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PCS-5000

2-M FM TRANSCEIVER

INSTRUCTION MANUAL



JAPAN PIEZO CO., LTD.

CONGRATULATIONS!

You have purchased the most advanced state-of-the-art VHF FM transceiver available today. Please read this manual carefully before placing your PCS-8800 in operation. This will ensure that you obtain the maximum operating convenience and versatility.

Don't use the PCB-450 for PCS-4600 for this PCS-8800. (see page 10)

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INSTALLATION

Before connecting the PCS-5000 to the power supply, be sure that you have the polarity correct. The red lead of the power cord should go to the positive (+) terminal of the power supply or battery. The black lead should be connected to the minus (-) terminal.

In mobile installations, the system must normally be negative-ground. That is, the negative terminal of the battery should be connected to the automobile chassis. Most modern cars and trucks are negatively grounded, but a few use positive grounding. In this case, the PCS-5000 and Antenna must be insulated from the vehicle chassis or a short circuit will occur.

The rated voltage of this unit is 13.8V DC. The supply voltage may be as much as 15 percent more or less than this. Voltages less than 11.7V DC or greater than 15.0V DC will cause improper operation and possible damage to the unit.

When installing the PCS-5000 in a car or truck, be sure it is not placed in a location where it will be exposed to direct sunlight for prolonged periods. Also, keep the unit well away from heater outlets.

After parking for long periods in hot weather, the PCS-5000 should not be used for transmitting until the vehicle interior has cooled down.

After unpacking, be sure to send in the warranty card. Notify the carrier immediately if there is any evidence of damage to the unit. Keep the original packing materials in the unlikely event it becomes necessary to return the PCS-5000 for servicing.

PREOPERATION NOTES

Unlock Indicator

When the unlock indicator (UL) lights up, the phase-locked-loop (PLL) circuit is operating improperly. This will result in an unstable composite frequency. This is not likely to occur, but if it does, the transmitter and receiver will be disabled to prevent possible out-of-band transmission.

The UL indicator may briefly flash when power is first turned on, or when the channel is changed. This does not indicate a problem. However, if the UL indicator stays on for a prolonged time, a malfunction is indicated. In this case, the unit should be returned for servicing.

Lithium Backup Battery

This unit employs a long-life lithium battery for maintaining memory information when the power is shut off. The life of this battery is nominally five years. The battery should be replaced at five-year intervals to ensure memory backup.

Resetting the Microcomputer

If the displayed frequency is inaccurate, or if odd characters show up on the display, or if the keyboard keys do not function properly, the microcomputer may need to be reset. Remove the top cover of the PCS-5000, turn on the power switch, and press the reset switch inside the unit.



MAJOR FEATURES

CMOS Microcomputer Control

The built-in microcomputer employs the latest in CMOS technology, to provide you with unprecedented operating features. This microcomputer controls all of the scanning, channel selection, offset frequencies, PL tone operation, and display functions of the PCS-5000.

The lithium battery ensures that microcomputer information is stored even when power is removed.

Priority Channel Monitoring

Memory channel A2 (the first channel in memory bank A) is monitored at four-second intervals regardless of the operating condition. When a signal is received on the frequency stored in this channel, a beep will be heard.

Programmable Frequency Steps

In memory, frequency steps can be set at any value from 5kHz to 50kHz in increments of 5kHz.

Programmable PL Tone Squelch Generator

Standard PL tone frequencies (subaudibles) can be programmed into the memory channels.

Large LCD (Liquid Crystal Display)

The LCD shows the operating frequency, relative signal level (S/NF metering), memory channel in use, and various other operating functions. The LCD can be read clearly under direct sunlight. Backlighting makes it possible to read the display in total darkness.

Scan Lockout

Selected memory channels can be "locked out" from scanning. Thus, those channels are skipped over, saving scan time.

20-Channel Memory in Two Banks

Two memory banks, designated A and B, each have 10 memory channels. The memory stores frequency, offset information, and PL tone frequency as programmed.

Programmable Frequency Shift

An arbitrary offset frequency can be programmed. The default value is $\pm 500\text{kHz}$ (+ or - are chosen separately).

Wide Frequency Range

The PCS-5000 covers 140,000 to 149,995 MHz in steps of 5kHz or any multiple of 5kHz up to 50kHz.

It can be operated in 140,000 - 149,995 MHz. Though the display shows 140,000 - 149,995 MHz, a tune-up is necessary to be operated in 140,000 - 142,000 MHz.

In order to work 150,000 - 153,000 MHz, it is necessary to change the internal switch (SW301: RX board) and to tune up.

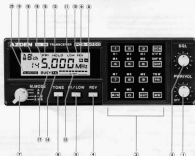
Discriminator Scan Centering

This system ensures the scanning will always stop on the correct frequency.

Various Other Features

The PCS-5000 offers numerous other operating conveniences, which are discussed in the operating instructions on the following pages.

CONTROLS AND FUNCTIONS



(1) OFF-ON/Volume Control

(2) Squelch Control

(3) Keyboard Switches

(4) Reverse Switch (REV)

When the REV switch is pressed during repeater operation, the transmit and receive frequencies are exchanged. This allows monitoring of repeater input frequencies with a minimum of inconvenience.

(5) Transmit Output Switch (M/LOW)

In HI position, output is 25W. In LOW position, output is reduced to 5W for short-range contacts.

(6) Tone Switch (TONE ON/OFF)

When this switch is on, the PL tone encoder is activated, and a subaudible tone is transmitted according to the programming.

(7) Memory Mode Switch (M MODE)

There are two memory banks, designated A and B, which can be used in four different ways according to the setting of the M MODE switch.

- When M MODE is at A, the memories from A bank only are accessed. This is indicated on the memory bank indicator (18).
- When M MODE is at B, the memories from B bank only are accessed. This is indicated on the memory bank indicator (18).

(C) When **MR MODE** is set at A-B, memories are selected sequentially, first from A bank, then from B bank, in order A0-A9, B0-B9, A0-A9 and so on.

(D) When **MR MODE** is set at A x B, signals are received on frequencies stored in the A bank, and transmission occurs at corresponding channels in B bank. For example, if 148.180MHz is stored at channel A2 and 148.900MHz is stored at channel B3, reception will be at 148.180MHz and transmission at 148.900MHz. The A x B mode allows any nonoverlapping split to be employed, as long as both the receiving and transmitting frequencies are within the range 140-200-148.990MHz.

More details concerning memories, readout and scanning are given in the sections **How to Store Frequencies in Memory**, **Calling Memory Channels**, **Memory Scanning**, and **Setting/Releasing Lockout Channels**.

(R) Minus Shift Indicator

When the minus shift indicator [-] is lit, transmission occurs at a frequency below the receiving frequency, according to the preset value of shift.

(P) Plus Shift Indicator

When the plus shift indicator [+] is lit, transmission occurs at a frequency above the receiving frequency, according to the preset value of shift.

(RV) Reverse Mode Indicator

When the reverse-operation mode is in use, this indicator is lit.

(LP) Low Power Indicator

When the transmit output is set at low power (5W), this indicator comes on. In the high-power (25W) mode, this indicator is not lit.

(SI) Signal Indicator

This indicator shows the relative (incoming) signal strength in the receive mode, and the relative transmitter output power in the transmit mode.

Note: Even in high-power transmit mode, it is possible that not all of the indicators will come on. This may happen if the antenna SWR is much higher than 1:1.

(HOLD) Hold Indicator

This indicator tells you that scanning is in the HOLD mode. In this scan mode, scanning will stop at any occupied channel, and will resume when the signal disappears. If the HOLD indicator is not lit, the unit is in the delay scan mode. In this mode, scanning will stop at any occupied channel and then resume after six seconds, whether or not the signal disappears. Scan mode is selected by pressing the EMF key during scan operation.

(TX) Transmit Indicator

This indicator lights up when the PTT switch is depressed, indicating that the unit is in the transmit mode.

(15) Priority Indicator (PRI)

This indicator lights up to tell you that the unit is in the priority mode. (See priority on page 12)

(16) Frequency Indicator

(17) Busy Indicator (BUSY)

This indicator lights up when the unit is receiving signals over squelch threshold level, indicating that a channel is in use.

(18) Memory Address

(19) Memory Bank Indicator

When memory bank A is selected, this indicator shows A; when bank B is selected it indicates B.

(20) Memory Mode Indicator (M MODE)

This indicator lights up when the PCS-5000 is in the memory mode. In this mode, the ten numeric keys function as memory address keys, and the scan keys as memory scan keys. When M MODE is not lit, the unit is in the direct mode. Then the ten numeric keys function to enter frequencies, frequency steps and tone frequencies, and the scan keys function as band scan keys.

(See keyboard, page 7)

KEYBOARD

(1) Setting Frequencies

Before attempting to set frequencies, check to see whether or not the unit is in the memory mode (M MODE lit or not). If M MODE is lit, press the M/D key once to return the unit to the direct mode.

The frequency is set by means of the ten numeric keys, starting with the digit of 10kHz, then 100kHz, 10kHz and 1kHz (either 0 or 5). The display will flicker upon completion of a frequency entry. Press the ENT key to enter the frequency into the microcomputer. The flickering will stop once the programming of frequency is complete.

Once the frequency has been entered down to the 1kHz digit, the ten numeric keys are disabled.

If a frequency is entered without setting all of the digits (say, the 10kHz and 1kHz digits are not set), the unset digits are automatically set to 0 when the ENT key is pressed.

If digits other than 0 or 5 are set at the 1kHz level, digits from 1 to 4 are set to 0, and digits from 6 to 9 are set to 5, once the ENT key is pressed.

Example Suppose you want to set 145,000kHz in the direct mode. Then you would first confirm that the M MODE indicator is not lit; then you would press the 5 key; then you would press ENT.

For European models, the following frequencies will be set according to the number in the 10kHz spot when ENT key is pressed. This will occur regardless of the number set at 1kHz. In this case the digit of 10kHz is not displayed.

10kHz	Frequency
0	14X.XX000 kHz
1	14X.XX025 "
2	14X.XX050 "
3	14X.XX075 "
4	14X.XX100 "
5	14X.XX150 "
6	14X.XX200 "
7	14X.XX250 "
8	14X.XX300 "
9	14X.XX350 "

M/D



5



ENT



(2) Setting Frequency Steps

Release M MODE, select the code of the desired frequency step from the table below, set a number in the 1kHz digit according to

the step you want, and then press SCN key. Confirm which bank, A or B, is selected, because each can accommodate different frequency steps.

Code (Frequency)	0	1	2	3	4	5	6	7	8	9
for USA Model	5	10	15	20	25	30	35	40	45	50
for EU Model	0.5	25	37.5	50	62.5	75	87.5	100	112.5	125

Band scanning and UP/DOWN frequency operation can be done in the steps set here. (See Programmable Band Scan on page 12 and Microphone on page 13.)

Example: You want to set the frequency step at 10kHz. First you confirm that the unit is not in the memory mode (M MODE) red lit. Then you press 1. The display will flicker. Then you press SCN to enter the step in the microcomputer. Two beeps will be heard, confirming entry. The default step value is 5kHz. Thus, if you do not set a value in the microcomputer, it will automatically be programmed for a step of 5kHz. "0" is for 15kHz steps, "0" is for 5kHz steps.

1



SCN



(3) Setting Shift Width and Direction

This function is to be used with repeaters, when the input and output frequencies differ by a certain amount.

Shift width can be set according to digits from 1MHz down to 1kHz. The default value is 500kHz, either plus or minus as selected. Pressing the SHF key will indicate + on the display; pressing it again will show -. A third actuation will return the unit to simplex operation. The + indicates upward shift, the - indicates downward shift. That is, when + is indicated, the transmit frequency will be above the receive frequency; when - is displayed, the transmit frequency will be below the receive frequency.

The shift value is set by pressing the desired digits and then pressing SHF key. Digits in the 1kHz position are rounded off to either 0 or 5 as previously discussed under Setting Frequencies.

If a shift is selected that would result in transmission outside of the range 140.000-149.995 MHz, the unit will revert to simplex operation.

5



SHF



(4) Setting PL Tone Frequency

Any of the standard PL tone frequencies can be programmed into the microcomputer. The table below shows the keys to be pressed in order to set the various tone frequencies. Key codes from 00 to 31 in the digits of 1584z and 100Hz; then press (PR) key. Do not press keys other than 00 through 31; this will result in no PL tone input.

CODE	Freq. (Hz)	CODE	Freq. (Hz)	CODE	Freq. (Hz)	CODE	Freq. (Hz)
00	0	10	88.5	24	114.5	30	154.4
01	87.0	11	91.5	25	115.5	31	155.7
02	91.9	12	94.5	26	120.0	00	162.2
03	94.4	13	97.4	27	127.3	01	167.8
04	97.0	14	100.0	28	135.8	02	173.8
05	99.7	15	103.5	29	145.3	03	179.8
06	102.5	16	107.2	30	155.3	04	186.2
07	105.4	17	110.9	31	160.2	05	192.8

To select 88.5Hz: first select direct mode with M/D key. Press numeric key 0, the display will flicker. Press numeric key 8, then press TMR (PR) key, the display will indicate the operating frequency and two beeps will be heard to verify entry of the PL tone frequency. The last PL tone frequency selected will be entered during subsequent memory write (MR) operations. If no tone is desired the PL code 00 may be entered.

0 → 8

158.4 MHz

PR

15.000 MHz

For European models, the tone-burst frequency is fixed at 1750Hz.

(B) How to Store Frequencies in Memory

To store frequencies in memory, set the M MODE switch to either the A or B position, depending on whether you want to store information in an A channel or a B channel. Select the memory address, 0 through 9. Then press the MW key. The memory channel indicator will flicker. Enter the address to be stored by means of the ten numeric keys.

For example, if you want to write 145.500MHz in channel A5, first select the frequency 145.500MHz (by pressing 5). Set M MODE to A, press MW, and then enter the channel address (5).

Each bank has ten memories; thus you can store up to 20 different channels. Shift direction (plus or minus) and PL information can also be stored independently in each of the memories.

With M MODE at the A or B position, the MW key is disabled. To write in memory, the M MODE switch must be either at A or at B.

(B) Recalling Memory Channels

To call a frequency in a particular memory channel, first set the M MODE switch to either A or B. Press M/D key to put the PCS-6600 in the memory mode condition, if the unit is in direct mode. Confirm that M MODE indicator is lit. Call the desired channel by pressing one of the ten numeric keys, according to the address of the channel you want. For example, to call channel A5, first set M MODE to A, press M/D key if M MODE indicator is not lit, then press 5.

When a frequency is recalled, the shift direction, tone frequency, and channel lockout (if applicable) are also called. The tone frequency will not normally be displayed when a channel is recalled. To display the tone frequency, press ENT key after recalling the channel frequency. This will facilitate display of the tone frequency.

To return to direct mode from the memory mode, press M/D again. This will return the unit to the frequency in use prior to entering memory mode.



M/D



MW



B



5



(7) Memory Scanning

Memory scanning is initiated by pressing the SCN key while in the memory mode. Scanning occurs at approximately six channels per second in the memory scan mode. The scan will begin at the channel following the indicated one. That is, if you are at memory address 5 and press SCN, the scanning will begin at address 6.

When M MODE is set to A, scanning occurs only in memory bank A. The sequence is ... A0, A1, A2, ..., A9, A0, A1, A2, ... with the exception of channels that have been locked out.

When M MODE is set to B, scanning occurs only in memory bank B. The sequence is ... B0, B1, B2, ..., B9, B0, B1, B2, ... with the exception of channels that have been locked out.

When M MODE is set to A-B, scanning occurs in both banks alternately. The sequence is ... A0, A1, A2, ..., A8, B0, B1, B2, ..., B9, A0, A1, A2, ... with the exception of channels that have been locked out.

When M MODE is set to A-B, scan sequence is similar to that in A bank. The PCS-5000 will scan memory bank A, searching for incoming signals. The locked-out channels are skipped. But when transmission is attempted, the signal will be sent out at the corresponding channel in B bank.

As an example, suppose you want to scan A bank. First make sure the unit is in the memory mode. (If M MODE indicator is not lit, press M/D key.) Set M MODE switch to A. Press SCN key.

If a channel is locked out it will not be scanned (see below for lockout/release instructions). If all of the channels are locked out, MOCH will appear on the frequency indicator, and no channels will be scanned.

M/D

8 on
145.000 MHz
LOCKED

SCN

8 on
145.100 MHz
LOCKED

(8) Setting/Releasing Lockout Channels

First, call the channel you want to lock out. (See instructions under Recalling Memory Channels.)

Press the numeric key corresponding to the address of the channel you have called, a second time. Now the memory bank indicator will flicker, telling you that the memory channel has been locked out of the scanning sequence. Pressing the address key once again will release the lockout.

You can lock out any or all the memory channels as you choose. This will improve scanning efficiency when you do not want to scan all of the channels in a particular bank. For example, suppose you want to lock out channel A5. First call channel A5. Then press the key 5; the display will flicker.

Auto-Patch Operation

During transmit, the keytone functions as a 10 key auto-patch when the two push-to-talk microprocessors detect the carrier frequency of a standard pair of tones.

The bottom (PTT) and (TX) LEDs will flash when a tone pair is not in the order 1-2 key system.

The 10 tone pairs have deviation of plus or minus 5 kHz either

way, but is extremely adjustable. The tones are not audible from the speaker if they are sent. To use the auto patch, first press the push-to-talk lever. Then using the keypad, dial the channel frequency of the station to be scanned. The auto-patch system, when set from memory, dial the desired radio station number.

For additional information, consult your local registered radio

If you lock out all of the memory channels from the scan list, NOCH will be displayed and no scanning will take place.

[B]



[B]



(8) Programmable Band Scan

In band-scan mode, scanning occurs between limits set in channel A8 and A9, B8 and B9, or both.

In memory mode A (M MODE at A position), frequencies are scanned between the limits set in A8 and A9.

In memory mode B (M MODE at B position), frequencies are scanned between the limits set in B8 and B9.

With M MODE at A-B position, scanning will occur first between the limits A8 and A9, then between the limits B8 and B9, in repeating sequence.

With M MODE at A-B, scanning occurs in the same way as in memory mode A. Band scanning takes place at about nine channels per second. The lower limit frequency should be stored in A8 or B8, and the upper limit frequency in memory A9 or B9. If the frequency in address B is higher than that in address A, ERRO is displayed and no band scanning occurs.

As an example, suppose you want to scan between 146.520MHz and 147.500MHz. Program 146.520 into channel A8, and 147.500 into channel A9. Select direct mode by pressing M/D so that M MODE indicator is no lit. Set the M MODE switch to A, and press SCN key.

[M/D]



[SCN]



(10) Scanning Stop

Scanning will be stopped, either in memory mode or direct mode, by pressing any of the following keys: 0 through 9, M/D, UP, DOWN, or the microphone PTT switch. When memory scan is stopped by pressing any of the numeric keys 0 through 9, the channel selected can be called directly. If the microphone PTT switch is used to stop scanning, pressing the switch a second time will initiate transmission. When scan is stopped at a channel in the receive mode, transmission occurs immediately when the PTT switch is pressed.

(11) Priority

Pressing the PRS key will initiate priority monitoring of the frequency stored in memory channel A9. The display will indicate this condition by showing the letters PRS. The channel is monitored every four seconds for the presence of a signal. If a signal appears over the squelch level at the frequency stored in A9, a beep will sound. You may then recall channel A9 to receive signals.

To release the priority mode, press PRS key again. The indication on the display will disappear.

Note: When channel A9 is called for listening, the priority mode is automatically disabled. Thus it is necessary to initiate after leaving channel A9.

MICROPHONE FUNCTIONS

A multi-function dynamic microphone (PCM-463A) is included with the PCS-5000.



PCM-463A

(1) PTT Switch

Pressing this switch stops scanning in either band scan or memory scan modes. If scan modes are in use, it will be necessary to press this switch a second time to initiate transmission.

In direct mode, the first activation of this switch will result in transmission.

When speaking into the microphone, it is best to hold it slightly to the side of your mouth. Be sure to keep the PTT lever pressed firmly down at all times during transmission.

(2) UP/DOWN Buttons

The frequency can be advanced upward or downward, in the steps preset according to Setting Frequency Steps (page 7), by pressing the UP or DOWN buttons on the microphone. If either button is held down for more than 0.5-second, the frequency will increment upward or downward continuously at about 12 steps per second. The UP/DOWN buttons are enabled both in the direct mode and in the memory mode.

(3) Priority Channel Call Button

Pressing this button will immediately call the channel stored in A0. This will occur no matter what the operating mode. Pressing this button again will return the unit to the mode and frequency in use prior to calling priority channel A0.

In scan mode, pressing this button will stop the scanning.

In the PCS-5000, only PCM-463A can be used. Because there is 15.8V DC in Pin 8 through 470 ohm, PCM-463 for the PCS-4000 is impossible to be used.

REAR PANEL



Rear Panel

(1) Antenna Connector

Plug the antenna feed line connector into the antenna jack. Make sure it is snugly attached. Rated antenna impedance is 50 ohms, resistive, unbalanced.

The PCS-5000 can be operated with antenna systems having moderately high SWR. However, it is always advisable to keep the SWR as low as practicable.

A high SWR may result in disproportionately low indication on the RF output meter. This does not necessarily mean that the unit is putting out less than 25W.

It is recommended that the antenna be checked for short or open circuits before transmitting with the PCS-5000.

(2) Microphone Connector

The microphone PCM-403A should be plugged into this connector. Gently insert the connector on the end of the microphone cord

into the rear-panel receptacle. Be sure both are snugly connected before attempting to use the microphone.

(3) Power Connector

The PCS-5000 requires 13.8V DC, ± 15 percent, with a current capacity of 5A or more. The unit is designed for negative grounding. Caution: In vehicles using a positive ground system, the PCS-5000 and Antenna must be insulated from the vehicle chassis to prevent short circuiting.

The red lead of the power cord is for the positive (+) terminal of the power supply. The black lead is for the negative (-) terminal. Be sure to pay attention to polarity when connecting the cord to the supply. In the event the cord is connected improperly, the series fuse will blow to protect the PCS-5000 from damage.

Caution: Never replace the fuse with any except the rated value of 10A.

(4) External Speaker Jack

This jack accepts a 3.5mm dia. mini-plug for connecting an external speaker to this unit. Connecting the plug to the jack automatically disconnects the built-in speaker.

(5) Built-in Speaker (Bottom of Unit)

Since the sound holes face downward, the unit should be located so as not to block these holes.

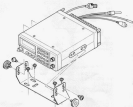
The speaker is of 8 ohm impedance type.

HOW TO INSTALL THE UNIT

1. Choose a convenient location that is protected from moisture and heat, and be sure that the unit will not interfere with your driving. Decide in advance the best way to route the antenna cable.
2. The mounting bracket may be used in two ways as shown below.
Use the bracket as a template to mark where the mounting holes will be drilled.
3. Secure the bracket with self-tapping screws and washers.

4. Mount the unit with two washer-screws and two thumb screws. (Adjust tilt angle by properly selecting mounting holes as required.)
5. Connect antenna plug to antenna jack from rear of the unit.
6. Connect DC power cord to the DC 13.8V cord from rear of the unit. This transceiver is designed for 13.8V DC use with negative ground electrical system only.

WARNING: Do not operate the unit before connecting antenna. Also make sure the unit is in the OFF position when making power and antenna connections.

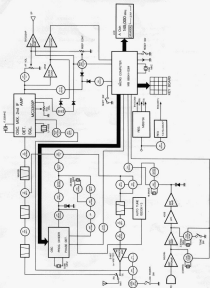


FLOOR MOUNT



UNDER DASH MOUNT

BLOCK DIAGRAM



SPECIFICATIONS

(General specifications)

•Semiconductors	IC: 15 pcs. (including μ -COM 1) FET: 10 pcs. Tr: 32 pcs. Di: 80 pcs.
•Frequency band	144-200 to 147.965MHz(U.S.A.) 144-200 to 145.9875MHz(Europe)
•Operating ambient temperature range	-10°C to +50°C
•Power supply voltage	13.6V $\pm$ 10%
•Grounding polarity	Minus
•Current consumption	5.5 A max. for reception 6.0 A max. for transmission

(Transmitter)

•Transmitting output	25W-HiGH(144 — 148MHz) 5W(L.OFF)
•Modulation method	Variation resistance frequency modulation
•Maximum frequency deviation	$\pm$ 6kHz
•Spurious	Better than -40dB with respect to fundamental

•Antenna impedance	50 Ω
•Type of emission	F3
•Microphone used (Receiver)	500 Ω dynamic type
•Receiving system	Double superheterodyne system
•Intermediate frequency	First: 10.60MHz Second: 485kHz
•Receiving sensitivity	0.2 μ V(144 — 148MHz) (12dB S/N) HF input: 1 μ V or less for 20dB S/N
•Selectivity	$\pm$ 6kHz or more at 6dB down $\pm$ 15kHz or less at 60dB down
•Audio output	2W or more (50 Ω) and 10% distortion

(Dimensions and Weight)

•Dimensions	90(H) $\times$ 140(W) $\times$ 100(D)mm (except projections)
•Weight	Approx. 1.6kg

* Notice: Specifications are subject to change without notice for further technical improvement.

ACCESSORIES LIST

(1) Microphone PCM-463A.....	1
(2) Microphone Hanger	1
(3) Microphone Connector Bracket.....	1
PAN Tapping Screw (M4 $\times$ 16)	1
PAN Screw (M2.6 $\times$ 6)	1
(4) Mounting Bracket	1
Washer-screw (M4 $\times$ 5 $\times$ 3)	2
Thumb Screw	2
PAN Tapping Screw (M2 $\times$ 10)	4
Plain Washer (M6)	4
(5) DC Power Cord (with Fuse, 10A) 1.5m	1
Spare Fuse, 15A	1
(6) Manual	1

Servicing Information

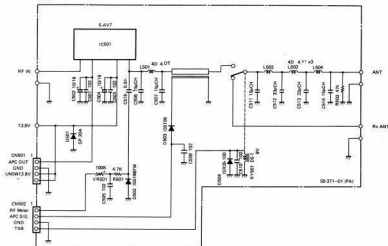
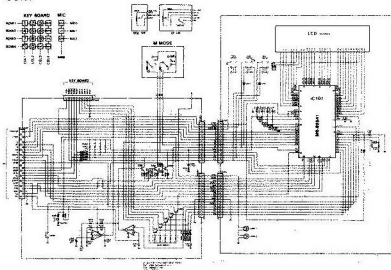
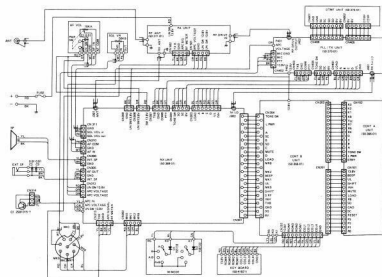
The PCS-5000 is designed and manufactured to the most exacting commercial specifications. It is extremely unlikely that malfunction will occur.

Please retain the original packing materials in the event it is necessary to return the unit for repair. If repair is necessary, send the unit to Ametek-Wholesale Electronics, Inc., Service Center, 8817 SW 126 Avenue, Miami, FL 33175. Please include a full description of the problem to expedite repair.

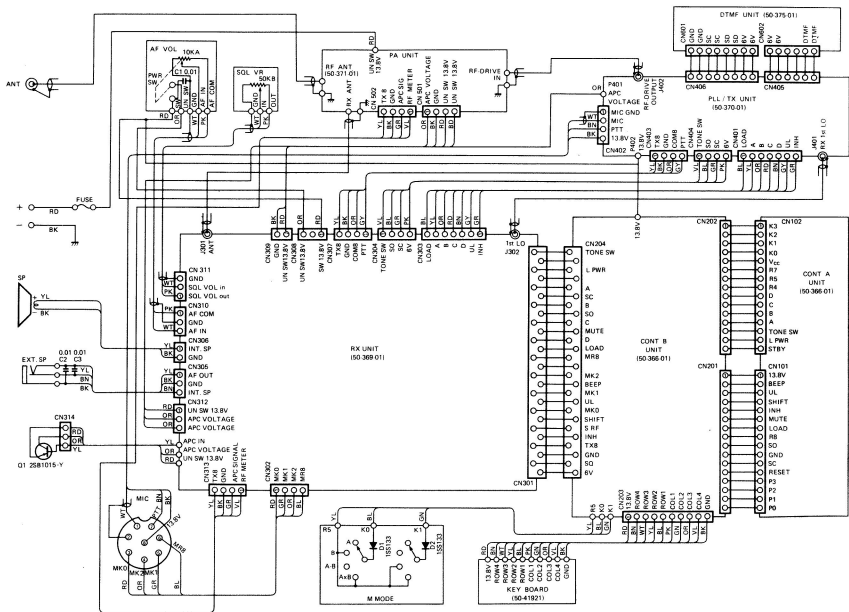


JAPAN PIEZO CO., LTD.

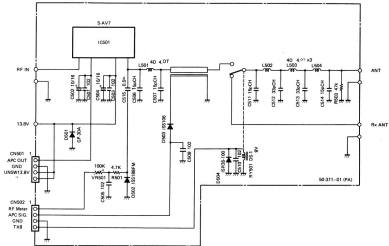
3-12-17 KAMIRENJAKUJI, MITAKA, TOKYO 181, JAPAN



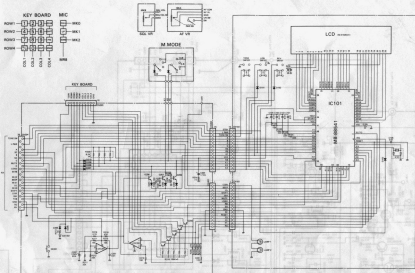
AZDEN®



PA



CONT



UNIT

0
up

Some components subject to change
for an improvement without notice.

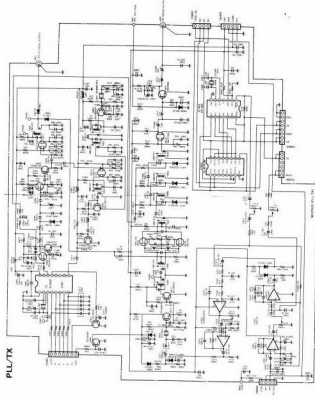
PROCESSING MOBILE TRANSCEIVER

PCS-5000

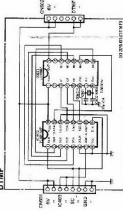
SCHEMATIC
DIAGRAM 01

AZDEN.

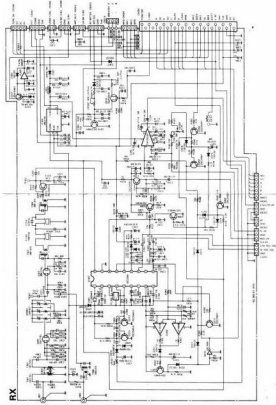
PLL/TX



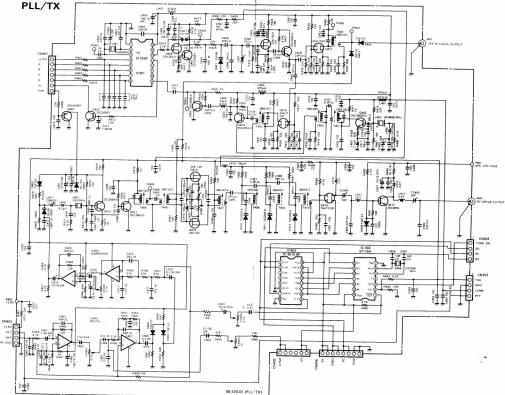
DTMF



RX



PLL/TX



RX

