Notes on Installing and Using UI-View

All discussions below apply to the final 32-bit release of UIview (Ver. 2.03). They DO NOT apply to the older and much more limited 16-bit version (which will work with Windows 3.1 if anyone still cares!). Note that confusingly, the 16-bit version has a seemingly higher version number (2.39). Don't be fooled -- all the advanced plugins require the 32-bit Ver 2.03!

The 16-bit version is totally freely downloadable and usable as-is without registration. The 32-bit version requires registration to acquire the key number needed to unlock install and run the program. The registration, once a USD $15 charge, is now completely free. See the UIview.org website for details. Many of the more advanced add-ons, including Precision Mapping zoomable maps, will only work with the 32-bit version.

Note that the 16-bit version will not work at all with Windows Vista or Windows 7. (Along with support for the classic Windows .hlp help files, Windows Vista and later have quietly dropped support for any 16-bit programs. This also includes many older supposedly-32-bit Win95/Win98 programs and hardware device drivers, that often contained chunks of 16-bit code recycled from their Windows 3.x predecessors.)

Invalid & Changed Items in Ver 2.03 Distribution File

Roger Barker (G4IDE), the author of UI-View, died abruptly of cancer in late 2004. At his request from his deathbed, the source code for the program was destroyed, making impossible changes or updates to the final version 2.03 of the program installer.

The main UIview program has now remained unchanged for over EIGHT years. It is an "orphan" frozen in time as of 14 March 2004, with an increasing number of defaults and settings becoming outdated. Fortunately, many of these can be changed after the initial install.

Here are some of the changes/updates you need to make after installing the program.

IMPORTANT

Undertow Software's Precision Mapping **7.0** (discontinued in October 2006), **8.0** (discontinued in April 2009) and **8.1** (discontinued in November 2011) and **9.0** (**currrently available**) are widely used for fully scrollable zoomable street-level maps of all of the U.S. and Canada inside UIview.

[Delorme Street Atlas, TopoUSA, Microsoft Streets & Trips and Garmin MapSource maps **WILL NOT WORK** with UI-View for scrollable, zoomable maps. However, they could be used as a source of screen capture images in GIF or BMP format, to be calibrated for use as static (fixed non-zooming) maps.]

The current version of Precision Mapping **(9.0),** works with UIview, using the new PMap Server 9.0 plugin.

CLICK HERE For details on using the current Precision Mapping 9.0 with UI-View.

CLICK HERE For details on using the older (discontinued) Precision Mapping 8.0 or 8.1.

CLICK HERE for details on using the still older (discontinued) Precision Mapping 7.0.

[Precision Mapping 8 and 8.1 use newer versions of the Precision Mapping **Mappro71.ocx** "Active-X control" first used in Precision Mapping 7. This control is used by Precision Mapping in it's stand-alone mode (located in the main Precision Mapping program folder). The control is also used by the PMap Server 7.07 for UI-View to access Precision Mapping 7 or 8 data inside UI-View.]

Precision Mapping 9 can now provide scalable, zoomable maps OUTSIDE of North America using vector data from external sources. Details here:

PMapEuroMapSamples\index.htm

- **APRS Server List** Pulling down "File, Download APRS Server List" tries to send you to the URL http://ahubswe.net/APRServe.txt to download a current list of available APRS Internet servers. If this address doesn't respond, replace the address in this dialog with france.aprs2.net/APRServe2.txt instead. Note that this is a text file with a huge list of APRS web servers located all over the world. You may wish to edit this list after downloading to include only local servers.

- **APRS Server User-Defined Filter Port 14580** Many APRS servers offer this user-defined filter port that can limit the volume of data sent to your APRS program from the Internet. For example, only stations within a certain distance from your station, or only stations in a certain rectangular region bounded by certain lat/long values. The F1 Help screens available during the "APRS Server Setup" dialogs include a text file, **filter.txt** , describing the filter port options. This file is now outdated. Additional filter port options, including exclusions as well as the original inclusions have been created since. The current version 3.0 of the JAVaprs filter port instructions and options are available at:

  http://france.aprs2.net/filter_guide.html

  or on this website at:

  JAVaprsFilters.htm

  The version of the *JavAPRS Filter Guide* on this website has been

reformatted from the original raw text to HTML for easier readability and search.

The newJavAPRS filter exclude options are especially useful if you want to prevent maps from being flooded with thousands of non-ham "CWO" (Citizens Weather Observer) stations that share the APRS Internet system with licensed ham stations. Simply add **`filter -p/CW`** to the "Extra log-on text" field in the "**Setup, APRS Server Setup**" dialog.

You may wish to download the text version of the webpage at france.aprs2.net above to update the local version inside the UIview help system. (scroll down to the very bottom of the web page for the download link). Overwrite the original "filter.txt" in UIview with the updated version. The internal F1 help system in UIview will then produce the current and correct information on filter ports. The " filter.txt " file is located in the subdirectory " \DOCS " located under the main UIview program directory.

- **Displayed APRS Symbol Set a.k.a "Icons"** There have been numerous changes and updates to the APRS symbol set since UIview became "frozen". Fortunately, the APRS symbols used by UIview are contained in a pair of Windows BMP graphics files that can be easily replaced (overwritten) after the program is installed. Replacement current symbol sets for UIview (and the MapPoint add-on UI-Point), are located here:
  Revised APRS Symbol Set .

  Important to note: APRS symbols are NOT transmitted over-the-air as little pictures. Only a two-digit alpha-numeric code is transmitted, that causes a symbol to be selected from the other party's stored symbol set. Changing your graphics WILL NOT make other people see the new symbols. They must update their own software. Conversely, if YOU don't replace the original symbol set in your copy of UIview with the updated version, you will often be seeing the WRONG symbols from other stations. (Many existing symbols have been moved to different code points.)

- **UI-Webserver Maps** If you activate the UI-View Personal APRS Webserver built into UIview, the page that displays details for an individual station attempts to draw 3 maps, at varying scales, centered on the selected station. This map display no longer works. The maps were provided by the now long-gone website "MapBlast!" operated by Vicinity Corp. About the time Roger passed away, Microsoft purchased Vicinity, and proceeded to cut off free access to the site. A replacement site for these maps is now

available that uses Google Maps. This will require editing HTML pages in the "UI-Webserver" directory under the main UIview directory. Complete details, including copy-and-paste code snippets are available here:

http://france.aprs2.net/uiws_maps.html

- **UI-Webserver QRZ Callsign Data Lookup** The detailed map for individual stations, referred to above, also lets you click on the callsign to do a QRZ.com lookup for station address and other details. The exact URL to access this information at QRZ has changed since UIview became "frozen in time". Locate the folder "Special Pages" located under the "UI-Webserver" folder inside the main UIview32 program folder. Locate the three files

  info_call.html
  infomobile_call.html
  infowx_call.html

  Open each file with Windows Notepad or a similar text editor. Locate the string

  qrz.com/detail/##CALLSIGN

  Change **detail** in each to **db** . The revised line should look like:

  qrz.com/db/##CALLSIGN

  Save each file and restart the UIwebserver.

- **SA Map Grabber** UIview includes a utility (on the "File" pulldown) for capturing static (non-zoomable) maps from Delorme Street Atlas for use with UIview. This utility, (of use to American users only), only works with the "classic" old-style versions of Delorme Street Atlas ending with Ver 9.0 discontinued in late 2001. **It WILL NOT work with any current version of Delorme products** using the "new-style" Delorme interface (i.e. TopoUSA, Street Atlas Deluxe, Street Atlas Road Warrior, Street Atlas 2004 and later, etc.). The Map Grabber feature is now totally useless; the program files and .XTR files related to it in the main UIview folder can now be deleted to reduce space waste and menu clutter.

- **North American users of Kenwood D700 and TH-D7** The TNC initialization files for these radios attempt to leave nothing to chance and totally automate the setup of the radios. Besides initializing the TNC itself, these files also command the radios onto the the correct radio frequency for APRS. As distributed, the initializations are correct for the U.K. and Europe where the APRS frequency is **144.800**. For use in North America, you must edit the initialization file and change the frequency to **144.390 .**

  After selecting the Kenwood D700 or THD7 tnc type during the "Setup, Comms Setup" dialog in UIview, click the "Edit" button. Locate the strings

  ```
  ;Set the frequency to 144.800.
  FQ 00144800000,0!FQ 00144800000,0
  ```

  Carefully change these to

  ```
  ;Set the frequency to 144.390.
  FQ 00144390000,0!FQ 00144390000,0
  ```

  and then save the file. Be sure the total number of digits in the numeric strings are not changed! The changes won't become effective until you exit and restart UIview.

- **Any user of the Kenwood TM-D710 APRS mobile rig or TH-D72 handheld with built-in GPS** (pictures **here**) The newer Kenwood APRS radio arrived long after UIview became "frozen in time". As a result, no TNC initialization files are included with UIview for the D710 or D72. A collection of TNC init files including two versions for the TM-D710 can be downloaded from this website **here** .

- **Any users of the Yaesu APRS radios (hand-held or mobile)** Basically, you are out of luck. All the Yaesu APRS radios, both mobile and hand held, suffer from what I consider a fatal design flaw/oversight: You **CAN NOT** access the internal TNC from an external device. The SINGLE serial port on Yaesu radios is used either to program the radio's memories, or for the optional GPS. There is NO access to the TNC's TX/RX data at all; i.e. you cannot connect a computer running APRS software to the Yaesus.

- **Users of KPC3 Plus TNCs** There is a serious known bug that plagues KPC3+ TNCs (but not the original KPC3). After running for several days, a KPC3+ operating in KISS mode will start randomly delaying the passing of received packets to the attached computer, sometimes by several minutes. (KISS is the preferred mode for UIview and is mandatory for using UIview's digipeater features.)

  Passing such long-delayed packets to the APRS Internet System (or digipeating them) can cause them to appear many minutes AFTER more recent position reports have been processed by other digipeaters and/or igates. This causes forward-backward-forward-backward "hyper-jumping" of moving stations on other users' maps. [The APRS Internet System considers any packet arriving within 30 seconds of the previous one, that contains the identical payload, to be a duplicate, and automatically rejects it. An old packet, even if it is a duplicate, arriving MORE than 30 seconds later WILL be passed.]

  This bug affects all firmware revision levels of the KPC3 Plus. It can be temporarily cleared by resetting the TNC or by cycling it's power OFF and then back ON. In the case of UIview, exiting and than restarting UIview clears the problem. If you are using a KPC3+ TNC, set the built-in UIview Scheduler to EXIT and then RESTART UIview once a day when traffic is likely to be very low. (For example, set it to EXIT at 3:00 AM and RESTART at 3:01 AM.)

- **APRS DESTINATION & PATH Confusingly Combined in Setup** Not a changed standard but a quirk that confuses many newcomers to UIview. Unlike every other APRS program and Kenwood TH-D7/D700 radios, UIview combines the destination (normally **APRS**) and the digipeater path (normally something like **WIDE2-2**) into a single string in a single field labeled "**Unproto Address**" in the "**Setup, Station Setup**" dialog. It's very easy to overlook erasing the leading "**APRS**" while editing this field during setup. This string *must* look something like " **APRS,WIDE2-2** " or " **APRS,WIDE1-1,WIDE2-1** " . The entries *must* be delimited by commas. No spaces are allowed.

  At run time, the item to the left of the first comma is taken to be the destination. Subsequent items to the right of the first comma are interpreted as steps of the path. If the leading "APRS" is left out, the program will try to transmit to a destination of "WIDE2-2" (or whatever is in the first position) instead. Since APRS applications and digipeaters normally only respond to a destination beginning **APxxxx** (and a very few other prefixes), you won't be seen on other peoples' programs. And you won't be digipeated.

  Note that this combined destination and path entry is strictly a UIview setup-

screen idiosyncrasy. All other APRS programs and APRS devices provide *separate* fields for destination and path entries. No matter how it is prompted for during entry, all programs transmit this information over-the-air in the same format.

- **Quirky Way of Delimiting Degrees and Minutes in Latitude/Longitude Entries** Like most APRS applications, UIview requires that latitude/longitude entries for positions be expressed in Degrees, Minutes and hundredths of Minutes. You cannot use Degrees-Minutes-Seconds or Degrees and decimal Degrees. [DD MM.mm is the default format of NMEA GPS data, and is also the default format for APRS.]

  However, ***unlike*** NMEA, UIview uses two periods to delimit the string instead of one. For example, latitude data output from a standard NMEA GPS receiver, for 33 degrees 45.14 minutes north, would look like:
  3345.14N

  UIview requires that this be formatted as:
  33.45.14N

- **Right-click QRZ.com Callsign Lookup feature needs changes.** One of the choices available when right-clicking on an icon on a UIview map is " www.qrz.com " which sends you to that website for an FCC database lookup. As of late August 2009, the QRZ website has changed their interface, breaking this convenient right-click lookup.

  To fix this, you will need to edit the **UIVIEW32.INI** file, located in the main UIview program folder. Shut down UIview, if it is running. Open **UIVIEW32.INI** with a basic text editor like Windows Notepad, and search for "**[RIGHT_CLICK_URLS]**". Immediately below this heading, you should see:

  &www.findu.com="http://www.findu.com/cgi-bin/find.cgi?$CALL"
  www.q&rz.com="http://www.qrz.com/database?callsign=$CALLNOSSID"

  Edit the lower line to read

  www.q&rz.com="http://www.qrz.com/db/$CALLNOSSID"

instead. (The easiest way to do this is to copy and paste the string from this webpage over the existing one in UIVIEW32.INI .) Save the changes; then restart UIview.

- **UI-NWS feature requires server name change, and additional files to be downloaded.** The UI-NWS feature under the "File" pulldown allows U.S. National Weather Service weather warning areas to appear on top of UIview maps. (This feature is of interest ONLY to users in the U.S. or Australia) **Click Here** for more information on downloading and using the NWS "shape files".

As of mid-July 2009, the "virtual igate" WXSVR that injected the NWS alerts into the APRS Internet system to make the NWS feature work was shut down. A replacement server, AE5PL-WX, is now providing this service. Shapes and symbols for severe weather WARNINGs should appear on maps just as before.

However, using the right-click "finger" function to retrieve the full text of NWS bulletins will require editing the two files **UIview32.INI** and **UINWS.INI** located in the main UIview program folder.

- Shut down UIview.
- Locate the string **FQDN=WxSvr.net** in each file and replace it with **FQDN=wx.aprs-is.net** .
- Restart UIview.

Note that the volume of traffic provided by the new server is far, far less than the old one. AE5PL-WX only transmits *WARNINGS* (servere weather actually in progress) but not the ALERTS and WATCHES sent by the old server. As a result, you will never see the yellow ALERT areas and orange WATCH areas that formerly appeared on UIview maps; only the red WARNING shapes will appear.

Do not confuse **UI-NWS** with the **NWSget** add-on discussed below.

UI-NWS is a standard part of UIview and will work with any map (that covers part of the U.S).

NWSget automatically downloads color pictures of Weather Service radar images, similar to the ones on TV weather reports, every 10 minutes. It then displays them underneath the roads and other details in UIview. NWSget is a separate download, and only works with Precision Mapping and the PMap server for UIview.

**** Vista/Windows 7 Issues ****

UIview32 "died" in March 2004, in the middle of the "Windows XP era", long before Vista or Windows 7 were released. ***No explicit patches or updates for Vista or Windows 7 exist. Revised versions of UIview will never be offered for these versions of Windows.*** Uiview CAN be made to work with Vista and Windows 7, but it **IS NOT** a mindless "just run SETUP and accept the defaults" undertaking.

Three major issues exist running UIview on Windows Vista or Windows 7:

1) Windows Vista/Win7 UAC (User Account Controls) very aggressively defends the "/Program Files" folder tree, where most programs install by default. The constant questioning of actions by programs unknown and "unblessed" by Microsoft causes problems both installing and running older programs.

You must run both the installers, and the programs after install, with elevated "Administrator" privileges. If you are NOT logged in to an account with administrator priviledges, you must right-click the installer programs and choose "Run As Administrator". If these programs are to be run from a normal user account after install, you must edit the options in the short cuts that launch them. Right-click the short cut and exercise the option to "Run As Administrator".

Windows Vista & Win 7's enhanced (some say paranoid) security prevents applications from writing to their own program folders under **\Program Files** or **\Program Files (X86)** after

installation. (This is a security precaution to prevent malware from attacking or modifying existing programs.) This makes it impossible for programs to alter their own log files, .ini files, save user settings, etc if they are located in the program's own folder.

[Correct programming practice for Vista/Win7 require that these types of files be placed in the **\Documents & Settings \Application Data** hierarchy instead. However this doesn't do anything for older programs like UI-View that are "hard-wired" to write back to their own program directory.]

Further, in 64-bit versions of Vista and Windows 7, the **\Program Files** folder hierarchy is for 64-bit programs. Older 32-bit programs (such as UIvew32 and PMap Server) are supposed to be installed in the path beginning **\Program Files (X86)**, rendering the proposed default path of the installers (beginning **\Program Files**) incorrect.

You can avoid this problem by installing UI-View and PMap Server 7 into non-protected directories directly off the root of the drive during install instead of accepting the proposed default locations; i.e. install to

C:\UIview32

and

C:\PMapServer7 or **C:\PMapServer9**

respectively.

2) Vista and Windows 7 quietly dropped support for the traditional Windows **.hlp** Help File format, rendering UIview's extensive help system unusable, along with those of thousands of other older programs. The file "WinHlp32.exe" must be downloaded from Microsoft, and installed into Vista or Win7, before these older help systems will work.

(Microsoft is now trying to get programmers to write help systems in "compiled HTML" **.chm** files that can be displayed in Internet Explorer, rather than the old **.hlp** format that requires the specialized WinHelp.exe "player".)

Quoting from the Microsoft web site:

"Microsoft stopped including the 32-bit Help file viewer in Windows releases beginning with Windows Vista and Windows Server 2008. To support customers who still rely on legacy .hlp files, the Microsoft Download Center provides WinHlp32.exe downloads for Windows Vista, Windows 7, Windows Server 2008, and Windows Server 2008 R2."

More information about, and downloads of, the missing **WinHlp32.exe** component are here:

http://support.microsoft.com/kb/917607

3) For US/Canadian users only, the Precision Mapping Server plug-in (a.k.a. "PMap Server) for UIview is required to use fully-scrollable/zoomable maps from Undertow Software's Precision Mapping software. Ver 7.07 of this essential plug-in will **NOT** install directly into Vista or Win 7 if you use the standard-release install file for PMap Server 7, offered at UIview.org and many other sites on the Internet. (The PMap Server installer version-checks the OS, and detects Win7 as an unknown unsupported OS and refuses to run - not surprising since Vista & Win7 didn't exist when the PMap Server 6, from which PMap Server 7 is derived, was written in the early 2000's!)

(This problem only exists for the PMap Server 7 used with the now-discontinued, versions 7 and 8 of Precision Mapping. **The PMap Server Ver 9 for the current Precision Mapping Ver 9.0 installs directly into Windows 7 with no problems.**)

Precision Mapping 8.1 or 9.0 itself installs without problems on Vista or Win 7, ***IF*** you override the proposed default location inside **\Program Files** on 64-bit versions of these operating systems. (The **\Program Files** path is for 64-bit programs only on these systems. You are supposed to install older 32-bit software into the path beginning **\Program Files (x86)** instead.) The least hassle is to install directly off the root of the hard disk; i.e. something like **C:\PMap8** or **C:\PMap9**, in order to avoid the UAC paranoia on these systems discussed above.

The Precision Mapping Server 7.07 "middleware" plug-in, required to use Precision Mapping with UI-View, is a far bigger hassle:

- You have to install a setup of the PMap Server on a Windows XP system (where the install program **will** run), and then copy the as-built installation to a folder on the Vista or Win 7 system OUTSIDE of the default /Program Files/ hierarchy. (I.e something like **C:\PMapServer7** .)

- Then you have to hand-register PmapServer7.dll with the Windows Registry.

- Finally, you have to overwrite the version of the MapPro71.ocx "Active-X control" in the PMap Server folder with a copy of the same file located in the Precision Mapping 8.1 folder. (The version of this control in the PMap Server folder, placed by the PMap Server 7 install, is over 7 years out of date!) .

Again, Precision Mapping Server **9** for the current Precision Mapping **9** WILL install directly without difficulties, IF you avoid the default install path beginning \Program Files\... .

=== OR ===

If you are still using the now-discontinued Precision Mapping 7 or 8, Install the modified version of the PMap Server 7.07 installer archived on this website at:

<**http://wa8lmf.net/miscinfo/PMapServer7.07-Install.exe**>

This version has been repackaged with the **Clickteam Install Creator** setup program builder, and runs directly in any version of Windows, including Vista and Windows 7. This package automatically registers PMapServer7.dll with the Windows system. It does not include the problematic obsolete MapPro71.ocx Active-X control (it uses the version already provided by Precision Mapping 8.1), and finally launches the "Init

PMapServer7" utility upon exit that otherwise has to be run manually after the install.

NOTE: You can sidestep a lot of hassles with a lot of older software in Vista or Win7, by creating a virtual machine running a Windows 2000 or XP installation inside of Vista or Win 7. If you have Windows 7 Professional or Ultimate, a virtual machine, with Windows XP already installed into it, can be downloaded from the Microsoft website at "**Windows Virtual PC**". Note that this is a HUGE download since it is an image of a complete as-built Windows XP installation!

A freeware virtual machine that will work with other versions of XP, Vista or Win 7, can be downloaded from the Microsoft website at "**Microsoft Virtual PC 2007**" . Note that this version requires that you provide your own operating system install CD. Since the OS is NOT included, the download is far far smaller -- only about 30MB.

In either case, the virtual machine software creates an entire second simulated computer running in a window on your Vista or Win 7 desktop. The virtual PC is contained in a file on the host machine's hard disk, including space for the simulated machine's hard disk. The virtual machine "steals" RAM from the host machine's RAM pool. When first installed, the Virtual PC 2007 is like a brand-new home-made PC with a blank hard disk; i. e. no operating system. You can install any OS on the virtual machine -- Windows 95, Win98, Win 2K, Win XP, even DOS or Linux! You temporarily borrow the host's CD/DVD-ROM drive to run a setup CD for the OS of your choice just as you would on a "real" computer.

I suggest using Windows 2000 in the virtual machine since it can run the UI-View "suite" (UIview 2.03, Precision Mapping and the PMap Server) in about half the disk space, and with about half the RAM, required to do the same thing in Windows XP. Win 2K will run this bundle decently in 256 MB of RAM compared to 512 MB minimum for XP, especially if you use the shareware program **LitePC** to strip the unneeded features out of the Windows installation after the initial install. (During setup, you specify how much RAM and how much disk space the virtual machine should "steal" from it's host.) Further, you can do any number of installs from a Windows 2000 CD without the hassle of Win XP's "product activation" and CD keys.

UI-View Add-Ons

Although the main program is unchangeable, Roger provided and documented an API (Applications Programming Interface) that allows external programs to exchange data with UIview. Details on this interface and code samples are located in the subdirectory \DEVELOP, located under the main UIview32 directory. As a result, add-ons for UIview to continue to be developed. Some examples are:

- **Precision Mapping Server Versions 7.07 and 9.0** Released several months after Roger's death, this add-in allows Undertow Software's Precision Mapping Streets & Traveler Ver 7.0, Ver 8.0, Ver 8.1 or Ver 9.0 to be used in UIview32 as a seamless continuously zoomable and scrollable street-level map of all of the United States and Canada. A newer version 9.0 was released in December 2011 for use with the latest Precision Mapping 9.0 that was also released in December 2011.

  Details on configuring PMap Server 7 for use with the ***now-discontinued*** Precision Mapping **7.0** are **HERE**.
  Details on configuring PMap Server 7 for use with the ***now-discontinued*** Precision Mapping **8.0** or **8.1** are **HERE**
  Details on configuring PMap Server **9** for use with the current Precision Mapping **9.0** , released in December 2011 are **HERE**

- **NWS-Get** Automatically downloads US National Weather Service color weather radar images from Internet servers, and converts them for display as underlays for Precision Mapping maps in UIview. The radar image actually appears underneath the roads, county boundaries, state lines and APRS symbols instead of the usual background shading. Downloadable from http://billdiaz.dynip.com/nwsgetdetails.htm This is a .ZIP file whose contents have to be installed "by hand".

  I have repackaged NWSget as a fully automated Windows installer that creates directories, shortcuts, etc. Download this version here: NWSget-2.91-SETUP.EXE (466KB EXE file)

- **Weather Station Integration** UIview **does not** directly support any electronic weather stations for APRS weather reporting. Rather, it only reads a standard-format file called **wxnow.txt** . This file must be generated by an external application compatible with the weather station in use. A very versatile freeware application that can generate this file and that

supports many common weather stations is "**Cumulus**". You can download it here:
http://sandaysoft.com/products/cumulus

- **UI-Aloha** Computes and displays Aloha range circles (the standard measure of reliable APRS coverage range, based on number of other stations on the air) on maps displayed inside UIview.

- **UI-PHG** Computes and displays coverage circles of individual stations (if they are transmitting the **P**ower-**H**eight-**G**ain information in their beacon) on maps.

Both of these add-ons are available at: http://www.activeham.com/index.php?option=com_docman&task=cat_view&gid=22&Itemid=51

- **UI Instant Messenger** (Improved APRS Messaging Client) UIview does include APRS messaging but it doesn't support the decaying retry algorithm that yields the most efficient use of the APRS channel. This external add-on does. As a bonus, this program can operate completely independent of UIview directly over an Internet connection.

- **UI Height-Track** Draws track lines for selected stations on any map displayed inside UIview (i.e. won't work with external maps such as MapPoint). Track lines can either be specific colors for specific stations, or can be color-coded based on altitude data (if transmitted).

- **UI-XTR** Files with the extension .XTR (e**XT**e**R**nal) placed in the main UIview program directory determine which add-ons should start automatically when UIview is started. UI-XTR provides a convenient "control panel" located in the UIview "File" pulldown to individually enable or disable each of the growing collection of UIview add-ons.

These (and many other UIview add-ons) are located at:
http://www.apritch.myby.co.uk/addon.htm

- **UIsounds.exe** (located on this website to download) Makes UI-view beep like a D700 when your own call is digipeated and sound like an AOL Instant Message when a message is received.

- **PA7RHM Mapserver** Downloads map images from the online Microsoft Expedia map server, and optionally captures them as calibrated static maps

for off-line use. Download it at
http://www.pa7rhm.nl More details on setting up and using this add-on below.

These are only a sample of the add-ons available for UIview. Many more are described and linked from the main UIview.org website.

- **Reducing Distorted Appearance of Maps** UIview and Precision Mapping both use a simple rectangular plot of latitude and longitude that make the North American landmass look oddly stretched. The distortion is due to the simple non-projected display of map data used by UI-view. UIview assumes that latitude and longitude lines on any map form a simple rectangular grid instead of the converging curved lines that they are in real life. Further, it assumes a degree of latitude is exactly the same distance as a degree of longitude (only true on the equator). This makes calculating where to place a given lat/long report on the map extremely fast and simple -- no spherical trig or involved coordinate transformations needed! The rectangular deviation from curved isn't that obvious in a small area such as a city. It becomes much more obvious as you zoom out to a state-level or continental display.

  Precision Mapping provides a way of tweaking the aspect ratio of the displayed maps. Although it will remain a Mercator-like rectangular display with longitude lines that remain parallel (instead of converging at the poles). the display will have more "normal" proportions.
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1. Exit UIview
2. Locate the directory where you installed PMap Server.
3. Open the file MapPro71.cfg with a basic ASCII text editor such as Notepad.
4. Search for the paragraph heading "Modules" .
5. Somewhere in this paragraph you should see the entry "ASP=1.00" (This means aspect ratio of lat vs long is 1:1)
6. Change this entry to something like "ASP=.800 "
7. Save the file. Be sure the file gets saved with it's original extension of .cfg .
8. Restart UIview.

The continental US and southern Canada should now have more reasonable and pleasing proportions. This will do nothing to correct the gross distortion in Alaska and northern Canada where the longitude lines are severely converging.

This only affects PMap Server displays within UIview. It does not affect the display in the stand-alone Precision Mapping program.

Using The PA7RHM Mapserver for UIview

Chris van Gorp's PA7RHM mapserver automatically captures and calibrates maps from Microsoft's Expedia on-line mapping service for use with UI-View. You can zoom out to regional or country level or zoom in to street-level anywhere in North America or Western Europe. The appearance of these maps is almost identical to images produced by the local programs MS Streets&Trips (North America), MS Automap (Europe) and MS MapPoint for both regions. It can produce views elsewhere in the world but these will be simple outlines of national borders and provinces with cities shown as simple point objects. No roads or hydrographic features show.

Normally the "RHM Mapserver is downloaded from PA7RHM's website at:

http://pa7rhm.nl/

Look for "Downloads" in the left-hand column menu. Normally a separate rather clumsy "Updater" utility is used to download & install any or all of his offerings. This automated first-time-installer/updater gives you NO choice of install location. It forces you to use the default /Program Files hierarchy which presents problems in Vista and Windows 7 systems, as described above, especially on 64-bit systems. You can bypass the "Updater" and directly download the Mapserver's own installer (which DOES give you the choice of install location) by going to:

http://www.pa7rhm.nl/downloads/setup_pa7rhmsvr1014.exe

Operation with a live Internet connection, is very straight-forward. Just install the program from the downloaded setup file, and then select "Map Server by PA7RHM" from the UIview "Load A Map Dialog." Configuring it to capture maps for use off-line (i.e. without an Internet connection) is a bit more involved.

The mapserver saves captured maps in UIview's optional "Extra Maps Directory". It won't save any maps until you define such a directory in UIview. The original

intent of this optional directory was to allow the storage of large archives of static (non-zoomable) maps on a CD-ROM instead of filling up the UIview "\maps" directory on your hard disk. For application with the PA7RHM server, this directory has to be on a hard disk (or other writable device such as a USB flash drive) since it needs to be writable.

1. From the Windows File Explorer, create a directory for additional maps. It can be located under the main UIview directory, or somewhere else you prefer on your hard disk. Since you will want to edit files in this directory and delete unwanted views, it may be convenient to place this directory directly off the root of the drive instead of nesting it inside many layers of subdirectories.

2. In UIview (not the map server) pull down "**Setup, Miscellaneous Setup**" and locate the "**Extra Maps**" box at the bottom of the screen. Click the "Browse" button and navigate to the directory you created above .

3. Every time you zoom or scroll the PA7RHM server screen, a new pair of files (GIF image and INF file) with matching random-looking alphanumeric-string base file names will appear in this directory. These random-looking names will now show up in UIview's "Load A Map" dialog after you do "**Map, Refresh Map List**".

4. The names that show in "Load A Map" are not the file names. They are text strings contained INSIDE the .INF file for each map. Open the .INF file with Notepad or other basic text editor, and edit the third line to something more descriptive such as "Denver Metro Area" or "Westside - Street Level". The string is completely arbitrary and can be anything you like. When you refresh the map list, you will now have more meaningful map titles.
.
5. You can quickly accumulate hundreds of maps, since you get a new map-and-inf pair every single time you zoom or scroll. You will probably not want to leave the "Save Map Copies" mode left turned on in the PA7RHM server very long. You will also probably also want to select just a few views to keep, and delete the rest. Use an image-management thumbnail-and-viewer utility such as IrfanView to preview and delete files. Or as a last resort, open the GIF images in your web browser for a quick view.

6. To use the stored maps, you don't run the server at all. Once they are captured and stored, the maps are just like any other static map, such as the ones that came with UIview. Just do "Map, Load A Map" in UI-View and select one of the stored static maps. If you have captured several maps that cover adjacent areas with some overlap, and UIview is set to track a

particular station, UIview will automatically try to select the map with the best view of the station's current location as the station moves.

7. The Expedia maps, like maps generated by MapPoint, are projected on a non-rectangular grid to minimize distortion when the earth's curved surface is displayed as a flat image. The disagreement between UIview's simple rectangular x-y grid "non-projection", and the curved, projected view generated by MapPoint, is insignificant at city, county or district level. You WILL see significant error in the placement of APRS symbols, away from the map center, when the map is zoomed out to beyond 75 miles (120KM) or so.

8. An alternative to the 'RHM server, that WILL produce rectangular-grid "non-projected" maps that align perfectly within UIview, is the Universal Maps Downloader tool **reviewed here** on my web site. This program can capture satellite or street maps from Google Maps, Yahoo Maps, Bing Maps or Open Street Maps at a wide variety of scales. Note that you WILL have to do some simple math to convert the coordinates produced by this program in degrees-and-decimal-degrees to the degrees, minutes and decimal minutes format used by UIview.

   (A separate tool that converts between all three coordinate formats is downloadable from my website. **Click Here**)

Using Microsoft MapPoint with UI-View

UIview can pass it's received position reports to Microsoft MapPoint (either the North American or European version) via the **UI-Point** "middle-ware" plug-in. Launching UI-Point from the "File" menu inside UIview causes an application that is actually MapPoint minus some of it's toolbar buttons to appear. This modified version of MapPoint, with all of it's normal menu pulldowns replaced with new ones, operates along side of UIview. Note you must have MapPoint installed before UI-Point will work. **MS Streets & Trips or Autoroute will not work** with UIview. **Click here for more information and details about MapPoint.**

The maps displayed in MapPoint are independent of any maps running normally inside UIview. UI-Point plots standard UIview icons on the MapPoint display, but alphanumeric overlay characters that appear on top of the base icons on maps inside UIview don't show on the MapPoint display. **None** of the other UIview plug-ins or enhancements that add track lines, range circles, weather alerting zones, overlay objects, etc to maps inside UIview will have any effect on the UI-Point/ MapPoint display.

Note that APRS position reports received from the APRS Internet system (rather than off-the-air from a radio/TNC) don't appear by default. Pull down "Options, Traffic Filter" from the UI-Point menu bar. Clear the check box for "Don't Display Internet Traffic".

MapPoint is a large, resource-sucking, rather slow program. When UI-Point was first released years ago, the author was concerned that the typical PC used by hams wasn't fast enough to keep up with the flood of data from the APRS Internet system, while running the sluggish MapPoint. As a result, he defaulted Internet display to off. (The over-the-air data rate is only 1200 baud and is no challenge for even slow PCs to keep up with.) Today, with fast PCs with hundreds of megabytes of RAM on broadband connections with port 14580 selective filtering (**Details Here**) of the Internet stream, UIview and UI-Point have no problem keeping up with the Internet data.

Displaying Stations Tracked in UI-View on External Mapping Programs.

Although UI-View can only use Precision Mapping internally for scrollable, zoomable maps, it is possible to pass very limited amounts of data to any external mapping program capable of working with a standard NMEA GPS device.

The obscure UIview plug-in **Pos2NMEA** (**click here to download**) will grab the incoming position data for any **single** specified callsign+SSID in UIview, convert it into generic NMEA format, and then output it to a virtual COM port.

In turn, the external moving-map program is "fooled" into thinking it is connected to a standard NMEA GPS device in a moving vehicle. Only position data (and altitude, if it was included in the original APRS posits) is passed to the external program. APRS symbols, comment fields, callsign, etc *WILL NOT* appear on the external map; only the same kind of cursor and bread-crumb trails that the program produces normally with an attached GPS receiver will show. This setup works very well to display a balloon with an APRS tracker on a Delorme TopoUSA relief map as it drifts into mountainous terrain, while following it in UIview. Examples of the track in both UIview and TopoUSA are **here** on this website.

Since both UIview and the external program have COM ports trying to talk to each other, you need a virtual null-modem (i.e. simulated serial cross-over cable) to connect the two. The MixW "Serial Port Bridge" does exactly this in Windows 2000 or later, and is **downloadable here**. The Serial Port Bridge was originally intended to allow MixW to act as a software packet TNC to external programs (it

works perfectly with UIview). However, the Serial Port Bridge (which installs as a virtual hardware device in the Windows Device Manager) will work to connect any two serial-port-using programs in the same computer to each other.

Changing the callsign, whose data is to be passed out of UIview to the external program, requires hand-editing the **.ini** file that controls Pos2NMEA with a text editor like Windows Notepad. (Pos2NMEA was a quick unfinished hack of a program without a full user interface. You can't change the callsign from a pulldown menu inside the running program.) You can make editing the .ini file more convenient by adding the edit function to the UIview "Files" menu. Open Windows Notepad and copy/paste the following four lines into it:

```
Pos2Nmea_Edit
"C:\Windows\Notepad.exe" Pos2Nmea.ini
False
True
```

Save the file as **Pos2NMEA_Edit.xtr** . A convenient entry to edit the Pos2NMEA file will appear in the UIview "Files" menu the next time you start UIview. .XTR files (short for eXTeRnal) allow commands to run external programs to be added to the UIiview menus. [If your Windows installation is located on a drive other than C: , edit the path above to match.] An XTR file to **run** Pos2NMEA is created automatically when the program is installed. This added XTR just makes **editing** the Pos2NMEA.ini file more convenient.

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This is not a normal live mail-to: link. It is only a GIF graphic. Not using text prevents email-address-collecting spambots from adding my address to junk mail lists.