

ALL MODE MULTI-BAND TRANSCEIVER

# TS-2000/B2000/2000X TS-2000S/V/SX/VX

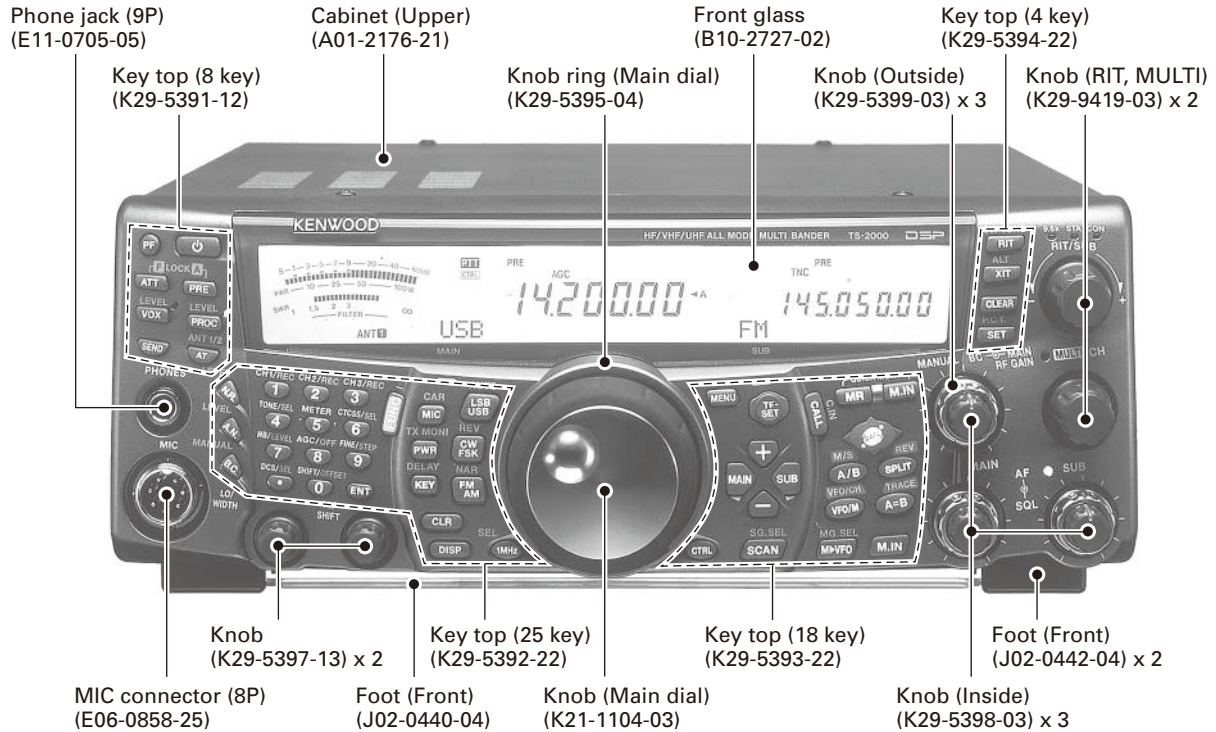
## SERVICE MANUAL SUPPLEMENT III

# KENWOOD

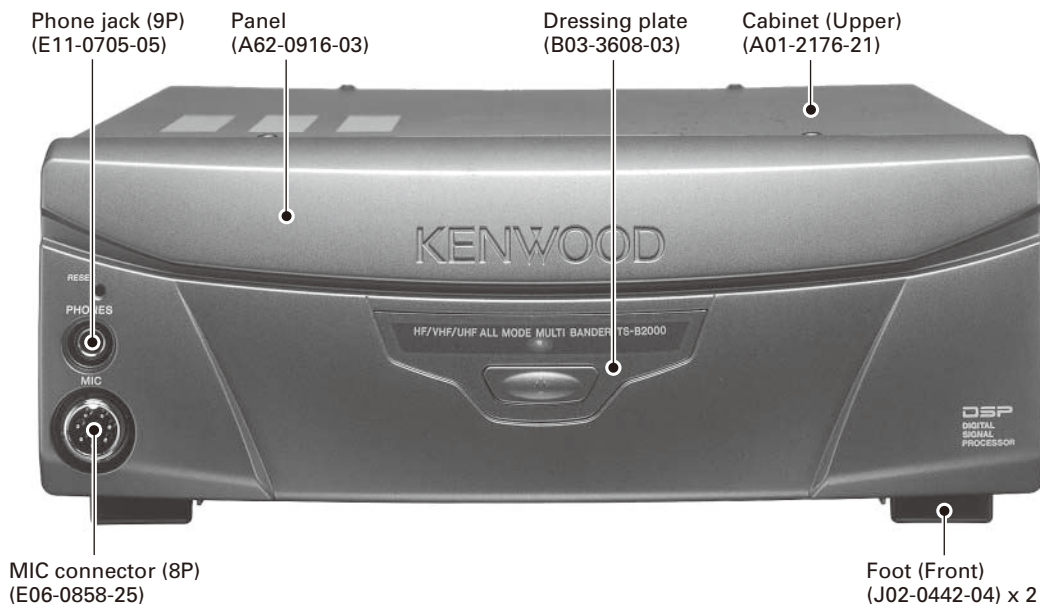
Kenwood Corporation

© 2008-8 PRINTED IN JAPAN  
B51-8846-00 (N) 242

### TS-2000/2000X/2000S/2000V/2000SX/2000VX



### TS-B2000



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



This product uses Lead Free solder.

## Document Copyrights

Copyright 2008 by Kenwood Corporation. All rights reserved.

No part of this manual may be reproduced, translated, distributed, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, for any purpose without the prior written permission of Kenwood.

## Disclaimer

While every precaution has been taken in the preparation of this manual, Kenwood assumes no responsibility for errors or omissions. Neither is any liability assumed for damages resulting from the use of the information contained herein. Kenwood reserves the right to make changes to any products herein at any time for improvement purposes.

# CONTENTS

<b>BEFORE USING THE SERVICE MANUAL .....</b>	<b>3</b>
<b>PARTS LIST .....</b>	<b>4</b>
<b>ADJUSTMENT .....</b>	<b>21</b>
<b>INTERCONNECTION DIAGRAM .....</b>	<b>37</b>
<b>PC BOARD</b>	
<b>FINAL UNIT (X45-384X-XX).....</b>	<b>39</b>
<b>FILTER UNIT (X51-318X-XX) .....</b>	<b>45</b>
<b>TX-RX 1 UNIT (X57-605X-XX) .....</b>	<b>47</b>
<b>TX-RX 3 UNIT (UT-20) (X57-607X-XX).....</b>	<b>49</b>
<b>SCHEMATIC DIAGRAM</b>	
<b>FINAL UNIT (X45-384X-XX).....</b>	<b>53</b>
<b>TX-RX 3 UNIT (UT-20) (X57-607X-XX).....</b>	<b>59</b>
<b>FILTER UNIT (X51-318X-XX) .....</b>	<b>63</b>
<b>TX-RX 1 UNIT (X57-605X-XX) .....</b>	<b>65</b>
<b>LEVEL DIAGRAM .....</b>	<b>67</b>

## BEFORE USING THE SERVICE MANUAL

- This service manual (SUPPLEMENT III) describes the information of the changed PCBs in the TS-2000/TS-B2000/TS-2000X/ TS-2000S/TS-2000V/TS-2000SX/TS-2000VX transceiver.

Refer to the appropriate TS-2000 service manual for items which are not listed in this service manual.

- ① TS-2000/TS-2000X: B51-8558-00
- ② TS-2000S/TS-2000V/TS-2000SX/TS-2000VX:  
B51-8545-00
- ③ TS-B2000: B51-8569-00
- ④ TS-2000/TS-2000X/TS-B2000:  
B51-8622-00 SUPPLEMENT
- ⑤ TS-2000/TS-B2000/TS-2000X/TS-2000S/TS-2000V/  
TS-2000SX/TS-2000VX: B51-8773-00 SUPPLEMENT II

- Refer to the table for the serial number of each transceiver with this service manual.
- Destination of the parts list/ PCB figures/ schematic diagrams of this service manual are changed from the former service manual.

Please read the following list, as they have been rearranged.

Reference: TS-2000 (K)=K1

Model Name & Destination	Serial Numbers		Destination of Parts list/ PCB figures/ Schematic diagrams
	X45-384,X51-318,X57-605	X57-607	
TS-2000(K)	00100001~	-	K1
TS-B2000(K)	00100001~	-	K2
TS-2000X(K)	00100001~	00300001~	K3
TS-2000(E)	00100001~	-	E1
TS-B2000(E)	-	-	E2
TS-2000(E2)	00100001~	-	E3
TS-B2000(E2)	-	-	E4
TS-2000X(E)	00100001~	00300001~	E5
TS-2000S(J)	00700001~	-	J
TS-2000V(J)	00700001~	-	J1
TS-2000SX(J)	00300001~	00300001~	J2
TS-2000VX(J)	00300001~	00300001~	J3

### ■ Content of Parts list

- The transceiver mechanical components describes only the changed parts and the added parts from the service manual.
- Final unit (X45-384) describes all parts.
- Filter unit (X51-318) describes all parts.
- TX-RX 1 unit (X57-605) describes only parts of C/10 - J/10.
- TX-RX 3 unit (X57-607) describes all parts.

### ■ Content of Adjustment method

Only the changed section is described.

- Transmitter Section and 1200MHz Unit Transmitter Section

### ■ Content of PCB figures/ Schematic diagram

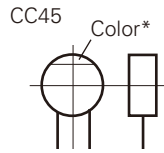
- Final unit (X45-384)/ Filter unit (X51-318)/ TX-RX 3 unit (X57-607) describes all circuits.
- TX-RX1 unit (X57-605) describes only the unit section of C/10 - J/10.

# PARTS LIST

## CAPACITORS

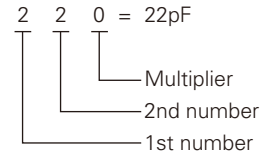
CC 45 TH 1H 220 J  
1 2 3 4 5 6

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



### • Capacitor value

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



### • Temperature coefficient

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

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

Example : CC45TH = -470±60ppm/°C

### • Tolerance (More than 10pF)

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

### (Less than 10pF)

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

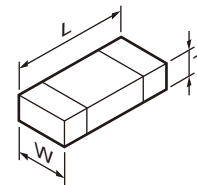
### • Voltage rating

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

### • Chip capacitors

- (EX) CC 73 F SL 1H 000 J  
1 2 3 4 5 6 7
- (Chip) (CH, RH, UJ, SL)
- (EX) CK 73 F F 1H 000 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 capacitor

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

## RESISTORS

### • Chip resistor (Carbon)

- (EX) RD 73 E B 2B 000 J  
1 2 3 4 5 6 7
- (Chip) (B, F)

### • Carbon resistor (Normal type)

- (EX) RD 14 B B 2C 000 J  
1 2 3 4 5 6 7

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

### Chip resistor

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

### • Rating wattage

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

# PARTS LIST

\* New Parts. Δ indicates safety critical components.  
Parts without **Parts No.** are not supplied.  
Les articles non mentionnés dans le **Parts No.** ne sont pas fournis.  
Teile ohne **Parts No.** werden nicht geliefert.

**L** : Scandinavia      **K** : USA      **P** : Canada  
**Y** : PX (Far East, Hawaii)      **T** : England      **E** : Europe  
**Y** : AAFES (Europe)      **X** : Australia      **M** : Other Areas

TS-2000/B2000/2000X/2000S/2000V/2000SX/2000VX (Y52-327X-XX)  
FINAL UNIT (X45-384X-XX)

Ref. No.	Address	New parts	Parts No.	Description	Desti-nation
<b>TS-2000/B2000/2000X/2000S/2000V/2000SX/2000VX</b>					
3	2C	*	A10-4017-21	CHASSIS	
5	1F	*	A22-2524-01	SUB PANEL	E3,E5,J
5	1F	*	A22-2524-01	SUB PANEL	J1,J2,J3
5	1F	*	A22-2524-01	SUB PANEL	K1,K3,E1
5	1F	*	A22-2524-01	SUB PANEL	K2,E2,E4
13	1J	*	B52-0614-10	SCHEMATIC DIAGRAM	E1,E2,E3
13	1J	*	B52-0614-10	SCHEMATIC DIAGRAM	E4,E5
13	1J	*	B52-0614-10	SCHEMATIC DIAGRAM	K1,K2,K3
14	1J	*	B52-0616-10	SCHEMATIC DIAGRAM	E1,E2,E3
14	1J	*	B52-0616-10	SCHEMATIC DIAGRAM	E4,E5
14	1J	*	B52-0616-10	SCHEMATIC DIAGRAM	K1,K2,K3
15	1J	*	B52-0617-10	SCHEMATIC DIAGRAM	E1,E2,E3
15	1J	*	B52-0617-10	SCHEMATIC DIAGRAM	E4,E5
15	1J	*	B52-0617-10	SCHEMATIC DIAGRAM	K1,K2,K3
16	1J	*	B62-1220-60	INSTRUCTION MANUAL(JAPANESE)	J,J1,J2
16	1J	*	B62-1220-60	INSTRUCTION MANUAL(JAPANESE)	J3
16	1J	*	B62-1221-40	INSTRUCTION MANUAL(ENGLISH)	E1,E2,E5
16	1J	*	B62-1221-40	INSTRUCTION MANUAL(ENGLISH)	K1,K2,K3
16	1J	*	B62-1222-20	INSTRUCTION MANUAL(FRENCH)	E1,E2,E5
16	1J	*	B62-1223-20	INSTRUCTION MANUAL(SPANSISH)	E3,E4
16	1J	*	B62-1224-10	INSTRUCTION MANUAL(GERMAN)	E1,E2,E5
16	1J	*	B62-1225-10	INSTRUCTION MANUAL(ITALIAN)	E1,E2,E5
16	1J	*	B62-1226-10	INSTRUCTION MANUAL(DUTCH)	E1,E2,E5
12	1J	*	B46-0310-23	WARRANTY CARD	E1,E2,E3
12	1J	*	B46-0310-23	WARRANTY CARD	E4,E5
12	1J	*	B46-0469-30	WARRANTY CARD	K1,K2,K3
19	2C	*	E04-0167-15	RF COAXIAL RECEPTACLE(M)	
-		*	E07-0852-25	ROUND PLUG(MICROPHONE)	E1,E2,E3
-		*	E07-0852-25	ROUND PLUG(MICROPHONE)	E4,E5
-		*	E07-0852-25	ROUND PLUG(MICROPHONE)	K1,K2,K3
50	2C	*	E37-0891-15	LEAD WIRE(EXT AT)	
-		*	E37-1426-05	LEAD WIRE(X51 CN20,HF RX)	
73	2B	*	F10-3102-04	SHIELDING COVER(X51)	
-	2B	*	G02-1838-04	EARTH SPRING(Q7,8 UPPER):X45	
-	3B,1A	*	G02-1840-04	EARTH SPRING(Q101,102,905 UNDER):X45	
-	3B,1A	*	G02-1841-04	EARTH SPRING(Q101,102,905 UPPER):X45	
-	2A	*	G02-1842-04	EARTH SPRING(Q903 UNDER):X45	
-	2A	*	G02-1843-04	EARTH SPRING(Q903 UPPER):X45	
80	3E	*	G02-0854-13	FLAT SPRING(MAIN DIAL)	E1,E3,E5
80	3E	*	G02-0854-13	FLAT SPRING(MAIN DIAL)	J,J1,J2
80	3E	*	G02-0854-13	FLAT SPRING(MAIN DIAL)	J3,K1,K3
89	3C	*	G11-2588-14	RUBBER SHEET(CHASSIS FRONT)	
123	2F	*	K29-5392-22	KEY TOP(25KEY)	E1,E3,E5
123	2F	*	K29-5392-22	KEY TOP(25KEY)	J,J1,J2
123	2F	*	K29-5392-22	KEY TOP(25KEY)	J3,K1,K3
124	2F	*	K29-5393-22	KEY TOP(18KEY)	E1,E3,E5
124	2F	*	K29-5393-22	KEY TOP(18KEY)	J,J1,J2
124	2F	*	K29-5393-22	KEY TOP(18KEY)	J3,K1,K3
127	3E	*	K29-9419-03	KNOB(RIT,MULTI)	E1,E3,E5
127	3E	*	K29-9419-03	KNOB(RIT,MULTI)	J,J1,J2
127	3E	*	K29-9419-03	KNOB(RIT,MULTI)	J3,K1,K3

Ref. No.	Address	New parts	Parts No.	Description	Desti-nation
140	1I		T91-0352-45	MICROPHONE	E1,E2,E3
140	1I		T91-0352-45	MICROPHONE	E4,E5
140	1I		T91-0352-45	MICROPHONE	K1,K2,K3
143	1F	*	W02-3727-05	ENCODER(RIT/SUB)	E1,E3,E5
143	1F	*	W02-3727-05	ENCODER(RIT/SUB)	J,J1,J2
143	1F	*	W02-3727-05	ENCODER(RIT/SUB)	J3,K1,K3
<b>FINAL UNIT (X45-384X-XX) 0-00 : J,J2,K1,K2,K3</b>					
<b>0-01 : J1,J3 2-71 : E1,E2,E3,E4,E5</b>					
-			C91-2691-05	CERAMIC 470PF 250WV	
C1			CK73GB1H104K	CHIP C 0.10UF K	
C2			CK73GB1H103K	CHIP C 0.010UF K	
C3			CK73GB1H104K	CHIP C 0.10UF K	
C4			CK73GB1H103K	CHIP C 0.010UF K	
C5			CK73GB1H102K	CHIP C 1000PF K	
C6			CK73GB1H103K	CHIP C 0.010UF K	
C7			CK73GB1E105K	CHIP C 1.0UF K	
C8			CK73GB1H104K	CHIP C 0.10UF K	
C9			CK73GB1H103K	CHIP C 0.010UF K	
C11			CK73GB1H104K	CHIP C 0.10UF K	
C12			CD04A21H100M	ELECTRO 10UF 50WV	
C13			CK73GB1H104K	CHIP C 0.10UF K	
C14			CK73GB1H102K	CHIP C 1000PF K	
C15			CK73GB1H104K	CHIP C 0.10UF K	
C17			CK73GB1H102K	CHIP C 1000PF K	
C18			CK73GB1H104K	CHIP C 0.10UF K	
C19			CK73GB1E105K	CHIP C 1.0UF K	
C20			CK73GB1H104K	CHIP C 0.10UF K	
C21			CD04AY1E470M	ELECTRO 47UF 25WV	
C22			CK73FB1E104K	CHIP C 0.10UF K	
C23			CK73GB1H102K	CHIP C 1000PF K	
C24,25			CK73FB1E104K	CHIP C 0.10UF K	
C26-28			CK73GB1E105K	CHIP C 1.0UF K	
C29			CK73FB1E104K	CHIP C 0.10UF K	
C30			CK73FB1H102K	CHIP C 1000PF K	
C31			CK73FB1E104K	CHIP C 0.10UF K	
C32,33			CK73GB1H102K	CHIP C 1000PF K	
C34			CK73FB1H103K	CHIP C 0.010UF K	
C35			CK73FB1E104K	CHIP C 0.10UF K	
C36		*	CD04BD1H220M	ELECTRO 22UF 50WV	
C37			CK73EB1H104K	CHIP C 0.10UF K	
C38			CM73F2H151J	CHIP C 150PF J	
C39-46			C93-0716-05	CHIP C 3300PF K	
C47			CM73F2H331J	CHIP C 330PF J	
C50			CK73GB1H102K	CHIP C 1000PF K	
C51			CK73FB1A105K	CHIP C 1.0UF K	E2,E3,E4
C51			CK73FB1A105K	CHIP C 1.0UF K	E5
C51			CK73FB1A105K	CHIP C 1.0UF K	J,J2,K1
C51			CK73FB1A105K	CHIP C 1.0UF K	K2,K3,E1
C53			CK73GB1H102K	CHIP C 1000PF K	
C54			CK73GB1H103K	CHIP C 0.010UF K	
C56			CK73GB1H103K	CHIP C 0.010UF K	
C61,62			CM73F2H101J	CHIP C 100PF J	

J : TS-2000S J1 : TS-2000V J2 : TS-2000SX J3 : TS-2000VX  
K1 : TS-2000 (K) K2 : TS-B2000 (K) K3 : TS-2000X (K)  
E1 : TS-2000 (E) E2 : TS-B2000 (E) E3 : TS-2000 (E2) E4 : TS-B2000(E2) E5 : TS-2000X (E)

# PARTS LIST

FINAL UNIT (X45-384X-XX)

Ref. No.	Address	New parts	Parts No.	Description	Desti-nation	Ref. No.	Address	New parts	Parts No.	Description	Desti-nation
C63			CM73F2H271J	CHIP C 270PF J		C239			C90-2021-05	ELECTRO 10UF 25WV	
C64			CM73F2H471J	CHIP C 470PF J		C240			CD04AZ1V102M	ELECTRO 1000UF 35WV	
C65			CK73FB1E104K	CHIP C 0.10UF K		C241			CK73FB1H102K	CHIP C 1000PF K	
C66			CK73EF1V225Z	CHIP C 2.2UF Z		C242			CK73FB1E104K	CHIP C 0.10UF K	
C67			CK73FB1E104K	CHIP C 0.10UF K		C243			CD04AZ1H100M	ELECTRO 10UF 50WV	
C68			C93-0555-05	CHIP C 5.0PF C		C244,245			CK73GB1H104K	CHIP C 0.10UF K	
C69			CK73FB1H102K	CHIP C 1000PF K		C246,247			CK73FB1H102K	CHIP C 1000PF K	
C70			CK73FB1H103K	CHIP C 0.010UF K		C248			CK73GB1H103K	CHIP C 0.010UF K	
C71		*	CD04BD1H220M	ELECTRO 22UF 50WV		C249,250			CK73FB1H102K	CHIP C 1000PF K	
C73			CD04BC1E221M	ELECTRO 220UF 25WV		C251,252			CK73GB1H102K	CHIP C 1000PF K	
C75			C93-0563-05	CHIP C 18PF J		C253			CK73GB1H103K	CHIP C 0.010UF K	
C76			C93-0555-05	CHIP C 5.0PF C		C254,255			CK73GB1H102K	CHIP C 1000PF K	
C79		*	CD04BD1V101M	ELECTRO 100UF 35WV		C256			CD04AZ1E471M	ELECTRO 470UF 25WV	
C81			CC73GCH1H470J	CHIP C 47PF J		C257			CD04AY1E470M	ELECTRO 47UF 25WV	
C101			C93-0565-05	CHIP C 27PF J		C258,259			CK73FB1H102K	CHIP C 1000PF K	
C102			C93-0560-05	CHIP C 10PF D		C801-804			CK73GB1H104K	CHIP C 0.10UF K	
C103			C93-0562-05	CHIP C 15PF J		C805			CK73FB1H102K	CHIP C 1000PF K	
C104,105			CC73FCH1H101J	CHIP C 100PF J		C806,807			C91-3115-05	HV CAP 10PF 2KV	
C106,107			CC73FCH1H220J	CHIP C 22PF J		C808			CK73FB1E104K	CHIP C 0.10UF K	
C108,109			CC73FCH1H121J	CHIP C 120PF J		C809,810			CK73FB1H103K	CHIP C 0.010UF K	
C110,111			CK73GB1H104K	CHIP C 0.10UF K		C811-816			C91-3115-05	HV CAP 10PF 2KV	
C112,113			CK73GB1H471K	CHIP C 470PF K		C817-822			CK73FB1H103K	CHIP C 0.010UF K	
C114-117			CM73F2H820J	CHIP C 82PF J		C823-830			C91-3115-05	HV CAP 10PF 2KV	
C118			CK73FB1H471K	CHIP C 470PF K		C831-836			CK73FB1H103K	CHIP C 0.010UF K	
C119			CK73FB1H103K	CHIP C 0.010UF K		C837,838			C91-3126-05	HV CAP 10PF 3KV	
C120			CK73FB1E104K	CHIP C 0.10UF K		C839-844			CK73FB1H103K	CHIP C 0.010UF K	
C121			CK73FB1H471K	CHIP C 470PF K		C845,846			C91-3127-05	HV CAP 18PF 3KV	
C122			CK73FB1H103K	CHIP C 0.010UF K		C847-852			CK73FB1H103K	CHIP C 0.010UF K	
C123			CK73FB1H102K	CHIP C 1000PF K		C853-856			C91-3127-05	HV CAP 18PF 3KV	
C124			CK73EF1V225Z	CHIP C 2.2UF Z		C857-862			CK73FB1H103K	CHIP C 0.010UF K	
C125,126			CM73F2H390J	CHIP C 39PF J		C863-866			C91-3123-05	HV CAP 150PF 3KV	
C127-129			C93-0560-05	CHIP C 10PF D		C867-872			CK73FB1H103K	CHIP C 0.010UF K	
C130,131			C93-0603-05	CHIP C 1000PF K		C873,874			C91-3123-05	HV CAP 150PF 3KV	
C132			CM73F2H200J	CHIP C 20PF J		C875-880			CK73FB1H103K	CHIP C 0.010UF K	
C133			C93-0562-05	CHIP C 15PF J		C881,882			C91-3123-05	HV CAP 150PF 3KV	
C134,135			CM73F2H101J	CHIP C 100PF J		C883-886			CK73FB1H103K	CHIP C 0.010UF K	
C136			C93-0561-05	CHIP C 12PF J		C887			C91-3123-05	HV CAP 150PF 3KV	
C201			C91-2691-05	CERAMIC 470PF 250WV		C888,889			CK73FB1H103K	CHIP C 0.010UF K	
C202			CK73GB1H103K	CHIP C 0.010UF K		C890			C91-3123-05	HV CAP 150PF 3KV	
C204			CK73GB1H103K	CHIP C 0.010UF K		C901			CC73FCH1H470J	CHIP C 47PF J	
C207			CD04AZ1E471M	ELECTRO 470UF 25WV		C902			CC73FCH1H150J	CHIP C 15PF J	
C208			CK73FB1H102K	CHIP C 1000PF K		C903			CD04AY1E470M	ELECTRO 47UF 25WV	
C212			CK73FB1H102K	CHIP C 1000PF K		C904			CK73GB1H471K	CHIP C 470PF K	
C214			CK73GB1H103K	CHIP C 0.010UF K		C905,906			CK73GB1H103K	CHIP C 0.010UF K	
C217			CK73FB1H102K	CHIP C 1000PF K		C907			CK73GB1H471K	CHIP C 470PF K	
C219,220			CK73GB1H104K	CHIP C 0.10UF K		C909			CK73GB1H471K	CHIP C 470PF K	
C223,224			CK73GB1H103K	CHIP C 0.010UF K		C912			CK73GB1H471K	CHIP C 470PF K	
C225			CD04AZ1E471M	ELECTRO 470UF 25WV		C914			CK73GB1H104K	CHIP C 0.10UF K	
C226			CK73GB1H103K	CHIP C 0.010UF K		C915			CC73FCH1H470J	CHIP C 47PF J	
C227			CK73GB1H102K	CHIP C 1000PF K		C916			CK73GB1H103K	CHIP C 0.010UF K	
C228			CK73GB1H103K	CHIP C 0.010UF K		C917			CC73GCH1H040B	CHIP C 4.0PF B	
C229			CD04AZ1H100M	ELECTRO 10UF 50WV		C918			CC73FCH1H050B	CHIP C 5.0PF B	
C230			CK73FB1E104K	CHIP C 0.10UF K		C919			CK73GB1H471K	CHIP C 470PF K	
C231			CK73GB1H104K	CHIP C 0.10UF K		C921			CK73FB1H471K	CHIP C 470PF K	
C232			CK73FB1E104K	CHIP C 0.10UF K		C922			CK73GB1H103K	CHIP C 0.010UF K	
C233,234			CK73GB1H104K	CHIP C 0.10UF K		C926			CC73FCH1H471J	CHIP C 470PF J	
C235			CK73GB1H103K	CHIP C 0.010UF K		C928			CK73FB1E104K	CHIP C 0.10UF K	
C236			CK73FB1E104K	CHIP C 0.10UF K		C931,932			CC73FCH1H270J	CHIP C 27PF J	
C237			CK73GB1H104K	CHIP C 0.10UF K		C934			CK73GB1H471K	CHIP C 470PF K	
C238			CD04AZ1H100M	ELECTRO 10UF 50WV		C936			CM73F2H200J	CHIP C 20PF J	

# PARTS LIST

FINAL UNIT (X45-384X-XX)

Ref. No.	Address	New parts	Parts No.	Description	Desti-nation	Ref. No.	Address	New parts	Parts No.	Description	Desti-nation
C938			CK73GB1H103K	CHIP C 0.010UF K		CN903,904			E23-1116-05	RELAY TERMINAL	
C939			CM73F2H180J	CHIP C 18PF J		CN905			E04-0190-05	PIN SOCKET	
C940			CC73FCH1H471J	CHIP C 470PF J		CN906			E23-0486-05	TERMINAL	
C941			CM73F2H180J	CHIP C 18PF J		CN907			E23-1310-05	TEST TERMINAL	
C942			CK73FB1H103K	CHIP C 0.010UF K		W1			E37-0975-25	LEAD WIRE WITH TERMINAL	J,J1,J2
C943			C93-0554-05	CHIP C 4.0PF C		W1			E37-0975-25	LEAD WIRE WITH TERMINAL	J3,K1,K2
C944			CD04AZ1H100M	ELECTRO 10UF 50WV		W1			E37-0975-25	LEAD WIRE WITH TERMINAL	K3
C945			CM73F2H080D	CHIP C 8.0PF D		W1	*		E37-1435-05	LEAD WIRE WITH TERMINAL	E1,E2,E3
C946			CK73GB1H471K	CHIP C 470PF K		W1	*		E37-1435-05	LEAD WIRE WITH TERMINAL	E4,E5
C947			CM73F2H130J	CHIP C 13PF J					F12-0489-04	CONDUCTIVE SHEET	
C948			CK73GB1H103K	CHIP C 0.010UF K		F1			F53-0328-05	FUSE(5A/32V)	
C949			C93-0557-05	CHIP C 7.0PF D		F2			F52-0038-05	FUSE(BLADE )(4A/32V)	
C950			CM73F2H100D	CHIP C 10PF D		F3			F53-0391-05	FUSE(10A/60V)	
C951			C93-0556-05	CHIP C 6.0PF D		-			G13-2018-04	CUSHION	
C952,953			CK73GB1H471K	CHIP C 470PF K		CN6,7			J13-0410-05	FUSE HOLDER	
C954			C93-0551-05	CHIP C 1.5PF C		-			L92-0105-05	TROIDAL CORE	
C955			C93-0553-05	CHIP C 3.0PF C		-			L92-0412-05	TROIDAL CORE	E1,E2,E3
C956			CK73GB1H103K	CHIP C 0.010UF K		-			L92-0412-05	TROIDAL CORE	E4,E5
C958			CK73GB1H104K	CHIP C 0.10UF K		-	*		L92-0475-05	TROIDAL CORE	E1,E2,E3
C959			CD04AS1E470M	ELECTRO 47UF 25WV		-	*		L92-0475-05	TROIDAL CORE	E4,E5
C960,961			CM73F2H270J	CHIP C 27PF J		L1			L41-4705-33	SMALL FIXED INDUCTOR(47UH)	
C962			CK73GB1H471K	CHIP C 470PF K		L2			L41-1095-33	SMALL FIXED INDUCTOR(1.0UH)	
C963			CK73GB1H103K	CHIP C 0.010UF K		L3			L39-1450-05	TOROIDAL COIL	
C965			CD04AZ1H100M	ELECTRO 10UF 50WV		L4			L33-0699-05	CHOKE COIL	
C966			CK73GB1H103K	CHIP C 0.010UF K		L5			L41-4705-33	SMALL FIXED INDUCTOR(47UH)	
C967			CK73GB1H471K	CHIP C 470PF K		L6,7			L33-0699-05	CHOKE COIL	
C968			C93-0603-05	CHIP C 1000PF K		L8			L39-1450-05	TOROIDAL COIL	
C969			CK73GB1H471K	CHIP C 470PF K		L9			L33-0699-05	CHOKE COIL	
C970			CK73GB1H103K	CHIP C 0.010UF K		L10-13			L92-0149-05	CHIP FERRITE	
C971			CK73GB1H471K	CHIP C 470PF K		L14	*		L39-1434-15	TOROIDAL COIL	
C973,974			CK73GB1H471K	CHIP C 470PF K		L15			L39-1451-05	TOROIDAL COIL	
C976			CK73GB1H471K	CHIP C 470PF K		L16			L39-1490-05	TOROIDAL COIL	
C978,979			C93-0554-05	CHIP C 4.0PF C		L19			L33-0625-15	TOROIDAL COIL	
C980			C93-0557-05	CHIP C 7.0PF D		L20			L34-1231-15	AIR-CORE COIL	
C981			CC73GCH1H471J	CHIP C 470PF J		L22			L33-0651-05	CHOKE COIL	
C982			CM73F2H100D	CHIP C 10PF D		L101			L34-1058-05	AIR-CORE COIL	
C985			C93-0553-05	CHIP C 3.0PF C		L102			L34-1177-05	AIR-CORE COIL	
C987			CM73F2H150J	CHIP C 15PF J		L103,104			L34-4606-15	AIR-CORE COIL	
C989-991			CC73GCH1H101J	CHIP C 100PF J		L105			L34-4652-05	AIR-CORE COIL	
C993			C93-0556-05	CHIP C 6.0PF D		L106			L34-4658-05	AIR-CORE COIL	
C994			C93-0555-05	CHIP C 5.0PF C		L107			L34-4652-05	AIR-CORE COIL	
C995			C93-0566-05	CHIP C 33PF J		L108,109			L34-0452-05	AIR-CORE COIL	
C996,997			CC73GCH1H471J	CHIP C 470PF J		L110,111	*		L34-4655-05	AIR-CORE COIL	
C998			CM73F2H150J	CHIP C 15PF J		L130	*		L34-4882-05	AIR-CORE COIL	
CN1,2			E04-0154-05	PIN SOCKET		L201,202	*		L41-1005-33	SMALL FIXED INDUCTOR(10UH)	
CN4			E04-0154-05	PIN SOCKET		L203			L41-4705-33	SMALL FIXED INDUCTOR(47UH)	
CN5			E40-6528-05	PIN ASSY		L204,205			L40-1001-12	SMALL FIXED INDUCTOR	
CN8			E40-6525-05	PIN ASSY		L801			L40-1001-12	SMALL FIXED INDUCTOR	
CN9			E40-6078-05	FLAT CABLE CONNECTOR		L802-805			L39-1441-05	TOROIDAL COIL	
CN10			E40-5764-05	FLAT CABLE CONNECTOR		L806,807			L39-1440-05	TOROIDAL COIL	
CN15			E41-1692-05	PIN ASSY		L808-810			L41-4705-33	SMALL FIXED INDUCTOR(47UH)	
CN16			E41-1690-05	PIN ASSY		L811			L34-4633-05	AIR-CORE COIL	
CN17			E23-1310-05	TEST TERMINAL		L812-814			L41-4705-33	SMALL FIXED INDUCTOR(47UH)	
CN22			E41-1682-05	PIN ASSY		L815			L34-4630-05	AIR-CORE COIL	
CN27			E40-6526-05	PIN ASSY		L816-818			L41-4705-33	SMALL FIXED INDUCTOR(47UH)	
CN203,204			E23-1116-05	RELAY TERMINAL		L819			L34-4490-05	AIR-CORE COIL	
CN801,802			E04-0154-05	PIN SOCKET		L820-822			L41-4705-33	SMALL FIXED INDUCTOR(47UH)	
CN901			E04-0190-05	PIN SOCKET		L823			L34-4490-05	AIR-CORE COIL	
CN902			E40-5765-05	FLAT CABLE CONNECTOR							

J : TS-2000S J1 : TS-2000V J2 : TS-2000SX J3 : TS-2000VX  
 K1 : TS-2000 (K) K2 : TS-B2000 (K) K3 : TS-2000X (K)  
 E1 : TS-2000 (E) E2 : TS-B2000 (E) E3 : TS-2000 (E2) E4 : TS-B2000(E2) E5 : TS-2000X (E)

# PARTS LIST

**FINAL UNIT (X45-384X-XX)**

Ref. No.	Address	New parts	Parts No.	Description	Desti-nation	Ref. No.	Address	New parts	Parts No.	Description	Desti-nation
L824-826			L41-4705-33	SMALL FIXED INDUCTOR(47UH)		R22			RK73FB2B000J	CHIP R 0.0 J 1/8W	
L827			L34-4628-05	AIR-CORE COIL		R23			RK73EB2E221J	CHIP R 220 J 1/4W	
L828-830			L41-4705-33	SMALL FIXED INDUCTOR(47UH)		R24			RK73FB2B100J	CHIP R 10 J 1/8W	E2,E3,E4
L831			L34-4490-05	AIR-CORE COIL		R24			RK73FB2B100J	CHIP R 10 J 1/8W	E5
L832-834			L41-4705-33	SMALL FIXED INDUCTOR(47UH)		R24			RK73FB2B100J	CHIP R 10 J 1/8W	J,J2,K1
L835			L34-4490-05	AIR-CORE COIL		R24			RK73FB2B100J	CHIP R 10 J 1/8W	K2,K3,E1
L836-838			L41-4705-33	SMALL FIXED INDUCTOR(47UH)		R25			RK73FB2B102J	CHIP R 1.0K J 1/8W	
L840			L41-2275-33	SMALL FIXED INDUCTOR(0.022UH)		R26			RK73PB2H100J	CHIP R 10 J 1/2W	
L901			L41-1085-33	SMALL FIXED INDUCTOR(0.1UH)		R29			RK73GB2A472J	CHIP R 4.7K J 1/10W	
L903			L41-3375-33	SMALL FIXED INDUCTOR(0.033UH)		R30		*	RK73SB3A151J	CHIP R 150 J 1W	
L905			L40-1075-92	SMALL FIXED INDUCTOR(10NH)		R31			RK73EB2E1R0J	CHIP R 1.0 J 1/4W	
L907			L40-1085-92	SMALL FIXED INDUCTOR(100NH)		R34,35			RK73FB2B152J	CHIP R 1.5K J 1/8W	
L908			L92-0443-05	CHIP FERRITE		R36,37			R92-1279-05	CHIP R 33 J 1W	
L909,910		*	L34-4655-05	AIR-CORE COIL		R38		*	RK73SB3A470J	CHIP R 47 J 1W	
L912			L34-1239-05	AIR-CORE COIL		R39,40			R92-1279-05	CHIP R 33 J 1W	
L913			L34-1231-15	AIR-CORE COIL		R42		*	RK73SB3A470J	CHIP R 47 J 1W	
L914			L34-1239-05	AIR-CORE COIL		R43,44			RK73FB2B472J	CHIP R 4.7K J 1/8W	
L915			L34-1232-15	AIR-CORE COIL		R46-51			RK73EB2E1R0J	CHIP R 1.0 J 1/4W	
L916			L34-4811-05	AIR-CORE COIL		R52		*	RK73SB3A4R7J	CHIP R 4.7 J 1W	
L918,919			L34-4811-05	AIR-CORE COIL		R53,54			RK73FB2B102J	CHIP R 1.0K J 1/8W	
L922,923			L34-4811-05	AIR-CORE COIL		R58		*	RK73PB2H4R7J	CHIP R 4.7 J 1/2W	
L924			L34-1239-05	AIR-CORE COIL		R101,102			RK73GB2A331J	CHIP R 330 J 1/10W	
L927-930			L41-1085-33	SMALL FIXED INDUCTOR(0.1UH)		R103,104			RK73GB2A152J	CHIP R 1.5K J 1/10W	
L932			L34-4811-05	AIR-CORE COIL		R105,106			RK73FB2B221J	CHIP R 220 J 1/8W	
R1			RK73GB2A150J	CHIP R 15 J 1/10W		R107			RS14DB3F101J	FL-PROOF RS 100 J 3W	
R2			RK73GB2A220J	CHIP R 22 J 1/10W	E2,E3,E4	R108,109			R92-1061-05	JUMPER REST 0 OHM	
R2			RK73GB2A220J	CHIP R 22 J 1/10W	E5	R110			RK73GB2A000J	CHIP R 0.0 J 1/10W	
R2			RK73GB2A220J	CHIP R 22 J 1/10W	J,J2,K1	R201			RK73PB2H2R2J	CHIP R 2.2 J 1/2W	
R2			RK73GB2A220J	CHIP R 22 J 1/10W	K2,K3,E1	R202			RK73GB2A472J	CHIP R 4.7K J 1/10W	
R2			RK73GB2A270J	CHIP R 27 J 1/10W	J1,J3	R203			RK73RB2H180J	CHIP R 18 J 1/2W	
R3			RK73GB2A820J	CHIP R 82 J 1/10W		R204			RK73GB2A472J	CHIP R 4.7K J 1/10W	
R4			RK73GB2A150J	CHIP R 15 J 1/10W		R205			RK73GB2A751J	CHIP R 750 J 1/10W	
R5			RK73GB2A100J	CHIP R 10 J 1/10W	E2,E3,E4	R206			RK73GB2A223J	CHIP R 22K J 1/10W	
R5			RK73GB2A100J	CHIP R 10 J 1/10W	E5	R207			RK73GB2A103J	CHIP R 10K J 1/10W	
R5			RK73GB2A100J	CHIP R 10 J 1/10W	J,J2,K1	R208			RK73GB2A102J	CHIP R 1.0K J 1/10W	
R5			RK73GB2A100J	CHIP R 10 J 1/10W	K2,K3,E1	R209			RK73GB2A333J	CHIP R 33K J 1/10W	
R5			RK73GB2A270J	CHIP R 27 J 1/10W	J1,J3	R211-214			RK73FB2B101J	CHIP R 100 J 1/8W	
R6			RK73GB2A390J	CHIP R 39 J 1/10W	E2,E3,E4	R215			RK73RB2H2R2J	CHIP R 2.2 J 1/2W	
R6			RK73GB2A390J	CHIP R 39 J 1/10W	E5	R216			RK73GB2A473J	CHIP R 4.7K J 1/10W	
R6			RK73GB2A390J	CHIP R 39 J 1/10W	J,J2,K1	R217			RK73GB2A562J	CHIP R 5.6K J 1/10W	
R6			RK73GB2A390J	CHIP R 39 J 1/10W	K2,K3,E1	R905			RK73FB2B4R7J	CHIP R 4.7 J 1/8W	
R6,7			RK73GB2A330J	CHIP R 33 J 1/10W	J1,J3	R907		*	RK73FB2B3R9J	CHIP R 3.9 J 1/8W	
R7			RK73GB2A100J	CHIP R 10 J 1/10W	E2,E3,E4	R910			RK73FB2B471J	CHIP R 470 J 1/8W	
R7			RK73GB2A100J	CHIP R 10 J 1/10W	E5	R911		*	R92-3625-05	CHIP R 0.1 J 1/3W	
R7			RK73GB2A100J	CHIP R 10 J 1/10W	J,J2,K1	R912			RK73FB2B180J	CHIP R 18 J 1/8W	
R7			RK73GB2A100J	CHIP R 10 J 1/10W	K2,K3,E1	R913			R92-1318-05	CHIP R 100 J 1W	
R8			RK73GB2A102J	CHIP R 1.0K J 1/10W		R914			RK73RB2H151J	CHIP R 150 J 1/2W	
R9			RK73GB2A152J	CHIP R 1.5K J 1/10W		R915			RK73GB2A121J	CHIP R 120 J 1/10W	
R10			RK73GB2A471J	CHIP R 470 J 1/10W		R916			RK73GB2A471J	CHIP R 470 J 1/10W	E2,E3,E4
R11			RK73GB2A270J	CHIP R 27 J 1/10W		R916			RK73GB2A471J	CHIP R 470 J 1/10W	E5
R12			RK73GB2A392J	CHIP R 3.9K J 1/10W		R916,917			RK73GB2A101J	CHIP R 100 J 1/10W	J,J2,K1
R13			RK73GB2A100J	CHIP R 10 J 1/10W		R917			RK73GB2A101J	CHIP R 100 J 1/10W	K2,K3,E1
R14,15			RK73FB2B220J	CHIP R 22 J 1/8W		R917			RK73GB2A101J	CHIP R 100 J 1/10W	J1,J3
R16			RK73GB2A221J	CHIP R 220 J 1/10W		R917			RK73GB2A101J	CHIP R 100 J 1/10W	E2,E3,E4
R17			RK73GB2A2R2J	CHIP R 2.2 J 1/10W		R917			RK73GB2A101J	CHIP R 100 J 1/10W	E5
R18			RK73FB2B220J	CHIP R 22 J 1/8W		R917			RK73GB2A101J	CHIP R 100 J 1/10W	J,J2,K1
R19			RK73GB2A102J	CHIP R 1.0K J 1/10W		R917			RK73GB2A101J	CHIP R 100 J 1/10W	K2,K3,E1
R20			RK73GB2A331J	CHIP R 330 J 1/10W		R918			RK73GB2A121J	CHIP R 120 J 1/10W	
R21			RK73GB2A472J	CHIP R 4.7K J 1/10W		R919			RK73GB2A272J	CHIP R 2.7K J 1/10W	
						R919			RK73GB2A272J	CHIP R 2.7K J 1/10W	E2,E3,E4
											E5

J : TS-2000S J1 : TS-2000V J2 : TS-2000SX J3 : TS-2000VX

K1 : TS-2000 (K) K2 : TS-B2000 (K) K3 : TS-2000X (K)

E1 : TS-2000 (E) E2 : TS-B2000 (E) E3 : TS-2000 (E2) E4 : TS-B2000(E2) E5 : TS-2000X (E)





# PARTS LIST

**FILTER UNIT (X51-3180-XX)**

Ref. No.	Address	New parts	Parts No.	Description	Destination	Ref. No.	Address	New parts	Parts No.	Description	Destination
C256			CM73F2H561J	CHIP C 560PF J		C560			C93-0572-05	CHIP C 100PF J	
C258			CK73FB1H103K	CHIP C 0.010UF K		C561			C93-0554-05	CHIP C 4.0PF C	
C261			C93-0568-05	CHIP C 47PF J		C562			C93-0568-05	CHIP C 47PF J	
C262,263			C93-0573-05	CHIP C 120PF J		C600			CC73GCH1H060B	CHIP C 6.0PF B	
C301			CK73FB1H103K	CHIP C 0.010UF K		C601			C93-0558-05	CHIP C 8.0PF D	
C302			C93-0572-05	CHIP C 100PF J		C602			CK73FB1H102K	CHIP C 1000PF K	
C303			CM73F2H101J	CHIP C 100PF J		C603			CC73FCH1H471J	CHIP C 470PF J	
C304			C93-0570-05	CHIP C 68PF J		C604			CK73FB1H102K	CHIP C 1000PF K	
C305			CM73F2H331J	CHIP C 330PF J		C605			CC73FCH1H471J	CHIP C 470PF J	
C306			CM73F2H471J	CHIP C 470PF J		C606			C93-0603-05	CHIP C 1000PF K	
C307			C93-0566-05	CHIP C 33PF J		C607			CK73FB1H102K	CHIP C 1000PF K	
C308			CM73F2H331J	CHIP C 330PF J		C608			C93-0563-05	CHIP C 18PF J	
C309			CM73F2H151J	CHIP C 150PF J		C609			CK73FB1H103K	CHIP C 0.010UF K	
C310			CM73F2H151J	CHIP C 150PF J		C610			C93-0552-05	CHIP C 2.0PF C	
C351			CK73FB1H103K	CHIP C 0.010UF K		C611			C93-0603-05	CHIP C 1000PF K	
C352			C93-0572-05	CHIP C 100PF J		C612			C93-0564-05	CHIP C 22PF J	
C353			C93-0568-05	CHIP C 47PF J		C613			CK73FB1H102K	CHIP C 1000PF K	
C354			C93-0565-05	CHIP C 27PF J		C614			C93-0561-05	CHIP C 12PF J	
C355			C93-0553-05	CHIP C 3.0PF C		C615			C93-0565-05	CHIP C 27PF J	
C356,357			CM73F2H221J	CHIP C 220PF J		C620			CC73GCH1H100D	CHIP C 10PF D	
C358			C93-0571-05	CHIP C 82PF J		C621			CK73FB1H102K	CHIP C 1000PF K	
C359			C93-0562-05	CHIP C 15PF J		C622			C93-0557-05	CHIP C 7.0PF D	
C360			CM73F2H271J	CHIP C 270PF J		C623			C93-0565-05	CHIP C 27PF J	
C401			CK73FB1H103K	CHIP C 0.010UF K		C624			C93-0552-05	CHIP C 2.0PF C	
C404			C93-0572-05	CHIP C 100PF J		C625			C93-0564-05	CHIP C 22PF J	
C405			C93-0571-05	CHIP C 82PF J		TC1			C05-0370-05	CERAMIC TRIMMER CAP(20P)	
C406			C93-0569-05	CHIP C 56PF J		CN2,3			E23-1310-05	TEST TERMINAL	
C408			C93-0572-05	CHIP C 100PF J		CN4			E04-0154-05	PIN SOCKET	
C409			C93-0571-05	CHIP C 82PF J		CN5-8			E23-1310-05	TEST TERMINAL	
C410			C93-0564-05	CHIP C 22PF J		CN9			E41-1692-05	PIN ASSY	
C411			C93-0571-05	CHIP C 82PF J		CN10			E41-1690-05	PIN ASSY	
C451			CK73FB1H103K	CHIP C 0.010UF K		CN12,13			E04-0154-05	PIN SOCKET	
C452			C93-0568-05	CHIP C 47PF J		CN20			E04-0154-05	PIN SOCKET	
C453			C93-0569-05	CHIP C 56PF J		CN21			E04-0190-05	PIN SOCKET	
C454			C93-0573-05	CHIP C 120PF J		CN22			E23-1310-05	TEST TERMINAL	
C455			C93-0572-05	CHIP C 100PF J		-			L92-0104-05	TROIDAL CORE	
C456			C93-0564-05	CHIP C 22PF J		-			L92-0107-05	TROIDAL CORE	
C458,459			C93-0572-05	CHIP C 100PF J		-			L92-0108-05	TROIDAL CORE	
C460			C93-0570-05	CHIP C 68PF J		L1			L40-1021-12	SMALL FIXED INDUCTOR	
C463			C93-0572-05	CHIP C 100PF J		L2,3			L41-4705-33	SMALL FIXED INDUCTOR(47UH)	
C464			C93-0568-05	CHIP C 47PF J		L4			L39-0480-15	TOROIDAL COIL	
C501			CK73FB1H103K	CHIP C 0.010UF K		L5			L41-2221-48	SMALL FIXED INDUCTOR(2200UH)	
C502			C93-0569-05	CHIP C 56PF J		L6			L39-1442-05	TOROIDAL COIL	
C503			C93-0568-05	CHIP C 47PF J		L7			L41-4705-33	SMALL FIXED INDUCTOR(47UH)	
C504			C93-0555-05	CHIP C 5.0PF C		L8			L39-1443-05	TOROIDAL COIL	
C505			C93-0566-05	CHIP C 33PF J		L9-11			L41-4705-33	SMALL FIXED INDUCTOR(47UH)	
C506			C93-0572-05	CHIP C 100PF J		L12			L41-1885-32	SMALL FIXED INDUCTOR(0.18UH)	
C507			C93-0563-05	CHIP C 18PF J		L201			L41-4705-33	SMALL FIXED INDUCTOR(47UH)	
C509			C93-0571-05	CHIP C 82PF J		L202			L39-1259-05	TOROIDAL COIL	
C510			C93-0572-05	CHIP C 100PF J		L203			L39-1260-05	TOROIDAL COIL	
C511			C93-0558-05	CHIP C 8.0PF D		L251			L41-4705-33	SMALL FIXED INDUCTOR(47UH)	
C514			C93-0555-05	CHIP C 5.0PF C		L252			L39-1405-05	TOROIDAL COIL	
C515			C93-0571-05	CHIP C 82PF J		L253			L39-1225-05	TOROIDAL COIL	
C551			CK73FB1H103K	CHIP C 0.010UF K		L301			L41-4705-33	SMALL FIXED INDUCTOR(47UH)	
C552			C93-0567-05	CHIP C 39PF J		L302,303			L39-1457-05	TOROIDAL COIL	
C553			C93-0561-05	CHIP C 12PF J		L351			L41-4705-33	SMALL FIXED INDUCTOR(47UH)	
C555			C93-0571-05	CHIP C 82PF J		L352,353			L39-1221-05	TOROIDAL COIL	
C556			C93-0562-05	CHIP C 15PF J		L401			L41-4705-33	SMALL FIXED INDUCTOR(47UH)	
C557			C93-0554-05	CHIP C 4.0PF C		L402-404			L39-1456-05	TOROIDAL COIL	
C559			C93-0565-05	CHIP C 27PF J							

# PARTS LIST

FILTER UNIT (X51-3180-XX)  
 TX-RX 1 UNIT (X57-605X-XX)

Ref. No.	Address	New parts	Parts No.	Description	Desti-nation	Ref. No.	Address	New parts	Parts No.	Description	Desti-nation
L451			L41-4705-33	SMALL FIXED INDUCTOR(47UH)		K451,452			S76-0423-05	RELAY	
L452		*	L39-1519-05	TOROIDAL COIL		K501,502			S51-1420-05	RELAY	
L453,454			L34-1279-05	AIR-CORE COIL		K551,552			S51-1420-05	RELAY	
L501			L41-4705-33	SMALL FIXED INDUCTOR(47UH)							
L502			L34-4661-05	AIR-CORE COIL		D1,2			HSM88AS-E	DIODE	
L503			L34-1281-05	AIR-CORE COIL		D3,4			1SS348-F	DIODE	
L551			L41-4705-33	SMALL FIXED INDUCTOR(47UH)		D5-7			1SS355	DIODE	
L552			L34-1359-05	AIR-CORE COIL		D8,9			DSA301LA	DIODE	
L553,554			L34-4662-05	AIR-CORE COIL		D201			1SS355	DIODE	
L601,602			L41-1095-33	SMALL FIXED INDUCTOR(1.0UH)		D251			1SS355	DIODE	
L603			L34-1239-05	AIR-CORE COIL		D301			1SS355	DIODE	
L604-606		*	L34-4882-05	AIR-CORE COIL		D351			1SS355	DIODE	
L608			L41-3378-03	SMALL FIXED INDUCTOR(33NH)		D401			1SS355	DIODE	
L609			L34-1088-05	AIR-CORE COIL		D451			1SS355	DIODE	
R1,2			RK73GB2A102J	CHIP R 1.0K J 1/10W		D501			1SS355	DIODE	
R3,4			RK73FB2B101J	CHIP R 100 J 1/8W		D551			1SS355	DIODE	
R5			RK73FB2B100J	CHIP R 10 J 1/8W		D601,602			MA3J742	DIODE	
R6,7			RK73GB2A104J	CHIP R 100K J 1/10W		D603,604			L407CDB	DIODE(50V/1W)	
R8,9			RK73GB2A103J	CHIP R 10K J 1/10W		D605			MA4PH633	DIODE	
R10,11			RK73GB2A152J	CHIP R 1.5K J 1/10W		D606,607			HVU131-E	DIODE	
R12,13			RK73GB2A102J	CHIP R 1.0K J 1/10W		IC1,2			TC7SU04FU-F	MOS-IC	
R14,15			RK73RB2H330J	CHIP R 33 J 1/2W		IC3			TA75S393F-F	MOS-IC	
R16,17			RK73GB2A105J	CHIP R 1.0M J 1/10W		IC4			TC7WH74FU-F	MOS-IC	
R18			RK73FB2B333J	CHIP R 33K J 1/8W	E2,E3,E4	Q1,2			2SK208-F(GR)	FET	
R18			RK73FB2B333J	CHIP R 33K J 1/8W	E5						
R18			RK73FB2B333J	CHIP R 33K J 1/8W	J,J2,K1						
R18			RK73FB2B333J	CHIP R 33K J 1/8W	K2,K3,E1						
R18			RK73FB2B472J	CHIP R 4.7K J 1/8W	J1,J3						
R19			RK73GB2A103J	CHIP R 10K J 1/10W							
R20			RK73FB2B101J	CHIP R 100 J 1/8W							
R21			R92-1316-05	CHIP R 39 J 1W		D953,954			B30-2217-05	LED(Y)	E1,E3,E5
R22			RK73GB2A103J	CHIP R 10K J 1/10W		D953,954			B30-2217-05	LED(Y)	J,J1,J2
R23,24			RK73FB2B101J	CHIP R 100 J 1/8W		D953,954			B30-2217-05	LED(Y)	J3,K1,K3
R25-28			RK73FB2B104J	CHIP R 100K J 1/8W		D955			B30-2167-05	LED(GR)	E1,E3,E5
R29			RK73GB2A274J	CHIP R 270K J 1/10W		D955			B30-2167-05	LED(GR)	J,J1,J2
R451			RK73FB2B000J	CHIP R 0.0 J 1/8W		D955			B30-2167-05	LED(GR)	J3,K1,K3
R601			RK73FB2B680J	CHIP R 68 J 1/8W		D956			B30-2218-05	LED(OR)	E1,E3,E5
R602			RK73FB2B471J	CHIP R 470 J 1/8W	J1,J3	D956			B30-2218-05	LED(OR)	J,J1,J2
R602			RK73FB2B821J	CHIP R 820 J 1/8W	E2,E3,E4	D956			B30-2218-05	LED(OR)	J3,K1,K3
R602			RK73FB2B821J	CHIP R 820 J 1/8W	E5	D957			B30-2140-05	LED(Y)	E1,E3,E5
R602			RK73FB2B821J	CHIP R 820 J 1/8W	J,J2,K1	D957			B30-2140-05	LED(Y)	J,J1,J2
R602			RK73FB2B821J	CHIP R 820 J 1/8W	K2,K3,E1	D958			B30-2168-05	LED(RED)	J3,K1,K3
R603			RK73FB2B681J	CHIP R 680 J 1/8W							K2,E2,E4
R604			RK73FB2B101J	CHIP R 100 J 1/8W	J1,J3	C950,951			CK73GB1H103K	CHIP C 0.010UF K	
R604			RK73FB2B680J	CHIP R 68 J 1/8W	E2,E3,E4	C952-955			CK73EF1C105Z	CHIP C 1.0UF Z	E1,E3,E5
R604			RK73FB2B680J	CHIP R 68 J 1/8W	E5	C952-955			CK73EF1C105Z	CHIP C 1.0UF Z	J,J1,J2
R604			RK73FB2B680J	CHIP R 68 J 1/8W	J,J2,K1	C952-955			CK73EF1C105Z	CHIP C 1.0UF Z	J3,K1,K3
R604			RK73FB2B680J	CHIP R 68 J 1/8W	K2,K3,E1	C956-959			CK73GB1H103K	CHIP C 0.010UF K	
R605			RS14DB3F820J	FL-PROOF RS 82 J 3W		C962-965			CK73EF1C105Z	CHIP C 1.0UF Z	K2,E2,E4
R610			RK73EB2E000J	CHIP R 0.0 J 1/4W		C966			CK73GB1C104K	CHIP C 0.10UF K	K2,E2,E4
VR1			R12-6730-05	TRIMMING POT.(220)		C967-969			CK73FB1C105K	CHIP C 1.0UF K	K2,E2,E4
VR2			R12-6742-05	TRIMMING POT.(22K)		C970	*		CD04AY1A101M	ELECTRO 100UF 10WV	
K1			S51-1429-05	RELAY		C971			CK73GB1A474K	CHIP C 0.47UF K	E1,E2,E3
K2,3			S76-0424-05	RELAY		C971			CK73GB1A474K	CHIP C 0.47UF K	E4,E5
K201,202			S76-0423-05	RELAY		C972			CK73FB1C105K	CHIP C 1.0UF K	K2,E2,E4
K251,252			S76-0423-05	RELAY		CN950			E41-1686-05	PIN ASSY	E1,E3,E5
K301,302			S76-0423-05	RELAY		CN950			E41-1686-05	PIN ASSY	J,J1,J2
K351,352			S76-0423-05	RELAY		CN950			E41-1686-05	PIN ASSY	J3,K1,K3
K401,402			S76-0423-05	RELAY		CN951			E41-1687-05	PIN ASSY	
						CN952			E40-6074-05	FLAT CABLE CONNECTOR	E1,E3,E5

**TX-RX 1 UNIT (X57-605X-XX) 0-00 : J,J2 0-01 : J1,J3  
 0-11 : K1,K3 0-12 : K2 2-71 : E1,E3,E5 2-72 : E2,E4**

# PARTS LIST

TX-RX 1 UNIT (X57-605X-XX)  
TX-RX 3 UNIT (UT-20) (X57-607X-XX)

Ref. No.	Address	New parts	Parts No.	Description	Destination	Ref. No.	Address	New parts	Parts No.	Description	Destination
CN952			E40-6074-05	FLAT CABLE CONNECTOR	J,J1,J2	<b>TX-RX 3 UNIT (UT-20) (X57-607X-XX)</b> <b>0-00 : J2,J3,K3 2-71 : E5</b>					
CN952			E40-6074-05	FLAT CABLE CONNECTOR	J3,K1,K3						
CN953			E40-6077-05	FLAT CABLE CONNECTOR	E1,E3,E5	C1			CK73GB1H103K	CHIP C	0.010UF K E5
CN953			E40-6077-05	FLAT CABLE CONNECTOR	J,J1,J2	C1			CK73GB1H103K	CHIP C	0.010UF K J2,J3,K3
CN953			E40-6077-05	FLAT CABLE CONNECTOR	J3,K1,K3	C4			CK73GB1H103K	CHIP C	0.010UF K E5
CN956		*	E40-6610-05	PIN ASSY	E1,E3,E5	C4			CK73GB1H103K	CHIP C	0.010UF K J2,J3,K3
CN956		*	E40-6610-05	PIN ASSY	J,J1,J2	C5,6			CC73GCH1H100D	CHIP C	10PF D E5
CN956		*	E40-6610-05	PIN ASSY	J3,K1,K3	C5,6			CC73GCH1H100D	CHIP C	10PF D J2,J3,K3
CN957		*	E40-6594-05	PIN ASSY	E1,E3,E5	C7			CK73GB1H102K	CHIP C	1000PF K E5
CN957		*	E40-6594-05	PIN ASSY	J,J1,J2	C7			CK73GB1H102K	CHIP C	1000PF K J2,J3,K3
CN957		*	E40-6594-05	PIN ASSY	J3,K1,K3	C8			CK73GB1H103K	CHIP C	0.010UF K E5
CN958			E41-1686-05	PIN ASSY	K2,E2,E4	C8			CK73GB1H103K	CHIP C	0.010UF K J2,J3,K3
CN959,960			E41-1682-05	PIN ASSY	K2,E2,E4	C9			CC73GCH1H100D	CHIP C	10PF D E5
CN961			E41-1686-05	PIN ASSY	K2,E2,E4	C9			CC73GCH1H100D	CHIP C	10PF D J2,J3,K3
CN962			E41-1684-05	PIN ASSY	E1,E3,E5	C10			CK73GB1H102K	CHIP C	1000PF K E5
CN962			E41-1684-05	PIN ASSY	J,J1,J2	C10			CK73GB1H102K	CHIP C	1000PF K J2,J3,K3
CN962			E41-1684-05	PIN ASSY	J3,K1,K3	C11,12			CK73GB1H103K	CHIP C	0.010UF K E5
CN963			E41-1683-05	PIN ASSY	E1,E3,E5	C11,12			CK73GB1H103K	CHIP C	0.010UF K J2,J3,K3
CN963			E41-1683-05	PIN ASSY	J,J1,J2	C13			CC73GCH1H050C	CHIP C	5.0PF C E5
CN963			E41-1683-05	PIN ASSY	J3,K1,K3	C13			CC73GCH1H050C	CHIP C	5.0PF C J2,J3,K3
J950		*	E06-0858-25	MIC CONNECTOR(8P)		C14,15			CK73GB1H102K	CHIP C	1000PF K E5
J951			E11-0705-05	PHONE JACK(9P)	E1,E3,E5	C14,15			CK73GB1H102K	CHIP C	1000PF K J2,J3,K3
J951			E11-0705-05	PHONE JACK(9P)	J,J1,J2	C16			CK73GB1H471K	CHIP C	470PF K E5
J951			E11-0705-05	PHONE JACK(9P)	J3,K1,K3	C16			CK73GB1H471K	CHIP C	470PF K J2,J3,K3
J952			E11-0705-05	PHONE JACK(9P)	K2,E2,E4	C17,18			CC73GCH1H470J	CHIP C	47PF J E5
W901		*	E37-1418-05	LEAD WIRE WITH CONNECTOR	E1,E3,E5	C17,18			CC73GCH1H470J	CHIP C	47PF J J2,J3,K3
W901		*	E37-1418-05	LEAD WIRE WITH CONNECTOR	J,J1,J2	C19			CC73GCH1H060D	CHIP C	6.0PF D E5
W901		*	E37-1418-05	LEAD WIRE WITH CONNECTOR	J3,K1,K3	C19			CC73GCH1H060D	CHIP C	6.0PF D J2,J3,K3
R950,951			R92-1205-05	CHIP R 120 J 1/4W	E1,E3,E5	C20,21			CK73GB1H102K	CHIP C	1000PF K E5
R950,951			R92-1205-05	CHIP R 120 J 1/4W	J,J1,J2	C20,21			CK73GB1H102K	CHIP C	1000PF K J2,J3,K3
R950,951			R92-1205-05	CHIP R 120 J 1/4W	J3,K1,K3	C22			CC73GCH1H470J	CHIP C	47PF J E5
R952-955			RK73FB2B470J	CHIP R 47 J 1/8W		C22			CC73GCH1H470J	CHIP C	47PF J J2,J3,K3
R956-960			RK73FB2B681J	CHIP R 680 J 1/8W	E1,E3,E5	C23			CC73GCH1H040C	CHIP C	4.0PF C E5
R956-960			RK73FB2B681J	CHIP R 680 J 1/8W	J,J1,J2	C23			CC73GCH1H040C	CHIP C	4.0PF C J2,J3,K3
R956-960			RK73FB2B681J	CHIP R 680 J 1/8W	J3,K1,K3	C24			CC73GCH1H220J	CHIP C	22PF J E5
R970,971			R92-1205-05	CHIP R 120 J 1/4W	K2,E2,E4	C24			CC73GCH1H220J	CHIP C	22PF J J2,J3,K3
R972			RK73FB2B151J	CHIP R 150 J 1/8W	K2,E2,E4	C25			CC73GCH1H470J	CHIP C	47PF J E5
R973			RK73GB2A473J	CHIP R 47K J 1/10W	K2,E2,E4	C25			CC73GCH1H470J	CHIP C	47PF J J2,J3,K3
R974			RK73GB2A474J	CHIP R 470K J 1/10W	K2,E2,E4	C26			CC73GCH1H030C	CHIP C	3.0PF C E5
VR950			R31-0633-05	VARIABLE RESISTOR	E1,E3,E5	C26			CC73GCH1H030C	CHIP C	3.0PF C J2,J3,K3
VR950			R31-0633-05	VARIABLE RESISTOR	J,J1,J2	C27,28			CC73GCH1H470J	CHIP C	47PF J E5
VR950			R31-0633-05	VARIABLE RESISTOR	J3,K1,K3	C27,28			CC73GCH1H470J	CHIP C	47PF J J2,J3,K3
VR951			R31-0637-05	VARIABLE RESISTOR	E1,E3,E5	C29			CK73GB1H471K	CHIP C	470PF K E5
VR951			R31-0637-05	VARIABLE RESISTOR	J,J1,J2	C29			CK73GB1H471K	CHIP C	470PF K J2,J3,K3
VR952			R31-0634-05	VARIABLE RESISTOR	J3,K1,K3	C30			CK73GB1H103K	CHIP C	0.010UF K E5
VR952			R31-0634-05	VARIABLE RESISTOR	E1,E3,E5	C30			CK73GB1H103K	CHIP C	0.010UF K J2,J3,K3
VR952			R31-0634-05	VARIABLE RESISTOR	J,J1,J2	C31			CC73GCH1H101J	CHIP C	100PF J E5
VR952			R31-0634-05	VARIABLE RESISTOR	J3,K1,K3	C31			CC73GCH1H101J	CHIP C	100PF J J2,J3,K3
S950			S70-0461-05	TACT SWITCH	K2,E2,E4	C32			CK73GB1H471K	CHIP C	470PF K E5
S951		*	S70-0475-15	TACT SWITCH	K2,E2,E4	C32			CK73GB1H471K	CHIP C	470PF K J2,J3,K3
S902		*	T99-0653-05	ENCODER	E1,E3,E5	C33,34			CC73GCH1H470J	CHIP C	47PF J E5
S902		*	T99-0653-05	ENCODER	J,J1,J2	C33,34			CC73GCH1H470J	CHIP C	47PF J J2,J3,K3
S902		*	T99-0653-05	ENCODER	J3,K1,K3	C35			CC73GCH1H101J	CHIP C	100PF J E5
D950-952			1SS355	DIODE		C35			CC73GCH1H101J	CHIP C	100PF J J2,J3,K3
D959			1SS355	DIODE	K2,E2,E4	C36			CK73GB1C104K	CHIP C	0.10UF K E5
D960		*	UDZW6.2(B)	ZENER DIODE	K2,E2,E4	C36			CK73GB1C104K	CHIP C	0.10UF K J2,J3,K3
Q951			2SC4617(R)	TRANSISTOR	K2,E2,E4	C37			CC73GCH1H030C	CHIP C	3.0PF C E5
						C37			CC73GCH1H030C	CHIP C	3.0PF C J2,J3,K3
						C39			CC73GCH1H101J	CHIP C	100PF J E5

# PARTS LIST

TX-RX 3 UNIT (UT-20) (X57-607X-XX)

Ref. No.	Address	New parts	Parts No.	Description	Desti-nation	Ref. No.	Address	New parts	Parts No.	Description	Desti-nation
C39			CC73GCH1H101J	CHIP C 100PF J	J2,J3,K3	C92			CC73GCH1H070D	CHIP C 7.0PF D	J2,J3,K3
C40			CE32BM1E470M	CHIP EL 47UF 25WV	E5	C93			CK73GB1H102K	CHIP C 1000PF K	E5
C40			CE32BM1E470M	CHIP EL 47UF 25WV	J2,J3,K3	C93			CK73GB1H102K	CHIP C 1000PF K	J2,J3,K3
C43			CK73GB1H103K	CHIP C 0.010UF K	E5	C94			CC73GCH1H050C	CHIP C 5.0PF C	E5
C43			CK73GB1H103K	CHIP C 0.010UF K	J2,J3,K3	C94			CC73GCH1H050C	CHIP C 5.0PF C	J2,J3,K3
C44			CC73GCH1H1R5B	CHIP C 1.5PF B	E5	C95			CC73GCH1H010B	CHIP C 1.0PF B	E5
C44			CC73GCH1H1R5B	CHIP C 1.5PF B	J2,J3,K3	C95			CC73GCH1H010B	CHIP C 1.0PF B	J2,J3,K3
C45			CC73GCH1H470J	CHIP C 47PF J	E5	C96,97			CK73GB1H102K	CHIP C 1000PF K	E5
C45			CC73GCH1H470J	CHIP C 47PF J	J2,J3,K3	C96,97			CK73GB1H102K	CHIP C 1000PF K	J2,J3,K3
C46			CC73GCH1H1R5B	CHIP C 1.5PF B	E5	C98			CK73GB1C104K	CHIP C 0.10UF K	E5
C46			CC73GCH1H1R5B	CHIP C 1.5PF B	J2,J3,K3	C98			CK73GB1C104K	CHIP C 0.10UF K	J2,J3,K3
C50			CC73GCH1H101J	CHIP C 100PF J	E5	C99			CK73GB1H102K	CHIP C 1000PF K	E5
C50			CC73GCH1H101J	CHIP C 100PF J	J2,J3,K3	C99			CK73GB1H102K	CHIP C 1000PF K	J2,J3,K3
C51			CK73GB1H103K	CHIP C 0.010UF K	E5	C101			CC73GCH1H020B	CHIP C 2.0PF B	E5
C51			CK73GB1H103K	CHIP C 0.010UF K	J2,J3,K3	C101			CC73GCH1H020B	CHIP C 2.0PF B	J2,J3,K3
C52			CC73GCH1H101J	CHIP C 100PF J	E5	C103			CC73GCH1H010B	CHIP C 1.0PF B	E5
C52			CC73GCH1H101J	CHIP C 100PF J	J2,J3,K3	C103			CC73GCH1H010B	CHIP C 1.0PF B	J2,J3,K3
C53			CK73GB1H103K	CHIP C 0.010UF K	E5	C104			CK73GB1H471K	CHIP C 470PF K	E5
C53			CK73GB1H103K	CHIP C 0.010UF K	J2,J3,K3	C104			CK73GB1H471K	CHIP C 470PF K	J2,J3,K3
C56			CC73GCH1H470J	CHIP C 47PF J	E5	C105			CC73GCH1H470J	CHIP C 47PF J	E5
C56			CC73GCH1H470J	CHIP C 47PF J	J2,J3,K3	C105			CC73GCH1H470J	CHIP C 47PF J	J2,J3,K3
C57			CK73GB1H471K	CHIP C 470PF K	E5	C106			CC73GCH1H060D	CHIP C 6.0PF D	E5
C57			CK73GB1H471K	CHIP C 470PF K	J2,J3,K3	C106			CC73GCH1H060D	CHIP C 6.0PF D	J2,J3,K3
C59			CK73GB1H103K	CHIP C 0.010UF K	E5	C107			CC73GCH1H470J	CHIP C 47PF J	E5
C59			CK73GB1H103K	CHIP C 0.010UF K	J2,J3,K3	C107			CC73GCH1H470J	CHIP C 47PF J	J2,J3,K3
C60			CC73GCH1H101J	CHIP C 100PF J	E5	C108			CK73GB1H471K	CHIP C 470PF K	E5
C60			CC73GCH1H101J	CHIP C 100PF J	J2,J3,K3	C108			CK73GB1H471K	CHIP C 470PF K	J2,J3,K3
C61			CK73GB1H103K	CHIP C 0.010UF K	E5	C110			CC73GCH1HR75B	CHIP C 0.75PF B	E5
C61			CK73GB1H103K	CHIP C 0.010UF K	J2,J3,K3	C110			CC73GCH1HR75B	CHIP C 0.75PF B	J2,J3,K3
C62			CC73GCH1H101J	CHIP C 100PF J	E5	C111			CK73GB1H471K	CHIP C 470PF K	E5
C62			CC73GCH1H101J	CHIP C 100PF J	J2,J3,K3	C111			CK73GB1H471K	CHIP C 470PF K	J2,J3,K3
C62		*	CC73GCH1H101J	CHIP C 100PF J	J2,J3,K3	C111			CK73GB1H471K	CHIP C 470PF K	J2,J3,K3
C63		*	C90-4135-05	ELECTRO 100UF 25WV	E5	C112			CC73GCH1H101J	CHIP C 100PF J	E5
C63		*	C90-4135-05	ELECTRO 100UF 25WV	J2,J3,K3	C112			CC73GCH1H101J	CHIP C 100PF J	J2,J3,K3
C64			CK73GB1H471K	CHIP C 470PF K	E5	C113			CC73GCH1H020B	CHIP C 2.0PF B	E5
C64			CK73GB1H471K	CHIP C 470PF K	J2,J3,K3	C113			CC73GCH1H020B	CHIP C 2.0PF B	J2,J3,K3
C65-67			CC73GCH1H470J	CHIP C 47PF J	E5	C114			CC73GCH1H220J	CHIP C 22PF J	E5
C65-67			CC73GCH1H470J	CHIP C 47PF J	J2,J3,K3	C114			CC73GCH1H220J	CHIP C 22PF J	J2,J3,K3
C68			CC73GCH1H100D	CHIP C 10PF D	E5	C116			CC73GCH1H040C	CHIP C 4.0PF C	E5
C68			CC73GCH1H100D	CHIP C 10PF D	J2,J3,K3	C116			CC73GCH1H040C	CHIP C 4.0PF C	J2,J3,K3
C69,70			CC73GCH1H470J	CHIP C 47PF J	E5	C117			CC73GCH1H470J	CHIP C 47PF J	E5
C69,70			CC73GCH1H470J	CHIP C 47PF J	J2,J3,K3	C117			CC73GCH1H470J	CHIP C 47PF J	J2,J3,K3
C71			CK73GB1H471K	CHIP C 470PF K	E5	C118			CC73GCH1H101J	CHIP C 100PF J	E5
C71			CK73GB1H471K	CHIP C 470PF K	J2,J3,K3	C118			CC73GCH1H101J	CHIP C 100PF J	J2,J3,K3
C72			CC73GCH1H470J	CHIP C 47PF J	E5	C119			CK73GB1H103K	CHIP C 0.010UF K	E5
C72			CC73GCH1H470J	CHIP C 47PF J	J2,J3,K3	C119			CK73GB1H103K	CHIP C 0.010UF K	J2,J3,K3
C74			CK73GB1H471K	CHIP C 470PF K	E5	C120			CC73GCH1H470J	CHIP C 47PF J	E5
C74			CK73GB1H471K	CHIP C 470PF K	J2,J3,K3	C120			CC73GCH1H470J	CHIP C 47PF J	J2,J3,K3
C75			CM73F2H470J	CHIP C 47PF J	E5	C121,122			CK73GB1H471K	CHIP C 470PF K	E5
C75			CM73F2H470J	CHIP C 47PF J	J2,J3,K3	C121,122			CK73GB1H471K	CHIP C 470PF K	J2,J3,K3
C76			CK73GB1H471K	CHIP C 470PF K	E5	C123			CC73GCH1H470J	CHIP C 47PF J	E5
C76			CK73GB1H471K	CHIP C 470PF K	J2,J3,K3	C123			CC73GCH1H470J	CHIP C 47PF J	J2,J3,K3
C78			CC73GCH1H470J	CHIP C 47PF J	E5	C124			CC73GCH1H070B	CHIP C 7.0PF B	E5
C78			CC73GCH1H470J	CHIP C 47PF J	J2,J3,K3	C124			CC73GCH1H070B	CHIP C 7.0PF B	J2,J3,K3
C79-83			CC73GCH1H101J	CHIP C 100PF J	E5	C125			CC73GCH1H1R5B	CHIP C 1.5PF B	E5
C79-83			CC73GCH1H101J	CHIP C 100PF J	J2,J3,K3	C125			CC73GCH1H1R5B	CHIP C 1.5PF B	J2,J3,K3
C84-90			CK73GB1H103K	CHIP C 0.010UF K	E5	C126			CC73GCH1H080D	CHIP C 8.0PF D	E5
C84-90			CK73GB1H103K	CHIP C 0.010UF K	J2,J3,K3	C126			CC73GCH1H080D	CHIP C 8.0PF D	J2,J3,K3
C91			CK73GB1H102K	CHIP C 1000PF K	E5	C127			CC73GCH1H010B	CHIP C 1.0PF B	E5
C91			CK73GB1H102K	CHIP C 1000PF K	J2,J3,K3	C127			CC73GCH1H010B	CHIP C 1.0PF B	J2,J3,K3
C92			CC73GCH1H070D	CHIP C 7.0PF D	E5	C128			CC73GCH1H1R5B	CHIP C 1.5PF B	E5

J : TS-2000S J1 : TS-2000V J2 : TS-2000SX J3 : TS-2000VX  
 K1 : TS-2000 (K) K2 : TS-B2000 (K) K3 : TS-2000X (K)  
 E1 : TS-2000 (E) E2 : TS-B2000 (E) E3 : TS-2000 (E2) E4 : TS-B2000(E2) E5 : TS-2000X (E)

# PARTS LIST

**TX-RX 3 UNIT (UT-20) (X57-607X-XX)**

Ref. No.	Address	New parts	Parts No.	Description	Destination	Ref. No.	Address	New parts	Parts No.	Description	Destination
C128			CC73GCH1H1R5B	CHIP C 1.5PF B	J2,J3,K3	C179		*	C92-0910-05	CHIP-ELE 10UF 16WV	J2,J3,K3
C131-134			CC73GCH1H101J	CHIP C 100PF J	E5	C180			CK73GB1H102K	CHIP C 1000PF K	E5
C131-134			CC73GCH1H101J	CHIP C 100PF J	J2,J3,K3	C180			CK73GB1H102K	CHIP C 1000PF K	J2,J3,K3
C135			CC73GCH1H470J	CHIP C 47PF J	E5	C182			CC73GCH1H470J	CHIP C 47PF J	E5
C135			CC73GCH1H470J	CHIP C 47PF J	J2,J3,K3	C182			CC73GCH1H470J	CHIP C 47PF J	J2,J3,K3
C136			CK73GB1H103K	CHIP C 0.010UF K	E5	C183			CK73GB1H471K	CHIP C 470PF K	E5
C136			CK73GB1H103K	CHIP C 0.010UF K	J2,J3,K3	C183			CK73GB1H471K	CHIP C 470PF K	J2,J3,K3
C137		*	CS77AC1C100M	CHIP TNL 100UF 10WV	E5	C184,185			CC73GCH1H470J	CHIP C 47PF J	E5
C137		*	CS77AC1C100M	CHIP TNL 100UF 10WV	J2,J3,K3	C184,185			CC73GCH1H470J	CHIP C 47PF J	J2,J3,K3
C138			CK73GB1H103K	CHIP C 0.010UF K	E5	C186			CK73GB1H471K	CHIP C 470PF K	E5
C138			CK73GB1H103K	CHIP C 0.010UF K	J2,J3,K3	C186			CK73GB1H471K	CHIP C 470PF K	J2,J3,K3
C139,140			CK73GB1H102K	CHIP C 1000PF K	E5	C188			CC73GCH1H040C	CHIP C 4.0PF C	E5
C139,140			CK73GB1H102K	CHIP C 1000PF K	J2,J3,K3	C188			CC73GCH1H040C	CHIP C 4.0PF C	J2,J3,K3
C142			CC73GCH1H070D	CHIP C 7.0PF D	E5	C189			CC73GCH1H220J	CHIP C 22PF J	E5
C142			CC73GCH1H070D	CHIP C 7.0PF D	J2,J3,K3	C189			CC73GCH1H220J	CHIP C 22PF J	J2,J3,K3
C143			CK73GB1H102K	CHIP C 1000PF K	E5	C190			CC73GCH1H470J	CHIP C 47PF J	E5
C143			CK73GB1H102K	CHIP C 1000PF K	J2,J3,K3	C190			CC73GCH1H470J	CHIP C 47PF J	J2,J3,K3
C144			CC73GCH1H0R3B	CHIP C 0.3PF B	E5	C191			CC73GCH1H050C	CHIP C 5.0PF C	E5
C144			CC73GCH1H0R3B	CHIP C 0.3PF B	J2,J3,K3	C191			CC73GCH1H050C	CHIP C 5.0PF C	J2,J3,K3
C145			CC73GCH1H070D	CHIP C 7.0PF D	E5	C192			CK73GB1H471K	CHIP C 470PF K	E5
C145			CC73GCH1H070D	CHIP C 7.0PF D	J2,J3,K3	C192			CK73GB1H471K	CHIP C 470PF K	J2,J3,K3
C147		*	CS77AC1C100M	CHIP TNL 100UF 10WV	E5	C193			CC73GCH1H100D	CHIP C 10PF D	E5
C147		*	CS77AC1C100M	CHIP TNL 100UF 10WV	J2,J3,K3	C193			CC73GCH1H100D	CHIP C 10PF D	J2,J3,K3
C148			CK73GB1H103K	CHIP C 0.010UF K	E5	C194			CK73GB1H103K	CHIP C 0.010UF K	E5
C148			CK73GB1H103K	CHIP C 0.010UF K	J2,J3,K3	C194			CK73GB1H103K	CHIP C 0.010UF K	J2,J3,K3
C149			CK73GB1H102K	CHIP C 1000PF K	E5	C195			CC73GCH1H101J	CHIP C 100PF J	E5
C149			CK73GB1H102K	CHIP C 1000PF K	J2,J3,K3	C195			CC73GCH1H101J	CHIP C 100PF J	J2,J3,K3
C150			CC73GCH1H470J	CHIP C 47PF J	E5	C301			CK73GB1H471K	CHIP C 470PF K	E5
C150			CC73GCH1H470J	CHIP C 47PF J	J2,J3,K3	C301			CK73GB1H471K	CHIP C 470PF K	J2,J3,K3
C151			CK73GB1H103K	CHIP C 0.010UF K	E5	C302,303			CC73GCH1H101J	CHIP C 100PF J	E5
C151			CK73GB1H103K	CHIP C 0.010UF K	J2,J3,K3	C302,303			CC73GCH1H101J	CHIP C 100PF J	J2,J3,K3
C152			CK73GB1H102K	CHIP C 1000PF K	E5	C304			CC73GCH1H150J	CHIP C 15PF J	E5
C152			CK73GB1H102K	CHIP C 1000PF K	J2,J3,K3	C304			CC73GCH1H150J	CHIP C 15PF J	J2,J3,K3
C153			CC73GCH1H070D	CHIP C 7.0PF D	E5	C305			CK73GB1H102K	CHIP C 1000PF K	E5
C153			CC73GCH1H070D	CHIP C 7.0PF D	J2,J3,K3	C305			CK73GB1H102K	CHIP C 1000PF K	J2,J3,K3
C154			CK73GB1H102K	CHIP C 1000PF K	E5	C306			CC73GCH1H150J	CHIP C 15PF J	E5
C154			CK73GB1H102K	CHIP C 1000PF K	J2,J3,K3	C306			CC73GCH1H150J	CHIP C 15PF J	J2,J3,K3
C155,156			CK73GB1H103K	CHIP C 0.010UF K	E5	C307			CC73GCH1H1R5B	CHIP C 1.5PF B	E5
C155,156			CK73GB1H103K	CHIP C 0.010UF K	J2,J3,K3	C307			CC73GCH1H1R5B	CHIP C 1.5PF B	J2,J3,K3
C158			CC73GCH1H470J	CHIP C 47PF J	E5	C308			CK73GB1H471K	CHIP C 470PF K	E5
C158			CC73GCH1H470J	CHIP C 47PF J	J2,J3,K3	C308			CK73GB1H471K	CHIP C 470PF K	J2,J3,K3
C165		*	C92-0910-05	CHIP-ELE 10UF 16WV	E5	C309			CC73GCH1H060D	CHIP C 6.0PF D	E5
C165		*	C92-0910-05	CHIP-ELE 10UF 16WV	J2,J3,K3	C309			CC73GCH1H060D	CHIP C 6.0PF D	J2,J3,K3
C167			CK73GB1H102K	CHIP C 1000PF K	E5	C310			CC73GCH1H101J	CHIP C 100PF J	E5
C167			CK73GB1H102K	CHIP C 1000PF K	J2,J3,K3	C310			CC73GCH1H101J	CHIP C 100PF J	J2,J3,K3
C169			CK73GB1H471K	CHIP C 470PF K	E5	C311			CC73GCH1H080D	CHIP C 8.0PF D	E5
C169			CK73GB1H471K	CHIP C 470PF K	J2,J3,K3	C311			CC73GCH1H080D	CHIP C 8.0PF D	J2,J3,K3
C170,171			CK73GB1H102K	CHIP C 1000PF K	E5	C312			CC73GCH1H020B	CHIP C 2.0PF B	E5
C170,171			CK73GB1H102K	CHIP C 1000PF K	J2,J3,K3	C312			CC73GCH1H020B	CHIP C 2.0PF B	J2,J3,K3
C172			CK73GB1H103K	CHIP C 0.010UF K	E5	C313			CC73GCH1H030C	CHIP C 3.0PF C	E5
C172			CK73GB1H103K	CHIP C 0.010UF K	J2,J3,K3	C313			CC73GCH1H030C	CHIP C 3.0PF C	J2,J3,K3
C173			CK73GB1H102K	CHIP C 1000PF K	E5	C314			CC73GCH1H101J	CHIP C 100PF J	E5
C173			CK73GB1H102K	CHIP C 1000PF K	J2,J3,K3	C314			CC73GCH1H101J	CHIP C 100PF J	J2,J3,K3
C174			CK73GB1H471K	CHIP C 470PF K	E5	C315			CC73GCH1H470J	CHIP C 47PF J	E5
C174			CK73GB1H471K	CHIP C 470PF K	J2,J3,K3	C315			CC73GCH1H470J	CHIP C 47PF J	J2,J3,K3
C176			CE32BM1E470M	CHIP EL 47UF 25WV	E5	C316			CC73GCH1H030C	CHIP C 3.0PF C	E5
C176			CE32BM1E470M	CHIP EL 47UF 25WV	J2,J3,K3	C316			CC73GCH1H030C	CHIP C 3.0PF C	J2,J3,K3
C178			CK73GB1H102K	CHIP C 1000PF K	E5	C317,318			CC73GCH1H010B	CHIP C 1.0PF B	E5
C178			CK73GB1H102K	CHIP C 1000PF K	J2,J3,K3	C317,318			CC73GCH1H010B	CHIP C 1.0PF B	J2,J3,K3
C179		*	C92-0910-05	CHIP-ELE 10UF 16WV	E5	C319			CC73GCH1H470J	CHIP C 47PF J	E5

J : TS-2000S J1 : TS-2000V J2 : TS-2000SX J3 : TS-2000VX

K1 : TS-2000 (K) K2 : TS-B2000 (K) K3 : TS-2000X (K)

E1 : TS-2000 (E) E2 : TS-B2000 (E) E3 : TS-2000 (E2) E4 : TS-B2000(E2) E5 : TS-2000X (E)

# PARTS LIST

TX-RX 3 UNIT (UT-20) (X57-607X-XX)

Ref. No.	Address	New parts	Parts No.	Description	Destination	Ref. No.	Address	New parts	Parts No.	Description	Destination
C319			CC73GCH1H470J	CHIP C 47PF J	J2,J3,K3	C500			CC73GCH1H470J	CHIP C 47PF J	J2,J3,K3
C320			C92-0920-05	CHIP-ELE 330UF 16WV	E5	TC301			C05-0393-05	CERAMIC TRIMMER CAPACITOR(8P)	E5
C320			C92-0920-05	CHIP-ELE 330UF 16WV	J2,J3,K3	TC301			C05-0393-05	CERAMIC TRIMMER CAPACITOR(8P)	J2,J3,K3
C323			CC73GCH1H470J	CHIP C 47PF J	E5	-			E23-0433-05	EARTH LUG	E5
C323			CC73GCH1H470J	CHIP C 47PF J	J2,J3,K3	-			E23-0433-05	EARTH LUG	J2,J3,K3
C326,327			CC73GCH1H470J	CHIP C 47PF J	E5	501	3B	*	E30-3457-15	ANTENNA CABLE	E5
C326,327			CC73GCH1H470J	CHIP C 47PF J	J2,J3,K3	501	3B	*	E30-3457-15	ANTENNA CABLE	J2,J3,K3
C328,329			CK73GB1H103K	CHIP C 0.010UF K	E5	W4			E37-0885-15	LEAD WIRE WITH CONNECTOR(0.8D)	E5
C328,329			CK73GB1H103K	CHIP C 0.010UF K	J2,J3,K3	W4			E37-0885-15	LEAD WIRE WITH CONNECTOR(0.8D)	J2,J3,K3
C332			CK73GB1C473K	CHIP C 0.047UF K	E5	W2			E37-0894-05	LEAD WIRE WITH TERMINAL	E5
C332			CK73GB1C473K	CHIP C 0.047UF K	J2,J3,K3	W2			E37-0894-05	LEAD WIRE WITH TERMINAL	J2,J3,K3
C333,334			CS77CA1A3R3M	CHIP TNTL 3.3UF 10WV	E5	W3			E37-0895-05	LEAD WIRE WITH TERMINAL	E5
C333,334			CS77CA1A3R3M	CHIP TNTL 3.3UF 10WV	J2,J3,K3	W3			E37-0895-05	LEAD WIRE WITH TERMINAL	J2,J3,K3
C335		*	C92-0872-05	CHIP TNTL 0.068UF 35WV	E5	504	3C		E37-0943-05	LEAD WIRE WITH MINIPIN PLUG	E5
C335		*	C92-0872-05	CHIP TNTL 0.068UF 35WV	J2,J3,K3	504	3C		E37-0943-05	LEAD WIRE WITH MINIPIN PLUG	J2,J3,K3
C336			CK73GB1H182K	CHIP C 1800PF K	E5	CN5			E40-6527-05	PIN ASSY	E5
C336			CK73GB1H182K	CHIP C 1800PF K	J2,J3,K3	CN5			E40-6527-05	PIN ASSY	J2,J3,K3
C367			CC73GCH1H101J	CHIP C 100PF J	E5	CN6			E40-5978-05	FLAT CABLE CONNECTOR	E5
C367			CC73GCH1H101J	CHIP C 100PF J	J2,J3,K3	CN6			E40-5978-05	FLAT CABLE CONNECTOR	J2,J3,K3
C368,369			CC73GCH1H020B	CHIP C 2.0PF B	E5	CN7,8			E04-0428-05	PIN SOCKET	E5
C368,369			CC73GCH1H020B	CHIP C 2.0PF B	J2,J3,K3	CN7,8			E04-0428-05	PIN SOCKET	J2,J3,K3
C370-374			CK73GB1H103K	CHIP C 0.010UF K	E5	CN9			E04-0190-05	PIN SOCKET	E5
C370-374			CK73GB1H103K	CHIP C 0.010UF K	J2,J3,K3	CN9			E04-0190-05	PIN SOCKET	J2,J3,K3
C377-379			CK73GB1H103K	CHIP C 0.010UF K	E5	CN11-16			E04-0428-05	PIN SOCKET	E5
C377-379			CK73GB1H103K	CHIP C 0.010UF K	J2,J3,K3	CN11-16			E04-0428-05	PIN SOCKET	J2,J3,K3
C380			CC73GCH1H270J	CHIP C 27PF J	E5	506	3C		F10-2368-03	SHIELDING PLATE	E5
C380			CC73GCH1H270J	CHIP C 27PF J	J2,J3,K3	506	3C		F10-2368-03	SHIELDING PLATE	J2,J3,K3
C381,382			CK73GB1H103K	CHIP C 0.010UF K	E5	-			F10-2390-04	SHIELDING CASE	E5
C381,382			CK73GB1H103K	CHIP C 0.010UF K	J2,J3,K3	-			F10-2390-04	SHIELDING CASE	J2,J3,K3
C383			CC73GCH1H080D	CHIP C 8.0PF D	E5	-			F10-2391-04	SHIELDING CASE	E5
C383			CC73GCH1H080D	CHIP C 8.0PF D	J2,J3,K3	-			F10-2391-04	SHIELDING CASE	J2,J3,K3
C384-386			CK73GB1H103K	CHIP C 0.010UF K	E5	-			F10-2394-04	SHIELDING CASE	E5
C384-386			CK73GB1H103K	CHIP C 0.010UF K	J2,J3,K3	-			F10-2394-04	SHIELDING CASE	J2,J3,K3
C387			CK73GB1C104K	CHIP C 0.10UF K	E5	-			F10-2396-03	SHIELDING COVER(IC3)	E5
C387			CK73GB1C104K	CHIP C 0.10UF K	J2,J3,K3	-			F10-2396-03	SHIELDING COVER(IC3)	J2,J3,K3
C388			CC73GCH1H330J	CHIP C 33PF J	E5	F1		*	F53-0375-05	FUSE(0.5A 32V)	E5
C388			CC73GCH1H330J	CHIP C 33PF J	J2,J3,K3	F1		*	F53-0375-05	FUSE(0.5A 32V)	J2,J3,K3
C389			CC73GCH1H050C	CHIP C 5.0PF C	E5	511	3C		G10-1218-04	FIBROUS SHEET	E5
C389			CC73GCH1H050C	CHIP C 5.0PF C	J2,J3,K3	511	3C		G10-1218-04	FIBROUS SHEET	J2,J3,K3
C390-393			CK73GB1H103K	CHIP C 0.010UF K	E5	512	3B		J21-8401-04	MOUNTING HARDWARE	E5
C390-393			CK73GB1H103K	CHIP C 0.010UF K	J2,J3,K3	512	3B		J21-8401-04	MOUNTING HARDWARE	J2,J3,K3
C394			CC73GCH1H010B	CHIP C 1.0PF B	E5	-			J61-0307-05	BAND	E5
C394			CC73GCH1H010B	CHIP C 1.0PF B	J2,J3,K3	-			J61-0307-05	BAND	J2,J3,K3
C395,396			CC73GCH1H180J	CHIP C 18PF J	E5	-			L72-1026-05	CERAMIC FILTER(8.4MHz)	E5
C395,396			CC73GCH1H180J	CHIP C 18PF J	J2,J3,K3	-			L72-1026-05	CERAMIC FILTER(8.4MHz)	J2,J3,K3
C397			CK73GB1H103K	CHIP C 0.010UF K	E5	L2		*	L34-4838-05	COIL	E5
C397			CK73GB1H103K	CHIP C 0.010UF K	J2,J3,K3	L2		*	L34-4838-05	COIL	J2,J3,K3
C398			CC73GCH1H330J	CHIP C 33PF J	E5	L3		*	L34-4845-05	COIL	E5
C398			CC73GCH1H330J	CHIP C 33PF J	J2,J3,K3	L3		*	L34-4845-05	COIL	J2,J3,K3
C399-401			CK73GB1H103K	CHIP C 0.010UF K	E5	L4		*	L41-1005-39	SMALL FIXED INDUCTOR(10U)	E5
C399-401			CK73GB1H103K	CHIP C 0.010UF K	J2,J3,K3	L4		*	L41-1005-39	SMALL FIXED INDUCTOR(10U)	J2,J3,K3
C402			CC73GCH1H010B	CHIP C 1.0PF B	E5	L5		*	L34-4845-05	COIL	E5
C402			CC73GCH1H010B	CHIP C 1.0PF B	J2,J3,K3	L5		*	L34-4845-05	COIL	J2,J3,K3
C403			CC73GCH1H030C	CHIP C 3.0PF C	E5	L6			L92-0403-05	CHIP FERRITE	E5
C403			CC73GCH1H030C	CHIP C 3.0PF C	J2,J3,K3	L6			L92-0403-05	CHIP FERRITE	J2,J3,K3
C404			CK73GB1H102K	CHIP C 1000PF K	E5	L7,8		*	L39-1515-05	TOROIDAL COIL	E5
C404			CK73GB1H102K	CHIP C 1000PF K	J2,J3,K3	L7,8		*	L39-1515-05	TOROIDAL COIL	J2,J3,K3
C409			CC73GCH1H010B	CHIP C 1.0PF B	E5	L7,8		*	L39-1515-05	TOROIDAL COIL	E5
C409			CC73GCH1H010B	CHIP C 1.0PF B	J2,J3,K3	L7,8		*	L39-1515-05	TOROIDAL COIL	J2,J3,K3
C500			CC73GCH1H470J	CHIP C 47PF J	E5	L9		*	L34-4844-05	COIL	E5
C500			CC73GCH1H470J	CHIP C 47PF J	E5	L9		*	L34-4844-05	COIL	J2,J3,K3

J : TS-2000S J1 : TS-2000V J2 : TS-2000SX J3 : TS-2000VX

K1 : TS-2000 (K) K2 : TS-B2000 (K) K3 : TS-2000X (K)

E1 : TS-2000 (E) E2 : TS-B2000 (E) E3 : TS-2000 (E2) E4 : TS-B2000(E2) E5 : TS-2000X (E)

# PARTS LIST

**TX-RX 3 UNIT (UT-20) (X57-607X-XX)**

Ref. No.	Address	New parts	Parts No.	Description	Desti-nation	Ref. No.	Address	New parts	Parts No.	Description	Desti-nation
L9		*	L34-4844-05	COIL	J2,J3,K3	L52		*	L79-1875-15	DIELECTRIC FILTER	J2,J3,K3
L10		*	L79-1877-15	DIELECTRIC FILTER	E5	L301			L40-1085-92	SMALL FIXED INDUCTOR(100NH)	E5
L10		*	L79-1877-15	DIELECTRIC FILTER	J2,J3,K3	L301			L40-1085-92	SMALL FIXED INDUCTOR(100NH)	J2,J3,K3
L11			L40-1075-92	SMALL FIXED INDUCTOR(10NH)	E5	L302			L40-1278-60	SMALL FIXED INDUCTOR(12NH)	E5
L11			L40-1075-92	SMALL FIXED INDUCTOR(10NH)	J2,J3,K3	L302			L40-1278-60	SMALL FIXED INDUCTOR(12NH)	J2,J3,K3
L12		*	L79-1877-15	DIELECTRIC FILTER	E5	L303,304			L40-1085-92	SMALL FIXED INDUCTOR(100NH)	E5
L12		*	L79-1877-15	DIELECTRIC FILTER	J2,J3,K3	L303,304			L40-1085-92	SMALL FIXED INDUCTOR(100NH)	J2,J3,K3
L13,14			L92-0403-05	CHIP FERRITE	E5	L305,306			L40-2275-92	SMALL FIXED INDUCTOR(22NH)	E5
L13,14			L92-0403-05	CHIP FERRITE	J2,J3,K3	L305,306			L40-2275-92	SMALL FIXED INDUCTOR(22NH)	J2,J3,K3
L15			L41-2775-33	SMALL FIXED INDUCTOR(0.027UH)	E5	L307			L40-1875-92	SMALL FIXED INDUCTOR(18NH)	E5
L15			L41-2775-33	SMALL FIXED INDUCTOR(0.027UH)	J2,J3,K3	L307			L40-1875-92	SMALL FIXED INDUCTOR(18NH)	J2,J3,K3
L16			L92-0443-05	CHIP FERRITE	E5	L308			L40-8265-92	SMALL FIXED INDUCTOR(8.2NH)	E5
L16			L92-0443-05	CHIP FERRITE	J2,J3,K3	L308			L40-8265-92	SMALL FIXED INDUCTOR(8.2NH)	J2,J3,K3
L17			L41-3375-33	SMALL FIXED INDUCTOR(0.033UH)	E5	L309			L40-2275-92	SMALL FIXED INDUCTOR(22NH)	E5
L17			L41-3375-33	SMALL FIXED INDUCTOR(0.033UH)	J2,J3,K3	L309			L40-2275-92	SMALL FIXED INDUCTOR(22NH)	J2,J3,K3
L18			L92-0443-05	CHIP FERRITE	E5	L310			L40-5663-92	SMALL FIXED INDUCTOR(5.6NH)	E5
L18			L92-0443-05	CHIP FERRITE	J2,J3,K3	L310			L40-5663-92	SMALL FIXED INDUCTOR(5.6NH)	J2,J3,K3
L19-21			L92-0403-05	CHIP FERRITE	E5	L312			L40-4763-92	SMALL FIXED INDUCTOR(4.7NH)	E5
L19-21			L92-0403-05	CHIP FERRITE	J2,J3,K3	L312			L40-4763-92	SMALL FIXED INDUCTOR(4.7NH)	J2,J3,K3
L22		*	L34-4838-05	COIL	E5	L315			L40-4763-92	SMALL FIXED INDUCTOR(4.7NH)	E5
L22		*	L34-4838-05	COIL	J2,J3,K3	L315			L40-4763-92	SMALL FIXED INDUCTOR(4.7NH)	J2,J3,K3
L23			L41-1005-39	SMALL FIXED INDUCTOR(10U)	E5	L318,319			L40-2275-92	SMALL FIXED INDUCTOR(22NH)	E5
L23			L41-1005-39	SMALL FIXED INDUCTOR(10U)	J2,J3,K3	L318,319			L40-2275-92	SMALL FIXED INDUCTOR(22NH)	J2,J3,K3
L24		*	L34-4844-05	COIL	E5	L320,321		*	L34-4843-05	COIL	E5
L24		*	L34-4844-05	COIL	J2,J3,K3	L320,321		*	L34-4843-05	COIL	J2,J3,K3
L25		*	L34-4845-05	COIL	E5	L322			L40-8265-92	SMALL FIXED INDUCTOR(8.2NH)	E5
L25		*	L34-4845-05	COIL	J2,J3,K3	L322			L40-8265-92	SMALL FIXED INDUCTOR(8.2NH)	J2,J3,K3
L26-28		*	L34-4843-05	COIL	E5	L323		*	L41-1595-39	SMALL FIXED INDUCTOR(1.5U)	E5
L26-28		*	L34-4843-05	COIL	J2,J3,K3	L323		*	L41-1595-39	SMALL FIXED INDUCTOR(1.5U)	J2,J3,K3
L29		*	L34-4844-05	COIL	E5	L336			L40-2285-92	SMALL FIXED INDUCTOR(220NH)	E5
L29		*	L34-4844-05	COIL	J2,J3,K3	L336			L40-2285-92	SMALL FIXED INDUCTOR(220NH)	J2,J3,K3
L30		*	L79-1874-15	DIELECTRIC FILTER	E5	L337			L40-5663-92	SMALL FIXED INDUCTOR(5.6NH)	E5
L30		*	L79-1874-15	DIELECTRIC FILTER	J2,J3,K3	L337			L40-5663-92	SMALL FIXED INDUCTOR(5.6NH)	J2,J3,K3
L31			L40-8265-92	SMALL FIXED INDUCTOR(8.2NH)	E5	L338			L34-4817-05	COIL	E5
L31			L40-8265-92	SMALL FIXED INDUCTOR(8.2NH)	J2,J3,K3	L338			L34-4817-05	COIL	J2,J3,K3
L32			L40-6865-92	SMALL FIXED INDUCTOR(6.8NH)	E5	L339			L34-4826-05	COIL	E5
L32			L40-6865-92	SMALL FIXED INDUCTOR(6.8NH)	J2,J3,K3	L339			L34-4826-05	COIL	J2,J3,K3
L33		*	L79-1876-15	DIELECTRIC FILTER	E5	L340-342		*	L34-4846-05	COIL	E5
L33		*	L79-1876-15	DIELECTRIC FILTER	J2,J3,K3	L340-342		*	L34-4846-05	COIL	J2,J3,K3
L34			L40-1075-92	SMALL FIXED INDUCTOR(10NH)	E5	L343			L41-1005-33	SMALL FIXED INDUCTOR(10UH)	E5
L34			L40-1075-92	SMALL FIXED INDUCTOR(10NH)	J2,J3,K3	L343			L41-1005-33	SMALL FIXED INDUCTOR(10UH)	J2,J3,K3
L35			L40-5663-92	SMALL FIXED INDUCTOR(5.6NH)	E5	L344			L41-4705-39	SMALL FIXED INDUCTOR(47U)	E5
L35			L40-5663-92	SMALL FIXED INDUCTOR(5.6NH)	J2,J3,K3	L344			L41-4705-39	SMALL FIXED INDUCTOR(47U)	J2,J3,K3
L36			L40-2263-92	SMALL FIXED INDUCTOR(2.2NH)	E5	L345			L41-1005-33	SMALL FIXED INDUCTOR(10UH)	E5
L36			L40-2263-92	SMALL FIXED INDUCTOR(2.2NH)	J2,J3,K3	L345			L41-1005-33	SMALL FIXED INDUCTOR(10UH)	J2,J3,K3
L37			L40-6865-92	SMALL FIXED INDUCTOR(6.8NH)	E5	L346			L40-1085-92	SMALL FIXED INDUCTOR(100NH)	E5
L37			L40-6865-92	SMALL FIXED INDUCTOR(6.8NH)	J2,J3,K3	L346			L40-1085-92	SMALL FIXED INDUCTOR(100NH)	J2,J3,K3
L38			L40-5663-92	SMALL FIXED INDUCTOR(5.6NH)	E5	L347			L40-4763-92	SMALL FIXED INDUCTOR(4.7NH)	E5
L38			L40-5663-92	SMALL FIXED INDUCTOR(5.6NH)	J2,J3,K3	L347			L40-4763-92	SMALL FIXED INDUCTOR(4.7NH)	J2,J3,K3
L40,41			L41-1005-39	SMALL FIXED INDUCTOR(10U)	E5	L348			L40-5663-92	SMALL FIXED INDUCTOR(5.6NH)	E5
L40,41			L41-1005-39	SMALL FIXED INDUCTOR(10U)	J2,J3,K3	L348			L40-5663-92	SMALL FIXED INDUCTOR(5.6NH)	J2,J3,K3
L42,43		*	L34-4844-05	COIL	E5	L349			L40-1875-92	SMALL FIXED INDUCTOR(18NH)	E5
L42,43		*	L34-4844-05	COIL	J2,J3,K3	L349			L40-1875-92	SMALL FIXED INDUCTOR(18NH)	J2,J3,K3
L44			L41-1005-39	SMALL FIXED INDUCTOR(10U)	E5	XF1		*	L71-0575-15	MCF	E5
L44			L41-1005-39	SMALL FIXED INDUCTOR(10U)	J2,J3,K3	XF1		*	L71-0575-15	MCF	J2,J3,K3
L45		*	L34-4844-05	COIL	E5	XF2			L71-0576-05	MCF	E5
L45		*	L34-4844-05	COIL	J2,J3,K3	XF2			L71-0576-05	MCF	J2,J3,K3
L49-51			L41-1005-39	SMALL FIXED INDUCTOR(10U)	E5	P	3C		N30-2606-48	PAN HEAD MACHINE SCREW	E5
L49-51			L41-1005-39	SMALL FIXED INDUCTOR(10U)	J2,J3,K3	P	3C		N30-2606-48	PAN HEAD MACHINE SCREW	J2,J3,K3
L52		*	L79-1875-15	DIELECTRIC FILTER	E5						



# PARTS LIST

**TX-RX 3 UNIT (UT-20) (X57-607X-XX)**

Ref. No.	Address	New parts	Parts No.	Description	Destination	Ref. No.	Address	New parts	Parts No.	Description	Destination
-			N67-2608-48	PAN HEAD SEMS SCREW	E5	R32			RK73GB2A101J	CHIP R 100 J 1/10W	J2,J3,K3
-			N67-2608-48	PAN HEAD SEMS SCREW	J2,J3,K3	R33			RK73GB2A181J	CHIP R 180 J 1/10W	E5
R	3C		N87-2606-48	BRAZIER HEAD TAPTITE SCREW	E5	R33			RK73GB2A181J	CHIP R 180 J 1/10W	J2,J3,K3
R	3C		N87-2606-48	BRAZIER HEAD TAPTITE SCREW	J2,J3,K3	R34			RK73GB2A000J	CHIP R 0.0 J 1/10W	E5
						R34			RK73GB2A000J	CHIP R 0.0 J 1/10W	J2,J3,K3
CP1,2			RK74GB1J101J	CHIP-COM 100 J 1/16W	E5						
CP1,2			RK74GB1J101J	CHIP-COM 100 J 1/16W	J2,J3,K3	R35			RK73GB2A680J	CHIP R 68 J 1/10W	E5
R2,3			RK73GB2A102J	CHIP R 1.0K J 1/10W	E5	R35			RK73GB2A680J	CHIP R 68 J 1/10W	J2,J3,K3
R2,3			RK73GB2A102J	CHIP R 1.0K J 1/10W	J2,J3,K3	R36			RK73GB2A121J	CHIP R 120 J 1/10W	E5
R4			RK73GB2A103J	CHIP R 10K J 1/10W	E5	R36			RK73GB2A121J	CHIP R 120 J 1/10W	J2,J3,K3
						R37			RK73GB2A152J	CHIP R 1.5K J 1/10W	E5
R4			RK73GB2A103J	CHIP R 10K J 1/10W	J2,J3,K3						
R5			RK73GB2A273J	CHIP R 27K J 1/10W	E5	R37			RK73GB2A152J	CHIP R 1.5K J 1/10W	J2,J3,K3
R5			RK73GB2A273J	CHIP R 27K J 1/10W	J2,J3,K3	R38,39			RK73GB2A470J	CHIP R 47 J 1/10W	E5
R6			RK73GB2A100J	CHIP R 10 J 1/10W	E5	R38,39			RK73GB2A470J	CHIP R 47 J 1/10W	J2,J3,K3
R6			RK73GB2A100J	CHIP R 10 J 1/10W	J2,J3,K3	R40			RK73GB2A151J	CHIP R 150 J 1/10W	E5
						R40			RK73GB2A151J	CHIP R 150 J 1/10W	J2,J3,K3
R7			RK73GB2A102J	CHIP R 1.0K J 1/10W	E5						
R7			RK73GB2A102J	CHIP R 1.0K J 1/10W	J2,J3,K3	R41			RK73GB2A390J	CHIP R 39 J 1/10W	E5
R8,9			RK73GB2A680J	CHIP R 68 J 1/10W	E5	R41			RK73GB2A390J	CHIP R 39 J 1/10W	J2,J3,K3
R8,9			RK73GB2A680J	CHIP R 68 J 1/10W	J2,J3,K3	R42			RK73GB2A151J	CHIP R 150 J 1/10W	E5
R10			RK73GB2A103J	CHIP R 10K J 1/10W	E5	R42			RK73GB2A151J	CHIP R 150 J 1/10W	J2,J3,K3
						R43			RK73GB2A331J	CHIP R 330 J 1/10W	E5
R10			RK73GB2A103J	CHIP R 10K J 1/10W	J2,J3,K3						
R11			RK73GB2A273J	CHIP R 27K J 1/10W	E5	R43			RK73GB2A331J	CHIP R 330 J 1/10W	J2,J3,K3
R11			RK73GB2A273J	CHIP R 27K J 1/10W	J2,J3,K3	R44		*	RK73GB2A3R9J	CHIP R 3.9 J 1/10W	E5
R12,13			RK73GB2A330J	CHIP R 33 J 1/10W	E5	R44		*	RK73GB2A3R9J	CHIP R 3.9 J 1/10W	J2,J3,K3
R12,13			RK73GB2A330J	CHIP R 33 J 1/10W	J2,J3,K3	R45			RK73GB2A182J	CHIP R 1.8K J 1/10W	E5
						R45			RK73GB2A182J	CHIP R 1.8K J 1/10W	J2,J3,K3
R14,15			RK73GB2A331J	CHIP R 330 J 1/10W	E5						
R14,15			RK73GB2A331J	CHIP R 330 J 1/10W	J2,J3,K3	R46			RK73GB2A152J	CHIP R 1.5K J 1/10W	E5
R16			RK73GB2A101J	CHIP R 100 J 1/10W	E5	R46			RK73GB2A152J	CHIP R 1.5K J 1/10W	J2,J3,K3
R16			RK73GB2A101J	CHIP R 100 J 1/10W	J2,J3,K3	R47,48			RK73GB2A182J	CHIP R 1.8K J 1/10W	E5
R17			RK73GB2A271J	CHIP R 270 J 1/10W	E5	R47,48			RK73GB2A182J	CHIP R 1.8K J 1/10W	J2,J3,K3
						R50		*	RK73PB2H181J	CHIP R 180 J 1/2W	E5
R17			RK73GB2A271J	CHIP R 270 J 1/10W	J2,J3,K3						
R18			RK73GB2A180J	CHIP R 18 J 1/10W	E5	R50		*	RK73PB2H181J	CHIP R 180 J 1/2W	J2,J3,K3
R18			RK73GB2A180J	CHIP R 18 J 1/10W	J2,J3,K3	R51			RK73GB2A101J	CHIP R 100 J 1/10W	E5
R19			RK73GB2A271J	CHIP R 270 J 1/10W	E5	R51			RK73GB2A101J	CHIP R 100 J 1/10W	J2,J3,K3
R19			RK73GB2A271J	CHIP R 270 J 1/10W	J2,J3,K3	R52			RK73GB2A821J	CHIP R 820 J 1/10W	E5
						R52			RK73GB2A821J	CHIP R 820 J 1/10W	J2,J3,K3
R20			RK73GB2A471J	CHIP R 470 J 1/10W	E5						
R20			RK73GB2A471J	CHIP R 470 J 1/10W	J2,J3,K3	R53			RK73GB2A332J	CHIP R 3.3K J 1/10W	E5
R21			RK73GB2A271J	CHIP R 270 J 1/10W	E5	R53			RK73GB2A332J	CHIP R 3.3K J 1/10W	J2,J3,K3
R21			RK73GB2A271J	CHIP R 270 J 1/10W	J2,J3,K3	R54			RK73GB2A101J	CHIP R 100 J 1/10W	E5
R22			RK73GB2A272J	CHIP R 2.7K J 1/10W	E5	R54			RK73GB2A101J	CHIP R 100 J 1/10W	J2,J3,K3
						R55			RK73GB2A682J	CHIP R 6.8K J 1/10W	E5
R22			RK73GB2A272J	CHIP R 2.7K J 1/10W	J2,J3,K3						
R23			RK73GB2A180J	CHIP R 18 J 1/10W	E5	R55			RK73GB2A682J	CHIP R 6.8K J 1/10W	J2,J3,K3
R23			RK73GB2A180J	CHIP R 18 J 1/10W	J2,J3,K3	R56			RK73GB2A680J	CHIP R 68 J 1/10W	E5
R24			RK73GB2A472J	CHIP R 4.7K J 1/10W	E5	R56			RK73GB2A680J	CHIP R 68 J 1/10W	J2,J3,K3
R24			RK73GB2A472J	CHIP R 4.7K J 1/10W	J2,J3,K3	R57,58			RK73GB2A222J	CHIP R 2.2K J 1/10W	E5
						R57,58			RK73GB2A222J	CHIP R 2.2K J 1/10W	J2,J3,K3
R25			RK73GB2A271J	CHIP R 270 J 1/10W	E5						
R25			RK73GB2A271J	CHIP R 270 J 1/10W	J2,J3,K3	R59			RK73GB2A000J	CHIP R 0.0 J 1/10W	E5
R26			RK73GB2A330J	CHIP R 33 J 1/10W	E5	R59			RK73GB2A000J	CHIP R 0.0 J 1/10W	J2,J3,K3
R26			RK73GB2A330J	CHIP R 33 J 1/10W	J2,J3,K3	R60			RK73GB2A332J	CHIP R 3.3K J 1/10W	E5
R27			RK73GB2A222J	CHIP R 2.2K J 1/10W	E5	R60			RK73GB2A332J	CHIP R 3.3K J 1/10W	J2,J3,K3
						R61			RK73GB2A000J	CHIP R 0.0 J 1/10W	E5
R27			RK73GB2A222J	CHIP R 2.2K J 1/10W	J2,J3,K3						
R28			RK73GB2A101J	CHIP R 100 J 1/10W	E5	R61			RK73GB2A000J	CHIP R 0.0 J 1/10W	J2,J3,K3
R28			RK73GB2A101J	CHIP R 100 J 1/10W	J2,J3,K3	R62,63			RK73GB2A102J	CHIP R 1.0K J 1/10W	E5
R29			RK73GB2A151J	CHIP R 150 J 1/10W	E5	R62,63			RK73GB2A102J	CHIP R 1.0K J 1/10W	J2,J3,K3
R29			RK73GB2A151J	CHIP R 150 J 1/10W	J2,J3,K3	R64			RK73GB2A101J	CHIP R 100 J 1/10W	E5
						R64			RK73GB2A101J	CHIP R 100 J 1/10W	J2,J3,K3
R30			RK73GB2A390J	CHIP R 39 J 1/10W	E5						
R30			RK73GB2A390J	CHIP R 39 J 1/10W	J2,J3,K3	R65			RK73GB2A471J	CHIP R 470 J 1/10W	E5
R31			RK73GB2A151J	CHIP R 150 J 1/10W	E5	R65			RK73GB2A471J	CHIP R 470 J 1/10W	J2,J3,K3
R31			RK73GB2A151J	CHIP R 150 J 1/10W	J2,J3,K3	R66			RK73GB2A474J	CHIP R 470K J 1/10W	E5
R32			RK73GB2A101J	CHIP R 100 J 1/10W	E5	R66			RK73GB2A474J	CHIP R 470K J 1/10W	J2,J3,K3
						R67			RK73GB2A823J	CHIP R 82K J 1/10W	E5

# PARTS LIST

**TX-RX 3 UNIT (UT-20) (X57-607X-XX)**

Ref. No.	Address	New parts	Parts No.	Description	Destination	Ref. No.	Address	New parts	Parts No.	Description	Destination
R67			RK73GB2A823J	CHIP R 82K J 1/10W	J2,J3,K3	R101			RK73GB2A822J	CHIP R 8.2K J 1/10W	J2,J3,K3
R68			RK73GB2A273J	CHIP R 27K J 1/10W	E5	R102			RK73GB2A153J	CHIP R 15K J 1/10W	E5
R68			RK73GB2A273J	CHIP R 27K J 1/10W	J2,J3,K3	R102			RK73GB2A153J	CHIP R 15K J 1/10W	J2,J3,K3
R70			RK73GB2A470J	CHIP R 47 J 1/10W	E5	R103			RK73GB2A471J	CHIP R 470 J 1/10W	E5
R70			RK73GB2A470J	CHIP R 47 J 1/10W	J2,J3,K3	R103			RK73GB2A471J	CHIP R 470 J 1/10W	J2,J3,K3
R71			RK73GB2A221J	CHIP R 220 J 1/10W	E5	R104,105			RK73GB2A101J	CHIP R 100 J 1/10W	E5
R71			RK73GB2A221J	CHIP R 220 J 1/10W	J2,J3,K3	R104,105			RK73GB2A101J	CHIP R 100 J 1/10W	J2,J3,K3
R72			RK73GB2A271J	CHIP R 270 J 1/10W	E5	R106			RK73GB2A331J	CHIP R 330 J 1/10W	E5
R72			RK73GB2A271J	CHIP R 270 J 1/10W	J2,J3,K3	R106			RK73GB2A331J	CHIP R 330 J 1/10W	J2,J3,K3
R73			RK73GB2A330J	CHIP R 33 J 1/10W	E5	R108			RK73GB2A102J	CHIP R 1.0K J 1/10W	E5
R73			RK73GB2A330J	CHIP R 33 J 1/10W	J2,J3,K3	R108			RK73GB2A102J	CHIP R 1.0K J 1/10W	J2,J3,K3
R74			RK73GB2A180J	CHIP R 18 J 1/10W	E5	R110			RK73FB2B471J	CHIP R 470 J 1/8W	E5
R74			RK73GB2A180J	CHIP R 18 J 1/10W	J2,J3,K3	R110			RK73FB2B471J	CHIP R 470 J 1/8W	J2,J3,K3
R75			RK73GB2A271J	CHIP R 270 J 1/10W	E5	R111			RK73GB2A103J	CHIP R 10K J 1/10W	E5
R75			RK73GB2A271J	CHIP R 270 J 1/10W	J2,J3,K3	R111			RK73GB2A103J	CHIP R 10K J 1/10W	J2,J3,K3
R76,77			RK73GB2A221J	CHIP R 220 J 1/10W	E5	R112			RK73GB2A222J	CHIP R 2.2K J 1/10W	E5
R76,77			RK73GB2A221J	CHIP R 220 J 1/10W	J2,J3,K3	R112			RK73GB2A222J	CHIP R 2.2K J 1/10W	J2,J3,K3
R78			RK73GB2A333J	CHIP R 33K J 1/10W	E5	R113			RK73FB2B100J	CHIP R 10 J 1/8W	E5
R78			RK73GB2A333J	CHIP R 33K J 1/10W	J2,J3,K3	R113			RK73FB2B100J	CHIP R 10 J 1/8W	J2,J3,K3
R79,80			RK73GB2A473J	CHIP R 47K J 1/10W	E5	R115			RK73FB2B000J	CHIP R 0.0 J 1/8W	E5
R79,80			RK73GB2A473J	CHIP R 47K J 1/10W	J2,J3,K3	R115			RK73FB2B000J	CHIP R 0.0 J 1/8W	J2,J3,K3
R81			RK73GB2A101J	CHIP R 100 J 1/10W	E5	R117			RK73GB2A271J	CHIP R 270 J 1/10W	E5
R81			RK73GB2A101J	CHIP R 100 J 1/10W	J2,J3,K3	R117			RK73GB2A271J	CHIP R 270 J 1/10W	J2,J3,K3
R82			RK73GB2A820J	CHIP R 82 J 1/10W	E5	R118			RK73GB2A180J	CHIP R 18 J 1/10W	E5
R82			RK73GB2A820J	CHIP R 82 J 1/10W	J2,J3,K3	R118			RK73GB2A180J	CHIP R 18 J 1/10W	J2,J3,K3
R83			RK73GB2A470J	CHIP R 47 J 1/10W	E5	R119,120			RK73GB2A271J	CHIP R 270 J 1/10W	E5
R83			RK73GB2A470J	CHIP R 47 J 1/10W	J2,J3,K3	R119,120			RK73GB2A271J	CHIP R 270 J 1/10W	J2,J3,K3
R85			RK73GB2A330J	CHIP R 33 J 1/10W	E5	R121			RK73GB2A180J	CHIP R 18 J 1/10W	E5
R85			RK73GB2A330J	CHIP R 33 J 1/10W	J2,J3,K3	R121			RK73GB2A180J	CHIP R 18 J 1/10W	J2,J3,K3
R86			RK73GB2A473J	CHIP R 47K J 1/10W	E5	R122			RK73GB2A271J	CHIP R 270 J 1/10W	E5
R86			RK73GB2A473J	CHIP R 47K J 1/10W	J2,J3,K3	R122			RK73GB2A271J	CHIP R 270 J 1/10W	J2,J3,K3
R87			RK73GB2A103J	CHIP R 10K J 1/10W	E5	R123			RK73GB2A273J	CHIP R 27K J 1/10W	E5
R87			RK73GB2A103J	CHIP R 10K J 1/10W	J2,J3,K3	R123			RK73GB2A273J	CHIP R 27K J 1/10W	J2,J3,K3
R88			RK73GB2A101J	CHIP R 100 J 1/10W	E5	R124			RK73GB2A103J	CHIP R 10K J 1/10W	E5
R88			RK73GB2A101J	CHIP R 100 J 1/10W	J2,J3,K3	R124			RK73GB2A103J	CHIP R 10K J 1/10W	J2,J3,K3
R89			RK73GB2A102J	CHIP R 1.0K J 1/10W	E5	R125			RK73GB2A470J	CHIP R 47 J 1/10W	E5
R89			RK73GB2A102J	CHIP R 1.0K J 1/10W	J2,J3,K3	R125			RK73GB2A470J	CHIP R 47 J 1/10W	J2,J3,K3
R90			RK73GB2A470J	CHIP R 47 J 1/10W	E5	R126			RK73GB2A101J	CHIP R 100 J 1/10W	E5
R90			RK73GB2A470J	CHIP R 47 J 1/10W	J2,J3,K3	R126			RK73GB2A101J	CHIP R 100 J 1/10W	J2,J3,K3
R91			RK73GB2A103J	CHIP R 10K J 1/10W	E5	R127			RK73GB2A000J	CHIP R 0.0 J 1/10W	E5
R91			RK73GB2A103J	CHIP R 10K J 1/10W	J2,J3,K3	R127			RK73GB2A000J	CHIP R 0.0 J 1/10W	J2,J3,K3
R92			RK73GB2A472J	CHIP R 4.7K J 1/10W	E5	R130			RK73GB2A472J	CHIP R 4.7K J 1/10W	E5
R92			RK73GB2A472J	CHIP R 4.7K J 1/10W	J2,J3,K3	R130			RK73GB2A472J	CHIP R 4.7K J 1/10W	J2,J3,K3
R93			RK73GB2A823J	CHIP R 82K J 1/10W	E5	R131			RK73GB2A182J	CHIP R 1.8K J 1/10W	E5
R93			RK73GB2A823J	CHIP R 82K J 1/10W	J2,J3,K3	R131			RK73GB2A182J	CHIP R 1.8K J 1/10W	J2,J3,K3
R94			RK73GB2A471J	CHIP R 470 J 1/10W	E5	R132			RK73GB2A180J	CHIP R 18 J 1/10W	E5
R94			RK73GB2A471J	CHIP R 470 J 1/10W	J2,J3,K3	R132			RK73GB2A180J	CHIP R 18 J 1/10W	J2,J3,K3
R95			RK73GB2A561J	CHIP R 560 J 1/10W	E5	R133			RK73GB2A470J	CHIP R 47 J 1/10W	E5
R95			RK73GB2A561J	CHIP R 560 J 1/10W	J2,J3,K3	R133			RK73GB2A470J	CHIP R 47 J 1/10W	J2,J3,K3
R96			RK73GB2A101J	CHIP R 100 J 1/10W	E5	R134			RK73GB2A561J	CHIP R 560 J 1/10W	E5
R96			RK73GB2A101J	CHIP R 100 J 1/10W	J2,J3,K3	R134			RK73GB2A561J	CHIP R 560 J 1/10W	J2,J3,K3
R97			RK73GB2A270J	CHIP R 27 J 1/10W	E5	R135			RK73GB2A560J	CHIP R 56 J 1/10W	E5
R97			RK73GB2A270J	CHIP R 27 J 1/10W	J2,J3,K3	R135			RK73GB2A560J	CHIP R 56 J 1/10W	J2,J3,K3
R98			RK73GB2A560J	CHIP R 56 J 1/10W	E5	R140,141			RK73FB2B470J	CHIP R 47 J 1/8W	E5
R98			RK73GB2A560J	CHIP R 56 J 1/10W	J2,J3,K3	R140,141			RK73FB2B470J	CHIP R 47 J 1/8W	J2,J3,K3
R99			RK73GB2A332J	CHIP R 3.3K J 1/10W	E5	R301			RK73GB2A471J	CHIP R 470 J 1/10W	E5
R99			RK73GB2A332J	CHIP R 3.3K J 1/10W	J2,J3,K3	R301			RK73GB2A471J	CHIP R 470 J 1/10W	J2,J3,K3
R100			RK73GB2A152J	CHIP R 1.5K J 1/10W	E5	R302			RK73GB2A470J	CHIP R 47 J 1/10W	E5
R100			RK73GB2A152J	CHIP R 1.5K J 1/10W	J2,J3,K3	R302			RK73GB2A470J	CHIP R 47 J 1/10W	J2,J3,K3
R101			RK73GB2A822J	CHIP R 8.2K J 1/10W	E5	R303			RK73GB2A121J	CHIP R 120 J 1/10W	E5

# PARTS LIST

TX-RX 3 UNIT (UT-20) (X57-607X-XX)

Ref. No.	Address	New parts	Parts No.	Description	Desti-nation	Ref. No.	Address	New parts	Parts No.	Description	Desti-nation
R303			RK73GB2A121J	CHIP R 120 J 1/10W	J2,J3,K3	R361			RK73GB2A682J	CHIP R 6.8K J 1/10W	J2,J3,K3
R304			RK73GB2A100J	CHIP R 10 J 1/10W	E5	R362			RK73GB2A101J	CHIP R 100 J 1/10W	E5
R304			RK73GB2A100J	CHIP R 10 J 1/10W	J2,J3,K3	R362			RK73GB2A101J	CHIP R 100 J 1/10W	J2,J3,K3
R305			RK73GB2A103J	CHIP R 10K J 1/10W	E5	R363			RK73GB2A151J	CHIP R 150 J 1/10W	E5
R305			RK73GB2A103J	CHIP R 10K J 1/10W	J2,J3,K3	R363			RK73GB2A151J	CHIP R 150 J 1/10W	J2,J3,K3
R306			RK73GB2A332J	CHIP R 3.3K J 1/10W	E5	R364			RK73GB2A101J	CHIP R 100 J 1/10W	E5
R306			RK73GB2A332J	CHIP R 3.3K J 1/10W	J2,J3,K3	R364			RK73GB2A101J	CHIP R 100 J 1/10W	J2,J3,K3
R307			RK73GB2A470J	CHIP R 47 J 1/10W	E5	R365			RK73GB2A223J	CHIP R 22K J 1/10W	E5
R307			RK73GB2A470J	CHIP R 47 J 1/10W	J2,J3,K3	R365			RK73GB2A223J	CHIP R 22K J 1/10W	J2,J3,K3
R309,310			RK73GB2A000J	CHIP R 0.0 J 1/10W	E5	R366			RK73GB2A822J	CHIP R 8.2K J 1/10W	E5
R309,310			RK73GB2A000J	CHIP R 0.0 J 1/10W	J2,J3,K3	R366			RK73GB2A822J	CHIP R 8.2K J 1/10W	J2,J3,K3
R311			RK73GB2A331J	CHIP R 330 J 1/10W	E5	R367			RK73GB2A221J	CHIP R 220 J 1/10W	E5
R311			RK73GB2A331J	CHIP R 330 J 1/10W	J2,J3,K3	R367			RK73GB2A221J	CHIP R 220 J 1/10W	J2,J3,K3
R312			RK73GB2A823J	CHIP R 82K J 1/10W	E5	R368			RK73GB2A000J	CHIP R 0.0 J 1/10W	E5
R312			RK73GB2A823J	CHIP R 82K J 1/10W	J2,J3,K3	R368			RK73GB2A000J	CHIP R 0.0 J 1/10W	J2,J3,K3
R314,315			RK73GB2A000J	CHIP R 0.0 J 1/10W	E5	R369			RK73GB2A330J	CHIP R 33 J 1/10W	E5
R314,315			RK73GB2A000J	CHIP R 0.0 J 1/10W	J2,J3,K3	R369			RK73GB2A330J	CHIP R 33 J 1/10W	J2,J3,K3
R318			RK73GB2A102J	CHIP R 1.0K J 1/10W	E5	R370			RK73GB2A183J	CHIP R 18K J 1/10W	E5
R318			RK73GB2A102J	CHIP R 1.0K J 1/10W	J2,J3,K3	R370			RK73GB2A183J	CHIP R 18K J 1/10W	J2,J3,K3
R319			RK73GB2A823J	CHIP R 82K J 1/10W	E5	R371-373			RK73GB2A330J	CHIP R 33 J 1/10W	E5
R319			RK73GB2A823J	CHIP R 82K J 1/10W	J2,J3,K3	R371-373			RK73GB2A330J	CHIP R 33 J 1/10W	J2,J3,K3
R321			RK73GB2A101J	CHIP R 100 J 1/10W	E5	R374			RK73GB2A222J	CHIP R 2.2K J 1/10W	E5
R321			RK73GB2A101J	CHIP R 100 J 1/10W	J2,J3,K3	R374			RK73GB2A222J	CHIP R 2.2K J 1/10W	J2,J3,K3
R322			RK73GB2A821J	CHIP R 820 J 1/10W	E5	R375			RK73GB2A101J	CHIP R 100 J 1/10W	E5
R322			RK73GB2A821J	CHIP R 820 J 1/10W	J2,J3,K3	R375			RK73GB2A101J	CHIP R 100 J 1/10W	J2,J3,K3
R323			RK73GB2A220J	CHIP R 22 J 1/10W	E5	R376			RK73GB2A153J	CHIP R 15K J 1/10W	E5
R323			RK73GB2A220J	CHIP R 22 J 1/10W	J2,J3,K3	R376			RK73GB2A153J	CHIP R 15K J 1/10W	J2,J3,K3
R324			RK73GB2A101J	CHIP R 100 J 1/10W	E5	R377			RK73GB2A682J	CHIP R 6.8K J 1/10W	E5
R324			RK73GB2A101J	CHIP R 100 J 1/10W	J2,J3,K3	R377			RK73GB2A682J	CHIP R 6.8K J 1/10W	J2,J3,K3
R325			RK73GB2A182J	CHIP R 1.8K J 1/10W	E5	R378			RK73GB2A151J	CHIP R 150 J 1/10W	E5
R325			RK73GB2A182J	CHIP R 1.8K J 1/10W	J2,J3,K3	R378			RK73GB2A151J	CHIP R 150 J 1/10W	J2,J3,K3
R326			RK73GB2A222J	CHIP R 2.2K J 1/10W	E5	R379			RK73GB2A101J	CHIP R 100 J 1/10W	E5
R326			RK73GB2A222J	CHIP R 2.2K J 1/10W	J2,J3,K3	R379			RK73GB2A101J	CHIP R 100 J 1/10W	J2,J3,K3
R327,328			RK73GB2A000J	CHIP R 0.0 J 1/10W	E5	R381			RK73GB2A000J	CHIP R 0.0 J 1/10W	E5
R327,328			RK73GB2A000J	CHIP R 0.0 J 1/10W	J2,J3,K3	R381			RK73GB2A000J	CHIP R 0.0 J 1/10W	J2,J3,K3
R329			RK73GB2A474J	CHIP R 470K J 1/10W	E5	R383			RK73GB2A102J	CHIP R 1.0K J 1/10W	E5
R329			RK73GB2A474J	CHIP R 470K J 1/10W	J2,J3,K3	R383			RK73GB2A102J	CHIP R 1.0K J 1/10W	J2,J3,K3
R330			RK73GB2A222J	CHIP R 2.2K J 1/10W	E5	R384			RK73GB2A470J	CHIP R 47 J 1/10W	E5
R330			RK73GB2A222J	CHIP R 2.2K J 1/10W	J2,J3,K3	R384			RK73GB2A470J	CHIP R 47 J 1/10W	J2,J3,K3
R331			RK73GB2A103J	CHIP R 10K J 1/10W	E5	R385,386			RK73GB2A103J	CHIP R 10K J 1/10W	E5
R331			RK73GB2A103J	CHIP R 10K J 1/10W	J2,J3,K3	R385,386			RK73GB2A103J	CHIP R 10K J 1/10W	J2,J3,K3
R332			RK73GB2A000J	CHIP R 0.0 J 1/10W	E5	R389			RK73GB2A181J	CHIP R 180 J 1/10W	E5
R332			RK73GB2A000J	CHIP R 0.0 J 1/10W	J2,J3,K3	R389			RK73GB2A181J	CHIP R 180 J 1/10W	J2,J3,K3
R333			RK73GB2A103J	CHIP R 10K J 1/10W	E5	R390			RK73GB2A270J	CHIP R 27 J 1/10W	E5
R333			RK73GB2A103J	CHIP R 10K J 1/10W	J2,J3,K3	R390			RK73GB2A270J	CHIP R 27 J 1/10W	J2,J3,K3
R334			RK73GB2A392J	CHIP R 3.9K J 1/10W	E5	R391			RK73GB2A181J	CHIP R 180 J 1/10W	E5
R334			RK73GB2A392J	CHIP R 3.9K J 1/10W	J2,J3,K3	R391			RK73GB2A181J	CHIP R 180 J 1/10W	J2,J3,K3
R335			RK73GB2A000J	CHIP R 0.0 J 1/10W	E5	R392			RK73GB2A681J	CHIP R 680 J 1/10W	E5
R335			RK73GB2A000J	CHIP R 0.0 J 1/10W	J2,J3,K3	R392			RK73GB2A681J	CHIP R 680 J 1/10W	J2,J3,K3
R342			RK73GB2A000J	CHIP R 0.0 J 1/10W	E5	R500,501			RK73FB2B000J	CHIP R 0.0 J 1/8W	E5
R342			RK73GB2A000J	CHIP R 0.0 J 1/10W	J2,J3,K3	R500,501			RK73FB2B000J	CHIP R 0.0 J 1/8W	J2,J3,K3
R343			RK73GB2A331J	CHIP R 330 J 1/10W	E5	R502			RD14BB2C152J	RD 1.5K J 1/6W	E5
R343			RK73GB2A331J	CHIP R 330 J 1/10W	J2,J3,K3	R502			RD14BB2C152J	RD 1.5K J 1/6W	J2,J3,K3
R351			RK73GB2A000J	CHIP R 0.0 J 1/10W	E5	VR1	*		R32-0756-05	TRIMMING POT.(22K/8)	E5
R351			RK73GB2A000J	CHIP R 0.0 J 1/10W	J2,J3,K3	VR1	*		R32-0756-05	TRIMMING POT.(22K/8)	J2,J3,K3
R359			RK73GB2A101J	CHIP R 100 J 1/10W	E5	VR2			R32-0767-05	TRIMMING POT.(1.0K/8)	E5
R359			RK73GB2A101J	CHIP R 100 J 1/10W	J2,J3,K3	VR2			R32-0767-05	TRIMMING POT.(1.0K/8)	J2,J3,K3
R360			RK73GB2A153J	CHIP R 15K J 1/10W	E5	D1			HSB88WS	DIODE	E5
R360			RK73GB2A153J	CHIP R 15K J 1/10W	J2,J3,K3	D1			HSB88WS	DIODE	J2,J3,K3
R361			RK73GB2A682J	CHIP R 6.8K J 1/10W	E5						

J : TS-2000S J1 : TS-2000V J2 : TS-2000SX J3 : TS-2000VX  
 K1 : TS-2000 (K) K2 : TS-B2000 (K) K3 : TS-2000X (K)  
 E1 : TS-2000 (E) E2 : TS-B2000 (E) E3 : TS-2000 (E2) E4 : TS-B2000(E2) E5 : TS-2000X (E)

# PARTS LIST

**TX-RX 3 UNIT (UT-20) (X57-607X-XX)**

Ref. No.	Address	New parts	Parts No.	Description	Destination	Ref. No.	Address	New parts	Parts No.	Description	Destination
D2			1SS355	DIODE	E5	Q16,17			2SC4617(R)	TRANSISTOR	J2,J3,K3
D2			1SS355	DIODE	J2,J3,K3	Q18			KRC102S-P	DIGITAL TRANSISTOR	E5
D3,4		*	HSM88ASR-E	DIODE	E5	Q18			KRC102S-P	DIGITAL TRANSISTOR	J2,J3,K3
D3,4		*	HSM88ASR-E	DIODE	J2,J3,K3	Q19			2SC3356-A	TRANSISTOR	E5
D5-7		*	L7091CER	DIODE	E5	Q19			2SC3356-A	TRANSISTOR	J2,J3,K3
D5-7		*	L7091CER	DIODE	J2,J3,K3	Q20			2SC3357-A	TRANSISTOR	E5
D8			DAN235E	DIODE	E5	Q20			2SC3357-A	TRANSISTOR	J2,J3,K3
D8			DAN235E	DIODE	J2,J3,K3	Q301			2SK508NV(K52)	FET	E5
D9			1SS355	DIODE	E5	Q301			2SK508NV(K52)	FET	J2,J3,K3
D9			1SS355	DIODE	J2,J3,K3	Q302			2SC5066-F(O)	TRANSISTOR	E5
D10,11			RN731V	DIODE	E5	Q302			2SC5066-F(O)	TRANSISTOR	J2,J3,K3
D10,11			RN731V	DIODE	J2,J3,K3	Q303,304			2SC4617(R)	TRANSISTOR	E5
D12,13			DAN202K	DIODE	E5	Q303,304			2SC4617(R)	TRANSISTOR	J2,J3,K3
D12,13			DAN202K	DIODE	J2,J3,K3	Q305-307			2SC3722K(R)	TRANSISTOR	E5
D301			1SV283F	VARIABLE CAPACITANCE DIODE	E5	Q305-307			2SC3722K(R)	TRANSISTOR	J2,J3,K3
D301			1SV283F	VARIABLE CAPACITANCE DIODE	J2,J3,K3	Q310-312			2SC4617(R)	TRANSISTOR	E5
D302		*	UDZW4.7(B)	ZENER DIODE	E5	Q310-312			2SC4617(R)	TRANSISTOR	J2,J3,K3
D302		*	UDZW4.7(B)	ZENER DIODE	J2,J3,K3	Q313,314			3SK131-A(M)	FET	E5
D303		*	L7091CER	DIODE	E5	Q313,314			3SK131-A(M)	FET	J2,J3,K3
D303		*	L7091CER	DIODE	J2,J3,K3	Q315			2SC4617(R)	TRANSISTOR	E5
D304			MA2S111-F	DIODE	E5	Q315			2SC4617(R)	TRANSISTOR	J2,J3,K3
D304			MA2S111-F	DIODE	J2,J3,K3	TH1			157-102-65001	THERMISTOR	E5
D305			1SV283F	VARIABLE CAPACITANCE DIODE	E5	TH1			157-102-65001	THERMISTOR	J2,J3,K3
D305			1SV283F	VARIABLE CAPACITANCE DIODE	J2,J3,K3	TH2			157-502-65001	THERMISTOR	E5
D306			015AZ3.3(X)F	ZENER DIODE	E5	TH2			157-502-65001	THERMISTOR	J2,J3,K3
D306			015AZ3.3(X)F	ZENER DIODE	J2,J3,K3	TH500			NCP18XW153JOS	THERMISTOR	E5
IC1			UPC2709TB-A	IC(TX RF AMPLIFIER)	E5	TH500			NCP18XW153JOS	THERMISTOR	J2,J3,K3
IC1			UPC2709TB-A	IC(TX RF AMPLIFIER)	J2,J3,K3						
IC3		*	RA18H1213G-101	IC(FINAL POWER MODULE)	E5						
IC3		*	RA18H1213G-101	IC(FINAL POWER MODULE)	J2,J3,K3						
IC4			AD9851BRS	MOS-IC(DDS)	J2,J3,K3						
IC4		*	AD9851BRSZ	MOS-IC(DDS)	E5						
IC5			LMX2316TMX	MOS-IC(PLL)	E5						
IC5			LMX2316TMX	MOS-IC(PLL)	J2,J3,K3						
Q1,2			3SK131-A(M)	FET	E5						
Q1,2			3SK131-A(M)	FET	J2,J3,K3						
Q3			2SC3356-A	TRANSISTOR	E5						
Q3			2SC3356-A	TRANSISTOR	J2,J3,K3						
Q4			UMC4N	TRANSISTOR	E5						
Q4			UMC4N	TRANSISTOR	J2,J3,K3						
Q5			2SC4093-A	TRANSISTOR	E5						
Q5			2SC4093-A	TRANSISTOR	J2,J3,K3						
Q6		*	NE5G260234	TRANSISTOR	E5						
Q6		*	NE5G260234	TRANSISTOR	J2,J3,K3						
Q7,8			2SK520-A(K43)	FET	E5						
Q7,8			2SK520-A(K43)	FET	J2,J3,K3						
Q9			3SK131-A(M)	FET	E5						
Q9			3SK131-A(M)	FET	J2,J3,K3						
Q10			3SK320-FP	FET	E5						
Q10			3SK320-FP	FET	J2,J3,K3						
Q11		*	2SC5008-T1-A	TRANSISTOR	E5						
Q11		*	2SC5008-T1-A	TRANSISTOR	J2,J3,K3						
Q12		*	NE34018	FET	E5						
Q12		*	NE34018	FET	J2,J3,K3						
Q13			2SC4617(R)	TRANSISTOR	E5						
Q13			2SC4617(R)	TRANSISTOR	J2,J3,K3						
Q14,15			2SC5108(Y)F	TRANSISTOR	E5						
Q14,15			2SC5108(Y)F	TRANSISTOR	J2,J3,K3						
Q16,17			2SC4617(R)	TRANSISTOR	E5						

J : TS-2000S J1 : TS-2000V J2 : TS-2000SX J3 : TS-2000VX

K1 : TS-2000 (K) K2 : TS-B2000 (K) K3 : TS-2000X (K)

E1 : TS-2000 (E) E2 : TS-B2000 (E) E3 : TS-2000 (E2) E4 : TS-B2000(E2) E5 : TS-2000X (E)

# ADJUSTMENT (K/E TYPE)

## Transmitter Section

Item	Condition	Measurement			Adjustment			Specifications / Remarks
		Test-equipment	Unit	Terminal	Unit	Parts	Method	
1. Final idling current (HF/VHF)	1) Display f. : 14.100MHz Mode : USB Final unit (A/2) VR1, 2, 3, 4 : MIN Transmit	DC. A	Rear panel	DC	Final (A/2)		Check the default current (I <sub>o</sub> ).	
						VR1	I <sub>o</sub> + 500mA = I <sub>A</sub>	±50mA
						VR2	I <sub>A</sub> + 1000mA = I <sub>B</sub>	±100mA
						VR3	I <sub>B</sub> + 700mA = I <sub>C</sub>	±50mA
	VR4					I <sub>C</sub> + 700mA		
	2) Display f. : 145.900MHz Mode : USB VR101, 102 : MIN Transmit					VR101	I <sub>B</sub> + 2000mA = I <sub>D</sub>	±100mA
VR102		I <sub>D</sub> + 2000mA						
2. 29.1MHz frequency	1) Display f. : 29.100MHz Mode : FM Transmit	f. counter	TX-RX1 (A/10)	CN14	TX-RX1 (A/10)	TC3	29.10000MHz	±20Hz
3. Final idling current (UHF)	1) Display f. : 430.000MHz Mode : USB Final unit (B/2) VR901, 902 : MIN Transmit	DC. A	Rear panel	DC	Final (B/2)		Check the default current (I <sub>o</sub> ).	
						VR902	I <sub>o</sub> + 2500mA = I <sub>E</sub>	±100mA
						VR901	I <sub>E</sub> + 200mA	±20mA
4. TX BPF (VHF)	1) Display f. : 145.900MHz <b>K</b> 144.900MHz <b>E</b> Mode : CW Disconnect the cable from CN4 and insert a cable from the spectrum analyzer. Transmit After the adjustment, connect the cable to CN4.	Spectrum analyzer	TX-RX2 (A/11)	CN4	TX-RX2 (A/11)	TC12 TC13	IF output max.	
						TC14	229MHz spurious level min.	
<p>• Perform the following in the adjustment mode. Item 5~8 and 12~28.                      To terminate the adjustment menu in the middle, save your settings with Menu No. 124.</p>								
5. TX BPF (UHF)	1) Menu No. : 15 (Frequency : 435.1MHz) Disconnect the cable from CN3 and insert a cable from the spectrum analyzer. Transmit	Spectrum analyzer	TX-RX2 (A/11)	CN3	Front panel TX-RX2 (A/11)	[+] key or [-] key L90 L91 TC4 TC5 TC6 TC8 TC10	After setting the adjustment value to 131, adjust the trimmers and coils to have a maximum IF output.	8dBm or more
	2) Menu No. : 16 (Frequency : 420.1MHz) Transmit							
	3) Menu No. : 17 (Frequency : 439.99MHz) Transmit							
	4) Menu No. : 18 (Frequency : 449.9MHz) Transmit After the adjustment, connect the cable to CN3.							
					Front panel	[+] key or [-] key	Output gain max.	6dBm or more

## ADJUSTMENT (K/E TYPE)

Item	Condition	Measurement			Adjustment			Specifications / Remarks
		Test-equipment	Unit	Terminal	Unit	Parts	Method	
6. ALC reference voltage	1) Menu No. : 00 (Frequency : 14.1MHz) Transmit	DC V.M	TX-RX1 (A/10)	TP3	Front panel	[+] key or [-] key	Set the adjustment value within the limit of the specified voltage.	2.7V±0.1V
7. TX IF gain (HF)	1) Menu No. : 78 (Frequency : 18.1MHz) Transmit	50Ω dummy Oscilloscope Spectrum analyzer		CN14	TX-RX1 (A/10)	L109 L108 L105 L103 L102 L100 L99 L98 L96	Drive output level max.	-6dBm or more
8. TX IF BPF (HF)	1) Menu No. : 19 (Frequency : 14.1MHz) Transmit							
9. TX mixer balance	1) Display f. : 50.100MHz Mode : CW Transmit				TX-RX1 (A/10)	VR2	68.985MHz spurious level min.	
10. Maximum power UHF  VHF	This item was deleted due to a circuit modification.							
11. Null	1) Display f. : 14.1MHz Mode : CW Transmit	Power meter	Rear panel	ANT1	Filter	TC1	VSR voltage min.	0.3V or less
12. Power frequency characteristic (HF)	1) Menu No. : 68 (Frequency : 14.1MHz) Transmit	DC V.M Oscilloscope	Final (A/2)	CN19	Filter	VR1	Set it at the center position.	
	2) Menu No. : 120 (Frequency : 51.99MHz) Transmit					Front panel	[+] key or [-] key	Set the adjustment value within the limit of the specified power.
					3) Menu No. : 68 (Frequency : 14.1MHz) Transmit	Filter	VR1	100W
						Check	100W±5W	

## ADJUSTMENT (K/E TYPE)

Item	Condition	Measurement			Adjustment			Specifications / Remarks
		Test-equipment	Unit	Terminal	Unit	Parts	Method	
13. HF power POC 100W	1) Menu No. : 68 (Frequency : 14.1MHz) Transmit	Power meter	Rear panel	ANT1	Front panel	[+] key or [-] key	Set the adjustment value within the limit of the specified power.	100W±3W
50W	2) Menu No. : 69 Transmit							50W±2W
25W	3) Menu No. : 70 Transmit							25W±1W
10W	4) Menu No. : 71 Transmit							10W±0.5W
5W	5) Menu No. : 72 Transmit							5W±0.3W
14. Band TGC 1.8MHz	1) Menu No. : 73 (Frequency : 1.83MHz) Transmit							100W±3W
3.5MHz	2) Menu No. : 74 (Frequency : 3.51MHz) Transmit							
7.0MHz	3) Menu No. : 75 (Frequency : 7.01MHz) Transmit							
10MHz	4) Menu No. : 76 (Frequency : 10.1MHz) Transmit							
14MHz	5) Menu No. : 77 (Frequency : 14.1MHz) Transmit							
18MHz	6) Menu No. : 78 (Frequency : 18.1MHz) Transmit							
21MHz	7) Menu No. : 79 (Frequency : 21.1MHz) Transmit							
24MHz	8) Menu No. : 80 (Frequency : 24.9MHz) Transmit							
28MHz	9) Menu No. : 81 (Frequency : 28.1MHz) Transmit							
52MHz	10) Menu No. : 82 (Frequency : 50.1MHz) Transmit							
15. Power PGC 50W	1) Menu No. : 83 (Frequency : 14.1MHz) Transmit							50W±2W
25W	2) Menu No. : 84 Transmit							25W±1W
10W	3) Menu No. : 85 Transmit							10W±0.5W
5W	4) Menu No. : 86 Transmit							5W±0.3W

## ADJUSTMENT (K/E TYPE)

Item	Condition	Measurement			Adjustment			Specifications / Remarks	
		Test-equipment	Unit	Terminal	Unit	Parts	Method		
16. VHF power POC 100W	1) Menu No. : 91 (Frequency : 145.9MHz) Transmit	Power meter	Rear panel	ANT144	Front panel	[+] key or [-] key	Set the adjustment value within the limit of the specified power.	100W±3W	
50W	2) Menu No. : 92 Transmit							50W±2W	
25W	3) Menu No. : 93 Transmit							25W±1W	
10W	4) Menu No. : 94 Transmit							10W±0.5W	
5W	5) Menu No. : 95 Transmit							5W±0.3W	
17. VHF band TGC	1) Menu No. : 96 (Frequency : 145.9MHz) Transmit							100W±3W	
18. VHF power PGC 50W	1) Menu No. : 97 (Frequency : 145.9MHz) Transmit							50W±2W	
25W	2) Menu No. : 98 Transmit							25W±1W	
10W	3) Menu No. : 99 Transmit							10W±0.5W	
5W	4) Menu No. : 100 Transmit							5W±0.3W	
19. UHF power POC 50W	1) Menu No. : 101 (Frequency : 438.1MHz) Transmit			ANT430				50W±2W	
25W	2) Menu No. : 102 Transmit								25W±1W
12.5W	3) Menu No. : 103 Transmit								12.5W±0.5W
5W	4) Menu No. : 104 Transmit								5W±0.3W
20. UHF band TGC	1) Menu No. : 105 (Frequency : 438.1MHz) Transmit							50W±2W	
21. UHF power PGC 25W	1) Menu No. : 106 (Frequency : 438.1MHz) Transmit							25W±1W	
12.5W	2) Menu No. : 107 Transmit							12.5W±0.5W	
5W	3) Menu No. : 108 Transmit							5W±0.3W	



## ADJUSTMENT (K/E TYPE)

Item	Condition	Measurement			Adjustment			Specifications / Remarks		
		Test-equipment	Unit	Terminal	Unit	Parts	Method			
22. ALC meter start point	1) Menu No. : 87 (Frequency : 14.1MHz) Transmit	Power meter	Rear panel	ANT1	Front panel	[+] key	1 push	(ALC meter lights up to 1)		
Zone max.	2) Menu No. : 88 Transmit							(ALC meter zone max.)		
23. FM DEV Wide	1) Menu No. : 89 (Frequency : 29.1MHz) Transmit							4.3kHz±0.05kHz		
Narrow	2) Menu No. : 90 Transmit	2.2kHz±0.05kHz								
24. HF SWR protection	1) Menu No. : 118 (Frequency : 14.1MHz) Transmit 150Ω dummy connection : Use a cable that is 1m long	Through type power meter 150Ω dummy		ANT2		[+] key or [-] key	Set the adjustment value within the limit of the specified power.	40W±1W		
25. SWR meter (SWR : 3)	1) Menu No. : 119 (Frequency : 14.1MHz) Transmit 150Ω dummy connection : Use a cable that is approx. 10cm long							[+] key	1 push	(SWR meter lights up to 3 level.)
26. 50MHz SWR meter (SWR : 3)	1) Menu No. : 120 (Frequency : 50.1MHz) Transmit									
27. VHF SWR protection	1) Menu No. : 121 (Frequency : 145.9MHz) ANT : Open Transmit	Ammeter		ANT144		[+] key or [-] key	Set the adjustment value within the limit of the specified current.	11A±0.25A		
28. UHF SWR protection	1) Menu No. : 122 (Frequency : 438.1MHz) ANT : Open Transmit			ANT430				9.25A±0.25A		
<ul style="list-style-type: none"> <li>• Writing data : After items 5~8 and 12~28 have been adjusted;               <ol style="list-style-type: none"> <li>1) Menu No. 124</li> <li>2) [+] or [-] key : Push once time. Display "rEAdy" → "good" (If "nG" is displayed, enter data again.)</li> <li>3) [CLR] key : Push once time.</li> </ol> </li> </ul>										
29. AT detection balance	1) Display f. : 51.990MHz Mode : CW Power : 10W Transmit	Oscilloscope  Power meter	Filter  Rear panel	TP1 (AMD) ANT1	Filter	VR2	Turn the VR2 to the point where the waveform on the oscilloscope changes from high to low. (Threshold point)			

### 1200MHz Unit Transmitter Section

Item	Condition	Measurement			Adjustment			Specifications / Remarks
		Test-equipment	Unit	Terminal	Unit	Parts	Method	
1. TX IF gain	1) Display f. : 1270.000MHz Mode : CW Carrier : 0 Transmit	Spectrum analyzer Power meter	Rear panel	ANT1.2G	TX-RX3		Set the carrier level at approx. 100mW.	
					L2 L3 L9		Power max.	

## ADJUSTMENT (K/E TYPE)

Item	Condition	Measurement			Adjustment			Specifications / Remarks
		Test-equipment	Unit	Terminal	Unit	Parts	Method	
2. MCF (135.395MHz)	1) Disconnect the cable from CN5. Display f. : 1270.00MHz Mode : USB Tracking generator level : -10dBm Spectrum analyzer setting Center f. : 135.395MHz Frequency span : 50kHz XdB/DIV : 2dB RBW : 1kHz VBW : 1kHz Transmit Connect the cable to CN5.	Tracking generator  Spectrum analyzer	TX-RX3	CN15  CN14	TX-RX3	L320 L321 L5	Adjust the coils to obtain the frequency response as shown.	
<p>• Perform the following in the adjustment mode. Item 3~6.                      To terminate the adjustment menu in the middle, save your settings with Menu No. 124.</p>								
3. 1.2G power POC 10W	1) Menu No. : 109 (Frequency : 1270.1MHz) Transmit	Power meter	Rear panel	ANT1.2G	Front panel	[+] key or [-] key	Set the adjustment value within the limit of the specified power.	10W±0.3W
5W	2) Menu No. : 110 Transmit							5W±0.2W
2.5W	3) Menu No. : 111 Transmit							2.5W±0.1W
1W	4) Menu No. : 112 Transmit							1W±0.1W
4. Band TGC 1240MHz	1) Menu No. : 113 (Frequency : 1240.1MHz) Mode : USB Transmit							10W±0.3W
1270MHz	2) Menu No. : 114 (Frequency : 1270.1MHz) Transmit							
1299MHz	3) Menu No. : 115 (Frequency : 1299.9MHz) Transmit							
5. 1.2G power PGC 2.5W	1) Menu No. : 116 (Frequency : 1270.1MHz) Transmit							2.5W±0.1W
1W	2) Menu No. : 117 Transmit							1W±0.1W
6. 1.2G protection	1) Menu No. : 123 (Frequency : 1270.1MHz) ANT : 50Ω dummy load Set the adjustment value to 0. Transmit	DC V.M	TX-RX1 (A/10)	CN27 (12VSR)			Check the default voltage (Vo).	0.1 to 1.0V
	2) Menu No. : 123 (Frequency : 1270.1MHz) ANT : Open Set the adjustment value to 100. Transmit							[+] key or [-] key
<p>• Writing data : After items 3~6 have been adjusted;                      1) Menu No. 124                      2) [+] or [-] key : Push once time. Display "rEAdy" → "good" (If "nG" is displayed, enter data again.)                      3) [CLR] key : Push once time.</p>								

# ADJUSTMENT (J TYPE)

## Transmitter Section

Item	Condition	Measurement			Adjustment			Specifications / Remarks
		Test-equipment	Unit	Terminal	Unit	Parts	Method	
1. Final idling current (HF/VHF)	1) Display f. : 14.100MHz Mode : USB Final unit (A/2) VR1, 2, 3, 4 : MIN Transmit	DC. A	Rear panel	DC	Final (A/2)		Check the default current (I <sub>o</sub> ).	
						VR1	I <sub>o</sub> + 500mA = I <sub>a</sub>	±50mA
						VR2	I <sub>a</sub> + 1000mA = I <sub>b</sub> : S,SX I <sub>a</sub> + 500mA = I <sub>b</sub> : V,VX	±100mA
						VR3	I <sub>b</sub> + 700mA = I <sub>c</sub>	±50mA
		VR4	I <sub>c</sub> + 700mA					
		VR101	I <sub>b</sub> + 2000mA = I <sub>d</sub> : S,SX I <sub>b</sub> + 1000mA = I <sub>d</sub> : V,VX	±100mA				
	VR102	I <sub>d</sub> + 2000mA : S,SX I <sub>d</sub> + 1000mA : V,VX						
2. 29.1MHz frequency	1) Display f. : 29.100MHz Mode : FM Transmit	f. counter	TX-RX1 (A/10)	CN14	TX-RX1 (A/10)	TC3	29.10000MHz	±20Hz
3. Final idling current (UHF)	1) Display f. : 430.000MHz Mode : USB Final unit (B/2) VR901, 902 : MIN Transmit	DC. A	Rear panel	DC	Final (B/2)		Check the default current (I <sub>o</sub> ).	
						VR902	I <sub>o</sub> + 2500mA = I <sub>e</sub> : S,SX I <sub>o</sub> + 1500mA = I <sub>e</sub> : V,VX	±100mA
						VR901	I <sub>e</sub> + 200mA	±20mA
4. TX BPF (VHF)	1) Display f. : 144.900MHz Mode : CW Disconnect the cable from CN4 and insert a cable from the spectrum analyzer. Transmit After the adjustment, connect the cable to CN4.	Spectrum analyzer	TX-RX2 (A/11)	CN4	TX-RX2 (A/11)	TC12	IF output max.	
						TC13		
						TC14	229MHz spurious level min.	
• Perform the following in the adjustment mode. Item 5~8 and 12~28. To terminate the adjustment menu in the middle, save your settings with Menu No. 124.								
5. TX BPF (UHF)	1) Menu No. : 15 (Frequency : 435.1MHz) Disconnect the cable from CN3 and insert a cable from the spectrum analyzer. Transmit	Spectrum analyzer	TX-RX2 (A/11)	CN3	Front panel TX-RX2 (A/11)	[+] key or [-] key L90 L91 TC4 TC5 TC6 TC8 TC10	After setting the adjustment value to 131, adjust the trimmers and coils to have a maximum IF output.	8dBm or more
	2) Menu No. : 17 (Frequency : 439.99MHz) Transmit					Front panel	[+] key or [-] key	Output gain max.

## ADJUSTMENT (J TYPE)

Item	Condition	Measurement			Adjustment			Specifications / Remarks
		Test-equipment	Unit	Terminal	Unit	Parts	Method	
6. ALC reference voltage	1) Menu No. : 00 (Frequency : 14.1MHz) Transmit	DC V.M	TX-RX1 (A/10)	TP3	Front panel	[+] key or [-] key	Set the adjustment value within the limit of the specified voltage.	2.7V±0.1V
7. TX IF gain (HF)	1) Menu No. : 78 (Frequency : 18.1MHz) Transmit	50Ω dummy Oscilloscope Spectrum analyzer		CN14	TX-RX1 (A/9)	L109 L108 L105 L103 L102 L100 L99 L98 L96	Drive output level max.	-6dBm or more
8. TX IF BPF (HF)	1) Menu No. : 19 (Frequency : 14.1MHz) Transmit							
9. TX mixer balance	1) Display f. : 50.100MHz Mode : CW Transmit				TX-RX1 (A/10)	VR2	68.985MHz spurious level min.	
10. Maximum power UHF  VHF	This item was deleted due to a circuit modification.							
11. Null	1) Display f. : 14.1MHz Mode : CW Transmit	Power meter	Rear panel	ANT1	Filter	TC1	VSR voltage min.	0.3V or less : S,SX 0.2V or less : V,VX
12. Power frequency characteristic (HF)	1) Menu No. : 68 (Frequency : 14.1MHz) Transmit	DC V.M Oscilloscope	Final (A/2)	CN19		VR1	Set it at the center position.	
					Front panel	[+] key or [-] key	Set the adjustment value within the limit of the specified power.	100W±3W : S,SX 20W±1W : V,VX
	2) Menu No. : 120 (Frequency : 51.99MHz) Transmit				Filter	VR1	100W : S,SX 20W : V,VX	±3W : S,SX ±1W : V,VX
	3) Menu No. : 68 (Frequency : 14.1MHz) Transmit					Check	100W±5W : S,SX 20W±1W : V,VX	

## ADJUSTMENT (J TYPE)

Item	Condition	Measurement			Adjustment			Specifications / Remarks	
		Test-equipment	Unit	Terminal	Unit	Parts	Method		
13. HF power POC 100W/20W	1) Menu No. : 68 (Frequency : 14.1MHz) Transmit	Power meter	Rear panel	ANT1	Front panel	[+] key or [-] key	Set the adjustment value within the limit of the specified power.	100W±3W : S,SX 20W±1W : V,VX	
	50W/10W							2) Menu No. : 69 Transmit	50W±2W : S,SX 10W±0.5W : V,VX
	25W/5W							3) Menu No. : 70 Transmit	25W±1W : S,SX 5W±0.5W : V,VX
	10W/2W							4) Menu No. : 71 Transmit	10W±0.5W : S,SX 2W±0.3W : V,VX
	5W/1W							5) Menu No. : 72 Transmit	5W±0.3W : S,SX 1W±0.1W : V,VX
14. Band TGC 1.8MHz	1) Menu No. : 73 (Frequency : 1.83MHz) Transmit							100W±3W : S,SX 20W±1W : V,VX	
	3.5MHz								2) Menu No. : 74 (Frequency : 3.51MHz) Transmit
	7.0MHz								3) Menu No. : 75 (Frequency : 7.01MHz) Transmit
	10MHz								4) Menu No. : 76 (Frequency : 10.1MHz) Transmit
	14MHz								5) Menu No. : 77 (Frequency : 14.1MHz) Transmit
	18MHz								6) Menu No. : 78 (Frequency : 18.1MHz) Transmit
	21MHz								7) Menu No. : 79 (Frequency : 21.1MHz) Transmit
	24MHz								8) Menu No. : 80 (Frequency : 24.9MHz) Transmit
	28MHz								9) Menu No. : 81 (Frequency : 28.1MHz) Transmit
	52MHz								10) Menu No. : 82 (Frequency : 50.1MHz) Transmit
15. Power PGC 50W/10W	1) Menu No. : 83 (Frequency : 14.1MHz) Transmit							50W±2W : S,SX 12.5W±0.5W : V,VX	
	25W/5W							2) Menu No. : 84 Transmit	25W±1W : S,SX 6.3W±0.5W : V,VX
	10W/2W							3) Menu No. : 85 Transmit	10W±0.5W : S,SX 2.5W±0.3W : V,VX
	5W/1W							4) Menu No. : 86 Transmit	5W±0.3W : S,SX 1.3W±0.1W : V,VX

## ADJUSTMENT (J TYPE)

Item	Condition	Measurement			Adjustment			Specifications / Remarks					
		Test-equipment	Unit	Terminal	Unit	Parts	Method						
16. VHF power POC 100W/20W	1) Menu No. : 91 (Frequency : 145.9MHz) Transmit	Power meter	Rear panel	ANT144	Front panel	[+] key or [-] key	Set the adjustment value within the limit of the specified power.	100W±3W : S,SX 20W±1W : V,VX					
50W/10W	2) Menu No. : 92 Transmit							50W±2W : S,SX 10W±0.5W : V,VX					
25W/5W	3) Menu No. : 93 Transmit							25W±1W : S,SX 5W±0.5W : V,VX					
10W/2W	4) Menu No. : 94 Transmit							10W±0.5W : S,SX 2W±0.3W : V,VX					
5W/1W	5) Menu No. : 95 Transmit							5W±0.3W : S,SX 1W±0.1W : V,VX					
17. VHF band TGC	1) Menu No. : 96 (Frequency : 145.9MHz) Transmit							100W±3W : S,SX 20W±1W : V,VX					
18. VHF power PGC 50W/10W	1) Menu No. : 97 (Frequency : 145.9MHz) Transmit							50W±2W : S,SX 12.5W±0.5W : V,VX					
25W/5W	2) Menu No. : 98 Transmit							25W±1W : S,SX 6.3W±0.5W : V,VX					
10W/2W	3) Menu No. : 99 Transmit							10W±0.5W : S,SX 2.5W±0.3W : V,VX					
5W/1W	4) Menu No. : 100 Transmit							5W±0.3W : S,SX 1.3W±0.1W : V,VX					
19. UHF power POC 50W/20W	1) Menu No. : 101 (Frequency : 438.1MHz) Transmit							ANT430					50W±2W : S,SX 20W±1W : V,VX
25W/10W	2) Menu No. : 102 Transmit												25W±1W : S,SX 10W±0.5W : V,VX
12.5W/5W	3) Menu No. : 103 Transmit												12.5W±0.5W : S,SX 5W±0.5W : V,VX
5W/1W	4) Menu No. : 104 Transmit												5W±0.3W : S,SX 1W±0.1W : V,VX
20. UHF band TGC	1) Menu No. : 105 (Frequency : 438.1MHz) Transmit												50W±2W : S,SX 20W±1W : V,VX
21. UHF power PGC 25W/10W	1) Menu No. : 106 (Frequency : 438.1MHz) Transmit			25W±1W : S,SX 12.5W±1W : V,VX									
12.5W/5W	2) Menu No. : 107 Transmit			12.5W±1W : S,SX 6.3W±1W : V,VX									
5W/1W	3) Menu No. : 108 Transmit			5W±0.3W : S,SX 1.3W±0.1W : V,VX									

## ADJUSTMENT (J TYPE)

Item	Condition	Measurement			Adjustment			Specifications / Remarks		
		Test-equipment	Unit	Terminal	Unit	Parts	Method			
22. ALC meter start point	1) Menu No. : 87 (Frequency : 14.1MHz) Transmit	Power meter	Rear panel	ANT1	Front panel	[+] key	1 push	(ALC meter lights up to 1)		
Zone max.	2) Menu No. : 88 Transmit							(ALC meter zone max.)		
23. FM DEV Wide	1) Menu No. : 89 (Frequency : 29.1MHz) Transmit							4.3kHz±0.05kHz		
Narrow	2) Menu No. : 90 Transmit	2.2kHz±0.05kHz								
24. HF SWR protection	1) Menu No. : 118 (Frequency : 14.1MHz) Transmit 150Ω dummy connection : Use a cable that is 1m long	Through type power meter 150Ω dummy		ANT2		[+] key or [-] key	Set the adjustment value within the limit of the specified power.	40W±1W : S,SX 8W±0.5W : V,VX		
25. SWR meter (SWR : 3)	1) Menu No. : 119 (Frequency : 14.1MHz) Transmit 150Ω dummy connection : Use a cable that is approx. 10cm long							[+] key	1 push	(SWR meter lights up to 3 level.)
26. 50MHz SWR meter (SWR : 3)	1) Menu No. : 120 (Frequency : 50.1MHz) Transmit									
27. VHF SWR protection	1) Menu No. : 121 (Frequency : 145.9MHz) ANT : Open Transmit	Ammeter		ANT144		[+] key or [-] key	Set the adjustment value within the limit of the specified current.	11A±0.25A : S,SX 9.0A±0.25A : V,VX		
28. UHF SWR protection	1) Menu No. : 122 (Frequency : 438.1MHz) ANT : Open Transmit			ANT430				9.25A±0.25A : S,SX 7.0A±0.25A : V,VX		
<ul style="list-style-type: none"> <li>• Writing data : After items 5~8 and 12~28 have been adjusted;               <ol style="list-style-type: none"> <li>1) Menu No. 124</li> <li>2) [+] or [-] key : Push once time. Display "rEAdy" → "good" (If "nG" is displayed, enter data again.)</li> <li>3) [CLR] key : Push once time.</li> </ol> </li> </ul>										
29. AT detection balance	1) Display f. : 51.990MHz Mode : CW Power : 10W Transmit	Oscilloscope  Power meter	Filter  Rear panel	TP1 (AMD) ANT1	Filter	VR2	Turn the VR2 to the point where the waveform on the oscilloscope changes from high to low. (Threshold point)			

### 1200MHz Unit Transmitter Section

Item	Condition	Measurement			Adjustment			Specifications / Remarks
		Test-equipment	Unit	Terminal	Unit	Parts	Method	
1. TX IF gain	1) Display f. : 1270.000MHz Mode : CW Carrier : 0 Transmit	Spectrum analyzer Power meter	Rear panel	ANT1.2G	TX-RX3		Set the carrier level at approx. 100mW.	
						L2 L3 L9	Power max.	

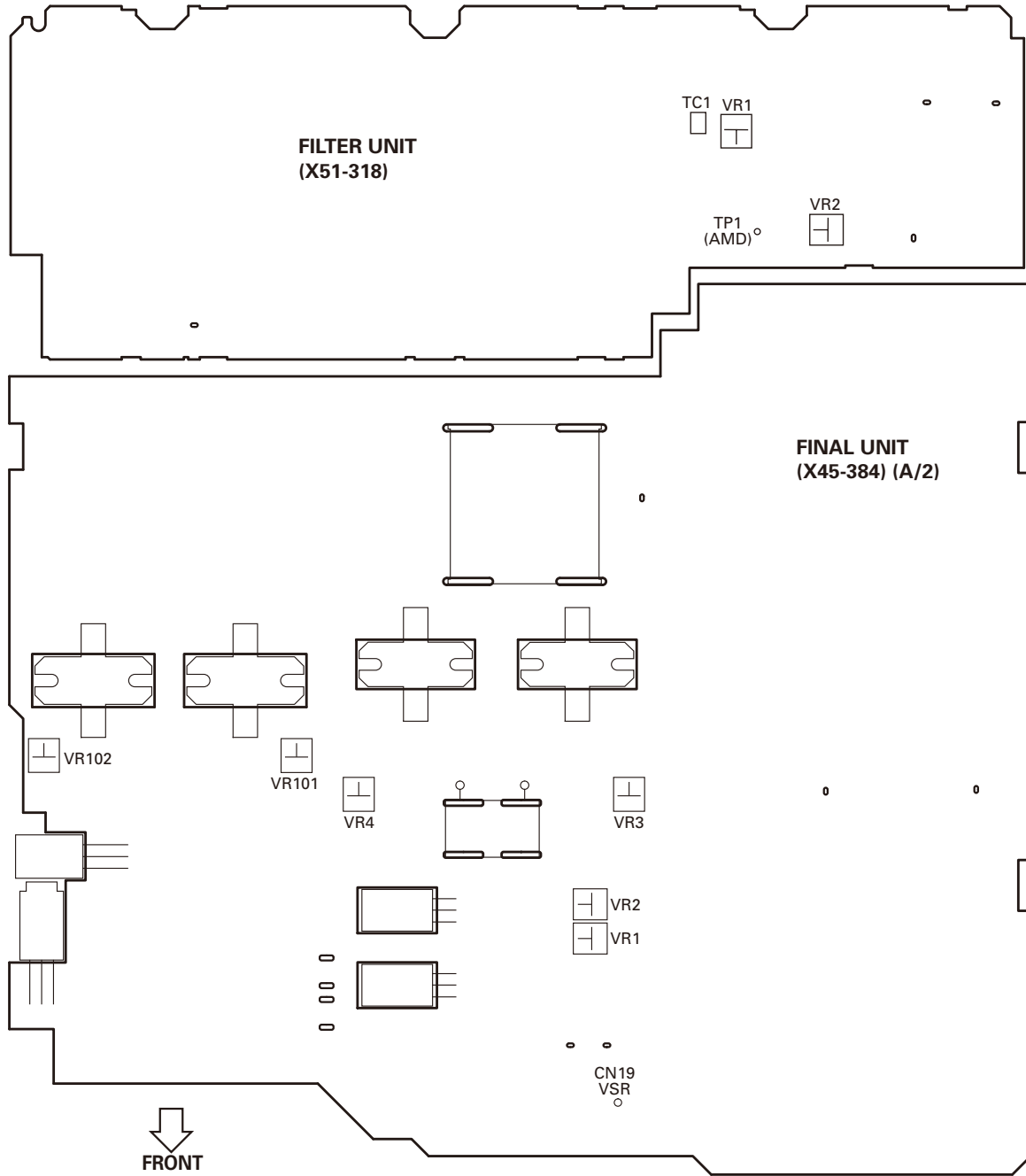
## ADJUSTMENT (J TYPE)

Item	Condition	Measurement			Adjustment			Specifications / Remarks
		Test-equipment	Unit	Terminal	Unit	Parts	Method	
2. MCF (135.395MHz)	1) Disconnect the cable from CN5. Display f. : 1270.00MHz Mode : USB Tracking generator level : -10dBm Spectrum analyzer setting Center f. : 135.395MHz Frequency span : 50kHz XdB/DIV : 2dB RBW : 1kHz VBW : 1kHz Transmit Connect the cable to CN5.	Tracking generator  Spectrum analyzer	TX-RX3	CN15  CN14	TX-RX3	L320 L321 L5	Adjust the coils to obtain the frequency response as shown.	
<p>• Perform the following in the adjustment mode. Item 3~6.                      To terminate the adjustment menu in the middle, save your settings with Menu No. 124.</p>								
3. 1.2G power POC 10W	1) Menu No. : 109 (Frequency : 1270.1MHz) Transmit	Power meter	Rear panel	ANT1.2G	Front panel	[+] key or [-] key	Set the adjustment value within the limit of the specified power.	10W±0.3W
5W	2) Menu No. : 110 Transmit							5W±0.2W
2.5W	3) Menu No. : 111 Transmit							2.5W±0.1W
1W	4) Menu No. : 112 Transmit							1W±0.1W
4. Band TGC 1260MHz	1) Menu No. : 113 (Frequency : 1260.1MHz) Transmit Note: Display "ADJ TGC 1240"							10W±0.3W
1270MHz	2) Menu No. : 114 (Frequency : 1270.1MHz) Transmit							
1299MHz	3) Menu No. : 115 (Frequency : 1299.9MHz) Transmit							
5. 1.2G power PGC 2.5W	1) Menu No. : 116 (Frequency : 1270.1MHz) Transmit							2.5W±0.1W
1W	2) Menu No. : 117 Transmit							1W±0.1W
6. 1.2G protection	1) Menu No. : 123 (Frequency : 1270.1MHz) ANT : 50Ω dummy load Set the adjustment value to 0. Transmit	DC V.M	TX-RX1 (A/10)	CN27 (12VSR)			Check the default voltage (Vo).	0.1 to 1.0V
	2) Menu No. : 123 (Frequency : 1270.1MHz) ANT : Open Set the adjustment value to 100. Transmit							[+] key or [-] key
<p>• Writing data : After items 3~6 have been adjusted;                      1) Menu No. 124                      2) [+] or [-] key : Push once time. Display "rEAdy" → "good" (If "nG" is displayed, enter data again.)                      3) [CLR] key : Push once time.</p>								



# ADJUSTMENT

## Adjustment Points (Upper Side)



### FILTER UNIT

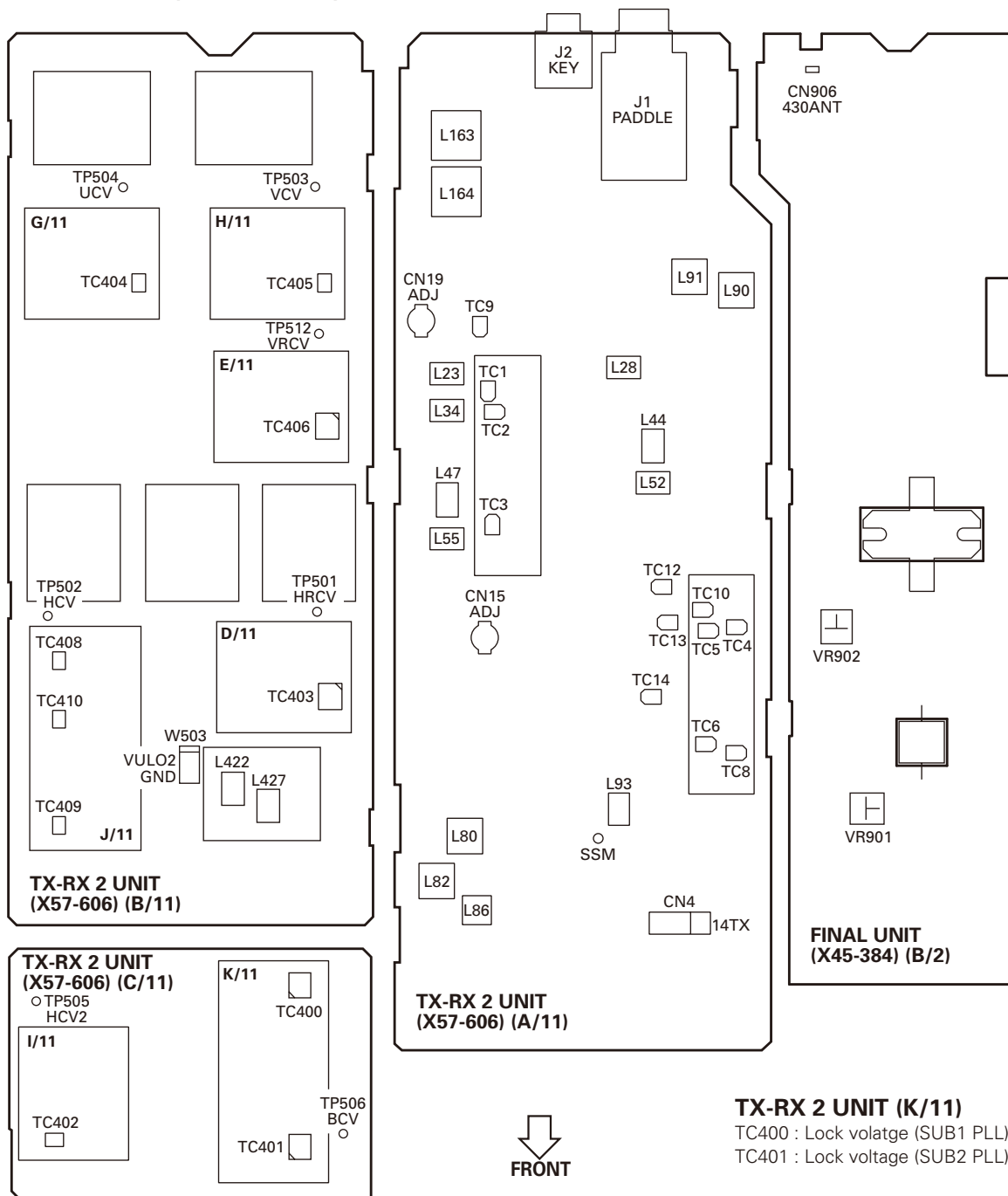
TC1 : Null  
 VR1 : Power frequency characteristic  
 VR2 : AT detection balance

### FINAL UNIT (A/2)

VR1,2,3,4,101,102 : Final idling current (HF/VHF)

# ADJUSTMENT

## Adjustment Points (Lower Side)



**TX-RX 2 UNIT (B/11)**  
 L422,427 : 31.2MHz level

**TX-RX 2 UNIT (D/11)**  
 TC403 : Lock volatge (HF REF VCO)

**TX-RX 2 UNIT (E/11)**  
 TC406 : Lock volatge (VHF REF VCO)

**TX-RX 2 UNIT (G/11)**  
 TC404 : Lock volatge (UHF PLL)

**TX-RX 2 UNIT (H/11)**  
 TC405 : Lock volatge (VHF MAIN PLL)

**TX-RX 2 UNIT (I/11)**  
 TC402 : Lock voltage (HF LO2 PLL)

**TX-RX 2 UNIT (J/11)**  
 TC408 : Lock voltage (HF1 MAIN PLL)  
 TC409 : Lock voltage (HF3 MAIN PLL)  
 TC410 : Lock voltage (HF2 MAIN PLL)

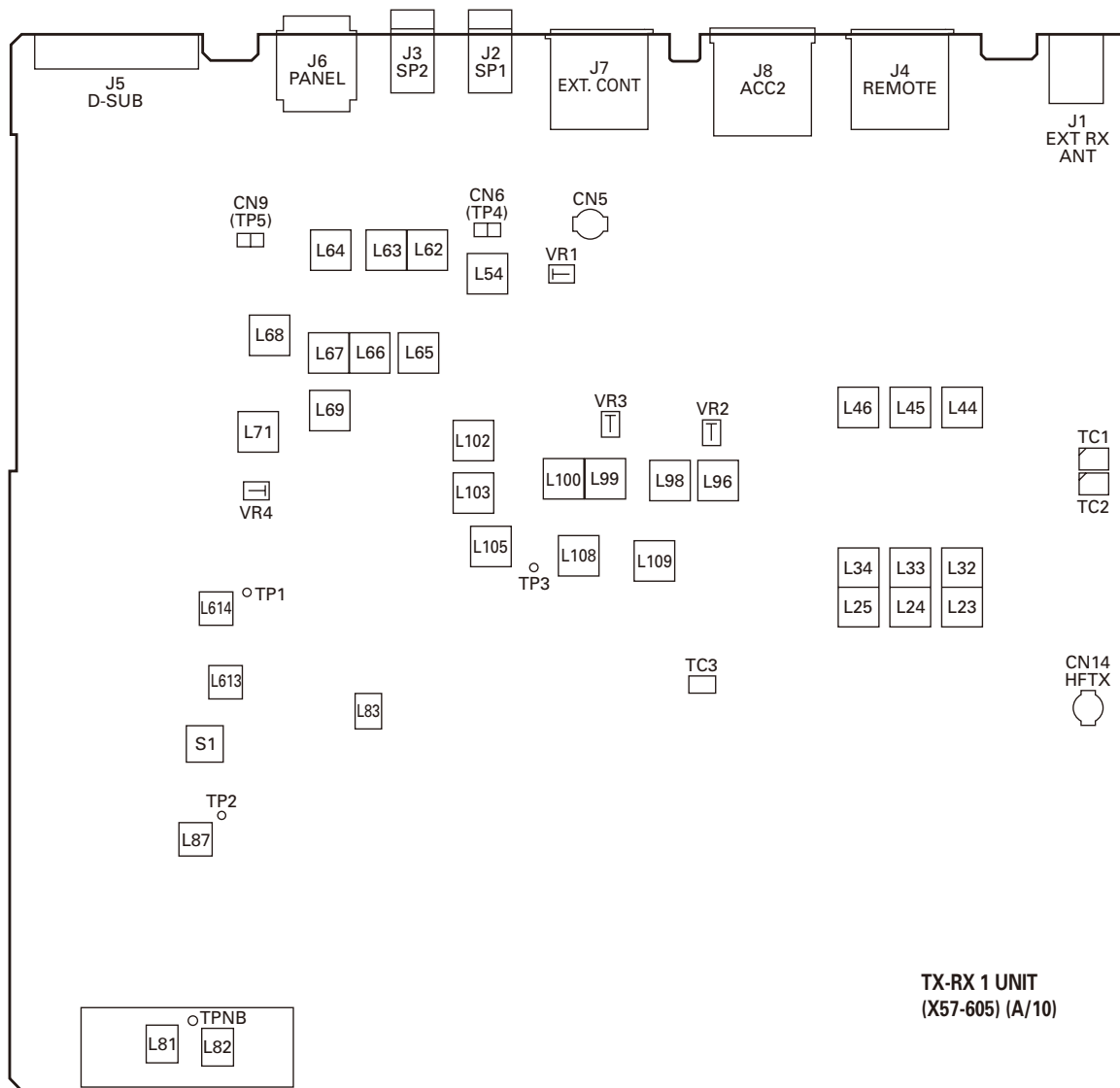
**TX-RX 2 UNIT (K/11)**  
 TC400 : Lock volatge (SUB1 PLL)  
 TC401 : Lock voltage (SUB2 PLL)

**TX-RX 2 UNIT (A/11)**  
 L23,34,47,55,163,164 : MAIN VHF BPF  
 L28,44,52 : Sub band BPF  
 L80,82,86 : RX IF gain (VHF)  
 L90,91,TC4~6,8,10 : TX BPF (UHF)  
 L93 : Sub band FM discriminator coil (VHF)  
 TC1~3,9 : MAIN UHF BPF  
 TC9 : Trap frequency (UHF)  
 TC12~14 : TX BPF (VHF)

**FINAL UNIT (B/2)**  
 VR901,902 : Final idling current (UHF)

# ADJUSTMENT

## Adjustment Points (Lower Side)



### TX-RX 1 UNIT (A/10)

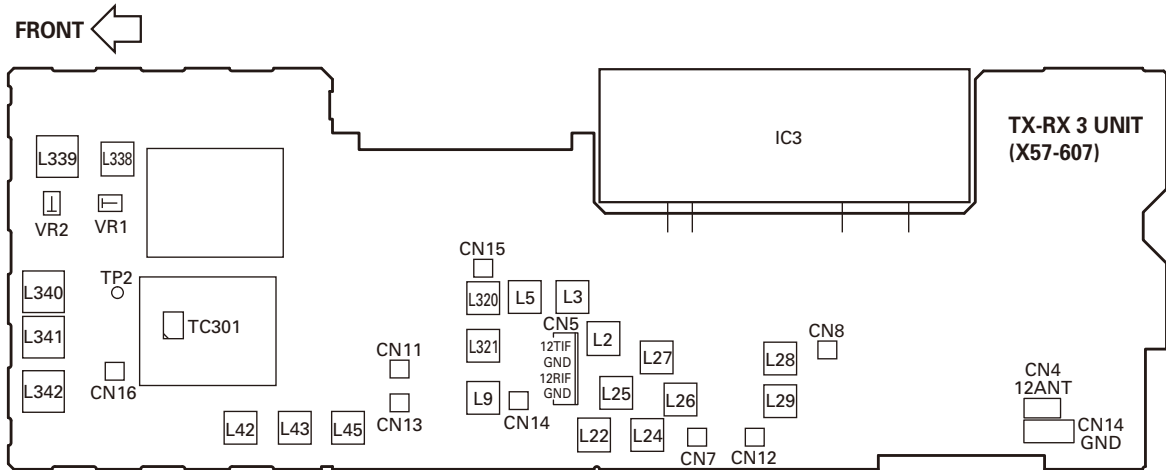
L23~25,32~34,44~46 : HF BPF  
 L54,62~64,68 : MCF (69.085MHz)  
 L65~67 : MCF (72.925MHz)  
 L69,71,87,613,614 : HF RX IF gain  
 L81,82 : NB gain



L83 : FM discriminator coil (HF)  
 L96,98~100,102,103,105,108,109 : TX IF gain (HF)  
 L96,98,99,100,102,VR3 : TX IF BPF (HF)  
 VR1 : 1st mixer balance  
 VR2 : TX mixer balance  
 VR4 : Gain balance  
 TC1,2 : RX trap (E type only)  
 TC3 : 29.1MHz frequency

# ADJUSTMENT

## 1200MHz Adjustment Points



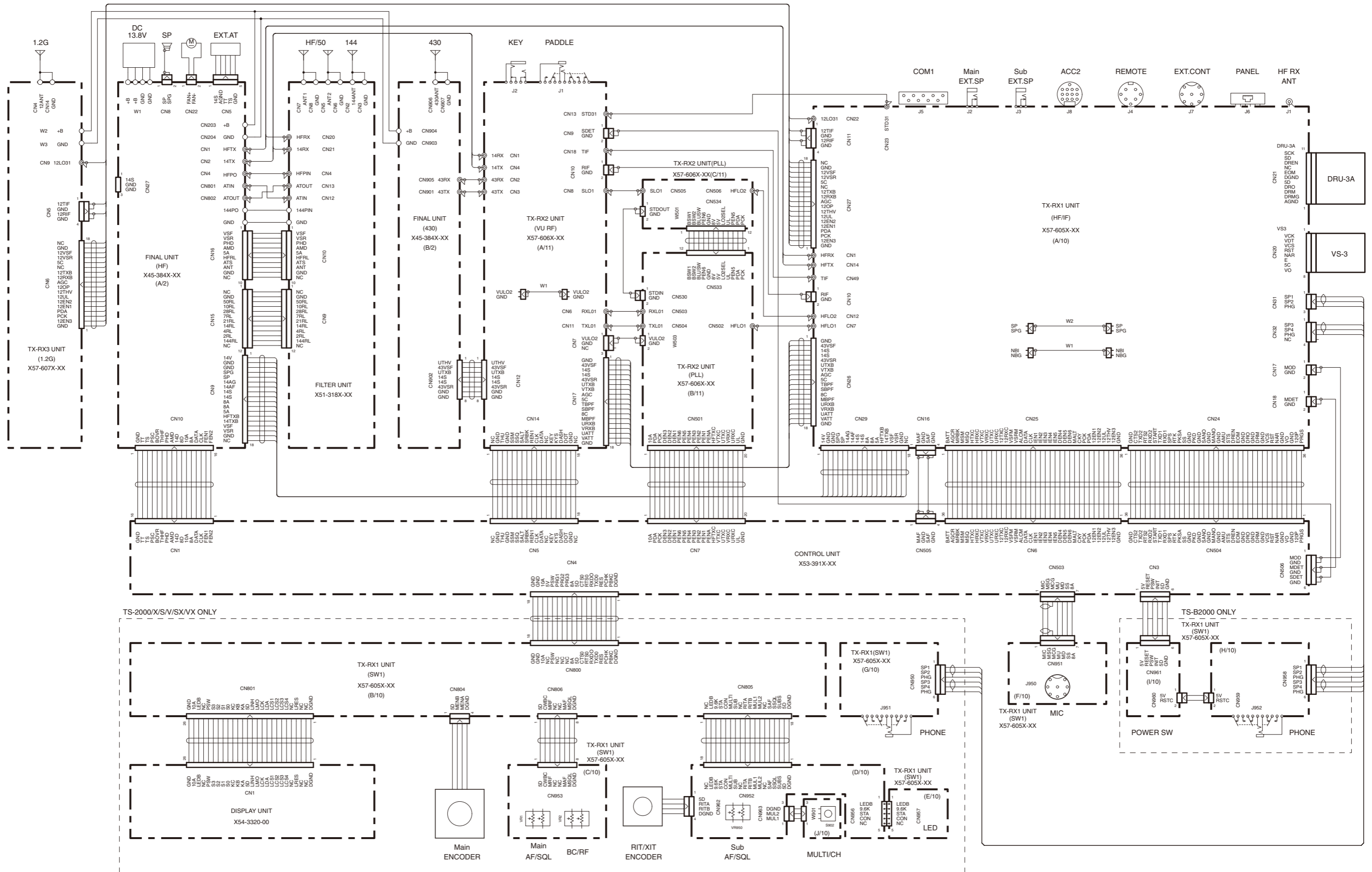
### TX-RX 3 UNIT

- L2,3,9 : TX IF gain
- L5,320,321 : MCF (135.395MHz)
- L22,24,25,29 : RX IF gain
- L26~28 : MCF (135.495MHz)
- L42,43,45 : LO level (Local osc)
- L338~342,VR1 : PLL reference level
- VR2 : PLL reference spurious
- TC301 : VCO control voltage

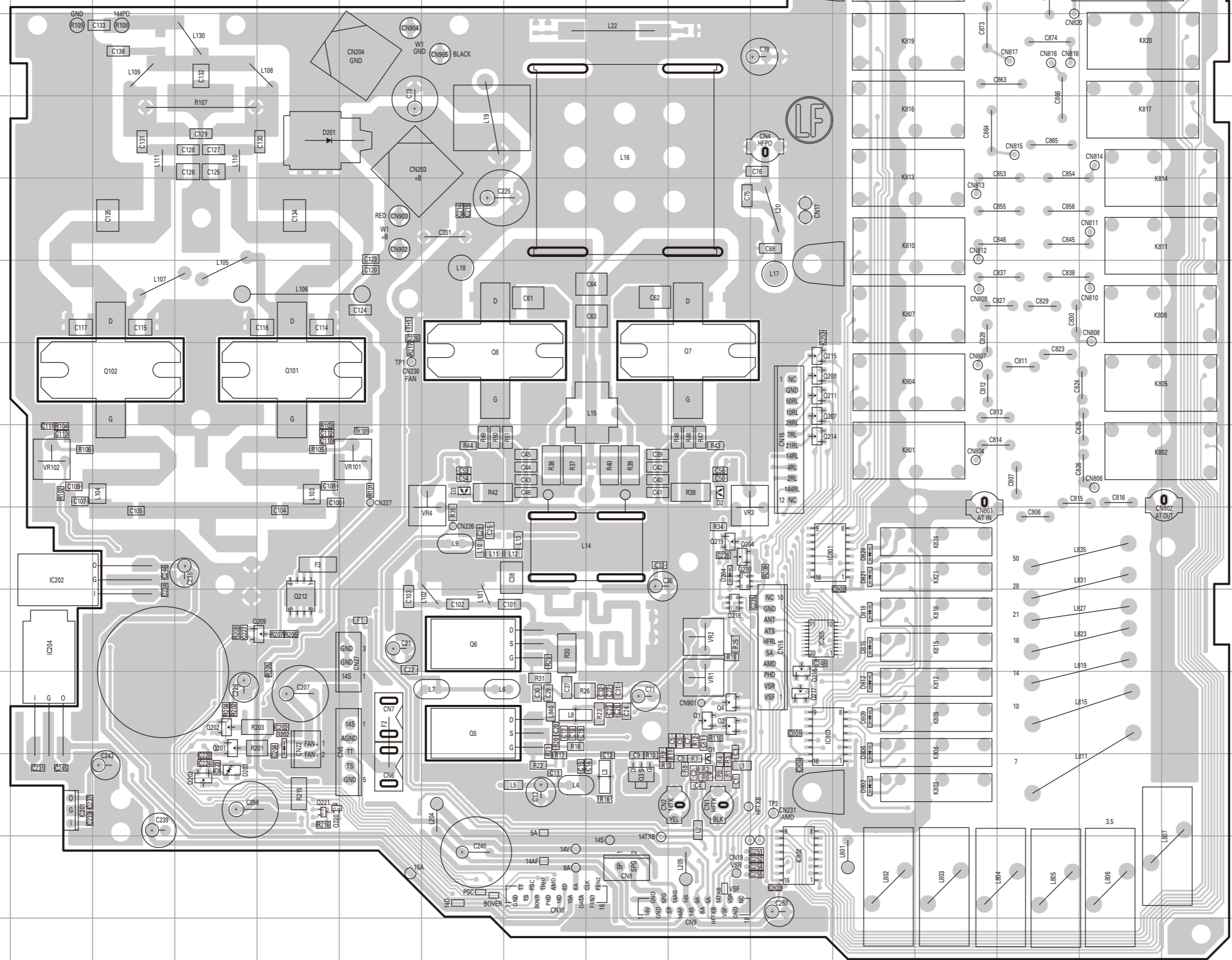
TS-2000/B2000/2000X  
TS-2000S/2000V/2000SX/2000VX

# INTERCONNECTION DIAGRAM



TS-2000/B2000/2000X  
TS-2000S/2000V/2000SX/2000VX



**FINAL UNIT (X45-384X-XX) (A/2) Component side view (J79-0192-19 A/2)**  
**0-00 : J,J2,K1,K2,K3 0-01 : J1,J3 2-71 : E1,E2,E3,E4,E5**



Ref. No.	Address	Ref. No.	Address
IC201	12B	Q211	7K
IC202	9B	Q212	10E
IC204	10B	Q214	8K
IC205	10K	Q215	7K
IC801	9K	Q216	11K
IC802	13K	Q217	11K
IC803	11K	Q218	10J
Q1	11J	Q219	9J
Q2	11J	Q220	12E
Q3	12I	Q221	12E
Q4	11J	D1	12J
Q5	11G	D2	8J
Q6	10G	D3	8G
Q7	7J	D201	4E
Q8	7G	D202	11E
Q101	7E	D203	12D
Q102	7C	D204	9J
Q201	11D	D802	12L
Q202	11D	D806	11L
Q203	12D	D809	11L
Q204	9J	D812	11L
Q207	7K	D815	10L
Q208	7K	D818	10L
Q209	10E	D821	9L
Q210	9J	D824	9L

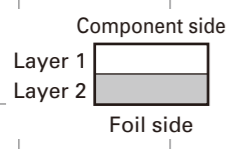
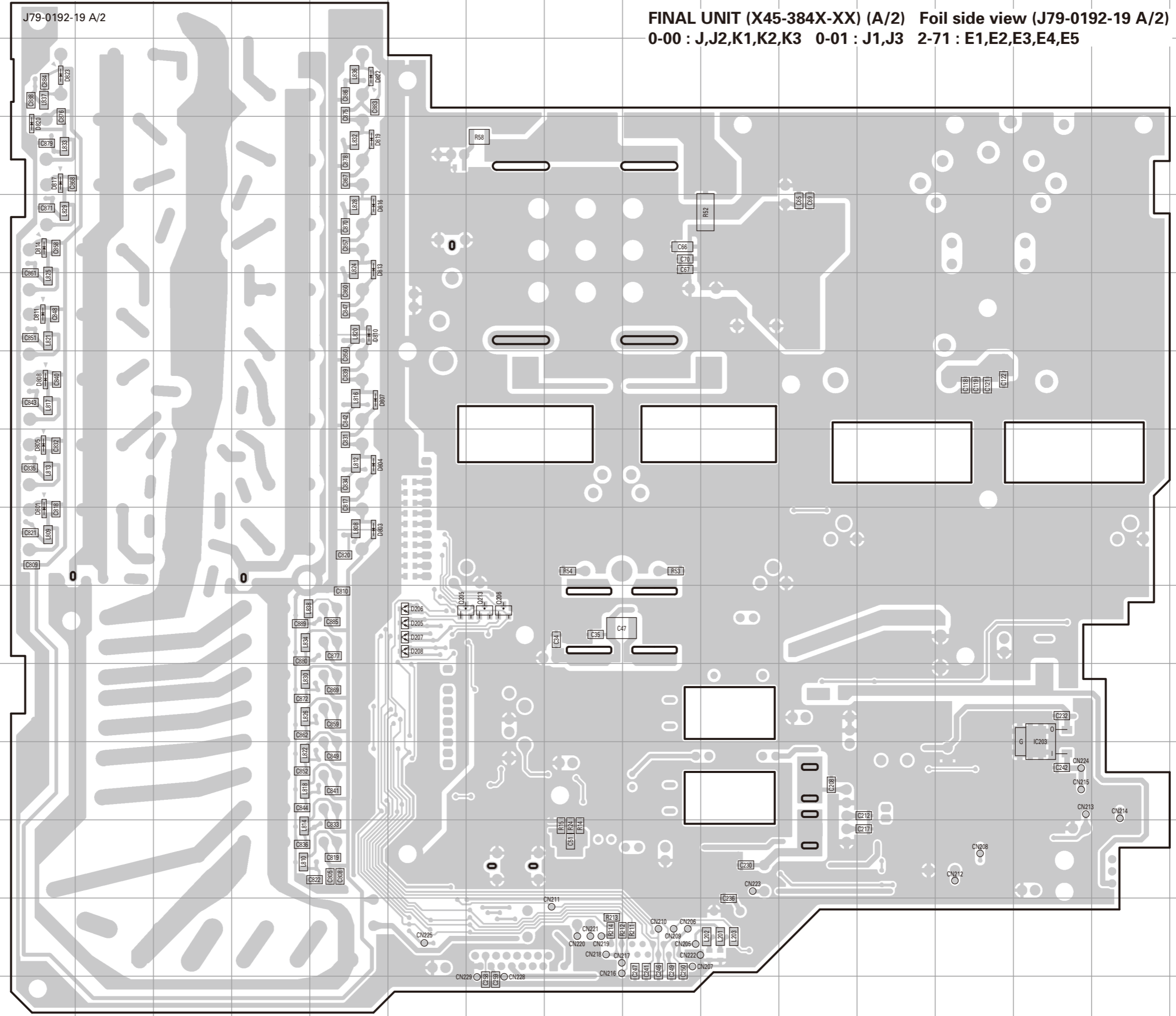
Component side  
 Layer 1   
 Layer 2   
 Foil side

TS-2000/B2000/2000X  
 TS-2000S/2000V/2000SX/2000VX **PC BOARD**

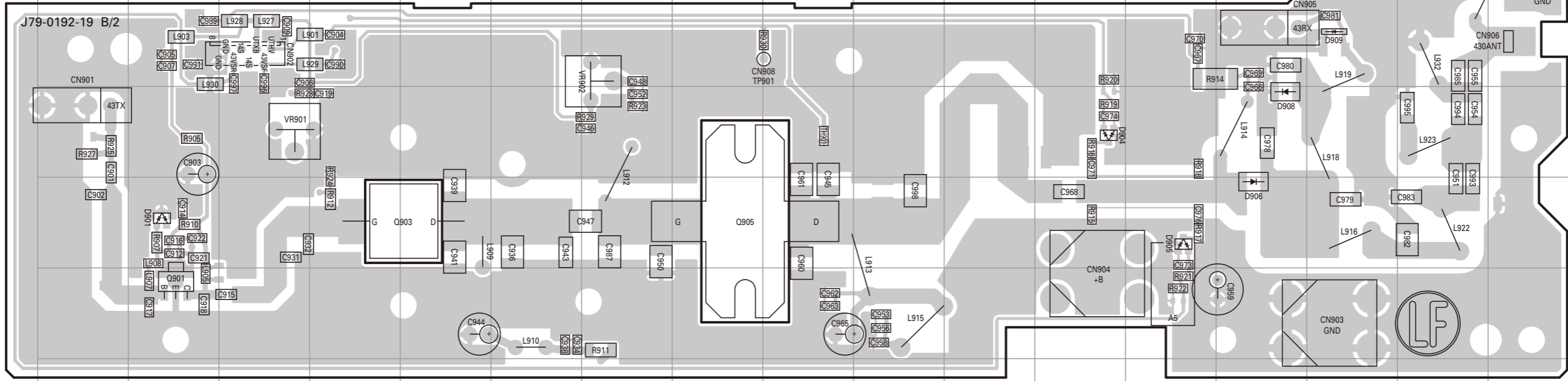
J79-0192-19 A/2

**FINAL UNIT (X45-384X-XX) (A/2) Foil side view (J79-0192-19 A/2)**  
 0-00 : J,J2,K1,K2,K3 0-01 : J1,J3 2-71 : E1,E2,E3,E4,E5

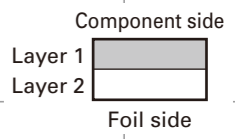
Ref. No.	Address
IC203	10Q
Q205	9I
Q206	9J
Q213	9J
D205	9I
D206	9I
D207	9I
D208	9I
D801	8D
D803	8H
D804	7H
D805	7D
D807	6H
D808	6D
D810	5H
D811	5D
D813	4H
D814	4D
D816	4H
D817	3D
D819	3H
D820	3D
D822	2H
D823	2D



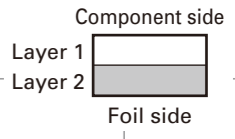
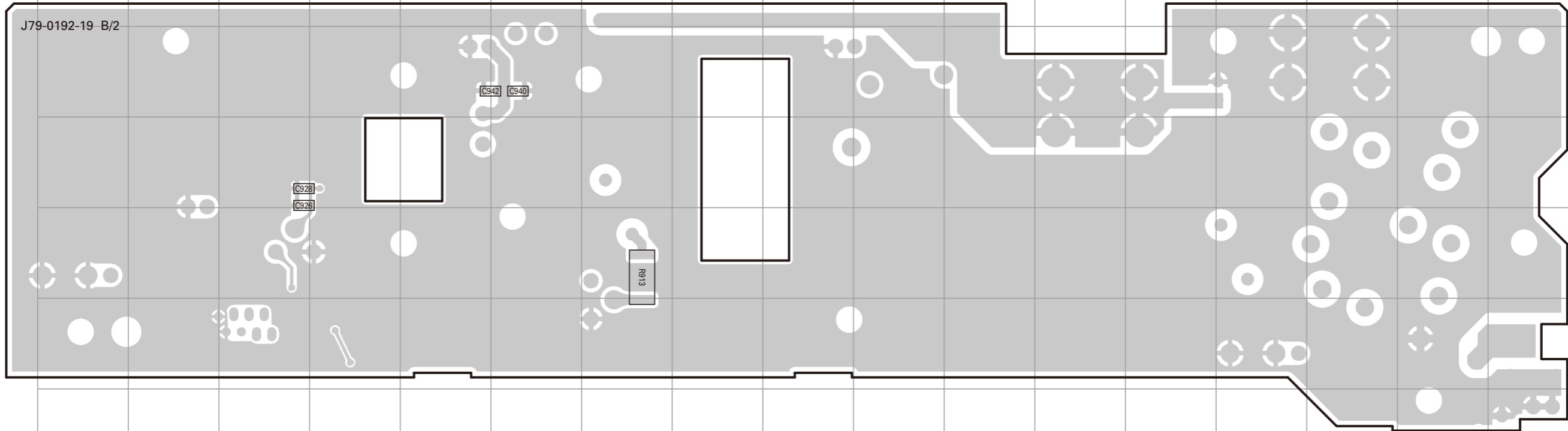
**FINAL UNIT (X45-384X-XX) (B/2) Component side view (J79-0192-19 B/2)**  
0-00 : J,J2,K1,K2,K3 0-01 : J1,J3 2-71 : E1,E2,E3,E4,E5



Ref. No.	Address
Q901	6B
Q903	5E
Q905	5H
D901	5B
D904	4L
D905	5M
D906	5N
D908	4N
D909	3O



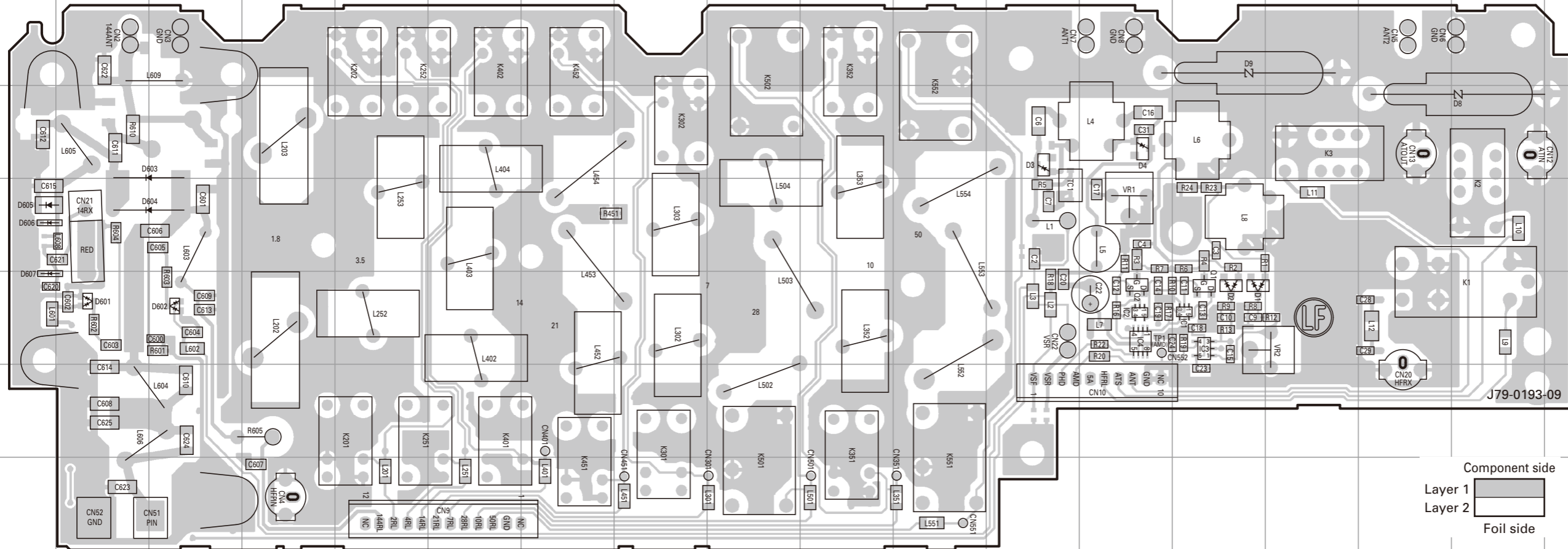
**FINAL UNIT (X45-384X-XX) (B/2) Foil side view (J79-0192-19 B/2)**  
0-00 : J,J2,K1,K2,K3 0-01 : J1,J3 2-71 : E1,E2,E3,E4,E5



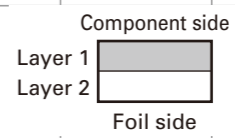


TS-2000/B2000/2000X  
 TS-2000S/2000V/2000SX/2000VX **PC BOARD**

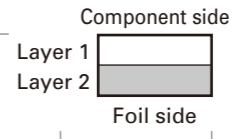
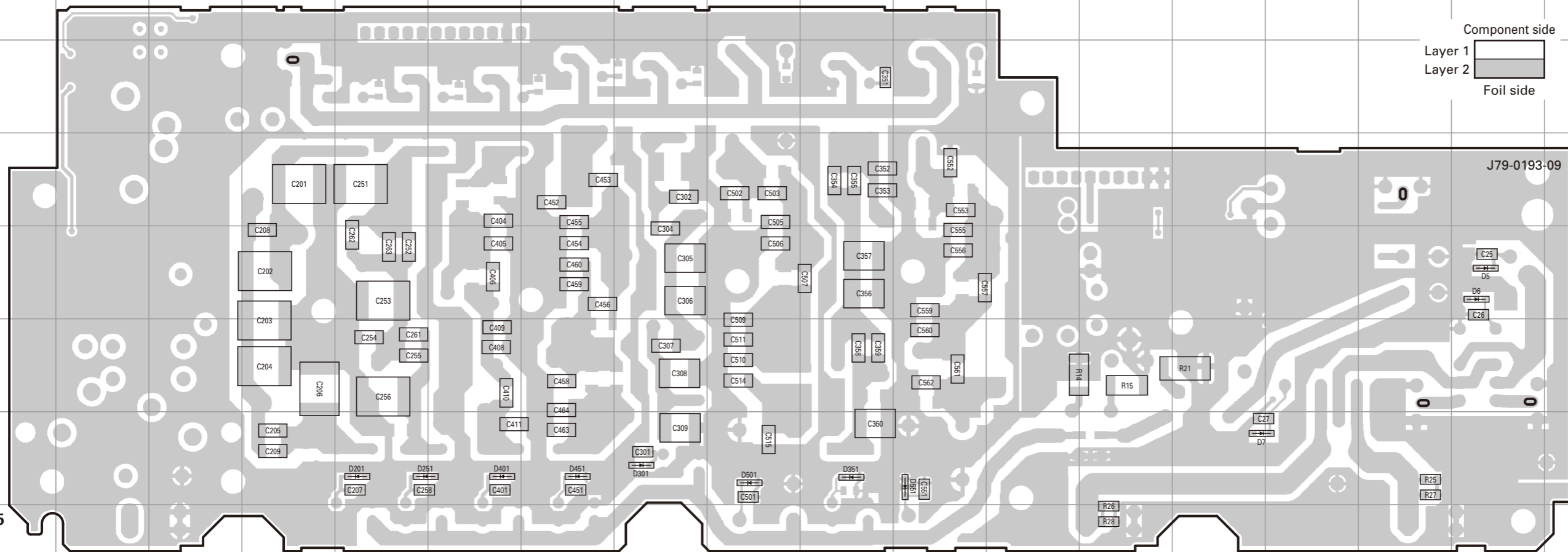
**FILTER UNIT (X51-318X-XX) 0-00 : J,J2,K1,K2,K3,E1,E2,E3,E4,E5 0-01 : J1,J3 Component side view (J79-0193-09)**



Ref. No.	Address
IC1	5N
IC2	5M
IC3	5N
IC4	5M
Q1	5N
Q2	5M
D1	5N
D2	5N
D3	3L
D4	3M
D8	3Q
D9	2N
D601	5B
D602	5C
D603	3C
D604	4C
D605	4A
D606	4A
D607	5A

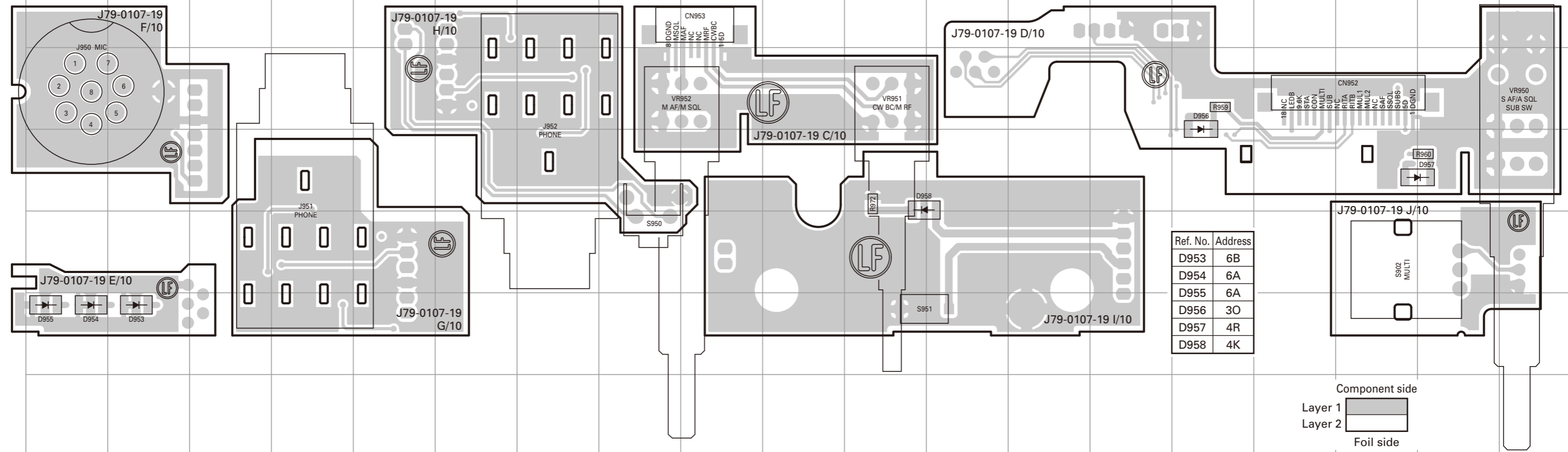


**FILTER UNIT (X51-318X-XX) 0-00 : J,J2,K1,K2,K3,E1,E2,E3,E4,E5 0-01 : J1,J3 Foil side view (J79-0193-09)**


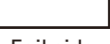


Ref. No.	Address
D5	11Q
D6	11Q
D7	13N
D201	13E
D251	13E
D301	13H
D351	13J
D401	13F
D451	13G
D501	13I
D551	13K

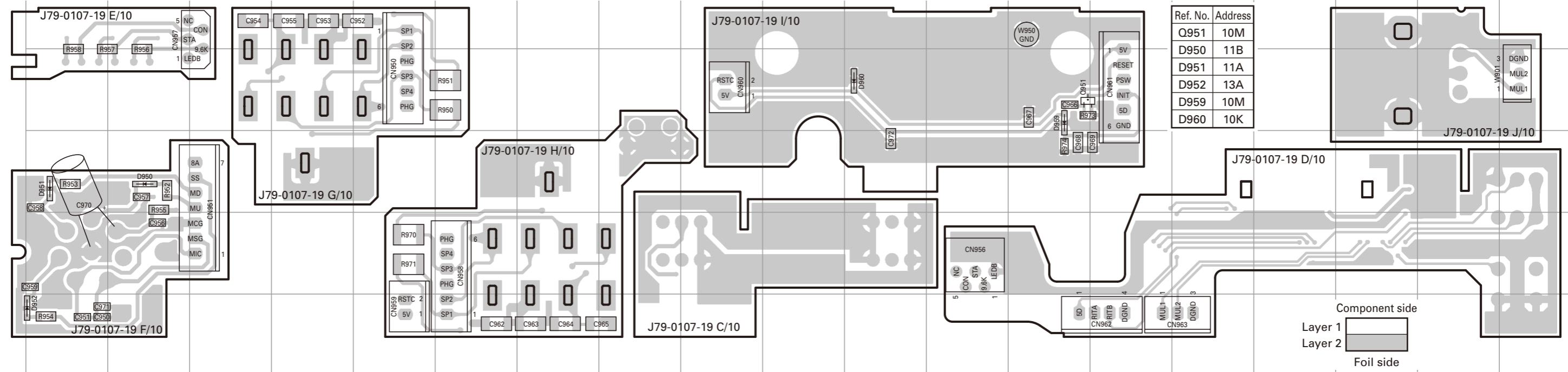
**TX-RX 1 UNIT (X57-605X-XX) (C,D,E,F,G,J/10) 0-00 : J,J2 0-01 : J1,J3 0-11 : K1,K3 2-71 : E1,E3,E5 Component side view (J79-0107-19 C,D,E,F,G,J/10)**  
**TX-RX 1 UNIT (X57-605X-XX) (F,H,I/10) 0-12 : K2 2-72 : E2,E4 Component side view (J79-0107-19 F,H,I/10)**




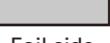
Ref. No.	Address
D953	6B
D954	6A
D955	6A
D956	3O
D957	4R
D958	4K

Component side  
 Layer 1   
 Layer 2   
 Foil side

**TX-RX 1 UNIT (X57-605X-XX) (C,D,E,F,G,J/10) 0-00 : J,J2 0-01 : J1,J3 0-11 : K1,K3 2-71 : E1,E3,E5 Foil side view (J79-0107-19 C,D,E,F,G,J/10)**  
**TX-RX 1 UNIT (X57-605X-XX) (F,H,I/10) 0-12 : K2 2-72 : E2,E4 Foil side view (J79-0107-19 F,H,I/10)**

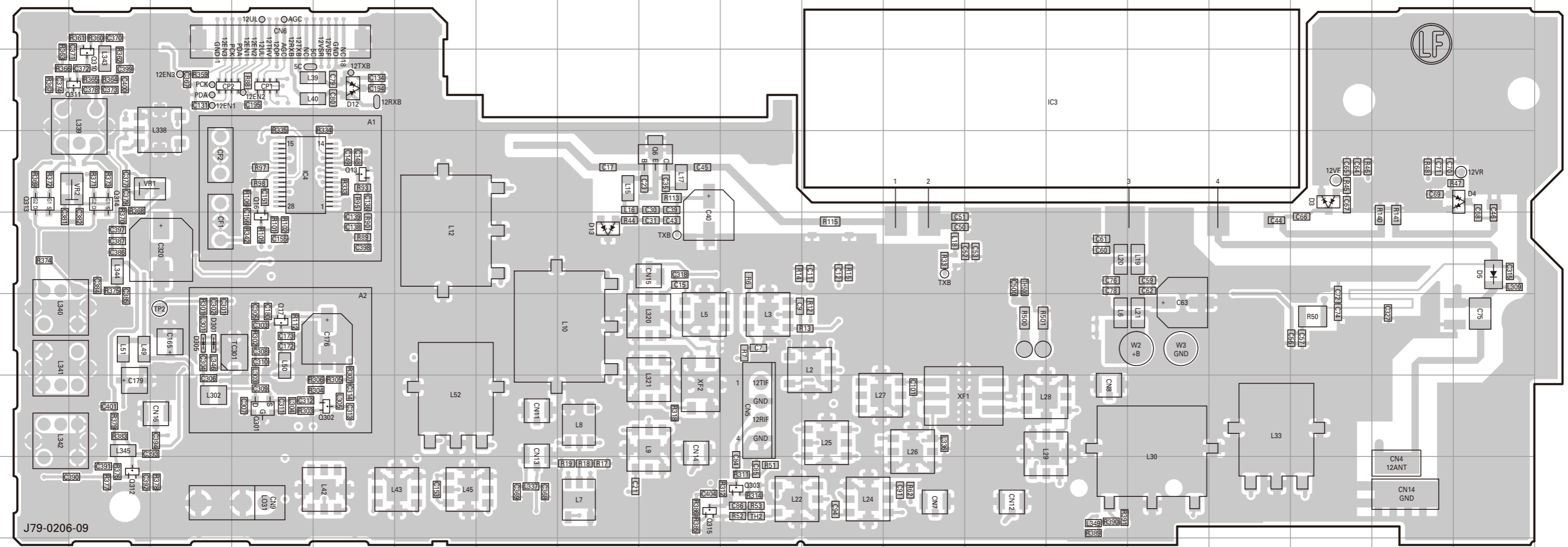


Ref. No.	Address
Q951	10M
D950	11B
D951	11A
D952	13A
D959	10M
D960	10K

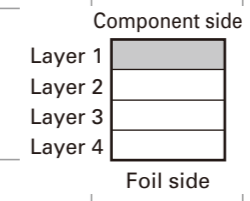
Component side  
 Layer 1   
 Layer 2   
 Foil side

TS-2000/B2000/2000X  
 TS-2000S/2000V/2000SX/2000VX **PC BOARD**

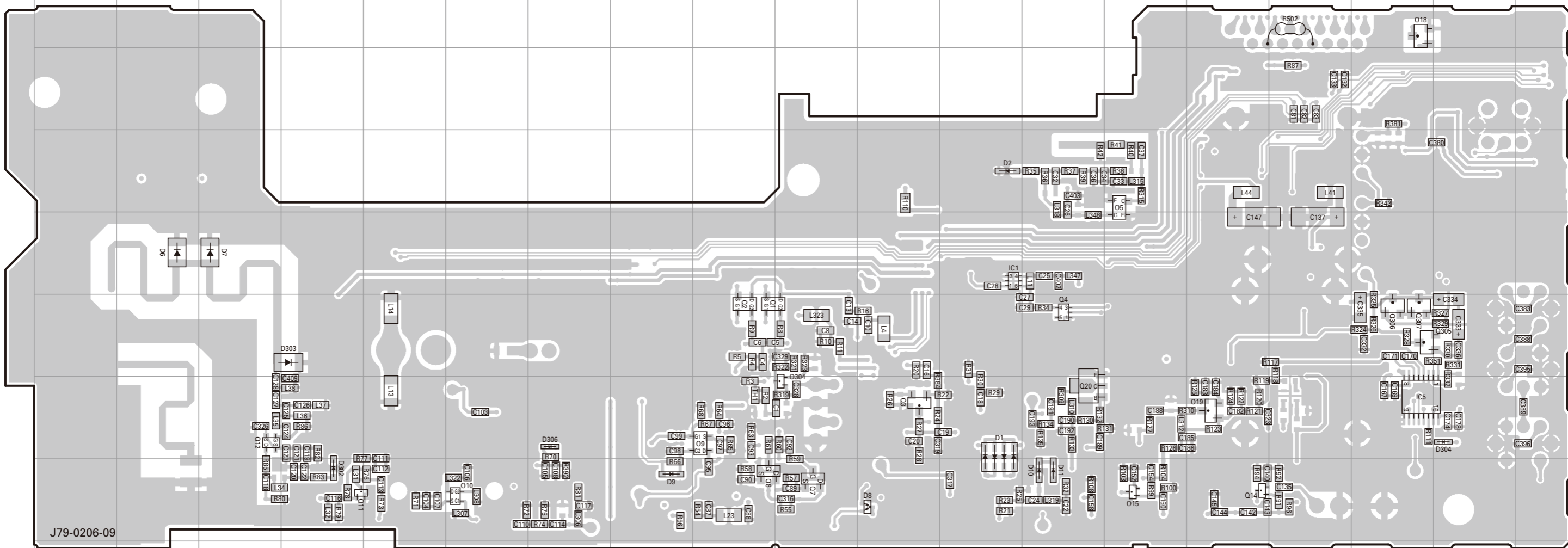
**TX-RX 3 UNIT (UT-20) (X57-607X-XX) 0-00 : J2,J3,K3 2-71 : E5 Component side view (J79-0206-09)**



Ref No.	Address	Ref No.	Address	Ref No.	Address	Ref No.	Address	Ref No.	Address
IC3	4N	Q17	7D	Q311	4B	D3	5Q	D301	7C
IC4	5D	Q301	8D	Q312	9B	D4	5S	D305	7C
Q6	5I	Q302	8E	Q313	5A	D5	6S		
Q13	5E	Q303	9J	Q314	5B	D12	4E		
Q16	6D	Q310	4B	Q315	9I	D13	6H		

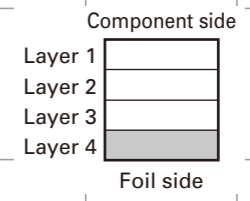


TX-RX 3 UNIT (UT-20) (X57-607X-XX) 0-00 : J2,J3,K3 2-71 : E5 Foil side view (J79-0206-09)

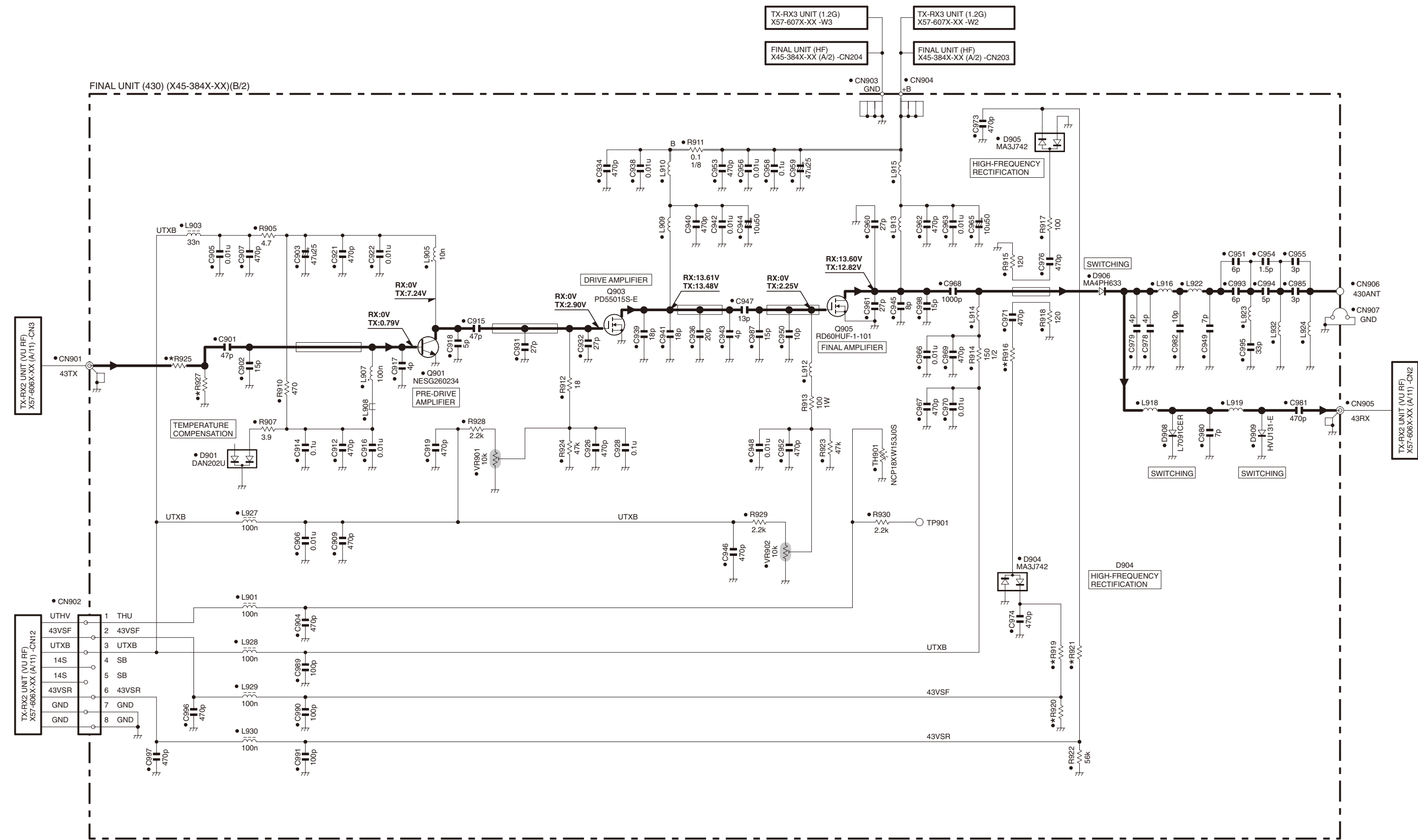


J79-0206-09

Ref No.	Address	Ref No.	Address	Ref No.	Address	Ref No.	Address	Ref No.	Address	Ref No.	Address	Ref No.	Address
IC1	6L	Q4	7M	Q10	9F	Q18	3Q	Q306	7Q	D7	6C	D302	9D
IC5	8Q	Q5	5N	Q11	9D	Q19	8O	Q307	7Q	D8	9K	D303	7D
Q1	7I	Q7	9J	Q12	8C	Q20	8M	D1	8L	D9	9H	D304	8R
Q2	7I	Q8	9I	Q14	9O	Q304	8J	D2	5L	D10	9M	D306	8G
Q3	8K	Q9	8I	Q15	9N	Q305	7Q	D6	6B	D11	9M		



TS-2000/B2000/2000X  
 TS-2000S/2000V/2000SX/2000VX **SCHEMATIC DIAGRAM**

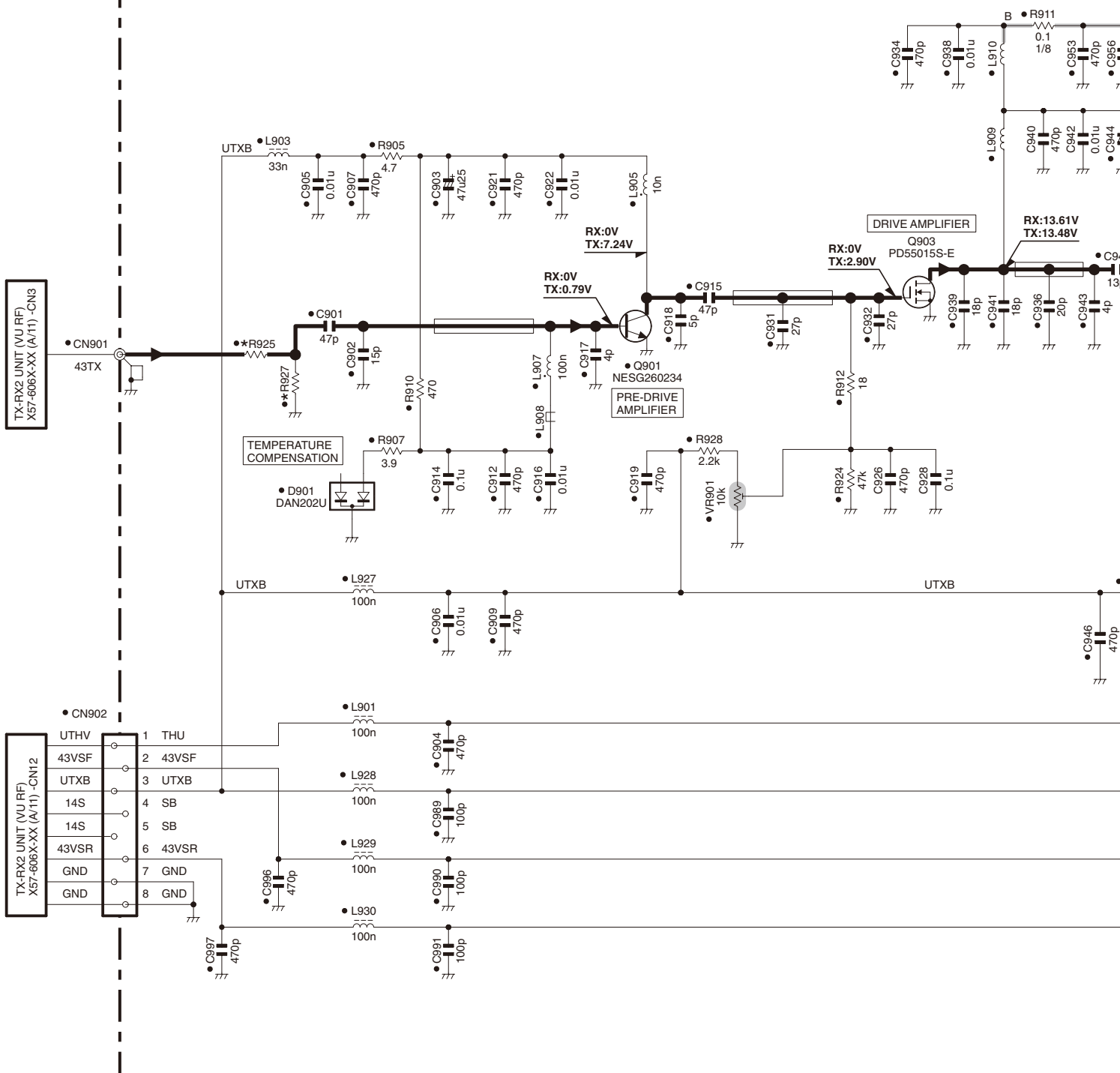


X45-384X-XX	R916	R919	R920	R921	R925	R927
0-00	J,J2,K1,K2,K3	470	2.7k	100k	68k	22
0-01	J1,J3	100	47k	56k	33k	27
2-71	E1,E2,E3,E4,E5	470	2.7k	100k	68k	22

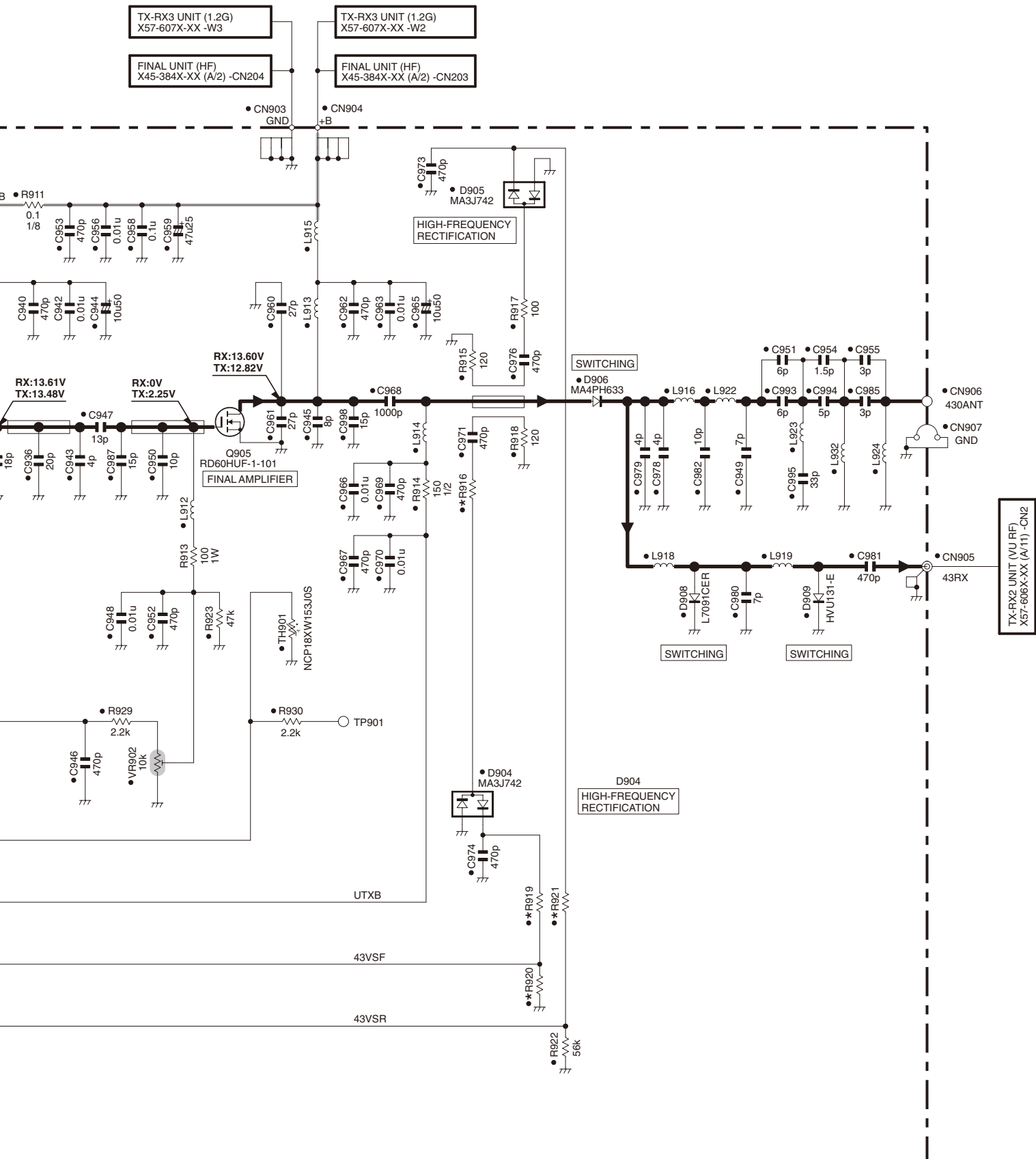
Note : The components marked with a dot (•) are parts of layer 1.

# TS-2000/B2000/2000X TS-2000S/2000V/2000SX/2000VX SCHEMATIC DIAGRAM

FINAL UNIT (430) (X45-384X-XX)(B/2)



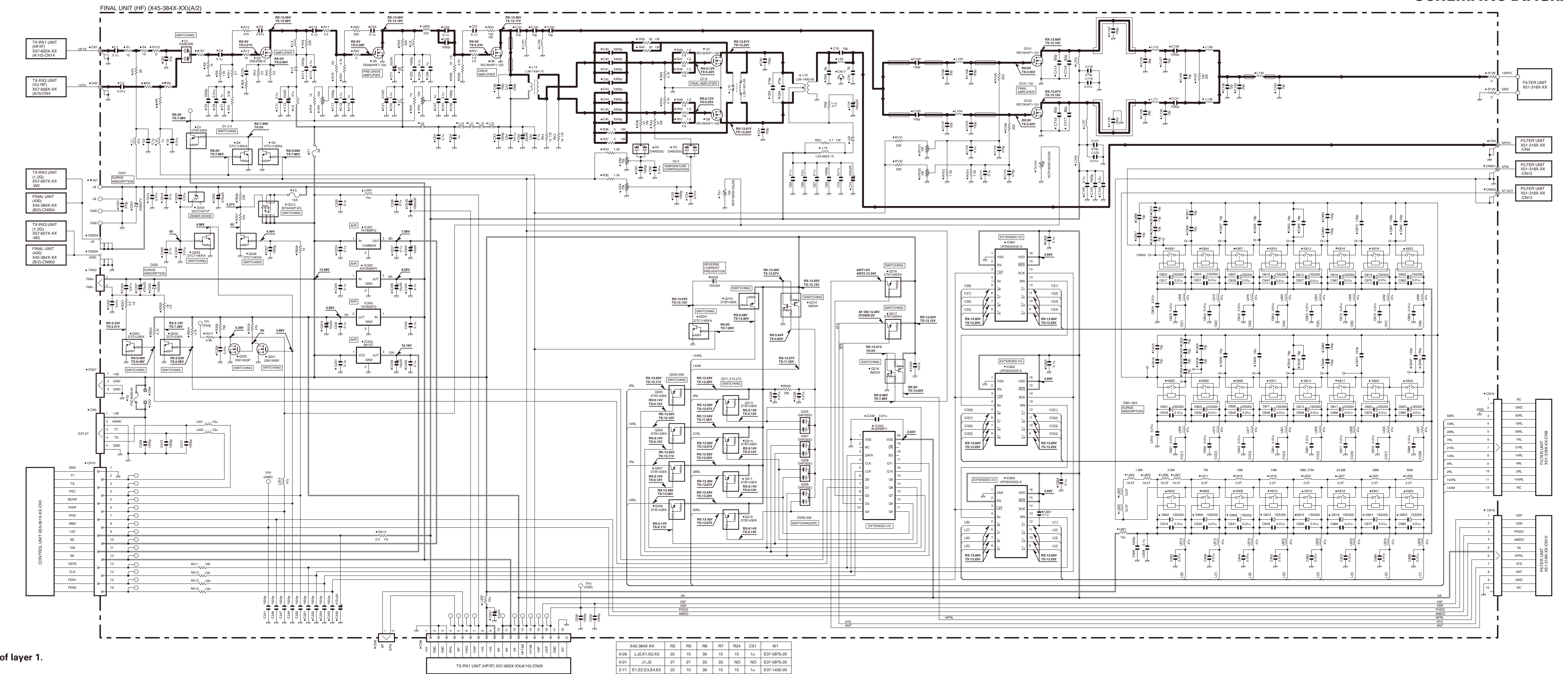
	X45-384X-XX	R916	R919	R920	R921	R925	R927
0-00	J,J2,K1,K2,K3	470	2.7k	100k	68k	22	NO
0-01	J1,J3	100	47k	56k	33k	27	47
2-71	E1,E2,E3,E4,E5	470	2.7k	100k	68k	22	NO



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

# SCHEMATIC DIAGRAM

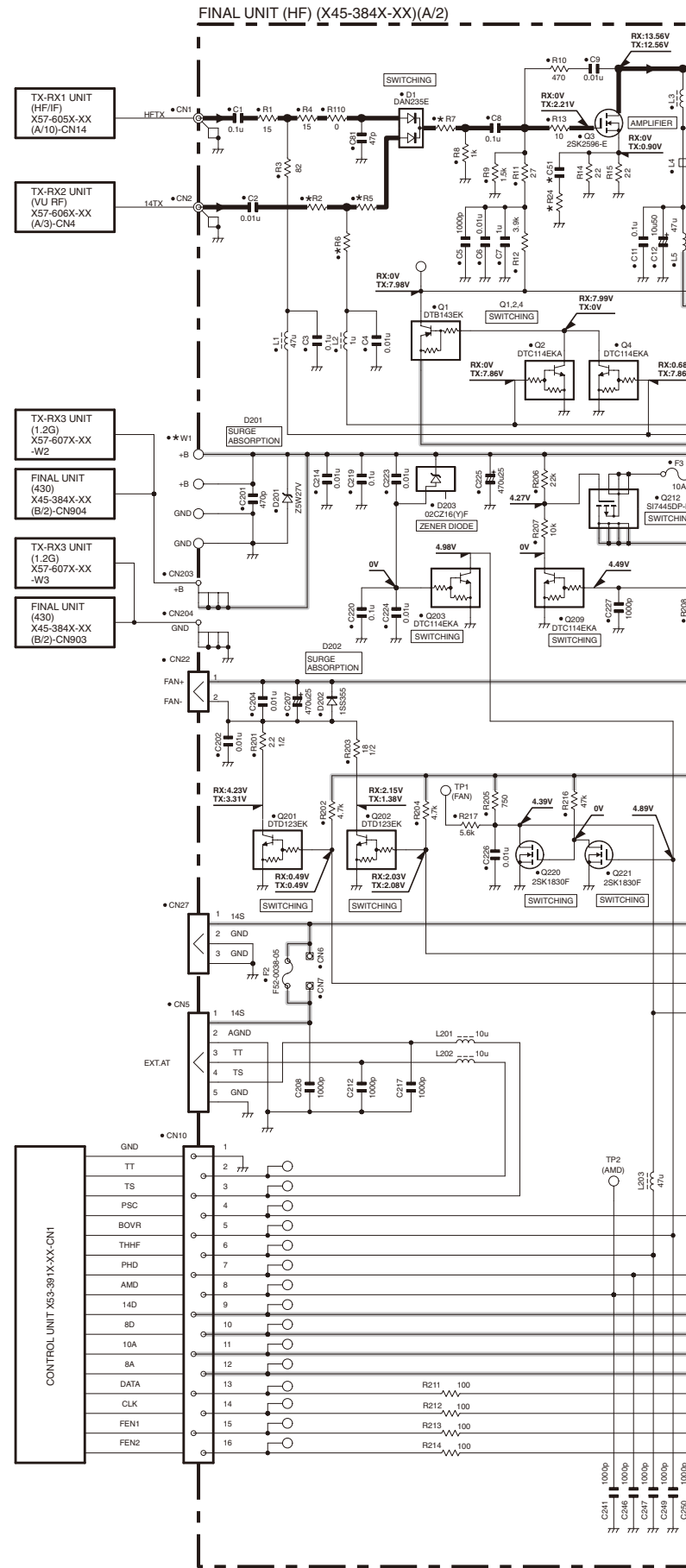
TS-2000/B2000/2000X  
TS-2000S/2000V/2000SX/2000VX



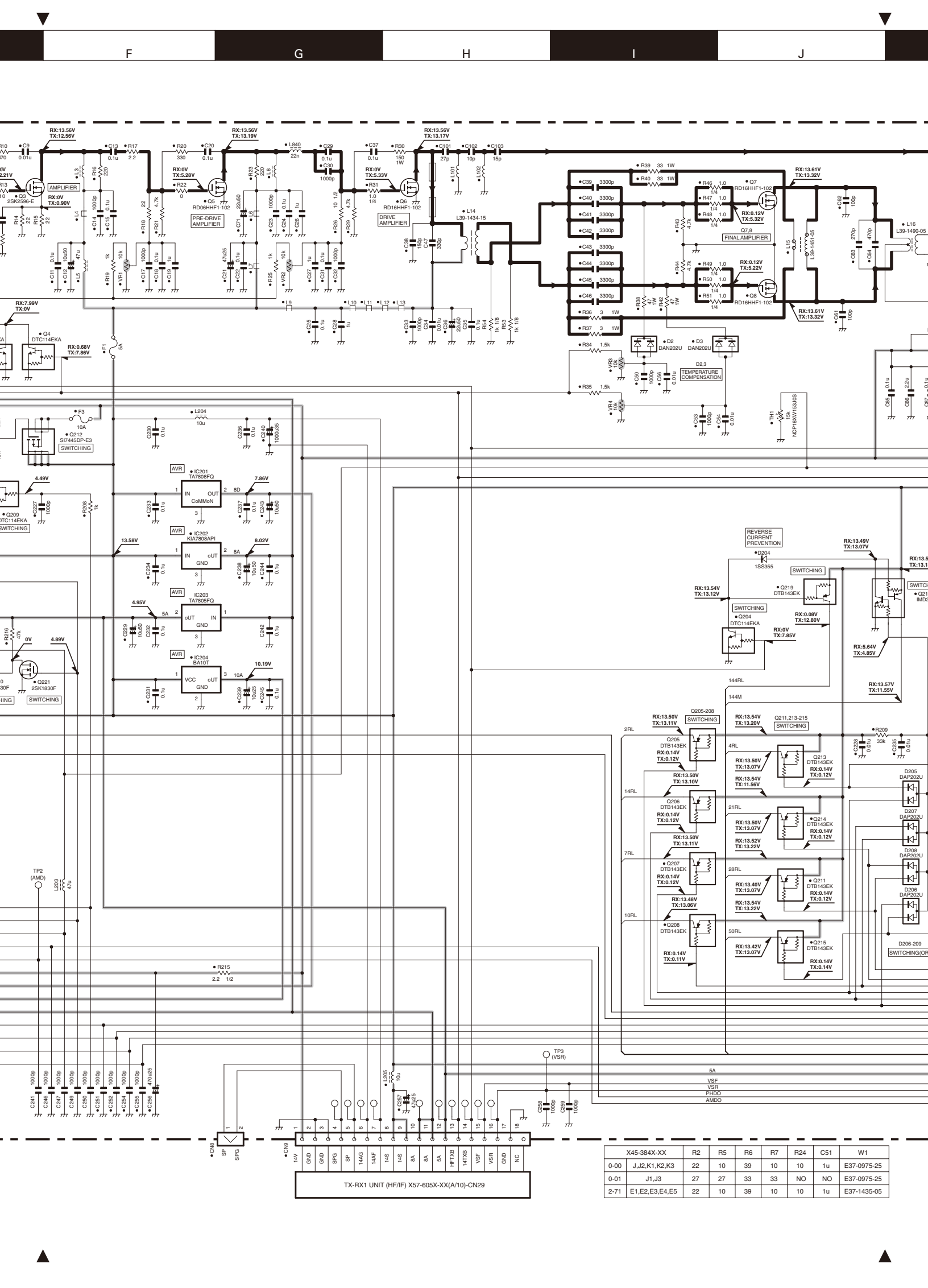
Note : The components marked with a dot (•) are parts of layer 1.

X45-384X-XX	R2	R5	R6	R7	R24	CS1	W1
0-00	J1J2,K1,K2,K3	22	10	39	10	1U	E37-0975-25
0-01	J1,J3	27	27	33	33	1U	E37-0975-25
2-71	E1,E2,E3,E4,E5	22	10	39	10	1U	E37-1435-05



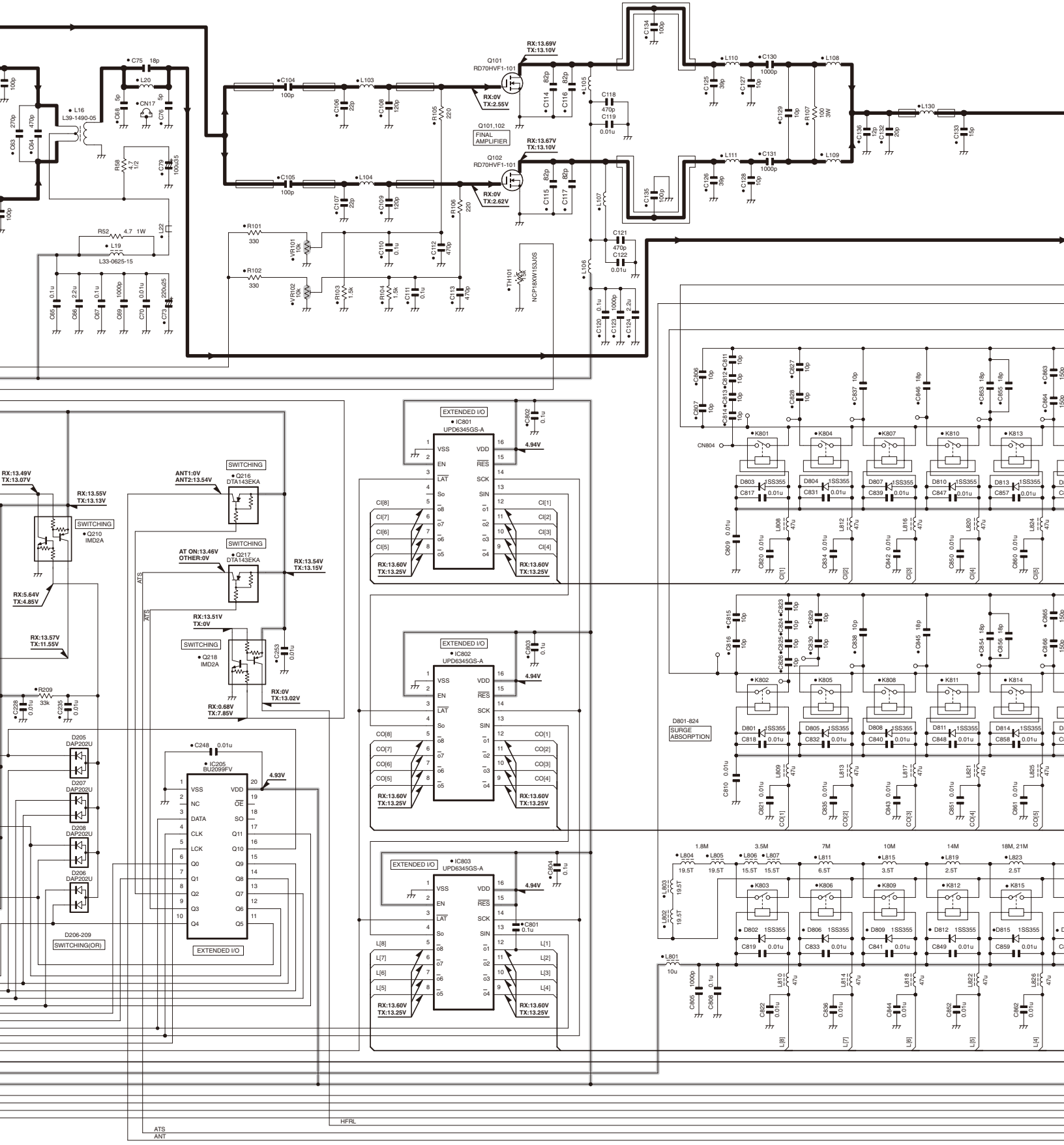


Note : The components marked with a dot (•) are parts of layer 1.



TX-RX UNIT (HF/IF) X57-605X-XX(A/10)-CN29

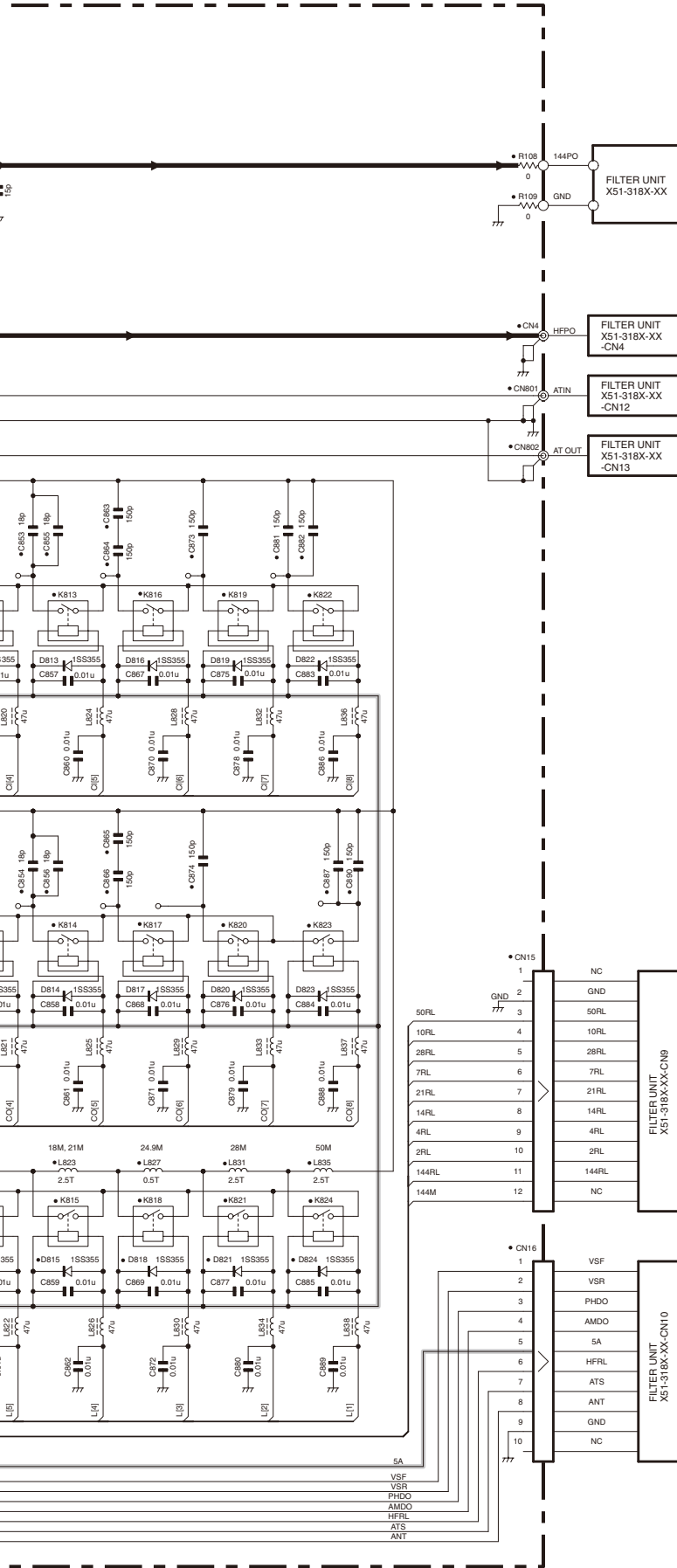
	X45-384X-XX	R2	R5	R6	R7	R24	C51	W1
0-00	J,J2,K1,K2,K3	22	10	39	10	10	1u	E37-0975-25
0-01	J1,J3	27	27	33	33	NO	NO	E37-0975-25
2-71	E1,E2,E3,E4,E5	22	10	39	10	10	1u	E37-1435-05



W1
E37-0975-25
E37-0975-25
E37-1435-05

# SCHEMATIC DIAGRAM

TS-2000/B2000/2000X  
TS-2000S/2000V/2000SX/2000VX



1

2

3

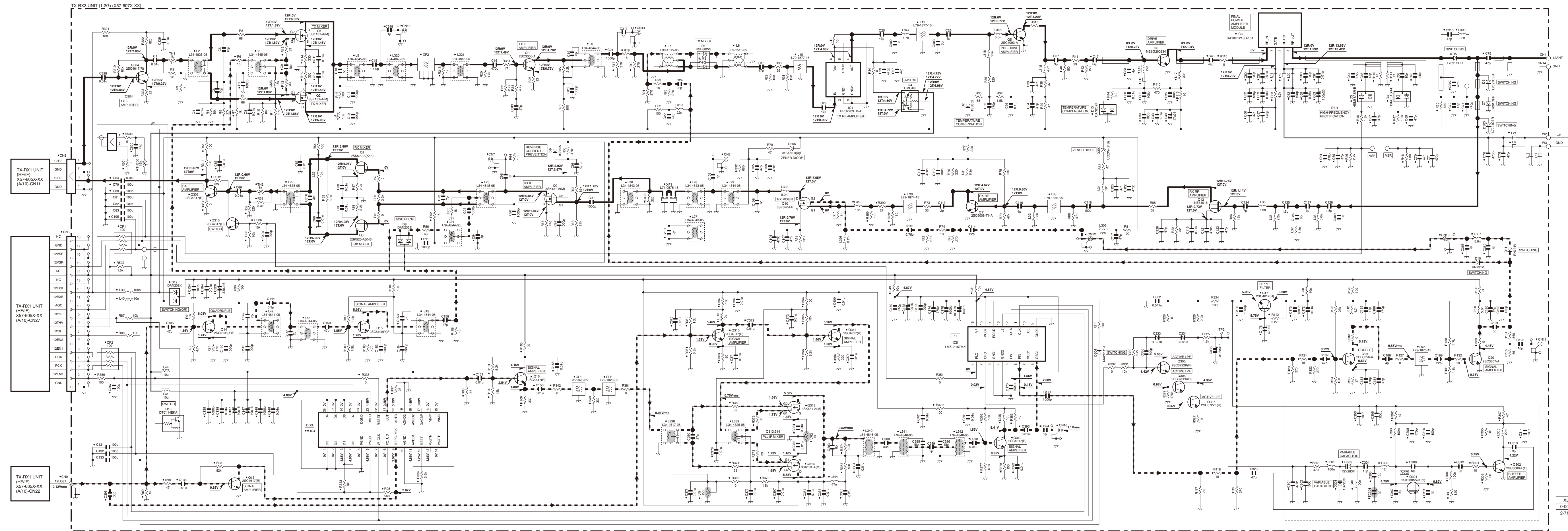
4

5

6

7

TS-2000/B2000/2000X  
 TS-2000S/2000V/2000SX/2000VX **SCHEMATIC DIAGRAM**



- FINAL UNIT (HF) X45-384X-XX (A2)-CN203
- FINAL UNIT (430) X45-384X-XX (B2)-CN904
- FINAL UNIT (HF) X45-384X-XX (A2)-CN204
- FINAL UNIT (430) X45-384X-XX (B2)-CN903

X57-607X-XX	IC4
0-00 J2,J3,K3	AD9851BR5
2-71 E5	AD9851BR5Z

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

# TS-2000/B2000/2000X TS-2000S/2000V/2000SX/2000VX SCHEMATIC DIAGRAM

1

2

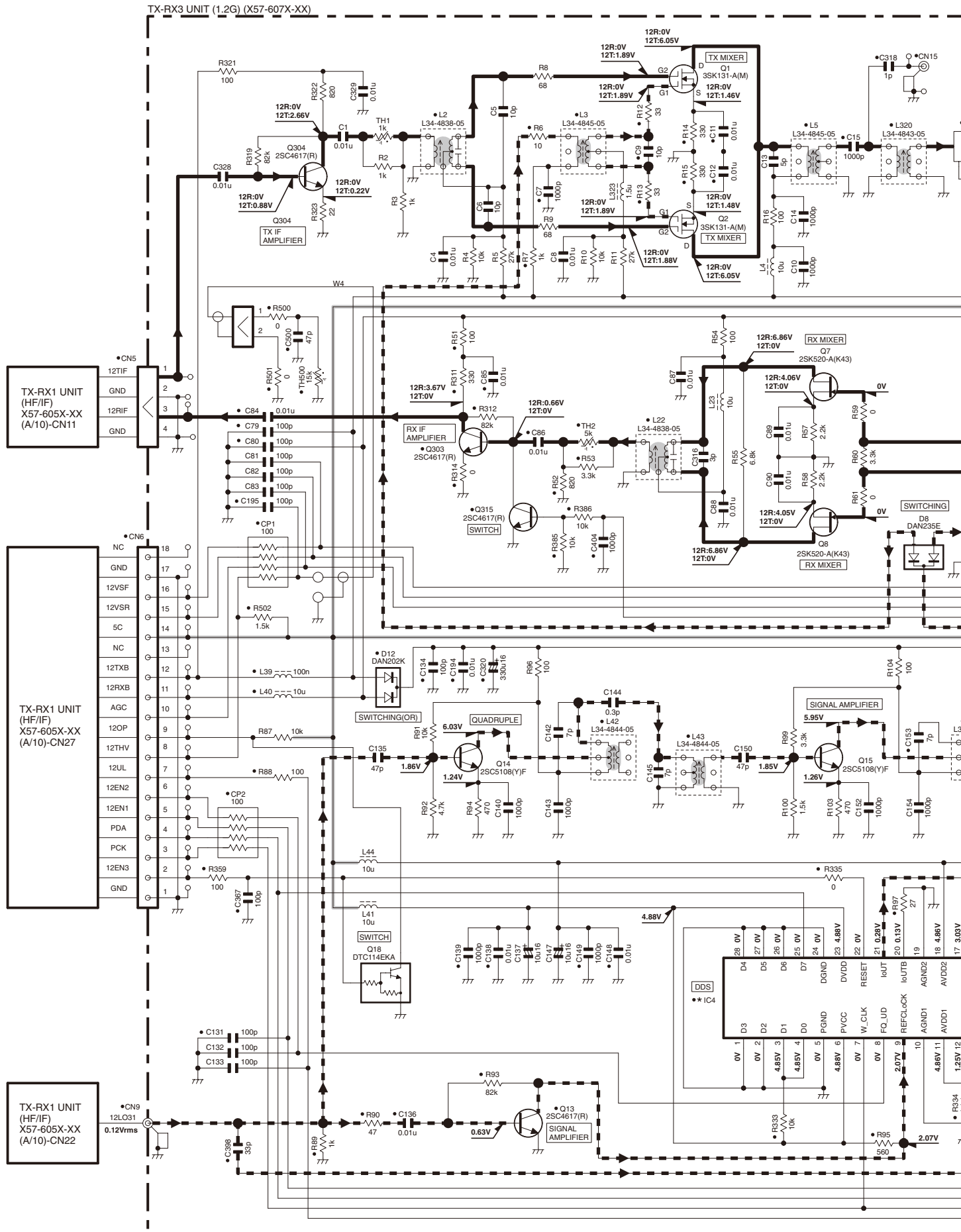
3

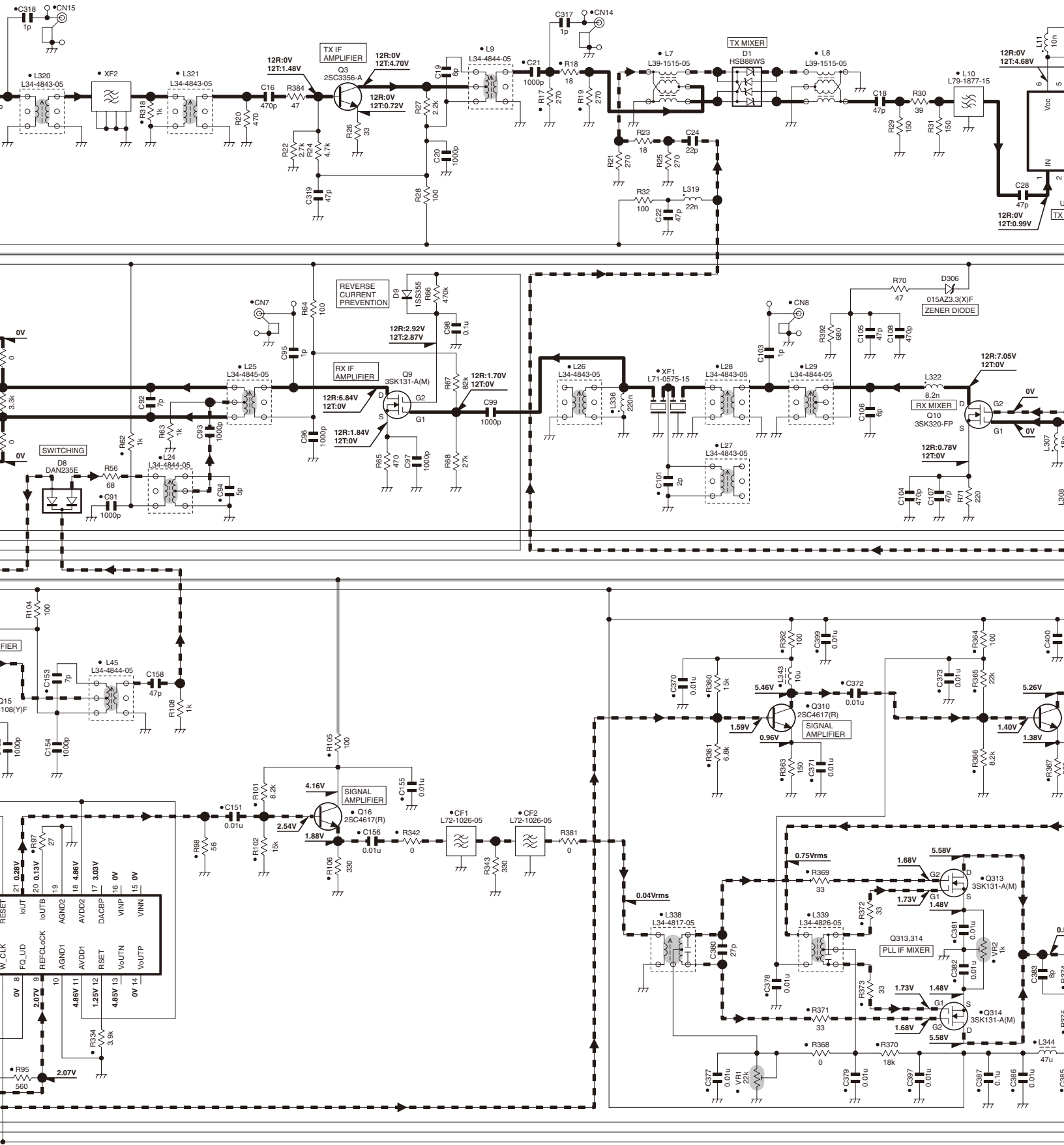
4

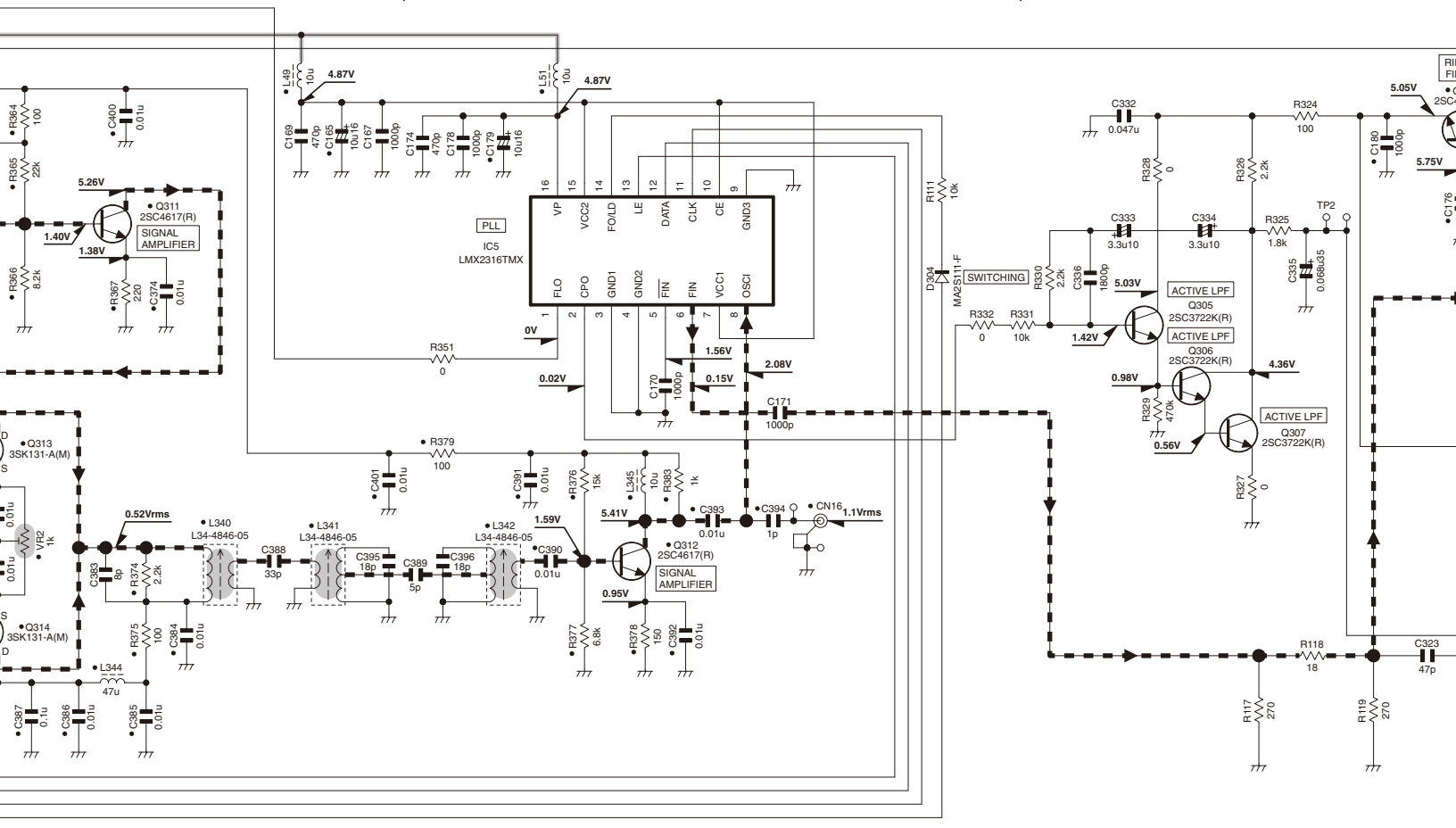
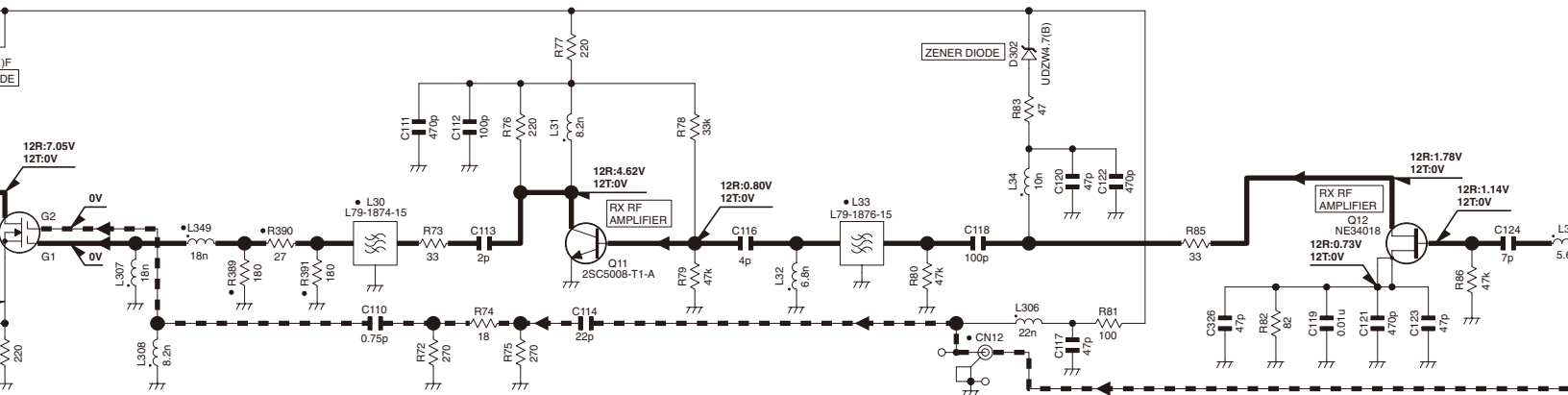
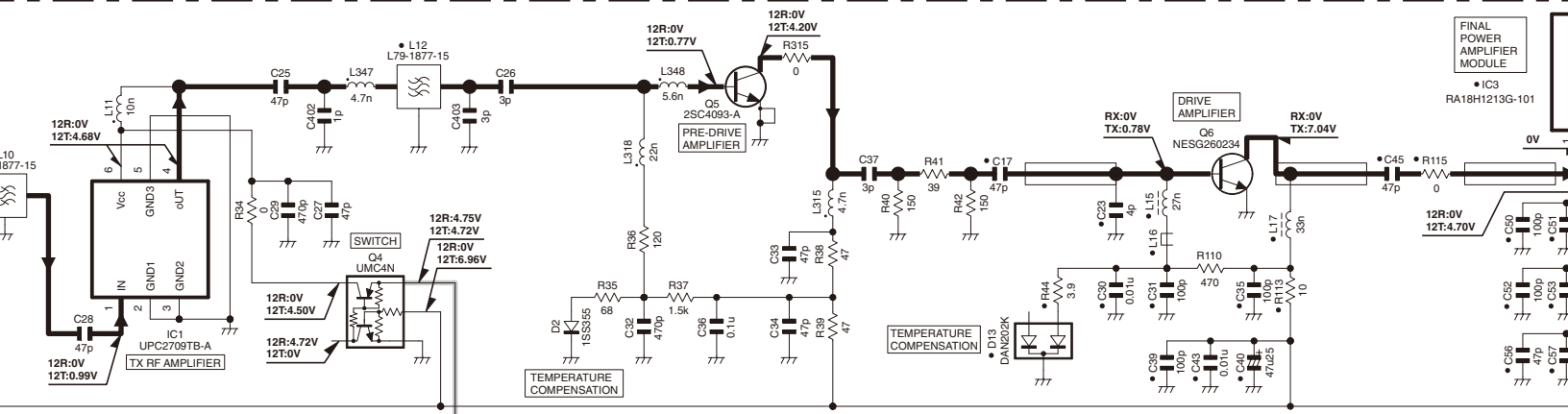
5

6

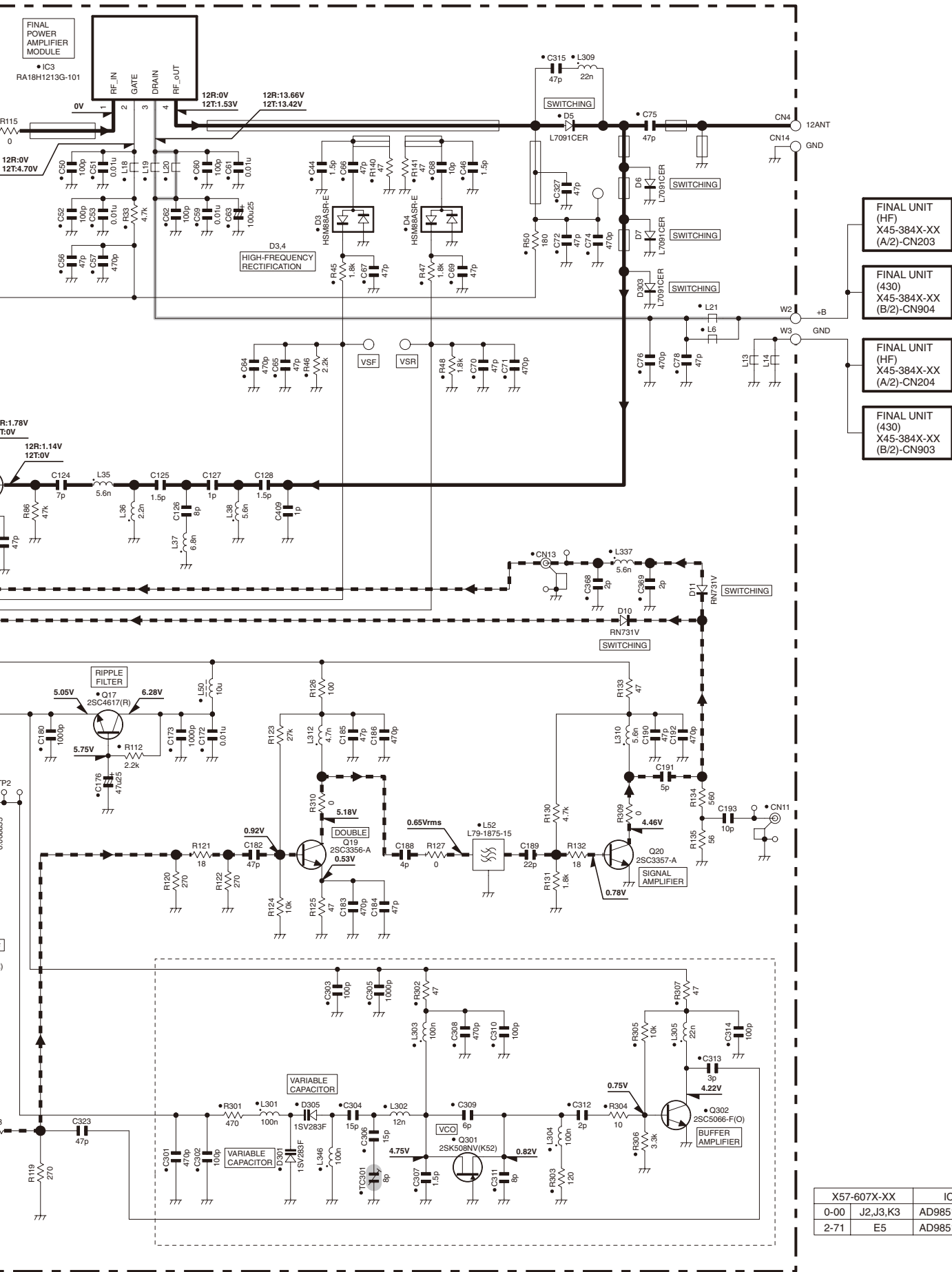
7







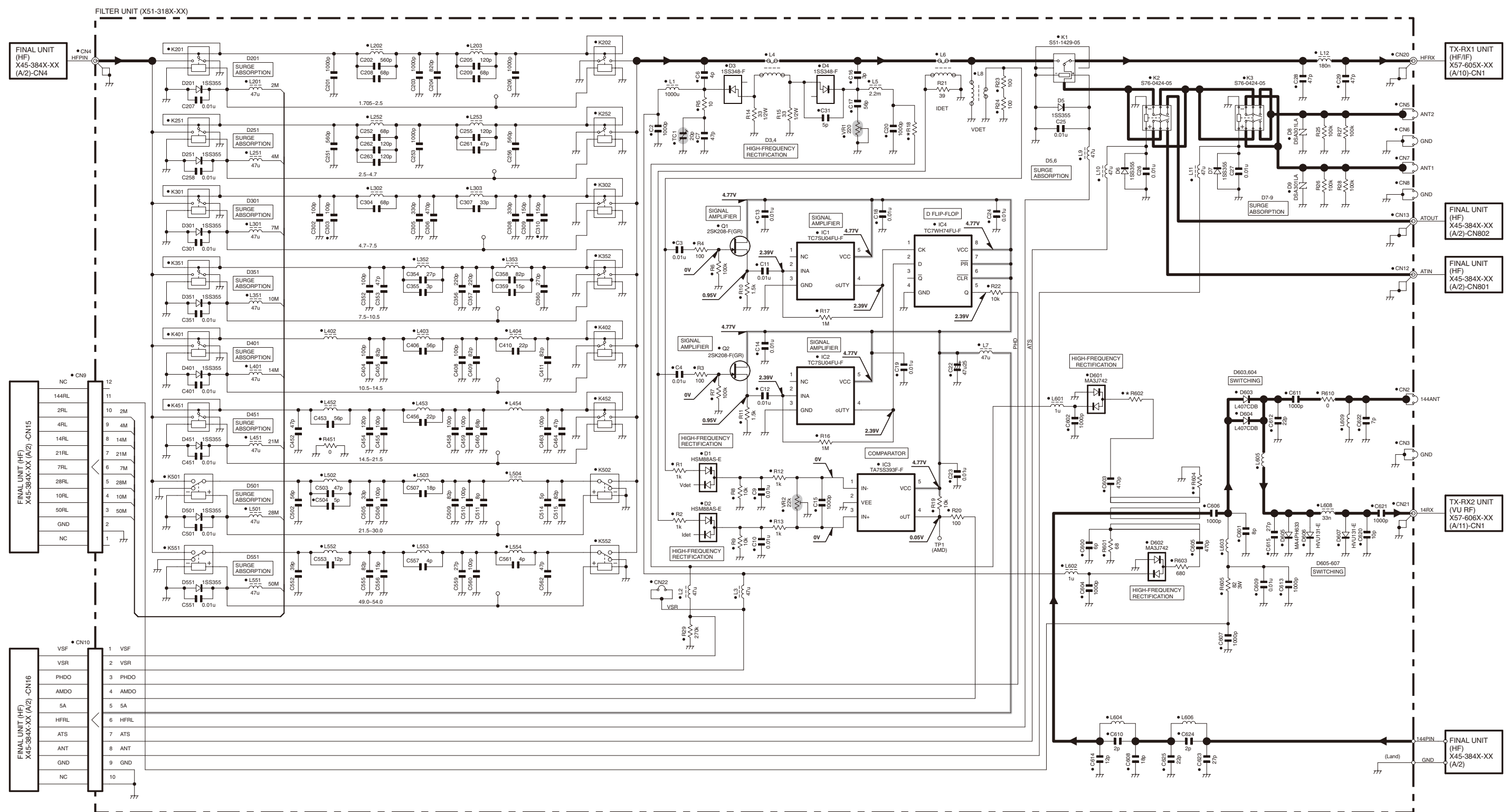




X57-607X-XX	IC4
0-00	J2,J3,K3
2-71	E5

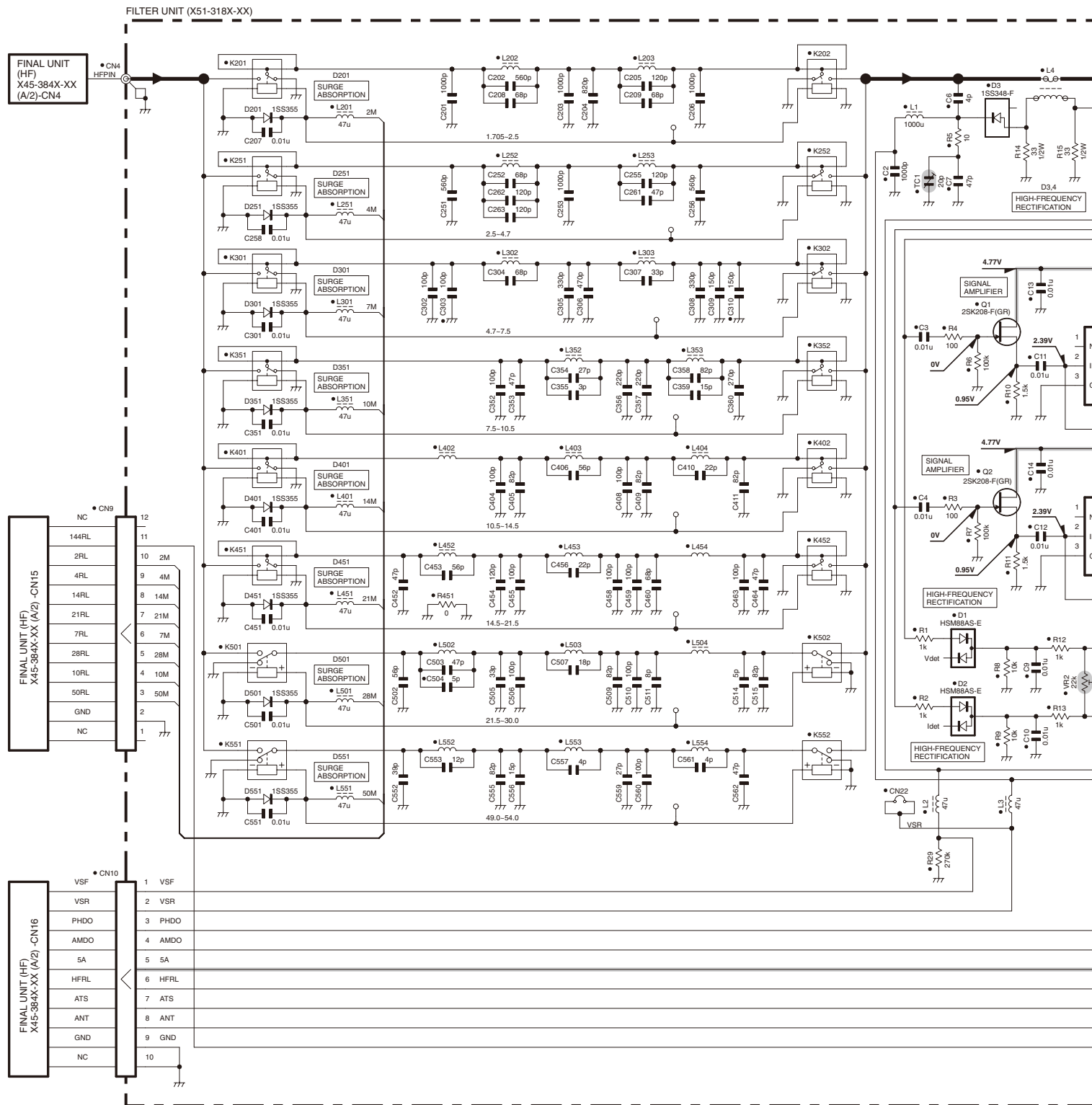
Note : The components marked with a dot (•) are parts of layer 1.

# SCHEMATIC DIAGRAM TS-2000/B2000/2000X TS-2000S/2000V/2000SX/2000VX



X51-318X-XX		R18	R602	R604
0-00	J,J2,K1,K2,K3,E1,E2,E3,E4,E5	33k	820	68
0-01	J1,J3	4.7k	470	100

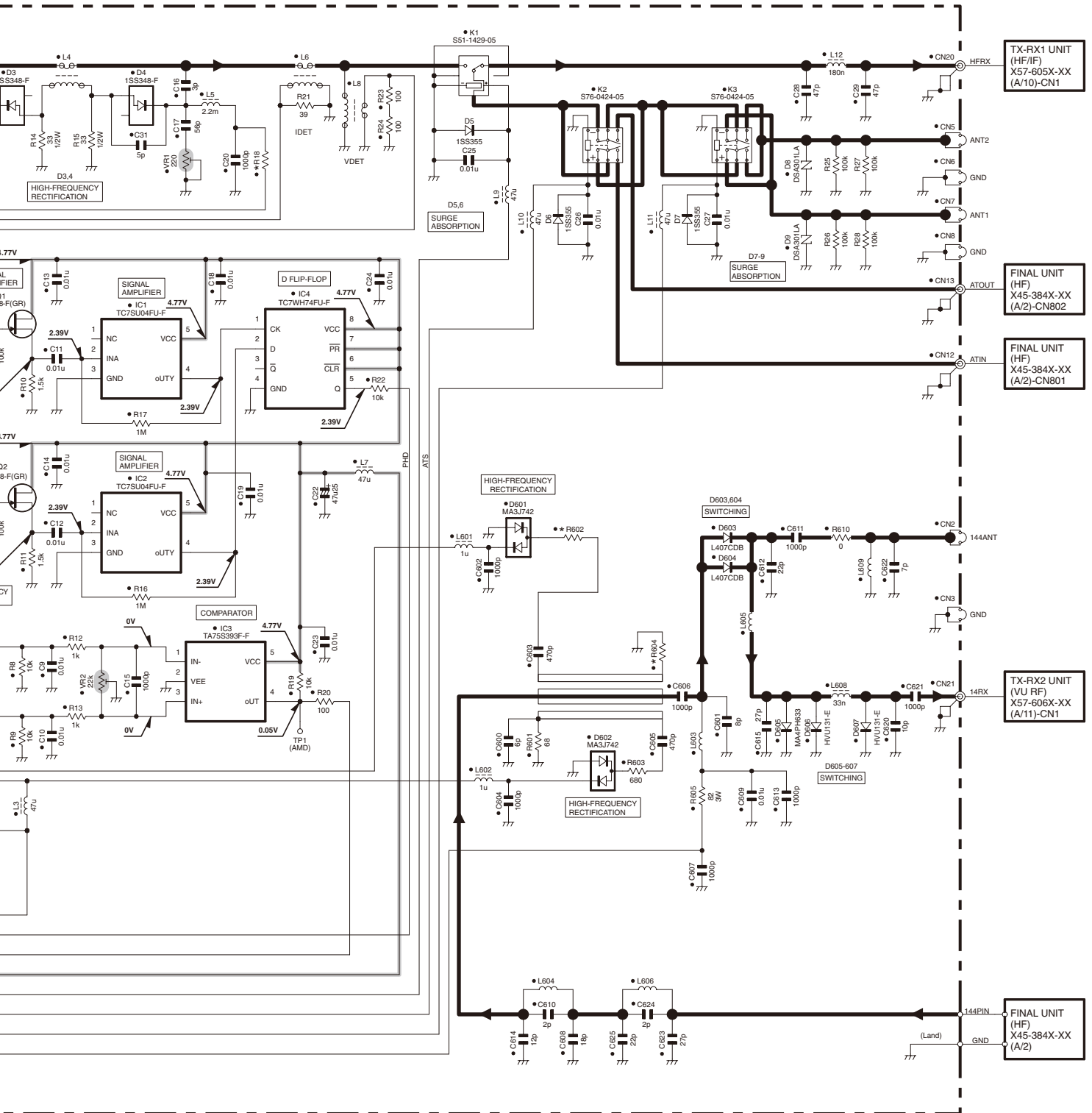
Note : The components marked with a dot (•) are parts of layer 1.



X51-318X-XX		R18	R602	R604
0-00	J,J2,K1,K2,K3,E1,E2,E3,E4,E5	33k	820	68
0-01	J1,J3	4.7k	470	100

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

# SCHEMATIC DIAGRAM TS-2000/B2000/2000X TS-2000S/2000V/2000SX/2000VX



1

2

3

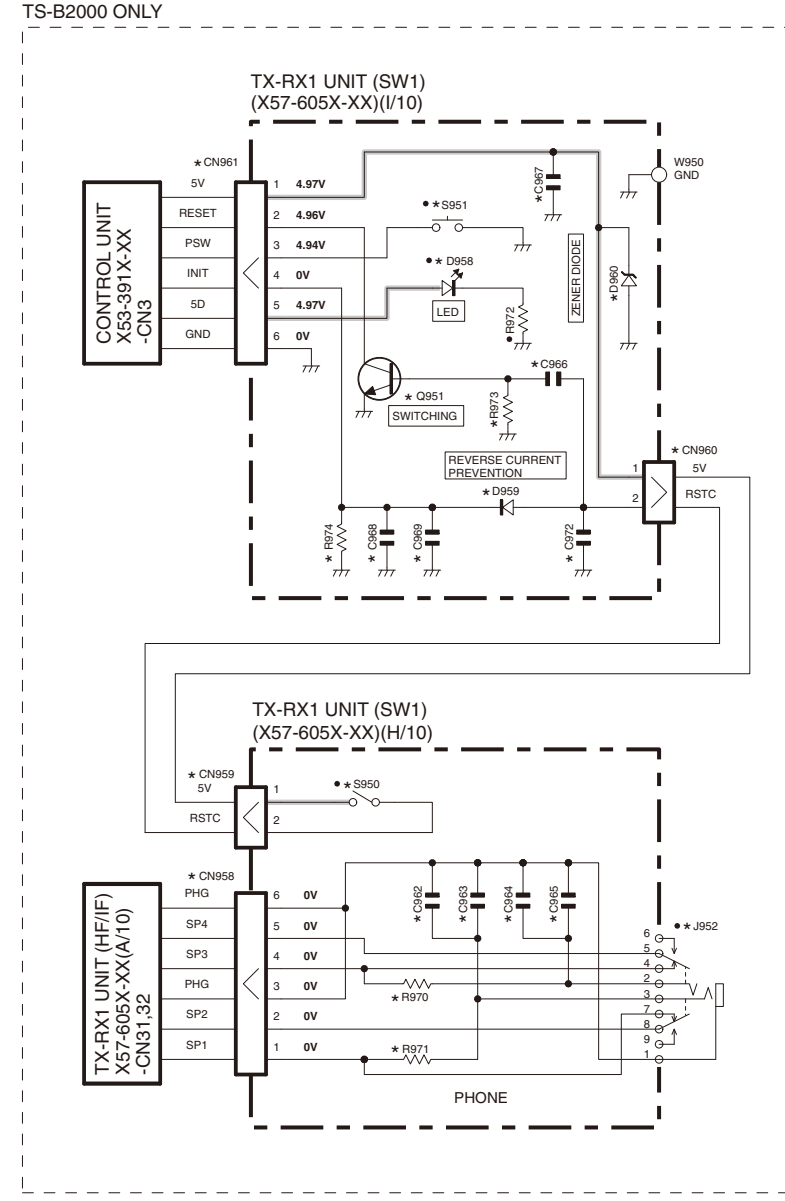
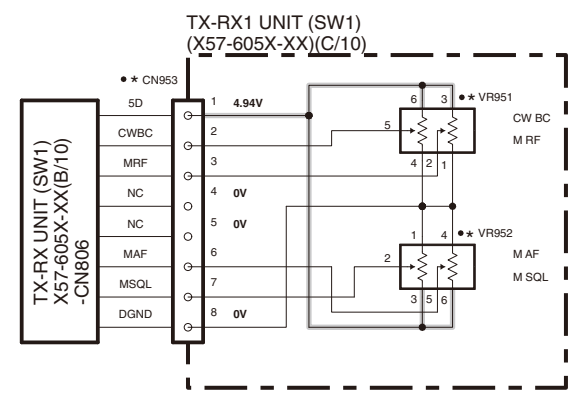
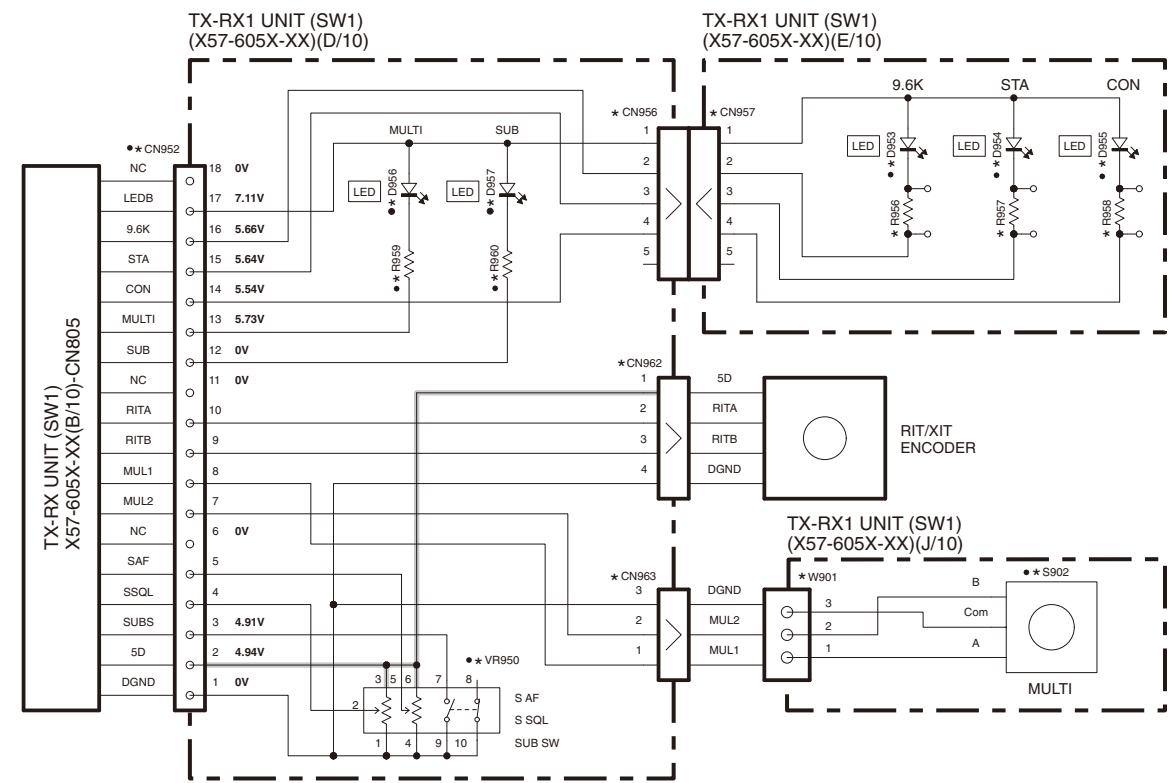
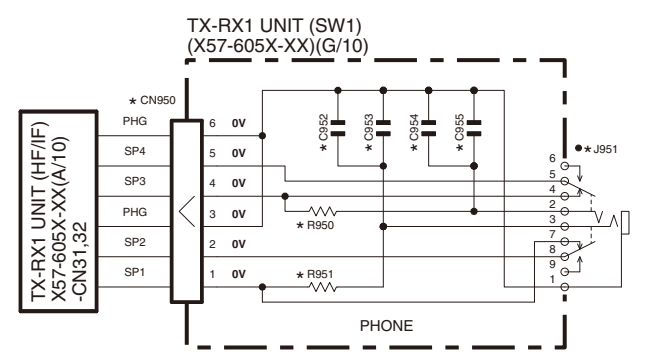
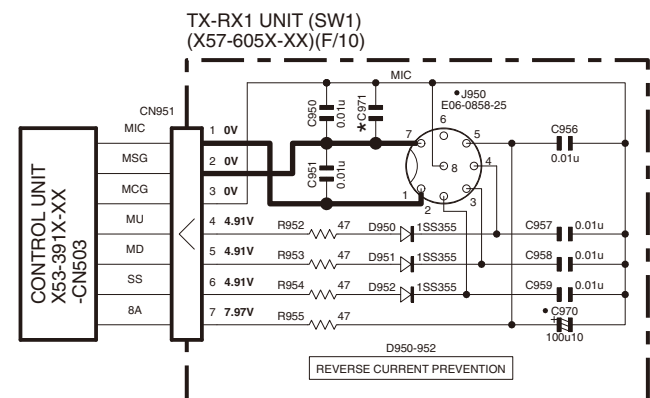
4

5

6

7

TS-2000/B2000/2000X  
TS-2000S/2000V/2000SX/2000VX **SCHEMATIC DIAGRAM**



X57-605X-XX	CN950	CN952	CN953	CN956	CN957	CN958	CN959	CN960	CN961	CN962	CN963	D953	D954	D955	D956	D957	D958	D959	D960	J951	J952
0-00	J,J2	E41-1686-05	E40-6074-05	E40-6077-05	E40-6610-05	E40-6594-05	NO	NO	NO	E41-1684-05	E41-1683-05	B30-2217-05	B30-2217-05	B30-2167-05	B30-2218-05	B30-2140-05	NO	NO	NO	E11-0705-05	NO
0-01	J1,J3	E41-1686-05	E40-6074-05	E40-6077-05	E40-6610-05	E40-6594-05	NO	NO	NO	E41-1684-05	E41-1683-05	B30-2217-05	B30-2217-05	B30-2167-05	B30-2218-05	B30-2140-05	NO	NO	NO	E11-0705-05	NO
0-11	K1,K3	E41-1686-05	E40-6074-05	E40-6077-05	E40-6610-05	E40-6594-05	NO	NO	NO	E41-1684-05	E41-1683-05	B30-2217-05	B30-2217-05	B30-2167-05	B30-2218-05	B30-2140-05	NO	NO	NO	E11-0705-05	NO
0-12	K2	NO	NO	NO	NO	NO	E41-1686-05	E41-1682-05	E41-1686-05	NO	NO	NO	NO	NO	NO	NO	B30-2168-05	1SS355	UDZS6.2B	NO	E11-0705-05
2-71	E1,E3,E5	E41-1686-05	E40-6074-05	E40-6077-05	E40-6610-05	E40-6594-05	NO	NO	NO	E41-1684-05	E41-1683-05	B30-2217-05	B30-2217-05	B30-2167-05	B30-2218-05	B30-2140-05	NO	NO	NO	E11-0705-05	NO
2-72	E2,E4	NO	NO	NO	NO	NO	E41-1686-05	E41-1682-05	E41-1682-05	E41-1686-05	NO	NO	NO	NO	NO	NO	B30-2168-05	1SS355	UDZS6.2B	NO	E11-0705-05

X57-605X-XX	Q951	S902	S950	S951	VR950	VR951	VR952	W901	R950	R951	R956	R957	R958	R959	R960	R970	R971	R972	R973	R974	C952	C953	C954	C955	C962	C963	C964	C965	C966	C967	C968	C969	C971	C972	
0-00	J,J2	NO	T99-0653-05	NO	NO	R31-0633-05	R31-0637-05	R31-0634-05	120	120	680	680	680	680	680	NO	NO	NO	NO	NO	1u	1u	1u	1u	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
0-01	J1,J3	NO	T99-0653-05	NO	NO	R31-0633-05	R31-0637-05	R31-0634-05	E37-1418-05	120	120	680	680	680	680	NO	NO	NO	NO	NO	1u	1u	1u	1u	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
0-11	K1,K3	NO	T99-0653-05	NO	NO	R31-0633-05	R31-0637-05	R31-0634-05	E37-1418-05	120	120	680	680	680	680	NO	NO	NO	NO	NO	1u	1u	1u	1u	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
0-12	K2	2SC4617(R)	NO	S70-0461-05	S70-0475-15	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	120	120	150	47k	470k	NO	NO	NO	NO	1u	1u	1u	1u	1u	1u	1u	1u	1u	NO	NO
2-71	E1,E3,E5	NO	T99-0653-05	NO	NO	R31-0633-05	R31-0637-05	R31-0634-05	E37-1418-05	120	120	680	680	680	680	NO	NO	NO	NO	NO	1u	1u	1u	1u	NO	NO	NO	NO	NO	NO	NO	NO	NO	0.47u	NO
2-72	E2,E4	2SC4617(R)	NO	S70-0461-05	S70-0475-15	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	120	120	150	47k	470k	NO	NO	NO	NO	1u	1u	1u	1u	1u	1u	1u	1u	1u	0.47u	1u

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

# TS-2000/B2000/2000X TS-2000S/2000V/2000SX/2000VX SCHEMATIC DIAGRAM

1

2

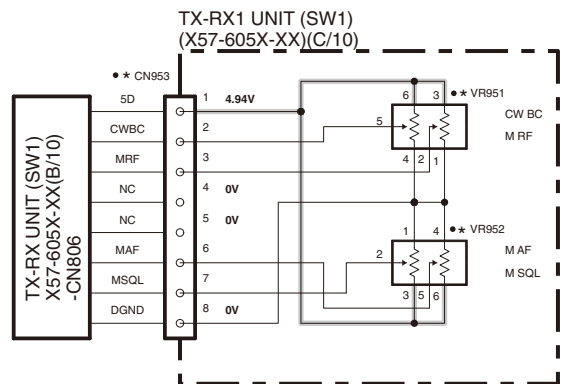
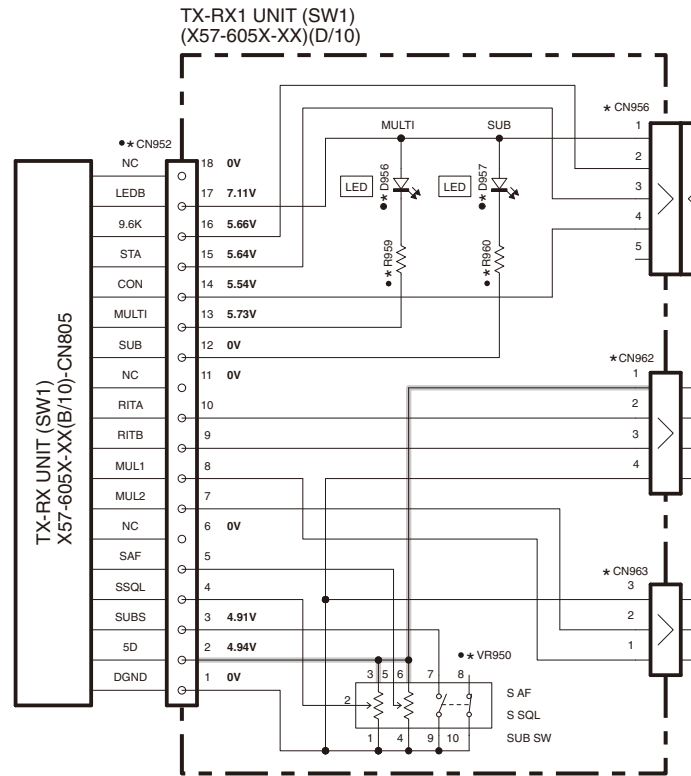
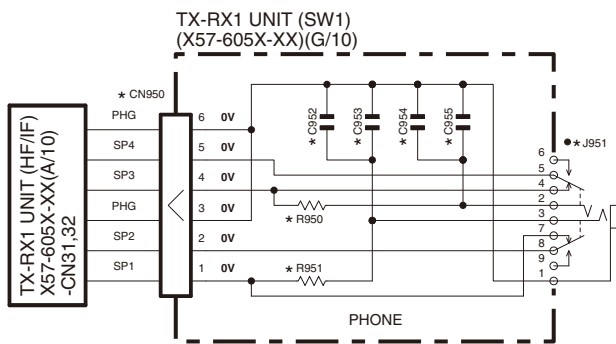
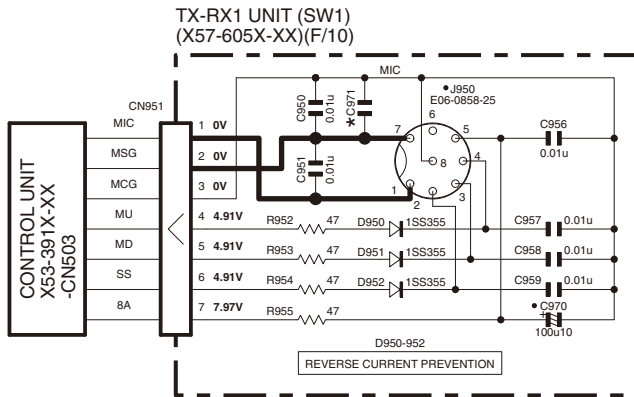
3

4

5

6

7

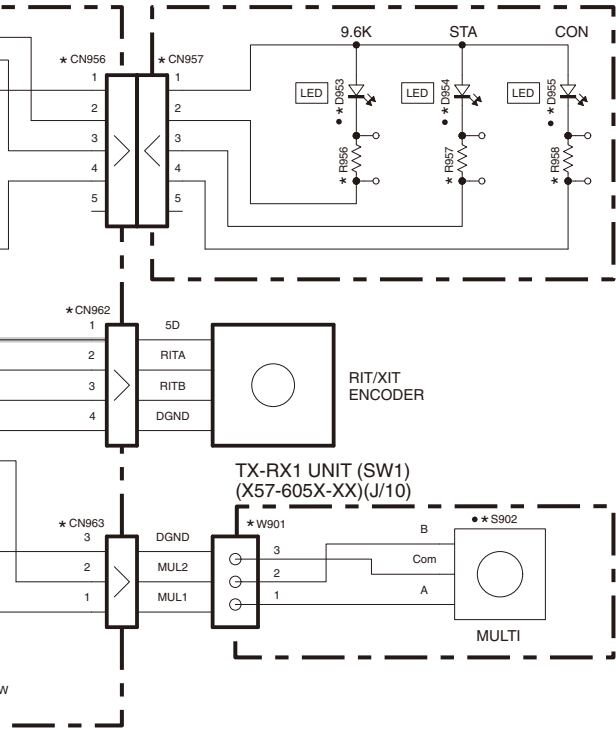


X57-605X-XX	CN950	CN952	CN953	CN956	CN957	CN958	CN959	CN960	CN961	CN962	CN963
0-00	J,J2	E41-1686-05	E40-6074-05	E40-6077-05	E40-6610-05	E40-6594-05	NO	NO	NO	NO	E41-1684-05
0-01	J1,J3	E41-1686-05	E40-6074-05	E40-6077-05	E40-6610-05	E40-6594-05	NO	NO	NO	NO	E41-1684-05
0-11	K1,K3	E41-1686-05	E40-6074-05	E40-6077-05	E40-6610-05	E40-6594-05	NO	NO	NO	NO	E41-1684-05
0-12	K2	NO	NO	NO	NO	NO	E41-1686-05	E41-1682-05	E41-1682-05	E41-1686-05	NO
2-71	E1,E3,E5	E41-1686-05	E40-6074-05	E40-6077-05	E40-6610-05	E40-6594-05	NO	NO	NO	NO	E41-1684-05
2-72	E2,E4	NO	NO	NO	NO	NO	E41-1686-05	E41-1682-05	E41-1682-05	E41-1686-05	NO

X57-605X-XX	Q951	S902	S950	S951	VR950	VR951	VR952	W901	R950	R951	R956	R957	R958	R959
0-00	J,J2	NO	T99-0653-05	NO	NO	R31-0633-05	R31-0637-05	R31-0634-05	E37-1418-05	120	120	680	680	680
0-01	J1,J3	NO	T99-0653-05	NO	NO	R31-0633-05	R31-0637-05	R31-0634-05	E37-1418-05	120	120	680	680	680
0-11	K1,K3	NO	T99-0653-05	NO	NO	R31-0633-05	R31-0637-05	R31-0634-05	E37-1418-05	120	120	680	680	680
0-12	K2	2SC4617(R)	NO	S70-0461-05	S70-0475-15	NO	NO	NO	NO	NO	NO	NO	NO	NO
2-71	E1,E3,E5	NO	T99-0653-05	NO	NO	R31-0633-05	R31-0637-05	R31-0634-05	E37-1418-05	120	120	680	680	680
2-72	E2,E4	2SC4617(R)	NO	S70-0461-05	S70-0475-15	NO	NO	NO	NO	NO	NO	NO	NO	NO

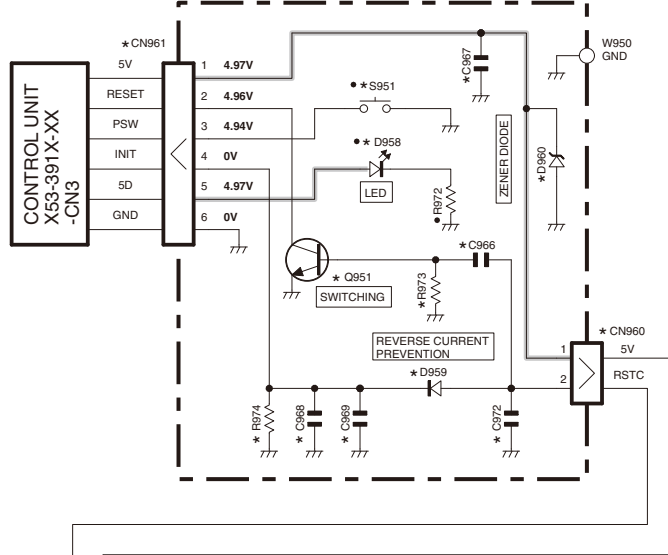
Note : The components marked with a dot (•) are parts of layer 1.

TX-RX1 UNIT (SW1)  
(X57-605X-XX)(E/10)

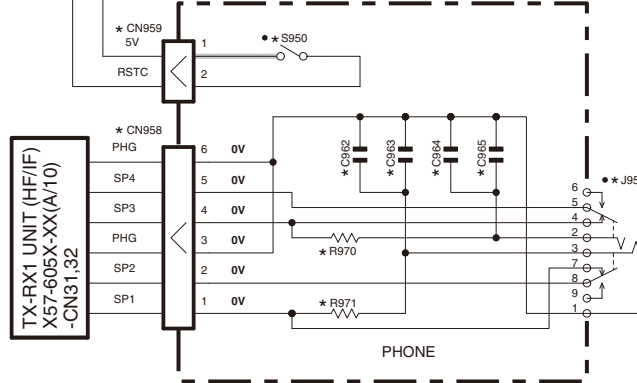


TS-B2000 ONLY

TX-RX1 UNIT (SW1)  
(X57-605X-XX)(I/10)



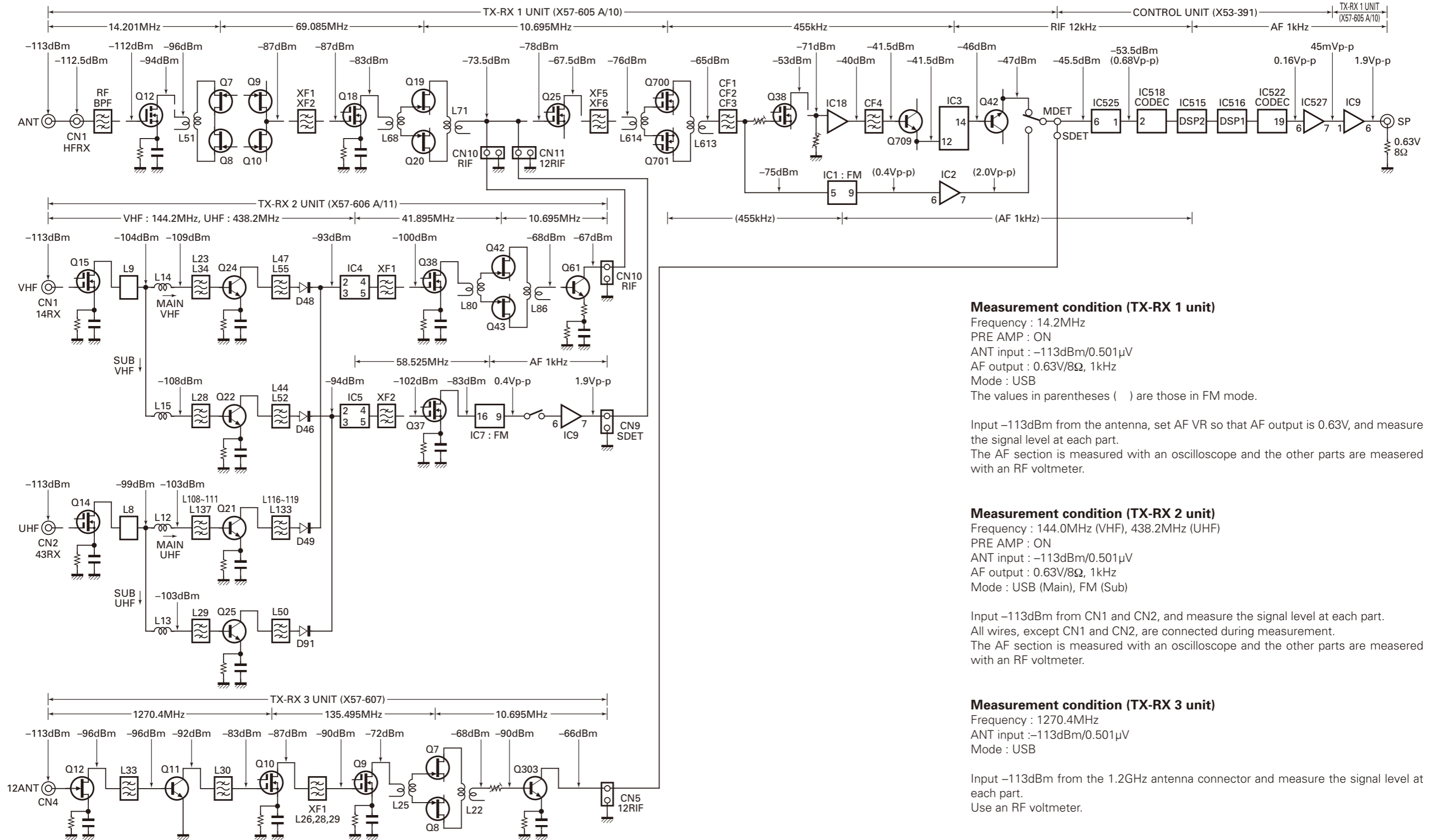
TX-RX1 UNIT (SW1)  
(X57-605X-XX)(H/10)



CN962	CN963	D953	D954	D955	D956	D957	D958	D959	D960	J951	J952
E41-1684-05	E41-1683-05	B30-2217-05	B30-2217-05	B30-2167-05	B30-2218-05	B30-2140-05	NO	NO	NO	E11-0705-05	NO
E41-1684-05	E41-1683-05	B30-2217-05	B30-2217-05	B30-2167-05	B30-2218-05	B30-2140-05	NO	NO	NO	E11-0705-05	NO
E41-1684-05	E41-1683-05	B30-2217-05	B30-2217-05	B30-2167-05	B30-2218-05	B30-2140-05	NO	NO	NO	E11-0705-05	NO
NO	NO	NO	NO	NO	NO	NO	B30-2168-05	1SS355	UDZS6.2B	NO	E11-0705-05
E41-1684-05	E41-1683-05	B30-2217-05	B30-2217-05	B30-2167-05	B30-2218-05	B30-2140-05	NO	NO	NO	E11-0705-05	NO
NO	NO	NO	NO	NO	NO	NO	B30-2168-05	1SS355	UDZS6.2B	NO	E11-0705-05

R957	R958	R959	R960	R970	R971	R972	R973	R974	C952	C953	C954	C955	C962	C963	C964	C965	C966	C967	C968	C969	C971	C972
680	680	680	680	NO	NO	NO	NO	NO	1u	1u	1u	1u	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
680	680	680	680	NO	NO	NO	NO	NO	1u	1u	1u	1u	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
680	680	680	680	NO	NO	NO	NO	NO	1u	1u	1u	1u	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
NO	NO	NO	NO	120	120	150	47k	470k	NO	NO	NO	NO	1u	1u	1u	0.1u	1u	1u	1u	1u	NO	1u
680	680	680	680	NO	NO	NO	NO	NO	1u	1u	1u	1u	NO	NO	NO	NO	NO	NO	NO	NO	0.47u	NO
NO	NO	NO	NO	120	120	150	47k	470k	NO	NO	NO	NO	1u	1u	1u	0.1u	1u	1u	1u	1u	0.47u	1u

# LEVEL DIAGRAM (RX SECTION)



### Measurement condition (TX-RX 1 unit)

Frequency : 14.2MHz  
 PRE AMP : ON  
 ANT input : -113dBm/0.501μV  
 AF output : 0.63V/8Ω, 1kHz  
 Mode : USB  
 The values in parentheses ( ) are those in FM mode.

Input -113dBm from the antenna, set AF VR so that AF output is 0.63V, and measure the signal level at each part.  
 The AF section is measured with an oscilloscope and the other parts are measured with an RF voltmeter.

### Measurement condition (TX-RX 2 unit)

Frequency : 144.0MHz (VHF), 438.2MHz (UHF)  
 PRE AMP : ON  
 ANT input : -113dBm/0.501μV  
 AF output : 0.63V/8Ω, 1kHz  
 Mode : USB (Main), FM (Sub)

Input -113dBm from CN1 and CN2, and measure the signal level at each part.  
 All wires, except CN1 and CN2, are connected during measurement.  
 The AF section is measured with an oscilloscope and the other parts are measured with an RF voltmeter.

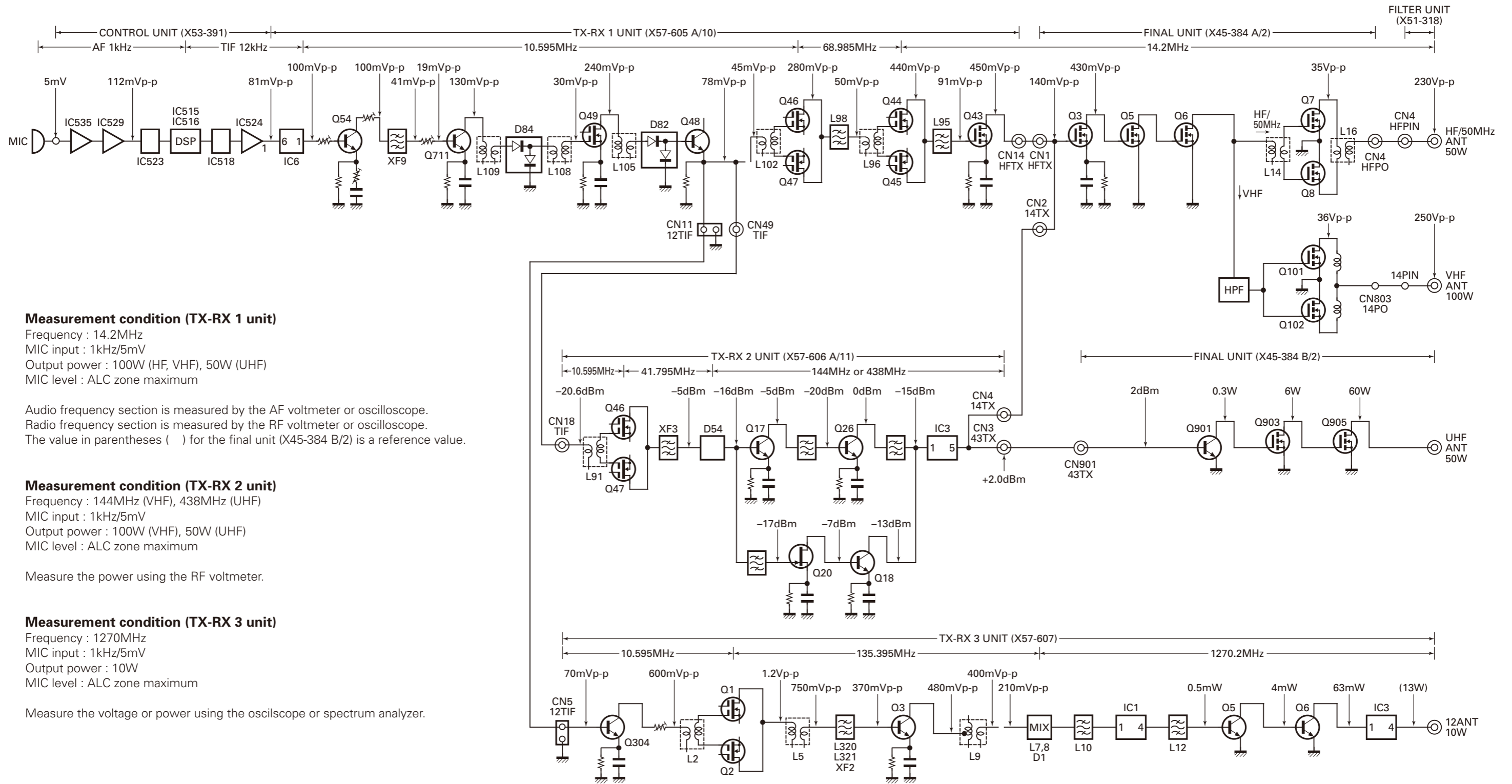
### Measurement condition (TX-RX 3 unit)

Frequency : 1270.4MHz  
 ANT input : -113dBm/0.501μV  
 Mode : USB

Input -113dBm from the 1.2GHz antenna connector and measure the signal level at each part.  
 Use an RF voltmeter.



### LEVEL DIAGRAM (TX SECTION)



**Measurement condition (TX-RX 1 unit)**

Frequency : 14.2MHz  
MIC input : 1kHz/5mV  
Output power : 100W (HF, VHF), 50W (UHF)  
MIC level : ALC zone maximum

Audio frequency section is measured by the AF voltmeter or oscilloscope.  
Radio frequency section is measured by the RF voltmeter or oscilloscope.  
The value in parentheses ( ) for the final unit (X45-384 B/2) is a reference value.

**Measurement condition (TX-RX 2 unit)**

Frequency : 144MHz (VHF), 438MHz (UHF)  
MIC input : 1kHz/5mV  
Output power : 100W (VHF), 50W (UHF)  
MIC level : ALC zone maximum

Measure the power using the RF voltmeter.

**Measurement condition (TX-RX 3 unit)**

Frequency : 1270MHz  
MIC input : 1kHz/5mV  
Output power : 10W  
MIC level : ALC zone maximum

Measure the voltage or power using the oscilloscope or spectrum analyzer.



TS-2000/B2000/2000X  
TS-2000S/2000V/2000SX/2000VX

## Kenwood Corporation

2967-3, Ishikawa-machi, Hachioji-shi, Tokyo, 192-8525 Japan

### Kenwood U.S.A. Corporation

P.O. BOX 22745, 2201 East Dominguez Street, Long Beach,  
CA 90801-5745, U.S.A.

### Kenwood Electronics Canada Inc.

6070 Kestrel Road, Mississauga, Ontario, Canada L5T 1S8

### Kenwood Electronics Deutschland GmbH

Rembrücker Str. 15, 63150 Heusenstamm, Germany

### Kenwood Electronics Belgium N.V.

Leuvensesteenweg 248 J, 1800 Vilvoorde, Belgium

### Kenwood Electronics France S.A.

L'Etoile Paris Nord 2, 50 Allée des Impressionnistes,  
Bp 58416 Villepinte, 95944 Roissy Ch De Gaulle Cedex

### Kenwood Electronics UK Limited

KENWOOD House, Dwight Road, Watford, Herts.,  
WD18 9EB United Kingdom

### Kenwood Electronics Europe B.V.

Amsterdamseweg 37, 1422 AC Uithoorn, The Netherlands

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

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

### Kenwood Ibérica, S.A.

Bolivia, 239-08020 Barcelona, Spain

### Kenwood Electronics Australia Pty. Ltd.

(A.C.N. 001 499 074)

16 Giffnock Avenue, Centrecourt Estate, North Ryde, N.S.W. 2113 Australia

### Kenwood Electronics (Hong Kong) Ltd.

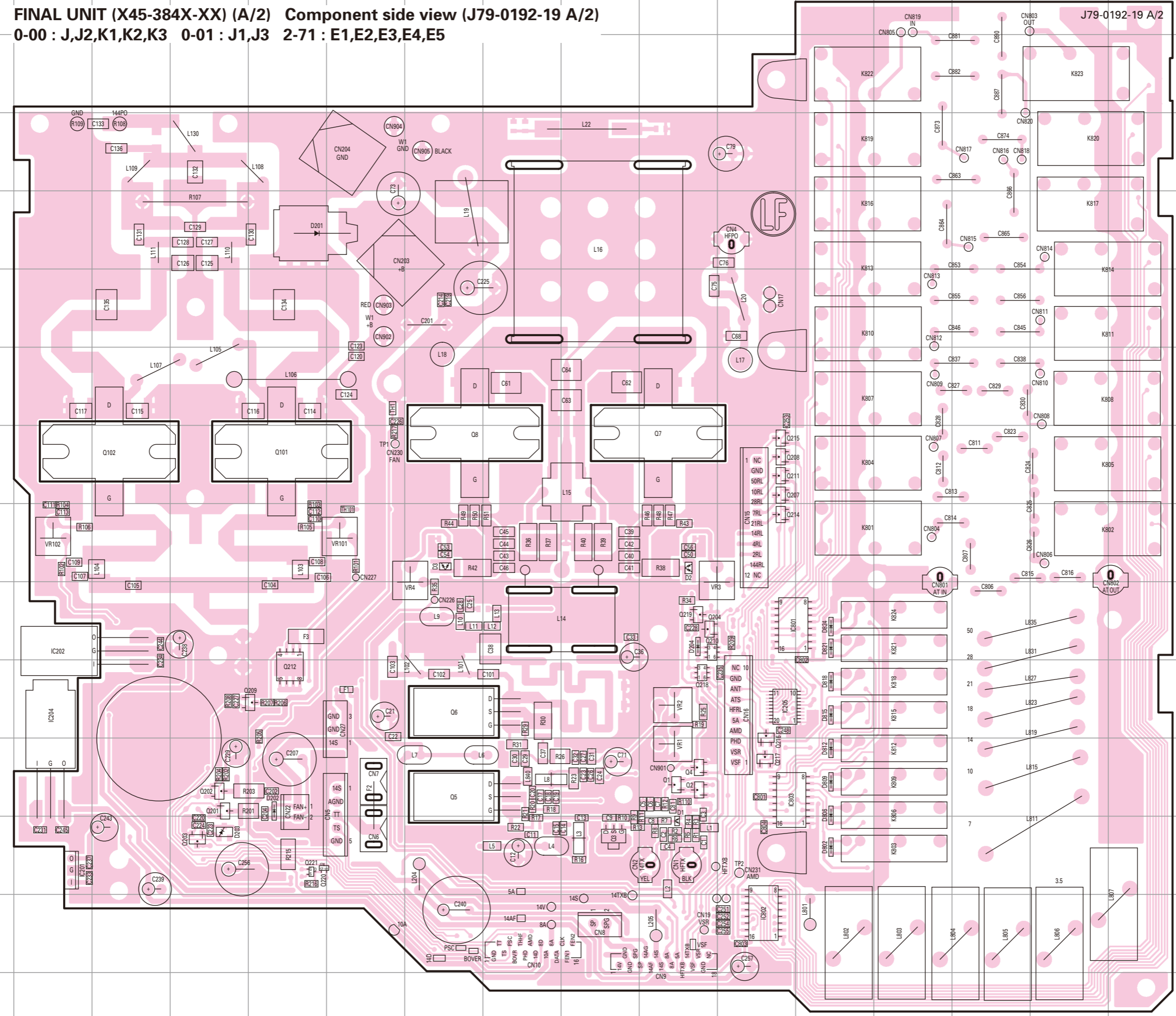
Unit 3712-3724, Level 37, Tower one Metroplaza, 223 Hing Fong Road,  
Kwai Fong, N.T., Hong Kong

### Kenwood Electronics Singapore Pte Ltd



1 Ang Mo Kio Street 63, Singapore 569110



**FINAL UNIT (X45-384X-XX) (A/2) Component side view (J79-0192-19 A/2)**  
**0-00 : J,J2,K1,K2,K3 0-01 : J1,J3 2-71 : E1,E2,E3,E4,E5**



Ref. No.	Address	Ref. No.	Address
IC201	12B	Q211	7K
IC202	9B	Q212	10E
IC204	10B	Q214	8K
IC205	10K	Q215	7K
IC801	9K	Q216	11K
IC802	13K	Q217	11K
IC803	11K	Q218	10J
Q1	11J	Q219	9J
Q2	11J	Q220	12E
Q3	12I	Q221	12E
Q4	11J	D1	12J
Q5	11G	D2	8J
Q6	10G	D3	8G
Q7	7J	D201	4E
Q8	7G	D202	11E
Q101	7E	D203	12D
Q102	7C	D204	9J
Q201	11D	D802	12L
Q202	11D	D806	11L
Q203	12D	D809	11L
Q204	9J	D812	11L
Q207	7K	D815	10L
Q208	7K	D818	10L
Q209	10E	D821	9L
Q210	9J	D824	9L

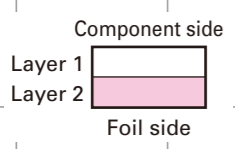
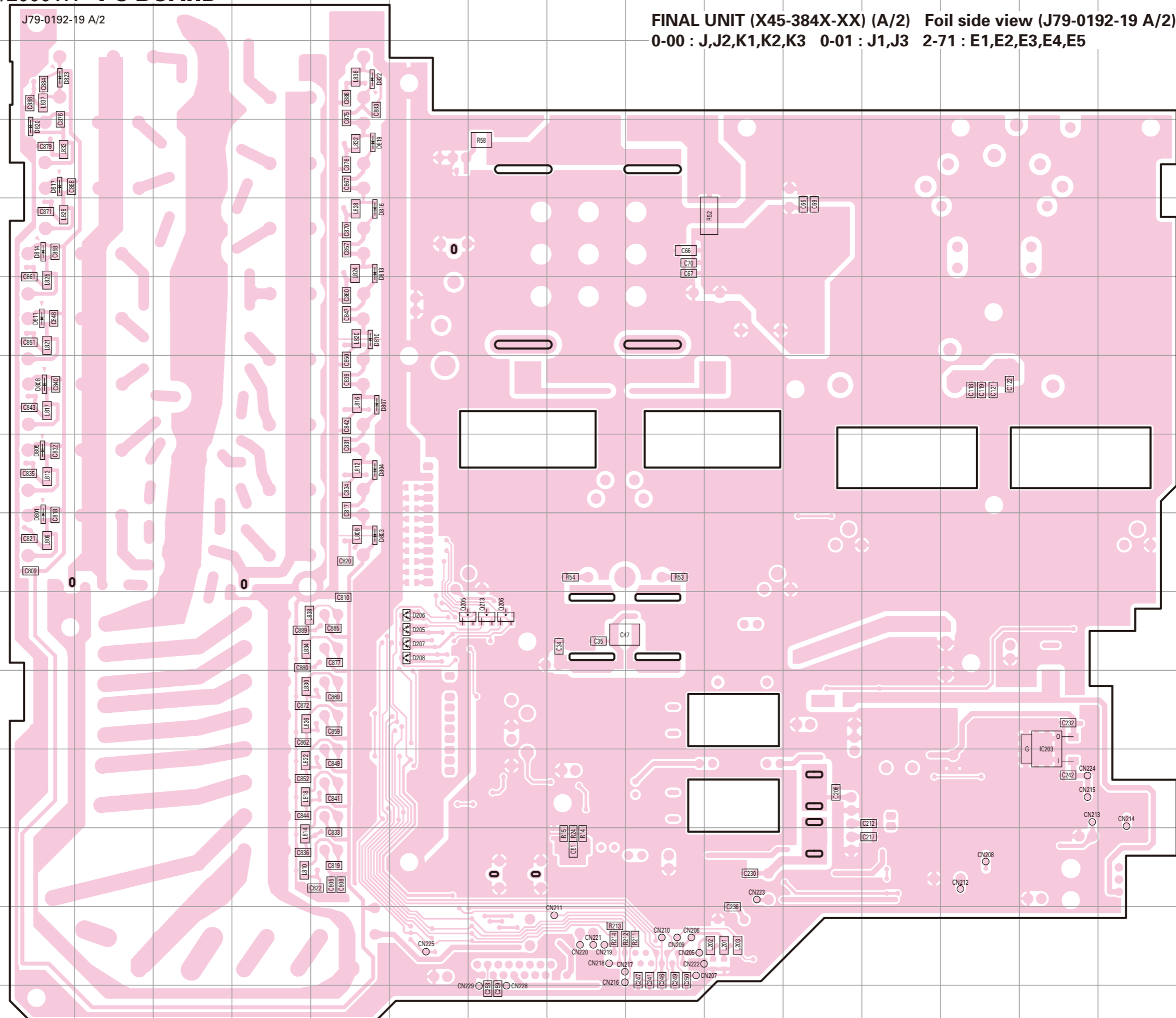
Component side  
 Layer 1   
 Layer 2   
 Foil side

TS-2000/B2000/2000X  
 TS-2000S/2000V/2000SX/2000VX **PC BOARD**

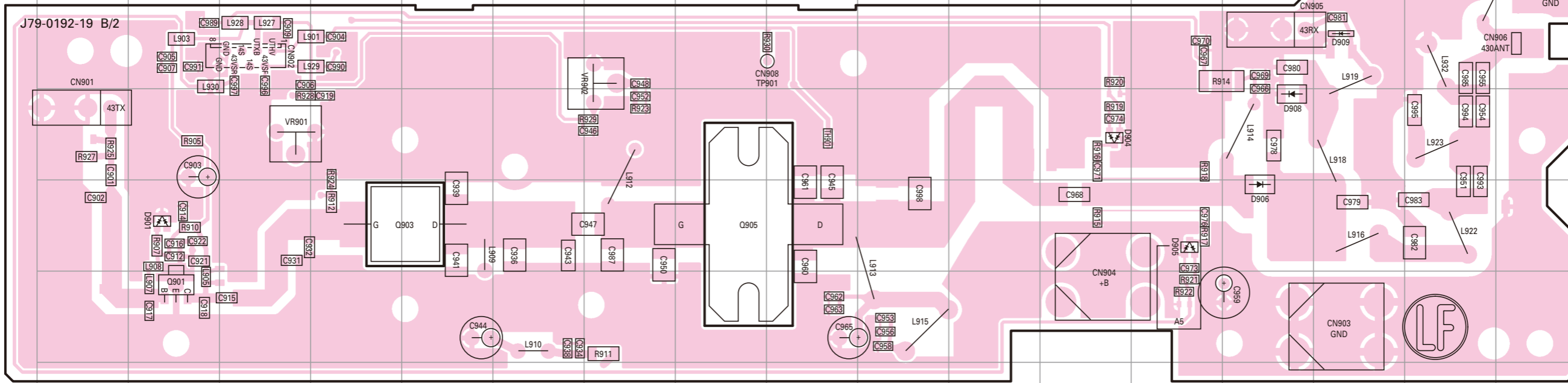
J79-0192-19 A/2

**FINAL UNIT (X45-384X-XX) (A/2) Foil side view (J79-0192-19 A/2)**  
 0-00 : J,J2,K1,K2,K3 0-01 : J1,J3 2-71 : E1,E2,E3,E4,E5

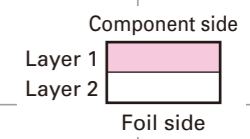
Ref. No.	Address
IC203	10Q
Q205	9I
Q206	9J
Q213	9J
D205	9I
D206	9I
D207	9I
D208	9I
D801	8D
D803	8H
D804	7H
D805	7D
D807	6H
D808	6D
D810	5H
D811	5D
D813	4H
D814	4D
D816	4H
D817	3D
D819	3H
D820	3D
D822	2H
D823	2D



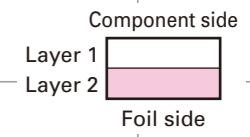
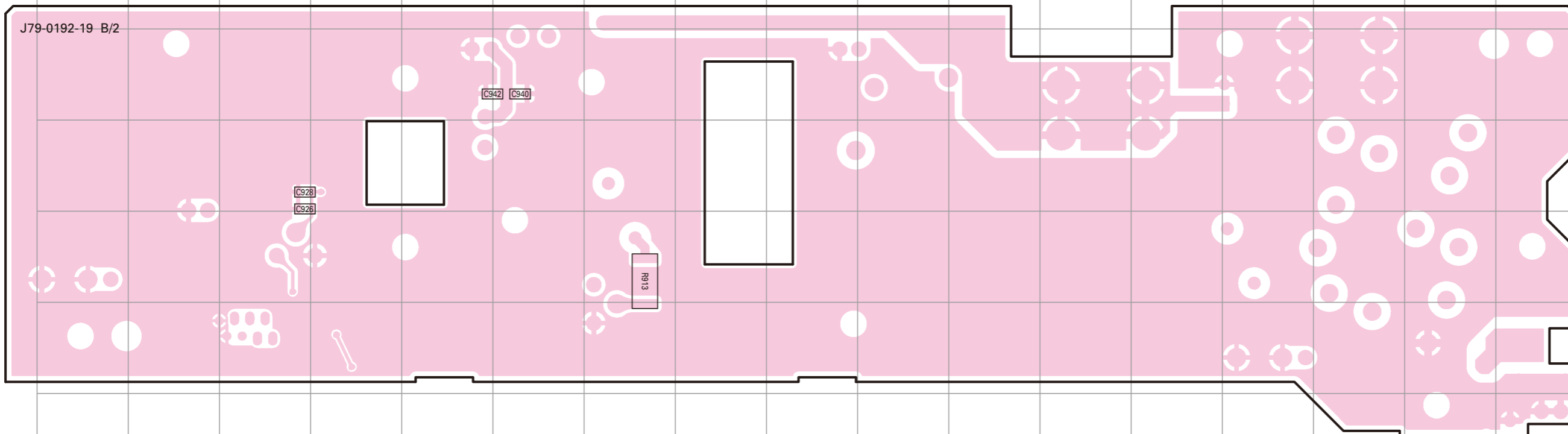
**FINAL UNIT (X45-384X-XX) (B/2) Component side view (J79-0192-19 B/2)**  
0-00 : J,J2,K1,K2,K3 0-01 : J1,J3 2-71 : E1,E2,E3,E4,E5



Ref. No.	Address
Q901	6B
Q903	5E
Q905	5H
D901	5B
D904	4L
D905	5M
D906	5N
D908	4N
D909	3O

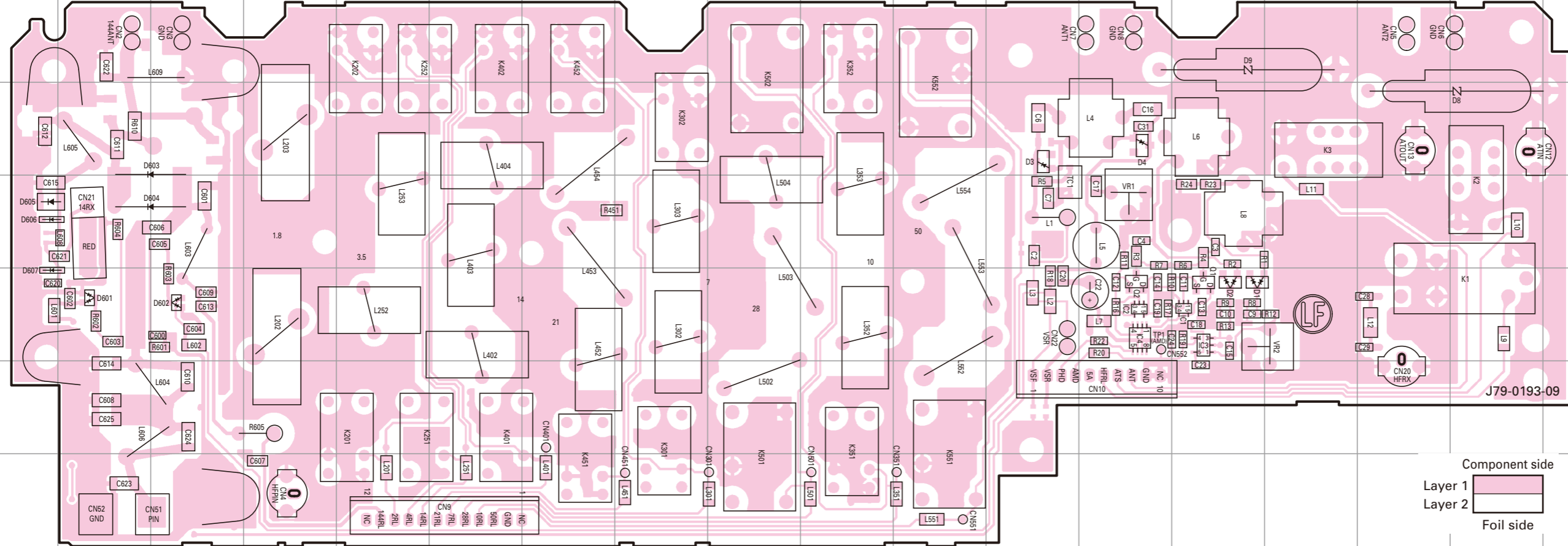


**FINAL UNIT (X45-384X-XX) (B/2) Foil side view (J79-0192-19 B/2)**  
0-00 : J,J2,K1,K2,K3 0-01 : J1,J3 2-71 : E1,E2,E3,E4,E5

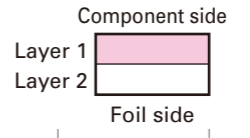


TS-2000/B2000/2000X  
 TS-2000S/2000V/2000SX/2000VX **PC BOARD**

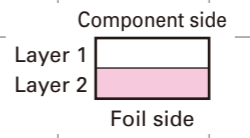
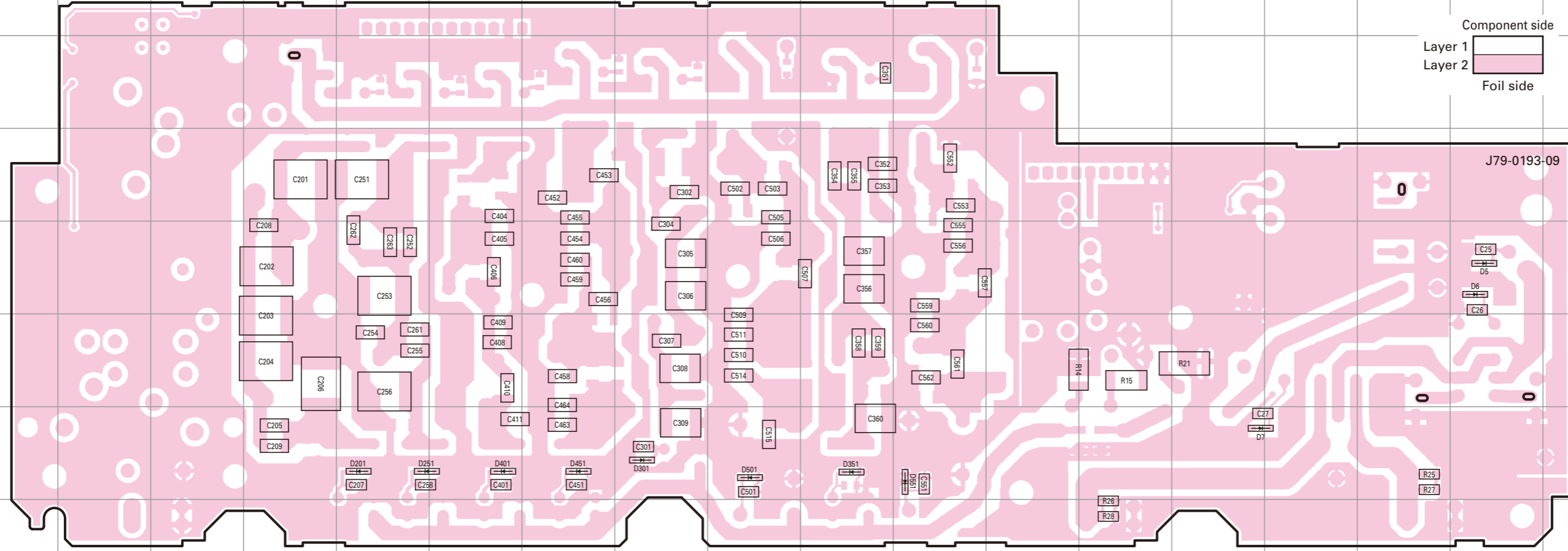
**FILTER UNIT (X51-318X-XX) 0-00 : J,J2,K1,K2,K3,E1,E2,E3,E4,E5 0-01 : J1,J3 Component side view (J79-0193-09)**



Ref. No.	Address
IC1	5N
IC2	5M
IC3	5N
IC4	5M
Q1	5N
Q2	5M
D1	5N
D2	5N
D3	3L
D4	3M
D8	3Q
D9	2N
D601	5B
D602	5C
D603	3C
D604	4C
D605	4A
D606	4A
D607	5A

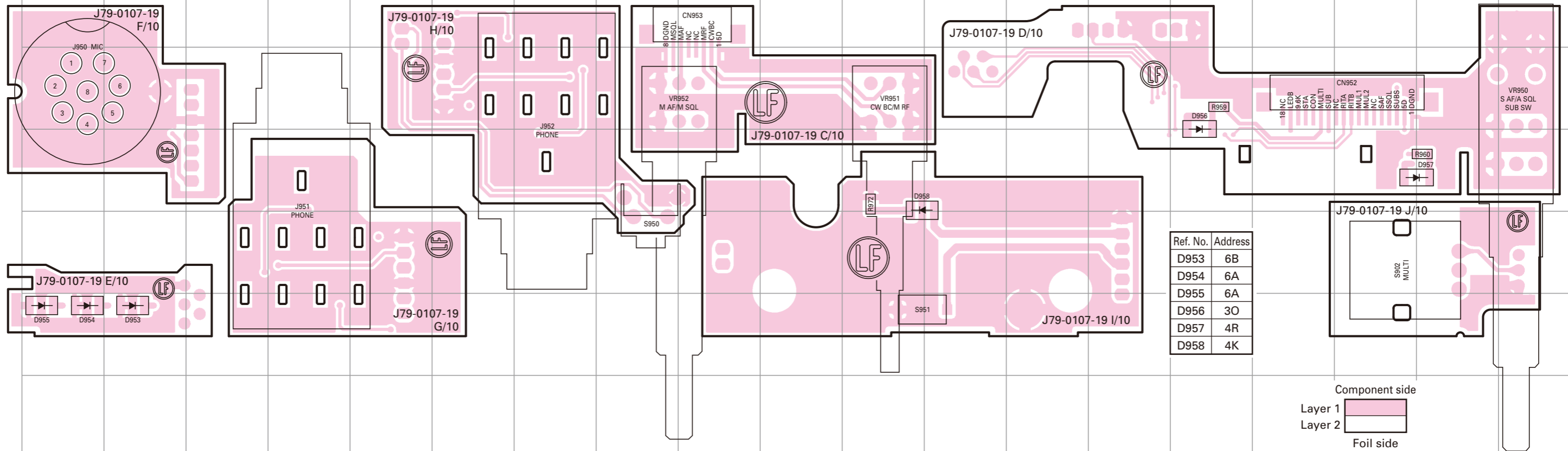


**FILTER UNIT (X51-318X-XX) 0-00 : J,J2,K1,K2,K3,E1,E2,E3,E4,E5 0-01 : J1,J3 Foil side view (J79-0193-09)**

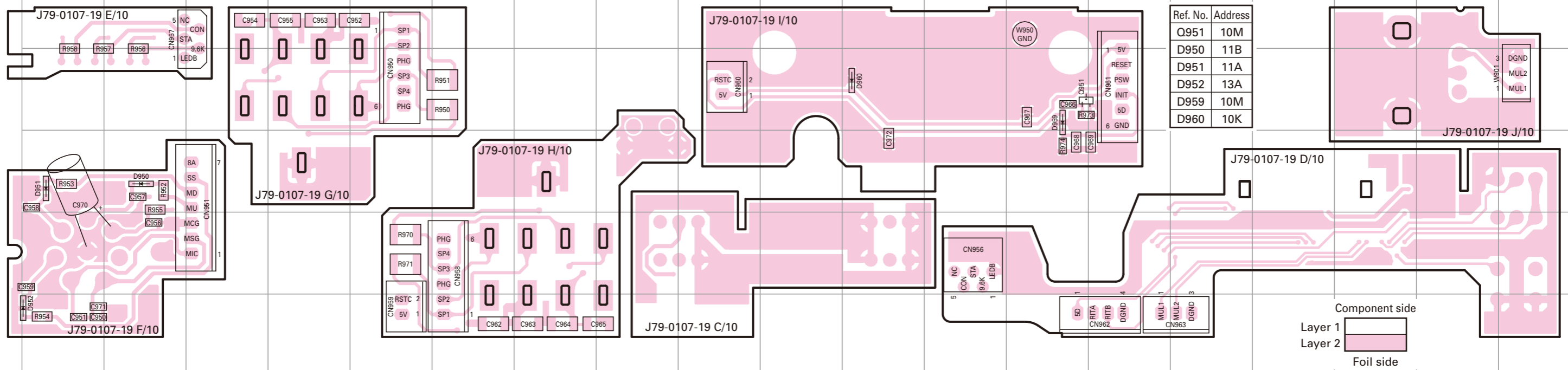


Ref. No.	Address
D5	11Q
D6	11Q
D7	13N
D201	13E
D251	13E
D301	13H
D351	13J
D401	13F
D451	13G
D501	13I
D551	13K

**TX-RX 1 UNIT (X57-605X-XX) (C,D,E,F,G,J/10) 0-00 : J,J2 0-01 : J1,J3 0-11 : K1,K3 2-71 : E1,E3,E5 Component side view (J79-0107-19 C,D,E,F,G,J/10)**  
**TX-RX 1 UNIT (X57-605X-XX) (F,H,I/10) 0-12 : K2 2-72 : E2,E4 Component side view (J79-0107-19 F,H,I/10)**



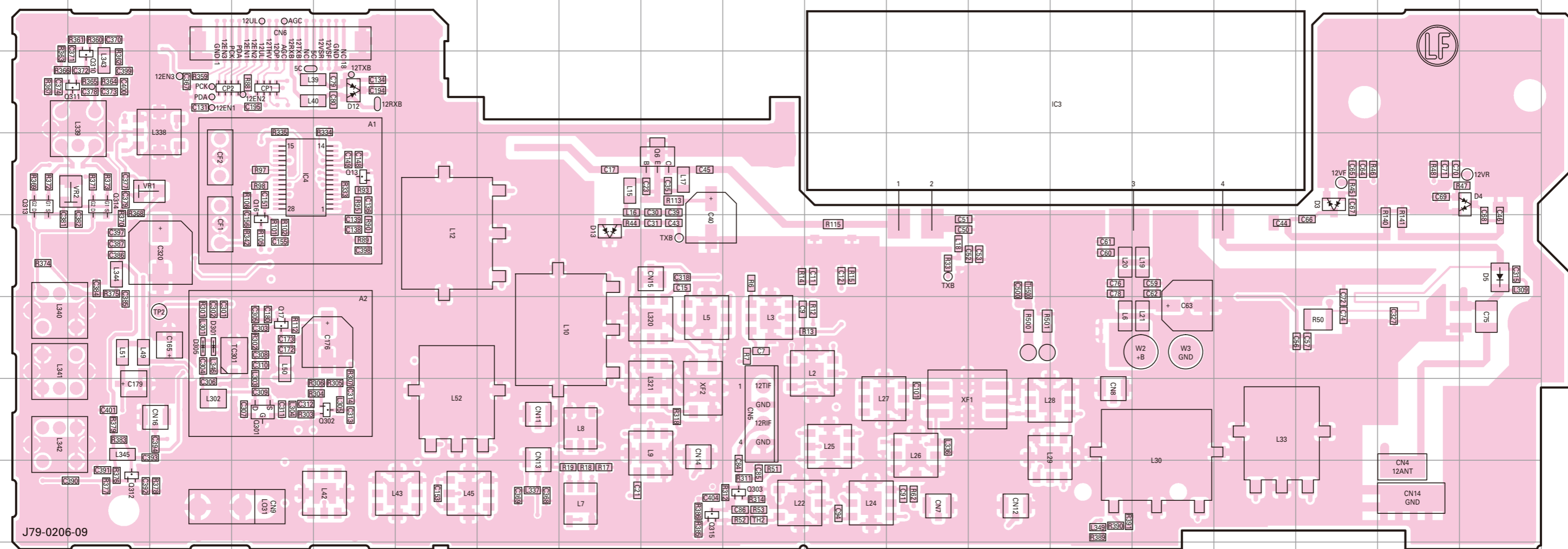
**TX-RX 1 UNIT (X57-605X-XX) (C,D,E,F,G,J/10) 0-00 : J,J2 0-01 : J1,J3 0-11 : K1,K3 2-71 : E1,E3,E5 Foil side view (J79-0107-19 C,D,E,F,G,J/10)**  
**TX-RX 1 UNIT (X57-605X-XX) (F,H,I/10) 0-12 : K2 2-72 : E2,E4 Foil side view (J79-0107-19 F,H,I/10)**



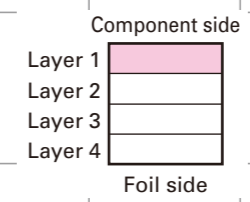


TS-2000/B2000/2000X  
 TS-2000S/2000V/2000SX/2000VX **PC BOARD**

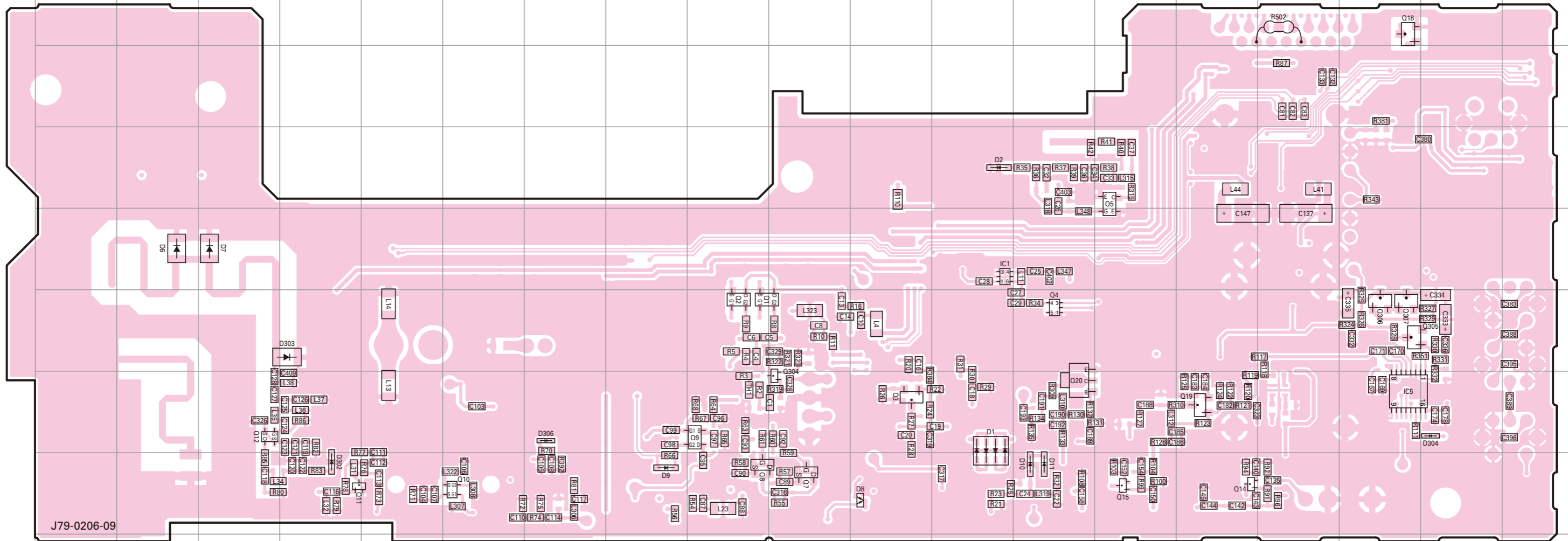
**TX-RX 3 UNIT (UT-20) (X57-607X-XX) 0-00 : J2,J3,K3 2-71 : E5 Component side view (J79-0206-09)**



Ref No.	Address	Ref No.	Address	Ref No.	Address	Ref No.	Address	Ref No.	Address
IC3	4N	Q17	7D	Q311	4B	D3	5Q	D301	7C
IC4	5D	Q301	8D	Q312	9B	D4	5S	D305	7C
Q6	5I	Q302	8E	Q313	5A	D5	6S		
Q13	5E	Q303	9J	Q314	5B	D12	4E		
Q16	6D	Q310	4B	Q315	9I	D13	6H		

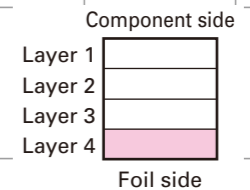


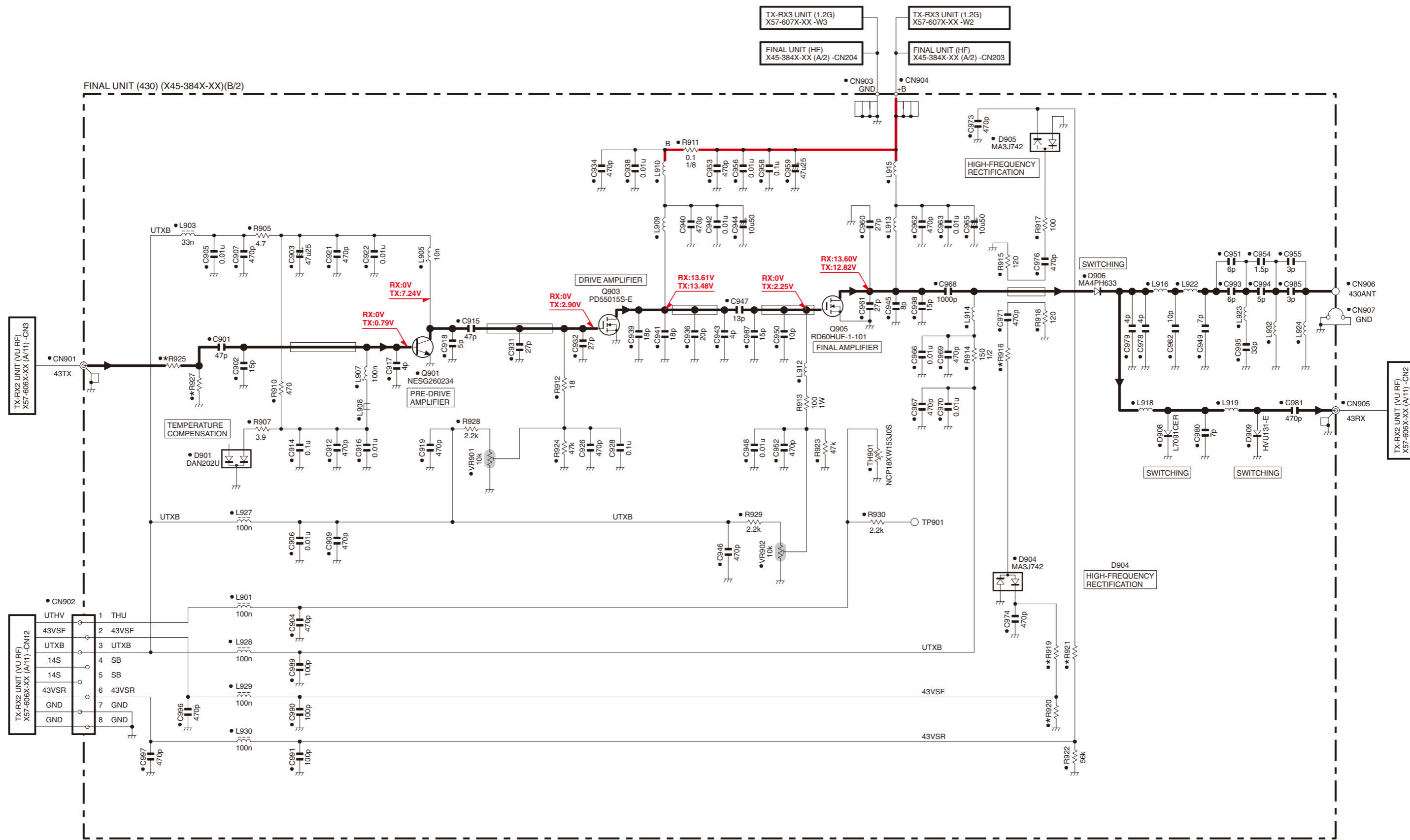
TX-RX 3 UNIT (UT-20) (X57-607X-XX) 0-00 : J2,J3,K3 2-71 : E5 Foil side view (J79-0206-09)



J79-0206-09

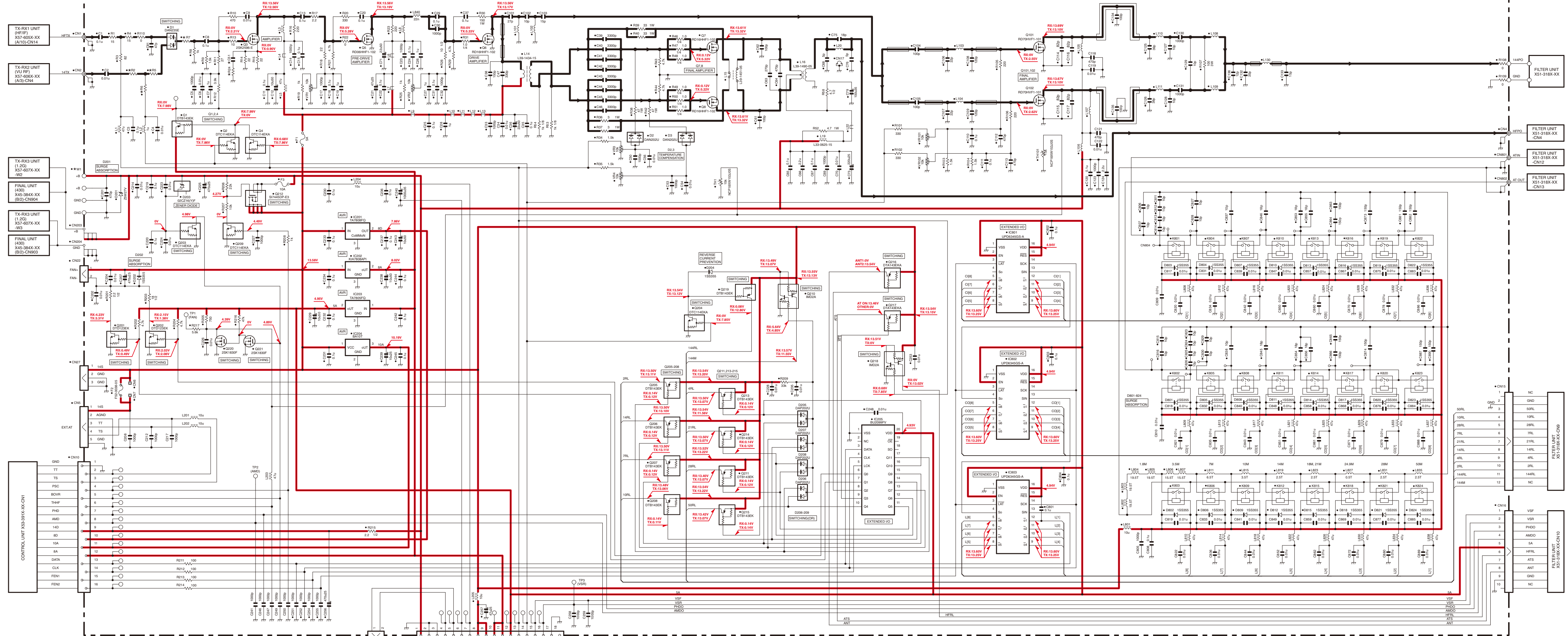
Ref No.	Address	Ref No.	Address	Ref No.	Address	Ref No.	Address	Ref No.	Address	Ref No.	Address	Ref No.	Address
IC1	6L	Q4	7M	Q10	9F	Q18	3Q	Q306	7Q	D7	6C	D302	9D
IC5	8Q	Q5	5N	Q11	9D	Q19	8O	Q307	7Q	D8	9K	D303	7D
Q1	7I	Q7	9J	Q12	8C	Q20	8M	D1	8L	D9	9H	D304	8R
Q2	7I	Q8	9I	Q14	9O	Q304	8J	D2	5L	D10	9M	D306	8G
Q3	8K	Q9	8I	Q15	9N	Q305	7Q	D6	6B	D11	9M		





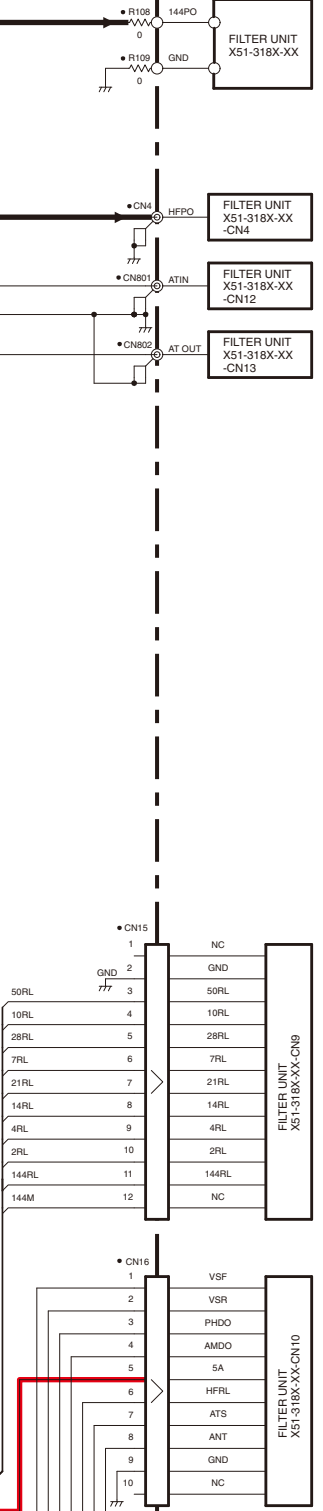
	X45-384X-XX	R916	R919	R920	R921	R925	R927
0-00	J,J2,K1,K2,K3	470	2.7k	100k	68k	22	NO
0-01	J1,J3	100	47k	56k	33k	27	47
2-71	E1,E2,E3,E4,E5	470	2.7k	100k	68k	22	NO

FINAL UNIT (HF) (X45-384X-XX)(A/2)

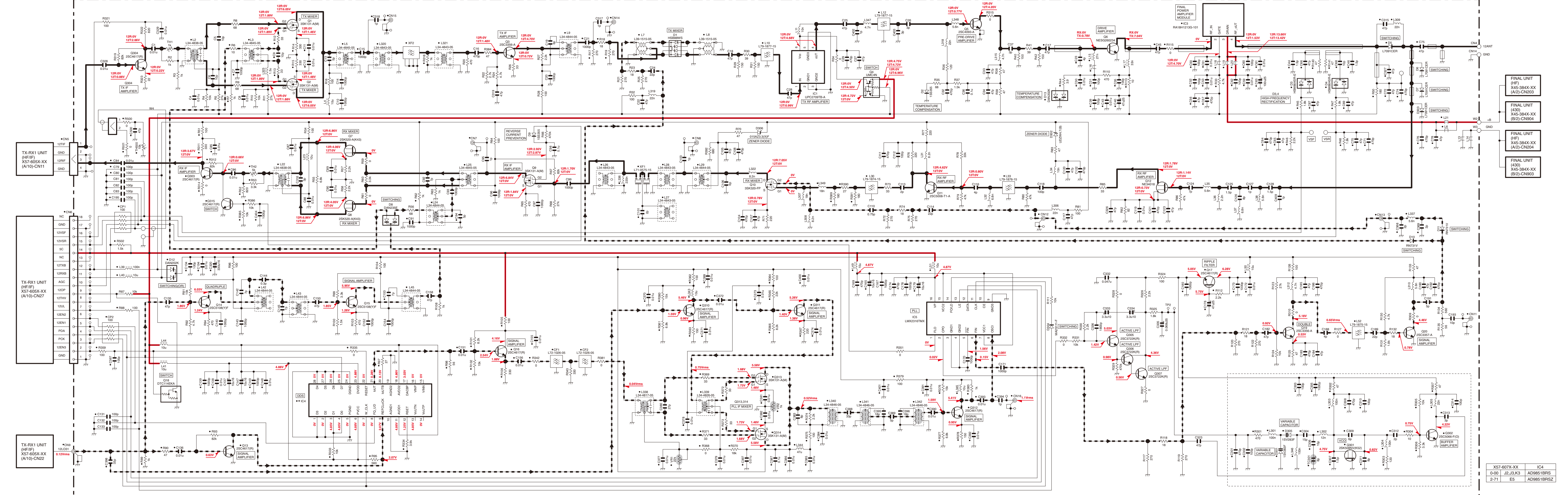


	X45-384X-XX	R2	R5	R6	R7	R24	C51	W1
0-00	J,J2,K1,K2,K3	22	10	39	10	10	1u	E37-0975-25
0-01	J1,J3	27	27	33	33	NO	NO	E37-0975-25
2-71	E1,E2,E3,E4,E5	22	10	39	10	10	1u	E37-1435-05

TX-RX1 UNIT (HF) (X45-384X-XX)(A/1) CN29

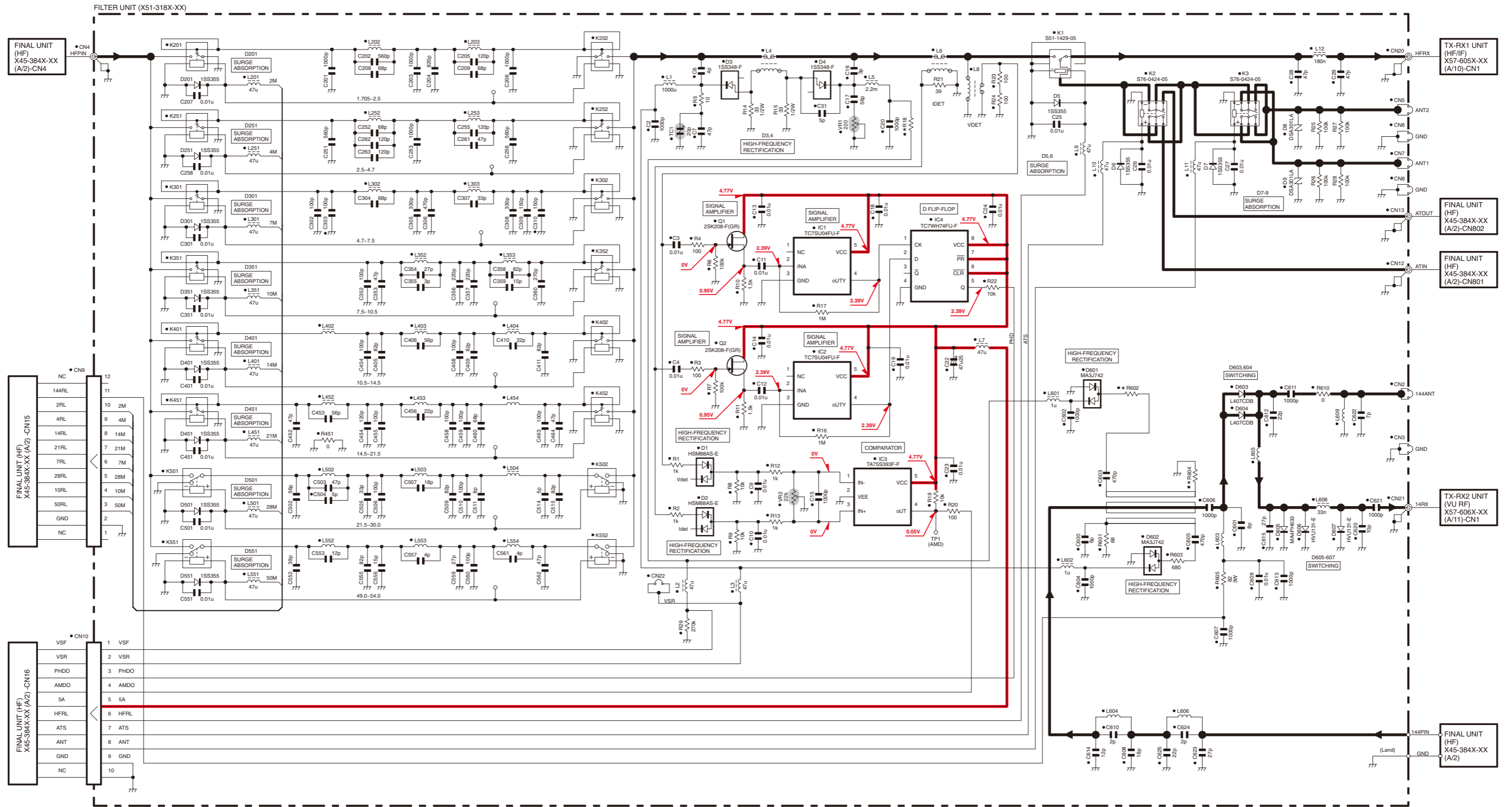


TX-RX3 UNIT (1.2G) (X57-607X-XX)

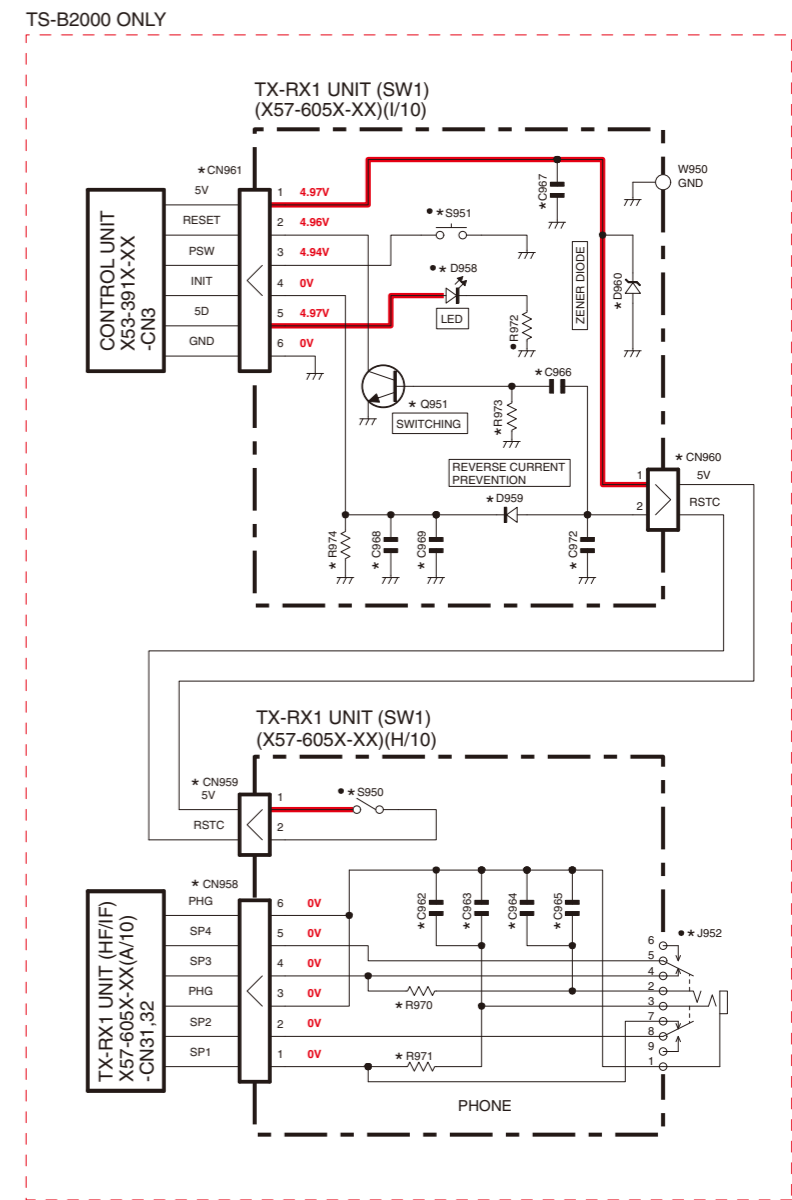
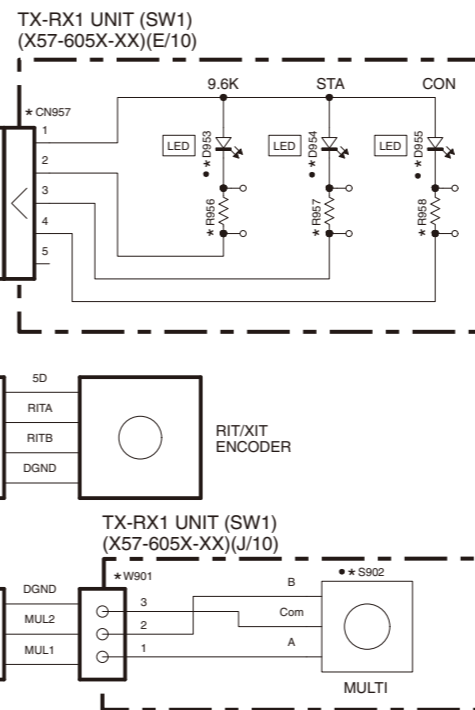
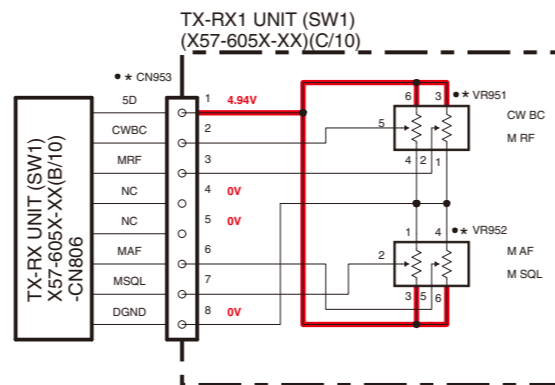
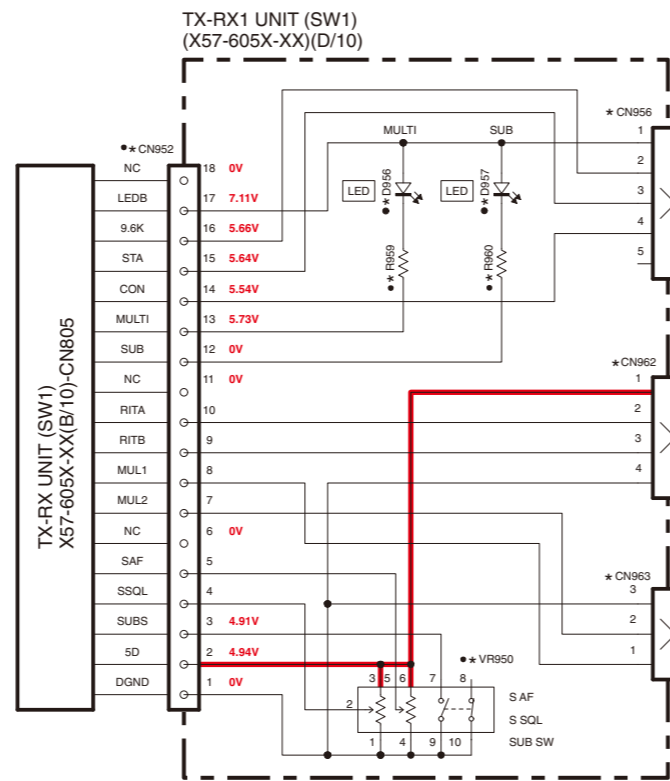
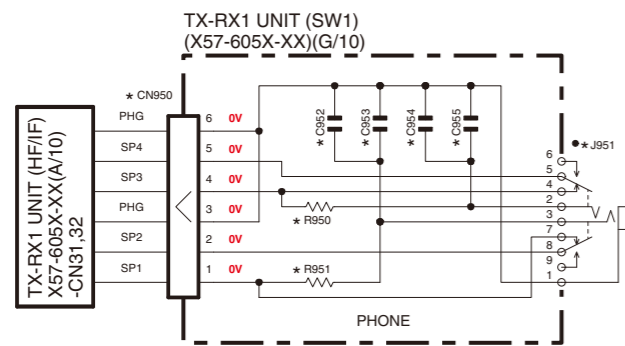
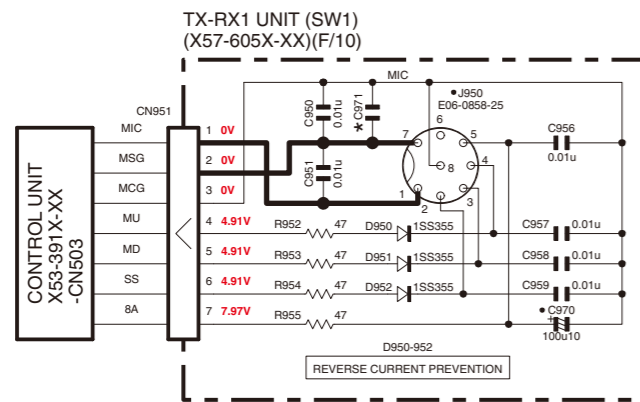


- FINAL UNIT (HF) X45-384X-XX (A2)-CN203
- FINAL UNIT (430) X45-384X-XX (B2)-CN904
- FINAL UNIT (HF) X45-384X-XX (A2)-CN204
- FINAL UNIT (430) X45-384X-XX (B2)-CN903

X57-607X-XX	IC4
0-00	J2,J3,K3
2-71	E5
	AD9851BR5
	AD9851BR5Z



X51-318X-XX		R18	R602	R604
0-00	J,J2,K1,K2,K3,E1,E2,E3,E4,E5	33k	820	68
0-01	J1,J3	4.7k	470	100



X57-605X-XX	CN950	CN952	CN953	CN956	CN957	CN958	CN959	CN960	CN961	CN962	CN963	D953	D954	D955	D956	D957	D958	D959	D960	J951	J952
0-00	J,J2	E41-1686-05	E40-6074-05	E40-6077-05	E40-6610-05	E40-6594-05	NO	NO	NO	E41-1684-05	E41-1683-05	B30-2217-05	B30-2217-05	B30-2167-05	B30-2218-05	B30-2140-05	NO	NO	NO	E11-0705-05	NO
0-01	J1,J3	E41-1686-05	E40-6074-05	E40-6077-05	E40-6610-05	E40-6594-05	NO	NO	NO	E41-1684-05	E41-1683-05	B30-2217-05	B30-2217-05	B30-2167-05	B30-2218-05	B30-2140-05	NO	NO	NO	E11-0705-05	NO
0-11	K1,K3	E41-1686-05	E40-6074-05	E40-6077-05	E40-6610-05	E40-6594-05	NO	NO	NO	E41-1684-05	E41-1683-05	B30-2217-05	B30-2217-05	B30-2167-05	B30-2218-05	B30-2140-05	NO	NO	NO	E11-0705-05	NO
0-12	K2	NO	NO	NO	NO	NO	E41-1686-05	E41-1682-05	E41-1682-05	E41-1686-05	NO	NO	NO	NO	NO	NO	B30-2168-05	1SS355	UDZS6.2B	NO	E11-0705-05
2-71	E1,E3,E5	E41-1686-05	E40-6074-05	E40-6077-05	E40-6610-05	E40-6594-05	NO	NO	NO	E41-1684-05	E41-1683-05	B30-2217-05	B30-2217-05	B30-2167-05	B30-2218-05	B30-2140-05	NO	NO	NO	E11-0705-05	NO
2-72	E2,E4	NO	NO	NO	NO	NO	E41-1686-05	E41-1682-05	E41-1682-05	E41-1686-05	NO	NO	NO	NO	NO	NO	B30-2168-05	1SS355	UDZS6.2B	NO	E11-0705-05

X57-605X-XX	Q951	S902	S950	S951	VR950	VR951	VR952	W901	R950	R951	R956	R957	R958	R959	R960	R970	R971	R972	R973	R974	C952	C953	C954	C955	C962	C963	C964	C965	C966	C967	C968	C969	C971	C972			
0-00	J,J2	NO	T99-0653-05	NO	NO	R31-0633-05	R31-0637-05	R31-0634-05	E37-1418-05	120	120	680	680	680	680	680	680	680	680	680	680	680	680	680	680	680	680	680	680	680	680	680	680	680	680	680	
0-01	J1,J3	NO	T99-0653-05	NO	NO	R31-0633-05	R31-0637-05	R31-0634-05	E37-1418-05	120	120	680	680	680	680	680	680	680	680	680	680	680	680	680	680	680	680	680	680	680	680	680	680	680	680	680	
0-11	K1,K3	NO	T99-0653-05	NO	NO	R31-0633-05	R31-0637-05	R31-0634-05	E37-1418-05	120	120	680	680	680	680	680	680	680	680	680	680	680	680	680	680	680	680	680	680	680	680	680	680	680	680	680	
0-12	K2	2SC4617(R)	NO	S70-0461-05	S70-0475-15	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	120	120	150	47k	470k	NO	NO	NO	NO	1u	1u	1u	1u	0.1u	1u	1u	1u	1u	NO	1u		
2-71	E1,E3,E5	NO	T99-0653-05	NO	NO	R31-0633-05	R31-0637-05	R31-0634-05	E37-1418-05	120	120	680	680	680	680	680	680	680	680	680	680	680	680	680	680	680	680	680	680	680	680	680	680	680	680	0.47u	NO
2-72	E2,E4	2SC4617(R)	NO	S70-0461-05	S70-0475-15	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	120	120	150	47k	470k	NO	NO	NO	NO	1u	1u	1u	1u	0.1u	1u	1u	1u	1u	0.47u	1u		