User Guide

iDigi

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https://idigi.ch

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1 Introduction

1.1 What is iDigi?

iDigi is a specialized digital mode application developed for communication primarily on ham radio bands. It works by integrating your transceiver, a sound card or sound card interface, and your computer to facilitate seamless digital communication. The software decodes incoming signals received through your transceiver and processes them on your computer, while also generating outgoing signals for transmission. This makes iDigi a comprehensive tool for both receiving and transmitting digital signals in ham radio operations, offering streamlined communication across various digital modes.Currently, iDigi supports various digital modes, including:

- PSK31, PSK63, and PSK125
- RTTY (at common baud rates and modes)
- FT8 and FT4 (single or multiple parallel sessions)
- WSPR (Weak Signal Propagation Report)
- SSTV (over 100 different SSTV modes)
- WEFAX (IOC288, IOC576, 60 LPM to 240 LPM), including transmission capabilities
- CW (Continuous Wave, Morse code)

iDigi is compatible with macOS and is highly optimized for performance, aiming to reduce CPU load and extend battery life for users operating on portable devices.

Additionally, iDigi contains fully integrated log functionality with import/export and upload functionality to QRZ.com, eQSL, ClubLog, Wavelog and LoTW. Additionally it can be integrated with other log applications (RUMlogNG, MacLoggerDX, or any N1MM compatible logger) through the N1MM protocol.

Callsign information lookup through QRZ.com and HamQTH is included (will require a QRZ.com XML-API subscription if you would like to retrieve more than only the public information).

1.2 How does it work?

iDigi is a sound-card digital mode application, commonly used in ham radio communication. It only necessitates a ham radio transceiver, and optionally, a sound interface with galvanic separation, along with your Mac installed with iDigi, to enable communication in the mentioned modes. There's no need for specialized or potentially costly hardware. For optimal performance and safety, I suggest using DigiLink Nano, which provides galvanic separation between the

computer and transceiver. You can find more information about DigiLink Nano on the website: https://www.hb9zhk.ch/. (Please note that I not only authored iDigi but also designed and sell DigiLink Nano.)

Shortwave listeners (SWLs) interested in monitoring these modes or receiving weather fax images from various shortwave sources only require a shortwave receiver. Alternatively, they can utilize WebSDRs to capture shortwave signals from locations worldwide, which can then be fed into iDigi for decoding.

2 Main Window

2.1 General

The main window is divided into five sections, each serving a specific purpose. Each section is described extensively in the following chapters.

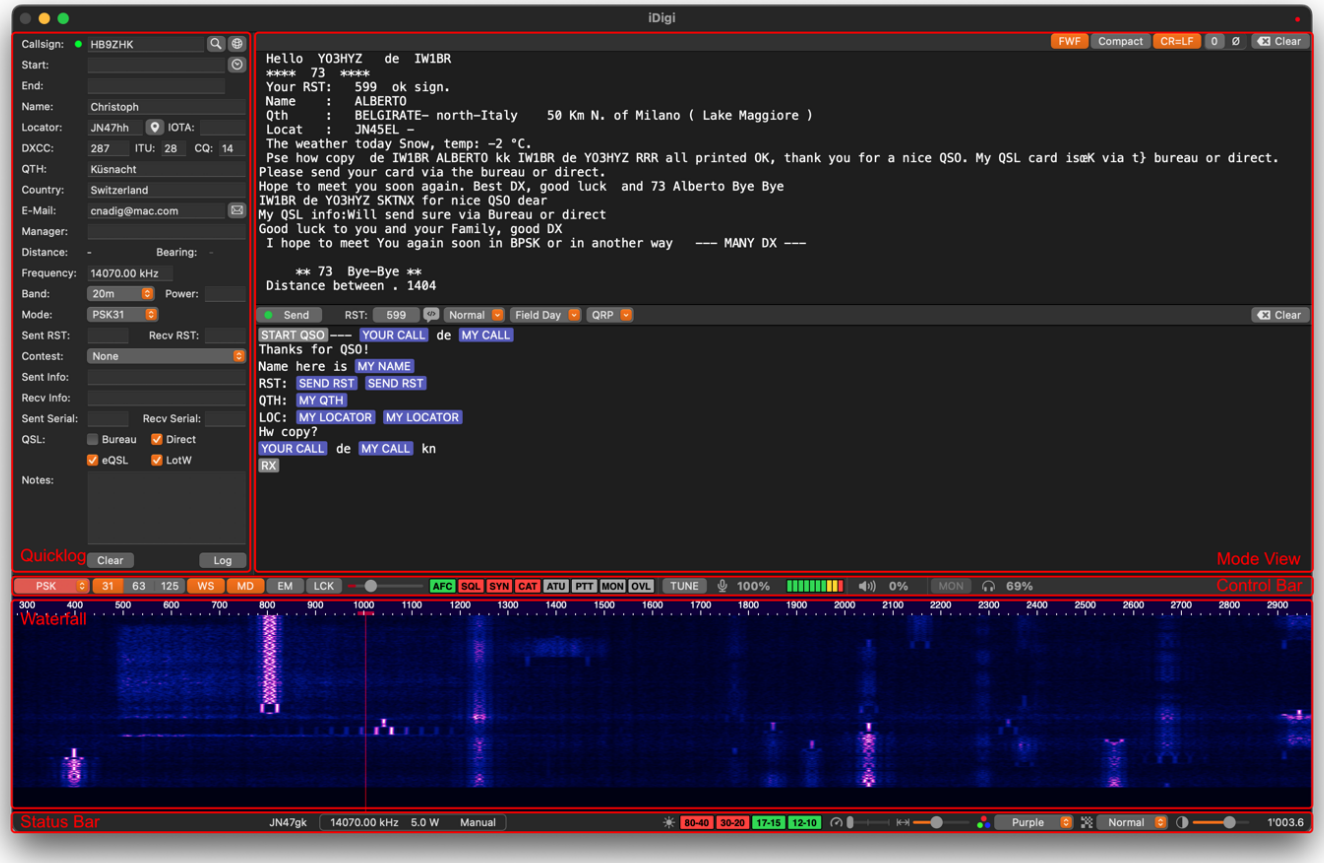


Figure 1: iDigi Main Window

2.1.1 Mode View

Mode view is specific to the mode in use and will get replaced when you change mode via the red mode selector on the left end of the Control Bar.

Content and functionality of the different modes views are explained in the modes sections later in this document.

2.1.2 Control Bar

Control Bar contains generic and mode specific elements. Mode specific elements are changed when you change the mode. Meaning and functionality of the mode specific elements are explained in the modes sections later in this document.

The following sections describe the functionality of the Control Bar.

2.1.2.1 Mode Selection

Use the red mode selection popup to change the operation mode of iDigi. At the moment, the following modes are available, all for receiving and transmission:

1. CW
2. FT4
3. FT8
4. PSK (PSK31, PSK63 and PSK125)
5. RTTY (various baud rates, standard and custom shifts, 1, 1.5 or 2 stop bits)
6. WEFAX (288/576 IOC, 60 to 240 LPM)
7. WSPR

Additional modes will be added in the future.

2.1.2.2 Mode Specific section

Figure 2: Mode Specific Menu Bar

Just to the right of the mode selection button there is the mode specific section of the Control Bar. Each mode populates this are with specific controls and indicators. That placement was chosen on purpose so that controls on the left and indicators on the right side of the mode specific part blend in nicely with controls and indicators of the generic parts.

The section depicted above is shows for mode PSK. Each mode specific section is explained in the modes sections later in this document.

2.1.2.3 Indicators and Audio Controls

Figure 3: General Indicators and Audio Controls

There are a set of indicators that show some information about the state of the application or interfaces:

CAT CAT connection to your radio. A serial or networking connection needs to be established between your radio and your Mac.

Radio CAT connection not configured. Go to settings for connection configuration.

Connecting to radio.

Connected to radio, iDigi will read and write settings automatically. See section Rig Control for details.

Connection error.

ATU Connection to Antenna Tuner. Currently, the only tuner supported is Ciro Mazzoni's magnetic loop antenna tuner. A serial connection needs to be established between the tuner and your Mac.

Tuner connection not configured. Go to settings for connection configuration.

Connecting to tuner.

Connected to tuner, tuner will tune automatically on frequency changes.

Connection error.

PTT State of PTT keying.

PTT not keyed.

PTT keyed, radio should transmit.

MON State of audio monitoring. Audio monitoring can be used to listen to received and transmitted signals through your Mac's speakers or another audio device attached to your Mac, like a headset or external speakers. This is controlled with the MON control described a little bit later.

Monitor disabled.

Monitor enabled, you should hear the received signal when receiving or the transmitted signal when transmitting through the configured monitoring device.

OVL Overload indication. This signals a decoding overload when playing back recorded audio files at higher speeds. See section Audio Playback for details.

No overload or no playback in operation.

Decoding modem cannot keep up with the audio speed of the playback. This is just an indication that your Mac is too slow to decode the audio at the desired speed, decoding will still be correct, but slower than indicated.

Tune Button: Pressing this will send a pure sine wave signal at the frequency currently selected in the waterfall view. It is typically used to adjust the output levels of your Mac and the input sensitivity of your radio. Refer to your radio's manual for instructions on adjusting to the correct level (ALC). Ensure you transmit on an open frequency or into a dummy load.

Input Sensitivity: Adjust your Mac's input sensitivity from 0% to 100% to fine-tune the received signal to appropriate levels (see *Input Level Display* below). Click this button to reveal a slider for adjustment. If the icon appears in red, the selected input is unavailable.

Input Level Display: Aim to keep the input level within the green zone by adjusting either your Mac's input sensitivity (as described above) or your radio's audio output level.

Output level. You can adjust your Mac's output level from 0% to 100% to adjust the transmit signal to the required level. Please check with your radio's digital mode instruction to set the correct level. Click on this button to reveal a slider to adjust the level. The chosen output is not available if this icon appears in red.

Monitor level. You can adjust the volume of the monitor output from 0% to 100%. Click on this button to reveal a slider to adjust the volume. The chosen

monitor output is not available if this icon appears in red and the percent value is greyed out.

MON Monitor Button: Press this button to switch your monitor output on or off. If the button is disabled, it means no monitor is configured, or the output is already set to the same device as the monitor.

2.1.3 Quicklog

The Quicklog area serves to enter log information in a fast manner.

The visibility of the Quicklog area depends on the active mode as it might not make sense for every available mode. For example, iDigi logs fully automatically in FT4 and FT8 modes as all information is either available in the exchange or can be fetched online.

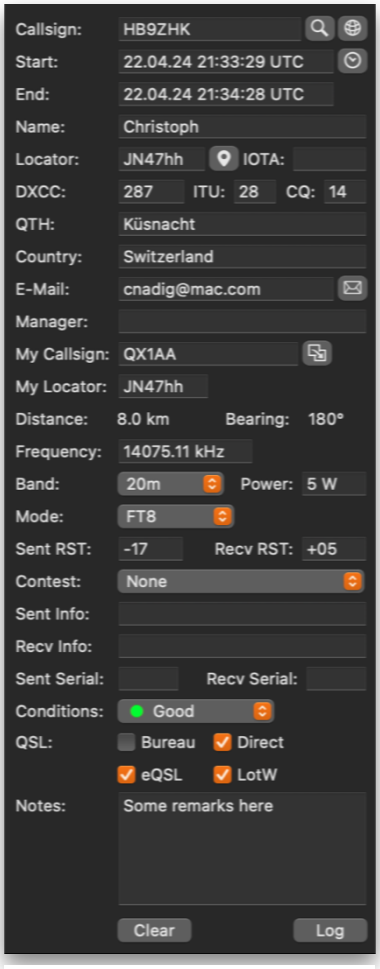


Figure 4: Quicklog

2.1.4 Waterfall

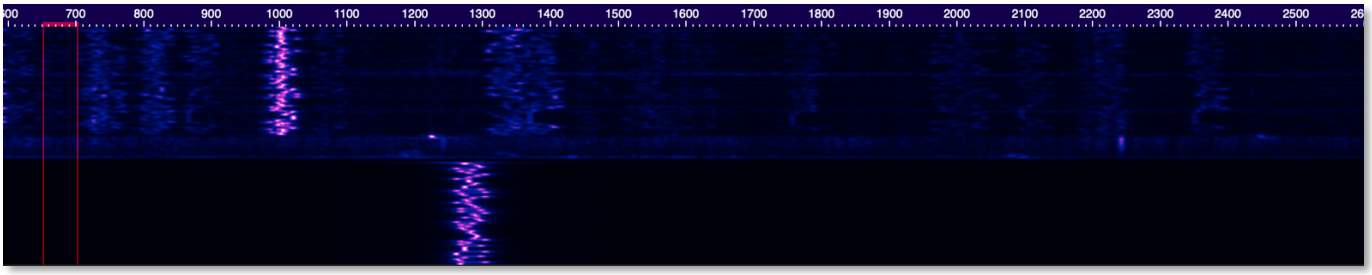


Figure 5: Waterfall View

The **Waterfall View** displays the received and transmitted signals in the frequency domain. In other words, the audio signal is processed using a **Fourier Transform**, and the resulting frequencies are visualized according to their signal strength.

You can adjust the **operating frequency** by moving the cursor, represented by the **red vertical lines**. The cursor's appearance may vary slightly depending on the selected mode. Some modes, such as **SSTV**, do not allow frequency changes.

For modes with variable bandwidths (for example, **RTTY**), you can hold down the **Option** key and drag either the left or right red line to adjust the frequency range. Typically, you would align one red line with one of the FSK tones and then drag the other red line until it aligns with the second tone.

Figure 6: Waterfall Controls

You can adjust the appearance of the **Waterfall View** using several controls located in the status bar below the display (see 2.1.5 Status Bar)

2.1.5 Status Bar

The status bar runs along the bottom edge of the main application window and provides quick access to essential information and functions. From left to right, it includes the following elements:

- **Status Message Field**
  This area displays brief messages about the application's current state, such as connection status, errors, or operation progress.
- **Your Locator**
  If automatic locator updates are enabled, this field shows your current Maidenhead grid locator based on location services or rig GPS data.

- **Rig Control Button**
  This button displays key rig information at a glance, such as frequency and mode. Clicking the button opens a popup window that allows you to control your rig directly (if CAT control is active). If CAT is not available, you can manually enter frequency and mode values here—these are then automatically transferred to the Quicklog when a contact is logged.

Figure 7: Status Bar, Left Half

- **Propagation Conditions**
  Displays a graphical icon (sun or moon) representing current propagation conditions based on the time of day. Clicking the icon briefly toggles between daytime and nighttime views, helping you assess expected signal behavior under different ionospheric conditions.
- **Waterfall Speed**
  Adjusts how fast the waterfall scrolls. A faster speed may be useful for monitoring rapidly changing signals, while a slower speed provides a more persistent visual history.
- **Waterfall Frequency Area**
  Indicates the frequency range currently displayed in the waterfall view. This helps you see how wide a portion of the spectrum is being visualized.
- **Waterfall Color Appearance**
  Lets you select from different color palettes for the waterfall display. This affects how signal intensity is visually represented, allowing for better contrast or personal preference.
- **Waterfall Smoothness**
  Controls the interpolation or averaging of signal strength across the display. Higher smoothness can make weak signals more visible, while lower smoothness shows raw signal variations more clearly.
- **Waterfall Contrast**
  Adjusts the dynamic range of the waterfall display. Increasing contrast can make weak signals stand out better; decreasing it can help reduce visual noise.
- **Audio Frequency**
  Shows the currently selected audio frequency in Hz. Clicking on the value opens a popover where you can enter a precise frequency directly—useful for fine-tuning to a known signal or aligning with a standard tone.

Figure 8: Status Bar, Right Half

Figure 9: Manual Frequency Input

3 Settings

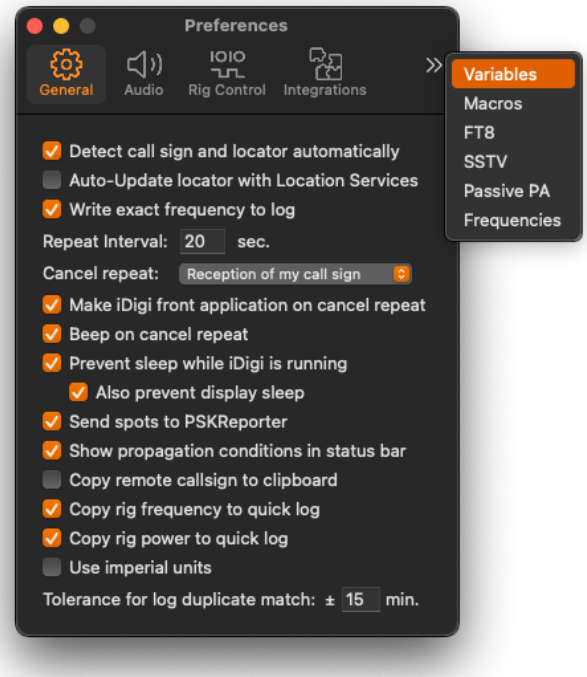


Figure 10: iDigi Preferences

There are several different tabs in the preferences window, each dedicated to specific topics of modes.

Please not that you might need to expand the toolbar to access some preferences tabs (see Figure 10: iDigi Preferences)

3.1 General

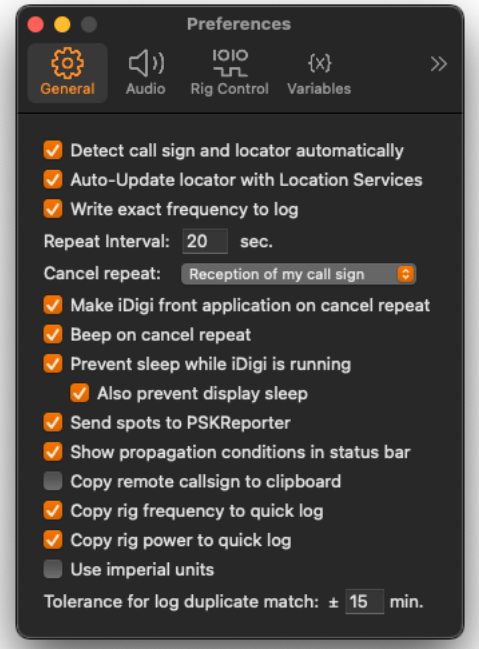


Figure 11: General Preferences

Detect call sign and locator automatically	Extracts the callsign and locator from received text automatically, simplifying the logging process.
Auto-update locator with Location Services	Uses Apple's Location Services to update your grid locator automatically based on your current geographic position.
Write exact frequency to log	Records the precise audio frequency (AF) offset along with the RF frequency in the log, improving frequency resolution for digital mode analysis.
Repeat interval	Specifies how often a message is retransmitted when using the repeat token in text-based modes.
Cancel repeat	Defines under which events the automatic message repeat should be stopped (e.g., on signal detection or user input).
Make iDigi front application on cancel repeat	Automatically brings iDigi to the foreground if auto-repeat is canceled due to a configured event.

Beep on cancel repeat	Emits an audible alert when automatic repeat is stopped, notifying you of the event.
Prevent sleep while iDigi is running	Keeps your Mac awake while iDigi is active—ideal for unattended reception tasks like weather fax. Optionally prevents the display from sleeping as well.
Send spots to PSKReporter	Submits all decoded callsigns to pskreporter.info, contributing to global propagation monitoring
Show propagation conditions in status bar	Enables or disables the display of real-time HF propagation conditions in the status bar.
Copy remote callsign to clipboard	Automatically copies decoded callsigns to the clipboard for quick reuse or pasting.
Copy rig frequency to quick	Automatically uses the currently tuned RF frequency from the rig for log entries.
Copy rig power to quick log	Automatically logs the currently configured transmit power from the rig.
Use imperial units	Displays distances and other measurements using imperial units instead of metric.
Tolerance for log duplicate match	Defines the time window (in minutes) within which two QSOs are considered duplicates during ADIF import.

3.2 Audio

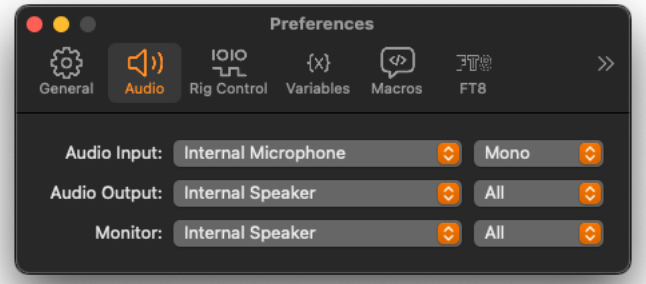


Figure 12: Audio Preferences

The Audio preferences let you set the devices and channels to use for audio input, audio output and monitor output. Input and output are often set to a dedicated digital mode interface like the Tigertronics SignaLink or my DigiLink Nano, or an external USB soundcard. You may use the internal soundcard but then need to build appropriate cables to connect to your transceiver.

The monitor output is used to listen to the received and transmitted signal if you like. If output and monitor are set to the same device, monitor output is disabled.

3.3 Rig Control

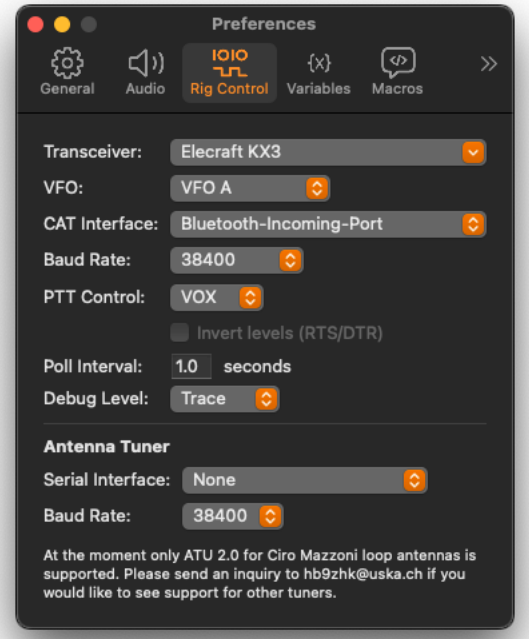


Figure 13: Rig Control Preferences

Transceiver	Selects the type of transceiver (radio) being controlled. This setting ensures the software uses the correct communication protocol for CAT (Computer-Aided Transceiver) control.
VFO	Specifies which Variable Frequency Oscillator (VFO) the software will control. Most radios have multiple VFOs (A/B) to allow working split or listening/transmitting on different frequencies.
CAT Interface	Selects the communication interface (serial or network) used for CAT control. This is the port through which the software communicates with the transceiver.
Baud Rate (serial interface only)	Sets the speed of data transmission between the software and the transceiver. This value must match the baud rate configured on the radio.
PTT Control	Determines how the software activates Push-To-Talk (PTT) for transmitting. "VOX" uses audio detection in the transceiver to key up the transmitter, requiring no direct PTT signal from the app.
Invert Levels (RTS/DTR)	Only applicable when using hardware PTT through serial control lines (RTS/DTR). Allows inverting the logic levels if needed by the specific rig or interface.
Poll Interal	Defines how often (in seconds) the software polls the transceiver for status updates such as frequency, mode, etc. Shorter intervals provide more real-time updates but may increase CPU or serial traffic.
Antenna Tuner – Serial Interface	Specifies the serial port connected to an external antenna tuner. “None” means no external tuner is in use or supported at the moment. Please note that currently the only supported tuner is the ATU 2.0 for Ciro Mattoni loop antennas.

Antenna Tuner – Baud Rate	The baud rate for communication with the antenna tuner, if one is connected. Should match the baud rate of the tuner.

3.4 Integrations

The Integrations tab allows you to set up and manage different online accounts that can be used both for uploading your QSO log and for performing callsign lookups. Each account serves a specific purpose, and by configuring them properly you can simplify your logging workflow and ensure that your QSO data is kept up to date across multiple services.

Callsign lookups help enrich your logbook entries by automatically filling in details about the contacted station, such as the operator's name, their QTH (location), and their QSL preferences. This saves you time and reduces errors when entering log data manually. iDigi supports two services for this: QRZ.com and HamQTH. Please note that QRZ.com requires a paid XML API subscription in order to be used for lookups. If you configure both lookup services, you can specify which one should take precedence in case the two return conflicting information.

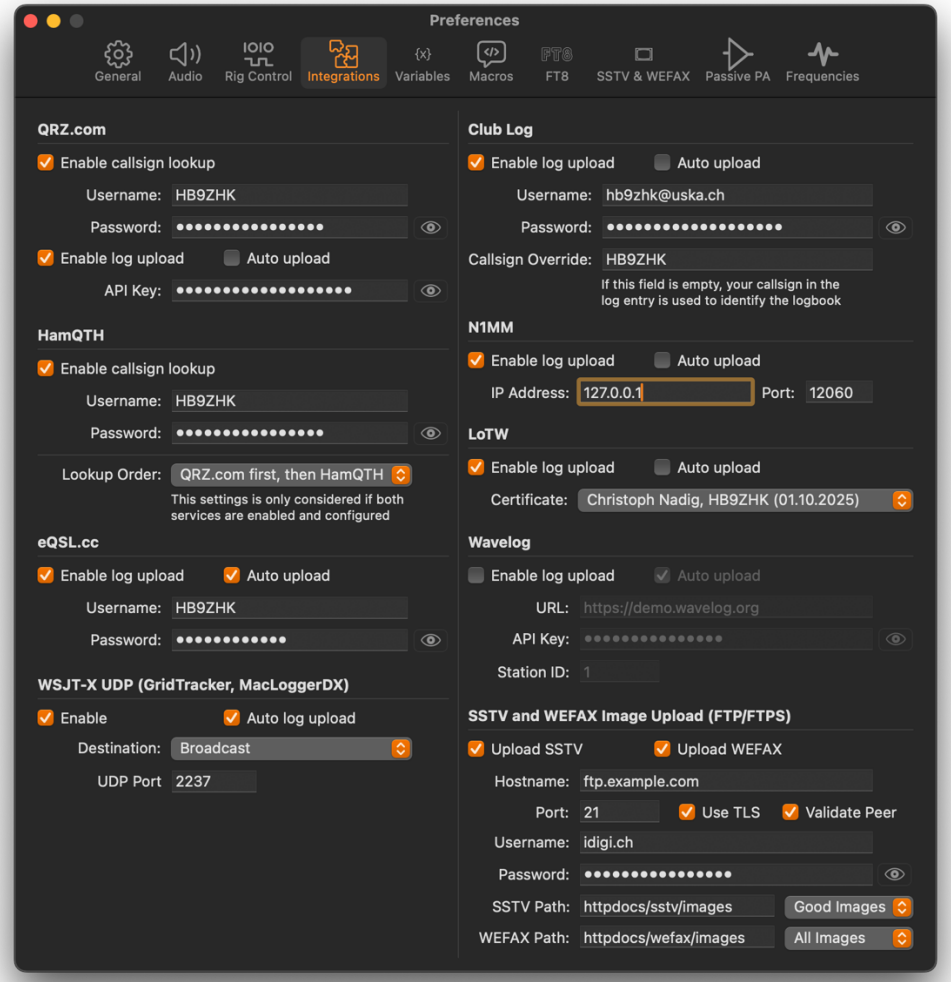


Figure 14: Integrations Preferences

QSO log uploads allow you to keep your online logbooks synchronized with the contacts you make in iDigi. Supported services include QRZ.com, eQSL.cc, Club Log, and LotW. By enabling these uploads, you can make sure that your contacts are stored centrally, visible to other operators, and available for award tracking and confirmations.

In addition, iDigi offers integration with contest logging software. If you enable N1MM log uploads, new QSOs can be transmitted in real time to any N1MM-compatible logger running on your local network. This feature is particularly useful if you are operating in contests or events where quick and reliable log sharing is required.

3.4.1 QRZ.com

To use QRZ.com for callsign lookups, enable Enable callsign lookup and enter your QRZ.com username and password.

For QSO log uploads, enable *Enable log upload* and enter your API key. This key must be created in your QRZ.com logbook: open the logbook, click Settings in the upper-right corner, and find the section QRZ Logbook API.

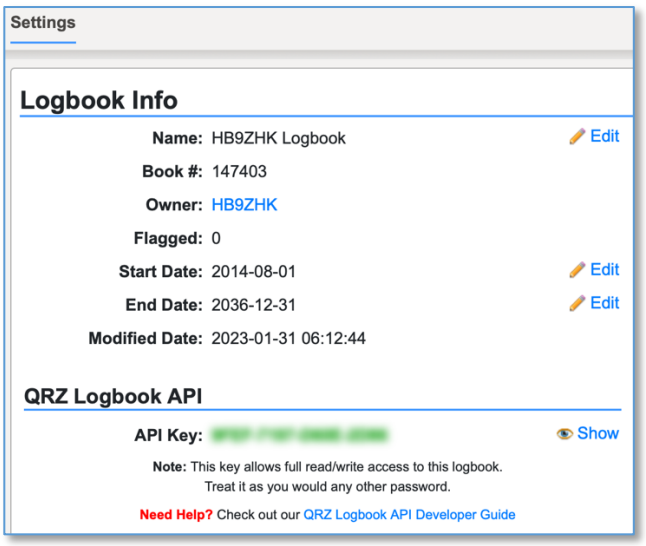


Figure 15: QRZ Logbook Settings

If *Auto Upload* is selected, new or modified log entries are automatically uploaded to QRZ.com in the background whenever Internet access is available.

3.4.2 HamQTH

To use HamQTH for callsign lookups, enable *Enable callsign lookup* and enter your HamQTH username and password.

If both QRZ.com and HamQTH are configured, iDigi will send lookup requests to both services and merge the results. In case of conflicting data, the priority can be set on a per-field basis.

3.4.3 eQSL.cc

For QSO log uploads, enable *Enable log upload* and enter your eQSL.cc username and password.

When *Auto Upload* is enabled, new or modified log entries are automatically uploaded to eQSL.cc in the background whenever Internet access is available.

3.4.4 WSJT-X UDP

Enabling this protocol allows iDigi to send information about received FT8/FT4 decodes and related status data to applications such as GridTracker. It can also be used to transmit logged QSOs to GridTracker, MacLoggerDX, RUMLogNG, or any other application that supports the WSJT-X UDP protocol.

Receiving applications may run on the same machine as iDigi, elsewhere on the local network (LAN), or even outside the local network. Multiple applications can receive this data simultaneously; however, care should be taken to ensure the configuration is correct.

The **Enable** checkbox activates the transmission of status and decode messages via the WSJT-X protocol, but it does not send logged QSO information. To transmit logged QSOs, **Auto log upload** must be enabled. Please note that QSO uploads may be delayed by up to 30 seconds.

When **Auto log upload** is enabled, iDigi will also transmit any previously logged QSOs that have not yet been sent. If a logging application was not running at the time these QSOs were transmitted and therefore missed them, they can be manually re-sent from the log window. Duplicate QSOs should be detected and ignored automatically by the receiving logging application.

Destination:

Local Machine	UDP messages are sent to **127.0.0.1**. Only one application can reliably receive these messages. If multiple applications are listening on the same address and port, macOS will deliver each UDP packet to only one of them, and the selection is non-deterministic. To ensure reliable operation, configure only a single receiving application per UDP endpoint.
Single Address	The UDP messages are sent to the configured IP address. The same delivery restrictions apply as when using the **Local Machine** option.
Multicast	The UDP messages are sent to the specified multicast group. All applications listening to this group on the local machine, or on connected networks, can receive the same messages.

	Please note that your network infrastructure must support the IGMP protocol in order to receive multicast messages on other machines within your local network or beyond. Refer to the user manual of GridTracker or your logging application for instructions on how to configure multicast support.
Broadcast	The messages are broadcast to the broadcast addresses of all active network interfaces and can be received simultaneously by multiple applications on the local machine or in the local network.

3.4.4.1 GridTracker2 Configuration

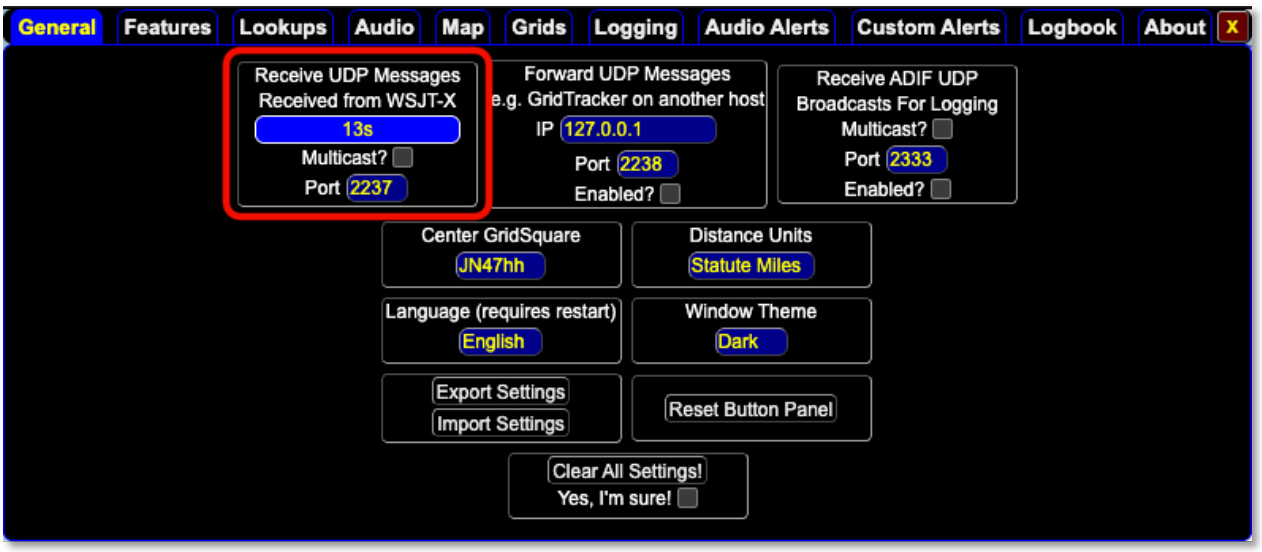


Figure 16: GridTracker2 Unicast configuration

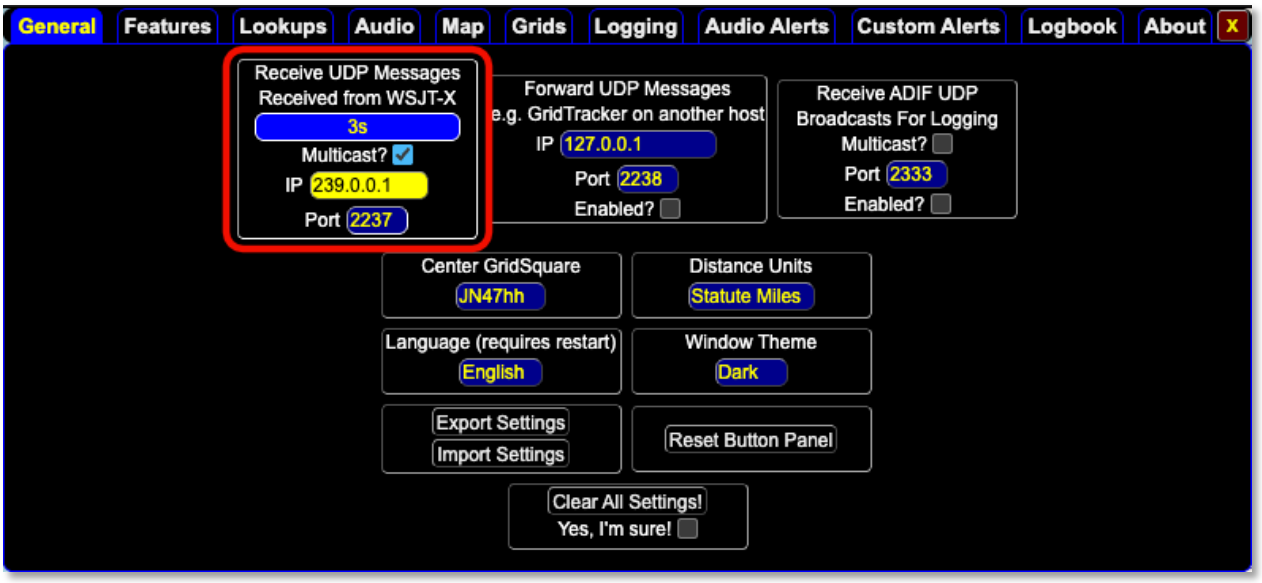


Figure 17: GridTracker2 Multicast Configuration

Please use the same Multicast-Group (here labelled IP) in iDigi and GridTracker2.

3.4.4.2 MacLoggerDX Configuration

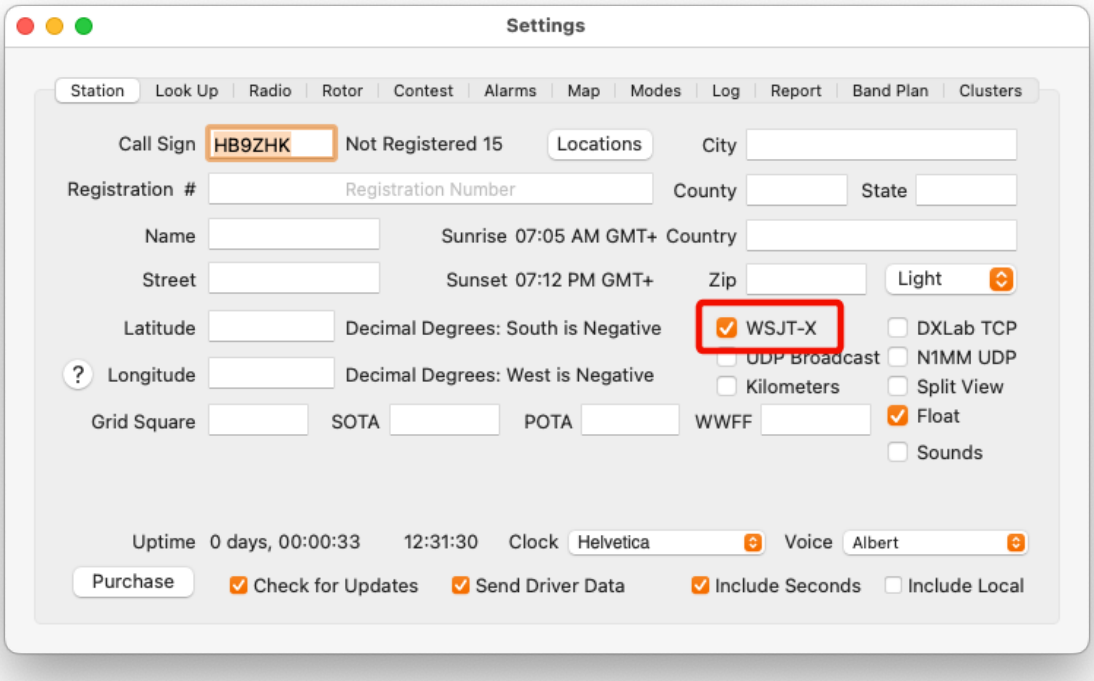


Figure 18: MacLoggerDX Configuration

The WSJT-X protocol defines two message types for transmitting QSO information: a simple message containing only the essential log data, and a second message that includes a full ADIF record of the QSO. For each new log entry, iDigi transmits both message types.

If you wish to receive the more detailed ADIF information, enable the **WSJT-X Log ADIF** option. Use of the ADIF record is recommended, as it provides more complete and accurate log data.

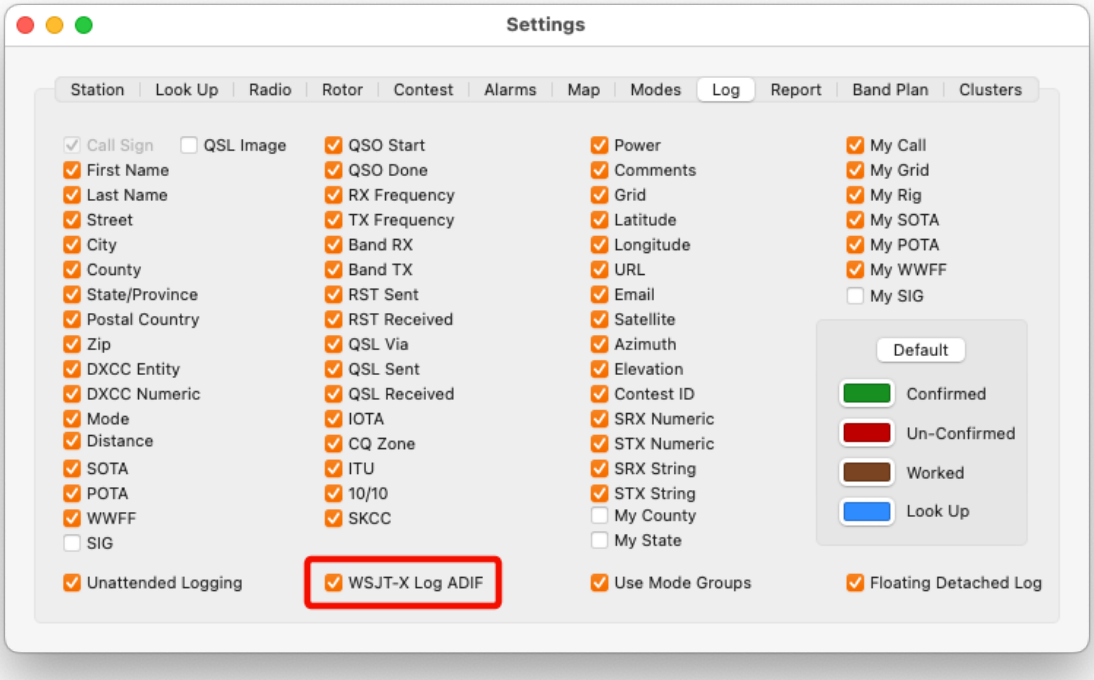


Figure 19: MacLoggerDX ADIF configuration

3.4.4.3 RUMLogNG Configuration

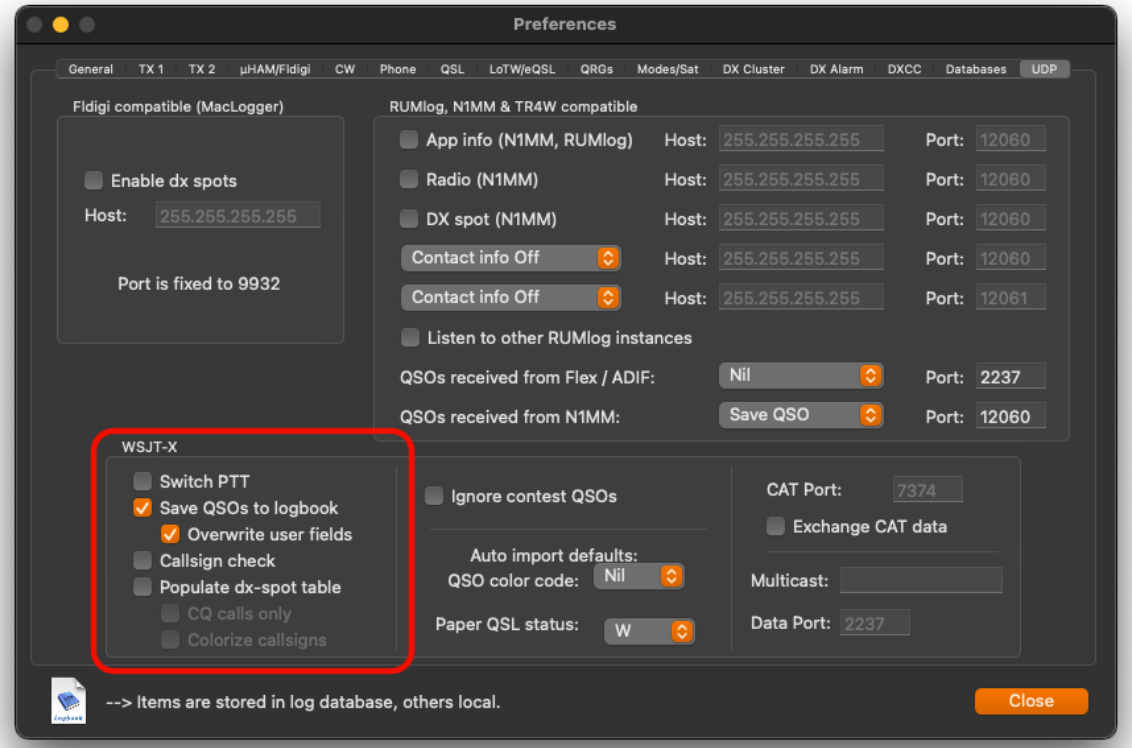


Figure 20: RUMLogNG Configuration

Please note that RUMLogNG also supports the N1MM protocol for logging QSOs.

3.4.5 Club Log

For QSO log uploads, enable *Enable log upload* and enter your Club Log username and password.

If you want to override the callsign in your uploads, enter a callsign in the field *Callsign Override*. This is useful if you operate with multiple callsigns or with suffixes/prefixes (e.g., *HB9ZHK/P*) but want all QSOs collected in the same Club Log logbook.

With *Auto Upload* enabled, new or modified log entries are automatically uploaded to Club Log in the background whenever Internet access is available.

3.4.6 N1MM

iDigi can send new or updated QSOs to N1MM-compatible logging applications on your network. Enter the IP address and port number of the application that listens for N1MM

messages, or use a broadcast address (e.g. *192.168.1.255* for the network *192.168.1.0/24*) to send to all compatible loggers in the local network.

Examples of supported log applications include N1MM Logger+, DXLog.net, RUMLog, and Log4OM.

3.4.7 LoTW

iDigi can upload QSOs directly to Logbook of The World (LoTW) without TQSL. To set this up, export your LoTW certificate as a PKCS#12 file from TQSL:

1. Start TQSL and open the Callsign Certificates tab.
2. Select your certificate and click Save the Callsign Certificate.
3. Export it as a PKCS#12 file, choose a location, and set an export password.

Locate the exported file in Finder and double-click it. This imports it into Apple Keychain after entering the password. Once imported, select the certificate in the LoTW section of iDigi.

Enable *Enable log upload* to allow uploads to LoTW. If *Auto Upload* is enabled, new or modified log entries are automatically uploaded to LoTW in the background whenever Internet access is available.

3.4.8 Wavelog

With the Wavelog integration, you can upload your logs to any Wavelog (formerly Cloudlog) server—your own private instance or a public one.
Enter the server's hostname (recommended) or IP address, as well as the port number. Use port 443 unless your instance uses a different HTTPS port.

For authentication, you'll need an API key. You can create one in the Wavelog web interface: click your callsign in the top-right corner, choose *API Keys*, then click *Create a read & write key*. Copy the generated key into iDigi's Wavelog settings.
Finally, enter your logbook ID (usually *1*, but please verify in your instance).

3.4.9 SSTV and WEFAX Image Upload

iDigi allows you to automatically upload received SSTV and WEFAX images to a remote server using FTP or secure FTPS. This is useful for maintaining a live image gallery or sharing your reception results in real time.

To enable automatic uploads, open the upload settings in iDigi and proceed as follows:

1. **Enable Automatic Upload**
   Activate the checkboxes to select which image types should be uploaded:
   - SSTV images
   - WEFAX images

2. **Enter FTP / FTPS Credentials**
   Provide the connection details for your server:
   - FTP server address (hostname or IP)
   - Username and password
3. **Configure Security Settings (FTPS)**
   - Enable **Use TLS** if your server supports secure connections (FTPS).
   - Optionally enable **Validate Peer** to enforce certificate validation for additional security.
4. **Set Remote Path**
   Specify the relative destination path on your server where images should be uploaded. You can define separate paths for SSTV and WEFAX images if required.

Once configured, iDigi will automatically upload each newly received image in the background.

You can see an example of a public image gallery powered by this feature here: https://idigi.ch/sstv/index.php

If you would like to host your own gallery, a simple PHP-based solution is available on the iDigi FAQ page: https://idigi.ch/faq.html

3.5 Variables

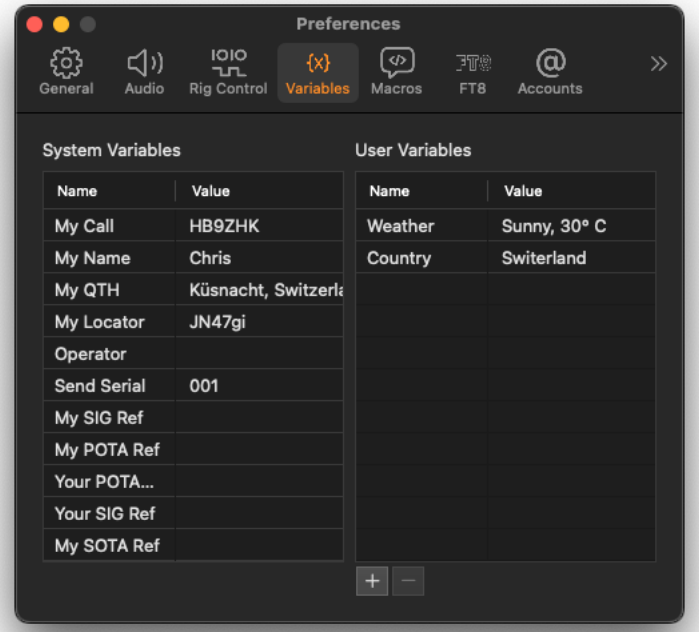


Figure 21: Variables Preferences

In the variables preferences you can set the value for standard variables and also for your custom variables. The variables can be used as tokens in macros for text modes and some of them are also used in modes like FT4/FT8 or SSTV, e.g. My Call, or for logging purposes, Operator or SIG Refs.

3.6 Macros

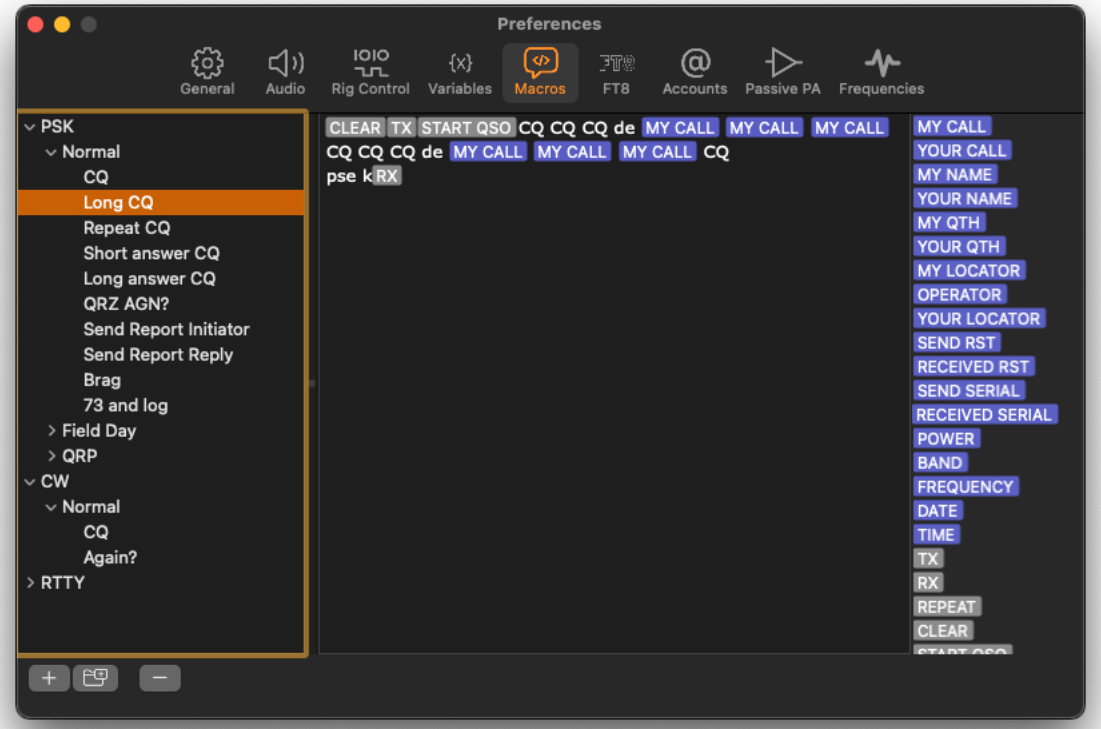


Figure 22: Macros Preferences

Macros allow you to define standard messages for use in text-based digital modes such as PSK or RTTY. They streamline your QSOs by letting you send frequently used phrases with a single click or keystroke.

- Macros can include **tokens**—placeholders that are automatically replaced with dynamic content (e.g., your callsign, name, locator) when the message is sent.
- To insert a token, simply **click on it from the list on the right**. Tokens can be rearranged or copied and pasted like regular text.
- Macros are organized by **mode**. Each digital mode (e.g., PSK, CW, RTTY) maintains its own set of macros.
- Within each mode, macros can be grouped based on their purpose—for example, **Normal operation**, **Field Day**, or **Contests**.
- To **add a new macro** to the currently selected group, click the **plus (+)** button below the list.
- To **create a new macro group** within the selected mode, click the **folder (+)** button.
- To **delete** the selected macro or group, click the **minus (-)** button.

Tokens such as MY CALL, YOUR CALL, FREQUENCY and TIME ensure that your transmissions are accurate and personalized, while saving you time during operation.

3.7 FT8

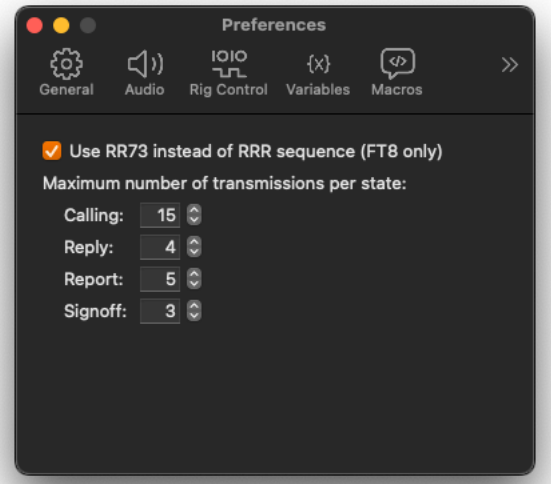


Figure 23: FT4/FT8 Preferences

Use RR73 instead of RRR	Sends RR73 in place of the traditional RRR + 73 sequence to shorten the final exchange. This saves time and bandwidth by combining acknowledgment and closing into one message.
Timeouts	Defines how long the software waits before automatically terminating a QSO attempt that wasn't completed. If the timeout is reached, the contact is canceled and not logged.

3.8 SSTV

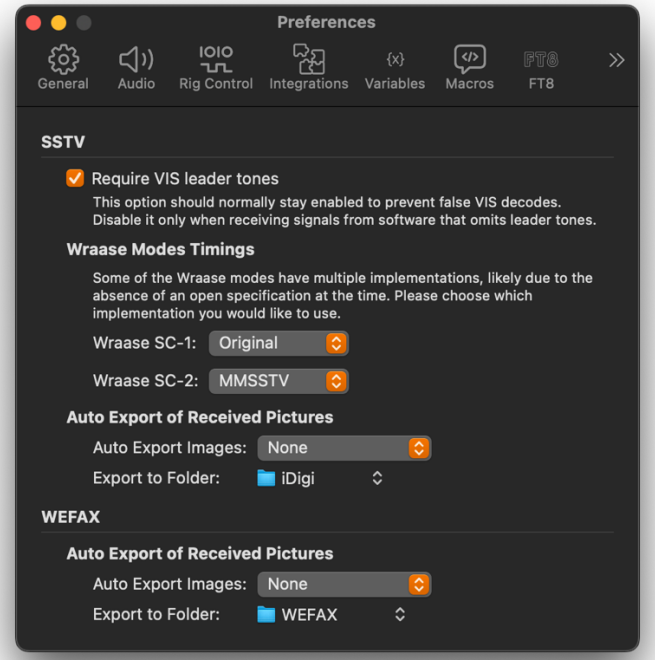


Figure 24: SSTV and WEFAX Preferences

Require VIS leader tones

Standard VIS codes are preceded by three leader tones: 1900 Hz for 300 milliseconds, 1200 Hz for 10 milliseconds, and then 1900 Hz again for another 300 milliseconds. When this option is enabled, iDigi requires these leader tones for a VIS to be considered valid. Some older software and SSTV hardware do not transmit these tones, so if you plan to use iDigi with such equipment, you should disable this option. However, it is generally recommended to keep the option enabled to reduce the risk of false VIS detections.

Wraase Modes Timings

There are different implementations of the Wraase SC-1 and SC-2 modes, with slight variations in scanline timing and the order of color channels. Select the timing to be used for transmitting and receiving these modes. The recommended settings are *Original* for SC-1 and *MMSSTV* for SC-2.

Auto Export of Received Images

It is possible to automatically export received images to a specific folder (all received images are always stored in iDigi's database). Select *None* if you do not want to export images, *Good quality only* to export only images of good quality, or *All* to export every received image.

To change the export folder, open the dropdown menu and select *Choose...*.

Set this for SSTV and/or WEFAX independently.

3.9 Passive PA

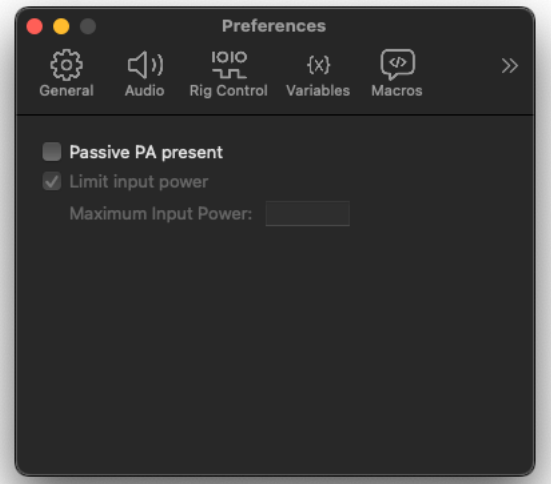


Figure 25: Passive PA Preferences

The *Passive PA* settings are used when operating with an external RF power amplifier that is not computer-controlled. These settings allow you to enter a **power multiplier**, which iDigi uses to estimate the output power after amplification.

You can also set a maximum output power limit for your transceiver to protect the amplifier from receiving excessive input.

3.10 Frequencies

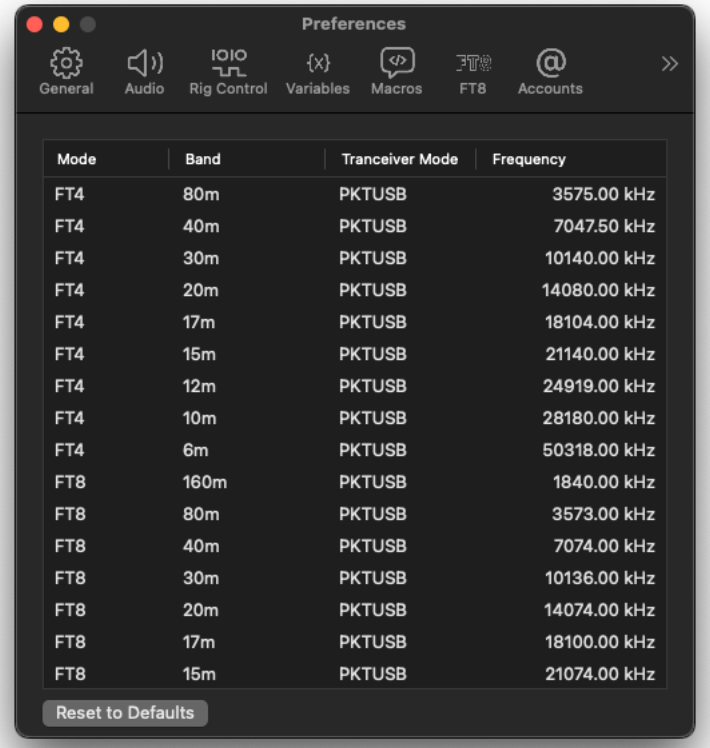


Figure 26: Frequency Presets

The *Frequency Presets* contain default frequencies and transceiver mode settings for all supported amateur radio modes and bands. When you switch bands by clicking the corresponding button in the CAT control panel, the appropriate frequency and mode are set automatically.

You may edit the preset frequencies at any time. To restore the original factory values, click *Reset to Defaults*.

3.10.1 Appearance

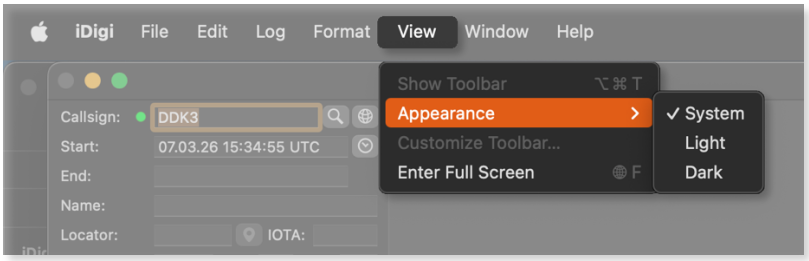


Figure 27: Appearance Settings

You can override the system appearance (Light or Dark) or choose to follow the system-wide setting via **View** → **Appearance** (System, Light, Dark). This allows iDigi's appearance to differ from the overall system setting.

4 Modes

iDigi supports various modes: some are designed for transmitting text, others for sending images, and some for structured messages. This user manual groups the modes accordingly, as the user interface elements within each category share common characteristics.

4.1 Text Modes

4.1.1 Common Text Mode Overview

The PSK view in the app is neatly split into two functional areas: the upper **Receive Area** and the lower **Transmit Area**. Together they offer full control over your digital QSO.

In the **Receive Area**, incoming signals decoded from the selected waterfall frequency are displayed in real-time. Depending on the PSK variant selected (31/63/125), text scrolls across the screen as it's received. You can adjust display formatting for readability and clarity.

The **Transmit Area** allows you to prepare and send messages. Whether you insert a macro, use a variable token like your callsign or RST, or type freely, this area gives you complete flexibility. Tokens like SEND RST or <CALL> MY CALL are replaced with real-time values, while control tokens like RX or <LOG> affect the application's behavior (e.g., switching back to receive mode or auto-logging the QSO). Tokens that appear red do not (yet) have a value assigned, e.g. YOUR CALL is empty since you have to copied the remote callsign tot he Quicklog Callsign entry. You can guard text that may contain tokens with empty values by embracing them inside a IF NOT EMPTY and END IF token pair. If there is any empty token inside this pair, anything between these to tokens is not sent.

4.1.1.1 Receive Area

Located at the top half of the PSK view, this area displays received text and includes a handful of helpful controls:

FWF	Toggle between fixed-width and proportional font for better text alignment.
Compact	Removes redundant carriage returns and line feeds to reduce visual clutter.
CR=LF	Treats carriage returns as line feeds — useful when dealing with stations that send a mix.
0 Ø	Adjust how the character zero is rendered — some prefer slashed zeros for clarity.
Clear	Wipes the receive window so you can start fresh.

If you select text in the receive text view, a context menu will appear automatically and if you select an entry, the selected text will be copied into the corresponding field in the Quicklog area.

Figure 28: Quick Copy Context Menu

4.1.1.2 Transmit Area

This section is where your outgoing messages are assembled and launched into the ether. You can enter text manually or select from one of your pre-configured macros. Feel free to tweak any macro text after inserting it — nothing is locked in stone.

The controls right above the transmit field include:

Starts transmitting the content in the text field. If you don't end your message with a RX token, the app remains in transmit mode, allowing real-time typing. Press "Send" again to finish. Double-click "Send" to abort transmission immediately.

Opens a small panel to select the RST value that will be substituted when a SEND RST token is used.

These are populated based on your macro configuration and offer quick access to commonly used messages (CQ, signal reports, contest exchanges, etc.). Selecting a macro will either replace or insert text, depending on how it's set up. If a macro is preceded by the autoplay icon ▶, iDigi will automatically switch to transmit mode when the macro is inserted.

Clears the current transmit message, letting you start fresh.

4.1.2 PSK

PSK (Phase Shift Keying) modes, including PSK31, PSK63, and PSK125, are digital modes used in amateur radio communication. They utilize phase modulation to encode binary data onto radio signals, allowing for efficient and reliable text messaging over the airwaves. Here's a more detailed technical overview of each mode:

1. **Binary Encoding**: Similar to RTTY, PSK modes encode text messages into binary data using a character encoding scheme such as ASCII. Each character in the message is represented by a unique binary code, typically consisting of 7 or 8 bits.
2. **Phase Shift Keying (PSK) Modulation**: PSK modulation involves shifting the phase of the radio carrier signal to represent binary data. In PSK31, PSK63, and PSK125, the number denotes the number of symbols (phases) used per second. For example, PSK31 utilizes 31.25 baud (symbols per second), while PSK63 and PSK125 utilize 63 and 125 baud respectively.
3. **Modulation and Transmission**: The binary data is modulated onto the radio carrier signal using PSK modulation. Changes in the phase of the carrier signal correspond to changes in the binary data stream. The modulated signal is then transmitted over the airwaves using an appropriate radio transmitter.
4. **Reception and Demodulation**: At the receiving end, the PSK signal is intercepted by a receiver, such as a dedicated PSK decoder or a software-defined radio (SDR). The received signal is demodulated to recover the binary data stream, with changes in phase indicating changes in the binary data.
5. **Decoding and Text Recovery**: The demodulated binary data is then decoded back into text characters using the same character encoding scheme employed during encoding. The resulting text message can be displayed on a computer screen, printed out on paper, or otherwise processed for human interpretation.

PSK modes are characterized by their efficient use of bandwidth and their ability to operate under weak signal conditions. PSK31, in particular, is widely used in the amateur radio community for its relatively narrow bandwidth and good performance under noisy conditions. PSK63 and PSK125 offer higher data rates at the expense of wider bandwidth, making them suitable for faster text messaging and data transfer applications. Overall, PSK modes offer amateurs a versatile and reliable means of digital communication over the airwaves.

4.1.2.1 Quick Start

1. Select **PSK mode** from the mode selector in the main toolbar. You can choose PSK31, 63, or 125 depending on your operating preferences.
2. Use the **CAT control popup** to set your transceiver to the 20-meter band (14.070 MHz is a popular PSK watering hole).
3. From the **macro popup menu**, select a “CQ” call. This will immediately begin transmitting your CQ.

4. Wait for a reply. If nothing comes back after a bit, return to step 3 and try again.
5. Once someone answers, use either macros or type directly into the transmit window to exchange information.
6. Enjoy the conversation, log the contact automatically, and bask in the efficiency of narrowband digital magic.

4.1.2.2 PSK Mode Specific Menu Bar

This mode-specific toolbar offers control over the nuances of PSK operation:

Choose between 31, 63, or 125 baud to match your needs and conditions, with 31 being the most popular.

Wide Search expands the decoding window to account for slight tuning errors or drifting stations. Best used when the band is quiet.

Mode Detection automatically selects the correct PSK speed based on the signal you click in the waterfall — useful for mixed-mode operation.

Efficiency Mode automatically converts uppercase characters to lowercase to reduce transmission time — a neat trick in PSK!

Lock AFC narrows the Costas Loop bandwidth, improving decoding under heavy interference (QRM).


Set the squelch level so that decoding starts with a clear enough signal. The current signal clarity is shown in the squelch control as a colored bar. If the bar is red, squelch is closed and the signal is not decoded, once it reaches the slider knob's position, it turns green and decoding starts. If the squelch is set too low, you will see random characters appear in the receive view, if it is set too high, you'll never see anything decoded or incomplete decodes.

Automatic Frequency Control: The Costas Loop is locked onto the signal when the indicator is green and will track any frequency deviations caused by transmitter or receiver drift. A red indicator means the loop is not yet stable or locked.

Squelch Status: Red indicates the squelch is closed, meaning no signal is being processed. Green means the squelch is open, and iDigi is actively attempting to decode the selected signal.

Synchronization: Green indicates that the Costas Loop is fully synchronized with the selected signal. Yellow means a stable signal has been detected and synchronization is in progress. Red indicates that no stable signal is available for synchronization.

4.1.2.3 Waterfall

The waterfall is your signal hunting ground. PSK signals appear as narrow, bright traces falling vertically. To decode a signal, simply click on it. The app will lock on, synchronize, and begin decoding — even replaying the last few seconds so you don't miss the start.

A red bracket indicates the width of the selected PSK mode — either 31, 63, or 125 Hz wide. If **Mode Detection** is active, the app will automatically switch to match the signal's characteristics.

Right-clicking opens a context menu with several direct controls, which can often be more convenient than using the main menu bar.

Figure 29: PSK Waterfall Context Menu

4.1.3 RTTY

RTTY (Radio Teletype) is a digital mode used in amateur radio and other forms of telecommunications to transmit text messages over radio waves. It employs a form of frequency-shift keying (FSK) modulation, where shifts in the carrier frequency represent binary data. Here's a more detailed technical overview of RTTY:

1. **Binary Encoding**: Before transmission, the text message is converted into binary data using a character encoding scheme such as ASCII (American Standard Code for Information Interchange). Each character in the message is represented by a unique binary code, typically consisting of 7 or 8 bits.
2. **Frequency Shift Keying (FSK)**: RTTY utilizes FSK modulation to transmit the binary data. In FSK, two different frequencies, often referred to as "mark" and "space" frequencies, are used to represent the binary values "1" and "0" respectively. The specific frequencies used for mark and space depend on the RTTY standard and the frequency band being used.
3. **Modulation and Transmission**: The binary data is modulated onto a radio carrier signal using FSK modulation. The radio transmitter alternates between transmitting the mark frequency and the space frequency according to the binary data stream. This modulated signal is then transmitted over the airwaves using an appropriate radio transmitter.
4. **Reception and Demodulation**: At the receiving end, the RTTY signal is intercepted by a receiver, such as a dedicated RTTY decoder or a software-defined radio (SDR). The received signal is demodulated to recover the binary data stream, with shifts in the received carrier frequency indicating changes between mark and space frequencies.
5. **Decoding and Text Recovery**: The demodulated binary data is then decoded back into text characters using the same character encoding scheme employed during encoding. The resulting text message can be displayed on a computer screen, printed out on paper, or otherwise processed for human interpretation.

RTTY transmissions are characterized by their relatively fast data rate compared to other digital modes, typically ranging from 45 to 100 baud (symbols per second). While RTTY is less commonly used in modern amateur radio compared to modes like FT8 and PSK31, it remains popular for its simplicity, robustness, and compatibility with a wide range of radio equipment. Additionally, RTTY is still employed in various professional and industrial applications, including maritime communications and data transmission in legacy systems.

4.1.3.1 Quick Start

To get started with RTTY operation:

1. Select **RTTY** from the mode selector at the top of the application window.
2. Use the **CAT control** popup to tune your transceiver to the standard RTTY frequency on 20 meters (around 14.085 MHz is common).

3. In the settings bar, select **45.45 baud**, **170 Hz shift**, **disable INV**, and **enable UOS**.
4. Choose a **CQ macro** from the macro popup menu. This will start your transmission automatically.
5. Listen for a reply. If the band is quiet, go back to step 3 and try again in a few minutes.
6. Once you've established contact, exchange information by selecting predefined macros or typing directly into the transmit window.
7. Enjoy the chat—and the mechanical rhythm of RTTY characters flying by.

4.1.3.2 RTTY Menu Bar

The top of the screen houses a specialized toolbar when RTTY mode is active. This menu provides direct access to parameters that define how RTTY behaves in both transmit and receive operations.

From baud rates to squelch settings, each control affects how you interact with the mode. Think of it as the cockpit dashboard for your RTTY engine.

Figure 30: RTTY Menu Bar

Let's break down each option in the RTTY toolbar:

Select from 45.45, 50, 75, or 100 baud. Most amateur QSOs use **45.45 baud**, the standard since the days of mechanical teletype machines.

Choose between standard values (170, 200, 425 Hz) or click the custom shift button to define your own. The dropdown also remembers recent custom shifts.

Choose from 1, 1.5, or 2 stop bits. Most operators stick with **1.5**, but some software prefers **1** or **2**. Try what works best with your QSO partner.

This swaps the mark and space tones. Useful when your transceiver is in USB and you're copying someone transmitting in LSB—or vice versa.

Enables auto-switching back to the letter bank after a space character, mitigating decoding errors from missing shift codes in noisy conditions.

Squelch Blocks decoding below a certain signal quality threshold. Use the slider to set the minimum SNR needed to decode—ideal for ignoring band noise or weak, ghostly false signals.

SQL Squelch Status: Red indicates the squelch is closed, meaning no signal is being processed. Green means the squelch is open, and iDigi is actively attempting to decode the selected signal.

SYN Synchronization: Green indicates that the PLL is fully synchronized with the selected signal. Yellow means a stable signal has been detected and synchronization is in progress. Red indicates that no stable signal is available for synchronization.

4.1.3.3 Waterfall View

The **waterfall** is your RTTY radar. It paints received signals in a cascading view, where time flows downward and frequency runs left to right. Each signal appears as a vertical stripe—two closely spaced lines indicating the mark and space tones of an active RTTY signal.

To decode a signal, click directly on its center. The software will try to synchronize and begin decoding immediately. Cleverly, it actually buffers a few seconds of received audio, so you'll often see text start appearing even before you clicked—it's like time travel, but with teletype.

The red bar above the frequency line shows the selected RTTY shift visually, making it easier to align your decoder to a signal by eye.

Pro tip: Right-click (or Control-click) on the waterfall to access a context menu with frequently used controls—handy when chasing multiple signals or adjusting on the fly during a contest.

4.1.4 CW

CW (Continuous Wave) is a traditional mode of radio communication that predates digital modes. It involves the transmission of text messages using simple on-off keying of a carrier wave. While not technically a digital mode, CW remains popular among amateur radio operators due to its simplicity and efficiency. Here's a more detailed technical overview of CW operation:

1. **On-Off Keying**: In CW transmission, the presence or absence of a carrier wave is used to represent binary data. When the transmitter key is pressed (on), a continuous carrier wave is transmitted. When the key is released (off), the carrier wave is silent. This on-off keying technique allows operators to transmit Morse code characters, with each character consisting of a series of dots (short key presses) and dashes (long key presses).
2. **Character Encoding**: Morse code, the encoding scheme used in CW communication, assigns a unique sequence of dots and dashes to each alphanumeric character, punctuation mark, and special symbol. For example, the letter "A" is represented by ".-" (dot-dash), while the number "5" is represented by "....." (five dots).
3. **Transmission and Reception**: CW signals are transmitted using radio transmitters capable of generating a continuous carrier wave. At the receiving end, operators listen for the presence or absence of the carrier wave using a receiver or transceiver. By interpreting the timing and duration of the carrier wave interruptions, operators decode the Morse code characters being transmitted.
4. **Speed and Timing**: CW communication is typically characterized by its speed, measured in words per minute (WPM) or characters per minute (CPM). Skilled operators can transmit and receive CW at speeds exceeding 20 WPM or more. The timing of key presses and releases is crucial in CW operation, with precise timing necessary to ensure accurate decoding of Morse code characters.
5. **Adaptations and Modernization**: While traditional CW operation relies on manual keying of a telegraph key, modern CW operation often involves the use of electronic keyers and computer-assisted Morse code decoding software. These tools help improve the accuracy and efficiency of CW communication while preserving its timeless appeal and nostalgic charm.

Despite being one of the oldest modes of radio communication, CW remains a vibrant and essential part of the amateur radio hobby. Its simplicity, efficiency, and enduring popularity among operators worldwide highlight its unique place in the spectrum of radio communication modes.

4.1.4.1 Quick Start

Getting started with CW in the app is a breeze—even if you haven’t touched a straight key in decades. Follow these simple steps to get on the air:

1. Start by selecting **CW** in the mode selector. This sets up the application for Continuous Wave operation, including decoding and transmit timing parameters tailored for Morse code.
2. Tune your radio to the 20 meter band via the **CAT control** popup. You can, of course, choose another band if conditions are better elsewhere, but 20m is a good general-purpose band for daytime CW activity.
3. Click the **WPM indicator** in the toolbar and choose your preferred transmit speed in the popover. WPM (Words Per Minute) defines how fast your transmitted Morse code will be sent. A typical QSO speed is 20–25 WPM, but feel free to go slower or faster depending on your style or the DX you're working.
4. Open the **macro popup menu** and select “CQ call.” The app will automatically begin transmitting the macro using your selected WPM.
5. Wait for a reply. If the bands are quiet or you don’t get a response after a while, go back to step 3, tweak your speed, or maybe try a different band.
6. Once you’ve snagged a contact, exchange information using macros or just type directly into the transmit field. The app will key your words in real-time.
7. And of course, don’t forget to enjoy yourself. CW is more than just communication—it’s rhythm, music, and a touch of magic across the ether.

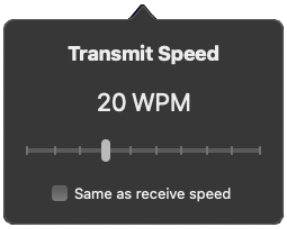
4.1.4.2 CW Mode Specific Menu Bar

The CW mode brings a few helpful tools to the top of your screen, just above the waterfall.

Figure 31: CW Mode Menu Bar

Here's what each item does:

The **Receive Speed Indicator** displays the speed (in WPM) of the currently decoded signal. Click it to change your own transmit speed—a quick and handy way to match the pace of the station you’re working.



Set transmit speed in WPM. Enable ‘Same as receive speed’ if you would like to automatically set the transmit speed to the receive speed.

The **Squelch Slider** controls whether decoding is active based on signal quality. If the signal-to-noise ratio (SNR) is too low, decoding won’t start. Adjust this slider to open squelch just above your local noise floor, filtering out weak or spurious signals and reducing visual clutter.

KEY The **Key Indicator** shows you whether the incoming signal is currently keyed. It's a simple visual aid to help you understand what's happening on the air—even when your ears are taking a break.

SQL Squelch Status: Red indicates the squelch is closed, meaning no signal is being processed. Green means the squelch is open, and iDigi is actively attempting to decode the selected signal.

SYN Synchronization: Green indicates that the PLL is fully synchronized with the selected signal. Yellow means a stable signal has been detected and synchronization is in progress. Red indicates that no stable signal is available for synchronization.

These indicators together provide real-time feedback to help you zero in on usable signals—and make better decisions on when and where to transmit.

4.1.4.3 Waterfall

As with other modes, the **waterfall** is your visual command center in CW mode. It displays a live frequency spectrum, allowing you to spot activity, identify keying signals, and position your decoder on a specific tone.

To receive, simply click on a signal in the waterfall—the decoder will instantly attempt to lock onto it and start decoding. If you're ready to call CQ, look for a clean, unused patch of spectrum and click there to position your transmit tone. Unlike other modes, there's no right-click context menu in CW mode, so everything is driven by your clicks and settings above.

Remember, CW is narrow and efficient—signals occupy very little bandwidth.

4.2 Image Modes

4.2.1 WEFAX

Radiofax, also referred to as HF fax or weather fax, utilizes frequency-shift keying (FSK) modulation to transmit monochrome images over radio waves. The process involves converting images into audio tones that represent black and white pixels, which are then transmitted via radio signals. Here's a more detailed technical overview:

1. **Image Encoding**: Before transmission, the image is typically converted into a binary format, with black pixels represented by one value (e.g., "1") and white pixels represented by another value (e.g., "0"). Various encoding methods can be used, such as run-length encoding or modified Huffman coding, to optimize the efficiency of transmission.
2. **Audio Tone Generation**: The binary image data is then translated into audio tones using FSK modulation. In FSK modulation, different frequencies are used to represent different binary values. For example, a high frequency might represent a black pixel ("1"), while a low frequency represents a white pixel ("0"). The specific frequencies used depend on the radiofax standard being employed.
3. **Radio Transmission**: The audio tones are modulated onto a carrier frequency within the shortwave radio bands, typically in the range of 3 to 30 MHz. Radiofax transmissions adhere to specific standards, such as those defined by the International Telecommunication Union (ITU), to ensure compatibility and interoperability between transmitting and receiving equipment.
4. **Reception and Decoding**: At the receiving end, the radiofax signal is intercepted by a receiver, such as a dedicated radiofax machine or a software-defined radio (SDR) connected to a computer. The received audio signal is demodulated to recover the binary image data, which is then processed and decoded to reconstruct the original image.
5. **Image Printing or Display**: Once decoded, the image can be printed out on paper by a dedicated radiofax machine or displayed on a computer screen using appropriate software. The resulting image typically consists of black lines on a white background, representing the graphical content of the transmitted fax.

Radiofax transmissions are characterized by their relatively slow speed compared to modern digital modes, with transmission times typically ranging from several minutes to tens of minutes per image, depending on factors such as image resolution and transmission speed. Despite its slower pace, radiofax remains a reliable method for transmitting graphical data over long distances, particularly in environments where internet access may be limited or unavailable.

4.2.1.1 Quick Start

If you're eager to receive a radio fax as soon as possible, follow these simple steps:

1. Select **WEFAX** from the mode selector at the top of the application window.
2. Select a station close to you in the station popup menu: see here for an overview of available stations and their locations. If you have CAT control working, this will automatically set your radio to the right frequency and mode. If you don't have CAT control, you need to set the frequency manually (1.9 kHz lower than the frequency indicated) and set mode to USB or DATA (USB).
3. Relax and wait until a new fax starts (you may listen to the sounds of WEFAX by enabling the Monitor (MON button).
4. Correct slant and offset if necessary (see function description below).

4.2.1.2 Overview

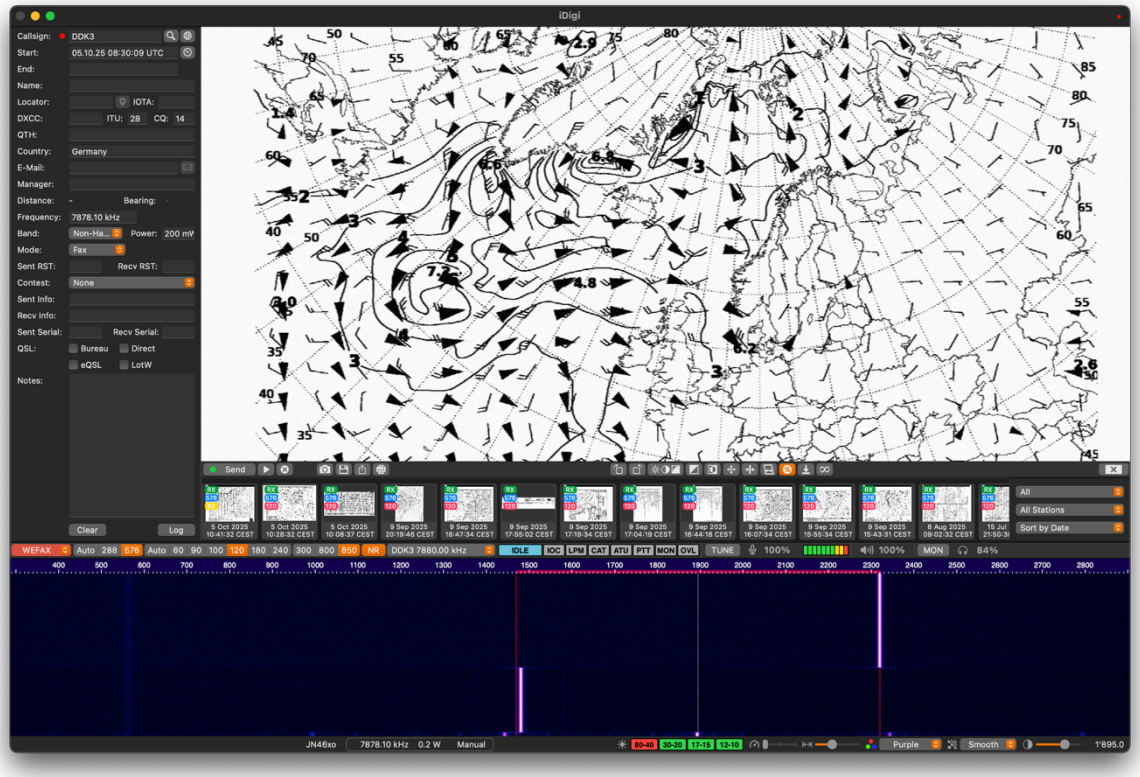


Figure 32: WEFAX Mode

The **WEFAX** mode user interface is divided into three main sections:

1. **Image View** – Displays the fax image currently being received, or the one selected in the image browser.
2. **Image Browser** – Shows a list of received fax images, depending on the selected filter settings on the right.
3. **Menu Bar** – Contains WEFAX-specific controls and commands.

4.2.1.2.1 Image View

The image view shows either the currently selected image in the image browser, or, if none is selected, the currently receiving image. In order to deselect the selected images(s) in the image broser, click between two images with the mouse or press the ESC key.

You can move the image around by dragging it with the mouse or use the scroll-wheel, zoom-in and out be pressing Option and using the scroll-whell. On a trackpad, click and drag to move the image and pinch to zoom in or out.

The following describes the controls just below the image view:

Send button: Starts or aborts transmission (when pushed while transmitting). A open file dialog will open and let you choose an image file to send. Transmission starts immediatly.

Receive now: starts reception immediately. This is useful if you already hear a transmission but iDigi did not start automatically because it missed the start header.

Stop receiving: abort reception of the current fax.

Take snapshot: store the currently received image and continue to receive.

Export selected images: Saves selected images from the browser to files. Please not that you can also export images by dragging them to the Finder.

Share: Sends selected images via email, Messages, or other macOS sharing services.

Print: print the currently selected image.

Rotate counterclockwise: rotate the image counter clockwise by 90°.

Rotate clockwise: rotate the image clockwise b 90°.

Picture control: Opens a popup with sliders for contrast, brightness, and gamma.

Black and white: show black and white image instead of grayscale.

Invert: invert image.

Fill view: change image size back so it fills the view.

Offset adjustment: Click, then drag the image horizontally to align it. Release the mouse to finish.

Slant adjustment: Same operation as offset, but used to correct diagonal skew.

Meta data: toggle to show or hide the fax header, sync bar and trailer.

Autoscroll: automatically scroll image when new lines are received.

Infinity mode: continuously received, ignore headers and trailers.

4.2.1.2.2 Image Browser

The **Image Browser** lists all fax transmissions that have been received or transmitted, excluding those that were deleted. You can filter the displayed images by **time range** or **station**, and adjust the **display order** using the three dropdown menus on the right-hand side.

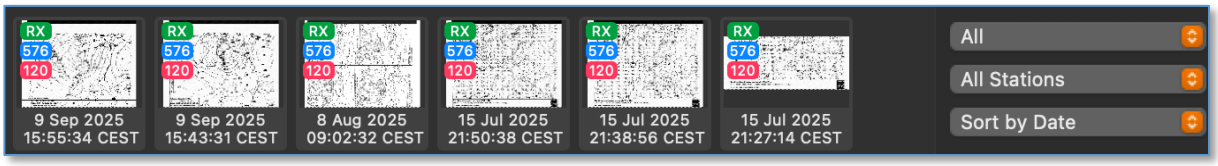


Figure 33: Image Browser

Each image is shown as a **thumbnail** that includes the **date and time** of reception or transmission, an **RX** or **TX**indicator, and the **IOC** (e.g., 576) and **LPM** (e.g., 120) values used.

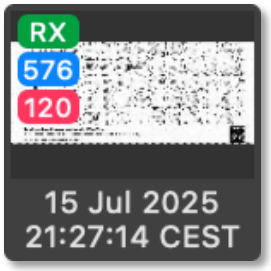


Figure 34: WEFAX Thumbnail

Select a thumbnail to display the corresponding fax in the **Image View** and to edit its parameters (for example, picture controls or slant and offset adjustments). If multiple thumbnails are selected, only the first one will be displayed.

To delete a fax, click the **cross icon** in the top-right corner of its thumbnail. If multiple thumbnails are selected, all selected faxes will be deleted. A **confirmation dialog** appears before deletion. Holding the **Option** key while clicking the cross icon suppresses this dialog and deletes the selected faxes immediately.

Note: Deletion is permanent and cannot be undone.

To **export** one or more fax images, select the desired entries and click the **Export** icon. Alternatively, you can drag the selected faxes directly into **Finder** or any other application that accepts dragged image files.

4.2.1.2.3 Menu Bar

The menu bar contains settings and indicators that are specific to the WEFAX mode. The items are described below.

Figure 35: WEFAX Mode Menu Bar

All elements explained:

IOC (Index of Cooperation): This parameter represents the drum rotation speed of traditional mechanical radio fax machines. In modern systems, only **IOC 576** is commonly used, as it provides higher horizontal resolution at the expense of slower transmission speed.
When set to Auto, iDigi automatically determines the correct IOC value by analyzing the header pattern transmitted before each fax image.

LPM (Lines per Minute): Defines the vertical transmission speed of a fax image. The most common setting is **120 LPM**, used for nearly all weather fax transmissions. The **Kyodo News Agency** uses **60 LPM** when transmitting Japanese-language faxes (to improve character readability) and **120 LPM** for English transmissions.
Lower LPM values provide higher vertical resolution but increase the total transmission time. When set to **Auto**, iDigi automatically determines the correct LPM by analyzing the synchronization pattern sent immediately before the fax image.

Bandwidth: Defines the frequency range used for fax signal transmission. The most common setting is **800 Hz**, while the **Deutscher Wetterdienst (DWD)** uses **850 Hz**. In amateur radio, **300 Hz** is more typical.
A smaller bandwidth makes reception more robust under noisy conditions but also reduces the grayscale resolution of the received image.

Noise Reduction: Reduces high-frequency noise to make received fax images more legible, though this may slightly decrease overall image resolution.

Station Selection: iDigi includes a list of predefined fax stations that can be selected from this dropdown menu. Choosing a station automatically sets all relevant fax parameters. If **CAT control** is configured and active, iDigi will also tune your radio to the correct frequency and mode (usually **USB**) automatically.
If you set the frequency manually on your radio, note that the **RF frequency** must be tuned **1.9 kHz below** the published station frequency (for example, set **7878.1 kHz** for **DDK3**, which transmits on **7880 kHz**).

State: Indicates the current operating state of the fax modem. The possible states are:

- **IDLE** – Waiting for a new fax transmission.
- **START** – Receiving the start pattern that indicates the IOC.
- **SYNC** – Receiving the synchronization pattern transmitted immediately before the fax image.
- **IMAGE** – Receiving the actual fax image.
- **END** – Receiving the trailer pattern marking the end of the fax.
- **SENDING** – Transmitting a fax image.
- **FLUSH** – Sending the trailer pattern to finalize transmission.

4.2.1.3 Correcting Faxes

In cases of high **QRM** or weak signals, iDigi may not be able to correctly detect the synchronization pattern transmitted before the fax image. As a result, the received image may appear horizontally shifted.

Since the fax mode does not include a continuous horizontal synchronization signal between transmitter and receiver (it operates in a **free-running** manner), small oscillator differences between the transmitting and receiving equipment often cause the image to appear **slanted**.

You can manually correct such images either **while they are still being received** or **after reception is complete**. Two controls are available for this purpose:

1. **Slant Correction**: Click this button to activate slant correction mode. Move the mouse pointer into the received image view; the cursor will change to indicate the active correction mode  . Click and drag the mouse left or right to remove the image slant, then release the mouse button when the lines appear straight.
2. **Offset Correction**: Click this button to activate offset correction mode. Move the mouse pointer into the received image view; the cursor will again change to reflect

the active mode . Click and drag the mouse left or right to correct the color offset until the image colors align correctly.

Please note that any **slant correction** applied to the currently received fax will automatically be applied to all subsequent faxes.

Figure 36: Slanted and offset fax

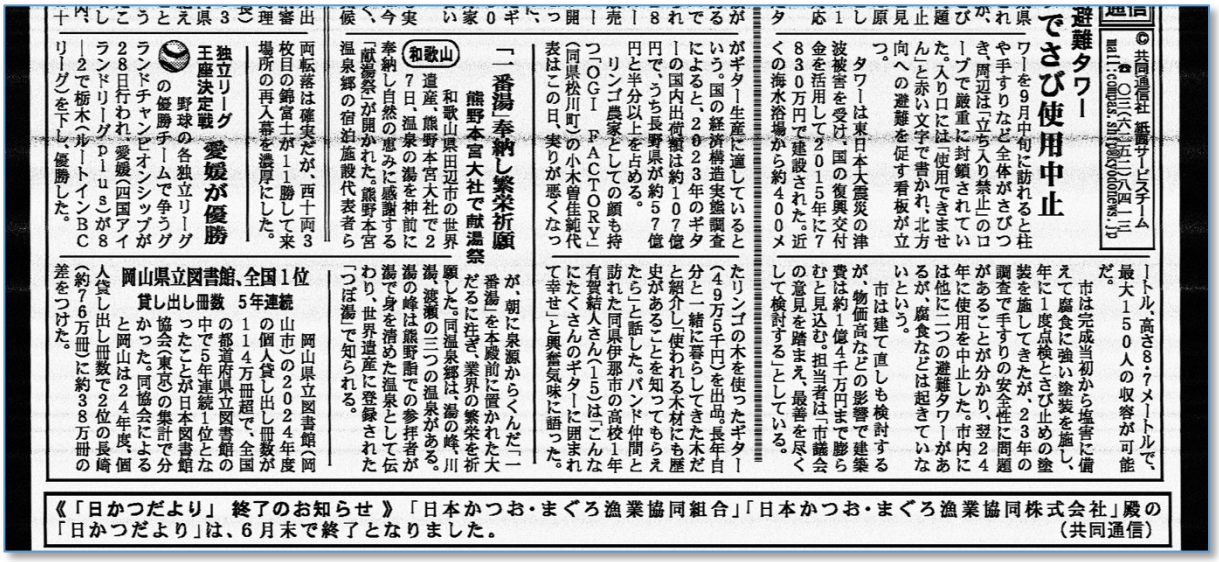


Figure 37: Corrected fax

4.2.1.4 Transmitting a fax

iDigi also allows you to **transmit radio fax images**. Click the **Send** button to open a file chooser dialog, where you can select an image in any format supported by macOS — even **PDF** files.

After clicking **Open**, iDigi will transmit the selected image using the currently active **LPM**, **IOC**, and **bandwidth**settings on the **current frequency**.

You may not be a news agency or a weather forecaster, but you can still enjoy exchanging high-resolution black-and-white images or text pages with other amateur radio fax enthusiasts.

4.2.2 SSTV Mode

Welcome to the SSTV (Slow Scan Television) mode of your macOS application, designed for ham radio operators who want to add a splash of visual creativity to their QSOs. SSTV allows you to transmit and receive images over HF radio, typically on bands like 20 meters, using analog modulation techniques that are both robust and fascinating.

This mode works seamlessly with digital mode interfaces such as Tigertronics' Signalink, HB9ZHK's DigiLink Nano, or even directly through your Mac's internal sound card, assuming it's up to the task. Whether you're calling CQ with a colorful photo of your shack or decoding an incoming image from a distant station in Japan, this mode is where the visual magic happens.

Figure 38: SSTV Mode

4.2.2.1 SSTV Overview

Slow Scan Television may sound like an anachronism in the age of livestreams and gigabit internet, but on the HF bands, it's a unique and enduring form of communication. In SSTV, images are transmitted line by line as modulated audio tones, similar in spirit to fax

machines or analog TV—but designed specifically for the constraints and quirks of radio propagation.

There are numerous SSTV modes in use today—Martin, Scottie, Robot, and even the elusive Wraase modes, to name just a few—each with different resolutions, color encoding strategies, and transmission speeds. The application supports a wide range of these modes, letting you experiment and find the best match for your signal conditions and aesthetic preferences.

Incoming images appear as they're decoded, line by line, often accompanied by the characteristic squelch of a VIS (Vertical Interval Signaling) header, which tells your software which mode to use. Outgoing images are composed using an intuitive interface that lets you combine your station ID, overlay text, background colors, and images from your library—or even live from your webcam.

SSTV is as much art as it is engineering. It's not just about signal reports and grid squares—it's about sharing a little piece of your world with someone thousands of kilometers away, one pixel at a time.

4.2.2.2 Quick Start

If you're eager to get on the air quickly, follow these steps for a basic SSTV QSO:

1. Select **SSTV** from the mode selector at the top of the application window.
2. Use the **CAT control** popup to tune your rig to the 20-meter SSTV calling frequency (typically around 14.230 MHz).
3. In the transmit area, select a **background image** and one of the predefined **CQ overlay texts**.
4. Press the **Send** button and watch as your image is transmitted, line by line, across the ether.
5. After transmission, wait and listen. You might receive a reply—or feel free to resend your CQ if the band seems sleepy.

4.2.2.3 Application Interface Overview

The application's main window is logically divided into two horizontal panes.

The **upper pane** is your receive view. On the left, it displays the image currently being received. If no image is actively being decoded, this area will show the last image you selected from the image browser on the right side. This browser also holds your entire collection of received SSTV images, sorted chronologically for convenient access and review.

The **lower pane** is your transmit composition studio. Here, you craft the image you want to send. On the left side, you see a live preview of the transmit image. If the selected mode is black-and-white, the preview will reflect that automatically. The center area allows you to choose from various **text overlays**—these can include callsigns, CQ messages, or custom templates. On the right side is your **background image browser**. Pick any image here to use as the foundation for your outgoing masterpiece.

When the transmit image is complete, just press “Send”—and voilà, you’re painting with radio waves.

4.2.2.4 Mode-Specific Menu Description

This menu is a treasure chest of expert-level controls:

Figure 39: SSTV Mode Menu

SS — **Sync detection start**: Enables reception triggered by sync pulses, allowing decoding without a proper VIS header—but beware, this may lead to false positives.

NR — **Noise reduction**: Activates filtering to clean up noisy images. Effective in rough band conditions, though it may sometimes reduce image detail (see below).

FSKID — **FSKID**: Appends an FSK-encoded callsign ID after your image is sent, for automatic identification.

CWID — **CWID**: Instead of FSK, you can send your callsign in Morse code after each transmission.

Call field: Enter the callsign seen on the received image here. It's used for both logging and auto-filling your outgoing overlays.

Current state: Shows the operational state of the decoder: *Idle*, *AVT Header*, *Image*, *Transmit*, or *Flush.*

VIS start indication: A small indicator that the current image started with a standard VIS header.

SYNC start indication: Shows that the decoder triggered on sync tones instead of a VIS header—useful for decoding nonstandard transmissions.

Figure 40: Noise Reduction Disabled

Figure 41: Noise Reduction Enabled

Receive Controls

Stop reception: Halts decoding and discards the current image.

Take snapshot: Saves the current state of the incoming image to your collection.

Export selected images: Saves selected images from the browser to files. Please not that you can also export images by dragging them to the Finder.

Share: Sends selected images via email, Messages, or other macOS sharing services.

Picture control: Opens a popup with sliders for contrast, brightness, saturation, and gamma.

Offset adjustment: Click, then drag the image horizontally to align it. Release the mouse to finish.

Slant adjustment: Same operation as offset, but used to correct diagonal skew.

Automatic time correction: Adjusts line timing to match the sender. Leave this on unless testing.

Enable overscan: Slightly expands the decoded image to avoid edge artifacts.

Use sections: Display received images in date sections.

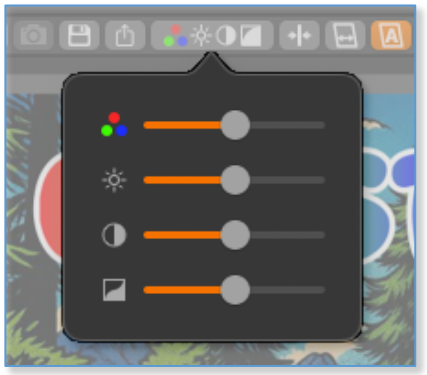


Figure 42: Picture Control Popup

4.2.2.5 Correcting Images

In some cases with high QRM or weak signals it is possible that iDigi cannot properly reconstruct the sync pulses that are needed to calculate a time correction between transmitting and receiving station and the beginning of a scanline. This will result in slanted and offset images, depending on the mode also distorted colors or a shift between the different color channels, resulting in ghost images.

You can manually correct such images while they are still being received, or at a later time. There are two controls for this:

3. **Slant Correction**: Click this button to activate slant correction mode. Move the mouse pointer into the received image view; the cursor will change to indicate the active correction mode  . Click and drag the mouse left or right to remove the image slant, then release the mouse button when the lines appear straight.
4. **Offset Correction**: Click this button to activate offset correction mode. Move the mouse pointer into the received image view; the cursor will again change to reflect the active mode  . Click and drag the mouse left or right to correct the color offset until the image colors align correctly.

Figure 43: Slanted and offset Image

Figure 44: Slanted Image

Figure 45: Corrected Image

4.2.2.6 Transmit Controls

Send button: Starts or aborts transmission.

Resolution display: Shows the resolution and aspect ratio of the selected mode.

Background color control: Used when no image is selected or to fill unoccupied areas.

Image fit mode: Choose whether your image should fit width, fit height, or stretch.

Picture-in-Picture (PiP) controls: Opens a configuration popup where you can enable PiP, change its size and placement, add a border, and adjust its appearance. PiP is active if this button state is on, otherwise PiP is disabled.

Sync transmit mode to receive mode: Automatically adjusts your transmit mode to match the last received image.

Mode selector: Allows manual selection of the transmission mode. Changing the mode will affect the image layout, so be sure to check your preview.

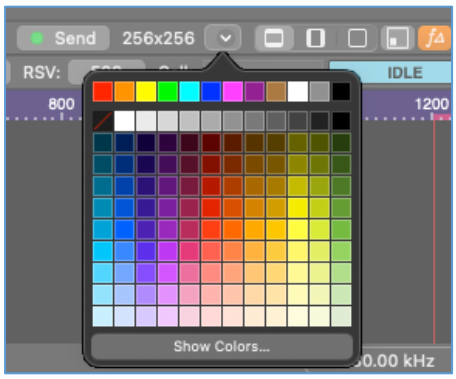


Figure 46: Background Color Control

4.2.2.7 Picture in Picture (PiP) for Transmit

Click on the PiP (Picture in Picture) button below the transmission picture to open a Popover dialog where you can control the appearance of the picture inside the transmit picture. The button's selection state indicates if PiP is currently enabled.

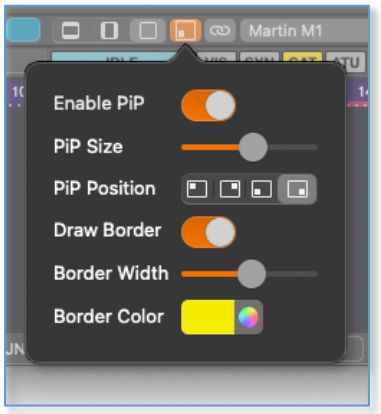


Figure 47: PiP Controls

With these controls you can determine if a PiP is shown at all, you can set size, position and border properties. Please note that the currently selected image in the receive image browser is used as the picture in picture.

Figure 48: Example Picture in Picture (PiP)

4.2.2.8 Importing Images for Transmission

There are three user-friendly ways to import images:

- Click the **folder icon** under the background image browser to open a file dialog. You can select one or multiple images in any macOS-supported format.
- Click the **camera icon** to open a live webcam capture window.
- Simply **drag and drop** image files from Finder or other applications directly into the background image browser.

4.2.2.9 Exporting Received Images

You can export received images in two intuitive ways:

- Select the desired image(s) and press the **Save** button in the receive pane.
- Drag selected images directly from the receive image browser to the Finder or any compatible application.

Bonus tip: You can also drag received images into the transmit pane to reuse them in your own image compositions.

4.2.2.10 Deleting Images

Both the receive and transmit image browsers support image deletion. To delete an image, click the **X icon** in the top-right corner of the image. If you've selected multiple images, all will be deleted in one action—after a confirmation dialog.

Pro tip: If you're in a hurry, you can bypass the confirmation by holding the Option key while deleting. But be careful—this skips the safety net!

4.3 Message Based Modes

4.3.1 FT4 and FT8

FT8 and FT4 represent significant advancements in the realm of digital modes within the amateur radio community. They were developed by Joe Taylor (K1JT) and Steve Franke (K9AN), who aimed to create modes that could facilitate communication under weak signal conditions, such as during periods of low solar activity or on bands affected by noise and interference.

FT8, named after its creators Franke and Taylor, utilizes 8-frequency shift keying (8-FSK) modulation to encode data. This mode is characterized by its 15-second transmission intervals, during which essential information like callsigns, signal strength, and grid locator are exchanged. FT8's operation is highly automated, with software handling much of the transmission and decoding process, making it suitable for unattended or remote operation.

In contrast, FT4 is an evolution of FT8, designed for quicker exchanges and more efficient contesting or rapid-fire contacts. It employs 4-frequency shift keying (4-FSK) modulation, allowing for shorter message durations of around 7.5 seconds. This shorter transmission time enables operators to make more contacts in a given period, making FT4 particularly popular during contests or in crowded band conditions.

Both FT8 and FT4 operate on predetermined frequencies within the amateur radio bands and are supported by a range of software tools that aid in decoding and encoding transmissions. These modes have gained widespread adoption due to their ability to make contacts under challenging propagation conditions, their efficiency in terms of power and bandwidth usage, and their relatively straightforward operation, especially with the assistance of digital mode software.

Overall, FT8 and FT4 have significantly enhanced the capabilities of amateur radio operators, enabling communication across vast distances even under adverse conditions, and they continue to play a vital role in the amateur radio community.

In **iDigi**, FT8 and FT4 operation is streamlined, allowing you to monitor multiple signals, manage simultaneous QSOs, and let the application handle much of the tedious timing and message sequencing.

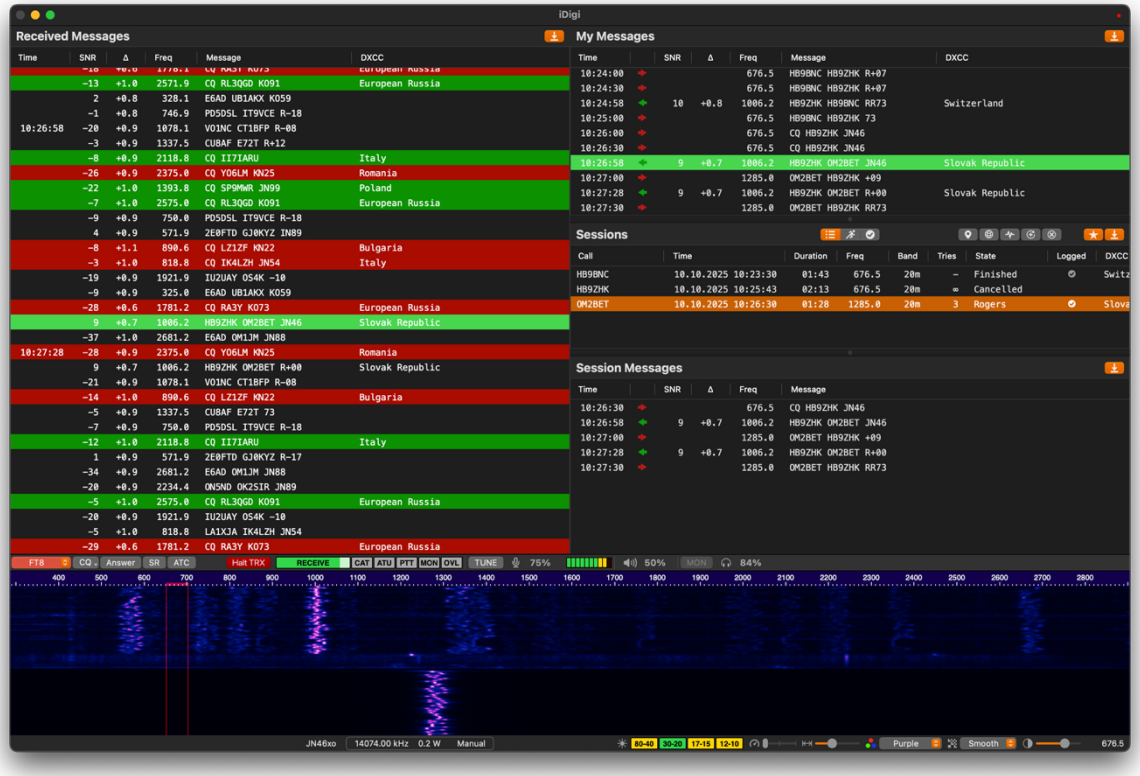


Figure 49: FT8 Mode

4.3.1.1 Quick Start

If you want to get on the air right away, follow these steps and you'll be making QSOs in no time.

- First, select **FT4** or **FT8** from the mode selector at the top of the main window. This ensures iDigi will generate and decode messages according to the correct protocol.
- Next, use the **CAT control popup** to move your transceiver to one of the most active FT8/FT4 bands. For daytime operation, 20 m is typically lively; after sunset, 30 m or 40 m often yield more activity.
- Before transmitting, make sure the **Answer** button is enabled. With this active, iDigi will automatically respond to stations that answer your CQ—saving you from constantly watching for replies.
- Click **CQ** to begin calling. The system will transmit your CQ messages in the appropriate time slots.
- After sending out a CQ message, iDigi will automatically listen for replies in the following time slot and automatically open a new session and complete the QSO for you. (If the **Answer** button is off, you'll need to keep an eye on the **My Messages** table and double-click any incoming message addressed to you to start the QSO manually.)
- Once the final "RRR" or "RR73" message is either sent or received, iDigi logs the QSO automatically—no manual logging required.

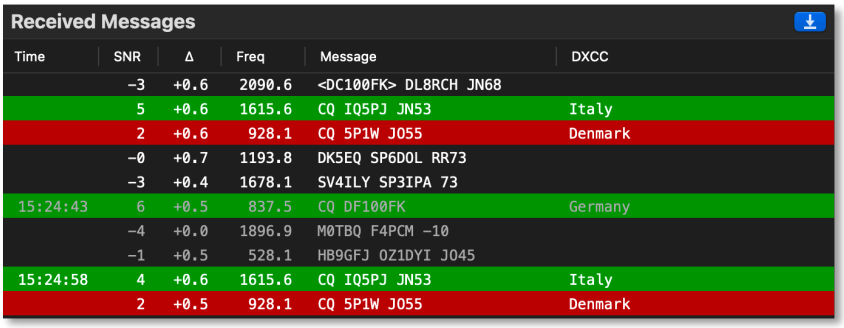
- In some instances, a QSO cannot be completed due to rapidly changing conditions, QRM or the other station stopping to respond. You can either manually cancelt he session with the cancel button in the session table section or wait until iDigi runs into the set timeout (see FT8 preferences). Alternatively you can extend a session by clicking on the extend session button or change the audio frequency of the current session to the frequency selected in the waterfall view by pushing the adjust frequency button. Once a session is about to timeout, it will be displayed with a yellow background.

It is also possible to double click on any other received message and iDigi will reply to the callsign that sent that message.

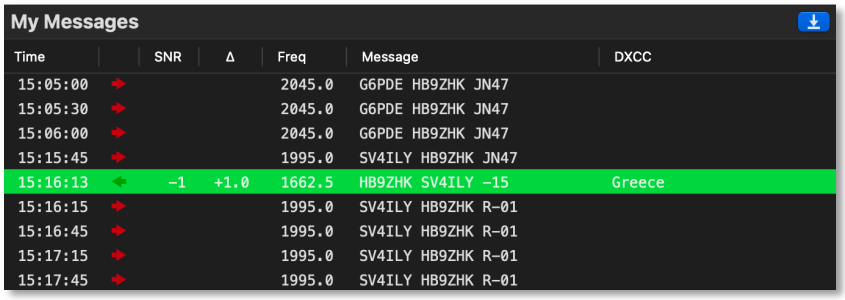
4.3.1.2 Overview

The FT4/FT8 interface is divided into four main areas:

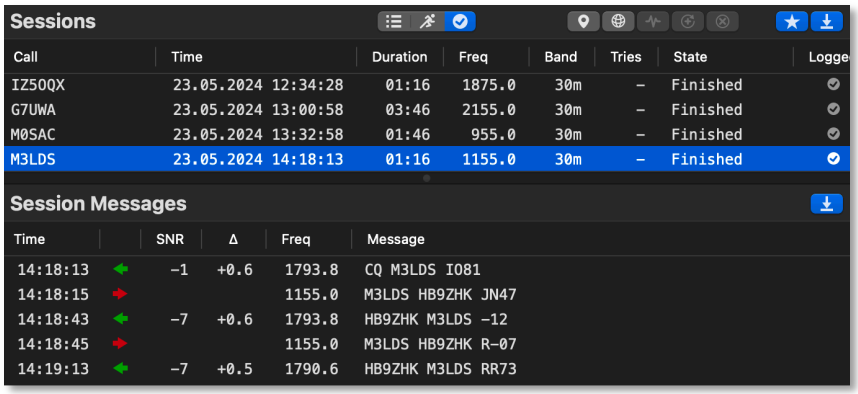
- **Received Messages** — Displays all decoded FT4 or FT8 messages, regardless of whether they are addressed to you.



- **My Messages** — Lists only messages either addressed to your callsign or sent by you.



- **Sessions** — Represents each ongoing QSO attempt. iDigi can manage multiple sessions simultaneously, sending messages for each in the same transmission slot. This can be useful, but remember: your transmitter's power is divided between the messages.
- **Session Messages** — Shows the complete message history (both received and transmitted) for the selected session.



4.3.1.2.1 Table column descriptions

Column Name	Description
Time	Time when message was received or sent, or when session was created.
SNR	Signal to Noise Ratio of received message.
Δ	Delta Time: Time deviation of received message.
Freq	Audio frequency of message or session.
Message	Content of received or transmitted message.
DXCC	DXCC entity of calling station (country).
Duration	Duration of session.
Band	Band used for session.
Tries	Retransmit counter, session is cancelled automatically if this reaches zero. You can extend a session by selecting it and clicking the session extension button.
State	Current state of sessen (Calling, Reply, Report, Roger Report, Rogers, Finished, Cancelled, Lost).
Logged	Indication if session has been logged (logging occurs on reception or transmission of RR73 or RRR messages).

4.3.1.2.2 Key Controls


When enabled, tables automatically scroll to the newest message as it arrives.


Automatically selects a newly created session.


Terminates the selected session immediately. Once cancelled, it cannot be resumed.


Adds more time to the selected session before it times out.


Sets the selected session's audio frequency to the currently highlighted frequency in the waterfall view.

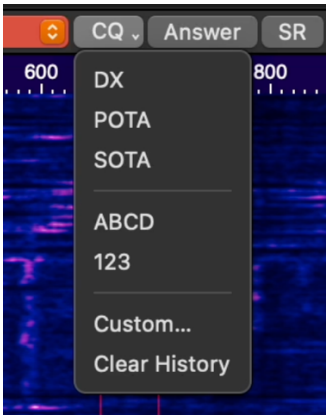

Opens the selected call's details on QRZ.com in your default web browser.


Displays the selected call's location in Apple Maps.


Lets you view all sessions, only active sessions, or only completed sessions.

4.3.1.2.3 Transmission Controls

Calls CQ in the next available slot. Hold the button for a menu of special CQ types, such as *CQ POTA* or *CQ QRP*. Press the button again to cancel your CQ call.



You can add an **addendum** to a CQ call, for example:

CQ POTA HB9ZHK JN47

To do this, click and hold the **CQ** button. After about one second, a pulldown menu appears with several commonly used addendums. Select one from the list, and iDigi will include it in your next CQ transmission cycle.

Alternatively, you can create your own custom addendum. Select **Custom**, then enter your desired text — either up to **four letters** or **three digits**. Custom addendums are saved in the history and will be available for future use.

Automatically replies to the first station responding to your CQ.

Sends a signal report immediately after your CQ instead of a standard reply, shortening the QSO but omitting your locator.

Adjusts your system clock using reception times from received messages—ideal when Internet time sync isn't available.

Stops all transmissions and terminates every active session immediately. Cancelled sessions cannot be restarted.

The **State Indicator** shows whether the transceiver is idle, receiving, or transmitting. During transmission and reception, it also displays a time progress bar for the current slot, keeping you aware of where you are in the cycle.

WSPR

WSPR (Weak Signal Propagation Reporter) is a digital mode used in amateur radio communication, particularly renowned for its ability to detect and report extremely weak signals. Developed by Joe Taylor (K1JT), the same mind behind FT8 and FT4, WSPR operates using a protocol that enables stations to transmit short, highly structured messages containing their callsign, locator, and power level.

Unlike FT8 and FT4, which facilitate two-way communication, WSPR is primarily a beacon mode. It allows amateur radio operators to transmit their signals on predetermined frequencies within the amateur radio bands, typically using very low power (often less than 5 watts) and simple antennas. These transmissions are received by other stations equipped with WSPR-capable receivers, which then decode and report the received signals along with their signal strength and timing information.

WSPR's key feature lies in its ability to detect signals that are well below the noise floor, making it an invaluable tool for studying propagation conditions, particularly on HF (high-frequency) bands. By analyzing the reception reports from multiple stations over time, operators can gain insights into how radio signals propagate across various paths and at different times of the day.

The WSPR network, consisting of thousands of participating stations around the world, forms a global web of propagation beacons. This network provides real-time data on HF propagation conditions, aiding operators in making informed decisions about when and where to operate. Additionally, WSPR has applications beyond amateur radio, including scientific research and monitoring of ionospheric conditions.

Overall, WSPR is a powerful tool for exploring the mysteries of radio propagation, enabling amateur radio operators to push the boundaries of what is possible in communicating over long distances using minimal resources. Its simplicity, effectiveness, and role in advancing our understanding of propagation make it a valuable asset in the amateur radio community.

4.3.1.3 Quick Start

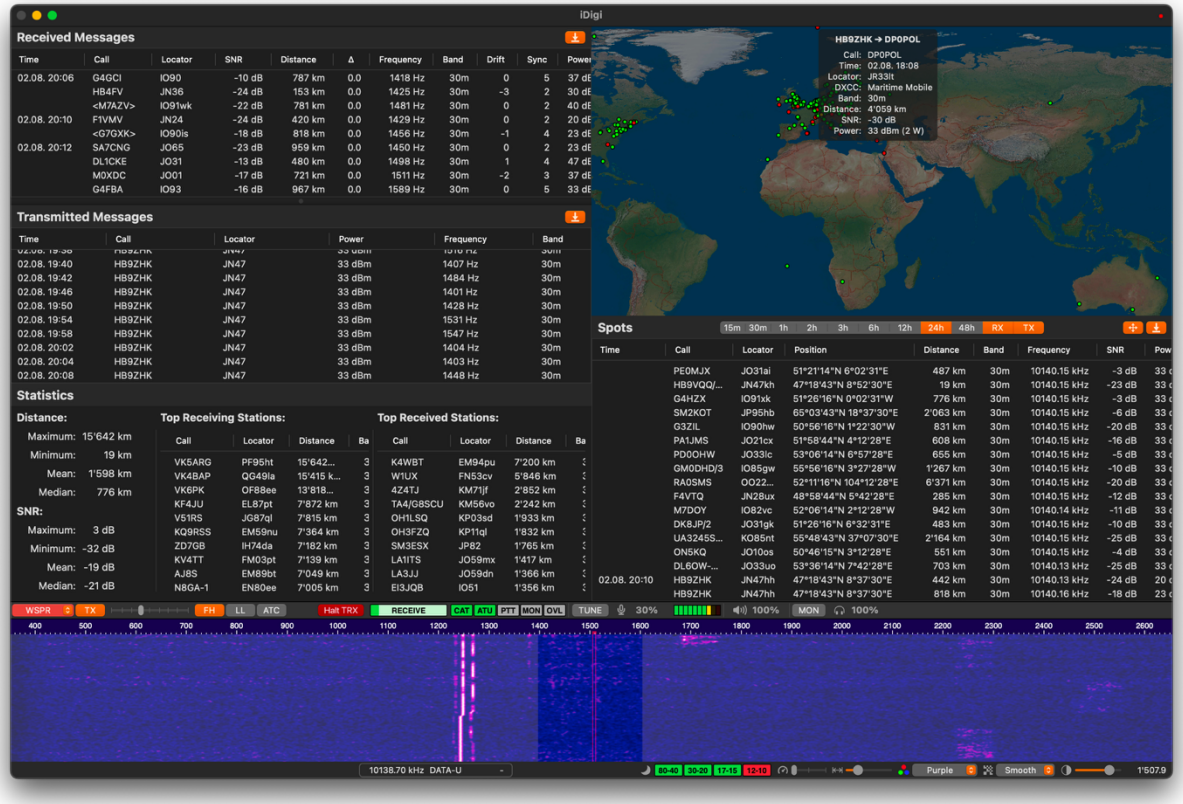


Figure 50: WSPR Mode

If you're eager to get on the air quickly, follow these steps to start transmitting and receiving **WSPR** signals:

1. Select **WSPR** from the mode selector at the top of the application window.
2. Use the **CAT control** popup to tune your transceiver to the 20-meter WSPR frequency (you can also use other bands, but 20 m, 30 m, and 40 m generally provide the best results).
3. In the **Transmit** area, choose a background image and one of the predefined **CQ overlay** texts.
4. Set the **TX ratio** to between 20 % and 40 %, then click **TX** to begin transmitting.
5. Ensure that you have an active Internet connection. This is required to upload reception reports from your station and to download reports from others that have received your signal.
6. Sit back, relax, and watch the map and the statistics. iDigi will automatically transmit and receive WSPR messages according to the ratio you set, displaying received spots and propagation paths in real time.

4.3.1.4 Overview

The **WSPR interface** is divided into several sections:

4.3.1.4.1 Received Messages

Displays the most recent WSPR messages received by your station, typically the last few hundred entries. When the **Auto Scroll** option is enabled, iDigi automatically scrolls the table to display the most recent entries.

Received Messages

Time	Call	Locator	Position	SNR	Distance	Δ	Frequency
	VA3UAL	EN94	81°00'00"S 44°30'00"E	-8 dB	6'536 km	0.0	1556 Hz
23.05. 18:38	KC3AAT	FN00	79°00'00"S 40°30'00"E	-18 dB	6'681 km	0.0	1503 Hz
23.05. 18:40	KI2L	FN32	73°00'00"S 42°30'00"E	-19 dB	6'148 km	0.0	1406 Hz
	K3EA	FN20	75°00'00"S 40°30'00"E	-16 dB	6'414 km	0.0	1454 Hz
	N1KEV	FN31	73°00'00"S 41°30'00"E	-10 dB	6'213 km	0.0	1502 Hz
23.05. 18:42	CT1JF	IM58	9°00'00"S 38°30'00"E	-15 dB	1'732 km	0.0	1406 Hz

Figure 51: WSPR Received Messages

4.3.1.4.2 Transmitted Messages

Lists all WSPR messages that have been transmitted from your station.

Transmitted Messages

Time	Call	Locator	Power	Frequency	Band
04.10. 17:52	HB9ZHK	JN47	37 dBm	1500 Hz	20m
04.10. 17:54	HB9ZHK	JN47	37 dBm	1500 Hz	20m
04.10. 17:56	HB9ZHK	JN47	37 dBm	1500 Hz	20m
04.10. 18:00	HB9ZHK	JN47	37 dBm	1439 Hz	40m
04.10. 18:02	HB9ZHK	JN47	37 dBm	1439 Hz	40m
04.10. 18:04	HB9ZHK	JN47	37 dBm	1439 Hz	40m

4.3.1.4.3 Statistics

Provides an overview of your station's performance, including distance and signal-to-noise ratio (SNR) statistics for received messages. Next to this, you will find two lists: one showing the stations that most frequently receive your signals, and another showing the stations you most frequently receive.

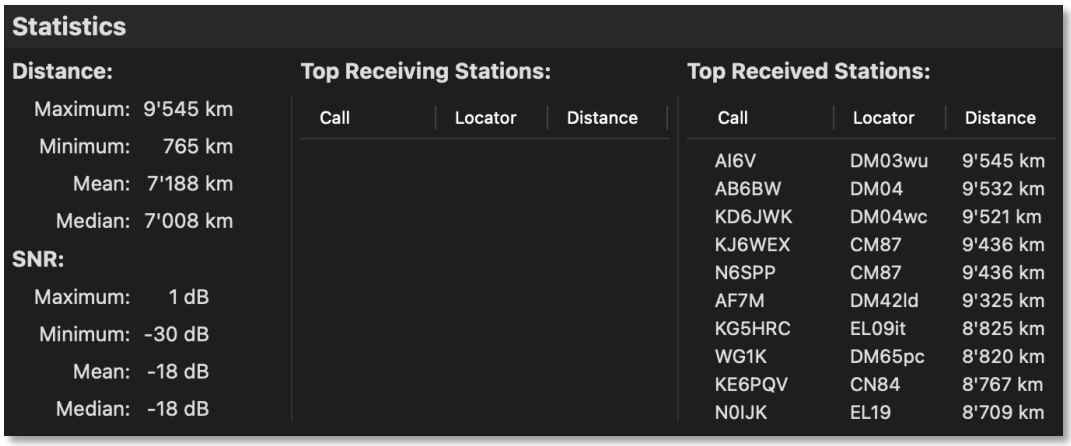


Figure 52: WSPR Statistics

4.3.1.4.4 Map

Displays the geographical locations of stations involved in your WSPR activity. Stations from which you have received messages are shown in **green**, and stations that have received your transmissions are shown in **red**. Make sure you have an active Internet connection, as this data is retrieved from **wsprnet.org**.

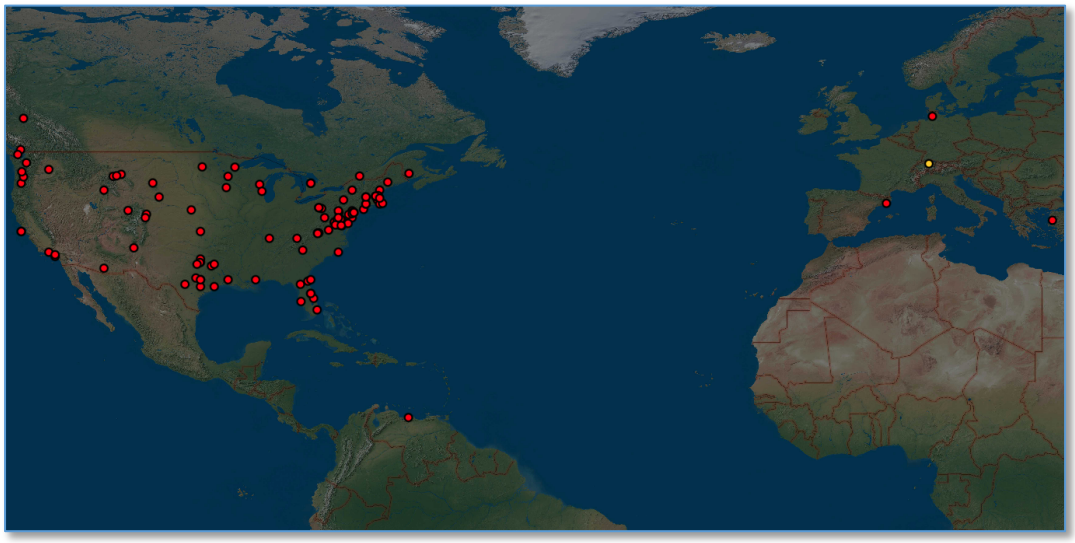


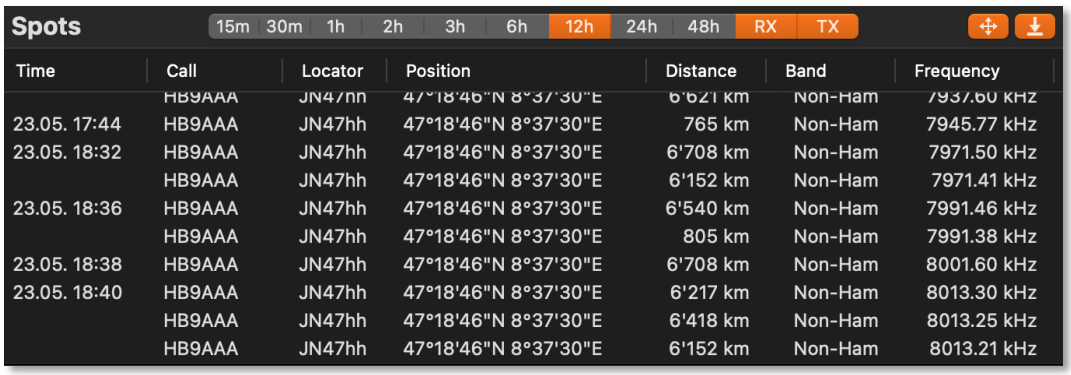
Figure 53: WSPR Map View

Hovering the mouse over a station marker will show additional details about that station and the most recent reception report.

Figure 54: WSPR Spot Detail Popup

4.3.1.4.5 Spots

Lists both the messages received by your station and the messages from other stations that have reported hearing you. The display can be filtered by time range (e.g., last 15 minutes, 30 minutes, etc.) and by direction (received or transmitted messages only).



Time	Call	Locator	Position	Distance	Band	Frequency
	HB9AAA	JN47hh	47°18'46"N 8°37'30"E	6'621 km	Non-Ham	7937.60 kHz
23.05. 17:44	HB9AAA	JN47hh	47°18'46"N 8°37'30"E	765 km	Non-Ham	7945.77 kHz
23.05. 18:32	HB9AAA	JN47hh	47°18'46"N 8°37'30"E	6'708 km	Non-Ham	7971.50 kHz
	HB9AAA	JN47hh	47°18'46"N 8°37'30"E	6'152 km	Non-Ham	7971.41 kHz
23.05. 18:36	HB9AAA	JN47hh	47°18'46"N 8°37'30"E	6'540 km	Non-Ham	7991.46 kHz
	HB9AAA	JN47hh	47°18'46"N 8°37'30"E	805 km	Non-Ham	7991.38 kHz
23.05. 18:38	HB9AAA	JN47hh	47°18'46"N 8°37'30"E	6'708 km	Non-Ham	8001.60 kHz
23.05. 18:40	HB9AAA	JN47hh	47°18'46"N 8°37'30"E	6'217 km	Non-Ham	8013.30 kHz
	HB9AAA	JN47hh	47°18'46"N 8°37'30"E	6'418 km	Non-Ham	8013.25 kHz
	HB9AAA	JN47hh	47°18'46"N 8°37'30"E	6'152 km	Non-Ham	8013.21 kHz

Figure 55: WSPR Spots

Select one of the available **time ranges** (e.g., 15 m, 30 m) to hide spots that are older than the selected period. You can also disable **RX** or **TX** to hide received messages or transmitted messages (i.e., those received and reported by other stations).

Figure 56: WSPR Spots Filter

4.3.1.5 Other operation elements

Enable to transmit. iDigi will transmit a signal in random slot to roughly get to the selected TX/RX ratio.

Set the ratio between transmit slot to receive slots (30% means that roughly 30% of the two minute WSPR slots will be used to transmit a signal and the remaining 70% are used to listen for signals from other stations. Recommenced values are between 20 and 40%.

Frequency Hopping: let iDigi choose an audio frequency in the available range randomly for each transmit slot. This can help in busy times to “get through” better.

Long Locator: Send a six character locator (e.g. JN47HH instead of JN47). WSPR has the capability to send long locators, indicating a more precise location, but has to sacrifice other information instead. With this option enabled, iDigi send long locator information in every third message transmitted. The other two messages will contain a short locator and the full WSPR information.

Automatic Time Correction: When enabled, iDigi uses the timing information of received messages to adjust its clock, not relying soley on the system clock. This might be useful when you can't synchronize your system clock regurarily, i.e. in situations when you don't have Internet access. If you have normal Internet access, this option can be disabled.

Abort the current TX cycle immediately and disable TX. If you just diable TX, the current cycle will be completed normally.

State of modem: IDLE, RECEIVE, TRANSMIT, DECODE

Auto Scroll: scrolls the respective table view automatically so the newest messages and spots are shown.

Auto Zoom: Automatically zooms the map so that all spots are visible.

5 Log Window

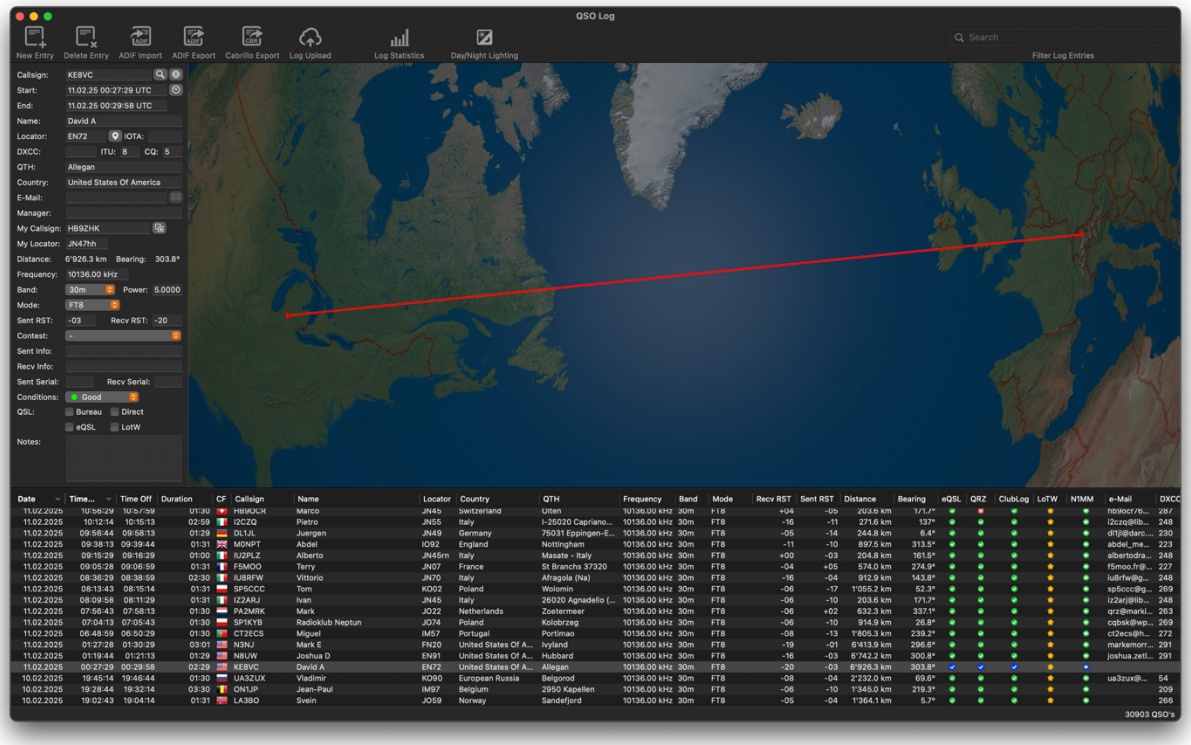


Figure 57: QSO Log Window

5.1 Overview

The **Log Window** is where your digital adventures are faithfully recorded and organized. Whether you're chasing DX on FT8, holding a ragchew over PSK31, or working a contest in RTTY, every confirmed QSO has a story—and this is where they're all written down.

To access the log window, you can either press **Command–L** or head up to the **Window** menu and select **QSO Log**. Voilà! The log window opens, giving you a comprehensive overview of your contact history across all supported modes.

At the bottom half of the window lies the log table—a neat, scrollable database of all your contacts. Each row is a QSO, and each column captures a detail: callsign, date, time, mode, band, signal reports, country, and so on. Clicking on a column header will sort the table by that field, ascending or descending. If you're trying to find a needle in the haystack (say, your last contact with ZL1A on 40m FT4), just start typing into the search field in the toolbar—the table updates instantly to match your input.

Selecting a log entry populates the **Quicklog-style panel** on the left with all its juicy details. This is your editing canvas: fix typos, update signal reports, or add notes like "operator had a great signal and an even greater accent." If you select multiple rows, changes apply to all selected entries—very handy if you need to update a batch of logs made during a single sked or contest session.

You can fine-tune the table view to your needs. A right-click on the column headers brings up a contextual menu where you can show or hide columns at will. Whether you're a minimalist who only needs callsign and time, or a data hound tracking every field from grid square to rig type, the log window adapts to your preferences.

Now let's talk about the **world map**. If both your own location and that of the contacted station are known (and most modern QSOs include at least a locator or country), you'll see the path between you and the station rendered beautifully on a 3D globe. You can zoom in, zoom out, spin the planet, and even watch the grey line sweep across the hemispheres in real time if the **day/night lighting** option is enabled. It's a nice touch—not strictly necessary, but undeniably cool.

Another clever feature is the **upload status indicator** next to each log entry. These small icons give you at-a-glance feedback about whether your contact has been shared with external services:

- A **yellow star** signals that the entry is brand new and hasn't yet been uploaded.
- A **green checkmark** means the QSO has been uploaded successfully—mission accomplished.
- A **blue checkmark** indicates that a previously uploaded entry has since been edited and now needs re-uploading.
- For logs broadcast via the **N1MM local network protocol**, you'll see an **arrow icon** instead of a checkmark. That's because these entries aren't uploaded per se—they're shouted out on your local network and may or may not be picked up by a compatible logging app. Think of it as a polite nudge, not a guaranteed handshake.

No matter how many modes you work or how often you update your log, the log window is your one-stop destination for keeping your digital QSO history tidy, trackable, and ready for awards or bragging rights.

5.2 Toolbar

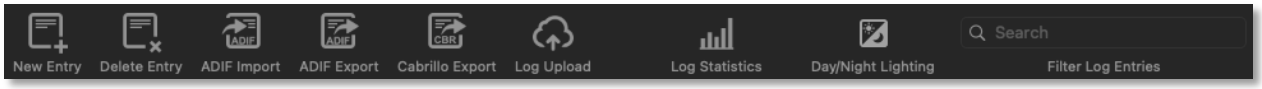


Figure 58: QSO Log Window Toolbar

The toolbar at the top of the log window is your command center. Each button gives you immediate access to a specific action or utility related to your logbook. (Note: the actual icons will be added later.)

Clicking the **New Entry** button creates a fresh, blank log entry. This is perfect for manually logging a contact you made outside the app, such as a portable activation where you jotted things down on paper.

Delete Entry lets you remove selected entries. You'll get a confirmation prompt before anything is erased, just to be sure you really meant it.

With **ADIF Import**, you can bring in QSOs from another application or logging service. The app will automatically check for duplicates and let you decide—individually—whether to skip or keep each overlapping entry.

ADIF Export works the other way around. You can export all log entries, just the selected ones, or all QSOs that fall within a specific date range. The resulting file is compatible with nearly every logging and contesting application on the planet.

Cabrillo Export is your go-to when preparing contest logs. Same options as ADIF apply—export everything, just the current selection, or by date range.

When you're ready to share your QSOs with the world, click **Log Upload**. This uploads your entries to services like **eQSL.cc**, **QRZ.com**, **Clublog**, **LoTW**, or sends them out over your local network to N1MM-compatible applications. The accounts must be set up in **iDigi's Preferences** under the **Accounts** tab. Normally, only new or changed entries are uploaded, but you can override that with the **Force upload** option.

Log Statistics opens a new window filled with charts and numbers: QSO counts by band, most worked DXCCs, average signal reports—you name it. If there's a scroll bar, don't worry—there's more data waiting.

If you click the **Day/Night Lighting** toggle, the globe view in the log window will simulate real-time lighting conditions, showing which parts of the Earth are bathed in sunlight and which are in radio-friendly darkness.

And finally, the **Search Field** helps you quickly filter log entries based on callsign or partial text. It's fast, intuitive, and ideal for quickly locating that one elusive FT8 contact from two months ago.

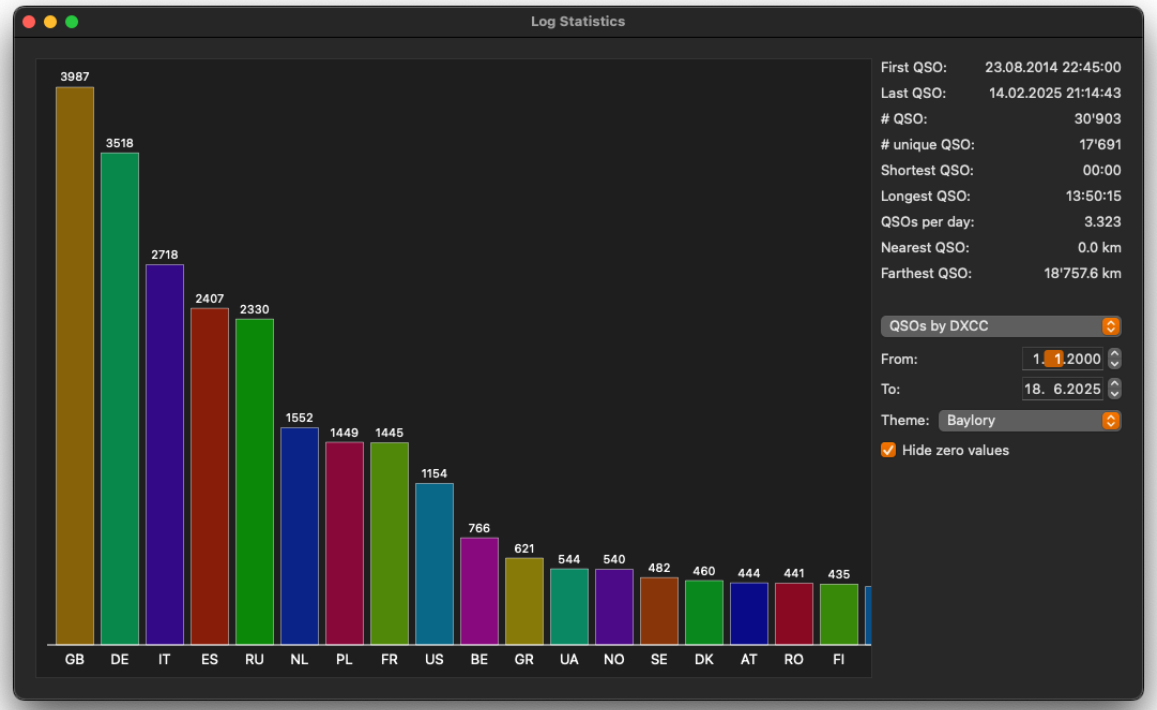


Figure 59: QSO Log Statistics Window

6 Troubleshooting

As every software, iDigi is not absolutely protected from software bugs. Should you encounter a problem with iDigi, please write an e-mail to hb9zhk@uska.ch.

Please also consider joining the iDigi Facebook group to exchange with other iDigi users: https://tinyurl.com/iDigi-FB or https://www.facebook.com/groups/991639048778379/