



KB6IBB SWL Logger

GNU/Enterprise Linux
Windows 11

Version 5.0

0. Introduction

The history of the KB6IBB-SWL Logger spans over a total of 15 years. I originally built the logger for my own use, then shared it with a couple of friends. We then evolved into a small group of radio hobbyists to build and support the logger. We developed a very old school philosophy early on in our venture. We are releasing the software to the public. If someone finds it useful, fantastic. If someone does not find it useful, equally fantastic, we still love you. We are not out to change the world or develop a large and intense user base. Just to produce a simple SWL Logger that supports our style of operations.

1. Compatibility

The KB6IBB SWL Logger is written with Xojo. A cross platform, Basic/C++ hybrid language, designed to be the ultimate database front end. While the producers of Xojo are making progress in the cross platform development arena. There are still several shortfalls. These shortfalls are simply an accepted part of using the software package. These are also well out of my control to fix. We will go over them here in hopes that I will not get hundreds of support tickets reporting a "issue" that I simply have no control over to fix.

1.1 Linux Desktop Themes

Xojo has difficulty with the desktop themes. On other platforms, there is only one "theme" to deal with, whereas on Linux, there are thousands. Controls, text size, placement, and alignment are all aspects of the theme and selected default font sizes. Therefore, I had to pick a theme to program against. The choice is Adwaita, the Enterprise Linux default. Both the light and dark Adwaita theme work well, with the layout and color pattern at an acceptable level. Adwaita is available for Gnome, Cinnamon, and Xfce. The logger will work with other themes, but results may vary widely, and are not supported.

1.2 Windows 11 Dark Mode

The SWL Logger on Windows 11 dark mode looks hideous. Microsoft gives us a lot of controls with bright blinding white regardless of light/dark mode selection. We did our best to tone down the blinding bright white while in dark mode, however, it still looks horrible. This is beyond our control to fix.

2. Supported Linux Distributions and Desktops.

Supported Linux Defined: We have a strict policy of coding, releasing and supporting at the Linux Enterprise (commercial) level or downstream of the Enterprise level. You can expect the logger to be fully tested on distributions such as Red Hat Enterprise Linux 9, and Debian 12 (Bookworm).

Unsupported Linux Defined: With the hundreds of Linux distributions out there and with several of the parent companies going off doing “their own thing”. It is literally impossible to run testing on every single distribution. Unsupported simply means we have not tested on that platform and that we will not be making any corrections to our code to accommodate a specific distribution. The logger however should run just fine on the branches of either Red Hat Enterprise Linux or Debian. We simply did not test it on unsupported distributions and we do not accept product support requests for unsupported Linux.

There will be no support or testing on “rolling” Linux releases. The more popular rolling releases are: Fedora, Manjaro, and Arch to name a few. The logger will most likely work, but these releases are so far ahead of the Enterprise, that results will vary widely. We respect the skill level required to use a rolling release, thereby, it’s safe to say. You are on your own when using a rolling release.

3. Libraries/Packages/Equipment required to run the Logger:

Linux:

A modern PC using a i3 or better processor with 8Gb RAM

glib 2.0

glibc-2.14 (64-bit)

libstdc++.so.6.0.13

libunwind8

GTK+ 3 (3.4.1 minimum)

libwebkit2gtk

libsoup 2.4

Pango

Note:

If libwebkit2gtk is not installed, libwebkitgtk-3.0-0 will be used.

A monitor at least 17” in size, to include laptops.

Windows 11:

A modern PC using a i3 or better processor with 8Gb RAM.

A monitor at least 17" in size, to include laptops.

4. Linux and Windows Installation

Installation Linux and Windows - Step 1:

Download the logger from Sourceforge. You will end up with the downloaded file in your Downloads folder. Open your file manager and navigate to your Downloads folder.

Installation Linux and Windows - Step 2:

Right Click on the downloaded file and select "Extract Here".

On Windows, right click and select Extract All.

Installation Linux and Windows - Step 3: Once extracted. The first folder that you will need to copy is the KB6IBB-SWLogger folder and its contents. The folder must reside in your home Documents directory. This is the folder that houses the databases and other support files for the logger. Simply drag the KB6IBB-SWLogger folder and drop into Documents.

The second folder to copy is the SWLog5 folder. This folder contains the binary distribution and all of the sub directories required to run the program. You can drag and drop this folder directly into your home folder.

On Linux however, it is suggested to create a directory called bin in your home directory (~/.bin). Place the SWLog5 folder there (~/.bin/SWLog5) as you will have write permission within this directory. This is how the provided sample of the .desktop file is configured.

For those that like to follow Linux standards for binary distributions, you can install in /opt. You will need SU privileges to do this. You will need to set recursive file permissions on the SWLog5 folder to 755 (sudo chmod -R 755 /opt/SWLog5). Each user of the system must also have a copy of the KB6IBB-SWLogger folder in their home documents folder.

Installation is complete at this point. Navigate with your file manager to wherever you put the SWLog5 folder. Double click on SWLog5 executable file to launch the program.

This entire procedure takes less then 1 minute to complete. Installation just doesn't get any faster and easier than this.

4.1 Creating the Desktop Icon - Linux

Once you have the program up and running. You will need to create a .desktop file to be placed in your ~/.local/share/applications directory to achieve a desktop icon if you are using the Gnome Desktop. A sample desktop file is provided for you. It goes like this:

```
[Desktop Entry]
Name=KB6IBB-SWLogger 5.0.0
Comment=Shortwave Listeners Log Book
Path=/home/kb6ibb/bin/SWLog5
Exec=/home/kb6ibb/bin/SWLog5/SWLog5
Type=Application
Encoding=UTF-8
Terminal=false
Categories=None;
Hidden=false
NoDisplay=false
Icon=/home/kb6ibb/bin/SWLog5/SWLog5 Resources/appicon_48.png
```

In every case, unless you make a user called kb6ibb, you will need to edit the .desktop file to reflect where you put the program. Edit the Exec line to reflect the location of the executable. Edit the Path line to reflect where the logger resides. Edit the Icon line to also reflect where the icon resides. You only need to edit the highlighted portion of the line.

Some pesky Gnome deployments may require that you log out and log back in again to update the desktop files. If your icon does not appear, try this step. If it still does not appear, then you made an error in editing the lines. Correct the error and try again.

If you are using the Cinnamon or XFCE desktops, you can create a menu entry using the standard tools provided. You will still need to edit the .desktop file to include a Path. Otherwise the logger will be dropping files in your home directory.

4.2 Windows 11 Installation

We have not applied, nor will we ever apply, for a Microsoft security certificate. You need to allow the program to run by selecting “Run Anyway” or by allowing a exemption in your third party security package. Sometimes both.

The Windows Edition of the SWL Logger installs the same way as the Linux Edition. The KB6IBB-SWLogger folder would go into “Documents”, and the SWLog5 folder would be placed in the users home directory.

Installation is complete at this point. Navigate with Explorer to wherever you put the SWLog5 folder. Right click on the SWLog5 executable and select “Pin to Start” and the icon will be placed on your Start menu.

4.3 Non-Standard Installation

A non-standard installation is defined as the KB6IBB-SWLogger folder being placed somewhere other than in the users home/documents folder.

The workflow for changing the location goes like this:

Perform a standard installation. Ensure the software is working correctly. Close the logger. Perform a back up. From there, copy the KB6IBB-SWLogger folder and it’s contents to the new location. Restart the Logger. Select Edit → Preferences to bring up the configuration. Click the Set Path button on the lower right side of the window. Select the new location. Save the configuration. Close the Logger. Restart the logger and ensure the new path to the databases is being used. If everything looks good, close the logger and it is safe to delete the KB6IBB-SWLogger folder in Documents. This feature comes in very handy if you are using Microsoft One Drive.

5. Basic Operations

Upon start up of the logger, it will check to see if the database folder is correctly located in your home documents folder (~/.Documents/KB6IBB-SWLogger). If it can not find the folder, the program will close with with a message to install according to instructions. This indicates you did not successfully copy the KB6IBB-SWLogger folder and it’s contents to your home documents directory.

If the KB6IBB-SWLogger folder correctly resides in your home documents folder, the Logger will test for the SWL-Master5.sqlite file to be present. If it is not found, the program will close with a message to install according to instructions. This indicates you did not successfully copy the KB6IBB-SWLogger folder and it’s contents to your home documents directory.

Assuming all went well, the Logger will now test for the SWL-Log5.sqlite, and EiBi-Data5.sqlite files. If these files are missing, and the SWL-Log5.sqlite file will be on first run. New ones will be created for you. This indicates you successfully installed the KB6IBB-SWLogger folder into your home Documents folder.

The main console window will then be shown. This is a fixed window (does not re-size). There is no support for screens smaller than 17 inches. This is not an error or bug. The window was designed to not be re-sizable.

It is the goal that the logger be self explanatory, in which, we have achieved that goal. Every field has a tool tip, be sure to read them. In some cases, there are

on-window instructions. Be sure to read them. 50% of the instructions are on screen access.

From this point forward, the instruction manual will cover areas of the program that may require special attention. Otherwise, operations are self explanatory.

5.2 Station Categories

Station Categories are designed to allow you to sort your logged data by category. The default is: Shortwave General (Music, News, Political Insight). There are 28 other categories available to categorize the station you are listening to. If you are a Numbers Station hunter, or perhaps a Pirate hunter. There are categories for that. The Station Categories are used in conjunction with the Table Sort menu. For example: show all records categorized as Military Aviation – Combat Zone will show all of the records within that category on the selection table. Again, the power is in the details. If you don't take the time to categorize the station you are listening to, there will be no way to sort accordingly.

5.3 Station / Transmitter Grid Square

This is another interesting area to log. The Station grid square is intended to log the Station country of origin, whereas the Transmitter grid square is intended to log where the transmitter is located. This becomes important when listening to stations that are relayed by transmitters around the world. For example, Radio Taiwan International would have a station grid reflecting Taiwan, but the broadcast is being relayed from a transmitter in Okeechobee, FL. Therefore, the transmitter grid will be Okeechobee.

5.4 The Save Button

The best way to protect saved data from being inadvertently overwritten is not to allow automatic saves of the data. Make a mistake and it's automatically saved. Nope, not the way to do it. Every time you make a change to the logged record and are sure the changes are ready to be saved. You will need to click the Save button. This is not a bug or error. It's built that way. Click the Save button often.

5.5 Dates

The logger operates in the UTC time zone and the date format is ISO 8601 compliant (YYYY-MM-DD). Date/Time will be filled in automatically upon adding a new record from either the New button, or the Shortwave Reference Database, Log Selection button. This makes live listening logging easy. However, there may be times when you want to move paper logs into the database. By default the logger is set to use American date formats for data entry (MM-DD-YYYY). If you are located outside of the U.S. Check the EU Date formatting on the Preferences screen. This will allow date entry in the EU/British format (DD-MM-YYYY). The

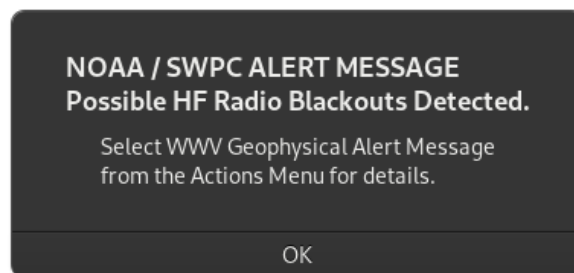
third option is to check the ISO 8601 format (YYYY-MM-DD). Validation masks are deployed on the Date/Time fields. You only need to worry about entering the numbers in, no “/” or “-” required. Dates will always be automatically formatted and saved in the database in ISO 8601 format. Dates will be translated to Long Date format for display on the selection table.

5.6 New Button

As you would expect, this button adds a new record to the Log. You can use this button when the station you are listening to is not in the EiBi or HFCC Databases. It adds a minimal record. Defaulting the frequency to 10000 kHz, and the Station as “New Record”. Edit your frequency and station, place it into a category, click the Save button. You may not know everything else about the station such as the country of origin, transmitter location, maybe a best guess at the language being used. This is where your monitoring notes become important. Note everything you know, guess, or assumed about the station you are listening to. A numbers or pirate station is a good example of when you would use the New Button.

5.7 Propagation Data

Propagation data is provided by two resources. The first and “go to” resource is the WWV Geophysical Alert messages. These messages are parsed to deliver just the numbers for logging. The key phrase in a WWV message is “Radio Blackouts” and if found, information messages will be displayed at start up and each time you click the WWV button to log propagation data. This is not an error or bug, it’s designed this way.



The second resource is NONBH propagation data. This data is mined from several internet resources and delivers two additional fields.

5.8 Monitoring Above 30000 Khz (30.000.000 MHz)

The logger is designed to log and function on the VLF/HF bands from 1 Khz to 30 MHz. There is a way to log stations above the 30 MHz limit, however, much of the automatic features and the SDR interface will not be applicable. To log a frequency above 30 MHz follow this work flow:

Click the new button to create a new record. You will have to manually enter most all of the fields. Fill in the fields, click the Save button. You now have a log entry above 30 MHz.

6 Reports

There currently is no “report” capabilities built in. The table sort is adequate for displaying logged data by category, search functions give the ability to locate exact records. The database is a common SQLite database. There are hundreds, if not thousands, of third party programs out there that can generate reports and stats if that is your thing.

7. Third Party Data

The Logger uses several third party data sources. The EiBi Shortwave Database and the propagation data are both good examples. The Logger only retrieves and displays what is provided. We are not responsible for errors in third party data that is provided. If there is an error in the shortwave reference databases, that is a problem for those who maintain the database to resolve. Same can be said for the propagation data that the Logger retrieves. Please do not open a support ticket for something that is obviously out of our control and that we can not fix.

8. EiBi Translation Database (aka Master Database)

The file named SWL-Master5.sqlite houses all of the codes and descriptions used in the EiBi Shortwave Database. This is how we go from a Country Code of “UGA” in the EiBi database to a complete description of “Uganda” being displayed in the Logger. This file is 15 years old and has matured over the years. Capturing nearly all shortwave transmitter locations. Pretty much all of the languages, countries, and coverage targets have been captured. However, **it is still up to the end user (you) to keep the master file up to date.**

This file is only active during a EiBi Import. The record is read from the EiBi csv database, then the codes looked up in the Master file, the description replaces the code. A nice new record is written to a file called EiBi-Data5.sqlite. Which is the translated database seen on screen.

8.1 The Zombie Code/File

A zombie code may be generated during a EiBi import. The code is looked up in the Master file and the code is not found. Not only does the Logger report at the end of a EiBi import the number of zombies, but it also records them in a file called Zombie.txt located in the KB6IBB-SWLogger folder. From this file is where you will get the code to append in the database. There are always a number of zombies because sometimes EiBi does not provide us with a code and description with each update. Such is life... Having less than 25 zombies in a database that is over 11,000 records would be considered normal.

8.2 Appending a code/description

To proceed with updating the zombie. Select from the Databases menu, EiBi Master Database. This will display the mater database window. There are on screen instructions provided as well.

You will need to open the Zombie.txt file in your favorite editor. Linux users can use Gedit and Windows users can use Notepad. In the file you will see the zombie codes and they look like this:

```
# Zombie File: Tuesday, July 25, 2023 at 6:54:02 PM UTC
#
# Compound language codes are a string of codes separated by a commas (,).
# There is no need to change these as they represent multiple languages used.
#
Language Code Zombie: R8
Transmitter Code Zombie: USA-sd
Transmitter Code Zombie: GRC-xx
```

The next thing you will need is the EiBi REAME file. You can open the file directly from the EiBi web site, or download it to be opened in your favorite editor.

In this example we see a USA-sd Zombie transmitter code. When we look that code up in the README file, we discover there is no description. The code has not yet been added to the README. **STOP RIGHT THERE!! LEAVE THE CODE ALONE.** Let it be a zombie for a while. If you add your own description, then in a few months when the code is added to the README file, you will not be able to change the description. You would be forever stuck with a code description that was not provided by EiBi. Always look up the code in the README file before considering appending it to the master database.

Otherwise you will copy the code from the Zombie file and paste it into the Logger's Code field. Be sure to copy it to the right table. Then copy the description from the EiBi README file and paste in the Logger's Description field. When you are absolutely sure, click append.

The next time the EiBi csv file is imported, the code will be translated as any other. Zombie codes left in the database will simply display as the code when you look them up. In the example above, we already know from the country code, USA, which ITU Region/Zone the transmitter is in. It's a great starting point, never dismiss a zombie code. Even without an official description, the code is still useful.

By the very nature of the process, duplicate codes should never happen. Duplicate codes are bad. Very bad. The zombie.txt file will show codes that are not in the database. These are the only codes that should ever be appended to this database. Never fear, if you destroy your Master file, you can always copy the one that came with the distribution to recover. Then start again.

Prior to doing any work on the Master file, you would always perform a back up so that if something does happen, you can recover. If you open a support ticket regarding the Master file, chances are, the answer is going to be "restore from backup". This is part of the reason why we make such a demand on using the Documents folder. Both Linux and Windows have the capability to mirror this folder, so your Documents folder is always in a state of backed up. It is strongly suggested you turn on the feature and begin to use it.

9. HFCC Database Merge

HFCC is a sector member of the International Telecommunications Union, and represents efforts to coordinate HF stations around the world. That said, the database by no means represents everything there is on HF. It represents stations and entities that support the coordination efforts and who regularly report to HFCC any changes in operations. Because the stations are self reporting, the accuracy of the data presented is rather high.

The database is divided into several code translation tables that support the main database file. In other words, like the EiBi database, HFCC is also encoded. The logger will translate the codes into descriptions for display and logging. The concept of the HFCC database is the same as EiBi. We first have to generate a master table that houses all of the codes and descriptions. Following that, we have to translate those codes into readable descriptions. Once all that work is done we merge the HFCC database with the EiBi database.

The logger has each of these steps. When completing a merge, you always need to start at Step 1, then Step 2, then Step 3. Going out of order will cause the logger to unexpectedly terminate. While this is an error, we are intentionally leaving it in place as a method to ensure steps 1-3 are completed in order. No worries if you choose to destroy the database by going out of order, you can always restore from back up or from the original distribution file.

9.1 - Download the HFCC database

On the Databases menu, use the HFCC Shortwave Database link for downloading the HFCC database, and it works just like the EiBi link. When you navigate to the web site, you will see decades of historical data. Scroll all the way to the bottom of the files list, pay attention to the dates, and you will find the most recent HFCC zip file. Simply click on it to download it.

Once downloaded, you will need to drag the zip file and drop it into the ../KB6IBB-SWLLLogger/HFCC folder. Once that is complete, you can right click on the zip file. Windows users will select "Extract All" and Linux users will select "Extract Here". This will decompress the zipped archive. Now we have a working folder to begin the process of the merge. In each of the below steps, you will have to navigate to the extracted folder.

9.2 - Step 1 Creating the HFCC Master Database

After you have extracted the HFCC database files. Select HFCC Merge option from the Databases menu. The HFCC Merge window will be displayed.

Begin the process by clicking the Create HFCC Master Database button. The logger will check to see if the HFCC folder resides in your KB6IBB-SWLLLogger folder. If it does not, a nil exception error will be thrown and the logger shutdown. This indicates you did not properly complete the install. We have chosen not to trap the nil exception error by design.

Assuming all went well, you will be presented with a folder selection box and asked to select the folder that contains the HFCC files. This would be the location you extracted the HFCC file into. The logger will check to see if the files are in the location you selected, and will begin building the HFCC master file. If the files are not found, an error will be generated and you will be asked to try again.

9.3 - Step 2 Translate the HFCC File

Clicking on the Translate HFCC Data File, you will be presented with another file dialog box asking you to select **all00.TXT. The first two numbers in the file name represent the year, all representing all listings. Select the file. The logger is going to create a file called HFCC-Export.csv and is the translated HFCC database. You will see the records process in the text area next to the button. When the translation is complete, a message will be shown that it was successfully completed. You are now ready for Step 3.

9.4 - Step 3 Merge HFCC with EiBi

Clicking the Merge Database button and the logger will ask you to select the HFCC-Export.csv file. Once selected, the merge will take place. When the merge is complete, the window will close.

At this point, you can view the HFCC data in the Shortwave Reference Database. The table sort selector is marked for either EiBi, HFCC, or both. The general rule of thumb is if it's not specifically marked EiBi or HFCC, then both the HFCC and EiBi datasets are displayed.

The HFCC-Export.csv file that was created in Step 2 is suitable for import into any other third party package that will import csv files. This is why the file is left behind in Step 2.

9.5 - Remove HFCC Merge

If at any point you wish to remove the HFCC data from the Shortwave Reference Database, click this "Remove Merge" button. Once complete, the HFCC data will be removed.

10.0 AOKI Database

Implementation of the AOKI Shortwave Database is something we have been sitting on for some time now. Awaiting a more stable and formatted data structure. End user requests were starting to stack up, as a result, we have decided to implement what there is. To maintain compliance with our compatibility policies, the Microsoft Excel spread sheet that comes in the AOKI package will not be used as Microsoft Excel is not available for Linux.

First and foremost, the data file provided by AOKI (nc<season>.txt) has some formatting errors with columns not aligning up for every single field on every single record. Therefore, you will experience some data loss in the form of incorrectly merged records. The time fields are particularly of interest, since the "On Air" check box returns only stations currently on the air when checked. When this field is not exactly perfect, an "out of range" error occurs. The logger will shut down. This error is not a Logger error, no need to report it to us, report to the AOKI database project.

We have made efforts to force import the AOKI database, and trapped as many of the alignment errors as we could based upon the UTC Time column. When you see a "AOKI Data Alignment Error. See Instructions." message, you will note that the data looks scrambled. That is because columns are out of alignment for that record but we forced the import anyway and changed the Time field to 0001-0002 to retain the On Air checkbox functionality. This paragraph is what is being referred to in the message.

You can always take the much more time consuming route and correct the NC<season>.txt file yourself before import. Simply make sure all of the time columns line up. Add or removed spaces in the places that it makes the most common sense to do so. Remember, it's columnar data. There are over 5,000 lines to look at.

All of the formatting errors may not be trapped. No need to report them, it's just something we live with for the time being. It is our sincere hope that someday the AOKI data file will be available in a standardized and universal CSV format.

The AOKI database does not have any translation tables for the codes they use, nor is there any documentation showing how they implement these codes. Therefore, no translation of codes takes place. You will have to look them up manually. Most notably, the AOKI "ADM" field is imported as the Country of Origin (ITU) field in the Logger. This is a coded field with no translation.

To make up for not having a translation table for the codes used, we found that the vast majority of codes match up with the HFCC Admin table. There is now an option to use this table to translate the code to it's real description. However, this is only an assumption as to what the codes are. It is also important to note that before you can use the HFCC translation table, you must merge the HFCC database into the logger (see above) first. At bare minimum, completing the HFCC merge Step 1 to generate the HFCC Master database.

The logger combines the transmitter location and coordinates fields into one, separated by a double slash. Eg; <transmitter location> // <coordinates>.

Otherwise, merging the AOKI database into the logger works just like the HFCC merge. Download the seasons zip file from the AOKI site, unzip it somewhere, click the merge button, select the NC<season>.txt (Example: ncb24.txt) file, the process is automated from there.

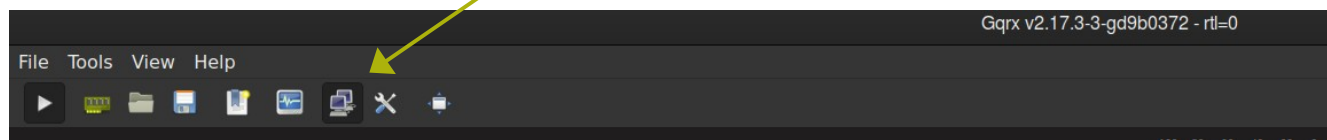
11. Software Define Radio Interface

The only SDR Receivers that will be supported are those with a TCP connection available for use with the rigctl package (HamLib) for CAT, and that are cross platform. These include but are not limited to Gqrx and SDR++ to name a few. We will not implement support for receivers that are designed for only one operating system. GQRX is and always will be our preferred receiver to use and is extensively tested on both Windows and Linux.

Currently we are supporting Gqrx, SDRConnect (when available), and SDR++.

Configuration is very simple. All of the configuration settings on the SWL Logger side are hard coded to the "out of the box" defaults. You need not change a single thing. It's just a matter of turning the feature on.

For Gqrx, simply click on the “Remote Control Via TCP” button on the Gqrx tool bar.



Next, selected “Connect to Gqrx” from the Loggers SDR menu.

Done. You are now ready to poll data from the receiver.

The procedure works exactly the same for SDR++.
Start the Rigctl Server from SDR++.



Next, selected “Connect to SDR++” from the Loggers SDR menu.

Done. You are now ready to poll data from the receiver.

Note: SDR++ does not have a built in command to deliver a signal report and filters follow the default table found in the SDR++ instruction manual.

Generic [HamLib] rigctl

The generic rigctl option offers radio polling via the hamlib as a bridge between TCP and the old fashioned 1960’s serial connection. As stated above, the SWL Logger is hard coded to the “out of the box” defaults. You will have to install the rigctl and hamlib packages for your operating system. You will have to configure rigctl according to their instructions. Once you have a working rigctl connection, select the “Generic rigctl” from the SDR menu to establish connection. We do not offer any support for rigctl it self. Questions about getting rigctl up and running need to be directed to the rigctl/hamlib projects form of support.

We tested this interface with both a Yaesu 991A and Icom 7100 and found them both to work perfectly.

11.1 Polling the receiver

Each of the selections for all of the receivers are identical and perform the same functions using the same rigctl command set.

There are two places to poll a receiver, and each serve different functions. Polling the receiver from the Shortwave Reference Database will result in a look up of the currently tuned frequency. When doing this, be sure to zero beat the frequency. An exact match is required. For example, polling a frequency of 12158 kHz will result in no records being found, whereas polling a frequency of 12160 will return WWCR. Sometimes shortwave transmitters will drift, try different searches other than a poll in this case. Bottom line is the frequency displayed on the receiver will be the frequency searched by the logger.

The second place to poll a receiver is in the Shortwave Log section. Click the Poll Receiver button. The receiver will be polled for Frequency, Passband Filter, Mode, and Signal Strength. Appropriate fields will be filled in. When you click the Save button, these values are logged into the database.

For receivers other than SDR++, you can poll just the signal report by selecting the Poll option from the signal in db combobox.

11.2 Tuning the receivers

There are two places to tune the receiver and they both work identically the same. Double clicking on the selection on the database table, will tune the receiver to the selected frequency.

Double clicking on the selection table in the Shortwave Reference Database area will result in the selected frequency being tuned, AM mode, with a 10k passband filter.

Double clicking on the selection table in the Shortwave Log area will result in the selected frequency, mode, and passband being tuned from the logged entry. In all cases, the first selection of the comboboxes will be what is saved in the database. This gives you a “memory” channel style of operation.

11.3 SDR Performance Notes

The logger is designed to communicate directly with a SDR directly over a TCP port. The logger is the rigctl client, the SDR receiver is the rigctl server. I/O buffers are configured for this high speed method, with a 50 millisecond response time. This is the method that our development will be focused on moving forward.

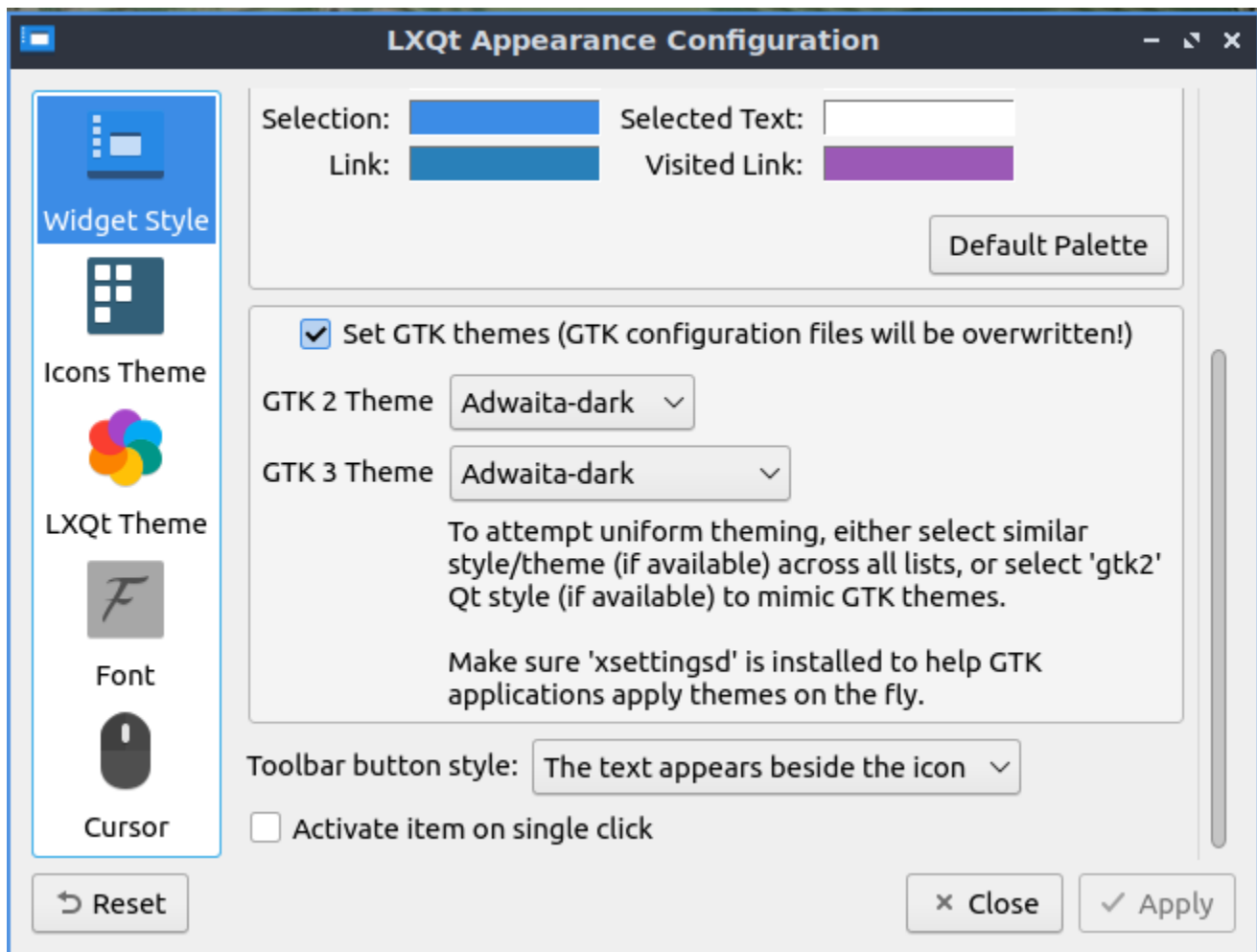
Rigctl can and does offer a bridge between the modern TCP method and the very old fashioned 1960's serial I/O. Any delays in data exchange occur between rigctl and the serial communications at a lower data transceive (baud) rate. Most ham radio transceivers have a default baud rate set excessively slow at 4800. That is so slow it's almost not usable. To increase performance, baud rates should be as fast as possible. At least 9600 or better. The faster the baud rate from the radio, the less risk of data loss due to device time outs.

There are also slow downs when there is multiple layers of software the data has to pass through. Again, the logger is designed to communicate directly with rigctl and rigctl should be directly communicating with the radio. The logger will fail to communicate with the radio when rigctl has to go through multiple layers such as a virtual com port, and other radio control packages. The more layers of software between the radio and the rigctl server, the higher risk of time out failure. The logger will always make a best effort, but often times with all that overhead, data loss will occur. Use the Generic Rigctl option as these buffers have been slowed down (doubled) to a 100 millisecond buffer response time. In other words, it will wait for the data to arrive, but it won't wait long. Set the radios baud rate to 115200 and the radio should be able to keep up.

Appendix 1 - Linux Settings for Various Unsupported Distributions

A1.1 - Dragon OS

Dragon OS is a SWL's and/or SDR's dream come true. All of the available SDR software is preinstalled. However, Dragon OS is using lubuntu, yet another branch of Debian. It's also using the LXQt desktop, which is pretty new and has yet to mature into a fully functional desktop. The Logger has been tested on this branch of Debian and needs to have the following settings changed. The GTK section, select Adwaita Dark as shown below. There is no further support for Dragon OS.



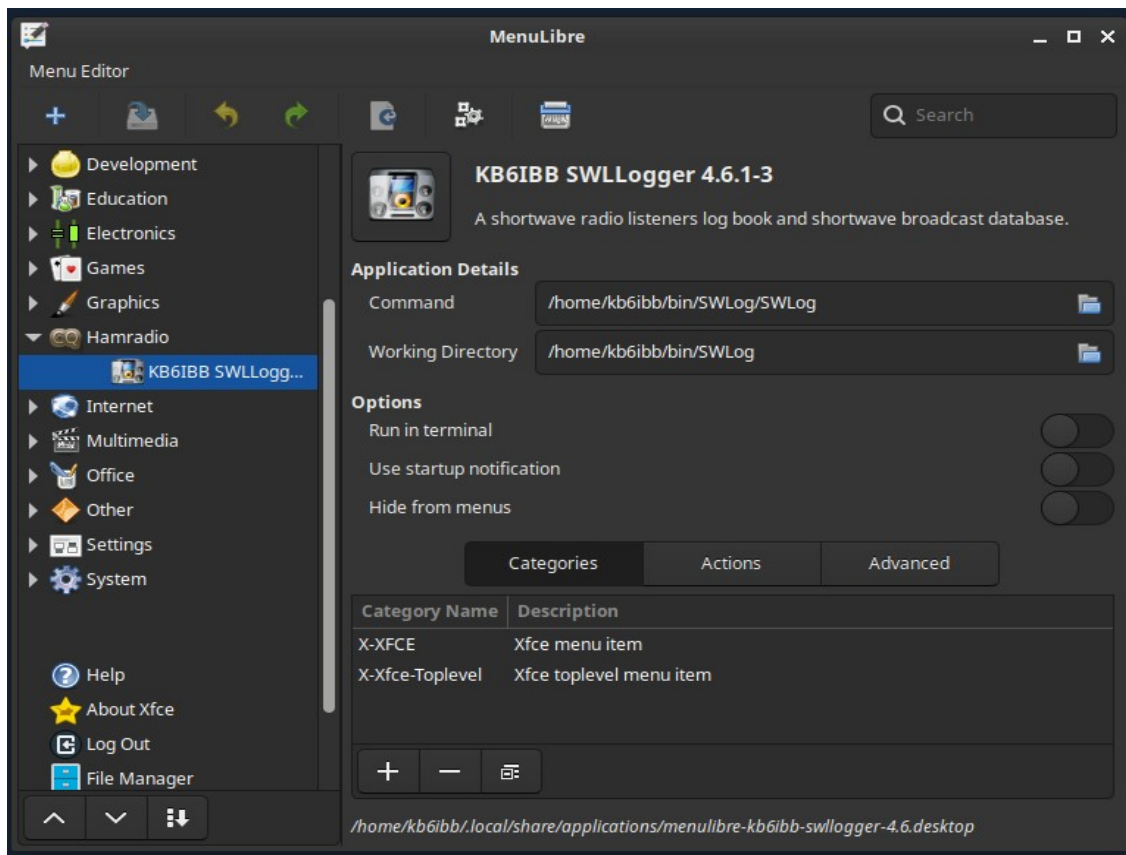
A1.2 - Andy's Ham Radio Linux

This version of Linux is running on Xubuntu, yet another Debian branch. The system is running Xorg and Xfce desktop by default, Adwaita theme is installed. All of the loggers dependencies are satisfied by default. Which is ideal for the logger.

Prior to conducting an install of the Logger, an update/upgrade of the system needs be completed in accordance with Andy's instructions.

Creating a .desktop / Menu Entry

Using MenuLibre create your menu entry as you always have. I placed mine in the ham radio category. Your menu entry should look like the example, with paths that match your system.



The .desktop file that is created in your ~/.local/share/applications looks like this.

[Desktop Entry]

Version=1.1

Type=Application

Name=KB6IBB SWLLogger 4.6.1-3

Comment=A shortwave radio listeners log book and shortwave broadcast database.

Icon=/home/kb6ibb/bin/SWLog/SWLog Resources/radio2Icon.png

Exec=/home/kb6ibb/bin/SWLog/SWLog

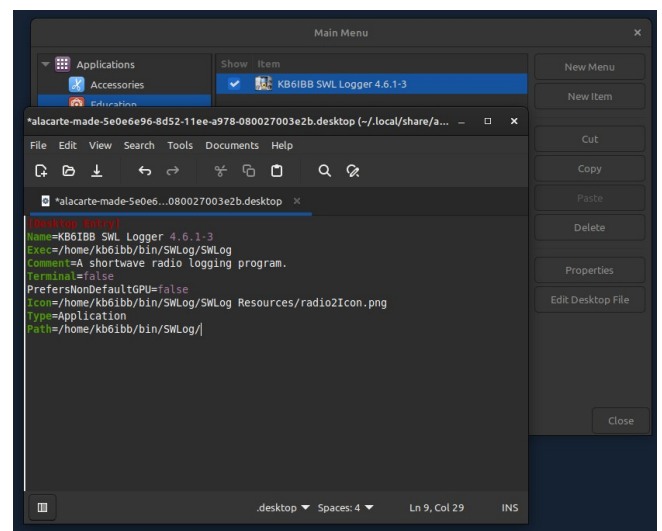
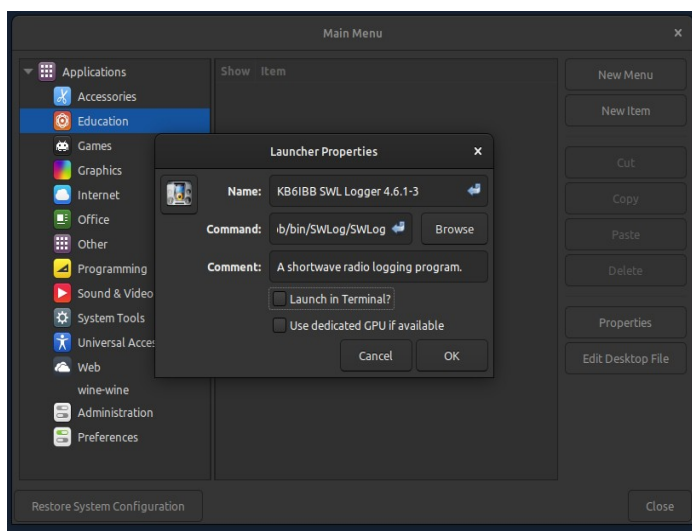
Path=/home/kb6ibb/bin/SWLog

Actions=

Categories=X-XFCE;X-Xfce-Toplevel;

A1.3 - The Cinnamon Desktop Menu Creation

If you are using the Cinnamon Desktop, you may create the menu entry by using the standard method. However, you will need to edit the desktop file to add a path to the desktop file as shown below.



If you choose not to edit the desktop file, the SWL Logger will fall back to writing the path configuration file to your home directory. To keep things together as one nice package in a organized way. Set the path.

Appendix 2 - Updating On Linux and Windows

Prior to updating the logger, make a back up copy of your Documents folder. Inevitably someone will try to over think the update process and do things that are not needed. A back up gives you a method to restore your data.

Backing up the logger is very simple. **Copy** the KB6IBB-SWLLLogger folder and it's contents to somewhere on your system, thumb drive, back up drive, One Drive. Done, your data is now backed up.

When you download a new update from Sourceforge, you need not worry about copying over the new KB6IBB-SWLLLogger folder unless specifically instructed to do so. You only need to copy over the SWLog5 folder to the exact location you copied the original version to.

1. After you have decompressed the tar ball. Drag the SWLog5 folder to the exact location you placed the original version into.

Linux: Select Merge Folders and Replace Files.

Windows: Select Replace the files and folders.

2. Update complete.

A2.1 Updating On Linux and Windows from Version 4.6 to Version 5.0

Version 5.0 requires the KB6IBB-SWLLLogger folder to be in your Documents folder.

Version 5.0 will live alongside Version 4.6.

The SWL-Master5.sqlite file must be copied from the distribution to the KB6IBB-SWLLLogger folder residing in Documents.

A folder called HFCC (case sensitive) must reside in the KB6IBB-SWLLLogger folder.

As usual, upon first run, any missing files will be automatically created.

The Version 4 SWL-Log.sqlite file must also reside in the KB6IBB-SWLLLogger folder.

Start the Version 5 logger, immediately as your very first task, import the Version 4 log into Version 5. Click the Help Menu and Select the import Version 4 to Version 5 option. Follow on-screen instructions.

You may now proceed with exploration of the new version and begin logging as usual.

Appendix 3 - Current Release Notes Version 5.0.2

All changes have been updated in the manual.

Troubleshooting

Rules of engagement:

1. **Do not panic!** Focus, think it through, take detailed notes, formulate your question for a product support ticket. Make it possible for us to help you by being as detailed with the issue as possible.
2. Do not start deleting things, trying to reinstall, reconfigure your operating system, or even reinstall the operating system. None of this will help, you will just create new problems for yourself. This also makes it impossible for us to provide any assistance.
3. **Read the error message and instruction manual in detail.** Whenever possible we have attempted to trap the most common errors the software can generate. We then give you a comprehensive message that tells you exactly how the error was generated. The solution to resolving the error, don't do whatever you did to generate the error message.

Here is an example:

A message box that says:

Error: Out of Bounds Exception
No Records in the Table.
Attempt to select a empty row.

This error occurs when you try to select something from the table that does not exist. Not in a million years did we think someone would try to click on a empty table or empty row on the table, but someone did. So we trapped the error. To resolve this error, don't click on a empty table or row. No need to fill out a support ticket.

4. There are "errors" that we have left in the program intentionally to ensure the end user follows instructions. If you receive a message that says "Please Install According to Instructions" the software will terminate following the message. These are expected errors and designed to ensure the software is installed properly. No need to report them. The solution is to follow the installation instructions.

Project Policies

501C3 Compliance

Product Support Policy

All forms of product support are only available by filling out a support ticket on Sourceforge. There are no exceptions.

<https://sourceforge.net/p/kb6ibbswllogger/tickets/>

We love hearing from you in private email, however, we also rely upon the Sourceforge ticket tracking for further improvements and bug fixes. Please do not be disappointed if you are refereed back to filling out a support ticket when addressing something in private email. It's a important part of the project and vital for our release schedule.

Prior to filling out a support ticket, we ask that you please review the instruction manual first. Well over 75% of the support requests we receive are answered in the instructions. This will also save you the time and effort of filling out a support ticket to only be referred back to the instructions (see below).

Prior to filling out a support ticket, please ensure that the issue you are reporting is ours to deal with. Please report errors or anomalies to the correct project.

When a support ticket is opened on Sourceforge, and the question is answered in the instructions. The ticket will be closed with a referral to the instructions. This instruction manual is written in the International Lingua Franca. The only exception to this policy is if a user does not speak, read, or write the International Lingua Franca. In that case, please fill out the support ticket in your native language and we will track down a volunteer that does speak your language to translate. This may take additional time, but we will get you an answer in your native language.

When a support ticket is opened on Sourceforge, and the information provided is vague or lacking detail. The ticket will be closed with "not enough information provided to be of assistance". With that said we need exact details of how the issue was generated along with a screen shot in order to duplicate the issue in the lab. Screen shots need to be readable, therefore the use of a screen shot program such as Windows Snipping Tool, or Gnome's Screenshot needs to be used.

Social Media Policy

There is one unofficial social media place to discuss the use of the Logger.
Reddit: r/KB6IBBSWLLlogger

Official product support is not provided on social media outlets. The only official product support is through Sourceforge support tickets.

The development team does not monitor social media for questions or discussions. To correspond with the development team, fill out a support ticket on Sourceforge. Beware of advice received on social media, more often than not, the advice given is not correct.

There are no officially project endorsed You Tube videos in production or release. Should you find one out there, view these at your own risk. None have been officially endorsed by the project and may not deliver correct information.

Rolling Release Product Support

We do not support rolling release models of any type on any platform. We will not support rolling Linux releases such as Fedora, Tumbleweed, Arch, and Manjaro to name a few. These are inherently unstable and we are just not going to spend time chasing down rolling release bugs and errors. If the Logger is working on your rolling release fantastic. If not, you are on your own. We do not accept product support requests for rolling releases.

Feature Request Policy

We love hearing from the user base and all of the creative ways you use the product. When requesting a feature, the following will be required:

Feature requests must be cross platform. Requesting a feature that is Windows only or Linux only will not be accepted. In the case of a third party application, it must run native on both platforms to be considered for integration.

Feature requests must be applicable to the “big picture”. All users of the package must benefit from the feature being requested in a cross platform environment to be considered.

Features are implemented on our regular back porting schedule. Normally, feature requests that make it through the screening process and into coding are implemented within a year of the request. Unless we are already working on the feature, then it could be implemented sooner.

Release Cycle Policy

Generally speaking, a maintenance update can be expected every 12 – 18 months. However, if there have been no major changes to the operating system and the support tickets do not indicate the need for an update. Maintenance updates could extend out 24 – 36 months or longer.

The decision to produce any type of update is directly tied to the support tickets on Sourceforge. No open tickets or trending problems, no need to update.

The Linux Edition releases will run anywhere from a few weeks to a few days ahead of Windows. The Linux Edition will be released as a Beta test and will move from Beta test into LTS Release pending upon any open support tickets documenting any problems. Each support ticket for Beta will be addressed, fixed if required, then the Linux Edition released back into Beta test. The Linux Edition will then be moved from Beta Test to a LTS Release when the support tickets indicate a bug free product worthy of LTS. Since the code is shared between Linux and Windows, the Windows Edition gets released right into a LTS Release. If there are no support tickets generated against the Linux Edition Beta, it will be moved into LTS Release within 14 days, followed by the Windows Edition within a day or two.

Environmental Protection Policy

When producing software within the hobby environment, we not only understand, but encourage the recycling of old computers. It really is part of the fun associated with the hobby and good for landfill management. We will continue to always write code to the best of our ability that will support computer recycling. There is a point however when too old is just too old.

We are committed to writing code to the best of our ability that places minimal stress on the computer hardware. It is our best effort to reduce power consumption through efficient use of the computer hardware.

Equality and Diversity Policy

The KB6IBB-SWLLLogger Project commits to:

Compliance with the United States Equality Act of 2010 protected characteristics of age, disability, gender reassignment, marriage and civil partnership, pregnancy and maternity, race (including color, nationality, and ethnic or national origin), religion or belief, sex (gender) and sexual orientation.

To encourage equality and diversity project wide.

To create a working environment for our volunteers free of bullying, harassment, victimization and unlawful discrimination, promoting dignity and respect for all, and where individual differences and the contributions of all volunteers are recognized and valued.

The project will take seriously complaints of bullying, harassment, victimization, and unlawful discrimination by fellow volunteers, customers, suppliers, visitors, the public, and any others in the course of the projects activities.