

WXScheduLer

Category: Automation,Projects,WiRES-X

February 13, 2024

Update: WXScheduLer 2.7.5 is available. The 2.7.5 installer is here.

WXScheduLer is a program that allows WiRES-X nodes to automatically switch to a Room or Node at a predetermined date and time. It's written in Python, but we now have a Windows installer which does not require the installation of Python.

The old 2.6.1 installer is available here. The Github repository is here.

If you experience problems, please use the Fusion Technical Net to report them (preferred), via Github issues, or email.

Update 14 Feb 2024: Users that have OneDrive on their computer but have disabled it report problems running the program. The program looks for the OneDrive folder. If it exists, it installs the configuration file there. If it doesn't exist, it uses the local directory on the C: drive.

More information:

WXScheduLer was written by Bill, W9LBR. It has been packaged as an .exe with a Windows installer by Chris K9EQ. In addition, the following changes have been made.

– 2023-01-10 2.5.1 Removed radioID error messages from the log (there were too many of them and they didn't add value)

Added an icon for the program

– 2023-02-12 2.6.1a Clicking the 'x' button on the scheduler menu no longer causes the program to crash

The installer creates a WXScheduLer directory under the WIRESDA

directory where the Yaesu software lives. It installs the following files:

- Readme.txt, this text
- WXScheduler.pyw, the Python source file
- WXScheduler.ico, the icon file
- WXScheduler.exe, the executable
- Uninstal.exe, the program to uninstall WXScheduler

The uninstaller removes these files and the directory. It does not remove the .json configuration file one directory above.

The packaged version displays the GUI without a shell console. If you want the console as well, rename the file to *.py instead of *.pyw. You'll then need to open up a shell (command prompt) and launch with a 32-bit Python interpreter as in: "C:\python32 WXScheduler.py".

The source code is available at <https://github.com/K9EQ/WXScheduler>.

Also see HamOperator.com for more information about WXScheduler.

Drop in on the Fusion Technical Net to discuss the program. The net is held Monday at 7:30 PM US Central time in Room or YSF 21493.

Bill has done a fantastic job with this program. I hope that my minor additions make it easier for a wider audience to benefit from it.

Note that the WXScheduler is either stored in the \OneDrive\Documents\WIRESXA folder, if it exists, or in the user's Documents\WIRESXA folder. So if you can't find it in your WIRESXA folder, you may have OneDrive so look there.

Bill's original text file, WXScheduler.txt, follows:

Wxscheduler.pyw is a Python 3 program that automates certain aspects of Wires-X Room/Node connections according to a user defined schedule.

Schedulable operations:

- Settings->Call settings
- Unlimited TOT
- TOT(TimeOut Timer)
- Settings->General settings
- Round QSO Room connection
- Accept calls while in Round QSO Rooms
- Back to Round QSO after disconnect
- Return to Room
- Room ID
- Connect <Node/Room>
- Disconnect
- Restart Wires-X App

Immediate operation:

- Force Disconnect

Scheduler Settings Example (Automatically reconnects after network glitch):

- MnWis Fusion Net every Monday 7:30pm US/Central time
- First segment (net usually lasts at least 60 minutes)
Occurs: [every]
Week Day: [Mon]
Hour: [19]
Minute: [28]
Event's Timezone: [US/Central]
Description: [start MnWis Fusion Net]
 RoundQSO Room connection
 Accept calls while in Round QSO Rooms
 Back to Round QSO after disconnect

Return to Room

Room ID: [MNWIS]

Unlimited TOT

TOT(TimeOut Timer): [60]

Command: [Disconnect]

Argument: []

– Second segment (net running over 60 minutes – switch to LocFav-ROOM on timeout)

Occurs: [every]

Week Day: [Mon]

Hour: [20]

Minute: [30]

Event's Timezone: [US/Central]

Description: [after MnWis Fusion Net]

RoundQSO Room connection

Accept calls while in Round QSO Rooms

Back to Round QSO after disconnect

Return to Room

Room ID: [LocFav-ROOM]

Unlimited TOT

TOT(TimeOut Timer): [10]

Command: [none]

Argument: []

NOTE #1: WXscheduler.pyw MUST BE RUN ON THE SAME WINDOWS PC and under the SAME USER ID as the Wires-X PC application.

NOTE #2: When the Windows screen is LOCKED, this prevents WXscheduler's scheduled keyboard/mouse automation from occurring. Suggest: [Settings->System->Power&Sleep->Screen turn off after NEVER]

WXscheduler v2.5 updates:

- Schedule settings now require a Timezone parameter.
- Compensation for Daylight Savings Time is now automatic on a per timezone basis
- Load Python Timezone package using Windows Command Prompt:
pip install pytz
- WXscheduler.cfg is now more portable and user editable
- User's HOME path is now resolved at run time and no longer saved in WXscheduler.cfg
- JSON data fields are now saved in pretty mode
- When WXscheduler-v2.5 detects an existing WXscheduler.cfg without timezone data fields, the user will be prompted to set their local timezone value and all existing events will be updated with the local timezone value.
- WXscheduler's main window:
 - Scheduled events are displayed in chronological order
 - When the main window is moved, its new position is remembered. And all sub-windows will be opened in the same position. This replaces PySimpleGUI's default of centering window within the display.
- [Add Event] and [Delete Event] buttons have been replaced with the [Scheduler] button that when clicked provides a new window with buttons: [New] [Delete] [Update] [Cancel]

WXscheduler v2.4 updates:

- Additional exception debug information
- Changed main window title from "Wires-X Scheduler" to "WXscheduler (v...)"

WXscheduler v2.3 update:

At startup determines whether Microsoft OneDrive is active or not and locates the Documents/WIRESXA and user/Desktop folders accordingly.

WXscheduler v2.2 updates:

At startup verifies:

- Wires-X.exe is accessible at its standard location
- /Users/????/Documents/WIRESXA folder is accessible (where WXscheduler.cfg is stored)

WXscheduler v2.1 updates:

Better displays exception information

Shows expected WIRESXA pathname to last heard data file

WXscheduler v2.0 update adds:

Display Last Heard information that the Wires-X application updates once a minute.

If available, Lat/Lon displayed as 6-character Grid Square.

Wxscheduler v1.3 updates:

Last Heard information now correctly displays the newer Yaesu models

(i.e. FT5-D, FTM-200, and FTM-500)

Desktop\Wires-X_Last_Heard.html contains hypertext encoded callsigns

that perform a QRZ.com callsign lookup.

Prerequisites (versions below are what was tested on):

Windows PC (win7 and higher)

Wires-x App (Ver-1.550)

Python 3 (32-bit) because Wires-X App uses the win32 UI

site-packages: PySimpleGUI, pywinauto, pytz

Installing Python:

Recommend going to <https://www.python.org/downloads/windows/> to find a Python release that matches Windows on your PC.

After installing Python, use a CMD window to load site-packages:

- pip install pywinauto PySimpleGui pytz

Installing WXscheduler.pyw:

Copy WXscheduler.pyw to your Desktop

Double click on the WXscheduler.pyw icon to launch the program.

Hint: To see any startup or run time issues:

- Open a CMD window
- Copy WXscheduler.pyw WXscheduler.py
- WXscheduler.py

Enjoy,

Bill

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WiRES-X Automation

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Yaesu does not provide a mechanism that allows the WiRES-X software to be controlled by another program, i.e., having another program switch to a certain Room when a net starts.

Windows does, however, permit another program to send events to a program. Each window, menu item, and dialog in a Windows program has a unique identifier. It is possible to use these identifiers to send "message" to the WiRES-X software.

The WiRES-X Automation Project's purpose is to bring together people who are interested in developing this technology and sharing their results.

To get things going, here are two mechanisms for automating WiRES-X:

1. AutoIT: <http://www.autoitscript.com>
2. Python – an excellent programming language found at python.org

Dave, N9T0W, provided the following information:

Packages I have installed on my WiresX system.

```
C:\Users\WiresX>pip list
comtypes (1.1.3)
pip (9.0.1)
pypiwin32 (220)
pywinauto (0.6.3)
setuptools (28.8.0)
six (1.10.0)
https://github.com/pywinauto/pywinauto
```

To install

```
pip install -U pywinauto
```

Script that executes changing channels on WiresX app

```
import time
from pywinauto import Application
app = Application().connect(path="C:\Program Files
(x86)\YAESUMUSEN\WIRES-X\wires-X.exe")
app.WiresX.menu_select("Connect(C)->Connect To(T)")
time.sleep(1.5)
app.InputID.Edit.set_edit_text("21493")
time.sleep(.5)
app.InputID.OK.click()
time.sleep(4)
dialogs = app.windows()
```

```
##app.Dialog.CloseButton.click()
```

Python Program

Bill, W9LBR, developed a Python program that runs on the WiRES-X computer. [The software has been updated as of 12-Feb-2024. See more here.](#)

This is from his description:

WXscheduler.pyw is a Python 3 program that automates certain aspects of

Wires-X Room/Node connections according to a userdefined schedule.

To that end WXscheduler.pyw must be run on the same Windows PC that hosts the Wires-X application controlling either an HRI-200 or

a USB connected radio that supports PDN operation.

Schedulable operations:

- Connect
- Disconnect
- SetUnlimitedTOT
- SetTimeoutTOT
- Restart Wires-X App

Manual operation: Button that causes a Force Disconnect

Bonus operation: Displays Last Heard information that the Wires-X app

updates once a minute. Converting Lat/Lon into Grid Square if available.

A zip file containing instructions and the Python program is available at WXScheduler.

Update History

2 June 2023 v1.3 updates: – Last Heard now displays FT5-D, FTM-200, and FTM-500 correctly – Desktop\Wires-X_Last_Heard.html now generated to be viewed with PC browser

12 Feb 2022 updates: – Corrected grid square rendering of GPS coordinates as displayed in the Last Heard frame – version (v1.2) now displayed in main window title

5 Feb 2022 minor updates: – Fixed Last Heard display of recently manufactured FT70-D radios – WXscheduler.txt is now in DOS format, making it easier to read with Notepad 2022 version of WXscheduler.pyw – A scheduled event now performs multiple actions – Added File->Settings->Call settings actions – Fixed issue when Wires-X App is minimized – Fixed issue when Wires-X Settings window left open