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Radioddity

QT40

10 Meter Amateur Radio



Instruction Manual

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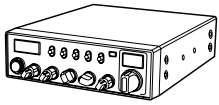
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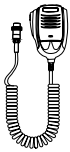
FUNCTIONS & FEATURES

- FM/AM/USB/LSB/PA modes
- Weather Channel with ALERT and FM receiver 140-170MHz
- CTCSS/DCS, with separate settings for TX and RX
- TX and RX Noise Reduction (NRC)
- PC Programmable
- Scrolling Frequency Display Function
- SQ, ASQ Function
- RF Gain Adjustment
- Microphone Gain Adjustment
- RF PWR Adjustment
- PWR/RX RSSI Signal Meter
- NB/ANL Function
- FM Repeater Offset Function (+/- 100kHz)
- +10kHz Function
- Beep Level Adjustment
- TOT Function
- HI-CUT Function
- Busy Channel Lock
- TX Audio Monitor
- LED Brightness Adjustment
- SWR Readout and High SWR Protection
- Voltage Protection
- VOX Function
- Programmable Roger Beep
- Echo Function
- NPC Function
- SCAN Function

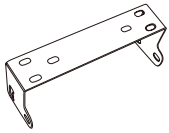
■ STANDARD ACCESSORIES



Radio



Microphone



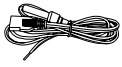
Mounting Bracket



Microphone Hanger



Adhesive Case Protectors



DC Power Cable



Screws for bracket



Pads for bracket



Adjusting screws



Spare Fuses (10A,250V)



Self-tapping Screws



Pads

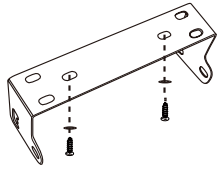
■ OPTIONAL ACCESSORIES



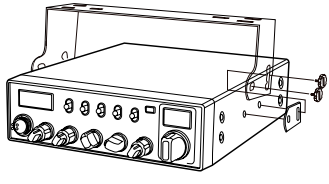
USB Programming Cable

■ INSTALLATION

Choose the most appropriate location from a simple and practical point of view. If installed in a vehicle, care should be taken to ensure your radio does not obstruct the driver or passengers.

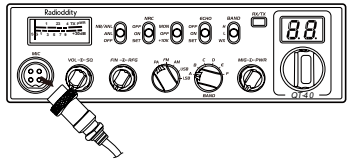


1. Use the Self-tapping Screws and Pads to fix the Bracket to a suitable location.
2. Attach the Adhesive Case Protectors to the inside ends of the Mounting Bracket and insert the Radio. Fit the Adjusting Screws loosely, and choose a suitable angle by moving the Adjusting Screws to one of the 3 positions on the Mounting Bracket.
3. Tighten the Adjusting Screws firmly by hand. Make sure the radio and all accessories are securely mounted.



MICROPHONE CONNECTION

1. Plug microphone connector into the microphone jack.
2. Tighten the retaining ring on the microphone connector by hand.

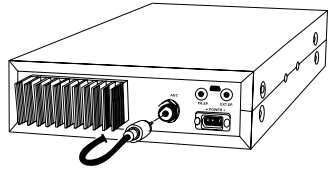


ANTENNA INSTALLATION

Before using this radio, please install an efficient and resonant antenna. Using an antenna that is correctly installed and tuned will enable excellent communication performance.

This radio requires an antenna impedance of 50 ohms, unbalanced.

1. Screw the antenna connector into the antenna jack.
2. If required, grounding of the antenna system will ensure best performance.



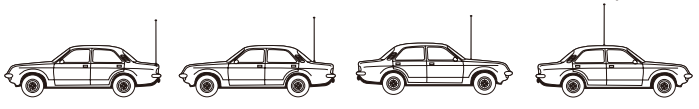
WARNING:

▲ NEVER transmit without a connected resonant antenna, or a suitable 50 ohm load being connected. Damage to the radio may result.

▲ To reduce the risk of electric shock, or radio damage, base station installations should include lightning protection devices.

▲ Ask your Anytone dealer for available antenna options.

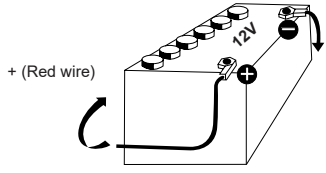
3. A mobile antenna can be mounted in various locations, for example:



POWER CONNECTION

This radio requires a 13.8V (12V) DC power supply. Never connect the radio directly to a 24V DC battery system, as can be found in some vehicles.
Please refer to the radio Specifications to ensure your 13.8V DC power supply can provide enough current (amps), otherwise poor performance may occur.

1. Connect the positive (red) power cable to the + terminal of the battery.
2. Connect the negative (black) power cable to the - terminal of the battery.
3. Connect the DC power cable to the transceiver's power supply connector.
   - ▲ Locate the power cable away from high temperature, moisture, and other electrical systems. Ensure it is installed where it cannot be damaged.
   - ▲ It is not recommended to use a vehicle cigar/cigarette lighter socket to power the radio, as it may not supply the correct voltage or current.
   - ▲ Do not remove the fuse holder from the cable.



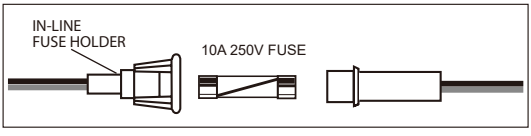
REPLACING FUSES

This radio requires a 10A, 250V fuse.

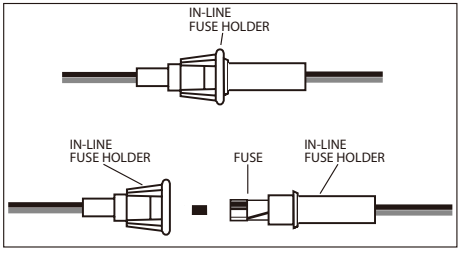
If the fuse blows, determine the reason, then correct the problem.

After the problem is resolved, replace the fuse. If newly installed fuses continue to blow, disconnect the power cable and contact your authorized dealer or an authorized service center.

1. Twist the two fuse covers in opposite directions, and open it.

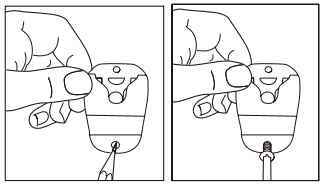


2. Replace the blown fuse with new one, and close the fuse holder.
3. Be sure to only use the correct fuse type, otherwise damage may occur.



INSTALL MICROPHONE HANGER

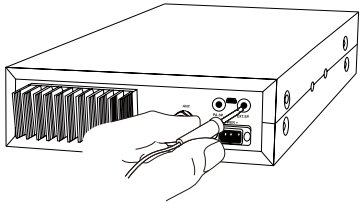
Choose a location which will not interfere with the driver. Use the supplied self-tapping screws and pads to install the hanger.



INSTALL EXTERNAL SPEAKER (Optional)

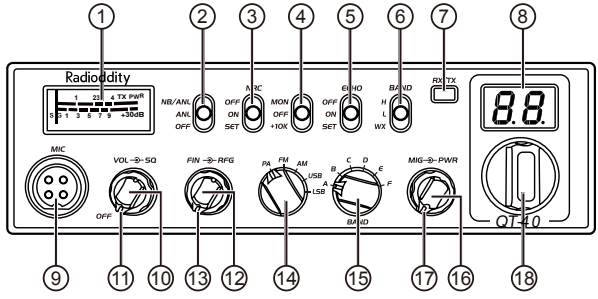
If using an external speaker, please choose an 8 ohm speaker with a 3.5mm mono (double cable) TS type plug.

1. Install the external speaker in a suitable place.
2. Plug into the speaker jack.



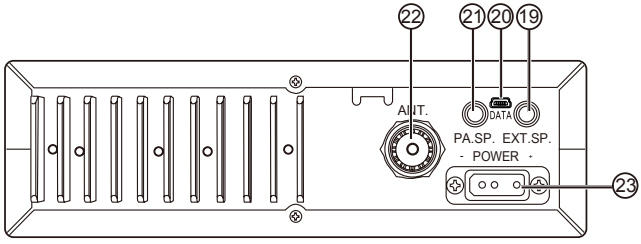
GETTING ACQUAINTED

Front Panel



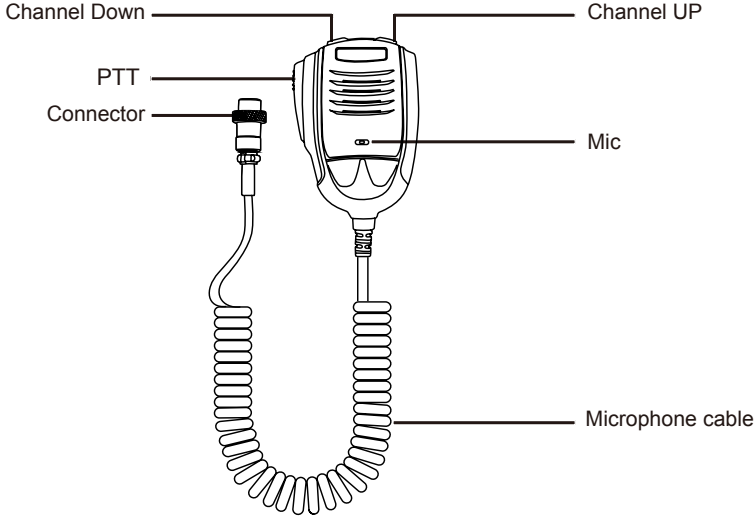
No.	Functions
1	S-Meter
2	NB/ANL function on/off
3	NRC function on/off/set
4	Monitor/10K on/off
5	ECHO function on/off/set
6	H Band, L Band or WX (FM RX) Band groups
7	TX/RX indicator
8	Channel Display: CH and Scrolling Frequency Display
9	Microphone connector
10	Power on/off and Volume level control
11	Squelch level control
12	FIN Frequency control: +/-500Hz and +/-5kHz
13	RF Gain control
14	MODE switch: PA/FM/AM/USB/LSB
15	BAND switch: A/B/C/D/E/F
16	Microphone Gain control
17	RF Power level control
18	Channel / Frequency control

Rear Panel



No.	Functions
19	External SP Jack
20	PC programming port
21	External PA Jack
22	Antenna Jack
23	Power Supply Jack

Microphone



■ HOW TO USE YOUR RADIO

Power OFF/ON

1. Turn VOL clockwise to switch the radio ON, the radio may emit a beep (if the beep function is enabled). The LED display will show a channel number.
2. Turn VOL anti-clockwise to switch the radio OFF.

Volume Control

When the radio is turned on, turning VOL clockwise will increase the Volume level. Turning VOL anti-clockwise will reduce the Volume level.
Note: Adjust the Volume during communication to obtain a suitable level.

Squelch Control

When the radio is receiving, turn SQ control clockwise to adjust the Squelch level.

Mic Gain Control

When the radio is transmitting, turn MIG control to adjust the Microphone Gain. Turn the control clockwise to increase Mic Gain, and anti-clockwise to reduce Mic Gain.

RF Gain Control

When the radio is receiving, turn RFG control to adjust the RF Gain. Turn the control clockwise to increase RF Gain, and anti-clockwise to reduce RF Gain.

RF POWER Control

Valid for AM/FM/LSB/USB modes. Turn PWR control to adjust the TX Output Power. Turn the control clockwise to increase Power, and anti-clockwise to reduce Power.

SCAN Function

1. With the radio in receive mode, press and hold the [UP] or [DN] key on the microphone for approximately 7 seconds until the SCAN feature starts. The dot "." between the two channel digits on the LCD display flashes to indicate that the SCAN feature is active.
2. Rotate the Channel switch or press either of the [UP/DN] keys on the microphone to change the SCAN direction.
3. Short press [PTT] to exit SCAN mode.

Note: SCAN mode is available in all modes where the squelch is closed (audio muted), including WX/FM Receiver 140-170MHz mode.

MODE Switch Control

Turn the mode switch to choose between PA/FM/AM/USB/LSB modes.

BAND Switch Control

Turn the band switch to select A/B/C/D/E/F band.

Channel / Frequency Control

Turn the channel control to select the desired channel.
Turn the control clockwise to increase, and anti-clockwise to decrease.

Scrolling Frequency Display

Hold the microphone [UP] and [DN] keys simultaneously, the LED display will show the working frequency. For example, 28.2050MHz will display as 28-20-50 repeatedly until the [UP] and [DN] keys are released.

■ SLIDE SWITCHES

No.	Function	Position	Description
1	NB/ANL		Turn on NB/ANL function
			Turn on ANL function
			Turn off NB/ANL function
2	NRC		Turn off NRC function
			Turn on NRC function
			NRC level set: "rr" for RX noise reduction level, "tr" for TX noise reduction level.
3	MON + 10K		Turn on MON, 32 levels set by PC programming
			No function (OFF)
			Turn on +10KHz function
4	ECHO		Turn off ECHO fucntion
			Turn on ECHO fucntion
			ECHO Volume and Delay level set: "EL" for Volume level set, "Et" for Delay level set
5	BAND		Choose higher frequency band group
			Choose lower frequency band group
			Turn on WX Channel and FM Receiver function 140-170MHz (set by PC programming)

■ FUNCTION MENU

1. Press and hold the [**UP**] key of the microphone while powering the radio ON to enter into the radio function menu.
2. Rotate the channel switch or press the [**UP/DN**] key of the microphone to select the menu function options.
3. Press the [**PTT**] key of the microphone to enter into the menu setting.
4. Rotate the channel switch to select the desired setting.
5. Turn the radio OFF to save and exit the radio function menu.

No.	Function	LCD Display	Description
1	BEEP		Available setting: oF, 01-09 levels Default: oF
2	Roger Beep		Available setting: oF, 01-05 levels Default: oF
3	WX alarm		Available setting: oF, on Default: on
4	Dimmer		Available setting:1-3 Default: 3
5	NPC		Available setting: oF, on. Default: oF (NPC on is valid for AM/SSB modes only. Only use with LOW TX Power. Adjust MIG to control peak TX Power)
6	VOX level		Available setting: oF, 01-09 levels Default: oF
7	VOX delay		Available setting: 01-09 levels Default: 3
8	Scan type		Available setting: ti (time scan), Sq (squelch scan) Default: Sq
9	Microphone type		Available setting: EL (condenser), dy (dynamic) Default: EL
10	Fine freq adjust		oF: turn off frequency fine adjustment. r: turn on fine adjustment for RX frequency only t: turn on fine adjustment for TX frequency only rt: turn on fine adjustment for both TX/RX frequency Default: rt
11	Fine freq range		F1: FIN control adjustment range +/- 500Hz F2: FIN control adjustment range +/- 5kHz Default: F2
12	SWR display		on: turn on SWR display oF: turn off SWR display Default: on
13	Reset		ALL: Move NB/ANL slide switch to OFF, press PTT to reset ALL radio data to factory default CHANNEL: Move NB/ANL slide switch to NB/ANL, press PTT to reset CHANNEL data to factory default

■ ERROR CODES

The radio is equipped with multiple protection functions. If an error occurs, the RX/TX indicator light will illuminate yellow, and the LED display will show the applicable error code:

E1: Voltage too low
E2: Voltage too high
E3: WX function invalid
E4: Current BAND invalid
E5: TX SWR too high

■ SPECIFICATIONS

GENERAL	
Frequency Range	28.000-29.695MHz (PC Programmable)
Frequency Band	L / H band: A/B/C/D/E/F. WX/VHF RX: 140-170MHz
Channels	480 channels (40 programmable per band)
Frequency Control	Phase-Locked-Loop Synthesizer
Frequency Tolerance	± 5.0 ppm
Temperature Range	-20℃ to +50℃
Microphone	With push-to-talk [UP]/[DN] bottons and coiled cord
Input Voltage	13.8V
Dimensions (in mm)	287(L)x200(W)x61(H)
Weight	1.5kg
Antenna Connector	UHF, SO239

TRANSMITTER	
Power Output	AM:1-12W(adjustable) FM:1-40W(adjustable) USB/LSB:1-35W(adjustable)
Current Drain	8A(with modulation)
Modulation	FM/AM/SSB
Inter-modulation Distortion	SSB: 3rd order, more than -25dB; 5th order, more than -35dB
SSB Carrier Suppression	55dB
Unwanted Sideband	50dB
Frequency Response	AM/FM: 450 to 2500Hz
Output Impedance	50 ohms, unbalanced
RECEIVER	
Sensitivity	AM:1.0μV for 10dB(S+N)/N at greater than 1/2watt of audio output. FM: 1.0μV for 20dB (S+N)/N at greater than 1/2 watt of audio output. SSB: 0.25μV for 10dB(S+N)/N at greater than 1/2-watt of audio output.
Selectivity	AM/FM:6dB@3kHz,50dB @9kHz SSB: 6 dB@2.1kHz,60dB @3.3kHz
Adjacent-Channel Selectivity	60dB AM/FM & 70dB SSB
Image Rejection	More than 65dB
IF Frequency	AM/FM: 10.695MHz 1st IF, 455kHz 2nd IF SSB: 10.695MHz
RF Gain Control	45dB adjustable
Automatic Gain Control (AGC)	Less than 10dB change in audio output for inputs from 10μV to 100,000μV
Squelch	Adjustable; threshold less than 0.5μV. Automatic Squelch Control (only AM/FM) 0.5μV
ANL	Switchable
Noise Blanker	RF type, effective on AM/FM and SSB
Audio Output Power	3 watts into 8 ohms
Frequency Response	AM/FM: 300 to 2800Hz
Built-in Speaker	8 ohms, round
External Speaker (Not Supplied)	8 ohms, disables internal speaker when connected

Note: Specifications are subject to change without notice due to advancements in technology.