Quansheng UV-K5 - Manuale del Firmware IJV 2.9R5

The Quansheng UV-K5, K5(8), K6 and k5-plus radios have the option of being upgraded with unofficial firmware.
Therefore, I disclaim all liability for transmitting outside the bands allowed by the manufacturer. What you do with your radio is at your own risk.

These updates are substantial to the point that there was a need to rewrite the manual, as the menu and functions are different.

Please note that the use of this radio requires an HAM radio licence.

This manual is for version 2.9R5 of the IJV firmware.

🌎 1. Official website of UV-K5

Click on the model name to find the official Quansheng radio pages
__UV-K5__ ; __UV-K5(8).__
In the final part, there is the section "__Downloads__" the manual and the latest official firmware.
Otherwise, download it directly here:

⇒ Direct link to UV-K5 -→ k5_Firmware_v2.01.31_publish.
⇒ Direct link to UV-K5(8) → k6_Firmware_v3.00.15.bin.
⇒ Manuale UV-K5 in italiano.

🔲 2. The IJV Firmware

Based on the firmware of 1of11, IU0IJV takes this radio to the next level!

2.1 Download Firmware-IJV

- Click on the button to download the zip file. It contains the following files:
    - changelog.txt
    - firmware_IJV_v2.9.R5.bin
    - leggimi.txt
    - note installazione modulo chirp.txt
    - Readme-ENG.txt
    - uvk5_IJV_v2.9R5_jh11i1.py
- The procedure for using the CHIRP module is explained in chapter 8.1.
- Should there be a problem with this firmware, you can always reload the official one and the radio will be exactly as it was before. Refer to chapter **2.3**.

Last Update : V 2.9R5 : 01/02/24

You can support us in our efforts with a donation.

To Fabrizio IU0IJV for creating the firmware.
To Sirius for creating the manual.

2.2 k5prog-win

- To load the firmware into the radio you need the software **k5prog**.
- **+** This programme allows you to save the configuration and calibration data recorded in the EEPROM. Indeed, is strongly recommended to do so.
- It happens that version 1.27 gives problems, so we decided to remove it.
- Links of Github website.

2.3 Backup of Calibration and Original Configuration

- As mentioned above, it is important to safeguard the original Calibration and Configuration files:
- Install the cable <u>driver</u> . Check that it is well recognised by Windows and k5prog-win.
  → Start the radio normally (user mode), connect the cable from the computer to the radio, start k5prog-win. Using the buttons: "Read Configuration" and "Read Calibration", save those two files in your folder.
- If you need to restore the radio as it was originally, it is not enough to put back the original firmware, you will also have to load the original "my_calibration" and "my_config" files:
  → with the k5prog-win programme via the 'Write Configuration' and 'Write Calibration' buttons.
  These files include a hundred or so parameters such as the 3 transmission powers, squelch, RF Gain, start message, 200 channels, VFO, etc., and are recorded on an external EEPROM memory.
  ⚠️ These files are different from radio to radio, it is not certain that those of another are compatible with yours. The calibration is adjusted at the factory for each individual radio.

2.4 Online tool for Mac as well

There is a utility for flashing firmware online. This is useful for those with a Mac or versions prior to Windows 10.

Follow this <u>link</u>, everything else is intuitive.
<u>https://egzumer.github.io/uvtools/</u>

⚠️ It does not work with Safari or Brave, it requires a Chromium-based browser so use Chrome, Edge or Opera.

2.5 Upload the IJV Firmware

1. Make sure you have a sufficiently charged battery.
2. Plug the cable into the PC, but DO NOT start the software.
3. Set the radio to update mode:
   While pressing the PTT button, switch on the radio.
   → The white LED lights up.
4. Connect the cable to the radio. The first time the plugs do not fit very well, you have to push a little to get them all the way in.
5. Start the software **k5prog-win.**
6. Then choose the right COM port in the software and click on 'Connect'.
7. Via the software **k5prog-win,** upload the file *firmware_IJV_vxxx.bin* previously downloaded.
   → The white LED blinks.
8. At the end of the flashing, switch off the radio and disconnect the cable.

2.6 Adjusting the radio after update

⚠ **Be careful after installing the new firmware to make these adjustments.**
Only if this is a first-time installation or if you are coming from other firmware:

1. Perform an automatic VFO RESET: start the radio by pressing PTT + EXIT.
2. Set menu items as desired.

This is used to correctly set the initial settings for a good radio working.

VFO RESET can also be performed with the RESET menu in the Service Menu.

3. IJV firmware features

What it has more of, what it has less of.

+ WHAT'S HERE

- Single VFO with direct insertion frequencies above GHz.
- AGC FAST / SLOW / Only for AM and SSB.
- AGC MAN also in FM with 35-level attenuator adjustment.
- Transmission in emulation DSB (Double SSB). (Always active, now only disconnected if you activate the Upconverter function).
- Preselection for an Upconverter with transmission lock.
- Increased waiting times during scanning.
- Rit & Xit in all modulations.
- Stable SSB reception.
- Reception gain customisable to your needs.
- SATCOM circuit activation with reception boost > +9dB.
- FM Broadcast.
- VOX
- 1750 Tone
- Compander
- Extended reception Frequency range: 15 → 1300MHz. With Rx gap between 620 and 840MHz.
- Unlockable limited transmission: NO AIR BAND / NO 27 MHZ.
- Rapid Frequency and Tone Search: FC (Frequency Copy) function.
- Quick Tone Search.
- Quick partial or full memory scan.
- SMETER
- TX modulation indicator
- Selective Calling with reception audio suppression (Code Squelch)
- Selective sending DTMF, ZVEI, CCIR.
- Scramble.
- CW (Continuous Wave) modulation.
- Distinct squelch for each single VFO line (A and B)

Services menu *(ex hidden) (to activate it, switch on the radio while holding down the PTT and side button 1)*

- QRA.
- Fine frequency calibration.
- TX Power adjustment for each of the 3 levels.
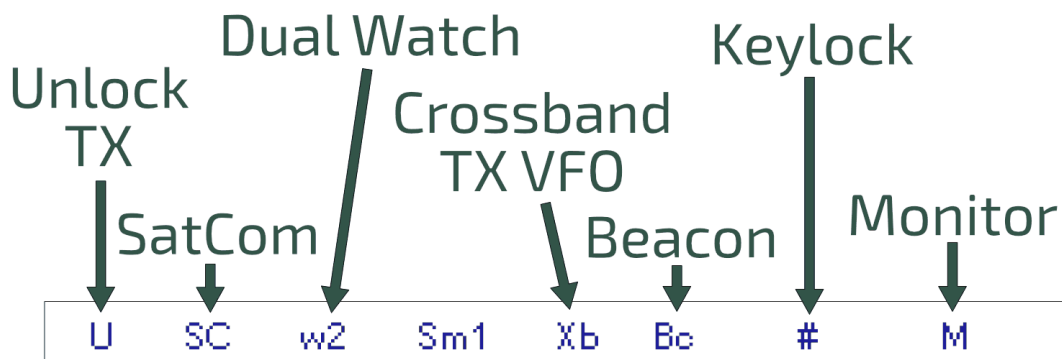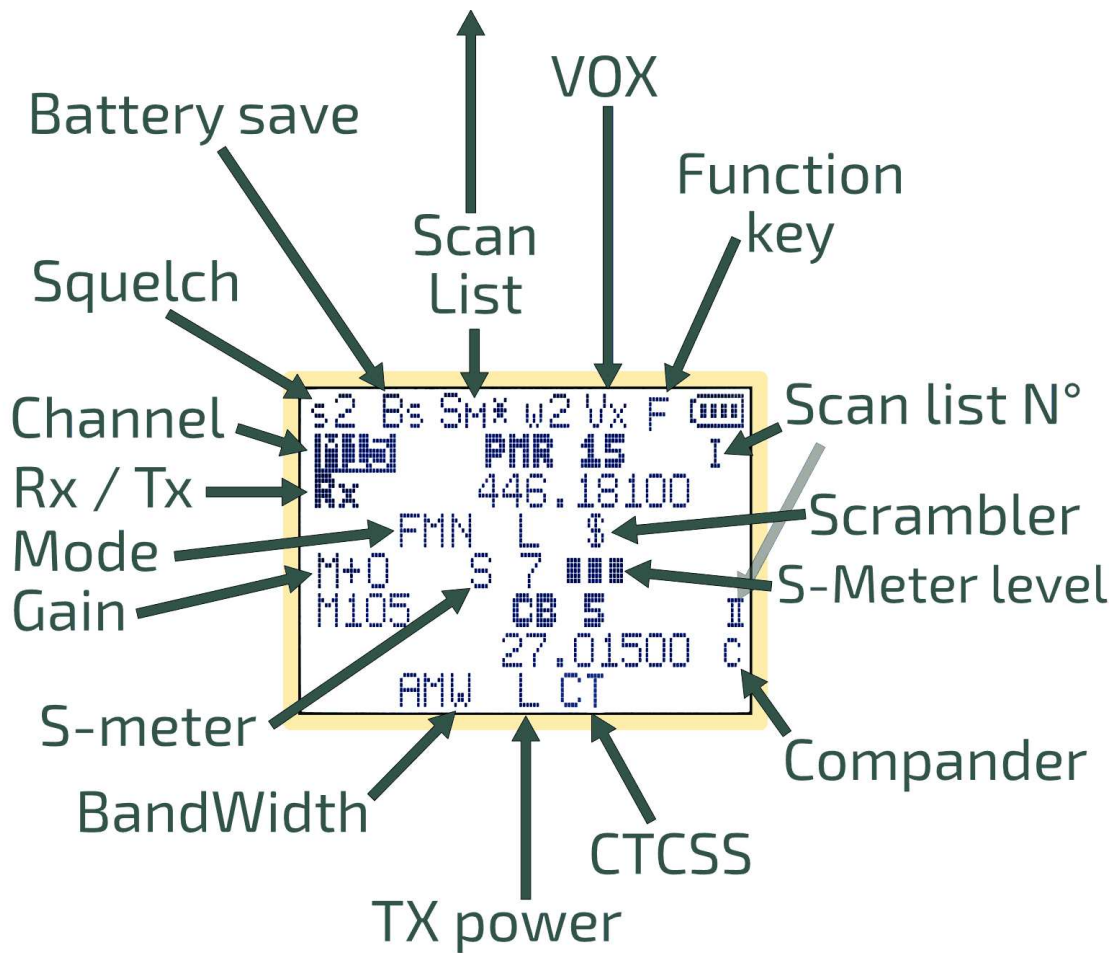- Adjustment of each of the 9 Squelch Levels: RSSI, NOISE, GLITCH.

– WHAT'S NOT

- SPECTRUM (will never be there)
- Password
- NOAA
- VOICE
- ALARM
- Battery voltage and calibration indication.
- Blinking LED.
- Charging info on USB.
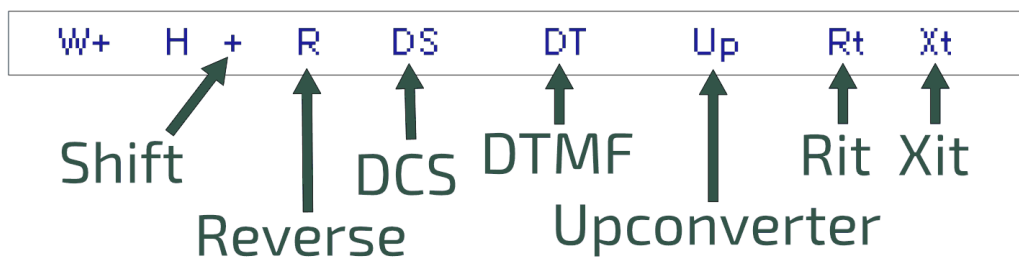- AIRCOPY

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4. Display

Symbols and abbreviations on the screen.

Symbols that may appear in the top line

Unlock TX — Dual Watch — SatCom — Crossband TX VFO — Beacon — Keylock — Monitor

U   SC   w2   Sm1   Xb   Bc   #   M

Battery save

VOX

Function key

Scan List

Squelch

Channel

Scan list N°

Rx / Tx

Scrambler

Mode

S-Meter level

Gain

S-meter

Compander

BandWidth

CTCSS

TX power

s2 Bs SM* w2 Vx F

PMR 15   I

Rx   446.18100

FMN L $

M+0   S 7 ▪▪▪

M105   CB 5   II

27.01500   c

AMW L CT

Symbols that may appear in the bottom line

W+   H +   R   DS   DT   Up   Rt Xt

Shift

DCS

DTMF

Rit Xit

Reverse

Upconverter

Display: single VFO

Battery save
Rx / Tx
Function key
Squelch
VOX
Monitor
Channel
Step
Gain
Compander
S-meter
S-Meter level
Mode
Scrambler
BandWidth
Shift
TX power
CTCSS / DCS
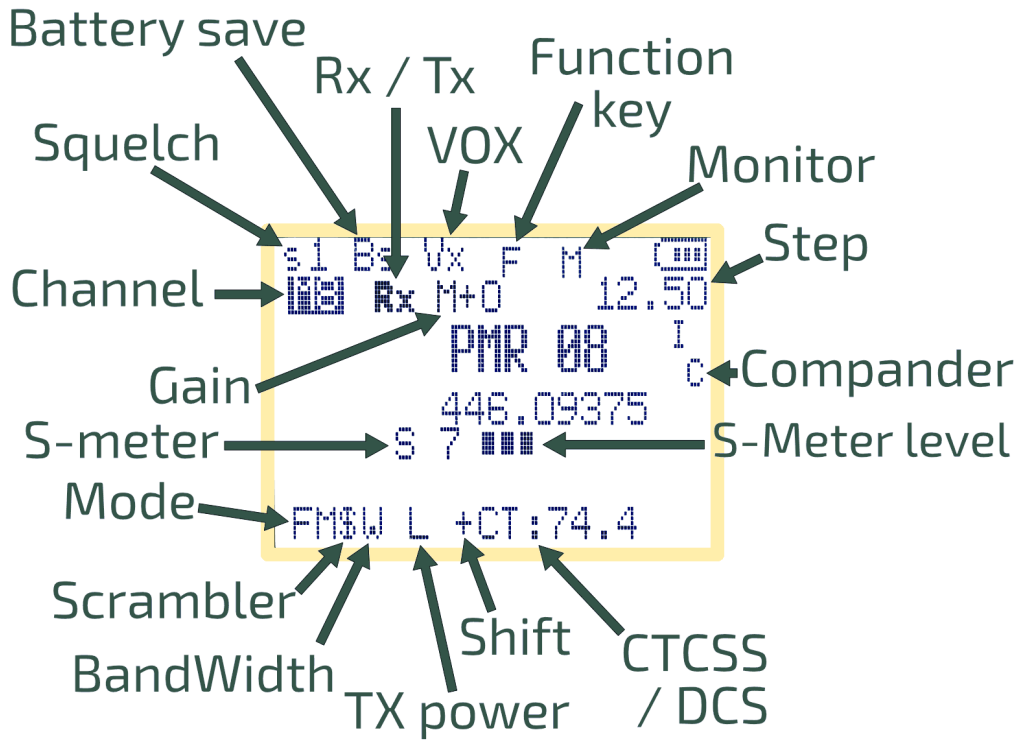
⌨ 5. Function of keys

The keys have different functions when pressed, pressed for a long time or in addition with the key F 🔑.

5.1 Short-press keys functions.

Key	Function
M	→ Access to radio menu.
EXIT	→ In SCAN : stops the scan and returns to the initial frequency. → With the Rit/Xit function active, realigns the Rx to the Tx by resetting the Step. Resets the last 2 digits of the VFO by aligning it to the lowest KHz.
PTT	→ In SCAN : stops scanning and leaves the last scanned frequency.
✳ Scan	→ In SCAN : Momentary insertion of a frequency in the Black List.
F# 🔑	→ Activates secondary functions. The letter F appears in the top left-hand corner and remains active for 8 seconds.

5.2 Long-press keys functions.

Key	Function
1 Band	→ AGC shift selection: SLOW / FAST / MAN.
2 A/B	→ Select VFO line A or VFO line B.
3 VFO/MR	→ VFO or Memory mode.
4 FC	→ Fast VFO storage with automatic assignment to first free slot.
5	→ Change bandwidth N- N W W+
6 H/M/L	→ Power selection L M H.
7	→ Sets memory channel to bank 1, bank 2 or none.
8 R	→ In Duplex, inverts freq Rx and freq Tx. → In Simplex, activate the Rit/Xit function. (7.8)
9	→ Select in rotation 4 pre-set steps for the set modulation type.
0 FM	→ Switch modulation type FM; AM; SSB; CW. With display of STEP.
* Scan	→ Scan start which can be of 2 types : Partial or General. In VFO, SG appears at the top left of the status line. If you have set bandwidth limits, i.e. you want to do a partial scan, then you will see SP. Sm1, Sm2, Sm* appear in Memory mode. If pressed and held in scan, it switches between lists. (7.1)
F# 🔑	→ Keypad lock, including side keys.
M	→ Works with AGC MAN, saves the default Gain level. (7.3)
EXIT	→ Resets the selected VFO band back to initial conditions: BW, modulation, power, step, offset, etc. The message appears **Clear VFO**.

5.3 Keys associated with F

The F key must be pressed once and lasts 8 seconds.

Key	Function
F+**1** Band	→ Change band to VFO mode.
F+**2** A/B	→ Switches from dual channel to single channel, on display. In Single, the VFO is 4-digit, the frequency above Ghz can be set directly. VFOs are called VAx or VBx to make it clear which one is active. (7.4)
F+**3** VFO/MR	→ Copies the memory frequency to VFO.
F+**4** FC	→ Frequency Copy (Frequency Meter). → When listening to FM music, disable interrupt on Rx. The FM symbol is combined with 'Lock'.
F+**5**	→ Activates or deactivates Compander (FM only).
F+**6** H/M/L	→ Completely disable transmission. The H/M/L power indicators disappear on the screen. *This function remains set even after restarting the radio.*
F+**7** VOX	→ Switch VOX on or off.
F+**8** R	→ Enable UpConverter on the active VFO.
F+**9** Call	→ Recall Fast Call Channel.
F+**0** FM	→ Radio FM broadcasting.
F+**∗** Scan	→ Search-frequency CTC/DCS subtone search function.
F+∧ **Up**	→ In FM, in Rx when Rx AGC MAN is selected, Gain increases. → In VFO Rx: Rit/Xit, increase frequency in Rx according to lowest step.
F+∨ **Down**	→ In FM, in Rx when Rx AGC MAN is selected, Gain decreases. → In VFO Rx: Rit/Xit, decreases frequency in Rx according to lowest step.

5.4 Side keys

The two side keys are programmable via the services menu 57, 58, 59, 60.

You can attribute a function to short or long pressure.

Side1S: S is for Single click.

Side1L: L is for Long press.

Side2S

Side2L

Functions	Description
NONE	None
FLASH LIGHT	Switches on the LED.
TX POWER	Power selection L M H.
MONITOR	Activate monitor, set Squech to 0.
SCAN	Start scan. (7.1)
VOX	Activates the VOX function.
FM RADIO	Activates FM broadcast radio reception.
VFO CHANGE	Select A-band or B-band = long pressure 2 A/B.
VFO SWAP	In VFO, switch from double to single.
SQL +	Increase squelch by one level
SQL -	Decreases squelch by one level
REGA TEST	Link info REGA
REGA ALARM	
CW CALL CQ	Sends caller ID in morse code. Operates in CW modulation only. (QRA menu)

PTT + Side2 = 1750 Tone

≡ 6. Menu

To access the main menu, press the key **M**.

To enter the selected item with the arrows, then press the key **M**.

To confirm your choice, press the key **M**.

To exit the menu item without confirming, press the key **EXIT**.

6.1 Main menu

	Menu	Default	Firmware IJV
1	SQL		0-9 *(0 = Monitor)*
	To correctly adjust squelch levels, switch off the dual watch. *Each VFO line (A and B) has its own Squelch level. Useful in case of dual watch.*		
2	STEP		0.02, 0.05, 0.10, 0.50, 1.00, 2.50, 5.00, 6.25, 8.33, 9.00, 10.00, 12.50, 25, 100, 1000
3	MODE		FM, AM, <u>DSB</u>, <u>CW</u>
4	BW W/N		NARROW-, NARROW, WIDE, WIDE+
	Adjusts as well as the audio filter as the bandwidth.		
		Audio filter	**BW RF**
	N–	1.7kHz	6.25kHz
	N	3 kHz	12.5kHz
	W	6kHz	25kHz
	W+	9kHz	25kHz
5	Tx PWR		LOW, MID, HIGH
6	Tx DIR	OFF	OFF, +, – | *Direction Shift/Offset repeater bridges.*
7	Offset	0.000MHz	0 to 999.9999 MHz | *Frequency shift/offset for repeater bridges.*
8	RxCTCS	OFF	OFF, 67…..250.3Hz | *Sets a CTCSS subtone in reception.*
9	TxCTCS	OFF	OFF, 67 to 250.3Hz | *Sets a CTCSS subtone in transmission.*
10	Rx DCS	OFF	OFF, D023N, D025N, 26…….754 | *Set a DCS code in reception.*
11	Tx DCS	OFF	OFF, D023N, D025N, 26…….754 | *Sets a DCS code in transmission.*
12	Tx TOT		OFF, 30sec, 1min to 5min | *TX time limit.*
	With notice at 10 and 5 seconds before closing.		
13	BusyCL	OFF	OFF, ON | *Lock PTT if busy.*
14	ChSave	CH-001	1 to 200
15	ChName	CH-001	*10 characters max*
16	ChCanc	CH-001	*Delete stored channel.*

17	ChDisp	FREQ	FREQ, CHANNEL NUMBER, NAME, NAME_S FREQ_L, NAME_L FREQ_S.
	In Single mode you can choose the font size for the channel name and its frequency, L = Large and S = Small.		
18	BLTime	1 min	OFF, 5sec, 10sec, 20sec, 1min, 3min, RX/TX, ON, NIGHT
	RX/TX: Assumes the exact time of transmission or reception. ON: Always on.		
19	BLMode	RX/TX	RX/TX, OFF
	Determines the event that causes the display to light up.		
20	BEEP	ON	ON, OFF	*Keys sound.*
21	Sc REV	CARRIER	CARRIER, SEARCH, TIME, LOG
	How do the scan resumes. *CARRIER: resumes scanning after the signal has disappeared.* *SEARCH: stops when it finds a busy channel and stays there.* *TIME: Stops on busy channel for 5 sec. then starts again.* *LOG: This will be used in the future to link the radio to an app.*		
22	KeyLok	OFF	OFF, AUTO	*AUTO locks the keyboard after 10 sec. of inactivity. The keyboard can be activated temporarily with a long press on the F#🔑 key.*
23	TailTE	ON	ON, OFF	*It eliminates the tail tone, i.e. the small rustling noise that occurs when releasing the PTT when using a bridge.*
24	RipTTE	OFF	OFF, 1*100ms to 10*100ms	*Eliminates head hum in Rx. When the bridge carrier is released, it closes the audio for the set time.*
25	Scramb	OFF	OFF, 2600 to 3500 Hz	*Encrypts voice with an obfuscating frequency. (FM only).*
26	Mic dB	+15.1dB	+1.1dB to +15.1dB	*Increases or decreases microphone sensitivity.*
27	MicBAR	OFF	ON, OFF
	It inserts a volume level bar in the centre. *Useful for DSB transmission, in fact for optimal modulation it is best not to exceed half the scale, so the Mic dB level should not exceed 4 dB.*		
28	Compnd	OFF	OFF, TX, RX, RX/TX
	Compander: compressor/expander filter, enhances vocals (FM only).		
29	VOX	OFF	OFF, 1 to 10	*Smaller = more sensitive.*

30	1 Call	CH-001	*One Key Call Channel, scelta del canale di chiamata di emergenza ad unico tasto.*
31	ScLisT	LIST2	LIST2, LIST1, ALL	*Channel scan list selection.*
32	Own ID	102	102	*Set a personal ID.*
33	UPCode	123	123	*Initial selective code.*
34	DWCode	456	456	*Final selective code.*
35	D Lmon	ON	OFF, ON| *DTMF Local monitor: DTMF sidetone switch. (PTT + S2 = Tone 1750). Allows you to monitor, listen locally to the tones sent by the radio.*
36	D RSP	DO NOTHING	DO NOTHING, BOTH. REPLAY, RING
37	D Hold	10s	5s to 60s
38	D PRE	30*10ms	
39	D DCD	OFF	ON, OFF
40	D List	CALL1 ID:101	
41	D Live	ON	ON, OFF
42	Dig ID	OFF	OFF, DTMF CALL ID, DTMF BEGIN, DTMF END, DTMF BEG+END, ZVEI1 BEGIN, ZVEI1 END, ZVEI1 BEG+END, ZVEI2 BEGIN, ZVEI2 END, ZVEI2 BEG+END, CCIR-1F BEGIN, CCIR-1F END, CCIR-1F BEG+END; CCIR-1 BEGIN, CCIR-1 END, CCIR-1 BEG+END. CCIR-1F = 50 ms CCIR-1 = 100 ms
43	DigSRV	OFF	OFF, Single, Roger, MDC 1200, Apollo Quindar, Digital Code ID
			Acoustic or digital signals sent at the start and/or end of the call. (7.5)
44	Info		IJV MOD V.x.x, Batt Volt.
45	Beacon		OFF, 5sec, 10sec, 30sec, 5min, 10min, 20min.
46	BatSav	OFF	OFF, 50%, 67%, 75%, 80%
			It allows the radio to remain active for only a few moments, thus reducing consumption. The cycle consists of 4 phases of 100mS each, saving on how many times in this cycle the Rx is active or in suspension. The greater the savings, the lower the performance in reception, especially in scanning.
47	dBm/Sm	S/Meter	S/Meter, RSSI dB

48	SatCom	OFF	ON, OFF
	Activates the filter change circuit for frequencies after 240 MHz and sets the radio chip to a +9dB increase in reception, this once activated remains in memory the next time it is switched on. Similar to a preamplifier, to be used in exceptional cases of low signal because it can cause distortion in listening, switch it off when not needed. *The message RESET SATCOM appears.*		
49	UpConv	OFF	OFF, 50, 125
	Set the radio to operate with a transverter (Upconverter) for the HF. *It offset itself to 50 or 125 Mhz from the display reading and disables Tx on that frequency.* *It only works for bands 1 and 2. Then choose how high to scale then do F+8, 'Up' will appear below the frequencies.*		
50	Preset		26-30, 70-75, 75-80, AIR 1, AIR 2, VHF 1, VHF 2, SEA, SERV, UHF, LPD, PMR
	It sets up reception and scanner filters with search limits per selected band. Pressing the M button stores the bands and returns directly to the main VFO screen. *AIR 1: 118-126, AIR 2: 126-137, VHF 1: 142-148, VHF 2: 150-155, SEA: 155-163, SERV: 162-174, UHF: 430-433, LPD: 433-436, PMR: 446-447*		
51	Rx AGC		MAN, FAST, SLOW
	Auto Gain Control: in MANual, the sensitivity of the RF Gain can be changed by pressing the F+ button∧ o F+∨. *FAST or SLOW: determines how quickly or slowly the AGC recovers gain after attenuating a strong signal. (7.3)* *In Rx, it appears to the left of the centre line: M+0, FST or SLW.*		
52	Tx VFO	SAME VFO	SAME VFO, VFO A, VFO B
	In Dual RX, choose the TX channel. Same as RX, A or B. *If set to VFO A or B, 'Xb' appears on the top line of the screen.* *(Cross-Band Receiving/Manual Transmission)*		
53	DualRX	ON	ON, OFF *(Dual Watch)*

6.2 Services Menu

To activate it, switch on the radio while holding down the PTT and side button 1

	Menu	Default	Firmware IJV
54	RESET		VFO, ALL
	VFO only resets menu parameters, ALL also clears memories.		
55	PonMSG	FW MOD	NONE, FW MOD, MESSAGE.
	Info showed when starting the radio. Firmware name; custom message; nothing.		
56	QRA		Write your CW call sign. Max 8 digits.
57	Side1S	SQL +	FM RADIO, VFO CHANGE, VFO SWAP, SQL +, SQL −, REGA TEST, REGA ALARM, NONE, FLASH LIGHT, TX POWER, MONITOR, SCAN, VOX.
58	Side1L	MONITOR	FM RADIO, VFO CHANGE, VFO SWAP, SQL +, SQL −, REGA TEST, REGA ALARM, NONE, FLASH LIGHT, TX POWER, MONITOR, SCAN, VOX.
59	Side2S	SQL −	FM RADIO, VFO CHANGE, VFO SWAP, SQL +, SQL −, REGA TEST, REGA ALARM, NONE, FLASH LIGHT, TX POWER, MONITOR, SCAN, VOX.
60	Side2L	FLASH LIGHT	FM RADIO, VFO CHANGE, VFO SWAP, SQL +, SQL −, REGA TEST, REGA ALARM, NONE, FLASH LIGHT, TX POWER, MONITOR, SCAN, VOX.
	Assigns a function to the side buttons below the PTT. S= Single click, L= Long press.		
61	F Lock	OFF	OFF, FCC, CE, GB, 430, 438
	It blocks certain functions depending on the legislation of the country you are in.		
62	Txp EN	ON	ON, OFF
	OFF totally blocks the TX, the radio becomes just a receiver.		
63	FrqCal	*Fine calibration of the radio oscillator frequency. Requires the use of a frequency meter.*	
64	TxpCal	*Adjusts Tx power for the 3 levels L, M, H.*	
	First choose the desired power on any freq, then menu PwrCal and adjust the power. ((7.6)		
65	SqlGli	*Calibration of Glitch Squelch Parameter.*	
66	SqlNoi	*Calibration of Noise Squelch Parameter.*	
67	SqlRss	*Calibration of RSSI Squelch Parameter.*	

☝ 7. Common Operations

7.1 Scanning

In memory mode you can set a channel to bank 1, bank 2 or none by long-pressing the 7.

Start scanning:
In Memory or VFO mode, long press the key ✱ Scan.
Starts general or partial scanning between a minimum and a maximum or between memories.
Display of STEP for few seconds.

If you want to start a scan in VFO mode, it is recommended to first select the desired band type in the menu **50 Preset**.

During the scanning process:
To switch between lists, long-press the key ✱ Scan. Following symbols will appear on the screen:
SP = Partial Scan, SG = General Scan, Sm1 memory scan list 1, Sm2 memory scan list 2, Sm* memory scan all lists.

The scanning direction can be changed or continued using the buttons ∧ **Up**/∨ **Down**.
EXIT → Stops the scan and returns to the initial frequency.
PTT → Stops scanning and leaves the last scanned frequency.

When the scan stops on a frequency, by pressing **EXIT** it stops scanning and stays on that frequency.

There is the possibility to change during scanning: BW Filters, Step and Fast Frequency Saving.

Black List:
It is possible to exclude up to 40 unwanted frequencies in a black list. When the scan stops at an unwanted frequency, make a short press on the key ✱ Scan, it will be entered into the Black List. The following will appear on the screen: "BlackList In #(n)" where (n) is the number of frequencies entered.
Exiting scan mode or switching off the radio will delete the black list.

Locking and unlocking the keyboard by long keypresses **F#** 🔑 is possible during scanning.

7.2 Partial scan

1. Enter the lowest frequency in VFO, e.g. 144.000$_0$ (7 chars.).
2. Long press the button **M** you will see the message "**Set Range Low OK**".
3. Enter the highest frequency, e.g. 145,600$_0$ (7 chars.).
4. Long press again **M** you will see the message "**Set Range Up OK**".
5. Start the scan by long-pressing the key ✱ Scan.

7.3 RF Gain

The function **RF Gain** is the same to that of large radios or CBs. You can increase or decrease the sensitivity as required.

Adjust RF Gain

1. Switch to the desired frequency and long-press the **EXIT** = Clear VFO.
   This acts on the active VFO and the associated band.
2. Activate Monitor (open squelch), M+0 appears in centre left, *(M is for MAN)*.

   The level change of the AGC MAN must be done during reception, not in standby.
3. Tune in to a frequency you want to receive.
4. If the desired frequency is in another modulation than FM, change it now with a long press of the key **0** FM.
   Make sure you are in MAN and not in FAST or SLOW by long-pressing the **1** button.
   (In FM, the AGC is always in MAN).
5. Press key **F** 🔑 or long press key **1**, F appears in the top line of the display.
6. With the arrows up∧ and down∨ adjust the Gain level until correctly received.
7. To store the level, long-press the **M**.
   Each band has its own gain, the level you store applies for the active band at that time.

To reset RF Gain to default on all bands perform a VFO Reset (Start the radio by pressing PTT + EXIT).

7.4 Entering frequencies above 1000 MHz (GHz)

Single VFO method (new)

1. Switch to Single VFO mode: **F**+**2** A/B
2. Enter the desired frequency (8 digits).

VFOs are called VAx or VBx to make it clear which one is active.

Dual-channel method (old)

1. Switch to VFO.
2. Enter the frequency 999.999.$_{90}$
3. Adjust in the STEP menu by how much you want to increase.
4. Use the key ∧ **Up** to go beyond 1000MHz.
   The displayed frequency starts without the first 3 digits.

7.5 DTMF, ZVEI, CCIR... SelCall

- **To make selective calling work:**

RADIO 1	RADIO 2
Own ID = 1	Own ID = 2
UPCode = 2	UPCode = 1

MENU settings

32	Own ID	Enter your code e.g. 1	
33	UPCode	Enter the recipient's code e.g. 2	
39	D DCD	ON	DTMF decoding enabled
42	Dig ID	DTMF CALL ID	Selective Digital ID to DTMF
43	DigSRV	Digital Code ID	Selective call activated

Do the same thing on the other radio by reversing the codes as shown above.

- **To activate the other ZVEI and CCIR selections:**

MENU settings

33	UPCode	Enter the code to be transmitted e.g.: 12345 | is used before transmission ZVEI BEG CCIR BEG DTMF BEG	
34	DWCode	Enter the code to be transmitted e.g.: 12345 | is used at the end of the transmission ZVEI END CCIR END DTMF END	
42	Dig ID	ZVEI END	Selective ZVEI (e.g.)
43	DigSRV	Digital Code ID	Selective call activated

To send in Tone 1750, press **PTT + S2** (side button 2).
Tone duration is ZVEI1/2 70ms; CCIR1 100ms; CCIR1F 50ms, selectable from the 42 Dig ID menu.

7.6 Power Output Adjustment

Exact adjustment of transmission power for the 3 levels L, M, H:

1. Access the Services Menu by switching on the radio while holding down the PTT and side button 1.
2. Choose any frequency in the UHF band.
3. Select one of the 3 powers L, M, H.
4. Go to services menu 64 **TxpCal** and set the power.
5. Repeat the operation at will for all 3 levels.
6. Repeat the operation on the VHF band as well.

By pressing the **PTT**, this value in Watts will appear below the **Tx,** symbol.

7.7 CW Modulation (Continuous Wave)

CW (Continuous Wave), allows telegraphic communication by means of an external key telegraph or PTT.
To hear the note monitor, enable ON in menu **35 D Lmon**.

- Enter your call sign in the services menu **56 QRA**.
- Assign the CW / CALL CQ function to a side button.
- Activate Beacon and Call CW Repeat interval time. Menu **45 Beacon**. When they are active, Bc appears for Beacon and Cc for Call CW.
- The Beacon (Radiofaro) sent is made up of:
  VVV DE "QRA"/B "QRA"/B "FIELD1" "FIELD2".
  For a total of 8 + 8 + 15 + 15 characters. If you write it with Chirp: 8 + 8 + 12 + 12.
  String 1 takes it from the first line of the welcome message, String 2 from the second line.
  The welcome message can be changed with the software CHIRP.
- Pressing the key you have assigned to CW / CALL CQ starts the automatic CALL CW call. The abbreviation Cc appears when it is active.
  Sending the CW / CALL CQ consists of: **CQ CQ DE QRA QRA PSE**.
- Pressing PTT disables both Beacon (returns to OFF) and CALL CW.

The Rit/Xit function can be used on CW.

7.8 Rit/Xit

The Rit/Xit function works in VFO on any FM, AM, DSB and CW modulation.

To make full use of the Rit/Xit function, it is necessary to switch to Single
Channel mode.
With the dual channel VFO display, only the Rit function can be used.

1. Switch to Single Channel View **F**+**2** A/B
2. Long press **8** R to activate Rit, Xit or exit.
   Rt or Xt will appear down and the Function F at the top of the screen.
   The frequency is also split: above in small the Tx frequency and
   below in large the Rx frequency.
3. Use the arrows to change the KHz frequency.
   In Rit the Rx frequency will change, in Xit the Tx frequency will
   change.
4. The key **EXIT** realigns the Rx to the Tx by resetting the Step. Reset
   the last 2 digits of the VFO by aligning it to the lowest KHz.

Check that F is active, because after 8 seconds it comes off. If it does,
press the F button again.

7.9 Radio broadcast FM

To enter FM radio mode press F+ 0 FM.
Press F+ 1 Band to switch between VFO and MR mode.

VFO mode

- Press the keys ∧ **Up** / ∨ **Down** to change the frequency.
- Or use the keypad to enter the FM frequency manually. (3 or 4 characters).
- Press F+ 2 A/B to start the automatic search process for FM radio channels.
  This process will automatically store the searched channels, up to 20 FM channels can be stored.
- The keys ∧ **Up** / ∨ **Down** are used to change the scan direction.
- Press F+ 3 VFO/MR to start the manual FM channel search process. In this process, users must manually store found channels.
- Press the key **M** to store the found channel. The message appears: **SAVE? CH-01**, Select with the keys ∧ **Up** / ∨ **Down** the number of the desired memory. Press the **M** to record the channel.
- To exit the search process press **EXIT**.

MR memory mode

- Press the keys ∧ **Up** / ∨ **Down** to switch between pre-stored FM channels.
- Or use the keyboard to enter the channel number. (2 characters).
- To delete a stored channel: press the **M**, will appear: **DEL? CH-01**. Press again the key **M** to confirm deletion of selected memory.

"Do not disturb"

During FM broadcast listening, it is possible to disable the interruption in case of Rx by pressing **F+** 4 FC. The FM symbol is flanked by 'Lock'.

To exit FM Radio mode, press either: F+ 0 FM, **EXIT** or **PTT**.

# 🔌 8. Connect

Interfacing the radio with a computer.

8.1 CHIRP ▪▪▪

1. Download and install the software <u>CHIRP-next</u>. Minimum required:
   - Windows 10 and later (64-bit)
   - macOS Big Sur and later (universal binary with Intel and Apple Silicon support)
   - Linux (all modern distros with python3, <u>details here</u>)
2. Install the cable <u>driver</u> .
3. Download the zip file containing the module: <u>LINK ZIP IJV</u>. (<u>Link2</u>)
4. Make sure your battery is sufficiently charged and connect the radio with the cable.
5. Open CHIRP and make sure you are in developer mode, then → 'Help' menu → tick 'Developer Mode'.
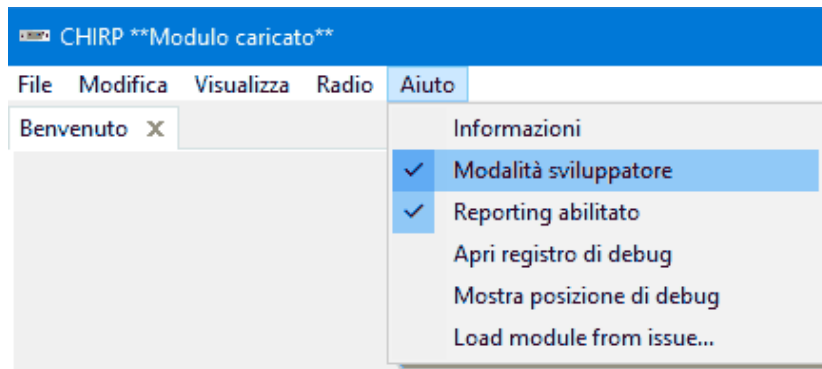
6. To the alert message, answer Yes and restart CHIRP as requested.
7. Click FILE in the menu, select 'Upload module'.
8. At the alert message, answer Yes. Upload the attached module `uvk5_IJV_v2.9_jh1.py`.
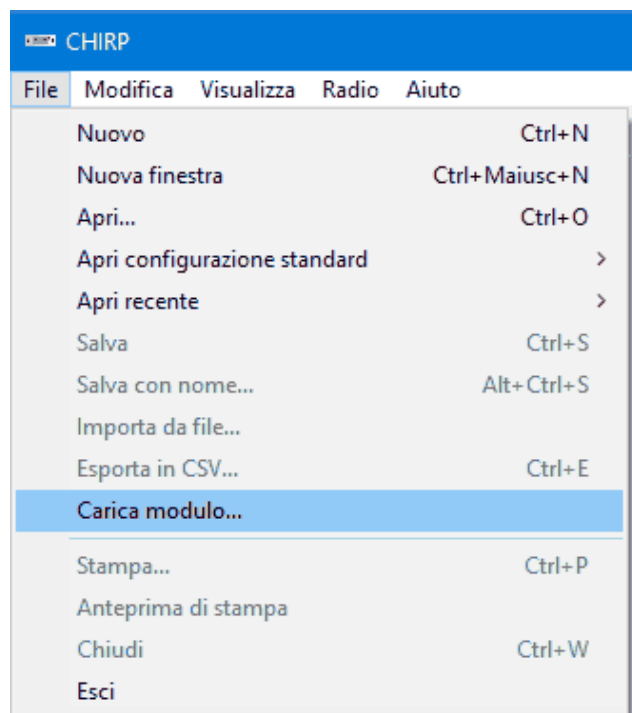
9. Read the radio using the normal procedure, selecting in the radio list the model: UV-K5-IJV vx.x.
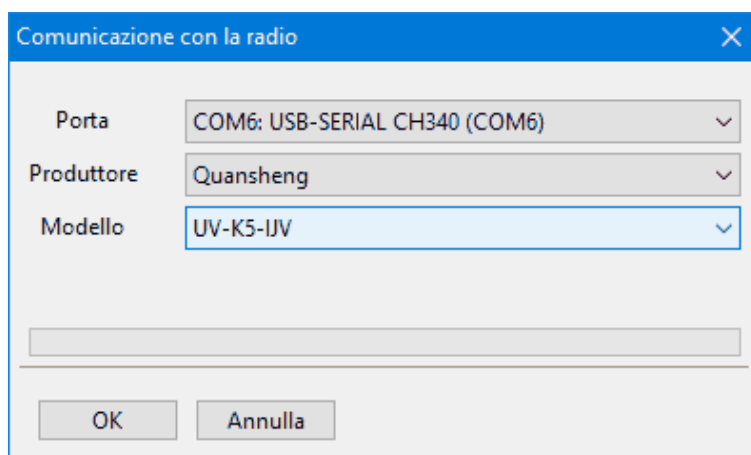
10. Set the display of all fields, then → View menu and tick: Show extra fields.
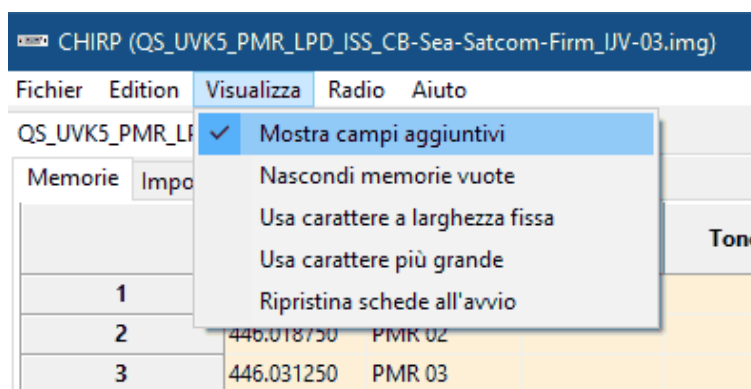
⚠️ The module uvk5_IJV_v2.9_jh1.py must be loaded every time you want to change the radio or the .img configuration file.

💻📝Download here a.img configuration file generic suitable for the IJV module for CHIRP. It contains the following frequencies:
16 PMR; 69 LPD; ISS; 40 CB; 18 Sea; 12 SATCOM.

+ IJV

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