DX FT8 Project Firmware Version 1.8 Release Notes: 17 January 2025

This version of the firmware was written to make six changes:

1) Automatic update of the Date Display and ADIF File Name occurs when the RTC Date changes.

2) When switching from QSO Mode to Beacon Mode or Beacon Mode to QSO the FT Transmit Frequency does
not change.

3) The contents of the StationData.txt file is checked to make sure the entered data is valid. When the Station Data is valid
the user's Call Sign and Maidenhead Locator are displayed on the boot up screen. If the data is not valid an error message is
displayed instead of the User's Station Data.

4) The QSO and Beacon FT8 Traffic Handling routines have been extensively revised and tested **On The Air** to provide for
repeat messages being transmitted when propagation conditions cause normal FT8 exchanges to be disrupted. Please see the
Flow Chart Below for a detailed description of how both the QSO Mode and Beacon Mode now operate.

5) With the release of the Seven Band Board a major revision of the Band Switching routines has been made so that **Both
Existing Five Band Boards and New Seven Bands are serviced by a single application**. The Version 1.8 firmware
interrogates the attached DX FT8 board to determine board pedigree and then sets the Band Switching Parameters
 accordingly.

Please note that for Users with **Five Band Boards** or **Seven Band Boards** that it is highly recommended that you use a
Freshly Formatted SD Card with a **Fresh** S**tationData.txt file** before using DX FT8 V1.8 for the first time.

When formatting the SD Card use the FAT32 Option. Also, when preparing the StationData.txt file please use a simple text
editor such as Notepad.

The SD Card use should be of the **Secure Digital High Capacity (SDHC) Format**.
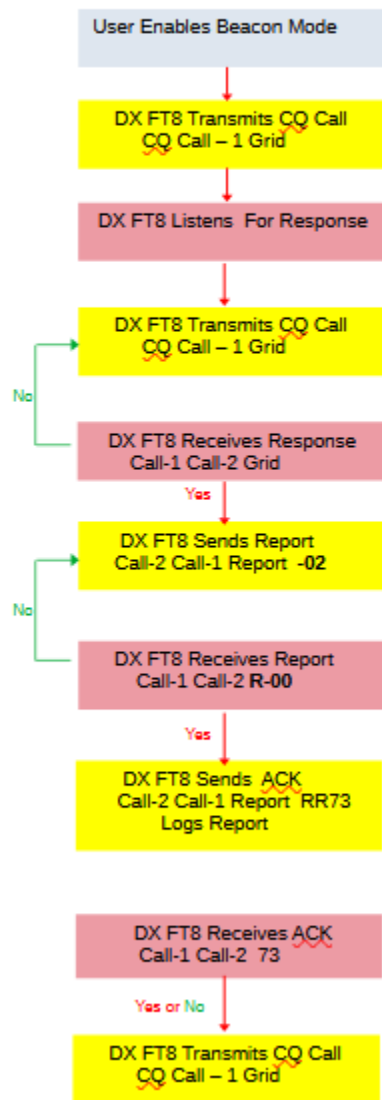We recommend that you use this formatting tool: https://www.sdcard.org/downloads/formatter/

6) The DX FT8 User Guide has been revised to capture the changes made with the Firmware Version 1.8 Release.

Please note that Versions 1.5 thru 1.7 have not and will not be released.

DX FT8 Auto Sequence Process Operation

DX FT8 Beacon Mode

DX FT8 QSO Mode

Beacon Mode Column:

User Enables Beacon Mode

↓

DX FT8 Transmits CQ Call
CQ Call – 1 Grid

↓

DX FT8 Listens For Response

↓

DX FT8 Transmits CQ Call
CQ Call – 1 Grid

No ↓

DX FT8 Receives Response
Call-1 Call-2 Grid

Yes ↓

DX FT8 Sends Report
Call-2 Call-1 Report -02

No ↓

DX FT8 Receives Report
Call-1 Call-2 R-00

Yes ↓

DX FT8 Sends ACK
Call-2 Call-1 Report RR73
Logs Report

↓

DX FT8 Receives ACK
Call-1 Call-2 73

Yes or No ↓

DX FT8 Transmits CQ Call
CQ Call – 1 Grid

QSO Mode Column:

DX FT8 Receives & Displays
CQ Call

↓

User Selects CQ Call

↓

DX FT8 Waits For
Next FT8 Slot

↓

DX FT8 Sends Response
Call-1 Call-2 Grid

No →

DX FT8 Receives Report
Call-2 Call-1 -02

Yes ↓

DX FT8 Sends Report
Call-1 Call-2 R-00

No →

DX FT8 Receives ACK
Call-2 Call-1 – RR73

Yes ↓

DX FT8 Sends ACK
Call-1 Call-2 -73
Logs Report

↓

DX FT8 Stops