WiPry User Manual

Models: WiPry 340x & WiPry 790x

GET IT ON
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Made for
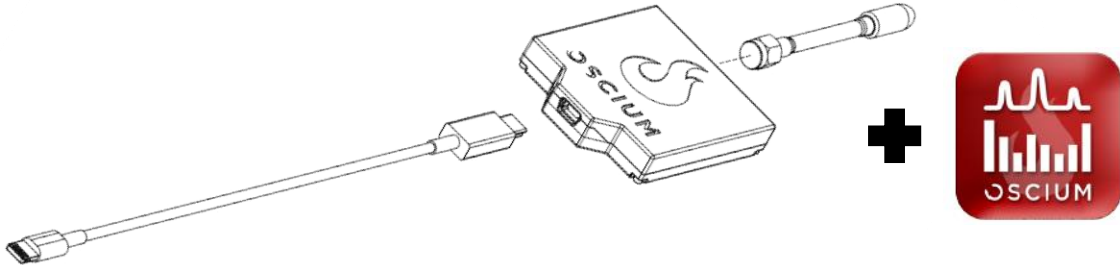iPod iPhone iPad

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The 'Best Practice' Icon

The 'Field Application' Icon

Section 1   Getting Started

1.10 Quickstart Guide
Insert hardware into smartphone or tablet. Then download WiPry software
from either Apple App Store or Google Play Store.
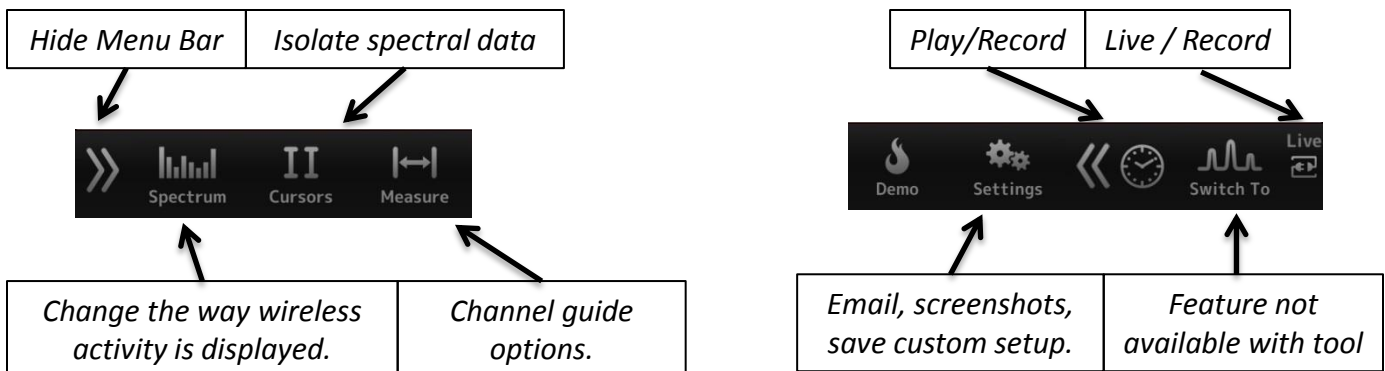

1.20 Compatibility
WiPry 340x is a spectrum analyzer for consumer-grade wireless security systems.
WiPry 790x is a spectrum analyzer for smart utilities, smart cities and industrial IoT.
Hardware compatibility includes Apple lightning devices with iOS version 7.0 or higher.
Android support includes version 4.0.3 & higher. Android hardware compatibility
includes devices that have USB OTG. To add PC support, use the installer (see page 13 for
more info). Mac support exist; please use the installer (see page 8 for more info). WiPry
340x and 790x are both built for universal platform support.
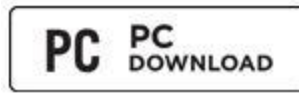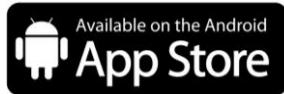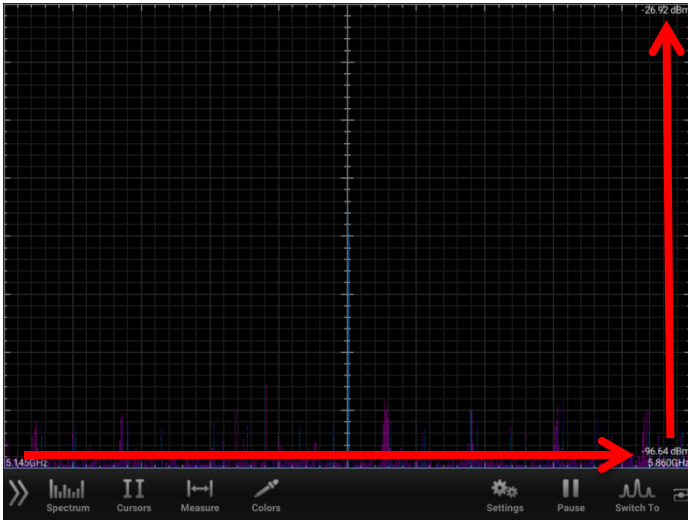

Section 2   How WiPry Works
2.11 Screen Layout
Across the bottom of the screen, menu options exist. Tapping on any of these
options, reveals features within that menu:

Hide Menu Bar	*Isolate spectral data*

Play/Record	*Live / Record*

Change the way wireless activity is displayed.	*Channel guide options.*

| *Email, screenshots, save custom setup.*	*Feature not available with tool*

Section 2   How WiPry Works

<u>2.11 Screen Layout</u>

The arrow pointing up represents amplitude. The higher the signals are on the screen, the stronger the signal.

The arrow pointing to the right represents frequency. 340x visualizes 300-348 & 387-464MHz. 790x visualizes 755-928MHz. All wireless transmissions in each respective band are visualized.

Real wave is pictured above. For additional visibility, a split screen is also available making it possible to view both real wave and waterfall modes at the same time.
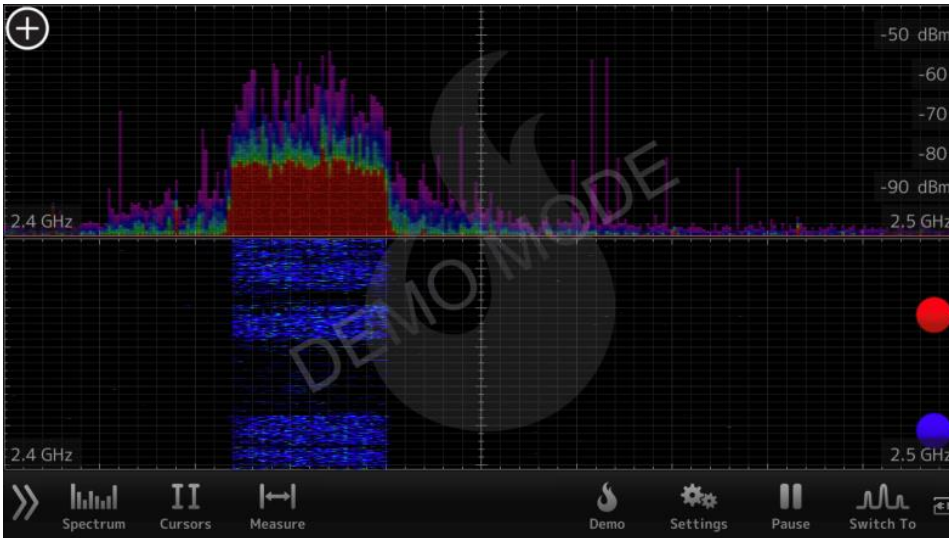
The screen is split into two views. The top view is **Real Wave**. This represents real time spectral data.

The bottom view is **Waterfall**. Waterfall enables spectral data to be viewed over time with the most recent data at the top of the view. Older data 'falls' down the screen.

Although all RF transmissions are captured by WiPry, not all RF activity is constant. Some activity appears and then disappears. Waterfall can be helpful in catching intermittent activity.

Section 2   How WiPry Works

2.11 Color Legend

The colors listed in the default view illustrate a 'heat map' of the wireless activity as pictured below. The hot colors (like red) represent continuous transmissions.
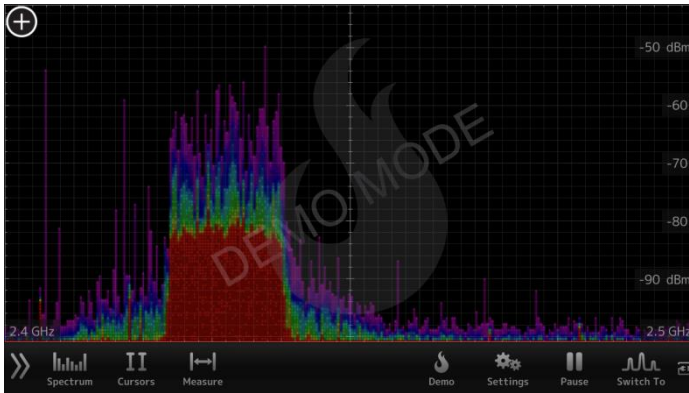
■ **Light purple** - single packet
■ **Blue** - less than green
■ **Green** - less than yellow
■ **Yellow** - less than red
■ **Red** - noise floor (more than 20 transmissions per point)

*Red activity can cause significant interference, which affects wireless speed and reliability.*

Section 2   How WiPry Works

2.21 Waterfall Mode
One of the challenges with RF is that the environment is constantly changing. The default setting on our app is for a real wave view. This displays activity in real time. But interference can come and go. Waterfall displays RF over time. The newest activity is at the top of the screen. And it 'falls' down the screen as time elapses. The oldest activity is at the bottom of the screen.

Step #1 To view waterfall mode, tap the 'spectrum' menu.
Step #2 Then, tap WATERFALL .

Interference stopped

Interference started
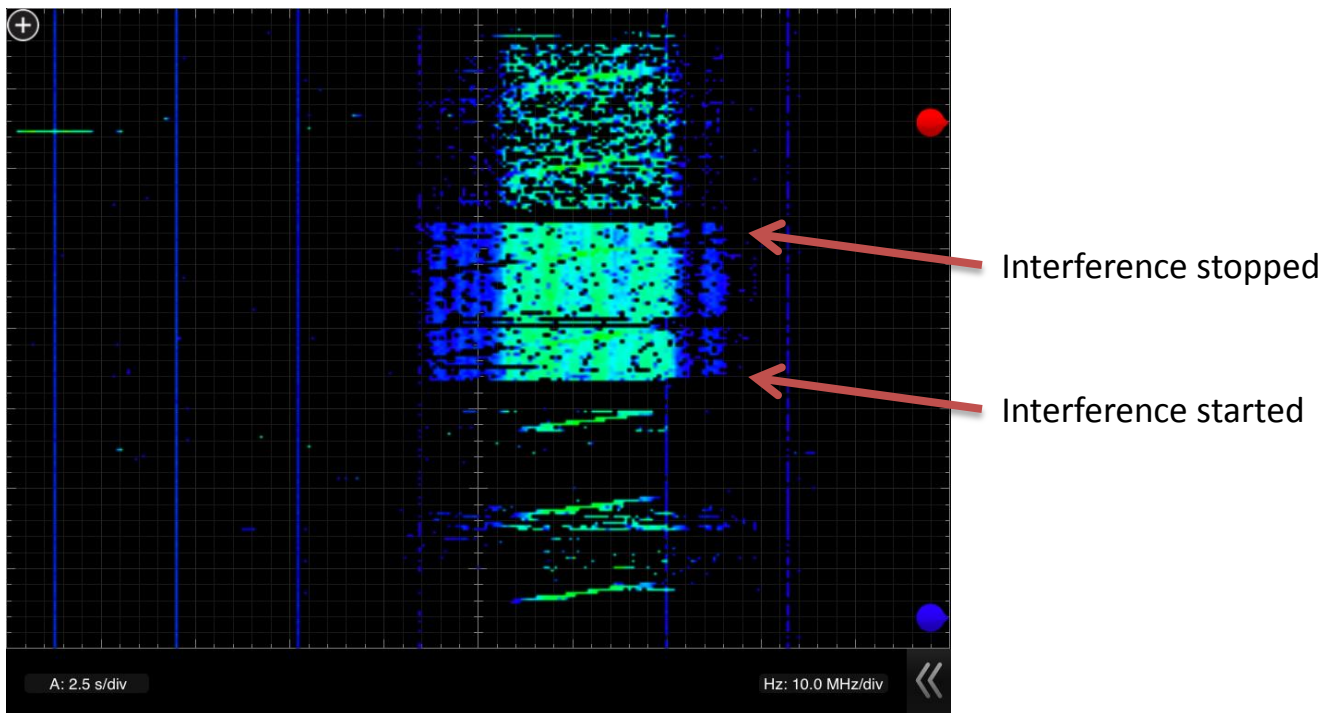
Logging activity on site is a great way to create a reference point at a particular location. It is possible to log the data in WiPry.
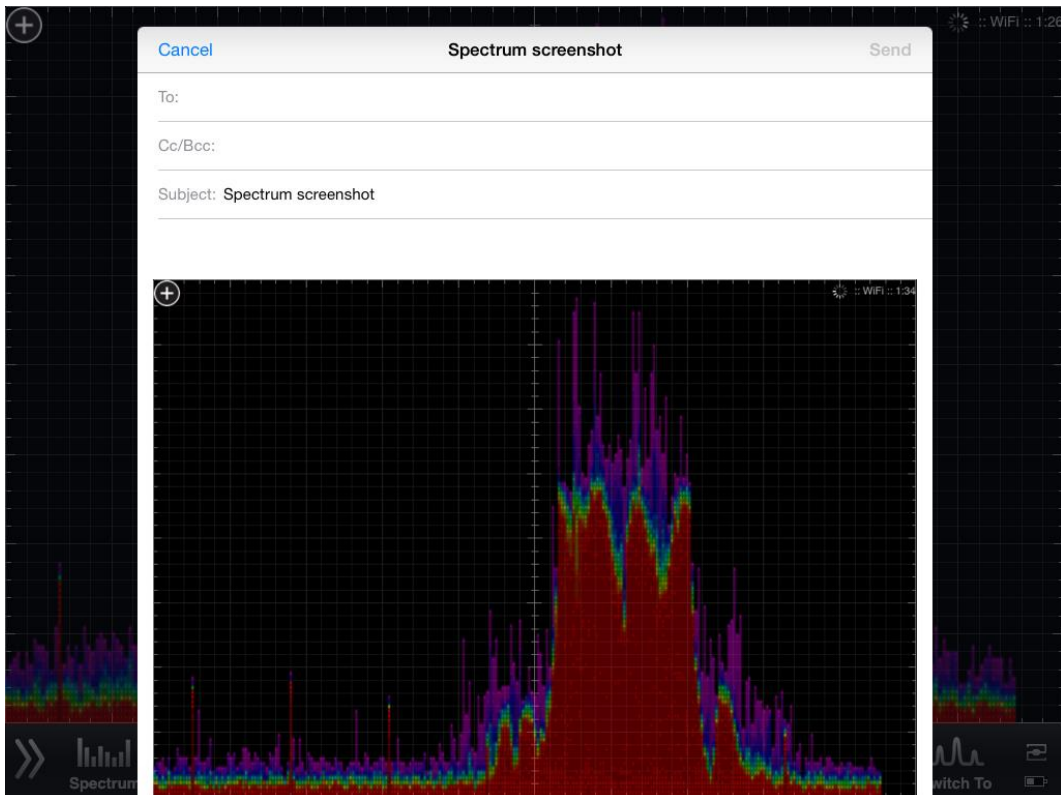
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2.22 Screenshots / Email

Capturing and emailing screenshots is helpful for supervisors. Difficult wireless issues can be forwarded to managers or wireless experts for immediate feedback. Here's how to capture screenshots and use email inside the WiPry app:

Step #1 Tap 'settings' menu option.
Step #2 Then, tap [EMAIL] and a picture of the screen will be captured and emailed (see image below). Or, if multiple screenshots are needed, tap [SCREENSHOT] instead and images will be stored in photos.

☞ *Screenshots can also be captured by simultaneously pressing the power button (on the Apple device) and the menu button (on the Apple device). The screen will briefly flash white. This feature is available at any time, not just while using WiPry software.*

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2.23 Datalogging
Datalogging creates a record of activity while using the WiPry tool. Although it is possible to log as long as there is battery life on the iOS device, the data is represented by numbers in a CSV file. This is a bit cryptic without a way to re-create the waveforms. So, it is not recommended that this feature be used for this application.

2.24 PC/Mac Installer
The PC version of WiPry 5x can be found by following this link:
https://www.oscium.com/sites/default/files/WiPryInstaller_2_38.exe
Assuming you install on c:, the drivers are located here:
For 32-bit OS: C:\Program Files\Oscium\WiPry\driver
For 64 bit OS: C:\Program Files (x86)\Oscium\WiPry\driver
PC Driver zip file.

The Mac version of WiPry can be found here:
https://www.oscium.com/sites/default/files/WiPry_2.38.dmg

2.35 Other Features
Pause / play - located on the menu bar and it simply pauses the screen. It does not take a screenshot/photo. So, it is not recommended that this feature be used at this time.

Power meter – located on the menu bar and is represented by a 'switch to' menu option. This feature is only available with a different piece of hardware. It is not recommended that this feature be used at this time.

Save / Load Config – for quick access, save a favorite setup. The feature is found under settings at the bottom. It's possible to save three different screen configurations.
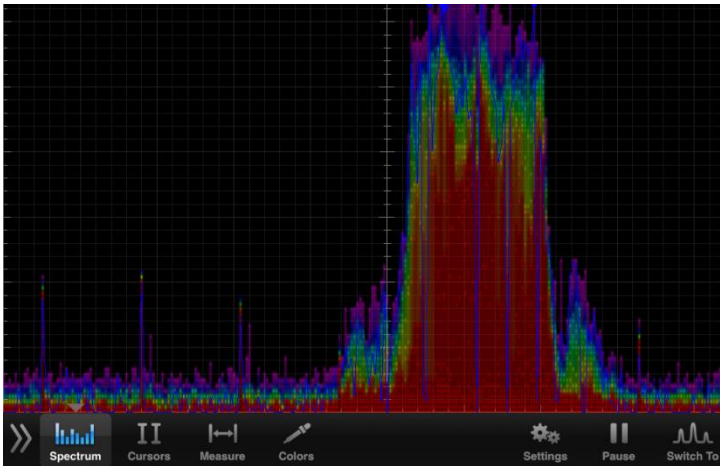
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<u>2.25 Other Features</u>

Average – provides a yellow line that averages the signal. Very similar to decay functionality described in more detail on page six.
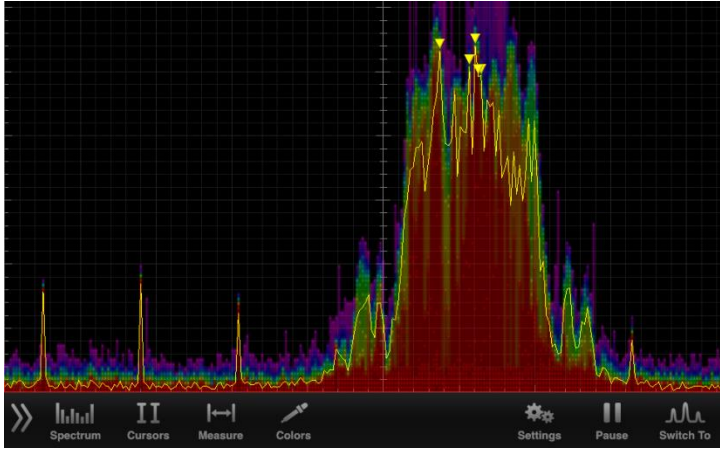
Raw – represents the raw spectral data and is visualized by the blue squiggly line. The problem with raw view is the signals are so fast that it's impossible to do anything with the data. Image captures here:

Reference