The DZ Company, LLC

710 Grove Ct.

Loveland, CO 80537

970-667-2254

# Saguaro Construction Note #7

04/01/2023

**Software Update – Rev A.01.02**

This software release has these features:

1. The left button at the bottom of the screen has been changed so that the button cycles through three states instead of four. The AGC setting in A.01.01 was removed.
2. “Burps” in the audio have been fixed. They were caused by buffer underruns in the data going to the sound card.
3. Gain compression has been removed and a better audio gain structure implemented. This provides much better dynamic range, higher sensitivity, and much better AM performance.
4. “Ticks” in the audio, especially notable on CW, have been greatly reduced. These were caused by discontinuities in the demodulated and filtered SDR data at the 130ms transitions from one buffer to another.

To install:

1. Save the zip file to a convenient place on a PC (not Saguaro)
2. Extract the three files (sw\_rx.py, sw\_rx\_globals.py and stream\_sdr\_to\_audio.py)
3. Copy the three files to a flash drive
4. Eject the flash drive
5. Turn on Saguaro
6. Exit the Saguaro program if it is running by clicking “Exit”, then “No”, which takes you to Linux
7. Insert the flash drive into a spare USB port on your Saguaro
8. Linux will see that you have inserted a flash drive and ask you if you want to open it in File Manager. Click Yes
9. In File Manager, navigate to the media you inserted, locate the three files on that drive, highlight all three, right click and select “Copy”
10. In File Manager, navigate to home/dzkit/Saguaro. You should see the same three files (sw\_rx.py, sw\_rx\_globals.py and stream\_sdr\_to\_audio.py)
11. Rename the existing files by adding \_orig to the names, e.g., sw\_rx\_orig.py
12. Paste the new files in that same folder
13. Exit the File Manager
14. Click the “Eject” symbol on the top menu bar
15. When you see the “safe to remove” message, remove the flash drive
16. Start the Saguaro program by clicking the raspberry, then Other, then Saguaro
17. The program will also continue to start automatically when you turn power on.