Radioddity GA-510 Programming Guide

INTRODUCTION

Radioddity GA-510 is a dual-band (VHF, UHF) versatile amateur radio. It offers 128 channels, you can add or remove channels from scanning list and give channels alphanumeric names via programming with a computer. With the enhanced capabilities of the GA-510 radio, this Programming Guide will help you get a quick start to program the radio.

Contents

1. Cable Driver Installation

2-Pin K connector programming cable (package included)
Compatible System
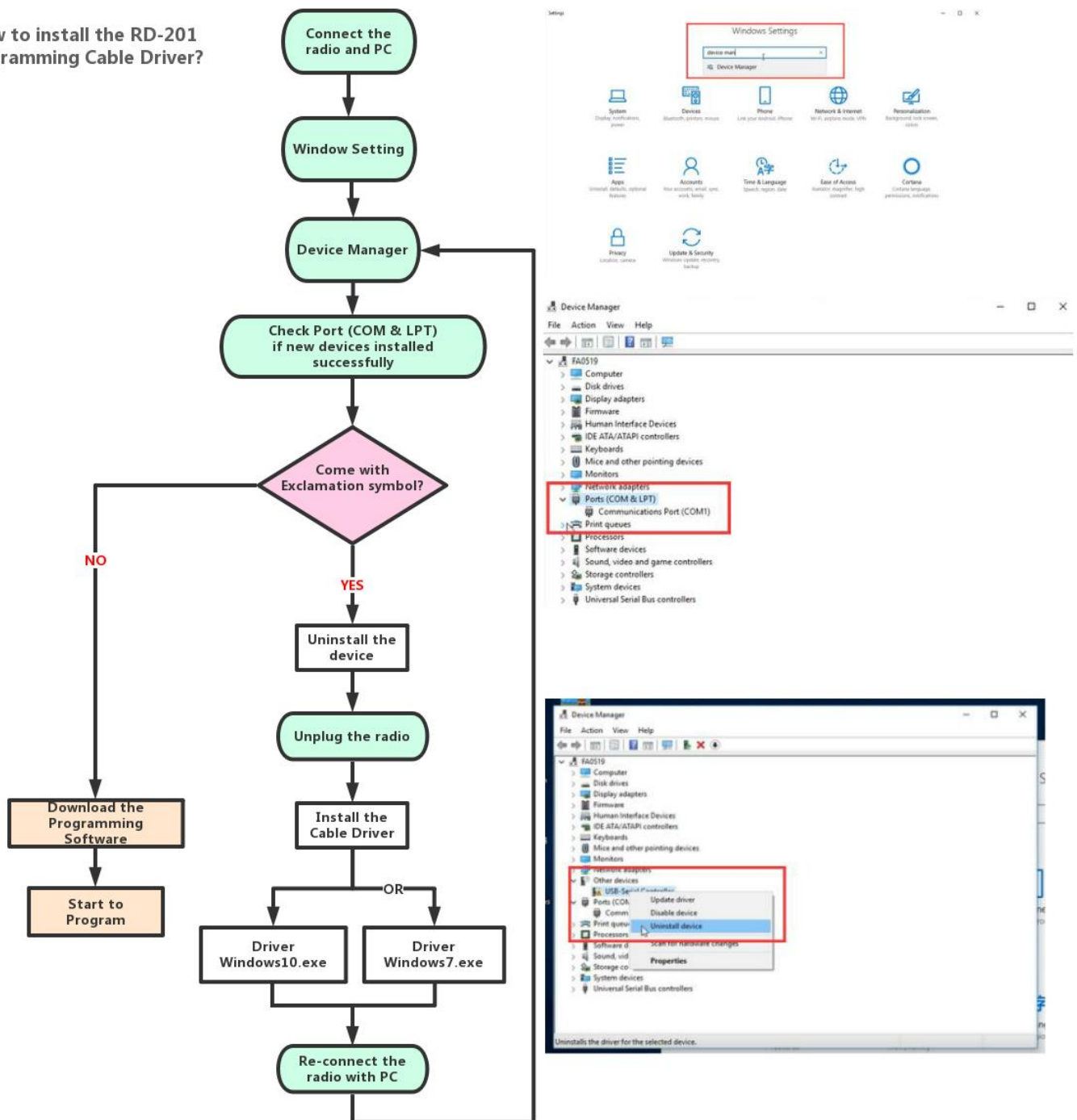Latest Windows system (i.e. Windows 7, Windows 10)
Cable Driver and Guideline
If the following picture is not clear, please check this link
https://cdn.shopify.com/s/files/1/0011/7220/9721/files/RD-201_Cable_Driver_Installation.png?v=1576652703

How to install the RD-201 Programming Cable Driver?

Flowchart:
- Connect the radio and PC
- Window Setting
- Device Manager
- Check Port (COM & LPT) if new devices installed successfully
- Come with Exclamation symbol?
  - NO → Download the Programming Software → Start to Program
  - YES → Uninstall the device → Unplug the radio → Install the Cable Driver → (Driver Windows10.exe OR Driver Windows7.exe) → Re-connect the radio with PC → Device Manager

Download the corresponding driver which matches your computer system (Win7/Win8/Win10). They are available on the support section of radioddity.com.
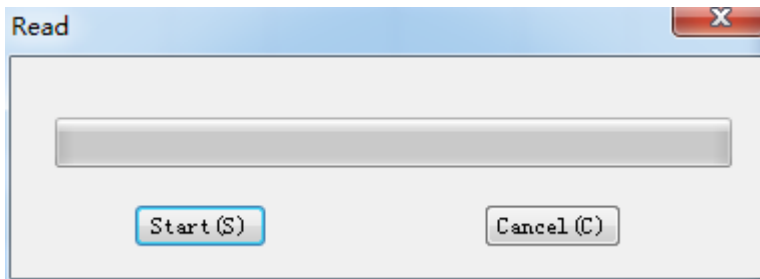
2. Radio Reading

Download and run the GA-510 programming software, click Setting – Port menu, select the corresponding port number, click "OK".
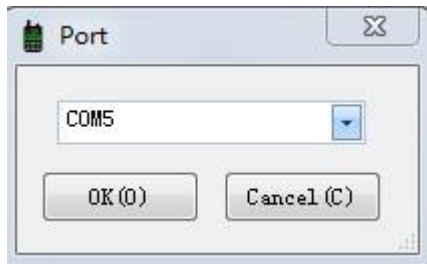
Read the current information from the radio to your PC to create an initial program template. Click

Program – Read Data From Radio, or simply click the icon.

Ch...	FHSS	Rx Freq	Rx QT/DQT	Tx Freq	Tx QT/DQT	Power	W/N	PTT-ID	Busy	Scan Add	Signal	Name
0												
1	OFF	400.00000	OFF	452.12500	OFF	H	W	OFF	OFF	OFF	1	
2	OFF	420.00000	91.5	453.22500	91.5	H	W	OFF	OFF	OFF	2	
3	OFF	454.32500	136.5	454.32500	136.5	H	W	OFF	OFF	OFF	3	
4	OFF	455.42500	151.4	455.42500	151.4	H	W	OFF	OFF	OFF	4	
5	OFF	456.52500	192.8	456.52500	192.8	H	W	OFF	OFF	OFF	5	
6	OFF	457.62500	241.8	457.62500	241.8	H	W	OFF	OFF	OFF	6	
7	OFF	458.72500	D025N	458.72500	D025N	H	W	OFF	OFF	OFF	7	
8	OFF	459.82500	D134N	459.82500	D134N	H	W	OFF	OFF	OFF	8	
9	OFF	461.92500	D274N	461.92500	D274N	H	W	OFF	OFF	OFF	9	
10	OFF	462.22500	D346N	462.22500	D346N	H	W	OFF	OFF	OFF	10	
11	OFF	463.32500	D503N	463.32500	D503N	H	W	OFF	OFF	OFF	11	
12	OFF	464.42500	D073I	464.42500	D073I	H	W	OFF	OFF	OFF	12	
13	OFF	465.52500	D703I	465.52500	D703I	H	W	OFF	OFF	OFF	13	
14	OFF	402.22500	OFF	402.22500	OFF	H	W	OFF	OFF	OFF	14	
15	OFF	437.42500	OFF	437.42500	OFF	H	W	OFF	OFF	OFF	15	
16	OFF	479.97500	OFF	479.97500	OFF	H	W	OFF	OFF	OFF	1	
17	OFF	138.55000	OFF	138.55000	OFF	H	W	OFF	OFF	OFF	1	
18	OFF	157.50000	OFF	157.50000	OFF	H	W	OFF	OFF	OFF	1	
19	OFF	172.75000	OFF	172.75000	OFF	H	W	OFF	OFF	OFF	1	

3. Channel Information

The GA-510 radio has 128 channels, you can edit the channel number and channel information according to your needs. The following is an introduction to each term.

Name	Meaning	Setting	Description
RX Freq	Receiving frequency	VHF:136-174MHz UHF:400-520MHz	
TX Freq	Transmitting frequency	VHF:136-174MHz UHF:400-520MHz	
RX QT/DQT	Receiving CTCSS/DCS	Refer to the DCS table and CTCSS table in the manual.	Mutes the speaker of the transceiver in the absence of a specific low level digital signal. If the station you are listening to does not transmit this specific signal, you will not hear anything.
TX QT/DQT	Transmitting CTCSS/DCS	Refer to the DCS table and CTCSS table in the manual.	Transmits a specific low-level digital signal to unlock the squelch of a distant receiver (usually a repeater).
POWER	Transmit power	HIGH/LOW	High power:10W Middle :5W LOW：1W
W/N	Channel bandwidth	WIDE/NARROW	Wideband (25 kHz bandwidth) or narrowband (12.5 kHz bandwidth).
PTT-ID	When to send the PTT-ID	**OFF** does not send code; **BOT** press PTT button to send code; **EOT** release PTT button to send code; **BOTH** press and release PTT button to send code	Codes are sent during either the beginning or end of a transmission.
Busy	Busy Channel Lockout	OFF/ON	**ON**: If the channel is occupied, when you press the [PTT] key on this channel, the radio will make a beep tone and will not transmit any signal. **OFF**: No matter if the channel is occupied, the radio will transmit the signal when you press the [PTT] key.
Scan add		OFF/ON	In the scan mode, whether add the channel to the scan list. **ON**: the channel is added to scan list; **OFF**: the channel cannot be scanned.
Signal	Signal code	1-15	Selects 1 of 15 DTMF codes. The DTMF codes are programmed with software and are up to 5 digits each

Name	Customize channel name	Up to 10 digits.	Support alphanumeric channel name.

4. Optional Feature

Click Edit – Optional Feature, you can set up more functions for the radio.

1) Basic Setting

Name	Meaning	Settings	Description
TOT(Time Out)	Transmission time-out timer	15-600(s)	This feature provides a limits transmission time to a programmed value. This will promote battery conservation by not allowing you to make excessively long-time transmissions and in the event of a stuck PTT switch, it can prevent interference to other users as well as battery depletion.

Squelch Level		0-9	Mutes the speaker of the transceiver in the absence of a strong signal. Squelch is either OFF or 1 - 9 levels. The higher level, the stronger the signal must be to in-mute the speaker.
VOX	Voice operated TX	0-10	When enabled it is not necessary to push the [PTT] button on the transceiver. Adjust the gain level to an appropriate sensitivity to allow smooth transmission.
Voice switch		ON/OFF	Toggle voice prompt switch
Language		Chinese/English	Switch the language of menu display and voice prompts
Auto backlight	Display time	OFF/0-10 (s)	Time-out for the LCD backlight.
Work mode		VFO	CHs is channel quantity
		Channel	

2) Channel Mode
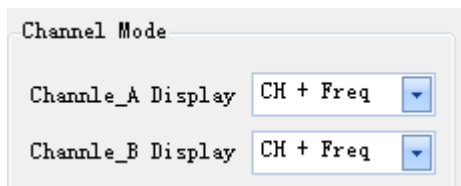
You can customize the display on Channel A/B:

CH + Name: Display Channel Number and Channel Name (Name column in Channel information part)

CH + Freq: Display Channel Number and Frequency

3) DTMF

Name	Setting	Description
DTMF ST (DTMF side tone of transmit code)	**OFF**: No DTMF Side Tones are heard	Determines when DTMF side tones can be heard from the transceiver speaker
	KB Side Tone: Side Tones are heard only from manually keyed DTMF codes	
	ANI Side Tone: Side Tones are heard only from automatically keyed DTMF codes	
	KB ST+ANI ST: All DTMF Side Tones are heard	
Save mode	OFF/Mode 1/Mode 2/Mode 3	Selects the ratio of sleep cycles to awake cycles (Mode 1/Mode 2/Mode 3). The higher number the longer the battery lasts. When enabled, a word or two might be missed when the frequency being monitored becomes active.
Scan mode	**TO:** Time Operation - scanning will resume after a fixed time has passed	Scanning Resume Method
	CO: Carrier Operation -Scanning Resume Method scanning will resume after the signal disappears	
	SE: Search Operation scanning will not resume	
PTT_ID	**OFF**: No ID is sent	When to Send PTT-ID; Codes are sent during either the beginning or end of a transmission.
	BOT: The selected S-CODE is sent at the beginning	
	EOT: The selected S-CODE is sent at the ending	
	BOTH: The selected SCODE is sent at the beginning and ending	
PTT Delay	0-30ms	Signal code sending delay
KB_LOCK		If you select this option, the keyboard is locked.
AutoLock (automatic keypad lock)		When ON, the keypad will be locked if not used in 8 seconds. Pressing the [# ᵣO] key for 2 seconds will unlock the keypad.
BCL(busy channel Lock-out)		**Check**: If the channel is occupied, when you press the [PTT] key on this channel, the radio will make a beep tone and will not transmit any signal. **Uncheck**: No matter if the channel is occupied, the radio will transmit the signal when you press the [PTT] key.

Beep(keypad beep)		Allows audible confirmation of a key press

3) Frequency mode

STEP: Select the amount of frequency change in VFO/Frequency mode when scanning or pressing the keys.

SFT_D: Enable access of repeaters in VFO/Frequency Mode ([OFF]: TX = RX (simplex); [+]: TX will be shifted higher than RX in frequency; [-]: TX will be shifted lower than RX in frequency)

Offset: Specifies the difference between the TX and RX frequency

(For the explanation of TX Power, RX QT/DQT, TX QT/DQT, W/N, Signal, please refer to the section 3)

A Band Freq Mode
Freq	146.02500 MHz
FHSS	OFF
Tx Power	High
Rx QT/DQT	OFF
Tx QT/DQT	OFF
W/N	Wide
Step	20.00 KHz
SFT_D	OFF
Offset	00.000 MHz
Signal	1

B Band Freq Mode
Freq	440.02500 MHz
FHSS	OFF
Tx Power	High
Rx QT/DQT	OFF
Tx QT/DQT	OFF
W/N	Wide
Step	20.00 KHz
SFT_D	OFF
Offset	00.000 MHz
Signal	1

4) Backlight and Sound

RPT Noise Clear: Squelch Tail elimination
RPT Noise Detect:Trunk tail delay

Tail Noise Clear	ON	☑ FM Radio Enable	
(RPT Noise Clear (ms	500	☑ Alarm Sound	
(RPT Noise Detect (ms	OFF	Alarm Mode	TONE
☐ KB_Lock ☐ BCL		Roger	OFF
☐ AutoLock ☑ Beep		Tx Under TDR Start	OFF
		☐ TDR	

5) FM Radio

FM Radio Enable: When you check off, FM Radio function will be activated on the radio.
Roger: Sends an end-of-transmission tone to indicate to other stations that the transmission has ended

TX Under TDR Start: Transmit selection while in Dual Watch mode, when enabled, priority is returned to selected display once the signal in the other display disappears.

TDR: Dual Watch mode, the ability to monitor two channels at once can be a valuable asset.

5. Write and Save

Click Program - Write Data To Radio, or click the icon to write and save the setting to the radio.