

User's Manual

version 2.2





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1 About *PCR AnyWhere*

PCR AnyWhere is an application to remotely manage receivers of the type Icom IC-PCR and IC-R. This application is compatible with the following devices:

- ◆ Icom IC-PCR100
- ◆ Icom IC-PCR1000
- ◆ Icom IC-PCR1500 / IC-R1500
- ◆ Icom IC-PCR2500 / IC-R2500

Some of the functionalities of PCR AnyWhere are the following:

- ◆ Local or remote operation of the receivers
- ◆ User friendly interface of the main functions of the supported Icom receivers
- ◆ Support to manage multiple receivers connected to the same computer
- ◆ Support to listen to the activity on a receiver that is used by other person
- ◆ Support of user profiles and access restrictions by specified hours
- ◆ Based on pure HTTP protocol with no need to use audio streaming
- ◆ Works under Windows, Linux, Mac OS X and some ARM based microcomputers.

There are two different types of users of **PCR AnyWhere**. One is the owner of one or more receivers of any of the supported models who desires to manage them and eventually share them through the network. The other type of user is someone with no receiver, who accesses remotely a shared installation over the Internet.

This manual is intended for both types of users. The first five chapters correspond to the installation and configuration of the software on a computer that is directly attached to the receiver(s). So, they must be followed only by the owner of Icom receivers. The rest of the chapters describe the functionalities of the control software itself and are intended for all the users, either accessing locally or remotely. In the second case, no software needs to be installed.



2 Requirements

2.1 Supported receiver models

PCR AnyWhere is compatible with the following Icom PCR or R series receivers:

- ◆ Icom IC-PCR100
- ◆ Icom IC-PCR1000
- ◆ Icom IC-PCR1500 / Icom IC-R1500
- ◆ Icom IC-PCR2500 / Icom IC-R2500

2.2 Hardware requirements

The following are the minimum hardware requirements to run **PCR AnyWhere**. The requirements are different for the computer that is attached to the receiver than for the computer that uses the application. If both computers are the same, then both sets of requirements must be fulfilled.

For the computer connected to the receiver:

- ◆ Computer with Intel/AMD or ARM processor
- ◆ At least 512 MB of RAM memory.
- ◆ USB port for IC-PCR1500 / IC-R1500 , IC-PCR2500 / IC-R2500 models.
- ◆ RS232 port (or RS232 to USB converter) for IC-PCR100 and IC-PCR1000 models.
- ◆ Sound card with microphone or line input for IC-PCR100 and IC-PCR1000 only.
- ◆ USB Cable or RS232 Cable (depending on receiver model).
- ◆ 3.5 mm Line-in (shielded audio) cable for IC-PCR100 and IC-PCR1000 only.

For the computer using the application (either remote or local access)

- ◆ Computer with Intel P4 / AMD Athlon or faster CPU.
- ◆ At least 512 MB of memory or higher.
- ◆ Soundcard with speaker or line output.

2.2 Software requirements

For the computer connected to the receiver:

- ◆ Microsoft Windows (XP / Vista / 7 / 8), 32 or 64 bits.
- ◆ or Linux (Ubuntu, Fedora, CentOS, Red Hat and Raspbian have been tested), 32 or 64 bits.
- ◆ or Mac OS X (only Lion have been tested)
- ◆ Java Runtime Environment (JRE) 7, 32 bit version.

For a computer using the application remotely:

- ◆ Any operating system
- ◆ Any web browser with Java support
- ◆ Java Runtime Environment (JRE) 7.

The Java Runtime Environment can be obtained from the site <http://java.com>



3 Installation

3.1 Hardware Installation

The installation steps for the receiver hardware are the same specified in the user manual of your receiver, which in summary are the following:

For PCR100 / PCR1000:

- ◆ Connect a RS232 cable to the PC and the receiver. You may also use a RS232 to USB converter.
- ◆ Connect a 3.5 mm shielded audio cable to PC and receiver.
- ◆ Connect your antenna to your receiver.
- ◆ Connect the AC adapter to your receiver.

For PCR1500 / R1500 / PCR2500 / R2500:

- ◆ Connect a USB cable to the PC and the receiver.
- ◆ Connect your antenna to your receiver.
- ◆ Connect the AC adapter to your receiver.

3.2 Driver Installation

The receiver models PCR1500, R1500, PCR2500 and R2500 need a driver for the '*CP210x USB to UART bridge*'. This is like a driver to recognize the receiver as a USB device. Depending on the operating system that you are using, you may need to install that driver by your own.

Windows: **PCR AnyWhere** is able to work with the driver shipped with Windows Vista, Windows 7 and Windows 8. Unfortunately, Windows XP doesn't contain that driver, although Windows XP SP3 is usually capable to find it through the service '*Windows Update*'. If this is not your case and you need to install the driver, you can find it in the CD '*Icom Driver and Control Software CD*' provided with the receiver.

Linux: The driver is included and ready to use in any modern Linux distribution, including Raspbian.

Max OS X: The driver is not included and needs to be installed. We have included that driver installation in the same package than the application itself but it needs to be installed by the user.

If your receiver is a PCR100 or PCR1000 and you use a serial port to connect them, then you don't need to install any driver.

If you are using a USB to RS-232C serial) converter, then you will need to investigate by yourself if the proper driver is included in your operating system and look for it if necessary.

3.3 PCR AnyWhere Installation

The **PCR AnyWhere** installation package for each supported operating system can be downloaded from:

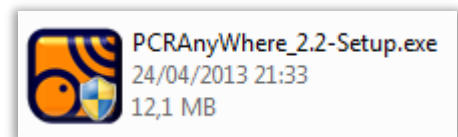
<http://www.pcranywhere.com/downloads.html>

The installation is made in two phases. The first phase is the actual installation and registration of the application, which is different for each operating system. After that phase has been completed, the configuration utility is launched to make the initial configuration of the **PCR AnyWhere** site. The use of this configuration utility is explained in section 4.

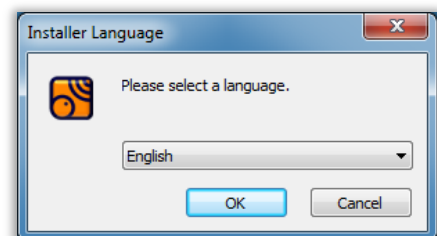
Once you have downloaded the file on your computer, please follow the instructions below to perform the installation.

3.4 Installing on Windows

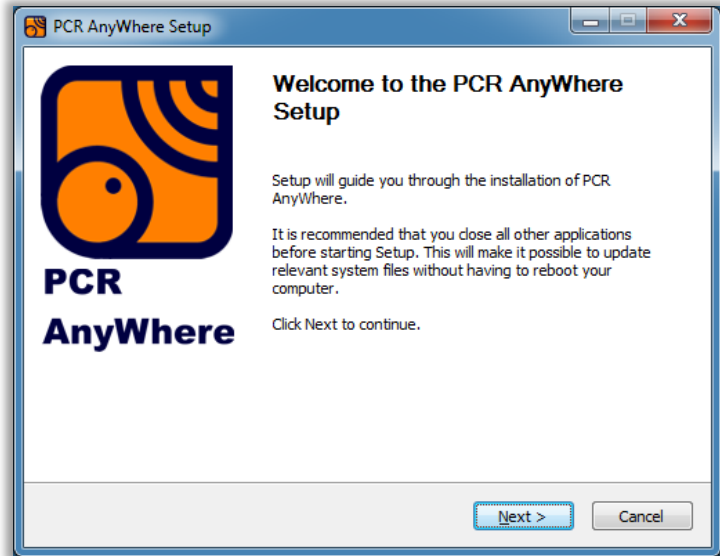
-
1. Run the downloaded file.



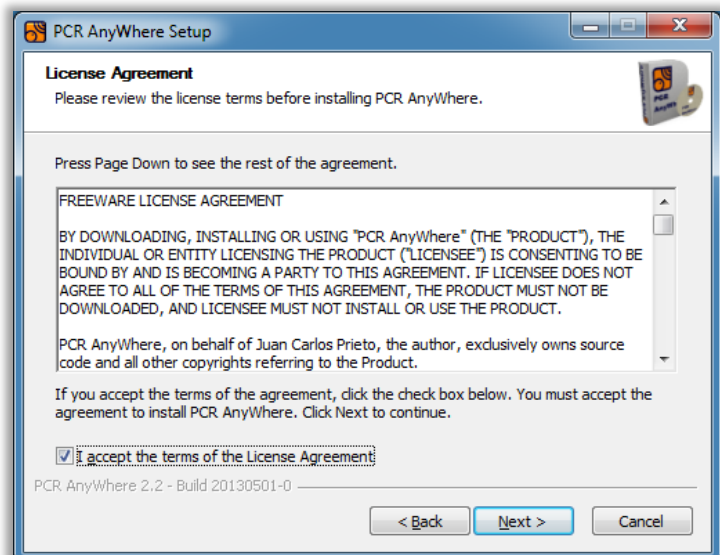
-
2. Select the installation language and click OK.



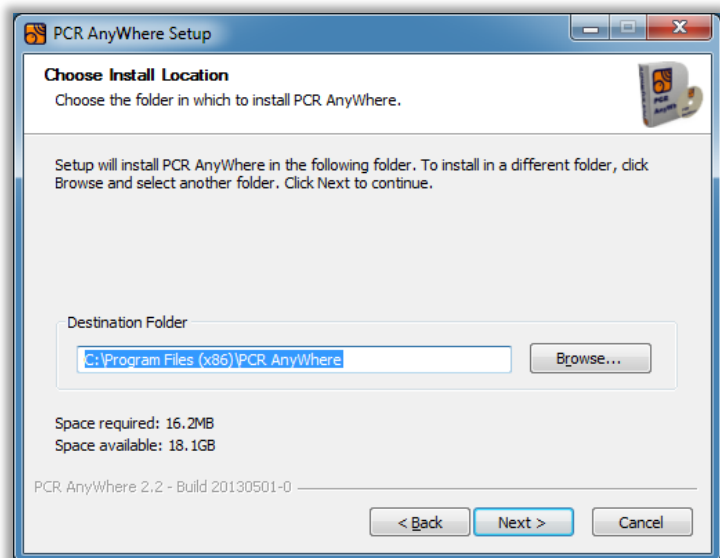
3. Click 'Next'.



4. Read and accept the terms of the License Agreement and click on 'Next'.

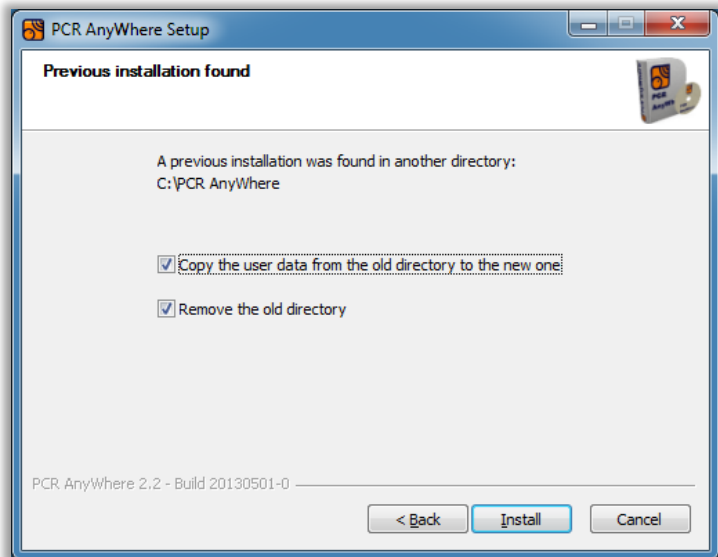


5. Select the destination folder for the application clicking on the button 'Browse' or just accept the folder provided. Then, click on 'Next'.

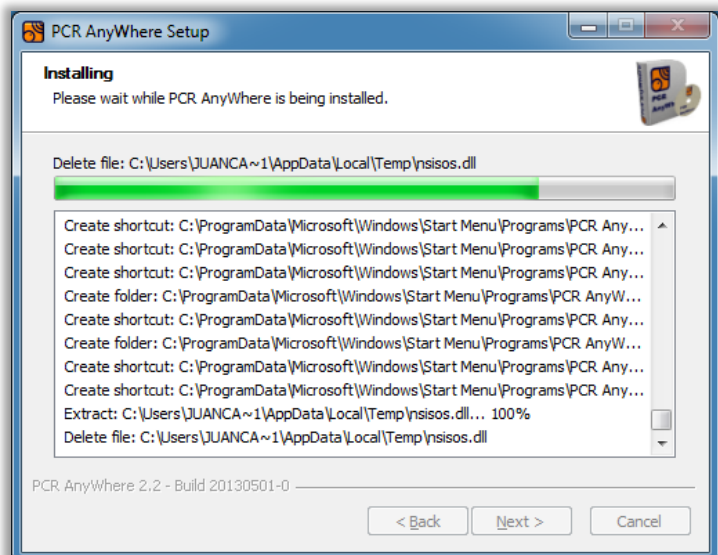


-
6. If you are reinstalling on a different folder, you will find this window. Make your selections depending on your preferences.

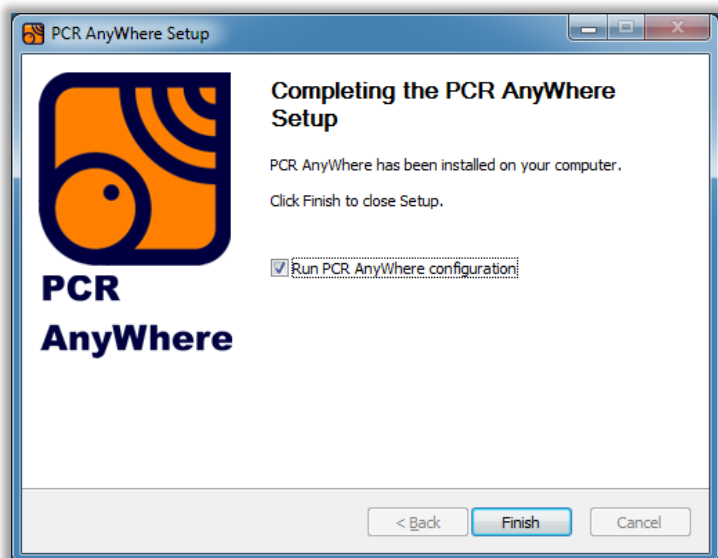
If you are reinstalling on the same folder, the data will be kept.



-
7. Wait for the installation to complete.

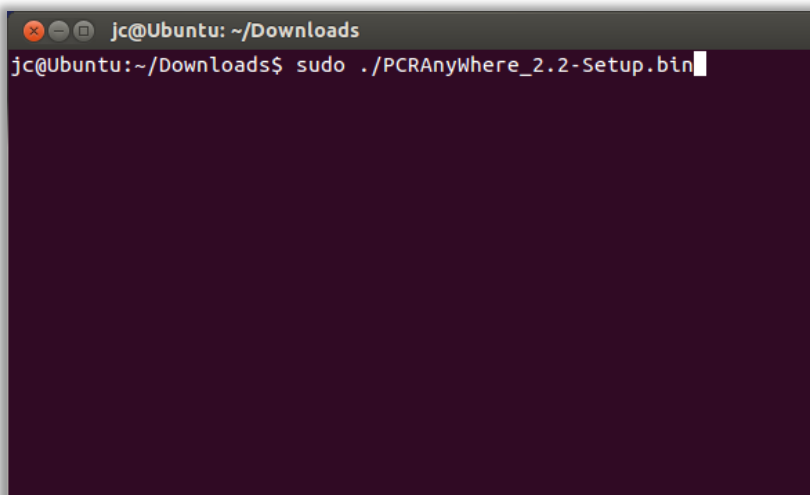


-
8. Select whether you wish to run the configuration utility immediately after the setup finishes (recommended) and then click 'Finish'.



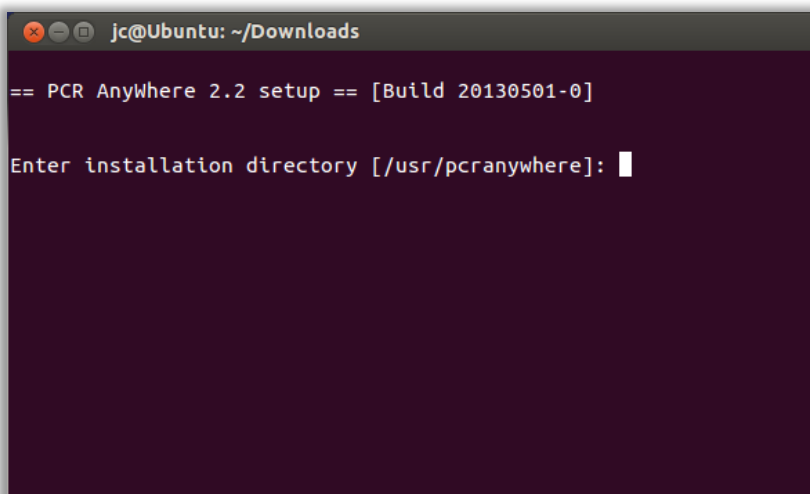
3.5 Installing on Linux

1. Run the downloaded file with root privileges.



```
jc@Ubuntu: ~/Downloads
jc@Ubuntu:~/Downloads$ sudo ./PCRAnywhere_2.2-Setup.bin
```

2. Enter the installation directory.

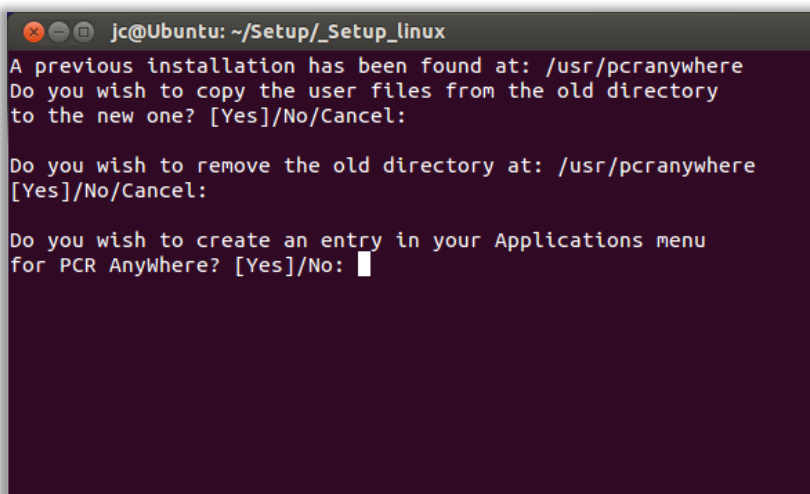


```
jc@Ubuntu: ~/Downloads
== PCR AnyWhere 2.2 setup == [Build 20130501-0]

Enter installation directory [/usr/pcranywhere]:
```

3. If you are reinstalling on a different folder, you will find this window. Make your selections depending on your preferences.

If you are reinstalling on the same folder, the data will be kept.

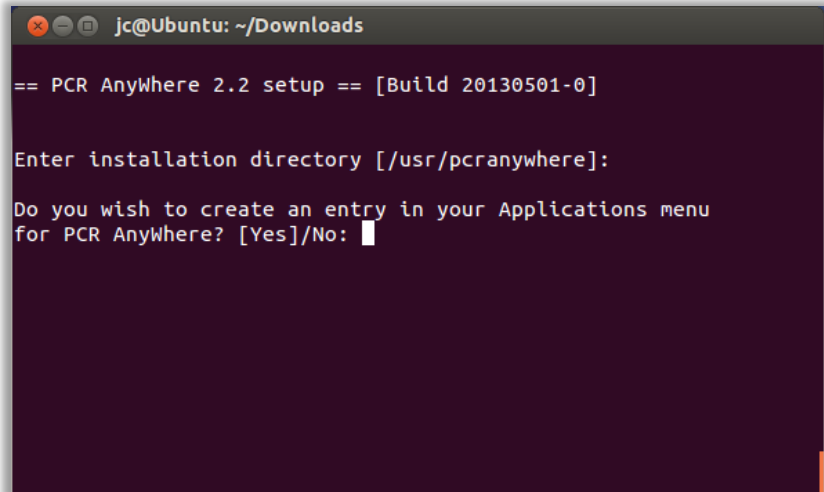


```
jc@Ubuntu: ~/Setup/_Setup_linux
A previous installation has been found at: /usr/pcranywhere
Do you wish to copy the user files from the old directory
to the new one? [Yes]/No/Cancel:

Do you wish to remove the old directory at: /usr/pcranywhere
[Yes]/No/Cancel:

Do you wish to create an entry in your Applications menu
for PCR AnyWhere? [Yes]/No:
```

-
4. Enter 'Yes' if you wish to get menu entries for the application.



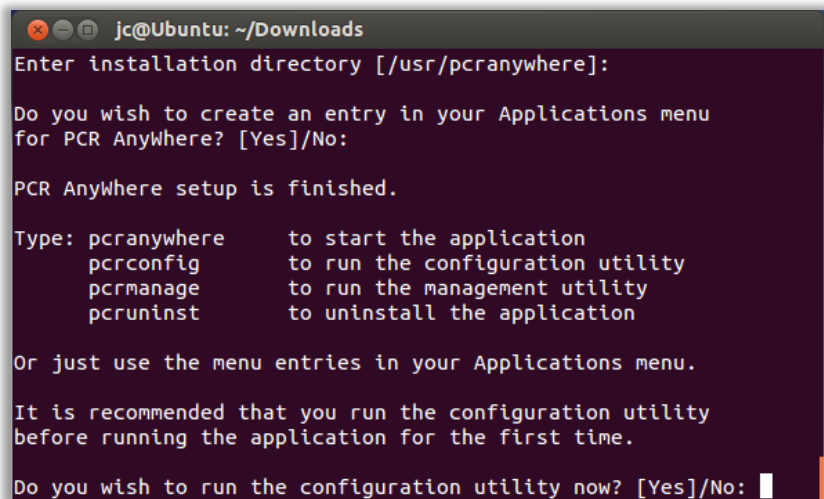
```
jc@Ubuntu: ~/Downloads
== PCR AnyWhere 2.2 setup == [Build 20130501-0]

Enter installation directory [/usr/pcranywhere]:

Do you wish to create an entry in your Applications menu
for PCR AnyWhere? [Yes]/No: |
```

-
5. After the installation, you will see the attached message showing the different options available to launch the main application and utilities from the command prompt.

Finally, you can choose to run immediately the configuration utility (highly recommended).



```
jc@Ubuntu: ~/Downloads
Enter installation directory [/usr/pcranywhere]:

Do you wish to create an entry in your Applications menu
for PCR AnyWhere? [Yes]/No: |

PCR AnyWhere setup is finished.

Type: pcranywhere      to start the application
      pcrconfig        to run the configuration utility
      pcrmanage        to run the management utility
      pcruninst        to uninstall the application

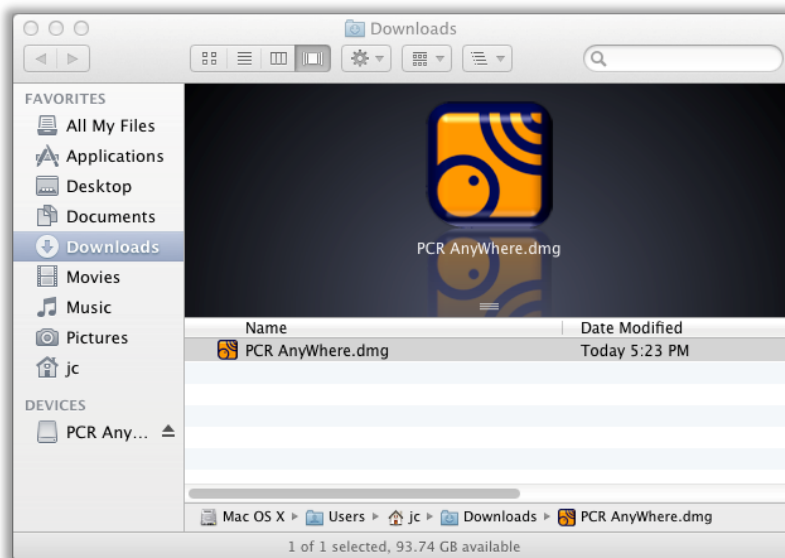
Or just use the menu entries in your Applications menu.

It is recommended that you run the configuration utility
before running the application for the first time.

Do you wish to run the configuration utility now? [Yes]/No: |
```

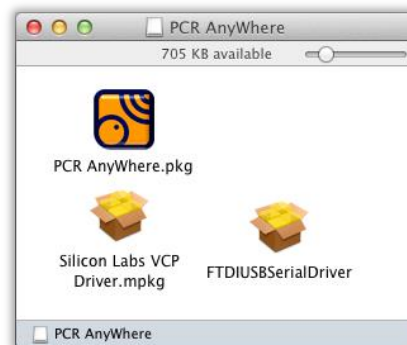
3.6 Installing on Mac OS X

1. Double click on the downloaded disk image to open it.

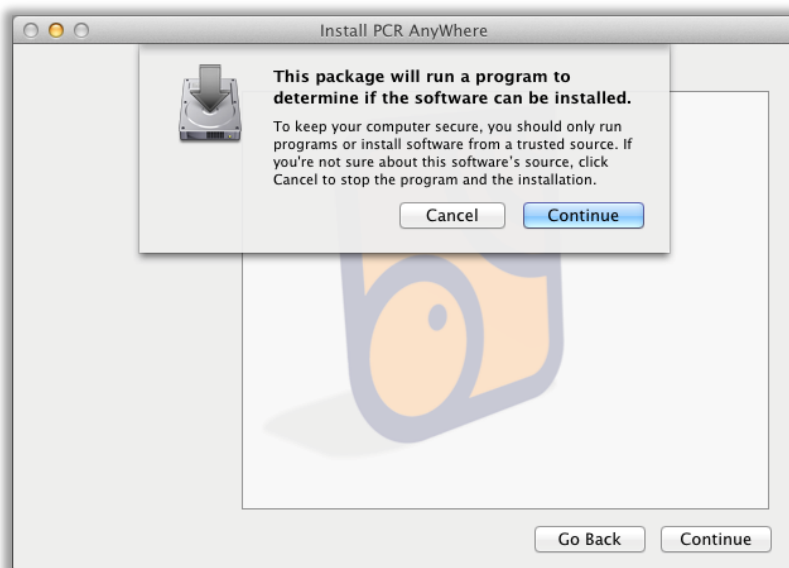


2. Double click on the file '*PCR AnyWhere.pkg*' to start the package installation.

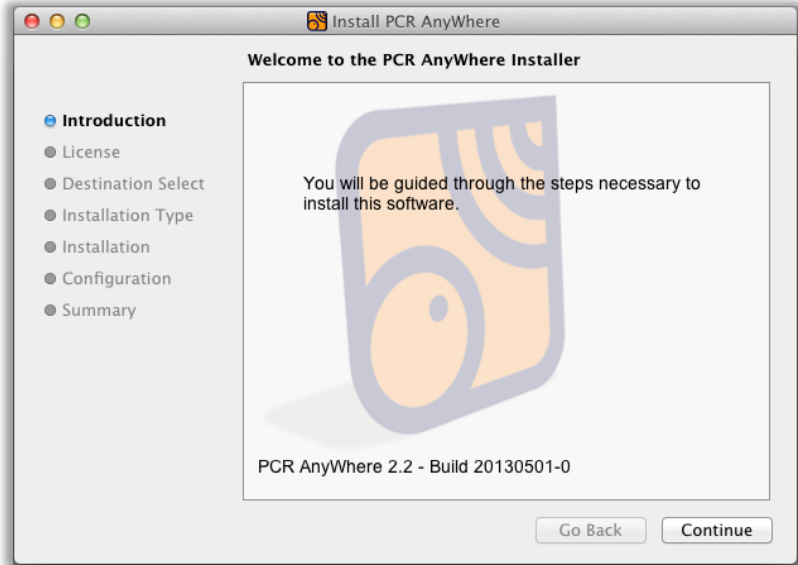
If you have a receiver
Icom IC-PCR1500
Icom IC-PCR2500
Icom IC-R1500
Icom IC-R2500,
you must install the
package '*Silicon Labs
VCP Driver*' first.



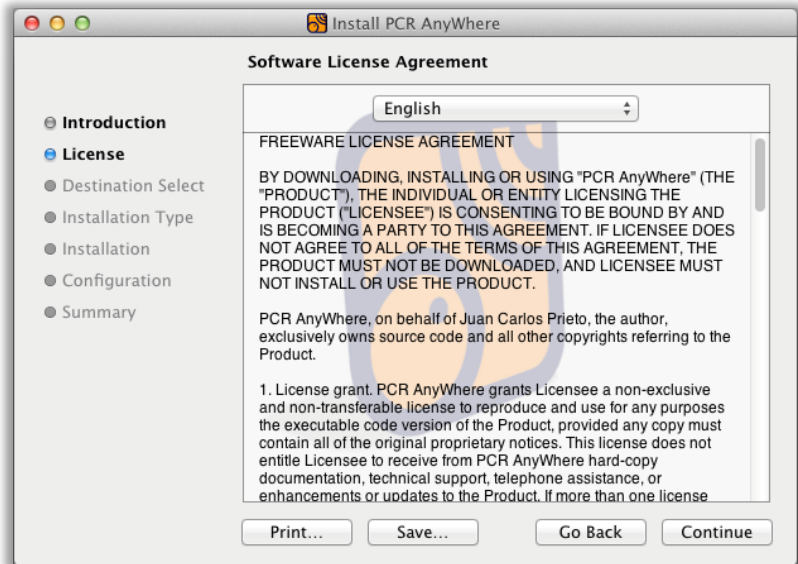
1. Select '*Continue*'.



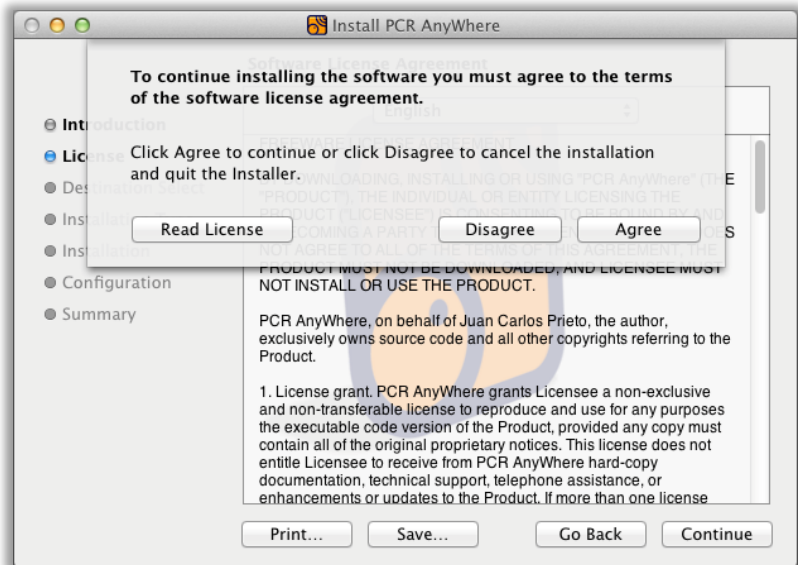
1. Select 'Continue'.



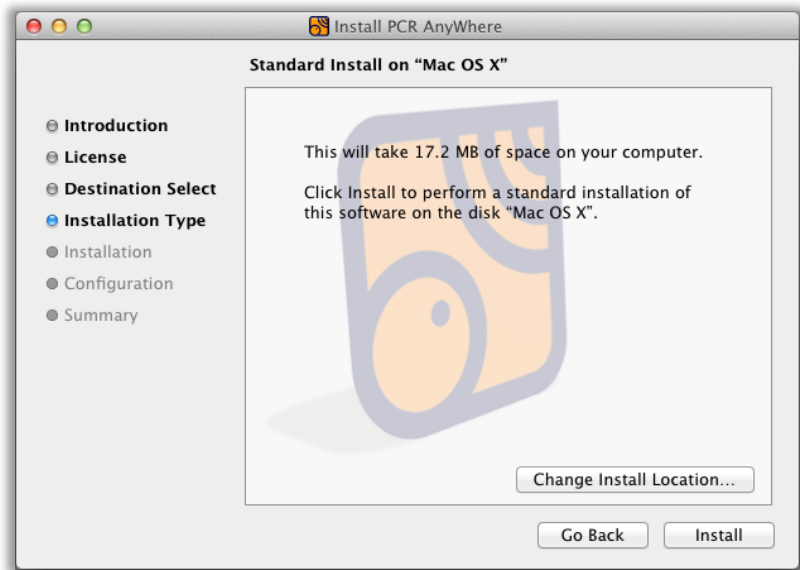
1. Select 'Continue'.



1. Select 'Agree'.



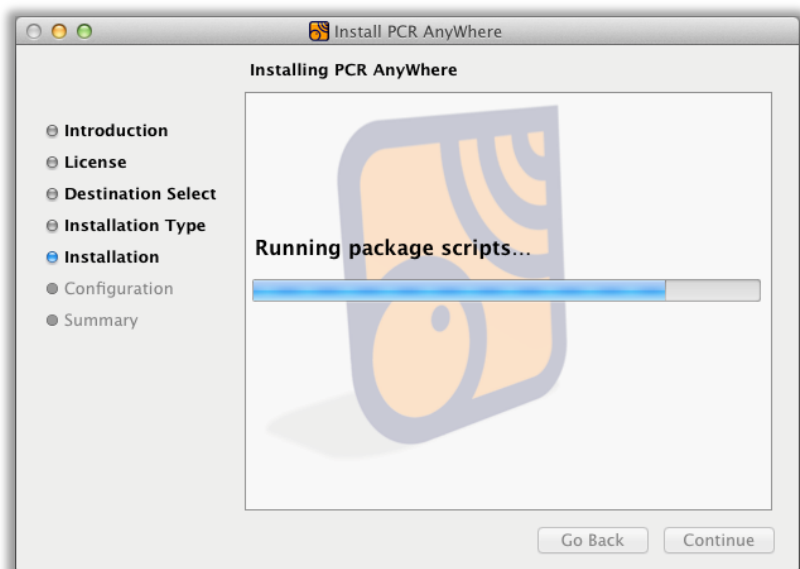
1. Select *'Install'*.



1. Enter a user with administrative rights and its password. Then select *'Install Software'*.

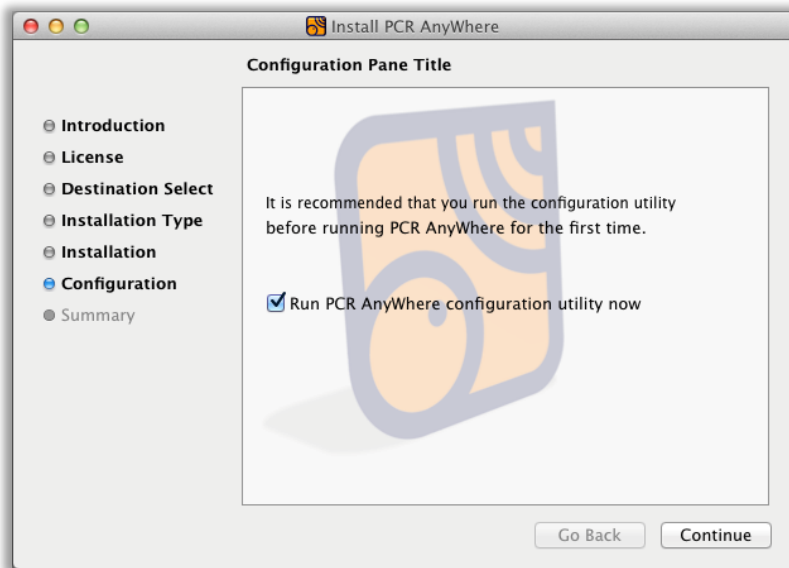


1. Wait for the installation to finish.

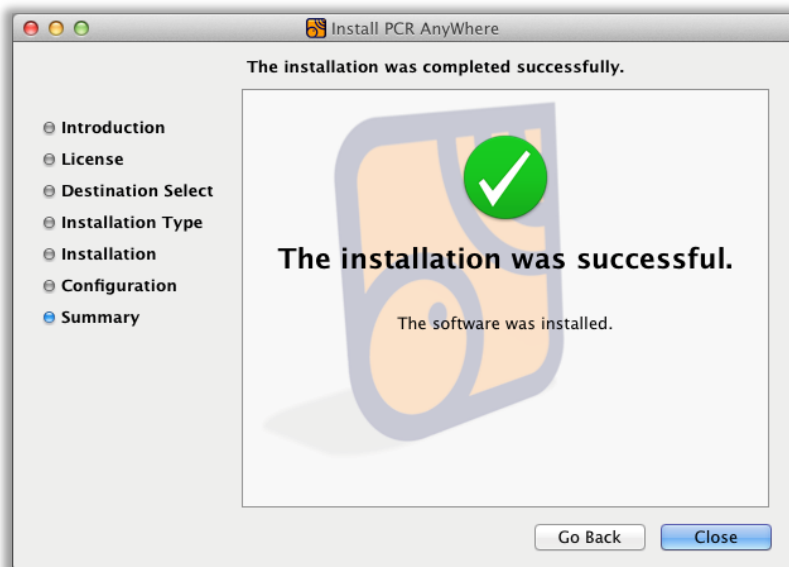


1. Select 'Continue'.

If you select to run the configuration utility (recommended), that program will start automatically.



2. Select 'Close' to finish.





4 Accessing the menu

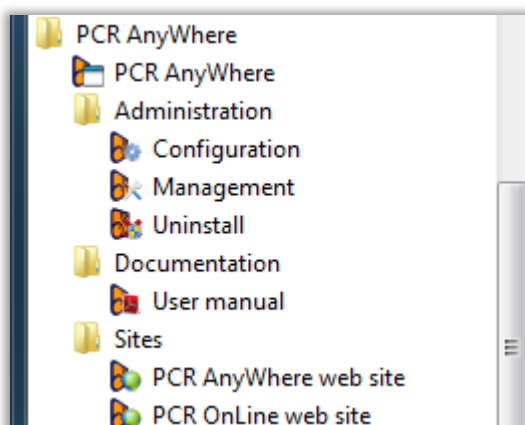
After installing **PCR AnyWhere**, the following applications or tools are available:

PCR AnyWhere	The main application, running in local mode.
Administration	
Configuration	The configuration tool, to set up the hardware and other options.
Management	A tool to manage the server side of the application and the users.
Uninstall	Tool to remove the application from the computer
Documentation	
User manual	Access to this manual.
Sites	
PCR AnyWhere web site	Access to our web site http://www.pcranywhere.com
PCR OnLine web site	Access to the service PCR OnLine.

The method to access the application depends on the operating system where it has been installed.

4.1 Windows menu

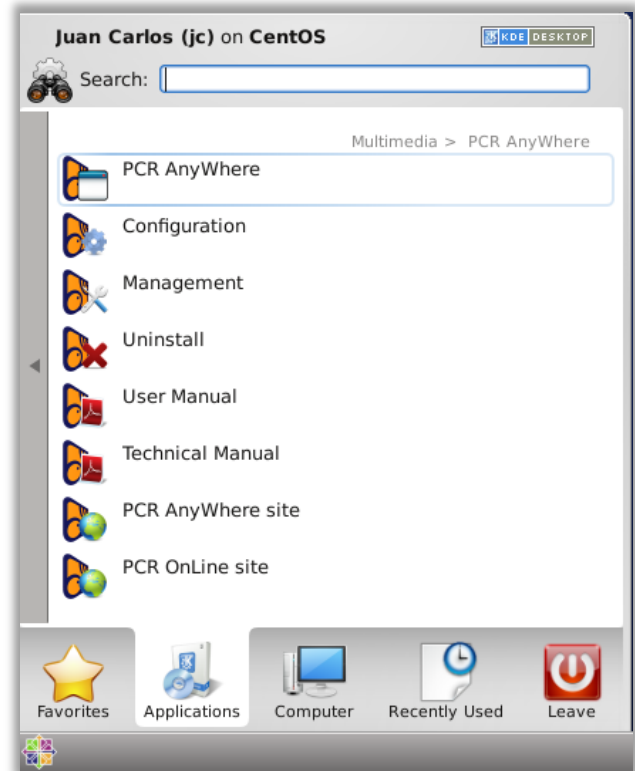
After the installation, a new menu will appear in the All Programs menu. In Windows 7, it will look like this:



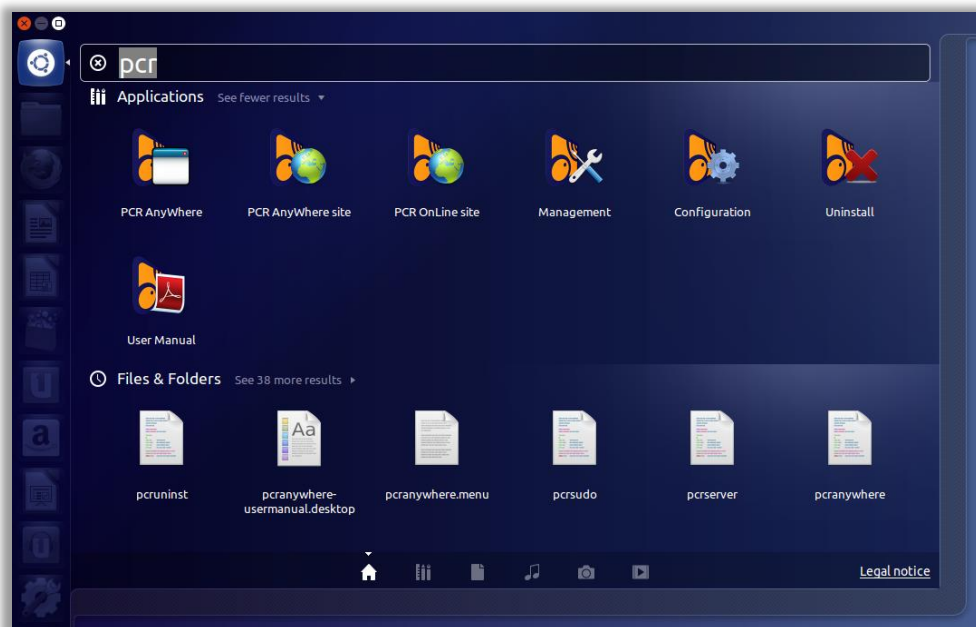
4.2 Linux menu

The appearance of the menu in Linux depends very much on the Linux distribution and the desktop manager being used.

For instance, with KDE, the menu is very similar to Windows:

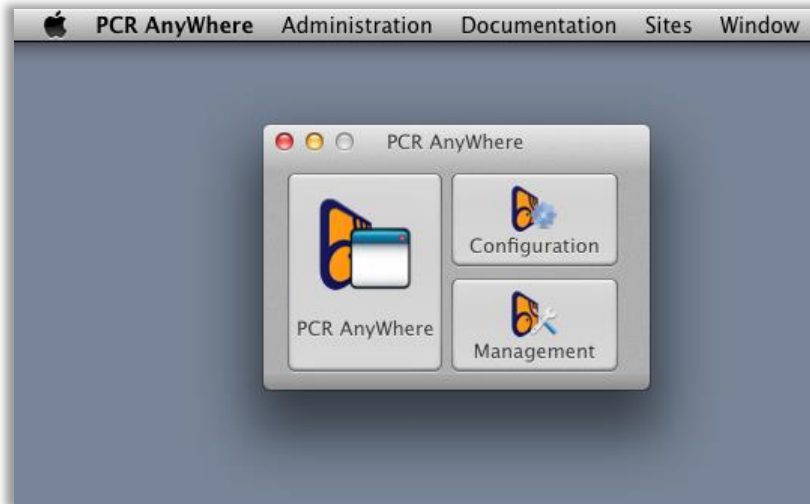


But with Gnome it might be necessary to search for the applications which name start by *pcr*.



4.3 Mac OS X menu

In Mac OS X, *PCR AnyWhere* is installed in the form of a launcher. When the icon of the application is clicked from the LaunchPad, this window will appear.



The main application and the 2 main tools are accessible from this launcher. Also, in the application menu that appears in the upper side of the desktop, the rest of options are also available.

4.3 Running remotely

The menus that have been described are used to run *PCR AnyWhere* in local mode, i.e., accessing the receiver that is attached to the computer.

It is also possible to connect to a remote installation of *PCR AnyWhere* and use its receiver in the same way as it is directly attached.

To connect to a remote *PCR AnyWhere* server, you must know its web address and type it on a web browser.

Alternatively, you can check out the web site *PCR OnLine* where you can find a list of *PCR AnyWhere* servers that have been made available by their owners. This site is at:

<http://pcranywhere.com/pcr-online.html>



5 Configuration

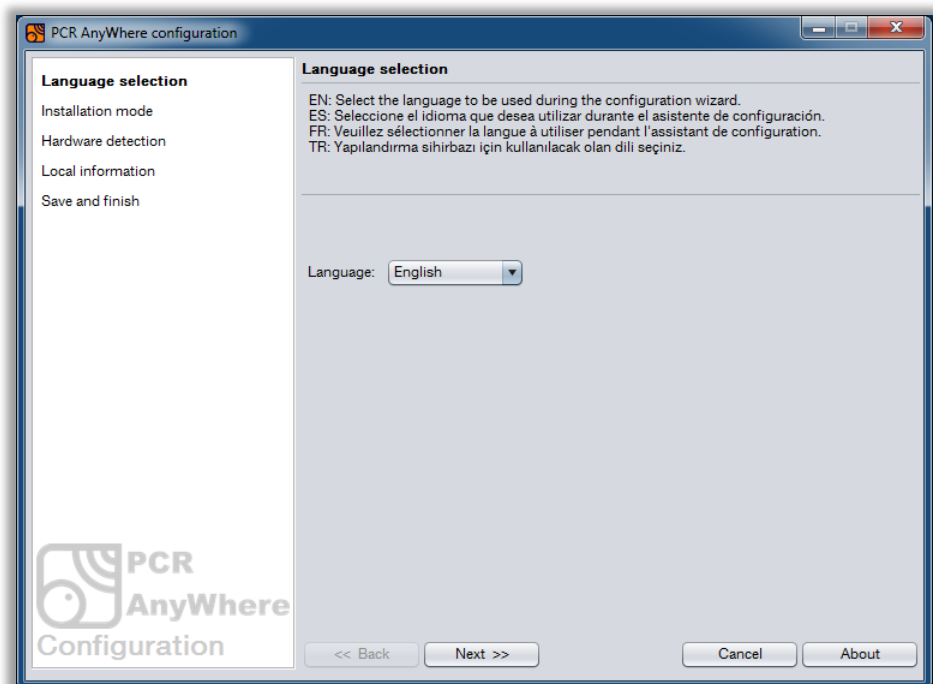
The configuration utility is launched automatically after the set up process. You can also run it manually using the program shortcut called *'Configuration'* that is installed in the programs menu.

Note: If you are using an operating system different from Windows XP, you will be asked to run the program in administrator mode.

5.1 Language selection

This step is to select the language that will be used during the configuration process. With this selection, you will not be changing the language of the actual **PCR AnyWhere** user interface which is always in English. In fact, that user interface only uses common terms of the radio argot.

There are for the moment four languages available: English, Spanish, French and Turkish.



After selecting the desired language, click *'Next'*.

5.2 Installation mode

PCR AnyWhere has three running modes. These modes are Local, Network and Shared.

Local mode: In this mode, **PCR AnyWhere** can be operated only on the computer that is directly connected to the receiver. There is no access to LAN (Local Area Network) or WAN (Wide Area Network) even if a network connection is available.

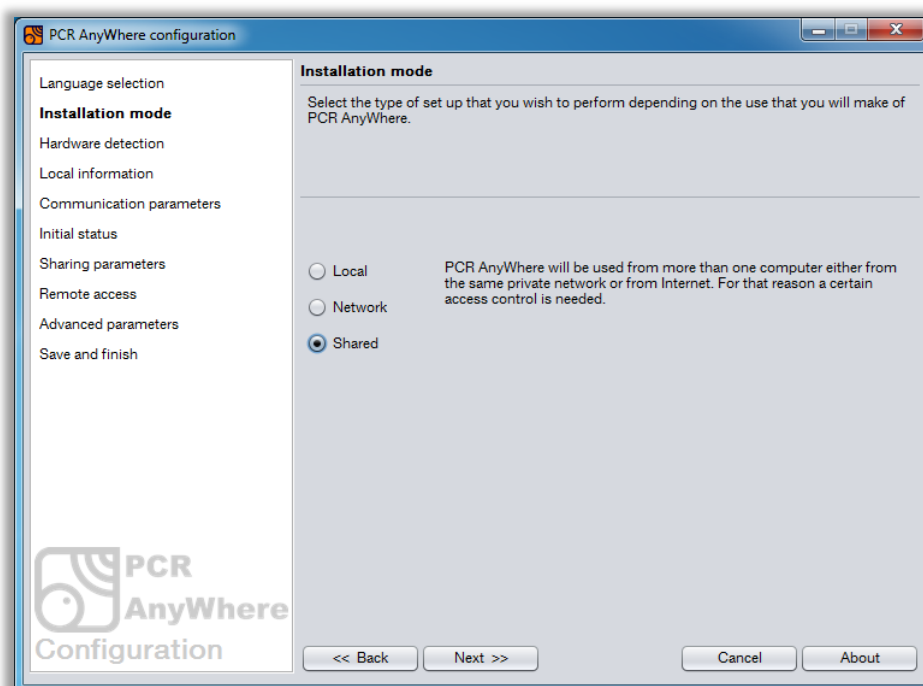
Network mode: **PCR**

AnyWhere can run on more than one computer on the same private network. In this mode, the computer that is physically connected to the receiver will work as a server but also may run as local or stand alone.

Shared mode: This mode is the enhanced mode of **PCR AnyWhere**. In this mode **PCR AnyWhere** allows full access to users or listeners over internet. For that reason a certain access control must be defined in the next steps. In this mode, the receiver will be accessible from more than one computer either from the same private network or from Internet. You can select this mode if you want to share your Icom PCR series receiver with others on the Internet. In this mode, you can also define a certain set of frequency ranges that will not be available to remote listeners, in case that you have any legal concern in your country.

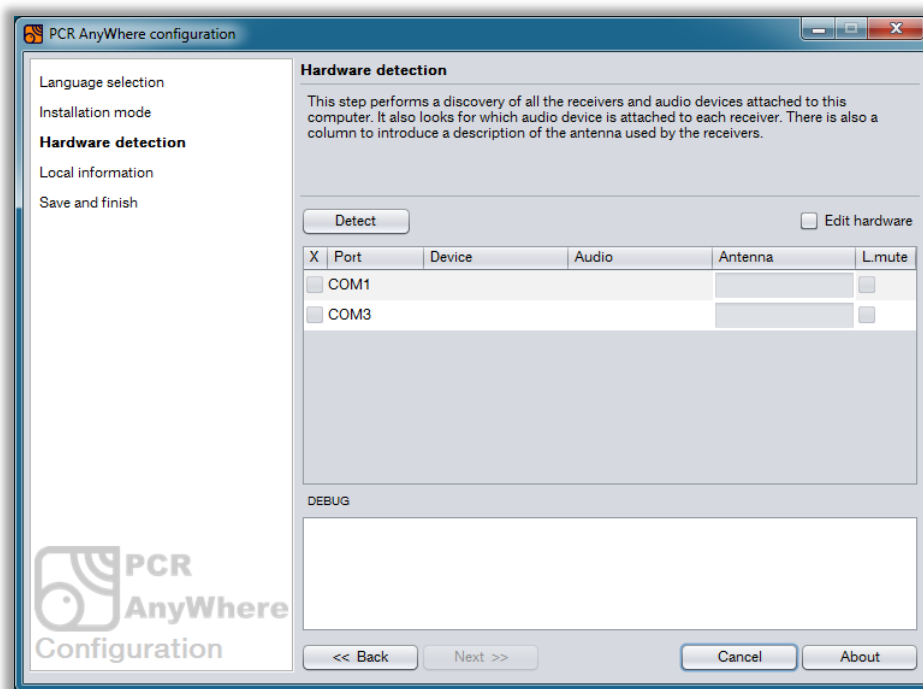
Each mode has a different number of configuration steps. By selecting one of these modes, different steps will be enabled or disabled. In the rest of this section, the full set of steps will be explained.

After selecting the desired mode, click 'Next'.



5.3 Hardware detection

One of the main goals of **PCR AnyWhere** is to support multiple Icom receivers that are connected to the same computer at the same time. This step of the configuration utility implements a system for the detection of all the connected Icom receivers as well as the sound cards that are installed on your computer. You don't need to know about what sound cards you are using and which one is connected to each receiver. **PCR AnyWhere** will discover them for you.



If your computer doesn't have any serial port, you can use a USB to RS232 converter to connect PCR100 or PCR1000 series receivers. **PCR AnyWhere** supports these type of converters too.

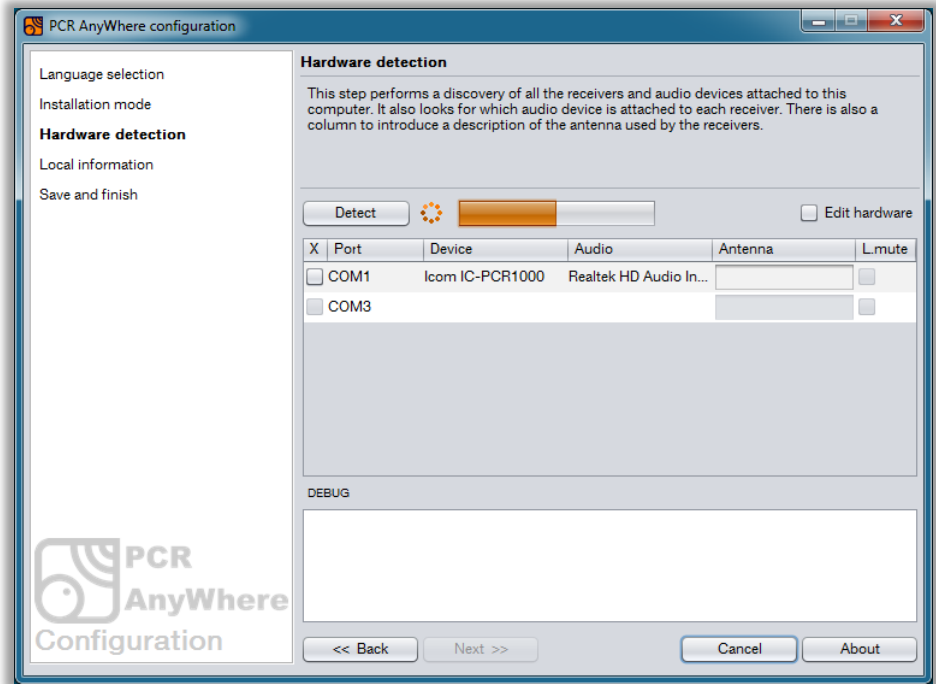
Apart from the automatic discovery, there is an option to manually introduce the hardware configuration. That option is activated by clicking on the check mark '*Edit hardware*'. You can use that option in two different ways:

1. Don't use the '*Detect*' button at all and fill manually the information for receiver, audio device, antenna and local mute. You will only be able to fill that information for the serial ports that have been discovered. The receiver model can be selected from a list of the supported models and the audio devices can be selected from a list of all the audio devices discovered on your computer.
2. Use the '*Detect*' button to get a first discovery of your hardware. When the detection process has finished, enable the manual hardware configuration to refine your configuration. That option can be useful in case that the automatic detection cannot detect correctly all your hardware.

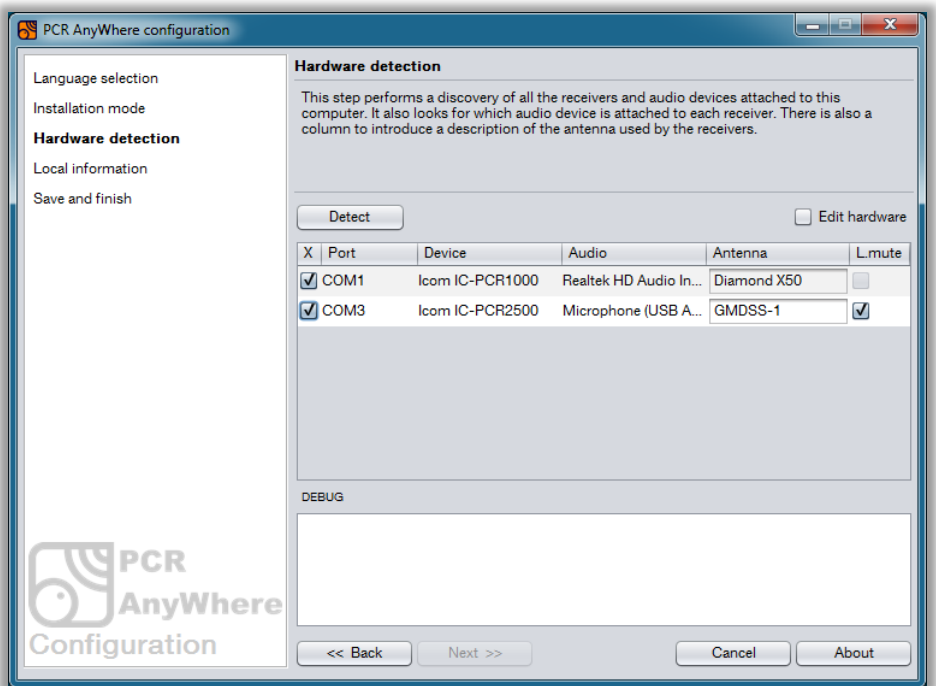
To explain how this step works, we will assume that you are using the second option, which uses the automatic detection first and then the manual edition of the hardware configuration.

Click '*Detect*' and be patient while the application discovers your hardware.

During the detection process, it is important that all your receivers are powered on and that they are connected to an antenna. The detection process actually tunes the receivers to certain frequencies to check their response and to detect which audio card is connected to the output of each receiver.



When the detection process completes, you will see a window like this. In this step, a list of the found devices is shown where the different serial ports, receivers and audio cards are listed. Two more additional fields are available on each row: 'Antenna' and 'L.mute'. In the field 'Antenna' you can introduce a description of the antenna that the concerned receiver is using (evidently, that



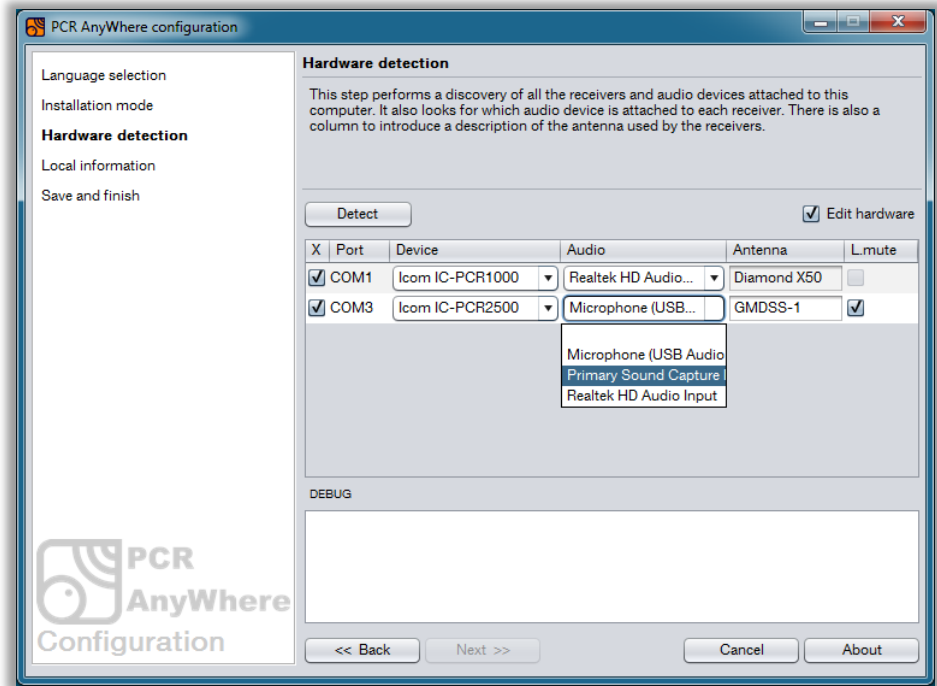
information cannot be discovered). The field 'L.mute' stands for 'Local mute'. If selected, the local speaker of the receiver will be silenced during the operation.

At this stage, the user must also select which receivers the application will manage by clicking on the check mark at the left side of each port.

As an additional option, the user can now select the check mark 'Edit hardware' in order to manually edit the hardware configuration. When this option is selected, the fields *Device* and *Audio* become a list instead of a simple text. In these lists, you will be able to select any of the possible receiver types and audio cards present on your computer.

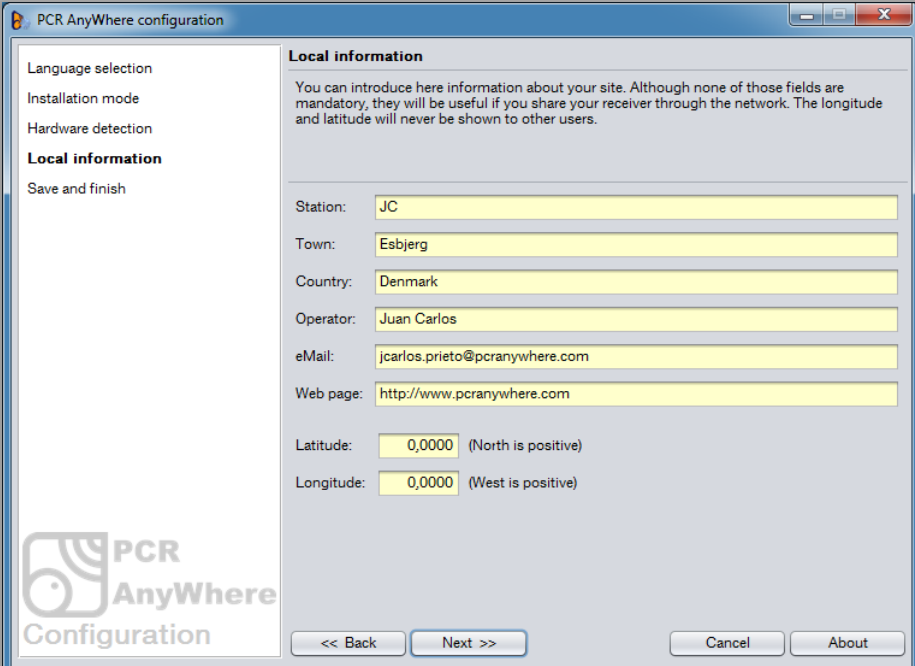
As stated before, it is also possible to make a manual selection of the hardware without using the automatic detection utility.

After all that data has been introduced, click 'Next'.



5.4 Local information

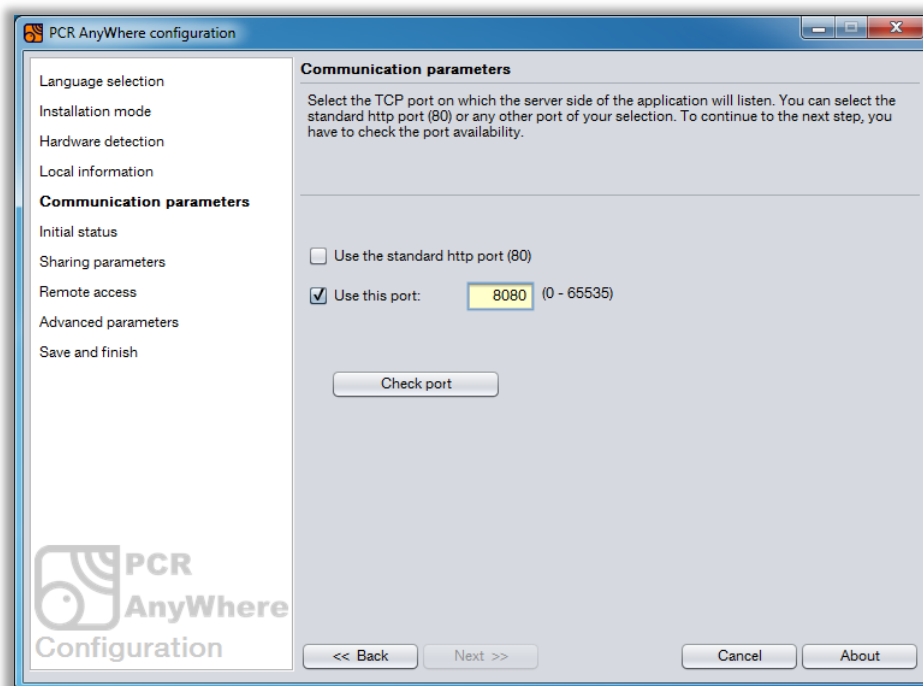
In this step, you can introduce information about your site and location. The longitude and latitude will never be shown to your users or listeners. Click 'Next' after entering this optional information about your site.



The screenshot shows the 'PCR AnyWhere configuration' window. The title bar reads 'PCR AnyWhere configuration'. On the left, a vertical list of steps is shown: 'Language selection', 'Installation mode', 'Hardware detection', 'Local information' (which is highlighted), and 'Save and finish'. The main area is titled 'Local information' and contains the following text: 'You can introduce here information about your site. Although none of those fields are mandatory, they will be useful if you share your receiver through the network. The longitude and latitude will never be shown to other users.' Below this text are several input fields: 'Station:' with the value 'JC'; 'Town:' with the value 'Esbjerg'; 'Country:' with the value 'Denmark'; 'Operator:' with the value 'Juan Carlos'; 'eMail:' with the value 'jcarlos.prieto@pcranywhere.com'; and 'Web page:' with the value 'http://www.pcranywhere.com'. At the bottom, there are two numeric input fields: 'Latitude:' with the value '0,0000' and the note '(North is positive)'; and 'Longitude:' with the value '0,0000' and the note '(West is positive)'. At the bottom left, there is a logo for 'PCR AnyWhere Configuration'. At the bottom right, there are four buttons: '<< Back', 'Next >>', 'Cancel', and 'About'.

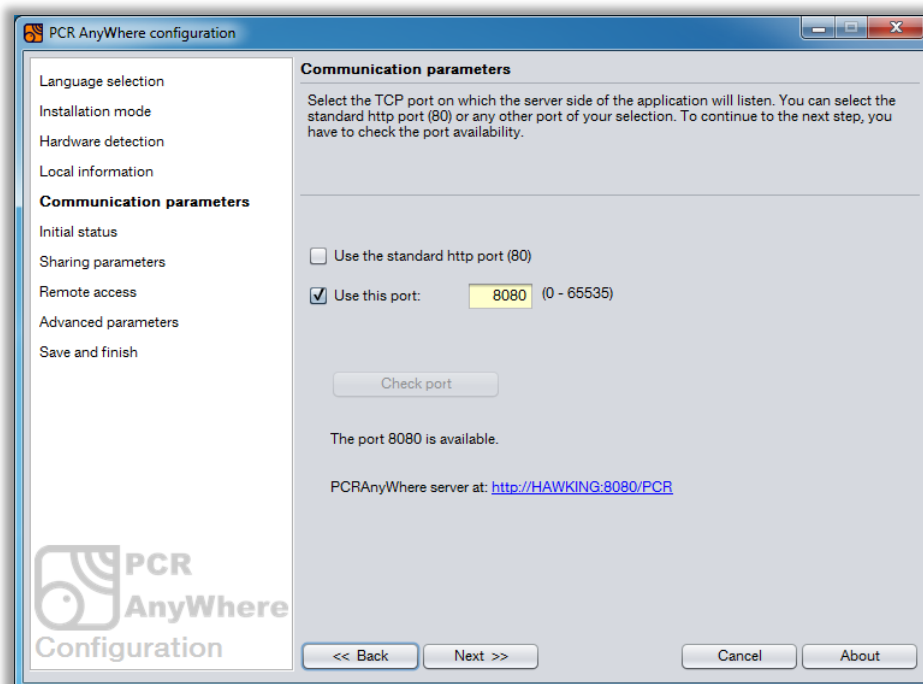
5.5 Communication parameters

This step defines the listening TCP port of the server side of the application. You can select any unused port number for listening. You can also select the standard http port (80) if you are not using this port on your computer. Please avoid using port numbers such as port 110 (POP3 service), port 25 (SMTP service), port 21 (FTP service), etc. if you are using these services on your computer.



Another main goal of **PCR AnyWhere** is that it uses the same port for control purposes and for audio streaming. You don't need any other port or application for audio streaming. **PCR AnyWhere** has its own encoder and streaming server so that you don't need any external application or program like Skype, Icecast, Shoutcast or Windows Media Encoder.

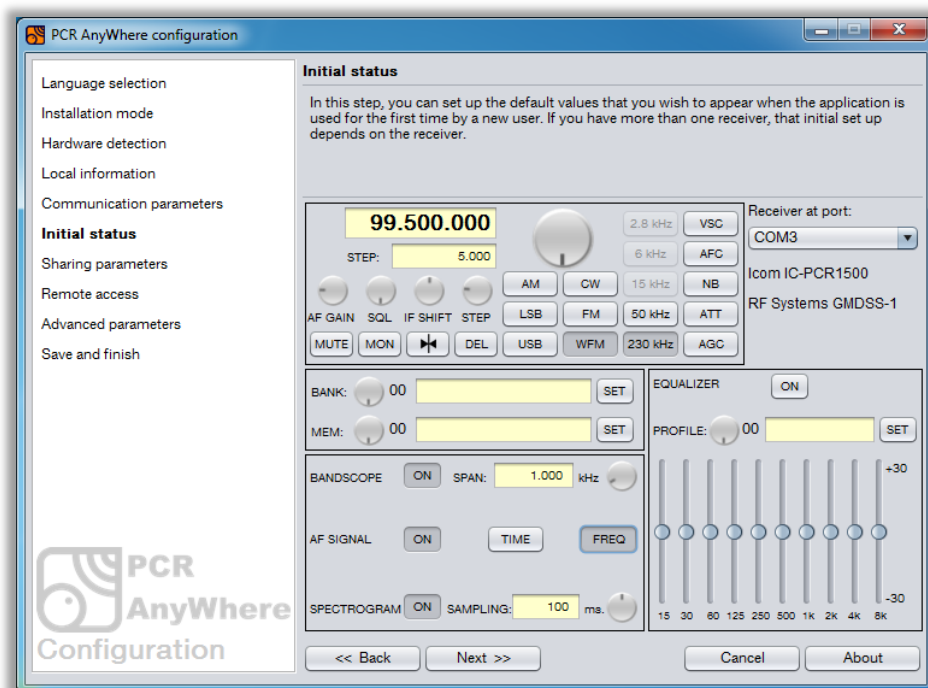
PCR AnyWhere also checks the availability of the port that you entered. The button 'Next' will be disabled until the selected port has been checked. The port number will need to be changed if **PCR AnyWhere** finds that the selected port is in use.



5.6 Initial status

In this step, you can set up the initial values of the client configuration when a new user starts the application. The window that appears is very similar to the actual interface of **PCR AnyWhere** and the way to use the controls is also very similar.

The initial set up depends on the receiver. If your site has more than one receiver, you may select each one of them from the selection list at the right side and then set up its initial values.



Here are some details about how to use this interface:

- ◆ All the knobs can be moved with the mouse wheel, with the right and left buttons of the mouse or clicking and moving the mouse to right or left for fast advance.
- ◆ To select a frequency, just type it. If you type a dot (.), that will be treated as MHz separator. You can also use the backspace to delete digits. When the frequency is complete, press Enter.
- ◆ To enter a new step, type it in its display, press Enter and then push the button 'SET' under the step knob.
- ◆ To create a bank, select the number with the knob, type its name in the corresponding box and press the button 'SET' at the right of the name.
- ◆ To create a memory, select the bank and memory numbers with the knobs, select the frequency, band and filter, type the name in the box and press the button 'SET' at the right of the name.
- ◆ To create an equalizer profile, select the number with the knob, position the sliders as desired, type the name of the profile in the box and then press the button 'SET' at the right of the name.
- ◆ The rest of controls are simple buttons to activate functions.

The resulting configuration, including banks, memories and equalizer profiles will appear when the application is started by the first time by a new user. Later on, the user can change the configuration as desired.

You may come back to this step later on by running the configuration utility again.

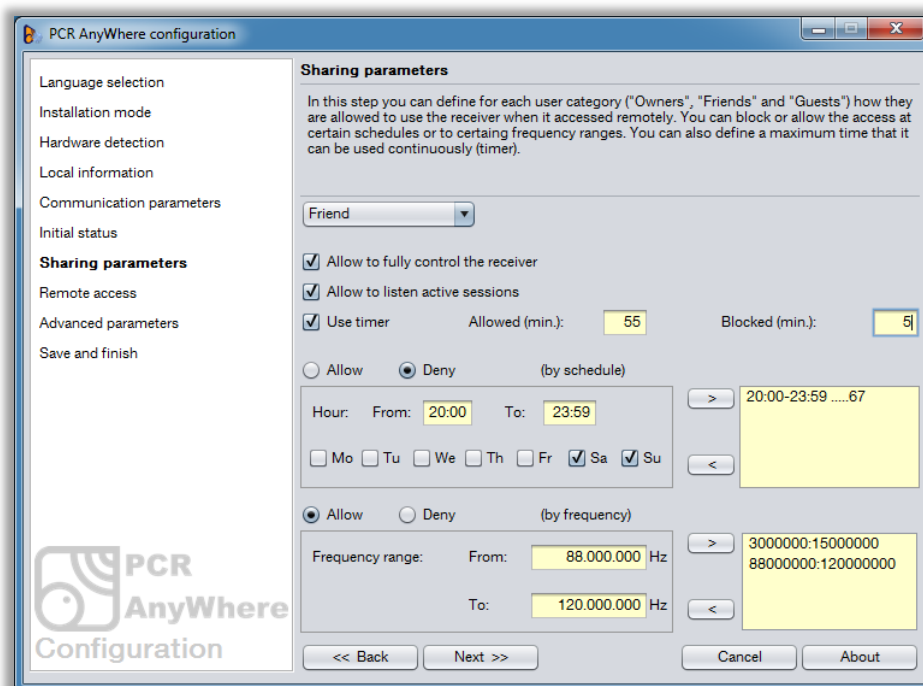
When the entire configuration for all the receivers is ready, click 'Next'.

5.7 Sharing parameters

In this configuration step you can specify how your **PCR AnyWhere** site can be used from other computers. Those computers can be located in your private network or you may have set up your Internet connection to make your **PCR AnyWhere** local site available from Internet.

If you decide to share your **PCR AnyWhere** site through the network, you can decide at what time and days it will be

available. You can define as well what ranges of frequencies you will make available to others.



There are three categories of users to which you can assign different access rights: *'Owners'*, *'Friends'* and *'Guests'*. The entire set of parameters in this window depends on the user level selected at the top of the window. You can define different access rights for each user category.

If you select *'Use timer'*, you can define a maximum time for connections and a minimum time to wait after that time has expired, only applicable when the application is accessed from the web interface.

If you select *'Allow to fully control the receiver'*, then you will be allowing the use of the application from a computer different than the one where the application is installed.

If you select *'Allow to listen active sessions'*, then a client will be able to connect even if the receiver is in use. In that case, the additional clients will listen to the receiver and their user interface will be updated when the main client changes anything. The additional clients cannot manage the receiver.

It is possible to define the schedule when the users are allowed to connect. This is done by adding allowed or denied schedules to each user level. One schedule is composed of a start and end time and a set of weekdays. Once a schedule is built, it can be added to the list of schedules using the right arrow button. If you select a schedule from the list and press the button with arrow to the left, then that schedule will be removed from the list. The list can be set up as a list of allowed or denied schedules.

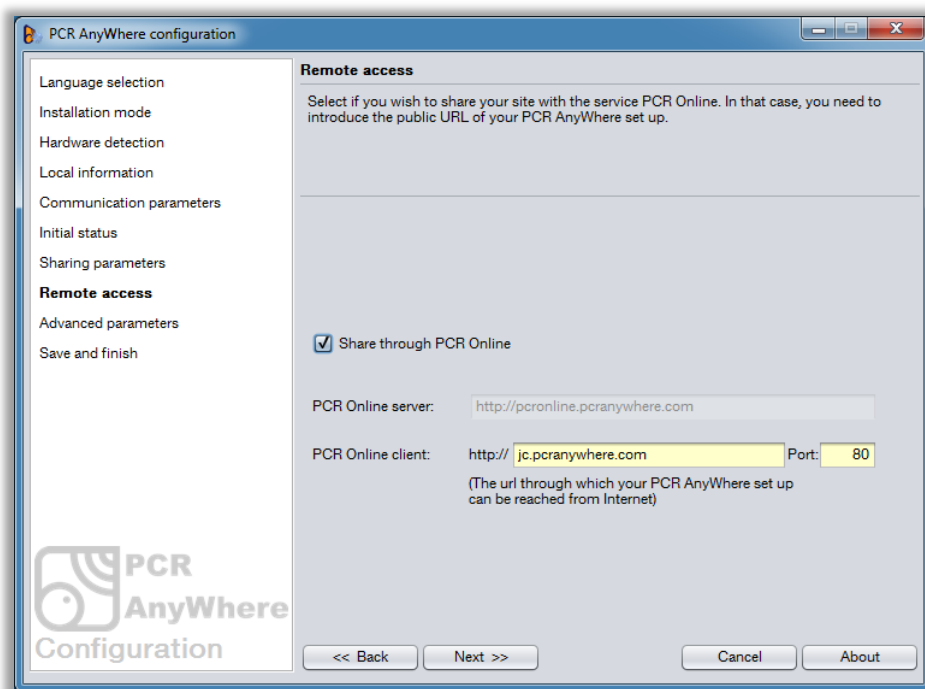
In the same way, you may define what ranges of frequencies the users are allowed or denied to tune or listen.

The user levels are only valid when the client creates a user from the user interface and logs in using that user name. By default, all the users are of level *'Guest'* and only the site administrator can change that level using the **PCR AnyWhere** management utility. See section 6.

5.8 Remote access

In this configuration step, you can define whether your receiver will be published in the web page **PCR OnLine**.

PCR Online is a service by which you can share your site and status with other people through Internet. Users accessing the **PCR Online** web site will be able to see a list of all the **PCR AnyWhere** published sites showing their receivers and antennas and a way to contact the administrator of the site too.



This is not a mandatory service. To activate it you must activate the check '*Share through PCR Online*'. Then, you must enter the public IP address or public domain name in the PCR Online Client box. Here are some examples:

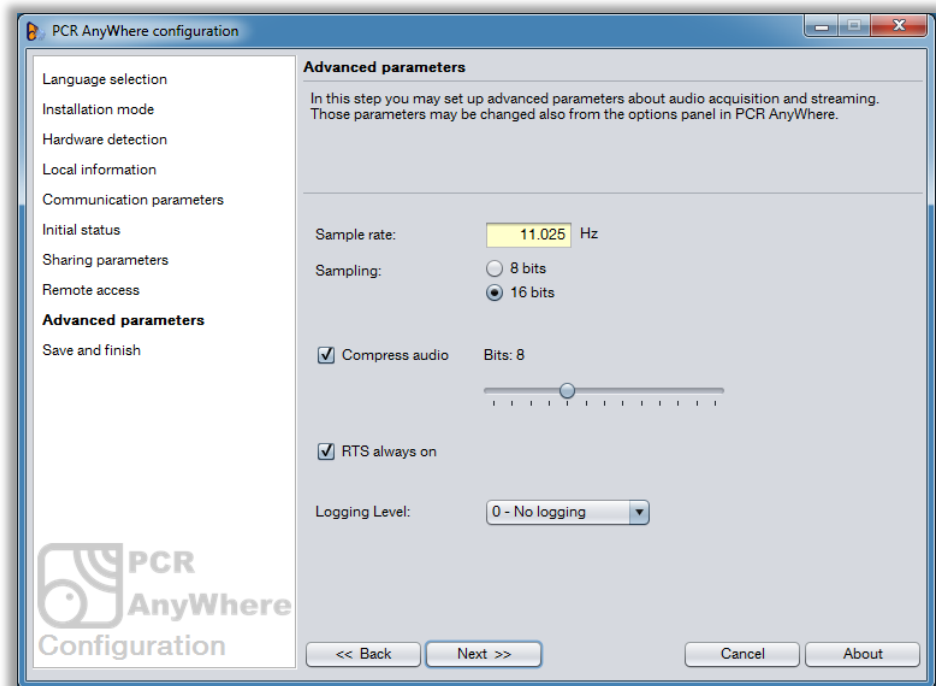
http://88.192.68.201	Port 8080
http://pcr.dyndns.org	Port 9090
http://www.mypcr.org	Port 2078
http://www.thisismypcr.com	Port 80

5.9 Advanced parameters

These parameters are for advanced users only. Please leave them as they are if you don't have any idea about them.

Some of these parameters can also be changed by each user from the 'Options' panel of **PCR AnyWhere**.

Following, an explanation of each of them is provided.



- ◆ **Sample rate:** Sampling frequency of the external audio in samples per second. Higher sample rates need more bandwidth between the server and the client. The bandwidth of the audio acquired is half of the sample rate. For instance, a sample rate of 11,025 samples per second, has an audio bandwidth of 6,500 Hz. 11025 is a good choice.
- ◆ **Sampling:** Number of bits per sample. 16 bits needs double of the bandwidth between the server and the client than 8 bits, but a better quality is obtained. 16 is a good choice.
- ◆ **Compress audio:** If checked, the audio will be sent to the client after being compressed and then restored at the client side. **PCR AnyWhere** uses a proprietary compression algorithm that is optimized to compress audio streams in real time.
- ◆ **Compression bits:** The compression algorithm that is used performs a compression of each sample. The algorithm applies a method to reduce the number of bits of the samples. This parameter specifies how many bits will be left. The maximum value is the initial number of bits (8 or 16) and the minimum value is 4 bits. A big reduction of bits implies a lower quality of the resultant audio. A reduction from 16 to 8 is a good choice but a reduction from 16 to 5 gives good results if you have a poor bandwidth available.
- ◆ **RTS always on:** Instructs **PCR AnyWhere** to force the serial port (physical or virtual) to keep the signal RTS always up. This is necessary for the receivers IC-PCR1000 and IC-PCR100.
- ◆ **Logging level:** Activates the logging of the clients' activity in a log file. If active, a daily log file is created in the directory `<PCR AnyWhere root directory>\tomcat\webapps\ROOT\WEB-INF\logs`. The value that is assigned defines the logging level as follows: 0=no logs, 1=logs connections and disconnections only, 2=logs all the activity. In a heavily used site, the logging level 2 may result in big log files.

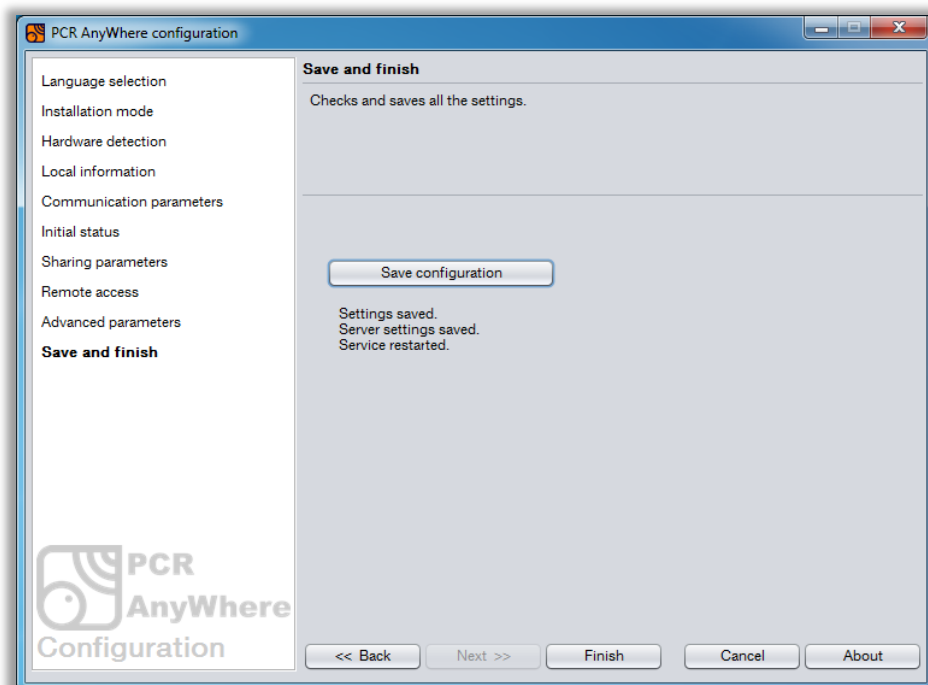
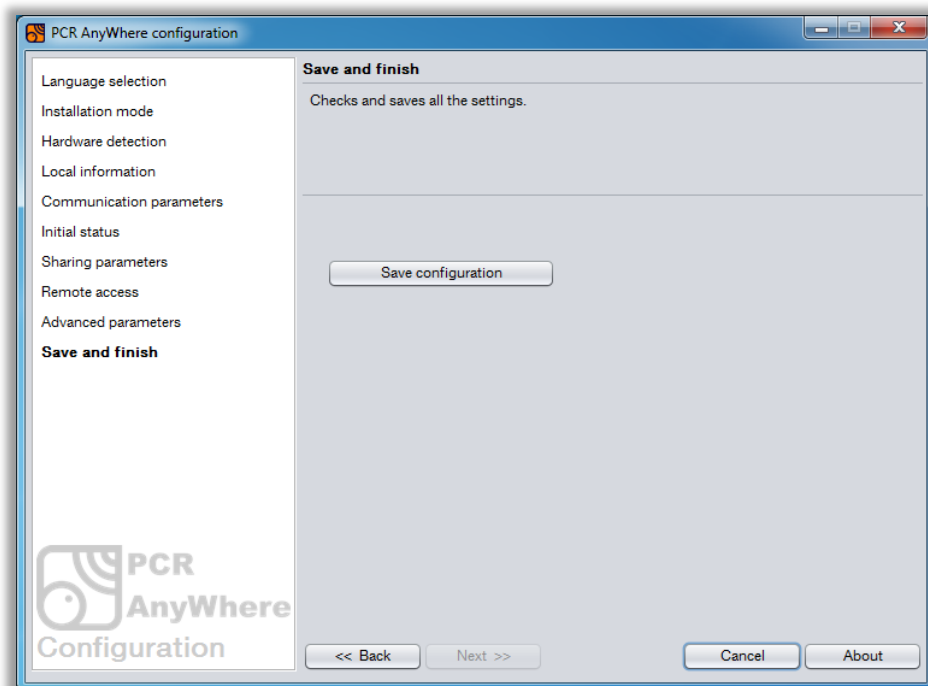
5.10 Save and finish

This is the last step of the configuration utility. Click on the button 'Save configuration' if you think that you entered all the parameters correctly. You can use the 'Back' button if you decide to change or reenter some parameters.

While the configuration is being saved, you will get the message 'Settings saved'. If you made any change on the TCP port, the two additional messages will be shown:

Server settings saved
Service restarted.

Now you are ready to use **PCR AnyWhere**. Click on the button 'Finish' to exit the configuration utility.

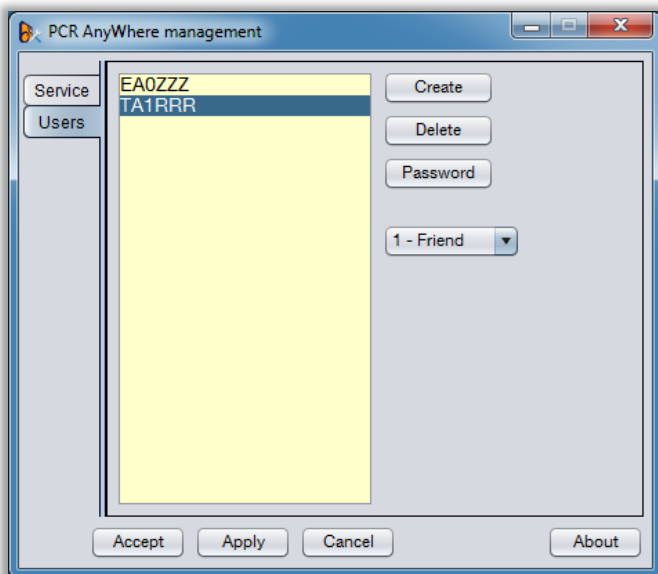
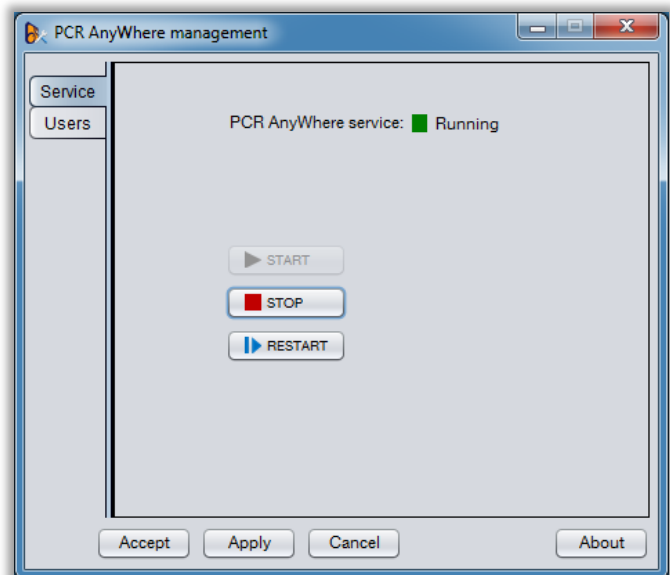




6 Management

The Management Utility of **PCR AnyWhere** can be launched using the program shortcut called 'Management' that is installed in the programs menu. This utility allows the management of the server side of the application and also the users and their privilege level.

In the tab 'Service' you can start, stop and restart the service. This service is the interface between the receiver and the client side of the application. You must use these options if you are having problems with the application.



In the 'User' tab you can create, delete, reset the password and change the privilege level of any user. Usually, these accounts are created by the users when they use the application but you can also create them from here.

When any of the option buttons are pressed, they will operate on the selected user, except the option 'Create'.

To change the privilege level of a user, just select the user and drop down the combo box at the right to choose the desired level.

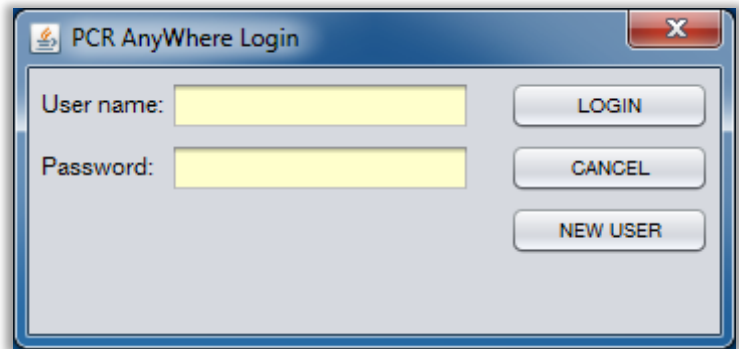


7 Initial steps

When you start *PCR AnyWhere*, you get the main interface.



If you are running **PCR AnyWhere** from a remote location and the site administrator has not allowed the guest users to use the receiver, then you will first get a log on window where you will need to enter a valid user name and password.



In this window you may also create a new user which will get guest privileges. The site administrator may later on provide you with a higher privilege level. See section 10.4 for more details.

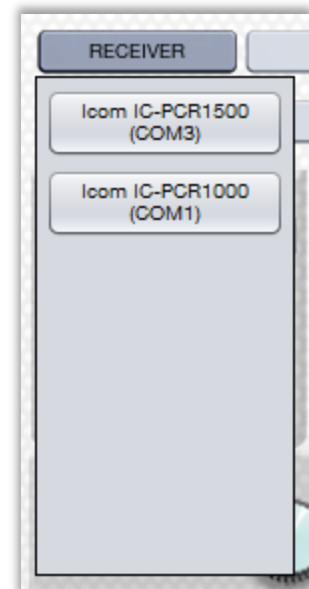
The initial configuration of the interface depends on the default values set up by the site administrator for the default receiver using the configuration utility.

This interface is divided into different sections. We will explain each one of those sections in detail. For the moment, we will focus on the initial tasks, which are: *receiver selection* and *power on*.

7.1 Receiver selection

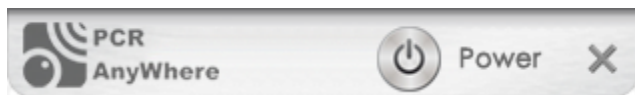
If the **PCR AnyWhere** site you are connecting (or your site in case that you are in local mode) has more than one receiver, you need to select the desired receiver first. The receiver selection must be done when the application is not connected to any receiver.

This selection is made by pressing the button 'RECEIVER'. When you press it, a drop-down panel appears with a list of receivers that are present at this site. Just press on the button corresponding to the desired receiver and close the panel pressing again the button 'RECEIVER'. When you press a button corresponding to a receiver, the configuration for that receiver is automatically loaded. If this is the first time that you are connecting to that receiver, then the default configuration will be loaded. If you have connected before, then the last configuration will be used.

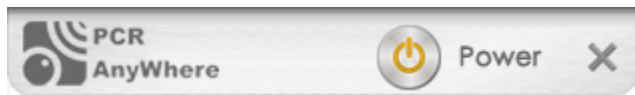


7.2 Power on

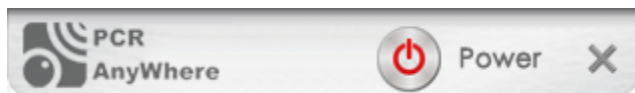
When a receiver is selected or when the application first started, the status of the receiver is checked. The power button on the upper right corner shows that status using a color code.



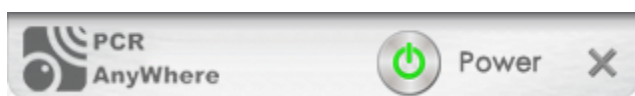
Grey: The receiver is free and ready to accept a connection.



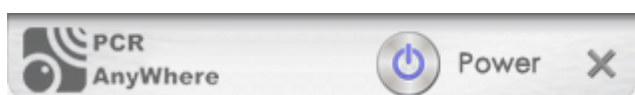
Orange: The receiver is currently in use, but the owner allows to connect in listening mode.



Red: The receiver is in use or not connected or the server is not reachable.



Green: The receiver is already in use by you.



Blue: The receiver is used in listening mode by you.

So, if the power button is in grey color, click on it and wait until it becomes green. At this moment, you are ready to operate your receiver with **PCR AnyWhere**.



8 Basic functions

The basic operation of the receiver is made with the upper left part of the interface:



This section contains main display plus controls to tune the receiver, control the audio output, some special receiver functions and memory management.

This section also contains a number of controls which, as in the rest of the application, can be of two types: buttons and knobs.

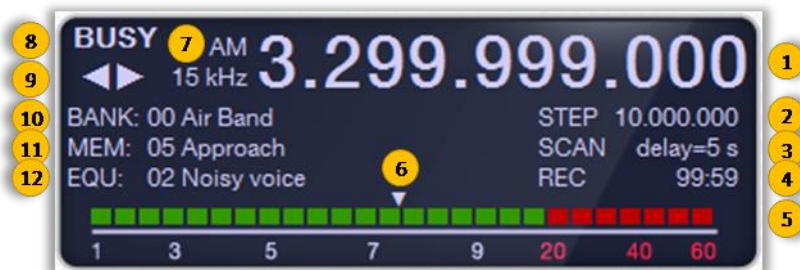
The buttons are activated when the user clicks on them. Some of the buttons are type *'toggle'* which means that they can save the state of them pressed or non-pressed. Other buttons just launch an action, like the apparition of a new panel or window.

The knobs are used to select values in a range (frequency, volume, memory number, etc.). They can be used in different ways:

- ◆ *Right and left click:* right click on the knob to increase the value and left click to reduce it.
- ◆ *Mouse wheel:* Move the mouse wheel on the knob to make the value change.
- ◆ *Click and drag:* Click on the button and drag it to right or left for fast increment and decrement.

8.1 Main display

The main display shows important information about the status of the receiver and the application. Following you can find an explanation of all the possible values and symbols that may appear:



-
- 1 *Frequency display:* Shows the current tuned frequency.
-
- 2 *Step display:* Shows the current frequency tuning step.
-
- 3 *Scan display:* When the application is scanning, this display appears and shows the current scan delay value.
-
- 4 *Record display:* When the application is recording the received audio, this display appears and shows the recording elapsed time.
-
- 5 *S-meter:* Shows the signal strength in dB.
-
- 6 *Squelch meter:* Shows graphically the adjusted squelch level. Only appears in the range of signal level, i.e. the second half of the squelch range.
-
- 7 *Band and filter display:* Shows the selected band and IF filter.
-
- 8 *Busy signal:* This display appears whenever a signal is present, i.e. the signal strength is greater than the squelch value.
-
- 9 *FM center indication:* Those arrows appear only in FM and WFM bands when the carrier is found to be displaced from the tuned frequency. It only applies if the function AFC is selected.
-
- 10 *Bank display:* Shows the memory bank selected and its name if any.
-
- 11 *Memory display:* Shows the memory selected and its name is any.
-
- 12 *Equalizer display.* When the equalizer is selected, this display appears and shows the equalizer profile number and its name if any.
-

The frequency display can also be used to change the frequency digit by digit. The behavior of each digit is exactly the same as of that for a knob. In this way, if you right click, left click or move the mouse wheel of the mouse over any digit, that digit will be increased or decreased accordingly.

8.2 Basic operations



Frequency selection: Select the desired frequency using the numeric keys on the keyboard, then press *Enter* to set the frequency. You can use the dot symbol (.) to specify the MHz separator. You can also use the backspace to delete digits before accepting a frequency.

The frequency can also be set using the frequency knob which will increase or decrease the frequency as per the specified step (see *STEP*).



AF Gain knob: Sets the audio level.

MUTE button: This button is used to mute (silence) the received audio signal.

Note: To mute the receiver's local sound, that must be selected in the configuration utility, only on the local computer.



SQL knob: Sets the squelch level. The squelch knob sets a minimum receive signal level below which no audio is sent to the speaker. This function prevents static or hiss from being heard through the speaker between transmissions. A higher squelch setting removes weak signals. The squelch level is displayed on top of the S-meter. The squelch does not open if a signal below the set S-meter level is received.

MON button: This button is used to listen to weak signals without the need to change the squelch setting or to open the squelch manually even when MUTE function is in use.



IF shift knob: The IF Shift knob changes the center of the IF (intermediate frequency) pass band frequency to reject interference. It is active in LSB, USB and CW modes only. Adjust the IF SHIFT control for a minimum interference signal level.

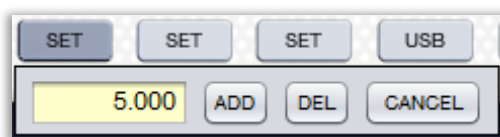
CENTER button: Click this button to set the IF shift knob to its center position.

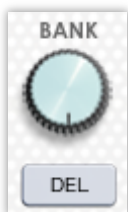


STEP knob: When the frequency knob is used to change the frequency, or when the scan function is active, the frequency increases or decrements in steps determined by the tuning step specified using this knob. The tuning step is adjustable by the help of the STEP knob.

By default, the following tuning steps are available: 1 Hz, 10 Hz, 20 Hz, 50 Hz, 100 Hz, 500Hz, 1 kHz, 2.5 kHz, 5 kHz, 6.25 kHz, 8.33 kHz, 9 kHz, 10 kHz, 12.5 kHz, 15 kHz, 20 kHz, 25 kHz, 30 kHz, 50 kHz, 100 kHz, 125 kHz, 150 kHz, 200 kHz, and 500 kHz, 1 MHz, 10 MHz.

SET button: This button is used to add or remove steps from the list. When pressed, a drop-down panel appears where it is possible to add or delete steps. This functionality is also available in the 'Options' panel.

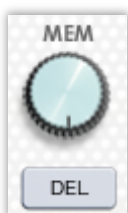




PCR AnyWhere can store up to 100 memory banks each of them containing 100 memories.

BANK knob: Allows the user to specify the current bank. The selected bank is shown in the main display.

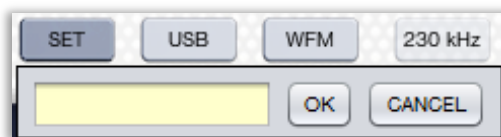
SET button: Drops down a panel to set the name of the current bank. If it is already set, the button caption changes to *DEL* allowing to delete the bank. Deleting the bank only removes the name, not the stored memories.



PCR AnyWhere can store up to 100 memories on each bank. When a memory is saved, it stores the tuned frequency, band and IF filter and everything under a name.

MEM knob: Allows the user to select a memory. If a memory has been set in the bank that is selected, then that frequency is immediately tuned on in the band with IF filter specified when it was stored. The selected memory is shown in the main display.

SET button: Drops down a panel to set the name of the memory that is going to be saved using the current tuning information. If the memory is already set, the button caption changes to *DEL* allowing deleting the memory.



Receiver mode buttons: Receive modes are determined by the physical properties of the radio signals. **PCR AnyWhere** has 6 receive modes: USB, LSB, CW, AM, FM and WFM modes.

Typically, AM mode is used for the AM broadcast stations (0.495–1.620 MHz), air band (118–135.995 MHz), and shortwave broadcasts. WFM is used for FM broadcast stations (88-108 MHz). Click USB, LSB, CW, AM, FM or WFM buttons to select the desired receive mode.

Some modes may not be available depending on receiver model. Each band has a set of permitted IF filters. The non-permitted filters will be disabled automatically.



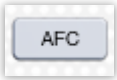
IF Filter buttons: **PCR AnyWhere** has 5 pass band IF filters of different bandwidth. The selectable pass band bandwidth are 2.8 kHz, 6 kHz, 15 kHz, 50 kHz and 230 kHz. Press the corresponding button to activate the filter. The permitted IF filters for each mode are:

- ◆ SSB mode : 2.8 kHz or 6 kHz
- ◆ CW mode : 2.8 kHz or 6 kHz
- ◆ AM mode : 2.8 kHz, 6 kHz, 15 kHz or 50 kHz
- ◆ WFM mode : 50 kHz or 230 kHz
- ◆ FM mode : 6 kHz, 15 kHz or 50 kHz

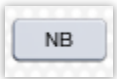
Some IF Filter modes may not be available depending on the receiver model.



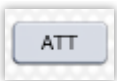
VSC button: The *VSC* (Voice Squelch Control) button opens the squelch only when a modulated voice signal is received. Click the *VSC* button to turn the *Voice Squelch Control* function on or off.



AFC button: The *AFC* (Automatic Frequency Control) function tunes the displayed frequency automatically when an off-center frequency is received. It may be activated in FM mode and with IF filters of 6 or 15 kHz only. Click the *AFC* button to turn the *Automatic Frequency Control* function on or off.



NB button: The *NB* (Noise Blanker) button removes pulse-type noise when USB, LSB, CW or AM modes are selected. Click the *NB* button to turn the *Noise Blanker* function on or off.



ATT button: Strong signals can cause distortion of the received signals. The attenuator function can reduce signal strength of interfering signals by approximately 20 dB. Click the *ATT* button to turn the *Attenuator* function on or off.



AGC button: The *AGC* (Automatic Gain Control) button controls **PCR AnyWhere** gain to produce a constant audio output level even when the received signal strength varies because of fading. The *AGC* fast is always selected in FM or WFM mode. Click the *AGC* button to toggle the time constant of the *AGC* circuit between slow and fast.



9 Advanced features

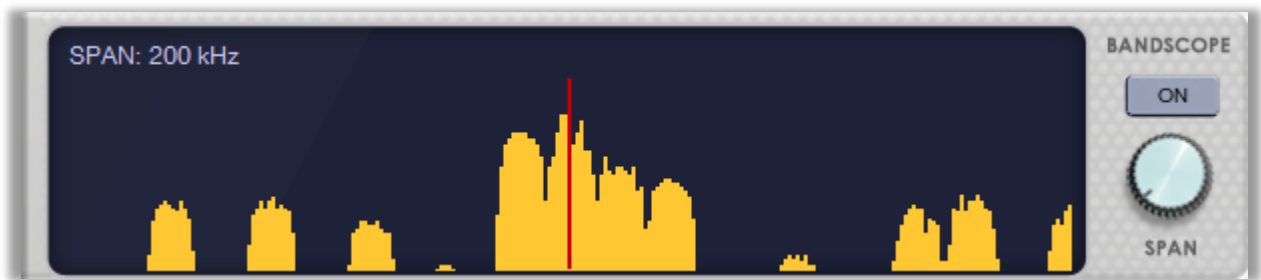
The advanced features panel allows the user to get additional information and control of the working environment. All those functions are located in the lower part of the interface.



The left part of this interface allows the user to graphically visualize the band scope and audio output. The right part includes additional audio control functions and utilities.

In the next pages, all those functionalities will be explained.

9.1 Band scope panel



The band scope functionality of *PCR AnyWhere* works on the frequency domain of the received RF signal. In this mode, the band scope function sweeps in the specified span around the tuned frequency allowing the user to visually check the received signal strength on its display.

To activate this functionality, click on the *ON* button. Be aware that when the USB, LSB or CW modes are selected, the audio will be muted. The same happens in all the bands if you are connected to a PCR100 receiver.

The signal conditions over the entire frequency span that has been set can be observed around the tuned frequency. According to the span width that has been set, some signals may not be displayed during sweeping.

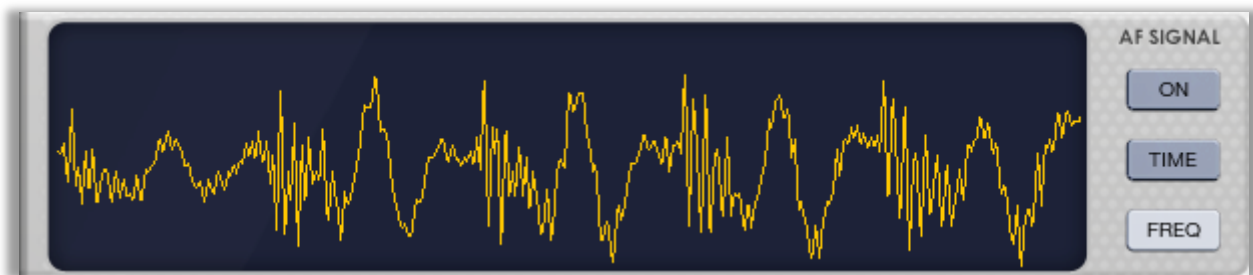
Turn the *SPAN* knob to the right or left to select the sweep bandwidth in the range from 50 kHz (± 25 kHz) to 10 MHz (± 5 MHz). The word '*extended*' appears when the selected span value is outside the standard span range. The extended span values are: ± 1.0 MHz, ± 2.0 MHz and ± 5.0 MHz. When any of those values are selected, the sound may be distorted.

The allowed span values depend on the receiver model:

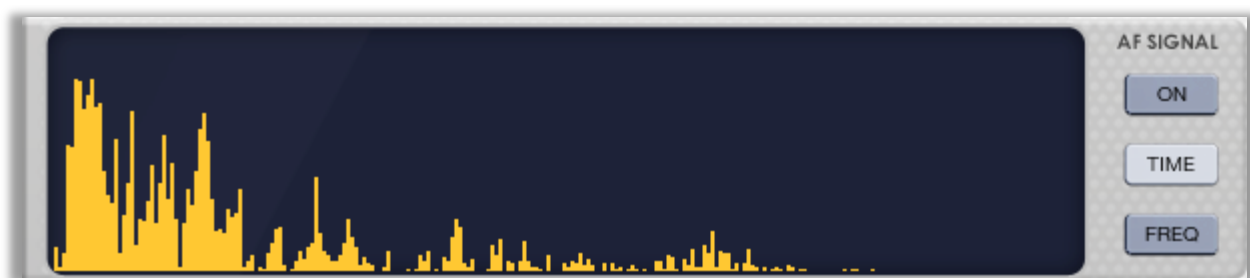
- ◆ PCR1500 / PCR2500: 50 kHz, 100 kHz, 200 kHz, 400 kHz, 1 MHz, 2 MHz, 4 MHz and 10 MHz
- ◆ PCR1000: 50 kHz, 100 kHz, 200 kHz, 400 kHz and 1 MHz
- ◆ PCR100: 200 kHz, 1 MHz, 2 MHz and 4 MHz

When the band scope visualization is active, you can use this panel to select the tuned frequency by just clicking on the wave form. This pick up signal function provides a quick frequency setting during the band scope operation.

9.2 AF Signal panel



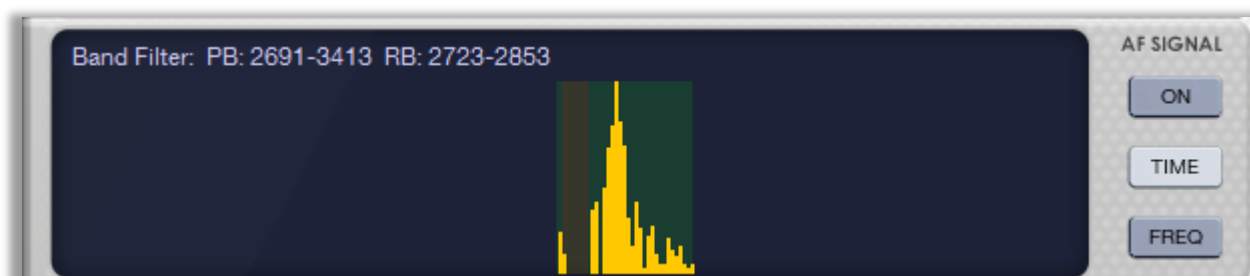
PCR AnyWhere has an embedded signal analyzer for the audio output signal. This analyzer is capable to represent the audio signal in the time domain, as represented above, or in frequency domain, as in the figure below. The representation mode is selected using the buttons 'TIME' and 'FREQ'.



When the signal is represented in the frequency domain, the AF Signal panel can be used to apply a pass band filter and/or a reject band filter to the audio signal. This is done inside the panel by clicking and dragging between the desired initial and final frequencies of the filter. If the click and drag is made using the left button of the mouse, then a pass band is applied. If the right button of the mouse is used, then the filter will be of the type reject band. The selected bands will appear in green for the pass band filter and in brown for the reject band filter.

This functionality can be used if you wish to completely isolate a tone or a very thin signal from the rest (like a digital or Morse transmission).

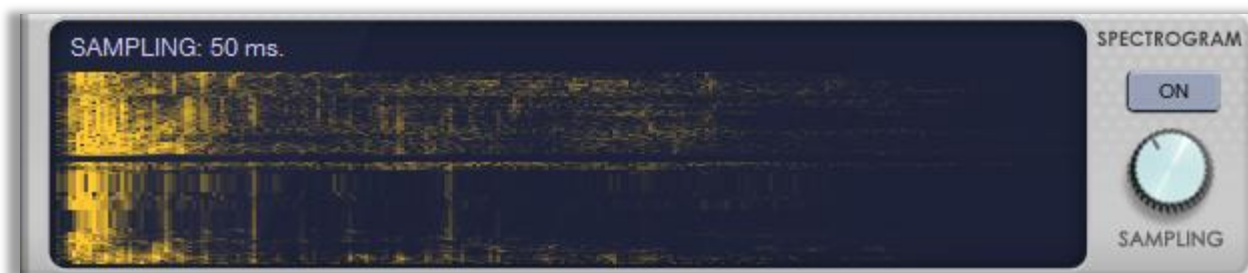
In the example below, both filters have been created in a manner that we have a pass band filter with a small rejection band inside.



The upper text shows the bands in Hz covered by the pass band filter (PB) and the reject band filter (RB).

To remove any of those filters just click once on the panel with the corresponding mouse button.

9.3 Spectrogram panel



PCR AnyWhere has a FFT (Fast Fourier Transform) based spectrogram display to show how the spectral density of a signal varies in time. The waterfall plot is used to show how two-dimensional information changes over time.

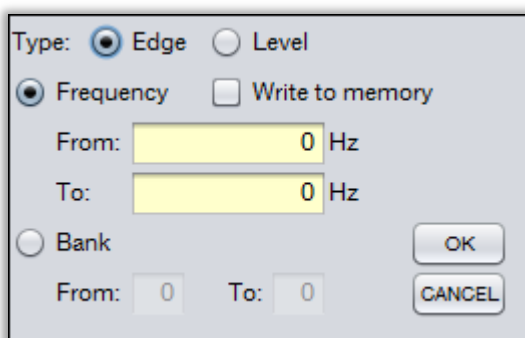
You can select the sampling rate using the 'SAMPLING' knob. The higher the sampling period is, the slower the waterfall will move and vice-versa.

The available sampling rates are 1ms, 2ms, 5ms, 10 ms, 20ms, 50ms, 100ms, 200ms, 500ms, 1000ms, 2000ms and 5000ms.

9.4 Scan operation

The scan function of **PCR AnyWhere** performs an automatic search of stations in a given range. The user can control several parameters to define what frequencies will be searched, what criteria will be used to decide if a station is present and what to do when a station is found.

Apart from the small panel present in the main interface, a secondary panel is dropped down when the button 'SET' is pressed. This panel contains most parts of the parameters to be specified prior to start scanning.



PCR AnyWhere has 3 scan modes:

Programmed scan mode

Programmed scan automatically searches for signals within a specified frequency range. The steps to perform a *Programmed scan* are the following:

- ◆ Select the appropriate band (AM, FM, etc.).
- ◆ Select appropriate filter (6 kHz, 15 kHz, etc.).
- ◆ Set a minimum received signal level to be considered as a signal using the 'SQL' knob.
- ◆ Adjust the frequency increment using the 'STEP' knob.
- ◆ Click the 'SET' button.
- ◆ Choose the scan mode 'Frequency' and enter the starting and ending frequencies in Hz.
- ◆ Click on the 'OK' button.
- ◆ Click the start button to start scanning.

When a signal is detected, the scanning automatically pauses on that signal. The amount of time to wait until the scan is resumed is given by the value 'DELAY' which can be specified in a range from 0 to 10 seconds.

Write to Memory scan mode

Programmed scan automatically searches for signals within a specified frequency range and stores them in all the available memories of the selected bank. The steps to follow are very similar to those for the *Programmed scan*:

- ◆ Select the appropriate band (AM, FM, etc.).
- ◆ Select appropriate filter (6 kHz, 15 kHz, etc.).
- ◆ Set a minimum received signal level to be considered as a signal using the 'SQL' knob.
- ◆ Adjust the frequency increment using the 'STEP' knob.
- ◆ Click the 'SET' button.
- ◆ Choose the scan mode 'Frequency' and enter the starting and ending frequencies in Hz.
- ◆ Check 'Write to memory'.
- ◆ Click on the 'OK' button.
- ◆ Click the start button to start scanning.

As before, when a signal is detected, the scanning automatically pauses on that signal until the delay time is consumed. In this case, the scan function looks for the first free memory in the selected bank and stores the frequency where the signal has been found. The name of the memory created is the frequency.

Memory Bank scan mode

In this mode, the scan is performed along the memories stored in a given range of banks. The steps to perform a *Memory Bank* scan are the following:

- ◆ Set a minimum received signal level to be considered as a signal using the 'SQL' knob.
- ◆ Click the 'SET' button.
- ◆ Choose the scan mode 'Bank' and enter the starting and ending bank numbers.
- ◆ Click on the 'OK' button.
- ◆ Click the start button to start scanning.

When a signal is detected in the frequency given by one of the stored memories, the scan pauses until the activity on that frequency stops. After that moment, the scan waits an amount of time given by the value 'DELAY' and then resumes.

The following is applicable to all the scan modes:

- ◆ The scan process can be paused or stopped at any moment using the buttons provided.
- ◆ The delay value can be changed during the scan process.
- ◆ The scan direction can be reversed using the right click and left click on the frequency knob.
- ◆ When the scan process finishes, it restarts automatically until the user stops.
- ◆ The VSC function is disabled during the scanning process.

9.5 Record operation

PCR AnyWhere has a recorder function that allows you to record an audio signal. The recorded audio can be saved into the server.



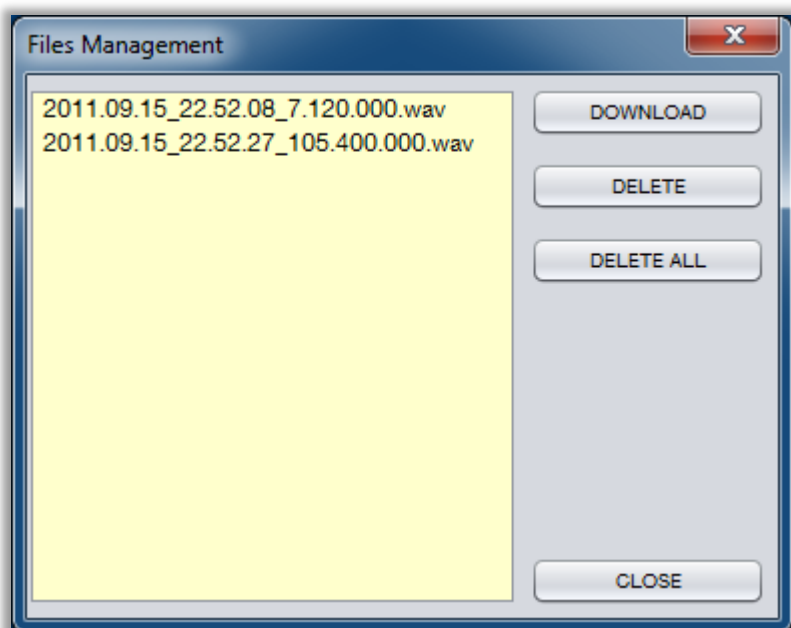
To start the recording process, follow these steps:

- ◆ Tune to the desired signal.
- ◆ Click the record start button to start recording the signal.
- ◆ While recording, the elapsed time and a 'REC' indicator are shown in the main panel.
- ◆ During the recording process, you can press the pause button at any time.
- ◆ Click the stop button to stop recording.

If the button 'SQL' is pressed, a *squelch activated record* is selected. In this mode, the audio is recorded only when a signal is present, pausing automatically during the silences.

The VSC function is disabled during the recording process.

The audio is stored at the server side of the application due to security restrictions of the platform used to develop **PCR AnyWhere**.



To access the recorded files, click on the button 'FILES' and you will get the files management window. In this window, you will get a list of the files that have been recorded by you.

The files are named with the recording date, recording time and the frequency that has been recorded.

To bring one of those files, click on it and click the button 'DOWNLOAD'. A file save dialog will appear allowing you to save the desired file.

To delete a file, select it in the list

and then press the button 'DELETE'.

To delete all of the files that belong to you, press the button 'DELETE ALL'.

9.6 DSP operation

This function is only available if the optional UT-106 is installed in the receiver.

ANF function

The ANF (Automatic Notch Filter) function automatically attenuates beat tones and tuning signals, even if they are moving. This function can be activated in USB, LSB, AM and FM modes.

Press the 'ANF' button to turn this function on.



NR function

The NR (Noise Reduction) function reduces noise components and picks out the desired signals which are buried in noise. The received AF signals are converted to digital signals and then the desired signals are separated from the noise. This function is available for all operating modes. The NR function may result in audio signal masking.

Move the 'NR' knob to set the noise reduction level for maximum readability.

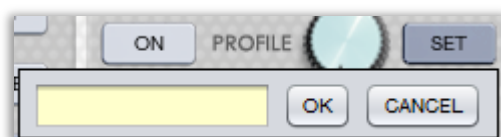
9.7 Equalizer operation

PCR AnyWhere has a FFT (Fast Fourier Transform) based equalizer with 10 band to adjust the strength of certain (pre determined) frequencies within an audio signal.

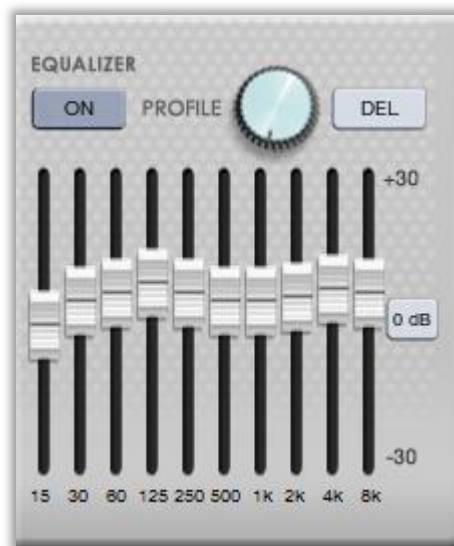
To activate the equalizer press the button 'ON'.

Move the sliders up or down for better sound. You can see the effects of the equalizer in the AF signal panel in *Frequency* mode.

You can click the '0 dB' button to restore the equalizer to flat audio.



You can store an equalizer configuration to a profile. To do that, select an empty profile



with the *PROFILE* knob and then adjust the sliders at your convenience. Finally, press the button 'SET' which will drop down a panel to introduce the name of the profile.

You can access your saved equalizer profiles adjusting the knob to a saved profile.



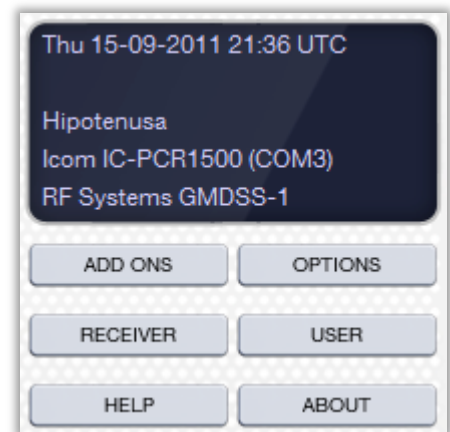
10 Other features

The last part of the **PCR AnyWhere** interface is a panel that shows information about the current site and some miscellaneous features.

This secondary panel shows the following information:

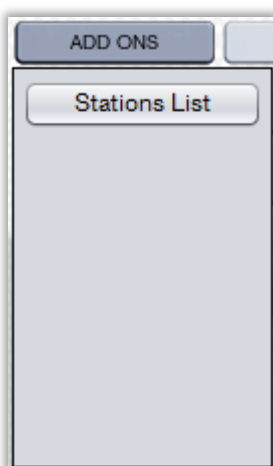
- ◆ Date and time in UTC.
- ◆ Station name.
- ◆ Receiver model and port where it is attached.
- ◆ Name of antenna.

Apart from that panel, some special function buttons are included:



10.1 Add-ons

The add-ons are external programs specially developed to be used together with **PCR AnyWhere**. Many of the future developments planned for **PCR AnyWhere** will be made in the form of add-ons.



When the button 'ADD ONS' is pressed, a drop down panel is shown which includes all of the add-ons that have been found. At the moment of **PCR AnyWhere 2.0** release an add-on has been developed called 'Stations List'. At the end of this manual you can find a separate section where this add-on is presented.

10.2 Options

When the button 'OPTIONS' is pressed, a new window appears where the user can set up additional parameters. This window has four tabs which correspond to different scopes:

The button 'ACCEPT' applies the changes made and exits from this window.

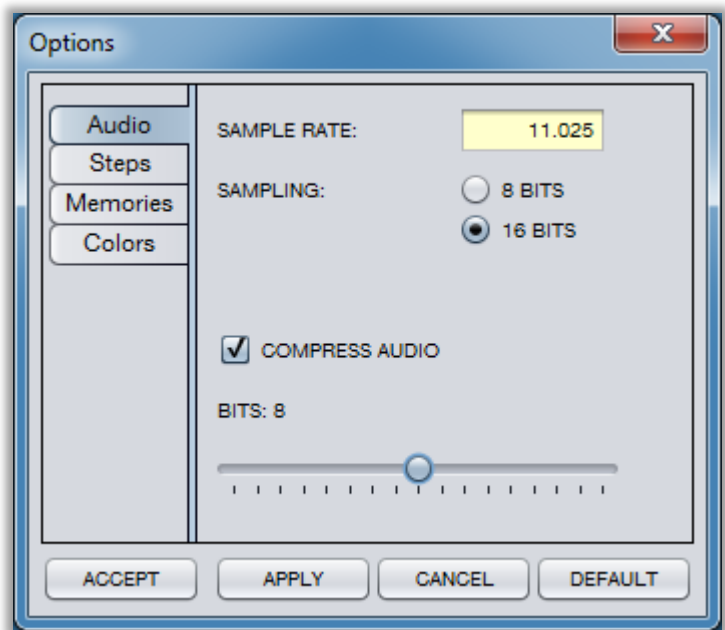
The button 'APPLY' applies the changes made and keeps the window active.

The button 'CANCEL' exits the window without applying the changes.

The button 'DEFAULT' restores the default values to the current tab.

The tab 'Audio' allows to change advanced parameters about how the audio is sampled and transmitted. It is not recommended to change these parameters unless you really understand what they mean.

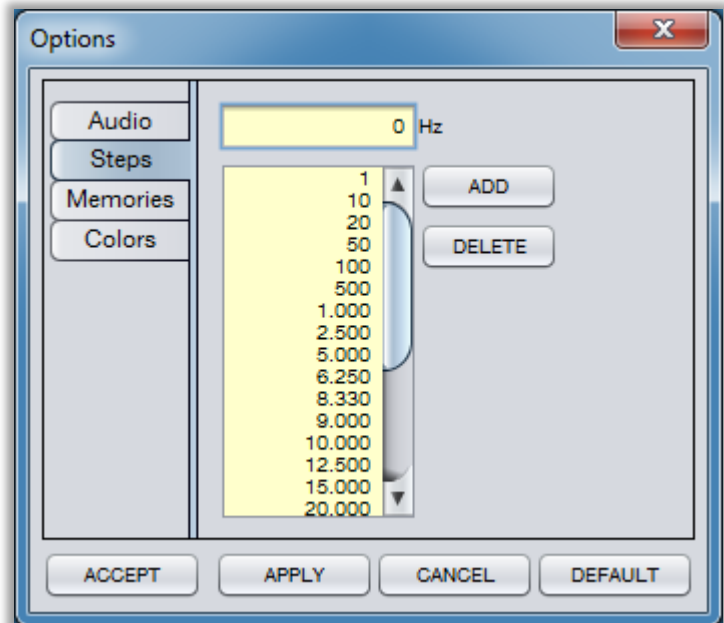
- ◆ *Sample rate:* Frequency of sampling of the external audio in samples per second. Higher sample rates need more bandwidth between the server and the client. The bandwidth of the audio acquired is half of the sample rate. For instance, with a sample rate of 11,025 samples per second, an audio bandwidth of 6,500 Hz is got. 11025 is a good choice.
- ◆ *Sampling:* Number of bits per sample. 16 bits needs double of the bandwidth between the server and the client than 8 bits but a better quality is obtained. 16 is a good choice.
- ◆ *Compress audio:* If selected, the audio will be sent to the client in compressed mode. **PCR AnyWhere** uses a proprietary compression algorithm that is optimized to compress audio streams in real time.
- ◆ *Compression bits:* The compression algorithm that is used performs a compression of each sample. The algorithm applies a method to reduce the number of bits of the samples. This parameter indicates how many bits will be left. The maximum value is the initial number of bits (8 or 16) and the minimum value is 4 bits. A big reduction of bits implies a lower quality of the resultant audio. A reduction from 16 to 8 is a good choice, but a reduction from 16 to 5 gives good results if you have a poor bandwidth available.



The tab 'Steps' allows the management of the available frequency steps in the main interface. This list of steps can also be managed from the main interface using the 'SET' button below the 'STEP'. This option is provided to manage those values in an easier way.

To add a step to the list, type it in the text box on top and press the button 'ADD'.

To delete a step from the list, click on its value in the list and press the button 'DELETE'.

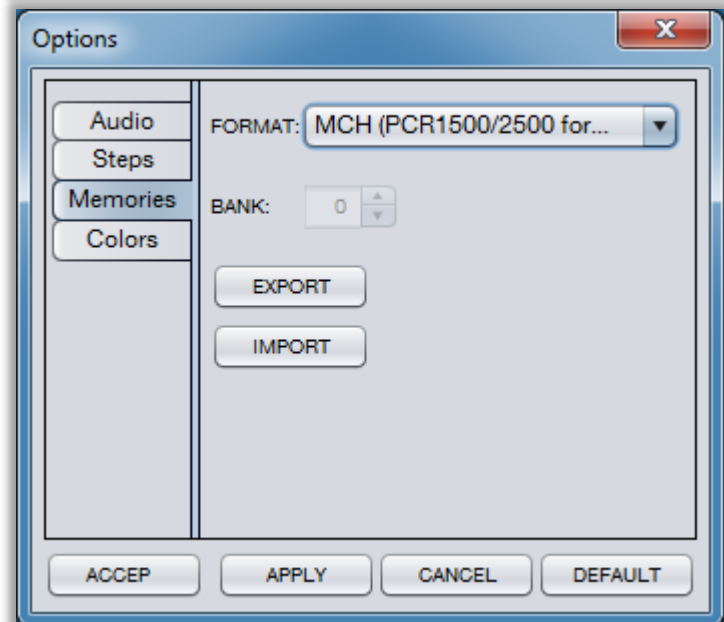


The tab 'Memories' allows to import and export memory files. The supported formats are:

- PCR AnyWhere (proprietary)
- MCH (PCR1000)
- MCH (PCR1500/2500)
- CSV

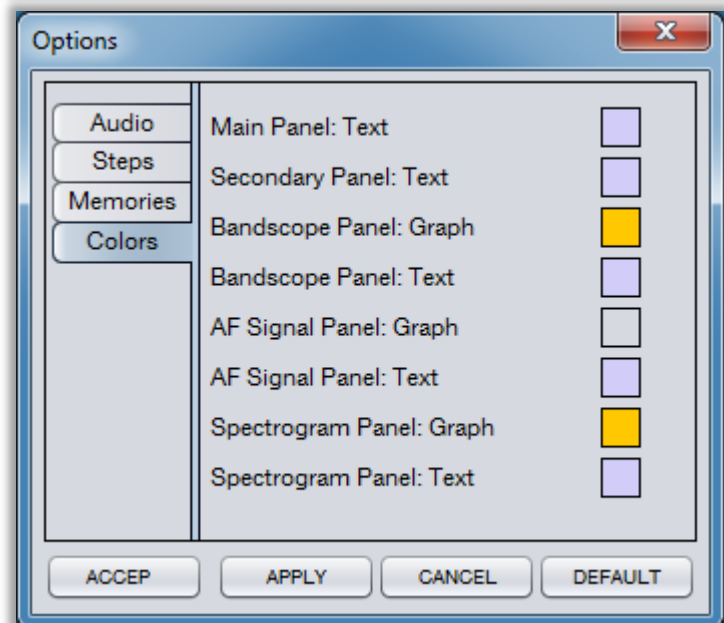
Just select the desired format and press 'Export' or 'Import' to get a file dialog.

The format CSV only supports one memory bank. In that case, the desired bank must be selected.



The tab 'Colors' allows the user to change the appearance of the main interface by changing the colors of the text in the main and secondary panels and also the colors of the graph and text in the rest of the panels.

To change any color, click on the corresponding colored square.



10.3 Receiver

This button has been already discussed in the section 7.1 (*Receiver selection*).

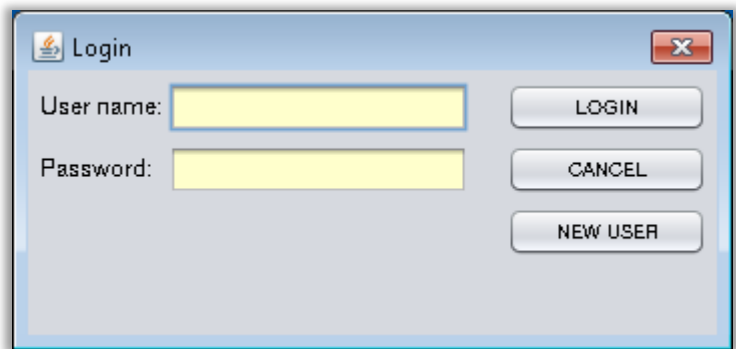
10.4 User

PCR AnyWhere can remember the last status and memories saved from a remote session. When the application identifies that a session is being opened from the same computer with a previous session, it then loads the configuration previously saved.

If a user wants to get the same configuration from any computer, then he has the option to create a user name (protected by a password) with which he will get the same configuration from any computer as soon as he logs in.

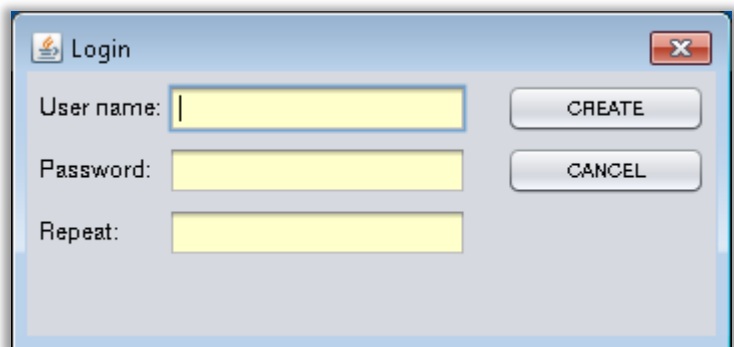
When the button '*USER*' is pressed, a new window appears from where it is possible to create a new user or to log in using a previously created user.

In this window, the user must enter his user name and password and press the button '*LOGIN*'. Then his configuration will be immediately loaded.



To create a new user, you must press the button '*NEW USER*'. The current window will change to allow enter a new user name and a password which, as usual, must be repeated twice to avoid type mismatches.

Once a user has logged in, the configuration of his session will be copied to a new profile for his user, thus allowing retrieving it from any other computer.



10.5 Help

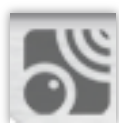
When the button '*HELP*' pressed, a help window will appear. That window includes the description of the most basic functionalities of **PCR AnyWhere**.

10.6 About

When the button 'ABOUT' is pressed, a window with the license and credits of **PCR AnyWhere** will be shown. That window includes a button to see the history of changes in the application development.

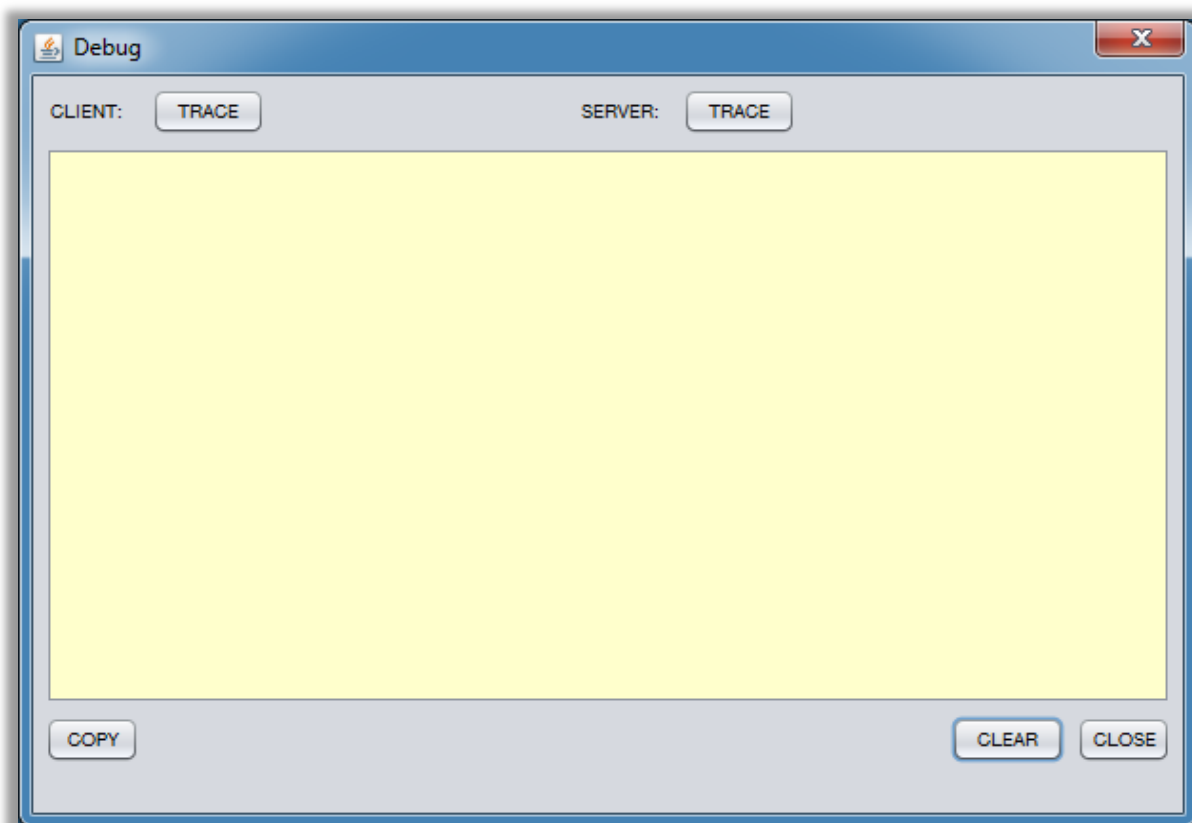
10.7 Debug

PCR AnyWhere provides a tool for advanced debugging of the application. This tool should be used only in case of problems and usually to provide debug information to the developers.



To activate this function, double-click on the application icon besides the power button.

Then, the following window will appear:



You can choose to see debug information about the execution at the client side or at the server side.

You can also copy the contents of the debug panel to clipboard but be aware that this option is only available if **PCR AnyWhere** is being executed in application mode.



11 PCR OnLine

PCR OnLine is a web service provided by the web page of **PCR AnyWhere** at <http://pcranywhere.com>.

If you are the owner of a **PCR AnyWhere** site that is accessible from the Internet and you wish to share your installation with other colleagues, you must set up your system to be published from the configuration utility (see section 4.8).

The appearance of this web service is the following:

The screenshot shows a web browser window with the URL <http://www.pcranywhere.com/pcr-online.html>. The page features a navigation menu with links: Home, News, Screenshots, Downloads, Resources, Visit book, Community, and PCR OnLine. The main content area includes the PCR AnyWhere logo and a banner with the text "Connecting from everywhere" over a background image of a radio receiver control panel. Below the banner is a disclaimer in English and Spanish, accompanied by flags of the United Kingdom, Spain, France, and Turkey. At the bottom, there is a section titled "Available devices" containing a table with the following data:

Station	Location	Operator	Receiver	Antenna	Status
JC	Esbjerg Denmark	Juan Carlos jcarlos.prieto@pcranywhere.com http://www.pcranywhere.com	Icom IC-PCR1500 Icom IC-PCR100	RF Systems GMDSS-1 Diamond D3000N	Green
TA3AS	Ankara TURKEY	TA3AS ta3as@pcranywhere.com http://www.pcranywhere.com	Icom IC-PCR2500	AH-7000 Discone	Yellow
ON0BT	Brussels Belgium - Europe	Pedro M.J. WYNS - ON7WP AASHX on7wp@telenet.be http://www.facebook.com/ON0BT	Icom IC-PCR1500	Collinear at 100 m agl	Green
WA6YVX	San diego, CA USA	Ed wa6yvx@aol.com http://pcranywhere.com	Icom IC-PCR1000	G5RV/Ferret	Green



12 Add-ons

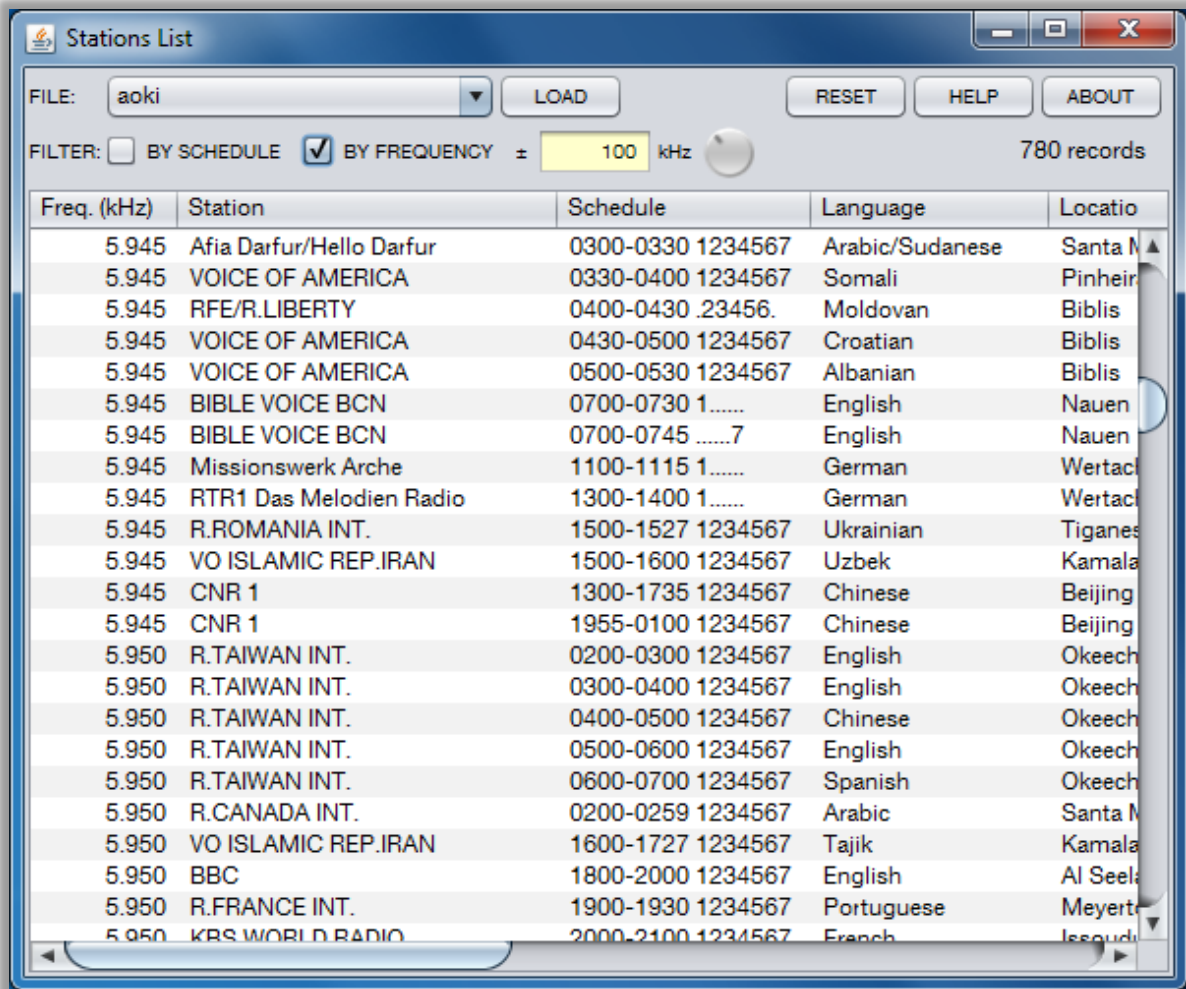
In this section, we give a description of the functionalities of the add-ons included in **PCR AnyWhere**. As described in the section 9.1, the add-ons are independent Java applications that have been developed to work together with **PCR AnyWhere** to add new functionalities to the main application.

At the moment to release version 2.0 (first version with this functionality), only one add-on has been included which provides a functionality that was previously embedded in the main interface of the versions of **PCR AnyWhere** (up to version 1.7).

The list of add-ons will grow in the future extending the capabilities of **PCR AnyWhere**.

12.1 Stations List

The object of this add-on is to provide an online list of HF broadcast stations that can be filtered and sorted by several criteria. The management of this list is linked to the main interface of **PCR AnyWhere** in such a way that a station can be tuned from the station list or vice-versa: a list of the stations in the environment of the tuned frequency can be shown. When this add-on is executed, the following window will appear:



This window shows a list of broadcast programs that have been previously loaded into a file with a certain structure. We may define 'program' as the emission made during a certain period of time by a broadcasting station in a certain language from a certain emission center. The information shown for each program is the following:

- ◆ *Frequency:* Frequency in kHz on which the station operates.
- ◆ *Station:* Commercial name of the station.
- ◆ *Schedule:* Shows at what time and week days this emission is active. This field shows the starting and ending times as well as the week days in which it is active.
- ◆ *Language:* Language of the program.
- ◆ *Location:* Name of the emission center.
- ◆ *Adm:* Country where the station is registered.
- ◆ *Position:* Latitude and longitude of the transmission center.
- ◆ *Power:* Power of emission in watts.

- ◆ *Distance*: Distance in kilometers from the emission center to the **PCR AnyWhere** station. In order to be capable to give this information, the site administrator needs to provide the latitude and longitude of his/her station in the configuration utility.
- ◆ *Ratio*: This field gives the result of dividing the emission power in mW by the distance in kilometers. It gives an idea of the received power at the **PCR AnyWhere** station.
- ◆ *Remarks*: Additional information about the program.

The 'Stations List' add-on has a certain number of optional buttons and actions but, for ease of use, most part of the operations is performed on the main list of programs. Following you can find a list of all the options and operations:

- ◆ *FILES*: Shows all the available stations' files. You can choose one of them and load it into the table by pressing the button 'LOAD'.
- ◆ *Filter by Schedule*: Filters the table to show only the programs that are currently on emission.
- ◆ *Filter by Frequency*: Filters the table to show only the stations around or exactly at the frequency tuned on the receiver. The frequency tolerance can be selected by the knob besides it.
- ◆ *Click on any row*: Tunes to the selected station.
- ◆ *Right-click on any value*: Filters the table by that value. More than one filter at a time is allowed. Right-click again on a value to remove the filter.
- ◆ *Sort by column*: Click on a column header successively to sort in ascendant or descendent order.
- ◆ *Remove a column*: Right-click on the header of the column to be removed and select the option 'Remove this column'.
- ◆ *Add a column*: Right-click on the header of the column before which the new column will be added. Select the option 'Add column' and then choose the name of the desired column.
- ◆ *Move a column*: drag its header to desired position.
- ◆ *Resize a column*: Drag the separation between two adjacent columns.
- ◆ *RESET*: Removes all the filters and customizations made on the interface by the user.
- ◆ *HELP*: Shows a brief help window.
- ◆ *ABOUT*: Shows license and version information.

About the stations' files (for site owners only)

The file provided with **PCR AnyWhere** is the well known 'Aoki' list of broadcast stations. This list is periodically updated by its owner on the web site <http://www1.s2.starcat.ne.jp/ndxc>.

PCR AnyWhere will not update this file automatically from the internet. The site administrator must download the latest version of the zipped file and copy it into the following directory on the computer that is connected to the receiver:

<PCR AnyWhere installation directory>\tomcat\webapps\PCR\addons\aoki.zip.

If you wish to create your own stations file, you only need to follow the syntax of the one that is included with the application. The only rules that you must respect are the following:

- ◆ The file must be in zipped format and must contain a text file which its name is the name as the zip file but with extension .txt.
- ◆ The first program line must start in the third line of the text file.
- ◆ You may use the 6 first positions of each line to enter the frequency in kHz.
- ◆ You must respect the starting position of each field in the text file.
- ◆ You may leave fields in blank but must fill with spaces for the corresponding options.
- ◆ There is no limit for the number of lines in the file.
- ◆ Only the first 150 positions of each line are read.

