*MW DXING*
*HOME PAGE*

# PERSEUS QUICK START FOR WINDOWS 7
A site mainly dedicated to Mediumwave Dxing

*DX ARCHIVE*
*HOME PAGE*

All DX Logs  -  FM / TV DX  -  Perseus / Equipment  -  Audio Downloads  -  Other Items  -  DX chat                    Contact



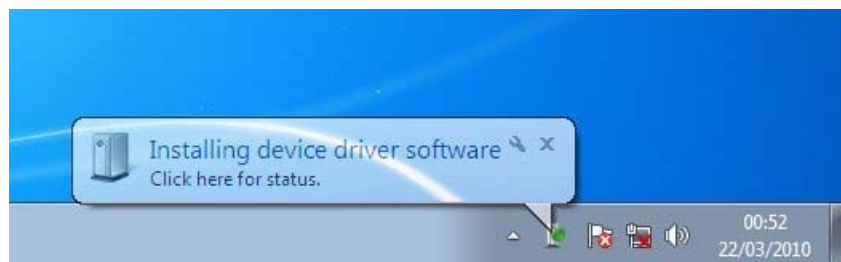================================================================

PERSEUS HOME PAGE
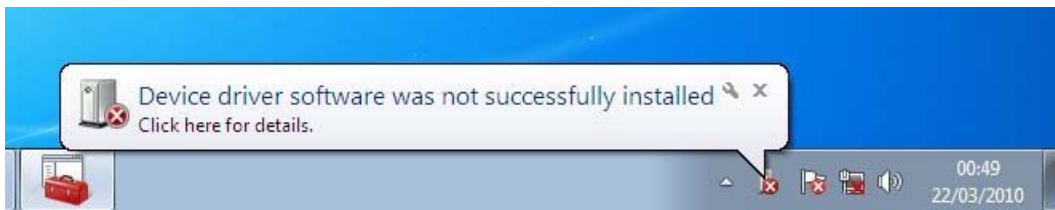
NB: There are many ways on a PC to accomplish almost all tasks.

This is only one way to install the Perseus WIN USB drivers on a WINDOWS 7 PC.

Best viewed with a screen res of at least 1024 by 768

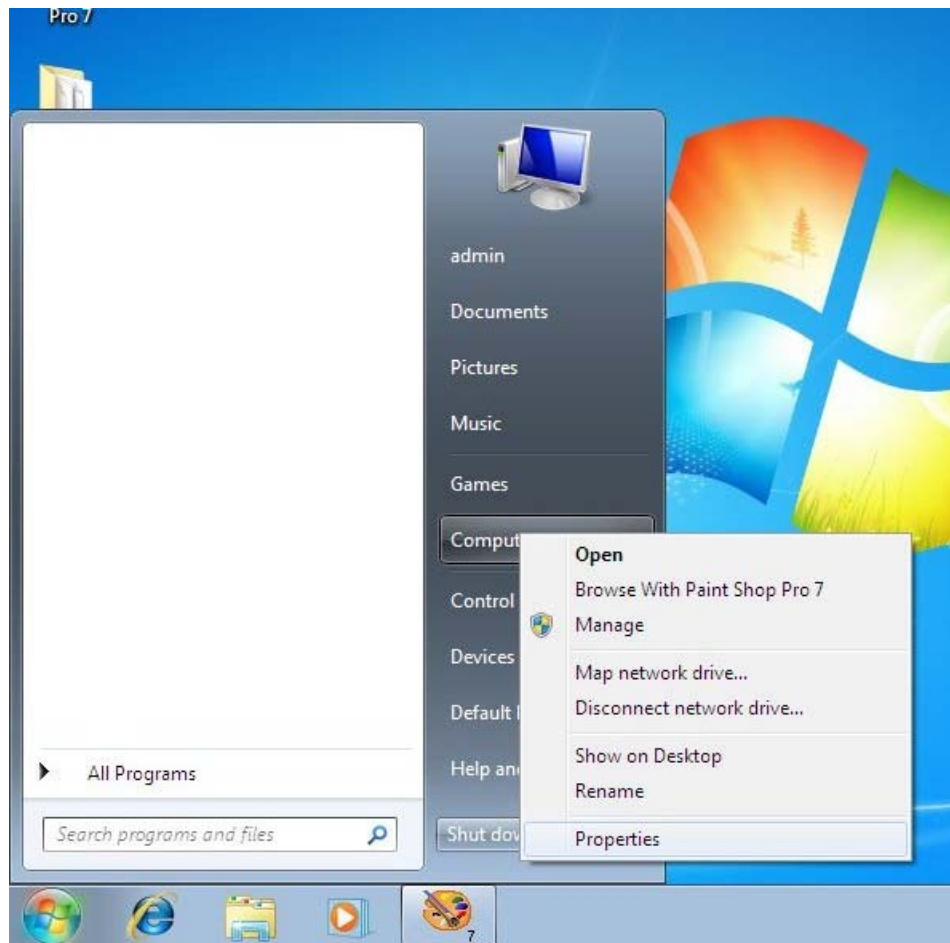======================================================================

1. Download, unzip and copy the latest Perseus software folder onto your desktop

2. Download Perseus drivers from the Microtelecom web site
(Or you may have the latest drivers on CD)

3. Plug Perseus SDR into the power adaptor, and connect USB2 lead to a spare USB socket on your PC.

4. Windows 7 comes up with a couple of fast screen messages, that disappear quickly.
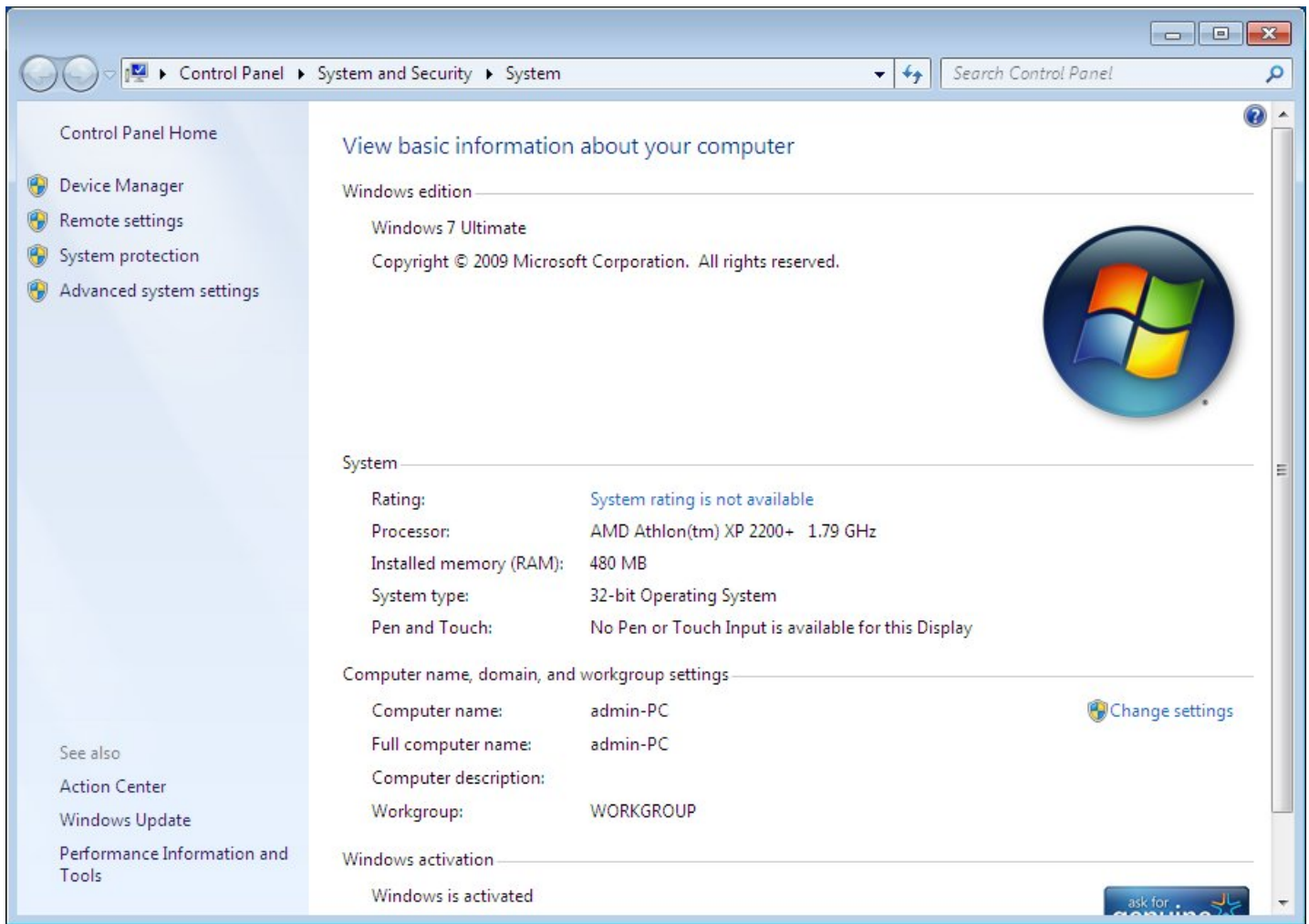


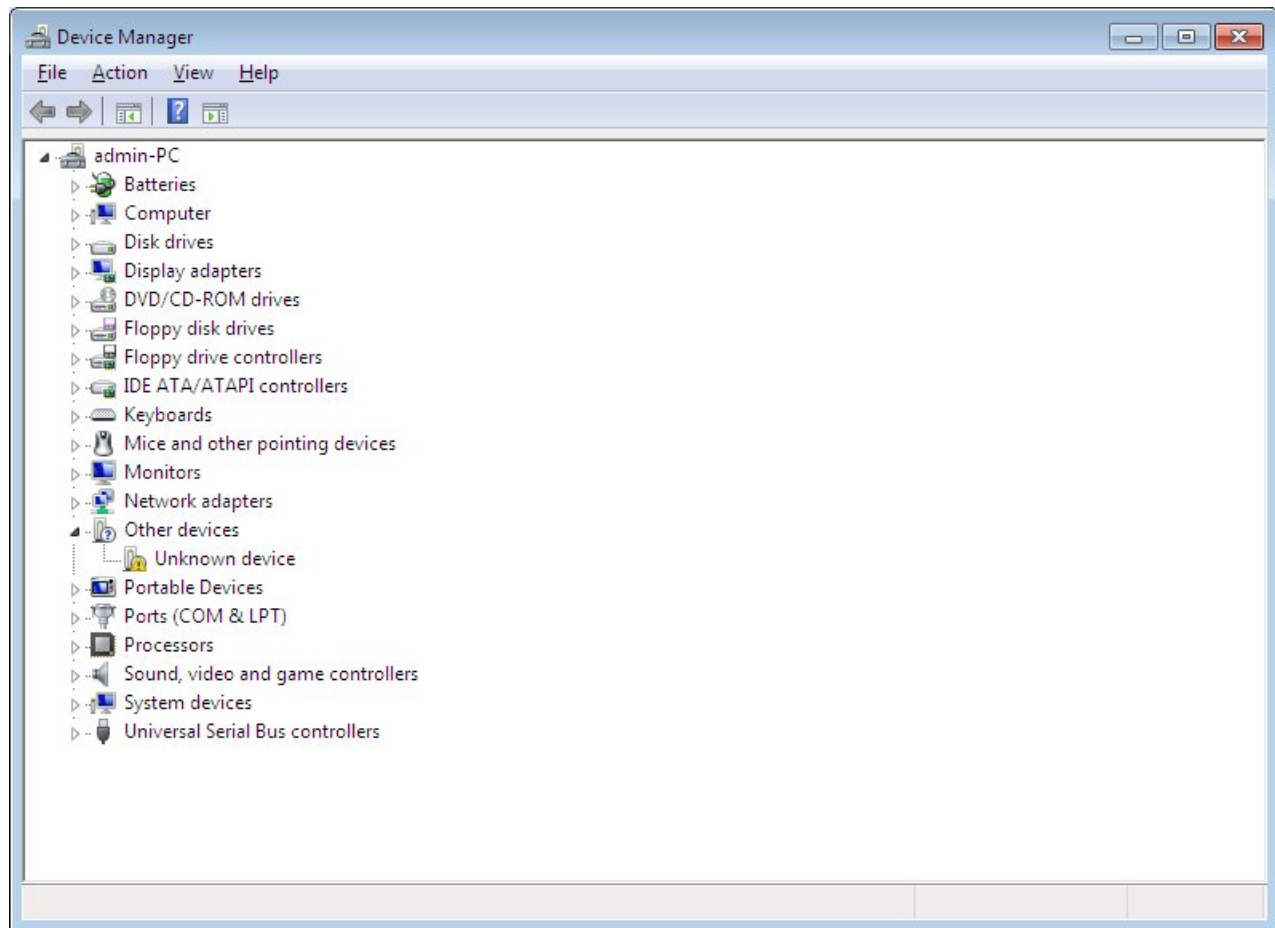Windows is installing software

Windows can not install software

A normal windows screen is then displayed.



5. Click the start menu, (bottom left Windows symbol)

RIGHT click "Computer" and click "Properties"

6. At the top left of this screen click on "Device Manager"

7. You should see an exclamation mark in yellow.

The "Unknown device" is within "Other Devices".

8. Right click on the "Unknown device" and click "Update Driver Software"



9. Click on "Browse my computer for driver software." (2nd option)

10. When you find the folder containing the drivers, click "next".

The above example is installed from the CD in drive D.



11. Don't worry that Windows can't verify publisher.

"Install this driver software anyway" (2nd option).

12. Let the install work



13. Shortly the following screen is seen.

Click "Close".

14. The Device Manager will now look like this.

15. Or it may look like this if the MICROTELECOM entry is not expanded.

It looks like this when you go back into the Device Manager at a later time after installation is complete.

16. You are now ready to run the Perseus software for the first time.


Open the folder, whether it be on the desktop, or wherever you choose to keep it, and double click the blue PERSEUS icon.

This is really PERSEUS.EXE but by default Windows hides the file extensions. These show the user at a glance what type of file he is clicking on.

(eg: **.exe .txt .mp3 .doc .xls** or 4 letters in the case of **.html**)


You now should have the default Perseus screen, and assuming you have connected an antenna and speakers, you are ready to tune the bands!!

GOOD DX!!!

==================================================================================

*MW DXING
HOME PAGE*

# PERSEUS CLIENT / SERVER TIPS
A site mainly dedicated to Mediumwave Dxing

*DX ARCHIVE
HOME PAGE*

============================================================

PERSEUS HOME PAGE

## PERSEUS CLIENT / SERVER TIPS AND OBSERVATIONS
FEBRUARY 2011

The new Client / Server technology incorporated into the Perseus SDR and released a couple of weeks ago, seems to have captured the imagination of many dxers, myself included. Of course the predictable sour grapes from a minority has reared its ugly head in more than one occasion. I find comments such as "*That's less time spent dxing, if you are listening to someone elses radio*" a little strange. I spend probably far too much time hard dxing as it is, and dont grudge time spent on other offshoots of the hobby. But in general, after their first experience of logging into another receiver on the other side of the world, most dxers seem to have watched and listened in awe. Others suggest that Nico has again taken the Perseus to another new level. The CLIENT operation is possibly slightly easier to set up than the SERVER.

CLIENT- simply defined as "Listening in to someone else's receiver" using "Perseus.exe"

SERVER - simply defined as "Somebody else listening to your receiver" using "Perseussvr.exe"

### GETTING STARTED:

A couple of things are required to operate the Perseus Client and Server the way it was designed to. Latitude / Longitude coordinates are required. Below are links to one of the many web sites where this info can be found. Both latitude and longitude are easy to simply copy and paste.

1. PERSEUS RELEASE 4.0a or above

http://microtelecom.it/perseus/Perseusv40a.zip

2. LATITUDE and LONGITUDE co-ordinates.

http://itouchmap.com/latlong.html

============================================================================

## RUNNING PERSEUS IN CLIENT MODE - (LISTENING TO OTHERS):

Use the traditional Perseus software, started by clicking on Perseus.exe. file. Remember to use version 4.0 from the folder and not an old version that has a shortcut on the desktop.



CLICK ON "PERSEUS.EXE"



Click on the "NET" button. The "FILE" button changes to an "ADDR" button. Click "ADDR" button. A map appears which displays all the public Perseus receivers that are on line at the time.

NB: If you are using the NET button for the first time, a settings screen will appear. Fill this in with name or callsign / nick name, and QTH, and Latitude and Longitude. These co-ordinates can be copied and pasted directly from may places on the web. The itouch map site is easy to work.

http://itouchmap.com/latlong.html

NB: This only has to be filled in the first time the net button is used. Longitude is the first entry on the screen (Untraditionally).

NB: This screen is easily accessed at anytime to change the settings by clicking the blue Perseus logo on the top left of the Perseus software screen. Click the "network settings" screen, and the above settings box pops up.



CLICK NETWORK SETTINGS TO ALTER CLIENT DETAILS





You may encounter the following error screens when setting up nicknames and

coordinates



Rolling the mouse over, or clicking on a Perseus receiver on the map will bring up a bubble which shows if the receiver is busy or free to access. The server IP address is also displayed. The above is used as an example of how a remote server appears on the map. Clicking on the Perseus icon on the map inserts the IP address of the desired server into the box on the bottom left of the screen. Click OK, and as though by magic, you are now listening to a remote receiver, and tuning it as though it were your own. If any Firewall messages pop up, click UNBLOCK, to allow the connection. If you still have no audio from the remote receiver, the ports may have to be opened on the router. (See notes below)

NB: Only a server appears on the map. Never a client.

Just like a telephone though, the connection may be busy. The BUSY icon is shown above.

NB: THE MICROTELECOM map of active servers is available as a web page as well, so you can easily see which servers are active.

http://microtelecom.it/map/PerseusServers.html



An example of a Perseus Server in CT, USA. Note the IBOC on WTIC 1080

## THE BAD IP MESSAGE ON SOME SERVERS:

Some Perseus servers put up the message "Please enter a valid IP address." Mine is one of them, but not every day. My own IP address changes daily. Initially I thought I had to change the IP address on my SERVER SETTINGS daily, but I don't. It seems to be automatic. The HOST / IP box can be used for extra text. (See Server Settings below)

But that is not the full story.

Version 4.0a has a bug that makes access to some servers impossible, and the above message is displayed. To overcome this on my own PC, it was suggested by Stuart in London to use the "workaround" to access "bad IP" machines. To access mine, my current IP address needs to be copied from the bubble on the map, and a space left and text entered. An example of the line to add to the bottom of the "hosts" file was the following:

88.240.150.21 ken

The above numbers are usually only valid for a certain day.

(You can also click on my Perseus icon on the map and copy my IP address from the bottom left of the map)

**ACCESS TO MY RECEIVER WHEN BAD IP ADDRESS MESSAGE SHOWN**:

If anyone wants to access my Perseus here in Scotland, and the IP message comes up, you need to do the following:

1. Copy the IP address for the day from the bubble on the map.

2. Browse your PC to find the file called simply "hosts". It is found at

C:\WINDOWS\system32\drivers\etc\hosts

3. Right click "hosts", and click on "open". A selection of installed software programmes are shown. Click on NOTEPAD to edit the file. (Or in notepad, click "file" - "open" and browse for the file, remembering to select "all files" in file types box.)

4: Paste the IP address / number followed by a space and the word "ken", so you have a line like the example below. Always include the "ken" part at the end.

88.240.150.21 ken

5. Save the file, (File - Save) and try and go into the receiver again. Hopefully you should hear signals as received in Scotland. (Do not save as. This will make a text file and thus the hosts file wont do the job)

Remember the latest IP address will come from the Perseus Servers map.

NB: This inconvenience will disappear after release 4.0a, and is already fixed at the time of writing.



THE "HOSTS" FILE HAS NO FILE EXTENSIONS AND IS HOW YOU SEE IT HERE.
(eg it has no .txt, .html. .doc etc)

THE "HOSTS" FILE CAN BE SIMPLY OPENED WITH NOTEPAD

================================================================================

# RUNNING PERSEUS IN SERVER MODE - (OTHER DXERS LISTENING TO YOUR RECEIVER):

To operate in SERVER mode to allow other dxers to access your receiver, and show your receiver on the PERSEUS SERVER map, you have to first set up your server. To do this, you have to open the server software, which is found in the Perseus folder.

Close the Perseus receiver software before setting up the server.



CLOSE PERSEUS SOFTWARE

OPEN "PERSEUSSVR.EXE"

PERSEUS FIVE IN ONE TIPS - BY KEN BAIRD                    www.dxarchive.com/mw

If PERSEUS is already in use, you may see the above message. If not, the server screen below should open with the following message about the server domain not being resolved.



The server screen above should open with the message about the server domain not being resolved, or a blank screen.

To enter the SERVER settings, click on the blue PERSEUS icon at the top left of

Page 20 of 59

the SERVER window.

Click "Server Settings" to enter your local details.

The above is the default screen you will see initially and is divided into four categories.

1. Server Mode:

This controls the speed of the stream. GPRS setting supplies around 70kb/s of a stream, and is easiest on the web connection if there are other processes working on the same connection, eg large downloads. Many of the dxers have sufficient bandwidth, and run flat out!! My own is run in GPRS mode.

2. Server Configuration:

There are limitations of the volume of text that can be entered in this area.

The Server Configuration area consists of:

a. Nickname - Requires to be only from 4 - 15 characters in length. (16 is bad)

b. TCP/ IP Server Port - set to 8014 by default, though one dxer we were trying to get on line had to change to 8015.

c. Bind to specific IP addr - Blank by default. This is computer systems that may be running more than one network, and will remain unticked by most users.

d. Welcome message - This is what is seen on the Perseus software at the CLIENT'S screen, which is shown in NETWORK MESSAGES, below the signal meter. This must be a maximum of 63 letters / characters.

e. Password - Required. Field cannot be left blank, even if you don't use the password facility. This must be 6 - 15 characters in length. (How many will use the word perseus I wonder)

f. Allow unauthenticated sessions - This is ticked by default, and is ticked when public access is desired. If unticked, the client would require the password, and therefore the session would become authenticated, and the time limits below do not apply.

g. Disconnect unauthenticated sessions after xxx. - Entirely up to individual, but if you are allowing access to your receiver, the client dxer would be disappointed to be disconnected just as he was listening to a top of the hour ID. Limitations are 0m to 120m.

h. After a session expires, accept it again after xxx time. Variables are 2m to 120m.

i. List this server on Perseus directory - Lists your server on the world map for other users to access.

SOME SCREENS THAT MAY POP UP DURING "SERVER CONFIGURATION" SET UP

**Invalid Server Name**
Server nickname must be at least 4 chars long
OK

**Invalid Server Name**
Server nickname must be less than 16 chars long
OK

**Invalid Welcome Message**
Welcome message must be less than 64 chars long
OK

**Invalid Password**
Please enter a password of at least 6 chars and no more than 15 chars
OK

**Invalid Timeout**
Session timeout must be in the range [0..120] minutes
OK

**Invalid Timeout**
Reconnection timer must be in the range [2..120] minutes
OK

3. External Down Converter:

Settings to display the correct frequency on the Perseus software of a receiver with a down converter connected. Leave at default settings if not using this extra option. A couple of screenshots are shown below that you may encounter if using this function.

SOME SCREENS THAT MAY POP UP DURING "EXTERNAL DOWNCONVERTER" SET UP

**Invalid LO Frequency**
LO Frequency myst be in the range [0..960] MHz
OK

**Invalid Down Converter Gain**
Converter Gain must be in the range [-80..80] dB
OK

4. Identification on Perseus Servers Directory:

The location will determine if your receiver is displayed on the world map. Your PC clock (time and date) must also be set. If you are at the wrong time and time zone, your Server won't show up on the Server map.

The variables in this area of the settings are as follows:

a. Server name or IP address - The IP address is not a necessity here. This space is being used by many dxers as extra text space for e mail and web addresses, or antenna details. The server retrieves the IP address for the map automatically, and is seen below the host entry.

b. City / Country - This must be less than 32 characters long. (I use this box for antenna details)

c. Longitude - Note rather than enter the traditional Latitude first, we enter Longitude first. This is in the digital format, -180 to 180, eg -4.288093

d. Latitude - This must me in the format -90 to 90, eg 55.509852

NB: On the imap site mentioned in "getting started" you can zoom in to street level and obtain very accurate coordinates.

http://itouchmap.com/latlong.html

SOME SCREENS THAT MAY POP UP DURING "IDENTIFICATION ON PERSEUS SERVERS DIRECTORY" SET UP

**Invalid Server Address**

Please enter your server Domain name or IP4 Address

OK

**Invalid City/Country**

City/Country length must be less than 32 chars

OK

**Invalid Longitude**

Longitude must be in the range [-180..180]

OK

**Invalid Latitude**

Latitude must be in the range [-90..90]

OK

NB: Your will notice above that most people would have been used to writing / speaking about Latitude first, then Longitude The settings box lists Longitude first. This had confusing results initially, simply due to the tradition of listing Latitude first. Some folks found themselves on the map in some strange places!!



My own completed SERVER SETTINGS page is seen above. The coordinates above are not exactly bang on. Zooming in shows that I seem to live under a

nearby bridge like the dwarf in the Billy Goats Gruff, but a serious zoom in on the imap can give you coordinates that are bang on.



This is what is seen in the Perseus Server window when it is being accessed. These sessions above have been terminated, but when they are live, the stream bitrate can be seen at the bottom right of the screen.

## OTHER NOTES WORTHY OF MENTION:

1: The SERVER software is a separate .exe file from the Perseus receiver software. "Perseus.exe" for receiver / Client, and "Perseussvr.exe" for Server.

2. NB: When the server is up and running, and other dxers are coming and going, the server owner has no idea what frequency or mode is being used. The

server is a "dead box" in that respect. All the server owner will see is the client details entered by the person that is tuning the receiver. If the bitrate is running, you know that they are connected. (This is seen in the bottom right of the screen where it says "Upload Network Bandwidth")

3. You may use the Perseus software in "wav / www" mode while the server is running.

4. You may not use the Perseus as a live receiver while the server is running, unless you access your own receiver through the "Perseus Server Map"

5. You may use the Perseus Receiver in "wav / www" mode to access any other working servers on the Perseus Server map, including your own, or listen to previously recorded wideband files.

6. You can not record wideband files via the connection to the servers. If you wish to record audio from the single channel you may be listening to, you have to use an audio recorder, such as Adobe Audition or countless other recorders.

7. Unfortunately some dxers seem to wish to work in a very secret and anonymous manner, and enter neither locations nor names in their client details. It is only listening to the radio, and not the secret service, so surely it is only manners to enter your name and true location, if someone else is decent enough to let you use their receiver and antenna!! Where's the problem?? Perhaps some dxers may cut off anonymous clients.

8. If you are a server owner and you want to cut off the client, either close the server, or click on the blue Perseus icon top right of the server screen, click Server Settings, and click OK. This resets the server.

9. Remember that it is a privilege, not a right to listen in on someone else's receiver. The Perseus owner may want to use the receiver whenever he wishes, so expect to be cut off from time to time. But this is such a great way to share receivers etc during down time. But the owner may wish to reclaim the rx at the top of the hour. And unless you know the name on the server window, there is no way to get in toch with the client to say "Hey, sorry about this, but I have to take this back". DX tuners have live chat possible between the dxers.


**NOTES ON ROUTER SET UP:**

I will include here some notes made in the last week while struggling with a friends connection. This will not be done tonight though.

================================================================================


**HOW DO I FIND MY IP ADDRESS:**

There are countless ways to find your IP address out. A Google search for "my IP" is as good as any. The following link is high on the list usually.

http://whatismyipaddress.com/

Another way to see your local IP address is to type "ipconfig" and press "return" at a command / DOS prompt. In XP, it is usually

START - PROGRAMS - ACCESSORIES - COMMAND PROMPT

=========================================================================

## PROBLEMS / OBSERVATIONS:

MAJOR CRASH OF THE PERSEUS SOFTWARE:

I have noticed the Perseus software has been crashing quite a lot since version 4.0. Way back in early pre 1.0 days, there were reports of the software hang ups if a usb device was removed, like a pen etc. This was addressed as follows in version 1.0

- Perseus software does not hang anymore when a USB device (ie a USB memory stick) is disconnected
from the system

I noticed that the problem is back, for whatever reason in version 4.0. It was reported, although the response was simply that Perseus is sensitive to usb removal, or a similar comment.

# PERSEUS - OVERNIGHT RECORDINGS
A site mainly dedicated to Mediumwave Dxing

PERSEUS HOME PAGE

## PERSUEUS AUTO HOTKEY SCRIPT FOR 4.0b:

It has been some time now since the release of BETA 3.0 and the associated change of size of the record file location window. I have still been using version 2.1i to record overnight, because I don't think there has been any development in the wideband recording side of things since then. I have for sometime thus thought about creating a new hotkeys scripts for version 4.0x.

That task is now completed, and now includes a few extras.

1. A click on the 10dB att, necessary here due to use of a pre amp in line.

2. A click on AM mode, keeping the mode the same, even after the software has been used manually.

3. An extra 2 second break between pressing stop, and closing the software down, giving the software a chance to stop and save.

I have also included a sample .ahk file (auto hotkeys file, edited using notepad) without the 10dB att incase anyone wishes to use the same script files.

Also included is an SAQ file, which is the Swedish 17.2kHz transmission that is usually on air at 0800 on 24th December. The hotkeys script centred to 810kHz, giving recording from 10kHz to 1590kHz, and a little more if the secondary window is used to drag the filter a little over the limits. It runs from 0746 to 0816!! I always seem to forget about this annual transmission, so if there is a text file ready prepared, I may well remember it!!

I have been asked by a couple of dxers why I don't use any of the other sched applications. The answer is simple. Auto hotkeys was the first automated sched app I was aware of, being introduced to the Perseus group by Dr Matthisas Zwoch in 2008, translated to English by Guido Schotmans. Once set up to your own sched requirements, it is extremely simple to use.

For example, at the present time I may with to record 02, 03, 04, 05. I may think that 02 and 03 and 04 are hardly worth looking at, but I think I may as well record. I have 24 top of the hour text files, one for every hour, running from xx58 - xx01 (3 minutes). I also have another set of 24, running from xx56 to xx06. (10 minutes). So normally at this time, secondary hours are just recorded with the 3 minute top of the hour file, and the peak which

is currently at 0500, is recorded using the 10 minute script.

So all I have to click on 4 text files to set my timer, and switch monitors off at the mains, and go to bed!! It's that simple. Four clicks. How can that be described as difficult??

I also make longer script / text files as required. At the time of writing, I have a long one for 0345 - 0515 or something so that, so that I can record the full hour around the peak time. I will alter this, and make new files as desired, as the winter creeps in. I also have created a certain amount of half hour scripts, although not for every hour during the daylight hours. If they are needed at any time, a few seconds typing creates a new file.

Bar when undesirable size modifications are made to the Perseus pop up windows, the scripts / text files never have to be touched. There is a new set however made up for the changes made after version 3.0. Thus for the current version of 4.0b, the script will work just fine.


Ken's MWDX Corner

SEPTEMBER 2011


**TO USE MY AUTOHOTKEYS TEXT FILES FOR MW RECORDINGS (SEPT 2011):**

1. Download my PERSEUS OVERNIGHT RECORDING ESSENSIALS file (Approx 5Mb ZIP FILE)

2. Install Auto hotkeys software

3. Create two folders as follows - c:/perseus/perseus_new

4. Copy PSKILL.EXE into the "perseus_new" folder

5. Copy the .ahk text files into the "perseus_new" folder

6. Copy all the files from the current Perseus software into the "perseus_new" folder

7. Create a partition or rename a hard drive F, and create a folder F:/perseus files. (I have a space in this folder name).

And that's it. My text/ ahk files will work with any PC !!!!! If the files need to be modified, or other times and frequency spans, use notepad+ to edit them.


**CHANGING DRIVE LETTERS WITHIN WINDOWS XP:**

Various partition software packages exist for creating a partition on your drive, including Partition Magic. These apps also make it easy to change drive letters.

But the easiest way to change a drive letter is simply using Windows. No data is lost in the proccess, and it really is only a few simple clicks to change the drive letter assignment.

1: Right click "My Computer" and click on "Manage"



2. The Computer Management screen opens up. Click on Disk Management on the left hand pane.



3. A screen opens with the hard drives listed.

4. Right Click the drive which you wish to change to drive F, and click "Change Drive Letter and Paths". (NB: Do not rename your C Drive)



5. When the "Change Drive Letter" screen comes up, click on the "Change" comand.

6. Choose the letter "F" in the drop down box. (In the example I have chosen the letter W)

7. Click YES in the confirm / warning pop up screen.

8. After clicking YES, the Seagate drive in the example is now assigned the letter "W". It is that simple.

9. Close the disk / computer management screen, and the job is done.

**USING AUTOHOTKEYS FOR OVERNIGHT TIMED RECORDINGS (SEPTEMBER 2009):**

Auto hotkeys timer scripts use a single simple text file for every hour of the night that recording is required. eg I have files for 0300, 0400 etc. I keep two files, one records for 10m and the other only 3m.

Initially when a new version of the Perseus software was released, I had to change all the text files to accommodate the new folder containing the most recent software. I also initially kept the various Perseus releases on the desktop. It was when Davie up the road wanted a copy of the text files I had prepared that I realised the amount of changes that had to be made. If I kept the various releases of the Perseus software in the C drive, in a folder called perseus, and the latest software in a folder called perseus_new, then the path for the perseus.exe, and pskill.exe would always be the same. I don't normally like keeping anything other than the operating system on the main "C" drive, but in this case, the advantages of being able to share text files and not having to rewrite them with every release, are obvious.

Once a new release has been introduced, I simply take the old version and associated files, and rename the folder with the appropriate release name, eg "perseus 2.1d". The folder with the new version is then renamed "perseus_new" folder. All the .ahk text files for auto hotkeys are copied into the "perseus_new" folder, as is pskill.exe. The editable part of the text file will therefore still and always look exactly like the lines below. These appear around line 45 in the text files.

I must be truthful, and say that I had not really been using version 2.1f for timer recordings. Nico altered a couple of buttons, so the old script/ text files didn't work properly. (The Zoom control has moved, and the freq box has been altered). I had still been using 2.1d to record, and playing back on 2.1f. I am unsure if there was any disadvantage in doing this? Eg if there have been any noise floor improvements for wide band recordings made with 2.1f. I doubt it, as it all still sounds OK here.

Since September 2009 though, I have altered the script in the .ahk files to suit Perseus version, 2.1f, and into the bargain I have managed to get rid of the silly unwanted pop up

box that came up when you clicked the .ahk text files to activate them. I have enough pop up boxes on the web, without adding to the annoyance. I have also changed the destination folder names to the following format 2009.09.03 for example.

I still have to change the names of the folders using the above format, because the folder name is not made for the date when the recording is made, but rather the date the auto hotkeys files are activated. I have to look into this!! Before I retire for the evening, I make sure the previous day's folder has a b at the end of it incase the same folder name is created. If the folder names were not altered, the files within would be overwritten.

Using the file "getmousepos.ahk", it is possible to rewrite the scripts as buttons change in new releases of the Perseus software. As suggested in the file name, this gives the mouse position on the Perseus screen.

My centre frequency is now always 960kHz. This records 160 - 1760 kHz, taking in LW, MW and the beacons as well. In the case of tests on 17.2kHz from Sweden, I will alter one of the files to take in that the next test.

NB:I always keep my PC clock at GMT / UTC, and have the box on the PC clock about summertime unticked.

SAMPLE OF THE SCRIPT USED TO RUN THE AUTOHOTKEYS TIMER.

---------------------------------------------------------------------------------------

```
;-------------------------
; Parameters
;-------------------------
Starttime := 0656 ;This is the Starttime in 4 figures only in your local time (PC time)
Stoptime := 0706 ;Stoptime, as above
midfreq := "960" ;Center frequency
Bandwidth := 1600 ;Bandwidth. Set Bandwidth in kHz : 100,200,400,800 or 1600 kHz.
RecFile := "0700" ;Wav file name. Keep the file name very short AND DON'T USE UNDERSCORES !
Shutdown := "No" ;Put here "Yes" or "No" for shutdown PC after recording. Make sure that upper and lower case
characters are as in the example
;
;
;-------------------------
; Constants, edit these
; to fit with your system
;-------------------------
;
ToRun := "C:\perseus\perseus_new\perseus.exe" ;This is the Perseus Directory
WorkDir := "C:\perseus\perseus_new" ;This is the Work Directory, otherwise it will not find the files
BaseDir :="F:\perseus files" ;Root Directory for recording Files
PsKill := "C:\perseus\perseus_new\pskill.exe -t perseus.exe /accepteula" ;To kill hanging Perseus processes
```

----------------------------------------------------------------------------------------------

The destination drive and folder for the large recorded file in the example above is the "baseDir" line, (2nd from the bottom), which shows the destination as F:/perseus files. If like me, other users are always messing around and changing hard drives, you have to make sure any new drive bought / added is given the same drive letter as the previous one. Otherwise your text files will need to be all altered. A good piece of software to use for

changing drive letter quickly is Partition Magic. There are others, including Windows itself.

A quick check that pens or removable drives haven't suddenly been allocated the letter of the destination drive for the Perseus files can be advisable, especially if there have been drives moved and removed etc. Otherwise the recordings may not work.

Items that may require altering in the above example for other users:

**BaseDir**:

This is the local drive on the users PC that the Perseus files will be saved to. It may be the user does not have an F:/ partition to use, or the partition on his drive may be another letter, eg E:/, or it may need to be sent simply to C:/. It may be desirable to simply change the partition letter to F:/ rather than change all the text files, (if using my text files anyway)

**TIMES AND FILE NAMES**:

Remember when altering the text files to suit the various needs, to change not only the start and stop time, but also the file name. Otherwise, the same name will be used for a second file, if recording consecutive top of the hours. The second file will overwrite the first unless a different file name is used. I have been caught out with that before.

**IMPORTANT**:

If using the auto hotkeys toolbox from this site, and the text files, remember to change the folder name every morning, if you keep your files for any length of time. I add a "b" at the end. Otherwise they might get overwritten the following day. The folder name is created as the time the auto hotkeys files are activated, and not at the time of the recording. Therefore a folder named 09.09.24 is not necessary going to be for that day. It may have been set to record at sometime before midnight, resulting in the folder name created being for the previous day. I would rename the folder example above simply 09.09.24b. You might have to rename the date as well, depends in when the files were activated. I had to rename them anyway from the original auto hotkeys file names, so I could find files by date.

Ken's TADX Corner

SEPTEMBER 2009

# PERSEUS - A LIFE CHANGING RECEIVER
A site mainly dedicated to Mediumwave Dxing

==================================================================

PERSEUS HOME PAGE

### PRO'S AND CON'S OF A LIFE CHANGING DX RECEIVER
### SEPTEMBER 2009

PERSEUS BENEFITS - NEGATIVE ASPECTS - THIRD PARTY - AUTOHOTKEYS TIMER

## NEW TECHNIQUES IN MW DXING:

The complete guide to MW dxing has had to be rewritten since the advent of the Perseus SDR. The receiver is such a fantastic development, that as a keen MW dxer, I find it difficult to put into words, if you can believe that!!

Why the title of life changing receiver? Well it no longer means that during a serious dx night, we have to stay up all night. Often I used to want to stay at home on a Saturday night if I suspected the MW dxing was going to be good. Now we can record the band and listen through the recordings at a more respectable time which suits. The radio signals are still coming down through the dxer's antennas into the shack and into his receiver just the same. It is a bit like watching a movie on a Sunday, that was recorded on a VCR or DVD while the dxer was out the night before.

## A LITTLE BACKGROUND INFORMATION:

The PERSEUS SDR has now been on the dxing scene for two years. This revolutionary piece of radio kit has changed the habits of decades of dxing. Some 20 or 30 years ago some dxers were perhaps not quite as intense at serious MW dxing. I wasn't anyway, and went through phases. The main reason was simply that you had to be there live to operate the receivers. If the time of year was a Spring weekday morning or evening, the dx peak times were very unsocial, if the dxers had to be up for work in the morning.

During the mid 1990's when there were some great band conditions around, I would make passing comments to other dxers about the dream of being able to record the

full MW band at the peak time, and play it back somehow. This has been a dream of MW dxers for many many years.

Ironically when the dream became reality, some short sighted dxers saw this technology as the work of the devil!!! There were claims even from experienced dxers of "unfair" and "cheat". Exactly who this was supposedly unfair on was never specified though. But these gripers were in the minority. David Hamilton compared them to those preferring to be treated with leeches if they fell ill, rather than using the latest technology to their advantage.

Some even claimed *"That's not real dxing"*. Obviously some kind of sour grapes from those that don't have a Perseus. I wonder if they use stupid phrases like that when watching a movie which was recorded the night before. What do they say then? *"That's not really watching a movie??"*

It is fine I suppose if you have too much time on your hands and every day is a Saturday, and you can sleep all day and dx all night. I can't.

I used to think I was doing well to leave two receivers recording onto left and right channels of recording software overnight. This was after I finally decided that cool edit was a much more convenient option than manky old tapes!! During the peak times for DX, if the band was jumping one felt like a kid in a sweet shop with all the signals, but being limited to one channel at a time, it was difficult to choose. I don't know how I imagined the eventual ability to record the whole MW would be accomplished. Some years ago, I read about some experiments which were made using I.F. out, and VCR's etc for making wideband recordings. I don't think I had any concept of the idea that it would finally be accomplished with the aid of a PC. I had always seen computer equipment as noisy and non dx friendly as far as causing QRN goes. But now it is me and my PC, and the beloved Perseus SDR!!!

When I first heard of the Perseus, I couldn't really believe what I was reading. I had to have the spec confirmed by another well respected MW dxer to really believe that this was possible in late 2007. I immediately saw the benefits to a MW dxer if the receiver itself was up to it. And it was. With a capital W, also in Bold...!!! I managed to obtain the only one in the UK from Martin Lynch, which was the original sample SDR, and have never looked back. Initially the Perseus could record a whopping 400kHz of spectrum. This really equated to 500kHz if you used a few tricks.

Sometime later, Italian designer and supplier Nico doubled the frequency recording capabilities to 800kHz, which in reality was near enough 1mHz using the outer edges of the files. With some simple arithmetic calculations, this was very close to the desired 1200kHz between 520 and 1720.

But eventually, not to be outdone by anyone else, NICO produced the first ultimate MW dxers receiver and software by the Autumn of 2008, well ahead of anyone else. A full 1600kHz could now be recorded, which takes in not only MW, but LW as well, and obviously includes the NDB band (Beacons).

The 400 kHz was equivalent to a bank of 40 NRD 515s, and 40 tape decks. I well recall my light hearted graphic of such an imaginary pile up here in the shack. Obviously with 800kHz, and 1600kHz, the numbers of receivers increase. Imagine 120 receivers in a bank, recording all the North American MW channels at the one time!!!

(I would have had to have a good wide angled lens to get the full 120 all in the shot below!!)



## PRO - PERSEUS OVER A TRADITIONAL RECEIVER:

**1.** The main PRO of the Perseus SDR and probably main selling point for most, is the unique ability to record the complete MW band over the top of the hour in the middle of the night. Instead of being able to fish out a couple of ids around the top of the hour from a couple of receivers, you can have the whole AM band to check. This function and this alone sold the receiver for me, and I am sure a whole lot of other MW enthusiasts. If this function was not available, I would still be happily working with the NRD as my main rx.

**2.** Not part of the Perseus software, but thanks to the work of third parties, Perseus can be programmed to switch on and produce overnight recordings at the top of the hour for example. This function has proved to be the best piece of software that has become available since Perseus itself. I have been using "auto hotkeys" and the text files made up by Mathias in Germany since last season. Though initially confusing, once set up, the files only need to be clicked to activate them. I have a text file for every top of the hour. If truth be told I have two. One is 3minutes long and the other approx 10minutes long. Depends on the time of year, hard drive space left, band condx etc, I choose which file to use, 3m or 10m.

I also have the dual monitor system all on independent mains switches so that all that remains switched on at the mains is the tower of the PC and Perseus. This is to reduce QRN, as well as saving power of course. Any removable hard drives etc are all switched off, and disconnected during the nightime recording as well.

**3.** The use of a Perseus SDR for recording MW dx at the hour after dawn, really does highlight what the dawn enhancement period is all about. It shows us that stations

once thought of as good dx catches, really are quite regular. Who would have thought 1160 WYLL and 1000 WNVP could be classed as common, and rarely make a note of in the log book?? I once thought the band was superb in the mid 1980's when I had WJR for the first time. I thought it a good catch!! It also highlights the fact that everyone is on very different fades. It was a common belief once upon a time that if you lived in the same large geographical area as another dxer, chances were the same rare station would be heard on a specific night. This is not the case. It can be the case, but often the fades are so very very different.

## CONS - DRAWBACKS OF THE PERSEUS SDR

**1**. The biggest negative issues with the Perseus software are ironically in connection with the main selling point of the receiver, as far as MW dxer's are concerned, the record and playback function.

The tiny narrow playback bar is the first item with issues. If the dxer is using the record and playback function for any length of time, he will no doubt become frustrated by the tiny thin playback bar. Every time the mouse does not land quite bang on the playback bar, a deafening set of loud high pitched tones are heard through the loudspeakers. I use a 21 inch screen, so I don't know how anyone with a smaller screen copes.



Personally I feel that if the playback bar was **at least** twice it's current width, this problem would all but disappear. (But perhaps the bug that causes the deafening tones in the software to begin with could at some point also be addressed. Seems to be some kind of a "live" area around the playback bar that should be a dead area??)

There is also an annoying repeat function on the tiny playback bar, which often gives the impression of the software sticking. This is not the case, and it is simply playing back a tiny portion of the file over and over again, caused by miniscule hand movements while clicking on the very narrow playback bar. A thicker playback bar would also help this bug, but addressing the root of the problem may be the better

option. eg somehow setting a minimum repeat limit, so that a time far too short for the human ear is not included as a possibility in the repeat function. The repeat function is in itself a superb feature of the playback bar. Useful for repeating a station with a weak id. It just requires a little fine tuning.

**UPDATE**: This very negative issue of a howling playback bar was finally addressed about two years after it appeared, with BETA 3.0A version, in mid 2010. The playback bar is still the same width though.

**2**. Lack of navigation in multiple sets of files is also a major issue to MW and Tropical band dxers alike. If one is browsing through a file, by clicking near the end of the file on the playback bar, the perseus player will move to the next file in series - flawlessly. This is not possible in a backwards motion. To move back a file one needs to click file, browse, then find the file required. The frequency then moves back to the centre frequency of the file, and not the frequency being listened to. It therefore becomes a task when playing back something that is near the point of the file changeover.

There have been various calls for help from mw dxers in the past for these few small improvements in the file navigation of the software. These calls I have to agree with, and feel they are more important than any gimmicky items.

There is a feeling of spoiling the most useful and innovative piece of radio kit and software ever, for the sake of a few small improvements.

Some suggestions include new buttons for "forward 5 seconds", "back 5 seconds", "pause", "next file", "previous file".

I produced a so called "photo shopped" version some months back to see if it would be noticed.



**OTHER DRAWBACKS OF PERSEUS SDR:**

TIMEOUT SOFTWARE: Many dxers have big issues with silly timeout software used by MICROTELECOM. No wonder. Who expects to pay £700 for a receiver and suddenly find that the software has timed out!!! Pro users that require 100% reliability would be put off by this type of negative issue. Not good for sales and marketing. One user in the Perseus group had expected to have to do a 250 mile round trip to see to the timeout problem!! His Perseus was at a remote location.

I am unsure if I can think of any other drawbacks. Some dxers use the memory banks, but I find them to be much slower than simply using the mouse wheel to qsy. Until the time when a separate memory box pops up, I think the memories will be much too slow for my own use. I can imagine in my head, clicking on the MEM BOX and a separate window pops up, and mouse over that box allows the turn of the wheel to spins through the memories at a fast rate, like in traditional radio's. (The memories on the NRD 545 can be spun through very fast for example)

There was one thing I did notice with the .dat files the memory banks create. Spysweeper picked them up as a threat, called "back door hack door". Whether this is one of the times that cleaners and security software are seen as being a little over enthusiastic, or whether there is some other explanation, I have no idea.

Many use the Perseus in conjunction with ham sets, but for ham operation I am happy with the little Yaesu. For me, the ham call is merely for nattering on top band to some friends. I honestly have no idea about that side of the hobby when it comes to using an SDR in conjunction with transmitters.


## DRAWBACKS OF SOME THIRD PARTY SOFTWARE:

I have tried repeatedly to use the excellent Perseus Wave Chopper from Chuck in the States, but every time has failed. It requires some extra .net framework software to run, and although I gave it a try with a .net framework (large 237 meg) download, I never had any success. This was because my main PC will never be on line. I have a dedicated web PC, and despite the download, the software still required "something" else off the web. Well you can't have everything. So every time I need a wave file "chopped", I have to go visit David H up the road!!

Some other third party software also "assume" the user is ONLINE with his Perseus PC, and require .net framework etc.


## USING AUTOHOTKEYS FOR OVERNIGHT TIMED RECORDINGS:

Initially when a new version of the Perseus software was released, I had to change all the text files to accommodate the new folder containing the most recent software. I also initially kept the various Perseus releases on the desktop. It was when Davie up the road wanted a copy of the text files I had prepared that I realised the amount of changes that had to be made. If I kept the various releases of the Perseus software in the C drive, in a folder called perseus, and the latest software in a folder called perseus_new, then the path for the perseus.exe, and pskill.exe would always be the

same. I don't normally like keeping anything other than the operating system on the main "C" drive, but in this case, the advantages of being able to share text files and not having to rewrite them with every release, are obvious.

Once a new release has been introduced, I simply take the old version and associated files, and rename the folder with the appropriate release name, eg "perseus 2.1d". The folder with the new version is then renamed "perseus_new" folder. All the .ahk text files for autohotkeys are copied into the "perseus_new" folder, as is pskill.exe. The editable part of the text file will therefore still and always look exactly like the lines below. These appear around line 45 in the text files.

I must be truthful, and say that I had not really been using version 2.1f for timer recordings. Nico altered a couple of buttons, so the old script/ text files didn't work properly. (The Zoom control has moved, and the freq box has been altered). I had still been using 2.1d to record, and playing back on 2.1f. I am unsure if there was any disadvantage in doing this? Eg if there have been any noise floor improvements for wide band recordings made with 2.1f. I doubt it, as it all still sounds OK here.

Since September 2009 though, I have altered the script in the .ahk files to suit Perseus version, 2.1f, and into the bargain I have managed to get rid of the silly unwanted pop up box that came up when you clicked the .ahk text files to activate them. I have enough pop up boxes on the web, without adding to the annoyance. I have also changed the destination folder names to the following format 2009.09.03 for example.

I still have to change the names of the folders using the above format, because the folder name is not made for the date when the recording is made, but rather the date the autohotkeys files are activated. I have to look into this!! Before I retire for the evening, I make sure the previous day's folder has a b at the end of it incase the same folder name is created. If the folder names were not altered, the files within would be overwritten.

Using the file "getmousepos.ahk", it is possible to rewrite the scripts as buttons change in new releases of the Perseus software. As suggested in the file name, this gives the mouse position on the Perseus screen.

My centre frequency is now always 960kHz. This records 160 - 1760 kHz, taking in LW, MW and the beacons as well. In the case of tests on 17.2kHz from Sweden, I will alter one of the files to take in that the next test.

NB:I always keep my PC clock at GMT / UTC, and have the box on the PC clock about summertime unticked.


SAMPLE OF THE SCRIPT USED TO RUN THE AUTOHOTKEYS TIMER.

```
--------------------------------------------------------------------------------

;--------------------------
; Parameters
;--------------------------
Starttime := 0656 ;This is the Starttime in 4 figures only in your local time (PC time)
```

```
Stoptime := 0706 ;Stoptime, as above
midfreq := "960" ;Center frequency
Bandwidth := 1600 ;Bandwidth. Set Bandwidth in kHz : 100,200,400,800 or 1600 kHz.
RecFile := "0700" ;Wav file name. Keep the file name very short AND DON'T USE UNDERSCORES !
Shutdown := "No" ;Put here "Yes" or "No" for shutdown PC after recording. Make sure that upper and lower
case characters are as in the example
;
;
;-------------------------
; Constants, edit these
; to fit with your system
;-------------------------
;
ToRun := "C:\perseus\perseus_new\perseus.exe" ;This is the Perseus Directory
WorkDir := "C:\perseus\perseus_new" ;This is the Work Directory, otherwise it will not find the files
BaseDir :="F:\perseus files" ;Root Directory for recording Files
PsKill := "C:\perseus\perseus_new\pskill.exe -t perseus.exe /accepteula" ;To kill hanging Perseus processes
```

-------------------------------------------------------------------------------------------------

The destination drive and folder for the large recorded file in the example above is the "baseDir" line, (2nd from the bottom), which shows the destination as F:/perseus files. If like me, other users are always messing around and changing hard drives, you have to make sure any new drive bought / added is given the same drive letter as the previous one. Otherwise your text files will need to be all altered. A good piece of software to use for changing drive letter quickly is Partition Magic. There are others, including Windows itself.

A quick check that pens or removable drives haven't suddenly been allocated the letter of the destination drive for the Perseus files can be advisable, especially if there have been drives moved and removed etc. Otherwise the recordings may not work.

Items that may require altering in the above example for other users:

**BaseDir:**

This is the local drive on the users PC that the Perseus files will be saved to. It may be the user does not have an F:/ partition to use, or the partition on his drive may be another letter, eg E:/, or it may need to be sent simply to C:/. It may be desirable to simply change the partition letter to F:/ rather than change all the text files, (if using my text files anyway)

**TIMES AND FILE NAMES:**

Remember when altering the text files to suit the various needs, to change not only the start and stop time, but also the file name. Otherwise, the same name will be used for a second file, if recording consecutive top of the hours. The second file will

overwrite the first unless a different file name is used. I have been caught out with that before.

**IMPORTANT**:

If using the autohotkeys toolbox from this site, and the text files, remember to change the folder name every morning, if you keep your files for any length of time. I add a "b" at the end. Otherwise they might get overwritten the following day. The folder name is created as the time the autohotkeys files are activated, and not at the time of the recording. Therefore a folder named 09.09.24 is not necessary going to be for that day. It may have been set to record at sometime before midnight, resulting in the folder name created being for the previous day. I would rename the folder example above simply 09.09.24b. You might have to rename the date as well, depends in when the files were activated. I had to rename them anyway from the original autohotkeys file names, so I could find files by date.

**TO USE MY AUTOHOTKEYS TEXT FILES FOR MW RECORDINGS**:

1. Download my Autohotkeys Toolbox (4,148k RAR File, Req Winrar)

2. Install Autohotkeys software

3. Create two folders as follows - c:/perseus/perseus_new

4. Copy PSKILL.EXE into the "perseus_new" folder

5. Copy the .ahk text files into the "perseus_new" folder

6. Copy all the files from the current Perseus software into the "perseus_new" folder

7. Create a partition or rename a hard drive F, and create a folder F:/perseus files
(I have a space in this folder name)

And that's it. My text/ ahk files will work with any PC !!!!! If the files need to be modified, or other times and frequency spans, use notepad+ to edit them.

Ken's TADX Corner

SEPTEMBER 2009

# PERSEUS SDR TIPS & TRICKS
A site mainly dedicated to Mediumwave Dxing

All DX Logs  -  FM / TV DX  -  Perseus / Equipment  -  Audio Downloads  -  Other Items  -  DX chat     Contact

================================================================

PERSEUS HOME PAGE

In this page, I am going to include as many little titbits and tricks for keeping the Perseus running smoothly. Some of them are copied straight from my monthly logs and news pages, and others will be added if and when something new comes to light, or is remembered, or suggested and shared by others.

NB: The tips below come from a couple of years experience with Perseus and a PC which is only just within spec, and really may be outwith the spec for 1600kHz recordings. Some tips are designed around reducing system resource drain. Many users will find some of these tips irrelevant if they run the latest dual or quad core chips.

The tips also come from a couple of years dxing on MW only. I have had virtually no experience of using the Perseus on SW, where I tend to use other receivers for casual listening.

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10. CREATE A TIME LAPSE PERSEUS SCREEN CAPTURE:

09. SAVE A PERSEUS SCREEN CAPTURE:

08. REDUCE CPU USAGE DURING PLAYBACK:

07. AUTOHOTKEYS RECORDING TIMES:

06. WHEN THE PERSEUS SOFTWARE WILL NOT TUNE DOWNWARDS DURING LIVE DXING:

05. WHEN PERSEUS SOFTWARE STUTTERS AND STUTTERS ON 2000KHZ SAMPLING:

04. MOVING A WINDOW ON A DUAL MONITOR GRAPHICS CARD, BACK TO THE MAIN SCREEN:

03. PERSEUS OVERLOADING WITH AN EXTERNAL PREAMP:

02. WHAT SIZE OF RECORDED FILES DOES PERSEUS CREATE?

01. PERSEUS USER SETTINGS (FROM MY SEPT 2009 PAGE):

## 19. PERSEUS SOFTWARE CORRUPTION AGAIN, SEE 15:

As stated before, (eg in 15. or 05. and 06.) the software can sometimes become corrupt to a fashion. As also stated before, this is absolutely not a problem, but simply a curiosity.

The corruption is always easily cured by clicking from 2000kHz sample rate, to any of the other sample rates, and back again. This clears many similar types of problems. It may possibly be that this happens when other applications are being run on the PC at the same time. I don't know. I seem to remember the centre button also cured this one time.

But I had a weird one in late November 2009. I had been recording a top of the hour, and just switched off. I restarted perseus maybe, or maybe it was still running. I tuned around 1575 and noticed a loud beacon I had not heard before. It struck me as odd, and decided it probably was the occasional corruption that happens. So I tried recording. And amazingly, the record button never cleared anything, and I managed to get a recording of the complete MW band for a few mins, with beacons from LW at the hf end of MW, mixing around the normal stations, There were also a few big signals where they shouldnt be around 1720. This was easy to fix once I stopped recording. A simple click on the lower values of sampling, and back again to 2000, and the ghost images were completely gone. I was rather surprised that I managed a recording.

An interesting one.

## 18. PERSEUS DRIVERS:

The drivers of Perseus are available on the Microtelecom web site at the following address.

http://microtelecom.it/private/PerseusDrivers.zip

They are not generally advertised as available, although in the Yahoo group they are made public.

## 17. SHARING PERSEUS FILES ON LINE - MONKEYS AUDIO COMPRESSION:

There are a few sites on the web where big Perseus files can be downloaded. Guy Atkin's site has a great collection. There should be no reason to have to endure really long downloads of big Perseus files, when a simple clutter free, cost free, and very small piece of software called "Monkey's Audio" can compress and decompress the large Perseus .wav file into a file less than half, sometimes much more, of it's original size. I don't have to tell you about the broadband speeds in country areas do I?? Not everyone has the very fast speeds of the cities. Into the bargain, the initial upload will in most cases be slower. Broadband companies deliberately limit upload speeds to around 30k/s at the time of writing.

I did read some negative reaction on line for using this method, although I could see no reason for this unexpected response. The unzipped file is identical to the original file, so where's the problem, if it saves many hours of download time? The software is simple, small, free of clutter and spyware, and free from silly resource grabbing start up stuff. Do you think I would use it if it was any other way. It is also free.

I wrote the following in May 2009.

MONKEY'S AUDIO COMPRESSION:

I have been trying out Monkey's Audio on Perseus files. Thanks to a detailed pdf file by Elio Corbolante on the Perseus group.

I have tested one of my own files which I have on line. The original file size is 273meg. WINZIP took it only to 211meg at max compression. WINRAR was similar.

Monkey's audio reduced the file size to took it down to 109 meg using "Extra High" compression.

"Insane" takes it down further to 97meg!!

Bjarne's 929 meg file was reduced to 226 meg!!!! Dare I use the phrase amazing again?? I may be easily impressed, but such a compression ratio is surely a great benefit to wideband file sharing.

Incidentally, I have also tried recording a normal .wav file. This was a single source of the station on 1512. I left it running about 3 hours. The original .wav was over a gig.

Monkey's Audio made a .ape file of about 230 meg, while an old MP3 programme called Audio Catalyst I use (set at flat out variable bitrate) produced a final file of only 56 meg. So clearly Monkey's Audio is better suited to the Perseus wideband audio files!!

Check it out at <www.monkeysaudio.com>

**NB**: A .ape file requires the software to be installed to decompress. It is only a small piece of safe software, and the compression rate really helps us guys out in the sticks with slower broadband speeds. The .wav file is rebuilt exactly as it was when it was compressed.

## 16. PERSEUS WITH RPA-1 PREAMP:

I have tried different combinations of my main beverage antenna with the RPA1 preamp. I have found that even in the European evening when the Euros are exceptionally strong, I have somewhat better results with the preamp in line as follows.

Amp on, Perseus 10dB att on. This gives just a little boost to signals, especially on X Band (1600 -1700) which can be a little noisy in the early evening. If I do not use the Perseus ATT, there is a bit of noise from overloading. I also have to include a balun at the shack, even though there is a balun at the feed point of the antenna. This reduces noise and seems to somehow produce a better match. Don't ask me for the scientific reasons. I just know it works.

It has the edge over perseus with no preamp, and 10db off.

In the mornings, I have best results with the preamp on. On the winter's mornings when doing the tests, the amp is best on. There is no need for the 10dB Perseus att, as the strong Euros have diminished in strength. My locals don't seem to give me too much trouble.

OK, this set up will be unique to my antenna maybe, and be of limited use to other dxers, but I feel the experiences should be reported, incase other dxers can make some sort of use of the text The antenna starts at the shack, with a 200m length of coax cable before the aerial begins. The beverage is a 500m cable, up on approx 7 foot sticks, through dense woodlands. None of which is ideal, but a better option than a lot of folks in the city, and much higher signal levels are achieved than with an EWE type antenna. On the down side, there is no brick wall stopping the strong Euros giving grief, especially 675 these days. (I am sure Arrow Classic Rock never had that signal!!)

## 15. STRANGE SEEMINGLY SPURIOUS SIGNALS APPEARING WHERE THEY SHOULDN'T:

I have seen some odd signals appearing off channel, in places one would not normally expect to find any signals. Eg 10/11/09 I had something on 929, off channel, alongside the station on 927. Both were loud, clear, and not like overloading. I switched off the

preamp I was using, but the stations were both still there. I tried the attenuator on the Perseus, but the unknown signals were still there.

Solution: Like 5 and 6 below, flick from full 2000kHz bandwidth to any of the other sampling rate, and back to 2000kHz. Unknown image gone. Once I clicked the "centre" button and it disappeared too. Therefore just a little corruption on the software, nothing to worry about.

This has happened a few times, oh, maybe three or four times during use, and is not regarded as a problem.

## 14. RECORDED FILE NAMES

I have read questions about the file names created by Perseus. They can sometimes be a little confusing. If you were to write a long winded file name with underscores etc, chances are the file would not record with that name, but of a much shorted version of it. Eg xxxx_xxxxxx_xxxxxx would probably be cut off at the first underscore and become xxxx_001.

Sometimes a file has been known to be created outside the folder of choice, if the folder has been renamed with underscores. The original file name is lost, and the file name taken from the folder name instead.

I was advised not to use underscores in any folder or file names, or at least during recording.

I keep my file names to simply the hour, eg 0900, or 0300. If the software requires a new file for say a 10m recording, the file names become 0300_001.wav etc. Files are kept within a folder, which is dated.

NB: After recording, the files can be renamed to anything, and they will playback just fine. The initial recording is the only time there is some kind of a bug in the file name structure.

## 13. MW DXING - USB OR LSB?

For MW dxing, what is the best mode to use? AM? SAM? USB or LSB. To be truthful, the SAM button is little different from the normal AM. Maybe on a busy channel, it will have a marginally better sound, but I wouldn't like to be put to the test.

But USB and LSB both bring out the audio on weaker signals. But which one?? Traditionally, dxers have used the sideband farthest away from the usually stronger Euro, eg on 710, LSB would be used. But the obvious is not always the best option. I am finding it is best to try both. Some stations seem much more intelligable on one or the other. Some, such as 1630 La Grande can be completely one sided!! IE SSB +

carrier. Others I have no explanation for.

790 produced a station in RI, identifiable not in LSB, away from strong Irish signals, but in USB, using a wide notch, and wide bandwidth!!

In October and November 2009, 1590 was clear from the German jamming transmitter for a time. The stations heard during this period of grace, were all best on USB.

## 12. MORE WINDOWS FINE TUNING:

Many DXers probably fine tune Windows in the fashion I am about to describe, many may not, and run the default settings from day 1.

To make Windows XP more responsive and less greedy on system resources, there are a handful of windows adjustments that can make a difference.

TO SPEED UP MACHINE RESPONSE:

Right click "My Computer" and click "Properties" (Not a shortcut to my computer)

Click "Advanced"

Click "Settings" in the "Performance" section

Leave only "Use common tasks in folders" ticked

This will make the PC look like Windows 2000 / M.E. again, but it does become more responsive. So unless you like the big baby style colouring of XP, there is nothing to lose.

TO SPEED UP FOLDER ACCESS etc:

On hard drive properties (My Computer, right click for example c:/ and click properties)

Untick "allow indexing service to index this disk for fast file searching"

Apply and if any errors show, click ignore.

This will stop indexing running in the background

ALSO APPLY THE FOLLOWING:

In "My Computer" - "Tools" - "Folder options" - "View"

untick "show pop up description for folder and desktop items"

## 11. SWITCH OFF ALL UNNECESSARY SOFTWARE WHICH IS RUNNING AT WINDOWS START UP:

The Perseus software will run a lot smoother is the system is running smoothly.

On of the first things I do if repairing anyone's PC is to switch off all the ridiculous crap that comes on at start up along with modern software. This includes all the silly yahoo and google rubbish that some free software tries to install. It also includes the unbelievable amount of unwanted rubbish that some folks throw in along with their thirty quid printer drivers. It can be difficult to find a driver only install these days with a modern printer.

Here are just some common applications I see running at system start up. All of these can be switched off easily to ease system resources. Microsoft Office, Adobe applications inc Acrotobat, Photoshop etc, HP/ Epson/ Brother/ Canon etc freebie printer software that is bundled with printers, Nero, Macromedia, Quick Time, and just about every other modern piece of software you can think of. Mobile phone software also comes into this category.

MSN is one of the worst offenders if I am given a PC for repair that youngsters use. All their associated mess that takes I don't know how long to fire up at boot up is such an annoyance, and one which I would have to find ways around if it were my own machine.

For some unknown and ridiculous reason, modern applications all seem to be written to run at system start up, and stay running. They also always want to log on to their home web sites to look for upgrades!! The more icons you have active on the system tray to the left of the clock, the slower the PC will become.

It is for this reason that I have a dedicated web PC with nothing on it bar the bare essentials for the web. My main PC is never, and will never be connected to the outside world.

To switch off applications at start up, use the old tried and tested MSCONFIG command.

1. On the start menu, locate RUN

2. Type MSCONFIG in the RUN box.

3. Click STARTUP. In the example below, it is 2nd from the right.

4. Untick most of the items, leaving anything that looks to be relating to Anti Virus, if you are on line with that PC. Untick especially software applications start up stuff.

**Run**

Type the name of a program, folder, document, or Internet resource, and Windows will open it for you.

Open: | msconfig

OK    Cancel    Browse...

---

**System Configuration Utility**

General | SYSTEM.INI | WIN.INI | BOOT.INI | Services | Startup | Tools

Startup Selection

○ Normal Startup - load all device drivers and services

○ Diagnostic Startup - load basic devices and services only

◉ Selective Startup

    ☑ Process SYSTEM.INI File

    ☑ Process WIN.INI File

    ☑ Load System Services

    ☑ Load Startup Items

    ◉ Use Original BOOT.INI  ○ Use Modified BOOT.INI

Launch System Restore    Expand File...

OK    Cancel    Apply    Help

---

**System Configuration Utility**

General | SYSTEM.INI | WIN.INI | BOOT.INI | Services | Startup | Tools

| Startup Item | Command | Location |
|---|---|---|
| ☑ TCLOCKEX | C:\Program Files\TClockEx\TCLOCKEX.EXE | HKCU\SOF |
| ☑ Adobe Gamma Loader | C:\PROGRA~1\COMMON~1\Adobe\CALIBR~1\ADOBEG~1.EXE | Common S |
| ☐ Acrotray | "C:\Program Files\Adobe\Acrobat 9.0\Acrobat\Acrotray.exe" | SOFTWAF |
| ☐ Acrobat_sl | "C:\Program Files\Adobe\Acrobat 9.0\Acrobat\Acrobat_sl.exe" | SOFTWAF |
| ☐ dumprep 0 -k | %systemroot%\system32\dumprep 0 -k | SOFTWAF |
| ☐ NeroCheck | C:\WINDOWS\system32\NeroCheck.exe | SOFTWAF |
| ☐ PSDrvCheck | C:\WINDOWS\system32\PSDrvCheck.exe -CheckReg | SOFTWAF |
| ☐ qttask | "C:\Program Files\QuickTime\qttask.exe" -atboottime | SOFTWAF |
| ☐ RunDll32 sbusbdll | RunDll32 sbusbdll.dll,RCMonitor | SOFTWAF |
| ☐ Winampa | "C:\Program Files\Winamp\Winampa.exe" | SOFTWAF |
| ☐ Acrobat Assistant | C:\PROGRA~1\Adobe\ACROBA~2.0\Distillr\acrotray.exe | Common S |
| ☐ Adobe Reader Spe... | C:\PROGRA~1\Adobe\ACROBA~1.0\Reader\READER~1.EXE | Common S |

Enable All    Disable All

Close    Cancel    Apply    Help

## 1O. CREATE A TIME LAPSE PERSEUS SCREEN CAPTURE:

To create a screen shot of the carriers on one frequency like the ones I have on this site in my screen shot pages, try the following:

1. Set the Perseus to the frequency desired on AM

2. Set bandwidth to narrowest, 0.8kHz

3. Click the Zoom button

4. Click the SPAN setting (Below freq) to read 0.049/ 0.06

5. Run away and do something else for about 45 minutes. This is a slow proccess!!!!

Click here to see some of my examples

## 9. SAVE A PERSEUS SCREEN CAPTURE:

Many dxers may be unaware of the simple old windows way to create a jpg of a screen capture of the current open window. This has been available for many years now with Windows, maybe even since WIN 95, or before??

1. Hold "ALT" and press "Print Scrn" ("ALT" - Left of spacebar on standard keyboards, "Print Scrn" - Right of F12 on standard keyboards). This produces a screen shot and stores the jpg in the clipboard.

2. Open any paint shop application, and press paste. (Eg Paint Shop Pro, Photoshop, Windows Paint, or any cluttered rubbish that comes free with camera or printer drivers).

3. Then you can simply go to "file" "save as".

There are countless other screen grab applications available, but this simple little one has been built into windows since the years dot.

NB: Holding the Print Scrn button itself on a dual monitor system gives a wide image the size of the complete desktop. The Alt/ Print Scrn command produces only the window which is at the front, eg if Perseus is on top, the shot will be only of the Perseus
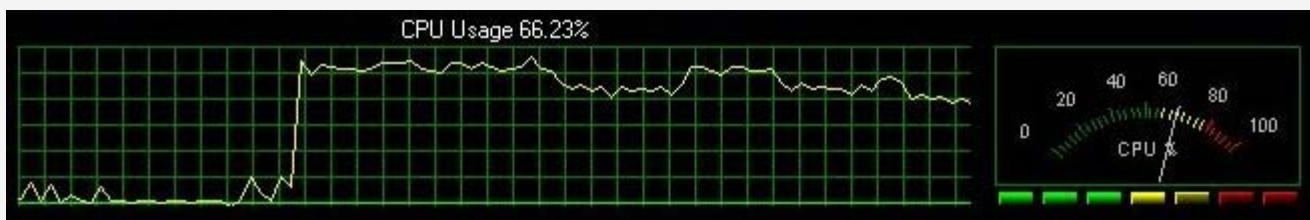
## 8. REDUCE CPU USAGE DURING PLAYBACK:

We all like to see the carriers on screen in waterfall mode. But if anyone is using a PC that is only just within the spec required to run Perseus flat out, you may have noticed the struggle to switch from AM to USB, to LSB and back to AM during playback of a 2000kHz file. Mathias and his Autohotkeys timer was quick to notice that if the zoom feature was activated on the waterfall during record, and the bandwidth set to minimum, the CPU load was drastically reduced. This has been used successfully here since Autohotkeys was introduced to Perseus users.

There is not a lot of difference between the waterfall mode and the Spect mode in the narrow bandwidth setting. But when recording, if the dxer wishes to listen live at the same time, the bandwidth will obviously have to be increased to allow signals to be heard. But the CPU usage will increase, and if like my own PC, the system sometimes starts struggling, I have an answer.

1. Use AM for a start. Do not switch to USB or LSB while the software is making the recording. This can result in stuttering, or even a hang up.

2. Switch to Spect mode, not waterfall. Use the zoom and "freeze" the dancing wave by activating the "AVG Main" button, below the "USB" button. Move the lever to flat out, if you are distracted by the exceptional movement on screen using this function. The load on the CPU is much reduced at this bandwidth in Spect mode, than on the waterfall mode. See the images below. This extra spare CPU power is just enough to allow switching from USB to LSB to AM without the long pause or even complete hang up.

It is a pity the main screen can not be disabled altogether during recording, when not in use.



Waterfall Mode



Spect Mode

## 7. AUTOHOTKEYS RECORDING TIMES:

One tip which catches me out time and time again, is the setting of a record time, which ends up bang on the top of the hour. This is such a pest, as the Perseus navigation does not allow (so far at the time of writing) to go back 5s or so.

Therefore to go back to listen 5 seconds back, one has to browse for the previous file, and find the frequency again, and find the place on the file, just before the change. It has been hoped for about a year now, (written Nov 09) that this navigation problem in the playback function, will be addressed. After all, for MW dxers, the selling point of the receiver is the unique ability to be able to record the whole MW band.

So to overcome the changeover at the top of the hour, simply set the record time so that there is at least a minute either side of the top of the hour. (The time when most stations will identify themselves). Eg a 5m recording should be set to come on say at xx56, not xx55!!

## 6. WHEN THE PERSEUS SOFTWARE WILL NOT TUNE DOWNWARDS DURING LIVE DXING:

Sometimes I have had the Perseus receiver mysteriously stop mid way on the MW band, when tuning downwards, using version 2.1f at 2000kHz sampling rate. It stopped just before I wrote this at 780kHz, and wouldn't move any farther down. It will tune upwards in freq, but NOT down below 780, as in the example. I don't recall if it happens to stop at random frequencies, or only 780. I neither recall whether this happened with any other versions. There is a simple solution. Switch from 2000kHz sampling rate, to 1000, or in fact any of the other sampling rates, and then back again to 2000. Cured!!

## 5. WHEN PERSEUS SOFTWARE STUTTERS AND STUTTERS ON 2000KHZ SAMPLING:

Sometimes if I have been using a lot of other software applications, I have a bit of trouble running the Perseus software. Sometimes as above, switching from 2000kHz sampling rate, to 1000, or in fact any of the other sampling rates, and then back again to 2000 will help, or even cure the problem.
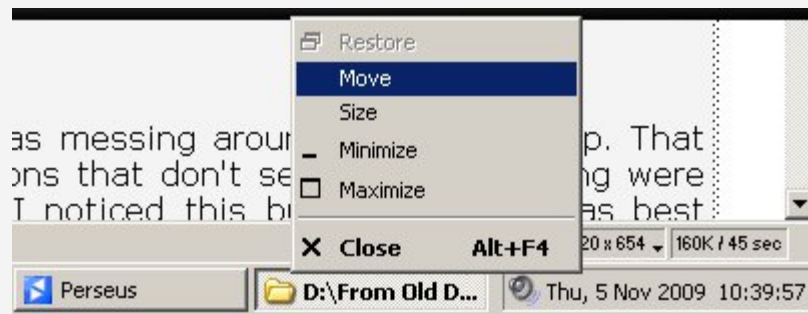
NB: Bear in mind that I am using a 2.8g single core Athlon, 1g Ram. The spec for the Perseus at 2000kHz sampling rate, is at least a dual core proccessor. I am only just managing to run the Perseus at full bandwidth with my PC.

**4. MOVING A WINDOW ON A DUAL MONITOR GRAPHICS CARD, BACK TO THE MAIN SCREEN:**

Someone on the Perseus group some time ago was using a PC with one monitor at a seminar, when he lost the Perseus screen, as it was automatically opening up on his screen two, which wasn't plugged in. There is a simple answer to save looking through all the settings, especially if you are unsure where to look. The fix is this:

1. Open the Perseus Software (This works for any window that is open on screen two, even a windows explorer window)

2. Right click the missing window on the taslbar at the bottom of the screen.

3. Click on MOVE

4. Without touching a mouse button, press one of the four arrow keys on the keyboard (Any one works)

5. Still do not touch the mouse buttons, and drag the mouse to the left (or right as the case may be) and the hidden screen will appear.


Right click, then hit move

I use this tip all the time, as I use a dual screen system, but screen two can cause some rf interference, so it gets switched off while dxing!!!

**3. PERSEUS OVERLOADING WITH AN EXTERNAL PREAMP:**

I noticed a bit of overloading one day with the Perseus, when I was messing around with a pre-amp. That wasn't there before, but I happened to notice that the three functions that don't seem to do anything were switched on. The preamp is one of them, and for the first time, I noticed this built in preamp was best switched off, and the problem immediately vanished.

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## 2. WHAT SIZE OF RECORDED FILES DOES PERSEUS CREATE?

The Perseus SDR creates large files when recording wideband. What size are the files?

At 2000/ 1600kHz a 1m file is 468,749k

At 2000/ 1600kHz a 4m file is 1.875g (Ideal for putting 2 short files on a standard DVD)
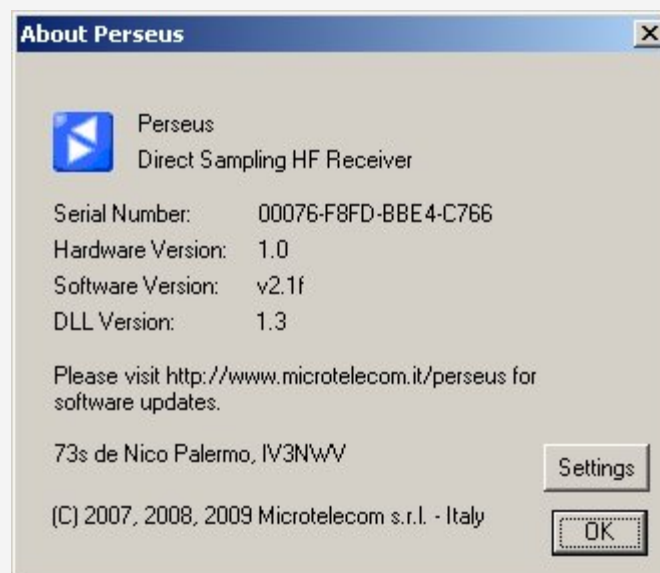
At 2000/ 1600kHz a 5m file is 2.343g

At 2000/ 1600kHz a max 8m file is 3.750g (Nearly the size of a standard dvd)

## 1. PERSEUS USER SETTINGS (FROM MY SEPT 2009 PAGE):

I was reading the Perseus Yahoo group yesterday when I saw some questions asked about the user settings on the Persus, and in particular the AM high pass filter. It seems not all users are aware of the difference this makes to the audio.

This can be set to suit the speaker set up used and the listener's ear. A high setting of 500 gives extremely tinny, cheap nasty sounding audio. The setting of 100 is the default setting, and is OK, but try reducing the setting to 30, or 25, and see the results. AM sounding as AM should sound. It has a nice LF response, like the "Orban Optimod" sound. Try it. If you have the Perseus plugged into a decent set of hi fi speakers, it will sound awesome. If you use the tinny little speakers you get for a tenner with a PC, you may well set them on fire though ...lol... I personally use 15 inch woofers in the old band / disco speakers I have, so the lf response is nice!!

Click the blue icon on the top left of the Perseus screen to open the dialogue box.



Once this box is opened, click settings

**Perseus Settings**

| | | | |
|---|---|---|---|
| Audio Latency | 9 [4..20] | VB Filter Taps (*) | 512 [32..512] |
| Reverse Mouse Wheel | 0 [0..1] | AGC Rise Time | 25 [5..100] |
| Record Time (125 kHz) | 15 [1..80] | AM HighPass Filter | 25 [5..500] |
| Record Time (250 kHz) | 15 [1..40] | AM Post AGC | 0 [0..1] |
| Record Time (500 kHz) | 15 [1..20] | AGC Threshold | 2 [0..1000] |
| Record Time (1 MHz) | 10 [1..10] | CW Note Pitch | 600 [300..3000] |
| Record Time (2 MHz) | 5 [1..8] | RTTY Note Pitch | 1360 [300..3000] |
| Virtual COM Port | 10 [1..255] | Levels bar position | C  Left,Center,Right |

(*) Requires program restart.     Restore default values     Apply changes     Close

AM high pass filter is on the right column