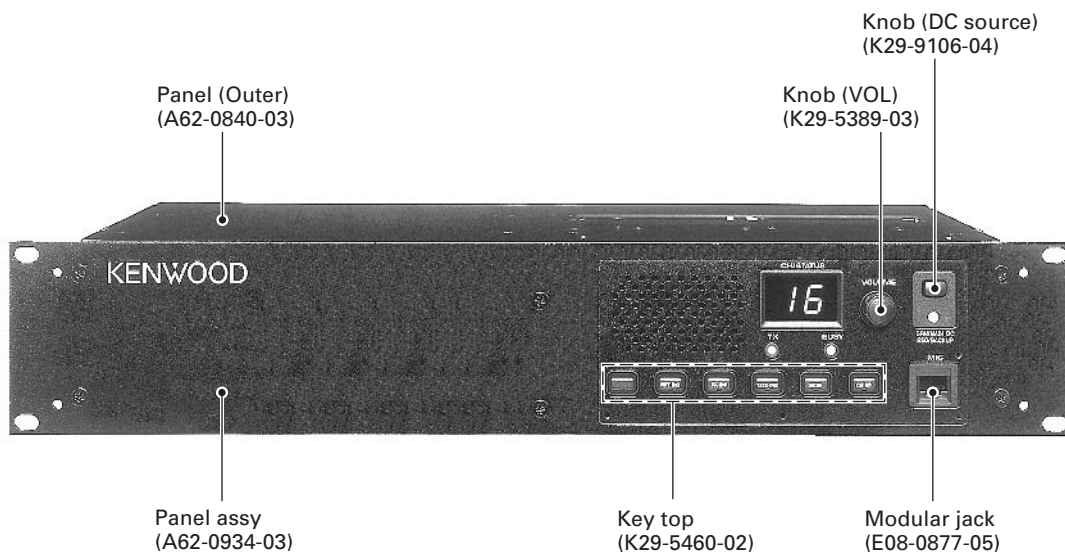


This supplement to the Service Manual is available for products with serial number 50500001 or later.  
This Service Manual contains a parts list, schematic diagrams and PC boards of a new final unit for the TKR-750.  
Since the adjustment procedure is the same as before, refer to the Service Manual (K,E : B51-8556-10 , C : B51-8567-00) for the TKR-750 for items not provided in this Service Manual.



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# TKR-750

## PARTS LIST

\* New Parts.  $\Delta$  indicates safety critical components.

Parts without **Parts No.** are not supplied.

Les articles non mentionnés dans le **Parts No.** ne sont pas fournis.

Teile ohne **Parts No.** werden nicht geliefert.

**L** : Scandinavia

**Y** : PX (Far East, Hawaii)

**Y** : AAFES (Europe)

**C** : China

**K** : USA

**T** : England

**X** : Australia

**P** : Canada

**E** : Europe

**M** : Other Areas

### TKR-750 (Y54-318X-XX)

#### FINAL UNIT (X45-3730-XX)

Ref. No.	Address	New parts	Parts No.	Description	Destination
<b>TKR-750</b>					
-			G02-0894-04	EARTH SPRING (FINAL FET)	
-		*	J21-8467-04	HARDWARE FIXTURE (DRIVE FET)	
<b>FINAL UNIT (X45-3730-XX) -10 : K,E,C -11 : K2,C2</b>					
C1,2			CK73GB1H102K	CHIP C 1000PF K	
C3			C90-2146-05	ELECTRO 100UF 25WV	
C7			CK73GB1H102K	CHIP C 1000PF K	
C9,10			CK73GB1H102K	CHIP C 1000PF K	
C11			CC73GCH1H470J	CHIP C 47PF J	
C12			CK73GB1H102K	CHIP C 1000PF K	
C13			CK73FB1E104K	CHIP C 0.10UF K	
C14,15			CK73GB1H102K	CHIP C 1000PF K	
C16			CK73FB1H102K	CHIP C 1000PF K	
C19			C93-0603-05	CHIP C 1000PF 500WV	
C21			C93-0564-05	CHIP C 22PF 500WV	
C22			C93-0568-05	CHIP C 47PF 500WV	
C27			CK73FB1H102K	CHIP C 1000PF K	
C28			CK73GB1H102K	CHIP C 1000PF K	
C29			C93-0603-05	CHIP C 1000PF 500WV	
C30			C93-0573-05	CHIP C 120PF 500WV	
C31			C93-0565-05	CHIP C 27PF 500WV	
C32			C93-0603-05	CHIP C 1000PF 500WV	
C35			CK73GB1H102K	CHIP C 1000PF K	
C37			CK73FB1E474K	CHIP C 0.47UF K	
C39			CK73GB1H102K	CHIP C 1000PF K	
C42			CK73FB1H103K	CHIP C 0.010UF K	
C43,44			CK73GB1H102K	CHIP C 1000PF K	
C46			C93-0603-05	CHIP C 1000PF 500WV	
C47			CM73F2H360J	CHIP C 36PF J	K2,C2
C49			C93-0564-05	CHIP C 22PF 500WV	
C54			CM73F2H102J	CHIP C 1000PF J	
C55			CK73GB1H103K	CHIP C 0.010UF K	
C57			C90-2143-05	ELECTRO 47UF 25WV	
C64			CK73GB1H102K	CHIP C 1000PF K	
C68			CK73GB1H102K	CHIP C 1000PF K	
C69,70			C93-0559-05	CHIP C 9.0PF 500WV	
C71,72			C93-0564-05	CHIP C 22PF 500WV	
C74			C93-0567-05	CHIP C 39PF 500WV	
C77			C93-0565-05	CHIP C 27PF 500WV	
C80-87			CK73GB1H102K	CHIP C 1000PF K	
C90			CK73GB1H102K	CHIP C 1000PF K	
C91			C92-0777-05	ELECTRO 1000UF 25WV	
C92			CM73F2H102J	CHIP C 1000PF J	
C96			CC73FCH1H180J	CHIP C 18PF J	
C98			CK73GB1H102K	CHIP C 1000PF K	
C99			C90-2143-05	ELECTRO 47UF 25WV	
C106-109			CK73GB1H102K	CHIP C 1000PF K	
C110			C92-0628-05	CHIP-TAN 10UF 10WV	
C112			C93-0560-05	CHIP C 10PF 500WV	
C117			CM73F2H221J	CHIP C 220PF J	
C118			CK73FB1E474K	CHIP C 0.47UF K	
C136,137			CK73GB1H102K	CHIP C 1000PF K	

Ref. No.	Address	New parts	Parts No.	Description	Destination
C140			CC73FCH1H100D	CHIP C 10PF D	
C142			CC73FCH1H020C	CHIP C 2.0PF C	
C143			CC73FCH1H330J	CHIP C 33PF J	
C160			CM73F2H102J	CHIP C 1000PF J	
C161,162			CM73F2H270J	CHIP C 27PF J	
C163			C93-0570-05	CHIP C 68PF 500WV	
C164			CM73F2H820J	CHIP C 82PF J	
CN1			E04-0154-05	PIN SOCKET	
CN3			E40-5632-05	PIN ASSY	
CN4			E40-3246-05	PIN ASSY	
CN5			E40-5703-05	PIN ASSY	
CN6-8			E23-0462-05	TERMINAL	
F1			F53-0217-05	FUSE	
CN51,52			J13-0071-05	FUSE HOLDER	
L2			L40-4775-34	SMALL FIXED INDUCTOR (47NH)	
L3			L40-6875-34	SMALL FIXED INDUCTOR (68NH)	
L4,5			L34-4518-05	AIR-CORE COIL	
L6			L34-4520-05	AIR-CORE COIL	
L7			L34-4523-05	AIR-CORE COIL	
L8			L34-4517-05	AIR-CORE COIL	K2,C2
L8			L34-4518-05	AIR-CORE COIL	K,E,C
L9-11			L34-4520-05	AIR-CORE COIL	
L12			L34-4523-05	AIR-CORE COIL	
L15			L40-4785-34	SMALL FIXED INDUCTOR (470NH)	
R1			RK73FB2A100J	CHIP R 10 J 1/10W	
R6			RK73GB1J220J	CHIP R 22 J 1/16W	
R7			RK73GB1J822J	CHIP R 8.2K J 1/16W	
R8			RK73FB2A100J	CHIP R 10 J 1/10W	
R9			RK73FB2A560J	CHIP R 56 J 1/10W	
R10			RK73FB2A151J	CHIP R 150 J 1/10W	
R11			RK73GB1J472J	CHIP R 4.7K J 1/16W	
R13			RK73GB1J471J	CHIP R 470 J 1/16W	
R14			R92-0700-05	CHIP R 180 J 1/2W	
R15			R92-0686-05	CHIP R 33 J 1/2W	
R16			R92-0700-05	CHIP R 180 J 1/2W	
R17			RK73FB2A154J	CHIP R 150K J 1/10W	
R18			RK73EB2B101J	CHIP R 100 J 1/8W	K,E,C
R18			RK73EB2B470J	CHIP R 47 J 1/8W	K2,C2
R19			RK73FB2A104J	CHIP R 100K J 1/10W	
R20,21			R92-1252-05	CHIP R 0 OHM J 1/16W	
R22			R92-1213-05	CHIP R 100 J 1/2W	
R23,24			RK73FB2A104J	CHIP R 100K J 1/10W	
R25			RK73GB1J473J	CHIP R 47K J 1/16W	
R26			RK73GB1J101J	CHIP R 100 J 1/16W	
R27			RK73GB1J471J	CHIP R 470 J 1/16W	
R28			RK73GB1J105J	CHIP R 1.0M J 1/16W	
R29			RK73GB1J471J	CHIP R 470 J 1/16W	
R30			RK73GB1J222J	CHIP R 2.2K J 1/16W	
R31			RK73GB1J102J	CHIP R 1.0K J 1/16W	
R32			RK73GB1J104J	CHIP R 100K J 1/16W	
R34			R92-1252-05	CHIP R 0 OHM J 1/16W	
R35			RK73GB1J393J	CHIP R 39K J 1/16W	
R36			R92-1252-05	CHIP R 0 OHM J 1/16W	
R37			R92-0670-05	CHIP R 0 OHM	

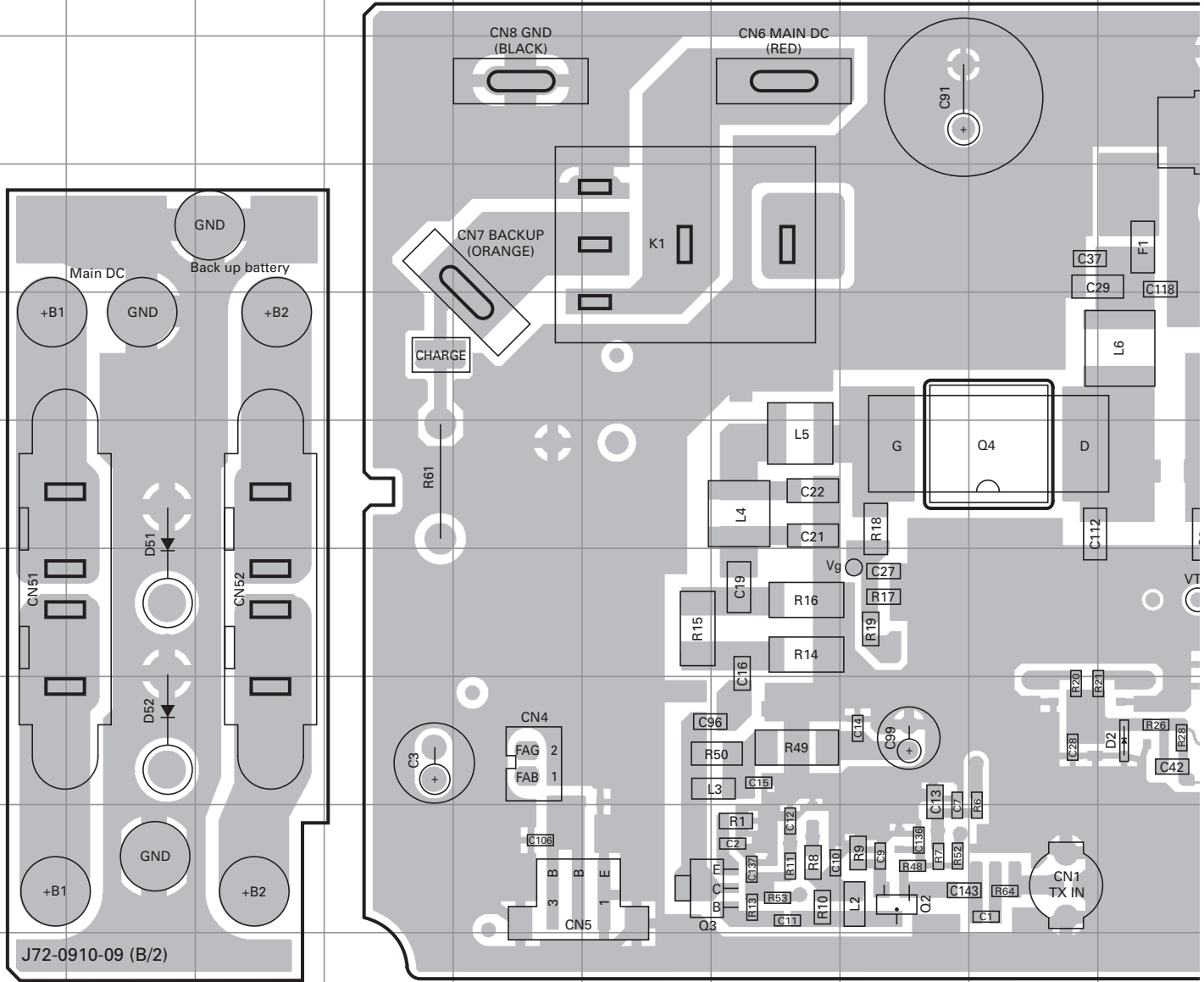
## PARTS LIST

FINAL UNIT (X45-3730-XX)

Ref. No.	Address	New parts	Parts No.	Description	Destination	Ref. No.	Address	New parts	Parts No.	Description	Destination
R38			RK73GB1J103J	CHIP R 10K J 1/16W							
R40			RK73FB2A121J	CHIP R 120 J 1/10W							
R41			R92-1252-05	CHIP R 0 OHM J 1/16W							
R43			RK73FB2A101J	CHIP R 100 J 1/10W							
R45			RK73GB1J102J	CHIP R 1.0K J 1/16W							
R48			RK73GB1J471J	CHIP R 470 J 1/16W							
R49			R92-1217-05	CHIP R 0 OHM							
R50			RK73EB2B222J	CHIP R 2.2K J 1/8W							
R52,53			RK73GB1J102J	CHIP R 1.0K J 1/16W							
R55			RK73GB1J102J	CHIP R 1.0K J 1/16W							
R56			R92-1317-05	CHIP R 18 J 1W							
R57			RK73GB1J224J	CHIP R 220K J 1/16W							
R58			RK73GB1J104J	CHIP R 100K J 1/16W							
R59			RK73GB1J393J	CHIP R 39K J 1/16W							
R60			RK73GB1J154J	CHIP R 150K J 1/16W							
R61			R92-2687-05	RESISTOR 5.6 J 5W							
R62,63			R92-0670-05	CHIP R 0 OHM							
R64			R92-1252-05	CHIP R 0 OHM J 1/16W							
R69			RK73GB1J222J	CHIP R 2.2K J 1/16W							
VR1			R12-6429-05	TRIMMING POT. (100K)							
K1			S76-0426-05	RELAY							
D1			1SS226	DIODE							
D2			02DZ6.2(Y)	ZENER DIODE							
D4,5			HSM88AS	DIODE							
D6			1SS355	DIODE							
D7			ZSA5A27	ZENER DIODE							
D8			RB051L-40	DIODE							
D9			MINISMDC050-02	VARIATOR							
D51,52			DSA3A1	DIODE							
IC1			TA75W01FU	MOS IC							
IC2			TK11050M	ANALOG IC							
IC3			NJM78L05UA	BI-POLAR IC							
Q2			2SC3356(R24)	TRANSISTOR							
Q3			2SC3357	TRANSISTOR							
Q4			PD55003S	DRIVE FET							
Q5			RD70HVF1-01	FINAL FET							
Q8			2SC4116(Y)	TRANSISTOR							
Q9			DTD123EK	DIGITAL TRANSISTOR							
TH1			PTH9M04BE471TS	THERMISTOR							

# TKR-750 PC BOARD

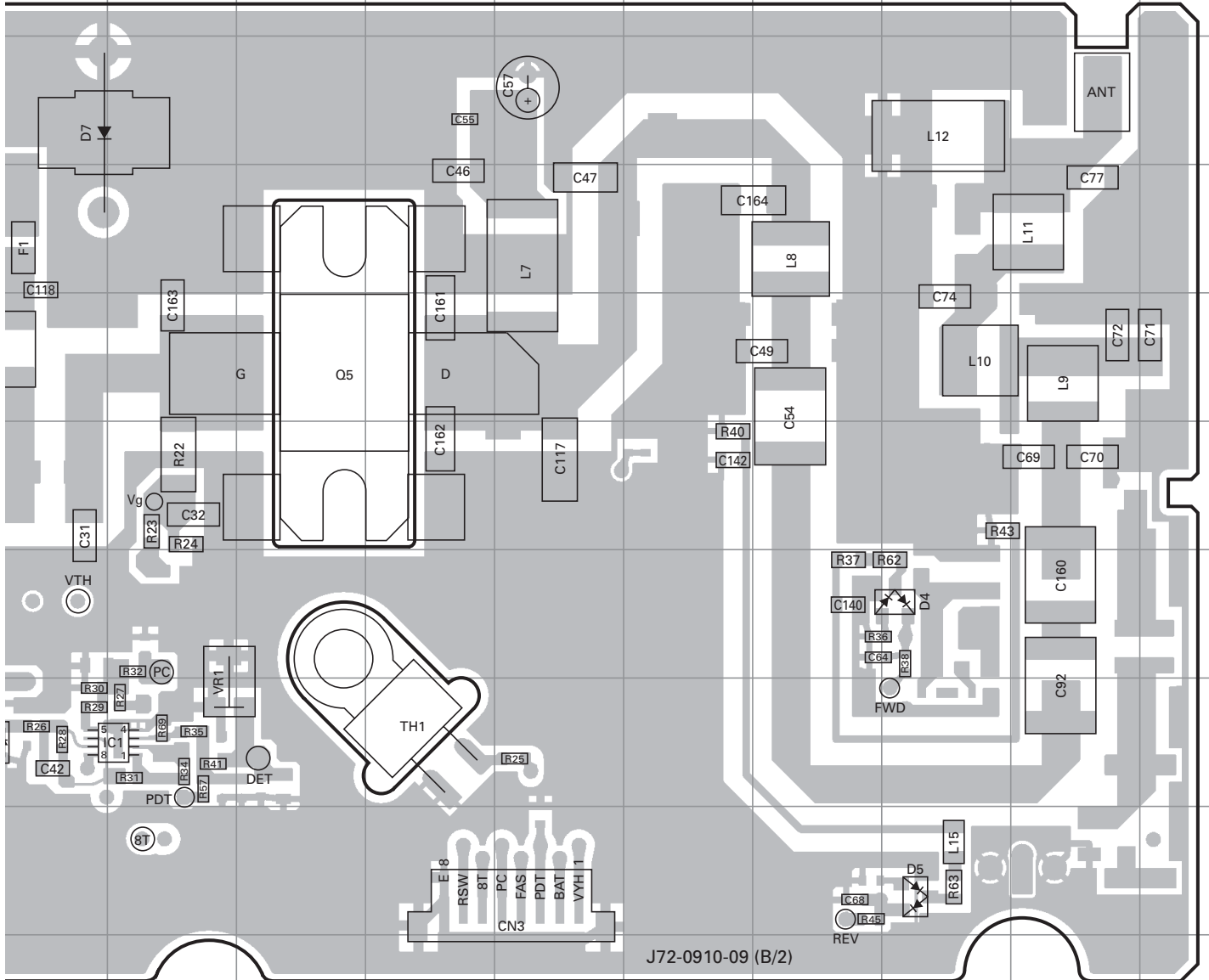
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 Component side view (J72-0910-09)



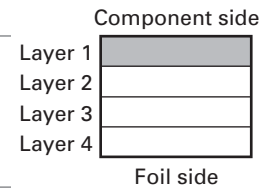
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IC1	8K	Q5	5L	D7	3J
Q2	9H	D2	8J	D51	7B
Q3	9F	D4	7Q	D52	8B
Q4	6I	D5	9Q		

# PC BOARD TKR-750

FINAL UNIT (X45-3730-XX) -10 : K,E,C -11 : K2,C2  
Component side view (J72-0910-09)



J72-0910-09 (B/2)

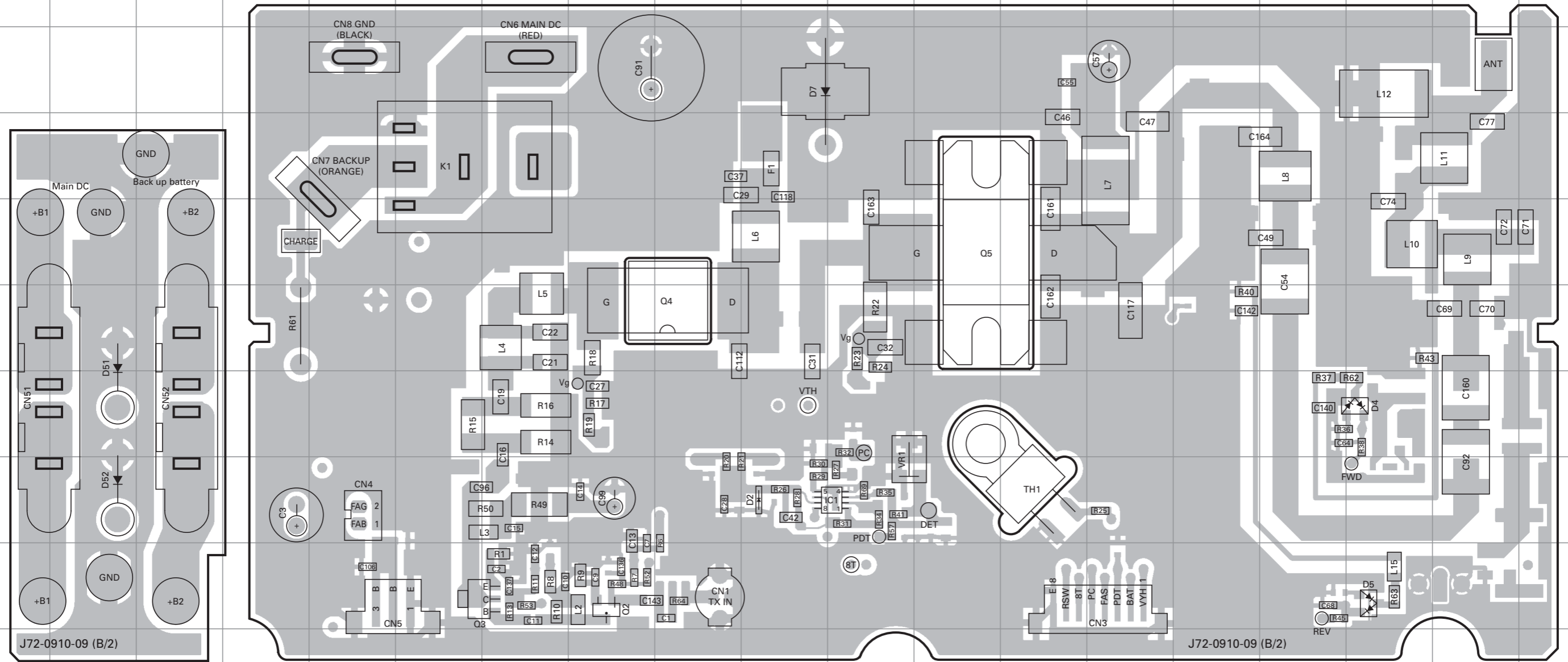


# TKR-750 PC BOARD

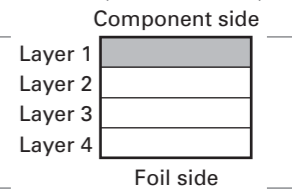
# PC BOARD TKR-750

FINAL UNIT (X45-3730-XX) -10 : K,E,C -11 : K2,C2  
Component side view (J72-0910-09)

FINAL UNIT (X45-3730-XX) -10 : K,E,C -11 : K2,C2  
Component side view (J72-0910-09)

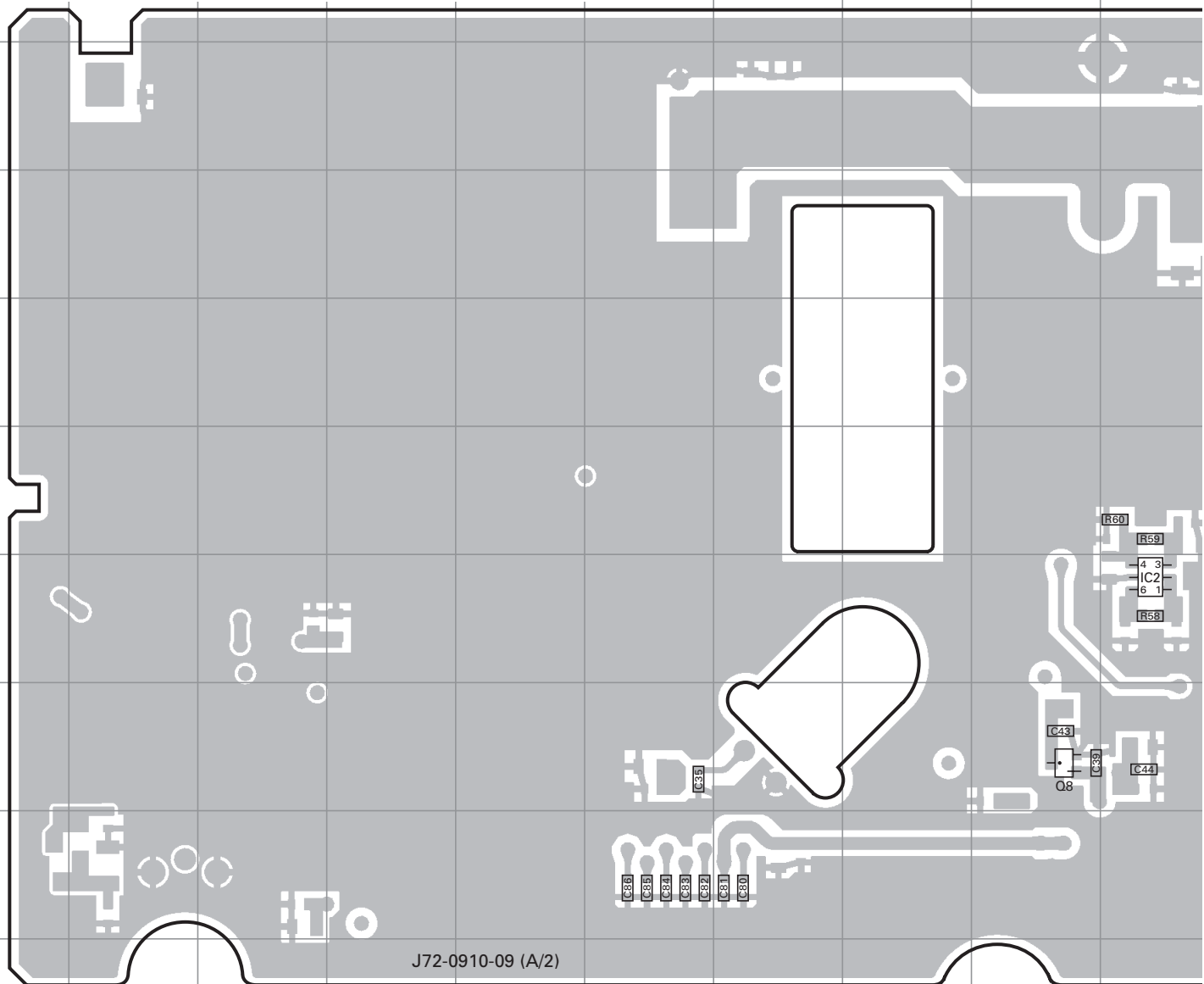


Ref. No.	Address	Ref. No.	Address	Ref. No.	Address
IC1	8K	Q5	5L	D7	3J
Q2	9H	D2	8J	D51	7B
Q3	9F	D4	7Q	D52	8B
Q4	6I	D5	9Q		



# TKR-750 PC BOARD

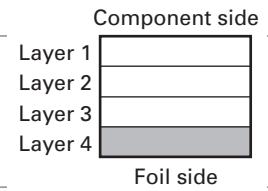
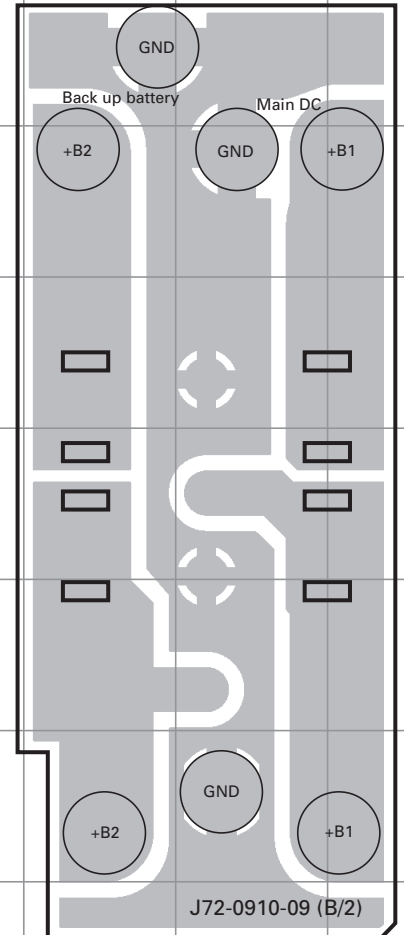
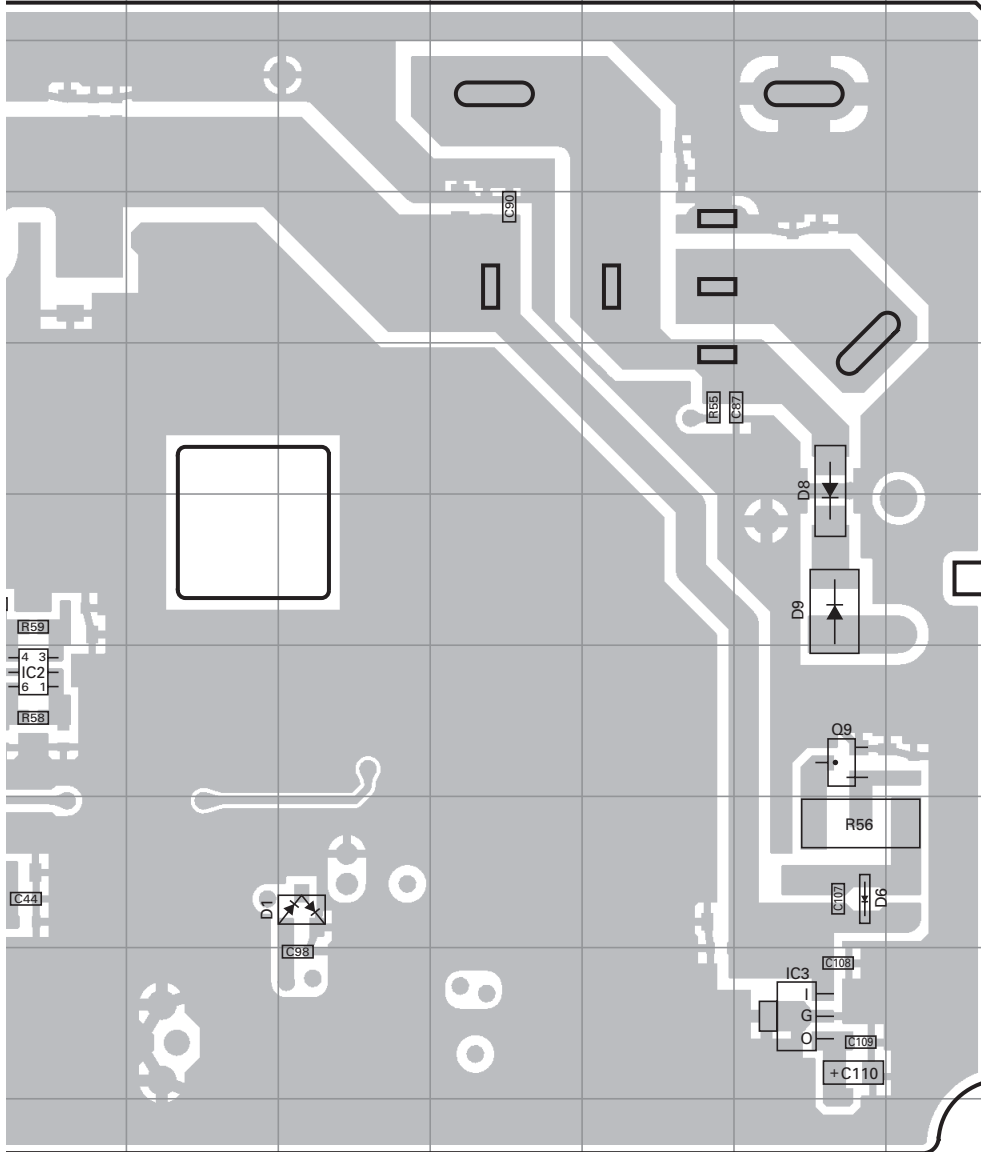
FINAL UNIT (X45-3730-XX) -10 : K,E,C -11 : K2,C2  
 Foil side view (J72-0910-09)



Ref. No.	Address	Ref. No.	Address
IC2	7J	D1	8L
IC3	9O	D6	8O
Q8	8I	D8	5O
Q9	7O	D9	6O

# PC BOARD TKR-750

FINAL UNIT (X45-3730-XX) -10 : K,E,C -11 : K2,C2  
Foil side view (J72-0910-09)



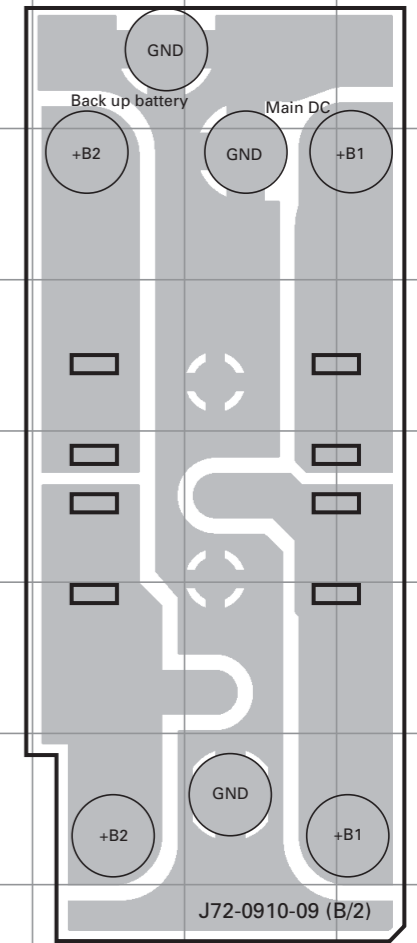
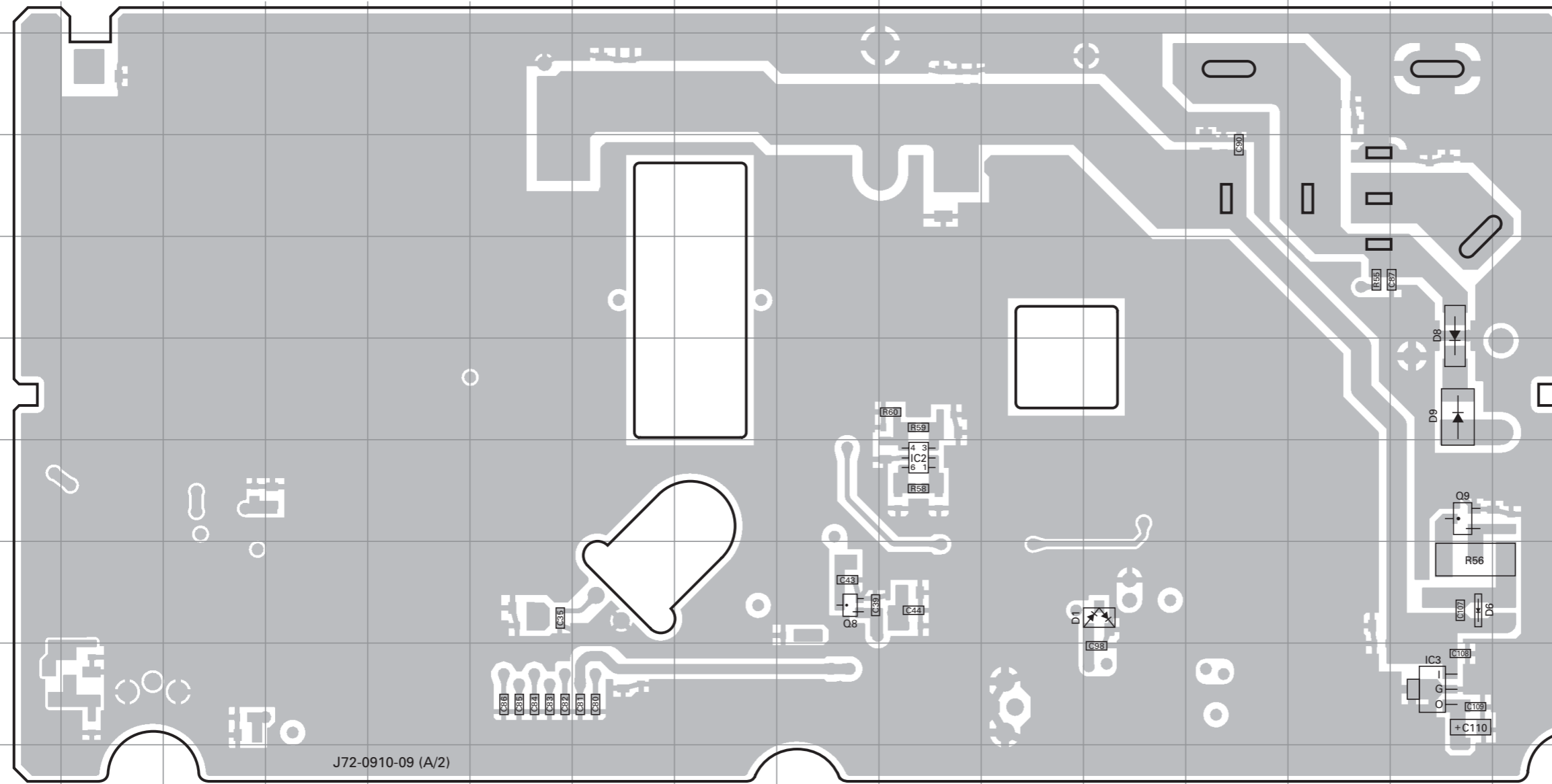


# TKR-750 PC BOARD

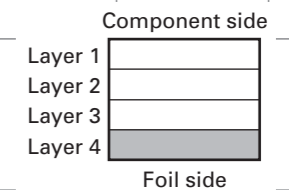
# PC BOARD TKR-750

FINAL UNIT (X45-3730-XX) -10 : K,E,C -11 : K2,C2  
Foil side view (J72-0910-09)

FINAL UNIT (X45-3730-XX) -10 : K,E,C -11 : K2,C2  
Foil side view (J72-0910-09)

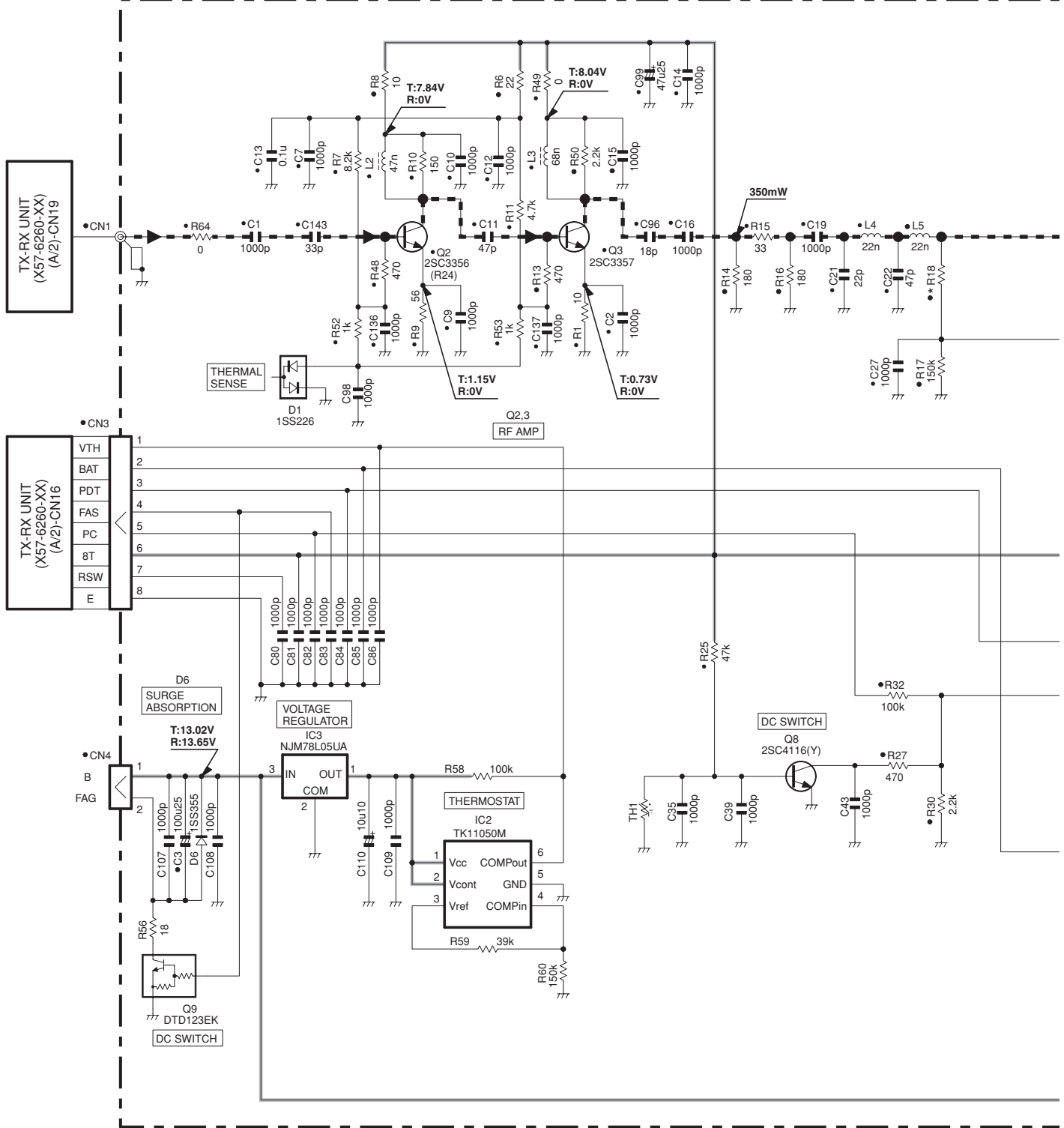


Ref. No.	Address	Ref. No.	Address
IC2	7J	D1	8L
IC3	9O	D6	8O
Q8	8I	D8	5O
Q9	7O	D9	6O



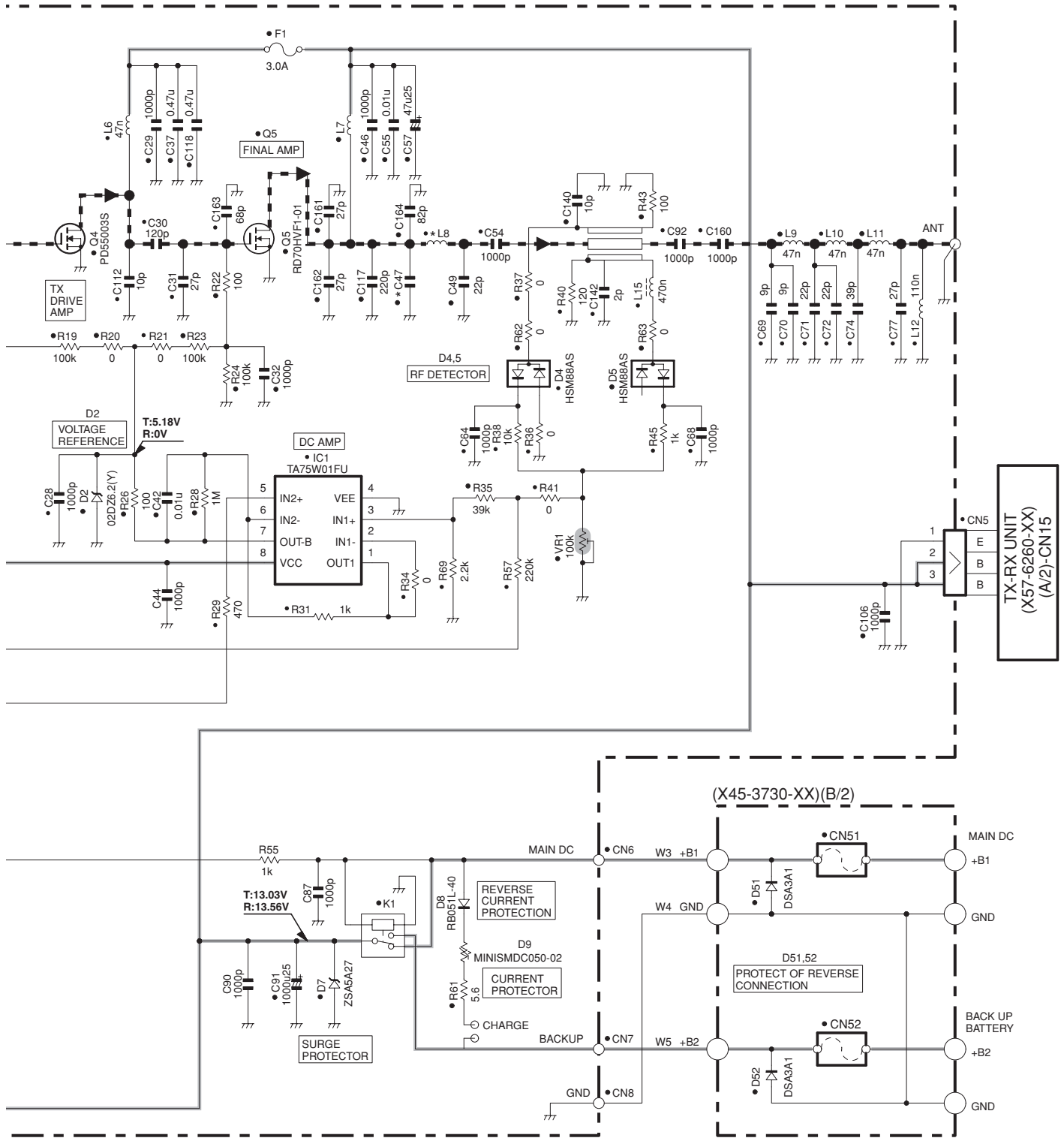
# TKR-750 SCHEMATIC DIAGRAM

FINAL UNIT  
(X45-3730-XX)(A/2)



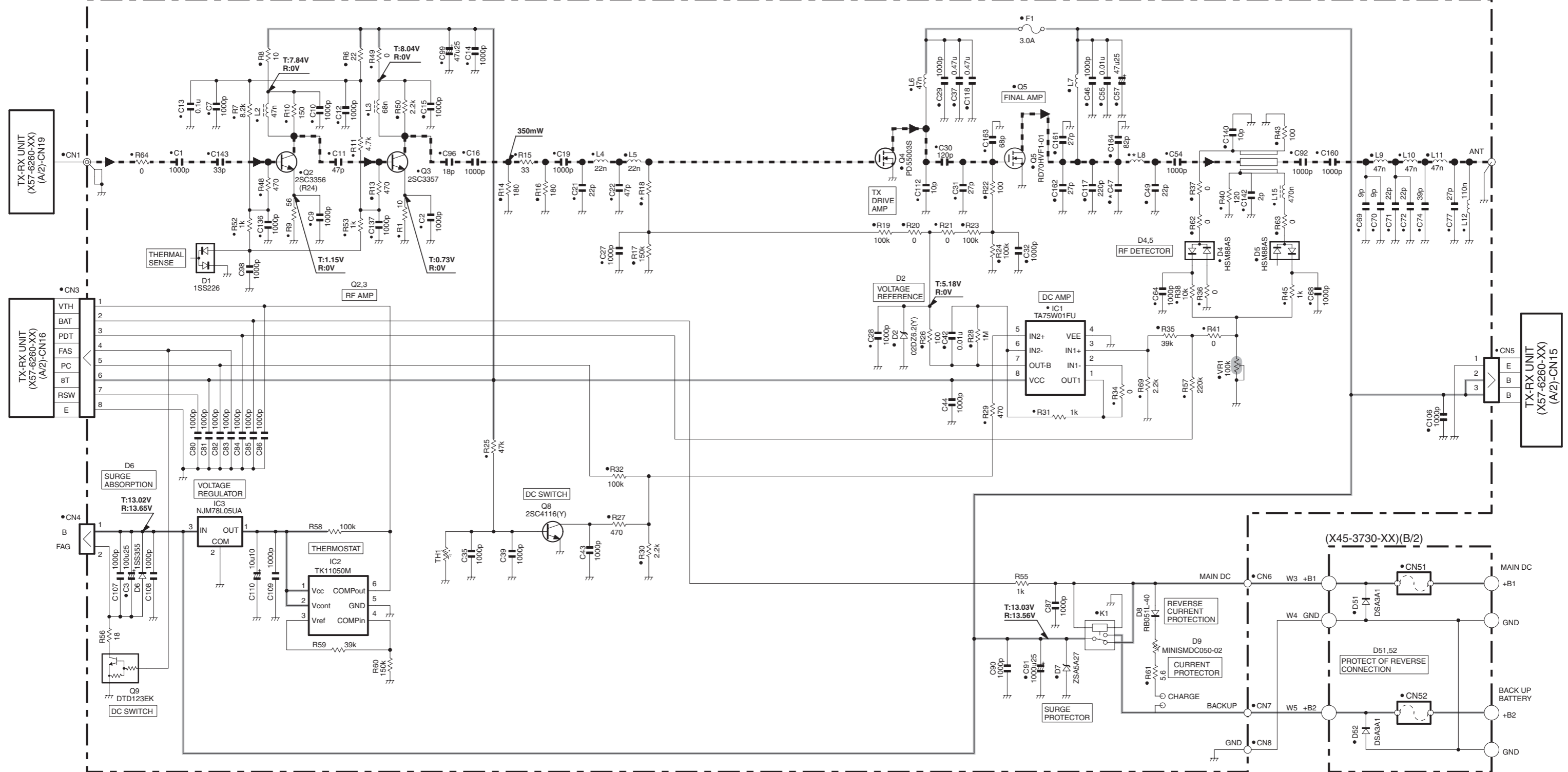
	X45-3730-XX	R18	C47	L8	
-10	K,E,C	146-174MHz	100	NO	22n
-11	K2,C2	136-150MHz	47	36p	15n

# SCHEMATIC DIAGRAM TKR-750



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

FINAL UNIT  
(X45-3730-XX)(A/2)



X45-3730-XX		R18	C47	L8	
-10	K,E,C	146-174MHz	100	NO	22n
-11	K2,C2	136-150MHz	47	36p	15n



## SPECIFICATIONS (K,K2,C,C2 TYPE)

### GENERAL

Frequency Range .....	K,C : 146 to 174MHz	K2,C2 : 136 to 150MHz
Number of Channels .....	16 channel	
Channel Spacing .....	K,K2 : Wide : 30kHz, 25kHz      Narrow : 15kHz, 12.5kHz (PLL channel stepping 2.5kHz/5kHz/6.25kHz/7.5kHz)	
	C,C2 : Wide : 25kHz      Narrow : 12.5kHz (PLL channel stepping 5kHz/6.25kHz)	
Operating Voltage .....	13.6V DC±15%	
Current Drain		
Standby .....	0.8A	
Standby w/power save .....	0.3A (Operating mode DC-IN : Backup, FAN : Temp, SAVE : ON, DISP : OFF)	
Receive .....	1.2A	
Transmit/Receive .....	Less than 13A	
Duty Cycle		
Receive .....	100%	
Transmit .....	100% (100% @25W)	
Frequency Stability .....	Less than ±0.0002%    -30°C to +60°C (-22°F to +140°F)	
Antenna Impedance .....	50Ω	
Operating Temperature Range .....	-30°C to +60°C (-22°F to +140°F)	
Dimensions .....	483 (19) W x 88 (3-1/2) H x 340 (13-1/3) D mm (inch)	
Weight .....	9.7kg (21.4 lbs.)	

### RECEIVER (Measured by TIA/EIA-603)

Sensitivity		
12dB SINAD .....	0.35μV	
20dB Quieting .....	0.45μV	
Selectivity .....	K,K2 : Wide : 85dB (±30kHz)      Narrow : 80dB (15kHz), 77dB (12.5kHz)	
	C,C2 : Wide : 85dB (±25kHz)      Narrow : 77dB (12.5kHz)	
Intermodulation .....	K,K2 : Wide : 80dB (±30kHz/±60kHz)      Narrow : 75dB (±15kHz/±30kHz)	
	C,C2 : Wide : 80dB (±25kHz/±50kHz)      Narrow : 75dB (±12.5kHz/±25kHz)	
Hum and Noise .....	Wide : 50dB      Narrow : 45dB	
Spurious & Image Rejection .....	90dB	
Audio Output (Ext. Speaker) .....	4W at 4Ω less than 5% distortion	
Audio Distortion (Ext. Speaker) .....	Less than 2.5% at 1000Hz	
Band Spread .....	3MHz	

### TRANSMITTER (Measured by TIA/EIA-603)

RF Power Output .....	50W adjustable to 25W (100% duty @25W)	
Type of Emission .....	K,K2 : Wide : 16K0F3E      Narrow : 11K0F3E	
	C,C2 : Wide : 16K0F3E      Narrow : 8K50F3E	
Spurious Response .....	80dB	
FM Hum and Noise .....	Wide : 50dB      Narrow : 45dB	
Audio Distortion .....	Less than 3% at 1000Hz	
Microphone Impedance .....	600Ω	
Band Spread .....	K,C : 28MHz      K2,C2 : 14MHz	

# TKR-750

## SPECIFICATIONS (E TYPE)

### GENERAL

Frequency Range .....	146 to 174MHz
Number of Channels .....	16 channel
Channel Spacing .....	Wide : 25kHz      Narrow : 12.5kHz (PLL channel stepping 5kHz/6.25kHz)
Operating Voltage .....	13.2V DC
Current Drain	
Standby .....	0.8A
Standby w/power save .....	0.3A (Operating mode DC-IN : Backup, FAN : Temp, SAVE : ON, DISP : OFF)
Receive .....	1.2A
Transmit/Receive .....	Less than 13A
Duty Cycle .....	Receive : 100%      Transmit : 100% (100% @25W)
Frequency Stability .....	Less than $\pm 0.0002\%$ $-30^{\circ}\text{C}$ to $+60^{\circ}\text{C}$
Antenna Impedance .....	50 $\Omega$
Operating Temperature Range .....	$-30^{\circ}\text{C}$ to $+60^{\circ}\text{C}$
Dimensions .....	483 W x 88 H x 340 D mm
Weight .....	9.7kg

### RECEIVER (Measured by EN 300 086)

Sensitivity .....	0.45 $\mu\text{V}$
Adjacent Channel Selectivity .....	85dB ( $\pm 25\text{kHz}$ )      77dB ( $\pm 12.5\text{kHz}$ )
Intermodulation .....	72dB
Spurious & Image Rejection .....	90dB
Audio Output (Ext. Speaker) .....	4W at 4 $\Omega$ less than 5% distortion
Audio Distortion (Ext. Speaker) .....	Less than 2.5% at 1000Hz
Band Spread .....	3MHz

### TRANSMITTER (Measured by EN 300 086)

RF Power Output .....	50W adjustable to 25W (100% duty @25W)
Modulation Limiting .....	$\pm 5\text{kHz}$ at $\pm 25\text{kHz}$ $\pm 2.5\text{kHz}$ at $\pm 12.5\text{kHz}$
Spurious Emission .....	$-36\text{dBm} \leq 1\text{GHz}$ $-30\text{dBm} > 1\text{GHz}$
FM Noise (EIA) .....	25kHz : 50dB      12.5kHz : 45dB
Modulation Distortion .....	Less than 3% at 1000Hz
Microphone Impedance .....	600 $\Omega$
Band Spread .....	28MHz

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