

# The KB6IBB SWL Logger

## Version 4.2.1, Windows 11

### Introduction

Welcome to the KB6IBB SWL Logger program. Since 2009 the Logger allows you to log every frequency from 1 kHz to 99 GHz, or nearly the entire radio spectrum. You will find that many tasks are already completed, while others simply require a click in the entry field. Data entry is minimized and selectable whenever possible. Along those lines, SWL Logger works natively in the UTC time zone. No need to set any clocks, or mess around with time.

The SWL Logger incorporates the EiBi Shortwave Radio Database for fast look ups. Propagation data is provided by Paul Herrman, N0NBH. Grid Square locators provided by AMSAT USA and K2DSL Maidenhead Grid Square Locator. Issues concerning the EiBi, AMSAT Grid Locator, K2DSL Maidenhead Grid Square Locator, and Paul Herrman's propagation data is external to the program, and therefore is not supported beyond being accessible from the SWL Logger.

The KB6IBB SWL Logger is built for Windows 11, 64 bit. There will be no 32 bit option as 32 bit operation is long obsolete. There is no option for Windows versions prior to Windows 10. It is very important to understand that I wrote the logger for use at my radio station. I am making it available to the community as another available tool. If you find the software useful, fantastic. If you find it worthless, fantastic. Therefore, to get a feature request implemented, it must be useful to my operation. Extraneous fluffy features are not accepted.

Error reports are always welcome and needed. When you open a support ticket on Source Forge for an error report, you must include the exact steps that you did to generate the error. If I can not duplicate the reported error, then it will be assumed that something is at issue with your machine's configuration and not the logger. Only error reports opened on Source Forge will be addressed. Social media and email is not the correct pathway and will be ignored.

It is highly advisable to check the open and resolved support tickets on Source Forge prior to opening a new one. If your issue is a duplicate, either resolved or open, it will simply be deleted without notification or further action.

### Installation

The KB6IBB SWL Logger is designed to be self contained. The logger is not going to install files all over your system that over time end up becoming orphans that consume space. Everything you need is contained in two folders.

Keeping in mind that I built the logger for my own operation, I will not be jumping through all of the corporate security hoops. It will be your responsibility to allow the security exceptions that allow the logger to run. Security issues are not part of the loggers operation, therefore, no support is provided for security issues.

To install the logger, the following instructions must be adhered to for successful operations. Open the file you just downloaded in the File Explorer and you will notice two folders. The folder KB6IBB-SWLLLogger, known as the data folder, must be dragged and dropped somewhere on your system. Suggestions include Documents, OneDrive, C:\. The first time the software is run, it will ask you where this folder is located. Once you select the folder, you must restart the Logger. It will now find your databases. You can place your data folder anywhere and make changes at any time using the Preferences menu. Each time you change the data folder location, the Logger must be restarted.

The second folder, SWLog can be dragged and dropped anywhere that you have write permissions. This folder is where the executable file and Windows 11 supporting libraries are housed. Once you have dropped the folder somewhere on your drive. Open the folder and look for the executable file SWLog. Right click on it and select "Pin to Start". The logger will now show in your Start menu. You can also pin it to the task bar as well. Pin to both if you wish. The installation is now complete.

### **Upgrading**

If you are upgrading from a previous version, download the file from Sourceforge. Open the file you just downloaded using File Explorer, drag and drop the SWLog folder in the same location as your old installation. Select "Replace" the destination. Congratulations, you just upgraded. It is always advised to back up SWLog folder before upgrading.

### **First run**

When you run the logger for the first time, you are going to no doubt get a security warning of some sort, pending upon which of the thousands of security packages out there you are using. Your choices are simple. Allow the Logger to run by adding it as an exception. Use the "Run Anyway" option with the Microsoft warning. The other choice is to decline and delete the Logger. The choice is yours.

The SWL Logger will look to ensure the databases that are required to run exist in the location you selected. If they do not exist, when possible, the logger will create the databases for you. If it is not possible, the logger will quit and ask you to check your installation.

If everything went as expected, the logger will launch and you will be presented the logger's main screen. This window is not sizable and full screen mode is not an option. The minimum screen resolution for the logger is FHD 1920x1080. Most modern 27" or better monitors will work well. If you are using a lap top with a smaller screen. Most all manufactures make a screen scrolling utility available. In Windows 10, Microsoft brought to us multiple desk tops similar to those found on Linux and Macintosh desk tops. The logger has been adapted to use more screen space over prior versions and to take full advantage of virtual desktops.

One of the first things you will need, if you so desire, is to build the EiBi database. Navigate to the EiBi web site by selecting the Actions drop down menu, then selecting EiBi Shortwave Database. Your browser will launch and take you to the EiBi site in Germany. Download the CSV file and the README file. Drag and drop the README file to the data folder. The CSV file can remain in the Downloads folder.

Following the downloads, select the Edit, then the Preferences selection. Sample data has been provided for you in Preferences. Fill out all of the applicable fields. The EiBi Database

Updated field is rather special. Enter in the date in red to the upper right of the EiBi web site. You can enter the date in American format MM/DD/YYYY (01/01/2022) and the date will be converted to long format. You can enter any date that you wish, but the date in red on the EiBi web site represents the date the data was updated.

On the Preferences window, you will see the Auto-Refresh checkbox. When checked, the EiBi database will reload your search (refresh) every 15 minutes. When used with the On Air Stations checkbox, the list will show currently on the air stations in addition to your search criteria. Click the Save button to save the options. Closing the window will not save the options.

Click the Save button to save your changes. Next, click the Update button in the EiBi grouping on the screen. Select the CSV file you just downloaded and wait for the import to complete. This is process intensive and often times you may see the "Not Responding" message. Just wait it out, there are over 13,000 records to process.

## **Operation**

The main window is divided into two sections. The left is the SWL Logger and the right is the EiBi Shortwave Database. The screen is designed to be self explanatory, and each field has a help bubble. Fields in yellow must be filled out.

Not all of the fields are going to be discussed in this manual. Self explanatory fields such as time, or selecting from a menu need not be discussed in detail. Labels with underlines are either links to the web, or will pull up another window to assist with filling in the field.

## **The New Button**

The New Button creates a new record in the database. Once a new record is added, complete the fields as you see fit and click the Save button.

## **The Save Button**

The save button is used a lot. It saves your edits to the database. The SWL Logger will not automatically save data. To avoid mistakes, you must explicitly tell it to save data. Do not forget to save your changes. There are no warnings, hooks, or error traps. It helps to always pay attention to what you are doing. This is by design and will not change.

## **The Delete Button**

The Delete Button is pretty self explanatory. It will delete the selected record. Once deleted, the record is gone. Again, pay attention to what you are doing and everything will be fine.

## **SWL Log - Table**

The first item that grabs our attention is the log table. No logging takes place on the table itself. The table is used to display and select log entries only. Consider this a summary of what is in the database. A database browser so to speak. There is no horizontal scroll bar because it is unneeded.

A single click on the entry will select the log entry to be displayed. Double clicking on an entry will look up the frequency in the EiBi database.

### **SWL Log - Propagation Group**

This group allows you to log under what atmospheric conditions you monitored the station. These are strictly formatted fields. You will have to use a leading zero in the SFI and A-Index fields. For example a SFI of 62 will be entered as 062. An A-Index of 10 is entered as 010. K-index only accepts single digits 0-9. The X-Ray field is also strictly formatted. An alpha followed by a decimal number. The drop down menu allows you to select the geomagnetic field activity. To make things easy, the Set button will poll the hamqsl page and fill in the blanks for you.

### **SWL Log - Station Information**

This group houses all of the information regarding the station you are listening to. The Station field is mandatory and something must be entered to save a record. You can enter in virtually anything. Some examples may include: Amateur Radio Station KB6IBB, China Radio International, Unknown Numbers Station, Skyking. The country field is the Country of origin. This is not always where the transmitter is located, but rather what country the broadcasting station is located in. Some examples include: United States, China, Germany. Notice the field label is underlined. Clicking the label will open the Field Selector window with a list of possible countries from the master database. Double click the entry you wish to place in the Country field. Close window when done. If the Country is not listed, enter manually. Then language field is the language of the broadcast you are listening to. Again, self explanatory. Again, note the label is underlined which allows for the selector to be displayed for your convenience.

The coverage field is the broad area of the globe, or a specific country that is covered by the broadcast. Also known as "target areas". Entries would include Asia, North America, Africa, Mongolia.

The Tx Local field is the place where the transmitter is located. Some entries may include La Habana Quivicán/Bejucal/Bauta, Lebanon Tennessee, United States. Transmitter locations change all of the time. In fact, they change before most databases have been updated. We do the best we can.

The Station ITU and Transmitter ITU is there to determine what grid (ish) the signals or broadcast is coming from. The ARRL Grid square is also for the transmitters location and can narrow down to a single degree the location. Grid squares are very handy when hunting Numbers or Pirate stations. You can use one or all. Your choice.

The select a category is self explanatory and is provided for database sorting by category in future releases.

### **SWL Log - Monitoring Equipment**

This group houses what type of equipment you used to monitor the station, along with basic QSL data. This field is taken from the programs Preferences that you will set. You can over ride that simply by typing in an entry. The two QSL check boxes are again going to be self explanatory. If you sent one, check the box. If you received one, check the box.

## **SWL Log Notes**

The notes field. This is self explanatory. Enter in all kinds of notes. Type whatever you like. Be creative and take good notes. Don't forget to click Save Changes to save the creative and extensive notes you made. If you forget, they will be lost.

## **EiBi Shortwave Database Data Table**

This is the database table for all of the records housed in the EiBi database. It works the exact same way the SWL Log table works. It displays and selects records in the database. Double clicking on a line will bring up the Record Viewer window. This allows you to view the record and push the record to the log for entry.

## **SDR Interface**

Located to the lower right of the window is the SDR Interface. This is a common serial interface: 115200,8,N,1 and is hard coded to COM 11 for CAT. You will need to have a virtual serial interface type program. There are hundreds out there available, pick one that works best for you. You will need to pair COM10 and COM11, or COM11 and COM12. SDRUno has excellent instructions for CAT and the logger was hard coded to the SDRUno defaults. The logger has been extensively tested with SDRUno. SDR# has a serial CAT module that may also work. Again, the logger is hard coded for COM11, 115200 baud rate, 8 bits, Null Parity, and 1 stop bit.

The CAT control of SDR software is only in place to assist with logging and EiBi look ups. It will not be developed into any type of rig control. The logger will simply poll SDRUno to extract the VFO, Frequency, Mode, and signal strength. Then provide you with a selection to look up the frequency, which you can then log a selection, or, to log the VFO frequency and mode.

## **EiBi Update and Zombies**

What is a zombie? A zombie occurs when one of the many codes within the EiBi csv data file is not found within the logger's translation tables. These are most evident with transmitter locations as these change regularly. Every single update of the EiBi database will contain at least one zombie for transmitter location. Normally this is not really an issue unless you just happen to log one. All of the codes used are found in the EiBi README file. You can always just copy/past the information over to the log entry if these zombies are far and few between with your monitoring style.

Other common zombies are in the language tables using compound language codes. An example of this would be in one season a language is coded as E,S (English, Spanish) and the following season it will be coded as S,E.

Country and Coverage codes rarely produce a zombie. However, when it does happen, correction will be needed.

The logger has a facility built in to add (Append) the zombie and description to the logger's translation tables. You will need two things. First, the file in the data folder called Zombie.txt. The format of this file is Section + Code. Example: Transmitter Code Zombie: USA-b. The second thing you will need is the current README file from the EiBi web site.

Next you would look up the code in the README file, however, for transmitter locations it's a little tricky. The EiBi README file lists the entry as such:

USA: a-Andrews AFB, MD 38N48'39"-76W52'01"  
b-Birmingham / Vandiver, AL (WEWN) 33N30'13"-86W28'27"  
ba-WBMD Baltimore, MD 39N19'26"-76W32'56"

Once you have figured out what description goes with what code. Select from the loggers Action → Databases → Master Database to bring up the Master Database Append window. Since in our example we are dealing with a Transmitter Code, you will select the Transmitter Location tab.

Copy the code from Zombie.txt and Paste it into the Code field.

Copy the description from the EiBi README file and paste it into Description. For our example, your entry will look like this:

Code	Description
USA-b	Birmingham / Vandiver, AL (WEWN) 33N30'13"-86W28'27"

Click the Append button. Be accurate, there is no way to undo any of the entries you append. Before appending just make sure the entry is exactly what you want. I would suggest backing the folder up prior to making changes.

The EiBi data file is not perfect. There will be times where codes do not have descriptions. These are true zombies and we just live with it.

### **The KB6IBB Web Site**

I do indeed have a web site, however social media has blocked my service provider. Therefore the only place you will see information about it is here in the instructions.

The main page is located here and has some helpful information.

<http://kb6ibb-15.ham-radio-op.net/Ham-Radio/>

The all things shortwave radio can be found here.

<http://kb6ibb-15.ham-radio-op.net/Ham-Radio/Shortwave-Radio/>

// End of Draft Manual - 08/06/2022