

Alternative Configuration Options for WSJT-X, HRD Logbook, JTAAlertX and QSO Relay

Chris Fredericks, VK2BYI, 12th September 2018
(Corrections 18th December 2018)

Applications

WSJT-X v1.9.1 or later*

<https://physics.princeton.edu/pulsar/k1jt/wsjt.html>

Ham Radio Deluxe v6.4.0.886 or later*

<https://www.hamradiodeluxe.com/downloads/>

JTAAlertX 2.12.5 or later*

<https://hamapps.com>

QSO Relay version 1.7.6472.36182 or later*

<http://www.vk2byi.com.au/qsorelay/>

*NOTE: Always install the latest versions of the applications listed above and apply all upgrades as they are released.

References

N1MM Contest Logging Software Documentation

<https://n1mm.hamdocs.com/tiki-index.php?page=UDP+Broadcasts&structure=N1MM+Logger+Documentation>

Description

Given the arrangements possible with interfacing WSJT-X, Ham Radio Deluxe Logbook (HRD Logbook) and optional, third-party applications such as JTAAlertX and QSO Relay, the alternative data flows and configuration options can become a little daunting to understand. The purpose of this document is to illustrate the different data flow options available, and the corresponding application settings required, to assist the reader successfully implementing a working configuration.

Background

Earlier versions of both WSJT-X and Ham Radio Deluxe did not offer a way of automatically logging QSOs directly in HRD Logbook. WSJT-X does append a row to an ADIF file each time the *Log QSO* button is clicked, so it is possible to import this ADIF file into HRD Logbook. However, this was a manual process that was typically done at the end of an operating session, taking care to select options so that duplicate entries would not be inserted into the logbook database.

Recent versions of JTAAlertX allow real-time logging of entries in HRD Logbook by accepting the details of the QSO to be logged, and then inserting the row in the database using the *Logbook API* command line interface (CLI) implemented using TCP on port 7826. However, this was not always

the case with some previous versions of JTAAlertX, so the author developed QSO Relay that listens for the UDP datagrams broadcast by JTAAlertX and relays the QSOs to HRD Logbook using the same *Logbook API* CLI interface on TCP port 7826.

Starting with version 1.9.0 of WSJT-X, *N1MM Logger+ Broadcasts* have been implemented that send datagrams of QSOs being logged using a similar format to that used by JTAAlertX. However, it wasn't until version 6.4.0.886 of Ham Radio Deluxe, that a corresponding interface has been implemented in HRD Logbook to receive these datagrams from WSJT-X and insert new rows in the database.

There is now more than one arrangement possible with interfacing all these applications, and the remainder of this document will illustrate the alternate configurations and data flows, and screen captures of the corresponding application settings required for each scenario.

NOTE: The QSL5 and QSL9 references in this document and used as column headings in the Logbook Databases window in HRD Logbook, are referring to datagram formats documented in Sections 5 and 9 of the *N1MM Contest Logging Software – External UDP Broadcasts* documentation.

Scenario 1: WSJT-X and Ham Radio Deluxe

The simplest configuration possible consists of the *Log QSO* data flow of QSOs being logged from WSJT-X directly to HRD Logbook.

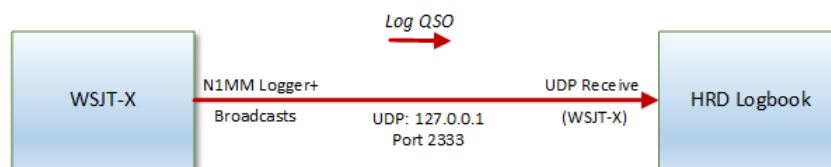


Figure 1. WSJT-X and Ham Radio Deluxe

An N1MM Logger+ Broadcast datagram is sent by WSJT-X for each QSO being logged which contains ADIF field tag data as specified in section [9. Sending Log Data to N1MM+](#) of the N1MM Contest Logging Software documentation.

HRD Logbook can be configured to listen for these broadcasts and insert new rows for each QSO in a specified database.

Refer to *Appendix 1: WSJT-X and Ham Radio Deluxe* for details of the required WSJT-X and HRD Logbook application configuration settings.

Scenario 2: WSJT-X, Ham Radio Deluxe and JTAAlertX

JTAAlertX is a useful addition to the application mix because it provides several alert types based on decoded calls within WSJT-X.

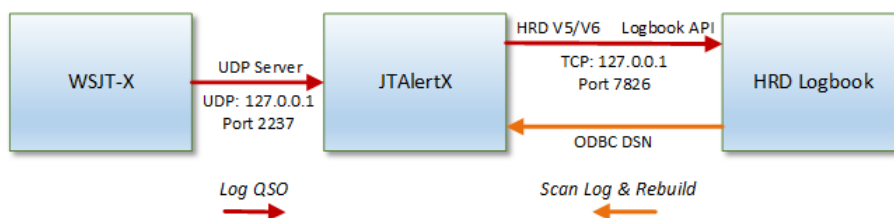


Figure 2. WSJT-X, Ham Radio Deluxe and JTAAlertX

JTAAlertX uses the WSJT-X UDP Server to receive decodes and logged QSO data from WSJT-X and can perform an online Callbook lookup when configured whenever the callsign of the current QSO partner changes.

By enabling [HRD V5/V6](#) logging in JTAAlertX, the contact can be inserted into an HRD Logbook database using the Logbook API command line interface implemented on TCP port 7826. As contacts are later confirmed via LoTW, eQSL.cc and QSL Card and the corresponding rows are updated in HRD Logbook, the Scan Log and Rebuild feature in JTAAlertX can scan the database via the Microsoft Access ODBC driver to update the JTAAlertX alert requirements.

Refer to *Appendix 2: WSJT-X, Ham Radio Deluxe and JTAAlertX* for details of the required WSJT-X, HRD Logbook and JTAAlertX application configuration settings.

Scenario 3: WSJT-X, Ham Radio Deluxe, JTAAlertX and QSO Relay

QSO Relay adds an extra layer of resilience by caching contacts in case HRD Logbook becomes unresponsive for some reason (e.g. it is not actually running). Once HRD Logbook is restarted the QSO Relay Synchronise Databases feature will re-attempt to log any cached contacts, as well as warning of any duplicated contacts in the HRD Logbook database.

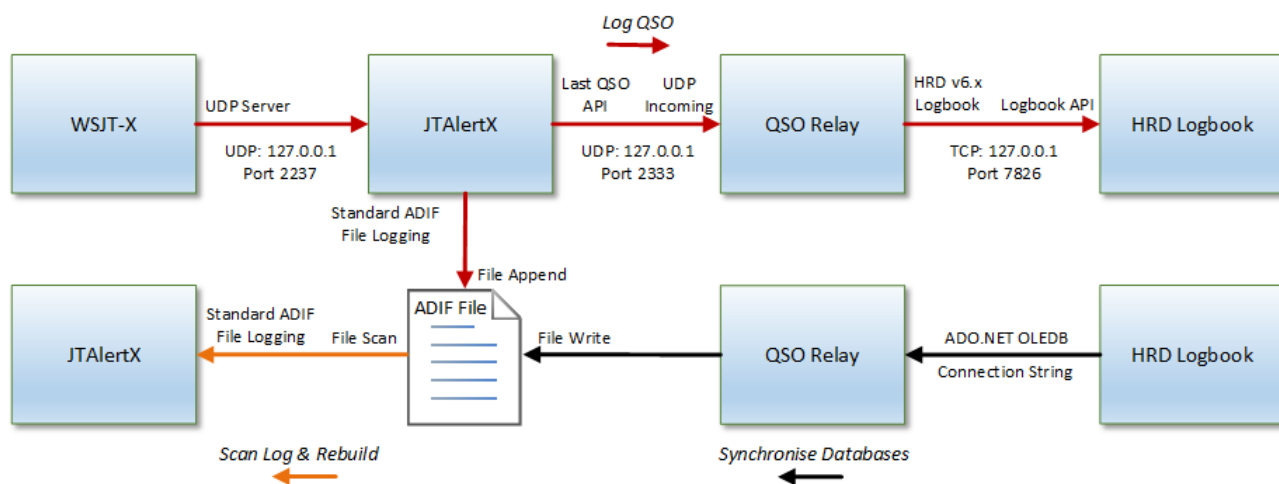


Figure 3. WSJT-X, Ham Radio Deluxe, JTAAlertX and QSO Relay

JTAAlertX uses the WSJT-X UDP Server to receive decodes and logged QSO data from WSJT-X and can perform an online Callbook lookup when configured whenever the callsign of the current QSO partner changes.

If Standard ADIF File logging is enabled in JTAAlertX, the details of the contact are appended to an ADIF file and are also broadcast via the Last QSO API using a UDP datagram. QSO Relay listens for these broadcasts and will insert a row into an HRD Logbook database using the Logbook API command line interface implemented on TCP port 7826.

As contacts are later confirmed via LoTW, eQSL.cc and QSL Card and the corresponding rows are updated in HRD Logbook, the QSO Relay Synchronise Databases feature will extract rows from the database using an OLEDB connection to write an updated version of the shared ADIF file used by JTAAlert. The Scan Log and Rebuild feature in JTAAlertX can then scan the refreshed ADIF file to update its alert requirements.

Refer to *Appendix 3: WSJT-X, Ham Radio Deluxe, JTAAlertX and QSO Relay* for details of the required WSJT-X, HRD Logbook, JTAAlertX and QSO application configuration settings.

In Conclusion

Other combinations of applications and configuration settings are possible, but the three scenarios covered in this document should meet most requirements.

Appendix 1: WSJT-X and Ham Radio Deluxe

WSJT-X

To enable the N1MM Logger+ Broadcasts in WSJT-X, select the *Reporting* tab and tick the *Enable logged contact ADIF broadcast* checkbox and note the *N1MM Server name or IP address* and the *N1MM Server port number*: values. The default values of 127.0.0.1 and 2333 are suitable for most situations:

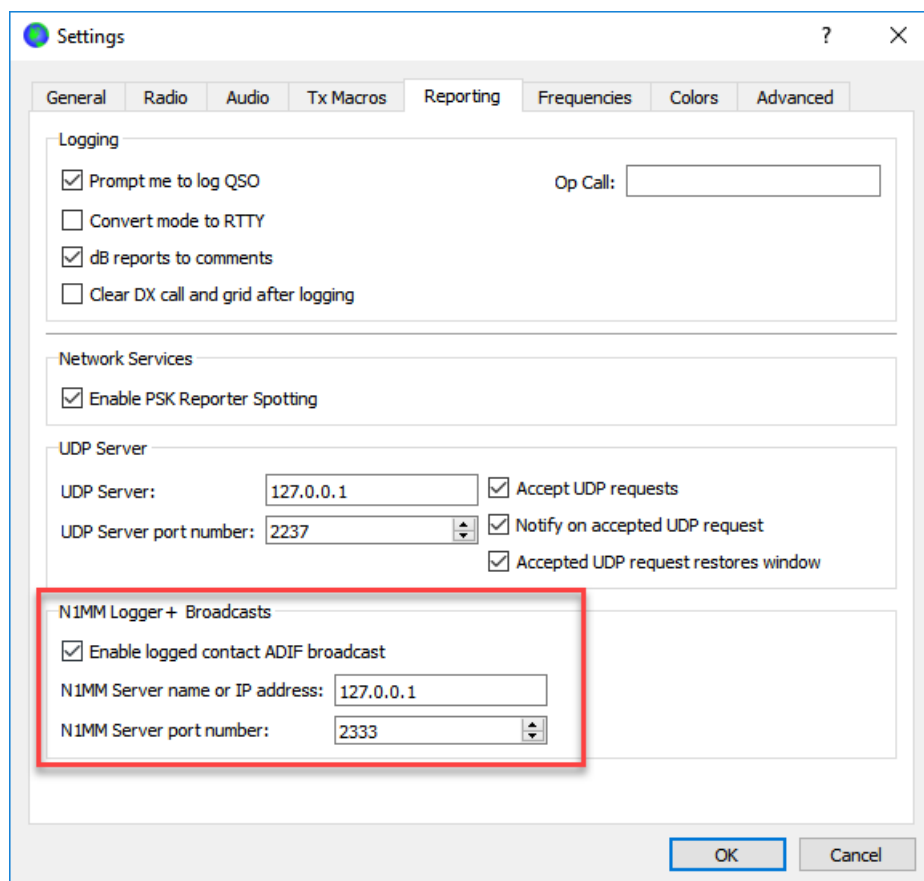


Figure 4. WSJT-X Reporting Tab Settings

Ham Radio Deluxe Logbook

To configure HRD Logbook to listen for the N1MM+ Logger Broadcasts from WSJT-X, select the HRD Logbook *Tools* → *Configure* → *QSO Forwarding* menu items to display the *QSO Forwarding* settings window:

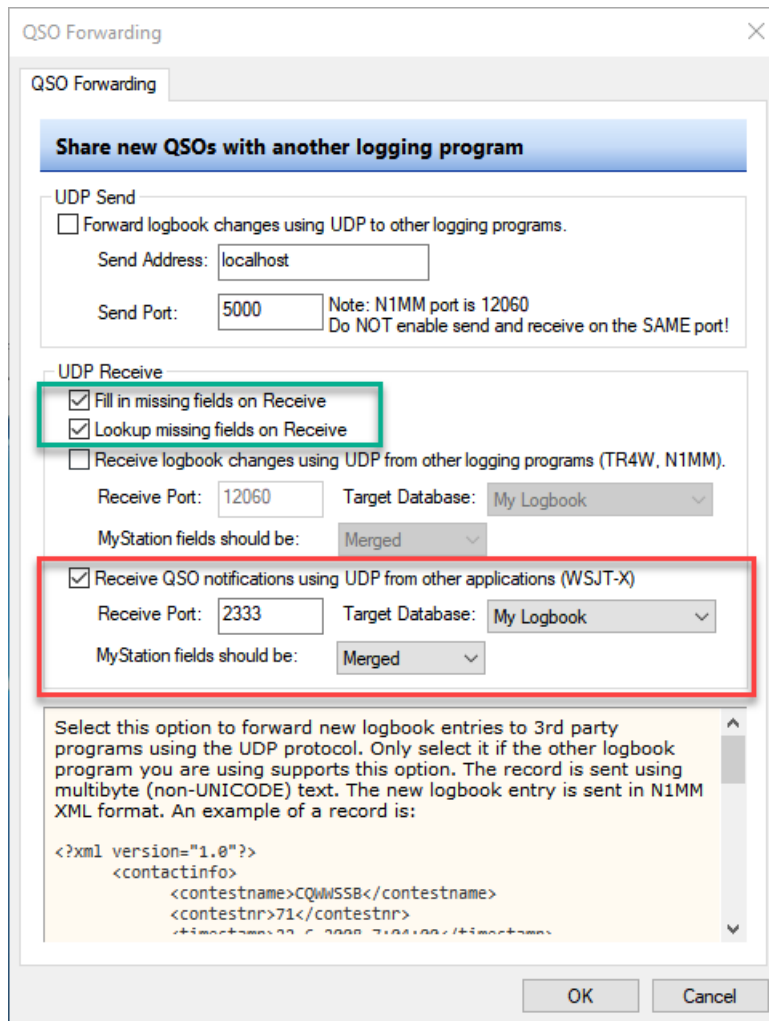


Figure 5. HRD Logbook QSO Forwarding Window

In the controls highlighted in red, tick the *Receive QSO notifications using UDP from other applications (WSJT-X)* checkbox, set the *Receive Port:* value to the same value in WSJT-X (2333 by default), select the database in which QSOs are to be inserted from the *Target Database* listbox and specify how My Station fields are to be inserted.

You can optionally configure the checkboxes highlighted in green to determine if HRD Logbook should *Fill in missing fields* (ticked by default), as well as *Lookup missing fields on Receive* (unticked by default). Because the *Lookup* button feature in WSJT-X only retrieves the locator for a previously stored call, you may want to tick the *Lookup missing fields on Receive* checkbox so that HRD Logbook will perform a lookup based on the *Enabled Methods* in the *Callsign Lookup* settings window to better populate the contact details.

Appendix 2: WSJT-X, Ham Radio Deluxe and JTAlertX

WSJT-X

WSJT-X UDP Server must be enabled for JTAlertX to receive decodes and logged QSO data from WSJT-X. Select the *Reporting* tab and ensure that the *Accept UDP requests*, *Notify on accepted UDP request* and *Accepted UDP request window* checkboxes are all ticked as highlighted in red:

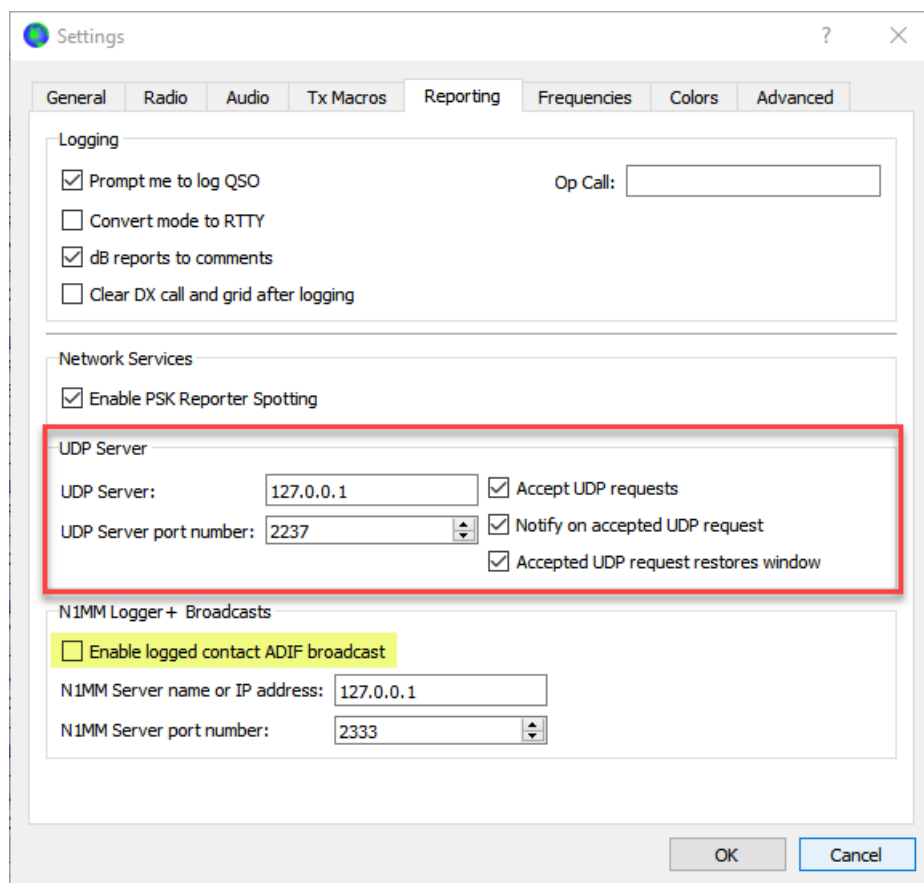


Figure 6. WSJT-X Reporting Tab Settings

Because logged QSO data is being sent to JTAlertX via the UDP Server, it is recommended that the *Enable logged contact ADIF broadcast* checkbox be left unticked unless the broadcast is being used for a purpose other than logging contacts in HRD Logbook.

Ham Radio Deluxe

The *Logbook API* command line interface implemented using TCP on port 7826 requires no configuration in HRD Logbook; is it always enabled and awaiting connections.

JTAlertX

To enable logging direct to HRD Logbook, expand the *Logging* node in JTAlertX settings and select the *HRD V5/V6* node:

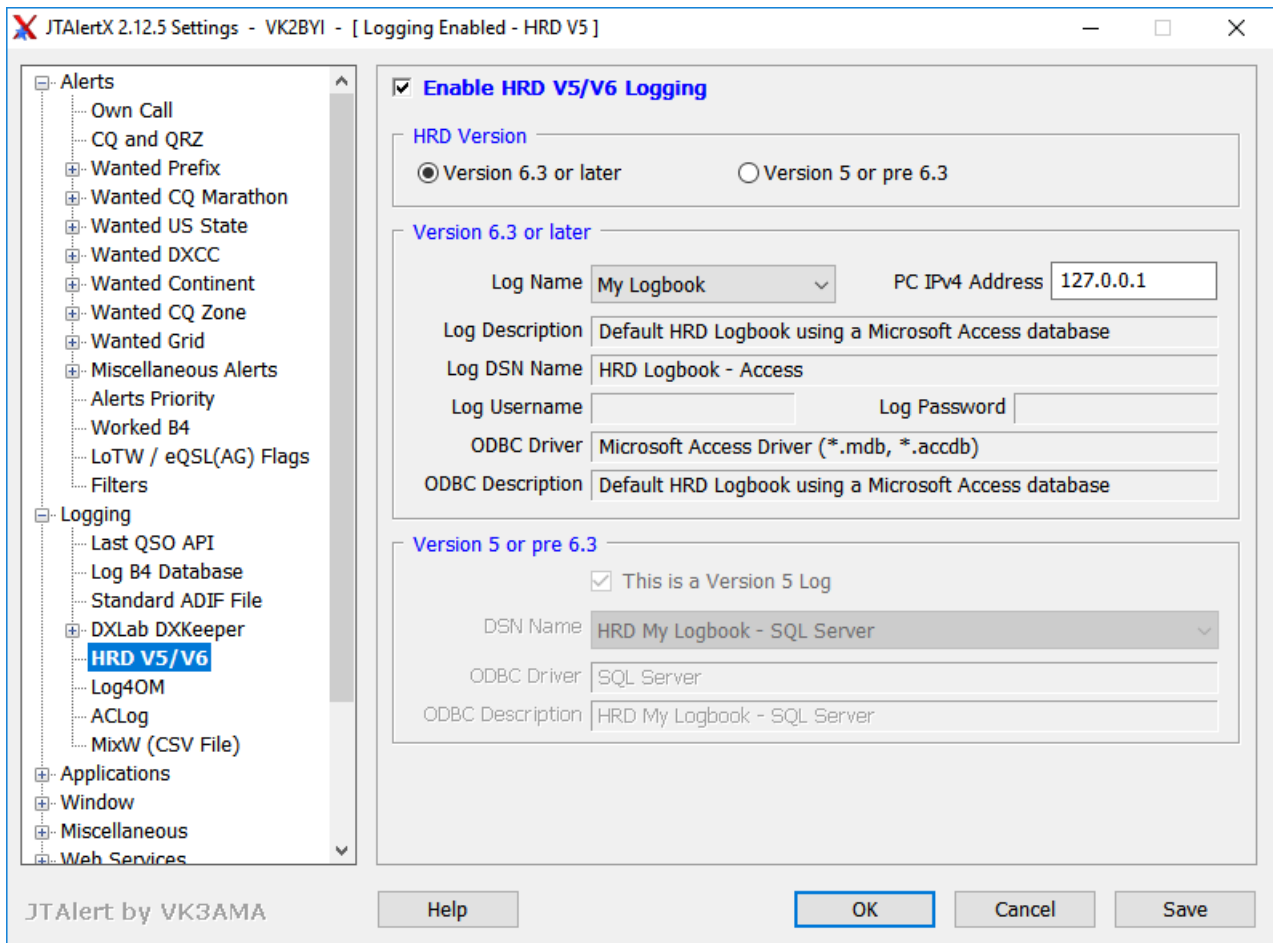


Figure 7. JTAAlertX HRD V5/V6 Logging Settings

Tick the *Enable HRD V5/V6 Logging* checkbox and as this document only discusses the use of the latest version of Ham Radio Deluxe, select the *Version 6.3 or later* radio button.

In the *Version 6.3 or later* groups of controls, select the desired HRD Logbook database from the *Log name* listbox. The remaining read-only fields will be populated automatically. The default value of 127.0.0.1 will be suitable for the *PC IPv4 Address* value in most situations.

Appendix 3: WSJT-X, Ham Radio Deluxe, JTAAlertX and QSO Relay

WSJT-X

WSJT-X UDP Server must be enabled for JTAAlertX to receive decodes and logged QSO data from WSJT-X. Select the *Reporting* tab and ensure that the *Accept UDP requests*, *Notify on accepted UDP request* and *Accepted UDP request window* checkboxes are all ticked:

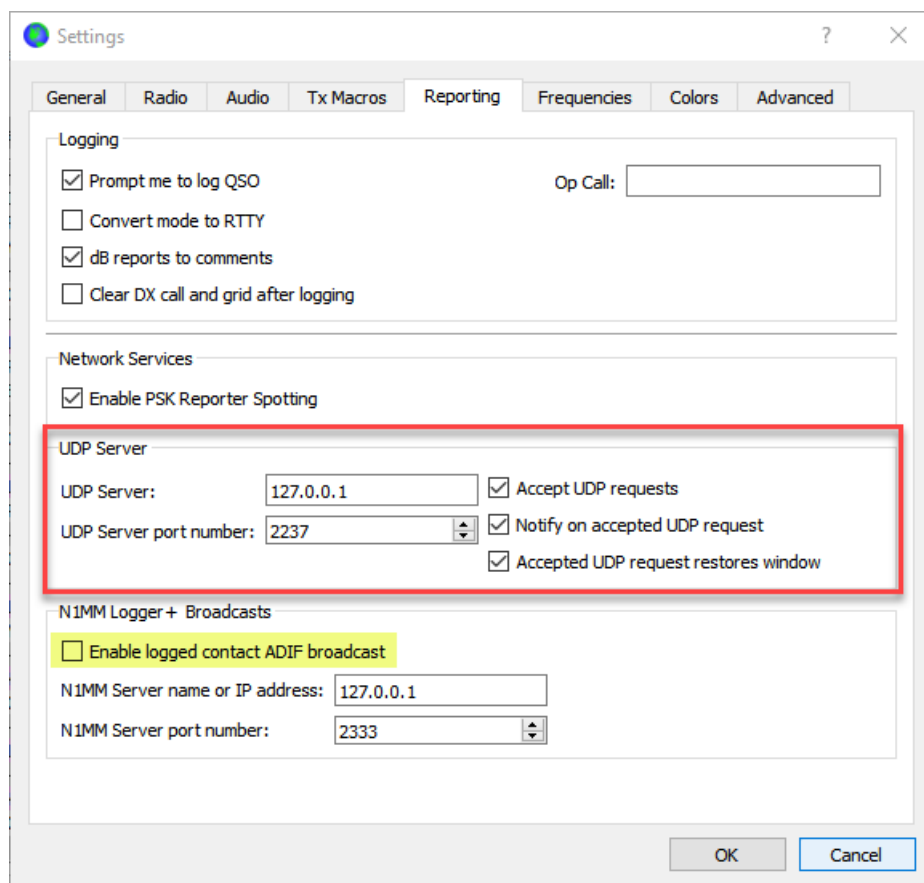


Figure 8. WSJT-X Reporting Tag Settings

Because logged QSO data is being sent to JTAAlertX via the UDP Server, it is recommended that the *Enable logged contact ADIF broadcast* checkbox be left unticked unless the broadcast is being used for a purpose other than logging contacts in HRD Logbook.

Ham Radio Deluxe

The *Logbook API* command line interface implemented using TCP on port 7826 requires no configuration in HRD Logbook; is it always enabled and awaiting connections.

JTAAlertX

Expand the *Logging* node in JTAAlertX settings and select the *Last QSO API* node:

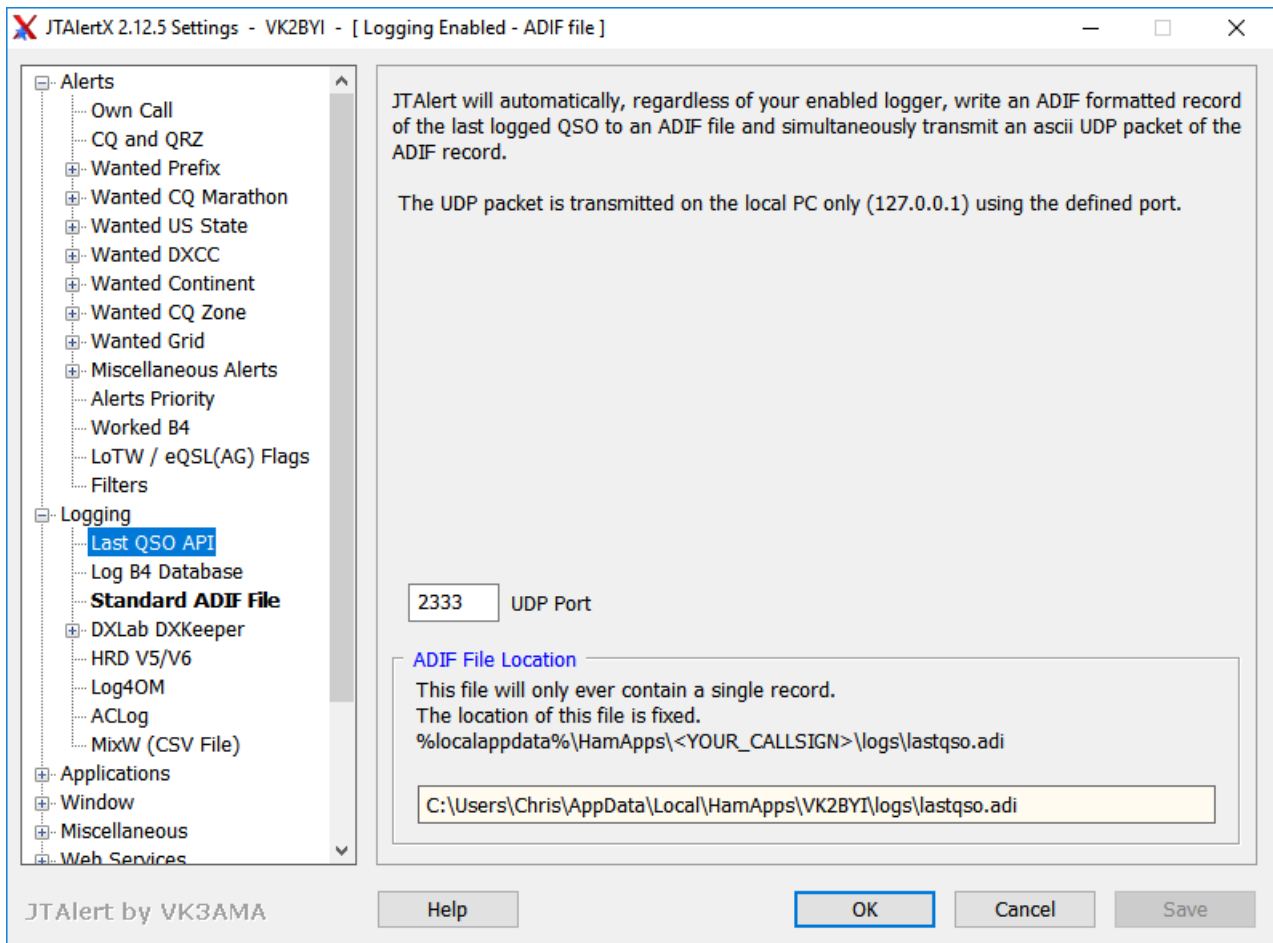


Figure 9. JAlertX Last QSO API Settings

Specify a value in the UDP Port text box for the port to be used for the QSO broadcast diagram. The default value of 2333 will be suitable in most situations.

The *ADIF File Location* setting is set by default and cannot be changed, and it is not being used in this scenario.

To enable logging to HRD Logbook via QSO Relay, expand the *Logging* node in JAlertX settings and select the *Standard ADIF File* node:

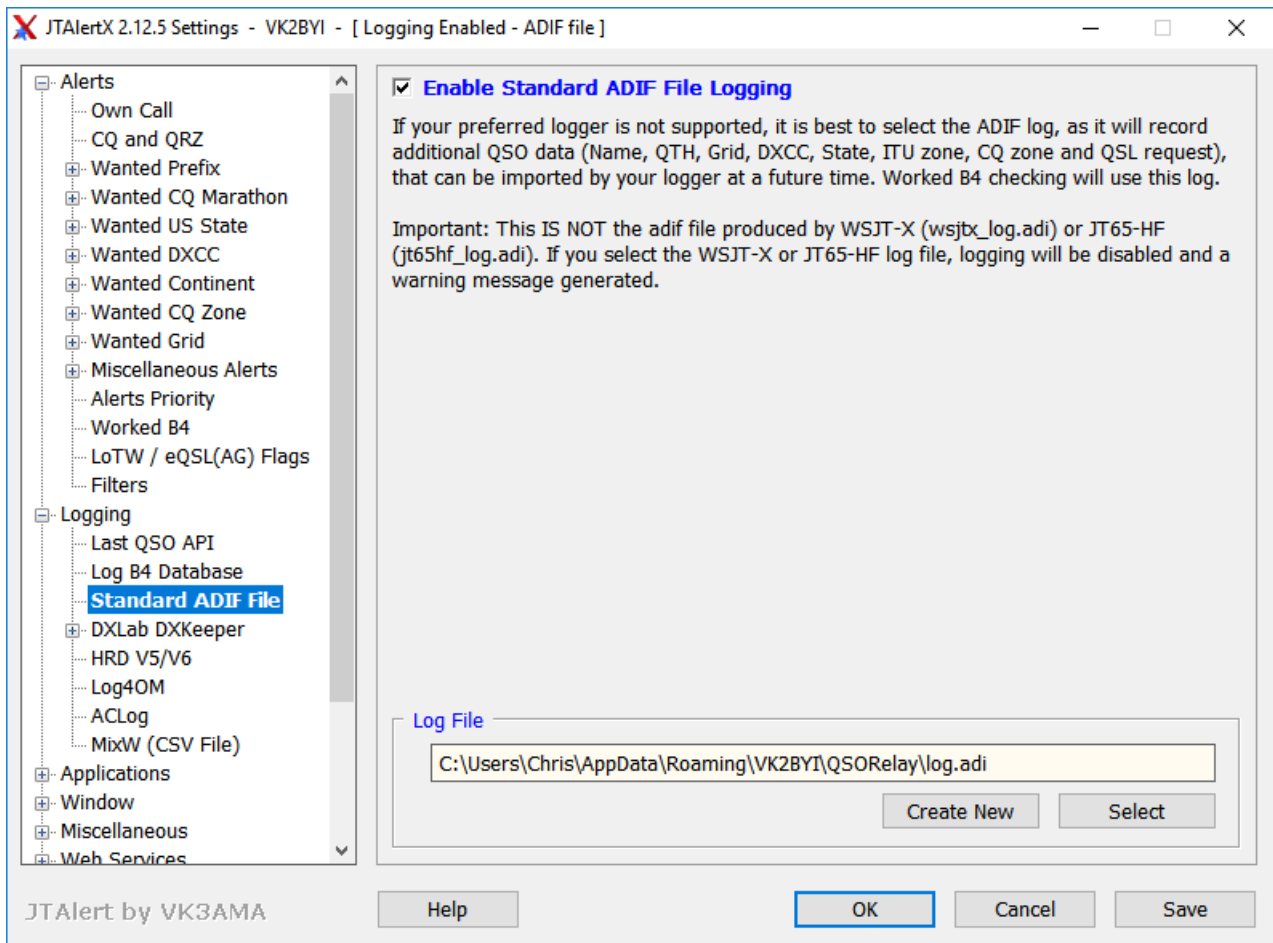


Figure 10. JTAAlertX Standard ADIF File Logging Settings

Tick the *Enable Standard ADIF File Logging* checkbox.


Click on the *Create New* pushbutton in the *Log File* group of controls and browse to a suitable folder, and create an ADIF that is to be used for logging the contacts. JTAAlertX will suggest creating the file in the following folder:

C:\Users*<your username>*\AppData\Local\HamApps*<your callsign>*\logs\JTAAlertX\

However, you may wish to create the file in the same folder as QSO Relay stores its application data, as in the following screen capture:

C:\Users*<your username>*\AppData\Roaming\VK2BYI\QSORelay\

QSO Relay

Click on the  tray icon and select the *Configure QSO Relay...* item from the menu to displayed and will have been partially populated with default values on installation:

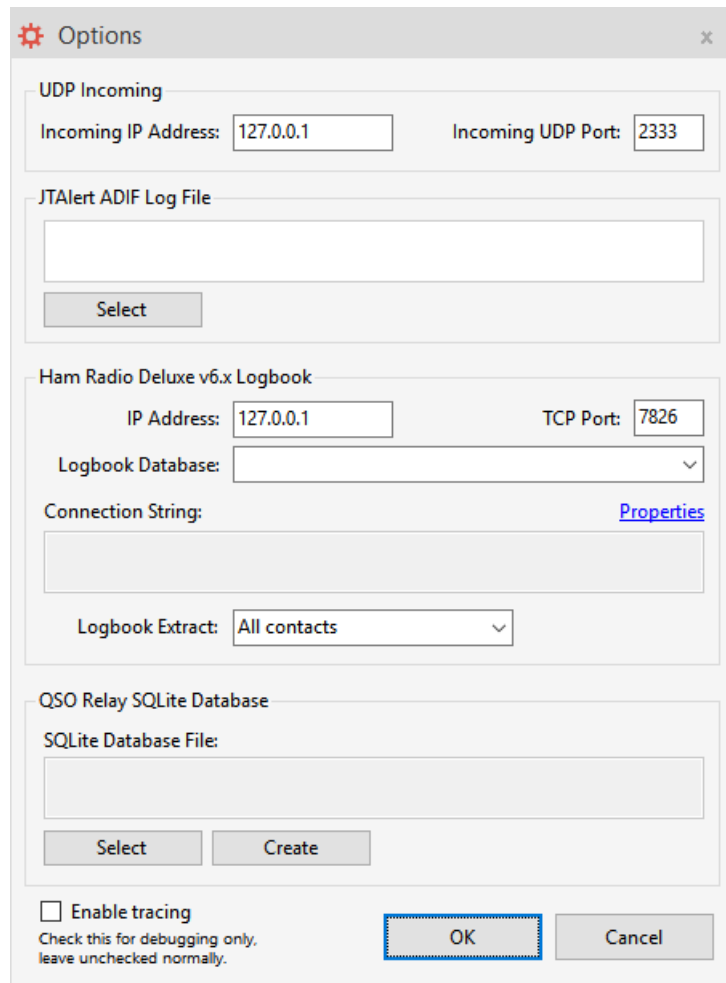


Figure 11. QSO Relay Options Dialog

The *UDP Incoming* group of controls specify the UDP port that QSO Relay listens on for incoming contacts from JTAlertX. The values of 127.0.0.1 and 2333 are the default values, but the *Incoming UDP Port:* value must match the *UDP Port* value used by the *Last QSO API* setting in JTAlertX.

The *JTAlert ADIF Log File* group of controls specify the filename of the ADIF Log File which must be the file that was created in JTAlertX for *Standard ADIF File* logging. Click on the *Select* pushbutton to browse and select the file.

The *IP Address* and *TCP Port* values in the *Ham Radio Deluxe v6.x Logbook* control group, are the default values that HRD Logbook uses for its Logbook API. These values can typically be left unchanged as well.

The *Logbook Database* drop down listbox will be populated with the list of all databases defined in HRD Logbook. Select the database to be used for logging new contacts. The combination of *IP Address*, *TCP Port* and *Logbook Database* are used by QSO Relay to log new contacts coming from JTAlertX into HRD Logbook.

To read existing contacts from the logbook database, QSO Relay utilises a universal database provider platform that works with all database technologies that HRD Logbook supports – Microsoft Access, Microsoft SQL Server and Oracle MySQL. This requires the appropriate connection string to be defined by clicking on the [Properties](#) link. Refer to the more detailed QSO Relay documentation for information on how to configure a connection for Microsoft Access, Microsoft SQL Server and Oracle MySQL as well as explanations of the remaining settings in the QSO Relay *Option* dialog.