Tanin

LPD-COMPACT TRANSCEIVER

GP-88

User Guide

INTRODUCTION

Thank you for purchasing our LPD radios. Combined the latest technology along with a sturdy mechanical frame, our radios provide cost-effective communications for the people who need to stay in touch with the working team such as retail stores, restaurants, campuses and schools, construction sites, manufacturing, shows and trade fairs, property and hotel management and more, they are the perfect communication solutions for all of today's fast-paced industries.

PRECAUTIONS

- Maintenance can only be performed by professional technicians.
- Please use the standard battery pack and charger in order not to destroy the radio.
- Do not expose the radio to sunlight for a long time, nor put it near the heat, nor use it in a high temperature environment.
- Do not put it in extreme dust, wet or on unsteady surfaces. Keep it dry. (Rain or moisture will erode the electronic board.)

CONTENTS

UNPACK AND CHECK EQUIPMENT

Carefully unpack the radio packing. We suggest that you check the following items before you throw away the packing materials.

Standard Supplied Accessories

ITEM	QTY
Radio Transceiver	1
Li-ion Battery Pack	1
Rubber Antenna	1
Charger Kit	1
Belt Clip Kit	1
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PREPARATION

Charging the battery pack

Battery packs are not charged yet when they are shipped. Please charge them before use. Initially charging the battery pack after purchase or extended storage(longer than 2 months will not bring the battery pack to its greatest capacity or its normal charge, which can be done only after repeatedly charging and discharging for two or three times.

Notes:

1. Never attempt to remove the casing from the battery.
2. After the battery is full charged, don't charge any more. If the radio still shows low power, please change a new battery pack.

To charge the battery pack:

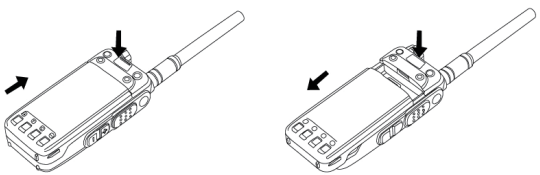
1. Place the desktop charger on a flat surface.
2. Insert the connector of the AC adapter into the charger port on the back of the desktop charger.
3. Plug the AC adaptor into a power outlet.
4. Insert the battery or radio with a battery into the desktop charger with the radio facing the front. Make sure the battery pack is in connected with the charging terminals.
5. Now the charger LED blinks **RED** and it is charging.
6. After about 4 hours of charging and charger LED turns to **GREEN**, remove the battery or radio from desk charger.
7. Unplug the AC adaptor from the power outlet.

Install/Uninstall the battery pack

The average usage time of battery pack is 20 hours. Average usage time is 5% for transmitting, 5% for receiving and 90% for standby.

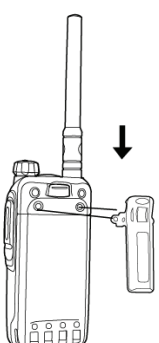
Notes:

1. Do not short-circuit the battery terminals or throw the battery into fire.
2. Never attempt to remove the casing from the battery pack.

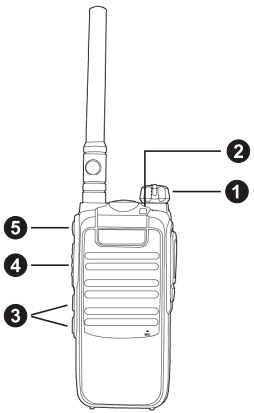


Install belt clip

If desired, attach the belt clip using the two supplied screws. Note: if the belt clip is not installed, its mounting location may get hot during continuous transmission.



GETTING FAMILIAR



1. Power/Volume Knob
Turn the knob clockwise to power on the radio, turn it counterclockwise fully to power off, and rotate to adjust the volume.

2. Indicator Light
Light shows **RED** while transmitting. Light shows **GREEN** while receiving. Lights coruscate if the battery volume is low when transmitting.

3. Channel Up & Down Button
Press these two buttons to select channel from 1 to 16.

4. PTT Button
Press this button, and then speak into the microphone to call a station, release it to receive a call.

5. Monitor/Light Button
Press (squelch off) to hear the background noise; release to return to normal operation.
Press and hold to enable LED flashlight feature; repeat it again to disable it.

BASIC OPERATION

Turn the power/volume knob clockwise. You will hear a beep and speech to indicate the transceiver is ON.
Turn the power/volume knob counterclockwise to shut off the transceiver.

Press monitor button to listen to audio level while rotating the power/volume knob. Rotate clockwise to increase and counterclockwise to decrease volume.

Press channel up/down buttons to select channel. While receiving a signal, the sound will be heard.

To transmit, press and hold **PTT** button, speak into the microphone in your normal tone of voice. Hold the microphone approximately 3 ~ 4cm from your lips.

Release the **PTT** button to receive.
Note: When the battery pack voltage becomes too low, transmit will stop and LED will brink red. See “Low Battery Warning” on behind.

DETAIL FUNCTION DESCRIPTION

Squelch

Squelch allows you to mute the background noise when no signal is being received.
Not only does the Squelch system make “standby” operation more pleasant, it also significantly reduces battery current consumption.
If you select high level squelch, the weak signals may not be heard; if you select low level squelch, the background noise will be heard easily.

You can set the squelch level in the PC programming software. It has 1-9 grades. The default setting is 4.

Scan

Scan allows you to detect if there is active signal on all channels. When it detects a signal, it will stop on current channel.
Note: Those channels delete scanning will not be scanned. The radio will keep working in that channel until the signal is disappeared. After 5 seconds, it will continue scanning.

To start the channel scan, press and hold channel down button for 3 seconds, the **GREEN** status LED flashes. If a signal is received on the adjusted channel, the **GREEN** status LED lights up, the radio set remains adjusted to the corresponding channel until the signal finishes. Afterwards, the scan resumes and the **GREEN** status LED flashes again.

For switching off the channel scan, press and hold channel down button for 3 seconds again, the scan is off.

LED Flashlight

Press and hold monitor button for 2 seconds to enable LED flashlight feature; repeat it again to disable it.

Time-Out Timer (TOT)

TOT prevents any caller from using a channel for an extended period of time. If you continuously transmit for a period of time that exceeds the programmed time set by your dealer, (The setting option has OFF/1-10 minutes), the radio will stop transmitting and a beep tome will sound. To stop the tone, release the **PTT** button.

Battery Save

Battery save feature will decrease the battery consumption when a signal is not being received and no operation are being performed (no keys are being pressed and no switches are being turned).

While the channel is not busy and no operation is performed for 10 seconds, battery saver turns on. When a signal is received or an operation is performed, battery saver turns off automatically.

Low Battery Warning

Low battery warning feature alerts you when the battery needs to be recharged or replaced. While operating the radio, if the battery power becomes low, an alert tone will sound and the LED indicator will brink **RED**. The transceiver will stop transmit Replace or recharge the battery pack.

CTCSS & DCS

The radio set is equipped with two pilot tone process (CTCSS and DCS) that permit to address specific individual radio sets or groups or to receive only calls from the latter.

Note: Make sure that you and your partner station(s) use the same pilot tone process and the same CTCSS tone or the same digital code!

SPECIFICATIONS

General

Frequency Range	433.00625 – 433.4875MHz
Channel Capacity	16 Channels
Channel Bandwidth	12.5 kHz
Operating Voltage	3.7 V DC
Dimensions (H x W x D)	127 x 58 x 35 mm
Weight with battery	182 g

Transmitter

RF Output	< 0.5W
Frequency Stability	< 1.5 ppm
Spurious & Harmonics	-36 dBm <1 GHz, -30 dBm > 1GHz
FM Hum & Noise	-45 dB
Modulation Deviation	≤ 2.5 kHz
Adjacent Channel Power	60 dBc
Audio Frequency Response	+1 ~ -3 dB (0.3 – 3 kHz)
Audio Distortion	< 3%

Receiver

Sensitivity (12 dB SINAD)	-122 dBm (0.18μV)
Adjacent Channel Selectivity	60 dB
Audio Distortion	< 5%
Radiated Spurious Emissions	< -54 dBm
Intermodulation Rejection	70 dB
Audio Output	500 mW @ 8 ohms

TROUBLESHOOTING

Problem	Possible Reasons and Potential Solutions
No Power	Recharge or replace the battery pack; Extreme operating temperatures may affect battery life.
Hearing other noises or conversation on a channel	Confirm CTCSS/DCS is set; Frequency or CTCSS/DCS may be in use; Change settings: either change frequencies or CTCSS/DCS on all radios; Make sure the radio is at the right frequency and privacy code when transmitting.
Audio quality not good enough	Radio settings might not be matching up correctly. Double check frequencies, CTCSS/DCS and bandwidths to make sure they are identical in all radios.
Limited talk range	Steel and/or concrete structures, heavy foliage, buildings or vehicles decrease range. Check for clear line of sight to improve transmission; Wearing radio close to body such as in a pocket or on a belt decreases range; Change location of radio. UHF radios provide great coverage in industrial and commercial buildings. Increasing power provides greater signal range and increases penetration through obstructions.
Can not transmitted or received	Make sure the **PTT** button is completely pressed when transmitting; Confirm that the radios have the same Channel, Frequency, Interference Eliminator Code and bandwidth settings; Recharge, replace and/or reposition batteries; Obstructions and operating indoors, or in vehicles, may interfere, change location; Verify that the radio is not in Scan.
Heavy static or interference	Radios are too close, they must be at least seven feet apart; Radios are too far apart or obstacles are interfering with transmission.
Low battery	Recharge or replace the battery pack; Extreme operating temperatures affect battery life.
Desktop Charger LED light does not blink	Check that the radio/battery is properly inserted and check the battery/charger contacts to ensure that they are clean and charging pin is inserted correctly.
Cannot activate VOX	VOX feature might be set to OFF; Use the programming software to ensure that the VOX sensitivity level is not set to '0'; Accessory not working or not compatible.

Battery does not charge	Check desktop charger is properly connected and correspond to a compatible AC adapter; Check the charger's LED indicators to see if the battery has a problem.

Note: Whenever a feature in the radio seems to not correspond to the default or preprogrammed values, check to see if the radio has been programmed using the user program software with a customized profile.

TABLE LIST

50 CTCSS Tones

No	FREQ.(Hz)	No	FREQ.(Hz)	No	FREQ.(Hz)
01	67.0	18	118.8	35	183.5
02	69.3	19	123.0	36	186.2
03	71.9	20	127.3	37	189.9
04	74.4	21	131.8	38	192.8
05	77.0	22	136.5	39	196.6
06	79.7	23	141.3	40	199.5
07	82.5	24	146.2	41	203.5
08	85.4	25	151.4	42	206.5
09	88.5	26	156.7	43	210.7
10	91.5	27	159.8	44	218.1
11	94.8	28	162.2	45	225.7
12	97.4	29	165.5	46	229.1
13	100.0	30	167.9	47	233.6
14	103.5	31	171.3	48	241.8
15	107.2	32	173.8	49	250.3
16	110.9	33	177.3	50	254.1
17	114.8	34	179.9		

105 DCS Codes Normal & Inverted

No	Code	No	Code	No	Code	No	Code
01	023	28	155	55	325	82	516
02	025	29	156	56	331	83	523
03	026	30	162	57	332	84	526
04	031	31	165	58	343	85	532
05	032	32	172	59	346	86	546
06	036	33	174	60	351	87	565
07	043	34	205	61	356	88	606
08	047	35	212	62	364	89	612
09	051	36	223	63	365	90	624
10	053	37	225	64	371	91	627
11	054	38	226	65	411	92	631
12	065	39	243	66	412	93	632
13	071	40	244	67	413	94	645
14	072	41	245	68	423	95	654
15	073	42	246	69	431	96	662
16	074	43	251	70	432	97	664
17	114	44	252	71	445	98	703
18	115	45	255	72	446	99	712
19	116	46	261	73	452	100	723
20	122	47	263	74	454	101	731
21	125	48	265	75	455	102	732
22	131	49	266	76	462	103	734
23	132	50	271	77	464	104	743
24	134	51	274	78	465	105	754
25	143	52	306	79	466		
26	145	53	311	80	503		
27	152	54	315	81	506