Gumbus Radio Config

README / Documentation

Welcome!

This guide is the accompanying documentation for the *GumbusConfig.img* file loaded onto your BaoFeng UV-5R or BaoFeng UV-5R8W*. Attached within this .zip is *The (Chinese) Radio Documentation Project*'s wonderful UV-5R owner's manual, which will contain any information you could need when configuring your radio on your own. This config is designed for users with GMRS licenses, which can be obtained from the FCC for $35, and in most cases, applications are accepted and callsigns are issued within two business days of payment.

* *If you are installing the config to your radio for the first time, please see config installation guide at the end of this document.*

Additional Notes

Loading this config automatically unlocks your radio for transmission on any frequency the UV-5R/8W is capable of using.

The Baofeng UV-5R and UV-5R8W are not approved for use on most/all bands in this config! It is free and legal to listen, but transmit at your own risk!

There are some duplicate DOT frequencies within the channel layout. This is because Blue DOT and Green DOT are included within the MURS bands, so the redundancy was included for the sake of completeness.

Included Channel Types

Included in the channel presets within this config are:

GMRS / GMRS Repeater Frequencies (Licensed, must comply with FCC rules)

FRS Frequencies (Non-licensed, must comply with FCC rules)

MURS Frequencies (Non-licensed, must comply with FCC rules)

DOT Frequencies (Commercial non-licensed walkie talkie frequencies)

STAR Frequencies (Commercial non-licensed walkie talkie frequencies)

70cm CALL Frequency (Designated national simplex frequency for general use)

2m [200cm] CALL Frequency (Designated national simplex frequency for general use)

NOAA Weather Frequencies (In most locations, only one frequency will be active)

Configuration Adjustments

This config includes several adjustments to the radio that are unable to be changed without the use of a programming cable and the CHIRP software. These settings include:

Channel Names – Alphanumeric Channel names cannot be changed unless using the CHIRP software. Channels may be remapped by a user using only the radio's keypad. For channel mapping via keypad, consult the UV-5R Owner's Manual included in this .zip file.

Startup Screen – the words "GUMBUS CONFIG" appear briefly while the radio starts up. The startup menu may be disabled by the user (Option 38: PONMSG) in favor of all LCD segments illuminating briefly on startup.

Squelch – While the squelch setting may be changed within the menu (Option 0: SQL), the internal squelch settings have been adjusted. These changes have been made in accordance with Miklor's squelch level adjustments, which are based on real-world testing using the UV-5R. It is noted on the website that "*Although the settings (0-105) will take the squelch range through the radio's entire capability, I found that any setting over 65 was too tight for my normal use. As a result, I use a lower range with a wider spread at the low end. (0-65)*". A squelch set to 4 or 5 in the radio's user menu is optimal. Below is an image showing the squelch adjustments made within CHIRP, the original values, and the test results, which can be found on Miklor's article.

Original Settings			Service Monitor		Recommended	
Squelch Setting	Original Values	dBm Level	Test Values	dBm Level	Tom's Settings	Suggested Values
0	0	0	20	-126	0	0
1	14	-133	45	-102	1	2
2	15	-131	50	-97	2	20
3	16	-130	55	-90	3	30
4	17	-129	65	-75	4	50
5	18	-128	70	-68	5	65
6	19	-127	75	-66	6	75
7	20	-126	80	-64	7	85
8	21	-125	85	-60	8	95
9	22	-124	90	-50	9	105
			95	-45		
			100	-40		
			105	-30		
			110	-18		

User-Configurable Adjustments

This config includes several adjustments to the radio that can be changed by the user using only the radio's onboard keypad and menu system. These settings include:

Some settings are unchanged from default and are marked as such (Unchanged). These settings are in most cases changed by the end user to fit their personal preference.

Option 2 (**TXP**) – Transmission power. this value can be changed to Low (1 Watt), Medium (UV-5R8W only, 4 Watts) and High (4 Watts and 8 Watts for the UV-5r and UV-5R8W, respectively). Default: HIGH. Config: HIGH. (Unchanged)

Option 3 (**SAVE**) – Battery saver. When enabled radio will listen for transmissions less often, meaning you may lose part of an incoming message. Default: 3. Config: OFF.

Option 6 (**ABR**) – Automatic Backlight. determines how long the backlight and LCD light remains on after an input. Default: 5 seconds. Config: 15 seconds.

Option 8 (**BEEP**) – Beep. radio will emit a beep sound when a button is pressed. Default: ENABLED. Config: ENABLED. (Unchanged)

Option 9 (**TOT**) – Time of Talk. how long the radio will continue transmitting after the PTT button is pressed. Useful for avoiding battery drain if the PTT button is pressed by accident in a backpack. Default: 60 seconds. Config: 90 seconds.

Option 14 (**VOICE**) – When enabled, the radio will confirm inputs via a voice message. The available options are Chinese (CHI), English (ENG), and OFF. Default: CHI. Config: OFF.

Option 21 (**MDF-A**) – Determines whether the alphanumeric channel name or frequency number is displayed on the LCD in channel mode. This setting is for the upper of the two frequency displays. Default: FREQ. Config: NAME.

Option 22 (**MDF-B**) – Determines whether the alphanumeric channel name or frequency number is displayed on the LCD in channel mode. This setting is for the lower of the two frequency displays. Default: FREQ. Config: NAME.

Option 23 (**BCL**) - Busy Channel Lockout. enabling this function prevents you from transmitting on a busy frequency. It is useful for ensuring you do not interrupt or overpower another user. Default: OFF. Config: ON.

Option 29 (**WT-LED**) – LED color displayed when the radio is in standby mode. Default: PURPLE. Config: BLUE.

Option 30 (**RX-LED**) – LED color displayed when the radio is receiving a transmission. Default: BLUE. Config: PURPLE.

Option 31 (**TX-LED**) – LED color displayed when the radio is transmitting. Default: ORANGE. Config: ORANGE. (Unchanged)

Option 32 (**AL-MOD**) – Alarm Mode. Holding down the CALL button on the radio will initiate an audible alarm. This function determines how that alarm functions. "SITE" mode means the alarm only emits through the radio itself, without transmitting over a channel or frequency. "TONE" mode will transmit the alarm sound, too. "CODE" mode means the alarm transmits a series of numbers as keypad presses. In most cases, this should be set to "SITE." Default: TONE. Config: SITE.

Option 39 (**ROGER**) – Roger beep, transmits a beep over the selected frequency when transmission is received. Generally, annoys others on your frequency. Default: OFF. Config: OFF. (Unchanged)

There is a great guide written by Travis Olander covering many of these settings. Link here.

Channels Included:

Location	Name	Frequency	Duplex	Offset	Mode	Power	Comment
1	GMRS 1	462.562500		0.000000	FM	High	GMRS License Required
2	GMRS 2	462.587500		0.000000	FM	High	GMRS License Required
3	GMRS 3	462.612500		0.000000	FM	High	GMRS License Required
4	GMRS 4	462.637500		0.000000	FM	High	GMRS License Required
5	GMRS 5	462.662500		0.000000	FM	High	GMRS License Required
6	GMRS 6	462.687500		0.000000	FM	High	GMRS License Required
7	GMRS 7	462.712500		0.000000	FM	High	GMRS License Required
8	GMRS 8	467.562500		0.000000	NFM	High	GMRS License Required
9	GMRS 9	467.587500		0.000000	NFM	High	GMRS License Required
10	GMRS 10	467.612500		0.000000	NFM	High	GMRS License Required
11	GMRS 11	467.637500		0.000000	NFM	High	GMRS License Required
12	GMRS 12	467.662500		0.000000	NFM	High	GMRS License Required
13	GMRS 13	467.687500		0.000000	NFM	High	GMRS License Required
14	GMRS 14	467.712500		0.000000	NFM	High	GMRS License Required
15	GMRS 15	462.550000		0.000000	FM	High	GMRS License Required
16	GMRS 16	462.575000		0.000000	FM	High	GMRS License Required
17	GMRS 17	462.600000		0.000000	FM	High	GMRS License Required
18	GMRS 18	462.625000		0.000000	FM	High	GMRS License Required
19	GMRS 19	462.650000		0.000000	FM	High	GMRS License Required
20	GMRS 20	462.675000		0.000000	FM	High	GMRS License Required**
21	GMRS 21	462.700000		0.000000	FM	High	GMRS License Required
22	GMRS 22	462.725000		0.000000	FM	High	GMRS License Required
25	GMRS15R	462.550000	+	5.000000	FM	High	Repeater - GMRS License Required
26	GMRS16R	462.575000	+	5.000000	FM	High	Repeater - GMRS License Required
27	GMRS17R	462.600000	+	5.000000	FM	High	Repeater - GMRS License Required
28	GMRS18R	462.625000	+	5.000000	FM	High	Repeater - GMRS License Required
29	GMRS19R	462.650000	+	5.000000	FM	High	Repeater - GMRS License Required
30	GMRS20R	462.675000	+	5.000000	FM	High	Repeater - GMRS License Required
31	GMRS21R	462.700000	+	5.000000	FM	High	Repeater - GMRS License Required
32	GMRS22R	462.725000	+	5.000000	FM	High	Repeater - GMRS License Required
41	MURS 1	151.820000		0.000000	NFM	High	MURS – No License Required
42	MURS 2	151.880000		0.000000	NFM	High	MURS – No License Required
43	MURS 3	151.940000		0.000000	NFM	High	MURS – No License Required
44	BLUEDOT	154.570000		0.000000	FM	High	DOT/STAR Frequency - Duplicate
45	GRNDOT	154.600000		0.000000	FM	High	DOT/STAR Frequency - Duplicate
51	WX1PA7	162.550000		0.000000	FM	Low	NOAA Weather Radio
52	WX2PA1	162.400000		0.000000	FM	Low	NOAA Weather Radio
53	WX3PA4	162.475000		0.000000	FM	Low	NOAA Weather Radio
54	WX4PA2	162.425000		0.000000	FM	Low	NOAA Weather Radio
55	WX5PA3	162.450000		0.000000	FM	Low	NOAA Weather Radio
56	WX6PA5	162.500000		0.000000	FM	Low	NOAA Weather Radio
57	WX7PA6	162.525000		0.000000	FM	Low	NOAA Weather Radio
58	WX8	161.650000		0.000000	FM	Low	NOAA Weather Radio
59	WX9	161.775000		0.000000	FM	Low	NOAA Weather Radio
60	WX10	163.275000		0.000000	FM	Low	NOAA Weather Radio
70	70CALL	446.000000		0.000000	FM	High	70cm CALL Frequency – National Simplex Channel
81	REDDOT	151.625000		0.000000	FM	High	DOT/STAR Frequency

82	PRPLDOT	151.955000		0.000000	FM	High	DOT/STAR Frequency
83	BLUEDOT	154.570000		0.000000	FM	High	DOT/STAR Frequency - Duplicate
84	GRNDOT	154.600000		0.000000	FM	High	DOT/STAR Frequency - Duplicate
85	WHTDOT	462.575000		0.000000	FM	High	DOT/STAR Frequency
86	BLKDOT	462.625000		0.000000	FM	High	DOT/STAR Frequency
87	ORNGDOT	462.675000		0.000000	FM	High	DOT/STAR Frequency
88	BRNDOT	464.500000		0.000000	FM	High	DOT/STAR Frequency
89	YLLWDOT	464.550000		0.000000	FM	High	DOT/STAR Frequency
91	JDOT	467.762500		0.000000	FM	High	DOT/STAR Frequency
92	KDOT	467.812500		0.000000	FM	High	DOT/STAR Frequency
93	SLVRSTR	467.850000		0.000000	FM	High	DOT/STAR Frequency
94	GLDSTR	467.875000		0.000000	FM	High	DOT/STAR Frequency
95	REDSTR	467.900000		0.000000	FM	High	DOT/STAR Frequency
96	BLUESTR	467.925000		0.000000	FM	High	DOT/STAR Frequency
101	FRS 1	462.562500		0.000000	NFM	Low	FRS – No License Required
102	FRS 2	462.587500		0.000000	NFM	Low	FRS – No License Required
103	FRS 3	462.612500		0.000000	NFM	Low	FRS – No License Required
104	FRS 4	462.637500		0.000000	NFM	Low	FRS – No License Required
105	FRS 5	462.662500		0.000000	NFM	Low	FRS – No License Required
106	FRS 6	462.687500		0.000000	NFM	Low	FRS – No License Required
107	FRS 7	462.712500		0.000000	NFM	Low	FRS – No License Required
108	FRS 8	467.562500		0.000000	NFM	Low	FRS – No License Required
109	FRS 9	467.587500		0.000000	NFM	Low	FRS – No License Required
110	FRS 10	467.612500		0.000000	NFM	Low	FRS – No License Required
111	FRS 11	467.637500		0.000000	NFM	Low	FRS – No License Required
112	FRS 12	467.662500		0.000000	NFM	Low	FRS – No License Required
113	FRS 13	467.687500		0.000000	NFM	Low	FRS – No License Required
114	FRS 14	467.712500		0.000000	NFM	Low	FRS – No License Required
115	FRS 15	462.550000		0.000000	NFM	Low	FRS – No License Required
116	FRS 16	462.575000		0.000000	NFM	Low	FRS – No License Required
117	FRS 17	462.600000		0.000000	NFM	Low	FRS – No License Required
118	FRS 18	462.625000		0.000000	NFM	Low	FRS – No License Required
119	FRS 19	462.650000		0.000000	NFM	Low	FRS – No License Required
120	FRS 20	462.675000		0.000000	NFM	Low	FRS – No License Required
121	FRS 21	462.700000		0.000000	NFM	Low	FRS – No License Required
122	FRS 22	462.725000		0.000000	NFM	Low	FRS – No License Required
127	200CALL	146.520000		0.000000	FM	High	2m (200cm) CALL Frequency – National Simplex Channel

** *Emergency Frequency Pre-1999. The FCC now allocates GMRS 20 as a general use GMRS channel.*

How to Install this Config

This install guide is lifted directly from the CHIRP wiki, with minor adjustments. Link to original here.

In order to program your radio via a computer, you must purchase a BaoFeng Programming Cable and must have the CHIRP software installed.

Step 1: Download contents from the radio

1. Start CHIRP and Click the *Radio* menu and choose *Download From Radio*
2. The *Clone* window opens
3. Select the serial port you intend to use from the drop down menu
4. Select the correct *Vendor* and (if necessary) the appropriate *Model*
5. Click *OK* to start the download process. Clone-mode radios will display a progress bar indicating how much of the image has been downloaded.

   This process is not technically necessary; however it allows you to verify that you have the correct radio and serial port selected in the CHIRP software. If these options are already selected and you have verified that the radio is accepting changes, then you can skip Step 1 and start at Step 2.

Step 2: Make changes

Once you have the radio contents displayed in the memory editor, you can proceed to make your changes. To load the Gumbus Radio Config, select *File*, then *Open*, then navigate to your GumbusConfig.img file and open it. This will load the config into CHIRP.

Step 3: Upload changes back to the radio

Once you have loaded the GumbusConfig.img and the tab containing the config is selected, you should upload the image back to the radio. With the image open, go to the *Radio* menu and choose *Upload To Radio*. The Vendor and Model are already known from Step 1, so all you need to do is choose a serial port. Once the cloning process is complete, you should see your radio restart. Upon restart you should see “GUMBUS CONFIG” flash across the screen briefly. If you see this, the config has successfully loaded, and the process is complete. You may disconnect your radio and close the CHIRP software.