

# DJ195 INSTRUCTION MANUAL

## 1. INNOVATIVE AND NEW FEATURES

- Comes equipped 39 CTCSS Tone Squelch function.
- Comes equipped 104 DCS Digital code squelch function.
- TOT (Time Out Timer) can be set to a Duty Cycle most accommodating to the user's requirements.
- Alphanumeric channel name function.
- Tone burst function (1750,2100,1000,1450Hz)
- Nine Autodial memories easily accessed from the DTMF keypad with redial function.
- Direct frequency entry from DTMF function.
- Burglary Alarm Function
- Mosquito Repel sound function.

## 2. SPECIFICATIONS

### GENERAL

Frequency coverage	T: TX 144~147.995MHz	RX 135~173.995MHz
	E: TX 144~145.995MHz	RX 144~145.995MHz
	TA2: TX 150~173.995MHz	RX 135~173.995MHz
	TL2: TX 150~173.995MHz	RX 135~173.995MHz

Mode	F3E (FM)
Channel steps	5,10,12.5,15,20,25,& 30kHz
Memory channels	40 channels+1CALL channel
Antenna connector	BNC(50Ω unbalanced)
Frequency stability	±5 ppm
Microphone input impedance	2kΩ nominal
Power supply requirement	6.0 ~ 16.0 V DC (negative ground)
Current drain (at 13.8 V DC)	1.2 A(typical) Transmit high at 5W 200 mA(typical) Receive at 300mW 50 mA(typical) standby
Usable temperature range	-10 ~ +60°C (14 ~ 140° F)
Dimensions	56(W) * 124(H) * 40(D)mm (with EBP-48N)
(Projections not included)	
Weight	Approx.300 g (with EBP-48N)
DTMF	16 Buttons Keypad
Subaudible Tone(CTCSS) encoder/decoder installed	(39tones)
Subaudible Tone (DCS) encoder/decoder installed	(104codes)

### TRANSMITTER

Output power	5 W EBP-48N installed (144~147.995MHz) 5 W 13.8 V DC (144~173.995MHz) 0.5 W (LOW)
Modulation system	Variable reactance frequency modulation
Spurious emissions	Less than -60 dB
Max.frequency deviation	±5 kHz

## RECEIVER

Receive system	Double conversion superheterodyne
Intermediate frequencies	1st 21.7MHz / 2nd 450kHz
Sensitivity(12dB SINAD)	Less than -14.0 dBu(0.2uV) [144~147.995MHz] Less than -12.0 dBu(0.25uV)[135~173.995MHz]
Selectivity	-6 Db:12kHz or more -60 dB:24kHz or more
Audio output power	300 mW (typical with an 8 $\Omega$ load) 200 mW (8 $\Omega$ 10% THD)

## 3. ACCESSORIES

### Standard Accessories

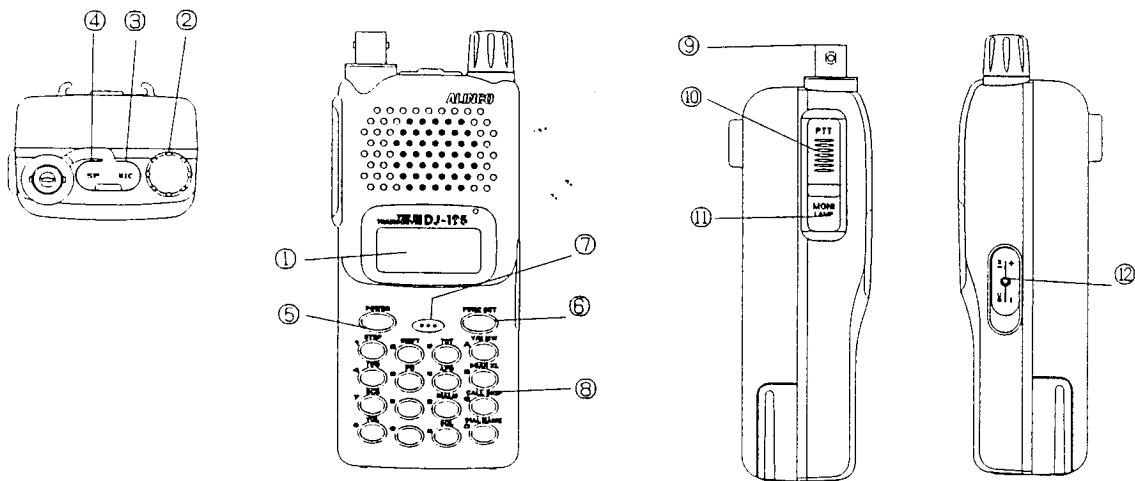
- EBP-48N (9.6V DC 700mAh) Ni-Cd battery
- EDC-93 (120V AC) Wall charger (T version) \*\*
- EDC-94 (230V AC) Wall charger (E version) \*\*
- Flexible rubber helical antenna
- Belt clip
- Hand strap
- Instruction Manual

\*\* Accessories may differ depending on the version you bought.

### Optional Accessories

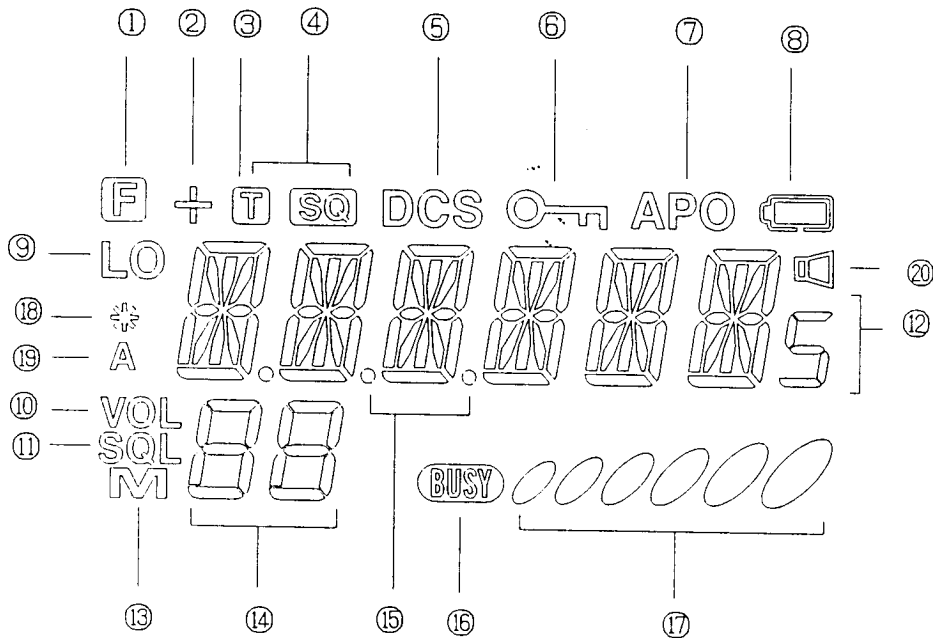
- EBP-48N(9.6V DC 700mAh) Ni-Cd battery
- EDC-36 Mobile Cigarette lighter adapter with active noise filter
- EDC-37 External DC supply cable
- EDC-88 Rapid charger
- EDC-93(120V)Wall charger
- EDC-94(230V)Wall charger
- EMS-9 Speaker microphone
- EMS-51 Speaker microphone
- EME-12 Headset with VOX
- EME-13 Earphone and mic with VOX
- EME-15 Tie-pin mic with VOX
- EME-6 Earphone
- EBC-6 Mobile bracket
- EJ-38D SmartTrunk Logic Board
- ESC-36 Softcase(for use with EBP-48N)

4-1. CONTROLS/FUNCTIONS  
Top, Front,Sides and Rear View



- ① LCD DISPLAY PANEL      Refer to LCD Display section of this manual.
- ② MAIN TUNING DIAL      The main tuning dial/knob may be rotated in either direction to select RX/TX frequency and volume/squelch level.
- ③ EXTERNAL MICROPHONE JACK      When the external microphone is preferred, plug in a 2.5mm stereo plug into this jack.
- ④ EXTERNAL SPEAKER JACK      When the external speaker is preferred, plug in a 3.5mm mono plug into this jack.
- ⑤ POWER SWITCH      To turn on the unit, press and hold for about one second.
- ⑥ FUNCTION KEY      The F key allows you to access the secondary function.  
Press and hold for about two seconds ,The Set-mode function activated.
- ⑦ MIC      Speak into the microphone from approximately 10cm or 3" distance.
- ⑧ DTMF KEYPAD      During transmission, each numerical or letter key activates one DTMF tone.
- ⑨ BNC ANTENNA CONNECTOR      Connect the supplied rubber helical antenna.  
When an external antenna is connected, please make sure that your antenna has a low SWR(Standing Wave Ratio).
- ⑩ PTT(PUSH TO TALK)SWITCH      To transmit, press and hold this switch. When you release it, the unit will return to the receive mode.
- ⑪ MONITOR KEY      This key is used to un-mute squelch, and a weak or intermittent signal can be monitored regardless the squelch setting.  
This also available to monitor receive frequencies when TSQ or DCS is set.
- ⑫ DC JACK      Plug in the EDC-36 cigarette lighter adapter with active noise filter for mobile operation. The jack is polarized, the center pin is positive and outer pin is negative.  
Applying excessive or will void the radio's warranty.

## 4-2. LCD Display



- ① F      When the F icon appears, secondary function keys may be activated.
- ② +      It indicated the plus or minus offset direction.
- ③ T      It appears when the tone encoder is activated.
- ④ T S Q    It appears when the tone squelch is activated.
- ⑤ D C S    It appears when the digital code squelch is activated
- ⑥      The " " icon appears when the key and frequency Lock is activated.
- ⑦ A P O    It appears when the A P O (Automatic Power Off) function is activated.
- ⑧      When the voltage of the battery is dropped to be recharged," "is disappears.
- ⑨ L O      When the low power output is selected the L O icon appears.
- ⑩ V O L    It appears while the volume level is adjusted by either the tuning dial.
- ⑪ S Q L    It appears while the squelch level is adjusted by either the tuning dial
- ⑫ 8 8 8    It indicates the TX/RX frequency, other function selected.
- ⑬ M      In the Memory Mode , the M icon appears.
- ⑭ 8 8      While either the volume/squelch level is adjusted, and Memory channel No.
- ⑮ .      decimal point
- ⑯ B U S Y    BUSY icon will appear when a signal is received, or squelch is unmuted.
- ⑰ 0 0 0    It indicates the received signal strength and / or the output power level.
- ⑱ \*      It appears when the "SCR" function activated.
- ⑲ A      It appears when the "EXP" function activated.
- ⑳ □      It appears when the "MRS" function activated.

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## 5 Operation I (Basics)

### 5-1 Adjusting the Volume

- [VOL] appears on LCD when VOL key is pressed, volume level is displayed. The initial value is 00 (minimum). The volume can be increased or decreased by rotating the dial. The maximum value is 20.
- There are 21 steps from 00~20 in volume adjustment. The setting value can be kept even while the power is off.
- When the volume point data is (00), the voice can not be heard.
- Press any key (except for FUNC, MONI key) to complete the setting. The LCD returns to the ordinal mode.
- When no operation is continued for 5 seconds, the setting is completed automatically.

Then the LCD will return to the ordinal mode.

[Operation] The volume increases as the setting value increases.

### 5-2 Adjusting the Squelch

- Press the SQL key, and "SQL" icon appears on the LCD. Then the squelch level is displayed.
- The initial setting value is 00 (minimum). The squelch level can be increased or decreased by rotating the dial. This value can be kept while the power is turned OFF.
- There are 21 steps from 00~20 in the squelch level.
- Press any key (except for FUNC and MONI keys) to complete the setting. Then the LCD returns to the ordinal mode.
- When no operation is continued for 5 seconds, the setting is completed automatically. Then the LCD will return to the ordinal mode.

[Operation] The squelch will be opened with the strong signal when the high value is set.

### 5-3 Receiving

- ① Turn the power SW ON.
- ② Press the VOL key to increase the volume. Rotate the dial to set to the proper volume.
- ③ Press and hold the SQL key, and rotate the dial until the noise disappears.
- ④ Select the desired frequency. [BUSY] appears on the LCD as soon as the signal is received in the desired frequency. Then receiving voice is heard. At the same time green RX indicator lights up.

### 5-4 Transmitting

- ① Select the desired frequency.
- ② Press the PTT key, and the red TX indicator lights up to show the unit starts transmitting.  
While pressing PTT key, speak to the internal microphone on the front of the unit with your normal voice.
- ③ The transmission will be completed when the PTT key is released, then the unit returns to the receiving mode.

Note: Press and hold the PTT key, then press MONI key to transmit the tone burst.

Note: If the PTT key is pressed outside the transmission frequency range, [OFF] will

appear on the LCD and you can not transmit.

### 5-5 Frequency Selection

- ① Each time the V/M key is pressed, the mode is switched between VFO mode and memory mode.
- ② VFO mode is selected by V/M key  
[M] or [C] is not displayed on the LCD in the VFO mode.

[UP/DOWN with channel step]

- ① Rotating the dial clockwise increases frequency 1 channel step/1 click, and rotating counterclockwise decreases the frequency 1 channel step/1 click.

[1MHz UP/DOWN]

- ① Press the [F] key then rotate the dial while [F] icon is ON, the frequency increases or decreases by 1MHz depending on the direction of the rotation.

[Keypad Direct Entry]

The frequency is set with the numerical keys of 0~9.

[Setting]

- ① Enter the 100MHz digit.
- ② Enter the 10MHz digit.
- ③ Enter the 1MHz digit.
- ④ Enter the 100kHz digit.
- ⑤ Enter the 10kHz digit.

Depending on the channel step, entry may be required to the 1kHz digit or 10kHz digit. A confirmation tone sounds when the final digit is entered, then the setting has been completed. The entry method of each channel step is described as follows.

Channel step	Entry completion digit	Entry method of for the final digit
5.0kHz	1kHz	Enter up to 1kHz digit.
10.0kHz	10kHz	Enter up to 10kHz digit.
12.5kHz	10kHz	Enter 10kHz digit and 1kHz digit.
0...00.0	1...12.5	2...25.0
5...50.0	6...62.5	7...75.0
		3...37.5 4...invalid
		8...87.5 9...invalid
15.0kHz	1kHz	Enter up to 1kHz digit.
25kHz	10kHz	Enter 10kHz digit, and 1kHz digit is determined.
0...00.0	2...25.0	5...50.0
		7...75.0
		Others are invalid.
30kHz	10kHz	Enter 10kHz digit, and 1kHz digit is determined.

### 5-6 Channel Step

Press and hold the [F] key, then rotate the dial while [F] icon is ON. The frequency increases or decreases by 1MHz depending on the direction of rotation.

- ① In VFO mode press and hold [F] key, then press 1/STEP key while [F] icon is ON, and the current channel step will appear.

- ② Rotate the dial, the channel step toggles as follows.

← Downward

upward →

┌→STP-5→STP-10→STP-12.5→STP-15→STP-20→STP-25→STP-30┐  
└──┘

- ② Press any key (except for MONI and FUNC keys) to complete the setting. The LCD returns to the ordinal mode.  
Or press and hold the FUNC key, then press the 1/STEP key to complete the setting.
- ③ The Lamp and MONI keys are activate even while channel step appears on the LCD.
- ⑤ In the memory mode the channel step can not be selected.  
Note: When the step values are changed from 5kHz, 10kHz, 15kHz, 20kHz or 30kHz to either 12.5kHz or 25kHz, or changed in reverse, the frequency and shift width may be compensated.

### 5-7 Shift Direction and Offset Frequency

Usually the repeater is used in the duplex mode.

Namely the signal received with a certain frequency is transmitted with another frequency.

The difference between these frequencies is the offset frequency. The setting range of the offset frequency is from 0 to 99.995MHz.

- ① Press and hold the F key, then press 2/SHIFT key while [F] icon is ON. The current offset frequency and shift direction will appear. Then each time 2/SHIFT key is pressed, the shift direction toggles as follows:

┌→ -0.60 → +0.60 → OST-OF →┐  
└────────────────────────────────┘

- ② While shift frequency is displayed, rotating the dial clockwise increases the frequency by 1 channel step/1 click and rotating the dial counterclockwise decreases the frequency by 1 channel step/1 click.
- ③ Press and hold the F key, then rotate the dial. The frequency increases or decreases by 1MHz depending on the rotating direction.
- ④ Press any key (except for MONI and FUNC keys) to complete the setting. The LCD returns to the ordinal mode.
- ⑤ The Lamp and MONI keys are activate while shift frequency is displayed on the LCD.
- ⑥ Also the setting can be completed by pressing 2/STEP key while holding the FUNC key.

### 5-8 Memory Channel Operation

This unit is provided with 40 memory channels (0~39 CH) and one call channel (C).  
The memory can not be increased.

#### (1) Calling of memory channel

- ① Press V/M key, and [M] will appear on the LCD indicating the unit enters the memory mode. [M] icon flashes to show the CH's memory has not been programmed, and the VFO frequency is displayed.
- ② Rotating the dial clockwise increases the memory channel number by 1 channel.
- ② Rotating the dial counterclockwise decreases the memory channel number by 1 channel.

#### (2) Programming a memory channel

[ Memory Programming ]



- ① In VFO mode select the desired frequency, then set Shift and Tone Function as necessary.
  - ② Press V/M key to enter the memory mode.
  - ③ Rotate the dial to select the desired memory channel number.
  - ④ The unprogrammed memory CH's number flashes.
  - ④ Press and hold the FUNC key, then press the MW key while FUNC icon is ON. A beep sounds indicating the completion, and the VFO frequency has been programmed in the selected memory channel.
- \*If a memory CH whose memory has been programmed is selected at ④, in the operation of ⑤ the memory will be erased and [M] will start flashing.
- ⑥ When CH-C is selected, the CALL channel is also reprogrammed. [C] will not flash.
  - ⑦ The content of the memory should be erased beforehand to be reprogrammed.

### (3) Erasing of a memory channel

- ① Press the V/M key to select the memory mode.
- ② Rotate the dial to select the desired memory channel number.  
When the memory channel is programmed, [M] appears on the LCD.
- ② Press and hold the FUNC key, then press MW key while [F] icon is ON. A beep sounds, and the programmed frequency will be erased. Then [M] starts flashing.
- ④ While [M] is flashing, the erased memory is still displayed on the LCD.  
Press and hold the F key then press the MW key again, the erased memory can be recovered. If CH or mode had been changed, the recovery is not available.

### (4) Programmable Data

The followings can be programmed in the memory channels 0~39 and the CALL channel:

- Frequency
- Shift frequency
- Shift direction(+/-)
- Tone encoder frequency
- Tone decoder frequency
- Tone encoder/decoder setting
- DCS code
- DCS setting
- Skip CH setting
- Busy Channel Lock Out (BCLO)
- TX power H/L
- Battery save setting
- Clock shift setting

### 5-9 CALL Channel Operation

The initial setting is 145.00MHz.

#### (1) Calling the CALL channel

- ① Press the CALL key, and CALL channel is called. [C] (Right justification) appears on the LCD and the unit enters the CALL mode.

In CALL mode the frequency and memory channel number can not be changed by dialing.

The offset setting and tone setting can be changed and operated temporarily.

- ② Press the CALL key again to return to VFO mode or memory mode.

- ② Also pressing the V/M key causes to return to the previous VFO mode or memory mode.
- ④ Scanning can not be done in the CALL mode.

## (2) Changing the Frequency of the CALL Channel

- ① The CALL channel is allocated as a memory channel. So when you change the CALL frequency and other settings, call the memory channel C from the VFO or memory mode to reprogram.

## 5-10 Scanning

This function varies the frequency automatically to search for the signals being received.

Timer Scan (After pausing the scan, the frequency goes to the next channel when 5 seconds elapsed even if a signal is picked up.)

Busy Scan (After pausing the scan, the frequency goes to the next channel when the signal is disappeared. )

While scanning① the rotary encoder determines the direction of the channel UP/DOWN.

- ② Monitor function is activate.
  - Scanning can be released by pressing any key (except for the MONI key).
  - The last direction of UP/DOWN is defined as the scan direction.

### (1) VFO SCAN

- ① Press the V/M key to enter VFO mode.
- ② Press the SCAN key to start scanning.
  - The decimal point of the frequency on the LCD starts flashing to indicate the scanning is started.
  - The unit scans by a channel step to the last direction of operation.
- ③ Rotate the dial clockwise to scan upward and counterclockwise to scan downward. VFO SCAN covers all receiving frequency range for scanning.
- ④ Press any key (except for MONI key) to stop scanning.

### (2) Memory Scan

- ① Press the V/M key to enter the memory mode.
- ② Press the SCAN key to start memory scanning.
- ③ Rotate the dial clockwise to scan upward and counterclockwise to scan downward.
  - The memory scan scans only programmed channels.
- ④ Press any key (except for MONI key) to stop scanning.
  - The scanning pauses at the channel or frequency where a signal is picked up, then

### (3) Skip Channel Setting

- The memory channel that is programmed in the skip channel will be skipped when the memory scanning.
- In the memory mode press and hold the function key, then press C/SKIP while [F] icon is ON, the selecting memory channel is programmed to the skip channel.
  - The skip channel is determined at this point without memory programming.
  - The skip channel is released with the same operation.
- The 10MHz decimal point of the memory channel will appear when the skip channel is programmed to the channel.

### 5-11 Output Power Switching

The output power can be switched.

Press and hold the F key, then press 5/H/L key while [F] icon is ON. Output power can be switched between High and Low.

When the power is LOW, "LO" will appear. Nothing is displayed when the power is High.

The initial setting is LOW power.

RF meter shows ●●● in LOW power, and ●●●●●● in HIGH power.

- H/L power switching can not be done while transmitting.

### 5-12 Key Lock Function

Press and hold the F key, then press B/KL key to set the key lock.

- In key lock mode only PTT, LAMP, MONI, VOL, SQL and TONE BURST/MONI keys are activate.
- In the key lock mode [ KEY mark] appears.
- Press and hold the F key, then press B/KL key while [F] icon is ON to release the key lock mode.

### 5-13 Tone Burst Function

This is the required function to access the European repeater.

- Press and hold the PTT key then press the MONI key, the tone burst signal will be transmitted.

The initial value of the tone frequency is 1750Hz, and it is changeable in the set mode.

- When tone and DCS are set, the signal will be transmitted with tone frequency and DCS code.

### 5-14 Auto Power Off Function

The function prevents the battery from consuming when you forget to turn off the power switch.

#### (1) Setting

- Press and hold the F key, then press 6/APO key while F icon is ON. [APO] appears on the LCD and the auto power off function is programmed.
- The initial setting is OFF.
- To release the APO, press and hold the F key then press 6/APO key while F is ON .

#### (2) APO Operation

- If no operation is performed for more than 30 minutes while APO icon is ON, a beep sounds and the transceiver will be turned off.  
Turn the power switch ON again to resume the power.
- APO function is not prolonged by picking up a signal but the key operation only.

### 5-15 Battery Save (BS) Function

This function saves the current consumption while waiting for a signal for the long use of the battery.

- ON/OFF is switched in the set mode.
- The factory's initial setting is ON.
- The battery save function is set to OFF automatically while scanning.
- When no signal and no operation are continued for 5 seconds, the battery save

function will be resumed automatically.

- When a signal is received or an operation is performed, battery save function is released temporarily.

#### 5-16 Lamp Function

- Press and hold the F key, then press MONI key while F icon is ON. The LCD backlight will be turned on.
- When no operation is continued for 5 seconds, the lamp will be turned off automatically.
- If you press any key except for the LAMP key while the lamp is on, the lamp goes out 5 seconds after the last key operation.
- Press and hold the MONI key, then turn the power ON, and the lamp will be always ON.
- Press and hold the F key then press MONI key, the lamp can be turned ON/OFF even you set the lamp to be always ON.
- The lamp will be always ON even if you turn the power OFF and ON when the lamp is set to be always ON.

#### 5-17 Monitor Function

- The squelch operation is released regardless of the setting mode of SQL only while pressing the MONI key, and a sound is heard from the speaker.
- The weak signal under the threshold level can be heard.

#### 5-18 Beep Function

This function produces a beep during operation.

- The beep can be muted in the set mode.

#### 5-19 Clock Shift Function

In the unlikely event that CPU clock noise is present on a particular operating frequency programmed into the radio, you can shift the CPU clock frequency to avoid the CPU clock noise, which normally is so weak that it is inaudible even if the radio is tuned exactly to its frequency.

- CPU clock can be shifted in the set mode.

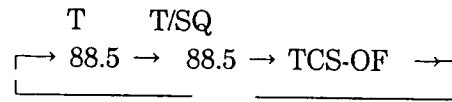
## 6 Operation II (Applications)

### 6-1 Selective Calling

- When you communicate with the specific station, tone squelch function or DCS function is useful.  
The tone squelch function allows to transmit one of 39 kinds of sub-audible tones with a voice. Then the voice can be heard when the sub-audible tones match at the receiving side.
- The DCS function allows to transmit one of 104 kinds of digital codes with a voice. Then the voice can be heard when the programmed codes match at the receiving side.
- The tone squelch function and DCS function can not be used at the same time.

## 6-2 Tone Encoder and Tone Squelch Function

- ① Press and hold the F key, then press 4/TSQ key while F icon is ON, the current mode and tone frequency are displayed. Each time 4/TSQ key is pressed, the mode is switched as follows:



- Only T appears indicating the encoder function setting only is allowed.
  - T SQ appears indicating encoder/decoder function setting.
  - While the tone frequency is displayed, the lamp function and MONI key are available.
  - Press any key (except for FUNC and MONI keys) to complete the setting. The LCD returns to the ordinal mode with T/TSQ indication.
- ② While the tone frequency is displayed, rotate the dial clockwise to increase or counterclockwise to decrease the tone frequency. The tone frequency for use can be selected from 39 reference tones described below.

67.0	69.3	71.9	74.4	77.0	79.7	82.5	85.4	88.5	91.5
94.8	97.4	100.0	103.5	107.2	110.9	114.8	118.8	123.0	127.3
131.8	136.5	141.3	146.2	151.4	156.7	162.2	167.9	73.8	179.9
186.2	192.8	203.5	210.7	218.1	225.7	233.6	241.8	250.3	

- ③ Press any key (except for FUNC and MONI keys) to complete the setting. The LCD returns to the frequency indication mode.

## 6-3 Tone Encoder Frequency/Tone Decoder Frequency Programming

The tone encoder frequency and tone decoder frequency can be programmed respectively to each memory CH.

### 【Changing both of tone encoder/tone decoder frequencies】

- ① Set the tone encoder in the tone squelch setting mode. (T icon is ON.)
- ② Change the tone encoder frequency with dialing, then the setting is completed.
- ④ When memory is programmed in this mode, the current tone frequency will be programmed to both of encoder frequency and decoder frequency.

### 【Changing the tone decoder frequency only】

- ① The tone squelch is programmed in the tone squelch setting mode. (T.SQ icon is ON.)
- ② Change the tone decoder frequency with dialing, then the setting is completed.
- ② When memory is programmed in this mode, the current tone frequency will be programmed as the decoder frequency. In this case, encoder frequency is not reprogrammed.

### 【Tone squelch operation】

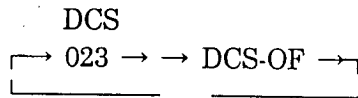
- ① The squelch is released when received tone frequency accords with the programmed tone frequency.

## 6-4 DCS (Digital Code Squelch) Function

### 【DCS setting】

- ① Press and hold the F key, then press 7/DCS key while F icon is ON. [DCS] icon is turned ON and DSQ code appears. The initial mode is [023]. Each time you

press the 7/DCS key, the mode is switched.



- The lamp function and MONI key are available while indicating the code on the LCD.
- ② Press any key (except for FUNC and MONI keys) to complete the setting. The LCD returns to the ordinal mode with DCS indication.

**【DCS code changing】**

[When you change the DCS code]

- ① Set the DCS code in the DCS code setting mode. (DCS icon is ON.)
- ② Change the DCS code with dialing, then the setting is completed.
- ③ When the memory is programmed in this mode, the current tone frequency will be programmed to both of encoder frequency and decoder frequency.

**【DCS operation】**

- ① The squelch will be released when the received code is accordant with programmed code.

### 6-5 Manual DTMF Transmitting

This function allows you to transmit DTMF code manually by pressing one of 16 keys during transmitting.

- ① Press and hold the PTT key, then press one of 16 keys.
  - ② DTMF code that is accordant with one of 16 keys will be transmitted.
- Manually transmitted DTMF code is stored until 16 digits automatically, and it will be redialed when necessary as well as the auto dialer.

### 6-6 Auto Dialer Memory Setting

The function stores the DTMF code that is transmitted by the auto dialer to the memory.

- There are 16 kinds of codes in DTMF with maximum 16 digits. They are entered with 16 keys.
- There are 9 channels of 1CH~9CH, and the channel can be selected by dialing.

**【Auto dialer code setting】**

- ① Press and hold the F key, then press 9/ dial M key, the unit enters the dialer setting mode.

6 digits are displayed, and nothing appears at first.

- ② Select the dialer memory NO. with the dial.
- ③ For example, when you input 1 2 3 4 5 6 7 8 9, the LCD displays as shown below:

[ 1 ] → [ 1 2 ] → [ 1 2 3 ] →  
[ 1 2 3 4 ] → [ 1 2 3 4 5 6 ] → [ 2 3 4 5 6 7 ] →  
[ 3 4 5 6 7 8 ] → [ 4 5 6 7 8 9 ]

- ④ Press and hold the F key, then press 0 key while F icon is ON, pause can be set instead of the code. Pause is indicated by [-]. Entering a pause puts a gap between transmission of codes.
- ⑤ Press and hold the F key, then rotate the dial while F icon is ON, and the display scrolls within the range in which the codes are programmed.
- ⑥ If you enter the wrong code, press and hold the F key, then press C/CALL(SKIP) to clear.
- ⑦ Press the PTT key to complete the setting.

- The auto dialer can be programmed up to 16 digits including the pause.

#### 6-7 Auto Dialer Function

This function automatically sends pre-programmed DTMF codes.

**【Operation in receiving mode】**

- ① In receiving mode press D/A dial key, [DIAL] appears on the LCD and a confirmation tone sounds.
- ② Press a key of 1~9, the dialer memory that is accordant with the key No. (max. 16 digits) will be output from the speaker automatically.
  - In this case the code is not sent.
  - If nothing is stored in the memory, a beep tone sounds indicating that the operation is invalid when you press a key of 1~9.

**【Operation in transmitting mode】**

- ① Press F key in the transmitting mode. [DIAL] appears on the LCD.
- ③ Press a key of 1~9, the dialer memory that is accordant with the key No. (max. 16 digits) will be transmit automatically.
  - In this case, a beep tone does not sound if you press the unprogrammed key.

#### 6-8 Redial

This function transmits the last transmitted DTMF codes again.

- ① Press D key in receiving mode. A reception tone will sound.
- ② Press 0 key. If the code to be redialed is not stored, a beep tone sounds indicating the operation is invalid when 0 key is pressed.
- ③ The last transmitted DTMF codes (either of auto dialer codes or manually transmitted DTMF code) will be output automatically from the speaker. In this case the codes are not sent.
- ④ Press and hold the F key, then press 0 key in transmitting mode, and redialing becomes available. In this case the code is sent.

#### 6-9 DTMF Time Setting

This function changes the settings of the wait time of auto dialer, burst/pause time and burst time of the first digit.

- The settings can be changed in the set mode.

**【DTMF WAIT time】**

- ① When the DTMF code is transmitted using the auto dialer, the code transmission starts after the programmed WAIT time elapsed. The initial setting is 100ms.
- ① When the DTMF code is transmitted using the auto dialer, the code is transmitted with programmed burst/ pause time. The initial setting is 60ms.

**【DTMF first digit's burst time】**

- ① When the DTMF code is transmitted using the auto dialer, the code will be transmitted at the programmed first digit burst time. The initial setting is 60ms.
- ② WAIT time cannot be changed while CH is displayed.

#### 6-10 Alphanumeric Function

In the memory mode this function allows to display optional alphabet, number or code instead of frequency.

**【Alphanumeric function setting】**

- ① In memory mode select the desired channel.
- ② Press and hold the F key, then press the D/NAME key while F icon is ON.

- ③ Flashing [A ] will appear on the LCD.
- ④ Rotate the dial to select the desired letter.
- ⑤ Press [D] key, the flashing will be stopped indicating the letter is stored.
- ⑥ The same letter flashes on the right of the stored letter waiting to be stored.
- ⑦ Press the [D] key to store in the memory. (Store desired letters in turn.)
- ⑧ If you press the C key while storing, the stored letters will be erased.
- ⑨ Press the PTT key to complete the operation.

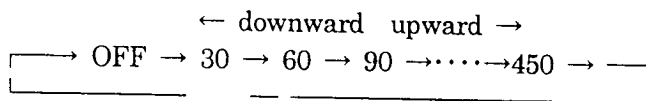
【Operation of alphanumeric function】

- ① When the unit enters the memory mode, if the channel is programmed alphanumeric function, the frequency display part will be showed with the stored alphanumeric letters. (The CH number will be displayed as it was.)
- ② Press F key, and the frequency will appear for 5 seconds on the LCD. (If any key is pressed within 5 seconds, the LCD returns to the display with the alphanumeric letters.)

### 6-11 TOT (Time Out Timer) Function

【TOT setting】

- ① Press and hold the F key, then press the 3/TOT key while F icon is ON.
- ① [T-OFF] will appear on the LCD.
- ② The display is toggled as follows by dialing, and the setting of TOT will be changed.
- ③ The number indicated on ○○○ is the current Time Out Time.
- ③ Change the TOT time by rotating the dial. The TOT time can be programmed up to max. 450 seconds.



- ④ Press any key (except for FUNC and MINI keys) to complete the setting. The LCD will return to the ordinal mode.

【Operation of TOT】

- ① If the continuous transmission time is over the programmed time, a beep sounds 5 seconds before the time is up. Then the transceiver enters the receiving mode automatically.
- ② In this case, unless the PTT key is turned OFF, the next transmission is deactivate. (When the TOT Penalty is set, transmission can not be done even if you turn OFF the PTT then ON again within the programmed time.)

### 6-12 TOT Penalty Function

When the transmission is completed by the TOT function, the transmission will be inhibited within the programmed TOT Penalty time. The transmission is inhibited during the penalty time.

- ① TOT Penalty function and its penalty time can be programmed in the set mode.
- ② If the PTT key is pressed during the TOT Penalty time, an alarm tone will sound.
- ② The penalty will be cancelled if you keep holding down the PTT key until TOT expires and also TOT Penalty time elapses.

### 5-13 BCLO (Busy Channel Lock Out) Function

BCLO disables the transmission according to the receiving condition.

- BCLO function can be turned ON/OFF in the set mode.
- When the BCLO is set, transmission is possible only in following cases and



transmission is inhibited in the other cases.  
If PTT key is pressed while the transmission is inhibited, an alarm tone will sound.  
In this time transmission is deactivate.

- ① No signal is picked up. (BUSY disappears.)
- ② The tone frequencies match and the squelch is opened while using the tone squelch.
- ③ The codes match and the squelch is opened while using DCS.

## 7 Operation III (Others)

### 7-1 Cable Clone

With an interface cable the entire memory channel data of one transceiver can be transferred and copied to another transceiver.

#### 【Connection】

- As shown in the figure, connect the external speaker jacks of two transceivers; transmitting side and receiving side, with  $\phi$  3.5 stereo plug cord on the market.
- Be sure to turn the power OFF at cable connecting.
- Please use the directly connected cable including no resistors inside. Be careful not to use the cable that contains any resistors..

#### 【Operation of data receiving side】

- ① Turn the power ON. (The unit enters the data receiving mode.)
- ③ When the data is sent from the transmitting side, "LD \*\*\*" appears on the LCD.

Then the data transfer is started.

- ③ When the transfer is completed, "PASS" is appears on the LCD.
- ④ Turn the power OFF. If the data transfer is failed, "PASS" does not appear on the LCD.

#### 【Operation of data transmitting side】

- ① Turn the power ON.
- ② Press and hold the MON key, then press the PTT key 3 times, "CLONE" will appear on the LCD. The unit enters the Clone mode.
- ③ Press the PTT key, "SD 000" appears on the LCD. The internal memory channel data is transferred to the other transceiver.
- ⑤ The transfer is completed, "PASS" appears on the LCD.
- ⑥ Turn the power OFF, and the Clone mode is released.

If data transfer is failed, "PASS" does not appear on the LCD. Try again from the first.

### 7-2 Burglary Alarm Function

If someone tries to steal your transceiver, an alarm goes off from the speaker.

【Setting】 Be sure to set the battery pack.

- ① Plug the external DC power plug cord to the car battery, etc.
- ② Set to SCR-ON in the set mode.
- ③ Turn off the power switch of the unit.
  - To release the setting, set to SCR-OFF in the set mode.

### 【Operation】

- If someone unplug the power cord to bring out your transceiver, an alarm goes off.
- Once the alarm goes off, it does not stop until you remove the battery pack.
- Set the battery pack and turn the power ON to release this function in the set mode.  
Please set to SCR-OFF in the normal operation.

### 7-3 External Terminal Control

"5V" is output from MIC jack terminal when the speaker is ON.

- Set to EXP-ON in the set mode.
- When receiving (The tone and code should match when the TSQ/DCS is set), DC5V(5mA max.) is output from the center terminal of MIC stereo jack.
- Set to EXP-OFF in the set mode to cancel this function.  
The optional VOX MIC, etc. (EME-12, EME-13, EME-15) can not be used at EXP-ON.

This function generates the supersonic that repels mosquitos from the speaker.

- Set to MPS-ON in the set mode.
- The ordinal operation is available when MPS is set.
- As the unit always generates supersonic when MPS is set, battery operating time may become shorter.
- Set to MPS-OFF to cancel the function in the set mode.

## 8. Set Mode

DJ-195 can program the various function using the set mode.

### 8-1 Setting of the Set Mode

- ① Press the FUNC key for more than 2 seconds, the unit enter the set mode.
- ② Press the MONI key to select the menu. The monitor does not work here.
- ③ Rotate the dial to change the setting contents.
- ④ Press any key (except for the MONI key) to complete the setting. The LCD returns to the ordinal mode.

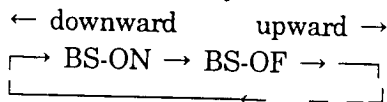
### 8-2 Functions Set in the Set Mode

The following functions can be programmed in the set mode.

Here is the explanation of each function.

#### [No.1] Battery Save Function ON/OFF

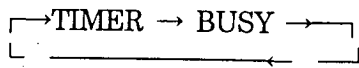
- ① [BS-ON] appears on the LCD.
- ② Rotate the dial, and the display toggles as shown below. Then ON and OFF are switched repeatedly.



#### [No.2] Scan Type Selection

- ① [TIMER] appears on the LCD.
- ③ Rotate the dial, and the display toggles as shown below. The scan types are switched repeatedly.



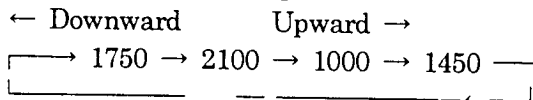


[No.3] Beep Tone ON/OFF

- ① [BEP-ON] appears on the LCD.
- ② Rotate the dial to set to [BEP-OFF].
- ③ Each time the dial is rotated, ON and OFF are switched repeatedly.

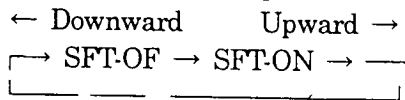
[No.4] Tone Burst Frequency Setting

- ① [1750] appears on the LCD.
- ② Rotate the dial, and the display toggles as shown below. Then the tone burst frequency will be changed.

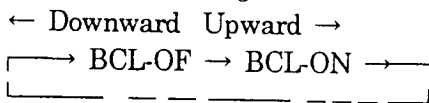


[No.5] Clock Shift Setting

- ① [SFT-OFF] appears on the LCD.
- ③ Rotate the dial, and the display toggles as shown below. Then the setting of the CLOCK will be changed.

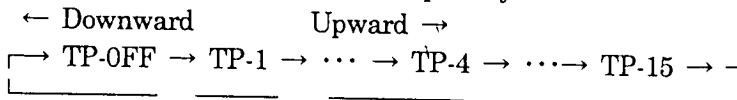


- ① [BCL-OFF] appears on the LCD.
- ② Rotate the dial, and the display toggles as shown below. Then the setting of the BCLO will be changed.



[No.7] TOT Penalty Time

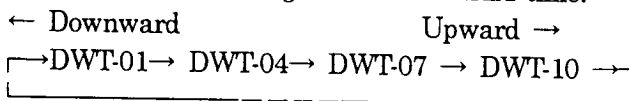
- ① [TP-OFF] appears on the LCD.
- ③ Rotate the dial, and the display toggles as shown below. The setting of TOT penalty will be changed.
- ③ ○○ shows the current TOT penalty time.  
The initial setting is 0 second. [TP-OFF] appears on the LCD.
- ④ Rotate the dial to change the TOT penalty time.



The setting is available up to max. 15 seconds.

[No.8] DTMF WAIT time

- ① [DWT-01] appears on the LCD.
- ② Rotate the dial, and the display toggles as shown below. Then the DTMF WAIT time will be changed.
- ③ ○○ shows the current DTMF WAIT time.  
The initial setting is 0.1 second, and [DWT-01] appears on the LCD.
- ④ Rotate the dial to change the DTMF WAIT time.



[No.9] DTMF Burst/Pause Time

- ① [DP-60] appears on the LCD.

③ Rotate the dial, and the display toggles as shown below. Then the DTMF burst/pause time will be changed.

③ ○○ shows the current DTMF burst/pause time.

The initial setting is 60 msec, and [DP-60] appears on the LCD.

④ Rotate the dial to change the DTMF burst/pause time.

← Downward                      Upward →

→ DP-60 → DP-80 → DP-160 → DP-200 →

[No.10] The First Digit Burst Time of DTMF

① [DB-60] appears on the LCD.

③ Rotate the dial, and the display toggles as shown below. Then the first digit of DTMF burst time will be changed.

③ ○○ shows the current the first digit of DTMF burst time.

The initial setting is 60 msec, [DB-60] appears on the LCD.

④ Rotate the dial to change the first digit of DTMF burst time.

← Downward                      Upward →

→ DB-60 → DB-80 → DB-160 → DB-200 →

[No.11] Burglary Alarm Function

① [SCR-OF] appears on the LCD.

② Rotate the dial, and the display toggles as shown below. Then the ON/OFF of the burglary alarm function is switched.

← Downward                      Upward →

→ SCR-OF → SCR-ON →

[No.12] External Terminal Controller Output

① [EXP-OF] appears on the LCD.

③ Rotate the dial, and the display toggles as shown below. The ON/OFF of the controller output to external terminal will be switched repeatedly.

← Downward                      Upward →

→ EXP-OF → EXP-ON →

[No.13] Mosquito Repel Sound Function

① [MRS-OF] appears on the LCD.

③ Rotate the dial, and the display toggles as shown below. The ON/OFF of the Mosquito repel sound will be switched repeatedly.

← Downward                      Upward →

→ MRS-OF → MRS-ON →

## 9. RESET Function

Press and hold the F key, then turn on the power. The unit returns to the factory's default setting.

Destination	DJ195T	DJ195E	J195TA
VFO frequency	145.00MHz	145.00MHz	145.00MHz
CALL frequency	145.00MHz	145.00MHz	145.00MHz
Memory channel	a blank	a blank	a blank
SHIFT setting	none	none	none
SHIFT frequency	600kHz	600kHz	600kHz
Channel step	5kHz	12.5kHz	5kHz
Channel step	5kHz	12.5kHz	5kHz

- Press and hold the F key, the LCD's all segments are turned ON. When you release the F key, the reset will be performed.  
Press and hold the F key, then turn the power OFF. In this case the reset function will not be performed. This function is useful to check whether the LCD's all segment lights or not without the RESET function.

## 9 RESET Function

Press and hold the F key, then turn on the power. The unit returns to the factory's default setting.

Destination	DJ195T	DJ195E	J195TA
VFO frequency	145.00MHz	145.00MHz	145.00MHz
CALL frequency	145.00MHz	145.00MHz	145.00MHz
Memory channel	a blank	a blank	a blank
SHIFT setting	none	none	none
SHIFT frequency	600kHz	600kHz	600kHz
Channel step	5kHz	12.5kHz	5kHz
Channel step	5kHz	12.5kHz	5kHz

- Press and hold the F key, the LCD's all segments are turned ON. When you release the F key, the reset will be performed.  
Press and hold the F key, then turn the power OFF. In this case the reset function will not be performed. This function is useful to check whether the LCD's all segment lights or not without the RESET function.

③ Rotate the dial, and the display toggles as shown below. Then the DTMF burst/pause time will be changed.

③ ○○ shows the current DTMF burst/pause time.

The initial setting is 60 msec, and [DP-60] appears on the LCD.

④ Rotate the dial to change the DTMF burst/pause time.

← Downward                      Upward →  
→ DP-60 → DP-80 → DP-160 → DP-200 →

[No.10] The First Digit Burst Time of DTMF

① [DB-60] appears on the LCD.

③ Rotate the dial, and the display toggles as shown below. Then the first digit of DTMF burst time will be changed.

③ ○○ shows the current the first digit of DTMF burst time.

The initial setting is 60 msec, [DB-60] appears on the LCD.

④ Rotate the dial to change the first digit of DTMF burst time.

← Downward                      Upward →  
→ DB-60 → DB-80 → DB-160 → DB-200 →

[No.11] Burglary Alarm Function

① [SCR-OFF] appears on the LCD.

② Rotate the dial, and the display toggles as shown below. Then the ON/OFF of the burglary alarm function is switched.

← Downward                      Upward →  
→ SCR-OFF → SCR-ON →

[No.12] External Terminal Controller Output

① [EXP-OFF] appears on the LCD.

③ Rotate the dial, and the display toggles as shown below. The ON/OFF of the controller output to external terminal will be switched repeatedly.

← Downward                      Upward →  
→ EXP-OFF → EXP-ON →

[No.13] Mosquito Repel Sound Function

① [MRS-OFF] appears on the LCD.

③ Rotate the dial, and the display toggles as shown below. The ON/OFF of the Mosquito repel sound will be switched repeatedly.

← Downward                      Upward →  
→ MRS-OFF → MRS-ON →

## ADJUSTMENT

### 1) Required Test Equipment

The following items are required to adjust radio parameters:

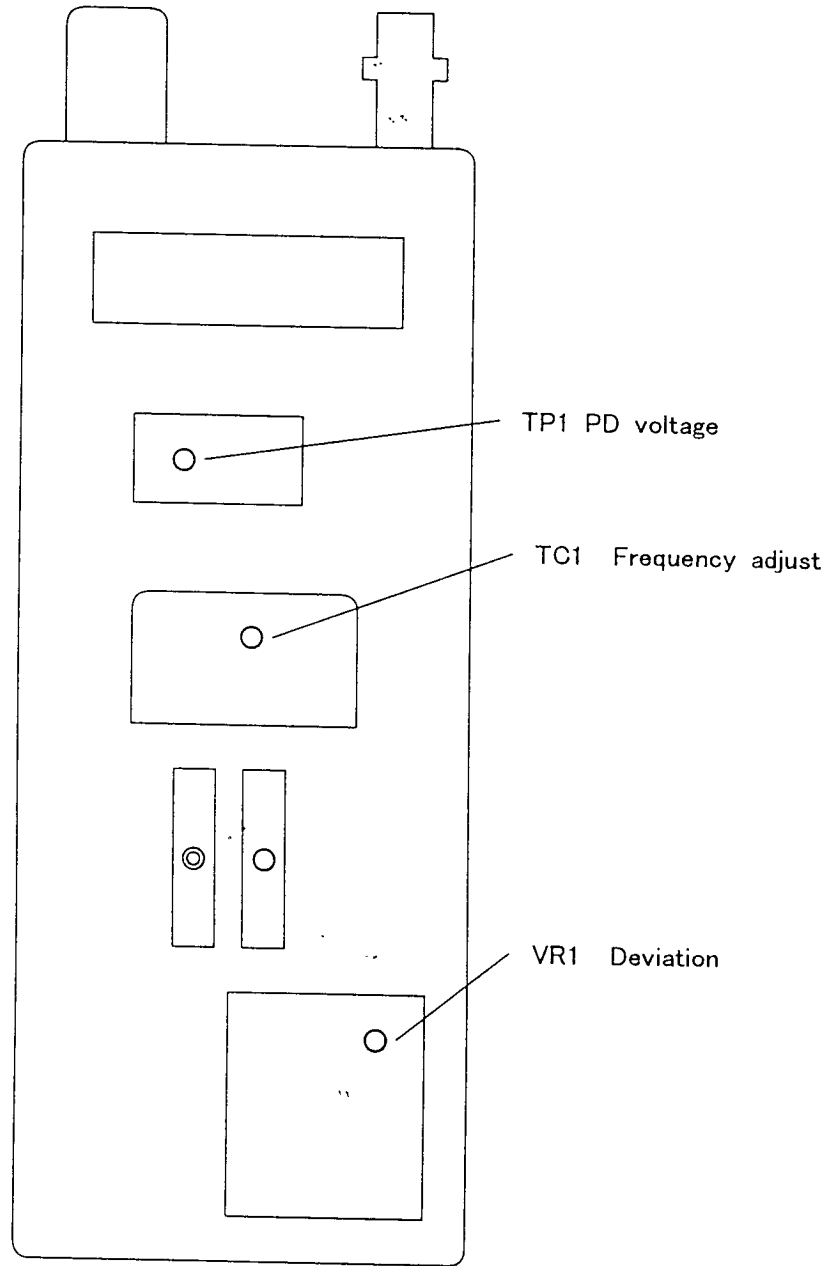
- |                                  |   |
|----------------------------------|---|
| 1. Regulated power supply        | Supply voltage: 5-14 VDC<br>Current: 3A or more   |
| 2. Digital multimeter            | Voltage range: FS=Approx. 20V<br>Current: 10A or more<br>Input resistance: High impedance               |
| 3. Oscilloscope                  | Measurable frequency: Audio frequency   |
| 4. Audio dummy load              | Impedance: 8 $\Omega$<br>Dissipation: 1W or more<br>Jack: 3.5 mm $\Phi$                                 |
| 5. SSG                           | Output frequency: 200MHz or more<br>Output level: -20dBu/0.1uV - 120dBu/1V<br>Modulation: FM            |
| 6. Spectrum Analyzer             | Measuring range: Up to 2 GHz or more  |
| 7. Power meter                   | Measurable frequency: Up to 200MHz<br>Impedance: 50 $\Omega$ , unbalanced<br>Measuring range: 0.1W -10W |
| 8. Audio volmeter                | Measurable frequency: Up to 100kHz<br>Sensitivity: 1mV to 10V   |
| 9. Audio generator               | Output frequency: 67Hz to 10kHz<br>Output impedance: 600 $\Omega$ , unbalanced                          |
| 10. Distortion meter/SINAD meter | Measurable frequency: 1kHz<br>Input level: Up to 40dB<br>Distortion: 1% - 100%                          |
| 11. Frequency counter            | Measurable frequency: Up to 200MHz<br>Measurable stability: Approx. +/-0.1 ppm                          |
| 12. Linear detector              | Measurable frequency: Up to 200MHz<br>Characteristics: Flat<br>CN: 60db or more                         |

#### Note

- Standard modulation : 1 kHz +/-3.5kHz/DEV
- Reference sensitivity 12dB SINAD
- Specified audio output level: 200mW at 8  $\Omega$
- Standard audio output level: 50mW at 8  $\Omega$
- Use an RF cable (3D2W:1m) for test equipment.
- Attach a fuse to the RF test equipment.
- All SSG outputs are indicated by EMF.
- Supply voltage for the transceiver: 13.8VDC



## 2) Adjustment Points



### 3) Adjustment Mode

The DJ-195 does not require a serviceperson to manipulate the components on the printed-circuit board, except the trimmer when adjusting reference frequency and deviation. Most of the adjustments for the transceiver are made by using the keys on it while the unit is in the adjustment mode. Because the adjustment mode temporarily uses the channels, frequency must be set on each channel before adjustments can be made. For instructions on how to program the channels, see the "DJ-195 INSTRUCTION MANUAL" which came with the product. In consideration of the radio environment, the frequency on each channel must be near the value (+/- 1 MHz) listed in the table below. To enter the adjustment mode, set key lock and input 490217. Decimal point at 100MHz and 10MHz appears in LCD. (To release the mode, set key lock and input 490217.)

#### Channel frequencies used in the adjustment mode

Channel	Channel function	Frequency
1	Reference frequency adjustment	145 MHz
2	High power adjustment	145 MHz
3	Low power adjustment	145 MHz
4	Minimum frequency sensitivity adjustment	130 MHz
5	Medium frequency sensitivity adjustment	145 MHz
6	Maximum frequency sensitivity adjustment	174 MHz
7	S-meter ( 1 ) adjustment	145 MHz
8	S-meter ( FULL ) adjustment	145 MHz
9	Deviation	145 MHz
10	DTMF ( 1 ) test	145 MHz
11	DTMF ( D ) test	145 MHz
12	Tone 67 Hz test	145 MHz
13	Tone 88.5Hz test	145 MHz
14	Tone 250.3Hz test	145 MHz
15	DCS code 255 test	145 MHz
16	Tone burst test	145 MHz
17	Aging ( Not required to use )	145 MHz

#### Reference Frequency Adjustment

1. In the adjustment mode, select channel 1 by rotating the main tuning dial.
2. Press the PTT key to start transmission.
3. Rotate TC1 on the Main board until the value on the frequency counter matches the one displayed on the LCD.
4. On 145.05MHz measure TP near the VCO and to obtain 1.2V + 0.1V( If the frequency display is flashing, the PLL is unlocked. )

#### High Power Adjustment

1. In the adjustment mode, select channel 2 by rotating the main tuning dial.
2. Hold down the F key and press the H/L key to enter the high power mode ("L" at the upper-left of the display disappears).
3. Hold down the PYY key to start transmission.
4. While watching the reading of the TX power meter, set the output power to the value closest

to 5 W by rotating the main tuning dial.

5. When the PTT key is released, the output power at that time will be stored as the high power setting.

#### Low Power Adjustment

1. In the adjustment mode, select channel 3 by rotating the main tuning dial.
2. Hold down the F key and press the H/L key to enter the low power mode ("L" appears at the upper-left of the display).
3. Hold down the PTT key to start transmission.
4. While watching the reading of the TX power meter, set the output power to the value closest to 0.5 W by rotating the main tuning dial.
5. When the PTT key is released, the output power at that time will be stored as the low power setting.

#### Minimum Frequency Sensitivity Adjustment

See "Note on Adjusting the Sensitivity" later in this section.

1. In the adjustment mode, select channel 4 by rotating the main tuning dial.
2. Set the minimum frequency sensitivity rotating the main tuning dial, while F appears after the FUNC key is pressed.

#### Medium Frequency Sensitivity Adjustment

See "Note on Adjusting the Sensitivity" later in this section.

1. In the adjustment mode, select channel 5 by rotating the main tuning dial.
2. Set the medium frequency sensitivity rotating the main tuning dial, while F appears after the FUNC key is pressed.

#### Maximum Frequency Sensitivity Adjustment

See "Note on Adjusting the Sensitivity" later in this section.

1. In the adjustment mode, select channel 6 by rotating the main tuning dial.
2. Set the maximum frequency sensitivity rotating the main tuning dial, while F appears after the FUNC key pressed.

#### S-meter (1) Adjustment

1. In the adjustment mode, select channel 7 by rotating the main tuning dial. The S-meter will show a single circle (●)
2. Enter "0" dBu(EMF) with the transceiver tester.
3. Press the F key. The transceiver beeps indicating the new setting has been stored successfully.

#### S-meter (FULL)

1. In the adjustment mode, select channel 8 by rotating the main tuning dial. The S-meter will show all six circles (●●●●●●)
2. Enter "+20" dBu(EMF) with the transceiver tester.
3. Press the F key. The transceiver beeps indicating the new setting has been stored successfully.

#### Deviation

1. In the adjustment mode, select channel 9 by rotating the main tuning dial.
2. Input a 50mVrms, 1KHz signal with your transceiver tester through the external microphone jack.

3. With the tester, put the transceiver in the transmission mode.
4. Rotate the VR1 on the printed-circuit board of the transceiver until the deviation is set to 4.5KHz.

#### DTMF (1) Test

This function is only for checking the DTMF code, not adjusting it.

1. In the adjustment mode, select channel 10 by rotating the main tuning dial.
2. Press the PTT key. DTMF code "1" is automatically sent and you will hear the monitoring tone from the speaker.
3. Check the deviation with the transceiver tester.

#### DTMF (D) Test

1. In the adjustment mode, select channel 11 by rotating the main tuning dial.
2. Press the PTT key. DTMF code "D" is automatically sent and you will hear the monitoring tone from the speaker.
3. Check the deviation with the transceiver tester.

#### Tone 67Hz Test

This function is only for checking the tone encoder, not adjusting it.

1. In the adjustment mode, select channel 12 by rotating the main tuning dial.
2. Press the PTT key. A 67Hz tone is automatically sent.
3. Check the deviation with the transceiver tester.

#### Tone 88.5Hz Test

1. In the adjustment mode, select channel 13 by rotating the main tuning dial.
2. Press the PTT key. An 88.5Hz tone is automatically sent.
3. Check the deviation with the transceiver tester.

#### Tone 250.3Hz Test

1. In the adjustment mode, select channel 14 by rotating the main tuning dial.
2. Press the PTT key. A 250.3Hz tone is automatically sent.
3. Check the deviation with the transceiver tester.

#### DCS Code 225 Test

1. In the adjustment mode, select channel 15 by rotating the main tuning dial.
2. Press the PTT key. An 225 DCS code is automatically sent.
3. Check the deviation with the transceiver tester.

#### Tone Burst Test

This function is only for checking the tone burst, not adjusting it.

1. In the adjustment mode, select channel 16 by rotating the main tuning dial.
2. Press the PTT key. A 1750Hz tone burst is automatically sent.
3. Check the deviation with the transceiver tester.

#### Aging

Perform this aging test only when necessary.

1. In the adjustment mode, select channel 17 by rotating the main tuning dial. The transceiver automatically repeats transmission for a minute and reception for another minute.

### Note on Adjusting Sensitivity

Sensitivity is adjusted by applying the optimum voltage from the CPU to the varicap of the tuning circuit.

1. Program any frequency within 145MHz +/- 1 on memory channel 5.
2. To enter the adjustment mode, set key lock and input 490217. Decimal point at 100MHz and 10MHz appears in LCD. (To release the mode, set key lock and input 490217).
3. Select channel 5 by rotating the main tuning dial.
4. Press the F key and, while the F appears, rotate the main tuning dial. Set the adjustment data to "7F" ("7F" appears in the channel number area on the LCD).
5. Press the F key.
6. In the key lock mode, press and hold the F key. Input 490217. Decimal point at 100MHz and 10MHz disappear. Turn the power ON. The transceiver is in the normal status.

parts list

DJ-195 Parts list

Ref.No.	Parts No.	Parts Name	Ref.No.	Parts No.	Parts Name
C1	CU3035	C1608JB1H102KT-AS	C61	CU3047	C1608JB1H103KT-N
C2	CU3035	C1608JB1H102KT-AS	C62	CU3111	C1608JB1C104KT-N
C3	CS0404	6MCM106MATER	C63	CS0407	35MC104MATER
C4	CU3012	C1608CH1H120JT-AS	C64	CU3011	C1608CH1H100DT-AS
C5	CU3012	C1608CH1H120JT-AS	C65	CU3011	C1608CH1H100DT-AS
C6	CU3035	C1608JB1H102KT-AS	C66	CU3035	C1608JB1H102KT-AS
C7	CU3035	C1608JB1H102KT-AS	C67	CU3012	C1608CH1H120JT-AS
C8	CU3035	C1608JB1H102KT-AS	C68	CU3047	C1608JB1H103KT-N
C9	CU3035	C1608JB1H102KT-AS	C69	CU3014	C1608CH1H180JT-AS
C10	CU3035	C1608JB1H102KT-AS	C70	CU3016	C1608CH1H270JT-AS
C11	CU3019	C1608CH1H470JT-AS	C71	CU3035	C1608JB1H102KT-AS
C12	CU3015	C1608CH1H220JT-AS	C72	CS0406	35MCM105MATER
C13	CU3011	C1608CH1H100DT-AS	C73	CU3017	C1608CH1H330JT-AS
C14	CU3014	C1608CH1H180JT-AS	C74	CU3019	C1608CH1H470JT-AS
C15	CU3016	C1608CH1H270JT-AS	C75	CU3018	C1608CH1H390JT-AS
C16	CU3085	C1608CH1H300JT-AS	C76	CU3047	C1608JB1H103KT-N
C17	CU3004	C1608CH1H030CT-AS	C77	CU3003	C1608CH1H020CT-AS
C18	CU3001	C1608CH1H0R5CT-AS	C78	CU3012	C1608CH1H120JT-AS
C19	CU3020	C1608CH1H560JT-AS	C79	CU0108	LMK212BJ105KG
C20	CU3016	C1608CH1H270JT-AS	C80	CU3035	C1608JB1H102KT-AS
C21	CU3003	C1608CH1H020CT-AS	C81	CU3016	C1608CH1H270JT-AS
C22	CU3035	C1608JB1H102KT-AS	C82	CU3035	C1608JB1H102KT-AS
C23	CU3004	C1608CH1H030CT-AS	C83	CU3111	C1608JB1C104KT-N
C24	CU3002	C1608CH1H010CT-AS	C84	CU3035	C1608JB1H102KT-AS
C25	CU3012	C1608CH1H120JT-AS	C85	CU3015	C1608CH1H220JT-AS
C26	CU3015	C1608CH1H220JT-AS	C86	CU3035	C1608JB1H102KT-AS
C27	CU3002	C1608CH1H010CT-AS	C87	CE0392	6MV47UW
C28	CU3002	C1608CH1H010CT-AS	C88	CU3035	C1608JB1H102KT-AS
C29	CU3035	C1608JB1H102KT-AS	C89	CS0405	10MCS475MATER
C30	CU0108	LMK212BJ105KG	C90	CU3035	C1608JB1H102KT-AS
C31	CU3047	C1608JB1H103KT-N	C91	CU3035	C1608JB1H102KT-AS
C32	CU3035	C1608JB1H102KT-AS	C92	CU0108	LMK212BJ105KG
C33	CU3047	C1608JB1H103KT-N	C93	CU3047	C1608JB1H103KT-N
C34	CU3035	C1608JB1H102KT-AS	C94	CS0404	6MCM106MATER
C35	CU3035	C1608JB1H102KT-AS	C95	CU3035	C1608JB1H102KT-AS
C36	CU0108	LMK212BJ105KG	C96	CS0408	6MCM156MATER
C37	CU3035	C1608JB1H102KT-AS	C97	CU3035	C1608JB1H102KT-AS
C38	CU3027	C1608CH1H221JT-AS	C98	CU0108	LMK212BJ105KG
C39	CU3035	C1608JB1H102KT-AS	C99	CS0408	6MCM156MATER
C40	CU3002	C1608CH1H010CT-AS	C100	CU3035	C1608JB1H102KT-AS
C41	CU3002	C1608CH1H010CT-AS	C101	CU3035	C1608JB1H102KT-AS
C42	NC		C102	CE0392	6MV47UW
C43	CU3035	C1608JB1H102KT-AS	C103	CE0373	16MV 100UW
C44	CU3035	C1608JB1H102KT-AS	C104	CU0108	LMK212BJ105KG
C45	CU3035	C1608JB1H102KT-AS	C105	CU3047	C1608JB1H103KT-N
C46	CU0108	LMK212BJ105KG	C106	CU3035	C1608JB1H102KT-AS
C47	CU3035	C1608JB1H102KT-AS	C107	CS0404	6MCM106MATER
C48	CU3035	C1608JB1H102KT-AS	C108	CS0404	6MCM106MATER
C49	CU3047	C1608JB1H103KT-N	C109	CU3047	C1608JB1H103KT-N
C50	CU3035	C1608JB1H102KT-AS	C110	CU3035	C1608JB1H102KT-AS
C51	CU3047	C1608JB1H103KT-N	C111	CU3111	C1608JB1C104KT-N
C52	CS0404	6MCM106MATER	C112	CU3111	C1608JB1C104KT-N
C53	CU3014	C1608CH1H180JT-AS	C113	CU3035	C1608JB1H102KT-AS
C54	CU3047	C1608JB1H103KT-N	C114	CE0397	MVS16VC47MF46
C55	CU3035	C1608JB1H102KT-AS	C115	CU3047	C1608JB1H103KT-N
C56	CU3002	C1608CH1H010CT-AS	C116	CU3051	C1608JB1E223KT-NS
C57	CU3002	C1608CH1H010CT-AS	C117	CU3051	C1608JB1E223KT-NS
C58	CU3015	C1608CH1H220JT-AS	C118	CU0108	LMK212BJ105KG
C59	CU3007	C1608CH1H060CT-A	C119	CU3111	C1608JB1C104KT-N
C60	NC		C120	CE0396	MVS6.3VC100MF46

parts list

Ref.No.	Parts No.	Parts Name	Ref.No.	Parts No.	Parts Name
C121	CU3051	C1608JB1E223KT-NS	D3	XD0131	1SV214 TPH4
C122	CU3111	C1608JB1C104KT-N	D4	XD0312	MA2S30400L
C123	CU3111	C1608JB1C104KT-N	D5	XD0331	HSU277TRF
C124	CS0404	6MCM106MATER	D6	XD0251	MA741WA TX
C125	CU3035	C1608JB1H102KT-AS	D7	XD0323	MA2S111-TX
C126	CU3111	C1608JB1C104KT-N	D8	XD0261	S3DG7
C127	CU3025	C1608CH1H151JT-AS	D9	XD0130	DA204U T106
C128	CU3035	C1608JB1H102KT-AS	D10	XD0323	MA2S111-TX
C129	CU3111	C1608JB1C104KT-N	D11	XD0294	U2FWJ44N(TE12R)
C130	CU3041	C1608JB1H332KT-NS	D12	XL0036	SML-310MTT86
C131	CU0108	LMK212BJ105KG	D13	XD0312	MA2S30400L
C132	CU3111	C1608JB1C104KT-N	D14	XD0312	MA2S30400L
C133	CU3047	C1608JB1H103KT-N	D15	XD0312	MA2S30400L
C134	CU3038	C1608JB1H182KT-AS	D16	XD0312	MA2S30400L
C135	CU3053	C1608JF1E333ZT-N	D17	XL0036	SML-310MTT86
C136	CU3111	C1608JB1C104KT-N	D18	XD0131	1SV214 TPH4
C137	CU3035	C1608JB1H102KT-AS	D19	XL0028	BRPG1201W TR
C138	CU3111	C1608JB1C104KT-N	D20	XD0291	MA729-TX
C139	CU3035	C1608JB1H102KT-AS	D21	XD0332	RB706F-40-T106
C140	CU3035	C1608JB1H102KT-AS	D22	XD0323	MA2S111-TX
C141	CU3035	C1608JB1H102KT-AS	D23	NC	
C142	CU0108	LMK212BJ105KG	FL1	XC0060	ALFYM450F=K
C143	CU3051	C1608JB1E223KT-NS	IC1	XA0543	M64082AGP
C144	CU3047	C1608JB1H103KT-N	IC2	XA0619	S-81250SG-QD-T1
C145	CU3021	C1608CH1H680JT-AS	IC3	XA0210	NJM2070M T1
C146	CU3101	C1608JB1C473KT-NS	IC4	XA0385	M5222FP-600C
C147	CU3111	C1608JB1C104KT-N	IC5	XA0515	TK14521MTL
C148	CU3111	C1608JB1C104KT-N	IC7	XA0573	NJM2904V-TE1
C149	CS0404	6MCM106MATER	IC8	XA0596	NJM2902V-TE1
C150	CU3047	C1608JB1H103KT-N	IC9	XA0621	M38267E8L-GP
C151	CU3047	C1608JB1H103KT-N	IC10	XA0368	AT24C16N-10SI-2.7TER
C152	CU0108	LMK212BJ105KG	IC11	XA0620	S-80845ALMP-EA9-T2
C153	CU3047	C1608JB1H103KT-N	JK2	UJ0046	MJ82-1
C154	CU0108	LMK212BJ105KG	JK3	UJ0019	HSJ1493-01-010
C155	CS0405	10MCS475MATER	JK4	UJ0022	HSJ1102-01-540
C156	CU3014	C1608CH1H180JT-AS	L1	QC0508	LK16082R2K-T
C157	CU3013	C1608CH1H150JT-AS	L2	QKA45A	MR1.5 4.5T 0.4
C158	CU0108	LMK212BJ105KG	L3	QKA45A	MR1.5 4.5T 0.4
C159	CU3035	C1608JB1H102KT-AS	L4	QKA65A	MR1.5 3.5T 0.4
C160	CU3047	C1608JB1H103KT-N	L5	QKA45A	MR1.5 4.5T 0.4
C161	CS0404	6MCM106MATER	L6	QC0571	LL1608-FH68NJ
C162	CU3111	C1608JB1C104KT-N	L7	QC0566	LL1608-FH27NJ
C163	CU3111	C1608JB1C104KT-N	L8	QC0570	LL1608-FH56NJ
C164	CU3046	C1608JB1H822KT-NS	L9	QC0573	LL1608-FHR10J
C165	CU3111	C1608JB1C104KT-N	L10	QKA75A	QKA75A
C166	CU3044	C1608JB1H562KT-NS	L11	QC0535	LQN21A56NJ04
C167	CU3040	C1608JB1H272KT-NS	L12	QC0538	LQN21AR10J04
C168	CU3050	C1608JB1E183KT-A	L13	QC0570	LL1608-FH56NJ
C169	CU3035	C1608JB1H102KT-AS	L15	QC0508	LK16082R2K-T
C170	CU3035	C1608JB1H102KT-AS	L16	QC0537	LQN21A82NJ04
C171	CU3035	C1608JB1H102KT-AS	L17	QC0537	LQN21A82NJ04
C172	CU3101	C1608JB1C473KT-NS	L18	QC0537	LQN21A82NJ04
C173	CU3035	C1608JB1H102KT-AS	L19	QC0537	LQN21A82NJ04
C174	CU3101	C1608JB1C473KT-NS	L20	QC0573	LL1608-FHR10J
C175	NC		L21	QC0089	NL322522T-181JA
C176	NC		LCD1	EL0044	HT-3404
C177	NC		MIC1	EY0017	OB-27P44
C178	NC		Q1	XT0171	2SC4808-TX. AR
CN1	UE0350	DF12D(3.5)20DPO. 5V81	Q2	XE0038	2SK2975-T11-A
D1	XD0066	RLS135 TE 11	Q3	XE0034	MRF9745T1
D2	XD0312	MA2S30400L	Q4	XT0171	2SC4808-TX. AR

## parts list

Ref. No.	Parts No.	Parts Name	Ref. No.	Parts No.	Parts Name
Q5	XT0171	2SC4808-TX. AR	R35	RK3046	MCR03EZHJ472
Q6	XU0172	XP1501-TX	R36	RK3022	MCR03EZHJ470
Q7	XT0135	2SD2216R-TX	R37	RK3050	MCR03EZHJ103
Q8	XT0170	2SB766A-TX	R38	RK3039	MCR03EZHJ122
Q9	XE0040	2SK882-GR-TE85L	R39	RK3066	MCR03EZHJ224
Q10	XT0172	2SC4618	R40	RK3050	MCR03EZHJ103
Q11	XE0040	2SK882-GR-TE85L	R41	RK3018	MCR03EZHJ220
Q12	XU0193	RN1107 TE85L	R42	RK3042	MCR03EZHJ222
Q13	XT0171	2SC4808-TX. AR	R43	RK3038	MCR03EZHJ102
Q14	XT0170	2SB766A-TX	R44	RK3037	MCR03EZHJ821
Q15	XU0193	RN1107 TE85L	R45	RK3044	MCR03EZHJ332
Q16	XU0193	RN1107 TE85L	R46	RK3062	MCR03EZHJ104
Q17	XT0170	2SB766A-TX	R47	RK3030	MCR03EZHJ221
Q18	XU0193	RN1107 TE85L	R48	RK3042	MCR03EZHJ222
Q19	XT0110	2SA1036K T146Q	R49	RK3037	MCR03EZHJ821
Q20	XU0172	XP1501-TX	R50	RK3020	MCR03EZHJ330
Q21	XU0172	XP1501-TX	R51	RK3062	MCR03EZHJ104
Q22	XU0161	XP1114(TX)	R52	RK3038	MCR03EZHJ102
Q23	XU0192	RN2107 TE85L	R53	RK3076	MCR03EZHJ155
Q24	XT0135	2SD2216R-TX	R54	RK3074	MCR03EZHJ105
Q25	XU0193	RN1107 TE85L	R55	RK3022	MCR03EZHJ470
Q26	XT0095	2SC4081 T106R	R56	RK3042	MCR03EZHJ222
Q27	XU0192	RN2107 TE85L	R57	RK3074	MCR03EZHJ105
Q28	XT0135	2SD2216R-TX	R58	RK3022	MCR03EZHJ470
Q29	XU0195	RN1104 TE85L	R59	RK3074	MCR03EZHJ105
Q30	XU0194	RN2111 TE85L	R60	RK3074	MCR03EZHJ105
Q31	XU0192	RN2107 TE85L	R61	RK3050	MCR03EZHJ103
R1	RK3030	MCR03EZHJ221	R62	RK3030	MCR03EZHJ221
R2	RK3030	MCR03EZHJ221	R63	RK3050	MCR03EZHJ103
R3	RK3034	MCR03EZHJ471	R64	RK3059	MCR03EZHJ563
R4	RK3050	MCR03EZHJ103	R65	RK3058	MCR03EZHJ473
R5	RK3022	MCR03EZHJ470	R66	RK3058	MCR03EZHJ473
R6	RK3042	MCR03EZHJ222	R67	RK3076	MCR03EZHJ155
R7	RK3046	MCR03EZHJ472	R68	RK3062	MCR03EZHJ104
R8	RK3022	MCR03EZHJ470	R69	RK3074	MCR03EZHJ105
R9	RK3030	MCR03EZHJ221	R70	RK3054	MCR03EZHJ223
R10	RK3062	MCR03EZHJ104	R71	RK3058	MCR03EZHJ473
R11	RK3049	MCR03EZHJ822	R72	RK3054	MCR03EZHJ223
R12	RK3062	MCR03EZHJ104	R73	RK3050	MCR03EZHJ103
R13	RK3018	MCR03EZHJ220	R74	RK3044	MCR03EZHJ332
R14	RK3046	MCR03EZHJ472	R75	RK3058	MCR03EZHJ473
R15	RK3044	MCR03EZHJ332	R76	RK3050	MCR03EZHJ103
R16	RK3062	MCR03EZHJ104	R77	RK3058	MCR03EZHJ473
R17	RK3034	MCR03EZHJ471	R78	RK3054	MCR03EZHJ223
R18	RK3026	MCR03EZHJ101	R79	RK3050	MCR03EZHJ103
R19	RK3062	MCR03EZHJ104	R80	RK3046	MCR03EZHJ472
R20	RK3042	MCR03EZHJ222	R81	RK3062	MCR03EZHJ104
R21	RK3037	MCR03EZHJ821	R82	RK3046	MCR03EZHJ472
R22	RK3050	MCR03EZHJ103	R83	RK3050	MCR03EZHJ103
R23	RK3058	MCR03EZHJ473	R84	RK3036	MCR03EZHJ681
R24	RK3058	MCR03EZHJ473	R85	RK3022	MCR03EZHJ470
R25	RK3062	MCR03EZHJ104	R86	RK3050	MCR03EZHJ103
R26	RK3053	MCR03EZHJ183	R87	RK3038	MCR03EZHJ102
R27	RK3053	MCR03EZHJ183	R88	RK3050	MCR03EZHJ103
R28	RK3053	MCR03EZHJ183	R89	RK3032	MCR03EZHJ331
R29	RK0002	ERJ6GEYJ120V	R90	RK3044	MCR03EZHJ332
R30	RK3034	MCR03EZHJ471	R91	RK3062	MCR03EZHJ104
R31	RK3042	MCR03EZHJ222	R92	RK3058	MCR03EZHJ473
R32	RK3050	MCR03EZHJ103	R93	RK3032	MCR03EZHJ331
R33	RK3030	MCR03EZHJ221	R94	RK3050	MCR03EZHJ103
R34	RK3050	MCR03EZHJ103	R95	RK3050	MCR03EZHJ103



parts list

Ref. No.	Parts No.	Parts Name	Ref. No.	Parts No.	Parts Name
R96	RK3058	MCR03EZHJ473	R157	RK3062	MCR03EZHJ104
R97	RK3052	MCR03EZHJ153	R158	RK3055	MCR03EZHJ273
R98	RK3050	MCR03EZHJ103	R159	RK3038	MCR03EZHJ102
R99	RK3041	MCR03EZHJ182	R160	RK3074	MCR03EZHJ105
R100	RK3066	MCR03EZHJ224	R161	RK3069	MCR03EZHJ394
R101	RK3050	MCR03EZHJ103	R162	RK3060	MCR03EZHJ683
R102	RK3066	MCR03EZHJ224	R163	RK3050	MCR03EZHJ103
R103	RK3052	MCR03EZHJ153	R164	RK3050	MCR03EZHJ103
R104	RK3048	MCR03EZHJ682	R165	RK3048	MCR03EZHJ682
R105	RK3054	MCR03EZHJ223	R166	RK3038	MCR03EZHJ102
R106	RK3050	MCR03EZHJ103	R167	RK3048	MCR03EZHJ682
R107	RK3050	MCR03EZHJ103	R168	RK3038	MCR03EZHJ102
R108	RK3014	MCR03EZHJ100	R169	RK3074	MCR03EZHJ105
R109	RK3062	MCR03EZHJ104	R170	RK3062	MCR03EZHJ104
R110	RK3066	MCR03EZHJ224	R171	RK3062	MCR03EZHJ104
R111	RK3038	MCR03EZHJ102	R172	RK3001	MCR03EZHJ000
R112	RK3051	MCR03EZHJ123	R173	RK3066	MCR03EZHJ224
R113	RK3032	MCR03EZHJ331	R174	RK3066	MCR03EZHJ224
R114	RK3062	MCR03EZHJ104	R175	RK3062	MCR03EZHJ104
R115	RK1018	ERJ8GEYJ101V	R176	RK3074	MCR03EZHJ105
R116	RK3074	MCR03EZHJ105	R177	RK3066	MCR03EZHJ224
R117	RK3062	MCR03EZHJ104	R178	RK3062	MCR03EZHJ104
R118	RK3045	MCR03EZHJ392	R179	RK3062	MCR03EZHJ104
R119	RK3057	MCR03EZHJ393	R180	RK3046	MCR03EZHJ472
R120	RK3061	MCR03EZHJ823	R181	RK3058	MCR03EZHJ473
R121	RK3055	MCR03EZHJ273	R182	RK3046	MCR03EZHJ472
R122	RK3062	MCR03EZHJ104	R183	NC	
R123	RK3058	MCR03EZHJ473	R184	RK3054	MCR03EZHJ223
R124	RK3063	MCR03EZHJ124	R185	NC	
R125	RK3072	MCR03EZHJ684	R186	NC	
R126	RK3056	MCR03EZHJ333	R187	NC	
R127	RK3054	MCR03EZHJ223	R188	RK3026	MCR03EZHJ101
R128	RK3056	MCR03EZHJ333	R189	RK3074	MCR03EZHJ105
R129	RK3058	MCR03EZHJ473	R190	RK3058	MCR03EZHJ473
R130	RK3038	MCR03EZHJ102	R191	RK3050	MCR03EZHJ103
R131	RK3022	MCR03EZHJ470	R192	RK3059	MCR03EZHJ563
R132	RK3050	MCR03EZHJ103	R193	RK3063	MCR03EZHJ124
R133	RK3001	MCR03EZHJ000	R194	RK3060	MCR03EZHJ683
R134	RK3058	MCR03EZHJ473	R195	RK3050	MCR03EZHJ103
R135	RK3074	MCR03EZHJ105	R196	RK3067	MCR03EZHJ274
R136	RK3050	MCR03EZHJ103	R197	RK3050	MCR03EZHJ103
R137	RK3062	MCR03EZHJ104	R198	RK3050	MCR03EZHJ103
R138	RK3069	MCR03EZHJ394	R199	RK2042	MCR18EZHJ152
R139	RK3038	MCR03EZHJ102	R200	RK3054	MCR03EZHJ223
R140	RK3065	MCR03EZHJ184	R201	RK3057	MCR03EZHJ393
R141	RK3061	MCR03EZHJ823	R202	RK3045	MCR03EZHJ392
R142	RK3058	MCR03EZHJ473	R203	RK3050	MCR03EZHJ103
R143	RK3050	MCR03EZHJ103	R204	RK3050	MCR03EZHJ103
R144	RK3062	MCR03EZHJ104	R205	RK3050	MCR03EZHJ103
R145	RK3062	MCR03EZHJ104	R206	RK3050	MCR03EZHJ103
R146	RK3040	MCR03EZHJ152	R207	RK3052	MCR03EZHJ153
R147	RK3070	MCR03EZHJ474	R208	NC	
R148	RK3052	MCR03EZHJ153	SW17	UU0030	EVQPJ005
R149	RK3046	MCR03EZHJ472	SW18	UU0030	EVQPJ005
R150	NC		TC1	CT0012	CTZ3S-10A-W1-P
R151	RK3038	MCR03EZHJ102	VR1	RH0140	MVR22HXBRN472
R152	RK3046	MCR03EZHJ472	X1	XQ0112	UM-5 21.250MHZ
R153	RK3038	MCR03EZHJ102	X2	XQ0077	38C 3.686400MHZ
R154	RK3050	MCR03EZHJ103	XF1	XF0041	UM5 21.7M 21R15A5
R155	RK3046	MCR03EZHJ472	XF2	XF0041	UM5 21.7M 21R15A5
R156	RK3050	MCR03EZHJ103			

## parts list

Ref.No.	Parts No.	Parts Name
PCB	UP0376	DJ195 INTEGRATED
W1	MACLO7AA	#30A02-070-02
W2	MACLO7AA	#30A02-070-02

## Mechanical Parts

FM0177	RADIATIVE PLATE 195
DG0035	LCD LIGHT
ST0063	LCD HOLDER DJ195
TL0022	REFLECTIVE SHEET 195
FG0291	LCD RUBBER CONNECT.
MACLH2GG	#30AH1-025-H1
TS0142	VCO case XH655
FM0176	PLUS TERMINAL DJ195
NK0068	DIAL KNOB DJ195
KM0244	FRONT CASE DJ195
AF0029	0 *2+9N3
UE0029A	ANT. CONNECT. DJ460
FG0286	JACK CAP DJ195
TW0020	W. PROOF A XH720
TG0033	SP HIMELON DJ195
FM0179	ANTENNA EARTH DJ195
AA0027	XSN2+4
AK0001	OPH B2+4 FE/N 3
ES0011AZ	036M9014
UR0019	RH70N00E20 (RY-6320)
FP0142	BLIND SHEET DJ195
SS0092	CHASSIS DJ195
YX0024	LCD TAPE DJ195
FG0289	TERMINAL RUBBER 195
FM0178	DJ195
FG0285	16 KEY RUBBER DJ195
FG0274	DC CAP
AN0012	RND N7X0.75 BR/B. ZN
FG0290	PTT RUBBER DJ195
DPO126	LCD PANLE DJ195.
RD0108	J1/6Z