ALINCO
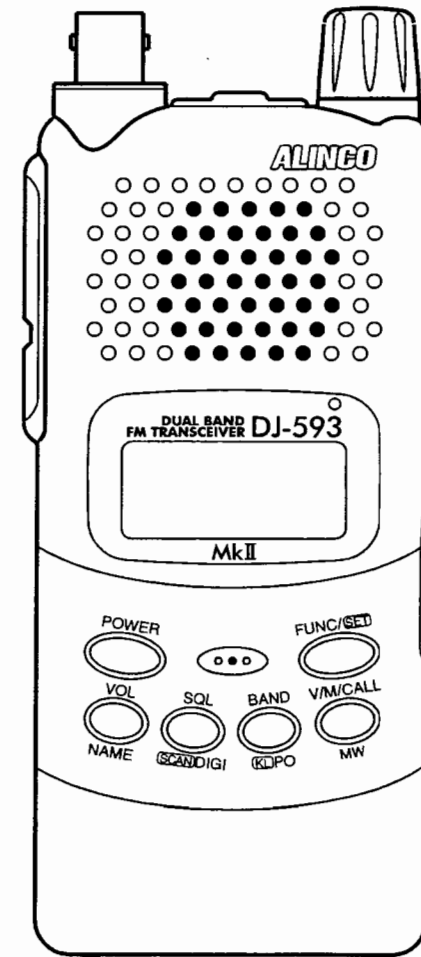
DJ-593T/E MkII

Instruction Manual

Thank you for purchasing this ALINCO
transceiver. This instruction manual contains
important safety and operation instructions.
Please read it carefully before using the
transceiver and be sure to keep it for future reference.

ALINCO INC.

C E
Conformity Information

In case the unit you have purchased is marked with a CE symbol, a copy of relative conformity certificate or document can be reviewed at http://www.alinco.com/usa.html.

Contents

Before Operating the Transceiver

■Attention

- Do not open the case or touch the interior components. Tampering can cause equipment trouble.
- Do not expose the transceiver to direct sunlight, dusty places or place it near sources of heat.
- Keep the transceiver away from TVs, tuners or other equipment if it interferes with reception.
- Securely connect the antenna included with the transceiver.
- When transmitting for a long time at high power, the transceiver can overheat.
- Turn the power off immediately if the transceiver emits smoke or strange odors.
  Ensure that the transceiver is safe, then bring it to the nearest Alinco service center.
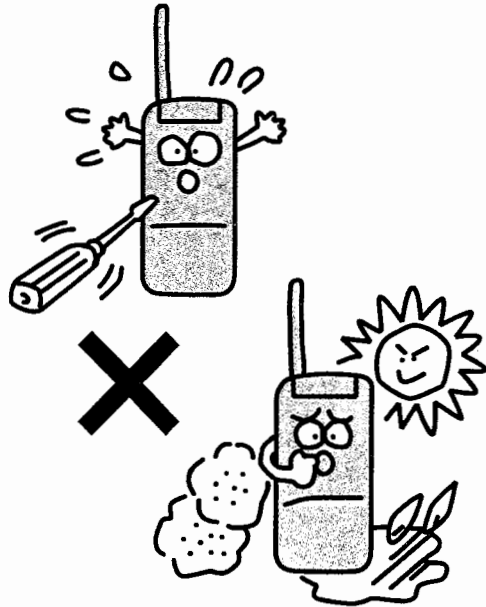
■Points to Note Before Transmitting

Many wireless stations use frequencies adjacent to the ham bands for business purposes. Be mindful when transmitting near them.
Even when amateur stations obey regulations, unexpected interference can occur.
Pay sufficient attention during mobile operation.

⚠ **Caution** The use of a transceiver in the following places may be prohibited:
  - Aboard aircraft · In airports · In shipping ports
  - Within or near the operating area of business wireless stations or their relay stations.

  Before using in any of the above places, obtain any necessary permission from the proper authorities, and be mindful of local laws that govern amateur radio operation.

■Points to Note When Using an External Power Supply

- Use a regulated 6.0V-16.0V DC external power supply.
- When connecting the power supply to the transceiver, use the optional DC cable for base station operation (ECD-37). Connect the cable to the DC jack on the side of the transceiver.
- When power is supplied from a cigarette socket of a car, use the cigarette lighter cable (EDC-43) or the cigarette lighter cable with filter (EDC-36). Use the cigarette lighter cable with filter (EDC-36) during mobile operation to prevent noise. Be sure the car's supply voltage and polarity are correct for use with your equipment.
- Turn the transceiver's power off when connecting or disconnecting the DC cable.

1. Functions and Features

- 39 CTCSS Tone Squelch settings
- 104 DCS Digital Code Squelch settings
- TOT (Timeout timer) function
- Channel naming feature
- Tone Call (burst) functions （1750,2100,1000,1450Hz and CALL）
- Cloning
- Theft Alarm function
- MRS （Experimental Mosquito Repelling Signal） function

1.1 Standard Accessories

- Ni-MH Battery Pack EBP-50N　(9.6V　700mAh)
- Battery Recharger (EDC-93(120V), EDC-94(230V)
- Helical Antenna
- Belt Clip
- Hand Strap
- Instruction Manual
* Standard accessories may differ depending on the version.

2. Accessories

2.1 Attaching the Accessories

● **Connecting and Disconnecting the Antenna**
·Connecting
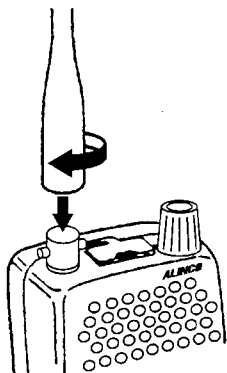
1. Hold the antenna by its base.
2. Align the grooves at the base of the antenna with the protrusions on the antenna connector.
3. Slide the antenna down and turn it clockwise until it stops.
4. Confirm that the antenna is securely connected.

·Disconnecting
Turn the antenna counter-clockwise to disconnect the antenna.

● **Attaching the Hand Strap**

Attach the hand strap as shown in the illustration on the left.

● Attaching and Detaching the Belt Clip

· Attaching
Attach the belt clip to the
back of the transceiver and
push it until it clicks.
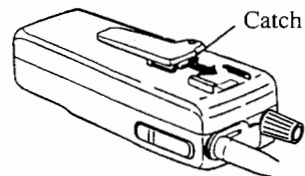
Catch

· Detaching
Push up the catches of the
belt clip, and pull it.
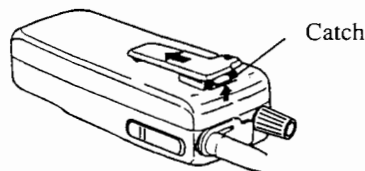
Catch

● Attaching and Detaching the Battery Pack

· Attaching
Align the catches on the
battery pack with the grooves
on the transceiver, and
push in the direction of the
arrow until it clicks.

Catches(4)
Grooves

· Detaching
Push up the catch at the
bottom, and slide the battery
pack out.

Catch
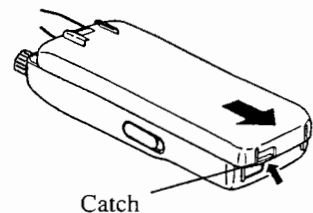
⚠ Caution

· The battery pack is not charged when shipped.
It must be charged before using.
· It takes up to 12 hours (maximum) to fully charge
the battery pack with the EDC-93/94.
· Charging should be conducted within a temperature
range of 0 to 40 ℃. (32-104°F)
· Do not modify, dismantle, incinerate or immerse the
battery pack in water, as these practices can be
dangerous.
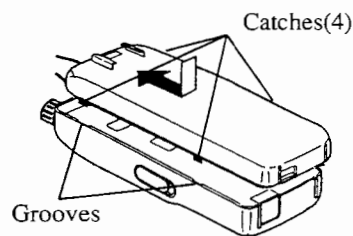· Never short-circuit the battery pack terminals, as this
can cause damage to the equipment or lead to
overheating the battery, which could cause burns.
· Unnecessary prolonged charging (overcharging) can
deteriorate battery performance.
· The battery pack should be stored in a dry place
where the temperature is from -20 ℃ to -45 ℃. (-4°F
- +113°F)
Temperatures outside this range can cause the battery
liquid to leak. Exposure to prolonged high humidity
can cause corrosion of metal components.
· Typically, the battery pack can be charged up to 500
times. However, the battery pack can be considered
dead if the period of use drops significantly despite
the pack being charged for the aforementioned
charging time. When this happens, a new pack
should be used.
· In the interests of environmental protection, do not
dispose of the used battery pack improperly. Check
with your local solid waste officials for details on
recycling options or proper disposal in your area.
· The battery pack can be charged by mounting it on
the DJ-593 MkII and connecting 13.8VDC to the
DC power supply jack on the transceiver.

● Prevent Short Circuiting the Battery Pack

Be extra cautious when carrying the battery pack; short-circuiting will produce surge current possibly resulting in fire.

Terminals
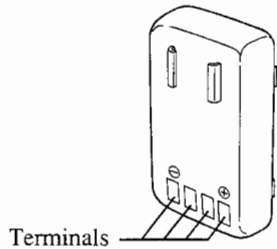
DON'T carry with metals of any type, e.g. chains.

DON'T carry the battery pack inside bags with a metal plated interior.

DON'T place in the proximity of metals or conductors, e.g. nails, chains.
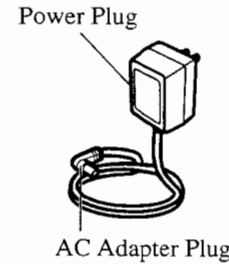
Do enclose inside a non-conductive enclosure (bags or handkerchief made only of non-conductive material).

Protect by spreading a non-conductive sheet.

⚠ **Caution:** Keep the battery pack inside the included pouch when carrying.

● Battery Recharger (Wall Charger) (EDC-93/94)

· Recharging

Power Plug

AC Adapter Plug

1. Mount the battery pack on the transceiver
2. Connect AC adapter plug to the external power supply jack on the transceiver.
3. Connect to the AC outlet.

⚠ **Caution** · Turn the transceiver power off before recharging the battery pack. (EDC-93/94)
· Disconnect the EDC-93/94 from the outlet while not using it.
· Never charge the battery packs of other manufacturers with this charger.
· The required recharging time depends on the condition and model of battery pack. Refer to the instruction manual of the battery pack.
· Never short-circuit the recharging terminals of this recharger with metal objects, etc. The charger can be damaged.
· The EDC-93/94 does not work when the voltage from the wall outlet is extremely low.
· The charger cannot be used to charge dry cell batteries, or used with the dry cell battery pack case.

● Battery Level Indicator

145.000

Charge Level Indicator

Display	Charge Level
	The charge level is high.
	The charge level is low. Charge the battery.
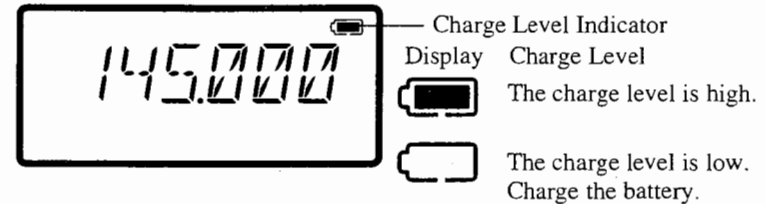
· Battery consumption level may change depending on the surrounding temperature or the frequency of use.
· Even if the battery monitor indicates the need for charging, you may be able to continue operations for low-output transmissions or reception.

3. Control Functions

3.1 Name and Operation of the Transceiver Controls

■Top and Front Views

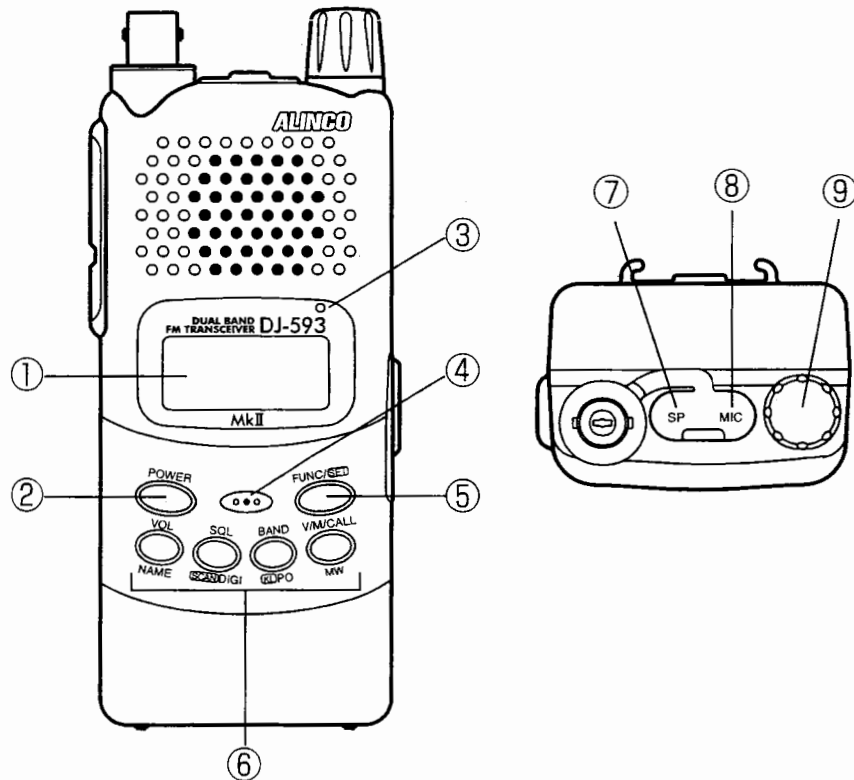|	Key	Function
①	Display (LCD)	Refer to "Display" in this manual. (Page 12)
②	Power switch	For switching power ON/OFF.
③	TX/RX Lamp	Illuminated green when the squelch unmutes, red when transmitting.
④	Microphone	Speak into microphone from a distance of approx. 5 cm.
⑤	FUNC key	Use this key in combination with other keys to access various functions of the transceiver. Holding this key for 3 seconds activates the Setting mode where various parameter adjustments are possible.
⑥	Key pads	Accesses various function. (Page 11)
⑦	SP Connector	For connection of the optional external speaker (8 Ω) with 3.5 Φ monopnonic plug.
⑧	MIC Connector	For connection of the optional external microphone (2k Ω) with 2.5 Φ stereo plug.
⑨	Dial	Rotate this dial to select transmitting/ receiving frequency, memory channel, offset frequency, tone frequency, DCS code, mode settings and input character for memory names. By rotating the dial while pressing and holding the FUN key, frequency can be adjusted by 1MHz steps.

■Side View

Key	Function
⑩ BNC Antenna Connector	For connection of the included helical antenna. If you use other antennas, choose one with low SWR (Standing Wave Ratio) designed for VHF and UHF frequencies.
⑪ PTT key	Press this key to transmit. When the key is released, the transceiver returns to the receive mode.
⑫ MONI key	When this key is pressed, the squelch is unmuted and you can hear the received signal. The squelch is also ummuted when TSQ/DCS are set. If this key is pressed while ◧ appears, the lamp lights for five seconds. Pressing this key while the PTT key is pressed and held, transmits the tone call (burst) signal.
⑬ DC-IN	Terminal for connecting an external power supply. By connecting the optional cigarette lighter cable with filter (EDC-36), you can supply power from a car battery. The pin in the center of the jack is + Positive, and the surrounding part is − Negative. Use a stable power supply with DC6.0~DC16.0V, 2A or more.
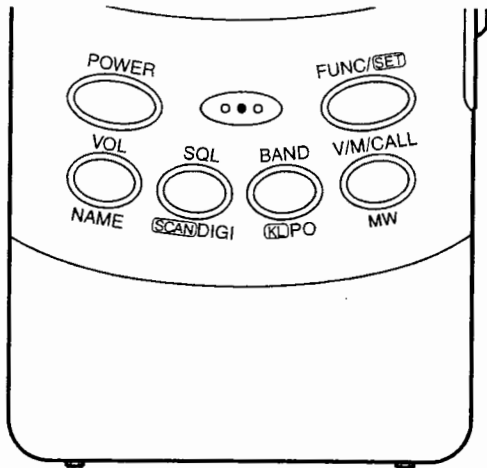
Key	Independent operation	Press FUNC/SET while 🅵 is on	Press the key for 2 sec. or more
VOL / NAME	Volume adjustment	Channel Name setting	
SQL / SCAN DIGI	Squelch Level adjustment	Accesses the digital voise communocation mode	Scanning Starts / Stops
BAND / KD PO	Band change	Selects the transmission outpur level HI / LOW	Keylock setting
V/M/CALL / MW	Switches VFO / Memory Call modes	Writes VOF information to a Memoru Channel	

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3.3 Display

F + T SQ DCS O—ㄲ APO 🔋

LO
*
A
VOL
SQL
M 88

BUSY ///////

①	F	Appears when the FUNC SET ⬭ key is pressed.	⑫	•	Divides MHz and kHz of the frequency. Blinks during scanning operation.
②	+	Indicates the offset frequency (−/+) direction.	⑬	BUSY	Appears when the squelch is unmuted.
③	T	Appears when the tone encoder is set.	⑭	///////	Indicates received signal level and transmission output.
④	T SQ	Appears when the tone squelch is set.	⑮	LO	Appears when the transmitter output level is set to LOW.
⑤	DCS	Appears when the DCS is set.	⑯	*	Appears when the Theft Alarm is ON.
⑥	O—ㄲ	Appears when keys are locked.	⑰	A	Appears when NFM mode has been selected.
⑦	APO	Appears when Auto Power Off function is activated.	⑱	VOL	Appears while the audio volume is being adjusted.
⑧	🔋	Interior of the battery mark appears empty when the battery charge level becomes low.	⑲	SQL	Appears while squelch is being set.
⑨	M	Appears when the Memory mode is activated.	⑳	𝟴𝟴𝟴𝟴𝟴𝟴ₛ	Indicates the frequency and status of various settings.
⑩	88	Indicates memory channel No. and other setting levels.			
⑪	•	Meaningless on this Version. (Page 25)			

4. Basic Operations
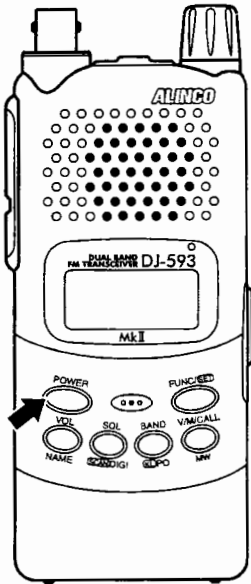
Hold the ⊙POWER key down for a second to turn the power ON.

To turn the power OFF, hold the power key down again for a second.

The squelch silences the transceiver except for signals above a certain level. The Squelch eliminates noise when the transceiver receives less than a certain level.

"To unmute the squelch," means that the transceiver receives a signal higher than the squelch setting and reproduces the received sound.

· There are 21 squelch levels (00 ~ 20).
· The default setting is 00 (minimum).

1. Press the ⊙SQL key. SQL and squelch level will appear on the LCD.
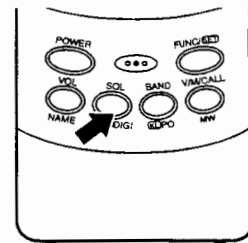
2. Adjust the squelch level by rotating the dial.
   A higher squelch level requires a stronger signal to unmute the squelch.

3. Press any key other than the MONI key to complete the setting.
   The setting function terminates automatically if no key is pressed within 5 seconds.

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Basic Operations

4.3 Adjusting the Audio Volume

· There are 21 volume levels (00 ~ 20).
· The default setting is 00 (minimum).

1. Press the [VOL/NAME] key. **VOL** and volume level will appear on the LCD.
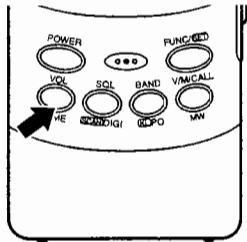
2. Adjust the volume level by rotating the dial.
   A higher volume level produces a louder sound.

3. Press any key other than the MONl key to complete the setting.
   The setting is automatically completed if no key is pressed within 5 seconds.

4.4 Operating Modes

The DJ-593 MkII has three operating modes: VFO mode, MR (memory)mode and CALL mode.
The VFO mode has one VHF and one UHF channel. The MR mode has 100 channels (VHF/UHF mixture) and the CALL mode has one VHF and one UHF channel.

■ Switching Between Modes

Select the operating mode by pressing [V/M/CALL MW] key.
The **M** icon appears on the display while operating in the memory mode, the ⌐ icon in the CALL mode and no specific icon appears in the VFO mdoe.
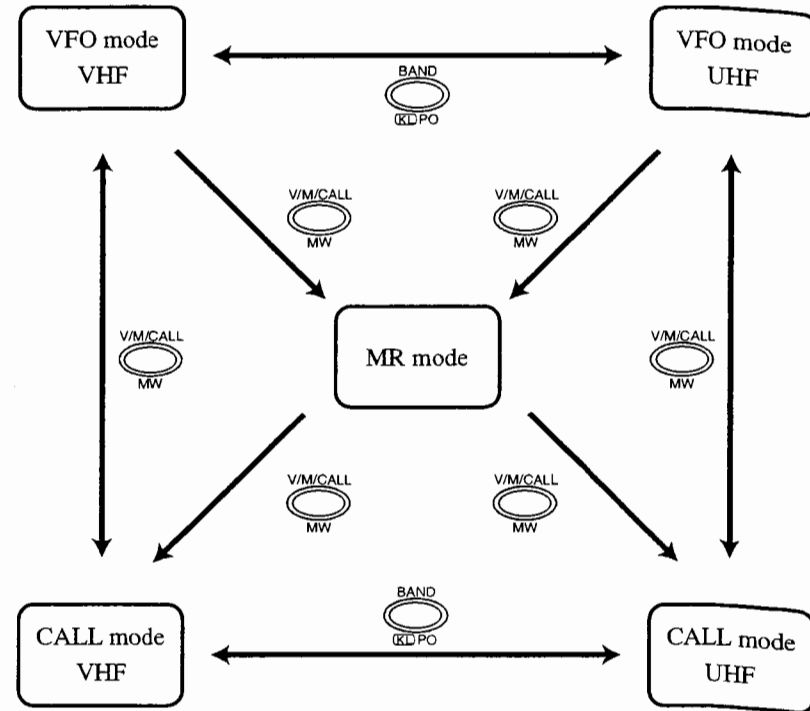
4.5 VFO Mode

The factory default setting for the DJ-593 MkII is the VFO mode. The VFO mode allows you to change the frequency and other settings.

●Switching the Band

Press the ⊙ key to switch the band. Each press of the key changes the band as shown below.

Example: 145.00 →435.00 →145.00 →···(DJ593E MkII)

●1MHz UP / DOWN

Select the VFO mode by pressing the ⊙ key.

Press the ⊙key and rotate the dial while 🅱 appears. Frequency increases and decreases by 1MHz steps.

●Entry Completion Digit for Different Tuning Steps

Depending on the tuning step, entry may be required to the 1 kHz digit or the 10 kHz digit.

Tuning step	Entry completion digit	Last digit selection
12.5kHz	10kHz	When you input the 10kHz digit, the 1kHz digit is defined as follows: {0}:00.0, {1}:12.5, {2}:25.0, {3}:37.5, {4}:invalid {5}:50.0, {6}:62.5, {7}:75.0, {8}:87.5, {9}:invalid
25.0kHz	10kHz	When you input the 10kHz digit, the 1kHz digit is defined as follows: (Other entries are invalid) {0}:00.0,{2}:25.0,{5}:50.0,{7}:75.0
5kHz	1kHz	Enter {5} for the 1kHz digit to enter 5kHz. Any other entry sets the 1kHz digit to 0.
Other	10kHz	When you input the 10kHz digit, the 1kHz digit is defined.

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Basic Operations

4.6 Memory Mode

In the Memory mode, you can call up and operate on a previously programmed frequency.
The DJ-593 MkII has 100 memory channels (any VHF/UHF mixture).
It is not possible to expand the number of memory channels.
All memory channels are blank in the initial factory configuration or after resetting.

■Selecting a Memory Channel

1. Press the ⬭ key to activate the Memory mode.
   The mode switches between VFO, Memory, and CALL mode pressing the ⬭ key.

2. **M** and a memory channel number appear when the Memory mode is activated.
   M blinks when the displayed channel is blank.

```
LO  145.000        🔋
 M   0   BUSY
```
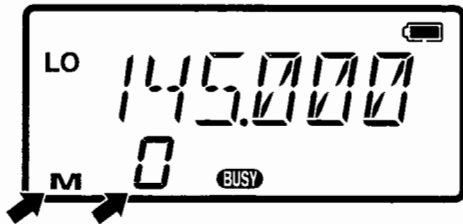
3. Rotate the dial to select a memory channel.
   Rotate the dial clockwise to choose a higher-numbered memory channel, and counterclockwise to select a lower-numbered memory channel.

■Programming a Memory Channel

1. Press the ⬭ key to activate the Memory mode. Select a memory channel by rotating the dial.
   A blinking **M** indicates that the memory channel is blank.

2. Select a frequency you wish to program. You can also set Offset / Tone / DCS functions if necessary.

3. Press the ⬭ key and the ⬭ key while **F** appears. A beep is heard and memory channel programming is completed.

Reference · If you want to rewrite a programmed memory channel, clear the programmed information before rewriting it. A memory channel is cleared by the above procedure 3, and **M** blinks when the memory is cleared and can be rewritten.
· Call channel can also be programmed by selecting the memory channel **C**

■Clearing a Memory Channel

1. Press the ⬭ key to activate the Memory mode.

2. Select a memory channel you wish to clear by rotating the dial. On a programmed channel, **M** is displayed steadily (without blinking).

3. Press the ⭕ FUNC/SET key and the ⭕ V/M/CALL MW key while **F** appears. A beep is heard and the programmed frequency is cleared. **M** starts blinking.

Reference   If you wish to retrieve the cleared information, press the ⭕ FUNC/SET key and the ⭕ V/M/CALL MW key while the previous memory channel information remains on the display. Note that this retrieving operation will not work if the memory channel or operating mode was changed after the memory was cleared.

■ Contents of Memory Programming

The following contents can be stored in each memory channel and in the CALL channels.

· Frequency
· Offset Frequency
· Shift Direction (+/−)
· Tone Encoder Frequency
· Tone Encoder / Decoder Setting
· Tone Decoder Frequency
· DCS Code
· DCS Setting
· Transmit Power H/L
· Skip Channel Setting
· Channel Name Setting
· W/N Setting
· Battery Save Setting
· Busy Channel Lock Out (BCLO)

4.7 Call Mode

The Call mode is used when you wish to receive or transmit on the quick-recall CALL channel.
The DJ-593 MkII has 2 CALL channels (VHF and UHF).
The default settings are :
VHF : 145.00MHz,   UHF : 445.00MHz (DJ-593T MkII)
VHF : 145.00MHz,   UHF : 435.00MHz (DJ-593E MkII)

1. Press the ⭕ V/M/CALL MW key to activate the Call mode.

LO **145.000** C BUSY

2. CALL channel switches between VHF and UHF by pressing the ⭕ BAND key in the Call mode.

3. To return to the VFO mode or the Memory mode, press the ⭕ V/M/CALL MW key again.

Note   · In the Call mode, frequency and memory No. cannot be changed by rotating the Dial.
          · Offset, Tone, DCS settings can be temporarily changed.
          · Scanning cannot be performed in the Call mode.

Basic Operations

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■Programming a Call Channel Frequency

A Call channel is one of the memory channels. To program the frequency and other settings of the call channel, please follow the instruction on page 16 and select C instead of the memory channel number.

Note   The Call channels can be reprogrammed but cannot be cleared.

4.8 Receiving

1. Turn the power ON by pressing the ⊙POWER key.

2. Press the ⊙VOL/NAME key and rotate the dial to adjust the audio volume.

3. Press the ⊙SQL/SCANDIGI key and rotate the dial to eliminate the noise.

4. Adjust to the desired frequency.
   When a signal is received on the selected frequency, **BUSY** appears on the display, the RF meter indicates relative signal strenght, and the received signal is heard. The RX/TX Lamp displays green during reception.

■Monitoring

The Monitor function unmutes the squelch temporarily to hear weak or unsteady signals.
   · While the MONI key is pressed, the squelch is unmuted and sound is heard from the speaker regardless of the squelch setting.
   · Monitoring can be performed even if the tone squelch or DCS are active.

4.9 Transmitting

1. Select a frequency on which you want to transmit.
2. Press the PTT key to transmit. The RX/TX Lamp shows red when transmitting.
3. Speak into the microphone as you do in normal conversation. Do not shout.
4. Release the PTT key to stop transmitting and return to the receiving mode.

Note ·   A tone call (burst) signal can be transmitted by pressing and holding the PTT key and pressing the MONI key. (Page 20)
   · If the PTT key is pressed when the frequency is outside of the transmiting range, "OFF" appears on the display.
   · You cannot transmit when outside the range specified for your transceiver.

■Selecting the Transmission Output Level

The transmission output level can be changed by the following operation:
   · Press the ⊙FUNC/SET key and then ⊙BAND/KDPO key while **B** appears. Transmission power is switched between HI and LOW. **LO** appears on the display when the transmitter output level is set to LOW, and nothing is indicated when HI is selected. Initial setting is LOW.
   · The RF meter indicates LOW transmission power as ◢◢◢ , and HI transmission power as ◢◢◢◢◢◢ .

Note   Transmitter output level cannot be changed during transmission.

Basic Operations **4**

5. Advanced Operations

5.1 Scanning

You can automatically search for signals to receive by using the scan function.
You can select Timed Scan or Busy Channel Scan mode.

Timed Scan
Scanning stops on a busy channel, and resumes five seconds later even if the frequency remains busy.

Busy Channel Scan
Scanning resumes only after a received signal ceases.

· The decimal point blinks during scanning.
· If the MONI key is pressed during scanning, scanning stops temporarily and the squelch unmutes. When the MONI key is released, scanning restarts.
· Scanning direction can be changed by rotating the dial during the scanning operation.
Scan starts in the last selected direction the next time the feature is activated.
· The Scan mode is cancelled by pressing a key other than the MONI key.

Reference   Timed scan or busy channel scan can be selected in the Setting mode.(Page 23)

■VFO Scan
1. Press the ⬭ key to activate the VFO mode.
2. Press the ⬭ key for at least two seconds to start scanning.
   Scan starts in the last operated direction by tuning steps.

3. Scanning direction goes upwards by rotating the dial clockwise, and goes downwards by rotating the dial counterclockwise.
4. To stop scanning, press a key other than the MONI key.

■Memory Scan
1. Press the ⬭ key to activate the Memory mode.
2. Press the ⬭ key for at least two seconds to start memory scanning.
3. Scanning direction goes upward by rotating the dial clockwise, and goes downward by rotating the dial counterclockwise.
4. To stop scanning, press a key other than the MONI key.

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Advanced Operations

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5.2 Keylock

Press the ⊝ key for at least two seconds to activate the
keylock function on.

· **O⌐** appears when the key lock is ON.
· Operations of the PTT / LAMP / MONl keys, and the VOL /
  SQL controls are available even when the key lock is ON.

5.3 Tone Calls

The Tone Call function is used to call another station or activate
a repeater by adding a tone signal to the transmitted signal.

· The tone signal is output while the MONI key is pressed
  down while the PTT key is also pressed and held. The initial
  frequency of the tone signal is 1750Hz, and it can be changed
  it in the Setting mode.(Page 23)
· CTCSS Tone frequency or DCS code is added and
  transmitted automatically when the Tone / DCS is set.
  You must select a tone or code that matches the tone or code
  monitored by the receiving station, if that station is using a
  tone or code squelch.(Page 26,27)

5.4 Channel Names

Channel names can be set and displayed instead of the frequency
indication in the Memory mode.
You can assign names to the memory and call channels.
There are 67 characters available such as A ～ Z and 0 ～ 9 for
programmed memory channel names.

■Setting

1. Select a channel you wish to name in the Memory mode.
2. Press the ⊝ key and the ⊝ key while **F** appears.
   "A" appears and blinks on the display.
3. Select a character by rotating the dial.
4. Press the ⊝ key to set. The selected character stops
   blinking.
   The same character blinks on the right side of the completed
   character to indicate it can now be selected.
5. Set characters one by one, up to a total of six.
6. If the ⊝ key is pressed during the name setting procedure, all
   the selected characters are cleared.
7 Press a key other than the MONI, ⊝ and the
   ⊝ keys to complete the setting
   and to return to the usual display.

■Channel Name Display

· In the Memory mode, programmed channel names are
  displayed instead of the frequency display (Channel numbers
  are displayed whether or not the channel names are
  programmed).
· Frequency display appears for 5 seconds by pressing the
  ⊝ key.
  If a key is pressed during the 5-second frequency display, the
  display returns to the channel name indication or moves to a
  function setting mode depending on the pressed key.

5.5 Lamp

DJ-593 MkII has lamps to illuminates its display and keyboard.
Press the ⊙^{FUNC/SET} key and then the MONI key while **F** appears to light the lamps.

· The lamps turn off automatically if no key is pressed for 5 seconds.

· If a key other than the LAMP key is pressed while the lamps light, the lamps remain on for another 5 seconds.

· To light the lamps continuously, press and hold the MONI key and turn the power ON.

· To cancel continuous lighting, turn the power OFF, press and hold the MONI key and turn the power ON again.

· To turn off continuous lighting, press the ⊙^{FUNC/SET} key and the MONI key while **F** appears.
To light the lamps again, press the ⊙^{FUNC/SET} key and the MONI key while **F** appears.

6. Parameter Setting mode

In the setting mode, you can adjust various operating parameters of the DJ-593 MkII.

6.1 Mode Setting Items

The following items can be addressed in the Setting mode.

● Battery Save function
● Scan Type
● BEEP Sound
● Tone Call Frequency
● Busy Channel Lockout
● TOT (Timeout Timer)
● TOT Penalty
● Theft alarm function
● Meaningless
● Mosquito Repelling Signal
● End Beep
● Tuning Step
● Offset / Split function
● Tone Squelch
● Tone Frequency
● Offset Frequency
● DCS (Digital Code Squelch)
● APO (Auto Power Off)
● Skip Channel
● BELL
● NFM / WFM

6.2 Selecting the Setting Mode

1. Hold $\overset{\text{FUNC/SET}}{\bigcirc}$ key down for a few seconds and the Setting mode is activated.
   The initial menu displays "BS-ON" .

2. You can review the menu by pressing the MONI key (upward) or $\overset{\text{FUNC/SET}}{\bigcirc}$ (downward).
   Monitoring will not occur in this mode.

3. Rotate the dial and change the appropriate settings.

4. Press a key other than the $\overset{\text{FUNC/SET}}{\bigcirc}$ and MONI keys to complete the setting and to return to the transceiver's normal status.
   The last menu item operated appears the next time the setting mode is activated.

6.3 Selecting the Parameters

In the Setting mode, you can set the following functions:
(Each function is described below.)

■ Battery Save

The battery save function extends battery life. If there is no key operation and no signal reception for five seconds, the internal power of the transceiver cycles on and off in a fixed ratio to reduce battery power consumption.

1. "BS-ON" is displayed in the Battery Save setting menu.
2. Rotate the dial to turn ON/OFF the battery save function.

$$BS-ON \rightarrow BS-OFF$$

- It is "On" in the initial factory settings.
- This operation is cancelled temporarily if a signal is received or another operation is performed.

■ Scan Type

Timed scan and busy channel scan can be selected in the Setting mode.
1. "TIMER" is displayed in the Scan Type switching menu.
2. Rotate the dial to change the scan type. The display rotates as follows.

$$TIMER \rightarrow BUSY$$

■ Beep

It is the function to make a beep sound when operating the keys.

1. "BEP-ON" is displayed in the Beep function setting menu.
2. Rotate the dial to turn ON/OFF the beep function. The display rotates as follows.

$$BEP-ON \rightarrow BEP-OF$$

■ Tone Call(Burst) Frequency

1. "1750" is displayed in the Tone Call Frequency setting menu.
2. Rotate the dial to change the frequency. The display rotates as follows.

$$1750 \rightarrow 2100 \rightarrow CALL \rightarrow 1000 \rightarrow 1450$$

3. The CALL tone transmits a ringing sound similar to that of a telephone.

■ BCLO (Busy Channel Lock Out)

When active, the ability to transmit is restricted if signals are being received.

1. "BCL-OF" is displayed in the BCLO setting menu.
2. Rotate the dial to turn ON/OFF the BCLO function. The display rotates as follows.

$$BCL-OF \rightarrow BCL-ON$$

When BCLO is on, transmitting is available only if a signal is not being received.
If you press the PTT key when transmitting is not available, an alarm goes off to indicate that you cannot transmit. The alarm will not be heard if the BEEP parameter is set to OFF.

■TOT(Timeout Timer)

This function automatically stops transmission when a specified period of time has been exceeded.

1. T-OFF is displayed in the TOT setting menu.
2. Rotate the dial to adjust the TOT setting time.
   The maximum setting time is 450 seconds.

$$TP-OFF \rightarrow T-30 \rightarrow T-60 \rightarrow T-90 \cdot \cdot \cdot \rightarrow T-450$$

· When transmitting continues up to the TOT setting time, a beep is heard 5 seconds before the time-out. When the transmission exceeds the set TOT value, the transceiver automatically stops transmitting and shifts to receive status. In order to transmit again, release the PTT key once and then press it again.
If a TOT penalty is set, transmitting is not available within the penalty period even if the PTT key is pressed again.

Note   A warning beep will not be heard if the Beep setting is set to OFF.

■TOT Penalty

When the TOT penalty is set, transmission is not allowed within the programmed TOT penalty time after a transmission is automatically stopped by TOT.

1. " TP-OFF" is displayed in the TOT Penalty setting menu.
2. Rotate the dial to change the TOT penalty time (seconds). The display rotates as follows.

$$TP-OFF \rightarrow TP-1 \rightarrow \cdots \cdots \rightarrow TP-4 \rightarrow \cdots \cdots \rightarrow TP-15$$

· When PTT key is pressed during TOT penalty time, an alarm goes off.
  The alarm will not be heard if the BEEP parameter is set to OFF.
· When PTT key is pressed after the TOT penalty time finishes, the penalty operation is cancelled and you can transmit again.

■Theft Alarm

DJ-593 MkII has a theft alarm function that generates an alarm sound from the speaker if the alarm cable is removed improperly.
When the plug of the 3.5 ϕ alarm cable connected to the SP terminal of the transceiver (as shown in the illustration) is pulled out, an alarm sounds from the speaker.

Alarm Cable Connection Illustration

Wiring Cable for Alarm

Steering Wheel

SP Terminal

Center

GND

Use 3.5 ϕ stereo plug and be sure that center and GND are connected.
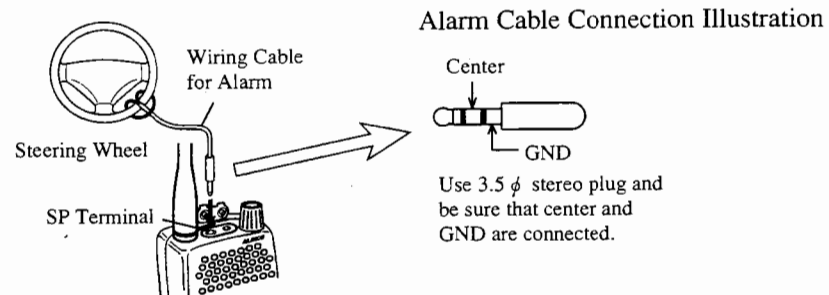
1. Turn off the power of the transceiver and insert the alarm cable plug in the SP terminal.
2. Turn on the power of the transceiver and select "SCR-OF" in the Setting mode.
3. Rotate the dial to turn ON/OFF the Theft Alarm function. The display rotates as follows.

「＊」appears

$$SCR-OF \rightarrow SCR-ON$$

4. Complete the setting and press the ⬭ key to turn off the power.

The theft alarm function works in this status.

5. When the plug is pulled out or the cable is cut, the alarm starts sounding.

If the alarm operates accidentally, press and hold the MONI key and press the ⬭ key. The power is turned off.

6. If memory channel 99 is programmed, the transceiver receives the programmed frequency while in the alarm mode.

If the memory channel 99 is blank, the transceiver receives the previous frequency that was selected before turning off the power.

When the squelch is unmuted, the alarm stops and the transceiver receives the signal as usual.

Note   Set the squelch beforehand to close when no signal is received at the receiving channel. It is recommended to use tone or DCS squelch together with regular squelch so that the alarm is not cancelled accidentally by an unnecessary signal.

■Meaningless

This parameter is not available for the version you have purchased. Selecting EXP-2 will eliminate the decimal point that may appear on LCD, and facilitate the digitel voice mode setting.

$$EXP-3 \rightarrow EXP-2$$

■Mosquito Repelling Signal

An ultrasonic tone, which is disliked by some mosquitoes, is output from the speaker.

1. Select "MRS-ON" in the setting mode.
An ultrasonic tone is sent from the speaker.

· The transceiver operates normally even when MRS is on.
· Since the ultrasonic tone is always present if MRS is on, the usable time of the battery is reduced.
· To cancel the MRS setting, select "MRS-OF" in the setting mode.

Note   There are thousands of kinds of mosquitoes in the world. Since some of them may not dislike the ultrasonic wave output from this transceiver, it may be ineffective against them. No warranty is made as to the effectiveness of this experimental feature.

■End Beep

You can add a "peep" sound at the end of the transmission to inform your partner that you have released the PTT.

1. "EDP-OF" is displayed in the End Beep setting menu.
2. Rotate the dial to turn ON/OFF the End Beep. The display rotates as follows.

$$EDP-OFF \rightarrow EDP-ON$$

"OFF" is set in the initial factory setting.

6

Parameter Setting Mode

■Tuning Step

1. STP-5 is displayed in the Tuning Step setting menu.
2. The tuning step changes as follows if you rotate the dial.

STP-5→STP-10→STP-12.5→STP-15→STP-20→STP-25→STP-30

· Press a key other than the MONI key to complete the setting.
· The tuning step default setting is 5kHz (DJ-593T MkII), 12.5kHz (DJ-593E MkII).
· The tuning step cannot be set in the Memory mode.

Note   The frequency and shift frequency may change if the tuning step is changed from (5kHz, 10kHz, 15kHz, 20kHz, 30kHz) to (12.5kHz, 25kHz), or vice versa.

■Offset direction / Split Functions

1. SFD-OF is displayed in the Offset direction and Split setting menu.
2. The Offset direction and Split change as follows if you rotate the dial.

SFD － OF→SFD － － →SFD － ＋ →SPLIT

· Offset Function
This function shifts the transmission frequency in relation to the receiving frequency.
The default setting are : VHF:0.6MHz, UHF:5.0MHz

· Split Function
This function changes the tansmission frequency in relation to the receiving frequency.
The transceiver receives the currently displayde VFO

frequency, and transmits the other VFO ferquency. Using this feature, it is possible to transmit on a VHF frequency and receive on a UHF frequency, or vice versa.

■Offset Frequency

Normally, the repeater is used in duplex mode. Specifically, the signal received on a certain frequency is retransmitted at a different frequency.The difference between these two frequencies is the shift frequency.The shift frequency can be set between 0 and 99.995MHz.

1. The shift frequency is displayed on the LCD.
2. Turn the dial to change the shift frequency by 1 tuning step.

■Tone Squelch

When communicating with a specific station, the tone squelch function may be used. Tone squelch is a function that unmutes the squelch and enables you to receive a partenr's signal when the tone frequency matches a tone you selected from one of your station's 39 tone frequencies.

1. TN-OFF is displayed in the Tone squelch setting menu.
2. The tone squelch changes as follows if you rotate the dial.

TN － OFF→TN － ENC→TN － TSQ

■Tone Frequency

1. 88.5 is displayed in the tone frequency setting menu.
2. Rotate the dial to select a tone frequency from the 39 kinds of frequencies 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	173.8	179.9
186.2	192.8	203.5	210.7	218.1	225.7	233.6	241.8	250.3 (Hz)	

3. Press a key other than the MONI key to complete the setting.

· Tone encoder frequency and tone decoder frequency can be set independently.
If the encoder frequency is changed when ▣ is displayed, the decoder frequency is automatically changed to the same frequency.
If the frequency is changed when ▣ ▣ is displayed, only the decoder frequency is changed. (Different frequencies are set respectively to encoder / decoder.)

■DCS (Digital Code Squelch)

When communicating with a specific station, the tone squelch function may be used. DCS is a function that unmutes the squelch and enables reception of the partner's signal when the digital code matches a code you selected from one of your station's 104 digital codes.

1. DCS-OF is displayed in the DCS setting menu.
2. The DCS changes as follows if you rotate the dial.

DCS

DCS－OF→023→025→026 · · · →754

---

3. Press a key other than the MONI key to complete the setting.

The following 104 DCS codes can be selected.

023	025	026	031	032	036	043	047	051	053
054	065	071	072	073	074	114	115	116	122
125	131	132	134	143	145	152	155	156	162
165	172	174	205	212	223	225	226	243	244
245	246	251	252	255	261	263	265	266	271
274	306	311	315	325	331	332	343	346	351
356	364	365	371	411	412	413	423	431	432
445	446	452	454	455	462	464	465	466	503
506	513	523	526	532	546	565	606	612	624
627	631	632	654	662	664	703	712	723	731
732	734	743	754						

· Squelch numutes when the receiving code matches the peogrammed DCS code.

■APO (Auto Power Off)

This function prevents wasting battery power when you forget to turn off the transceiver.
1. APO-OF is displayed in the APO setting menu.
2. The DCS changes as follws if you rotate the dial.

APO

APO－OF→APO－ON

· If there is no operation for 30 minutes when APO is on, a beep is heard and the power goes off automatically.
To turn on the power again, press the power switch.

Note   APO time is not extended, even if a signal is received.
It is extended only when a key operarion is performed.

■Skip Channel

Memory Channels that have a "memory skip" programmed are not monitored during memory scanning.

1. SKP-OF is displayed in the skip channel setting menu.
2. The DCS changes as follows if you rotate the dial.

SKP－OF→SKP－ON

· The selected memory channel is now set as a skip channel. The skip channel setting is cancelled by the same operation.
· The 10MHz decimal point appears in a memory channel where a memory skip is programmed.

Note   This setting is shown only in memory mode.

■BELL

The bell informs you that a signal is being received.

1. BEL-OF is displayed in the bell setting menu.
2. The bell changes as follows if you rotate the dial.

BEL－OF→BEL－ON

When a signal is received, the "BELL" blinks and a bell sound is heard. The bell function turns off when a key is pressed.

■NFM / WFM

The DJ-593 MkII can be used in the narrow FM mode.

1. WIDE is displayed in the NFM and WFM setting menu.

2. The NFM and WFM change as follows if you rotate the dial.

A
WIDE→NARROW

A appears when NFM is selected, and disappears when WFM is selected.

Parameter Setting Mode

6

7. Digital- Voice communication mode

By installing the optional EJ-47U the DJ-593T/E MkII can be operated in the 10F3 digital GMSK modulation mode. Please be sure to consult the rules that apply in your country before you actually operate in this mode.
Alinco declines any and all responsobilities for any illegal use of this device.

1. Install the EJ-47U unit following the installation manual included in the package. Refer "meaningless" on P.25 and select EXP-2 position.
2. Press ⬭ key and press ◯ key while 🄵 icon is displayed.
3. A ◀ icon and 6 digit number appear on the display. Press PTT to enter the digital voice mode and exit to the operation mode, or press ◯ key to cancel the setting.
4. Repeating 2 and press ◯ key will enter to the analog mode, and ◀ icon disappears.

Note   In the setting mode 3, by pressing keys vary the displayed parameters. Regardless of the status, by pressing PTT the DJ593T/E MkII enters the digital mode for amateur radio communication. The 🆂🆀 icon that appears by pressing ◯ key is meaningless in this mode and will disappear when the analog mode is selected.

8. Cloning and Packet Operation

In using the cloning function, all of the information (including settings and memory date) of one DJ-593 MkII (master) can be transferred and copied to another DJ-593 MkII (slave) by connecting them with a cable.

■ Connecting the Transceivers

· Connect the external speaker jacks on both the master and slave transceivers with a commercially available 3.5 ϕ stereo mini plug cord.
· Turn off the power when connecting the cable.
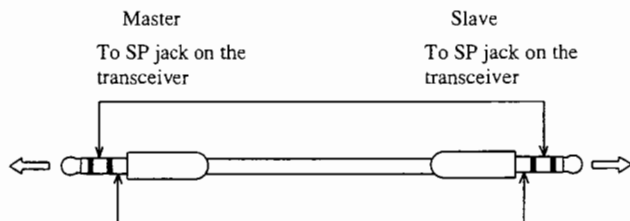
· Turn on the power of both transceivers after making the connections.

■ Transmitting Data from the Master Transceiver

1. Press and hold the MONI key and press the PTT key 3 times. "CLONE" appears on the display to indicate the Clone mode is activated.

2. Press the PTT key. "SD ＊ ＊ ＊" is displayed. Information is now being transferred to the other transceiver.
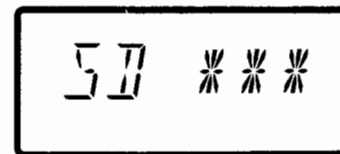
3. "PASS" appears when the cloning function is completed.
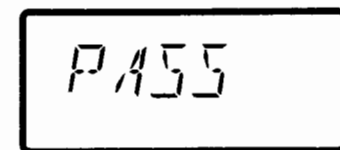
4. If the power is turned off, the cloning mode is cancelled. If the data is not transmitted correctly, "PASS" is not displayed. Repeat the process described in steps 1 and 2.

■ Receiving the Master Data

1. When the master data is transmitted, "LD ＊ ＊ ＊" appears on the slave transceiver's display.
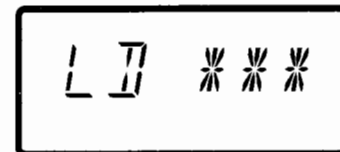
Note   The cloning cable is not available as an optional accessory. Please make it by yourself

8 Cloning and Packet Operation

2. "PASS" appears when the cloning is completed.

```
PASS
```
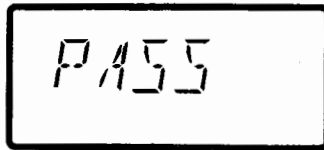
3. Turn off the power.

If the data is not transmitted correctly, "PASS" is not displayed.

In this case, try to transmit the master data again or reset the slave transceiver.

If "PASS" did not appear after cloning, incorrect operation may occur if you attempt to use the slave transceiver.

Note · Use a direct connection type cable without internal resistance.
 · If any key is pressed while data is being transmitted during the cloning operation, the cloning transmission stops. Press the PTT key to start transmitting again.
 · Do not disconnect the cable while cloning. If the cable is pulled out, "COMERR" appears on the master transceiver's display, and the data transmission stops.
 · All data in the slave transceiver will be updated to the master transceiver's data by the cloning operation. Be sure you want to change everything before cloning.

8.2 Packet Operation

Packet operation is one of the data communication methods, which enables data transmission and reception with a personal computer and TNC.

■Packet Operation Connections

Packet operation connections for this unit are shown below. Connect the packet communication TNC (Accessory: Terminal Node Controller) terminals to the SP (ϕ 3.5 mm plug) and MIC (ϕ 2.5 mm plug) connectors at the top of the transceiver.

 · Input level adjustment :The transceiver has no MIC level adjustment circuit. Adjust the output level of the TNC.
 · Output level adjustment ： Use the volume dial of the transceiver.

●Connection method for packet operation
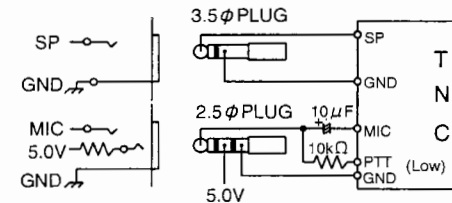
Power can be supplied from an internal 5V source through a 100 Ω resistor.

Note · Refer to the TNC'S instruction manual when connecting the TNC unit to other devices (personal computer, etc.). If the transceiver, TNC and connected personal computer are too close together, noise between them may cause interference.
 · Turn the battery save function off during packet operation.
 · Confirm your frequency and your communicating partner's frequency. If the frequencies are not exactly the same, the number of retries will be high, or communications may not be possible at all.
 · Operate up to 1200 bps.

9. Maintenance and Reference

9.1 Troubleshooting

Please check the list below before concluding that the transceiver is faulty.
If a problem persists, reset the transceiver. This may correct erroneous operation.

Symptom	Possible Cause	Action
Nothing appears on the display when you turn the power on.	Poor Ni-Cd battery pack or battery case connection.	Check if the battery pack terminals are clean.
	Dead battery.	Recharge or exchange batteries.
	You are releasing the key too quickly.	Hold the power switch down for 1 second.
No speaker audio. No reception.	Volume too low.	Adjust the volume.
	Squelch level too high.	Adjust the squelch.
	Tone squelch is on.	Turn off tone squelch.
	DCS is on.	Turn off DCS.
	You are pressing the PTT key and transmitting.	Release the PTT key.
Frequency display is incorrect.	CPU error.	Detach the battery pack or external power supply, wait 10 seconds and attach it again. If it is still not operational, reset the transceiver.
Won't scan.	Squelch is unmuted.	Set squelch so that noise is just muted.
Frequency and memory number do not change.	Keylock is on.	Turn off keylock.
	Transceiver is in the call mode.	Go to VFO mode.
Key entry not possible.	Keylock is on.	Turn off keylock.
One-touch repeater cannot be used.	Incorrect setting for one-touch repeater use.	Set the transceiver correctly for repeater use.
Cannot transmit. Display blinks or goes out when you transmit.	Battery power is insufficient.	Change or recharge batteries. Or connect transceiver to external power source.
Cannot transmit. No reply when you transmit.	Not pressing the PTT key firmly enough.	Press the PTT key firmly.
	You are outside of the band. (When shift is set.)	Transmit within transmission frequency range.
	Incorrect frequency.	Match your frequency to receiving station's frequency.
Display blinks or goes out when you receive.	Battery power is insufficient.	Change or recharge batteries.

When you reset the transceiver, all settings are returned to the initial (default) factory settings.

1. Press and hold the ⬭ key and press the ⬭ key to turn the power on.

   <small>FUNC SET</small>   <small>POWER</small>

2. Release the keys when all icons are displayed.
   The transceiver returns to the initial VFO mode.

● Factory Settings

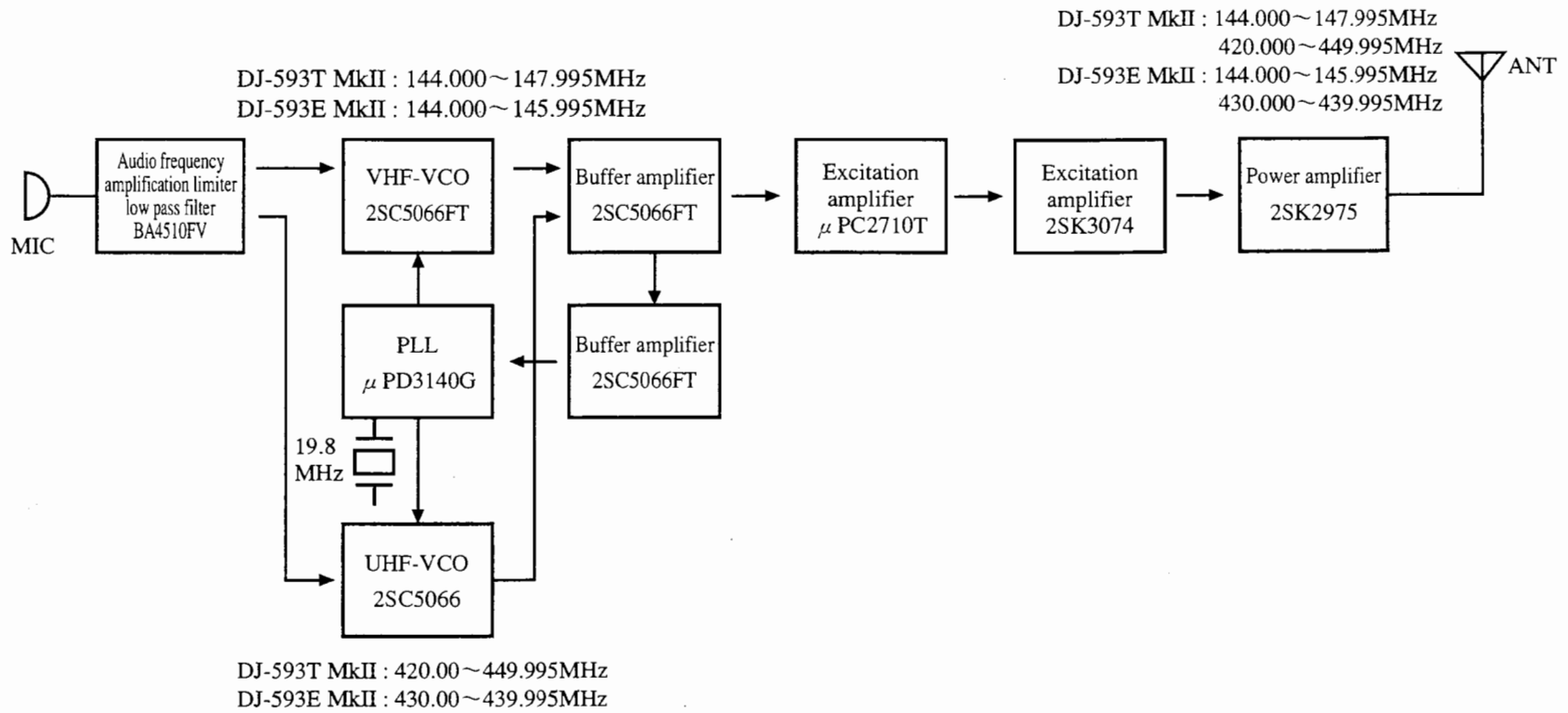|	
· VFO Frequency	VHF : 145,000MHz
	UHF : 445,000MHz (DJ-593T MkII)
	UHF : 435,000MHz (DJ-593E MkII)
· CALL Frequency	VHF : 145,000MHz
	UHF : 445,000MHz (DJ-593T MkII)
	UHF : 435,000MHz (DJ-593E MkII)
· Memory Channel	0~ 99ch Blank
· Shift, Tone, DSQ,APO, Keylock, Bell and Dial settings	OFF
· Shift Range	VHF : 0.6MHz
	UHF : 5.0MHz
· Tone Frequency	88.5Hz
· Tuning Step	DJ-593T MkII : 5KHz
	DJ-593E MkII : 12.5KHz
· Audio Volume	0
· Squelch Level	0
· Scan Resume Condition	Timed Scan
· Transmit Power	LOW
· Battery Save	ON
· Beep	ON
· DTMF-WAlT Time	100ms
· DTMF Burst/Pause Time	60ms
· DTMF 1st figure Burst Time	60ms

EBP-50N	Ni-MH Battery Pack (DC9.6V700mAh)
EBP-51N	Ni-MH Battery Pack (DC9.6V1500mAh)
EBP-56N	Li-ion Battery Pack (DC7.4V 1000mAh)
EDH-30	Dry cell battery case
EDC-36	Cigarette lighter cable with filter (DC12V)
EDC-37	DC cable for base station (DC12V)
EDC-43	Cigarette lighter cable for recharging
EDC-97T	Rapid recharger (120V / AC input) for EBP50/51N
EDC-97E	Rapid recharger (230V / AC input) for EBP50/51N
EDC-93	Battery recharger (120V / AC input) for EBP50/51N
EDC-94	Battery recharger (230V / AC input) for EBP50/51N
EDC-111	Rapid recharger (120V / AC input) for EBP56N
EDC-111E	Rapid recharger (230V / AC input) for EBP56N
EMS-9	Speaker microphone
EMS-47	Speaker microphone with volume-control
EME-6	Earphone
EME-12A	Head set with VOX (headphone type)
EME-13A	Head set with VOX (inner tyoe)
EME-15A	Tie-pin mictophone with VOX
EME-20	Earphone mictophone
ESC-36	Softcase (Fits EBP50/51N)
EJ-47U	DigitalUnit

9

Maintenance and Reference

DJ-593T MkII : 144.000~147.995MHz
420.000~449.995MHz
DJ-593E MkII : 144.000~145.995MHz
430.000~439.995MHz

∇ ANT

DJ-593T MkII : 144.000~147.995MHz
DJ-593E MkII : 144.000~145.995MHz

MIC

| Audio frequency amplification limiter low pass filter BA4510FV | → | VHF-VCO 2SC5066FT | → | Buffer amplifier 2SC5066FT | → | Excitation amplifier μPC2710T | → | Excitation amplifier 2SK3074 | → | Power amplifier 2SK2975 |

PLL μPD3140G

Buffer amplifier 2SC5066FT

19.8 MHz

UHF-VCO 2SC5066

DJ-593T MkII : 420.00~449.995MHz
DJ-593E MkII : 430.00~439.995MHz

10. Specifications

●General

Frequency Range	TX	VHF	144.000~147.995KHz (DJ-593T MKII)
			144.000~145.995KHz (DJ-593E MKII)
		UHF	420.000~449.995KHz (DJ-593T MKII)
			430.000~439.995KHz (DJ-593E MKII)
	RX	VHF	136.000~173.995KHz (DJ-593T MKII)
			144.000~145.995KHz (DJ-593E MKII)
		UHF	400.000~511.995KHz (DJ-593T MKII)
			430.000~439.995KHz (DJ-593E MKII)
Modulation			F2, F3
Ant. Impedance			50Ω (BNC)
	External Terminal		6.0~16.0VDC
	Battery Terminal		6.0~16.0VDC
Current	Transmit		DC13.8V : VHF Approx.1.2A, UHF Approx.1.4A
			9.6V(EBP-50N) : VHF Approx.1.2A, UHF Approx. 1.5A
	Receive		Approx. 75mA
	Battery Save		Approx. 25mA
Frequency Stability			±2.5ppm
Dimensions	(Projections exclusive)		56(W)×124(H)×40(D)mm
Weight			Approx. 280g (EBP50N inclusive)

● Transmitter

Power Output	External 13.8V	Approx. 5W
	EBP-50N equipped	VHF : 4.5W、UHF : 4W
Modulation		Variable Reactance
Max. Deviation		±5kHz
Spurious Emission		-60dB or less
Mic. Impedance		Approx. 2kΩ

● Receiver

System		Double-conversion super heterodyne
Intermediate Frequencies	1st	LF 39.15MHz
	2nd	IF 450kHz
Sensitivity	(12dB SINAD)	0.2μ V or less
Selectivity	-6dB	±6kHz or over
	-60dB	±15kHz or less
AF Output		300mW or over (MAX)
		200mW or over (10% Distortion factor 8Ω)
Spurious response		60dB or over
Squelch Sensitivity		Approx. -10dB μ or less

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