

APPENDIX H: MANUAL

Please see the following pages.

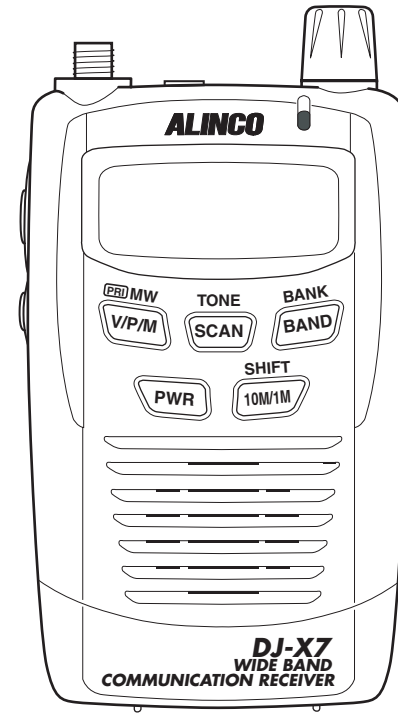
ALINCO

WIDE BAND COMMUNICATION RECEIVER

DJ-X7T/E

Instruction Manual

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



ALINCO, INC.

NOTICE / Compliance Information Statement

This device has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules.

These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This device generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this device does cause harmful interference to radio or television reception, which can be determined by turning the device off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- *Reorient or relocate the receiving antenna.*
- *Increase the separation between the equipment and receiver.*
- *Connect the equipment to an outlet on a circuit different from that to which the receiver is connected.*
- *Consult the dealer or an experienced radio/TV technician for help.*



Tested to Comply
With FCC Standards
FOR HOME OR OFFICE USE

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Wide Band Communication Receiver DJ-X7T

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.



Conformity Information

In case the device you have purchased is marked with a CE symbol, a copy of the relative conformity certificate or document can be reviewed at <http://www.alinco.com/usa.html>. This device is authorized for use in all EU and EFTA member states.

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This manual uses the following icons to explain:



Caution

Items indicated with this icon mention precautions for use and procedures which need to be followed. Otherwise, person may be injured, or the receiver including accessories may be damaged or not operate properly.

NOTE

Items indicated with this icon mention precautions for use and procedures which need to be followed.

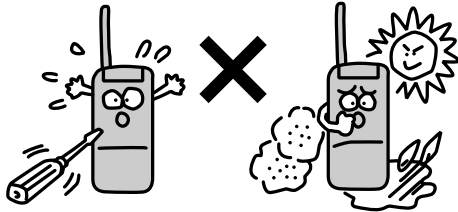
Memo

Items indicated with this icon mention supplementary and referential information.

Precautions

Precautionary Statement

- Do not open the case nor touch the interior components. Tampering can damage the receiver.
- Do not place the receiver in any place where it will be subjected to direct sunlight, dust, or high temperatures.
- Keep the receiver away from TVs, tuners, or other equipment if it interferes with reception.
- Ensure that the provided antenna is securely mounted.
- Turn the power OFF immediately if the receiver should emit smoke or strange odors. Ensure that the receiver is safe, then contact the nearest Alinco Service Center.



Precautionary Statement - External Power Supply

- Use a regulated 3.7V to 6.0V DC external power supply.
- Never use any external power supply which exceeds 6.5V. Otherwise, this may cause the serious damage.
- To charge the battery or operate the receiver using AC power, use the provided AC adapter (EDC-126 or EDC-128 depending on the version). Connect the adapter to the receiver's DC-IN jack directly.
- When power is supplied from the cigarette socket of a car, use the optionally available cigar-socket DC cable (EDH-32).
- Turn the receiver's power OFF when connecting or disconnecting the cable of external power supply.

Request and Agreement

- This receiver is manufactured and shipped under strict quality control. However, in some rare instances, if questionable or doubtful points are found, please notify the store where you purchased the receiver.
- Since this is a wide band communication receiver, its internal oscillation can sometimes block a signal, or detect an internal signal (sometimes referred to as a "birdie"). These symptoms are not a malfunction.
- Specifications and information found in this document are subject to change without notice.

Chapter 1 Features

- DJ-X7 is a wide band receiver and can be applied to business use.
- DJ-X7 receives AM radio with the internal bar-antenna.
- DJ-X7 receives high frequency wave (shortwave) with the internal bar-antenna.
- DJ-X7 receives FM radio with the provided earphone antenna.
- DJ-X7 features the Shift function.
- DJ-X7 features the Tone Squelch function, and it covers 39 CTCSS tones.
- DJ-X7 features the Cable-clone function.
- DJ-X7 features the PC Connection function*.
- DJ-X7 adopts Lithium ion rechargeable battery.

* The free editing software can be downloaded at our website (<http://www.alinco.com>). The optional PC interface-cable (ERW-4C) is required to interface your computer and the DJ-X7. Please visit our website for more details before you purchase the ERW-4C as some restrictions may apply depending on your computer conditions.

1.1 Standard Accessory List

Standard accessories may vary. Please contact your dealer for details.

- A Li-Ion rechargeable battery pack*
DJ-X7T/E: EBP-58N (3.7V 600mAh)
- An AC adapter for both recharging battery and supplying power** (6.0V 0.5A)
DJ-X7T: EDC-126 (120V)
DJ-X7E: EDC-128 (220V)
- An SMA whip antenna
DJ-X7T/E: EA-131
- A curl-cable earphone/antenna
DJ-X7T/E: EME-25
- An antenna cap
- An instruction manual

* Hereinafter referred to as battery or battery pack.

** Hereinafter referred to as AC adapter or adapter.

Chapter 2 Accessories

2.1 Mounting Arrangement

■Installing & uninstalling antenna

●Installing antenna



1. Hold the antenna at the base.
2. Attach the antenna to the antenna connector.
3. Turn the antenna clockwise until it stops.
4. Ensure the antenna is securely installed to the receiver.

●Uninstalling antenna

Turn the antenna counterclockwise.



Caution

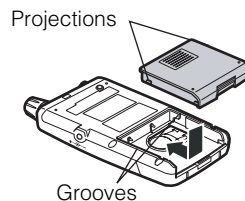
When antenna connector conversion is necessary, be sure to select a proper conversion connector or cable which does not overburden the receiver. Otherwise, this may cause the damage to the receiver and/or the antenna.

NOTE

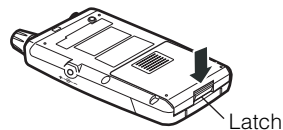
Installing an excessively high performance external antenna may get worse of the receiving conditions.

■Installing & uninstalling battery

●Installing battery

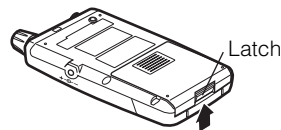


1. Align the projections on the battery with the grooves on the receiver.
2. Push the battery in the direction of the arrow.

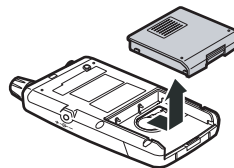


3. Push down the latch of the battery until it clicks.

●Uninstalling battery



1. Push the latch of the battery upward.



2. Pull out the battery in the direction of the arrow.

⚠ Caution

- Do not modify, dismantle, incinerate, or immerse the battery pack, as these practices can be dangerous.
- Do not short-circuit the terminals of the battery pack. This may cause damage to the receiver. The short-circuit may lead to overheating the battery, which causes burns.
- The battery pack should be stored in dry places where the temperature range is between -20 to 45°C (-4 to 113°F). Leaving the battery pack exposed in high humidity or outside the proper temperature range may cause battery liquid leakage or rust on the metal portion.

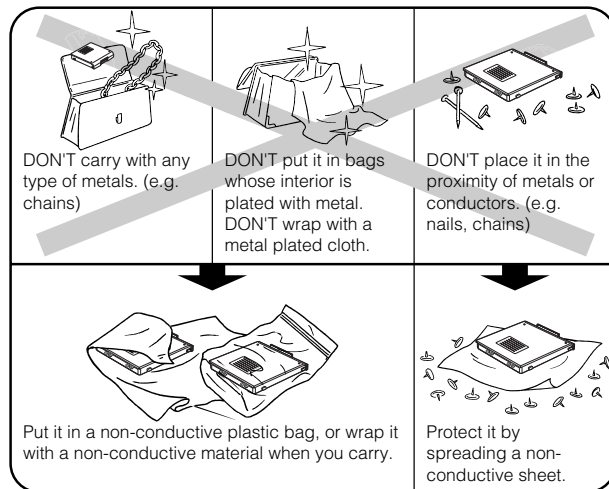
NOTE

- The battery pack is not charged when shipped. It must be charged before use.
- The battery pack can be charged by plugging the AC adapter to the DC-IN jack of the receiver after mounting it to the DJ-X7.
- It takes up to 2 hours and 30 minutes (maximum) to fully charge.
- Charging should be conducted within a temperature range of 0 to 40°C (32 to 104°F). Otherwise, the battery won't be charged properly.
- Be sure to remove the battery pack when the receiver is not in use for a long period.
- Typically, the battery pack can be charged up to 500 times. However, it is considered consumed if the period of use significantly drops despite the battery being charged for the aforementioned charging time. When this happens, replace the old battery with a new one.
- In the interests of environmental protection, do not dispose of the battery pack improperly. Check with your local solid waste officials for details on recycling options or proper disposal in your area.
- It is not necessary to turn the power OFF of the receiver while charging. However, noise may occur during reception.

■Precaution for preventing short-circuit of battery

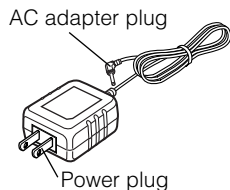


Be extra cautious when carrying the battery pack; the short-circuit will produce surge current possibly resulting in fire.



■Receiving while charging with AC adapter

●Charging battery



1. Install the battery pack to the receiver.
2. Plug the AC adapter to the DC-IN jack of the receiver.
3. Plug the power plug to an outlet.

(EDC-128 has different shape.)

Regardless of whether the power ON or OFF of the receiver, it will start charging.

When the receiver is OFF state, the low battery indicator shown below blinks and the RX lamp illuminates during charge. Once it is fully charged, the lamp will go off.



Caution

- Never charge batteries of other manufacturers. Never plug the provided AC adapter to other devices, either.
- If you should short-circuit the terminals with metal objects and the like, it may cause damage to both the receiver and the battery.

NOTE

- Be sure to connect the AC adapter after mounting the battery pack to the receiver. Otherwise, the battery won't be charged.
- Be sure to unplug the AC adapter when it is not in use.
- The required charging time depends on the condition of the battery pack.
- The battery won't be charged if the voltage from an outlet is extremely low.

■Low battery indicator



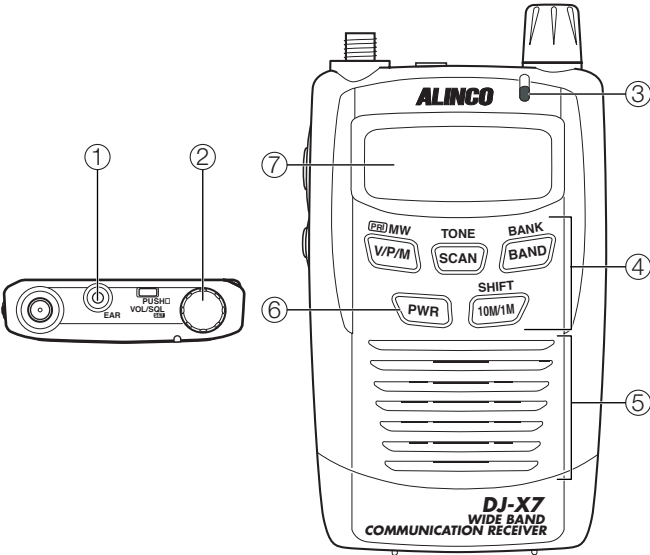
Low battery indicator
Indicates the charge level is low.

- Battery consumption level may change depending on the surrounding temperature or the conditions of use.
- Charge the battery when the indicator appears.
- This is not an indicator for battery life remaining.

Chapter 3 Names and Functions of Parts

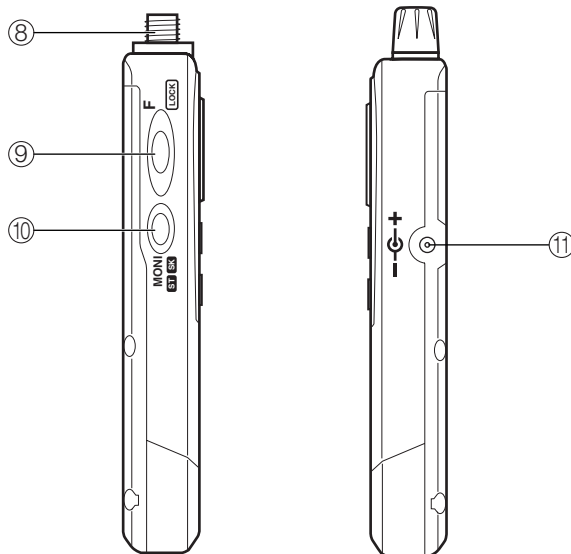
3.1 External View

■Top/Front panel



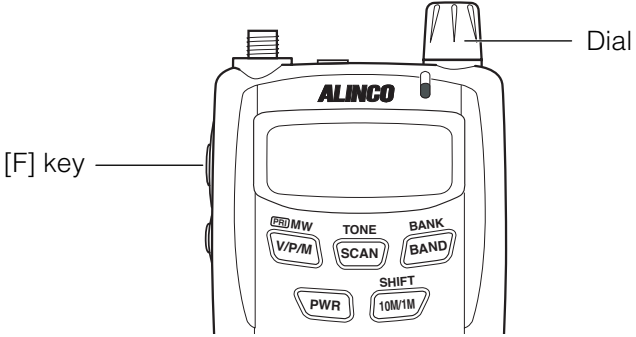
Item		Description
①	Earphone jack	This is for plugging an earphone or an external speaker (8Ω) with 2.5ø stereo plug.
②	Dial	Rotate this dial to change frequency and various settings. Press this dial to adjust the volume and squelch levels. Pressing it down while the  icon appears switches to the Set mode. (P.28)
③	RX lamp	It illuminates green while it receives signals or the squelch opens.
④	Keypad	Use this keypad to change mode and various settings. See on P.12 for more information.
⑤	Speaker	A thin speaker is built in.
⑥	Power key	Holding this key for 1 second turns the power ON/OFF of the receiver.
⑦	LCD	It displays frequency and other information. See on P.13 for more information.

■Side panel



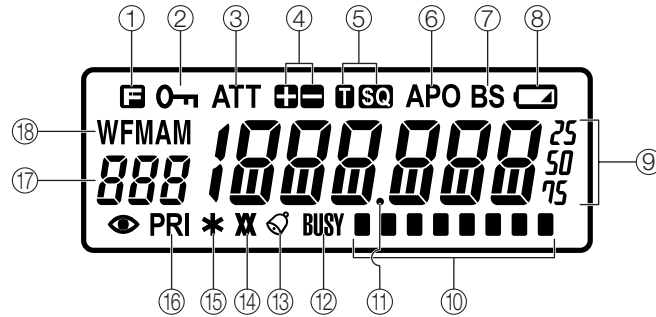
Item	Description
⑧ Antenna connector	Install the included whip antenna or an external antenna.
⑨ Function key (LOCK)	(Hereinafter referred to as [F] key.) Use this key in combination with other keys to access various functions of the receiver. Holding this key for 1 second activates the Key-lock function.
⑩ Monitor key (ST/SK)	(Hereinafter referred to as [MONI] key.) When this key is pressed, squelch opens so that you may receive weaker signals better. TSQ becomes deactivated also. Pressing it down while the F icon appears changes tuning steps.
⑪ DC-IN jack	This is for plugging an external power supply. Connect the included AC adapter or an optional cigarette lighter cable to operate without battery. When you install the provided battery, you can charge it by connecting the adapter or the cable. (Depending on the receiving frequency, noise may occur when you use the receiver with the cable.)

3.2 Key Operations



Key	Independent Operation	While  is ON	Holding for 1 Sec	Dial Operation with Holding
V/P/M	Switch among the VFO/Preset/Memory mode (P.16)	Program to memory channels (P.20)	Perform the Priority Monitoring function (P.25)	
SCAN	Start scanning (P.22-24, 25-27)	Switch to the Tone Squelch setting (P.26)		Switch among the scanning modes (P.22-24)
BAND	Switch among bands (P.17)	Switch among banks	Switch to the setting of bank links	
PWR			Turn power ON/OFF (P.14)	
10M/1M	Perform the Shift function (P.27) Switch between 10MHz and 1MHz up/down (P.18)	Switch to the Shift setting (P.27)		
F	Switch among functions		Set and release the Key-lock function (P.25)	
Dial	Adjust volume, squelch, and other parameters/values (P.14-15, 28)	Switch to the Set mode (P.28)		

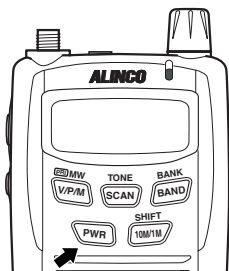
3.3 Icons and Indicators



①		Appears when the [F] key is pressed.	⑪		Blinks during various types of scanning operations. Disappears during the memory skip operation.
②		Appears while the keypad is locked.	⑫	BUSY	Appears when the receiver squelch opens.
③	ATT	Appears while the Attenuator function is ON.	⑬		Appears while the Bell function is ON.
④		Indicates the shift direction.	⑭	XX	Blinks during the descrambling operation.
⑤	T and SQ	T appears during the tone squelch operation. SQ appears during the tone signal detection operation.	⑮	*	Appears when you link banks in the linked banks scan of the DJ-X7's memory scan.
⑥	APO	Appears while the Auto-Power-Off function is ON.	⑯	PRI	Appears while the Priority Monitoring function is ON.
⑦	BS	Appears while the Battery-save function is ON.	⑰	888	Displays the memory channel number, the set menu number, and other various settings.
⑧		Appears only when the remaining battery level is low.	⑱	WFMAM	Indicates a modulation type (AM/FM/WFM).
⑨	100.000 and frequency settings	Displays frequency and values of the various settings.	* The unexplained icon is not used on this receiver.		
⑩		Indicates strength of the receiving signals.			

Chapter 4 Basic Operations

4.1 Turning Power ON



Hold the **PWR** key for 1 second to turn the power ON.

Hold the key again for 1 second to turn the power OFF.

2. Adjust the volume level by rotating the dial.

As the value increases, the sound becomes louder.

3. Press the dial twice or the [F] key to conclude the setting.

The DJ-X7 also concludes the setting and returns to the normal operating mode after no dial operation continues for 5 seconds.

Caution

- When you use an earphone, be sure to set the volume to a proper level.
- Never adjust the volume level while using an earphone, as it may hurt your ear.

If the DJ-X7 makes no sound...

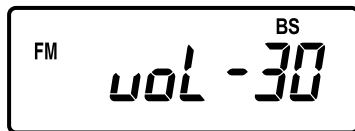
When squelch closes or the Mute function is activated, the DJ-X7 does not make any sound even though you increase the value of the audio volume. For more information, refer to "4.3 Adjusting Squelch Level" (see on P.15) and "Mute function" (see on P.16).

4.2 Adjusting Volume Level

- There are 51 volume levels. (0-50)
- The default is set to 30.

1. Press the dial once.

The current volume level is displayed on the LCD.



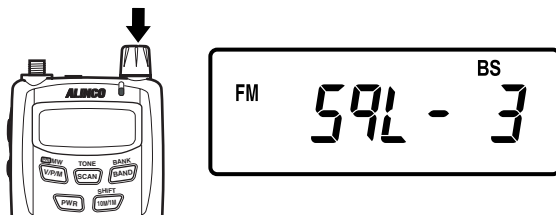
4.3 Adjusting Squelch Level

"Squelch" is a function for eliminating noise which you may hear during AM or FM radio reception. This noise is a nature of AM/FM receivers when no signals are present. "To open squelch" means that you have the DJ-X7 receive any signals stronger than the squelch level you adjusted.

- There are 10 squelch levels. (0-9)
- The default is set to 3.

1. Press the dial twice.

The current squelch level is displayed on the LCD.



2. Increase/decrease the squelch level by rotating the dial.

When you set it to a higher level, weak signals may be interrupted while receiving or may not be received at all. Generally, you should set the squelch to the lowest level where noise is just cut.

Depending on the receiving frequencies and the conditions around you, the squelch level needs to be adjusted.

3. Press the dial or the [F] key to conclude the setting.

The DJ-X7 also concludes the setting and returns to the normal operating mode after no dial operation continues for 5 seconds.

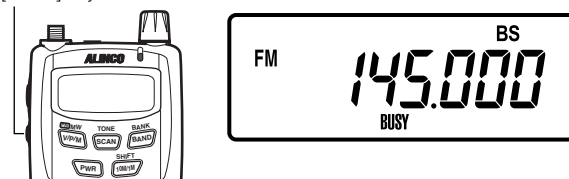
■ Monitor function

This is a function to open squelch compellingly. When a receiving signal is relatively weak or is interrupted, this function opens squelch temporarily regardless of the squelch level you adjusted.

This is activated only when the [MONI] key is assigned to the Monitor function in the Set mode. For more information, refer to "(12)Monitor/Mute function setting" on P.33.

There are two options in the Monitor function: PUSH and HOLD. Both options open squelch, and the **BUSY** icon appears on the LCD while this function is ON.

[MONI] key



- **PUSH:** Squelch opens while holding the [MONI] key down. When you release the key, the squelch goes back to its normal setting.
- **HOLD:** Squelch opens when you press the [MONI] key, and it remains open until you press the key again. The squelch then goes back to its normal setting.

You can switch between PUSH and HOLD in the Set mode. For more information, refer to "(13)Monitor-key Operation setting" on P.33.

■Mute function

This is a mute function, and it's for cutting off the audio output. This is activated only when the [MONI] key is assigned to the Mute function in the Set mode. For more information, refer to "(12)Monitor/Mute function setting" on P.33.

There are also two options in the Mute function: PUSH and HOLD. Both options put the receiver on mute, and the **BUSY** icon blinks on the LCD while this function is ON.

[MONI] key



- **PUSH:** You can keep the DJ-X7 on mute while holding the [MONI] key down. When you release the key, audio output comes back to normal.
- **HOLD:** You can mute the DJ-X7 when you press the [MONI] key, and the mute state is kept on until you press the key again. Then, audio output comes back to normal.

You can switch between PUSH and HOLD in the Set mode. For more information, refer to "(13)Monitor-key Operation setting" on P.33.

[Memo] Only either of the Monitor function or the Mute function can be executed at a time.

Preparations for receiving signals are now finished. Now, let's tune to a frequency and operate the receiver. The next section explains the DJ-X7's three operating modes.

4.4 Operating Modes

The DJ-X7 has three operating modes; VFO, Preset, and Memory.

VFO mode.....This mode allows you to change frequency continuously by rotating the dial.

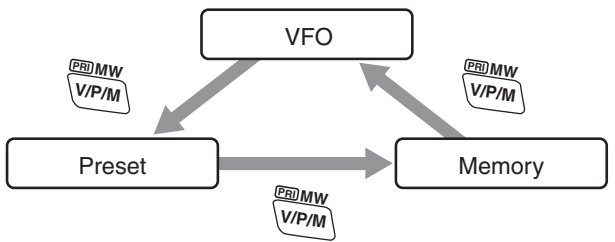
Preset mode.....The frequencies of AM, FM, and TV channels have already been set so that you can choose among them.

Memory mode.....You can receive signals by calling up previously programmed frequencies.

[Memo] To program to memory channels, refer to "4.6 Memory Mode" (see on P.19-20).

■Switching among modes

Every time you press the  key, you can change the operating mode as shown below.



4.5 Frequency Settings

■VFO mode

This is the mode which is displayed when you turn the power ON of the receiver as a factory default setting.

Frequency and the various settings can be changed by rotating the dial in this mode.

Note that the operations are slightly different between the DJ-X7 T and E.

●Switching among bands (T version)

For T version, every time you press the  key, the following 8 bands can be switched in listed order.

	.100	(100~529kHz)* ¹	AM
	.530	(530~28.995MHz)	AM
	29.000	(29.000~59.745MHz)	FM
	59.750	(59.750~107.995MHz)	WFM
Default	145.000	(108.000~215.995MHz)	FM
	216.000	(216.000~399.995MHz)	FM
	400.000	(400.000~959.995MHz)	FM
	960.000	(960.000~1299.995MHz)	FM

●Switching among bands (E version)

For E version, every time you press the  key, the following 14 bands can be switched in listed order.

	.100	(100~530kHz)* ¹	AM
	.531	(531~1620kHz)* ²	AM
	1.625	(1.625~49.995MHz)	AM
	51.000	(50.000~75.995MHz)	FM
	76.100	(76.000~107.995MHz)	WFM
	118.000	(108.000~141.995MHz)	AM
Default	145.000	(142.000~169.995MHz)	FM
	175.750	(170.000~221.995MHz)	WFM
	270.000	(222.000~335.995MHz)	AM
	380.000	(336.000~429.995MHz)	FM
	433.000	(430.000~469.995MHz)	FM
	475.750	(470.000~769.995MHz)	WFM
	806.000	(770.000~959.995MHz)	WFM
	1295.000	(960.000~1299.995MHz)	FM

●Specifying tuning step

The tuning step can be changed. You may choose one of the selections as follows:

Auto, 5, 6.25, 8.33, 10, 12.5, 15, 20, 25, 30, 50, 100, 125, 200 kHz.

*¹ Only 1kHz is available as the step in the bands listed above.

*² Only 9kHz is available as the step in the band listed above.

The default is set to "Auto".

It is not necessary to change this setting in normal operations, however, this feature may be useful when you wish to receive frequency which is hard to be tuned with the "Auto" setting.

1. Press the **BANK BAND** key to select a band to change its tuning step.

Note that the bands with the * marks in the lists shown at the previous page are not able to be selected.

2. Press the [F] key, and press the [MONI] key with the  icon ON.

3. Choose a tuning step by rotating the dial.

4. Press the [F] key to conclude the setting.

The DJ-X7 returns to the display of frequency.

●10MHz/1MHz UP/DOWN

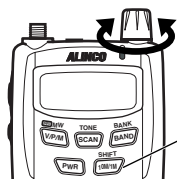
Frequency can be tuned in increments/decrements of

10MHz by pressing the **SHIFT 10M/1M** key once. Then, every time you click the dial (rotate clockwise/counterclockwise), the frequency can be changed in 10MHz units. The digit of the 10MHz flashes at this time.

Frequency can be tuned in increments/decrements

of 1MHz by pressing the **SHIFT 10M/1M** key once again. Then, every time you click the dial (turn clockwise/counterclockwise), the frequency can be changed in 1MHz units. The digit of the 1MHz flashes at this time.

Tune frequency with a click

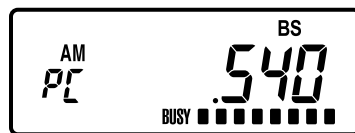


Increase/decrease
by 10MHz units when pushing once.
by 1MHz units when pushing twice.

NOTE Note that this key will be used as the Shift key when the Shift function is set to ON (see on P.27). Thus, this tuning becomes invalid.

■Preset mode

1. Press the **PRESET MW V/P/M** key to switch to the Preset mode.



2. Press the **BANK BAND** key to select a band you wish to monitor.

Every time you press the **BANK BAND** key, the band is changed as follows: AM radio → FM radio → TV → AM radio...

3. Increase/decrease the frequency (or the channel for TV reception) by rotating the dial.

Memo "AM" appears on the LCD when you select AM radio, and "WFM" appears when you select FM radio or TV. Also, the frequency is displayed when AM/FM radio is selected, but the channel number is displayed when TV is selected.

■Memory mode

1. Press the  key to switch to the Memory mode.
2. Press the  key to select a bank you wish to monitor.

For more information on a bank, see on P.20 (step 3). It is not possible to select a bank which you have not programmed to.



3. Select a channel by rotating the dial.

For more information on a channel, see on P.20 (step 4). It is not possible to select a channel which you have not programmed to.



When nothing is programmed to memory channels, the Memory mode is skipped and the receiver switches between VFO and Preset in turn.

4.6 Memory Mode

This mode allows you to program frequencies into the DJ-X7's memory. A programmed frequency is called a channel.

■Memory types

The DJ-X7 has four types of memory bank; bank for normal memory channels, bank for programmed scan channels, bank for skip-search channels, and bank for priority channels. "Bank" is like a partition which separates a group of channels from others. The following explains each bank type.

Normal memory channel

.....Channels which are usually called up in the Memory mode. You can program frequencies up to 1000 channels into the available memory banks. Editing your favorite frequencies in advance will ease calling them up.

Programmed scan channel

.....Channels which are used for the programmed scan. You can program up to 50 pairs of frequency ranges (higher and lower limits) into the "PS" bank.

Skip-search channel

.....Channels which are skipped while executing the VFO scan or the programmed scan. You can program frequencies up to 100 channels into the "PAS" bank.

Priority channel

.....Channels which are used for the Priority Monitoring function. You can program frequencies up to 10 channels into the "Pri" bank.

NOTE

It is not possible to program duplicated frequencies to a skip-search channel. If you try to do so, an error beep will sound.

■ Programming to memory channel

Here are the instructions for programming a frequency to a memory channel. It is necessary to have the  icon appear while you are following the step 2 to 4. If the icon disappears, press the [F] key to continue.

1. In the VFO mode, tune to the frequency you wish to program by rotating the dial.

2. Press the [F] key.

The  icon appears on the LCD. The bank type is displayed as well.

3. Press the key to select a bank you wish to program to.

Each bank corresponds to the following channel.

0-9Banks for normal memory channels.

(Note that the number of this bank may vary depending on the factory default or can be varied by using the editing software.)

PSA bank for programmed scan channels.

PASA bank for skip-search channels.

PriA bank for priority channels.

Select an appropriate bank as you desire.



4. Select a channel by rotating the dial.

According to the bank, the number of programmable channels is different as follows;

0-9Note that the programmable numbers of each channel may vary depending on how you separate each bank. Total 1000 channels can be divided into each bank.

PS0A - 49b (50 pairs)

PAS000 - 099 (100 channels)

Pri000 - 009 (10 channels)

Blinking of the channel number indicates that the channel is free to program. When the channel number does not blink, then this indicates the channel is already registered.



5. Press the key to conclude the setting.

Now, the frequency you specified is programmed to the channel. To call up the frequency, refer to "Memory mode" on P.19.

Memo

- It is not possible to increase the number of memory channels.
- It is not possible to overwrite to registered memory channels with the factory default setting. If you wish to enable memory overwriting, refer to "(14)Write-protect function setting" on P.34.

■Clearing memory channel

1. Set the Write-protect function to OFF, if necessary.

For more information, refer to "(14)Write-protect function setting" on P.34.

2. Press the key to switch to the Memory mode.

3. Select a channel you wish to delete by rotating the dial.

4. Press the [F] key, and press the key with the icon ON.

A beep sounds telling that the channel and its frequency are deleted successfully. Then, "-----" is displayed on the LCD.

5. With "-----" displayed on the LCD, return to the Memory mode by rotating the dial. Otherwise,

press the  key to return to the VFO mode.

When there are no more channels programmed to the

memory, press the  key to return to the VFO mode.

Memo

Right after deleting a channel with "-----" displayed on the LCD, you can restore what you erased.

To undo the deletion, press the [F] key and press

the  key with the  icon ON.

Note that you won't be able to restore it once you change the operating mode.

■Programmable items to memory channels

The following can be stored in each memory channel:

- Frequency
- Shift frequency
- Shift direction (+/-)
- Tone frequency
- Modulation type
- Tone Squelch setting
- Analog-inversion scrambling frequency
- Decode number for Descrambling

Memo

Introducing both free software we provide from our website (<http://www.alinco.com>) and the optionally available PC interface-cable (ERW-4C) enables you to control and manage the configurations or previously mentioned memory settings from your computer.

In addition, connecting the DJ-X7 to your computer enables you to change the factory defaults and separate each bank of the normal memory channel as you desire. (Up to 50 banks x Desired number of channels should equal to less than 1000 channels. For instance, maximum 20 channels can be stored in each of the 50 banks.)

This function enhancement is available only by the editing software, and can't be operated with the keypad of the receiver.

Chapter 5 Advanced Operations

5.1 Scanning Function

This function automatically searches for active frequencies to help you locate the signal that you wish to receive.

There are two types of the scan-resume conditions; Busy and Timer. The default is set to Busy.

Switching between those two types can be done in the Set mode. (See on P.31)

Busy scan

Until the scanned signal is gone, the DJ-X7 continues to receive it. Then, the DJ-X7 restarts scanning.

Timer scan

Even if the scanned signal is detected and is being received, the DJ-X7 restarts scanning after 5 seconds.

- The decimal point (.) on the LCD blinks during the operation.
- The scanning can be suspended to open squelch temporarily by using the Monitor function (see on P.15). Releasing the function resumes the scanning.
- The scanning direction can be changed by rotating the dial during the operation. The scanning restarts in the direction of the last dial operation.
- Press any key other than the [MONI] key to stop scanning.

■VFO scan

In the VFO mode, it scans with the tuning step you specified in advance throughout the frequencies of the selected band.

1. Press the  key to switch to the VFO mode, if necessary.
2. While holding the  key down, rotate the dial to display "vFo" on the LCD.
3. Release the  key.
The scanning will be performed with the specified tuning step in the direction of the last dial operation (up or down).
4. Rotate the dial in the clockwise direction to scan in the UP direction. Conversely, rotate the dial in the counterclockwise direction to scan in the DOWN direction.
5. Press any key other than the [MONI] key to stop scanning.

■Programmed scan

This programmed scan searches for signals between a specified range of frequencies. Both the higher and the lower limit of the range need to be programmed in advance. Otherwise, the following operations can't be executed.

A programmed range of frequencies (higher and lower) is called a pair of the "programmed scan channel". You can program up to 50 pairs of frequencies. For more information on programming, refer to "Programming to memory channel" on P.20.

1. Press the  key to switch to the VFO mode, if necessary.

2. While holding the  key down, rotate the dial to select a pair of programmed scan channel you wish to search through.

Either A or b of the pair will scan the same range.

3. Release the  key.

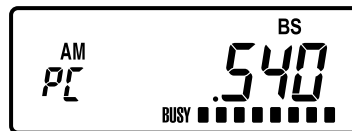
When you selected "A" side, the scanning performs in the direction of "b" side. Conversely, when you selected "b" side, the scanning performs in the direction of "A" side.

4. Rotate the dial in the clockwise direction to scan in the UP direction. Conversely, rotate the dial in the counterclockwise direction to scan in the DOWN direction.

5. Press any key other than the [MONI] key to stop scanning.

■Preset scan

1. Press the  key to switch to the Preset mode.



2. Press the  key to select an AM, FM, or TV station.

3. Press the  key.

This starts the preset scan. The decimal point (.) on the LCD blinks during the operation.

When the DJ-X7 detects a signal, the scanning operation will be suspended.

■Memory scan

In the Memory mode, signals are detected from the specified bank or all the banks. There are three types of scanning methods in this memory scan.

Bank scan.....This scans only through a specified bank.

Linked banks scan
.....This scans multiple banks which were linked beforehand. Select a bank to be

linked, and hold the  key for 1 second. When the link is set, the * icon appears on the LCD. Holding the key again for 1 second cancels the link setting, and the * icon will go off.

All banks scanThis scans from the bank 0 through bank 9 which are previously programmed.

Memo

- The all banks scan is valid only for numeric banks, and other banks such as priority are disregarded.
- The banks can be expanded up to 50 with free downloadable software we provide at our website.

1. Press the  key to switch to the Memory mode.

2. Hold the  key.

The currently selected scanning method is displayed.

3. Select a method by rotating the dial with the  key pressed down.

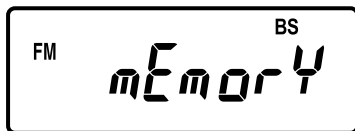
Each method is displayed as follows on the LCD.

mEmorYBank scan

Linq.....Linked banks scan

ALLAll banks scan

When you select the bank scan, the bank which is currently selected in the Memory mode becomes a target bank for scanning.



4. Release the  key.

This starts the memory scan. The decimal point (.) on the LCD blinks during the operation.

When the DJ-X7 detects a signal, the scanning operation will be suspended.

Memo

The following operations are applicable to all the Scanning functions (VFO, programmed, preset, and memory).

- The scanning starts in the direction of the last dial operation (up and down). However, the programmed scan searches for signals towards the other side you selected. (From "A" to "b" or from "b" to "A")
- The scanning direction can be changed by rotating the dial during the operation.
- Press any key other than the [MONI] key to stop scanning.
- The scanning can be suspended to open squelch temporarily by using the Monitor function (see on P.15). Releasing the function resumes the scanning.
- You can choose the scan-resume condition from two options. For more information, refer to "(6)Scan Type Switching setting" on P.31.

5.2 Memory Skip Function

This function is for skipping the specified memory channel while executing the memory scan function.

Follow the instructions below to set the memory channel you wish to skip during the scanning operation.

1. Press the  key to switch to the Memory mode.

2. Select the memory channel you wish to skip.

3. Press the [F] key.

The  icon appears on the LCD.

4. Press the [MONI] key.

You can now set the memory channel to be skipped. The decimal point (.) on the LCD goes off during the skip operation.

To cancel the Memory Skip function

Repeat step 3 and 4 after selecting the memory channel you wish to cancel the skip. Then, the decimal point (.) on the LCD appears.

5.3 Key-lock Function

This function avoids unwanted, incorrect, or unauthorized operations of the keys.

Hold the [F] key for 1 second to switch ON/OFF of the function.

- When the Key-lock function is ON, the  icon appears on the LCD.
- The [MONI] key operations, volume and squelch adjustments, ON/OFF of the power supply, and the Key-lock release are executable even with this function ON.

5.4 Priority Monitoring Function

This function can monitor two frequencies at a time, so that you can catch the target signal effectively while receiving frequency of another band.

This means that the DJ-X7 switches between two reception modes alternately; after receiving the VFO frequency for 5 seconds, the DJ-X7 changes the mode momentarily to see if the priority frequency is active. If not, it returns to the VFO frequency after 0.5 seconds.

1. Hold the  key for 1 second to start the priority monitoring operation.

The **PRI** icon appears on the LCD during the operation.

2. Release the  key to cancel the function.

The **PRI** icon disappears.

Memo

- You are required to program frequency to at least 1 priority channel in advance. Otherwise, a beep sounds and the above operation can't be executed. For more information on programming, refer to "Programming to memory channel" on P.20.
- You can select the programmed priority channel for this operation in the Set mode. (See on P.31)
- The scanning is not executable during the operation.
- Even if the DJ-X7 detects the priority frequency, it returns to the VFO frequency after a lapse of 5 seconds.

5.5 Descrambling Function

This function returns scrambled voice to normal reception. Note that the DJ-X7T doesn't have this function. This feature is available only for the E version.

1. Tune to a signal using analog-inversion scrambling.

2. Press the [F] key.

The  icon appears on the LCD.

3. Press the key.

This starts the Descrambling function. The  icon on the LCD blinks during the operation. Also, the decode No. for scrambling will appear.



4. Select a decode No. by rotating the dial.

Select a number from 0 to 16 where you can hear clear audio output.

Memo Pressing the [F] key allows you to descramble the voice using the specified decode No., and change the frequency at the same time.

To cancel the Descrambling function

Press the [F] key, then the  key.

NOTE Use of the Descrambling function may be prohibited in some jurisdictions. Check local regulations before use.

5.6 Tone Squelch Function

This function opens squelch only when a signal carrying the CTCSS tone is received. This function allows you to monitor specific stations without listening to unwanted signals.

1. Rotate the dial to tune to a frequency on which the CTCSS (Tone Squelch) system is used.

2. Press the [F] key.

The  icon appears on the LCD.

3. Press the key several times to display the tone frequency with the icon ON.

4. Select a CTCSS tone by rotating the dial to match the target signal.

Select a tone referring to "8.4 Table of Available CTCSS Tones" on P.39.

5. Press the [F] key to conclude the setting.

To cancel the Tone Squelch function

Press the [F] key. Then, press the  key several times to display "oFF" on the LCD. Press the [F] key again to conclude the cancel setting.

NOTE You should always set the normal squelch level properly (see on P.15) even though the noise is cut automatically with this function.

5.7 Tone Scan Function

This function detects a CTCSS tone frequency of the receiving signal automatically.

1. In the VFO mode, rotate the dial to tune to the frequency on which a tone signal is transmitted.

2. Press the **TONESCAN** key.

3. Rotate the dial to display "tonE" on the LCD while holding the **TONESCAN** key down.



4. Release the **TONESCAN** key.

This starts the Tone Scan function. The scanned CTCSS tone will be displayed on the LCD. When it is detected, the **SQ** icon appears on the LCD and the scanning stops.

5. Press the **[F]** key.

This returns to the VFO mode.

To cancel the Tone Scan function

This function continues scanning until it detects a tone.

When you wish to suspend or stop the function, press any key other than the **PWR** key or the **[MONI]** key.

5.8 Shift Function

This function switches to receive another frequency with the one-touch operation while receiving the other. This feature is useful to receive both repeaters' uplink and downlink signals.

1. Press the **[F]** key, and press the **SHIFT 10M/1M** key with the **ON** icon ON.

Every time you press the key, the display changes as follows.



2. Select a frequency to be shifted by rotating the dial.

When you rotate the dial while holding the **SHIFT 10M/1M** key down, you can tune frequency in the unit of 1MHz except the band .100 (T and E version) and the band .531 (E version).

3. Press the **[F]** key to conclude the setting.

4. While holding the **SHIFT 10M/1M** key down, you can temporarily receive the frequency of the split side.

Releasing the **SHIFT 10M/1M** key returns to the current frequency reception.

NOTE As a nature of repeater signals, it is not always able to receive both signals. The uplink stations must be close to you to receive them. Otherwise, you may hear only the downlinks.

Chapter 6 Set Mode Configurations

You can configure values or parameters of the DJ-X7's various operating functions in the Set mode.

6.1 Set Mode Menu List

The following 15 items are available for your DJ-X7 customization.

- (1)Attenuator function setting
- (2)Antenna Type Switching setting
- (3)AM Bar-antenna setting
- (4)Shortwave Bar-antenna setting
- (5)Illumination Lamp function setting
- (6)Scan Type Switching setting
- (7)Priority Monitoring function setting
- (8)Auto-Power-Off function setting
- (9)Battery-save function setting
- (10)Key-touch Beep function setting
- (11)Bell (Pager) function setting
- (12)Monitor/Mute function setting
- (13)Monitor-key Operation setting
- (14)Write-protect function setting
- (15)Modulation Type setting

6.2 Configuring Values/Parameters of Menu Items

1. Press the [F] key, and press the dial once with the  icon ON.

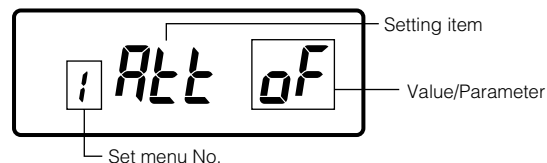
The DJ-X7 enters the Set mode.

2. Press the dial to select an item.

Every time you press the dial, the setting item is changed.
When you press the [MONI] key, the items are displayed in the reverse direction.

3. When the item to be configured is displayed, change its value or parameter by rotating the dial.

For more detailed information, refer to "6.3 Set Mode Configurations" section. The number shown in the section corresponds to the set menu number displayed on the LCD. The explanations are made in the order displayed in the clockwise direction.



4. Press the [F] key to conclude each setting.

6.3 Set Mode Configurations

Details of each item of the Set mode menu are as follows.

(1) Attenuator function setting

Use this function when the receiving signal is interfered by strong signals of nearby channels. When you activate this function, the DJ-X7 attenuates the receiving sensitivity at about 20dB. Although the reception level of the target signal you wish to listen to weakens, this means that unnecessary signals also become difficult to be received. And as a consequence, it may make the target signal distinctly audible.

1. Select the set menu No.1 by pressing the dial.

The following is displayed on the LCD.



2. Rotate the dial to switch ON/OFF of the function.

When you set it to ON, the **ATT** icon appears on the LCD.



This function is effective only for antennas installed to the DJ-X7's antenna connector. Set it to OFF for normal operations.

(2) Antenna Type Switching setting

The DJ-X7 can switch its antenna according to the frequency bands you wish to listen to. The DJ-X7 provides you with the following 4 types of antenna. You can select the antenna with the set menu No.2 to No.4.

External antenna

.....The whip antenna included with the DJ-X7 or an external antenna. This setting is valid for all frequency range.

Earphone antenna

.....The provided earphone's cord performs the role of an antenna. It can receive frequency bands over 30MHz.

AM bar-antenna.....This is an internal antenna which receives 100kHz to 3MHz frequencies including AM radio. Switch to this antenna with the set menu No.3.

Shortwave bar-antenna

.....This is an internal antenna which receives 3MHz to 30MHz frequencies including shortwave bands. Switch to this antenna with the set menu No.4.

Each antenna is displayed as follows on the LCD.

External antenna.....SmA

Earphone antenna.....EAr

AM bar-antenna.....Abr

Shortwave bar-antennaSbr

Switch between the external antenna and the earphone antenna with this set menu No.2.

1. Select the set menu No.2 by pressing the dial.

The following is displayed on the LCD.



2. Rotate the dial to change the display as shown below and select the antenna.

[SmA] → [EAr]
 ↑ ↓

Memo When using the earphone antenna, a signal may be unstable depending on the conditions, such as position of the earphone cord and receiving frequency.

(3)AM Bar-antenna setting

You can choose whether or not to use the AM bar-antenna. When you set this function to ON, it comes to receive 100kHz to 3MHz frequencies including AM radio. When you set it to OFF, the DJ-X7 uses the antenna installed to the DJ-X7's antenna connector.

1. Select the set menu No.3 by pressing the dial.

The following is displayed on the LCD.

3 AB r on

2. Rotate the dial to switch ON/OFF of the function.

(4)Shortwave Bar-antenna setting

You can choose whether or not to use the shortwave bar-antenna. When you set this function to ON, it comes to receive 3MHz to 30MHz frequencies including shortwave bands. When you set it to OFF, the DJ-X7 uses the antenna installed to the DJ-X7's antenna connector.

1. Select the set menu No.4 by pressing the dial.

The following is displayed on the LCD.

4 SW r on

2. Rotate the dial to switch ON/OFF of the function.

(5)Illumination Lamp function setting

As the factory default setting, any key operations automatically turn on the backlight of the LCD and turn it off when no operation continues for 5 seconds. When you set this function to ON, it becomes always ON state. Setting it to OFF deactivates the backlight feature.

1. Select the set menu No.5 by pressing the dial.

The following is displayed on the LCD.

5 LmP 5

2. Rotate the dial to select the mode as you desire.



The default is set to 5 seconds. The battery consumes faster when you select ON.

(6)Scan Type Switching setting

You can set the scan-resume condition. When the DJ-X7 detects a signal while scanning, it suspends the operation. With this setting, you can choose how it resumes.

bUSYThis setting resumes the scanning when the DJ-X7 no longer receives the signal.

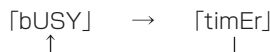
timErThis setting resumes the scanning after an interval of 5 seconds, even though the DJ-X7 is receiving the signal.

1. Select the set menu No.6 by pressing the dial.

The following is displayed on the LCD.



2. Rotate the dial to change the display as shown below and select either of the scan-resume conditions.



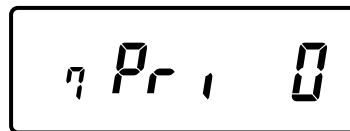
(7)Priority Monitoring function setting

This function can monitor two frequencies at a time, so that you can catch the target signal effectively while receiving frequency of another band.

With this setting, you can set a priority channel for the priority monitoring operation. For more information on this function, see on P.25.

1. Select the set menu No.7 by pressing the dial.

The following is displayed on the LCD.



2. Rotate the dial to select one of the priority channels to be watched.

Select a priority channel from the channels of 000 to 009 which are programmed beforehand. (See on P.20)

(8)Auto-Power-Off function setting

This function prevents the battery from being consumed by forgetting to turn off the receiver.

1. Select the set menu No.8 by pressing the dial.

The following is displayed on the LCD.



2. Rotate the dial to switch ON/OFF of the function.
Unless you set it to OFF, select the setting time.

「oF」 → 「30」 → 「60」 → 「90」

When you set it to ON, the **APO** icon appears on the LCD.
With the **APO** icon ON, the power is automatically turned off if there is no key operation for the specified period of time. Just before turning it off, a beep sound will be heard. To turn the power ON, hold the power key for 1 second.

Memo Any key operations can reset countdown for the APO (Auto-Power-Off) and extend the APO time. However, the APO time is not extended only by receiving signals.

(9) Battery-save function setting

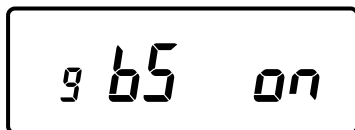
This function prevents wasting battery power by making the internal circuit dormant at a constant ratio.

When you set this function to ON, the receiver will be in the hibernation state if no key operation or no reception continues for 5 seconds.

Set it to ON for normal operations.

1. Select the set menu No.9 by pressing the dial.

The following is displayed on the LCD.



2. Rotate the dial to switch ON/OFF of the function.

When you set it to ON, the **BS** icon appears on the LCD.

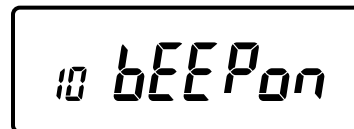
- The default is set to ON.
- This function becomes invalid temporarily while the DJ-X7 is scanning or receiving signals.
- The LCD displays even when the DJ-X7 is in the hibernation state.

(10) Key-touch Beep function setting

This function sounds a beep during operations. If you feel noisy or annoying, you may turn off the sound.

1. Select the set menu No.10 by pressing the dial.

The following is displayed on the LCD.



2. Rotate the dial to switch ON/OFF of the function.

(11) Bell (Pager) function setting

This function is like a pager (beeper). The DJ-X7 informs you with a bell sound that it received a signal.

1. Select the set menu No.11 by pressing the dial.

The following is displayed on the LCD.



2. Rotate the dial to switch ON/OFF of the function.

When you set it to ON, the  icon appears on the LCD.
When the DJ-X7 receives a signal, a bell sounds with the  icon blinked to let you know.

(12)Monitor/Mute function setting

With this setting, you can decide the role of the [MONI] key; to be used for the Monitor function or to be used for the Mute function.

moni.....The [MONI] key is used for the Monitor function.

mUtE.....The [MONI] key is used for the Mute function.

1. Select the set menu No.12 by pressing the dial.

The following is displayed on the LCD.



2. Rotate the dial to change the display as shown below and select the key role.

[moni] → [mUtE]
↑

(13)Monitor-key Operation setting

With this setting, you can decide the operation of the [MONI] key when the Monitor or the Mute function is used.

PUSH.....The Monitor or the Mute function is valid while holding the [MONI] key down.

HoLd.....The Monitor or the Mute function switches to valid/invalid every time the [MONI] key is pressed.

1. Select the set menu No.13 by pressing the dial.

The following is displayed on the LCD.



2. Rotate the dial to change the display as shown below and select the operation mode.

[PUSH] → [HoLd]
↑

(14)Write-protect function setting

This is a memory-save function. This function prevents overwriting or deleting memory channels by mistake and protects what you've programmed. You can always program frequencies to blank channels regardless of this setting.

1. Select the set menu No.14 by pressing the dial.

The following is displayed on the LCD.



2. Rotate the dial to switch ON/OFF of the function.



Caution

Before resetting (see on P.38) the receiver, be sure to check out the setting of the Write-protect function. Executing the resetting with the function OFF state deletes all programmed memory channels and returns to the initial (default factory) settings.

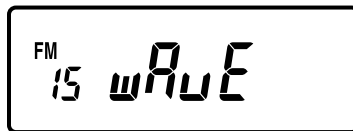
Once you execute the resetting and delete the data you've programmed, it is not possible to undo it (unless you saved the data in your computer with the editing software).

(15)Modulation Type setting

You can select modulation types (radio wave types). It may be necessary to change the tuning step used in the target frequency band in advance, referring to "Specifying tuning step" on P.17.

1. Select the set menu No.15 by pressing the dial.

The following is displayed on the LCD.



2. Rotate the dial to select the radio wave type.



Memo

When the tuning step is set to "Auto", this set menu No.15 won't be displayed.

Chapter 7 Cable-clone and PC Connection

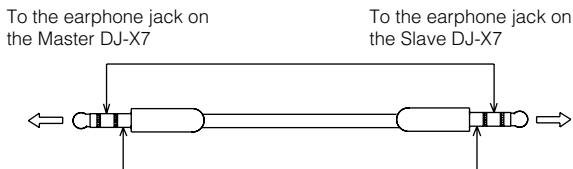
Cable-clone is a useful function for transferring the stored memories and operating parameters from one receiver (called as Master) to another (called as Slave) using a cable to make a copy of the Master (original) DJ-X7.

Moreover, once you connect the DJ-X7 to your computer using an optionally available cable, you can control and manage the configurations or other memory settings from the computer with free downloadable software we provide on the Internet. (For more information, see MEMO on P.21 right hand.)

When you wish to connect to a computer, refer to "7.2 Operation for Receiving Data (on the Slave)" section.

7.1 Cable Connection

- Connect the earphone jacks on the Master and the Slave with a 2.5ø stereo plug cable (commercially available) as shown in the below illustration. When you connect the DJ-X7 to a computer, use the PC interface-cable (optionally available; ERW-4C). Plug the socket of the cable to a serial port on the computer, and plug the other to the earphone jack on the DJ-X7.
- Ensure that the both receivers are OFF before the connection.



7.2 Operation for Receiving Data (on the Slave)

1. Hold the **PWR** key for 1 second to turn the power ON while holding the **[MONI]** key.

The following is displayed on the LCD, and the Slave enters the Clone mode.



2. For the Cable-clone, operate on the Master at this time with reference to the next section. For the PC connection, launch the editing software.

After you launched the software, select the menu displayed on the screen as you desire.

3. Turn the power OFF on the Slave after the transfer is over or you finish the operations with the computer.

- NOTE**
- A 2.5ø stereo plug cable should be a direct-coupled type to avoid internal resistance.
 - Even while the Master transfers data, the operation can be suspended with any key operations on the Slave. To restart, press the dial.
 - Do not unplug the cable while cloning. Otherwise "FRL" is displayed on the Master's LCD, and the Master suspends transferring.
 - Note that all data stored on the Slave are overwritten with the Master's if cloning is executed. Be sure it's OK before cloning.

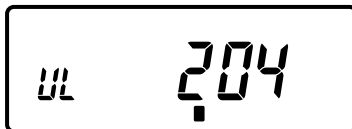
7.3 Operation for Transferring Data (on the Master)

1. Hold the  key for 1 second to turn the power ON while holding the [MONI] key.

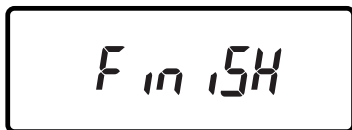
The following is displayed on the LCD, and the Master enters the Clone mode.



2. Press the dial to transfer data of the Master's. Make sure that the following is displayed on the LCD.



3. Make sure of the following display.



4. Turn the power OFF on the Master to release the Clone mode.

If it should fail to transfer data, "F A I L" is displayed on the LCD. If you see this, redo from step 1.

Chapter 8 Maintenance and Reference

8.1 Troubleshooting

Please check the list below before concluding that the receiver is faulty.

If a problem persists, try to reset the receiver (see on P.38). This may correct erroneous operations.

Symptom	Possible Cause	Action
Nothing appears on the LCD when you turn the power ON.	Loose connection of the Li-Ion battery	Check if the terminals of the battery are clean.
	Consumed battery/ Discharged battery	Recharge the battery.
	Releasing the [PWR] key too quickly.	Hold the [PWR] key for 1 second until the receiver turns on.
No speaker audio/ No reception.	Volume level is too low.	Adjust the volume level.
	Squelch level is too high.	Adjust the squelch level.
	Tone Squelch is ON.	Deactivate the Tone Squelch.
Frequency display is incorrect.	CPU error	Uninstall the battery or unplug an external power supply, and do it again after an interval of 10 seconds. If it does not solve the problem, reset the receiver.
Won't scan.	Squelch opens.	Adjust the squelch level so that noise is just muted.
Frequency and memory channel number do not change.	Key-lock is ON.	Release the Key-lock.
Key entry is not possible.	Key-lock is ON.	Release the Key-lock.
Display blinks or goes out during reception.	Insufficient battery power	Recharge the battery.

8.2 Resetting



Caution

Before resetting the receiver, be sure to check out the setting of the Write-protect function (see on P.34). Executing the resetting with the function OFF state deletes all programmed memory channels and returns to the initial (default factory) settings.

Once you execute the resetting and delete the data you've programmed, it is not possible to undo it (unless you saved the data in your computer with the editing software).

The resetting deletes all programmed memory channels and returns to the initial (default) factory settings.

1. Hold the  key for 1 second to turn the power ON while holding the [F] key.

2. Release the keys when all icons and indicators are displayed.

The receiver returns to the initial VFO mode.

■ Factory default value

• VFO frequency	145MHz
• Max number of memory channels	1000ch
• Volume level	30
• Squelch level	3
• Tuning step	Auto

8.3 Optional Accessory List

EBP-58N:	Li-Ion rechargeable battery pack (3.7V 600mAh)
EDC-126:	AC Adapter (6.0V 0.5A/120V for DJ-X7T)
EDC-128:	AC Adapter (6.0V 0.5A/220V for DJ-X7E)
EME-25:	Curl-cable earphone/antenna
EDH-32:	Cigar-socket DC cable
EME-18:	Straight-cable earphone
ESC-38:	Softcase
ERW-4C:	PC interface-cable

8.4 Table of Available CTCSS Tones

The table below illustrates the available CTCSS tones. Rotate the dial while a tone frequency is displayed on the LCD to make selection of CTCSS tone from the 39 available.

67.0	131.8
69.3	136.5
71.9	141.3
74.4	146.2
77.0	151.4
79.7	156.7
82.5	162.2
85.4	167.9
88.5	173.8
91.5	179.9
94.8	186.2
97.4	192.8
100.0	203.5
103.5	210.7
107.2	218.1
110.9	225.7
114.8	233.6
118.8	241.8
123.0	250.3
127.3	

Chapter 9 Specifications

Receiver range		0.100~1299.995MHz continuous (USA T version: cellular frequencies [824.000~849.995MHz, 869.000~894.995MHz]) are blocked.)
Modulation type	AM	A3E
	FM/WFM	F3E
Antenna impedance		50Ω unbalance SMA port
Operating battery voltage	Battery contacts	DC3.7V
	External DC port	DC3.7V~6.0V
Current consumption	Average	Approx. 90mA
	Stand-by	Approx. 65mA
	Battery-save ON	Approx. 22mA
Frequency stability		-7~+3ppm (-10°C~+60°C)
Size		58W×96H×14.5D mm/2.28W×3.78H×0.57D inches (projection exclusive)
Weight		Approx. 103g/3.62oz (antenna and battery inclusive)
Receiver	NFM/AM	Triple-conversion Super-heterodyne
	WFM	Double-conversion Super-heterodyne
Intermediate frequency	1st	243.95MHz
	2nd	39.15MHz (NFM/AM), 10.7MHz (WFM)
	3rd	450kHz (NFM/AM)
Sensitivities (*)	FM	30~470MHz: -12dBμ (0.25μV) 470MHz or higher: -6dBμ (0.5μV) 12dBSINAD
	WFM	76~470MHz: -2dBμ (0.8μV) 470MHz or higher: 9dBμ (2.8μV) 12dBSINAD
	AM	0.1~50MHz: 0dBμ (1.0μV) 50MHz or higher: -8dBμ (0.4μV) 10dB S/N
Selectivity	NFM/AM	-6dB/12kHz or more -60dB/35kHz or less
	WFM	-6dB/130kHz or more -60dB/300kHz or more
Audio output power		Max 100mW or more (8Ω)

* Typical values in the bands, not the minimum guaranteed values.



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