

VHF FM TRANSCEIVER

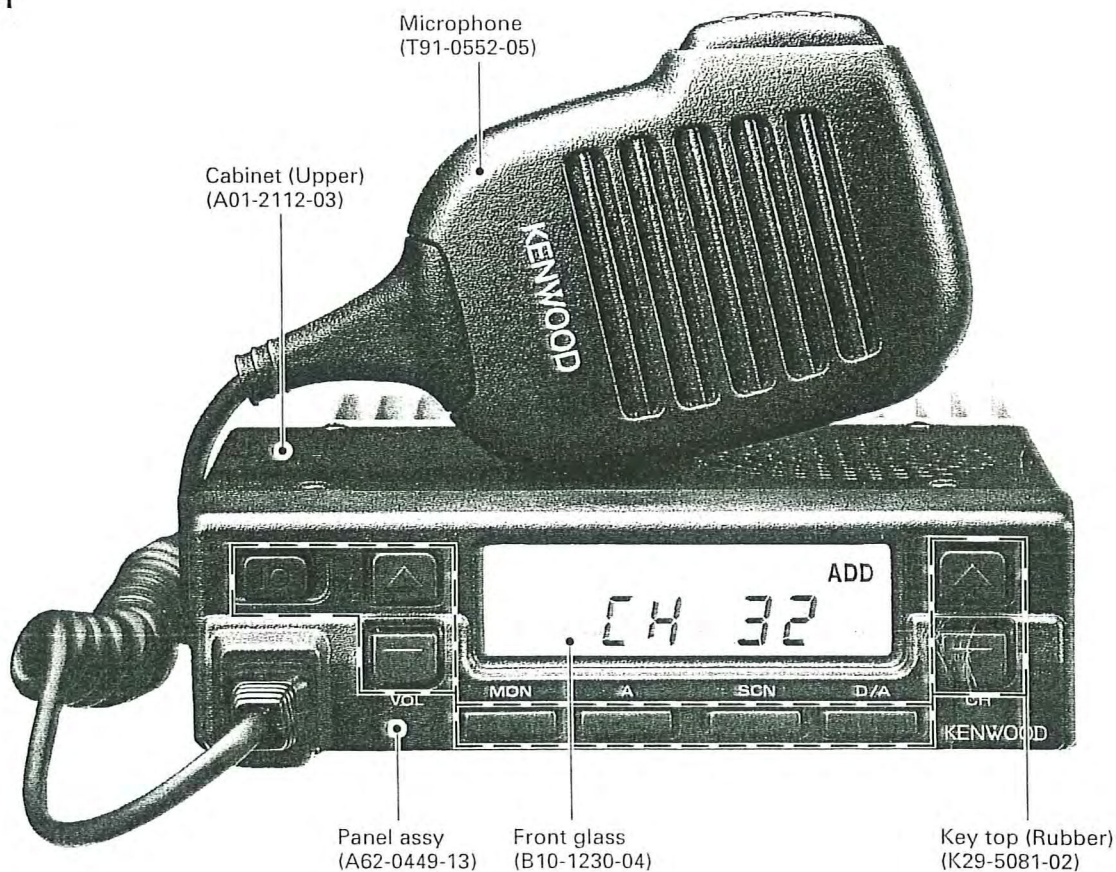
# TK-760/762/H

## SERVICE MANUAL

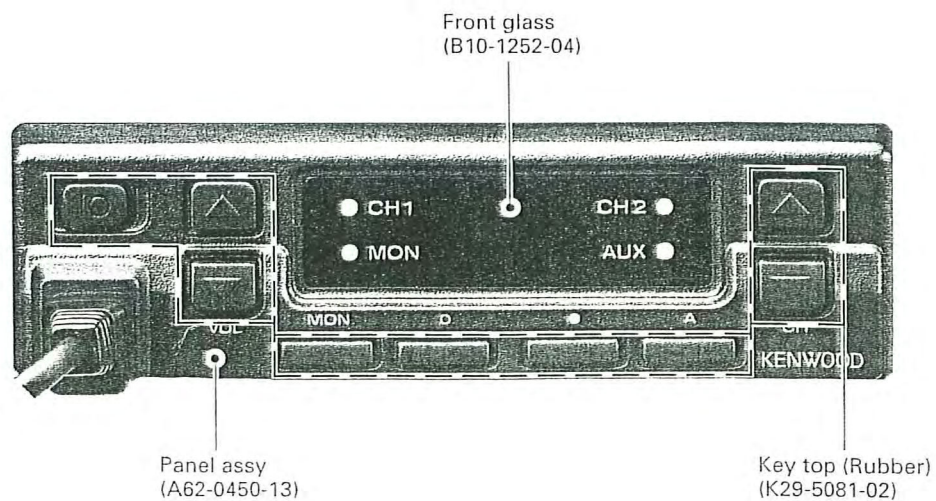
# KENWOOD

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### TK-760/H



### TK-762/H



## CONTENTS

GENERAL .....	3
SYSTEM SET-UP .....	5
OPERATING FEATURES	
1. Transceiver Programming .....	6
INSTALLATION	
1. Accessory Connection Cable (KCT-19 : Option) .....	7
2. Ignition Sense Cable (KCT-18 : Option) .....	9
3. PA/HA Unit (KAP-1 : Option) .....	10
4. DTMF Decode .....	11
5. External Speaker .....	12
6. Fitting the Control Panel Upside Down .....	12
REALIGNMENT	
1. Modes .....	13
2. How To Enter Each Mode .....	13
3. Panel Test Mode (TK-760 Only) .....	13
4. Panel Tuning Mode (TK-760 Only) .....	15
BLOCK DIAGRAM .....	17
LEVEL DIAGRAM .....	19
CIRCUIT DESCRIPTION	
1. Circuit Configuration by Frequency .....	20
2. Receiving System .....	20
3. Transmitter System .....	22
4. Frequency Synthesizer Unit .....	23
5. Display Section .....	24
6. Control Section .....	24
SEMICONDUCTOR DATA .....	27
DESCRIPTION OF COMPONENTS .....	31
PARTS LIST .....	34
EXPLODED VIEW .....	41
PACKING .....	42
ADJUSTMENT .....	43
TERMINAL FUNCTION .....	49
PC BOARD VIEWS / CIRCUIT DIAGRAMS	
VCO (X58-4360-XX) .....	50
TX-RX UNIT : TX-RX (X57-4950-XX) (A/2) : TK-760 / (X57-5100-XX) (A/2) : TK-762 .....	51
TX-RX UNIT : CONTROL (X57-4950-XX) (B/2) : TK-760 / (X57-5100-XX) (B/2) : TK-762 .....	61
KAP-1 (PA/HA UNIT) .....	71
SPECIFICATIONS .....	BACK COVER

## GENERAL

### INTRODUCTION

#### SCOPE OF THIS MANUAL

This manual is intended for use by experienced technicians familiar with similar types of commercial grade communications equipment. It contains all required service information for the equipment and is current as of the publication data. Changes which may occur after publication are covered by either Service Bulletins or Manual Revisions. These are issued as required.

#### ORDERING REPLACEMENT PARTS

When ordering replacement parts or equipment information, the full part identification number should be included. This applies to all parts : components, kits, or chassis. If the part number is not known, include the chassis or kit number of which it is a part, and a sufficient description of the required component for proper identification.

### PERSONNEL SAFETY

The following precautions are recommended for personnel safety :

- DO NOT transmit if someone is within two feet (0.6 meter) of the antenna.
- DO NOT transmit until all RF connectors are verified secure and any open connectors are properly terminated.
- SHUT OFF and DO NOT operate this equipment near electrical blasting caps or in an explosive atmosphere.
- All equipment should be properly grounded before power-up for safe operation.
- This equipment should be serviced by a qualified technician only.

### FCC COMPLIANCE AND TYPE NUMBERS

Model and destination		Frequency range (MHz)	TX power (W)	Deviation (kHz)	Signaling			
					QT	DQT	2-TONE DEC	DTMF ENC
TK-760	K	148~174	25	5/2.5	○	○	○	○
TK-760	K2	136~156	25	5/2.5	○	○	○	○
TK-762	K	148~174	25	5/2.5	○	○	○	○
TK-762	K2	136~156	25	5/2.5	○	○	○	○
TK-760H	K	148~174	45	5/2.5	○	○	○	○
TK-760H	K2	136~156	45	5/2.5	○	○	○	○
TK-762H	K	148~174	45	5/2.5	○	○	○	○
TK-762H	K2	136~156	45	5/2.5	○	○	○	○

### PRE-INSTALLATION CONSIDERATIONS

#### 1. UNPACKING

Unpack the radio from its shipping container and check for accessory items. If any item is missing, please contact KENWOOD immediately.

#### 2. LICENSING REQUIREMENTS

Federal regulations require a station license for each radio installation (mobile or base) be obtained by the equipment owner. The licensee is responsible for ensuring transmitter power, frequency, and deviation are within the limits permitted by the station license.

Transmitter adjustments may be performed only by a licensed technician holding an FCC first, second or general class commercial radiotelephone operator's license. There is no license required to install or operate the radio.

#### 3. PRE-INSTALLATION CHECKOUT

##### 3-1. Introduction

Each radio is adjusted and tested before shipment. However, it is recommended that receiver and transmitter operation be checked for proper operation before installation.

##### 3-2. Testing

The radio should be tested complete with all cabling and accessories as they will be connected in the final installation. Transmitter frequency, deviation, and power output should be checked, as should receiver sensitivity, squelch operation, and audio output. QT equipment operation should be verified.

## GENERAL

### 4. PLANNING THE INSTALLATION

#### 4-1. General

Inspect the vehicle and determine how and where the radio antenna and accessories will be mounted.

Plan cable runs for protection against pinching or crushing wiring, and radio installation to prevent overheating.

#### 4-2. Antenna

The favored location for an antenna is in the center of a large, flat conductive area, usually at the roof center. The trunk lid is preferred, bond the trunk lid and vehicle chassis using ground straps to ensure the lid is at chassis ground.

#### 4-3. Radio

The universal mount bracket allows the radio to be mounted in a variety of ways. Be sure the mounting surface is adequate to support the radio's weight. Allow sufficient space around the radio for air cooling. Position the radio close enough to the vehicle operator to permit easy access to the controls when driving.

#### 4-4. DC Power and wiring

1. This radio may be installed in negative ground electrical systems only. Reverse polarity will cause the cable fuse to blow. Check the vehicle ground polarity before installation to prevent wasted time and effort.
2. Connect the positive power lead directly to the vehicle battery positive terminal. Connecting the Positive lead to any other positive voltage source in the vehicle is not recommended.

#### CAUTION

*If DC power is to be controlled by the vehicle ignition switch, a switching relay should be used to switch the positive power lead. The vehicle ignition switch then controls DC to the relay coil.*

3. Connect the ground lead directly to the battery negative terminal.
4. The cable provided with the radio is sufficient to handle the maximum radio current demand. If the cable must be extended, be sure the additional wire is sufficient for the current to be carried and length of the added lead.

### 5. INSTALLATION PLANNING – CONTROL STATIONS

#### 5-1. Antenna system

Control station. The antenna system selection depends on many factors and is beyond the scope of this manual. Your KENWOOD dealer can help you select an antenna system that will best serve your particular needs.

#### 5-2. Radio location

Select a convenient location for your control station radio which is as close as practical to the antenna cable entry point. Secondly, use your system's power supply (which supplies the voltage and current required for your system). Make sure sufficient air can flow around the radio and power supply to allow adequate cooling.

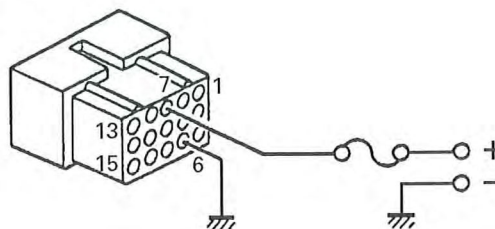
## SERVICE

This radio is designed for easy servicing. Refer to the schematic diagrams, printed circuit board views, and alignment procedures contained in this manual.

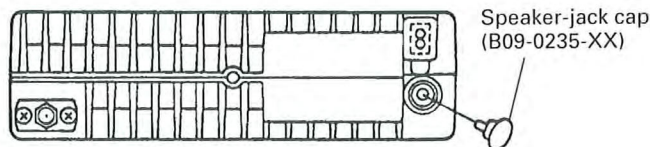
### Note

When you modify your radio as described in system set-up, take the following precaution.

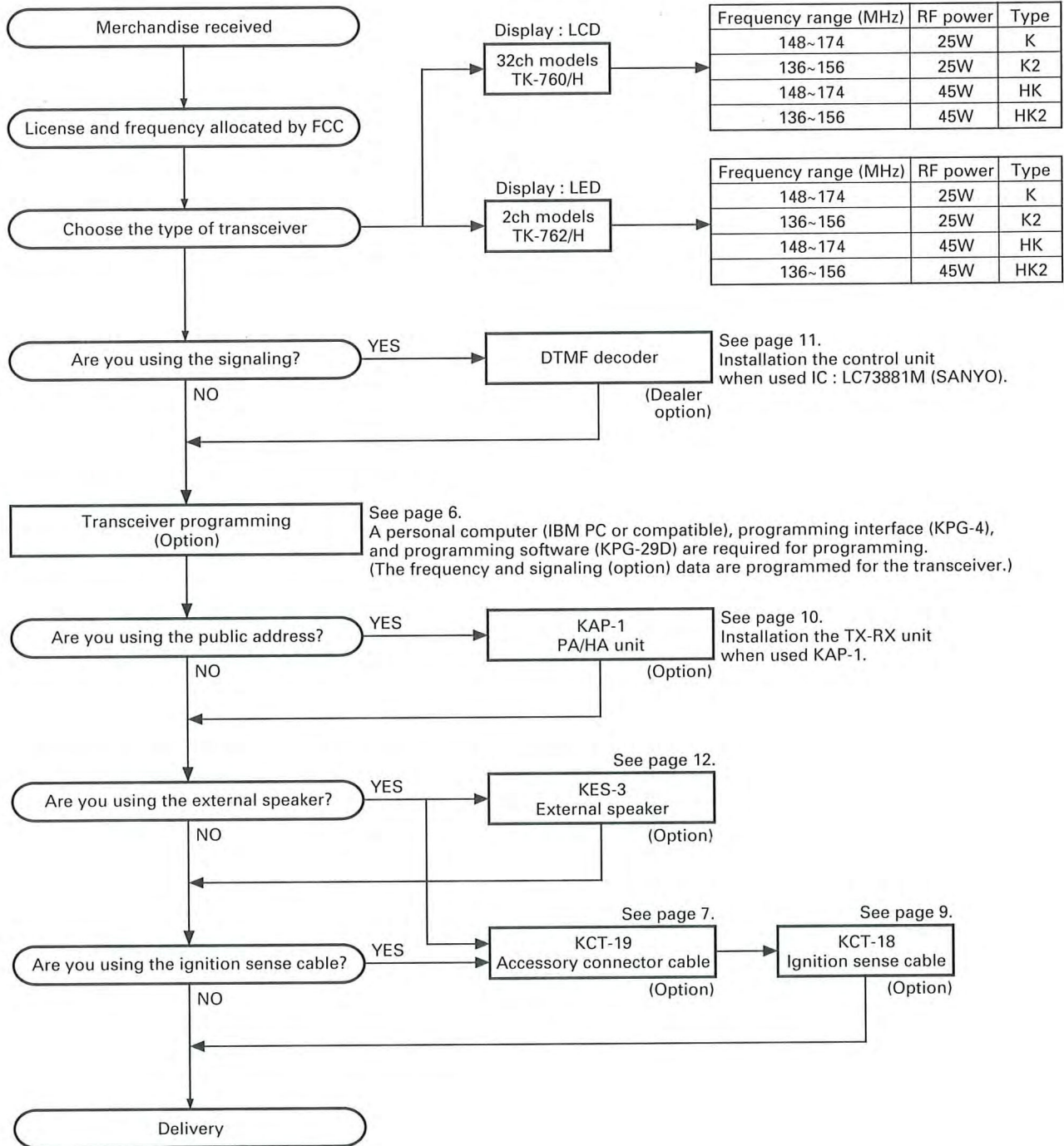
The rating of pin 7 (SB) of the accessory connector cable (KCT-19) on the rear of the radio is 13.6V (1A). Insert a 1A fuse if you use the SB pin for external equipment.



If you do not intend to use the 3.5-mm jack for the external speaker, fit the supplied speaker-jack cap (B09-0235-XX) to stop dust and sand getting in.



## SYSTEM SET-UP



## OPERATING FEATURES

### 1. Transceiver Programming

#### 1-1. Introduction

The TK-760/762 transceiver is programmed using an IBM PC or compatible machine, a programming interface (KPG-4), and a programming disk (KPG-29D). Figure 1 shows the setup for an IBM PC.

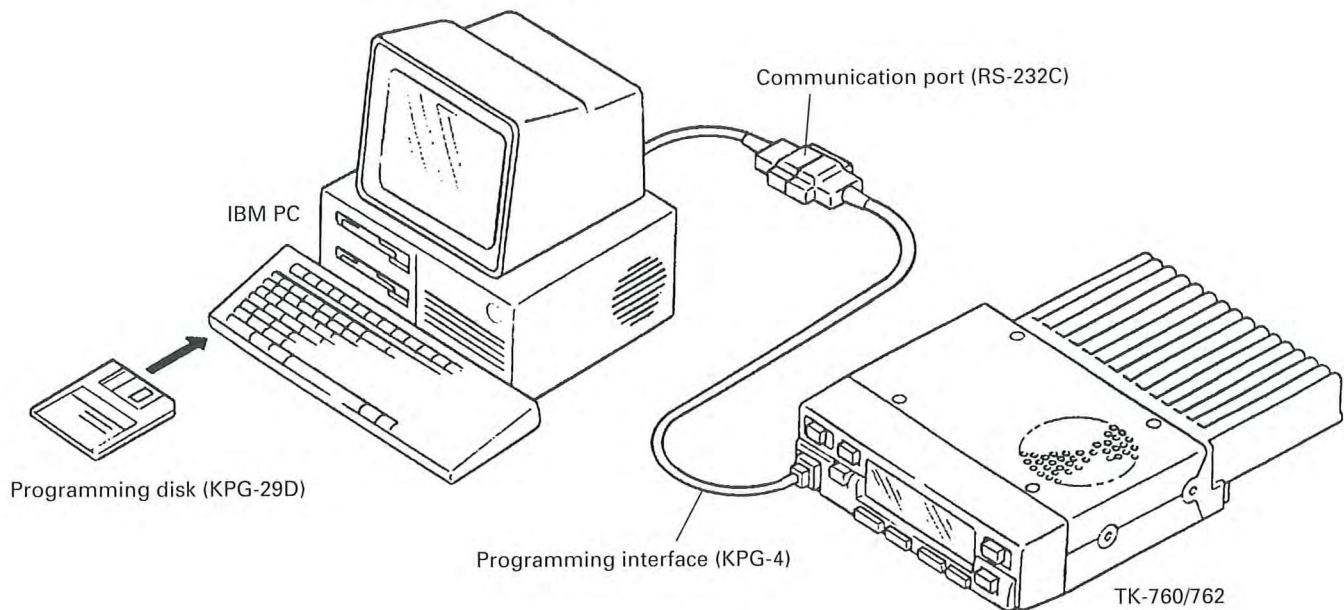


Fig. 1

#### 1-2. KPG-4 Description

(Optional PC programming interface cable)

The KPG-4 is needed to connect the TK-760/762 to the computer. It has a circuit in the D-subconnector (25-pin) case that converts the RS-232C logic level to TTL level. The KPG-4 plug is connected to external socket of the TK-760/762 and to the computer by a conversion cable (option) with a 9-pin female connector and a 25-pin male connector.

#### 1-3. Programming Software Description

KPG-29D is the programming software for the TK-760/762, supplied on a 3.5" or 5.25" floppy disk. This software runs under MS-DOS (version 3.3 or later) on an IBM-PC/XT, AT, or PS2, or on a compatible machine. Data can be input to or read from the TK-760/762, and edited on the screen. Programmed data can be printed.

#### 1-4. Data Program Mode

In this mode, data is written into the flash memory in the transceiver. When the power is turned on, data program mode can be entered immediately. When the KPG-4 is connected and commands can be received, "PROGRAM" is displayed to indicate that data program mode has been entered.

Tuning can be done using an IBM PC and KPG-29D, in the same way as in panel tuning mode. You can carry out panel tuning by selecting test mode on the KPG-29D menu screen and following the instructions on the screen. See the KPG-29D instruction manual for details.

## OPERATING FEATURES / INSTALLATION

### 1-5. Clone Mode (Figure 2)

Programmed data is transferred from one transceiver to another by using a microphone cable.

1. Connect the master set to the slave set with but the master set is TK-760 only.
2. Turn the slave set on.
3. Hold down the CH [▼] key, turn the master set on, and keep the CH [▼] key down for two more seconds. "-C-" appears on the display to indicate that clone mode has been entered.]

4. Press the MON key on the master set. The ↗ mark appears and data is sent from the master set to the slave set. "-PC-" appears on the slave set to show that it is receiving data.
5. When cloning is complete, the ↗ mark on the master set disappears and "-C-" changes to "END". The slave set is automatically reset and enters user mode.

If cloning fails, the master set shows "ErrOr". Repeat steps 4 and 5.

If you wish to clone several sets, switch each of them on and repeat 4 and 5.

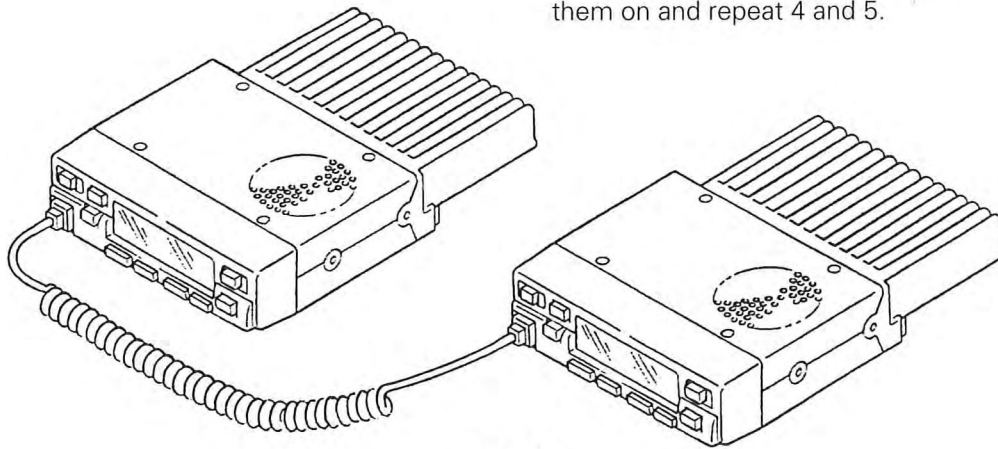


Fig. 2

## INSTALLATION

### 1. Accessory Connection Cable (KCT-19 : Option)

The KCT-19 is an accessory connection cable for connecting external equipment. The connector has 15 pins and the necessary signal lines are selected for use.

#### 1-1. Installing the KCT-19 in the transceiver

1. Remove the upper and lower halves of the transceiver case, and lift the DC cord bushing ( ❶ ) from the chassis.
2. Remove the pad ( ❷ ).

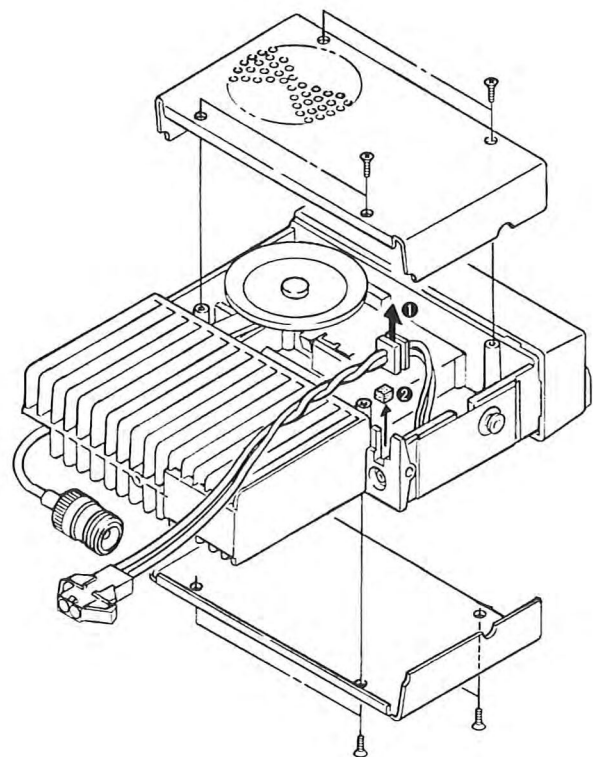


Fig. 1

## INSTALLATION

3. Insert the KCT-19 cable ( ③ ) into the chassis ( ④ ).  
The wire harness band ( ⑤ ) must be inside the chassis.
4. Relocate the DC cord bushing in the chassis ( ⑥ ).
5. Connect the KCT-19 to the TX-RX unit (A/2) as shown in Figure 2 ( ⑦ ).
6. Connect the KCT-19 to the external accessory by inserting the crimp terminal ( ⑧ ) into the square plug ( ⑨ ), both of which are supplied with the KCT-19.

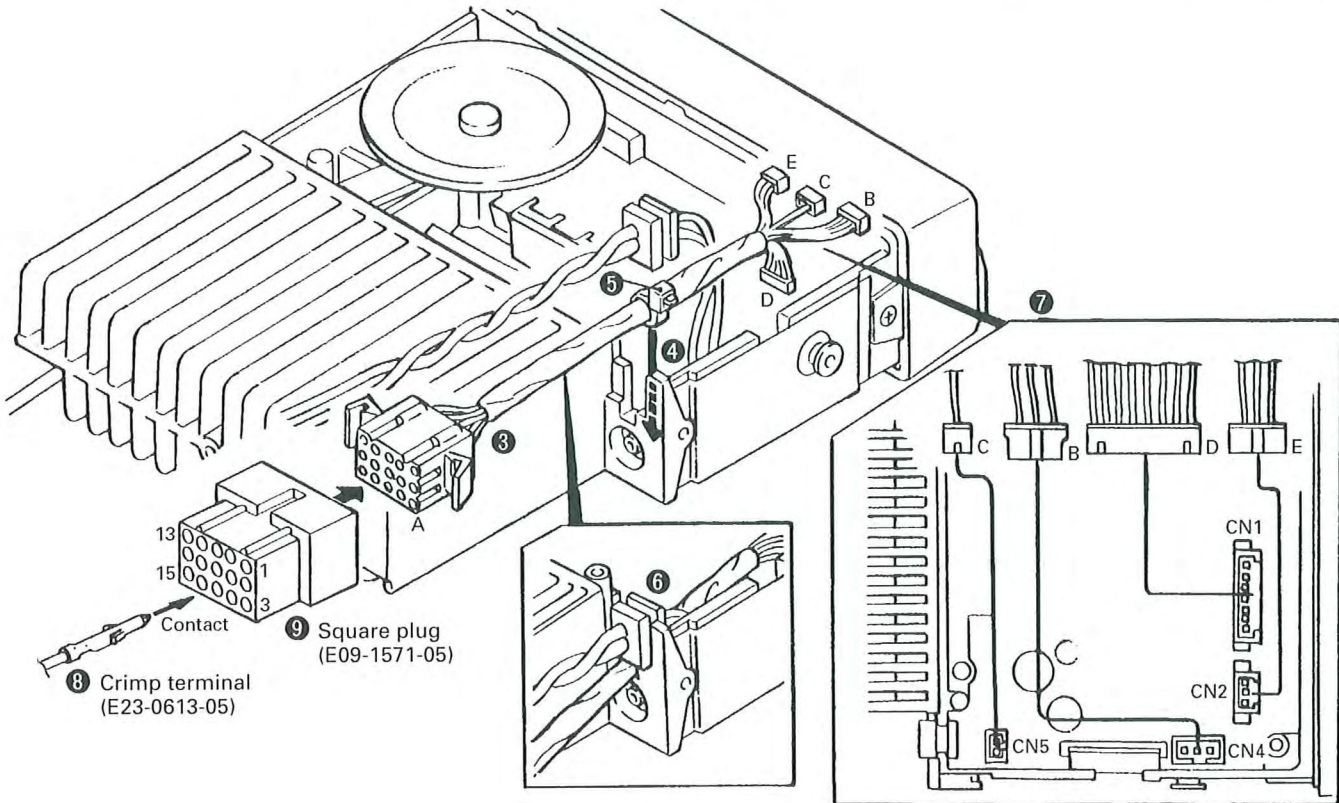


Fig. 2

### 1-2. Terminal function

No. (A)	No. (B,C,D)	Name	Function	KAP-1 Installed
A-1	D-2	HK/CHS	MIC hook input/Channel select	←
A-2	D-5	ME	MIC GND	←
A-3	D-3	IGN	Ignition input	←
A-4	D-1	DEO	Detect output	←
A-5	D-6	MI	MIC input	←
A-6	B-2	E	GND	←
A-7	B-3	SB	DC supply (1A)	←
A-8	D-7	PTT	PTT input	←
A-9	D-4	DI	Data mod input	←
A-10	B-1	HOR	Horn Alert output	HR1
A-11	D-8	SQ	Squelch output	←
A-12	C-1	SP	Audio output	PA/HR2
A-13	E-1	AM	Audio mute input	←
A-14	E-2	MM	MIC mute input	←
A-15	E-3	TXS	Signal indicating whether the transceiver is transmitting or not.	←

· Refer to Terminal function on page 49, if need description in detail.

· Connect CN5 of the radio to connector C of the KCT-19 instead of to the internal speaker connector, if use external speaker.

## INSTALLATION

### 2. Ignition Sense Cable (KCT-18 : Option)

The KCT-18 is an optional cable for enabling the ignition function. The ignition function lets you turn the power to the transceiver on and off with the car ignition key.

If you use the Horn Alert function, you can turn the function off while driving with the ignition key.

#### 2-1. Connecting the KCT-18 to the transceiver

1. Install the KCT-19 in the transceiver. (See the KCT-19 section.)
2. Insert the KCT-18 lead terminal ( ❷ ) into pin 3 of the square plug ( ❶ ) supplied with the KCT-19, then insert the square plug into the KCT-19 connector ( ❸ ).

#### 2-2. Modifying the transceiver

Modify the transceiver as follows to turn the power or the Horn Alert function on and off with the ignition key.

1. Remove the lower half of the transceiver case.
2. Set jumper resistors (0Ω) R5 and R6 of the TX-RX unit (A/2) as shown in Table 1.

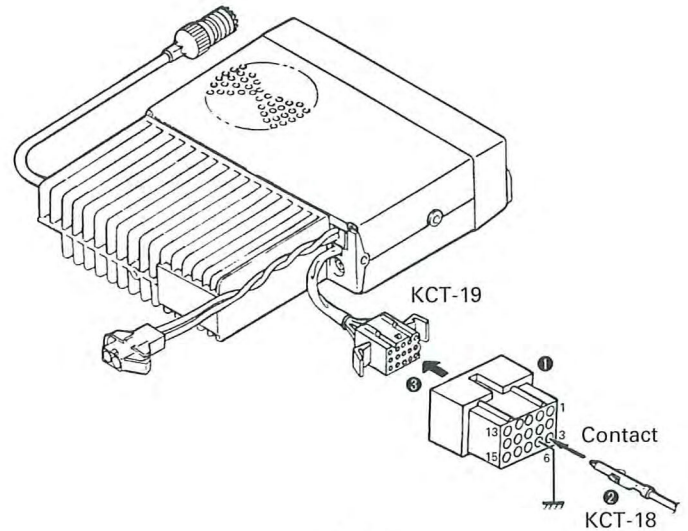


Fig. 3

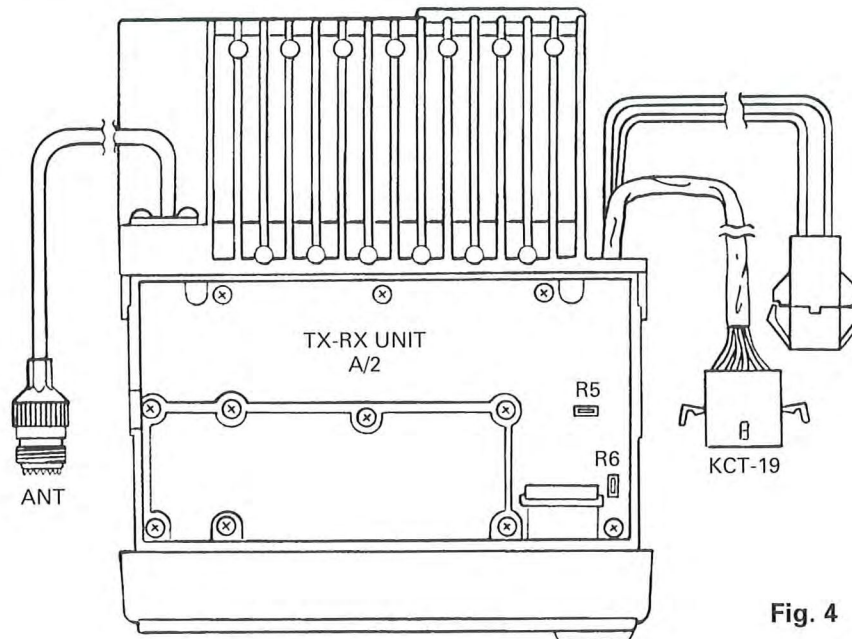


Fig. 4

Operation when KCT-18 is connected	R5	R6	
	Enable	Enable	← KCT-18 cannot be connected
<b>Power on/off and Horn Alert on/off</b>	Disable	Enable	
<b>Horn Alert on/off</b>	Enable	Disable	
	Disable	Disable	← Power cannot be turned on

Table 1 R5 and R6 setup chart

The Horn Alert function can be turned on and off only if the function has been assigned to the AUX key.

## INSTALLATION

### 3. PA/HA Unit (KAP-1 : Option)

#### 3-1. Installing the KAP-1 in the transceiver

The Horn Alert (max. 2A drive) and Public Address functions are enabled by inserting the KAP-1 W1 (3P; white/black/red) into CN4 on the TX/RX unit, inserting W2 (3P; green) into CN201 on the TX-RX unit, and connecting the KCT-19 (option) to CN2 and CN3 of the KAP-1.

##### • Installation procedure

1. Open the upper case of the transceiver.
2. Insert the two cables (1) with connectors from the KAP-1 switch unit into the connectors on the transceiver.
3. Secure the switch unit board on the chassis with two screws (3) with the notch (2) in the board placed at the front left side.

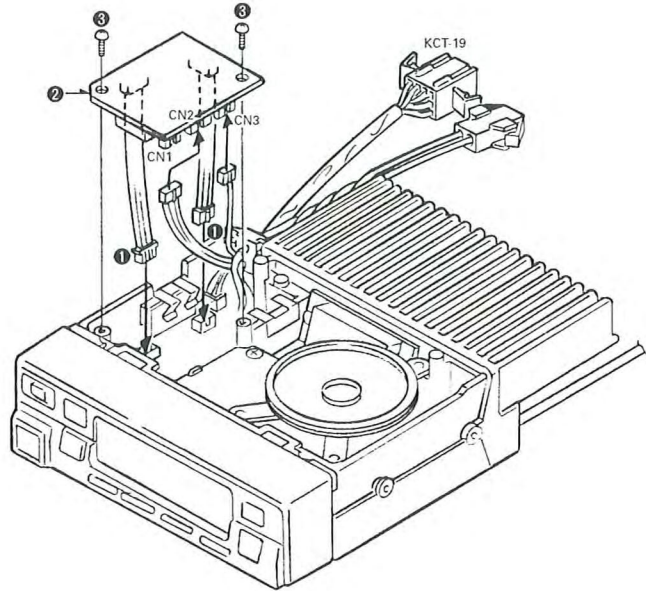


Fig. 5

#### 3-2. Modifying the transceiver

##### • Horn Alert

The signal from pin 62 of IC409 (CPU) on the TX-RX unit turns Q13 and Q14 on and off and drives KAP-1 HA relay K2 to drive the horn with a maximum of 2A.

The default output is HR1. The relay open output can be obtained between HR1 and HR2 by removing R1 in the KAP-1.

	R1	Output form
HR1 (Default)	Enable	
HR2	Disable	

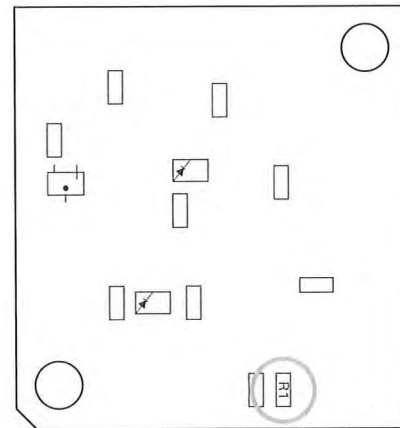


Fig. 6 KAP-1 foil side view

##### • Public Address

The signal from pin 14 of IC10 of the TX-RX unit drives PA relay K1 in the KAP-1 and switches the audio power amplifier output between the external PA system (through KCT-19) and internal and external speakers.

To use the PA function, R80 on the TX-RX unit must be removed. (See Fig. 7.)

	R80
Use the PA function	Disable
Do not use the PA function	Enable

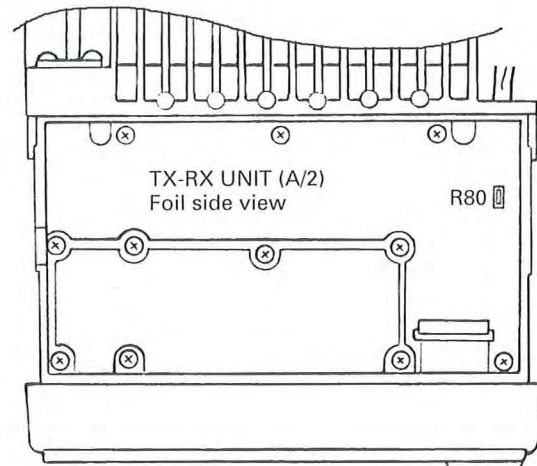


Fig. 7

## INSTALLATION

### 3-3. Others

If the PA and HR2 are not necessary and the speaker output is output to an external unit through the KCT-19, connect the KCT-19 C connector to CN5 on the TX-RX unit.

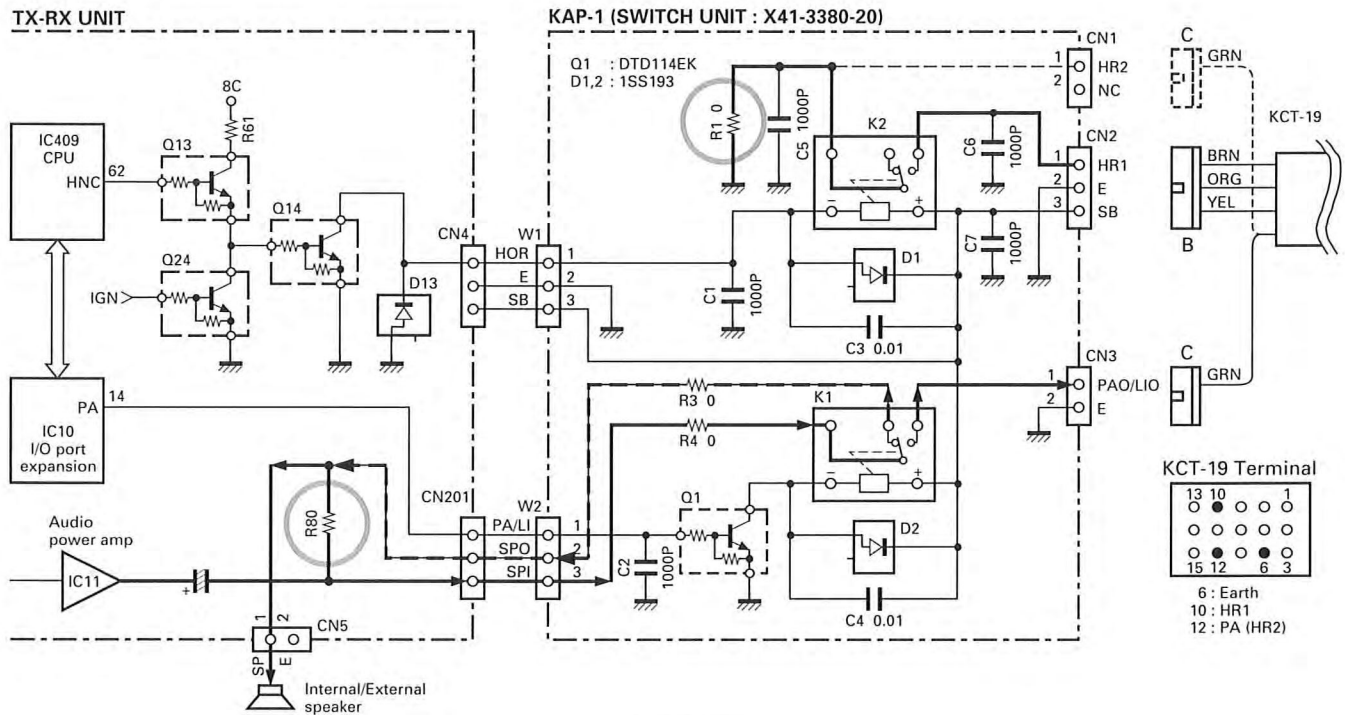


Fig. 8

### 4. DTMF Decode

If the DTMF decode function, such as code squelch, is necessary, the general-purpose decode IC (LC73881M: SANYO) must be installed.

#### • Installation procedure

1. Remove the upper and lower case and the panel.
2. Solder the IC to the PCB land of the TX-RX unit (control section).

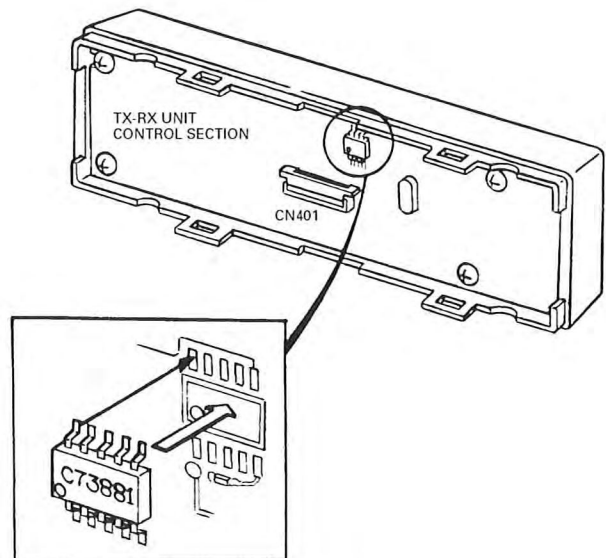


Fig. 9

## INSTALLATION

### 5. External Speaker

#### 5-1. KES-3 : Option

The KES-3 is an external speaker for the 3.5-mm-diameter speaker jack.

#### • Connection procedure

1. Connect the KES-3 to the 3.5-mm-diameter speaker jack on the rear of the transceiver.

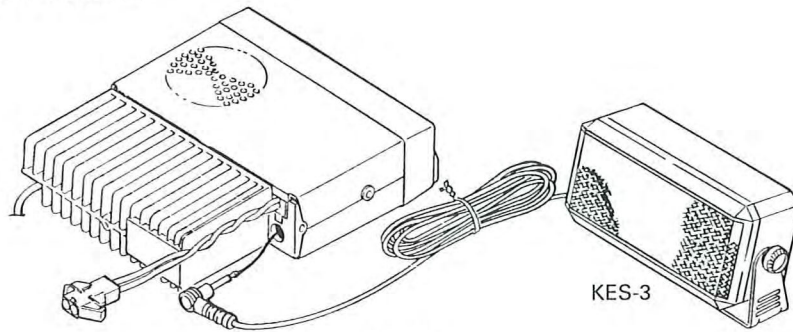


Fig. 10

### 6. Fitting the Control Panel Upside Down

The TK-760/762 control panel can be fitted upside down, so the transceiver can be mounted with its internal speaker (in the upper half of the case) facing down in your car.

1. Remove the upper and lower case of the transceiver and remove the panel from the main unit (1).
2. Remove the flat cable (2) and change the direction of bending the flat cable (3).
3. Turn the panel over (4), insert the flat cable into the main unit (5). Attach the panel to the main unit, and reinstall the cases.

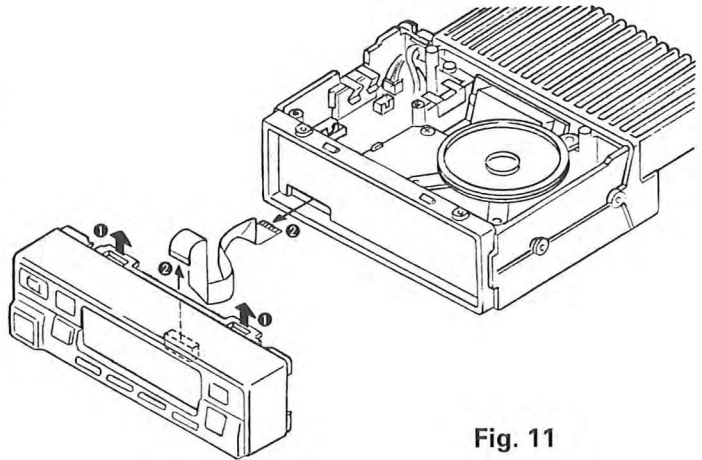


Fig. 11

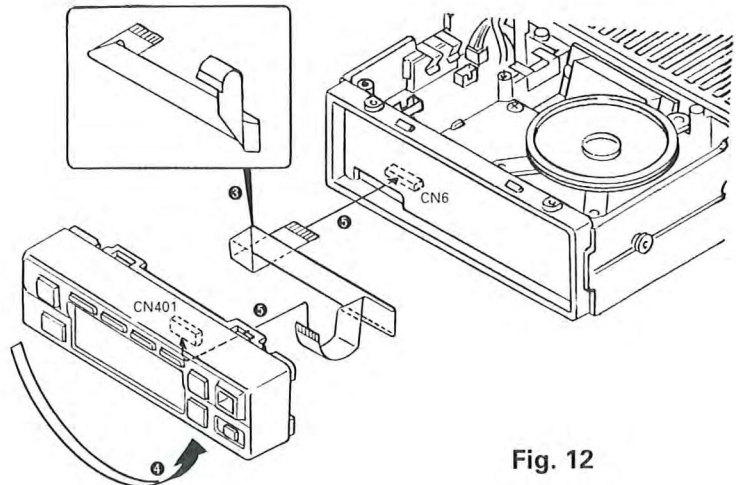
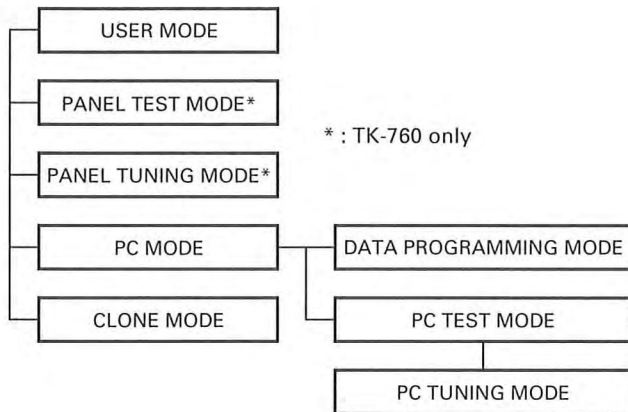


Fig. 12

## REALIGNMENT

### 1. Modes



Mode	Function
USER MODE	Customer use this mode.
PANEL TEST MODE	Dealer uses to check the fundamental characteristics.
PANEL TUNING MODE	Dealer uses to tune the radio.
PC MODE	This mode is communication the radio to PC (IBM compatible). It requires the KPG-29D.
DATA PROGRAMMING MODE	This mode is frequency data and features write to the radio and read from the radio. This feature is include the FPU.
PC TEST MODE	This mode can check the radio by PC control. This feature is include the FPU. This paragraph is as same as PANEL TUNING.

### 2. How To Enter Each Mode

Mode	Operation
USER MODE	Usually Power ON then begin this mode.
PANEL TEST MODE	The D/A switch is held on with Power ON the radio. The D/A switch holding about 1 sec. after Power ON the radio. But, if this mode is disabled by FPU then begin the USER MODE.
PANEL TUNING MODE	The SCAN switch is held on with Power ON the radio. The SCAN switch holdings about 1 sec. after Power ON the radio. But, if this mode is disabled by FPU then begin the USER MODE.
PC MODE	The radio Power ON to begin the USER MODE when through to the microphone then begin this mode. Note : PANEL TEST MODE and PANEL TUNING MODE does not begin the PC MODE.

### 3. Panel Test Mode (TK-760 Only)

When the test mode is entered, all LCD segments light, the beeper sounds for one second, and VERSION SELECT mode is entered.

Use the following keys to select a version:

D/A key ..... UP

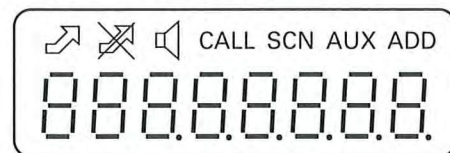
SCN key ..... DOWN

Table 1 lists the versions. The version is backed up when the CHANNEL DOWN key is pressed.

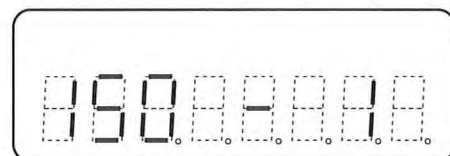
Version	Display
VHF F1	150-1
VHF F2	150-2

Table 1

All LCD segments appear



Version select mode



## REALIGNMENT

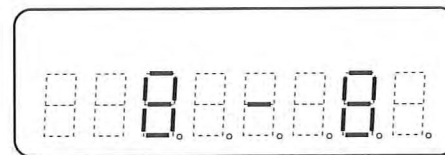
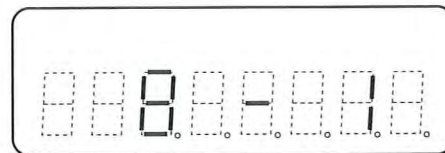
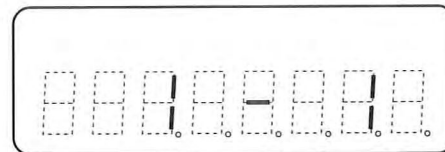
### 3-1. TEST MODE CHANNEL operation

When the CHANNEL DOWN key is pressed in the VERSION SELECT mode, the version is backed up and a channel operation begins.

The channel frequencies for each version are listed in Table 3, and key functions for channel operations are listed in Table 2.

Key	Function
VOL UP	VOL UP
VOL DOWN	VOL DOWN
CH UP	MUTE OFF
CH DOWN	W/N
MON	CH DOWN
A	CH UP
SCN	SIG DOWN
D/A	SIG UP
PTT	TX

Table 2



↑  
RF channel

↑  
Signaling

### Frequency table for using on test mode

CH	K		K2	
	RX F (MHz)	TX F (MHz)	RX F (MHz)	TX F (MHz)
1	161.03000	161.00000	143.03000	143.00000
2	148.03000	148.00000	136.03000	136.00000
3	173.97000	174.00000	149.97000	150.00000
4	155.10000	155.10000	137.10000	137.10000
5	160.10000	160.10000	142.10000	142.10000
6	165.10000	165.10000	147.10000	147.10000
7	150.03000	150.00000	153.03000	153.00000
8	156.03000	156.00000	155.97000	156.00000

### Signaling

	DEC signaling	ENC signaling	Remarks
1	No	No	
2	No	Rectangular wave	100Hz
3	QT 67.0Hz	QT	67.0Hz
4	QT 151.4Hz	QT	151.4Hz
5	QT 210.7Hz	QT	210.7Hz
6	DQT 023N	DQT 023N	
7	No	DTMF 1633Hz	Single tone
8	No	DTMF 852Hz 1209Hz	[7] key
9	2-tone slow	No	321.7Hz, 928.1Hz CALL flashes if the signal matches.
10	DTMF	No	[159D] CALL flashes if the signal matches.

Table 3

## REALIGNMENT

### 4. Panel Tuning Mode (TK-760 Only)

When the tuning mode is entered, the TUNING MODE START display appears for about one second, and the VERSION SELECT state becomes effective. This state is different from the VERSION SELECT state in the TEST MODE in that the dot at the lower right side of the display lights.

Use the following keys to select a version:

- D/A key ..... UP
- SCN key ..... DOWN

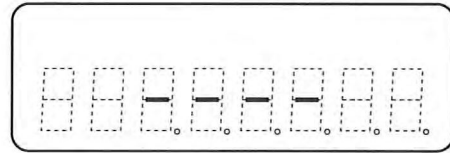
The version is backed up when the CH DOWN key is pressed as the version select key.

When the version is selected with the CH DOWN key, the CH SELECT state of the tuning mode becomes effective.

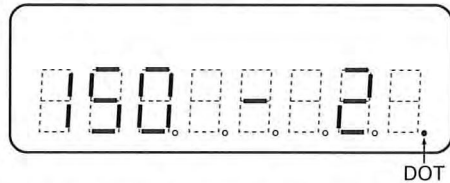
The channel and signaling can be selected in the same way as in the test mode.

The tuning items are listed in Tables 5 and 6, and key operations for tuning are listed in Table 4.

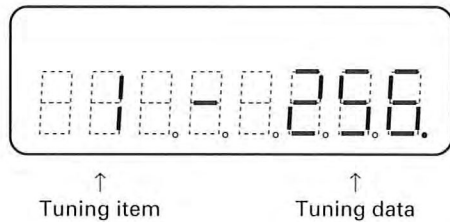
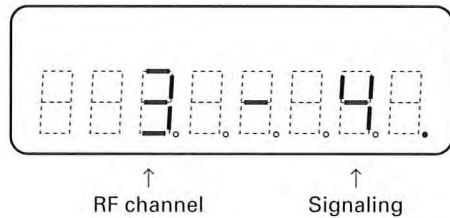
**Tuning mode start display**



**Tuning mode version select state**



**Tuning mode channel select state**



Tuning mode channel select			Tuning mode tuning		
Key	Function	Remarks	Key	Function	Remarks
VOL UP	VOL up		VOL UP	VOL up	
VOL DOWN	VOL down		VOL DOWN	VOL down	
CH UP	To tuning	To the right state	CH UP	To CH SEL	To the left state
CH DOWN	N/A		CH DOWN	Select	To the next item
MON	CH down		MON	Item down	
AUX	CH up		AUX	Item down	
SCN	SIG down		SCN	Adjustment value down	
D/A	SIG up		D/A	Adjustment value up	
PTT	TX		PTT	TX	

**Table 4**

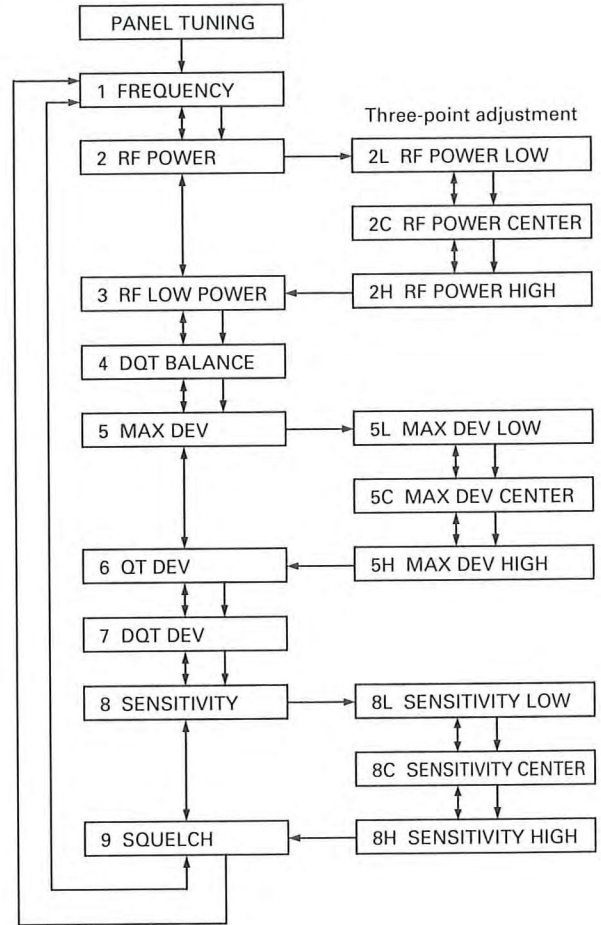
## REALIGNMENT

### Tuning item

Item No.	Tuning description	Valid range	Remarks
1	Frequency	1~256	
2	RF power	1~256	Three-point adjustment
2L	RF power (Low)	1~256	Low
2C	RF power (Center)	1~256	Center
2H	RF power (High)	1~256	High
3	RF low power	1~256	KM UHF F1
4	DQT balance	1~256	
5	Max deviation	1~256	Three-point adjustment
5L	Max deviation (Low)	1~256	Low
5C	Max deviation (Center)	1~256	Center
5H	Max deviation (High)	1~256	High
6	QT deviation	1~256	
7	DQT deviation	1~256	
8	Sensitivity	1~256	Three-point adjustment
8L	Sensitivity (Low)	1~256	Low
8C	Sensitivity (Center)	1~256	Center
8H	Sensitivity (High)	1~256	High
9	Squelch		

Table 5

### Panel tuning state transition



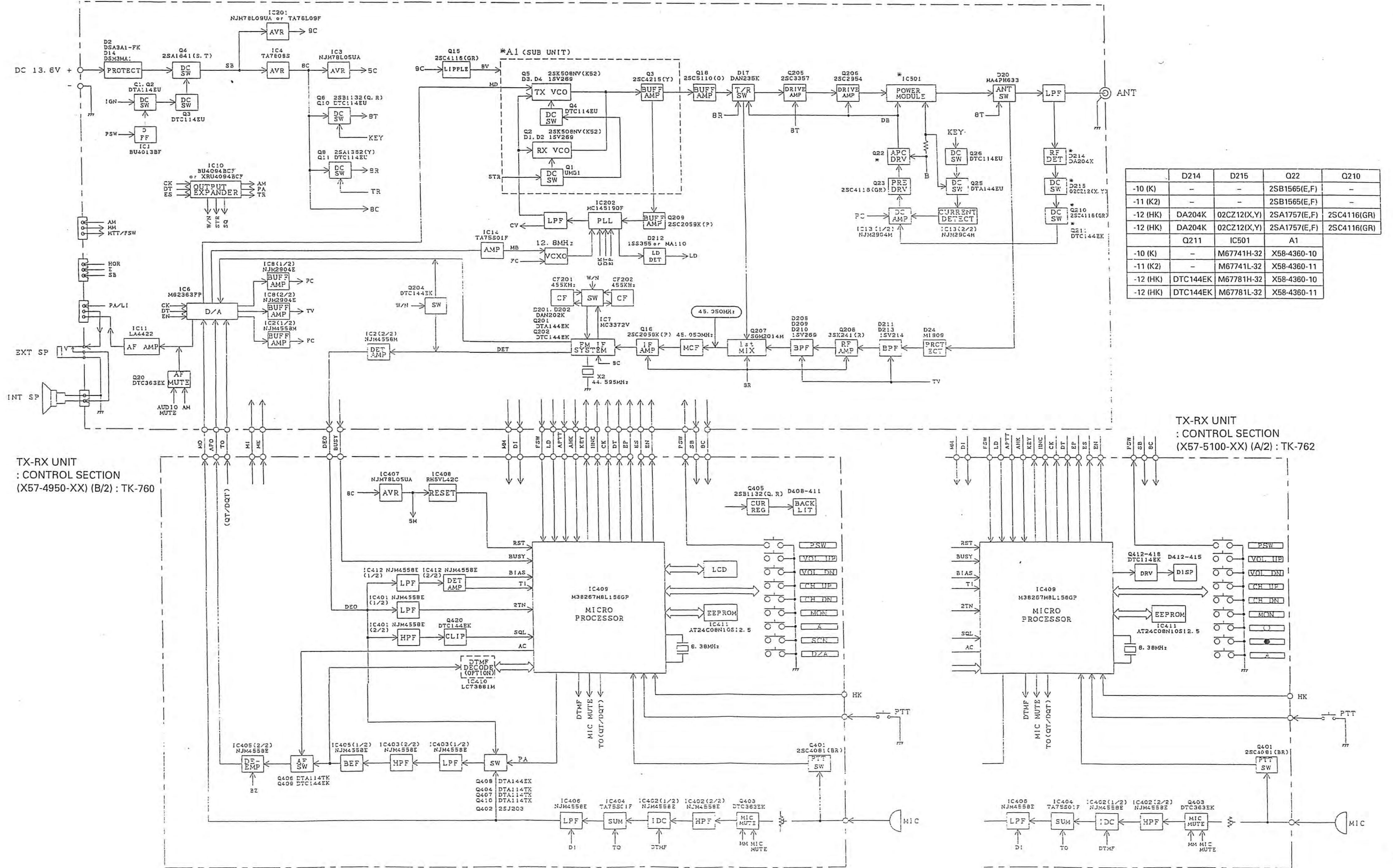
- Data save, next item  
CH DOWN key
- ↔ Next item, previous item  
MON key, A key

Table 6

# TK-760/762 TK-760/762

## BLOCK DIAGRAM

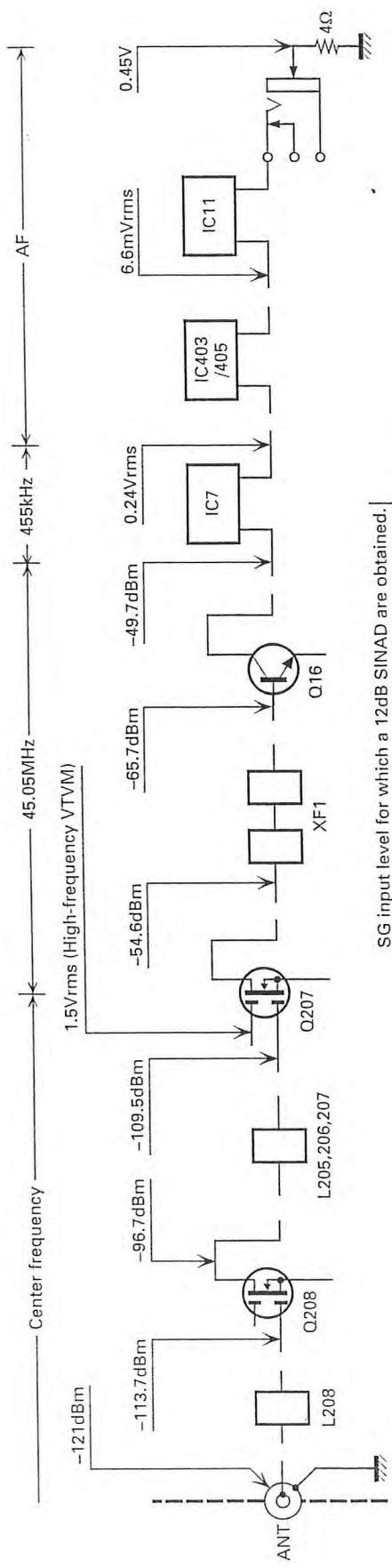
TX-RX UNIT : TX-RX SECTION (X57-4950-XX) (A/2) : TK-760 (X57-5100-XX) (A/2) : TK-762



	D214	D215	Q22	Q210
-10 (K)	-	-	2SB1565(E,F)	-
-11 (K2)	-	-	2SB1565(E,F)	-
-12 (HK)	DA204K	O2CZ12(X,Y)	2SA1757(E,F)	2SC4116(GR)
-12 (HK)	DA204K	O2CZ12(X,Y)	2SA1757(E,F)	2SC4116(GR)
-10 (K)	-	M67741H-32	X58-4360-10	
-11 (K2)	-	M67741L-32	X58-4360-11	
-12 (HK)	DTC144EK	M67781H-32	X58-4360-10	
-12 (HK)	DTC144EK	M67781L-32	X58-4360-11	

## LEVEL DIAGRAM

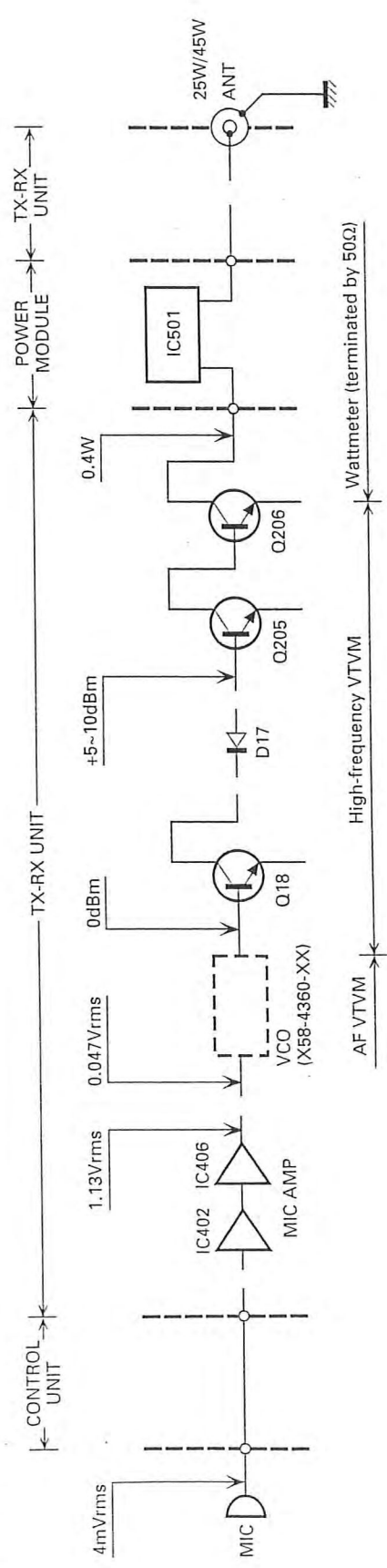
### RX Section



SG input level for which a 12dB SINAD are obtained. Measured by connecting the SG to each point via a 0.0015μF capacitor. (Squelch off)

AF level obtained when the AF output level is adjusted for 0.45V/4Ω with the front panel AF VOL control. Measured with AF voltmeter connected to the external speaker jack, receiving a 40dB EMF SSG signal modulated at 1kHz, DEV 3kHz.

### TX Section



1. AG is set so that MIC input becomes 3kHz DEV at 1kHz MOD.
2. Transmitting frequency : Center frequency

## CIRCUIT DESCRIPTION

## 1. Circuit Configuration by Frequency

The receiver is a double-conversion superhet with a first intermediate frequency (IF) of 45.050MHz and a second IF of 455kHz. Incoming signals from the antenna are mixed with the local signal from the PLL to produce the first IF of 45.050MHz.

This is then mixed with the 44.595MHz second local oscillator output to produce the 455kHz second IF. This is detected to give the demodulated signal.

The transmit signal frequency is generated by the PLL VCO, and modulated by the signal from the microphone. It is then amplified by TX amplifier and PA amplifier, and sent to the antenna.

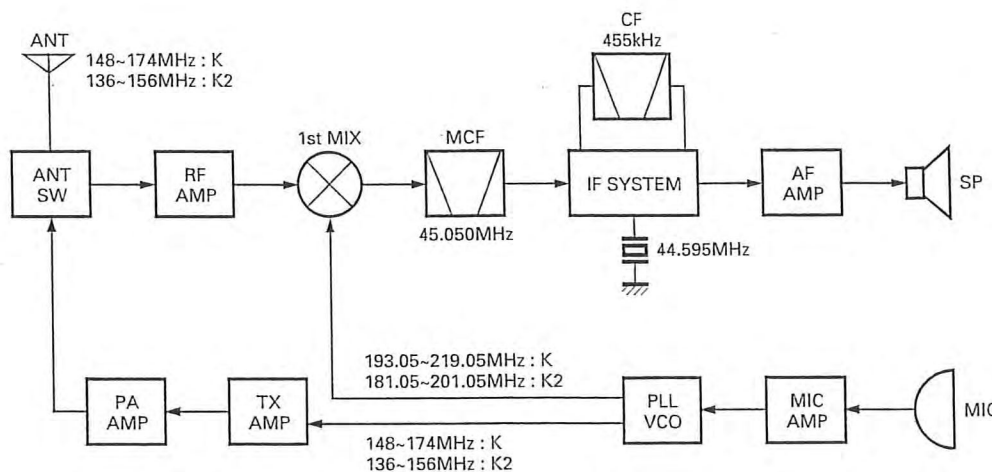


Fig. 1 Frequency configuration

## 2. Receiving System

## 2-1. RF unit

An incoming RF signal from the antenna terminal passes through the antenna switch (D20, and D24 are off) and the bandpass filter (L208). The signal is amplified by RF amplifier Q208, and passes through the bandpass filter (L205, 206, 207) again. The resulting signal goes to the first mixer (Q207), where it is mixed with the first local oscillator signal output from the frequency synthesizer to produce the first IF 45.050MHz.

## 2-2. IF unit

The first IF signal then passes through a four-pole monolithic crystal filter (XF1). The signal is amplified by first IF amplifier Q16 and goes to the second IF unit.

The second IF unit consists of an IF system IC (IC7) and the second mixer, second local oscillator, second IF filter, and FM detector. IC7 mixes the signal input to it with the 44.595MHz second local oscillator output of the crystal oscillator (X2) to produce the second IF of 455kHz.

The 455kHz signal then goes through 455kHz ceramic filter CF201 (WIDE), CF202 (NARROW) is amplified by the limiting amplifier, demodulated by the quadrature FM detector (in the same IC), and output to the receive audio amplifier.

## 2-3. Audio amplifier unit

The demodulated signal is amplified by IC2 (2/2), and goes through a low-pass filter consisting of IC403 (1/2), a high-pass filter consisting of IC403 (2/2), and a BEF consisting of IC405 (1/2) to remove the unwanted audio signal.

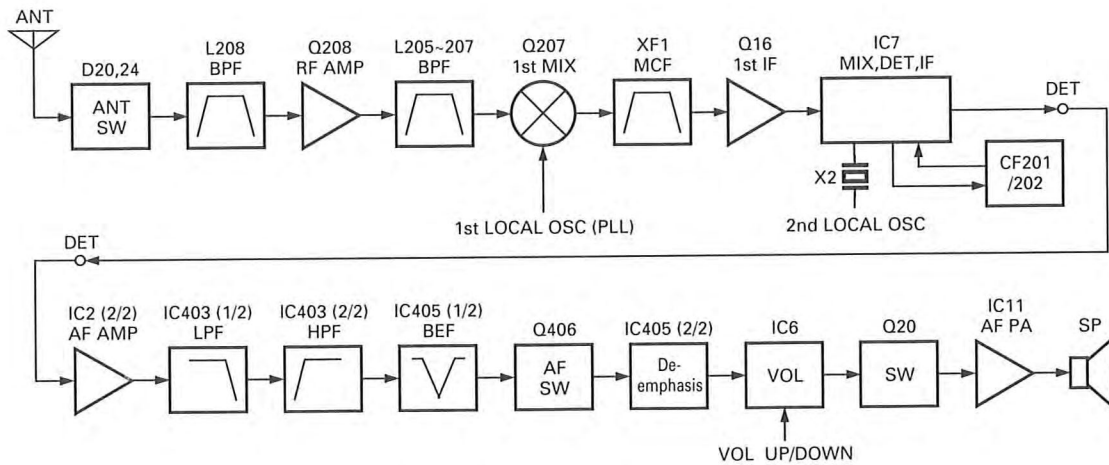
The signal then passes through the de-emphasis circuit consisting of the AF switch (Q406 on) and IC405 (2/2), and the volume level is adjusted by the IC6 D/A converter. The resulting signal goes to audio amplifier IC11, is amplified, and is output to the speaker.

## 2-4. Squelch circuit

The detector output is amplified by IC2 (2/2) and passes through a high-pass filter consisting of IC401 (2/2), which filters the noise components from the signal. Q420 converts the noise pulse level by hysteresis and applies it to the CPU (IC409).

The CPU counts the pulses, integrates them, and turns the squelch on and off according to the calculated value.

## CIRCUIT DESCRIPTION

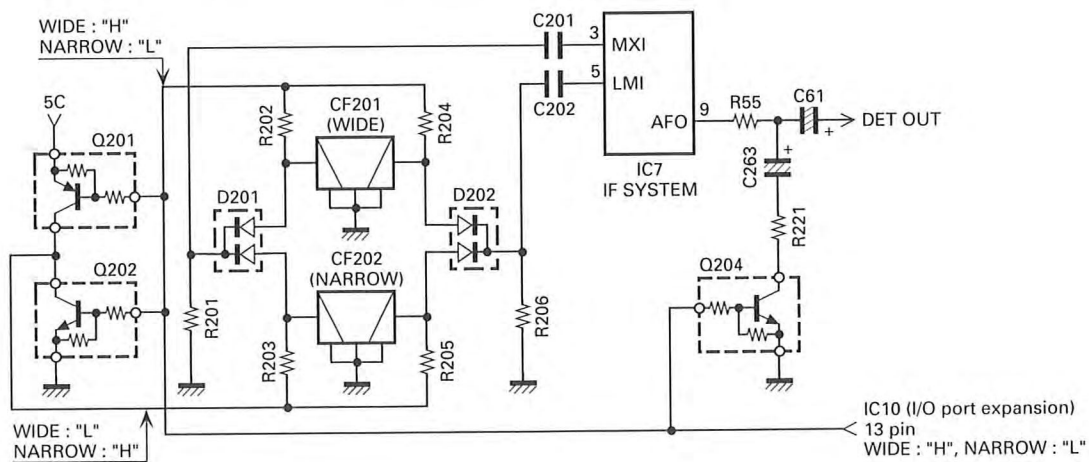


**Fig. 2 Receiving system**

### 2-5. Wide/Narrow switch

Each channel can be set as a wide or narrow channel by switching between CF201 : CFWM455F (Wide) and CF202 : CRWM455G (Narrow). The WIDE (high) signal and NARROW (low) signal are output from IC10 (I/O port expansion) pin 13. When the WIDE signal is output, Q201 turns off and Q202 turns on. When the NARROW signal is output, Q201 turns on and Q202 turns off.

A high or low signal is output to D201 and D202 to switch between CF201 and CF202. Q204 turns R221 on or off to change the IC7 (IF system) detection output level for WIDE/NARROW.



**Fig. 3 Wide/Narrow switch**

## CIRCUIT DESCRIPTION

### 3. Transmitter System

#### 3-1. Microphone amplifier

The signal from the microphone goes to the microphone mute switch (Q403 off). It then passes through the high-pass filter in IC402 (2/2) and the pre-emphasis/IDC circuit in IC402 (1/2).

The signal is applied to the IC404 summing amplifier and mixed with QT and DQT from the CPU (IC409). It then passes through the splatter filter (the fourth low-

pass filter) consisting of IC406 (1/2, 2/2), which removes unwanted harmonics.

The output from the low-pass filter is input to the D/A converter (IC6) to adjust the modulation. IC6 changes the deviations of the wide and narrow channels.

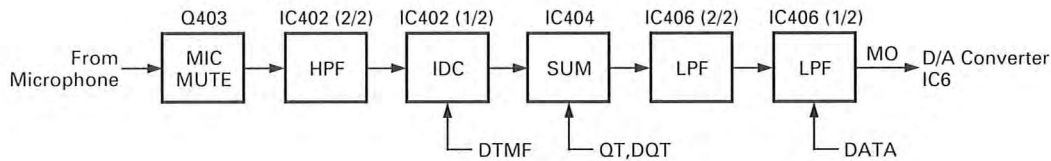


Fig. 4 Microphone amplification

#### 3-2. Final amplifier

The signal from the PLL is amplified by drive amplifier (Q205, 206) and power module (IC501) to an output level of 25W/45W, and goes through the antenna switch D20 and harmonic filter, and on to the antenna terminal.

IC13 (1/2) compares the DC input to pin 2 with the reference voltage at pin 3 applied by IC8 (1/2), amplifies the result, and controls the DC amplifier (Q22 and Q23) to keep the transmit final current constant, thus keeping the transmit output constant.

#### 3-3. APC circuit

The direct current that flows through the power module (IC501) produces a voltage across resistors R108. This voltage is applied to pin 6 of IC13 (2/2), and is input as the reference voltage difference of pin 5 and amplified.

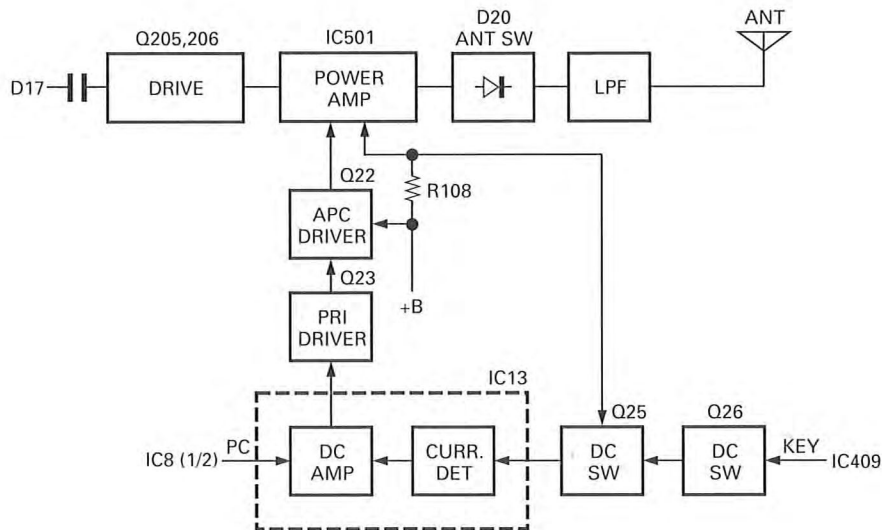


Fig. 5 Transmit power circuit and APC circuit

## CIRCUIT DESCRIPTION

### 4. Frequency Synthesizer Unit

#### 4-1. VCO/PLL

The PLL generates the transmit signal and the first local oscillator receive signal. The RF signal generated by Q5 (TX) or Q2 (RX) in the VCO unit is amplified by Q3, and the resulting signal is output to the TX-RX unit. TX and RX Q5 and Q2 are switched by turning the source line for Q5 and Q2 on and off. This is done by Q4 and Q1 using the control signal (STR) generated by the serial-to-parallel converter in the TX-RX unit. The RF signal passes through Q3 of the VCO unit and amplifier Q209 of the TX-RX unit, and is input to IC202 (PLL IC). The 12.8MHz PLL reference signal generated by the VCXO (X1) in the TX-RX unit is also input to IC202.

Both signals are divided according to the division data from the control unit to produce a 12.5kHz signal. The phases are compared, and a phase difference signal is output and passes through the charge pump (in IC202) and the low-pass filter of the lug lead to produce the control voltage for Q5/Q2 (VCO). This voltage is applied to D3 and D4 (TX) or D1 and D2 (RX) in the VCO unit to keep the VCO frequency constant. The other output from Q3 is amplified by the RF amplifier (Q18), and output to the transmit or receive unit via the RF switch (D17).

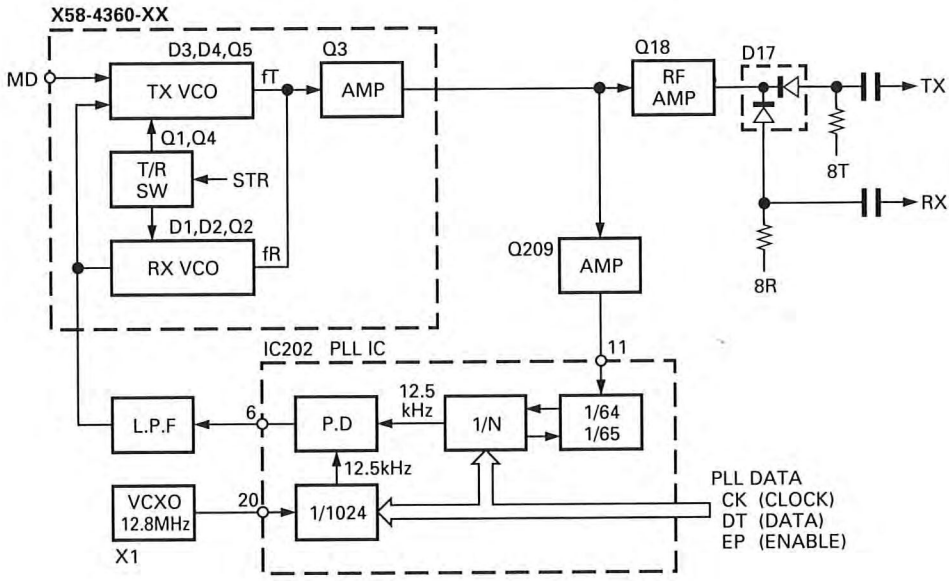


Fig. 6 PLL unit block diagram

#### 4-2. PLL unlock

When the PLL is unlocked, the lock detect signal (LD) of the PLL IC (IC202) is rectified by D212, and converted to a DC signal. The CPU monitors this signal. When the PLL is unlocked, the CPU turns the key output signal off (low), then turns Q10, Q6, and 8T off to prevent unnecessary transmission.

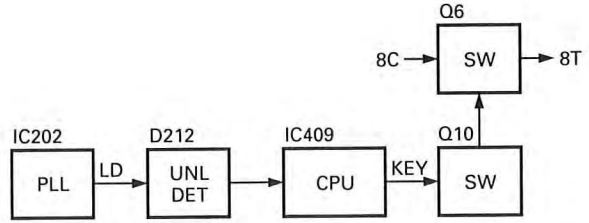


Fig. 7 PLL unlock circuit

## CIRCUIT DESCRIPTION

### 5. Display Section

#### 5-1. 32 channel (LCD) model

CPU (IC409) contains an LCD driver to drive the 7-segment, 8-digit LCD directly.

#### 5-2. 2 channel (LED) model

This model turns LED drive switches Q412 to Q418 on or off in response to the signal from the CPU to light LEDs D412 to D415. TO produce an orange light, the green and red LEDs are turned on at the same time.

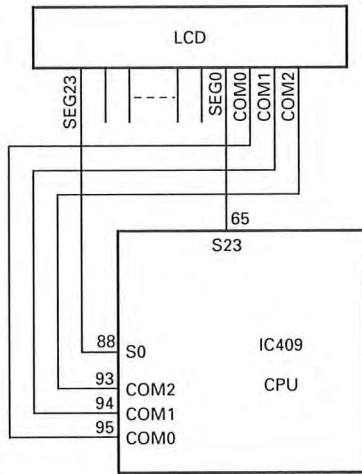


Fig. 8 32 channels model display section

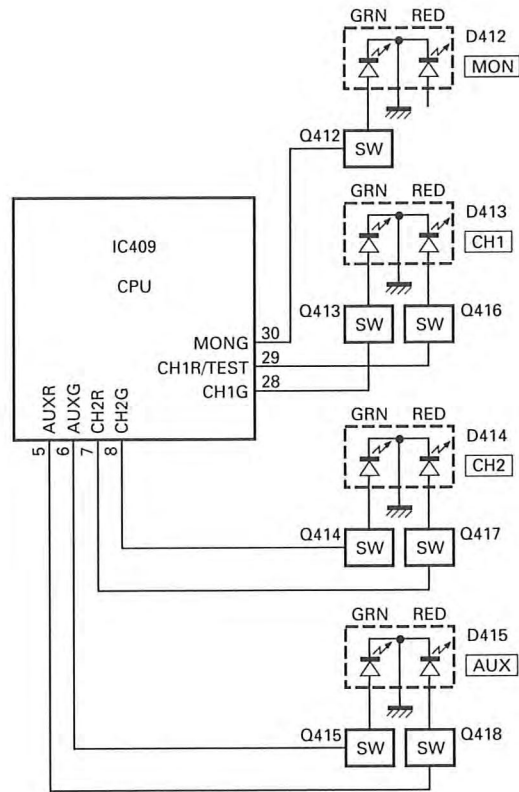


Fig. 9 2 channels model display section

### 6. Control Section

The control section consists of CPU (IC409) and its peripheral circuits. It controls the TX-RX unit. The CPU has the following main functions:

- 1) Switching between transmission and reception according to the PTT signal input.
- 2) Reading channel, frequency, and program data from the memory circuit.
- 3) Sending frequency data to the PLL.
- 4) Turning the squelch on and off according to the pulse signal input from the squelch circuit.
- 5) Controlling the audio mute circuit according to input decode data.
- 6) Sending encode data.
- 7) Sending data to the D/A converter.

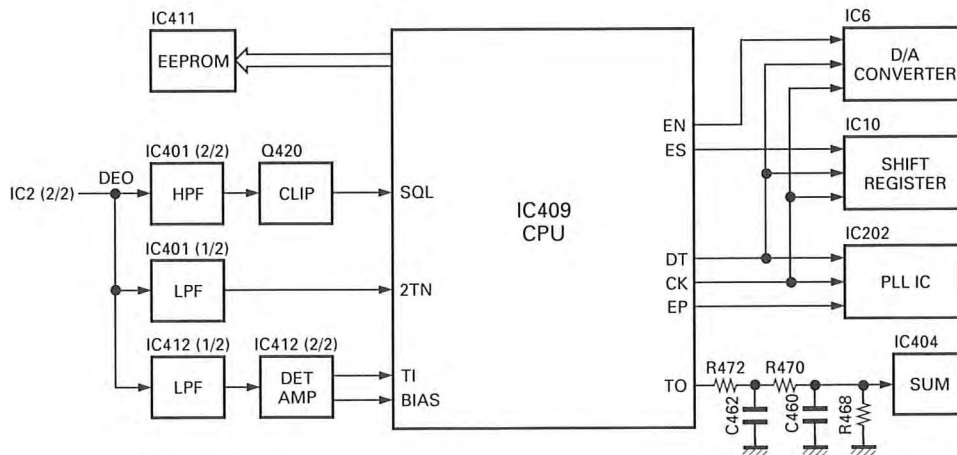


Fig. 10 Control section block diagram

## CIRCUIT DESCRIPTION

### 6-1. Memory circuit

IC201 is a 8-Kbit EEPROM that stores adjustment and backup data.

- **Shift register**

IC10 is an interface IC for I/O port expansion. It is used to expand the CPU (IC409) output ports.

- **D/A converter**

IC6 is used as a conventional semi-fixed-resistor converter. It sets the following:

- 1) RX sensitivity
- 2) Transmission power
- 3) Modulation level
- 4) Audio power
- 5) Frequency

### 6-2. TX encode data

The CPU (IC409) transmits encode data.

- **QT, DQT, DTMF**

QT, DQT data items are output from CPU pin 16. The signal from this pin passes through the CR low-pass filter and goes to the summing amplifier (IC404) in the microphone amplifier. DTMF data is output from CPU pin 10. This signal passes through the CR low-pass filter and goes to IC402 in the IDC circuit of the microphone amplifier. These are mixed with the audio signal and output to the splatter filter. It then goes to the D/A converter (IC6) and on to the VCXO and VCO.

### 6-3. RX decode data

- **QT, DQT**

The receive detection signal passes through a low-pass filter IC412 (1/2) to remove audio components. This signal is input to pin 4 of the CPU.

The CPU digitizes this signal, and decodes the signal.

- **2-TONE**

The receive detection signal pass through a low-pass filter IC401 (1/2). This signal is input to pin 11 of the CPU.

- **DTMF**

DTMF decoding is made available by installing the DTMF decode IC (LC73881M : SANYO) on the control board.

### 6-4. PLL data output

PLL data is output from DATA (pin 60), ENABLE (pin 73), and CLOCK (pin 58) of the CPU (IC209). The signals are input to the PLL IC (IC202) when the channel is changed or when transmission is changed to reception and vice versa.

### 6-5. Horn control

The horn switch, consisting of Q13, Q14, and Q24, controls the horn relay. It is supplied by the dealer to provide the external horn alert function.

Q24 disables horn alert, turning on when its base is high, to inhibit the function. Normally, the output from IC10 is low, and Q13 is off; the base of Q14 is about 0V and Q14 is off. When horn alert is enabled, the output from IC10 goes high and Q13 turns on. The base current flows through R61 to Q14 to turn Q14 on. Q14 can sink a maximum of 100mA. If the optional KAP-1 is used, it can drive up to 2A.

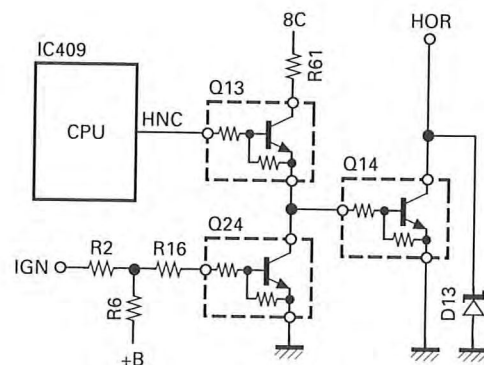


Fig. 11 Horn control circuit

### 6-6. PA switch

If the optional KAP-1 is used (see the separate section for details), the PA (Public Address) function becomes available. In this case, the signal flow changes as follows;

- **PA off**

For TX, Q410 turns on and Q407 turns off. The audio signal from the microphone passes through Q410 and IC6 and modulates the VCO.

For RX, the detected signal passes through Q404 which is on. It then passes through the audio filter, IC403, IC405, D/A IC (IC6), and is output to the speaker through the audio power amplifier IC11.

- **PA on**

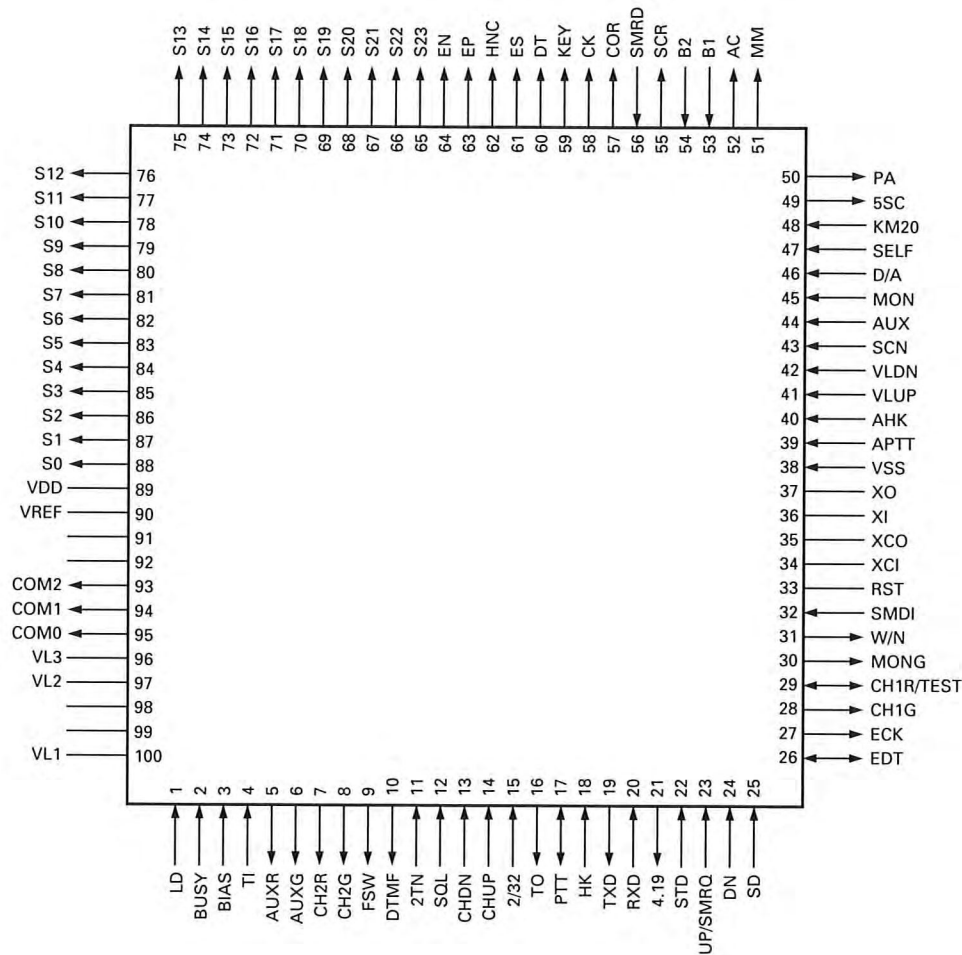
Since Q410 is off, Q407 is on, and Q404 is off, the audio signal from the microphone goes to the audio filter IC403, passes through IC6, and goes to IC11. The signal is output to the external PA system through the PA relay in the KAP-1.



## SEMICONDUCTOR DATA

Microprocessor : M38267M8L156GP (TX-RX Unit IC409)

• Terminal connection diagram



• Terminal function

Pin No.	Port Name	I/O	Function
1	LD	I	PLL lock detect. "L" : Unlock, "H" : Lock
2	BUSY	I	Nor used.
3	BIAS	I	QT/DQT center voltage input.
4	TI	I	QT/DQT signal input.
5	AUXR	O	AUX LED (red). "L" : On, "H" : Off (TK-762 only)
6	AUXG	O	AUX LED (Green). "L" : On, "H" : Off (TK-762 only)
7	CH2R	O	CH2 LED (red). "L" : On, "H" : Off (TK-762 only)
8	CH2G	O	CH2 LED (green). "L" : On, "H" : Off (TK-762 only)
9	FSW	O	TX sense. "L" : PTT off, "H" : PTT on
10	DTMF	O	DTMF output.
11	2TN	I	2-tone input.
12	SQL	I	Squelch noise pulse input.
13	CHDN	I	CH down. "L" : On, "H" : Off
14	CHUP	I	CH up. "L" : On, "H" : Off
15	2/32	I	CH version. "L" : 32ch, "H" : 2ch
16	TO	O	QT/DQT PWM output.
17	PTT	I/O	Normal microphone PTT. "L" : On, "H" : Off / DTMF microphone : serial interface.
18	HK	I	Microphone hook. "L" : On hook, "H" : Off hook

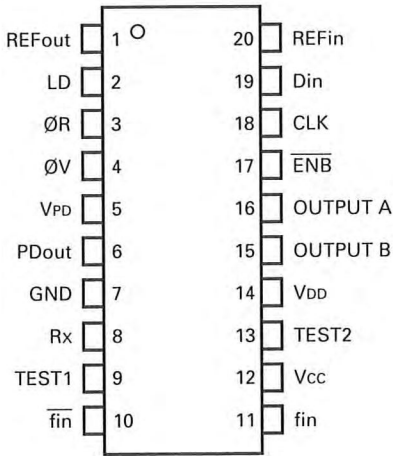
## SEMICONDUCTOR DATA

Pin No.	Port Name	I/O	Function
19	TXD	O	RS-232C data output.
20	RXD	I	RS-232C data input.
21	4.19	O	DTMF decoder system clock.
22	STD	I	DTMF decoder STD. "L" : DTMF signal absent, "H" : DTMF signal present
23	UP/SMRQ	I	E trunk step pulse / Smartrunk ACK/REQ. (TK-760 only)
24	DN	I	E trunk sync pulse. (TK-760 only)
25	SD	I	DTMF decoder data.
26	EDT	I/O	EEPROM serial data.
27	ECK	O	EEPROM serial clock.
28	CHIG	O	CH1 LED (green). "L" : On, "H" : Off (TK-762 only)
29	CHIR/TEST	O/I	CH1 LED (red). "L" : On, "H" : Off (TK-762 only) / LCD check mode. "L" : On, "H" : Off (TK-760 only)
30	MONG	O	MON LED (green). "L" : On, "H" : Off (TK-762 only)
31	W/N	O	Wide/Narrow. "L" : Narrow, "H" : Wide
32	SMDI	I	E trunk AUX mute, Smartrunk serial data. (TK-760 only)
33	RST	-	Reset.
34	XCI	-	Sub clock.
35	XCO	-	Sub clock.
36	XI	-	Clock.
37	XO	-	Clock.
38	VSS	-	GND.
39	APTT	I	External PTT. "L" : On, "H" : Off
40	AHK	I	MDT : DTC. "L" : Data CH, "H" : Normal CH. External hook. "L" : On hook, "H" : Off hook
41	VLUP	I	VOL up. "L" : On, "H" : Off
42	VLDN	I	VOL down. "L" : On, "H" : Off
43	SCN	I	SCN. "L" : On, "H" : Off
44	AUX	I	A. "L" : On, "H" : Off
45	MON	I	MON. "L" : On, "H" : Off
46	D/A	I	D/A. "L" : On, "H" : Off
47	SELF	I	Dealer/Test mode enter. "L" : NG, "H" : OK
48	KM20	I	DTMF microphone PTT. "L" : Off, "H" : On
49	5SC	O	Smartrunk power supply. "L" : Off, "H" : On (TK-760 only)
50	PA	O	Public address. "L" : Off, "H" : On (TK-760 only)
51	MM	O	Microphone mute. "L" : Unmute, "H" : Mute
52	AC	O	Audio control. "L" : Mute, "H" : Unmute
53	B1	I	Scrambler binary data 1.
54	B2	I	Scrambler binary data 2.
55	SCR	O	Scrambler. "L" : Off, "H" : On
56	SMRD	I	Smartrunk data ready. (TK-760 only)
57	COR	O	E trunk COR. (TK-760 only)
58	CK	O	Common clock.
59	KEY	O	TX key. "L" : TX off, "H" : TX on
60	DT	O	Common data.
61	ES	O	Shift register strobe. "L" : Load, "H" : Latch
62	HNC	O	Horn control. "L" : Off, "H" : On
63	EP	O	PLL chip select. "L" : Select, "H" : Not select
64	EN	O	D/A converter chip select. "L" : Select, "H" : Not select
65~88	S23~S0	O	LCD segment 23~0.
89	VDD	-	+5V.
90	VREF	-	+5V.
91, 92			
93~95	COM2~COM0	O	LCD common 2~0.
96, 97	VL3, VL2	-	
98, 99			
100	VL1	-	

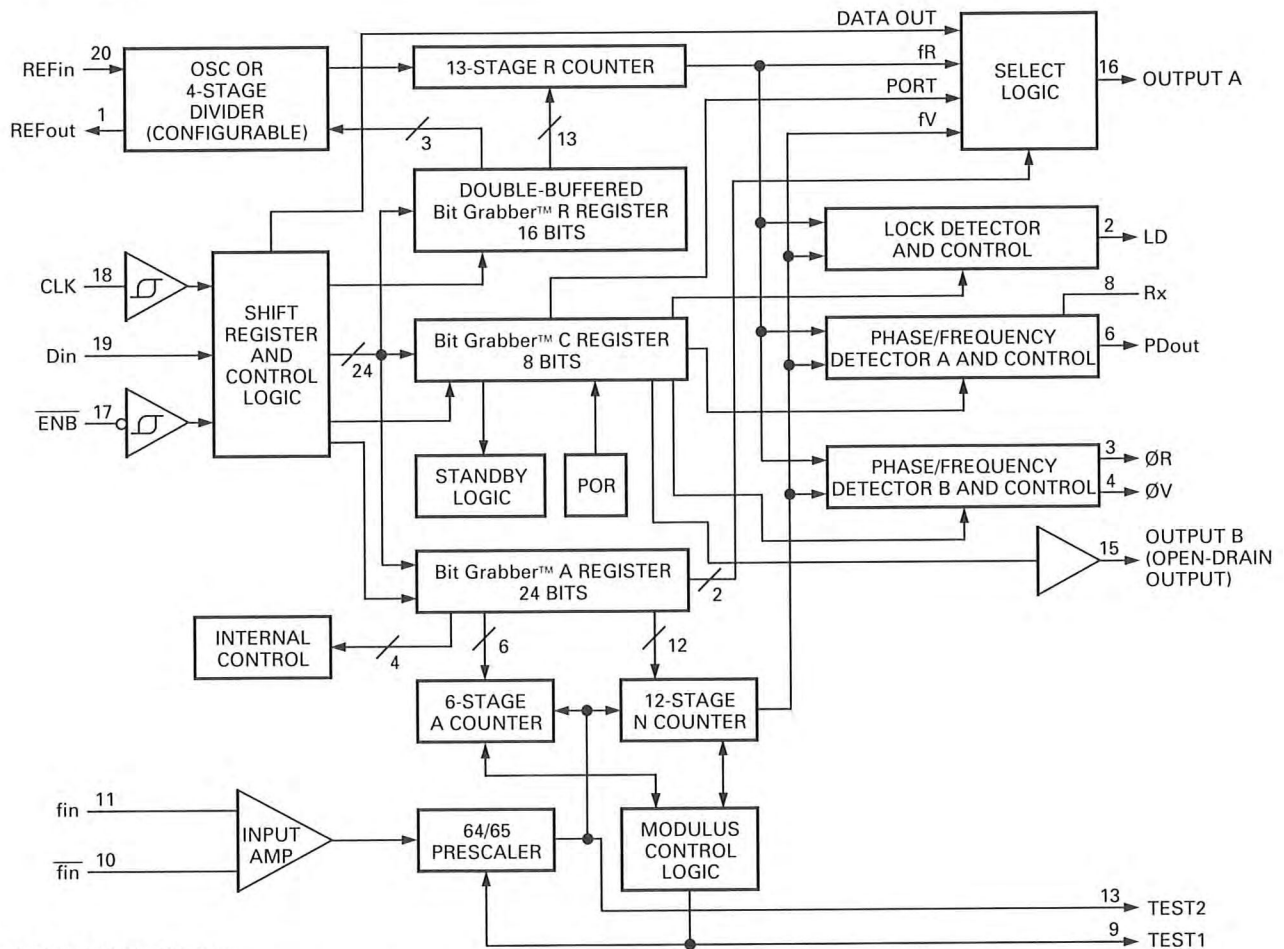
## SEMICONDUCTOR DATA

### PLL System : MC145190F (TX-RX UNit IC202)

#### • Terminal connection diagram



#### • Block diagram



#### SUPPLY CONNECTIONS :

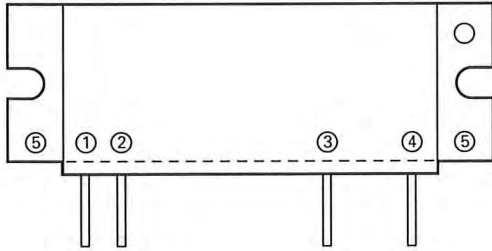
- PIN12= Vcc (V+TO INPUT AMP AND 64/65 PRESCALER)
- PIN5 = VPD (V+TO PHASE/FREQUENCY DETECTORS A AND B)
- PIN14= VDD (V+TO BALANCE OF CIRCUIT)
- PIN7 = GND (COMMON GROUND)

## SEMICONDUCTOR DATA

**Power Module : M67741H-32/M67741L-32/M67781H-32/M67781L-32 (IC501)**

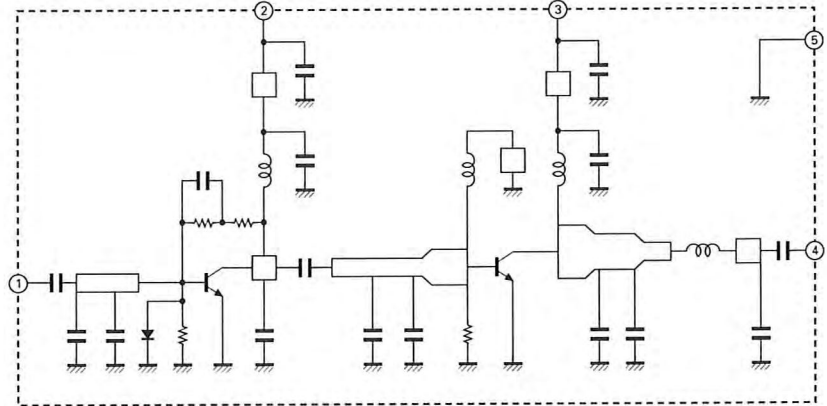
M67741H-32 : K M67741L-32 : K2 M67781H-32 : HK M67781L-32 : HK2

• **Terminal connection diagram**



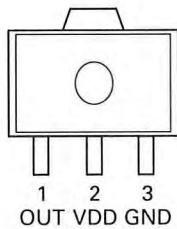
- 1 : Input
- 2 : First stage power supply
- 3 : Final stage power supply
- 4 : Output
- 5 : Fin (Earth)

• **Equivalent circuit**

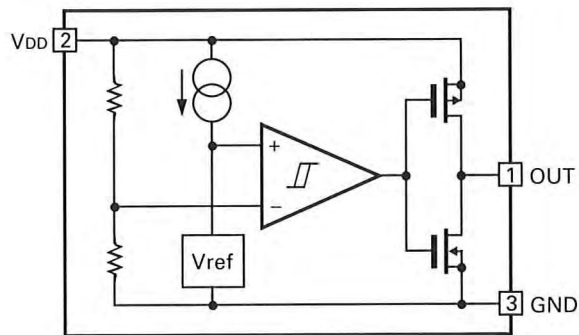


**Reset Switch : RH5VL42C (TX-RX Unit IC408)**

• **Terminal connection diagram**



• **Block diagram**



## DESCRIPTION OF COMPONENTS

TX-RX UNIT (X57-4950-XX) : TK-760 -10 : K -11 : K2 -12 : HK -13 : HK2

TX-RX UNIT (X57-5100-XX) : TK-762 -10 : K -11 : K2 -12 : HK -13 : HK2

Ref No.	Parts No.	Use/Function	Operation/Condition
IC1	BU4013BF	Power supply circuit logic control	
IC2	NJM4558M	Audio amplifier (Detected output)	
IC3	NJM78L05UA	Voltage regulator	5C
IC4	TA7808S	Voltage regulator	8C
IC6	M62363FP	Level adjuster	
IC7	MC3372V	IF system	
IC8	NJM2904M	Buffer amplifier	
IC10	BU4094BCF	I/O port expansion	
IC11	LA4422	Audio power amplifier	
IC13	NJM2904M	Comparator, DC amplifier	
IC14	TA75S01F	Amplifier	
IC201	TA78L09F or NJM78L09UA	Voltage regulator	9C
IC202	MC145190F	PLL system	
IC401	NJM4558E	Active filter	
IC402	NJM4558E	Active filter, Limiter	
IC403	NJM4558E	Active filter	
IC404	TA75S01F	Adder	
IC405, 406	NJM4558E	Active filter	
IC407	NJM78L05UA	Voltage regulator	5M
IC408	RH5VL42C	Reset switch	
IC409	M38267M8L156GP	Microprocessor	
IC411	AT2408N10SI2.5	EEPROM	
IC412	NJM4558E	Active filter, Amplifier	
Q1	DTA114EU	DC switch	On when power switch on.
Q2	DTC114EU	DC switch	On when 24V connected, then Q3 turn off.
Q3	DTC114EU	DC switch	On when power switch on.
Q4	2SA1641(S,T)	DC switch	On when power switch on.
Q5	DTA114YK	DC switch	On when power switch off, then D22 turn on.
Q6	2SB1132(Q,R)	DC switch	8T switch. RX : 0V, TX : 8V
Q8	2SA1362(Y)	DC switch	8R switch. RX : 8V, TX : 0V
Q10	DTC114EU	DC switch	On when TX.
Q11	DTC114EU	DC switch	On when RX.
Q13	DTC114EK	DC switch	On when horn control on.
Q14	DTD114EK	DC switch	On when horn control on.
Q15	2SC4116(GR)	Ripple filter	
Q16	2SC2059K(P)	RX 1st IF amplifier	
Q18	2SC4215(Y)	RF amplifier	
Q20	DTC363EK	Muting switch	Audio mute. Off when busy.
Q22	2SB1565(E,F)	APC driver	25W model
Q22	2SA1757(E,F)	APC driver	45W model
Q23	2SC4116(GR)	DC amplifier	APC controller
Q24	DTC114EK	DC switch	On when IGN line "H".
Q25	DTA144EU	DC switch	On when TX.
Q26	DTC114EU	DC switch	On when TX.
Q201	DTA144EK	Filter switch	Off when "WIDE", on when "NARROW".
Q202	DTC144EK	Filter switch	On when "WIDE", off when "NARROW".
Q204	DTC144EK	WIDE/NARROW switch	On when "WIDE", off when "NARROW".
Q205	2SC3357	RF amplifier	
Q206	2SC2954	RF amplifier	
Q207	SGM2014M	RX 1st mixer	
Q208	3SK241(R)	RF amplifier	

# TK-760/762

## DESCRIPTION OF COMPONENTS

Ref No.	Parts No.	Use/Function	Operation/Condition
Q209	2SC2059K(P)	Buffer amplifier	
Q401	2SC4081(R)	PTT switch	On when "PTT OFF", off when "PTT ON". (At using KMC-23/24 only)
Q402	2SJ203	DC switch	On when PA function off.
Q403	DTC363EK	Muting switch	
Q404	DTA114TK	AF switch	On when PA function off.
Q405	2SB1132(Q,R)	Constant current regulator	About 60mA output. TK-760 only.
Q406	DTA114TK	AF switch	
Q407	DTA114TK	AF switch	On when PA function on.
Q408	DTC144EK	DC switch	On when PA function on.
Q409	DTC144EK	DC switch	
Q410	DTA114TK	AF switch	On when PA function off.
Q412	DTA114EK	DC switch	"MON" LED switch. TK-762 only.
Q413	DTA114EK	DC switch	"CH1" green LED switch. TK-762 only.
Q414	DTA114EK	DC switch	"CH2" green LED switch. TK-762 only.
Q415	DTA114EK	DC switch	"AUX" green LED switch. TK-762 only.
Q416	DTA114EK	DC switch	"CH1" red LED switch. TK-762 only.
Q417	DTA114EK	DC switch	"CH2" red LED switch. TK-762 only.
Q418	DTA114EK	DC switch	"AUX" red LED switch. TK-762 only.
Q419	DTA144EK	DC switch	
Q420	DTC144EK	DC switch	On/off by noise.
D1	02CZ18(X,Y)	Voltage reference	
D2	DSA3A1-FK	Reverse power protection	45W model only.
D3	1SS355 or MA110	Reverse current protection	
D4	02CZ15(X,Y)	Voltage reference	
D5	1SS355 or MA110	Reverse current protection	
D6	ERZ-M10DK220	Surge absorption	
D9~12	DA204K	Surge absorption	
D13	02CZ20(Y,Z)	Voltage reference	
D14	DSM3MA1	Reverse power protection	25W model only.
D17	DAN235K	RF switch	
D20	MA4PH633	TX/RX switch	On when TX.
D22	1SS355 or MA110	DC switch	On when power switch off.
D24	MI809	TX/RX switch	On when TX.
D201, 202	DAN202K	Filter switch (455kHz)	WIDE/NARROW switch.
D204	DAN235K	Filter switch (PLL BPF)	On when TX.
D205	DAN202K	DC switch	
D206, 207	DA204K	Temperature compensation	
D208~210	1SV269	BPF tuning	Vari-cap tuning.
D211	1SV214	BPF tuning	Vari-cap tuning
D212	1SS355 or MA110	DC switch	On when PLL unlocked.
D213	1SV214	BPF tuning	Vari-cap tuning.
D214	DA204K	RF detector	Final protection. 45W model only.
D215	02CZ12(X,Y)	DC switch	Final protection. 45W model only.
D401, 402	DA204K	Surge absorption	
D403	DAN202U	DC switch	On when microphone mute on.
D404	DA204K	DC switch	
D405	DA204K	Constant current setting	TK-760 only.

## DESCRIPTION OF COMPONENTS

## VCO (X58-4360-XX) -10 : K,HK -11 : K2,HK2

Ref No.	Parts No.	Use/Function	Operation/Condition
Q1	UMG1	TX/RX switching	
Q2	2SK508NV(K52)	Oscillator for RX	
Q3	2SC4215(Y)	Buffer amplifier	
Q4	DTC114EU	TX/RX switching	
Q5	2SK508NV(K52)	Oscillator for TX	
D1~4	1SV269	Variable diode	Frequency control.

# TK-760/762

## 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

K : USA

P : Canada

Y : PX (Far East, Hawaii)

T : England

E : Europe

Y : AAFES (Europe)

X : Australia

M : Other Areas

### TK-760/762

#### TX-RX UNIT (X57-4950-XX)/(X57-5100-XX)

Ref. No.	Address	New parts	Parts No.	Description	Desti-nation	Re-marks	Ref. No.	Address	New parts	Parts No.	Description	Desti-nation	Re-marks
<b>TK-760/762</b>													
1	1B	*	A01-2112-03	CABINET (UPPER)			47	2D	*	N99-0395-05	SCREW SET ACSY		
2	2B	*	A01-2113-03	CABINET (LOWER)			MIC	2E	*	T91-0552-05	MICROPHONE ACSY		
3	2A	*	A62-0449-13	PANEL ASSY		760	SP	1C	*	T07-0331-05	SPEAKER		
3	2A	*	A62-0450-13	PANEL ASSY		762	IC501	2B	*	M67741H-32	IC (POWER MODULE)	K	
5	2E		B09-0235-05	CAP (JACK) ACSY			IC501	2B	*	M67741L-32	IC (POWER MODULE)	K2	
6	2A	*	B10-1230-04	FRONT GLASS		760	IC501	2B	*	M67781H-32	IC (POWER MODULE)	HK	
6	2A	*	B10-1252-04	FRONT GLASS		762	IC501	2B	*	M67781L-32	IC (POWER MODULE)	HK2	
7	1B,1C		B42-2455-04	STICKER (M4x8 MAX)			<b>TX-RX UNIT (X57-4950-XX) : TK-760</b>						
8	3E		B42-5526-04	STICKER (HYATT)			<b>TX-RX UNIT (X57-5100-XX) : TK-762</b>						
9	1C		B42-5650-04	S/NO LABEL			<b>-10 : K -11 : K2 -12 : HK -13 : HK2</b>						
10	3E		B44-2163-04	UPC CODE LABEL (ITEM)			101	2A	*	B11-1148-04	REFLECTOR		760
11	1D	*	B46-0470-00	WARRANTY CARD ACSY			102	2B	*	B11-1149-04	FILTER		760
12	1D	*	B62-0595-00	INSTRUCTION MANUAL ACSY			103	2A	*	B38-0759-05	LCD		760
13	1C	*	B72-1002-04	MODEL NAME PLATE	K	760	C1-10			CK73GB1H102K	CHIP C 1000PF	K	
13	1C	*	B72-1003-04	MODEL NAME PLATE	K2	760	C12			CK73GB1H102K	CHIP C 1000PF	K	
13	1C	*	B72-1004-04	MODEL NAME PLATE	HK	760	C15,16			CK73GB1H102K	CHIP C 1000PF	K	
13	1C	*	B72-1005-04	MODEL NAME PLATE	HK2	760	C17			CE04EW1E471M	ELECTRO 470UF	25WV	
13	1C	*	B72-1006-04	MODEL NAME PLATE	K	762	C19			CK73GB1H471K	CHIP C 470PF	K	
13	1C	*	B72-1007-04	MODEL NAME PLATE	K2	762	C20			CK73GB1H102K	CHIP C 1000PF	K	
13	1C	*	B72-1008-04	MODEL NAME PLATE	HK	762	C23			C92-0512-05	CHIP-TAN 1.0UF	16WV	
13	1C	*	B72-1009-04	MODEL NAME PLATE	HK2	762	C24			C92-0036-05	CHIP-ELE 4.7UF	16WV	
15	2E		E30-2076-15	DC CORD ACSY			C25			CK73GB1H471K	CHIP C 470PF	K	
16	1C		E30-2145-15	ANTENNA CABLE			C26			CK73GB1H103K	CHIP C 0.010UF	K	
17	1C		E30-2172-15	DC CORD (BODY)			C27			C92-0507-05	CHIP-TAN 4.7UF	6.3WV	
18	1C		E37-0461-05	LEAD WIRE WITH CONNECTOR (SP)			C28			CK73GB1H471K	CHIP C 470PF	K	
19	2B	*	E37-0587-05	FLAT CABLE			C29			C92-0004-05	CHIP-TAN 1.0UF	16WV	
21	1B	*	F10-2202-04	SHIELDING PLATE			C30,31			CK73FB1E104K	CHIP C 0.10UF	K	
22	3D		F51-0016-05	FUSE (10A : DC CORD)	K,HK		C33			CK73GB1H103K	CHIP C 0.010UF	K	
22	3D		F51-0017-05	FUSE (15A : DC CORD)	K2,HK2		C35			CK73FB1E104K	CHIP C 0.10UF	K	
25	1B	*	G02-0791-04	FLAT SPRING (AVR, APC)			C37			CK73GB1H103K	CHIP C 0.010UF	K	
-	-		G10-0769-04	AUXILIARY PART			C38			CK73GB1H102K	CHIP C 1000PF	K	
27	2A	*	G10-0710-04	AUXILIARY PART (PANEL)			C39			CK73FB1E104K	CHIP C 0.10UF	K	
28	1B,2C	*	G10-0781-04	AUXILIARY PART (CHASSIS)			C41			C92-0507-05	CHIP-TAN 4.7UF	6.3WV	
29	1C		G10-0786-04	AUXILIARY PART (SP)			C42			C92-0543-05	CHIP-TAN 3.3UF	10WV	
30	1B		G13-1468-04	FORMED PLATE (DC CORD)			C43,44			C92-0507-05	CHIP-TAN 4.7UF	6.3WV	
31	2A	*	G13-1535-04	CUSHION (PANEL)		762	C46			CK73GB1H102K	CHIP C 1000PF	K	
32	2B	*	G53-0796-04	PACKING (JACK)			C47			CK73FF1C105Z	CHIP C 1.0UF	Z	
34	3D	*	H10-2789-02	POLYSTYRENE FOAMED FIXTURE			C48			CK73FB1E104K	CHIP C 0.10UF	K	
35	1E	*	H11-0883-04	POLYSTYRENE FOAMED BOARD			C50			CK73FB1E104K	CHIP C 0.10UF	K	
36	2D	*	H13-0975-14	CARTON BOARD			C51			CK73GB1H102K	CHIP C 1000PF	K	
37	2E		H25-0103-04	BAG (DC CORD)			C53			C92-0543-05	CHIP-TAN 3.3UF	10WV	
38	1D		H25-0720-04	BAG (BODY)			C54			CC73GCH1H150J	CHIP C 15PF	J	
39	3E	*	H52-0756-02	ITEM CARTON CASE			C55			CC73GCH1H220J	CHIP C 22PF	J	
41	1C		J19-1580-04	HOLDER (SP)			C57			CC73GCH1H180J	CHIP C 18PF	J	
42	2D	*	J19-1584-05	HOLDER ACSY			C58			CK73GB1H103K	CHIP C 0.010UF	K	
43	2D	*	J29-0627-03	BRACKET ACSY			C60			CC73GCH1H220J	CHIP C 22PF	J	
45	2A	*	K29-5081-02	KEY TOP (RUBBER)			C61			C92-0543-05	CHIP-TAN 3.3UF	10WV	
A	1B,2B		N33-2606-45	SCREW (CABINET)			C63			CK73GB1H102K	CHIP C 1000PF	K	
B	2B		N67-3008-46	SCREW (IC)			C65,66			CK73GB1H102K	CHIP C 1000PF	K	
C	1B,1C		N87-2608-46	SCREW (PCB, ANT)			C67			C92-0546-05	CHIP-TAN 68UF	6.3WV	
							C68,69			CK73GB1H103K	CHIP C 0.010UF	K	
							C70			CK73GB1H102K	CHIP C 1000PF	K	

760 : TK-760 (K,K2,HK,HK2)

762 : TK-762 (K,K2,HK,HK2)

## PARTS LIST

TX-RX UNIT (X57-4950-XX)

TX-RX UNIT (X57-5100-XX)

Ref. No.	Address	New parts	Parts No.	Description	Destination	Re-remarks	Ref. No.	Address	New parts	Parts No.	Description	Destination	Re-remarks
C71			C92-0044-05	CHIP-ELE 47UF 10WV			C164		*	C93-0565-05	CHIP C 27PF J		
C73			CK73GB1H471K	CHIP C 470PF K			C167			CK73GB1H102K	CHIP C 1000PF K		
C74			C92-0044-05	CHIP-ELE 47UF 10WV			C175			CK73GB1H471K	CHIP C 470PF K		
C75			C92-0004-05	CHIP-TAN 1.0UF 16WV			C186			CK73FB1E104K	CHIP C 0.10UF K		
C77			CK73GB1H103K	CHIP C 0.010UF K			C187,188			CK73GB1H102K	CHIP C 1000PF K		
C79			C92-0507-05	CHIP-TAN 4.7UF 6.3WV			C201,202			CK73FB1E104K	CHIP C 0.10UF K		
C81			C92-0040-05	CHIP-ELE 47UF 16WV			C203,204			CC73GCH1H120J	CHIP C 12PF J	K, HK	
C82			CK73GB1H103K	CHIP C 0.010UF K			C203,204			CC73GCH1H180J	CHIP C 18PF J	K2, HK2	
C83			CC73GCH1H180J	CHIP C 18PF J			C205-206			CK73GB1H102K	CHIP C 1000PF K		
C84,85			CK73GB1H102K	CHIP C 1000PF K			C212			CK73GB1H471K	CHIP C 470PF K		
C86			CK73GB1H103K	CHIP C 0.010UF K			C213			CC73GCH1H101J	CHIP C 100PF J		
C87			CK73GB1H102K	CHIP C 1000PF K			C214-217			CK73GB1H102K	CHIP C 1000PF K		
C88			CC73GCH1H120J	CHIP C 12PF J			C218			CC73GCH1H270J	CHIP C 27PF J		
C90			CC73GCH1H180J	CHIP C 18PF J			C219			CK73GB1H102K	CHIP C 1000PF K		
C93			CK73FF1C105Z	CHIP C 1.0UF Z			C220			CK73GB1H472K	CHIP C 4700PF K		
C95			CK73GB1H103K	CHIP C 0.010UF K			C221			CC73FCH1H220J	CHIP C 22PF J		
C97			C92-0044-05	CHIP-ELE 47UF 10WV			C222,223			CK73GB1H102K	CHIP C 1000PF K		
C98			CK73GB1H102K	CHIP C 1000PF K			C224			CK73GB1H103K	CHIP C 0.010UF K		
C99			C92-0044-05	CHIP-ELE 47UF 10WV			C225			CC73GCH1H150J	CHIP C 15PF J		
C101			CK73GB1H102K	CHIP C 1000PF K			C226			CK73GB1H103K	CHIP C 0.010UF K		
C102			CK73GB1H103K	CHIP C 0.010UF K			C227			CK73GB1H102K	CHIP C 1000PF K		
C104			CK73GB1H471K	CHIP C 470PF K			C228			CC73GCH1H150J	CHIP C 15PF J		
C105			CK73GB1H103K	CHIP C 0.010UF K			C229			CC73GCH1H150J	CHIP C 15PF J	K, HK	
C108			C92-0040-05	CHIP-ELE 47UF 16WV			C229			CC73GCH1H180J	CHIP C 18PF J	K2, HK2	
C110			CE04EW1A471M	ELECTRO 470UF 10WV			C230			CC73GCH1HR75C	CHIP C 0.75PF C		
C111			CK73FB1E104K	CHIP C 0.10UF K			C231			CC73GCH1H120J	CHIP C 12PF J	K, HK	
C113			CK73GB1H102K	CHIP C 1000PF K			C231			CC73GCH1H180J	CHIP C 18PF J	K2, HK2	
C118			C92-0004-05	CHIP-TAN 1.0UF 16WV			C232			CC73GCH1HR75C	CHIP C 0.75PF C		
C119-121			CK73GB1H102K	CHIP C 1000PF K			C233			CK73GB1H102K	CHIP C 1000PF K		
C123			CK73GB1H102K	CHIP C 1000PF K			C234			CC73GCH1H090D	CHIP C 9.0PF D	K, HK	
C124			CK73GB1H471K	CHIP C 470PF K			C234			CC73GCH1H180J	CHIP C 18PF J	K2, HK2	
C125			C92-0040-05	CHIP-ELE 47UF 16WV			C235-237			CK73GB1H102K	CHIP C 1000PF K		
C126			CK73GB1H102K	CHIP C 1000PF K			C239			CC73FCH1H030C	CHIP C 3.0PF C		
C127			CK73FB1E473K	CHIP C 0.047UF K			C240			CC73GCH1H100D	CHIP C 10PF D		
C128,129			CK73GB1H102K	CHIP C 1000PF K			C241-243			CK73GB1H102K	CHIP C 1000PF K		
C137			C92-0040-05	CHIP-ELE 47UF 16WV			C244-246			CC73GCH1H101J	CHIP C 100PF J		
C138,139			CK73GB1H102K	CHIP C 1000PF K			C247			CK73GB1H102K	CHIP C 1000PF K		
C141			CK73GB1H471K	CHIP C 470PF K			C248			CK73FB1E104K	CHIP C 0.10UF K		
C142			CK73GB1H102K	CHIP C 1000PF K			C249			CK73GB1H102K	CHIP C 1000PF K		
C143			CK73FB1E104K	CHIP C 0.10UF K			C250			C92-0543-05	CHIP-TAN 3.3UF 10WV		
C146			CK73GB1H102K	CHIP C 1000PF K			C251			C92-0536-05	CHIP-TAN 10UF 10WV		
C147			CK73GB1H103K	CHIP C 0.010UF K			C252			CK73GB1H103K	CHIP C 0.010UF K		
C148			CK73GB1H102K	CHIP C 1000PF K			C253,254			CK73GB1H102K	CHIP C 1000PF K		
C151			CK73GB1H102K	CHIP C 1000PF K			C255			C92-0003-05	CHIP-TAN 0.47UF 25WV		
C152			C93-0557-05	CHIP C 7.0pF D	K		C256			CK73GB1H102K	CHIP C 1000PF K		
C152			C93-0561-05	CHIP C 12PF J	K2		C257			C92-0516-05	CHIP-TAN 4.7UF 16WV		
C152		*	C93-0564-05	CHIP C 22PF J	HK2		C258			CK73GB1H102K	CHIP C 1000PF K		
C153			CK73EB1H103K	CHIP C 0.010UF K			C259			C92-0001-05	CHIP-TAN 0.1UF 35WV		
C154			C93-0603-05	CHIP C 1000PF K			C260			CC73GCH1H050C	CHIP C 5.0PF C		
C155			C93-0557-05	CHIP C 7.0PF D	HK		C261			CK73FB1E223K	CHIP C 0.022UF K		
C155			C93-0561-05	CHIP C 12PF J	K		C262			CC73GCH1H020C	CHIP C 2.0PF C		
C155		*	C93-0564-05	CHIP C 22PF J	K2, HK2		C263			C92-0003-05	CHIP-TAN 0.47UF 25WV		
C156		*	C93-0563-05	CHIP C 18PF J	K2, HK2		C264			CC73GCH1H180J	CHIP C 18PF J		
C156		*	C93-0564-05	CHIP C 22PF J	K, HK		C265			CC73GCH1H180J	CHIP C 18PF J	K, HK	
C157		*	C93-0564-05	CHIP C 22PF J			C265			CC73GCH1H220J	CHIP C 22PF J	K2, HK2	
C159			C93-0603-05	CHIP C 1000PF K			C266			CK73GB1H102K	CHIP C 1000PF K		
C160			CC73GCH1H101J	CHIP C 100PF J			C267			C92-0507-05	CHIP-TAN 4.7UF 6.3WV		
C161		*	C93-0563-05	CHIP C 18PF J			C268			CK73FF1C105Z	CHIP C 1.0UF Z		
C162		*	C93-0567-05	CHIP C 39PF J			C269			CC73GCH1H180J	CHIP C 18PF J	K, HK	

760 : TK-760 (K,K2,HK,HK2)

762 : TK-762 (K,K2,HK,HK2)

## PARTS LIST

TX-RX UNIT (X57-4950-XX)

TX-RX UNIT (X57-5100-XX)

Ref. No.	Address	New parts	Parts No.	Description	Destination	Re-remarks	Ref. No.	Address	New parts	Parts No.	Description	Destination	Re-remarks
C269			CC73GCH1H220J	CHIP C 22PF J	K2,HK2		C467			C92-0507-05	CHIP-TAN 4.7UF 6.3WV		
C271			CC73GCH1H0R5B	CHIP C 0.5PF B	HK,HK2		C468			CK73GB1E223K	CHIP C 0.022UF K		
C273			CK73GB1H102K	CHIP C 1000PF K	HK,HK2		C469			CK73GB1C104K	CHIP C 0.10UF K		
C274,275			CC73GCH1H101J	CHIP C 100PF J			C470			CC73GCH1H101J	CHIP C 100PF J		
C277			CK73GB1H102K	CHIP C 1000PF K			C471			CK73GB1E103K	CHIP C 0.010UF K		
C401,402			CK73GB1H471K	CHIP C 470PF K			C472-475			CC73GCH1H101J	CHIP C 100PF J		
C403			CK73GB1C104K	CHIP C 0.10UF K			C476-479			CK73GB1H471K	CHIP C 470PF K		762
C404,405			CK73GB1E123K	CHIP C 0.012UF K			C480			CC73GCH1H030C	CHIP C 3.0PF C		
C406			C92-0543-05	CHIP-TAN 3.3UF 10WV			C481,482			CC73GCH1H100D	CHIP C 10PF D		
C407,408			CK73GB1C104K	CHIP C 0.10UF K			C483-485			CK73GB1H471K	CHIP C 470PF K		762
C409			CC73GCH1H101J	CHIP C 100PF J			C486			CK73GB1C104K	CHIP C 0.10UF K		
C410,411			CK73GB1H471K	CHIP C 470PF K			C487			C92-0012-05	CHIP-TAN 22UF 6.3WV		
C412			C92-0507-05	CHIP-TAN 4.7UF 6.3WV			C488,489			CK73GB1H471K	CHIP C 470PF K		
C413			CK73GB1E223K	CHIP C 0.022UF K			C490			C92-0507-05	CHIP-TAN 4.7UF 6.3WV		
C414			CC73GCH1H101J	CHIP C 100PF J			C491			CK73GB1C104K	CHIP C 0.10UF K		
C415			C92-0507-05	CHIP-TAN 4.7UF 6.3WV			C492			CC73GCH1H470J	CHIP C 47PF J		
C416			CK73GB1H222K	CHIP C 2200PF K			C493,494			CK73GB1H103K	CHIP C 0.010UF K		
C417			CK73GB1E223K	CHIP C 0.022UF K									
C418			CK73GB1C273K	CHIP C 0.027UF K			105	2B	*	E29-1139-04	INTER CONNECTOR (LCD)		760
C419			CC73GCH1H470J	CHIP C 47PF J			CN1			E40-5737-05	PIN CONNECTOR FOR INSIDE (8P)		
C420			CK73GB1H471K	CHIP C 470PF K			CN2			E40-5738-05	PIN CONNECTOR FOR INSIDE (3P)		
C421			CK73GB1H472K	CHIP C 4700PF K			CN4			E40-3247-05	PIN CONNECTOR FOR INSIDE (3P)		
C422			CK73GB1H471K	CHIP C 470PF K			CN5			E40-3246-05	PIN CONNECTOR FOR INSIDE (2P)		
C423			C92-0507-05	CHIP-TAN 4.7UF 6.3WV			CN6		*	E40-5851-05	FLAT CABLE CONNECTOR (26P)		
C424			CK73GB1H471K	CHIP C 470PF K			CN201			E40-3247-05	PIN CONNECTOR FOR INSIDE (3P)		
C425,426			CK73GB1C273K	CHIP C 0.027UF K			CN401		*	E40-5851-05	CONNECTOR (26P)		
C427			CK73GB1H102K	CHIP C 1000PF K			J1			E11-0442-05	PHONE JACK (3.5D)		
C428			CK73GB1H471K	CHIP C 470PF K			J401			E08-0673-05	MODULAR JACK		
C430			CK73FF1C105Z	CHIP C 1.0UF Z			F1			F53-0108-05	FUSE (1.8A)		
C431			CK73GB1E223K	CHIP C 0.022UF K			107	2A	*	J21-4479-04	HARDWARE FIXTURE		760
C432			CC73GCH1H100D	CHIP C 10PF D			-			J30-0545-05	SPACER		
C433			CK73GB1H471K	CHIP C 470PF K			-			J31-0543-05	COLLAR		762
C434,435			CK73GB1H682K	CHIP C 6800PF K			CD1			L79-1013-05	DISCLI (455KHZ)		
C436			C92-0507-05	CHIP-TAN 4.7UF 6.3WV			CF201			L72-0372-05	CERAMIC FILTER (455KHZ)		
C437			C92-0004-05	CHIP-TAN 1.0UF 16WV			CF202			L72-0376-05	CERAMIC FILTER (455KHZ)		
C438			CK73GB1H682K	CHIP C 6800PF K			L1			L40-1092-34	SMALL FIXED INDUCTOR		
C439			CK73GB1E103K	CHIP C 0.010UF K			L2			L40-1005-34	SMALL FIXED INDUCTOR (10UH)		
C440			CC73GCH1H470J	CHIP C 47PF J			L3			L40-1081-37	SMALL FIXED INDUCTOR (0.1UH)		
C441			CK73GB1E103K	CHIP C 0.010UF K			L19		*	L34-4480-05	COIL (5T)		
C442			CK73GB1H471K	CHIP C 470PF K		760	L20		*	L34-4479-05	COIL (2.5T)		
C443			CK73GB1H471K	CHIP C 470PF K			L20		*	L34-4481-05	COIL (6T)		
C444			CC73FCH1H751J	CHIP C 750PF J			L21		*	L34-4478-05	COIL (9.5T)		HK
C445			CK73GB1H122K	CHIP C 1200PF K			L22,23		*	L34-4481-05	COIL (6T)		K,K2,HK2
C446,447			CK73GB1H471K	CHIP C 470PF K			L24		*	L34-4478-05	COIL (9.5T)		
C448			CC73GCH1H151J	CHIP C 150PF J			L201			L40-6871-34	SMALL FIXED INDUCTOR (68NH)		
C449			CK73GB1E103K	CHIP C 0.010UF K			L202			L40-8271-34	SMALL FIXED INDUCTOR (82NH)		
C450			CK73GB1H332K	CHIP C 3300PF K			L203			L40-2781-37	SMALL FIXED INDUCTOR (0.27UH)		
C451			C92-0004-05	CHIP-TAN 1.0UF 16WV			L204			L40-3381-37	SMALL FIXED INDUCTOR (0.33UH)		
C452			C92-0536-05	CHIP-TAN 10UF 10WV			L205		*	L34-4472-05	COIL		
C453,454			CK73GB1C104K	CHIP C 0.10UF K			L206,207		*	L34-4473-05	COIL		
C455			CK73GB1E103K	CHIP C 0.010UF K			L208		*	L34-4472-05	COIL		
C456,457			CK73GB1H471K	CHIP C 470PF K			L209		*	L40-1581-37	SMALL FIXED INDUCTOR (0.15UH)		K,HK
C458			CK73GB1E103K	CHIP C 0.010UF K			L209			L40-6872-37	SMALL FIXED INDUCTOR (0.068UH)		K2,HK2
C459			CK73GB1H102K	CHIP C 1000PF K			L210			L40-3971-36	SMALL FIXED INDUCTOR (39NH)		
C460			CK73GB1E103K	CHIP C 0.010UF K			L211			L40-1081-37	SMALL FIXED INDUCTOR (0.1UH)		
C461			CK73GB1H102K	CHIP C 1000PF K			X1		*	L77-1676-05	VCXO (12.8MHZ)		
C462			CK73GB1H472K	CHIP C 4700PF K			X2			L77-1595-05	CRYSTAL RESONATOR (44.595MHZ)		
C463			C92-0606-05	CHIP-TAN 4.7UF 10WV			X401			L77-1630-05	CRYSTAL RESONATOR (8.388MHZ)		
C464-466			CK73GB1E103K	CHIP C 0.010UF K									

760 : TK-760 (K,K2,HK,HK2)  
762 : TK-762 (K,K2,HK,HK2)

## PARTS LIST

TX-RX UNIT (X57-4950-XX)  
TX-RX UNIT (X57-5100-XX)

Ref. No.	Address	New parts	Parts No.	Description	Destination	Re- marks	Ref. No.	Address	New parts	Parts No.	Description	Destination	Re- marks
XF1		*	L71-0476-05	MCF (45.050MHZ)			R81			RK73GB1J102J	CHIP R 1.0K J 1/16W		
XF1		*	L71-0478-05	MCF (45.050MHZ)			R83			RK73GB1J102J	CHIP R 1.0K J 1/16W		
R1			RK73GB1J102J	CHIP R 1.0K J 1/16W			R85			RK73GB1J681J	CHIP R 680 J 1/16W		
R2			R92-1252-05	CHIP R 0 OHM			R86			RK73GB1J102J	CHIP R 1.0K J 1/16W		
R3			RK73GB1J103J	CHIP R 10K J 1/16W			R88			RK73FB2A2R2J	CHIP R 2.2 J 1/10W		
R4			R92-1252-05	CHIP R 0 OHM			R92			RK73GB1J472J	CHIP R 4.7K J 1/16W		
R5,6			R92-0670-05	CHIP R 0 OHM			R93			RK73FB2A102J	CHIP R 1.0K J 1/10W		
R7,8			RK73GB1J102J	CHIP R 1.0K J 1/16W			R94			R92-0685-05	CHIP R 22 J 1/2W		
R9,10			R92-1252-05	CHIP R 0 OHM			R99			RK73FB2A470J	CHIP R 47 J 1/10W		
R11			RK73GB1J224J	CHIP R 220K J 1/16W			R101			RK73FB2A470J	CHIP R 47 J 1/10W		
R12			RK73GB1J102J	CHIP R 1.0K J 1/16W			R102			RK73EB2B181J	CHIP R 180 J 1/8W		
R13			R92-1252-05	CHIP R 0 OHM			R103			RK73EB2B151J	CHIP R 150 J 1/8W		
R14			RK73FB2A102J	CHIP R 1.0K J 1/10W			R104			RK73FB2A103J	CHIP R 10K J 1/10W		
R15			R92-1252-05	CHIP R 0 OHM			R106			RK73FB2A154J	CHIP R 150K J 1/10W		
R16			RK73GB1J103J	CHIP R 10K J 1/16W			R107			RK73FB2A473J	CHIP R 47K J 1/10W		
R17			RK73GB1J104J	CHIP R 100K J 1/16W			R108	*		R92-2554-05	FIXED R 0.047 3W	K,K2	
R18			RK73GB1J123J	CHIP R 12K J 1/16W			R108	*		R92-2562-05	FIXED R 0.047 5W	HK,HK2	
R19			RK73GB1J472J	CHIP R 4.7K J 1/16W			R112			RK73FB2A472J	CHIP R 4.7K J 1/10W	K,K2	
R21			RK73GB1J153J	CHIP R 15K J 1/16W			R112			RK73FB2A473J	CHIP R 47K J 1/10W	HK,HK2	
R22			RK73GB1J104J	CHIP R 100K J 1/16W			R113			RK73FB2A272J	CHIP R 2.7K J 1/10W		
R23			R92-1215-05	CHIP R 470 J 1/2W			R115,116			RK73FB2A472J	CHIP R 4.7K J 1/10W		
R25			RK73GB1J104J	CHIP R 100K J 1/16W	K2,HK2		R117			R92-1268-05	RN 4.7K B 1/8W		
R25			RK73GB1J124J	CHIP R 120K J 1/16W	K,HK		R118			R92-2538-05	RN 3.9K B 1/8W		
R26			RK73GB1J102J	CHIP R 1.0K J 1/16W			R119			R92-1261-05	CHIP R 150 J 1/2W		
R27			RK73GB1J394J	CHIP R 390K J 1/16W			R124			RK73GB1J271J	CHIP R 270 J 1/16W		
R28			RK73GB1J104J	CHIP R 100K J 1/16W			R125			RK73GB1J180J	CHIP R 18 J 1/16W		
R30			RK73GB1J104J	CHIP R 100K J 1/16W			R126			RK73GB1J271J	CHIP R 270 J 1/16W		
R34			RK73GB1J473J	CHIP R 47K J 1/16W			R137			RK73GB1J104J	CHIP R 100K J 1/16W		
R36			RK73GB1J473J	CHIP R 47K J 1/16W			R139			R92-1252-05	CHIP R 0 OHM		
R37			RK73GB1J103J	CHIP R 10K J 1/16W			R140,141			RK73FB2A821J	CHIP R 820 J 1/10W		
R38			RK73GB1J182J	CHIP R 1.8K J 1/16W			R142,143			RK73FB2A100J	CHIP R 10 J 1/10W		
R40			RK73GB1J152J	CHIP R 1.5K J 1/16W			R144			RK73GB1J333J	CHIP R 33K J 1/16W		
R41			RK73GB1J224J	CHIP R 220K J 1/16W			R147			RK73GB1J474J	CHIP R 470K J 1/16W		
R42			RK73GB1J472J	CHIP R 4.7K J 1/16W			R201			RK73GB1J153J	CHIP R 15K J 1/16W		
R44			RK73GB1J220J	CHIP R 22 J 1/16W			R202-205			RK73GB1J223J	CHIP R 22K J 1/16W		
R46			RK73GB1J473J	CHIP R 47K J 1/16W			R206			RK73GB1J153J	CHIP R 15K J 1/16W		
R49			RK73GB1J104J	CHIP R 100K J 1/16W			R207-210			RK73GB1J103J	CHIP R 10K J 1/16W		
R50			RK73GB1J472J	CHIP R 4.7K J 1/16W			R211			RK73GB1J102J	CHIP R 1.0K J 1/16W		
R51			RK73GB1J104J	CHIP R 100K J 1/16W	K,HK,HK2		R212			RK73GB1J560J	CHIP R 56 J 1/16W		
R51			RK73GB1J333J	CHIP R 33K J 1/16W	K2		R213			RK73GB1J392J	CHIP R 3.9K J 1/16W	K2	
R52			RK73GB1J220J	CHIP R 22 J 1/16W			R218,219			RK73GB1J104J	CHIP R 100K J 1/16W		
R53			RK73GB1J274J	CHIP R 270K J 1/16W			R221			RK73GB1J392J	CHIP R 3.9K J 1/16W		
R55			RK73GB1J332J	CHIP R 3.3K J 1/16W			R222			RK73FB2A222J	CHIP R 2.2K J 1/10W		
R56			R92-1252-05	CHIP R 0 OHM			R223			RK73FB2A103J	CHIP R 10K J 1/10W		
R57			RK73GB1J104J	CHIP R 100K J 1/16W			R224			RK73FB2A100J	CHIP R 10 J 1/10W		
R59			RK73GB1J122J	CHIP R 1.2K J 1/16W			R225			RK73FB2A222J	CHIP R 2.2K J 1/10W		
R60,61			RK73GB1J102J	CHIP R 1.0K J 1/16W			R226			RK73FB2A560J	CHIP R 56 J 1/10W		
R64			RK73GB1J471J	CHIP R 470 J 1/16W			R227			RK73FB2A470J	CHIP R 47 J 1/10W		
R66			RK73GB1J152J	CHIP R 1.5K J 1/16W			R228			RK73FB2A152J	CHIP R 1.5K J 1/10W		
R68			RK73GB1J471J	CHIP R 470 J 1/16W			R229			RK73FB2A100J	CHIP R 10 J 1/10W		
R71			RK73GB1J684J	CHIP R 680K J 1/16W			R230			RK73GB1J331J	CHIP R 330 J 1/16W		
R72			RK73GB1J223J	CHIP R 22K J 1/16W			R231			RK73GB1J101J	CHIP R 100 J 1/16W		
R73			RK73GB1J101J	CHIP R 100 J 1/16W			R232			RK73GB1J151J	CHIP R 150 J 1/16W		
R74			RK73GB1J391J	CHIP R 390 J 1/16W			R234			RK73GB1J473J	CHIP R 47K J 1/16W		
R76			RK73GB1J103J	CHIP R 10K J 1/16W			R235			RK73GB1J333J	CHIP R 33K J 1/16W		
R77			RK73GB1J101J	CHIP R 100 J 1/16W			R236,237			RK73GB1J104J	CHIP R 100K J 1/16W		
R78			RK73GB1J473J	CHIP R 47K J 1/16W			R238			RK73GB1J101J	CHIP R 100 J 1/16W		
R79,80			R92-0670-05	CHIP R 0 OHM			R239			RK73GB1J104J	CHIP R 100K J 1/16W		
							R240			RK73GB1J103J	CHIP R 10K J 1/16W		

760 : TK-760 (K,K2,HK,HK2)

762 : TK-762 (K,K2,HK,HK2)

## PARTS LIST

TX-RX UNIT (X57-4950-XX)

TX-RX UNIT (X57-5100-XX)

Ref. No.	Address	New parts	Parts No.	Description	Destination	Remarks	Ref. No.	Address	New parts	Parts No.	Description	Destination	Remarks
R241			RK73GB1J680J	CHIP R 68 J 1/16W			R437			RK73GB1J224J	CHIP R 220K J 1/16W		
R242			RK73GB1J184J	CHIP R 180K J 1/16W			R438			RK73GB1J563J	CHIP R 56K J 1/16W		
R243			RK73GB1J103J	CHIP R 10K J 1/16W			R439			RK73GB1J683J	CHIP R 68K J 1/16W		
R244			R92-1252-05	CHIP R 0 OHM			R441			RK73GB1J103J	CHIP R 10K J 1/16W		
R245			RK73GB1J274J	CHIP R 270K J 1/16W			R442			RK73GB1J561J	CHIP R 560 J 1/16W		
R246			RK73GB1J104J	CHIP R 100K J 1/16W			R443			RK73GB1J824J	CHIP R 820K J 1/16W		
R247			R92-1281-05	FIXED R 4.7 1/4W			R444			RK73GB1J224J	CHIP R 220K J 1/16W		
R248			R92-1252-05	CHIP R 0 OHM			R445			RK73GB1J153J	CHIP R 15K J 1/16W		
R250-252			RK73GB1J102J	CHIP R 1.0K J 1/16W			R447			RK73GB1J273J	CHIP R 27K J 1/16W		
R253			RK73GB1J124J	CHIP R 120K J 1/16W			R448			RK73GB1J822J	CHIP R 8.2K J 1/16W		
R254			RK73GB1J101J	CHIP R 100 J 1/16W			R449			RK73GB1J563J	CHIP R 56K J 1/16W		
R255			R92-1252-05	CHIP R 0 OHM			R450			RK73GB1J334J	CHIP R 330K J 1/16W		
R256			RK73GB1J473J	CHIP R 47K J 1/16W			R451			RK73GB1J104J	CHIP R 100K J 1/16W		
R257			RK73GB1J101J	CHIP R 100 J 1/16W			R452			RK73GB1J224J	CHIP R 220K J 1/16W		
R259			RK73GB1J152J	CHIP R 1.5K J 1/16W			R453,454			RK73GB1J824J	CHIP R 820K J 1/16W		
R260			RK73GB1J101J	CHIP R 100 J 1/16W			R455			RK73GB1J100J	CHIP R 10 J 1/16W		760
R261			RK73GB1J122J	CHIP R 1.2K J 1/16W			R456			RK73GB1J822J	CHIP R 8.2K J 1/16W		
R262			RK73GB1J101J	CHIP R 100 J 1/16W			R457,458			RK73GB1J823J	CHIP R 82K J 1/16W		
R263			RK73GB1J103J	CHIP R 10K J 1/16W			R459			RK73GB1J392J	CHIP R 3.9K J 1/16W		760
R264			RK73GB1J223J	CHIP R 22K J 1/16W			R460			RK73GB1J103J	CHIP R 10K J 1/16W		
R265			RK73GB1J330J	CHIP R 33 J 1/16W			R461			RK73GB1J104J	CHIP R 100K J 1/16W		
R266			RK73GB1J104J	CHIP R 100K J 1/16W			R462,463			RK73GB1J683J	CHIP R 68K J 1/16W		
R267			RK73GB1J124J	CHIP R 120K J 1/16W			R464			RK73GB1J223J	CHIP R 22K J 1/16W		
R268			RK73GB1J184J	CHIP R 180K J 1/16W			R465			RK73GB1J682J	CHIP R 6.8K J 1/16W		
R269			RK73GB1J154J	CHIP R 150K J 1/16W			R466			RK73GB1J183J	CHIP R 18K J 1/16W		
R270			R92-1252-05	CHIP R 0 OHM			R467			RK73GB1J103J	CHIP R 10K J 1/16W		
R272			RK73GB1J101J	CHIP R 100 J 1/16W			R468			RK73GB1J223J	CHIP R 22K J 1/16W		
R401			RK73GB1J391J	CHIP R 390 J 1/16W			R469-471			RK73GB1J103J	CHIP R 10K J 1/16W		
R402			RK73GB1J102J	CHIP R 1.0K J 1/16W			R472			RK73GB1J223J	CHIP R 22K J 1/16W		
R403-405			R92-1252-05	CHIP R 0 OHM			R473			R92-1252-05	CHIP R 0 OHM		
R406			RK73GB1J104J	CHIP R 100K J 1/16W			R474			R92-0670-05	CHIP R 0 OHM		760
R407			RK73GB1J683J	CHIP R 68K J 1/16W			R475			R92-1252-05	CHIP R 0 OHM		760
R408			RK73GB1J472J	CHIP R 4.7K J 1/16W			R476-478			RK73GB1J473J	CHIP R 47K J 1/16W		
R409			RK73GB1J563J	CHIP R 56K J 1/16W			R479			RK73GB1J103J	CHIP R 10K J 1/16W		
R410,411			RK73GB1J103J	CHIP R 10K J 1/16W			R480			R92-1252-05	CHIP R 0 OHM		760
R412			RK73GB1J681J	CHIP R 680 J 1/16W			R481-488			RK73GB1J102J	CHIP R 1.0K J 1/16W		
R413			RK73GB1J103J	CHIP R 10K J 1/16W			R489			R92-1252-05	CHIP R 0 OHM		
R414			RK73GB1J473J	CHIP R 47K J 1/16W			R490			RK73GB1J102J	CHIP R 1.0K J 1/16W		
R415			RK73GB1J684J	CHIP R 680K J 1/16W			R491			RK73GB1J473J	CHIP R 47K J 1/16W		
R416			RK73GB1J152J	CHIP R 1.5K J 1/16W			R492			R92-1252-05	CHIP R 0 OHM		
R417			RK73GB1J272J	CHIP R 2.7K J 1/16W			R493			RK73GB1J391J	CHIP R 390 J 1/16W		
R418			RK73GB1J124J	CHIP R 120K J 1/16W			R494-497			RK73GB1J102J	CHIP R 1.0K J 1/16W		
R419			RK73GB1J154J	CHIP R 150K J 1/16W			R498,499			RK73GB1J473J	CHIP R 47K J 1/16W		
R420			R92-1252-05	CHIP R 0 OHM			R500,501			R92-1252-05	CHIP R 0 OHM		
R421			RK73GB1J153J	CHIP R 15K J 1/16W			R502			RK73GB1J105J	CHIP R 1.0M J 1/16W		
R422			RK73GB1J183J	CHIP R 18K J 1/16W			R503			RK73GB1J102J	CHIP R 1.0K J 1/16W		
R423			RK73GB1J223J	CHIP R 22K J 1/16W			R504-507			RK73GB1J221J	CHIP R 220 J 1/16W		762
R424			R92-1252-05	CHIP R 0 OHM			R508			R92-1252-05	CHIP R 0 OHM		
R425			RK73GB1J153J	CHIP R 15K J 1/16W			R509-511			RK73GB1J271J	CHIP R 270 J 1/16W		762
R426			RK73GB1J223J	CHIP R 22K J 1/16W			R512			R92-0670-05	CHIP R 0 OHM		
R427			RK73GB1J274J	CHIP R 270K J 1/16W			R513			RK73GB1J103J	CHIP R 10K J 1/16W		
R428			RK73GB1J333J	CHIP R 33K J 1/16W			R514			RK73GB1J473J	CHIP R 47K J 1/16W		
R429			RK73GB1J224J	CHIP R 220K J 1/16W			R515			RK73GB1J333J	CHIP R 33K J 1/16W		
R430,431			RK73GB1J183J	CHIP R 18K J 1/16W			R516			RK73GB1J563J	CHIP R 56K J 1/16W		
R432			RK73GB1J223J	CHIP R 22K J 1/16W			R517			R92-1252-05	CHIP R 0 OHM		760
R433			RK73GB1J103J	CHIP R 10K J 1/16W			R518			RK73GB1J823J	CHIP R 82K J 1/16W		
R434			RK73GB1J563J	CHIP R 56K J 1/16W			R519			RK73GB1J684J	CHIP R 680K J 1/16W		
R435			RK73GB1J823J	CHIP R 82K J 1/16W			R520			RK73GB1J223J	CHIP R 22K J 1/16W		
R436			RK73GB1J183J	CHIP R 18K J 1/16W			R521			RK73GB1J473J	CHIP R 47K J 1/16W		

760 : TK-760 (K,K2,HK,HK2)

762 : TK-762 (K,K2,HK,HK2)

## PARTS LIST

TX-RX UNIT (X57-4950-XX)  
TX-RX UNIT (X57-5100-XX)  
VCO (X58-4360-XX)

Ref. No.	Address	New parts	Parts No.	Description	Destination	Re- marks	Ref. No.	Address	New parts	Parts No.	Description	Destination	Re- marks
R522			RK73GB1J223J	CHIP R 22K J 1/16W			IC407			NJM78L05UA	IC (VOLTAGE REGULATOR/ +5V)		
R523,524			RK73GB1J473J	CHIP R 47K J 1/16W			IC408	*		RH5VL42C	IC		
R525			RK73GB1J684J	CHIP R 680K J 1/16W			IC409	*		M38267M8L156GP	IC (MPU)		
R526			RK73GB1J224J	CHIP R 220K J 1/16W			IC411			AT2408N10SI2.5	IC (8Kbit SERIAL EEPROM)		
R527,528			RK73GB1J473J	CHIP R 47K J 1/16W			IC412			NJM4558E	IC (OP AMP X2)		
R529			RK73GB1J683J	CHIP R 68K J 1/16W			Q1			DTA114EU	DIGITAL TRANSISTOR		
R530			RK73GB1J223J	CHIP R 22K J 1/16W			Q2,3			DTC114EU	DIGITAL TRANSISTOR		
VR401		*	R32-0657-05	SEMI FIXED VR 10K			Q4			2SA1641 (S,T)	TRANSISTOR		
VR402		*	R32-0659-05	SEMI FIXED VR 300K			Q5			DTA114YK	DIGITAL TRANSISTOR		
							Q6			2SB1132 (Q,R)	TRANSISTOR		
D1			02CZ18 (X,Y)	DIODE			Q8			2SA1362 (Y)	TRANSISTOR		
D2			DSA3A1-FK	DIODE	HK,HK2		Q10,11			DTC114EU	DIGITAL TRANSISTOR		
D3			MA110	DIODE			Q13			DTC114EK	DIGITAL TRANSISTOR		
D3			1SS355	DIODE			Q14			DTD114EK	DIGITAL TRANSISTOR		
D4			02CZ15 (X,Y)	DIODE			Q15			2SC4116 (GR)	TRANSISTOR		
D5			MA110	DIODE			Q16			2SC2059K (P)	TRANSISTOR		
D5			1SS355	DIODE			Q18			2SC4215 (Y)	TRANSISTOR		
D6			ERZ-M10DK220	SURGE ABSORBER			Q20			DTC363EK	DIGITAL TRANSISTOR		
D9-12			DA204K	DIODE			Q22	*		2SA1757 (E,F)	TRANSISTOR	HK,HK2	
D13			02CZ20 (Y,Z)	DIODE			Q22			2SB1565 (E,F)	TRANSISTOR	K,K2	
D14		*	DSM3MA1	DIODE	K,K2		Q23			2SC4116 (GR)	TRANSISTOR		
D17			DAN235K	DIODE			Q24			DTC114EK	DIGITAL TRANSISTOR		
D20			MA4PH633	DIODE			Q25			DTA144EU	DIGITAL TRANSISTOR		
D22			MA110	DIODE			Q26			DTC114EU	DIGITAL TRANSISTOR		
D22			1SS355	DIODE			Q201			DTA144EK	DIGITAL TRANSISTOR		
D24			M1809	DIODE			Q202			DTC144EK	DIGITAL TRANSISTOR		
D201,202			DAN202K	DIODE			Q204			DTC144EK	DIGITAL TRANSISTOR		
D204			DAN235K	DIODE			Q205			2SC3357	TRANSISTOR		
D205			DAN202K	DIODE			Q206			2SC2954	TRANSISTOR		
D206,207			DA204K	DIODE			Q207			SGM2014M	TRANSISTOR		
D208-210		*	1SV269	DIODE			Q208			3SK241 (R)	TRANSISTOR		
D211			1SV214	DIODE			Q209			2SC2059K (P)	TRANSISTOR		
D212			MA110	DIODE			Q210			2SC4116 (GR)	TRANSISTOR	HK,HK2	
D212			1SS355	DIODE			Q211			DTC144EK	DIGITAL TRANSISTOR	HK,HK2	
D213			1SV214	DIODE			Q401	*		2SC4081 (R)	TRANSISTOR		
D214			DA204K	DIODE	HK,HK2		Q402	*		2SJ203	FET		
D215			02CZ12 (X,Y)	DIODE	HK,HK2		Q403			DTC363EK	DIGITAL TRANSISTOR		
D401,402			DA204K	DIODE			Q404			DTA114TK	DIGITAL TRANSISTOR		
D403			DAN202U	DIODE			Q405			2SB1132 (Q,R)	TRANSISTOR		760
D404			DA204K	DIODE			Q406,407			DTA114TK	DIGITAL TRANSISTOR		
D405			DA204K	DIODE		760	Q408,409			DTC144EK	DIGITAL TRANSISTOR		
D406-411		*	B30-2140-05	LED		760	Q410			DTA114TK	DIGITAL TRANSISTOR		
D412-415		*	B30-2151-05	LED		762	Q412-418			DTA114EK	DIGITAL TRANSISTOR		762
IC1			BU4013BF	IC (D TYPE FLIP FLOP X2)			Q419			DTA144EK	DIGITAL TRANSISTOR		
IC2			NJM4558M	IC (OP AMP X2)			Q420			DTC144EK	DIGITAL TRANSISTOR		
IC3			NJM78L05UA	IC (VOLTAGE REGULATOR/ +5V)			A1	2B	*	X58-4360-10	SUB UNIT (VCO)	K,HK	
IC4			TA7808S	IC (VOLTAGE REGULATOR/ +8V)			A1	2B	*	X58-4360-11	SUB UNIT (VCO)	K2,HK2	
IC6			M62363FP	IC (8bit D/A CONVERTER)			<b>VCO (X58-4360-XX) -10 : K,HK -11 : K2,HK2</b>						
IC7			MC3372V	IC (FM IF)			C1-3			CK73GB1H102K	CHIP C 1000PF	K	
IC8			NJM2904M	IC (OP AMP X2)			C4			CC73GCH1H151J	CHIP C 150PF	J	K,HK
IC10			BU4094BCF	IC (8-STAGE SHIFT/STORE REGISTE			C4			CC73GCH1H470J	CHIP C 47PF	J	K2,HK2
IC11			LA4422	IC (AF POWER AMP/ 5.8W)			C5,6			CC73GCH1H070D	CHIP C 7.0PF	D	K2,HK2
IC13			NJM2904M	IC (OP AMP X2)			C5,6			CC73GCH1H120J	CHIP C 12PF	J	K,HK
IC14			TA75S01F	IC (OP AMP)			C7,8			CK73GB1H102K	CHIP C 1000PF	K	
IC201		*	NJM78L09UA	IC (VOLTAGE REGULATOR/ +9V)			C9			CC73GCH1H060D	CHIP C 6.0PF	D	
IC201			TA78L09F	IC (VOLTAGE REGULATOR/ +9V)			C10			CC73GCH1H040C	CHIP C 4.0PF	C	K2,HK2
IC202		*	MC145190F	IC			C10			CC73GCH1H150J	CHIP C 15PF	J	K,HK
IC401-403			NJM4558E	IC (OP AMP X2)									
IC404			TA75S01F	IC (OP AMP)									
IC405,406			NJM4558E	IC (OP AMP X2)									

760 : TK-760 (K,K2,HK,HK2)  
762 : TK-762 (K,K2,HK,HK2)

# TK-760/762

## PARTS LIST

VCO (X58-4360-XX)

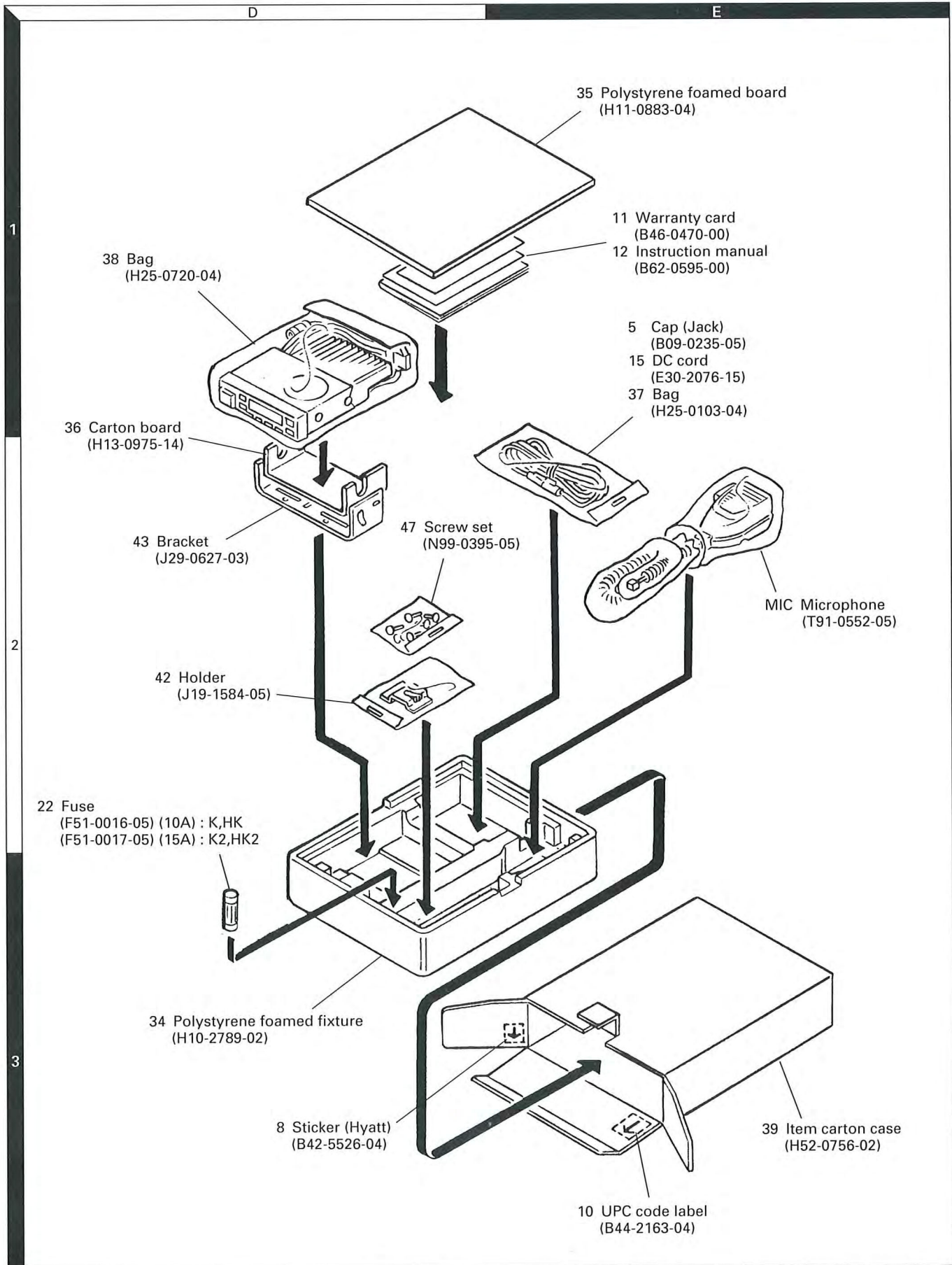
Ref. No.	Address	New parts	Parts No.	Description	Destination	Re-marks	Ref. No.	Address	New parts	Parts No.	Description	Destination	Re-marks
C11			CC73GCH1H060D	CHIP C 6.0PF D	K2,HK2		R1			RK73GB1J101J	CHIP R 100 J 1/16W		
C11			CC73GCH1H080D	CHIP C 8.0PF D	K,HK		R2			RK73GB1J470J	CHIP R 47 J 1/16W		
C12,13			CK73GB1H102K	CHIP C 1000P F			R3			RK73GB1J181J	CHIP R 180 J 1/16W		
C14			CC73GCH1H010C	CHIP C 1.0PF C			R4			RK73GB1J472J	CHIP R 4.7K J 1/16W		
C15,16			CK73GB1H102K	CHIP C 1000PF K			R5			R92-1252-05	CHIP R 0 OHM		
C17			CK73GB1H103K	CHIP C 0.010UF K			R6			RK73GB1J101J	CHIP R 100 J 1/16W		
C18			CC73GCH1H270J	CHIP C 27PF J	K2,HK2		R7			RK73GB1J183J	CHIP R 18K J 1/16W		
C18			CC73GCH1H560J	CHIP C 56PF J	K,HK		R8			RK73GB1J181J	CHIP R 180 J 1/16W		
C20			CC73GCH1H060D	CHIP C 6.0PF D	K,HK		R9			RK73GB1J470J	CHIP R 47 J 1/16W		
C20			CC73GCH1H1R5C	CHIP C 1.5PF C	K2,HK2		R10			RK73GB1J151J	CHIP R 150 J 1/16W	K,HK	
C21			CK73GB1H103K	CHIP C 0.010UF K			R10			RK73GB1J181J	CHIP R 180 J 1/16W	K2,HK2	
C22			CK73GB1H102K	CHIP C 1000PF K			R11			RK73GB1J473J	CHIP R 47K J 1/16W		
C23			CK73GB1H103K	CHIP C 0.010UF K			R12			RK73GB1J103J	CHIP R 10K J 1/16W		
C24			CC73GCH1H020C	CHIP C 2.0PF C			R13			RK73GB1J101J	CHIP R 100 J 1/16W		
C25			CC73GCH1H150J	CHIP C 15PF J			R14			RK73GB1J390J	CHIP R 39 J 1/16W		
C27			CK73GB1H102K	CHIP C 1000PF K			R15			R92-0670-05	CHIP R 0 OHM		
CN1		*	E40-5815-05	PIN CONNECTOR FOR INSIDE (6P)			D1-4		*	1SV269	VARIABLE CAPACITANCE DIODE		
-		*	F10-2204-04	SHIELDING CASE			Q1			UMG1	TRANSISTOR		
L1,2			L33-1268-05	CHOKE COIL (10UH)			Q2			2SK508NV (K52)	FET		
L3			L34-4449-05	COIL	K2,HK2		Q3			2SC4215 (Y)	TRANSISTOR		
L3		*	L34-4485-05	COIL	K,HK		Q4			DTC114EU	DIGITAL TRANSISTOR		
L4-8			L33-1268-05	CHOKE COIL (10UH)			Q5			2SK508NV (K52)	FET		
L9		*	L34-4429-05	COIL	K,HK								
L9		*	L34-4484-05	COIL	K2,HK2								
L10			L40-1081-34	SMALL FIXED INDUCTOR (100NH)									

760 : TK-760 (K,K2,HK,HK2)

762 : TK-762 (K,K2,HK,HK2)



## PACKING

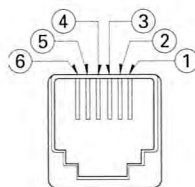


## ADJUSTMENT

### Test Equipment Required for Alignment

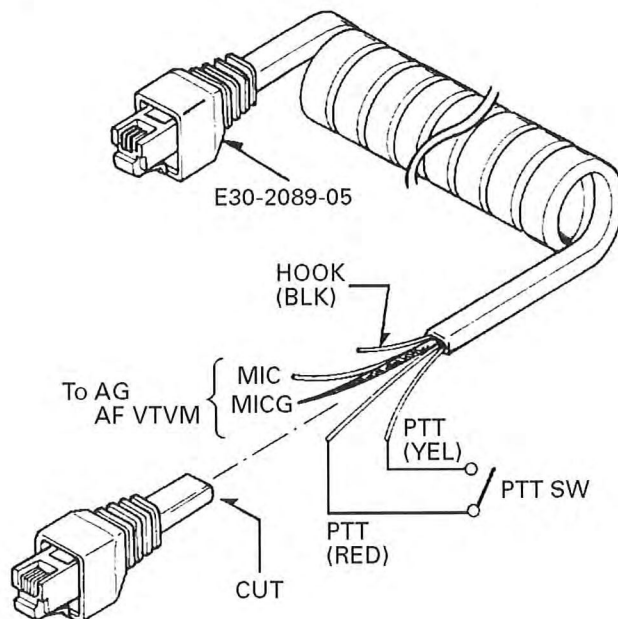
Test Equipment	Major Specifications	
1. Standard Signal Generator (SSG)	Frequency Range Modulation Output	100 to 200MHz Frequency modulation and external modulation -127dBm/0.1μV to greater than -7dBm/100mV
2. Power Meter	Input Impedance Operation Frequency Measurement Capability	50Ω 100 to 200MHz or more Vicinity of 60W
3. Deviation Meter	Frequency Range	100 to 200MHz
4. Digital Volt Meter (DVM)	Measuring Range Accuracy	1 to 10V DC High input impedance for minimum circuit loading
5. Oscilloscope		DC through 30MHz
6. High Sensitivity Frequency Counter	Frequency Range Frequency Stability	10Hz to 200MHz 0.2ppm or less
7. Ammeter		15A
8. AF Volt Meter (AF VTVM)	Frequency Range Voltage Range	50Hz to 10kHz 3mV to 3V
9. Audio Generator (AG)	Frequency Range Output	50Hz to 5kHz or more 0 to 1V
10. Distortion Meter	Capability Input Level	3% or less at 1kHz 50mV to 10Vrms
11. Voltmeter	Measuring Range Input Impedance	1.5 to 30V DC or less 50kΩ/V or greater
12. 4Ω Dummy Load		Approx. 4Ω, 3W
13. Regulated Power Supply		13.6V, approx. 15A (adjustable from 9 to 17V) Useful if ammeter required

- The following test cable is recommended.



- ① SB
- ② PTTG
- ③ PTT
- ④ MICG
- ⑤ MIC
- ⑥ HOOK

**MIC connector (Front view)**

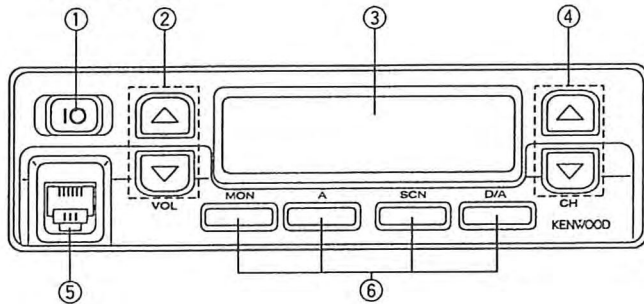


**Test cable for microphone input**

## ADJUSTMENT

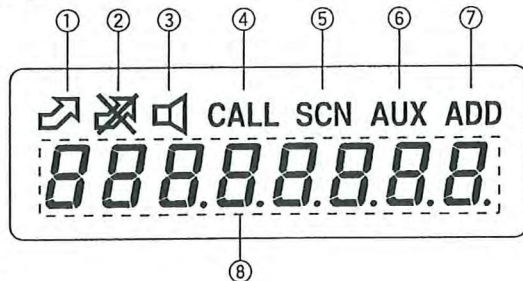
### Adjustment Location

- TK-760 (32-channel model)  
Front panel



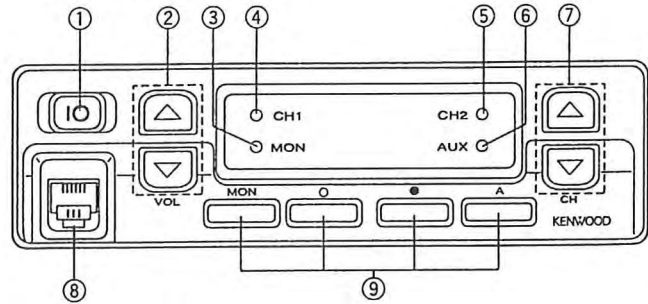
- POWER switch**  
Press to turn the power ON or OFF.
- VOLUME [▲] / [▼] buttons**  
Press [▲] to increase the volume or [▼] to decrease the volume. To quickly step the volume up or down, hold down [▲] or [▼] respectively.
- Display**  
See below for more details.
- CHANNEL [▲] / [▼] buttons**  
Press [▲] to select the next higher channel or [▼] to select the next lower channel. You can choose from a maximum of 32 channels programmed by the dealer. To quickly step upward or down ward through the channels, hold down [▲] or [▼] respectively.
- Microphone connector**  
Insert the 6-pin modular connector plug of the microphone until the locking tab clicks.
- Function buttons**  
The functions of these buttons are dependent on dealer programming.

### Display



- Visible while transmitting.
- Visible when signals are present on the currently selected channel.
- Appears when the Monitor function is activated.
- CALL**  
Blinks when the correct DTMF code for Code Squelch or tones for 2-Tone Signaling are received. Also appears while transmitting on a channel that uses Code Squelch or 2-Tone Signaling.

- TK-762 (2-channel model)  
Front panel



- POWER switch**  
Press to turn the power ON or OFF.
- VOLUME [▲] / [▼] buttons**  
Press [▲] to increase the volume or [▼] to decrease the volume. To quickly step the volume up or down, hold down [▲] or [▼] respectively.
- MON indicator**  
Lights when the function programmed by your dealer is activated.
- CH1 indicator**  
Lights orange when channel 1 is selected. Lights red while transmitting. Lights green when signals are present on the currently selected channel.
- CH2 indicator**  
Lights orange when channel 2 is selected. Lights red while transmitting. Lights green when signals are present on the currently selected channel.
- AUX indicator**  
Lights when the auxiliary function programmed by the dealer is activated.
- CHANNEL [▲] / [▼] buttons**  
Press to select either channel 1 or channel 2.
- Microphone connector**  
Insert the 6-pin modular connector plug of the microphone until the locking tab clicks.
- Function buttons**  
The functions of these buttons are dependent on dealer programming.

- SCN**  
Appears when the Scan function is activated.
- AUX**  
Appears when the auxiliary function programmed by the dealer is activated.
- ADD**  
Appears when the currently selected channel is included in the scan list.
- 88888888**  
Displays a channel number and other information.

## ADJUSTMENT

### Common Section

Item	Condition	Measurement			Adjustment			Specifications/Remarks																																																												
		Test-equipment	Unit	Terminal	Unit	Parts	Method																																																													
1. Memory frequency	<ul style="list-style-type: none"> <li>Frequency range (MHz) 148~174 : K, HK 136~156 : K2, HK2</li> <li>Adjustment frequency (MHz) <table border="1"> <thead> <tr> <th rowspan="2">CH</th> <th colspan="2">K, HK</th> <th colspan="2">K2, HK2</th> <th rowspan="2"></th> </tr> <tr> <th>TX</th> <th>RX</th> <th>TX</th> <th>RX</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>161.000</td> <td>161.030</td> <td>146.000</td> <td>146.030</td> <td>Center</td> </tr> <tr> <td>2</td> <td>148.000</td> <td>148.030</td> <td>136.000</td> <td>136.030</td> <td>Low</td> </tr> <tr> <td>3</td> <td>174.000</td> <td>173.970</td> <td>156.000</td> <td>155.970</td> <td>High</td> </tr> </tbody> </table> </li> <li>Signaling <table border="1"> <thead> <tr> <th></th> <th>Encode</th> <th>Decode</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>-</td> <td>-</td> </tr> <tr> <td>2</td> <td>100Hz square wave</td> <td>-</td> </tr> <tr> <td>3</td> <td>QT (67.0Hz) tone</td> <td>QT (67.0Hz)</td> </tr> <tr> <td>4</td> <td>QT (151.4Hz) tone</td> <td>QT (151.4Hz)</td> </tr> <tr> <td>5</td> <td>QT (210.7Hz) tone</td> <td>QT (210.7Hz)</td> </tr> <tr> <td>6</td> <td>DQT (023N) code</td> <td>DQT (023N)</td> </tr> <tr> <td>7</td> <td>DTMF 1633Hz</td> <td>-</td> </tr> <tr> <td>8</td> <td>DTMF 852/1209Hz</td> <td>-</td> </tr> <tr> <td>9</td> <td>-</td> <td>2-tone slow</td> </tr> <tr> <td>10</td> <td>-</td> <td>DTMF</td> </tr> </tbody> </table> </li> </ul>	CH	K, HK		K2, HK2			TX	RX	TX	RX	1	161.000	161.030	146.000	146.030	Center	2	148.000	148.030	136.000	136.030	Low	3	174.000	173.970	156.000	155.970	High		Encode	Decode	1	-	-	2	100Hz square wave	-	3	QT (67.0Hz) tone	QT (67.0Hz)	4	QT (151.4Hz) tone	QT (151.4Hz)	5	QT (210.7Hz) tone	QT (210.7Hz)	6	DQT (023N) code	DQT (023N)	7	DTMF 1633Hz	-	8	DTMF 852/1209Hz	-	9	-	2-tone slow	10	-	DTMF						
CH	K, HK		K2, HK2																																																																	
	TX	RX	TX	RX																																																																
1	161.000	161.030	146.000	146.030	Center																																																															
2	148.000	148.030	136.000	136.030	Low																																																															
3	174.000	173.970	156.000	155.970	High																																																															
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4	QT (151.4Hz) tone	QT (151.4Hz)																																																																		
5	QT (210.7Hz) tone	QT (210.7Hz)																																																																		
6	DQT (023N) code	DQT (023N)																																																																		
7	DTMF 1633Hz	-																																																																		
8	DTMF 852/1209Hz	-																																																																		
9	-	2-tone slow																																																																		
10	-	DTMF																																																																		
2. Setting	<ul style="list-style-type: none"> <li>Receiver section The indicated SSG output level are for maximum output. Whenever there is no modulation designation, standard modulation (MOD : 1kHz, DEV : ±3kHz) is indicated.</li> <li>Transmitter section</li> </ul>																																																																			
3. Panel test mode setting	The D/A switch is held on with turn on the set. The D/A switch holding about 1 second after turn on the set. But, if this mode is disabled by FPU then begin the USER MODE.																																																																			
4. Panel tuning mode setting	The SCAN switch is held on with turn on the set. The SCAN switch holding about 1 second after turn on the set. But, if this mode is disabled by FPU then begin the USER MODE.																																																																			
5. PLL lock voltage	1) Set : Panel test mode. CH : 3 – Sig : 1 Transmit and receive.	DVM	TX-RX (A/2)	TP1			Check the voltage.	Less than 8.3V.																																																												
	2) CH : 2 – Sig : 1 Transmit and receive.	Dummy load	Rear panel	ANT				More than 1.6V.																																																												

## ADJUSTMENT

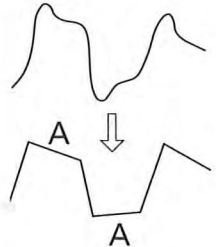
### Receiver Section

Item	Condition	Measurement			Adjustment			Specifications/Remarks			
		Test-equipment	Unit	Terminal	Unit	Parts	Method				
1. Sensitivity	1) Set : Panel tuning mode. Tuning item : 8L CH : 2 – Sig : 1 SSG frequency : 148.030MHz <b>K,HK</b> : 136.030MHz <b>K2,HK2</b> SSG output : -118dBm SSG MOD : 1kHz AF output : 1V/4Ω	SSG  AF VTVM Distortion meter Oscilloscope AG	Rear panel	ANT  EXT. SP	TX-RX (A/2)	L205~ L208	Adjust for maximum SINAD.	Maximize the SINAD them. SINAD is more than 12dB.			
	2) Tuning item : 8E CH : 1 – Sig : 1 SSG frequency : 161.030MHz <b>K,HK</b> : 146.030MHz <b>K2,HK2</b>								Front panel	SCN or D/A key	Up/down for tuning data.
	3) Tuning item : 8H CH : 3 – Sig : 1 SSG frequency : 173.970MHz <b>K,HK</b> : 155.970MHz <b>K2,HK2</b>										
2. Squelch	1) Set : Panel tuning mode. Tuning item : 9 CH : 1 – Sig : 1 SSG frequency : 161.030MHz <b>K,HK</b> : 146.030MHz <b>K2,HK2</b> SSG output : Value when 3dB is subtracted from the sensitivity value of 12dB SINAD. SSG MOD : 1kHz						Squelch closed once. Then squelch must be opened.				
	2) Set : Panel test mode. CH : 1 – Sig : 1 SSG output : 8dB SINAD level									Check	Squelch must be opened.
	3) SSG output : OFF										Squelch must be closed.

### Transmitter Section

Item	Condition	Measurement			Adjustment			Specifications/Remarks
		Test-equipment	Unit	Terminal	Unit	Parts	Method	
1. Frequency	1) Set : Panel tuning mode. Tuning item : : CH : 1 – Sig : 1 PTT : ON	Powermeter f. counter	Rear panel	ANT	Front panel	SCN or D/A key	Up/down for tuning data.	161.000MHz ± 200Hz <b>K,HK</b> 146.000MHz ± 200Hz <b>K2,HK2</b>
2. Maximum power check	1) Set panel tuning mode. Tuning item : 2 CH : 1 – Sig : 1 PTT : ON	Powermeter Ammeter	Rear panel	ANT			Check	More than 27.0W <b>K,K2</b> More than 46.0W <b>HK,HK2</b>

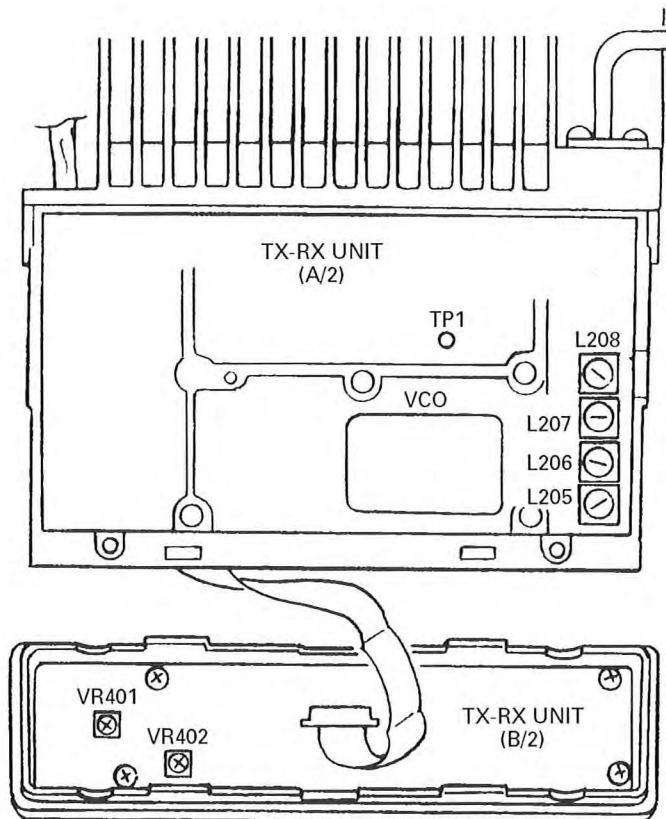
## ADJUSTMENT

Item	Condition	Measurement			Adjustment			Specifications/Remarks
		Test-equipment	Unit	Terminal	Unit	Parts	Method	
3. Power High	1) Set : Panel tuning mode. Tuning item : 2L CH : 2 – Sig : 1 PTT : ON	Powermeter Ammeter	Rear panel	ANT	Front panel	SCN or D/A key	Up/down for tuning data.	25.0W±1W <b>K,K2</b> 45.0W±1W <b>HK,HK2</b>
	2) Tuning item : 2E CH : 1 – Sig : 1 PTT : ON							<b>K,K2</b> 25.0W±1W, Less than 7.0A <b>HK,HK2</b> 45.0W±1W, Less than 11.0A
	3) Tuning item : 2H CH : 3 – Sig : 1 PTT : ON							25.0W±1W <b>K,K2</b> 45.0W±1W <b>HK,HK2</b>
	4) Tuning item : 3 CH : 1 – Sig : 1 PTT : ON							Less than 2.0W <b>K,K2</b> Less than 10.0W <b>HK,HK2</b>
4. DQT balance	1) Set : Panel tuning mode. Tuning item : 4 CH : 1 – Sig : 6 Deviation meter filter LPF : 3kHz HPF : OFF De-emphasis : OFF PTT : ON	Powermeter Deviation meter Oscilloscope  AF VTVM AG	Rear panel	ANT	Front panel	SCN or D/A key	Up/down for tuning data. Make the de- modulation wave- form neat.	Flat the A parts.  
	2) Ch : n1 – Sig : 6 (Narrow) PTT : ON		Front panel	MIC				
5. Maximum deviation	1) Set : Panel tuning mode. Tuning item : 5L CH : 2 – Sig : 1 AG : 1kHz/50mV Deviation meter filter LPF : 15kHz HPF : OFF De-emphasis : OFF PTT : ON						Up/down for tuning data. According to the larger +, -.	Wide ±4.1kHz ± 0.1kHz Narrow ±2.05kHz ± 0.05kHz  Oscilloscope waveform is is not abnormal.
	2) CH : n2 – Sig : 1 (Narrow) PTT : ON							
	3) Tuning item : 5E CH : 1 – Sig : 1 PTT : ON							
	4) CH : n1 – Sig : 1 (Narrow) PTT : ON							
	5) Tuning item : 5H CH : 3 – Sig : 1 PTT : ON							
	6) CH : n3 – Sig : 1 (Narrow) PTT : ON							
6. MIC sensitivity	1) Set : Panel test mode. CH : 1 – Sig : 1 AG : 1kHz/5mV Deviation meter filter LPF : 15kHz HPF : OFF De-emphasis : OFF PTT : ON						Check	±2.5~±3.5kHz Oscilloscope waveform is not abnormal. If you need to adjust, you can adjust by VR401 on the TX-RX unit (B/2).

## ADJUSTMENT

Item	Condition	Measurement			Adjustment			Specifications/Remarks
		Test-equipment	Unit	Terminal	Unit	Parts	Method	
7. QT deviation	1) Set : Panel tuning mode. Tuning item : 5 CH : 1 – Sig : 4 Deviation meter filter LPF : 3kHz HPF : 50Hz PTT : ON	Powermeter Deviation meter Oscilloscope  AF VTVM AG	Rear panel	ANT	Front panel	SCN or D/A key	Up/down for tuning data.	Wide 0.75kHz±50Hz Narrow 0.35kHz±25Hz
	2) CH : n1 – Sig : 4 (Narrow) PTT : ON			Front panel				
8. DQT deviation	1) Set : Panel tuning mode. Tuning item : 7 CH : 1 – Sig : 6 Deviation meter filter LPF : 3kHz HPF : OFF PTT : ON							
	2) CH : n1 – Sig : 6 (Narrow) PTT : ON							
9. DTMF deviation check	1) Set : Panel test mode. CH : 1 – Sig : 8 Deviation meter filter LPF : 15kHz HPF : OFF PTT : ON						Check	±2.6~±3.9kHz If you need to adjust, you can adjust by VR402 on the TX-RX unit (B/2).

### Adjustment Points



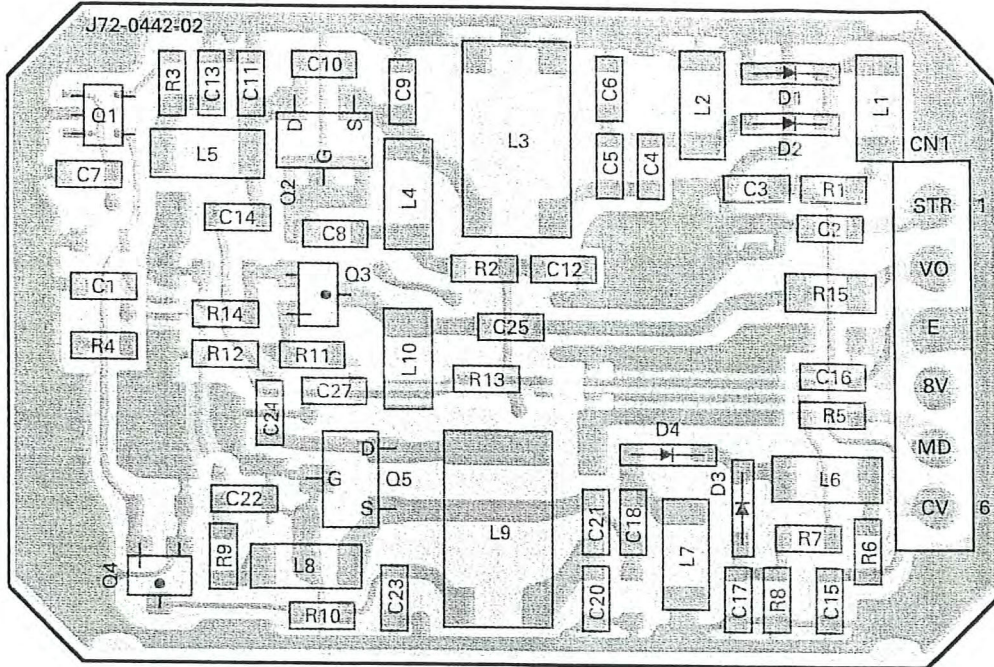
L205~208 : Sensitivity  
 VR401 : MIC sensitivity  
 VR402 : DTMF deviation

## TERMINAL FUNCTION

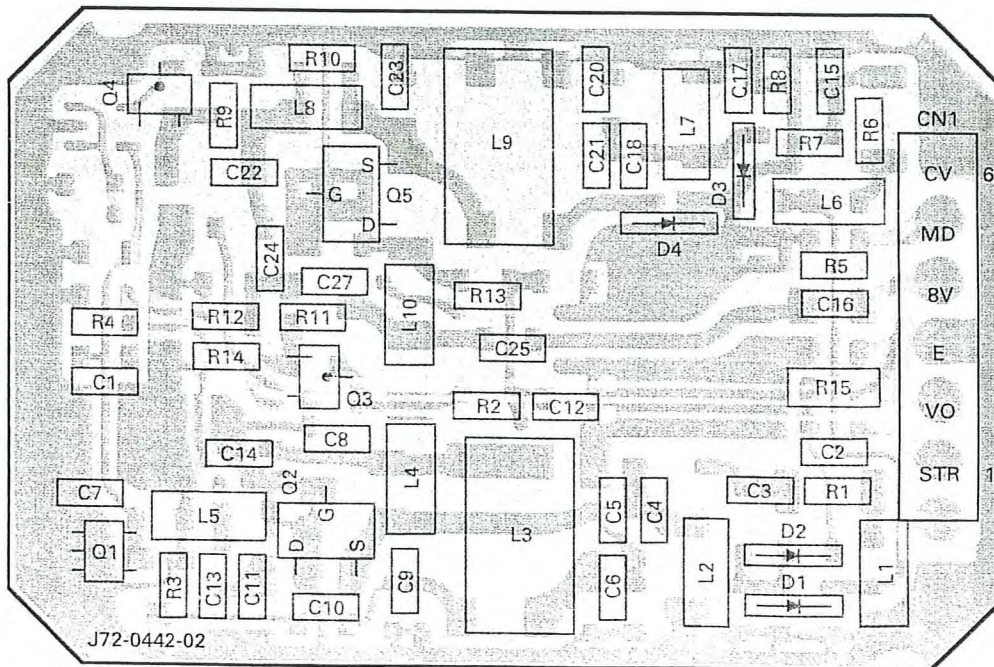
CN No.	Pin No.	Pin name	I/O	Function	CN No.	Pin No.	Pin name	I/O	Function	
<b>TX-RX UNIT (A/2) : TX-RX section</b>					<b>TX-RX UNIT (B/2) : Control section</b>					
CN1 To KCT-19	1	DEO	O	Detection signal output (650mV/47kΩ).	CN201 To KAP-1 J1	1	PA	O	Relay for PA function in KAP-1 control signal. PA on : "H", PA off : "L"	
	2	AHK	I	External HOOK signal input. On hook : "L", Off hook : "H"		2	SPO	I	Audio signal input from KAP-1.	
	3	IGN	I	Ignition input for KCT-18.		3	SPI	O	Audio signal output to KAP-1.	
	4	DI	I	External modulation signal input.				EXT SP	O	Output for external speaker (4W/5% distortion).
	5	ME	-	MIC earth.				DC 13.6V	I	Power supply input (DC 13.6V±15%).
	6	MI	I/O	Internal MIC signal output, External MIC signal input (Standard modulation at 600Ω, 5mV).				ANT	I/O	Connect for ANT connector.
	7	PTT	I	External PTT signal input. GND : TX, Open : RX	<b>TX-RX UNIT (B/2) : Control section</b>					
	8	SO	O	Squelch signal output. Carrier in : Active "H"	CN401 To TX-RX section	1	E	-	Earth.	
CN2 TO KCT-19	1	AM	I	Audio mute signal input. Mute : "H", Unmute : Open		2	MO	O	Modulation signal output.	
	2	MM	I	MIC mute signal input. Mute : "H", Unmute : Open		3	PSW	O	Power switch control signal output. Power switch on : 0V	
	3	TXS	O	Signal indicating whether the transceiver is transmitting or not. TX : "H", Another condition : "L"		4	DEO	I	Detection signal input.	
CN4 To KCT-19 or KAP-1	1	HOR	O	Horn alert control signal output. Signal output for horn relay drive (open collector), "L" level during horn drive : max. sink current 100mA. Earth.		5	MM	I	MIC mute signal input.	
	2	E	-	Earth.		6	DI	I	External modulation signal input.	
	3	SB	O	Power output after power switch (+13.6V±15%, 1.8A max.).		7	NC	-	Not connection.	
CN5 To INT. SP or KCT-19	1	SP	O	Output for internal/external speaker.		8	AFO	O	Audio signal output.	
	2	E	-	Earth.		9	8C	I	Common 8V input.	
CN6 To Control section	1	E	-	Earth.		10	ME	-	MIC earth.	
	2	MO	I	Modulation signal input.		11	MI	O/I	internal MIC signal output. External MIC signal input.	
	3	PSW	I	Power switch control signal input. Power switch on : 0V		12	AHK	I	External HOOK signal input. On hook : "L", Off hook : "H"	
	4	DEO	O	Detection signal output.		13	SB	I	Power output after power switch. (+13.6V±15%)	
	5	MM	O	MIC mute signal output.		14	SB	I	Power output after power switch. (+13.6V±15%)	
	6	DI	O	External modulation signal output.		15	KEY	O	KEY signal output. TX : "H"	
	7	NC	-	Not connection.		16	CK	O	Clock output for PLL/shift register/D-A converter.	
	8	AFO	I	Audio signal input.		17	DT	O	Data output for PLL/shift register/D-A converter.	
	9	8C	O	Common 8V output.		18	BUSY	I	S-meter voltage input (Not use).	
	10	ME	-	MIC earth.		19	LD	I	Lock detect input for PLL. Lock : "H", Unlock : "L"	
	11	MI	I/O	Internal MIC signal input. External MIC signal output.		20	ES	O	Enable output for shift register.	
	12	AHK	O	External HOOK signal output. On hook : "L", Off hook : "H"	21	TXS	O	Signal indicating whether the transceiver is transmitting or not. TX : "H", Another condition : "L"		
	13	SB	O	Power output after power switch. (+13.6V±15%)	22	HNC	O	Horn control signal output. Horn on : "H", Horn off : "L"		
	14	SB	O	Power output after power switch. (+13.6V±15%)	23	EP	O	Enable output for PLL.		
	15	KEY	I	KEY signal input. TX : "H"	24	EN	O	Enable output for D-A converter.		
	16	CK	I	Clock input for PLL/shift register/D-A converter.	25	APTT	I	External PTT signal input.		
	17	DT	I	Data input for PLL/shift register/D-A converter.	26	E	-	Earth.		
	18	BUSY	O	S-meter voltage output (Not use).	J401 To MIC jack	1	SB	O	Power output after power switch (+13.6V±15%, 1.8A max.).	
	19	LD	O	Lock detect output for PLL. Lock : "H", Unlock : "L"		2	E	-	Earth.	
	20	ES	I	Enable input for shift register.		3	PTT	I/O	PTT signal input (GND : TX, Open : RX).	
	21	TXS	I	Signal indicating whether the transceiver is transmitting or not. TX : "H", Another condition : "L"		4	ME	-	MIC earth.	
	22	HNC	I	Horn control signal input. Horn on : "H", Horn off : "L"		5	MI	I	MIC signal input. (Standard modulation at 600Ω, 5mV)	
23	EP	I	Enable input for PLL.	6		HK	I/O	Hook signal input. On hook : "L", Off hook : "H"		
24	EN	I	Enable input for D-A converter.	<b>VCO : Sub unit</b>						
25	APTT	O	External PTT signal output.	CN1	1	STR	O	TX/RX VCO switch signal output.		
26	E	-	Earth.		2	VO	O	VCO signal output.		
					3	E	-	Earth.		
					4	8V	I	8V input for VCO.		
					5	MD	I	Modulation signal input.		
					6	CV	O	PLL lock voltage output.		

# PC BOARD VIEWS TK-760/762

VCO (X58-4360-XX) Component side view  
-10 : K,HK -11 : K2,HK2



VCO (X58-4360-XX) Foil side view  
-10 : K,HK -11 : K2,HK2



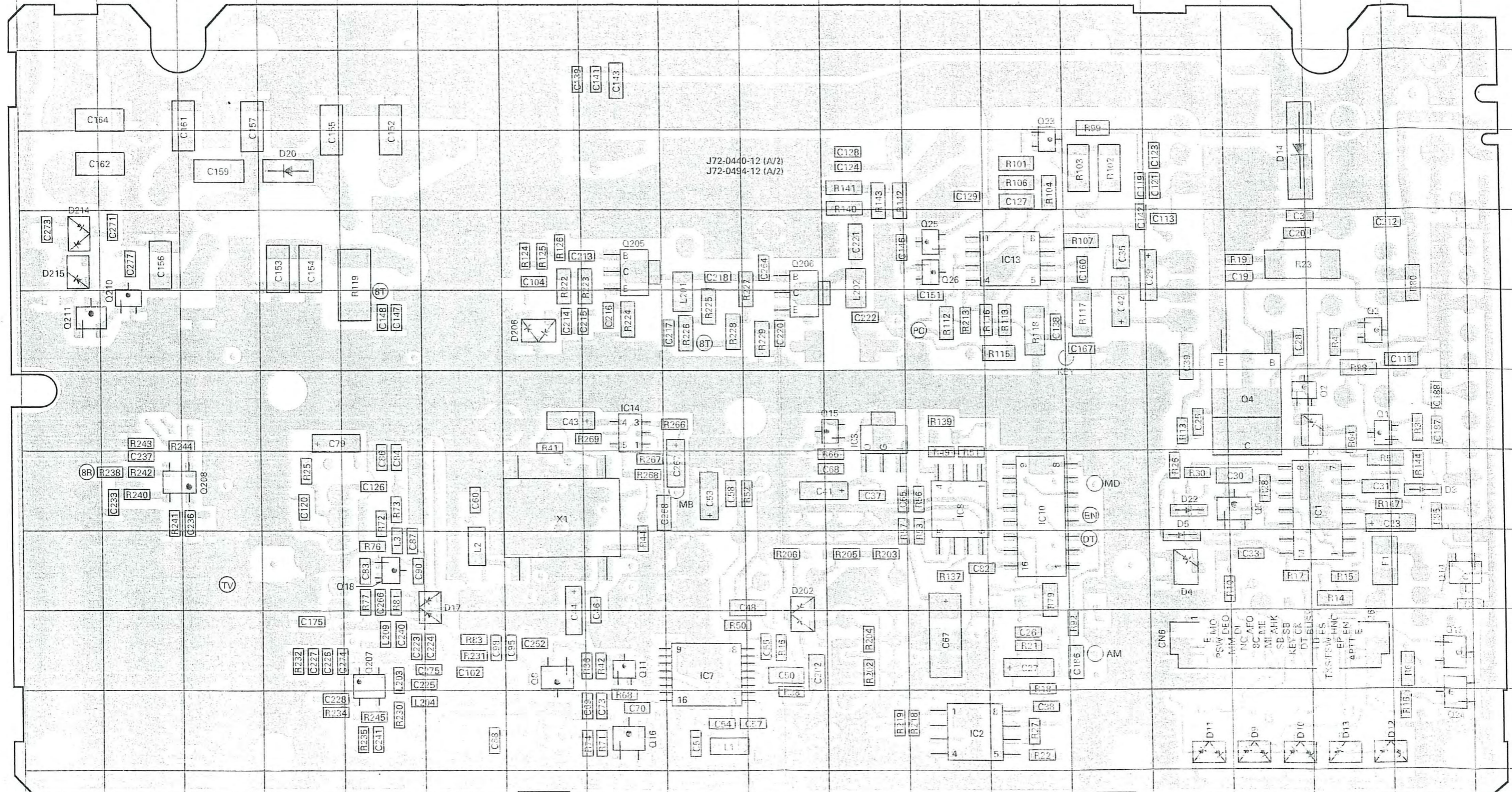
□ Component side  
 ▨ Foil side



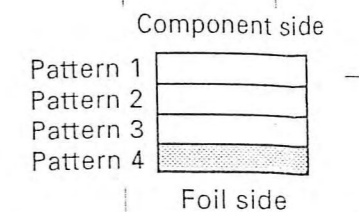
# PC BOARD VIEW TK-760/762

TX-RX UNIT (X57-4950-XX) (A/2) : TX-RX (TK-760) / (X57-5100-XX) (A/2) : TX-RX (TK-762)

Foil side view -10 : K -11 : K2 -12 : HK -13 : HK2

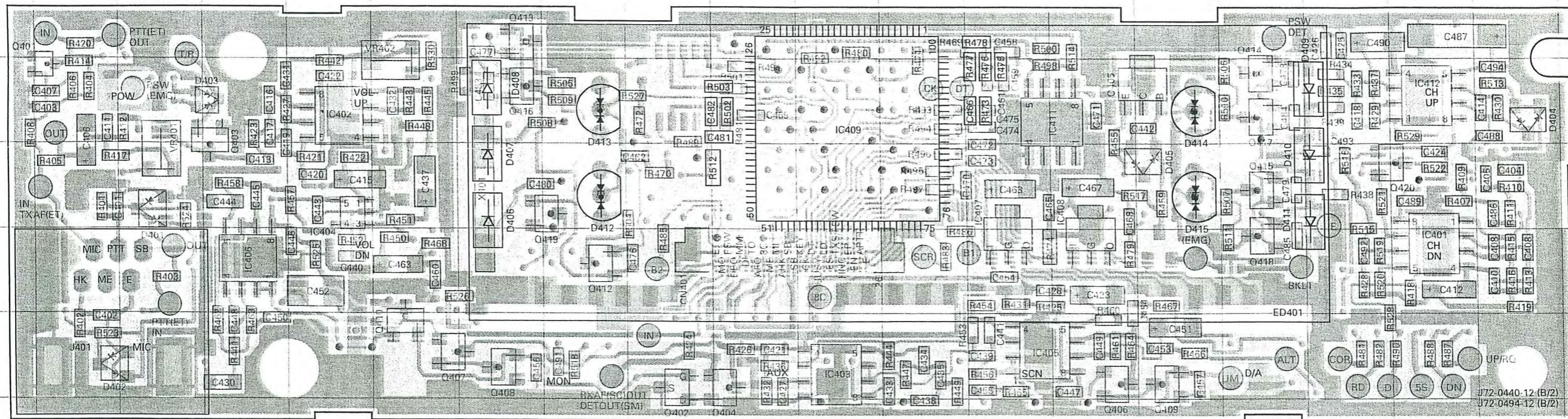


Ref No.	Address	Ref No.	Address	Ref No.	Address	Ref No.	Address	Ref No.	Address	Ref No.	Address
IC1	8Q	Q1	7Q	Q14	9R	Q205	5H	D4	9O	D17	9F
IC2	11L	Q2	7P	Q15	7K	Q206	5J	D5	9O	D20	4D
IC3	7K	Q3	6Q	Q16	11H	Q207	10E	D9	11P	D22	8O
IC7	10I	Q4	7P	Q18	9E	Q208	8C	D10	11P	D202	9J
IC8	8L	Q5	8P	Q23	4M	Q210	6B	D11	11O	D206	6G
IC10	8M	Q8	10G	Q24	11R	Q211	6A	D12	11Q	D214	5A
IC13	5M	Q11	10H	Q25	5L	D1	7Q	D13	11Q	D215	5A
IC14	7H	Q13	10R	Q26	5L	D3	8R	D14	4P		



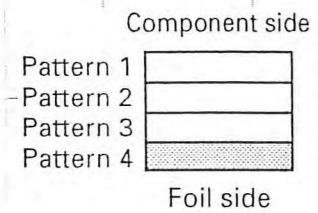
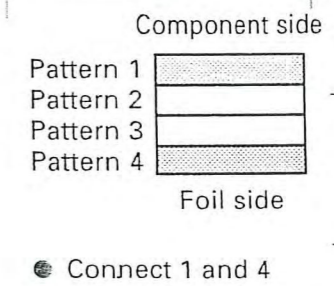


TX-RX UNIT (X57-4950-XX) (B/2) : CONTROL (TK-760) / (X57-5100-XX) (B/2) : CONTROL (TK-762)  
 Component side view + Foil side -10 : K -11 : K2 -12 : HK -13 : HK2



	TK-760	TK-762	TK-760	TK-762
C442	YES	NO	R504-507	NO
C476-479	NO	YES	R509-511	NO
C483-485	NO	YES	R517	YES
R455	YES	NO	D405-411	YES
R459	YES	NO	D412-415	NO
R475-478	YES	NO	Q405	YES
R480	YES	NO	Q412-418	NO

Ref No.	Address	Ref No.	Address	Ref No.	Address	Ref No.	Address	Ref No.	Address
IC401	5AK	IC411	3AG	Q408	6Z	Q418	4AI	D407	4Z
IC402	3X	IC412	3AK	Q409	6AH	Q419	4AA	D408	3Z
IC403	6AD	Q401	3U	Q410	6Y	Q420	4AK	D409	3AI
IC404	4X	Q402	6AB	Q412	5AA	D401	4V	D410	4AI
IC405	6AF	Q403	3W	Q413	2Z	D402	6U	D411	4AI
IC406	5W	Q404	6AC	Q414	3AI	D403	3W	D412	4AA
IC407	5AF	Q405	3AH	Q415	4AI	D404	3AL	D413	3AA
IC408	5AG	Q406	6AG	Q416	3Z	D405	4AH	D414	3AH
IC409	3AD	Q407	6Y	Q417	3AI	D406	4Z	D415	4AH



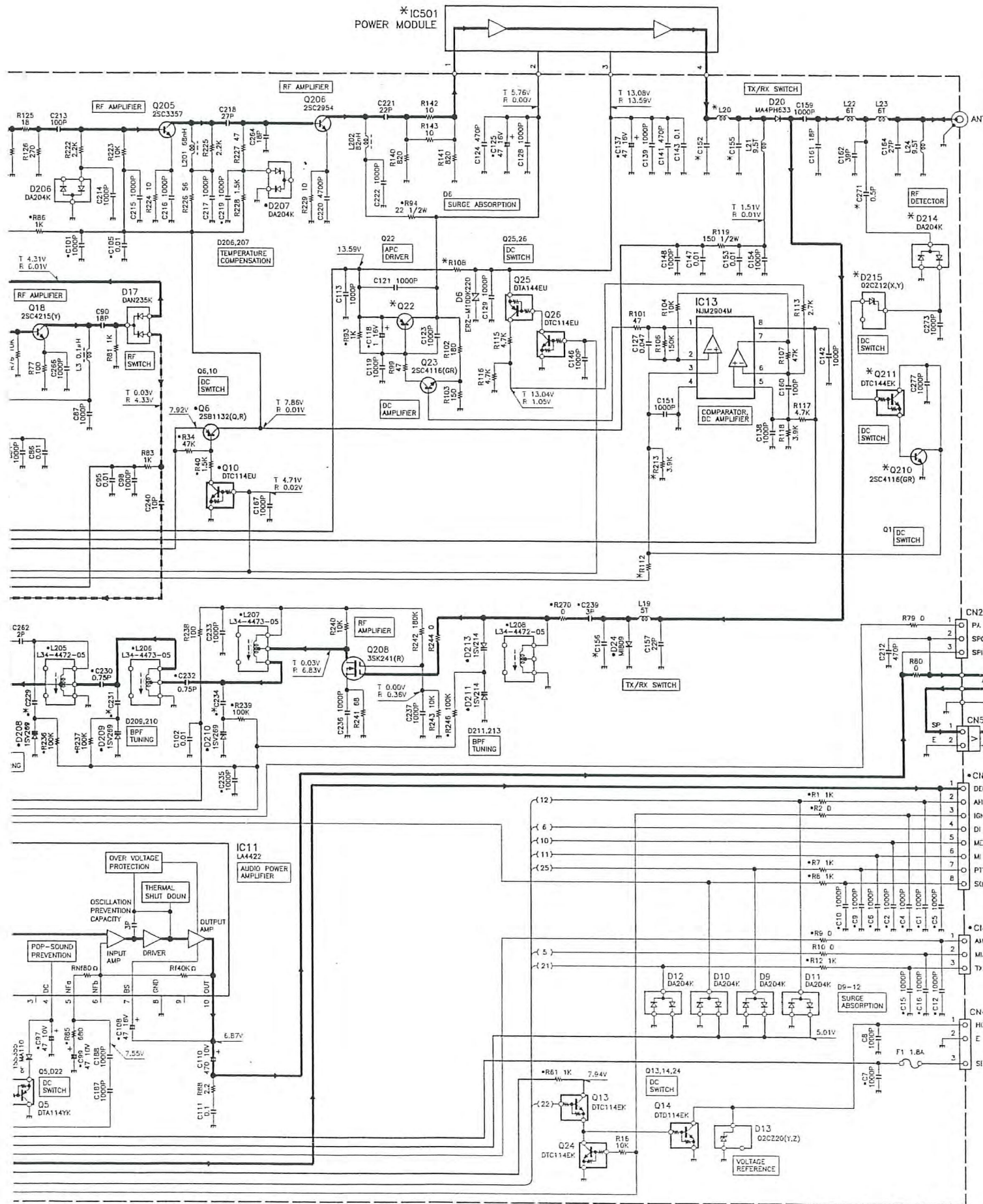
Ref No.	Address	Ref No.	Address
IC401	11R	Q408	10G
IC402	13E	Q409	9O
IC403	9K	Q410	10F
IC404	11E	Q412	11H
IC405	10M	Q413	13G
IC406	11D	Q414	13P
IC407	11M	Q415	12P
IC411	12M	Q417	12P
IC412	13R	Q418	11P
Q401	13B	Q419	11G
Q402	9I	Q420	12Q
Q403	12D	D401	11C
Q404	9J	D402	10B
Q405	13N	D403	13C
Q406	9N	D404	12S
Q407	10F	D405	12N

DTA114EK	2SA1362	2SB1132	2SA1641	2SA1757	NJM78L05UA	RH5VL42C	2SK508NV	2SJ203	TA7808S	3SK241	SGM2014M	UMG1
DTA114EU	2SC2059K	2SC2954		2SB1565	NJM78L09UA							
DTA114TK	2SC4081	2SC3357			TA78L09F							
DTA114YK	2SC4116											
DTA144EK	2SC4215											
DTA144EU												
DTC114EK												
DTC114EU												
DTC144EK												
DTC363EK												
DTD114EK												

M67741H-32	TA75S01F	NJM2904M	AT2408N10SI2.5	LA4422	BU4013BF	BU4094BCF	MC145190F	M62363FP	M38267M8L156GP
M67741L-32		NJM4558E				MC3372V			
M67781H-32		NJM4558M							
M67781L-32									

# CIRCUIT DIAGRAM TK-760/762



TK-760

USE FOR	IC501
X57-4950-10	K M67741H-32
X57-4950-11	K2 M67741L-32
X57-4950-12	HK M67781H-32
X57-4950-13	HK2 M67781L-32

TK-762

USE FOR	IC501
X57-5100-10	K M67741H-32
X57-5100-11	K2 M67741L-32
X57-5100-12	HK M67781H-32
X57-5100-13	HK2 M67781L-32

TK-760

USE FOR	R25	R51	R108	R112	R213	C152	C155	C156	C203,204	C229	C231	C234	C265,269	C271,273	L20	L209
X57-4950-10	K	120K	100K	0.047 3W	4.7K	NO	7P	12P	22P	12P	15P	12P	18P	NO	6T	150nH
X57-4950-11	K2	100K	33K	0.047 3W	4.7K	YES	12P	22P	18P	18P	18P	18P	18P	NO	6T	68nH
X57-4950-12	HK	120K	100K	0.047 5W	47K	NO	NO	7P	22P	12P	15P	12P	18P	YES	2.5T	150nH
X57-4950-13	HK2	100K	100K	0.047 5W	47K	NO	22P	22P	18P	18P	18P	18P	22P	YES	6T	68nH

TK-762

USE FOR	R25	R51	R108	R112	R213	C152	C155	C156	C203,204	C229	C231	C234	C265,269	C271,273	L20	L209
X57-5100-10	K	120K	100K	0.047 3W	4.7K	NO	12P	12P	22P	12P	15P	12P	18P	NO	6T	150nH
X57-5100-11	K2	100K	33K	0.047 3W	4.7K	YES	12P	22P	18P	18P	18P	18P	18P	NO	6T	68nH
X57-5100-12	HK	120K	100K	0.047 5W	47K	NO	NO	7P	22P	12P	15P	12P	18P	YES	2.5T	150nH
X57-5100-13	HK2	100K	100K	0.047 5W	47K	NO	22P	22P	18P	18P	18P	18P	22P	YES	6T	68nH

TK-760

USE FOR	Q22	Q210,211	D2	D14	D214,215	A1	
X57-4950-10	K	2SB1565(E,F)	NO	NO	YES	NO	X58-4360-10
X57-4950-11	K2	2SB1565(E,F)	NO	NO	YES	NO	X58-4360-11
X57-4950-12	HK	2SA1757(E,F)	YES	YES	NO	YES	X58-4360-10
X57-4950-13	HK2	2SA1757(E,F)	YES	YES	NO	YES	X58-4360-11

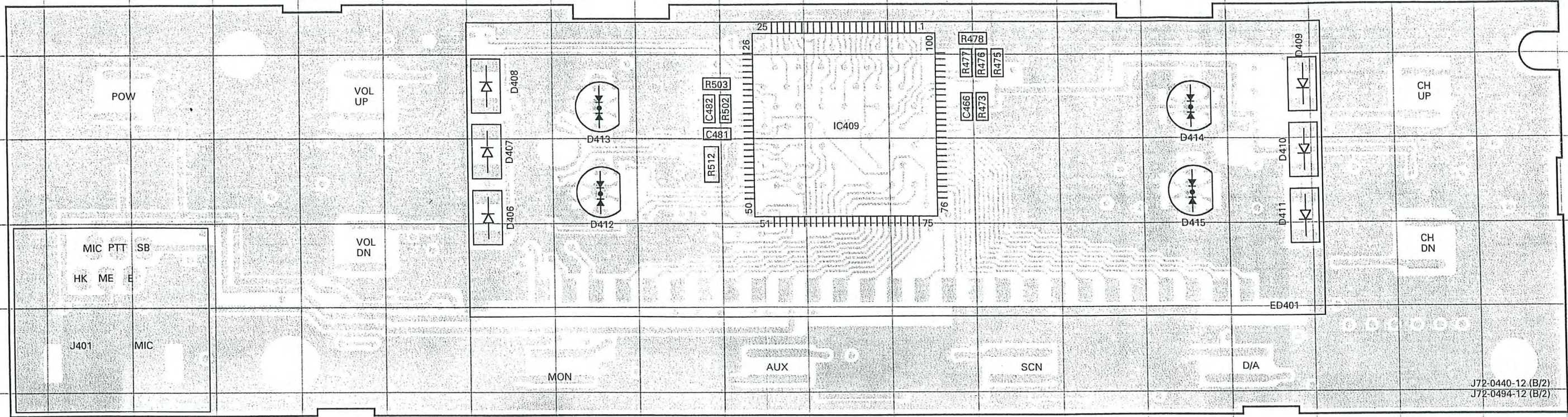
TK-762

USE FOR	Q22	Q210,211	D2	D14	D214,215	A1	
X57-5100-10	K	2SB1565(E,F)	NO	NO	YES	NO	X58-4360-10
X57-5100-11	K2	2SB1565(E,F)	NO	NO	YES	NO	X58-4360-11
X57-5100-12	HK	2SA1757(E,F)	YES	YES	NO	YES	X58-4360-10
X57-5100-13	HK2	2SA1757(E,F)	YES	YES	NO	YES	X58-4360-11

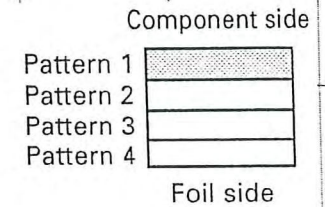
- D1 : 02C218(X,Y)
- D2 : DSA3A1-FK
- D3,5,22,212 : 1S5355 or MA110
- D4 : 02C215(X,Y)
- D6 : ERZ-M10DK220
- D9-12,206,207,214 : DA204K
- D13 : 02C220(Y,Z)
- D14 : DSM3MA1
- D17,204 : DAN235K
- D20 : MA4PH633
- D24 : M809
- D201,202,205 : DAN202K
- D208-210 : 1S269
- D211,213 : 1S214
- D215 : 02C212(X,Y)
- D1 : DTA114EU
- Q2,3,10,11,26 : DTC114EU
- Q4 : 2SA1641(S,T)
- Q5 : DTA114YK
- Q6 : 2SB1132(Q,R)
- Q8 : 2SA1362(Y)
- Q13,24 : DTC114EK
- Q14 : DTD114EK
- Q15,23,210 : 2SC4116(GR)
- Q16,209 : 2SC2059K(P)
- Q18 : 2SC4215(Y)
- Q20 : DTC363EK
- Q22 : \*
- Q25 : DTA144EU
- Q201 : DTA144EK
- Q202,204 : DTC144EK
- Q205 : 2SC3357
- Q206 : 2SC2954
- Q207 : SGM2014M
- Q208 : 3SK241(R)
- IC1 : BU4013BF
- IC2 : NJM4558M
- IC3 : NJM78L05UA
- IC4 : TA7808S
- IC6 : M62363FP
- IC7 : MC3372V
- IC8,13 : NJM2904M
- IC10 : BU4094BCF
- IC11 : LA4422
- IC14 : TA75S01F
- IC201 : TA78L09F or NJM78L09UA
- IC202 : MC145190F

# TK-760/762 PC BOARD VIEWS

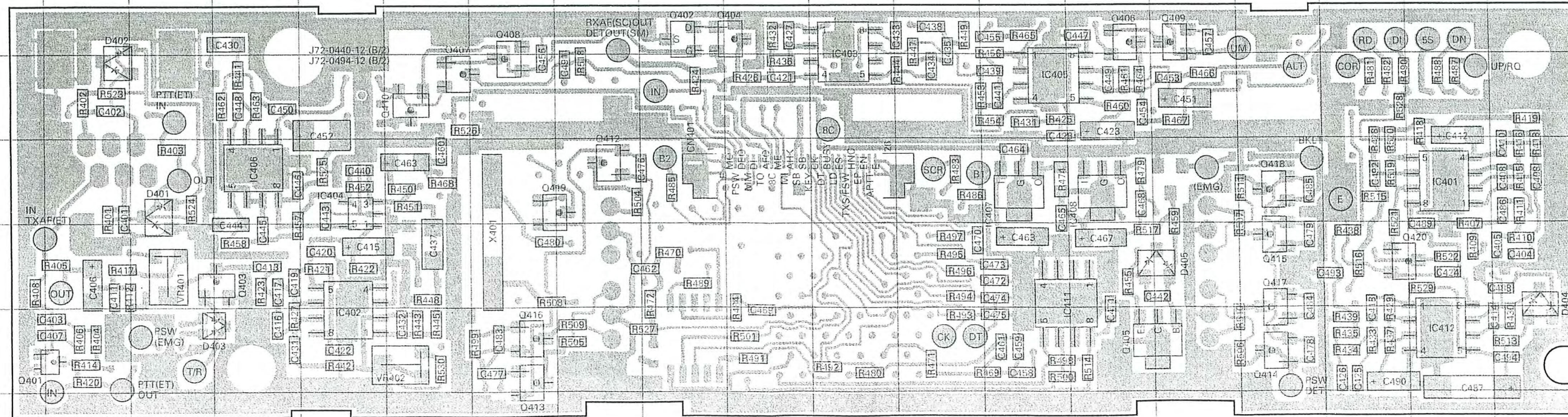
TX-RX UNIT (X57-4950-XX) (B/2) : CONTROL (TK-760) / (X57-5100-XX) (B/2) : CONTROL (TK-762)  
 Component side view -10 : K -11 : K2 -12 : HK -13 : HK2



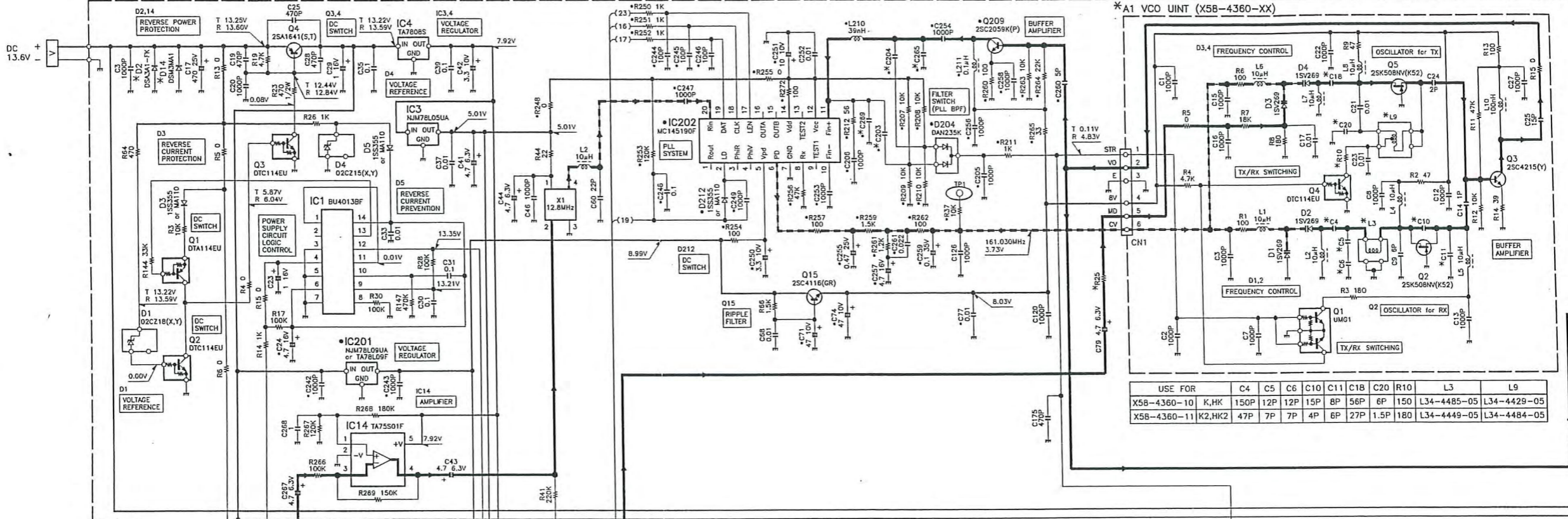
Ref No.	Address	Ref No.	Address
IC409	3K	D411	4P
D406	4G	D412	4H
D407	4G	D413	3H
D408	3G	D414	3O
D409	3P	D415	4O
D410	4P		



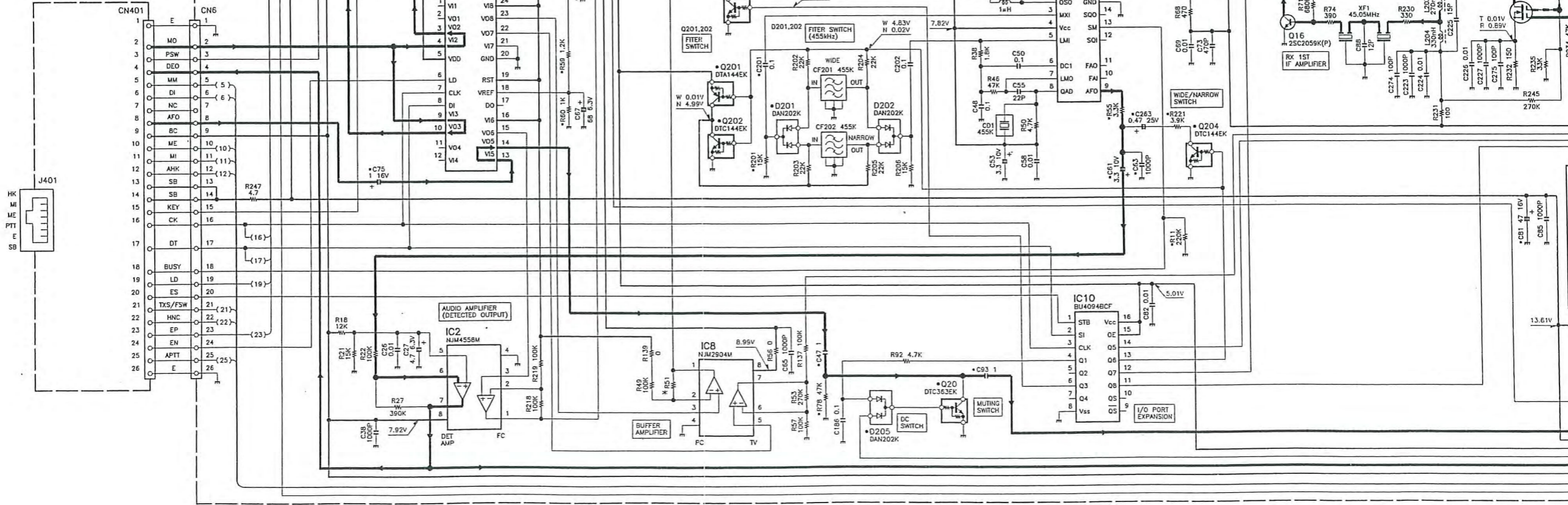
TX-RX UNIT (X57-4950-XX) (B/2) : CONTROL (TK-760) / (X57-5100-XX) (B/2) : CONTROL (TK-762)  
 Foil side view -10 : K -11 : K2 -12 : HK -13 : HK2

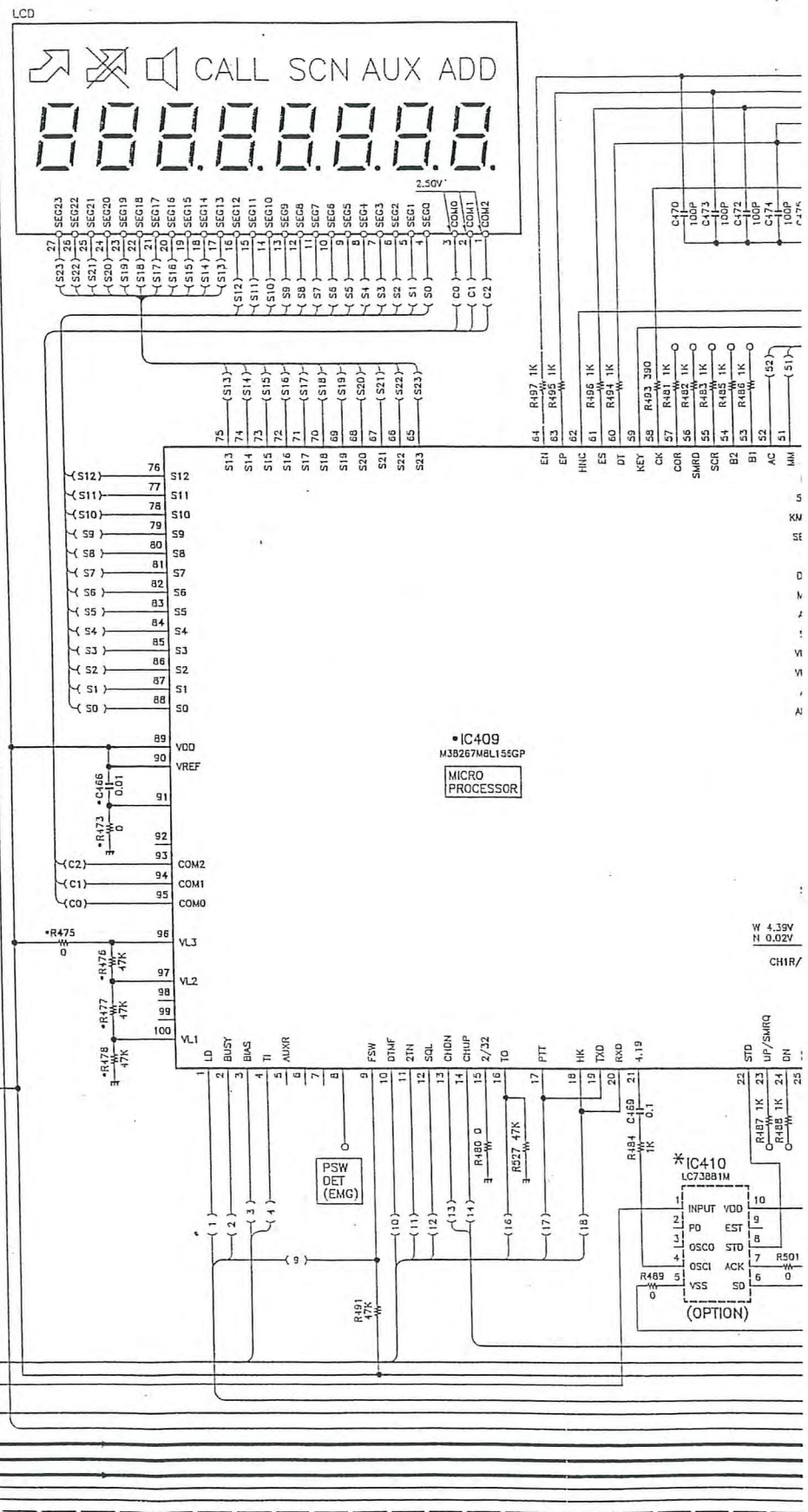
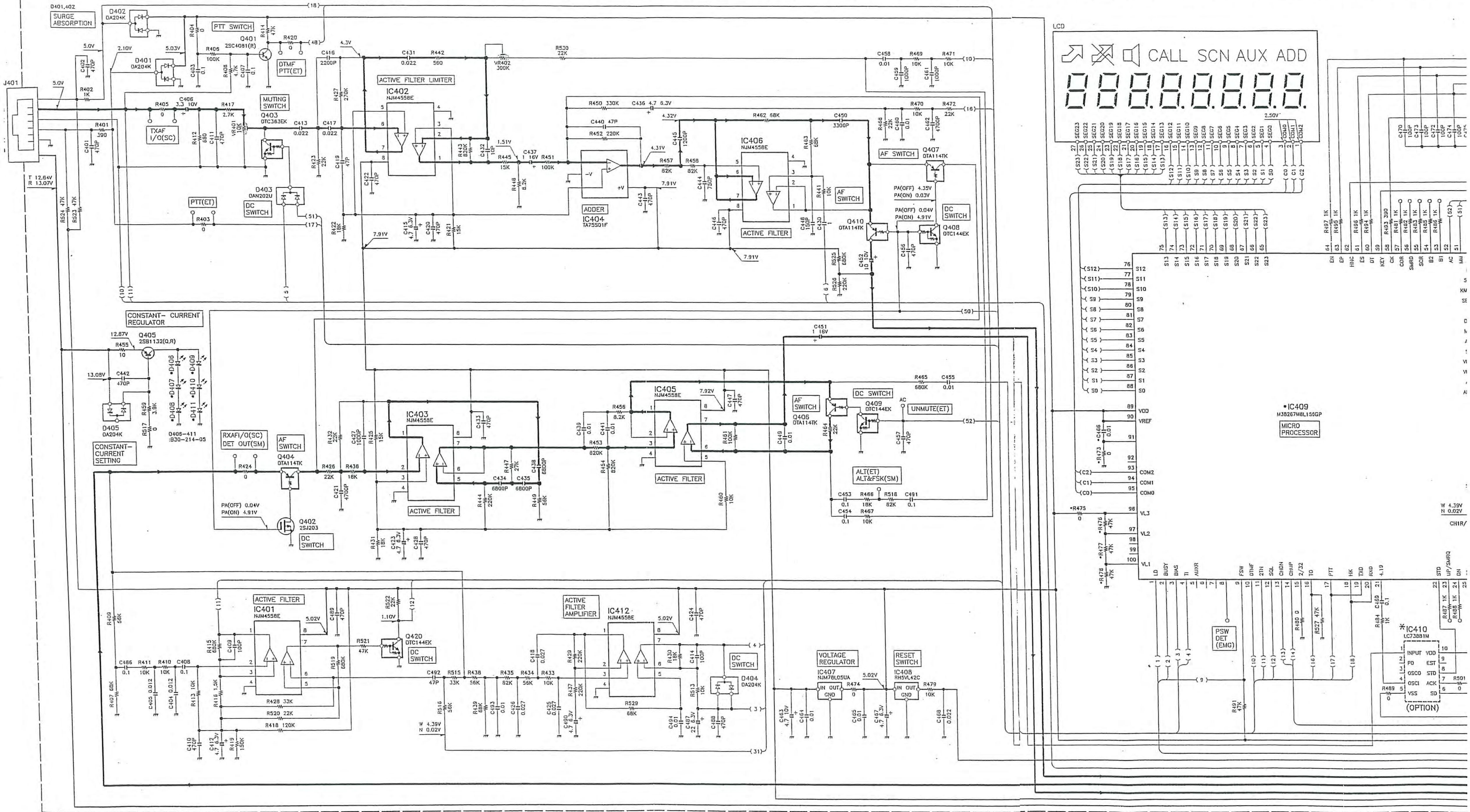


TX-RX UNIT (TX-RX SECTION) (X57-4950-XX) : TK-760  
 TX-RX UNIT (TX-RX SECTION) (X57-5100-XX) : TK-762

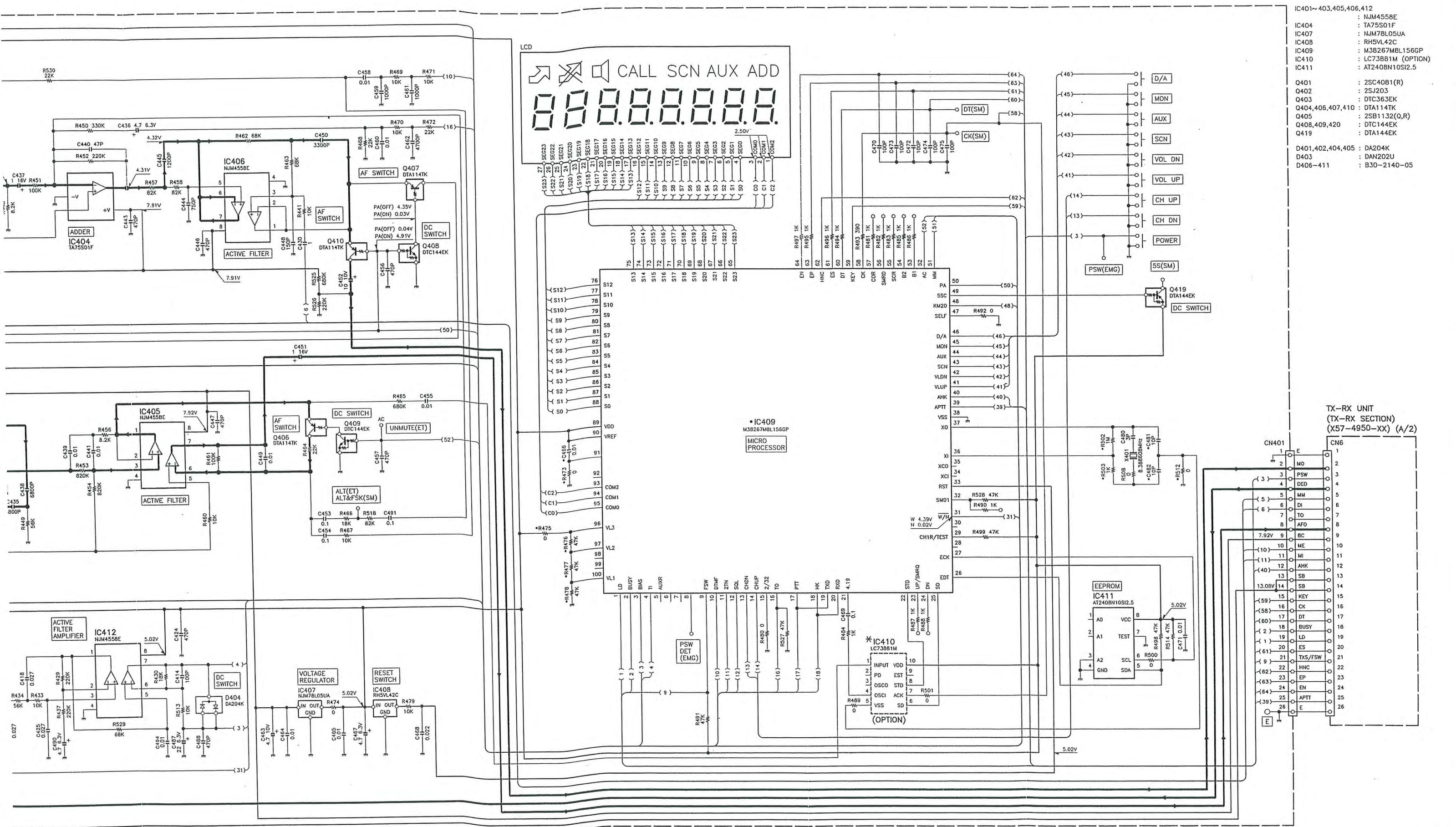


TX-RX UNIT (CONTROL SECTION) (X57- ) (B/2)





# CIRCUIT DIAGRAM TK-760

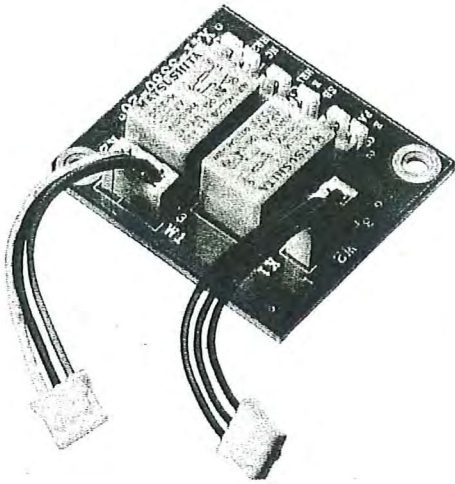


- IC401~403,405,406,412 : NJM4558E  
 IC404 : TA75S01F  
 IC407 : NJM78L05UA  
 IC408 : RH5VL42C  
 IC409 : M38267MML156GP  
 IC410 : LC73881M (OPTION)  
 IC411 : AT2408N10S12.5
- Q401 : 2SC40B1(R)  
 Q402 : 2SJ203  
 Q403 : DTC363EK  
 Q404,406,407,410 : DTA114TK  
 Q405 : 2SB1132(O,R)  
 Q408,409,420 : DTC144EK  
 Q419 : DTA144EK
- D401,402,404,405 : DA204K  
 D403 : DAN202U  
 D406-411 : B30-2140-05

TX-RX UNIT  
 (TX-RX SECTION)  
 (X57-4950-XX) (A/2)

## KAP-1 (PA/HA UNIT)

## External View



## Overview

This unit is designed as an option that is built into the TK-760/762 land mobile transceivers. It has a public address switching relay and a horn alert switching relay.

## Main Features

- **Public address (PA) function**

The PA output switching relay is controlled by turning the PA function on and off. The PA output is directed to an external equipment through the KCT-19.

- **Horn alert (HA) function**

An external equipment can be controlled by turning the HA function on and off and using signaling decode output.

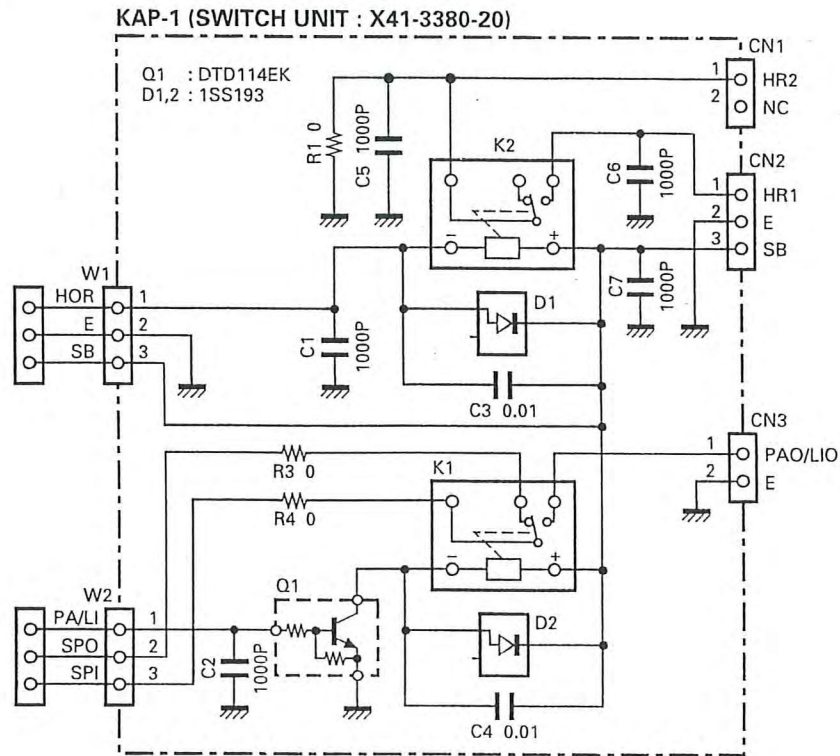
## Part List

\* : New parts

Ref. No.	New parts	Parts No.	Description
<b>KAP-1</b>			
		N87-2606-46	BRAZIER HEAD TAPTITE SCREW
	*	X41-3380-20	SWITCH UNIT
<b>SWITCH UNIT (X41-3380-20)</b>			
C1,2		CK73FB1H102K	CHIP C 1000PF K
C3,4		CK73FB1E103K	CHIP C 0.010UF K
C5-7		CK73FB1H102K	CHIP C 1000PF K
W1	*	E37-0630-05	LEAD WIRE WITH CONNECTOR
W2	*	E37-0631-05	LEAD WIRE WITH CONNECTOR
CN1		E40-3246-05	PIN ASSY (2P)
CN3		E40-3246-05	PIN ASSY (2P)
CN2		E40-3247-05	PIN ASSY (3P)
R1		R92-0670-05	CHIP R 0 OHM
R3,4		R92-0670-05	CHIP R 0 OHM
K1,2		S51-1420-05	RELAY
D1,2		1SS193	DIODE
Q1		DTD114EK	DIGITAL TRANSISTOR

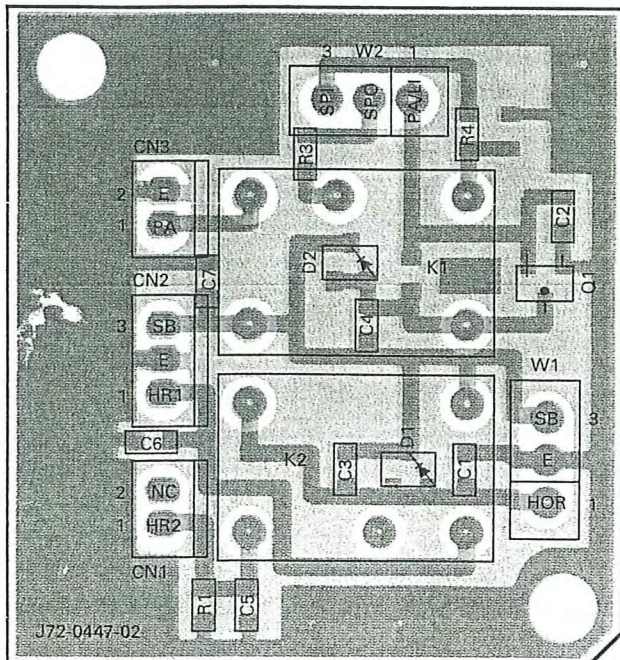
## KAP-1 (PA/HA UNIT)

### Circuit Diagram

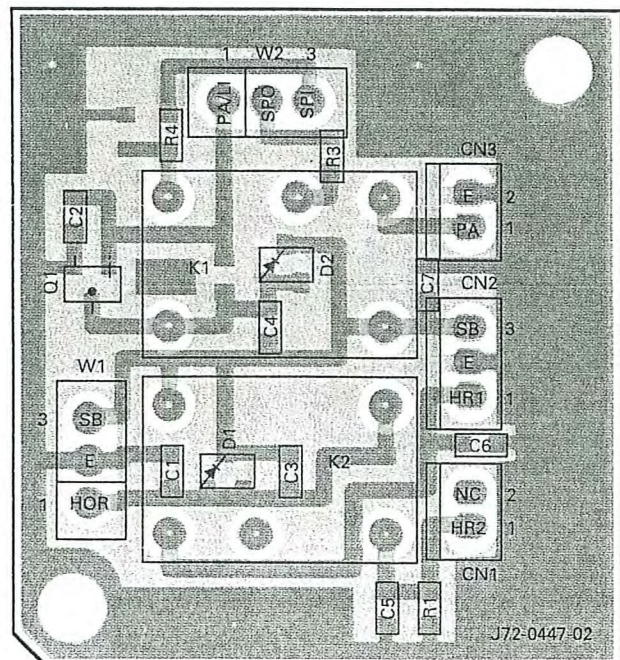




### PC Board View

SW unit (X41-3380-20) Component side view



SW unit (X41-3380-20) Foil side view



 Component side  
 Foil side

# TK-760/762/H

## SPECIFICATIONS

### General

Frequency range ..... K, HK : 148 to 174MHz    K2, HK2 : 136 to 156MHz  
Number of channels ..... TK-760 : 32 semi-duplex channels    TK-762 : 2 semi-duplex channels  
Channel spacing ..... 30/25/15/12.5kHz (PLL channel step 5kHz/6.25kHz)  
Input voltage ..... 13.6V DC negative ground  
Current drain ..... 0.4A on standby    1.0A on receive  
TK-760/762 : 8A on transmit    TK-760H/762H : 12A on transmit  
Duty cycle ..... Receiver 100%    Transmitter 20%  
Temperature range ..... -30°C to +60°C (-22°F to +140°F)  
Dimensions & Weight ..... 140 (5.51) W x 40 (1.58) H x 170.3 (6.73) D mm (inch)    1.0kg (2.20lbs)

### Receiver (Measurements made per EIA standard EIA-204-C)

RF input impedance ..... 50Ω  
Sensitivity (EIA 12dB SINAD) ..... 0.25μV/Wide    0.33μV/Narrow  
Selectivity ..... 78dB/Wide    68dB/Narrow  
Intermodulation ..... 73dB/Wide    63dB/Narrow  
Spurious and Image rejection ..... 80dB  
Audio power output ..... 4W at 4Ω less than 5% distortion  
Frequency stability ..... ±0.0003% from -30°C to +60°C  
Channel frequency spread ..... 26MHz/20MHz

### Transmitter (Measurements made per EIA standard EIA-152-B)

RF power output ..... TK-760/762 : 25W    TK-760H/762H : 45W  
Spurious and Harmonics ..... 70dB  
Modulation ..... F3E, ±5kHz/±2.5kHz for 100% at 1000Hz  
FM noise ..... Wide : 50dB    Narrow : 43dB  
Microphone impedance ..... Low impedance  
Audio distortion ..... 3% at 1kHz  
Frequency stability ..... ±0.0003% at -30°C to +60°C  
Channel frequency speed ..... 26MHz/20MHz

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