OLYMPIA ®

**P324
PROFESSIONAL
HAND-HELD UHF FM
2-WAY RADIO**

PC PROGRAMMING KIT

USER'S MANUAL

**Version 2.1.0
(USB compatible)**

Table of Contents

Introduction

This document will guide the user to install and operate the Olympia P324 PC programming software. The software can set all programmable parameters of the radio, save a binary file for radio "cloning," and organize files with settings for various radio configurations.

PC Programming Kit Contents

The kit includes the following:

1 CD with:

OLYMPIA P324 Program
Programming User's Guide
Radio User's Guide
Examples of Memory Channel .bin files

1 RS-232 to P324 Radio programming cable
OR
1 USB to P324 Radio programming cable

Installing the Software

P324 Programming Software

Insert the CD in the appropriate drive.   The installation should start automatically.

You may navigate to the CD drive and double click the Olympia P324 autorun.exe icon to start the installation

1. The welcome screen appears. Click **1> 2> or 3>** as appropriate for your operating system to continue or click **Exit** to terminate the installation.

2. The installation screen below appears. If you are using a USB cable, you will be installing the USB driver and the Olympia P324 program in two stages.

    Click **Next** to continue with USB setup.

    If you are using a RS-232 cable, click **Cancel** to skip the USB installation and skip to step **4.** below.
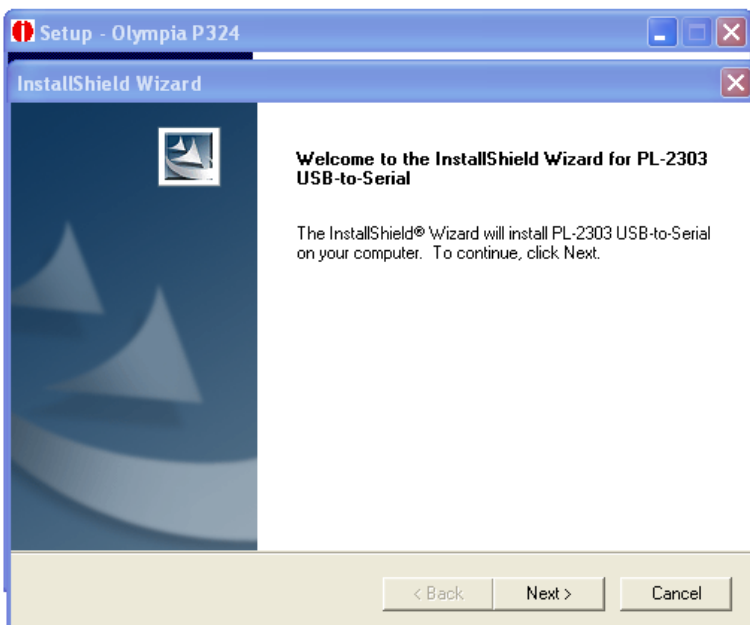
3. The installation complete screen below appears.

Click **Finish** to continue with the Olympia P324 setup.

Notes on the USB Cable Driver

The file USB DataCable Driver ReadMe.txt gives additional details on using the USB drivers on your PC

1) Plug the Cable into a USB port.
2) The **Welcome to the Found New Hardware Wizard** or **Add New Hardware Wizard** (Win98) should appear. If it does not appear, go to step 9.
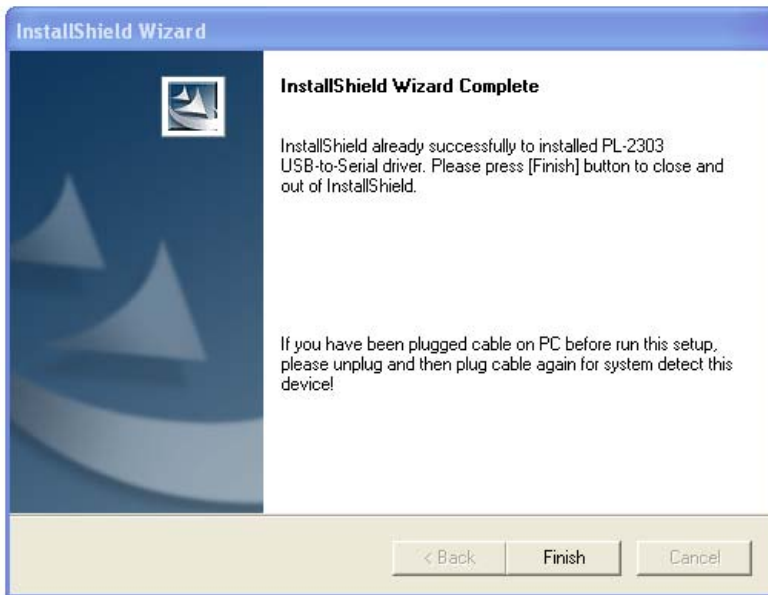3) Ensure the product driver CD (included with package) has been inserted in your CD-ROM drive.
4) Select the option: **Install the software automatically** (Recommended) or **Search for the best driver for your device** (Win98)
5) Press **Next**. Win 98 users should check CD-ROM drive.
6) Windows should find the Prolific USB-to-Serial Comm Port driver. Otherwise you should find the directory under your version of Windows under the **USB to RS232 1.1** directory on the CD-ROM. Windows 98 lists the device as **GM USB to Serial Bridge**.
7) You will probably see a message indicating that the driver has not passed Windows Logo testing. Press **Continue Anyway**. This warning can be safely ignored.
8) Press **Finish** when prompted by Windows to complete the installation.
9) ***** If the Found New Hardware Wizard did not appear in step 2:**
   Open Device Manager by doing the following:
   a) Click on **Start** and then **Control Panel**.
   b) Switch to Classic View (if in Category View).
   c) Double click on **System**.
   d) Select the Hardware tab.
   e) Press the **Device Manager** button.
10) Under Ports (COM & LPT) look for a USB Device entry with a yellow exclamation point **'!'** by it.
11) Right click on the USB Device and select **Update Driver**.
12) This should bring up the **Welcome to the Hardware Update Wizard**.
13) Ensure the product driver CD (included with package) is inserted in your CD-ROM drive.
14) Select the option: **Install the software automatically** (Recommended).
15) Press **Next**. Continue on step 5 above.

How to Check the Driver Installation

Windows XP, 2000, ME, and 98 include a function that allows you to reassign the COM port.

It is possible that the COM port number assigned is too high. Sometimes a device won't work with the USB-to-Serial adapter even though everything appears to have installed correctly because some computers will only scan a limited number of COM ports.

For instance, it is possible that a computer has a limitation of scanning only the first four COM ports. If the adapter is installed on COM5, a device with such a limitation will not work until the COM port is reassigned to COM1 - COM4.

Windows 2000, ME, and 98SE port reassignment

1) Go to the Device Manager:
Windows 2000/2003: Start -> Settings -> Control Panel -> System -> Hardware -> Device Manager
Windows XP: Start -> Control Panel -> System -> Hardware -> Device Manager
2) Expand **Ports (COM & LPT)** in the list of devices
3) Right click on the **Prolific USB to Serial Port** and click on Properties
4) Click on the **Port Settings** tab. Click on the Resources tab.
5) *Uncheck* the box that says **Use automatic settings**.
6) Select **Input/Output range**.   Click on **Change Settings**.
7) Type "02E8-02EF" in the Value box.   This value will change the port to COM 4.   If COM 4 is in use, you must choose another port.   The values for each port are:

> COM 1:   03F8-03FF
> COM 2:   02F8-02FF
> COM 3:   03E8-03EF
> COM 4:   02E8-02EF

8) After entering the value, click **OK**.   Click **OK** again and click **Yes** when the "Creating a Forced Configuration" window appears.   Click **OK** again.
9) Restart your computer.   If you go into the device manager, you will see that the COM port has changed to the one you have selected.

4. The Olympia P324 welcome screen appears. Click **Next** to continue or click **Cancel** to terminate the installation.
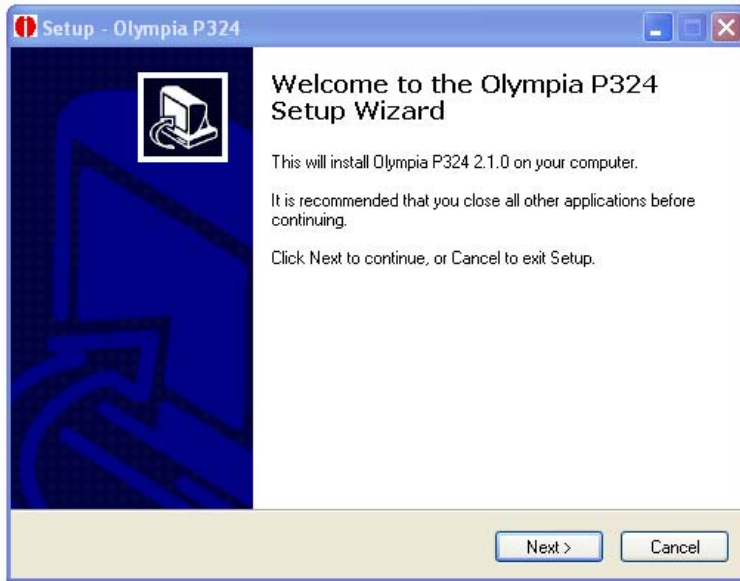
5. The folder where setup installs the files can be changed. The default directory is *C:\Program Files\Olympia P324*. Click **Browse…** to change the directory, or click **Next** to continue using the default location.
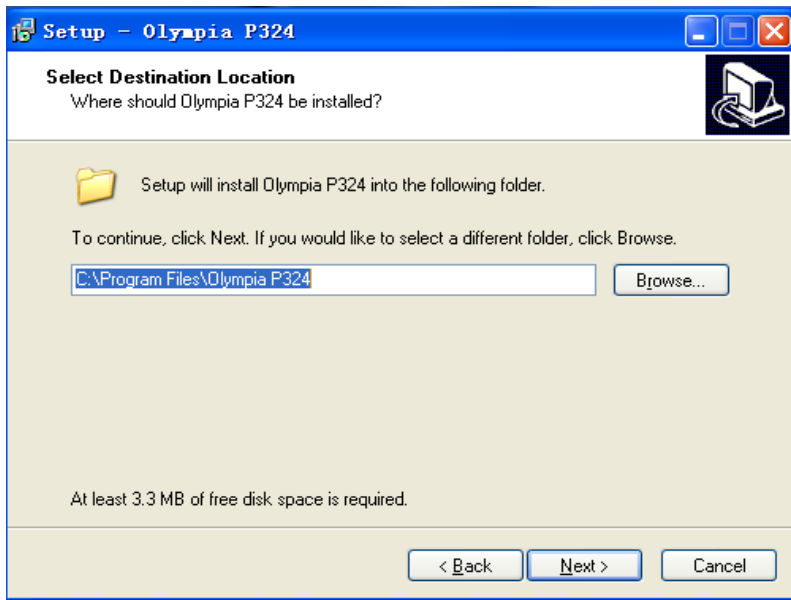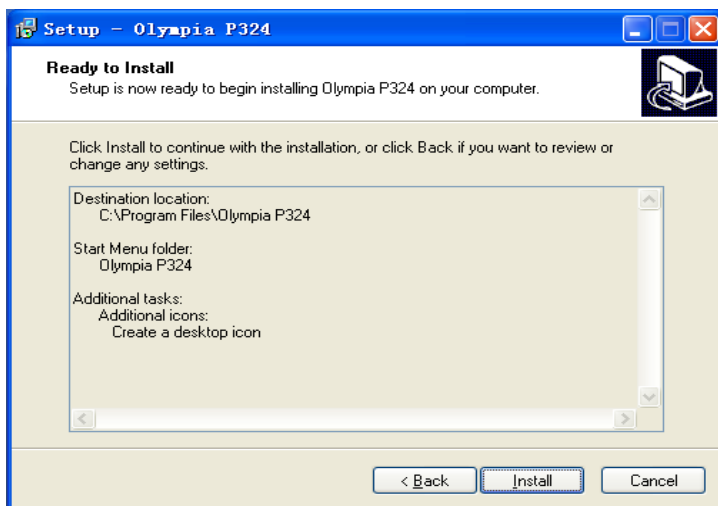

6. 3. The name of the Start Menu folder can be changed.   Click **Browse…** to change the directory, or click **Next** to continue using the default folder name.
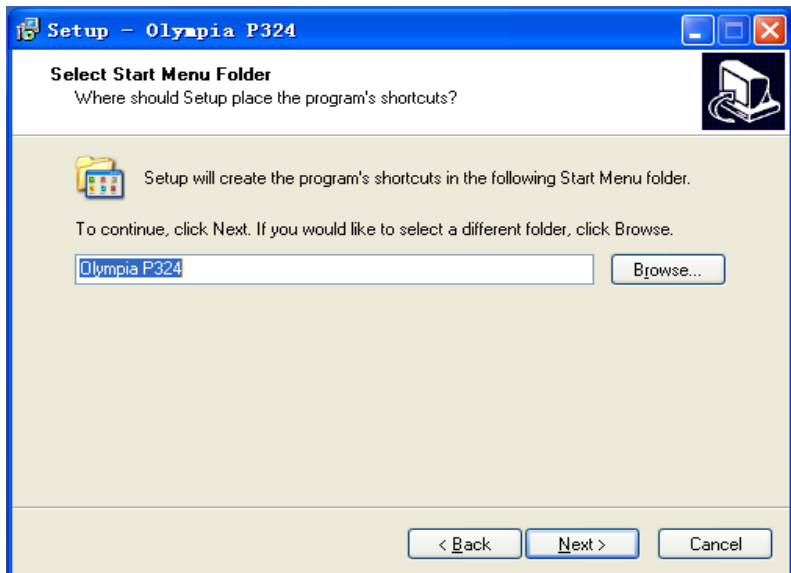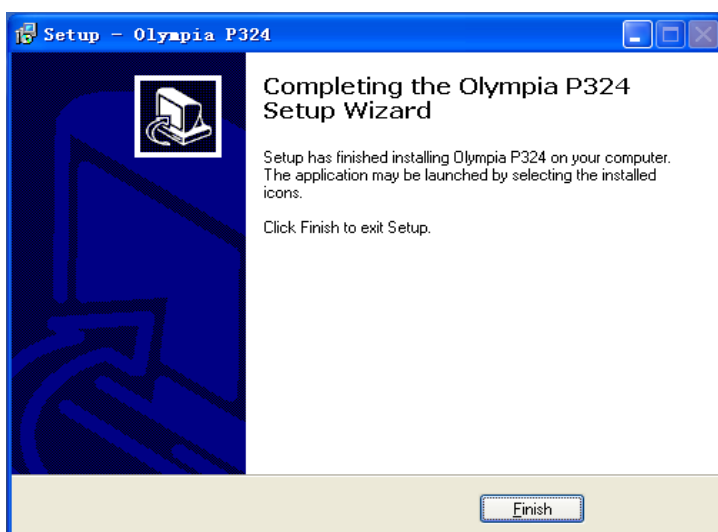
7. 4. Select whether to create a desktop icon or not. Click **Next** to continue.
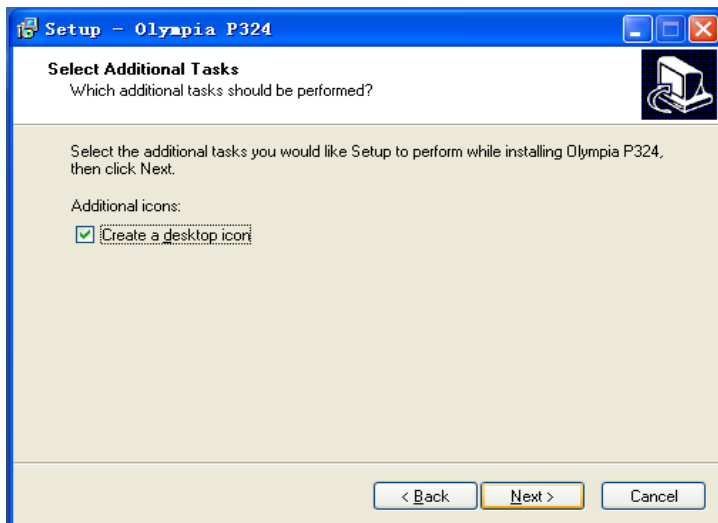
8. 5. The install screen appears. Click **Install** to continue with the installation.

9. 6. Installation is completed. Click **Finish** to exit the program.
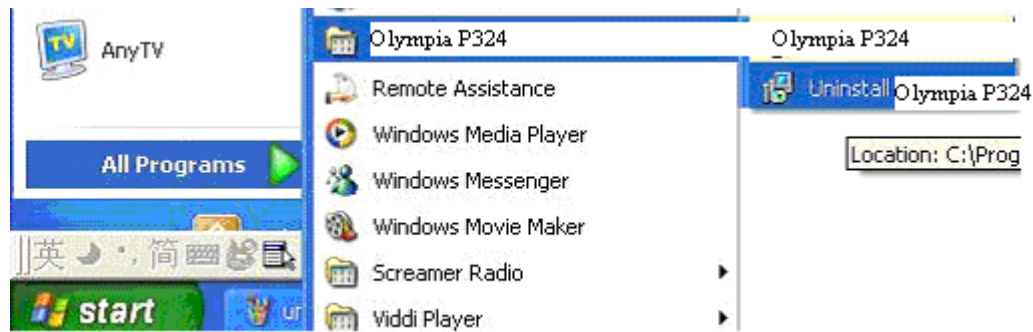
Uninstalling the Software

USB Cable Driver

Open Device Manager by doing the following:

1. Click on **Start** and then **Control Panel**.
2. Switch to Classic View (if in Category View).
3. Double click on **System**.
4. Select the Hardware tab.
5. Press the **Device Manager** button.
6. Under Ports (COM & LPT) look for a USB Device entry "Prolific USB-to-Serial Comm Port."
7. Right click on the USB Device and select **Uninstall**.
8. **Confirm Device Removal** will appear.   Click **OK** to uninstall.

P324 Programming Software

If you need to uninstall the software from the PC, uninstall from the program folder.   Click **Start** then click **All Programs** and click **Olympia P324**   Use the **Uninstall Olympia P324** item to remove the software.

There will be a message box prompt to confirm the uninstall. Click **Yes** to continue and remove the software, or **No** to cancel and leave the software installed.
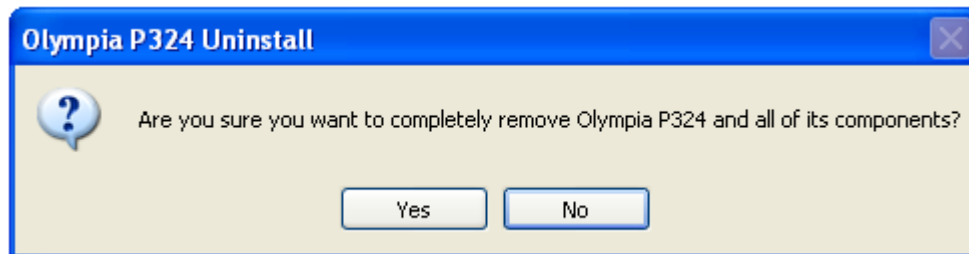
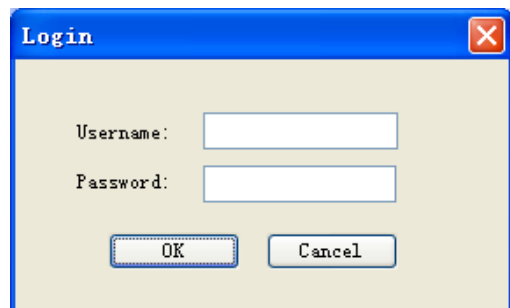After uninstalling the program, click **OK** to exit the wizard.
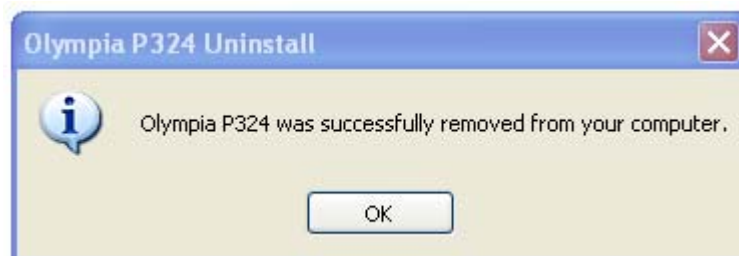
Software Operation

Initial Login In
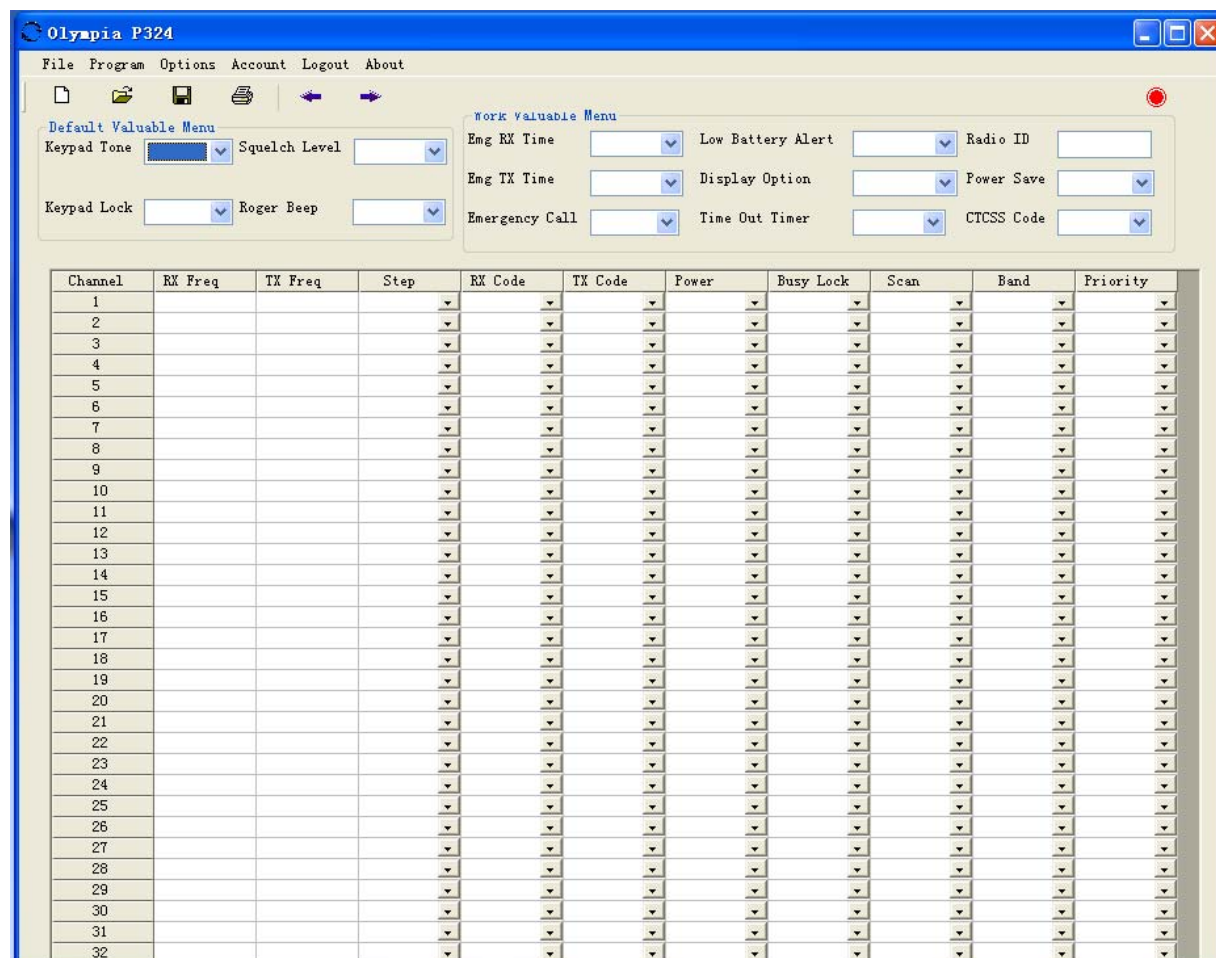When you finish the installation, double click the Olympia P324 icon to run the program.

Olympia P324

A login screen will appear:

The default username is **admin**
The default password is **123456**

Input the default user name and password, press [OK] to confirm, and the main screen will display:

Changing your Account password

1. On the **Account** menu click **Change Password** and the screen will display:
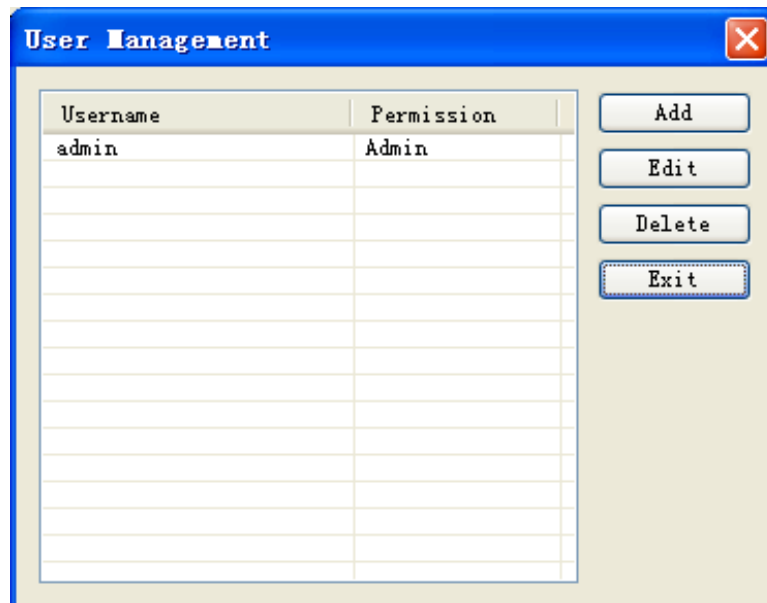
2. Input the Old password, and the New Password (twice, to confirm)
3. Click OK to confirm or Cancel to exit without changing.

User Account Management

User account permission level **Admin** enables all user management functionality.   An **Admin** account user may

- Add a new user
- Edit an existing user
- Delete an existing user.

On the **Account** menu click **User Management** and the screen will display:
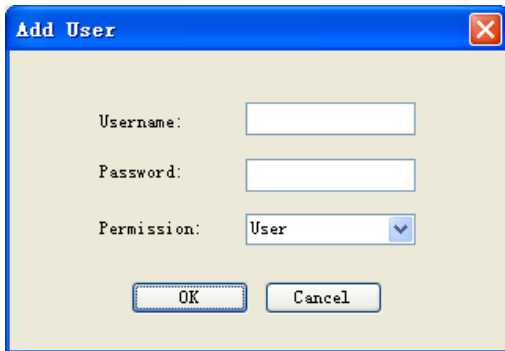
Exit User Management:

Click **Exit** to leave User Management and return to the main screen.

Adding a new user account:
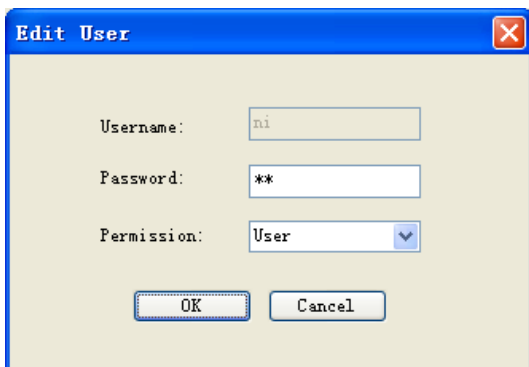
1) Click **Add** to open the **Add User** box:

2) Input a Username for the new account.
3) Input a Password for the new account.
4) On the **Permission** pull down menu choose a level from the listed values:
>   **Admin**: All functionality is enabled.
>   **User**:   User cannot perform User Management.
>   **Factory**: Can only read and write setting files created by **User** or **Admin**.

5) Click **OK** to save the new user account settings.

Edit a user account:
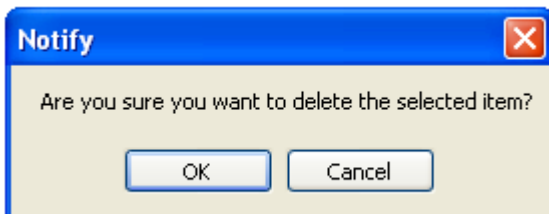
1) Click **Edit** to open the **Edit User** box

2) On the **Permission** pull down menu choose a level from the listed values.
3) Press **OK** to save the account settings, or **Cancel** to return previous screen.

Delete a user account:

1) Choose a account from the account list.
2) Click **Delete** the **Notify** screen will pop.

3) Press **OK** to confirm.

Communicating with the Radio

Serial Port Settings

Follow these steps to set up communication with the radio:

1. Turn off the radio to be programmed
2. Connect the RS-232 or USB cable between the radio and computer
3. On the **Options** menu click **Serial Port Settings** and the screen will display:

4. Select the correct COM port for your computer from the pull down menu.
5. Press **OK** to confirm the setting.
6. Turn on the radio to be programmed.

If the serial port settings and cable connections are correct, the 🔴 icon will be updated to 🟢. Indicating the radio is communicating properly with the programming SW.   Data can be read from and written to the radio.

If the COM port is not correct, the cable is disconnected, or the radio is turned off, the 🟢 icon will change to 🔴. Indicating the radio is not communicating with the programming SW.

Note that non-standard RS-232 ports (and particularly USB to RS-232 adaptors) may not function.   If the 🔴 icon will not change to 🟢 after trying all COM port settings, a non-standard serial port or serial port adaptor is likely to be the cause.   See p. 5 **Installing the Software   USB Cable Driver** to troubleshoot the port settings and drivers.

Reading data from the radio:

On the **Program** menu click **Read** (or click the ⬅ button) and the screen will display
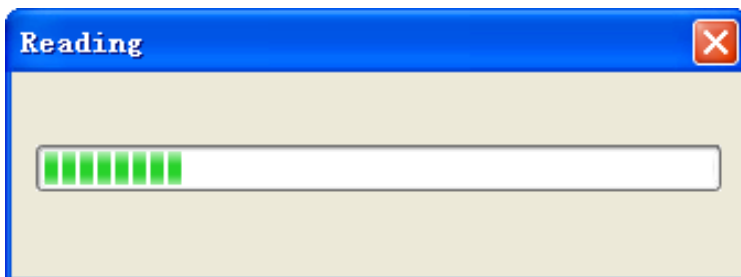
The current settings saved in the radio will be read and displayed on the main screen.

Factory Default (USA) settings are shown in the following image of the main screen:

Olympia P324

File   Program   Options   Account   Logout   About

Default Valuable Menu

Keypad Tone   Enable   Squelch Level   1

Keypad Lock   Enable   Roger Beep   Enable

Work Valuable Menu

Emg RX Time   30 sec   Low Battery Alert   Enable   Radio ID   888888

Emg TX Time   30 sec   Display Option   Channel   Power Save   Enable

Emergency Call   Enable   Time Out Timer   120 sec   CTCSS   50

Channel	RX Freq	TX Freq	Step	RX Code	TX Code	Power	Busy Lock	Scan	Band	Priority
1	464.50000	464.50000	25.0kHz	67.0 Hz	67.0 Hz	High	Enable	Add	Narrow	Disable
2	464.50000	464.50000	25.0kHz	77.0 Hz	77.0 Hz	High	Enable	Add	Narrow	Disable
3	464.50000	464.50000	25.0kHz	88.5 Hz	88.5 Hz	High	Enable	Add	Narrow	Disable
4	464.50000	464.50000	25.0kHz	79.9 Hz	79.9 Hz	High	Enable	Add	Narrow	Disable
5	464.50000	464.50000	25.0kHz	0.0 Hz	0.0 Hz	High	Enable	Add	Narrow	Disable
6	464.55000	464.55000	25.0kHz	67.0 Hz	67.0 Hz	High	Enable	Add	Narrow	Disable
7	464.55000	464.55000	25.0kHz	82.5 Hz	82.5 Hz	High	Enable	Add	Narrow	Disable
8	464.55000	464.55000	25.0kHz	94.8 Hz	94.8 Hz	High	Enable	Add	Narrow	Disable
9	464.55000	464.55000	25.0kHz	79.9 Hz	79.9 Hz	High	Enable	Add	Narrow	Disable
10	464.55000	464.55000	25.0kHz	0.0 Hz	0.0 Hz	High	Enable	Add	Narrow	Disable
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Writing data to the radio:

On the **Program** menu click **Write** (or click the   button) and the screen will display
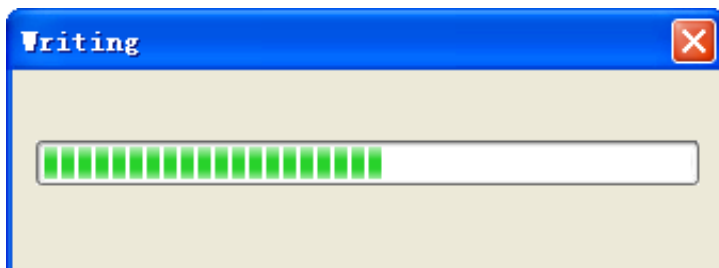
Writing

The current settings displayed on the main screen will be written to the radio.   The radio will then be reset – a power on display sequence should be noted on the radio after successfully writing data.

File Management

All radio settings and memory contents can be saved in .bin files for later use.   An entirely new file can be created and written to a radio or saved.   A radio's settings can be read, altered, saved, or written back to the radio.   Multiple radios can be cloned from an existing file or the contents of any desired radio.

Creating a new .bin file

On the **File** menu click **New** (or click the [ ] button) and the screen will open a blank main screen.

Saving settings to a .bin file

All settings on the main screen can be saved to a file on the computer.

On the **File** menu click **Save** (or click the [ ] button) and the screen will display
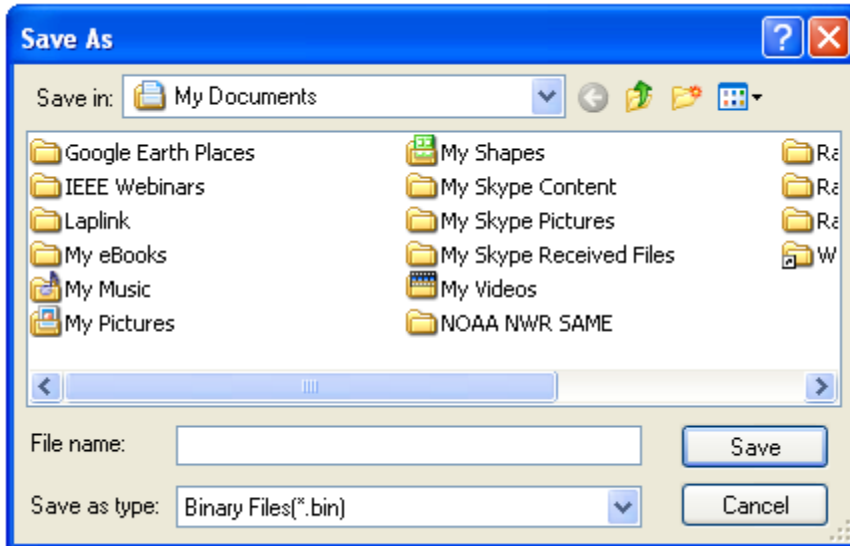
1. Select a folder for saving your P324 radio files
2. Under **File name:** enter the file name you want the settings to be saved to
3. Click **Save** to save the file on the computer

Opening a saved .bin file

A saved .bin file can be opened, altered (if necessary) and then written to the radio or saved for later use.

On the **File** menu click **Open** (or click the [ ] button) and the screen will display:
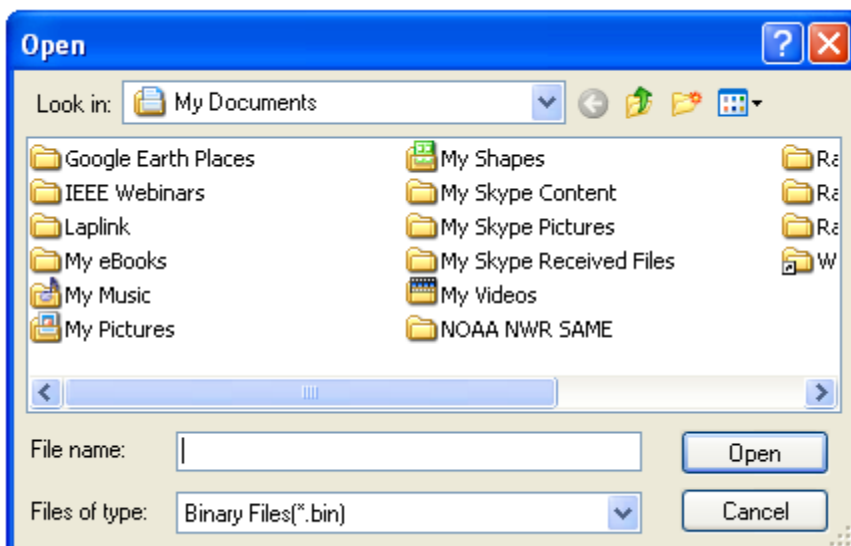
Navigate the folders and select the desired file, then click **Open** button.

Printing a .bin file

On the **File** menu click **Print** (or click the 🖨 button) and the system print dialogue will display:

The complete contents of the main screen will be printed for reference.

General Settings

Squelch Level Setting

The adjustable Squelch allows you to optimize the receiver sensitivity. There are 5 levels of sensitivity.
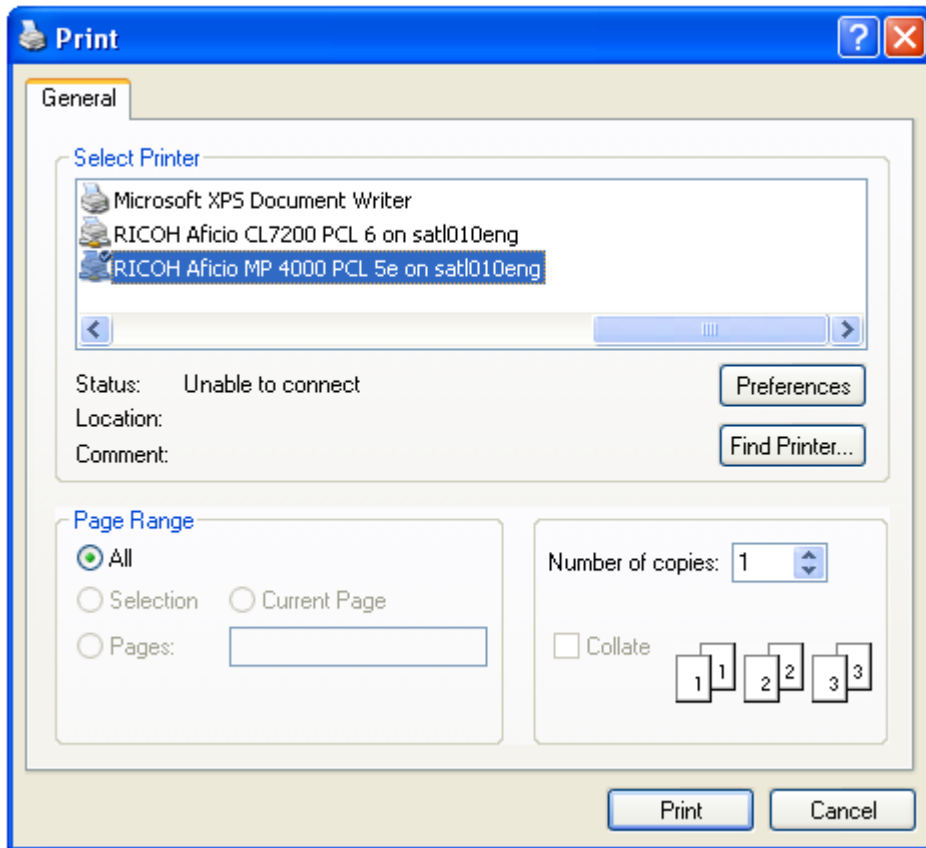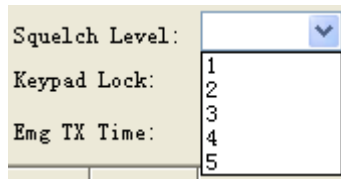On the **Squelch Level** drop down menu select a level from 1 to 5**.**   The screen will display

Level 1 is the most sensitive level; the radio can receive the weakest signals.
Level 5 is the least sensitive level; the radio can only receive the strongest signals.
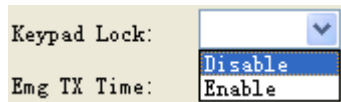
Squelch level can also be altered using the **func** key on the radio.   Any altered setting will be read from the radio by software (see **How to read data from your radio**)

Squelch can be opened manually with the **mon** key on the radio.

Keypad Lock Setting

This feature locks the radio from accidental changes.

On the **Keypad Lock:** dropdown menu click **Enable** or **Disable.**   The screen will display
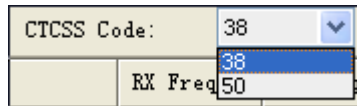
Keypad Lock can also be altered manually using the **func** key on the radio.   The setting altered will thereafter be read from the radio by software (see **How to read data from your radio**)

CTCSS Values:

CTCSS is supported by a standard set of 38 tone frequencies or an extended set of 50 (12 non-standard) tone frequencies.

On the **CTCSS Code:** drop down menu select either 38 or 50**.**   The screen will display

Either setting also allows for use of 83 standard CDCSS code words.   Carrier level squelch is also supported.
Both CTCSS and CDCSS are disabled using the value 0.0 Hz (displayed on the radio LCD as 0.)   Squelch then operates on the sensed signal level only.

If a 38 tone set is selected, a code value will be displayed on the radio LCD as 0 to 121.   If 50 is selected, the value is displayed as 0 to 133.

Frequency/Channel display settings

The radio LCD can display either the current RX and TX frequency, or the Channel number value.

On the **Display Option:** dropdown menu click **Channel** or **Frequency.**   The screen will display
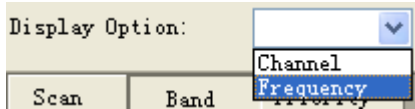
Radio ID

Each radio will display a six digit Radio ID value at power on.   Radio ID can be set to any six digit value between 000000 and 999999.   A value entered with less than six digits will be displayed with leading zeros.

Power Save

The radios are designed with a power saving mode: If there is no activity on the channel or a button pressed on the radio for 10 seconds the unit will enter power save mode.   The receiver will alternately sleep and monitor the channel every 300 msec.

On the **Keypad Lock:** dropdown menu click **Enable** or **Disable.**   The screen will display
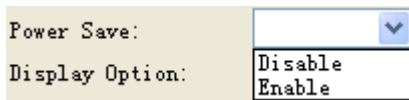
Tones and Alerts

Keypad Tone Setting

If this feature is enabled, the radio speaker emits a tone each time a button is pressed.

On the **Keypad Tone** dropdown menu click **Enable** or **Disable.**   The screen will display

```
Keypad Tone:        [v]
                  Disable
Emergency Call:   Enable
```

Setting Roger Beep

If this feature is enabled, the radio transmits a unique tone each time PTT is released.

On the **Roger Beep** dropdown menu click **Enable** or **Disable.**   The screen will display

```
Roger Beep:         [v]
                  Disable
Emg RX Time:      Enable
```

Setting Low Battery Alert

When the battery charge state is low (when the battery indicator displays one segment) the unit chirps every 10 minutes. The radio will also chirp once each time the PTT key is released.

On the **Low Battery Alert** dropdown menu click **Enable** or **Disable.**   The screen will display

```
Low Battery Alert:      [v]
                      Disable
Power Save:           Enable
```

Setting the transmitter Time Out Timer

The TX Time Out Timer limits how long the radio can transmit continuously.   This feature limits excessively long or undesired accidental transmissions to save battery life and limit channel interference.   If PTT is held longer than the value set, the radio will cease transmission of signals and sound a continuous warning tone from the speaker.

On the **Time Out Timer** drop down menu select a level from 30 to 300 seconds**.**   The screen will display

```
Time Out Timer        [v]

                    30 sec
                    60 sec
ver    Busy Lock  90 sec
                   120 sec
      [v]          180 sec
      [v]          240 sec
      [v]          300 sec
```

Programming Memory Channels

32 channel memories can be programmed.   The radio is operational from 406.2 MHz - 470MHz.   Specific channel frequencies depend on national regulations and vary by market.   Some frequencies are blocked in software by FCC requirement for the US market.

Factory default settings are on 2 FCC Itinerant channel frequencies.   5 channels are programmed for each frequency; 4 with CTCSS values and 1 with CTCSS off.

For each channel, the programmed RX Freq. and TX Freq. can be programmed to the same value (simplex mode) or to different values (duplex frequency mode) to accommodate any repeater frequency offsets.

Any channels on the main screen with RX Freq. and TX Freq. fields empty will not be written to the radio.   These channels will be empty, and unused channels will not display on the radio.

Manually entering a frequency

The programmed RX and TX Frequencies must be an integer multiple of 6.25 kHz or 5kHz.   Entering other values will result in error messages when the frequency is written to the radio.   Frequencies can be typed directly.

Copy and Paste a complete Channel Setting

Most common keyboard shortcuts (**Ctrl-C**, **Ctrl-V**, **Ctrl-X, arrows, Ctrl-arrow spacebar,** etc.) are functional to navigate on the main screen, cut, copy, paste, scroll up/down, and change values in drop down menus.

Click on a channel number in the left most column.   The screen will highlight the entire row

9	460.48750	465.48750	12.5kHz	0.0 Hz	0.0 Hz	Low	Disable	Add	Narrow	Disable
10	460.51250	465.51250	12.5kHz	0.0 Hz	0.0 Hz	Low	Disable	Add	Narrow	Disable
11	460.53750	465.53750	12.5kHz	0.0 Hz	0.0 Hz	Low	Disable	Add	Narrow	Disable

All settings for Channel 10 can be copied and then pasted at another channel location.   Similarly, only one frequency value can be copied RX to TX, or channel to channel.

The **Del** key will clear a single frequency or drop down menu setting.

Frequency Step settings

On the **Step** drop down menu click **12.5 kHz, 20.0 kHz, or 25.0 kHz.**   The screen will display

```
Step
 v
12.5kHz
20.0kHz
25.0kHz
```

To edit the values in **RX Freq** or **TX Freq** columns quickly, click in the desired cell so the vertical cursor bar appears. Pressing the keyboard arrow keys will increment or decrement the frequency value by one **Step** setting increment:

| 453.93750	458.93750	12.5kHz	
460.48750	465.48750	12.5kHz	
460.51250|	465.51250	12.5kHz	
460.53750	465.53750	12.5kHz	

>

460.48750	465.48750	12.5kHz	
460.52500|	465.51250	12.5kHz	

Press and hold the arrow keys to rapidly scroll the frequency value up or down in increments of the **Step** setting.

CTCSS and CDCSS Settings

CTCSS and CDCSS settings minimize interference by blocking transmissions from undesired or unknown radios. Choose the desired settings from the **RX Code** and **TX Code** column drop down menus:
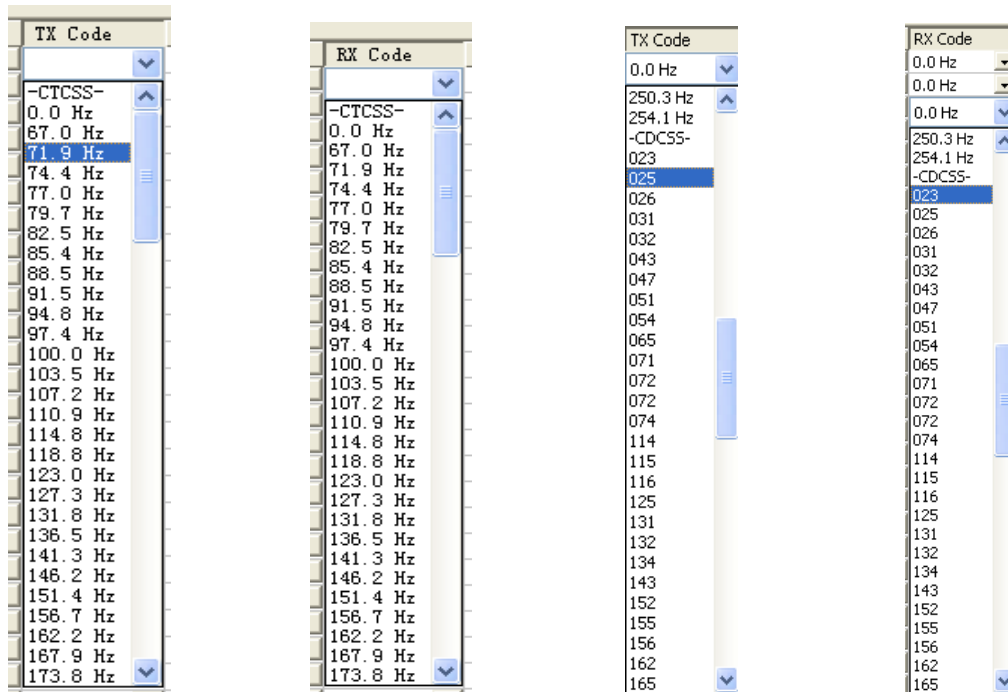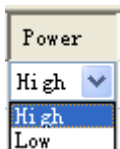
CTCSS and CDCSS settings are set independently for the RX and TX frequencies of each channel.

Transmitter Power Level

Each channel can be set to transmit at either 1w (Low) or 4w (High.)
On the **Power** column drop down menu click **Low** or **High.**   The screen will display
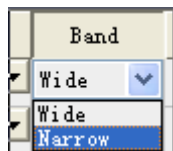
If the TX Freq setting is one of the FCC low power frequencies, (47 CFR 90.267 Group A1, A2, B, C, or D,) the power setting will default to Low when programming the radio.

Band Setting

Each channel can be set to either wide (25 kHz) or narrow (12.5 kHz) modulation bandwidth format.

On the **Band** column drop down menu click **Wide** or **Narrow.**   The screen will display

Busy Channel Lockout Setting

When this feature is enabled, the radio will not transmit if current channel is busy.   If PTT is pressed while a signal is being received, the speaker emits a long beep and the BUSY icon is displayed on the LCD.   This reminds the user to wait for the channel to be cleared or to change to a clear channel.
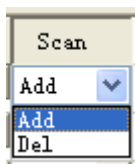
On the **Busy Lock** column drop down menu click **Disable** or **Enable.**   The screen will display
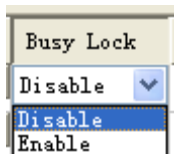
Scan Setting

Each channel can be added or deleted from inclusion in the list of channels to scan.

On the **Scan** column drop down menu click **Add** or **Del.**   The screen will display

Priority Channel Setting

One channel can be set to be the **Priority Channel**.   When a scan is initiated, the **Priority Channel** will be scanned at a higher priority than any of the other channels in the list of channels to scan.   The **Priority Channel** is also used by the **Emergency Call** feature.   If a priority channel is set, the **Scan Setting** for that channel is not used.

On the **Priority** column drop down menu click **Enable** or **Disable.**   The screen will display
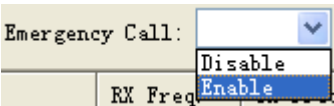
Emergency Call Key Settings

Enable Emergency Call mode

Emergency Call is used to call for help.   The transmission is on the current channel, unless **Priority Channel** is set.

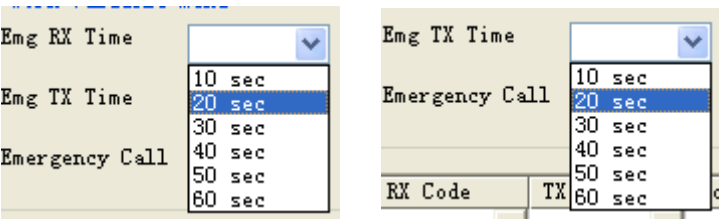On the **Emergency Call** dropdown menu click **Enable** or **Disable.**   The screen will display

Emergency Call:
Disable
Enable
RX Freq

Setting Emergency RX/TX timing values

RX and TX alternate with these timing settings.   Values for RX and TX time are set independently.

Emg RX Time sets how long the radio receives in emergency mode. **Emg TX Time** sets how long the radio transmits in emergency mode.   RX and TX continue until PTT is pressed or the radio is turned off.

On the **Emg RX Time** and **Emg TX Time** dropdown menu click **Enable** or **Disable.**   The screen will display
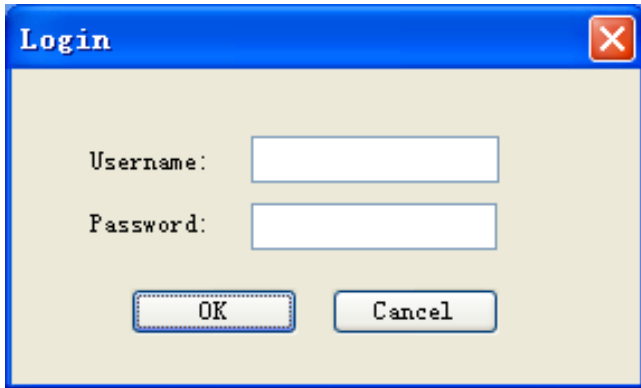
Emg RX Time
10 sec
Emg TX Time   20 sec
30 sec
Emergency Call   40 sec
50 sec
60 sec

Emg TX Time
10 sec
Emergency Call   20 sec
30 sec
40 sec
50 sec
RX Code   TX 60 sec

When the Emergency call is disabled, the **Emg RX Time** and **Emg TX Time** dropdown menus are disabled.

Emergency Call: Disable   Emg RX Time: Emg TX Time:

Logout and Exit Program

Logout from a user account

On the **Logout** menu click **Logout** and a new Login box will display

A new user may then input a username and password to login in again.

How to exit the PC programming software

On the **File** menu click **Exit** to exit the program.