

THANK YOU!

We are grateful that you chose our digital radio.

We believe this DMR Digital transceiver will provide dependable and reliable communication to personal operating at peak efficiency. The transceivers incorporate the latest in advanced technology. As a result, we feel strongly that you will be pleased with the quality and features of this product!

CONTENT

UNPACKING AND CHECKING EQUIPMENT	01
Packing List	01
PREPARATION	02
Installing/Removing the Battery Pack	02
Assembling the Antenna	02
Installing the Belt Clip	03
Installing the Accessories	03
Charging the Battery Pack	03
Charging LED Indicator	04
Programmable Auxiliary Functions	04
GETTING ACQUAINTED	06
Orientation	06
LCD Icons	07
LED Indicator	08
Keypad	09
Menu	10
AUXILIARY FEATURES	12
1750Hz	12
LCD Reverse	12
Mixed Mode	12
Dual Capacity Direct Mode	12
BASIC OPERATION	13
Switch Power On/Off	13
Adjusting the Volume	13
Selecting a Zone	13

CONTENT

Selecting a Channel	14
New Contact	14
CALL	15
Private Call	15
Group Call	15
Calls on analog channels	16
Emergency	16
MESSAGE	17
TROUBLESHOOTING	19
SPECIFICATIONS	22
CTCSS/DCS	25
FCC STATEMENT	26

UNPACKING AND CHECKING EQUIPMENT

Carefully unpack the transceiver. We recommend that you identify the items listed in the following table before discarding the packing material. If any items are missing or have been damaged during shipment, file a claim with the carrier immediately.

Packing List

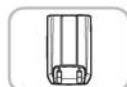
Description	Quantity
Unit Transceiver	1
Rubber Antenna	1
Li-ion Battery Pack	1
Charger	1
Adapter	1
Belt Clip	1
Hand Strap	1
User's Manual	1



Unit Transceiver



Rubber Antenna



Li-ion Battery Pack



Charger



Adapter



Belt Clip



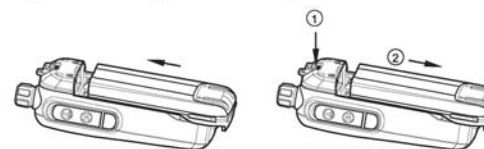
Hand Strap



User's Manual

PREPARATION

Installing/Removing the Battery Pack

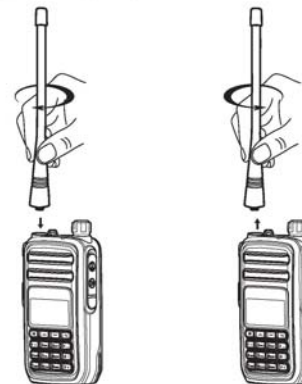


Install

Remove

Note: To remove the battery, please turn off the radio first, then press down the battery lock button to unlock the battery.

Assembling the Antenna



Assemble

Disassemble

Caution: Do not swing the radio when holding it by the antenna, so as to avoid lowering the performance and shortening the life span of the antenna.

PREPARATION

Installing the Belt Clip



Install the Belt Clip



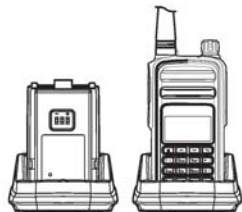
Uninstall the Belt Clip

Installing the Accessories



Charging the Battery Pack

Please charge your battery only with our approved charger, and follows the charging steps as shown below:



PREPARATION

Charging LED Indicator

LED Indicator	Radio Status
The LED glows red.	Charging the battery pack.
The LED flashes between red and green.	Already charge the battery pack up to 90%.
The LED flashes red.	The battery pack is short circuit the terminals or low voltage status.
The LED glows green.	Already finish the charging.

Programmable Auxiliary Functions

Your dealer may program the [SK] key (long press or short press) as shortcuts with one of the following auxiliary functions respectively.

No.	Feature	No.	Feature
1	Key Null	12	LCD Reverse
2	EMG On	13	Vox Switch
3	EMG Off	14	Reverse
4	Scan	15	Zone Switch
5	SQ Off	16	1750Hz
6	SQ Mome	17	Smart Call 1
7	SQ Switch	18	Smart Call 2
8	Power Switch	19	Smart Call 3
9	Talk Around	20	Smart Call 4
10	Back Home	21	Smart Call 5
11	FM	22	Smart Call 6

PREPARATION

Note:

- You can set the time of pressing long key from 1.5-5 seconds (default: 2.0 seconds) with programming software, when you press and hold the [SK] key, the time of pressing is over your setting time, then it's a long time key, otherwise, it's a short key.
- Squelch Off and Squelch Off Momentary feature only to be enabled for analog channels.

GETTING ACQUAINTED

Orientation



No.	Part Name	No.	Part Name
1	PTT Switch (PTT)	8	Power Switch/Volume Tuning
2	Programming Key (SK)	9	TX/RX Indicator
3	Antenna	10	Hand Strap Hook
4	Speaker	11	Battery Lock Button
5	LCD	12	Belt Clip Screw Holes
6	Keypad	13	Battery Pack
7	Microphone	14	Earphone/Data Cable Jack

GETTING ACQUAINTED

LCD Icons

No.	Indicator	Icon	Radio Status
1	RSSI		More bars indicate better signal strength.
2	Battery Strength Icons		More bars indicate more battery power.
3	Scan Icons		Scanning is in progress.
			Scanning pauses on a non-priority channel.
			Scanning pauses on Priority Channel 1.
4	TX Power Icons	L	Low Tx power for the current channel.
		H	High Tx power for the current channel.
5	Receiving Icons		Receiving is in progress.
6	Message Icons		New Message/Unread Message.
7	Dual watch the signal when use FM radio.	DW	Dual Watch when use FM Radio
8	Keypad Lockout		Appear when the key lock function is activated.
9	CTCSS	C	CTCSS
10	DCS	D	DCS
11	CT/DCS	C.D	CTCSS/DCS
12	FM Radio	FM	Turn on the FM radio.

GETTING ACQUAINTED

No.	Indicator	Icon	Radio Status
13	Encryption	E	The encryption feature is activated.
14	VOX		The VOX feature is activated.
15	Private Call		<ul style="list-style-type: none"> In call mode, the icon appears when transmit a private call. In contact list, the icon means it's currently in private call contact list.
16	Group Call		<ul style="list-style-type: none"> In call mode, the icon appears when transmit a group call. In contact list, the icon means it's currently in group call contact list.
17	All Call		<ul style="list-style-type: none"> In call mode, the icon appears when transmit an all call. In contact list, the icon means it's currently in all call contact list.

LED Indicator












The top LED indicator will help you easily identify the current radio status.

LED Indication	Radio status
LED glows red	Transmitting
LED flashes red	Low battery
LED glows green	Receiving
LED flashes orange	Scanning
LED glows orange	Within the call holding time

GETTING ACQUAINTED


Keypad

You can input name, number, message ect. or use combined keys via keypad to operate as your desired features.

Keypad	Operation
	Confirm the option, enter the editing mode or the submenu.
 / 	Select the optioned item, character or move the cursor position.
	Delete the input character or return back to previous menu. In standby mode, press this key shortcut to enter the channel editing mode.
	Input the "0"~"9".
	<ul style="list-style-type: none"> In editing mode, press this key to input "*". In standby mode, press []+[] key to lock or unlock the keypad.
	<ul style="list-style-type: none"> In editing mode, press this key many times to cyclically change and select your desired input method. Press []+[] keys to quickly change the current channel to your desired one.

GETTING ACQUAINTED

Menu

Press the [] key to access menu items. Menu options are variety according to the channel which is in use.

No.	Main Menu	Submenu	Description
1	Contact	★ Contact List	Display the current contact list
		★ New	Input or set the "Alias/Type/ID/Save"
		★ Delete All	Delete all the contact list
2	Message	★ New	Edit by user
		★ Quick Text	Create quick text by user
		★ Inbox	Inbox List/Delete All
		★ Outbox	Outbox List/Delete All
		★ Draft	Draft List/Delete All
3	Call Logs	★ Outgoing	Outgoing List/Delete All
		★ Incoming	Incoming List/Delete All
		★ Missed	Missed List/Delete All
4	Vox	VOX Switch	On/Off
		VOX Level	1/2/3
5	Scan	---	On/Off
6	FM Radio	FM Switch	On/Off
		FM Mode	VFO/MR
		FM DW	On/Off
7	Setting	Key Tone	On/Off
		Power Tone	On/Off

GETTING ACQUAINTED

7	Setting	Backlight	Off/Infinite/5s/15s/30s/60s
		CH Disp Mode	Frequency/Alias
		Zone	Edit by user
		SQL Level	1/2/3
		★ MSG Ring Tone	On/Off
		Language	Chinese/English
8	Radio Set	Channel	CH List/New
		Zone Edit	View/Edit
		P-Key Edit	SK Short/SK Long (Please refer to "Programmable Auxiliary Functions")
		★ Rx Grp	View/Edit Group List
		★ Radio ID Edit	Edit Radio D
9	Radio Info	★ Radio ID	View Radio ID
		Firmware Ver	Display the current firmware version
		DSP Info	Display the current DSP Info
		Model Name	Display the current model name
		Freq Range	Display the current frequency range
		Last Prog Date	Display the last programming date

Note: ★ Indicates that the functions are available on digital channel only, the other menus indicate the functions are available for both digital and analog channel.

AUXILIARY FEATURES

1750Hz

Use audio 1750Hz to open the repeater.

LCD Reverse

Support a 180-degree reverse of the displayed content. In this way you can read the information in LCD easily without removing the radio from the holder to enhance your working efficiency.

Full Keypad Programming

With the full keypad, you can easily program all the radio settings without CPS on the computer.

Mixed Mode

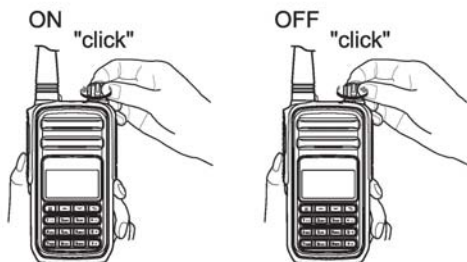
Compatible with analog conventional and digital conventional modes, allow to simultaneously monitor analog and digital modes and automatically respond in each mode.

Dual Capacity Direct Mode

In direct mode, you can have two voice calls simultaneously in the same frequency by adapting the two timeslots from DMR TDMA technology, this will increase the radio capacity at no extra costs or frequency license.

BASIC OPERATION

Switch Power On/Off






Adjusting the Volume




Selecting a Zone

The radio supports 16 zones, each with a maximum of 999 channels. You can select by any one of following methods:

1. Enter menu system and select "Zone", then use []/[] key to select your desired zone, at last press [] key to confirm your selection.
2. Program the featured key with "Zone Switch" by PC, then press this programming key to select.

BASIC OPERATION

Selecting a Channel

Use []/[] key to select your desired channel or directly press []+[] keys and input channel number, then press [] key to select.



New Contact

In digital channel, you can create a Private Call contact (7 digitals at most) to the contact list.

In main menu, select "Contact" -> "Contact List", then input the necessary information till finish.

Note:

The new contact is prohibited to the same as the one already existed in the contact list.

CALL

In order to ensure an optimal volume for the receiving radio, hold the radio approximately 2.5 to 5 centimeters away from your mouth during transmission.

Private Call

Private call means a private contact to transmit a call to the other private contact.

Transmitting a private call

In standby mode, select a private contact, then press and hold [PTT] key to transmit a call.

Receive and Responding to a private call

When a call is received, your radio will display the corresponding icon and you can hear without any operation. You may press the [PTT] key within the preset time period to call back.

Group Call

Group call means a private contact to transmit a call to all the contacts in the same group.

Transmitting a group call

In standby mode, select a group contact, then press and hold [PTT] key to transmit a call.

CALL

Receive and Responding to a group call

When a call is received, your radio will display the corresponding icon and you can hear without any operation. You may press the [PTT] key within the preset time period to call back.

Calls on analog channels

To transmit on an analog channel, hold down the [PTT] and speak into the microphone. To receive, release the [PTT].

Note:

Sometimes you may not hear the call voice even by using the same frequency, that's because different setting of CTCSS/DCS, reverse or offset and so on.





Emergency

In case of an emergency, you can use the feature to ask for help from your companion or control center.

MESSAGE

You can create and send new message, also can directly send the quick text, or forward the messages in inbox/outbox/draft.

Send new message

1. In menu system of digital channel, select "Message"-> "New".
2. Input the message text via keypad, when finish input, press [] key to confirm. You can save the message text in draft box or send to a contact or group.
3. Use []/[] key to select a contact or a group.
4. Press [] key to send the message. "Send" will appear on LCD when successfully send the message.

Quick Text

The quick text may be set by the dealer and you can quickly send the message or edit the new message as you desired.

InBox

The InBox can save up to 16 received messages. When the InBox is full, the icon will appear, and the oldest entry will be overwritten by the latest one automatically.

OutBox

The OutBox can save up to 16 sent messages. When the OutBox is full, the oldest entry will be overwritten by the latest one automatically.

MESSAGE

Draft

The Draft can save up to 16 edited messages. When the Draft is full, the oldest entry will be overwritten by the latest one automatically.

TROUBLESHOOTING

Phenomena	Analysis	Solution
Power-on Failure.	• The battery may be improperly installed.	Remove the battery and reassemble it.
	• The battery power may be used up.	Recharge or replace the battery.
	• The battery is poorly connected due to dirtied or damaged battery contacts.	Clean the battery contacts. If the problem cannot be solved, contact your dealer or authorized service center for inspection and repair.
During receiving, the voice is weak, discontinuous or totally inactive.	• Low battery voltage.	Recharge or replace the battery.
	• Low volume level.	Increase the volume by rotating the Volume Control knob.
	• The antenna may be loosened or improperly installed.	Reassemble the antenna after turning off the radio.
	• The speaker may be blocked or damaged.	Clean the surface of the speaker. If the problem cannot be solved, contact your dealer or authorized service center for inspection and repair.

TROUBLESHOOTING

Phenomena	Analysis	Solution
Unable to communicate with other members.	• The frequency or signaling may be inconsistent with that of other members.	Set your TX/RX frequency and signaling to the same as that of other members.
	• The channel type (digital/analog) may be set inconsistently.	Make sure all members are on the same digital/analog channel.
	• You may be too far away from the group members.	Move towards other members.
Irrelevant communication or noise is heard on the channel.	• You may be interrupted by radios using the same frequency.	Change the frequency, or adjust the squelch level.
	• The radio may be set with no signaling.	Set signaling for all member radios to avoid interference at the same frequency. And change the signaling settings for all portable radios at the same time. The noise is too loud. You may be too far away from other members.

TROUBLESHOOTING

Phenomena	Analysis	Solution
The noise is too loud.	<ul style="list-style-type: none"> You may be too far away from other members. 	Move towards other members.
	<ul style="list-style-type: none"> You may locate in an unfavorable position. For example, your communication may be blocked by high buildings or frustrated in the underground areas. 	Move to an open and flat area, and restart the radio to try again.
	<ul style="list-style-type: none"> You may suffer from external disturbance (such as electromagnetic interference). 	Stay away from equipment that may cause interference.

SPECIFICATIONS

LD-3800 Electrical Specification

General specifications	
Frequency Range	400-480MHz
Channel capacity	999
Channel spacing	12.5 KHz
Working voltage	7.4V
Standard battery	1500mAh
Battery average working hours (5-5-90 working cycle)	11/12 (h)
Frequency stability	± 2.5 PPM
Working temperature range	-10~55°C
Antenna impedance	50 Ω
Dimensions (H x W x D) (Without antenna)	105x53x29.5mm
Weight (with antenna)	217g

SPECIFICATIONS

Transmitter	
Output Power	≤5W
Modulation(analog)	11KΦF3E@12.5KHz
Modulation (digital)	12.5KHz : 7K60F1D 12.5KHz : 7K60F1E
Spurious emission	-36dBm<1GHz; -30dBm>1GHz
SNR	40dB@12.5KHz;
Audio distortion	≤5%
Modulation limit	± 2.5@12.5KHz;
Audio response (300-3000HZ)	± 3dB
Digital vocoder type	AMBE++
Digital protocol	ETSI-TS102 361-1,-2

SPECIFICATIONS

Receiver	
Sensitivity (analog)	≤0.3/0.22 μ V (12dB SINAD)
Sensitivity (digital)	≤0.3 μ V/BER 5%
S/R	40dB@12.5KHz;
Audio output power	≥ 750mW
Audio distortion	≤5%
Audio frequency response	± 3dB
Conducted spurious emission	≤-57dBm

CTCSS/DCS

CTCSS Standard Frequency Table

1 - 63.0	14 - 100.0	27 - 156.7	40 - 196.6
2 - 67.0	15 - 103.5	28 - 159.8	41 - 199.5
3 - 69.3	16 - 107.2	29 - 162.2	42 - 203.5
4 - 71.9	17 - 110.9	30 - 165.5	43 - 206.5
5 - 74.4	18 - 114.8	31 - 167.9	44 - 210.7
6 - 77.0	19 - 118.8	32 - 171.3	45 - 218.1
7 - 79.7	20 - 123.0	33 - 173.8	46 - 225.7
8 - 82.5	21 - 127.3	34 - 177.3	47 - 229.1
9 - 85.4	22 - 131.8	35 - 179.9	48 - 233.6
10 - 88.5	23 - 136.5	36 - 183.5	49 - 241.8
11 - 91.5	24 - 141.3	37 - 186.2	50 - 250.3
12 - 94.8	25 - 146.2	38 - 189.9	51 - 254.1
13 - 97.4	26 - 151.4	39 - 192.8	

DCS Standard Group Number

017	054	132	212	263	346	445	523	654
023	065	134	223	265	351	446	526	662
025	071	143	225	266	356	452	532	664
026	072	145	226	271	364	454	546	703
031	073	152	243	274	365	455	565	712
032	074	155	244	306	371	462	606	723
036	114	156	245	311	411	464	612	731
043	115	162	246	315	412	465	624	732
047	116	165	251	325	413	466	627	734
050	122	172	252	331	423	503	631	743
051	125	174	255	332	431	506	632	754
053	131	205	261	343	432	516	645	

FCC STATEMENT

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment 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 into 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.
- 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.

Note: Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

FCC STATEMENT

Compliance with RF Exposure Standards

Linton's portable radio complies with the following RF energy exposure standards and guidelines:

- United States Federal Communications Commission, Code of Federal Regulations; 47 CFR § 1.1307, 1.1310 and 2.1093
- American National Standards Institute (ANSI) / Institute of Electrical and Electronic Engineers (IEEE) C95. 1:2005; Canada RSS102 Issue 5 March 2015.
- Institute of Electrical and Electronic Engineers (IEEE) C95. 1:2005 Edition

RF Exposure Compliance and Control Guidelines and Operating Instructions

To control your exposure and ensure compliance with the occupational/controlled environment exposure limits always adhere to the following procedures.

Guidelines:

- Do not remove the RF Exposure Label from the device.
- User awareness instructions should accompany device when transferred to other users.
- Do not use this device if the operational requirements described herein are not met.

Operating Instructions:

- Transmit no more than the rated duty factor of 50% of the time. To transmit (talk), push the Push-To-Talk (PTT) button. To receive calls, release the PTT button. Transmitting 50% of the

FCC STATEMENT

time, or less, is important because this radio generates measurable RF energy exposure only when transmitting (in terms of measuring for standards compliance).

- Hold the radio in a vertical position in front of face with the microphone (and the other parts of the radio, including the antenna) at least one inch (2.5 cm) away from the nose. Keeping the radio at the proper distance is important because RF exposures decrease with distance from the antenna. Antenna should be kept away from eyes.
- When worn on the body, always place the radio in a Linton's approved clip, holder, holster, case, or body harness for this product. Using approved body-worn accessories is important because the use of Linton's or other manufacturer's non-approved accessories may result in exposure levels, which exceed the FCC's occupational/controlled environment RF exposure limits.
- If you are not using a body-worn accessory and are not using the radio in the intended use position in front of the face, then ensure the antenna and the radio are kept at least 2.5 cm (one inch) from the body when transmitting. Keeping the radio at the proper distance is important because RF exposures decrease with increasing distance from the antenna.
- Use only manufacturer's name approved supplied or replacement antennas, batteries, and accessories. Use of non-manufacturer-name approved antennas, batteries, and accessories may exceed the FCC RF exposure guidelines.
- Contact your local dealer for the optional accessories of the product .