

 **QUANSHENG**
Professional FM Transceiver

User's Manual

144/430MHz
Dual band

FM radio

PC
Programming

TG-UV



QS Electronics Co., Ltd

FOREWORD

Thank you for purchasing this **QS** radio. We believe this easy-to-use radio will provide dependable communications to keep personnel operating at peak efficiency.

QS radio 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.

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Features

- Dual Band
- FM Radio
- Voice Scrambler (Optional)
- CTCSS/DCS
- Dual-Watch Operation
- Power Switch: 4W/2W/1W
- Built-in VOX Function
- Priority Scan
- Wide/Narrow Bandwidth
- PC Programmable
- Busy Lock
- Cable Clone
- Alarm Function

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CAUTIONS BEFORE USING

- Pls read the user's manual before using. It gives us important information about how to operate the portable radio.
- The users except those permitted are strictly prohibited to use the battery packs in coal (gas) mine; oil (gas) tank, dust and aerostat.
- Maintenance can be only undertook by professional technicians.
- Do not turn on the radio while refueling or parking at the gas station in case of danger and accident.
- By any reason should you refit or revise the radio.
- Do not expose the radio in the sunlight for a long time, or put it near the heater or high temperature environment.
- Do not put it in the extreme dusty, wet or splashed places or on the unsteady surfaces.
- Keep it dry. (Raindrops or moisture will erode the electronic board.)
- If you find smell or mist giving off from the radio, pls turn off the radio, take off the battery pack and contact with QS agents.

SUPPLIED ACCESSORY-----1-2

CHARGING NOTICES (1) (2)-----3-4

TO ATTACH/RELEASE THE BATTERY PACK-----5

INSTALLING ANTENNA/BELT CLIP-----6

INSTALLING WATERPROOF SP/MIC COVER-----7

INSTALLING EXTERNAL SP/MIC-----7

SKETCH MAP-----8

FUNCTION DISPLAY-----9

KEYPAD DESCRIPTION-----10-11

BASIC OPERATION-----12

FAST MENU-----13-15

MENU MODE SETTING-----16-20

CTCSS CODE-----21

DCS CODE-----22

SPECIFICATION-----23

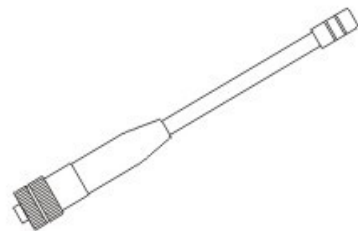
SUPPLIED ACCESSORIES

Carefully unpack the portable radio. We suggest you check the following items listed before you throw away the packing materials. If any item is missing or damaged during shipment, pls file a claim to the carrier asap.

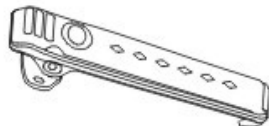
STANDARD SUPPLIED ACCESSORIES

ITEM	QTY
Portable radio	1
Inductively loaded antenna	1
Li-ion battery (7. 2V)	1
Adapter (ADP)	1
Battery charger	1
Belt clip	1
User's Manual	1

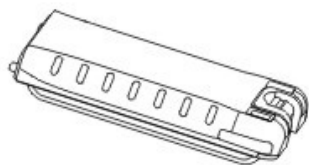
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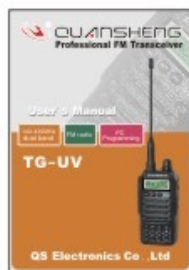
Inductively loaded antenna



Belt clip



Li-ion battery (7.2V)



User's Manual



Battery charger



Adapter

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CHARGING NOTICES (1)

Notices for charging the battery pack :

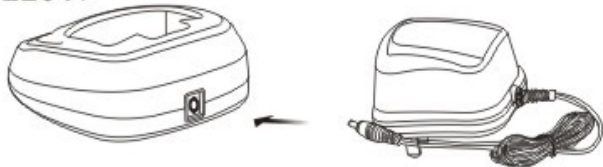
- Battery packs are not charged when they are made. Pls charge them before use.
- Initially charging the battery pack after purchase or extended storage (longer than 2 months) will not bring the battery pack to its greatest capacity or its normal charging, which can be done after repeated charging and discharging twice or three times.
- The average use time of battery pack is 10 hours. The way of calculate average using time is 5% for transmitting, 5 % for receiving and 90 % for awaiting order.


CAUTIONS

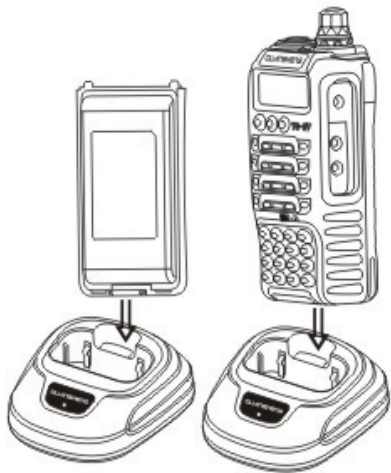

- The battery pack life is over when its using time decreases even though it is correctly. Pls fit or buy a new one.
- Do not short the battery terminals or throw the battery into fire.
- Never attempt to remove the casing from the battery pack.

CHARGING NOTICES (2)

- First, plug the ADP output in the back connected jack of charger. Then plug the electric cable of alternating power in 220V.



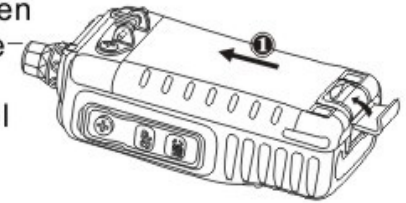
- Slide the Li-ion battery pack or radio with a Li-ion battery pack into the charger.
- Make sure the battery pack are in connect with the charging terminals.
- When charging begins, the RED LED light display, when the battery pack is charged to it's greatest capacity, GREEN LED light display.



After the GREEN LED light display, take the battery pack or the portable radio out of the charger.

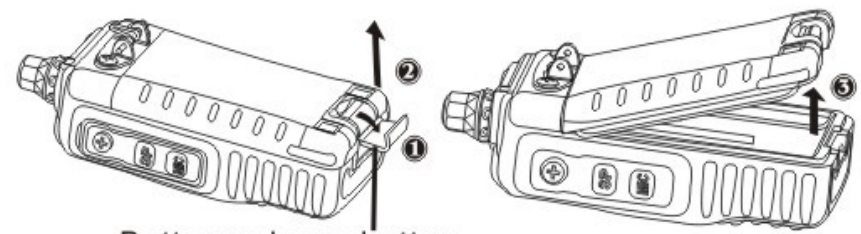
TO ATTACH THE BATTERY PACK

- Slide the battery pack on the back of the radio in the direction of the arrow (1), then lock it with the battery release button. Slide the battery pack until the battery release button makes a "click" sound.



TO RELEASE THE BATTERY PACK

- Pls turn off the radio before release the battery pack.
- ① First, push the battery release button in the direction of the arrow (1) as show below.
- ② The battery pack is then released.



Battery release button

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INSTALLING ANTENNA

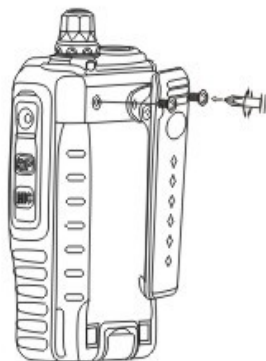
Attach the antenna to the radio as illustrated at right.



INSTALLING BELT CLIP

Conveniently attaches to your belt.

Attach the belt clip with the supplied screws using a phillips screw driver.



To attach the belt clip

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INSTALLING RAINPROOF SPEAKER/ MICROPHONE COVER

- If you are not using a speaker/microphone, install the speaker/microphone cover. (The cover has been fitted when the radio is made.)

PS : To keep the radio rain resistant, you must install waterproof speaker/microphone cover.



INSTALLING EXTERNAL SPEAKER/ MICROPHONE

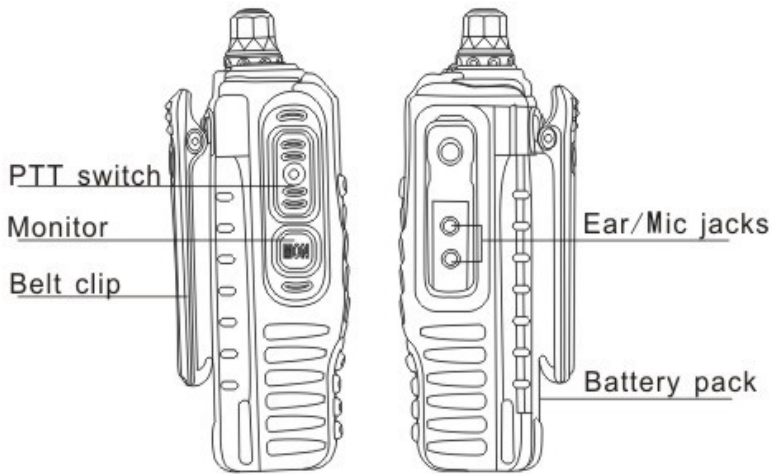
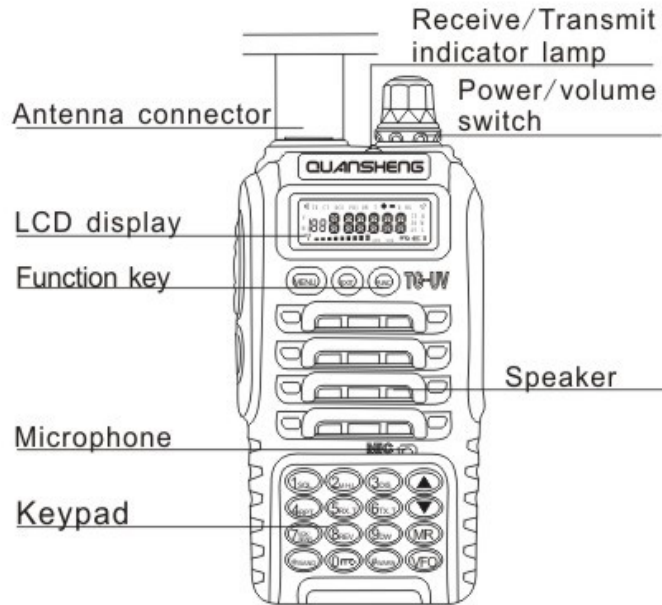
- Insert the speaker/microphone plugs into the speaker/microphone jacks.

PS : The radio is not fully rain resistant while using the external speaker/microphone.



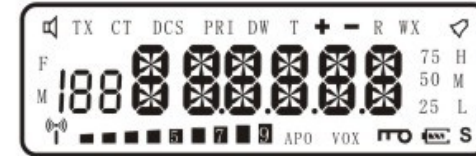
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SKETCH MAP



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FUNCTION DISPLAY

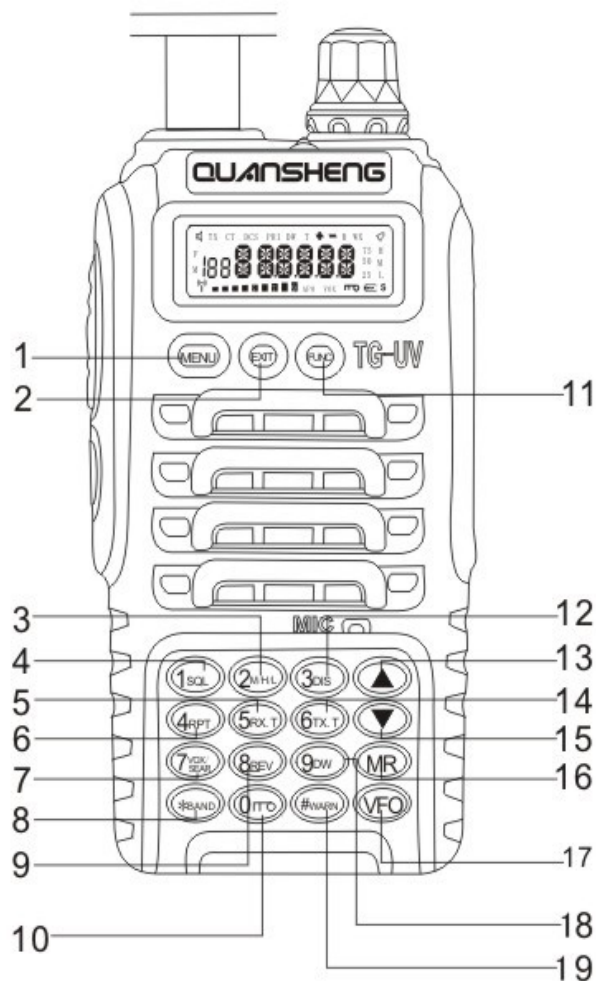


F	Function indicator
█	Signal indicator
✓	Keypad beep
⎓	Battery capacity indicator
⏻	Keypad lock
188	Frequency display
H/M/L	Output power indicator
VOX	Vox
S	Scan
PRI	Priority scan
188	Memory channel indicator
TX	Transmitting indication
CT	CTCSS
DCS	DCS
DW	Dual-watch operation
+ -	Repeater shift direction
R	Reverse frequency function
WX	Dual-watch channel operation
T	Priority scan channel

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KEYPAD DESCRIPTION



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KEYPAD DESCRIPTION

1. Menu/confirm
2. Exit
3. High/medium/low power adjust
4. Squelch adjust
5. CTCSS/DCS receive
6. Repeater shift direction
7. VOX search
8. Frequency band switch
9. Reverse frequency function
10. Keypad lock
11. Function key
12. Channel/frequency display
13. Up key
14. CTCSS/DCS transmit
15. Down key
16. [Channel mode
Channel scan
17. [Frequency mode
Frequency scan
18. Dual-watch operation
19. Emergency alarm

BASIC OPERATIONS

- Switch the Power/Volume to turn the power on. When you turn it on, it will beep and the channel will display on the LCD, the LCD backlight shows.
- Turn power switch/volume controller counter-clockwise to turn off the radio's power supply.

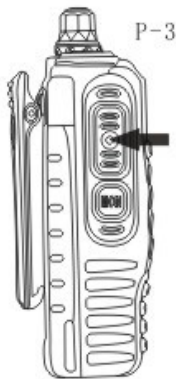


PS: Pressing and hold the Monitor, then rotating the power/volume switch to turn up and down the radio.

- To make a call, press and hold the "PTT switch", then speak into the microphone in normal speaking voices.

PS: Hold the microphone approximately 1.5 inches (3-4cm) from your lips.

- Release "PTT" to receive signals.



- Press key "FUNC" + "1SQL", set the squelch level, press key "▲" or "▼" to choose it from 0~9, press "MENU" to confirm and save.

LCD display as picture:



- Press key "FUNC" + "2PWS", set the High/Medium/Low power, operation repeat, choose it from H/M/L (LCD display)

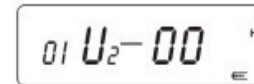
LCD display as picture:



- Press key "MR" into channel mode, then press key "FUNC" + "3DIS" to switch the channel mode and channel+frequency mode.

LCD display as picture:

01: channel number
 U₂: frequency band
 00: memory channels



- Press key "FUNC" + "4RPT", set repeater shift direction, operation repeat, choose it from OFF/+/-, press "MENU" to confirm and save.
- Press key "FUNC" + "5RXT", set CTCSS/DCS receive, show "rc OFF", press "BAND" change the CTCSS/DCS mode:
 rc OFF: no CTCSS/DCS
 rc CT: CTCSS
 rc N(I): DCS
 press key "▲" or "▼" to choose CTCSS code or DCS code, and then press "MENU" to save.

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- Press key "FUNC" + "6TX.T", Set CTCSS/DCS Transmit, show "tc OFF".
Press key "BAND" to choose the CTCSS/DCS Transmit mode:
tc OFF:NO CTCSS/DCS
tc CT:CTCSS
tc N(I):DCS
(Press key "▲" or "▼", choose CTCSS code or DCS code and then press "MENU" to save.)

- Press key "FUNC" + "7VOX", Set the VOX grade, press key "▲" or "▼" to choose the grade from 0~9.
Press "MENU" confirm and save.

LCD display as picture:



- Press key "FUNC" + "8REV", use the reverse frequency function, LCD show "R", operation again to exit.

LCD display as picture:



- Press key "FUNC" + "9DW", use the dual-watch operation, LCD show "DW", the radio awaits the using channel and dual-watch channel at the same time, Press "EXIT" to exit.

LCD display as picture:



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Note: It needs to set the dual-watch channel first. Choose Menu 4 "DCH" as "ON", LCD shows "WX", then the dual-watch channel is set.

- Press key "FUNC" + "#WARN", use the alarm function, LCD show "WARN", press "PTT" to exit.

LCD display as picture:



- Press key "FUNC" + "BAND", frequency band switch. On the mode of frequency, switch among F₀, F₁, F₂, F₃, F₄.
- Press key "0MO" more than 2 seconds, keypad lock, LCD show "MO", operation again, keypad unlock.
- Press key "7VOX SEARCH" more than 2 seconds, LCD show "SEARCH", search CTCSS or DCS, LCD show the CTCSS/DCS when searched, on the mode of frequency, press key "MENU" to save, press key "EXIT" to end the search.

LCD display as picture:



- Press the "FUNC" + "PTT" key: Send tone calling (1750Hz). Press "FUNC" key, then press and hold in the "PTT" key for the amount of time specified by the repeater owner/operator. Once access to the repeater has been gained, you can use the "PTT" key for activating the transmitter.

④ The using method of menu

1. Press key "MENU" into the menu mode.
2. Press key "▲" or "▼" to choose your need menu option.
3. Then press key "MENU" again into menu content.
4. Press "▲" or "▼" to choose the parameter of menu option.
5. After choosing the needed parameter, Press key "MENU" to save and exit, Press key "EXIT" to exit

NO.	Feature	LCD display	Choice content
1	Channel step	STP.	5/6. 25/10/12. 5/15/20/25/30/50/100KHz
2	RX CTCSS/DCS	Rx .CODE	OFF/CTCSS/DCS
3	TX CTCSS/DCS	Tx. CODE	OFF/CTCSS/DCS
4	Dual-watch channel	DCH	ON/OFF
5	Squatch level shift direction	SQL.	0~9
6	Repeater shift direction	RPT.	OFF/-/+
7	Repeater shift value	OFFSET	Press key"#"then input0~70.000MHz
8	Power choosing	POW.	HI/MI/LO
9	Time-out-Timer	TOT.	0~9
10	Channel spacing	W/N.	W(25KHz)/N(12.5KHz)
11	Keypad beep switch	BEEP	ON/OFF
12	Voice scrambler	SCR.	ON/OFF
13	Priority scan	PCH	ON/OFF
14	Busy channel lock	BCL.	ON/OFF
15	VOX	VOX.	OFF/1~9
16	Channel display switch	CH. PLAY	ON/OFF
17	Delete	BEL.	YES/NO
18	Reset	RESET	VFO/FULL

④ PC Programmable Function

This radio can be programmed by computer, the operation details see QS PC software.

④ Frequency Mode

Press key "VFO" into frequency mode, change the frequency according channel step by pressing key "▲" or "▼", or input the frequency directly by press key "#WARN".

Example: #+095500 → F0 95.5MHz

#+150000 → F1 150.000MHz

If you want to set different frequency, it needs to set the RPT, then set the CTCSS/DCS (if necessary) and then to talk.

④ Channel store

On the frequency mode, set the receiving frequency first, if you want to set different frequency, it needs to set the RPT, then set the CTCSS/DCS (if necessary), press key "FUNC" + "MR", choose the storing channel by pressing key "▲" or "▼", or input the channel number directly by press key "#WARN", then press key "MR" to save.

This radio can total "0~99" total 100 channels.

④ Choose stored channel

Press key "MR" into channel mode, then press key "▲" or "▼" to choose the channel you need, or press key "#WARN" to input the channel you need directly, then you can talk.

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➤ Delete the stored channel

Press key "MR" into channel mode, choose the channel need to delete. Press key "MENU" then press "▲" or "▼" to choose menu "17", and then press "MENU" to choose "YES" (delete) or "NO" (undelete) then press key "MENU" to confirm and exit.

➤ Busy channel lock

The busy lock feature disables the transmitter if another signal is present, if the function open, the radio alarm by pressing PTT, shows "Busy" on the display and stop transmitting.

➤ VOX

VOX function can't switch to transmit mode manually each time. Once the vox circuit check you speak to microphone, the radio switch to transmit mode automatically.

➤ VOX PLUS

You must adjust the VOX PLUS level correctly and then can use VOX function effectly.

"OFF/1~9", "1" denote the VOX PLUS lowest, "9" denote the VOX PLUS highest.

The user needs to choose the proper level according to the environment.

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➤ Reset

The radio has two kinds reset function, "VFO" shows frequency mode reset, press "MENU" and then press "▲" or "▼" switch to No.18 menu, then press "MENU" to choose "VFO", press key "MENU" to choose "YES", "FULL" means reset completely.

➤ Time-out-timer

To avoid someone transmit without permission or transmit careless, it can be set to forbid transmitting choose from "0~9", "0" means that it can't be open this function, "1~9" means transmit 1~9 minutes.

➤ Voice scrambler (optional)

When scrambler, other radio without voice scrambler can receive the signal but can't hear the content of other two radios communication. Only communication when two radios both have chosen voice scrambler.

➤ Cable cloning function

Press the key "monitor" of master radio, turn the power on, LCD show "COPY" into cable clone, turn the power on of sub-master, connect the cloning cable, Press key "Monitor" of master radio to copy, LCD show "WAIT".

The receiving indicator glitter of sub-master radio. After copying turn the power off.

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② Scan Function(FM radio)

Press key "VFO" into the frequency mode, press key "VFO" more than 2 seconds, then it can scan frequency according the channel step.

It can change the scan direction by pressing "▲" or "▼", press key "EXIT" to exit, press key "MR" into channel mode, press key "MR" more than 2 seconds then it can scan channel, press key "▲" or "▼" to change the scan direction, press "EXIT" to exit.

② Priority Scan

When monitor other frequency need to check the priority frequency, you can use "Priority Scan" Function. Setting a priority scan channel before use this function.

Priority scan channel:

Choose Menu NO. 13 PCH as "ON", LCD show "T" when set.

Press key "FUNC" into priority scan when channel scan, LCD shows "PRI", press key "FUNC" again to exit.

② The annunciation of no transmitting

1. If busy channel lock, LCD show "BUSY".
2. If PLL unlock, LCD show "LOST".
3. If the battery voltage higher than normal, LCD show "HIGH".
4. If the battery voltage lower than normal, LCD show "LOW".
5. If time out timer, LCD show "OVER".

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CTCSS

1	67.0	18	118.8	35	183.5
2	69.3	19	123.0	36	186.2
3	71.9	20	127.3	37	189.9
4	74.4	21	131.8	38	192.8
5	77.0	22	136.5	39	196.6
6	79.7	23	141.3	40	199.5
7	82.5	24	146.2	41	203.5
8	85.4	25	151.4	42	206.5
9	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		