB2A473J	CHIP R 47K J 1/10W	
R551			RK73FB2A472J	CHIP R 4.7K J 1/10W	EE3E9
R552,553			RK73FB2A103J	CHIP R 10K J 1/10W	
R554			RK73FB2A3R3J	CHIP R 3.3 J 1/10W	
R555			RK73FB2A221J	CHIP R 220 J 1/10W	
VR1 ,2			R12-6719-05	TRIM POT 100K	
VR3			R12-6713-05	TRIM POT 10K	
VR4			R12-6717-05	TRIM POT 47K	
VR201			R12-6719-05	TRIM POT 100K	
VR202			R12-6717-05	TRIM POT 47K	
VR203,204			R12-6711-05	TRIM POT 4.7K	
VR601,602			R23-9407-05	POTENTIOMETER 50K	
TS1			S59-0444-05	THERMAL SWITCH(90°C)	
D1-5			MA360	DIODE	
D6			DAN235K	DIODE	
D7			DTZ5.6(A)	DIODE	
D8			DAN202U	DIODE	
D9			1SS226	DIODE	
D10			DAN235K	DIODE	
D11			DAN202U	DIODE	
D12			1SS181	DIODE	
D13			MI407	DIODE	
D14			MI308	DIODE	
D15 ,16			1SS226	DIODE	
D17			MA360	DIODE	
D18 ,19			MA110	DIODE	
D20			DAN202U	DIODE	
D201			1SV128	DIODE	
D202			DAN202U	DIODE	
D203			MA716	DIODE	
D204			MA77	DIODE	
D205			MA862	DIODE	
D206,207			DAN202U	DIODE	
D210			MA862	DIODE	
D211			1SS184	DIODE	
D212			DAN202U	DIODE	
D213			MI407	DIODE	
D214			MI809	DIODE	
D215,216			MA716	DIODE	
D217			DSA3A1	DIODE	

Ref. No.	Address	New parts	Parts No.	Description	Destination
D401,402			MA110	DIODE	
D403,404			MA112	DIODE	
D405			DTZ7.5(B)	DIODE	
D406			DTZ3.0(A)	DIODE	
D407,408			MA112	DIODE	
D409			1SS226	DIODE	
D411			MA110	DIODE	
IC1			KCD04	HIC(FM IF)	
IC2			KCD05	HIC(AM IF)	
IC3			UPC1676G	IC(POWER AMP)	
IC4			XRU4066BCF	IC	
			(BU4066BCF)	IC	
IC5			XRU4094BCF	IC	
			(BU4094BCF)	IC	
IC6			LA4445	IC(2CHANNEL AF POWER AMP 5.5W)	
IC7			XRU4053BCF	IC	
			(BU4053BCF)	IC	
IC8			XRU4094BCF	IC	
			(BU4094BCF)	IC	
IC9			KCH19	HIC	M2M3M4
IC9			KCH19	HIC	EE3E9
IC9			KCH21	HIC	KK2P
IC10			KCB11	HIC(DRIVER)	
IC11			LA5010M	IC(LOW SATURATION REGULATOR	
IC12			BU4S66F	IC(BILATERAL SWITCH)	
			(TC4S66F)	IC(BILA TERAL SWITCH)	
IC201			KCD04	HIC(FM IF)	
IC202			KCB28	HIC	M2M3M4
IC202			KCB28	HIC	EE3E9
IC203			KCB27	HIC	
IC204			XRU4066BCF	IC	
			(BU4066BCF)	IC	
IC205,206			XRU4094BCF	IC	
			(BU4094BCF)	IC	
IC207			KCH20	HIC	
IC208			LA5010M	IC(LOW SATURATION REGULATOR)	
IC209			KCB14	HIC(DRIVER)	M2M3M4
IC209			KCB14	HIC(DRIVER)	EE3E9
IC209			KCB20	HIC	KK2P
IC210			KCC04	HIC(APC)	
IC211			MCT7808CT	IC(VOLTAGE REGULATORS/ +8V)	
IC401			LC7387M	IC	
IC402			TC35219F	IC	
IC403		*	UPD75518GF-287	IC(CPU)	M2M3M4
IC403		*	UPD75518GF-287	IC(CPU)	EE3E9
IC403		*	UPD75518GF-314	IC(CPU)	KK2P
IC404			XRU4066BCF	IC	
			(BU4066BCF)	IC	
IC405,406			XRU4053BCF	IC	
			(BU4053BCF)	IC	
IC407			MB87032PF	IC	
IC408			TA78L06F	IC	
IC409,410			TC4S11F	IC	
IC411			XRU4066BCF	IC	
			(BU4066BCF)	IC	
IC412,413			NJM4558E	IC(OP AMP)	
Q1			3SK241(R)	FET	
Q2			FMG1	TRANSISTOR	
Q3,4			3SK131(L)	FET	

Parts for ( ) in intem of Parts No. is compliment parts.

PARTS LIST

TX-RX UNIT (X57-484X-XX)

Ref. No.	Address	New parts	Parts No.	Description	Destination
Q5			DTC114EU	DIGITAL TRANSISTOR	
Q6			2SC4215(Y)	TRANSISTOR	
Q7			DTA123JU	DIGITAL TRANSISTOR	
Q8			DTC143EU	DIGITAL TRANSISTOR	
Q9			2SJ106(GR)	FET	
Q10			2SC4116(Y)	TRANSISTOR	
Q11 ,12			DTA123JU	DIGITAL TRANSISTOR	
Q13			3SK184(S)	FET	
Q14			DTC114EU	DIGITAL TRANSISTOR	
Q15			DTC144WU	DIGITAL TRANSISTOR	
Q16			2SA1362(Y)	TRANSISTOR	
Q17			2SB1119(S)	TRANSISTOR	
Q18 ,19			2SC4116(Y)	TRANSISTOR	
Q20			DTC114EU	DIGITAL TRANSISTOR	
Q21			2SK1824	FET	
Q22			2SK1399	FET	
Q23			UPA502T	MOS FET	
Q24			2SK879(Y)	FET	
Q25			2SC4215(Y)	TRANSISTOR	
Q26			2SC4116(Y)	TRANSISTOR	
Q27			FMG1	TRANSISTOR	
Q28 ,29			2SC4116(Y)	TRANSISTOR	
Q30 ,31			DTC114EU	DIGITAL TRANSISTOR	
Q201			3SK241(R)	FET	
Q202			FMA5	TRANSISTOR	
Q203			DTA123JU	DIGITAL TRANSISTOR	M2M3M4
Q203			DTA123JU	DIGITAL TRANSISTOR	EE3E9
Q204			3SK241(R)	FET	
Q205			DTC114EU	DIGITAL TRANSISTOR	
Q206			3SK184(S)	FET	
Q207			DTC114EK	DIGITAL TRANSISTOR	
Q208			2SC4215(Y)	TRANSISTOR	
Q209			2SJ106(GR)	FET	
Q210			2SC4116(Y)	TRANSISTOR	
Q211			2SC3356	TRANSISTOR	
Q212			3SK131(L)	FET	
Q213			DTC114EU	DIGITAL TRANSISTOR	
Q214			2SC4116(Y)	TRANSISTOR	
Q215			DTC144WU	DIGITAL TRANSISTOR	
Q216			2SA1362(Y)	TRANSISTOR	
Q217			2SC4116(Y)	TRANSISTOR	
Q218			2SB1119(S)	TRANSISTOR	
Q219			DTC114EU	DIGITAL TRANSISTOR	
Q220			DTA123JU	DIGITAL TRANSISTOR	
Q221-224			2SK1824	FET	
Q228			2SC4116(Y)	TRANSISTOR	
Q229			2SC3123	TRANSISTOR	
Q230			DTD143EK	DIGITAL TRANSISTOR	
Q231			FMG1	TRANSISTOR	
Q232			2SC4728(S)	TRANSISTOR	
Q233			2SB1302(S)	TRANSISTOR	
Q234			DTC114EU	DIGITAL TRANSISTOR	
Q236			2SC4215(Y)	TRANSISTOR	
Q401			DTC144EU	DIGITAL TRANSISTOR	
Q402,403			2SC4116(Y)	TRANSISTOR	
Q404,405			DTC114EU	DIGITAL TRANSISTOR	
Q406-408			2SC4116(Y)	TRANSISTOR	
Q409-412			2SK1824	TRANSISTOR	
Q413,414			2SC4116(Y)	TRANSISTOR	
Q415			2SA1519	TRANSISTOR	
Q416			2SK1824	FET	
Q417			DTC114EU	DIGITAL TRANSISTOR	
Q418			2SC4116(Y)	TRANSISTOR	
Q420			2SC4116(Y)	TRANSISTOR	
Q421			DTC144EU	DIGITAL TRANSISTOR	
Q422			DTA123JU	DIGITAL TRANSISTOR	
Q423-425			2SC4116(Y)	TRANSISTOR	
Q426			DTC114EU	DIGITAL TRANSISTOR	
BA1			W09-0570-05	LITHIUM BATTERY(3V 7mAh)	
S601			W02-1822-05	ENCODER	

LCD ASSY (B38-070X-XX)

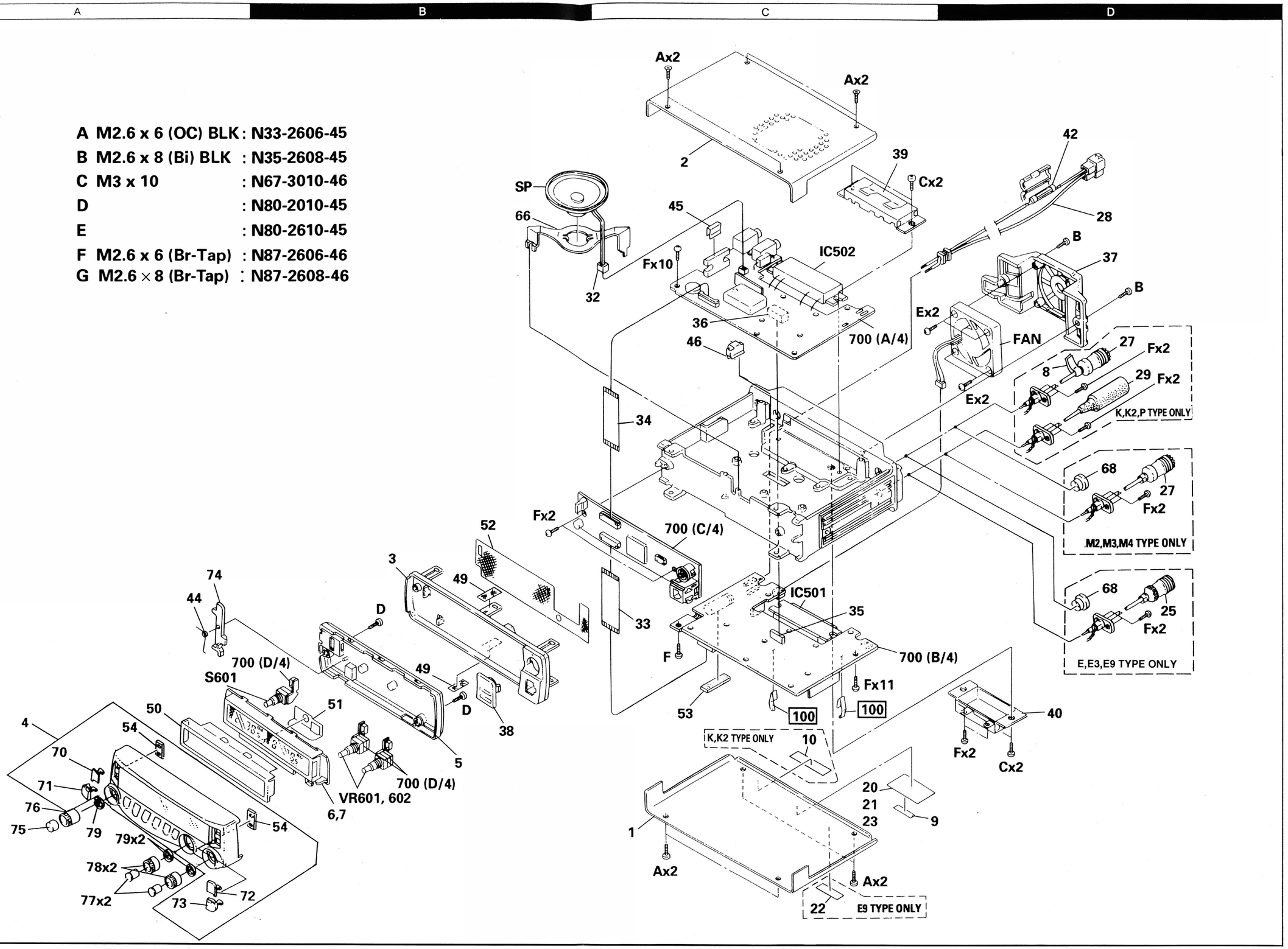
Parts of LCD ASSY (B38-070X-45) is not included. please refer to service manual(B51-8264-00) Additionaly, TEMPORARY UNIT is delete by reason for after improvement.

 Parts for ( ) in intem of Parts No. is compliment parts.

 TM-733A/E

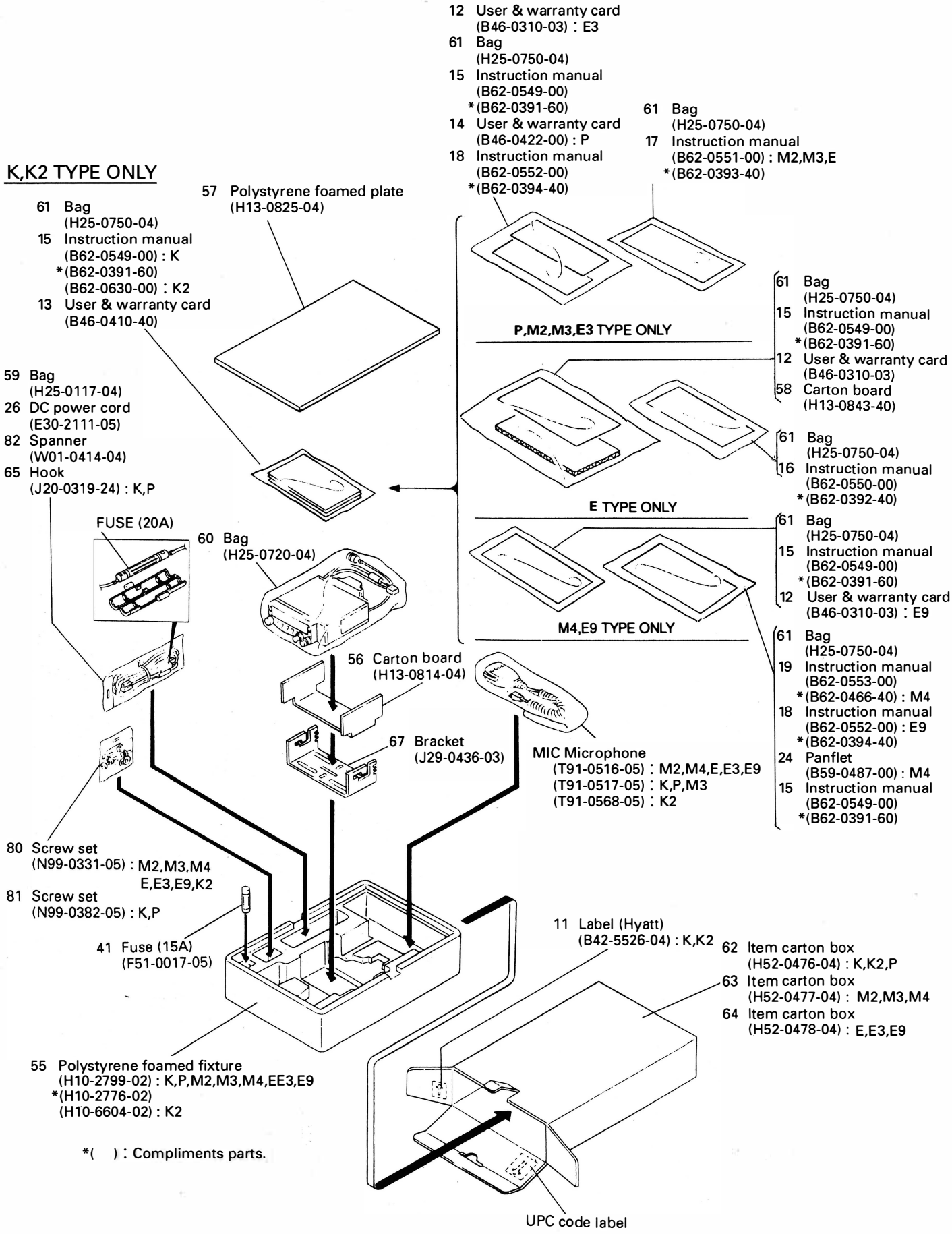
EXPLODED VIEW

A	M2.6 x 6 (OC) BLK	: N33-2606-45
B	M2.6 x 8 (Bi) BLK	: N35-2608-45
C	M3 x 10	: N67-3010-46
D		: N80-2010-45
E		: N80-2610-45
F	M2.6 x 6 (Br-Tap)	: N87-2606-46
G	M2.6 × 8 (Br-Tap)	: N87-2608-46



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

PACKING


12 User & warranty card
(B46-0310-03) : E3
61 Bag
(H25-0750-04)
15 Instruction manual
(B62-0549-00)
*(B62-0391-60)
14 User & warranty card
(B46-0422-00) : P
18 Instruction manual
(B62-0552-00)
*(B62-0394-40)
61 Bag
(H25-0750-04)
17 Instruction manual
(B62-0551-00) : M2,M3,E
*(B62-0393-40)
K,K2 TYPE ONLY
57 Polystyrene foamed plate
(H13-0825-04)
61 Bag
(H25-0750-04)
15 Instruction manual
(B62-0549-00) : K
*(B62-0391-60)
(B62-0630-00) : K2
13 User & warranty card
(B46-0410-40)
P,M2,M3,E3 TYPE ONLY
61 Bag
(H25-0750-04)
15 Instruction manual
(B62-0549-00)
*(B62-0391-60)
12 User & warranty card
(B46-0310-03)
58 Carton board
(H13-0843-40)
59 Bag
(H25-0117-04)
26 DC power cord
(E30-2111-05)
82 Spanner
(W01-0414-04)
65 Hook
(J20-0319-24) : K,P
61 Bag
(H25-0750-04)
16 Instruction manual
(B62-0550-00)
*(B62-0392-40)
E TYPE ONLY
FUSE (20A)
60 Bag
(H25-0720-04)
61 Bag
(H25-0750-04)
15 Instruction manual
(B62-0549-00)
*(B62-0391-60)
12 User & warranty card
(B46-0310-03) : E9
M4,E9 TYPE ONLY
56 Carton board
(H13-0814-04)
61 Bag
(H25-0750-04)
19 Instruction manual
(B62-0553-00)
*(B62-0466-40) : M4
18 Instruction manual
(B62-0552-00) : E9
*(B62-0394-40)
24 Panflet
(B59-0487-00) : M4
15 Instruction manual
(B62-0549-00)
*(B62-0391-60)
67 Bracket
(J29-0436-03)
MIC Microphone
(T91-0516-05) : M2,M4,E,E3,E9
(T91-0517-05) : K,P,M3
(T91-0568-05) : K2
80 Screw set
(N99-0331-05) : M2,M3,M4
E,E3,E9,K2
81 Screw set
(N99-0382-05) : K,P
41 Fuse (15A)
(F51-0017-05)
11 Label (Hyatt)
(B42-5526-04) : K,K2
62 Item carton box
(H52-0476-04) : K,K2,P
63 Item carton box
(H52-0477-04) : M2,M3,M4
64 Item carton box
(H52-0478-04) : E,E3,E9
55 Polystyrene foamed fixture
(H10-2799-02) : K,P,M2,M3,M4,EE3,E9
*(H10-2776-02)
(H10-6604-02) : K2
*( ) : Compliments parts.
UPC code label

ADJUSTMENT

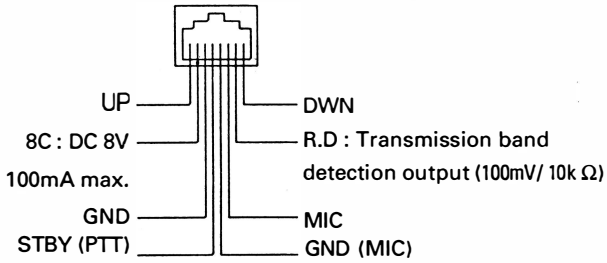
Measuring Equipment for Adjustment

1. Tester
   Input impedance: High
2. RF valve voltmeter (RF V.M)
   Input impedance: 1MΩ or more, 2 pF or less
   Voltage range: Full scale = 10mV to 300V
   Measurable frequency range: up to 450MHz
3. Frequency counter (f. counter)
   Input sensitivity: About 50mV
   Measurable frequency: 450MHz or more
4. DC power supply
   Voltage: Variable in the range 10 to 17V
   Current: 13A or more
5. Power meter
   Measurement power: 60W, 10W, 1W
   Impedance: 50Ω
   Measurable frequency: 450MHz
6. AF valve voltmeter (AF V.M)
   Input impedance: 1MΩ or more
   Voltage range: Full scale = 1mV to 30V
   Measurable frequency range: 50Hz to 10kHz
7. AF generator (AG)
   Output frequency: 100Hz to 10kHz
   Output voltage: 0.5mV to 1V
8. Line detector
   Measurable frequency: 450MHz
9. Spectrum analyzer
   Measurable frequency: 450MHz
10. Directional coupler
11. Oscilloscope
    High sensitivity with horizontal input terminal
12. Standard signal generator (SSG)
    The standard signal generator must be able to generate the 144 and 430MHz band frequencies and vary the amplitude and frequency.
    Output: 0.1μV to greater than 1mV
13. Dummy load (for AF)
    8Ω, about 5W
14. Noise generator
    The noise generator must be able to generate noise similar to ignition noise containing high-frequency components of 450MHz or more.
15. Sweep generator
    The sweep generator must be able to sweep the 144 and 430MHz bands.
16. Tracking generator
17. Adjustment jig

Preparation

- Set the controls and switches to the positions listed below unless otherwise specified.

VOL control	Fully counterclockwise
SQL control	Fully counterclockwise
POWER switch	OFF
(For fixed stations) DC power supply POWER switch	OFF

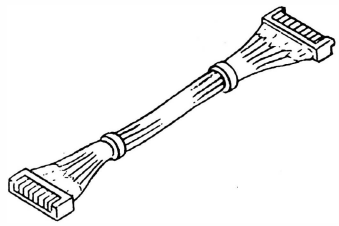


Microphone socket
(as viewed from the front of the set)

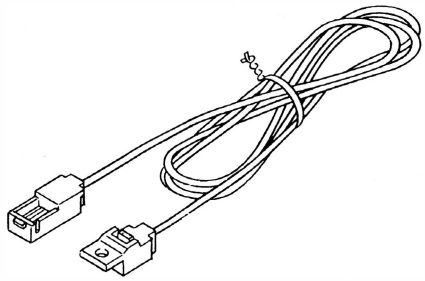
- Use an insulated rod, such as a plastic rod, for adjustment (especially for trimmers, coils, etc.).
- To protect the signal generator, never connect the microphone to the microphone socket when the receiver section is adjusted.
- Before the power cord is connected, make sure the power switch is off.
- The SSG output level in parentheses are displayed at the release end.
  Without specification of SSG, standard modulation is applied (MOD : 1kHz, DEV : ±3kHz, AF output : 0.63V/8Ω).
- See the instruction manual for transmit and receive operations.

ADJUSTMENT

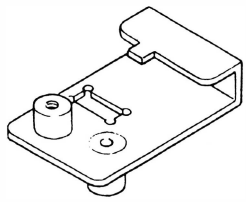
Adjustment Jig



A Cable with connector (7 pin)
(Use with TM-732)
(W05-0499-00)

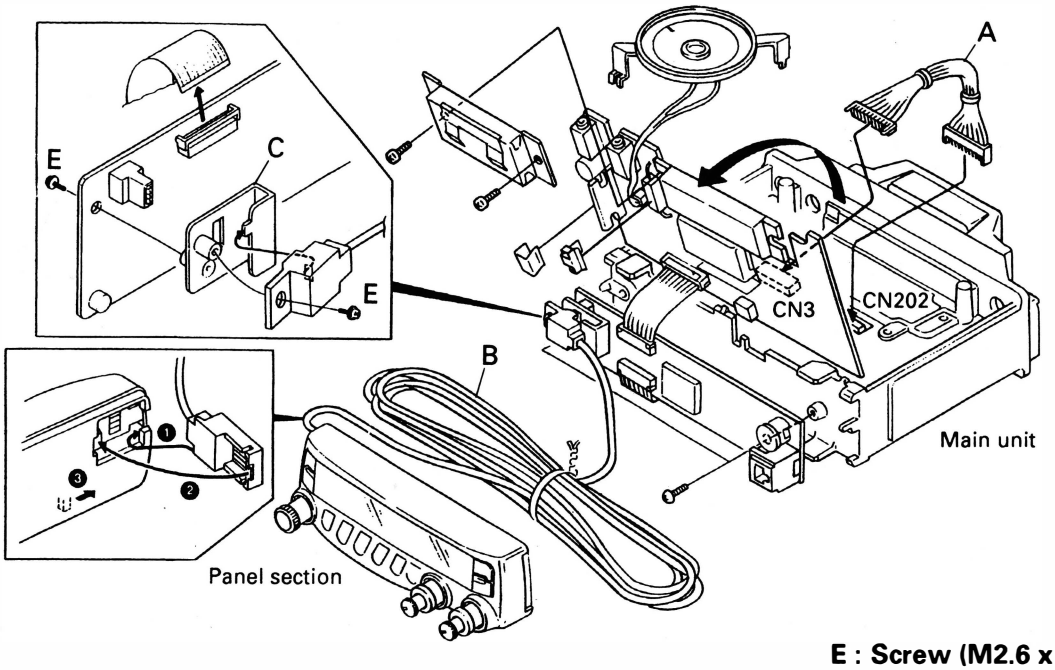


B Panel cable (3m)
(E30-3189-05)

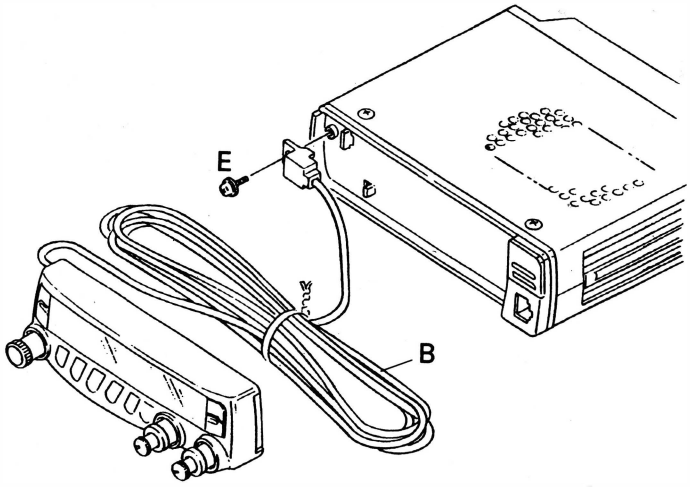


C Panel cable mounting hardware
(J21-4475-04)

How to Use



E : Screw (M2.6 x 6)
(N09-2241-05 etc.)



ADJUSTMENT

Method of Checking the Operation of the LCD Assembly

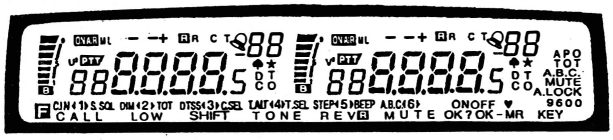
The display microcomputer has an Assembly mode function that is useful in checking for panel display and key operation faults. The function is also helpful in investigating problems or checking operation after a repair.

When the main unit and the panel are connected together in the normal way (or by using a separate cable), the operation of the microcomputer in the main unit can also be checked.

- **Entering Assembly mode**

Hold down the CALL and MUTE keys and press the PWR key. All LCD segments come on and Assembly mode is entered. (See the figure below.)

If the mode fails to be entered, DC power supply power goes off, then entering assembly mode again. To exit Assembly mode, press the PWR key again or DC power supply power goes off.

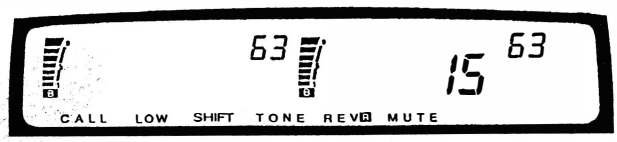


- **Checking operation**

1. Press the VFO/M>V key. **(This must always be done first.)**
   The serial port is automatically checked.
   · If it functions normally;
   "F" and "80" are displayed. (See the figure below)
   · If it does not function normally;
   "1" or "2" is displayed.
   ("1" : When SO is made low, SI does not go low.)
   ("2" : When SO is made high, SI does not go high.)

2. Press the BAND SEL key. (Press the AF VOL control.)
   "8d" and the function indicator appear.
   (The left green LED lights.)
   "8E" and the function indicator appear.
   (The right green LED lights.)
3. Press the CONT SEL key.
   "8A" and the function indicator appear.
4. Press the PM key.
   "8b" and the "1" to "6" key indicators appear.
5. Press the MHz key.
   "82" and the function indicator appear.
6. Press the CALL key.
   "5" and "83" appear dimly. (Minimum intensity)
7. Press the LOW key.
   "4" and "89" appear. (Intensity level 4: Dim)
8. Press the SHIFT (BELL) key.
   "3" and "85" appear. (Intensity level 3: Slightly dim)
9. Press the TONE key.
   "2" and "86" appear. (Intensity level 2)
10. Press the REV key.
    "1" and "87" appear. (Intensity level 1: Strongest)
11. Press the MUTE key.
    "22222" and "22" appear.
12. Press the F key.
    Each time the F key is pressed, the 6 key function display changes in three levels.
13. Set the AF and SQL-VRs to minimum, than press the MR/M key.
    "00" appears on the UHF-band frequency display and "00" appears on the memory channel display.

· When the tuning knob (encoder) is turned, the number changes in the range 00 to 15.
· When the AF VOL(V) control is turned, the VHF S meter changes.
· When the AF VOL(U) control is turned, the UHF S meter changes.
· When the SQ VOL(V) control is turned, the VHF MR channel display changes in the range 00 to 63.
· When the SQ VOL(U) control is turned, the UHF MR channel display changes in the range 00 to 63.



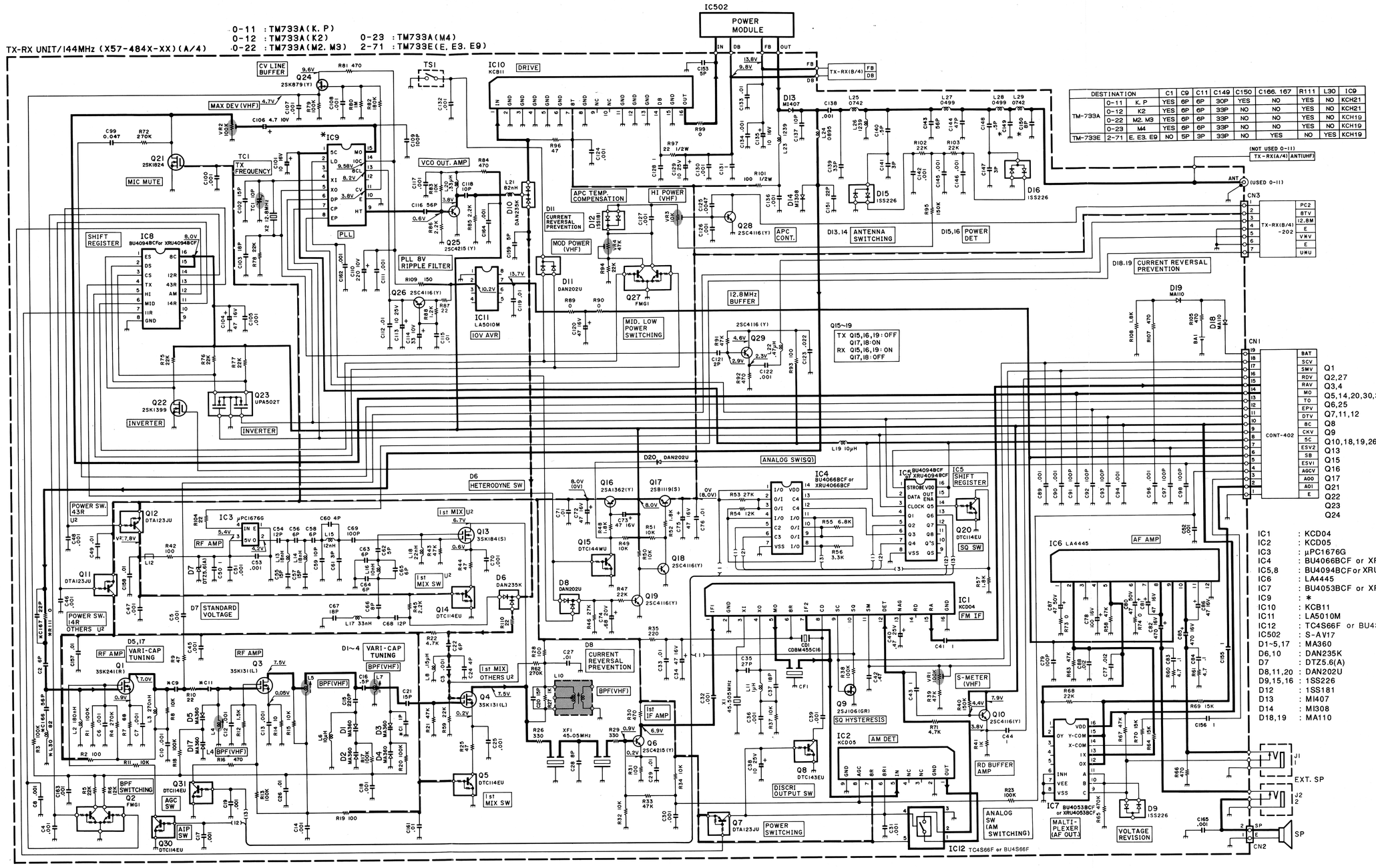
ADJUSTMENT

Common Section

Item	Condition	Measurement			Adjustment			Specifications/Remarks
		Test-equipment	Unit	Terminal	Unit	Parts	Method	
1. Setting	1) Power voltage : DC 13.8V 2) Check to all LCD lights on. While pushing CALL key and MUTE key, turn on POWER. Upon confirming that all have lit up, turn off POWER after pushing VFO key. 3) Reset While pushing MR key, turn on POWER (frequency section lights on). Wait there for about 10 seconds (until memory is initialized), then turn off POWER. 4) Without specification of SSG, standard modulation is applied (MOD : 1kHz, DEV : ±3kHz, AF output : 0.63V/8Ω).	All LCD lights on (Except M4 type) All LCD lights on (M4 type) 						
2. Lock voltage	1) V band (VHF) FREQ. : 144.980MHz POWER : LOW Receiving and transmission.	DC V.M Power meter	TX-RX (A/4) Rear panel	CV ANT			Check	2.5~5.0V
	2) U band (UHF) Use band SEL key to select a band. FREQ. : 435.000MHz **M2,M3,M4,E,E3,E9** FREQ. : 445.000MHz **K,K2,P** Receiving and transmission.		TX-RX (B/4) Rear panel	CV ANT				**M2,M3,M4,E,E3,E9** 3.0~5.5V **K,K2,P** 4.4~5.9V
	3) Pushing the band SEL key, of UHF band, then set to the V2 (V x V) band by the F key, CONT SEL key. V2 (V x V) band FREQ. : 145.040MHz Receiving. After checked, return to the original state with F key, CONT SEL key.							2.3~4.6V
3. BPF	1) V band FREQ. : 144.040MHz **E,E3,E9** FREQ. : 147.940MHz **K,K2,P,M2,M3,M4** Connect speaker to EXT. SP2, operating AF VR of each band. SSG : Lowering SSG from −113dBm (0.5μV), adjust it between −120dBm (0.23μV) to −121dBm (0.2μV).	DC V.M SSG	TX-RX (A/4) Rear panel	SM ANT EXT. SP2	TX-RX (A/4)	L4,5,7 L10	Voltage MAX	Ref. value : approx. 2.5V Except operating AF VR : MIN AF output appear from external speaker.
	2) U band FREQ. : 435.040MHz **M2,M3,M4,E,E3,E9** FREQ. : 445.040MHz **K,K2,P** SSG : Lowering SSG from −113dBm (0.5μV), adjust it between −120dBm (0.23μV) to −121dBm (0.2μV).		TX-RX (B/4) Rear panel	SM ANT EXT. SP2	TX-RX (B/4)	L214		

0-11 : TM733A(K. P)
0-12 : TM733A(K2)
0-22 : TM733A(M2. M3)
0-23 : TM733A(M4)
2-71 : TM733E(E. E3. E9)

TX-RX UNIT/144MHz (X57-484X-XX)(A/4)



DESTINATION		C1	C9	C11	C149	C150	C166. 167	R111	L30	IC9
TM-733A	0-11	K. P	YES	6P	6P	30P	YES	NO	YES	NO	KCH21
	0-12	K2	YES	6P	6P	33P	NO	NO	YES	NO	KCH21
	0-22	M2. M3	YES	6P	6P	33P	NO	NO	YES	NO	KCH19
	0-23	M4	YES	6P	6P	33P	NO	YES	NO	YES	KCH19
TM-733E	2-71	E. E3. E9	NO	5P	3P	33P	NO	YES	NO	YES	KCH19

Q1	: 3SK241(R)
Q2,27	: FMG1
Q3,4	: 3SK131(L)
Q5,14,20,30,31	: DTC114EU
Q6,25	: 2SC4215(Y)
Q7,11,12	: DTA123JU
Q8	: DTC143EU
Q9	: 2SJ106(GR)
Q10,18,19,26,28,29	: 2SC4116(Y)
Q13	: 3SK184(S)
Q15	: DTC144WU
Q16	: 2SA1362(Y)
Q17	: 2SB1119(S)
Q21	: 2SK1824
Q22	: 2SK1399
Q23	: UPA502T
Q24	: 2SK879(Y)

IC1	: KCD04
IC2	: KCD05
IC3	: μPC1676G
IC4	: BU4066BCF or XRU4066BCF
IC5,8	: BU4094BCF or XRU4094BCF
IC6	: LA4445
IC7	: BU4053BCF or XRU4053BCF
IC9	: *
IC10	: KCB11
IC11	: LA5010M
IC12	: TC4S66F or BU4S66F
IC502	: S-AV17
D1~5,17	: MA360
D6,10	: DAN235K
D7	: DTZ5.6(A)
D8,11,20	: DAN202U
D9,15,16	: 1SS226
D12	: 1SS181
D13	: MI407
D14	: MI308
D18,19	: MA110

ADJUSTMENT

Receiver Section

Item	Condition	Measurement			Adjustment			Specifications/Remarks
		Test-equipment	Unit	Terminal	Unit	Parts	Method	
1. Sensitivity	1) V band **E,E3,E9** FREQ. : 144.040MHz FREQ. : 145.040MHz FREQ. : 145.940MHz **K,K2,P,M2,M3,M4** FREQ. : 144.040MHz FREQ. : 145.940MHz FREQ. : 147.940MHz SSG : −122dBm (0.18μV)	Distortion meter Oscilloscope AF V.M	Rear panel	EXT. SP			Check	SINAD 12dB or more.
	2) U band **M2,M3,M4,E,E3,E9** FREQ. : 430.040MHz FREQ. : 435.040MHz FREQ. : 439.940MHz **K.K2.P** FREQ. : 438.040MHz FREQ. : 445.040MHz FREQ. : 449.940MHz SSG : −122dBm (0.18μV)							SINAD 12dB or more.
	3) Display control unit LED lighting on V2 (V x V) or U2 (U x U) with F key, CONT SEL key. After check, return to the original state with F key, CONT SEL key. Switching the LED lit side with SEL key, set a band for confirmation with F key, CONT SEL key, once again. V2 band FREQ. : 145.040MHz SSG : −118dBm (0.28μV)							SINAD 12dB or more.
	4) U2 band FREQ. : 435.040MHz **M2,M3,M4,E,E3,E9** FREQ. : 445.040MHz **K,K2,P** SSG : −118dBm (0.28μV)							SINAD 12dB or more.
2. High level input S/N	1) V band FREQ. : 145.040MHz **E,E3,E9** FREQ. : 145.940MHz **K,K2,P,M2,M3,M4** SSG : −53dBm (500μV) AF output : 2.83V/8Ω	Oscilloscope AF V.M SSG	Rear panel	EXT. SP			Check	S/N 44dB or more.
	2) U band FREQ. : 435.040MHz **M2,M3,M4,E,E3,E9** FREQ. : 445.040MHz **K,K2,P** SSG : −53dBm (500μV) AF output : 2.83V/8Ω							S/N 42dB or more.

ADJUSTMENT

Item	Condition	Measurement			Adjustment			Specifications/Remarks
		Test-equipment	Unit	Terminal	Unit	Parts	Method	
3. Distortion	1) V band FREQ. : 145.040MHz **E,E3,E9** FREQ. : 145.940MHz **K,K2,P,M2,M3,M4** SSG : −73dBm (50μV) AF output : 4V/8Ω	Distortion meter Oscilloscope AF V.M SSG	Rear panel	EXT. SP			Check	5% or less.
	2) U band FREQ. : 435.040MHz **M2,M3,M4,E,E3,E9** FREQ. : 445.040MHz **K,K2,P** SSG : −73dBm (50μV) AF output : 4V/8Ω							5% or less.
4. S-meter	1) V band FREQ. : 145.040MHz **E,E3,E9** FREQ. : 145.940MHz **K,K2,P,M2,M3,M4** SSG : −96dBm (3.5μV)	SSG	Rear panel	ANT	TX-RX (A/4)	VR1	Set the SSG output to the point where the S-meter puts out lights by 1 dots from full lighting.	
	2) U band FREQ. : 435.040MHz **M2,M3,M4,E,E3,E9** FREQ. : 445.040MHz**K,K2,P** SSG : −96dBm (3.5μV)				TX-RX (B/4)	VR201		
	3) V,U band FREQ. : In the above SSG : −94dBm (4.5μV)						Check	S-meter full lighting.
	4) SSG : OFF							S-meter lights out.
5. Squelch	1) V band FREQ. : 145.040MHz **E,E3,E9** FREQ. : 145.940MHz **K,K2,P,M2,M3,M4** SSG : OFF Turning the squelch knob, set it to a point where noise disappears.	Oscilloscope SSG	Rear panel	EXT. SP			Check	Squelch knob position 8 : 00 ~11 : 00 BUSY lights off.
	2) SSG : −127dBm (0.1μV)							Squelch open. BUSY lights on.
	3) SQL knob : Clockwise MAX							AF output disappear. BUSY lights off.
	4) SSG : −110dBm (0.7μV)							Squelch open. Note : If not squelch opened, must be open for 12dB SINAD +20dBm or less.
	5) U band FREQ. : 435.040MHz **M2,M3,M4,E,E3,E9** FREQ. : 445.040MHz **K,K2,P** SSG : OFF Turning the squelch knob, set it to a point where noise disappears.						Check	Squelch knob position 8 : 00 ~11 : 00 BUSY lights off.
	6) SSG : −127dBm (0.1μV)							Squelch open. BUSY lights on.
	7) SQL knob : Clockwise MAX							AF output disappear. BUSY lights off.
	8) SSG : −110dBm (0.7μV)							Squelch open. Note : If not squelch opened, must be open for 12dB SINAD +20dBm or less.

ADJUSTMENT

Transmission Section

Item	Condition	Measurement			Adjustment			Specifications/Remarks
		Test-equipment	Unit	Terminal	Unit	Parts	Method	
1. Transmission frequency	1) U band FREQ. : 435.000MHz **M2,M3,M4,E,E3,E9** FREQ. : 445.000MHz **K,K2,P**	f. counter Dummy	Rear panel	ANT	TX-RX (A/4)	TC1	435.000MHz **M2, M3,M4,E,E3,E9** 445.000MHz **K,K2,P**	Not warm up the set. (f + 1000Hz) ± 100Hz
2-1. POWER VHF band	1) FREQ. : 144.980MHz **E,E3,E9** FREQ. : 145.980MHz **K,K2,P,M2,M3,M4**. Transmission.	Power meter Ammeter	Rear panel	ANT	TX-RX (A/4)	VR3, 4	Clockwise MAX	52W or more.
	2) POWER : HI Transmission.					VR3	49W	±1W 11.5A or less.
	3) POWER : MID Transmission.					VR4	12W	±1W
	4) POWER : LOW Transmission.						Check	3.0~8.0W
	5) **E,E3,E9** FREQ. : 144.000MHz FREQ. : 145.980MHz **K,K2,P,M2,M3,M4** FREQ. : 144.000MHz FREQ. : 147.980MHz POWER : HI Transmission							46~59W 11.5A or less.
	6) POWER : MID Transmission.							10~14W
	7) POWER : LOW Transmission.							3.0~8.0W
	8) POWER : HI **M2,M3,M4** FREQ : 136.000MHz FREQ : 173.980MHz Transmisson							Power appear.
2-2. POWER UHF band	1) U band FREQ. : 435.000MHz **M2,M3,M4,E,E3,E9** FREQ. : 445.000MHz **K,K2,P** Transmission.				TX-RX (B/4)	VR203 VR204	Clockwise MAX	33.0W or more
	2) POWER : HI Transmission.					VR203	34W	±1W
	3) POWER : MID Transmission.					VR204	12W	±1W
	4) POWER : LOW Transmission.						Check	3.0~8.0W
	5) **M2,M3,M4,E,E3,E9** FREQ. : 430.000MHz FREQ. : 439.980MHz **K.K2.P** FREQ. : 449.980MHz FREQ. : 438.080MHz POWER : HI Transmission.							28~42W 10A or less.
	6) POWER : MID Transmission.							10~14W
	7) POWER : LOW Transmission.							3.0~8.0W

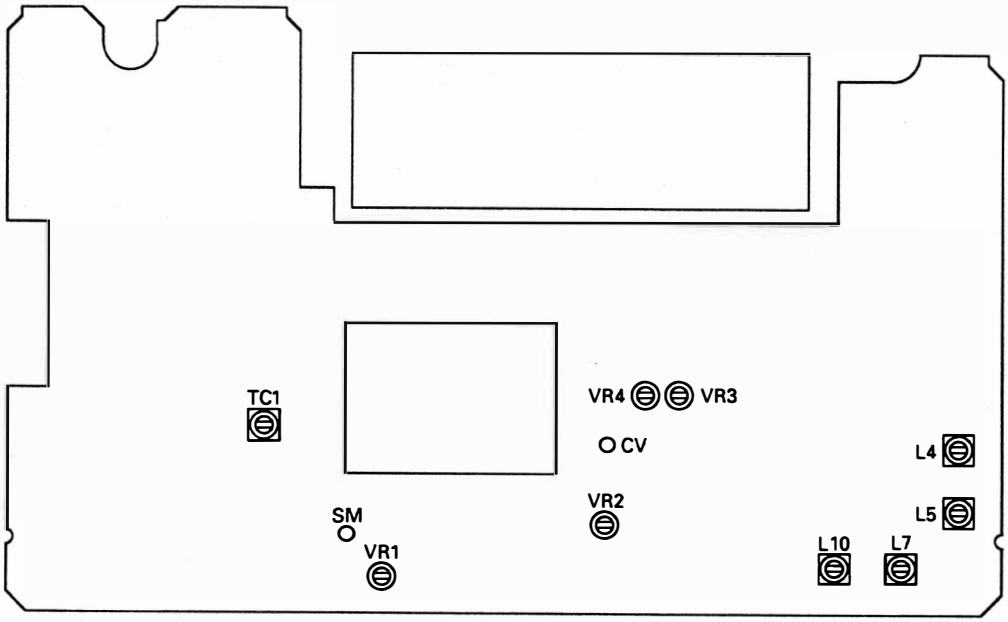
ADJUSTMENT

Item	Condition	Measurement			Adjustment			Specifications/Remarks
		Test-equipment	Unit	Terminal	Unit	Parts	Method	
3. DEV	1) V band FREQ. : 144.980MHz **E,E3,E9** FREQ. : 145.980MHz **K,K2,P,M2,M3,M4** AG : 1kHz/25mV **E,E3,E9** AG : 1kHz/50mV **K,K2,P,M2,M3,M4** Transmission	Linear detector Oscilloscope AG	Rear panel	ANT	TX-RX (A/4)	VR2	±4.3kHz (+, – with a larger value)	±100Hz
	2) Down AG output from the above state by 20dB. (1kHz/2.5mV or 5.0mV) Transmission.						Check	±3.0kHz +0.9kHz −0.4kHz
	3) U band FREQ. : 435.000MHz **M2,M3,M4,E,E3,E9** FREQ. : 445.000MHz **K,K2,P** AG : 1kHz/25mV **E,E3,E9** AG : 1kHz/50mV **K,K2,P,M2,M3,M4** Transmission.				TX-RX (B/4)	VR202	±4.3kHz (+, – with a larger value)	±100Hz
	4) Down AG output from the above state by 20dB. (1kHz/2.5mV or 5.0mV) Transmission.						Check	±3.0kHz +0.9kHz −0.4kHz
4. TONE	1) V band TONE key : ON Transmission. After checked TONE key : OFF	Linear detector Oscilloscope	Rear panel	ANT			Check	±0.5~1.5kHz
	2) U band TONE key : ON Transmission. After checked TONE key : OFF							±0.5~1.5kHz
5. Protection	1) V band FREQ. : 145.980MHz **E,E3,E9** FREQ. : 147.980MHz **K,K2,P,M2,M3,M4** ANT : OPEN Transmission.	Ammeter					Check	12.0A or less.
	2) U band FREQ. : 439.980MHz **M2,M3,M4,E,E3,E9** FREQ. : 449.980MHz **K,K2,P** ANT : OPEN Transmission.							10A or less.

ADJUSTMENT

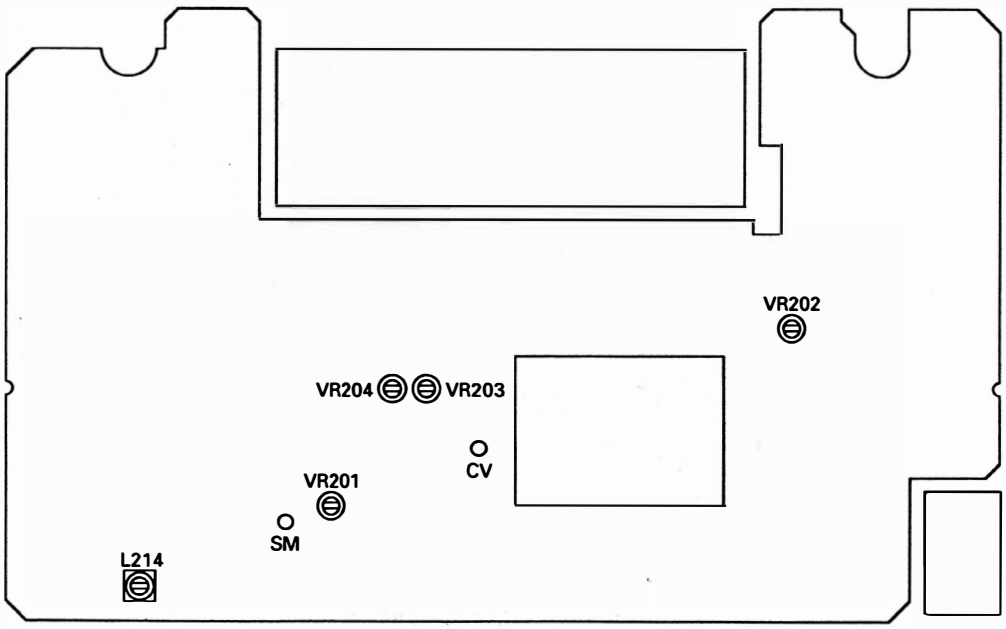
Adjustment Points

•TX-RX UNIT (A/4)
Upper side



UHF TC1 : Transmission frequency
VHF
- L4,L5,L7,L10 : BPF
- VR1 : S-meter
- VR2 : DEV
- VR3 : POWER (HI)
- VR4 : POWER (MD)

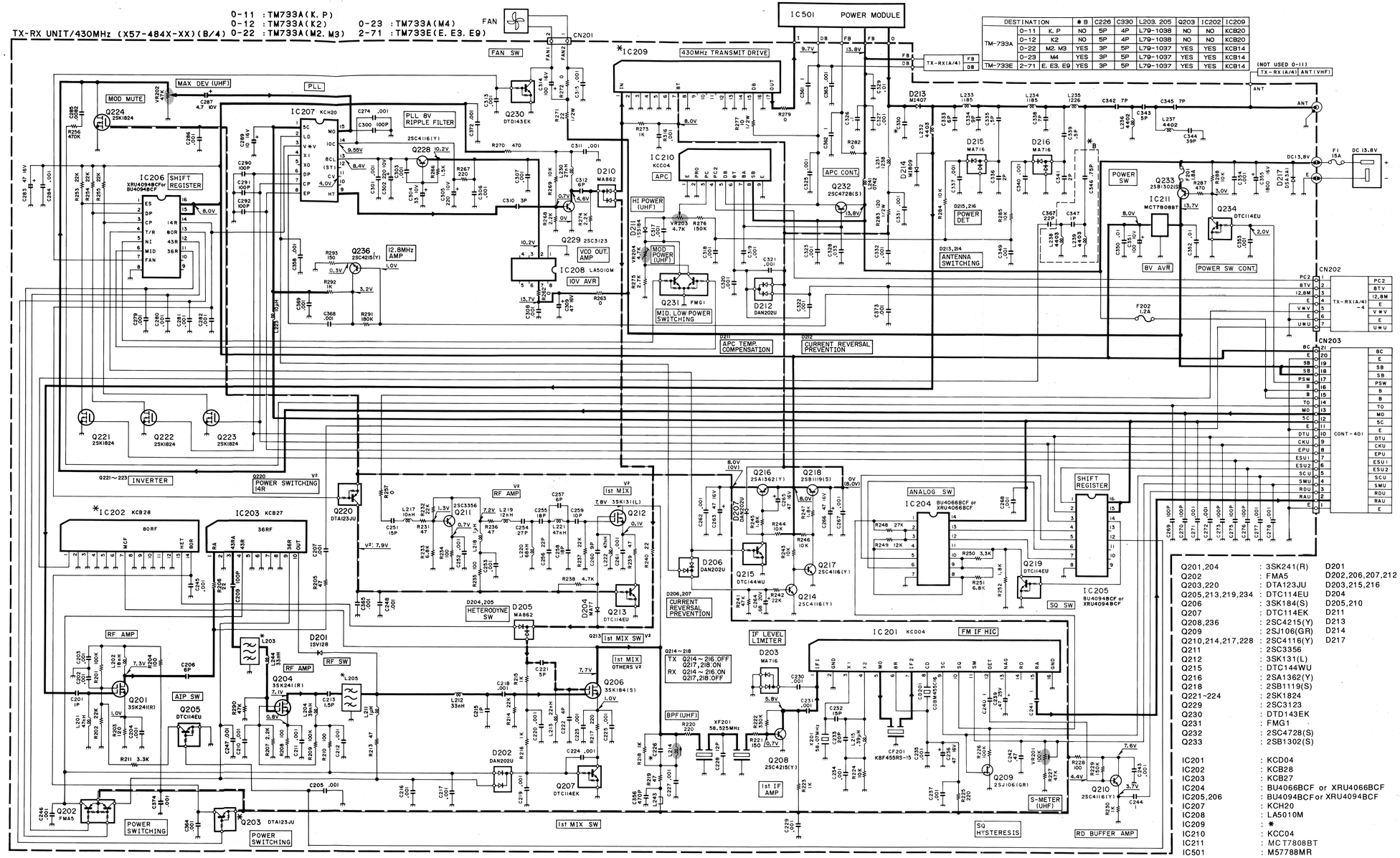
•TX-RX UNIT (B/4)
Lower side



UHF
- L214 : BPF
- VR201 : S-meter
- VR202 : DEV
- VR203 : POWER (HI)
- VR204 : POWER (MID)

0-11 : TM733A(K. P)
0-12 : TM733A(K2)
0-22 : TM733A(M2. M3)
0-23 : TM733A(M4)
2-71 : TM733E(E. E3. E9)

TX-RX UNIT/430MHz (X57-484X-XX)(B/4)



DESTINATION		* B	C226	C330	L203. 205	Q203	IC202	IC209
TM-733A	0-11 K. P	NO	5P	4P	L79-1038	NO	NO	KCB20
	0-12 K2	NO	5P	4P	L79-1038	NO	NO	KCB20
	0-22 M2. M3	YES	3P	5P	L79-1037	YES	YES	KCB14
	0-23 M4	YES	3P	5P	L79-1037	YES	YES	KCB14
TM-733E	2-71 E. E3. E9	YES	3P	5P	L79-1037	YES	YES	KCB14

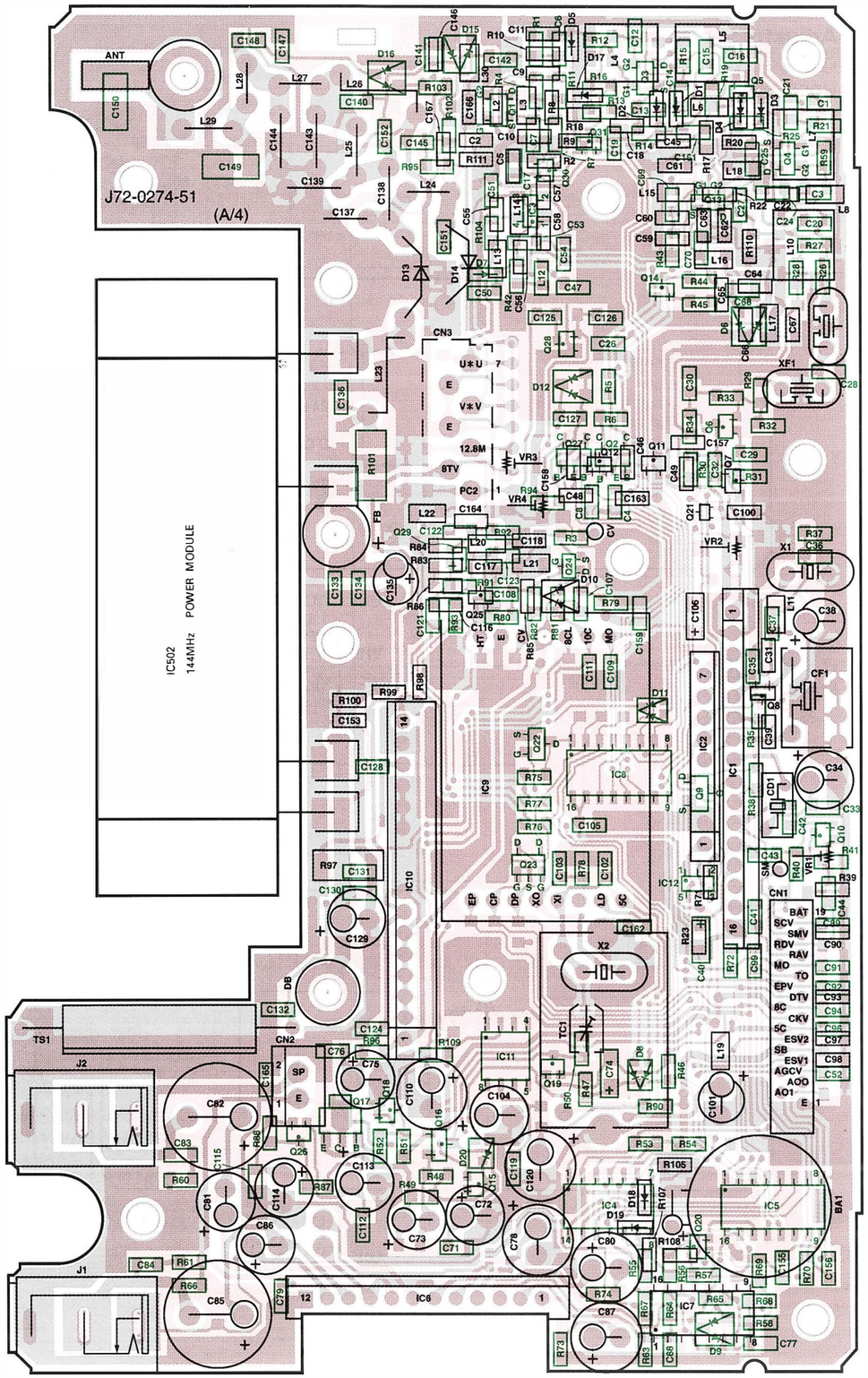
(NOT USED 0-11)

Q201,204	: 3SK241(R)
Q202	: FMA5
Q203,220	: DTA123JU
Q205,213,219,234	: DTC114EU
Q206	: 3SK184(S)
Q207	: DTC114EK
Q208,236	: 2SC4215(Y)
Q209	: 2SJ106(GR)
Q210,214,217,228	: 2SC4116(Y)
Q211	: 2SC3356
Q212	: 3SK131(L)
Q215	: DTC144WU
Q216	: 2SA1362(Y)
Q218	: 2SB1119(S)
Q221~224	: 2SK1824
Q229	: 2SC3123
Q230	: DTD143EK
Q231	: FMG1
Q232	: 2SC4728(S)
Q233	: 2SB1302(S)
IC201	: KCD04
IC202	: KCB28
IC203	: KCB27
IC204	: BU4066BCF or XRU4066BCF
IC205,206	: BU4094BCFor XRU4094BCF
IC207	: KCH20
IC208	: LA5010M
IC209	: *
IC210	: KCC04
IC211	: MCT7808BT
IC501	: M57788MR

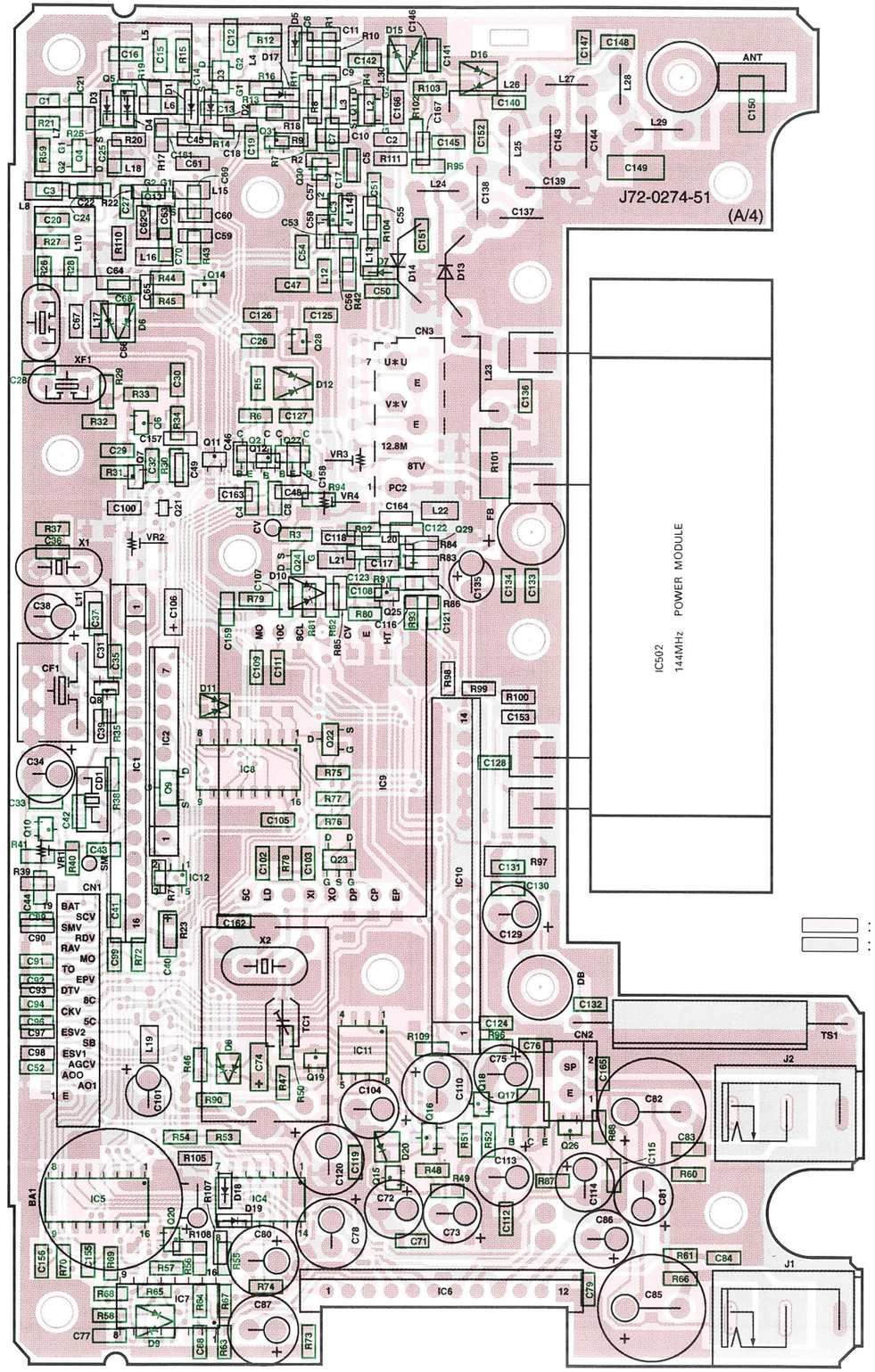
D201	: 1SV128
D202,206,207,212	: DAN202U
D203,215,216	: MA716
D204	: MA77
D205,210	: MA862
D211	: 1SS184
D213	: MI407
D214	: MI809
D217	: DSA3A1

TM-733A/E PC BOARD VIEWS

TX-RX UNIT (X57-484X-XX) (A/4) Component side view 0-11 : K,P 0-22 : M2,M3 0-23 : M4 2-71 : E,E3,E9

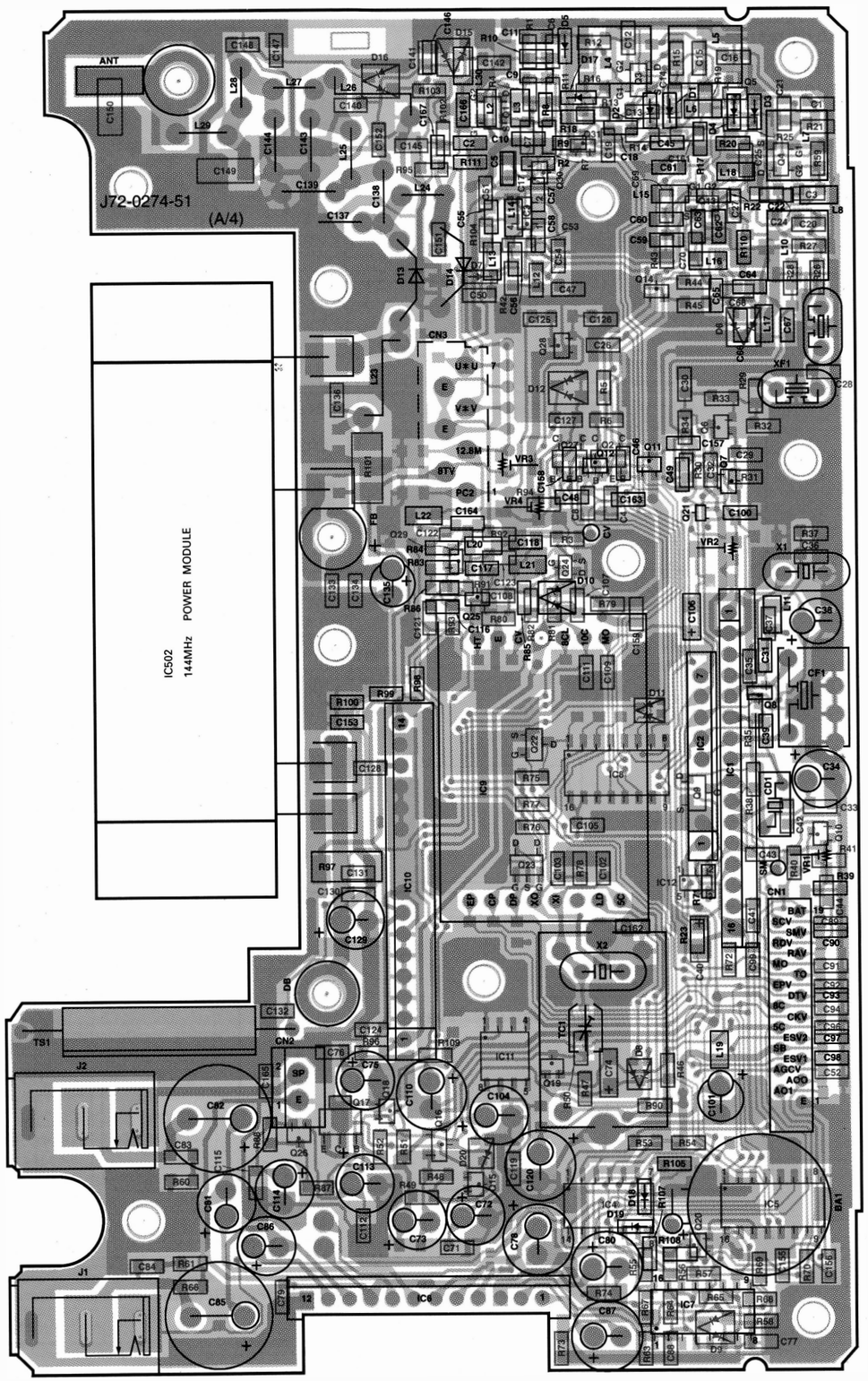


TX-RX UNIT (X57-484X-XX) (A/4) Foil side view 0-11 : K,P 0-22 : M2,M3 0-23 : M4 2-71 : E,E3,E9

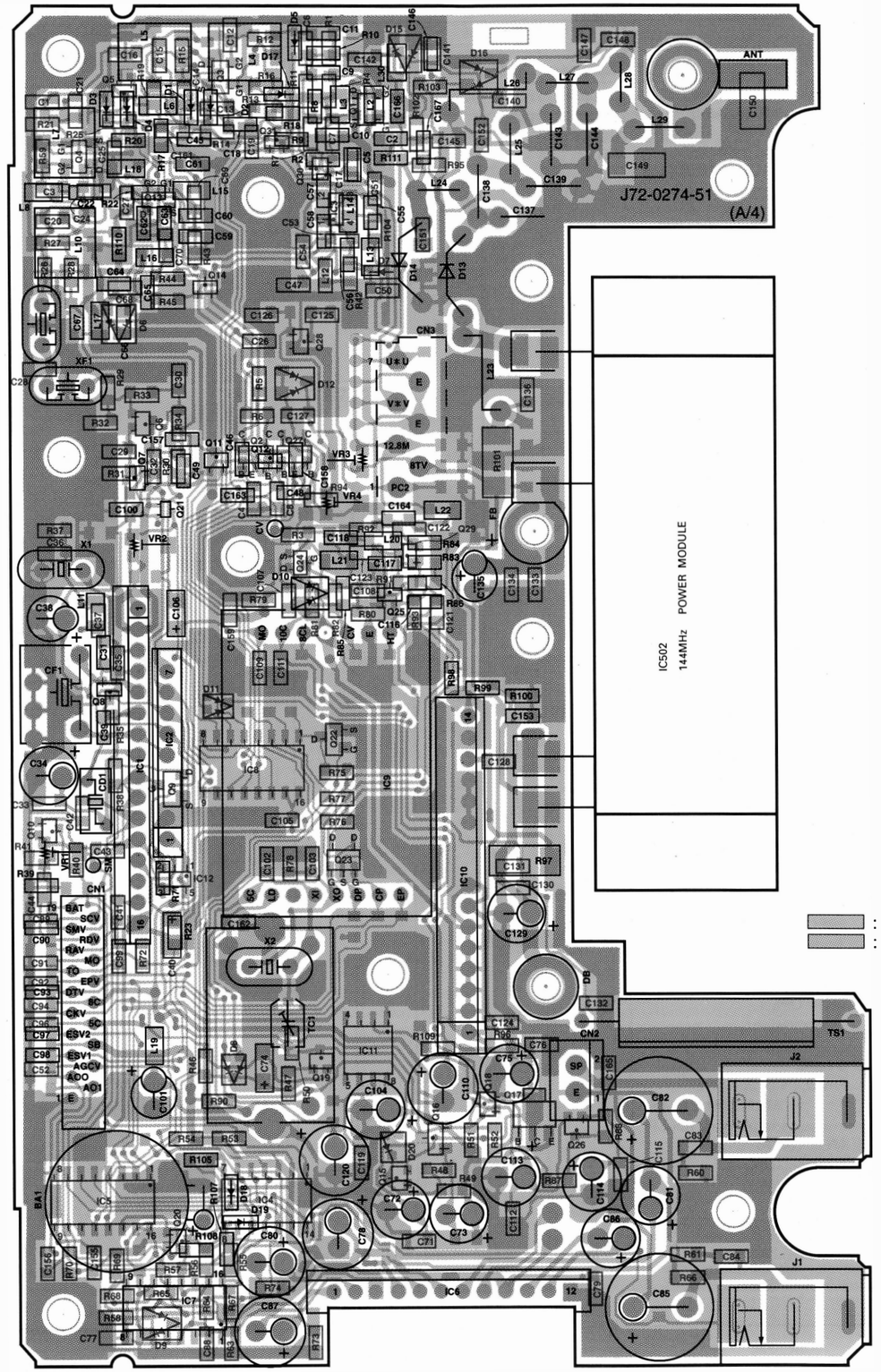


TM-733A/E PC BOARD VIEWS

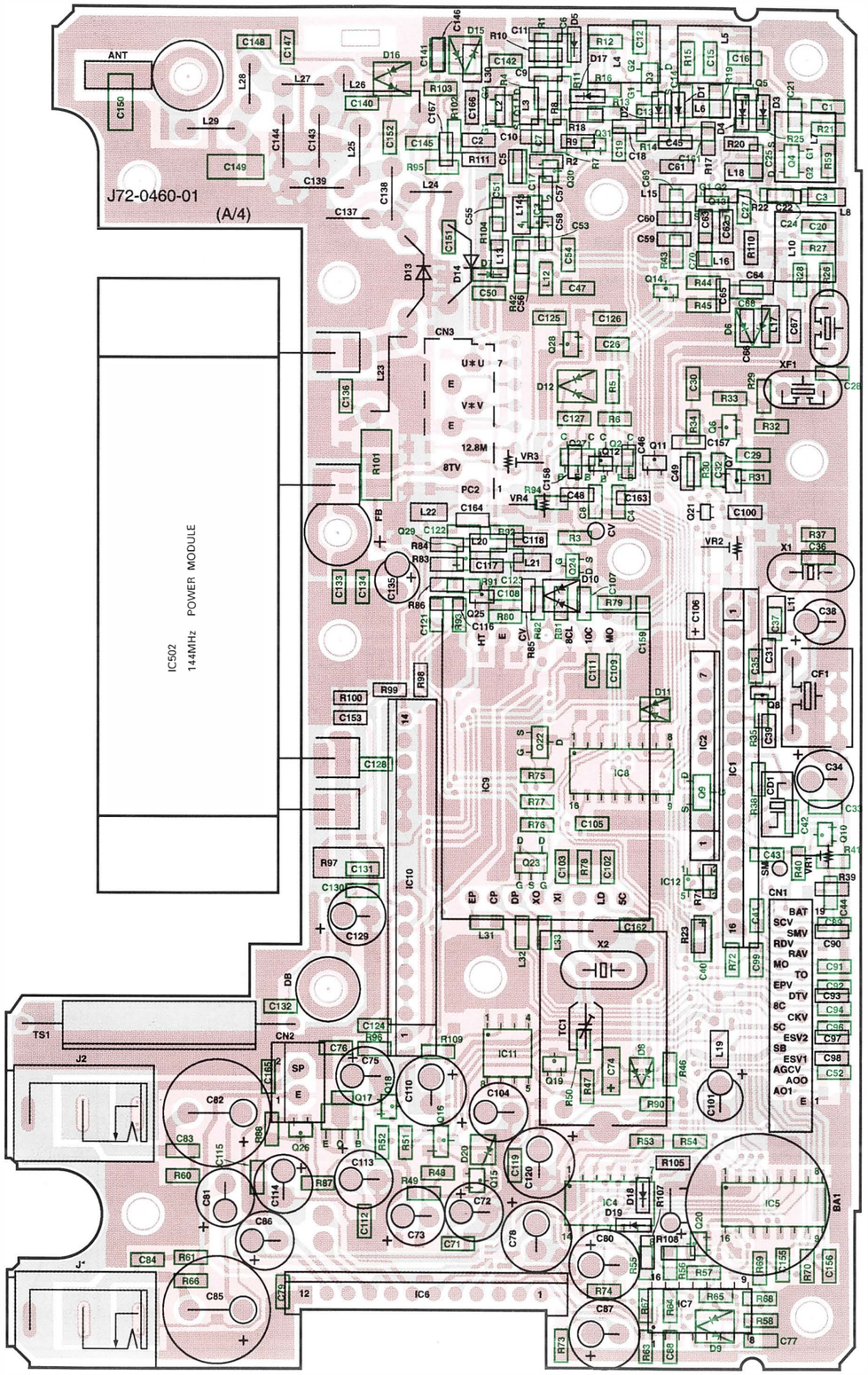
TX-RX UNIT (X57-484X-XX) (A/4) Component side view 0-11 : K,P 0-22 : M2,M3 0-23 : M4 2-71 : E,E3,E9



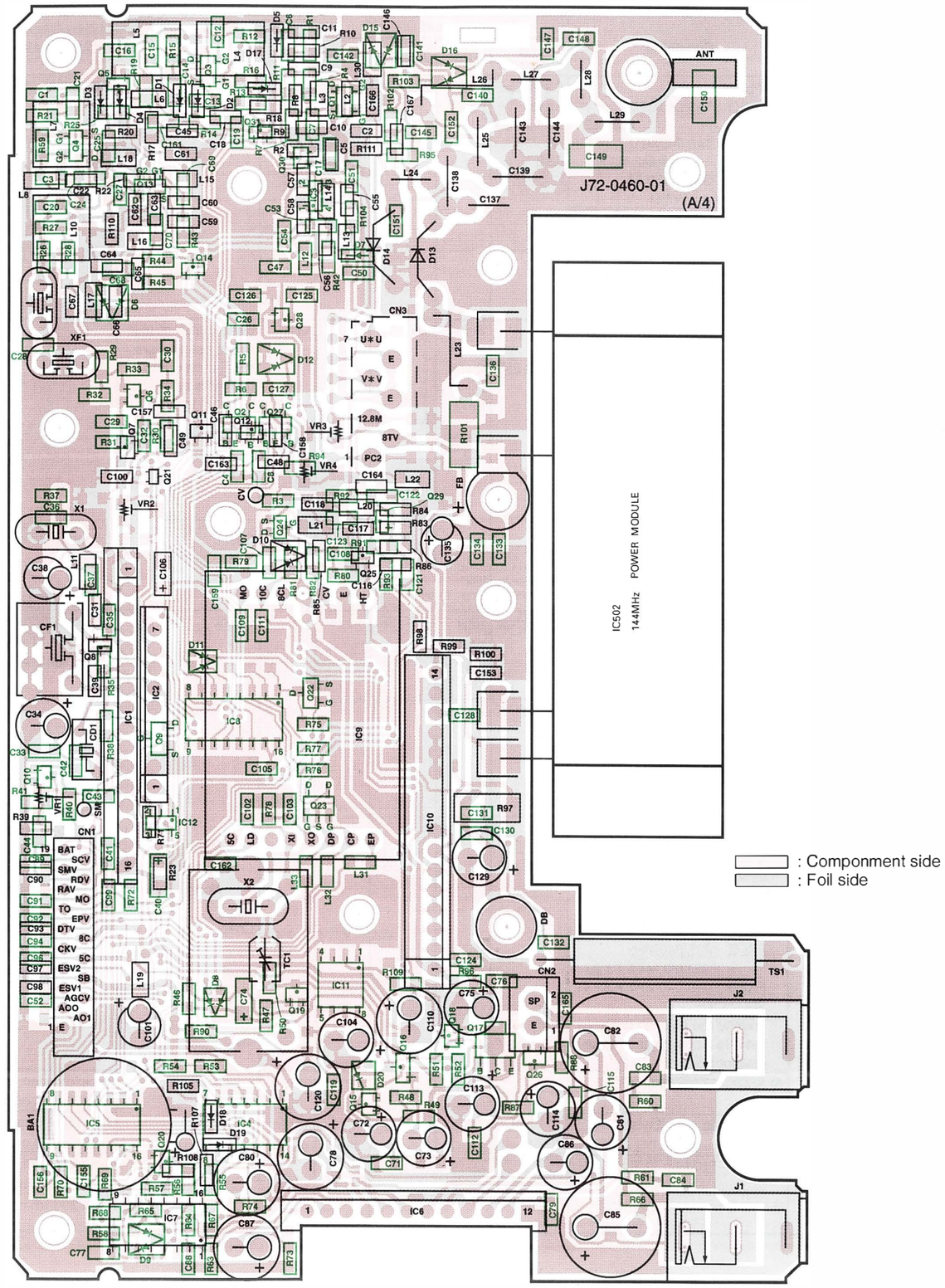
TX-RX UNIT (X57-484X-XX) (A/4) Foil side view 0-11 : K,P 0-22 : M2,M3 0-23 : M4 2-71 : E,E3,E9



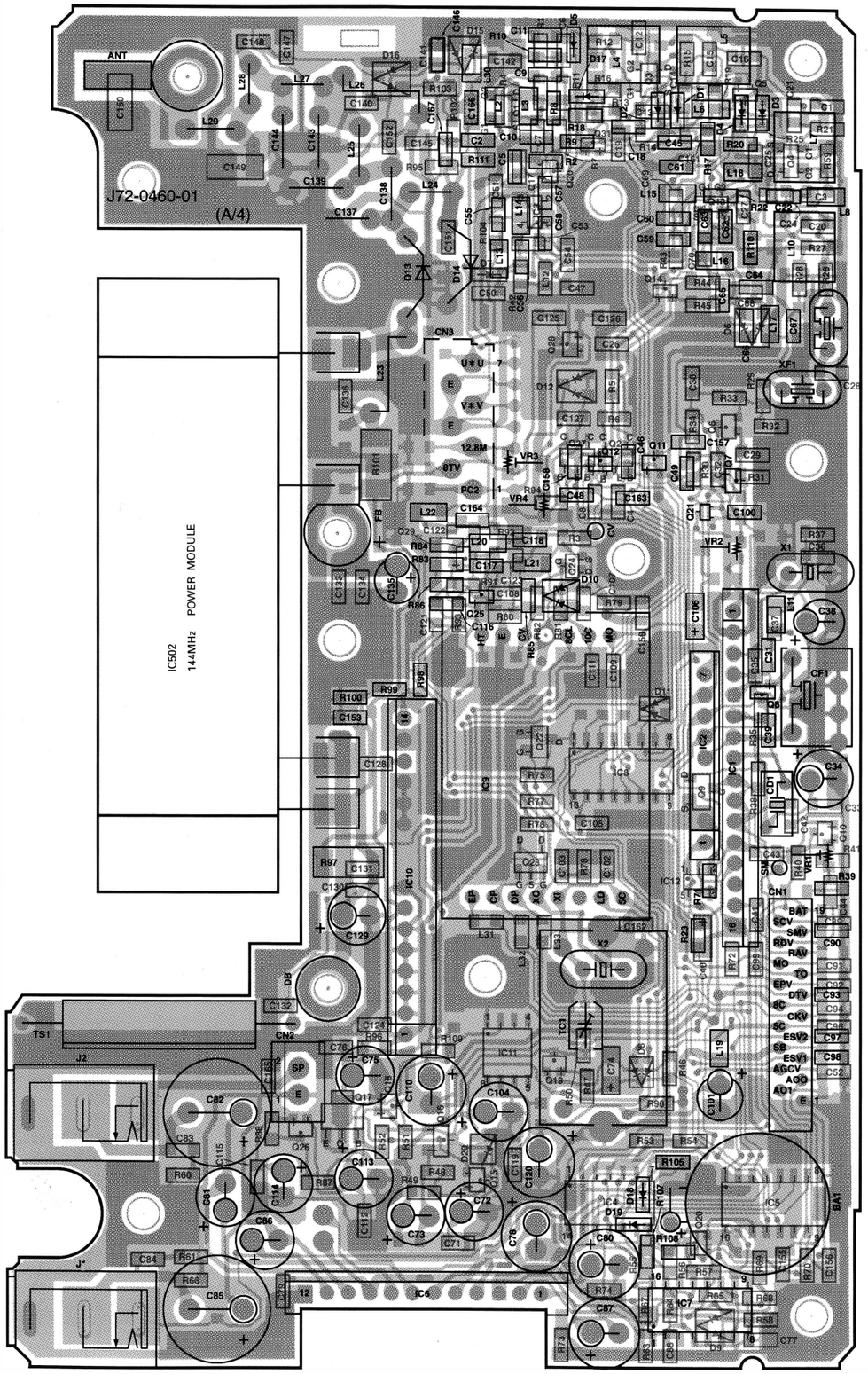
TX-RX UNIT (X57-4842-71) (A/4) Component side view : E,E3,E9



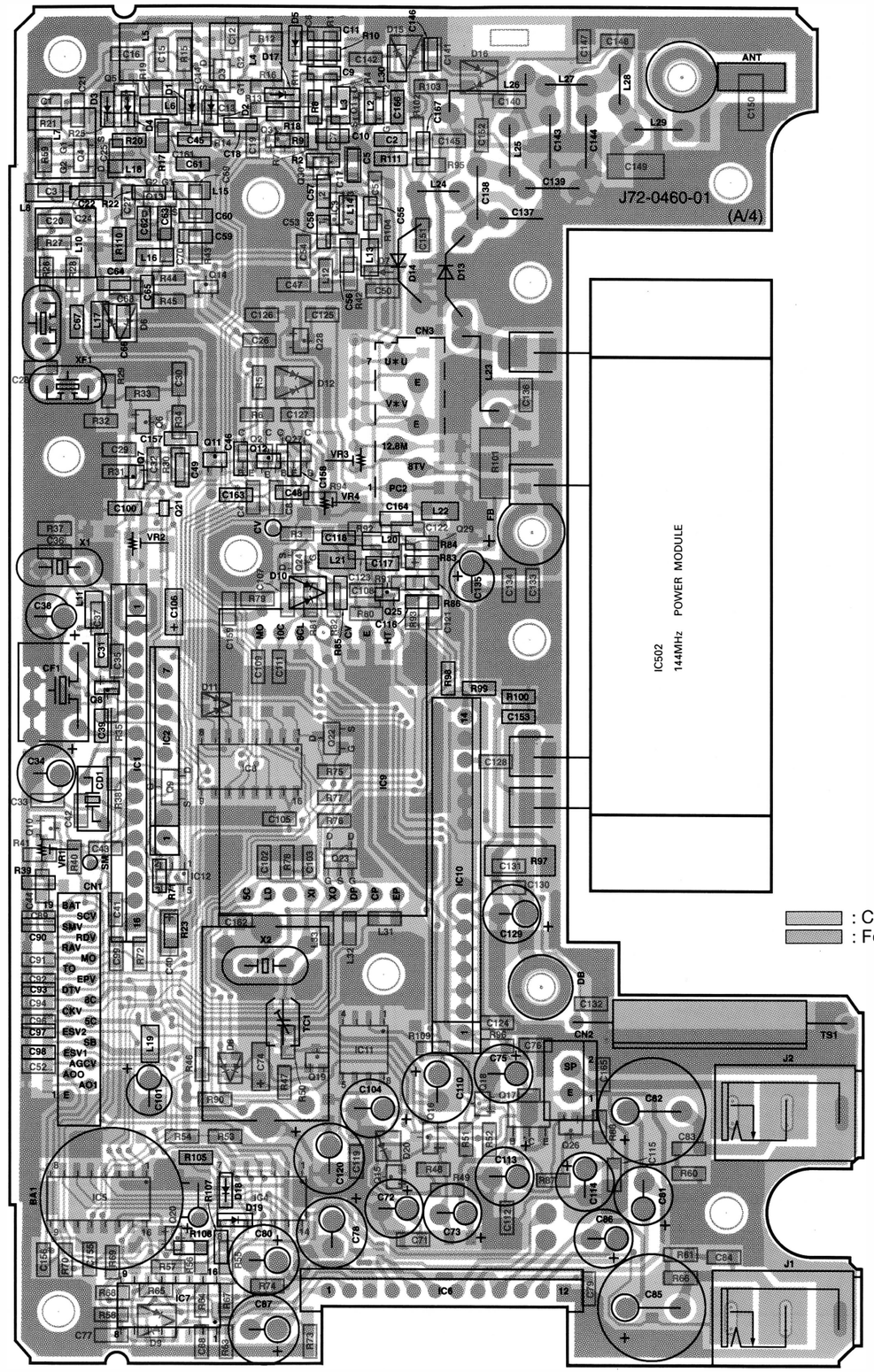
TX-RX UNIT (X57-4842-71) (A/4) Foil side view : E,E3,E9



TX-RX UNIT (X57-4842-71) (A/4) Component side view : E,E3,E9



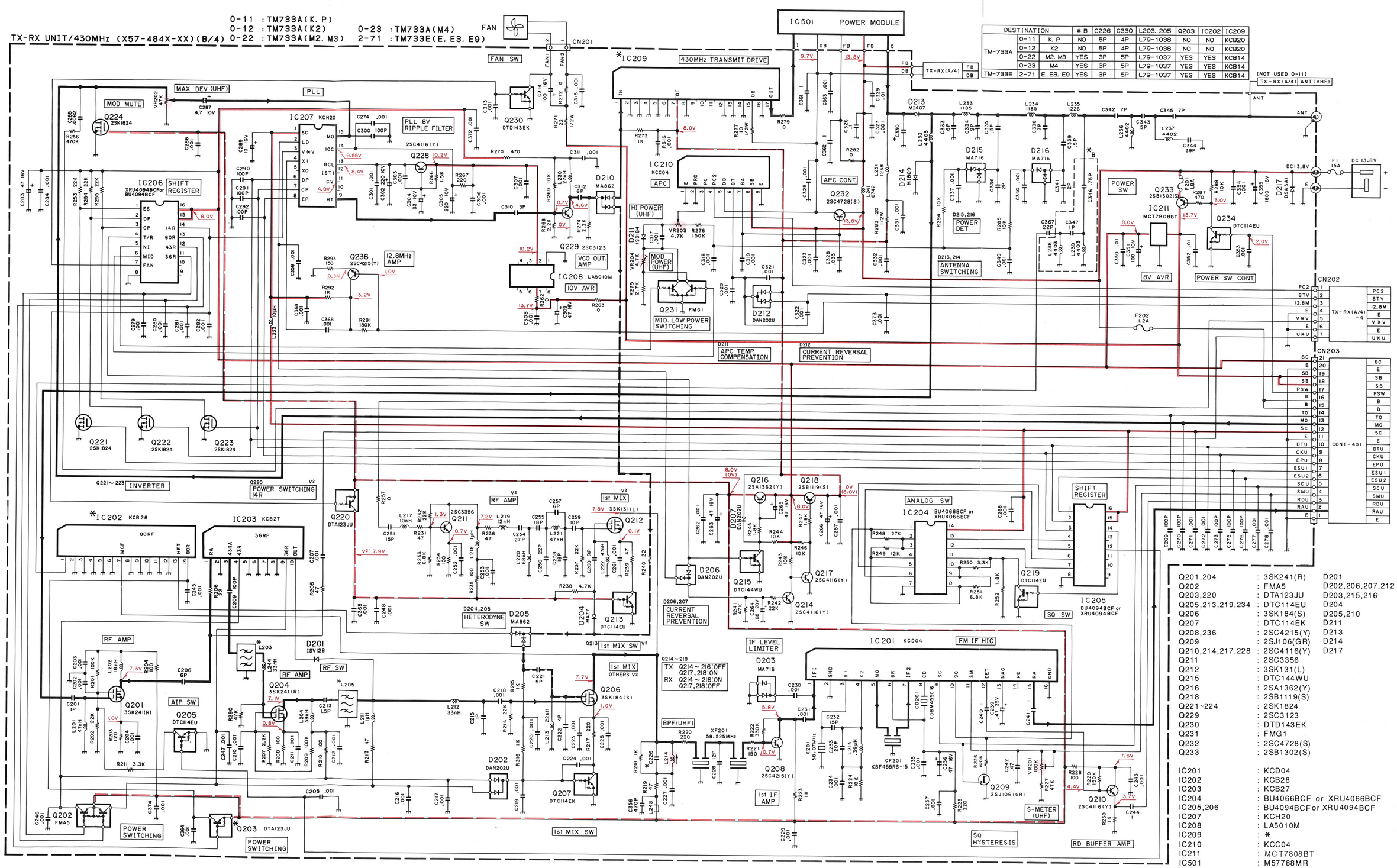
TX-RX UNIT (X57-4842-71) (A/4) Foil side view : E,E3,E9



: Componment side
: Foil side

TX-RX UNIT/430MHz (X57-484X-XX)(B/4)

0-11 : TM733A(K. P)
0-12 : TM733A(K2)
0-22 : TM733A(M2. M3)
0-23 : TM733A(M4)
2-71 : TM733E(E. E3. E9)



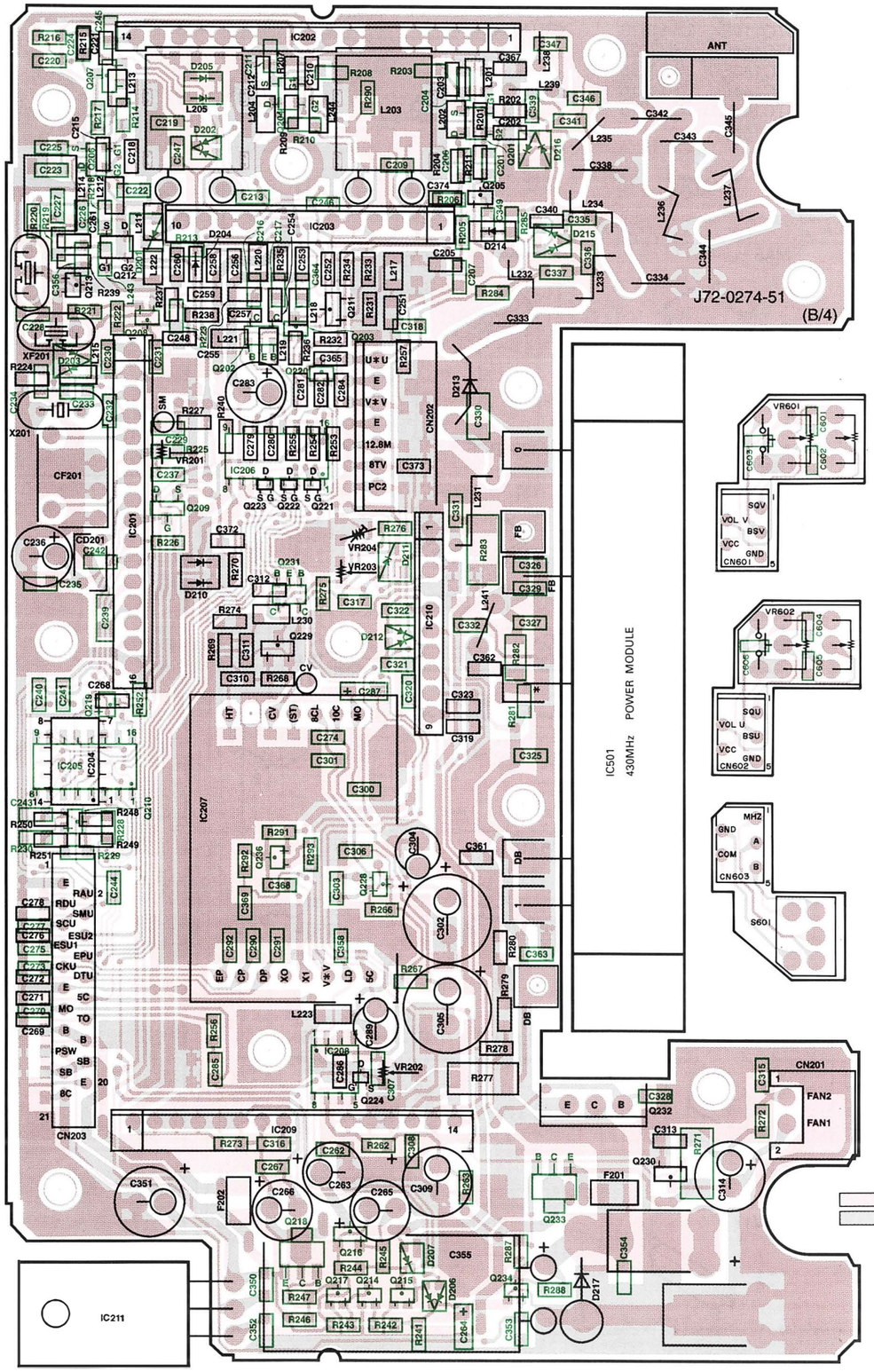
DESTINATION		* B	C226	C330	L203. 205	Q203	IC202	IC209
TM-733A	0-11 K. P	NO	5P	4P	L79-1038	NO	NO	KCB20
	0-12 K2	NO	5P	4P	L79-1038	NO	NO	KCB20
	0-22 M2. M3	YES	3P	5P	L79-1037	YES	YES	KCB14
	0-23 M4	YES	3P	5P	L79-1037	YES	YES	KCB14
TM-733E	2-71 E. E3. E9	YES	3P	5P	L79-1037	YES	YES	KCB14

(NOT USED 0-11)

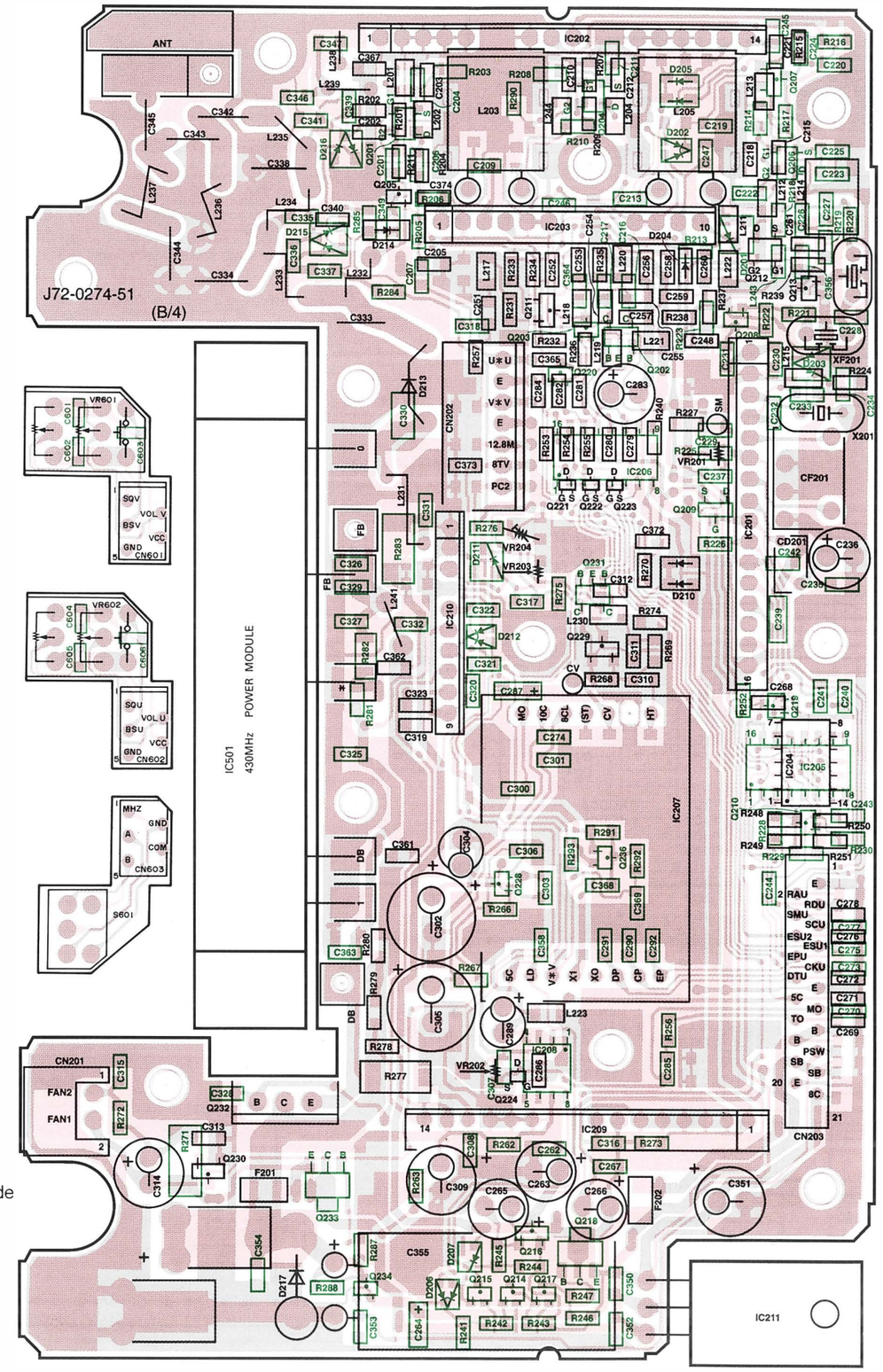
Q201,204	: 3SK241(R)	D201	: 1SV128
Q202	: FMA5	D202,206,207,212	: DAN202U
Q203,220	: DTA123JU	D203,215,216	: MA716
Q205,213,219,234	: DTC114EU	D204	: MA77
Q206	: 3SK184(S)	D205,210	: MA862
Q207	: DTC114EK	D211	: 1SS184
Q208,236	: 2SC4215(Y)	D213	: MI407
Q209	: 2SJ106(GR)	D214	: MI809
Q210,214,217,228	: 2SC4116(Y)	D217	: DSA3A1
Q211	: 2SC3356		
Q212	: 3SK131(L)		
Q215	: DTC144WU		
Q216	: 2SA1362(Y)		
Q218	: 2SB1119(S)		
Q221~224	: 2SK1824		
Q229	: 2SC3123		
Q230	: DTD143EK		
Q231	: FMG1		
Q232	: 2SC4728(S)		
Q233	: 2SB1302(S)		
IC201	: KCD04		
IC202	: KCB28		
IC203	: KCB27		
IC204	: BU4066BCF or XRU4066BCF		
IC205,206	: BU4094BCF or XRU4094BCF		
IC207	: KCH20		
IC208	: LA5010M		
IC209	: *		
IC210	: KCC04		
IC211	: MCT7808BT		
IC501	: M57788MR		

TM-733A/E PC BOARD VIEWS

TX-RX UNIT (X57-484X-XX) (B/4, D/4) Component side view
0-11 : K,P 0-22 : M2,M3 0-23 : M4 2-71 : E,E3,E9

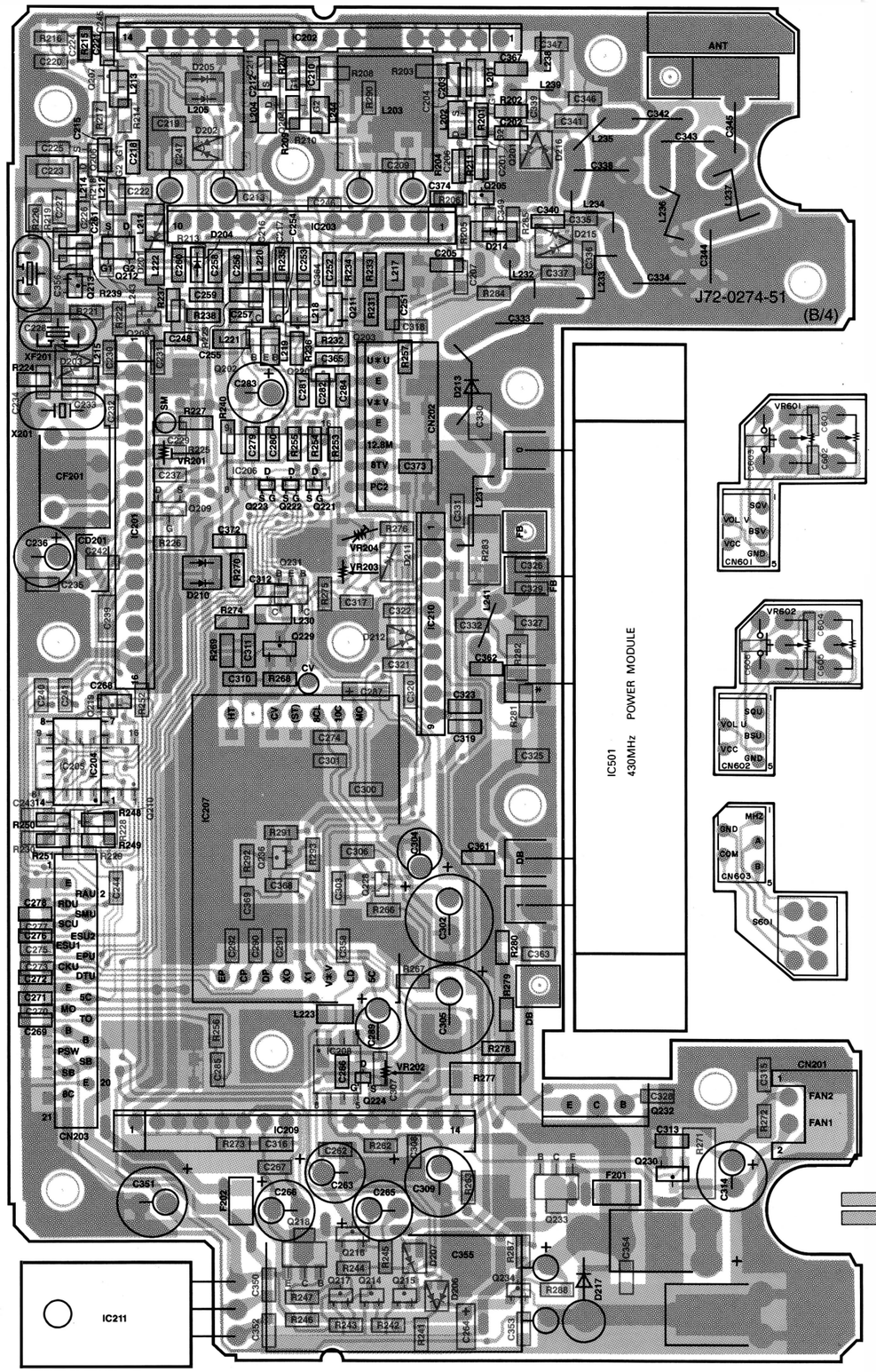


TX-RX UNIT (X57-484X-XX) (B/4, D/4) Foil side view
0-11 : K,P 0-22 : M2,M3 0-23 : M4 2-71 : E,E3,E9

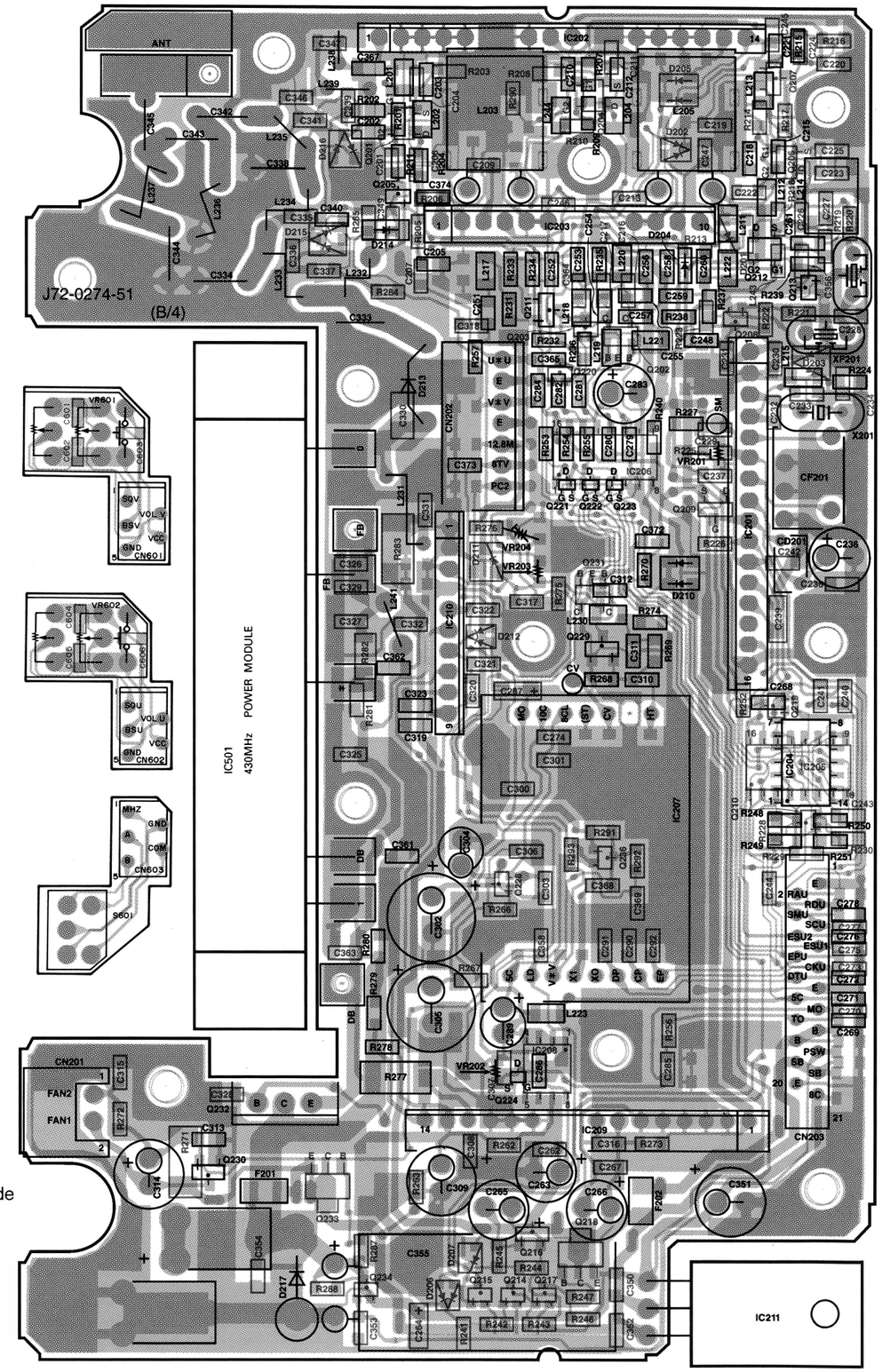


TM-733A/E PC BOARD VIEWS

TX-RX UNIT (X57-484X-XX) (B/4, D/4) Component side view
0-11 : K,P 0-22 : M2,M3 0-23 : M4 2-71 : E,E3,E9

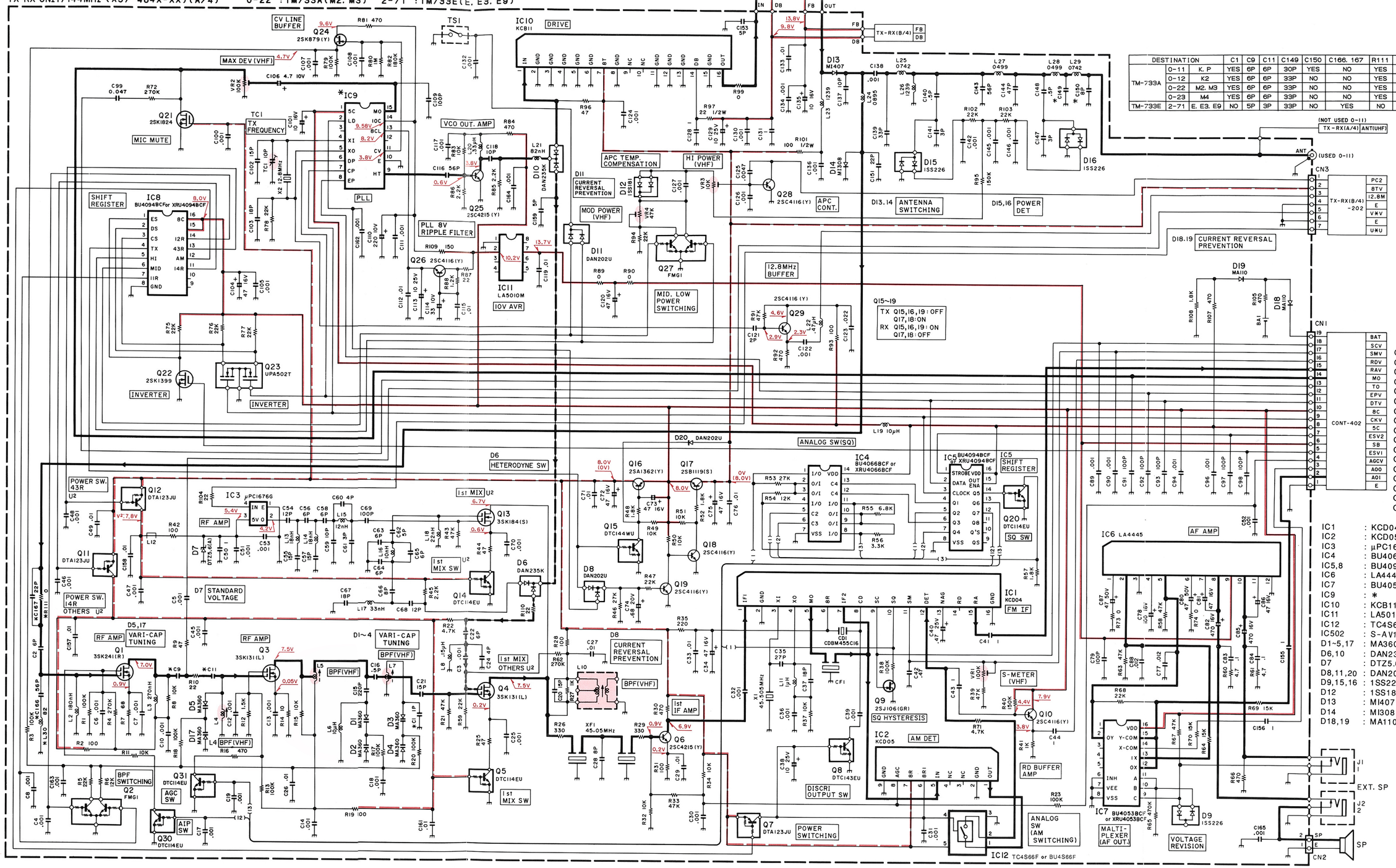


TX-RX UNIT (X57-484X-XX) (B/4, D/4) Foil side view
0-11 : K,P 0-22 : M2,M3 0-23 : M4 2-71 : E,E3,E9



TX-RX UNIT/144MHz (X57-484X-XX)(A/4)

0-11 : TM733A(K. P)
0-12 : TM733A(K2)
0-22 : TM733A(M2. M3)
0-23 : TM733A(M4)
2-71 : TM733E(E. E3. E9)

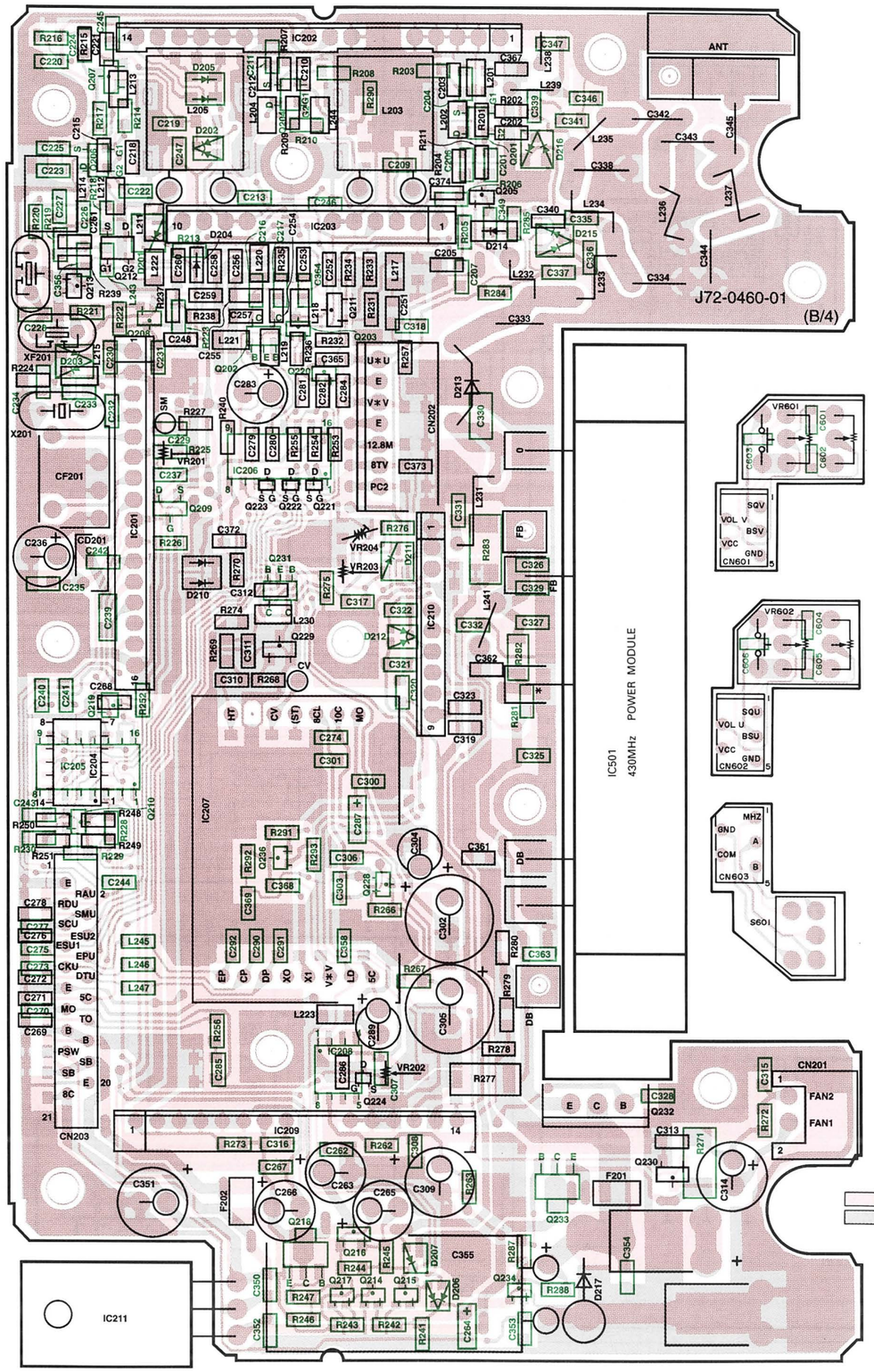


DESTINATION			C1	C9	C11	C149	C150	C166. 167	R111	L30	IC9
TM-733A	0-11	K. P	YES	6P	6P	30P	YES	NO	YES	NO	KCH21
	0-12	K2	YES	6P	6P	33P	NO	NO	YES	NO	KCH21
	0-22	M2. M3	YES	6P	6P	33P	NO	NO	YES	NO	KCH19
	0-23	M4	YES	6P	6P	33P	NO	NO	YES	NO	KCH19
TM-733E	2-71	E. E3. E9	NO	5P	3P	33P	NO	YES	NO	YES	KCH19

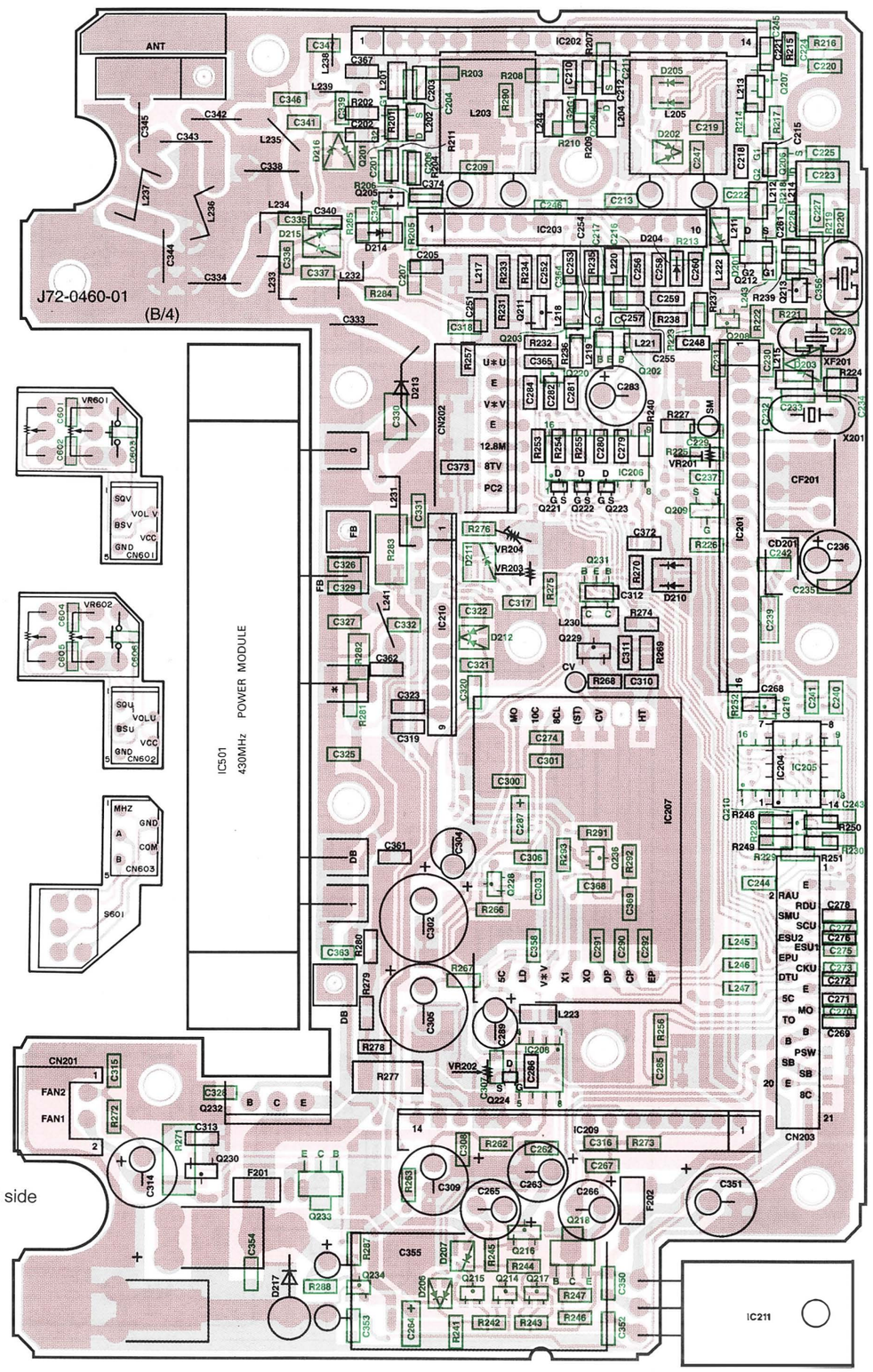
Q1	: 3SK241(R)
Q2,27	: FMG1
Q3,4	: 3SK131(L)
Q5,14,20,30,31	: DTC114EU
Q6,25	: 2SC4215(Y)
Q7,11,12	: DTA123JU
Q8	: DTC143EU
Q9	: 2SJ106(GR)
Q10,18,19,26,28,29	: 2SC4116(Y)
Q13	: 3SK184(S)
Q15	: DTC144WU
Q16	: 2SA1362(Y)
Q17	: 2SB1119(S)
Q21	: 2SK1824
Q22	: 2SK1399
Q23	: UPA502T
Q24	: 2SK879(Y)

IC1	: KCD04
IC2	: KCD05
IC3	: μPC1676G
IC4	: BU4066BCF or XRU4066BCF
IC5,8	: BU4094BCF or XRU4094BCF
IC6	: LA4445
IC7	: BU4053BCF or XRU4053BCF
IC9	: *
IC10	: KCB11
IC11	: LA5010M
IC12	: TC4S66F or BU4S66F
IC502	: S-AV17
D1-5,17	: MA360
D6,10	: DAN235K
D7	: DTZ5.6(A)
D8,11,20	: DAN202U
D9,15,16	: 1SS226
D12	: 1SS181
D13	: MI407
D14	: MI308
D18,19	: MA110

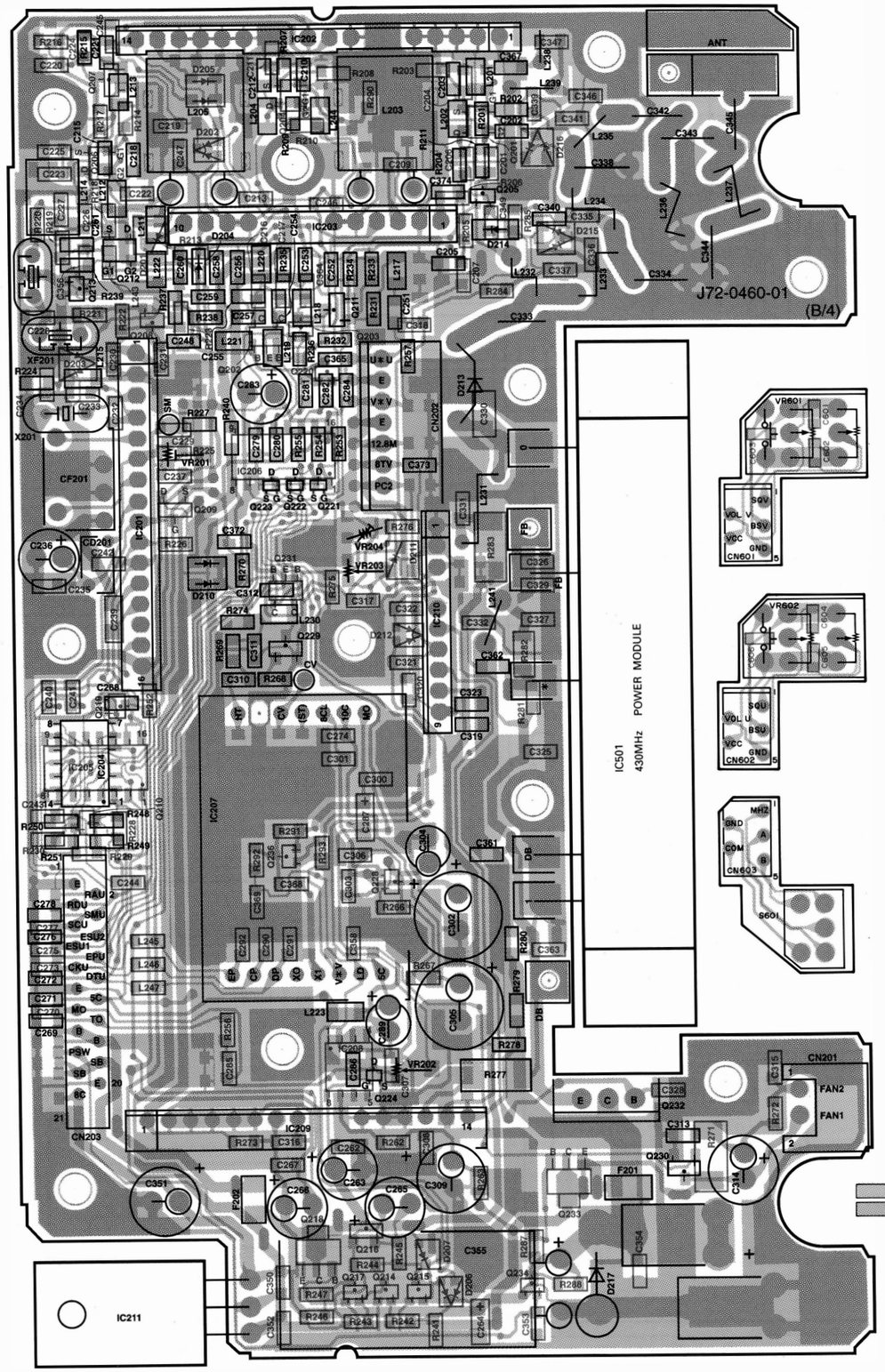
TX-RX UNIT (X57-4842-71) (B/4,D/4) Component side view : E,E3,E9



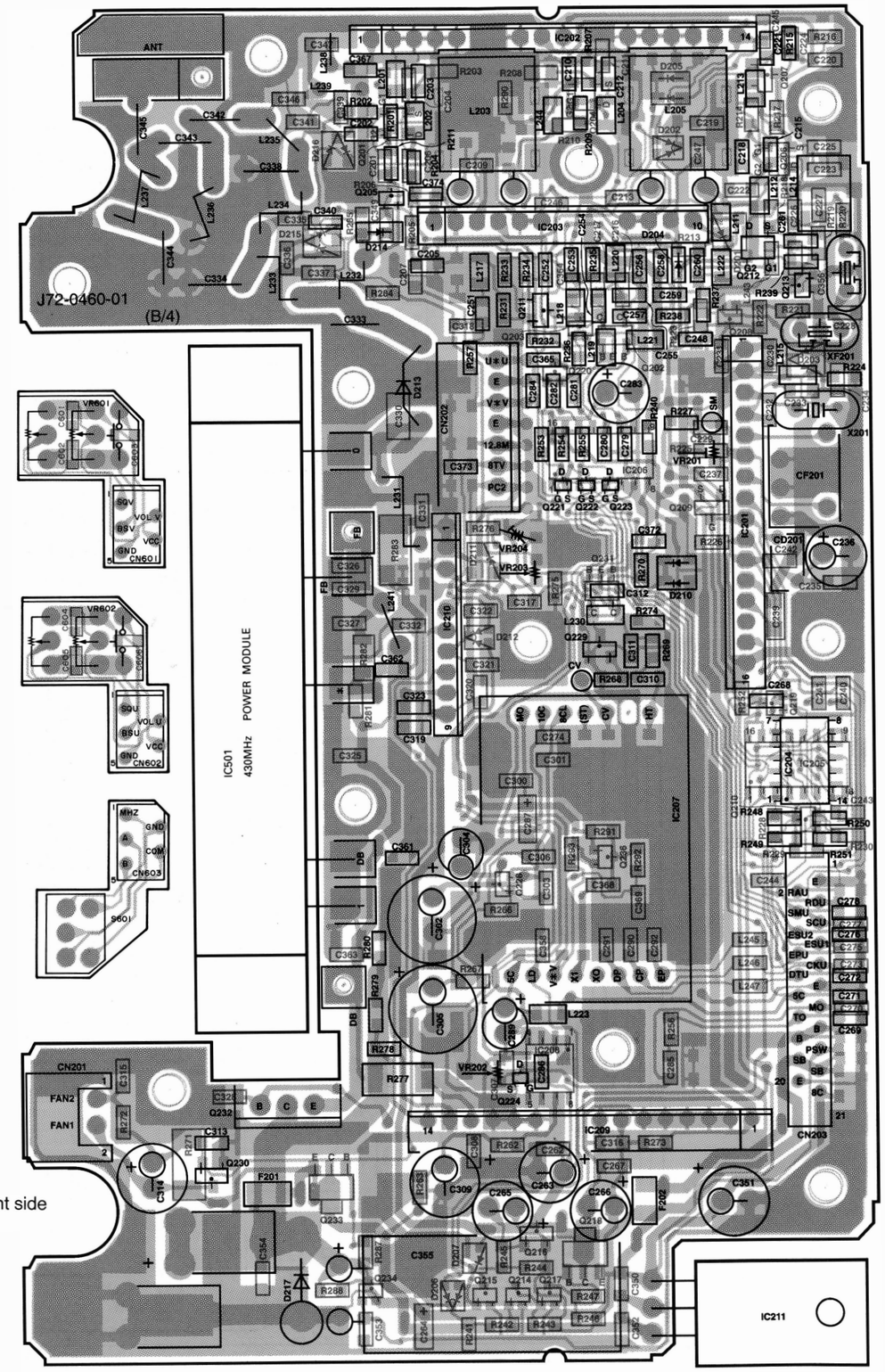
TX-RX UNIT (X57-4842-71) (B/4,D/4) Foil side view : E,E3,E9



TX-RX UNIT (X57-4842-71) (B/4,D/4) Component side view : E,E3,E9



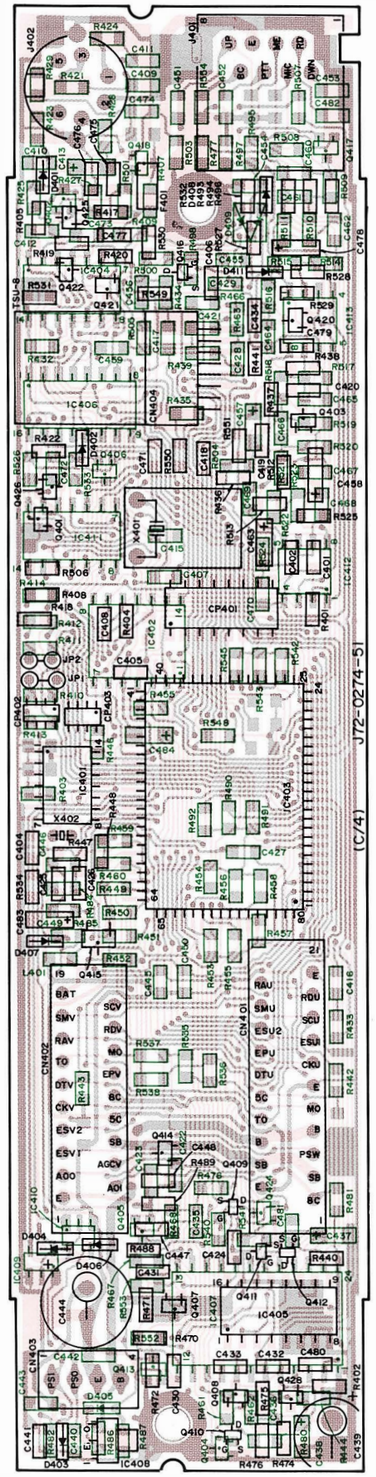
TX-RX UNIT (X57-4842-71) (B/4,D/4) Foil side view : E,E3,E9



TM-733A/E PC BOARD VIEWS

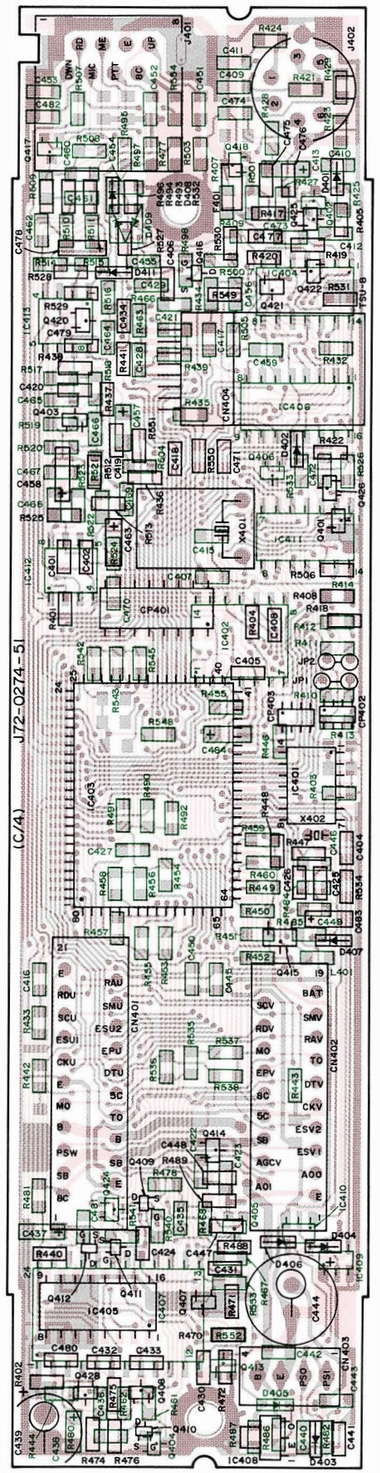
TX-RX UNIT (X57-484X-XX) (C/4)
Component side view

0-11 : K,P 0-22 : M2,M3 0-23 : M4 2-71 : E,E3,E9



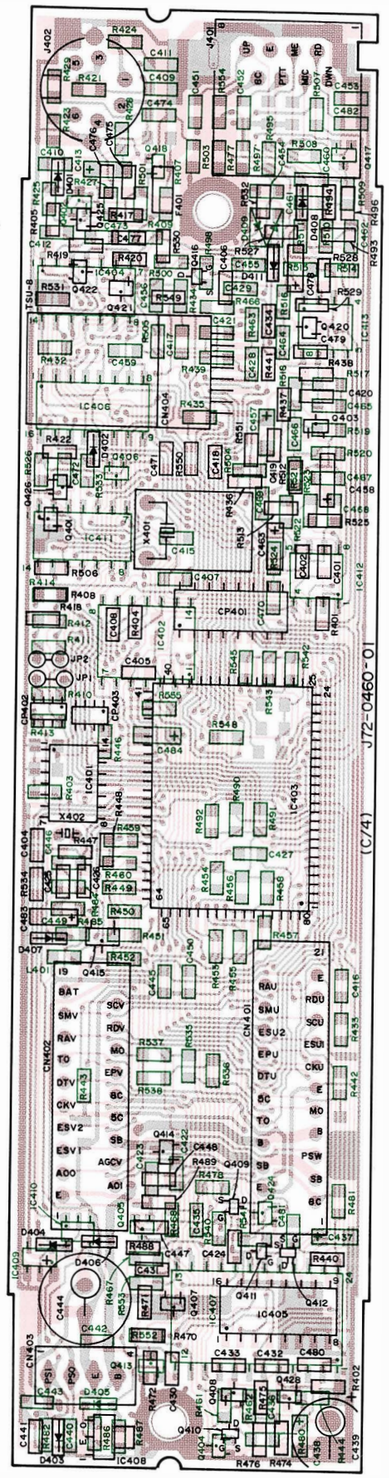
TX-RX UNIT (X57-484X-XX) (C/4)
Foil side view

0-11 : K,P 0-22 : M2,M3 0-23 : M4 2-71 : E,E3,E9

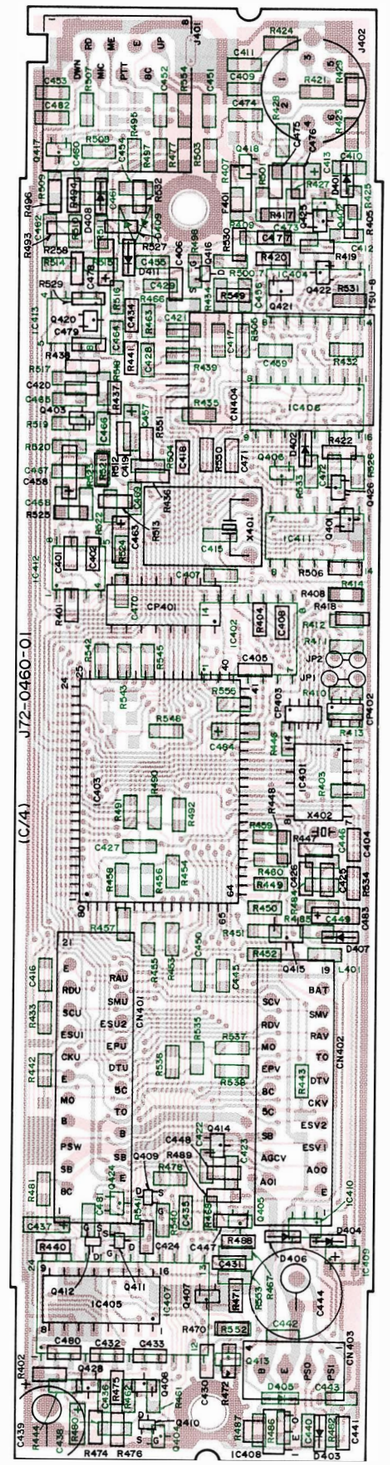


: Component side
: Foil side

TX-RX UNIT (X57-4842-71) (C/4)
Component side view : E,E3,E9



TX-RX UNIT (X57-4842-71) (C/4)
Foil side view : E,E3,E9

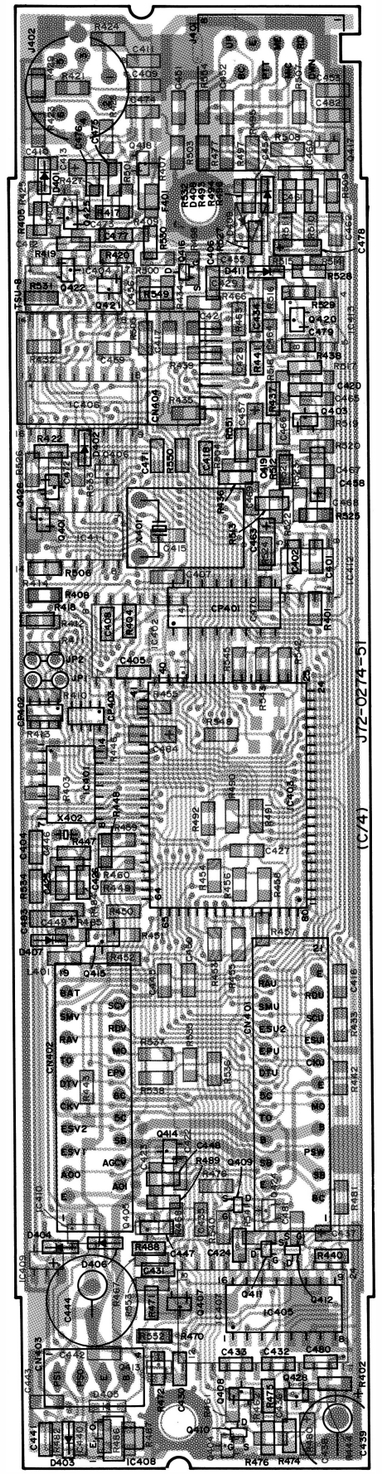


: Component side
: Foil side

TM-733A/E PC BOARD VIEWS

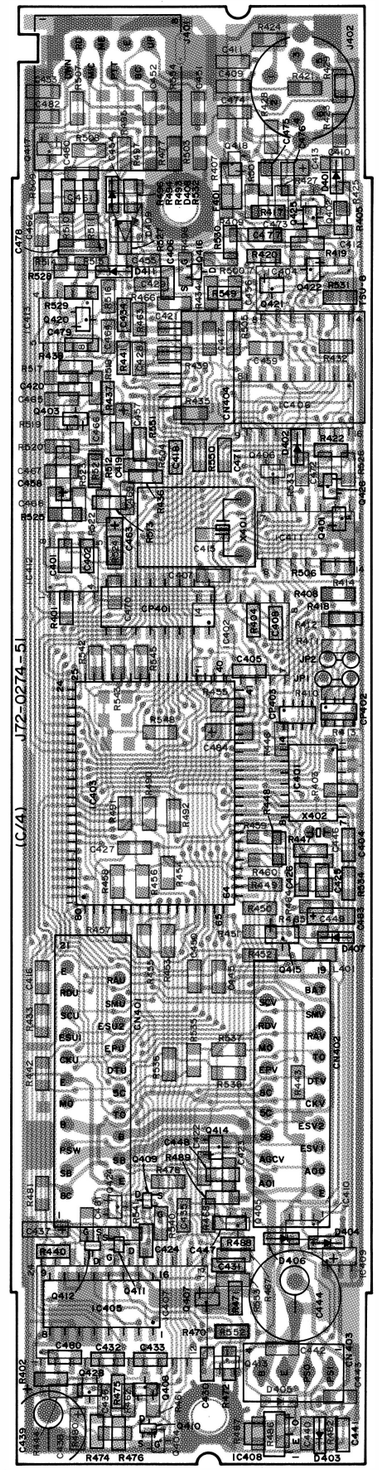
TX-RX UNIT (X57-484X-XX) (C/4)
Component side view

0-11 : K,P 0-22 : M2,M3 0-23 : M4 2-71 : E,E3,E9



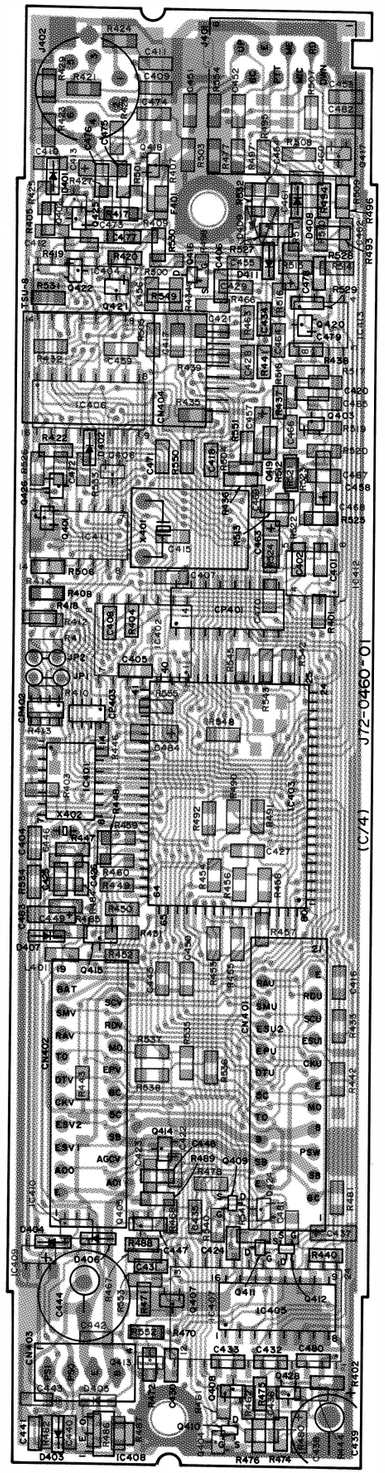
TX-RX UNIT (X57-484X-XX) (C/4)
Foil side view

0-11 : K,P 0-22 : M2,M3 0-23 : M4 2-71 : E,E3,E9

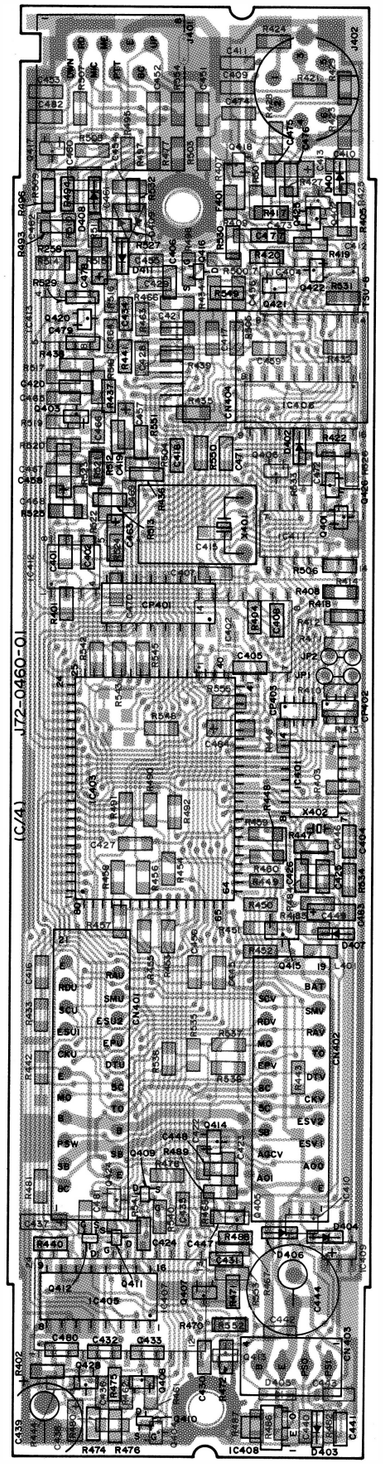


: Component side
: Foil side

TX-RX UNIT (X57-4842-71) (C/4)
Component side view : E,E3,E9



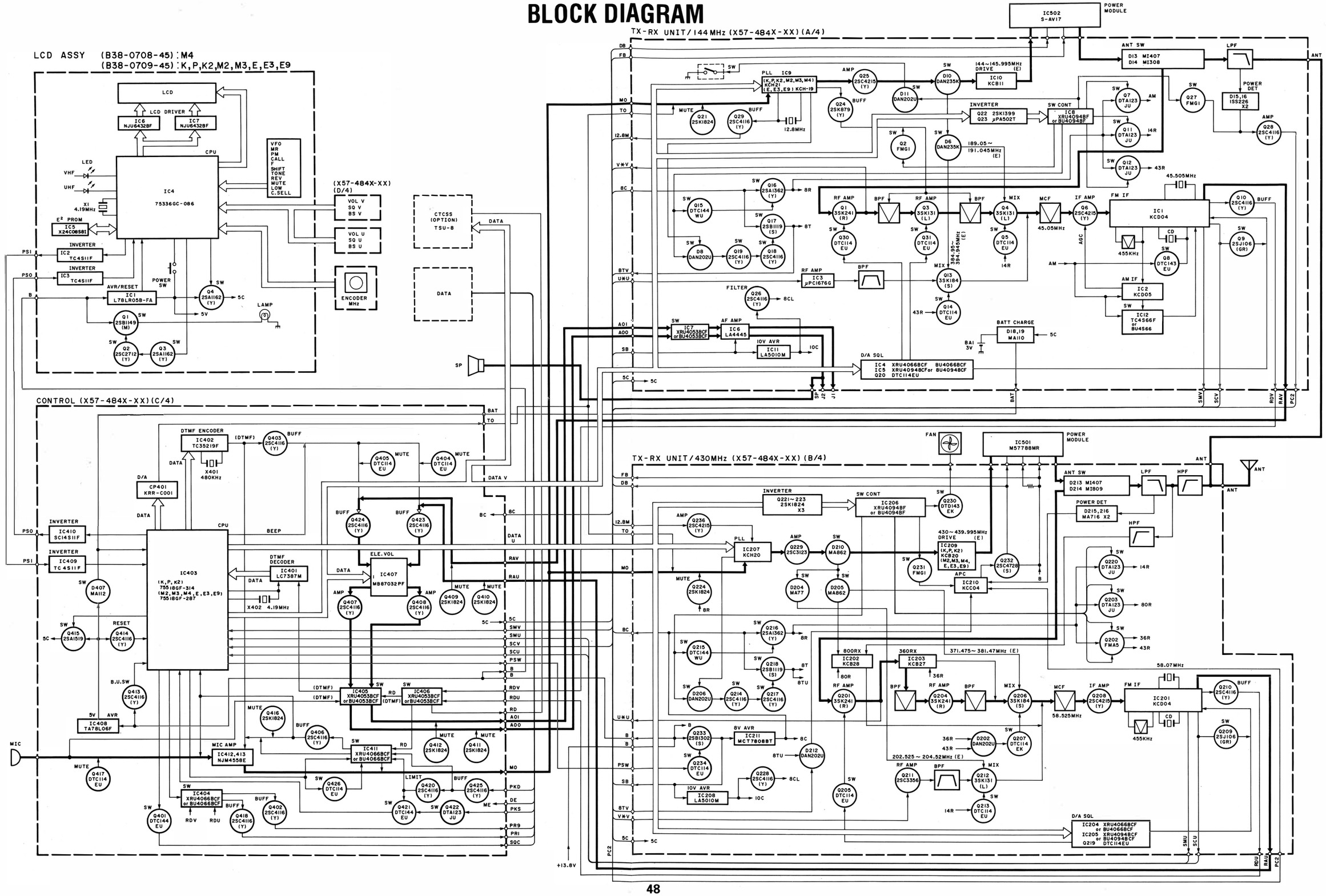
TX-RX UNIT (X57-4842-71) (C/4)
Foil side view : E,E3,E9



: Component side
: Foil side

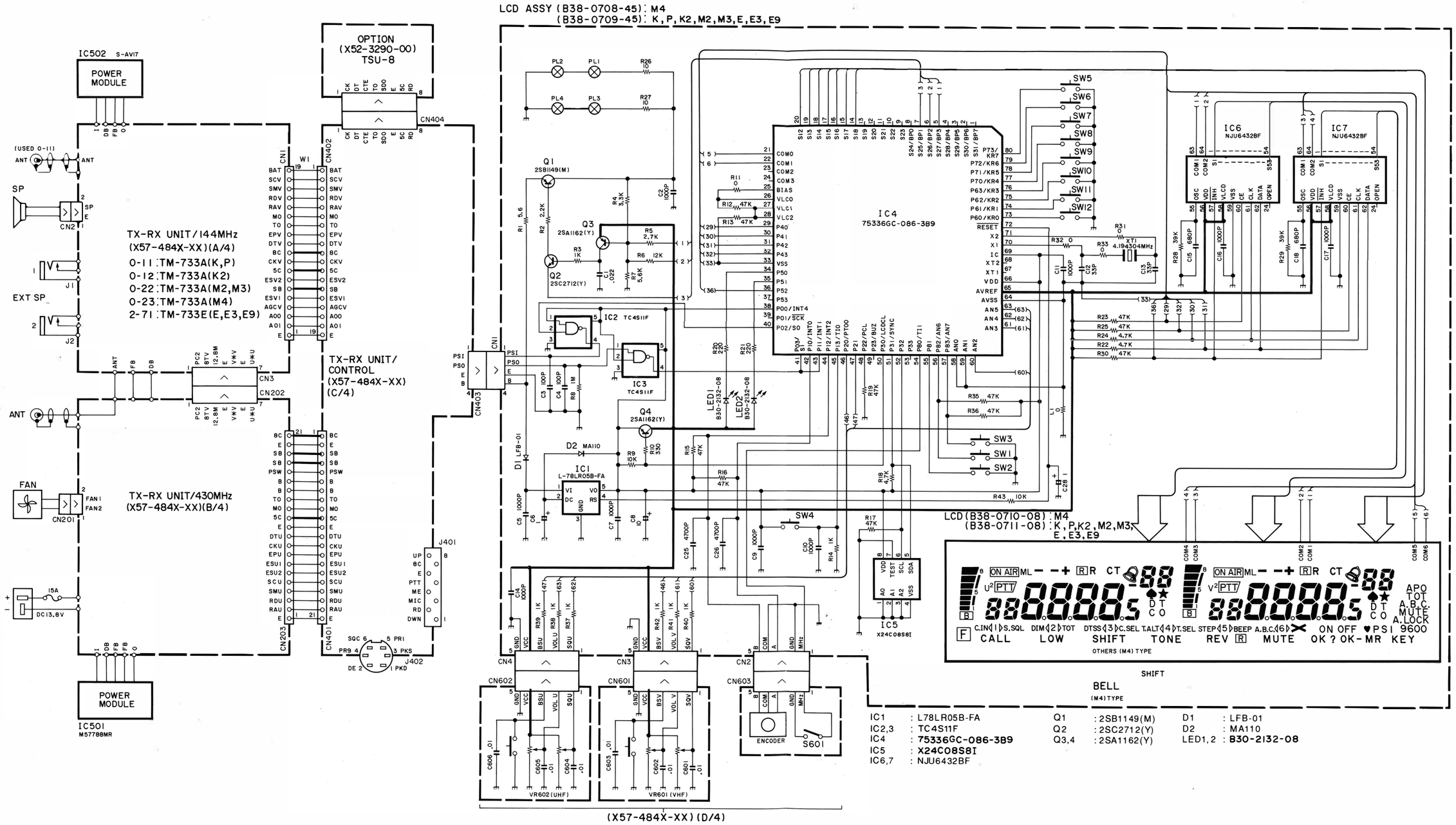
TM-733A/E

BLOCK DIAGRAM



TM-733A/E TM-733A/E

SCHEMATIC DIAGRAM

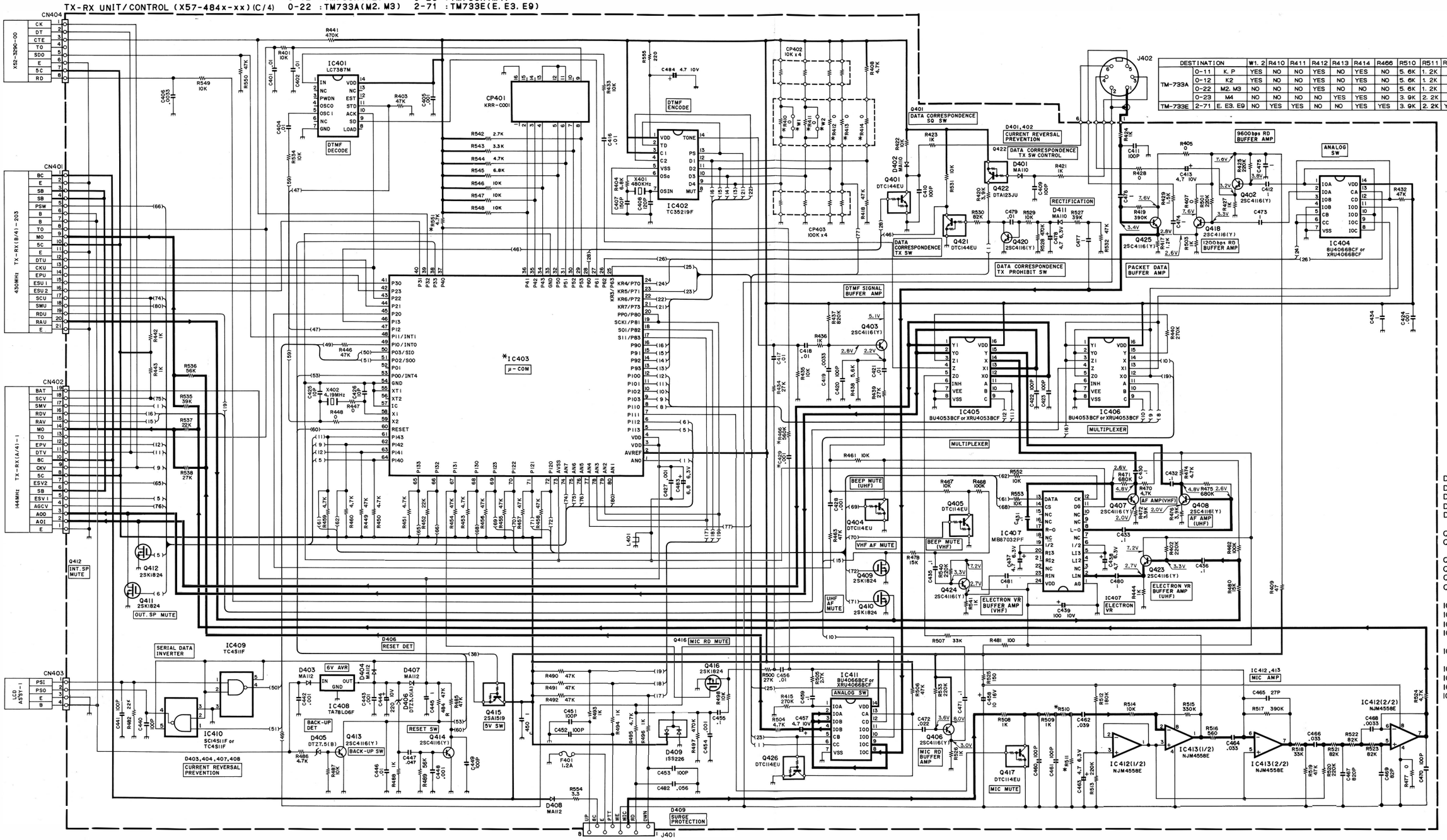


Parts of LCD ASSY (B38-070X-25) is not included.
please refer to service manual(B51-8264-00).
But use for TEMPORARY UNIT.

SCHEMATIC DIAGRAM

0-11 : TM733A(K. P)
0-12 : TM733A(K2) · 0-23 : TM733A(M4)
0-22 : TM733A(M2. M3) 2-71 : TM733E(E. E3. E9)

TX-RX UNIT/CONTROL (X57-484x-xx)(C/4)



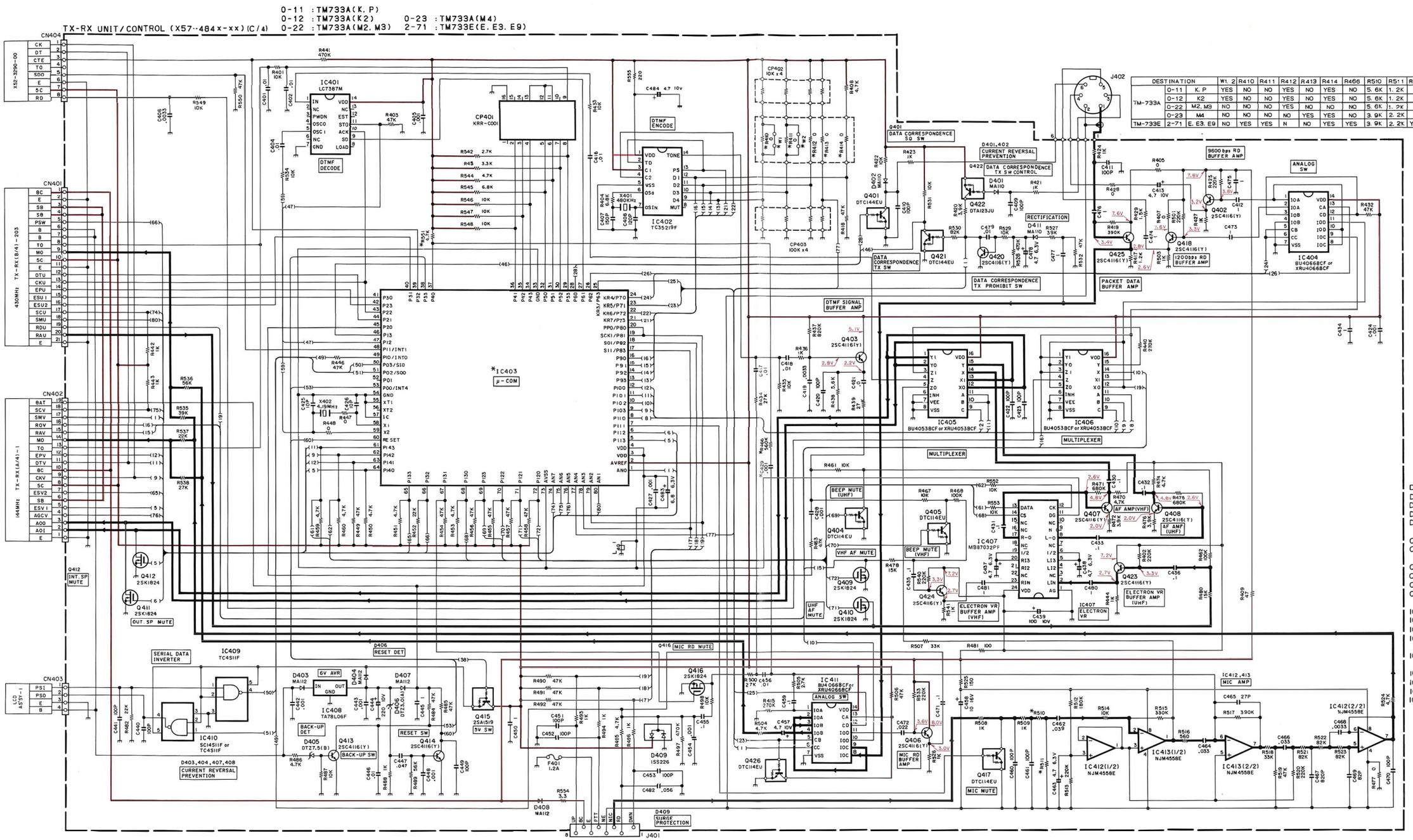
DESTINATION		W1. 2	R410	R411	R412	R413	R414	R466	R510	R511	R551	C429	IC403
TM-733A	0-11	K. P	YES	NO	NO	YES	NO	YES	NO	5. 6K	1. 2K	NO	NO	755180F-314
	0-12	K2	YES	NO	NO	YES	NO	YES	NO	5. 6K	1. 2K	NO	NO	755180F-314
	0-22	M2. M3	NO	NO	NO	YES	NO	NO	NO	5. 6K	1. 2K	NO	NO	755180F-287
	0-23	M4	NO	NO	NO	NO	YES	YES	NO	3. 9K	2. 2K	NO	NO	755180F-287
TM-733E	2-71	E. E3. E9	NO	YES	YES	NO	NO	YES	YES	3. 9K	2. 2K	YES	YES	755180F-287

D401,402,411 : MA110
D403,404,407,408 : MA112
D405 : DTZ7.5(B)
D406 : DTZ3.0(A)
D409 : 1SS226

Q401,421 : DTC144EU
Q402,403,406~408,413,414,418, 420,423~425 : 2SC4116(Y)
Q404,405,417,426 : DTC114EU
Q409~412,416 : 2SK1824
Q415 : 2SA1519
Q422 : DTA123JU

IC401 : LC7387M
IC402 : TC35219F
IC403 : *
IC404,411 : BU4066BCF or XRU4066BCF
IC405,406 : BU4053BCF or XRU4053BCF
IC407 : MB87032PF
IC408 : TA78L06F
IC409,410 : TC4S11F
IC412,413 : NJM4558E

SCHEMATIC DIAGRAM



DESTINATION		W1. 2	R410	R411	R412	R413	R414	R466	R510	R511	R551	C429	IC403
TM-733A	0-11 K. P	YES	NO	NO	YES	NO	YES	NO	5. 6K	1. 2K	NO	NO	755180F-314
	0-12 K2	YES	NO	NO	YES	NO	YES	NO	5. 6K	1. 2K	NO	NO	755180F-314
	0-22 M2. M3	NO	NO	NO	YES	NO	NO	NO	5. 6K	1. 2K	NO	NO	755180F-287
	0-23 M4	NO	NO	NO	NO	YES	YES	NO	3. 9K	2. 2K	NO	NO	755180F-287
TM-733E	2-71 E. E3. E9	NO	YES	YES	N	NO	YES	YES	3. 9K	2. 2K	YES	YES	755180F-287

D401,402,411	: MA110
D403,404,407,408	: MA112
D405	: DTZ7.5(B)
D406	: DTZ3.0(A)
D409	: 1SS226
Q401,421	: DTC144EU
Q402,403,406~408,413,414,418, 420,423~425	: 2SC4116(Y)
Q404,405,417,426	: DTC114EU
Q409~412,416	: 2SK1824
Q415	: 2SA1519
Q422	: DTA123JU
IC401	: LC7387M
IC402	: TC35219F
IC403	: *
IC404,411	: BU4066BCF or XRU4066BCF
IC405,406	: BU4053BCF or XRU4053BCF
IC407	: MB87032PF
IC408	: TA78L06F
IC409,410	: TC4S11F
IC412,413	: NJM4558E

TM-733A/E

REVISED

SPECIFICATIONS

Specifications are subject to change without notice due to development in technology.

General

		144MHz Band	430/440MHz Band
Frequency range	U.S.A. Canada	144~148MHz	438~450MHz
	General	144~148MHz	430~440MHz
	TM-733E	144~146MHz	430~440MHz
Mode		F3E (FM)	
Antenna impedance		50Ω	
Usable temperature range		−20°C~+60°C (−4°F~140°F)	
Power supply		13.8V DC ±15% (11.7~15.8V)	
Grounding method		Negative ground	
Current	Transmit (max.)	11.5A or less	10.0A or less
	Receive (no signal)	1.2A or less	
Frequency stability		Within ±10ppm	
Dimensions (W x H x D projections included)		141 x 42 x 165mm 5.55" x 1.65" x 6.50"	
Weight		1.1kg/2.4lb	

Transmitter

Power output	High	50W	35W
	Mid	10W	
	Low	Approx. 5W	
Modulation		Reactance	
Spurious emissions		−60dB or less	

	144MHz Band	430/440MHz Band
Maximum frequency deviation	±5kHz	
Audio distortion (at 60% modulation)	3% or less	
Microphone impedance	600Ω	

Receive

Circuitry		Double conversion superheterodyne	
Intermediate frequency (1st/2nd)		45.05MHz /455kHz	58.525MHz /455kHz
Sensitivity (12dB SINAD)	V or U band	0.16μV or less	
	V^2 or U^2 band	0.25μV or less	
Selectivity (−6dB)		12kHz or more	
Selectivity (−60dB)		28kHz or less	
Squelch sensitivity		0.1μV or less	
Audio output (8Ω, 5% distortion)		2W or higher	
Audio output impedance		8Ω	

Note : Receiver specifications apply only when using the V or U band. They do not apply to the V^2 or U^2 band.

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