STARTING THE CPS FOR THE BFDX RADIO

The next few pages were done on Windows 7 computer. A similar sequence would work on Windows XP, Windows Vista, Windows 8 and Windows 10. Some people have even been known to get it working on an Apple computer using "Parallels" and Linux using "Wine".

Connect Systems will not support CPS running on a MAC or using Linux!

On desk top of computer move mouse pointer over ICON shown below and right click a single time and you should get the following as show below the ICON.

BFP-CS580
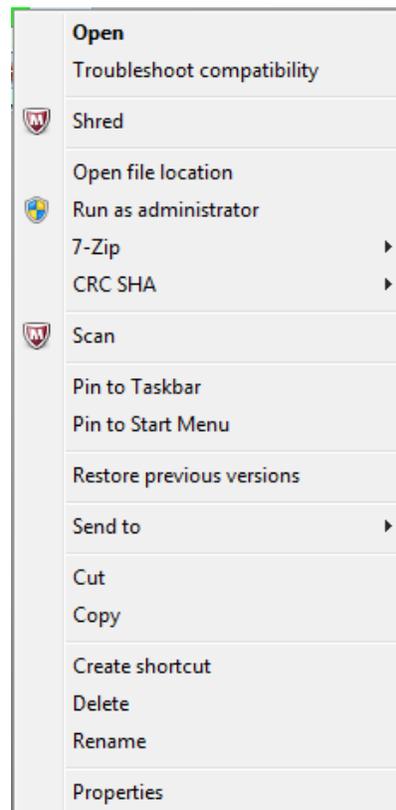
Left click on "Run as administrator" and you should get the following:
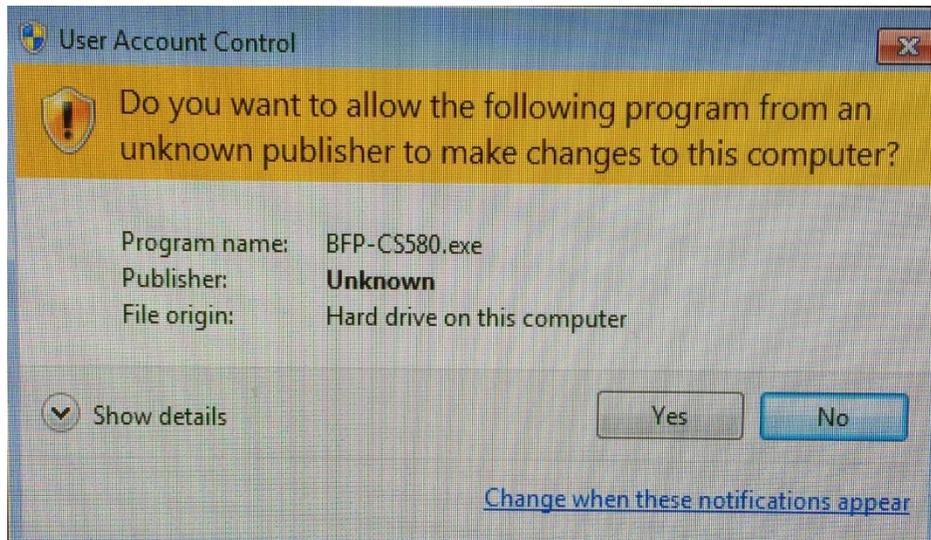
Left click on the "Yes" button and the program should start and you should get the following as shown below.
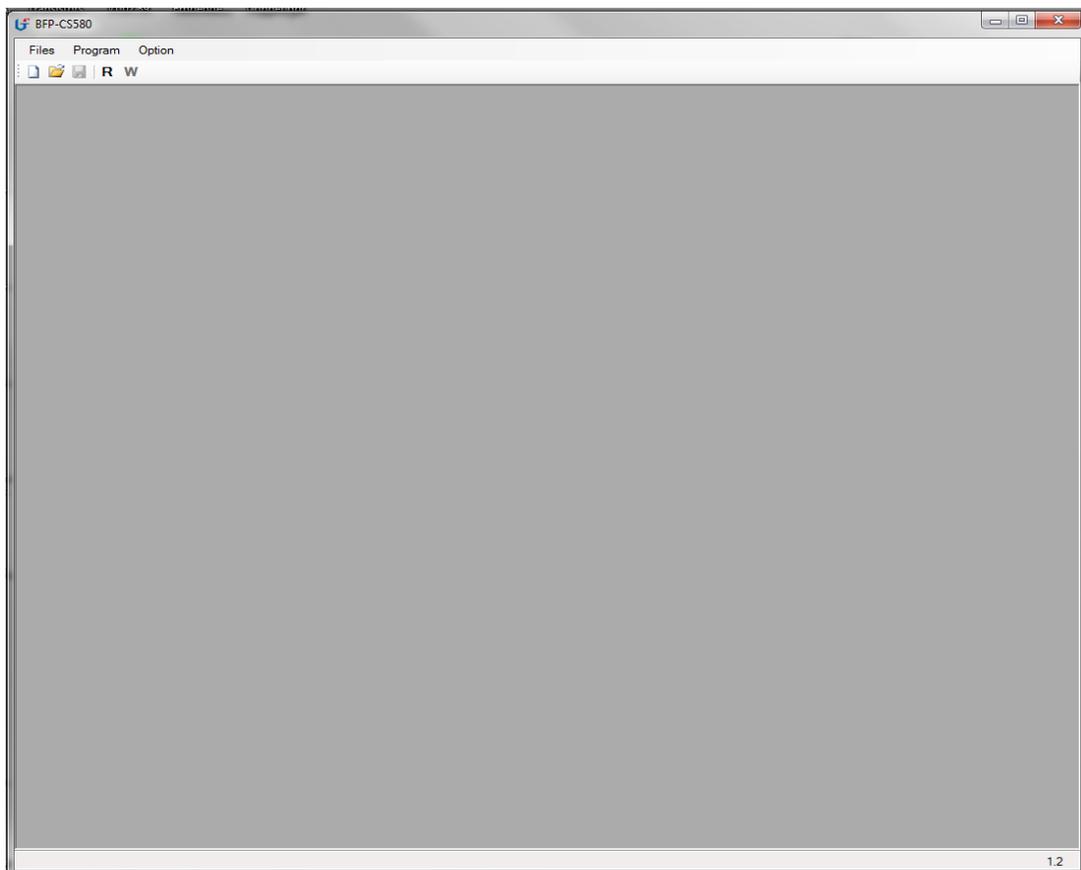
Click On Files and then New from the pull down menu and you will get the following screen as shown on the next page.

Select the appropriate Model type and Frequency Range and you will get the following screen

You are now ready to use the CPS!

PULL DOWN MENUS

File Pull Down Menu
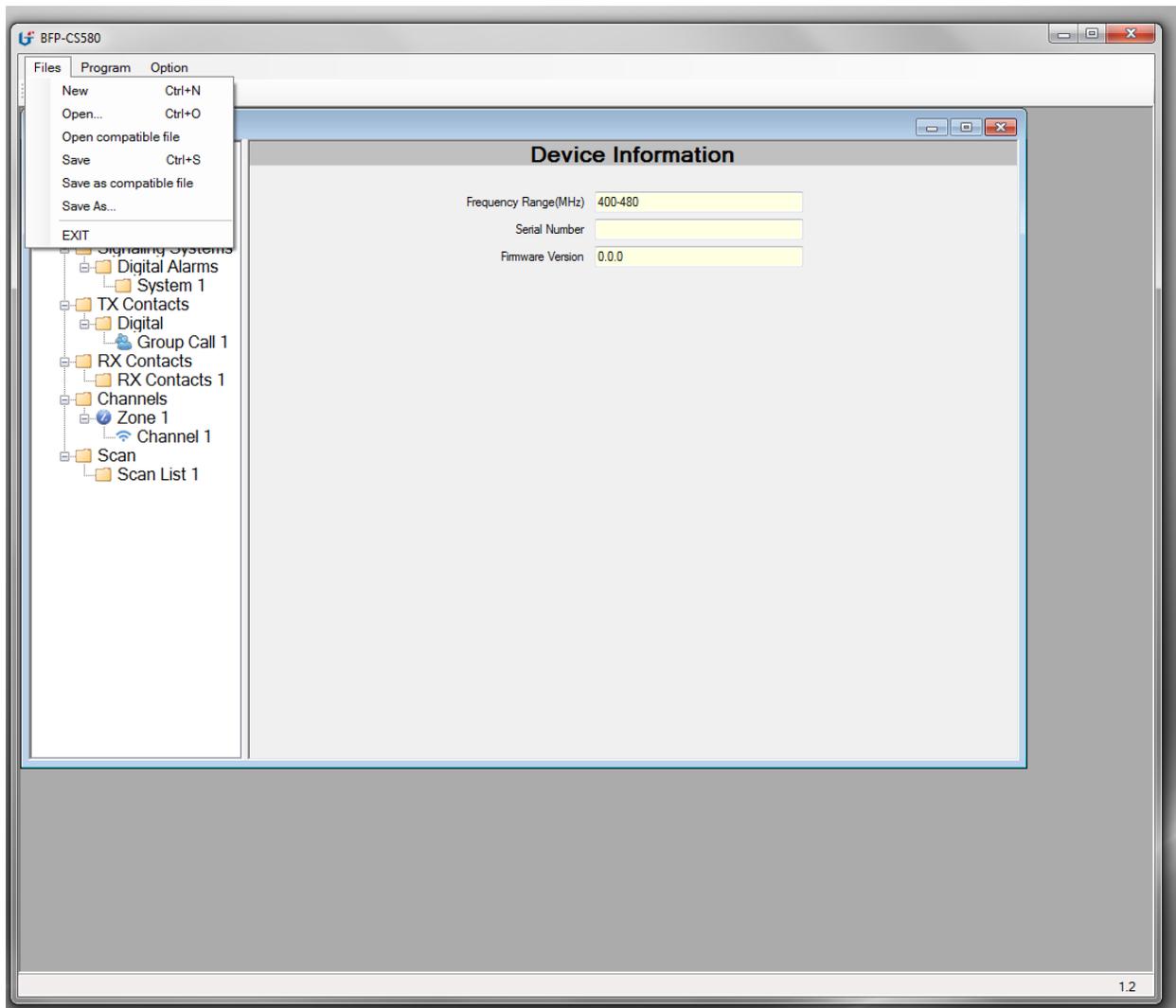
New

Selecting **New** displays a dialog box to creates a blank configuration file for the radio. Select the Model and Frequency Range as appropriate
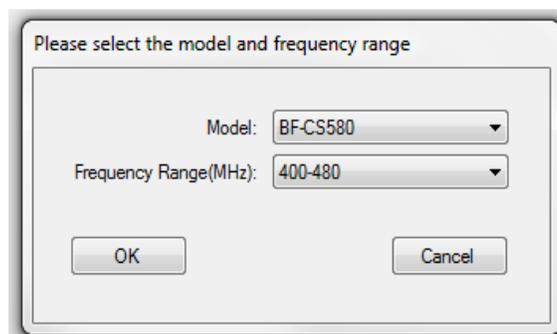
Open

Selecting **Open** displays a dialog box to open a *.BFDX configuration file saved on any disk or media at the designated path. This is a highly compressed file and is very small when there are small amount of changes from the blank configuration file generated from the "New" command.
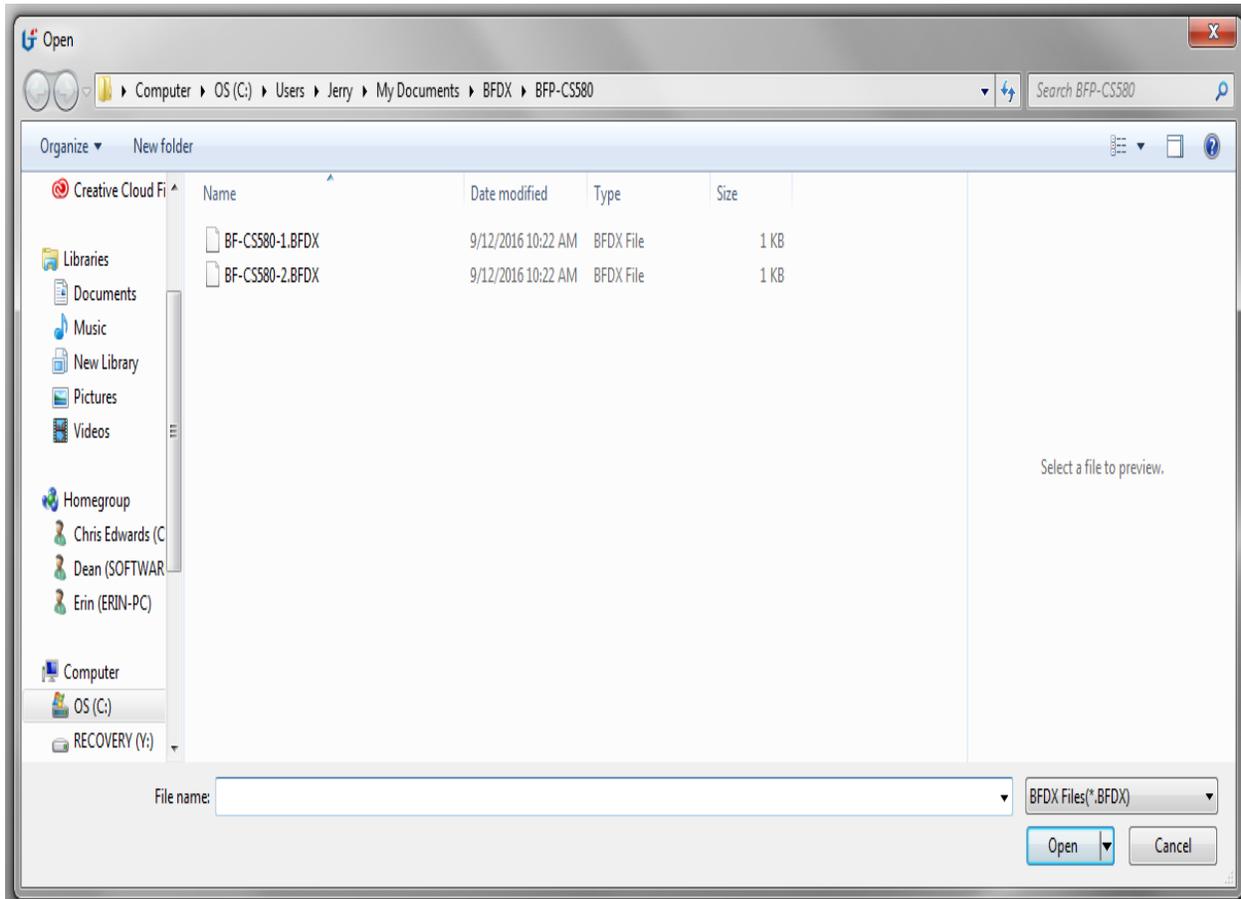
Open compatible file

Selecting **Open compatible file** displays a dialog box to open a *.BX configuration file saved on any disk or media at the designated path. This file is not compressed so it has a substantial size. At the time this manual was written, this feature was not working.
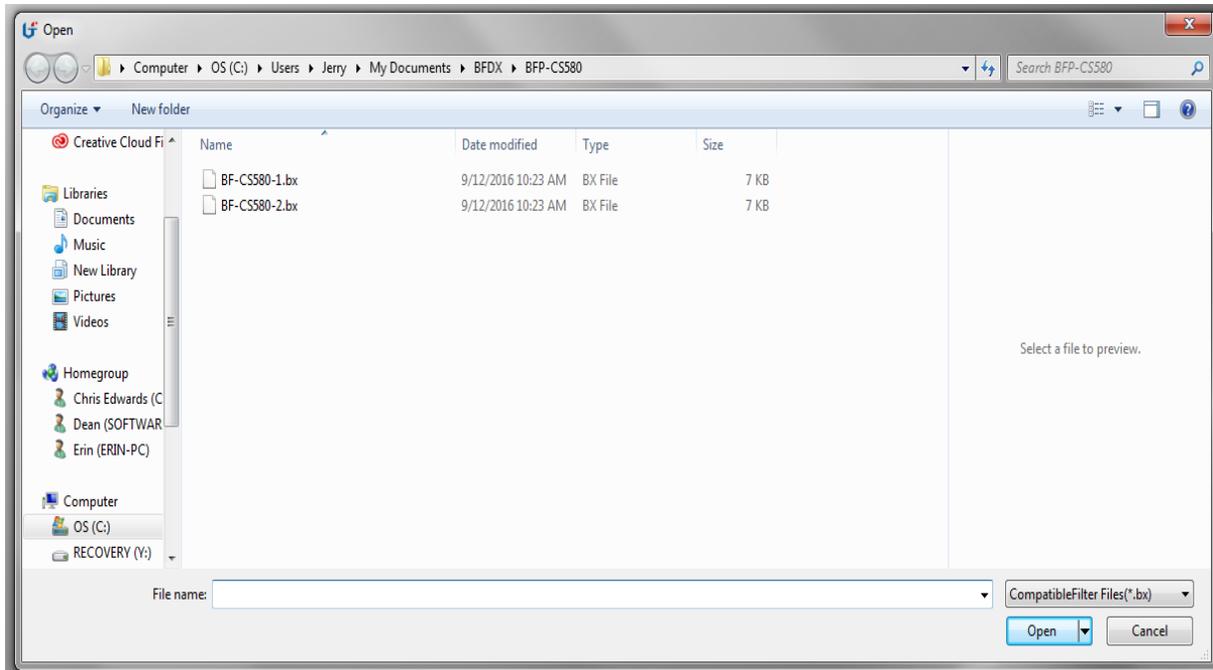
Save

Saves the configuration file in the same format it was before. If the format is undefined, the default is *.BFDX

Save as compatible file

Selecting **Save As** displays a dialog box to save a *.BX configuration file saved on any disk or media at the designated path with the designated name. This file is not compressed so it has a substantial size.
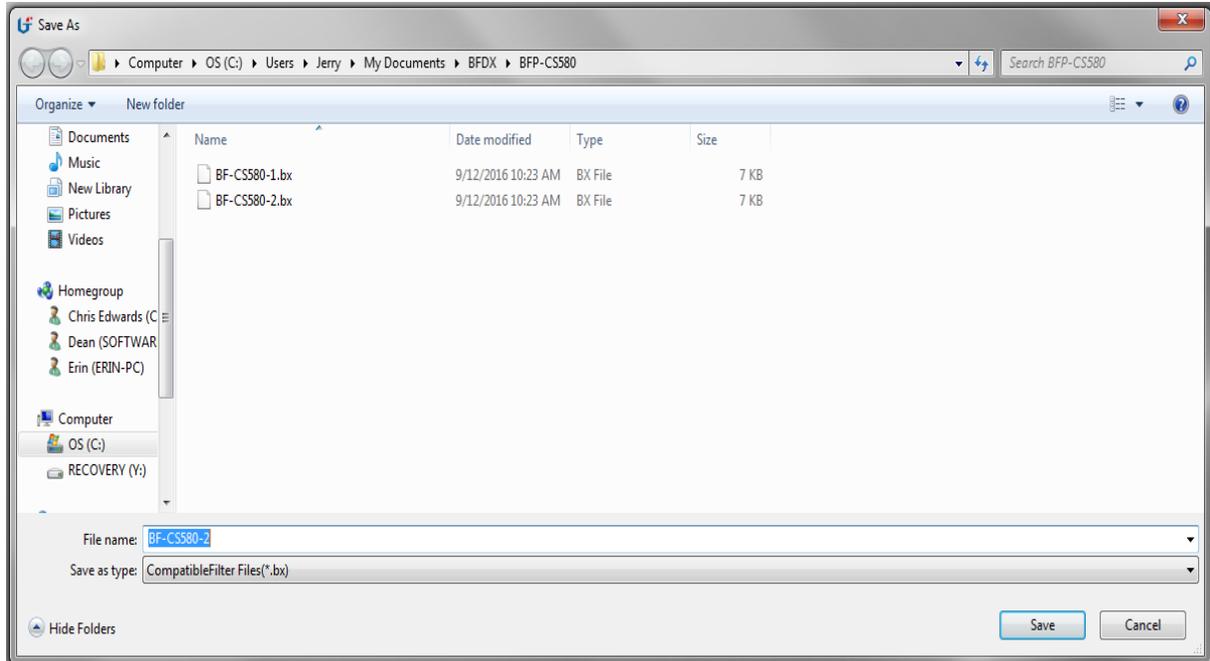
Save As

Selecting **Save As** displays a dialog box to save a *.BFDX configuration file saved on any disk or media at the designated path with the designated name. This is a highly compressed file and is very small when there is small amount of changes from the blank configuration file generated from the "New" command.
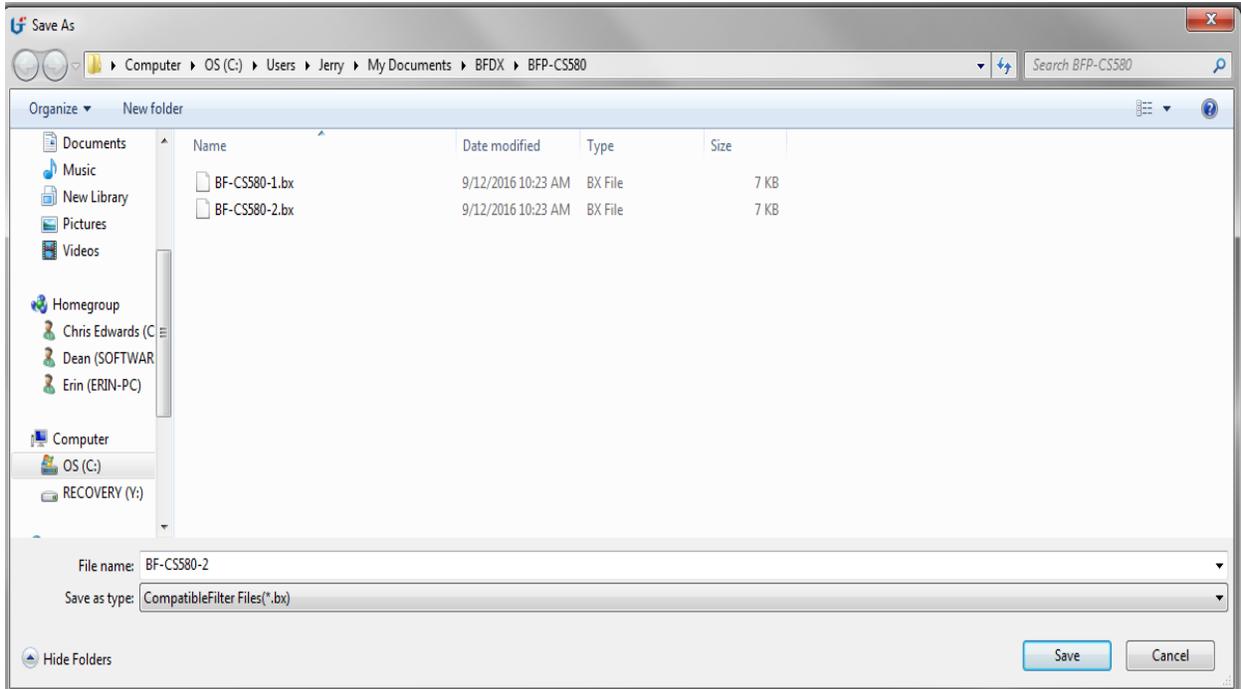
Exit

Selecting **Exit** displays a dialog box to select whether to exit the program and save changes. Click **Yes** to exit the program with saving changes.
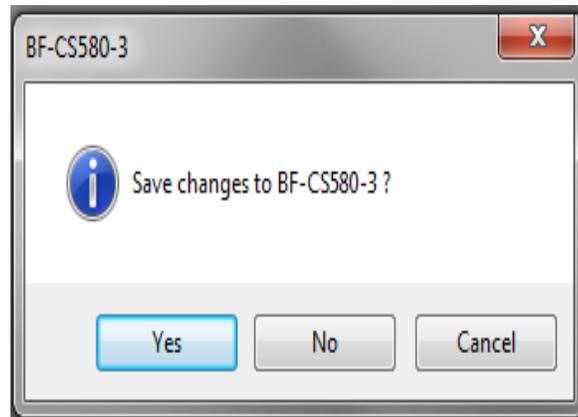
Program Pull Down Menu
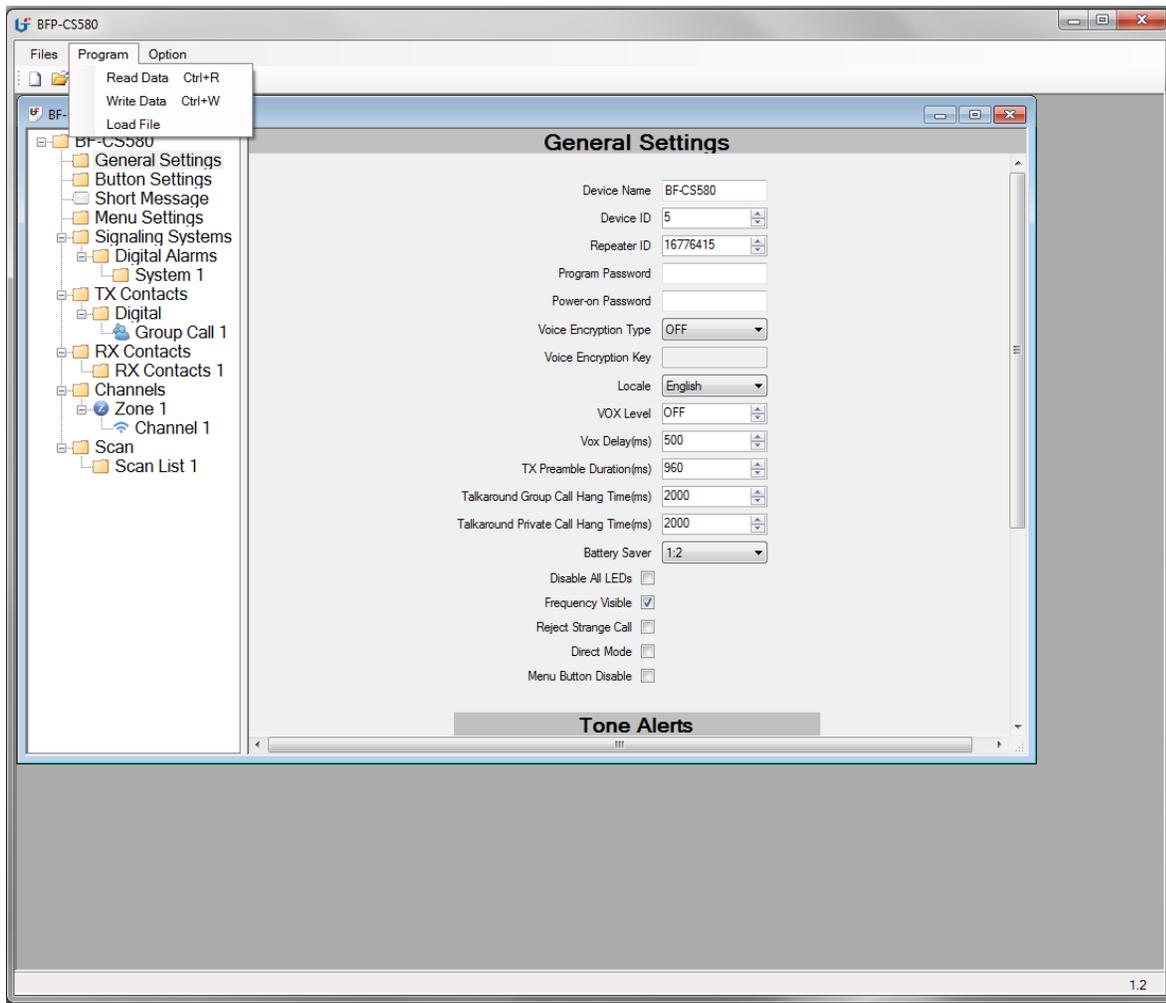
Read Data

This reads configuration data from the radio. If the Connected is not green like show below, then turn off the radio and turn it on again. If necessary, put in the program password. When ready to read from the radio, press the "OK" button. When ready to exit from the read function, press the red "X" button
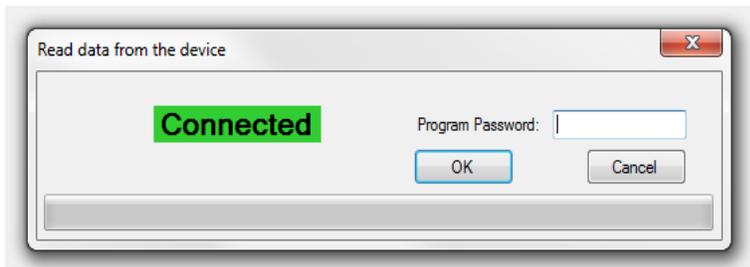
Write Data

This writes configuration data to the radio. If the Connected is not green like show below, then turn off the radio and turn it on again. If necessary, put in the program password. When ready to write to the radio, press the "OK" button. When ready to exit from the wrie function, press the red "X" button
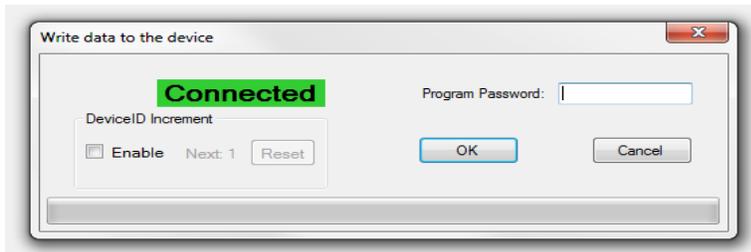
Load Data
This feature is for loading special fonts for languages other than English.

Option Pull Down Menu

Language
Allows you to select English. We used to allow you to select English or Chinese but we had the software developers take it out so as not to confuse the users.

Font
This allows you to set the Character set to virtually any language using virtually any of the fonts available in that language. The Font default is "Microsoft Sans Serif" with the Charset "Default". Once you pick the Font and Charset, press the "Set" button to lock in what was selected.
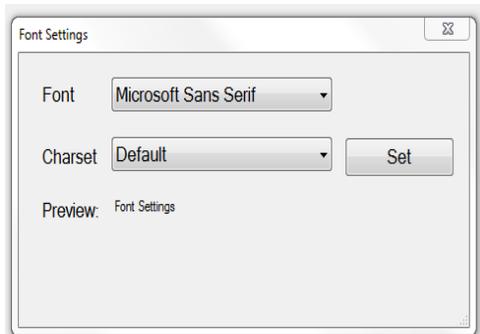
PROGRAMMING THE PARAMETERS

General Settings

Device Name
This is the product name of the radio. For this radio it should be set as BF-CS580 however it does not do anything.

Device ID
This ID is used by other radios to make private calls and for sending text messages. This is called Radio ID in other radios. For Amateur use, the ID is obtained from the DMR Marc Group free of charge. The value of this parameter can be between 1 and 16776415.

Repeater ID
This ID should match the repeater number in the repeater you are using. The value of this parameter can be between 1 and 16776215. This feature is only compatible with a BFDX repeater and has no effect if other repeaters are used.

Program Password
The program password is used to lock out unauthorized users from either reading your configuration data in the radio or writing the configuration data to the radio. There can be up to eight characters for this password.

Power-on Password
The Power-on Password is used to lock out unauthorized users from using your radio. There are exactly six numbers for this password.

Voice Encryption Type
The radio allows three possibilities for voice encryption. It can be off, static, or dynamic. The encryption key is exactly 10 characters long. Encryption only works in digital mode and it is illegal to use in the Amateur bands. The two encryption schemes are two proprietary algorithms incompatible with other radios thereby making the radio very secure.

Voice Encryption Key
The is the 10 characters encryption key must match in the radio you are using as well as the radio or radios you are trying to communicate with.

Locale
This parameter defines if the person using this radio is Chinese or English.

VOX Level
The Vox level has a value from 1 through 8 and off. If the VOX is not set for off, the larger the number the more sensitive the radio is. A value of 1 is the most sensitive.

Vox Delay(ms)
Vox Delay is the time you stop speaking until the time the radio gets out of transmit mode. This is to prevent the radio from continually turn on and off between words. The value is between 500 mS and 10 seconds in increments of 500 mS.

Tx Preamble Duration(ms)
Preamble is a string of bits added in front of a data message or control message (Text Messaging, Location Messaging, Registration, Radio Check, Private Call, etc…) before transmission. This preamble prolongs the message in order to reduce the chances of the message being missed by the receiving radio.

Talkaround Group Call Hang Time(ms)
Sets the duration during which a radio will talk back to a received call or continue a transmitted Talkaround Group Call using the previously received or previously transmitted digital group ID. After expiration of the Talkaround Group Call hang timer, the radio will transmit using the TX Contact Name (digital group) specified for this channel in CPS.

Talkaround Private Call Hang Time(ms)
Sets the duration the radio keeps the Talkaround Private Call setup after the user releases the Push-to-Talk (PTT) button. This is to avoid setting up the call again each time the user presses the PTT to transmit. During this time, other radios can still transmit since the channel is essentially idle. After the hang timer expires, the radio transmits using the TX Contact Name specified for this channel in CPS

Battery Saver
The purpose of the battery saver feature is to minimize battery use during idle time. The disadvantage of this feature is the radio might miss the beginning of a call if it stays off during the time the call first starts. The possible values for this parameter is Off, 1:1, 1:2, 1:3, 1:4. The larger the second number, the longer the battery will last.

Disable All LEDs
The feature allows you to save a little power and thereby increasing the battery life.

Frequency Visible
This feature disables the display of the frequency from the LCD. This is important if you do not want people near you to know what frequency you are using.

Reject Strange Call

Direct Mode
This parameter allows you to communicate directly with another radio without using a repeater on a separate receive and transmit frequency.

Menu Button Delete
Prevents the user from accessing the menu on the radio.

Tone Alerts

Disable All
Disables all alerts in the system. Useful if you do not want people around you to know you have a radio.

Voice Indication
The radio will verbally announce the channel number when you change the channel. This will allow you to enable or disable that feature.

Channel Free Indication

In digital mode, the radio will generate a beep when the radio is free to transmit.

Talk Permit Indication

This can take on a value of "none", "Analog", "Digital" and "Analog & Digital". This feature allows the radio to beep when the PTT is pressed and the channel is available for transmission.

Rx Low Battery Interval(sec)

The radio will beep every so often if the battery is low. How often the radio beeps is determined by this parameter and can be between 0 and 635 in five second increments. A value of zero disables the beep.

Enhanced Scanning

Min Frequency (MHz)

This is the lowest frequency the radio starts scanning. The lowest frequency available in the radio is 400 MHz.

Max Frequency (MHz)

This is the highest frequency the radio scans to. The highest frequency available in the radio is 480 MHz.

Rx to Tx Offset (MHz)

When you monitor a channel, you normally put in the Rx Frequency. This offset allows you to generate the Tx Frequency if you later want to convert the monitoring to a two way radio call.

Channel Spacing (KHz)

This is the increment from channel to channel. Most channels are on 12.5 KHz boundaries when you start on 1 MHz boundaries. That means the starting frequency is 400.000, 401.000, 402.000 and so on. The choice for channel spacing is:

2.5 KHz
5.0 KHz
6.25 KHz
10.0 KHz
12.5 KHz
25.0 KHz
50.0 KHZ
100.0 KHz

BUTTON SETTINGS PAGE

Button Settings

Long Press Duration(ms)
This parameter is used to determine the minimum time the button has to be pressed before it is designated as a Long Press.

Button 1 - 2, Short Press and Long Press

Unassigned	This key is not assigned with any function
One Touch Call 1~6	Allow user to initiate digital group call, digital private call, call alert or send preset message via the one touch call function.
Manual Dial for Private	You can manually input the private call number for calling.
Emergency On	Allow user to make an emergency call.
Monitor	Enables and disables the monitor function
Backlight Auto On/Off	This function allows the user to have the backlight on continuously or only on for five seconds after a key has been pressed
Keypad Lock	Allows user to enable the keypad lock feature. If the keypad lock is enabled user can only operate the PTT key and side button. Press MENU and # key to unlock.
Scan On/Off	Allow user to enable or disable the scan function.
All Alert Tones on/off	Allow user to enable or disable all alert tones
Battery Indicator	Indicates battery charge left
Short Message	Allows you to enter the message function menu
Zone Toggle	Allows you to enter the zone selection function
Contacts	Allow you to enter the Contacts menu
Radio Enable	Sends an enable command to a private call contact.
Radio Disable	Sends a disable command to a private call contact.
Radio Check	Sends a device check command to a private call contact
Remote Monitor	Allows you to remotely monitor another radio

High/Low Power	Allows user to switch between high and low power
Repeater/Talkaround	Allows radio to communicate through a repeater or speak directly to another radio without a repeater.
Vox On/Off	Enables and disables the VOX function
Nuisance Delete	While scanning, allows you to remove a channel from the scan list.
Permanent Monitor	Enables and disables the monitor function. Only works with a long key press
Enhanced Scanning	Pressing this button will allow you to go to the enhanced scanning mode defined by the Enhanced Scanning parameters in the General Settings Page.
Enhanced Monitoring	Pressing this button will allow you to go to the enhanced monitoring mode to allow you to receive all conversations on that channel.
Enhanced Parameters	Pressing the Enhanced Parameter button will allow you to go directly to a screen that will allow you to set all parameters necessary for a digital or analog call.

One Touch Calling

Call Member
This is the digital contact that must be entered. All Call members cannot be used in this field.

Call Type
If the Call Member is a group call, then the choices are:
  Short Message
  Group Call

If the Call Member is a private call, then the choices are:
  Short Message
  Private Call
  Call Alert

Short Message
This is used if the Call Type is set for a Short Message. The actual Short Message is put in the next screen called "Short Message". This field only selects which preprogrammed short message to use.

SHORT MESSAGE
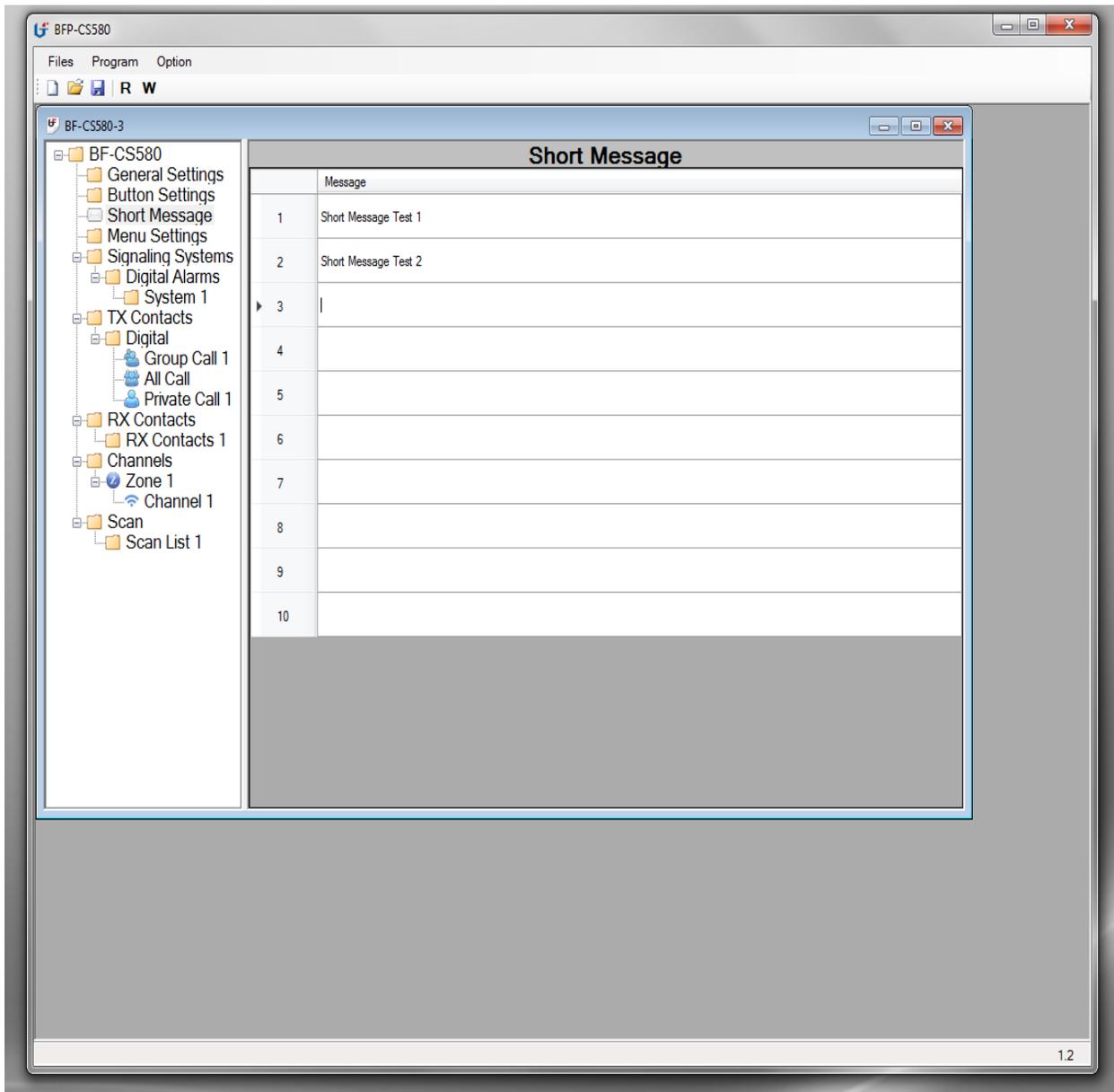
This screen allows you to enter short messages. Up to 10 different short messages may be entered.

MENU SETTINGS PAGE

Menu Hang Time

This is how long the menu will stay up without pressing any keys before it goes back to the idle mode and displays the channel information.

Message

In the radio menu functions, under contacts there is the ability to send SMS messages. Checking this box allows you to send either a new or a preset SMS message while if the box is not checked then no SMS message can be sent.

Contacts

Call Alert

In the radio menu functions, under contacts, there is the ability to use the call alert feature. Checking this box allows you to use the call alert feature while if the box is not checked the call alert feature cannot be used

Edit

In the radio menu functions, under contacts, there is the ability to Edit SMS. Checking this box allows you to edit SMS messages while if the box is not checked then no SMS messages can be edited or deleted

Manual Dial

In the radio menu functions, under contacts, there is the ability to manually dial. Checking this box allows you to manually dial while if the box is not checked then you cannot manual dial. Manual dialing is when you use the front panel keypad of the radio to enter a contact number.

Device Disable

In the radio menu functions, under contacts, there is the ability disable a remote radio. Checking this box allows you to disable a remote radio while if the box is not checked then you cannot disable a remote radio.

Device Enable

In the radio menu functions, under contacts, there is the ability enable a remote radio that has been already disabled. Checking this box allows you to enable a remote radio while if the box is not checked then you cannot enable a remote radio.

Remote Monitor

In the radio menu functions, under contacts, there is the ability monitor a remote radio that has been turned on. Checking this box allows you to monitor a remote radio while if the box is not checked then you cannot monitor a remote radio.

Scan

Scan on/off
If this feature is enabled, you can turn on or off the scanning from the channel you are currently on. If it is off scanning will start only if the auto scan feature is set or a side button is set for scanning.

Edit List
If this feature is enabled, then you can either add or delete channels from this scan list.

Call Log

Missed
If this feature is enabled, user can view missed calls.

Answered
If this feature is enabled, user can view answered calls.

Outgoing
If this feature is enabled, user can view outgoing calls.

Utilities

Locale
If enabled, the user can set this radio for the English Language or the Chinese Language.

Talkaround
If enabled, the user can set the channel for Talk Around.

Tone/Alerts
If enabled, you can set all the tones to be enabled or disabled, you can set the call alert tone, you can set the message tone, and you can turn the keypad tone on or off.

Power
If enabled, the user can set the power level to high or low

Backlight
If enabled, user can set the backlight to on or automatic.

Intro Screen
If enabled, user can set the Introduction screen on or off when the power to the radio is first turned on.

Power-on Password
If this feature is enabled, and the power on password is set to something other than all blanks, then the user must enter a password to turn on the radio. If this feature is not enabled, then the user does not have to enter a password to turn on the radio.

Keypad Lock
If enabled, user can set this parameter on or off.

LED Indicator
If enabled, user can set this parameter on or off. When off, the LED on the display and the LED on top of the radio is no longer used. If the LED on the display is never on, then it is almost impossible to use the radio.

Squelch

If enabled, user can set the squelch level. This parameter only works if the channel selector knob is at this time set to an Analog channel.

Vox Level

When enabled, allows the user to set the VOX Level and the VOX Delay.

DIGITAL ALARMS PAGE

Adding another Digital Alarm system

System

Alarm Type
Alarm Type can be set as Disabled, Regular, Silent, or Silent with Voice.

Mode
The choice for this parameter is Emergency Alarm, Alarm with Call, and Alarm with Voice.

Revert Channel
This is the channel the radio will transmit on when there is an alarm.

Impolite Retries
Number of times the radio will transmit the alarm event even when the channel is busy.

Polite Retries
Number of times the radio will transmit the alarm event when the channel is not busy.

Hot Mic Duration(sec)
This parameter is active only when the Mode is set to Alarm with Voice. This is the amount of time the radio will transmit the person's voice even though the PTT switch might not be pressed.

TX CONTACTS PAGE

Adding a Tx Contact

Under Contacts, highlight the word "Digital" with the left mouse key. Right Click the mouse key and you should get a choice of "ADD" or "Sort". Move mouse point to "ADD" and you should get a choice of Group Call, Private Call, or All Call. Left click on one of those three choice and you will get a new Digital Contact with the type specified.

Deleting a Tx Contact

Highlight the Tx Contact you want to delete. Press the right mouse button and you should get choice of "Rename" or "Delete". Press the Delete and the Tx Contact will be deleted.

Type

The Type could be "Private Call, "Group Call", or "All Call". This is formed at the time you added the Tx Contact as described above.

Call ID

This is the value you put in for the Group Call or Private Call. All Call is predefined and there is no need to add a Call ID. The value for this field is between 1 and 16776415.

Alias

Highlight the Tx Contact you just created. It should have a name such as Call 1, Call 2, etc. Press the right mouse button and you should get choice of "Rename" or "Delete". Press the Rename and insert the Alias for the current name.

RX CONTACTS PAGE

Adding Rx Contact Group

To add another RX Group, highlight the RX Group Lists and then right click on the mouse and select Add. Then highlight the RX Group just generated and right click the mouse and select Rename and change the name of the RX Group List to something meaningful.

Configuration of Rx Group

To configure the Rx Group, highlight the items in the Available Group and then press Add button to move it over to the Member group list.

CHANNELS PAGE

Adding Zones
Highlight Channels, and then right click the mouse and you will get a choice of Add or Sort. Highlight the Zone you just added and then right click the mouse and you will get a choice to rename. Press the rename key and you can now rename the zone.

Adding Channels
Highlight the zone you want to add a channel to. Right click the mouse and select Add. The new channel will be added. The highlight the Channel you just created and right click the mouse. Select Rename and now you can rename the channel.

Delete Channels
Highlight the channel you want to delete and then right click the mouse. Select Delete and the channel will be deleted. If there is one channel in the system that channel cannot be deleted.

Rename Channels
Highlight the channel you want to rename and then right click the mouse. Select Rename and now you can rename the channel.

Channel Parameters

Digital Channels

Channel Type
Selects either Digital or Analog Channels. There is also a hybrid selection called Analog compatible Digital and Digital compatible Analog. We will do further testing on those hybrid channels before we release information about those modes.

Scan List
This ties the Scan list to the Channel. Multiple Channels can share a single scan list.

Auto Scan
If this box is checked, then when this channel is accessed, scanning starts automatically. If this box is unchecked, then program one of the buttons to start the scan.

Color Code
This sets the color code for the digital channel and can have a value of 0 to 15.

Repeater Slot
This sets the repeater slot number for this channel and can have a value of 1 or 2.

Allow Talkaround
If the Rx Frequency and the Tx Frequency is the same then the talkaround feature is implied. If the two frequencies are different, then talkaround is allowed and one of the side buttons can be used to activate the talkaround feature. In talkaround, the Rx and Tx frequencies are reversed so when you speak to another radio programmed the same way, the Tx from one radio will go to the Rx of the other radio. This is used to speak direct to another radio and bypass the repeater.

Receive (Rx) Only

If the Rx Only feature is checked, then the transmitter for this channel is disabled.

Rx Frequency(MHz)

This is the frequency the radio will be receiving on.

Tx Frequency(MHz)

This is the frequency the radio will be transmitting on.

Offset

This parameter along with the Mapping button will be added to the Rx Frequency to generate the Tx Frequency.

Rx Group List

These are the Group contacts that will be allowed through. If it is a private call, then the Rx contact is the Device ID found on the General Settings page. Unless this channel is only going to be used for private calls, then something must be put in Rx Group List

Emergency Alarm Indication

How is this used

Emergency Alarm Ack

How is this used

Emergency Call Indication

How is this used

Tx Contact

This specifies who you want to contact. This is set by a pull down menu from the contact pull down menu which specifies both the contact number and the type. The type could be private call, group call, or all call.

Emergency System

This specifies the alarm system that should be used for this channel.

Power Level

This allows you to transmit at full power which is 4 watts for the UHF version and 5 watts for the VHF version or transmit at low [power which is 1 watt for both versions.

TOT(sec)

This is the Time Out Timer which specifies how long the radio has to be in transmit mode before it turns off automatically.

TOT Key Delay(sec)

This parameter is used to determine how long the PTT key is released before the TOT timer is reset.

Admit Critera

Admit Criteria determines when the radio will transmit. If it is set for "Color Code Free" then it will not transmit if the digital repeater is active. If it is set for "Channel Free" then it will not transmit if either an Analog Repeater or Digital Repeater is active. If it is set for "Always" then it will unconditionally transmit and if you are stronger than the other signals you will get in.

Private Call Ack

If set, does handshaking on private calls to indicate call has been received.

Analog Channels

Channel Type

Selects either Digital or Analog Channels. There is also a hybrid selection called Analog compatible Digital and Digital compatible Analog. We will do further testing on those hybrid channels before we release information about those modes.

Bandwidth

Selects either 12.5 KHz channels or 25.0 KHz channels. If for Amateur use, either bandwidth is acceptable. If for commercial use, then 12.5 KHz (narrow band) must be used.

Scan List

This ties the Scan list to the Channel. Multiple Channels can share a single scan list.

Auto Scan

If this box is checked, then when this channel is accessed, scanning starts automatically. If this box is unchecked, then program one of the buttons to start the scan.

Allow Talkaround

If the Rx Frequency and the Tx Frequency is the same then the talkaround feature is implied. If the two frequencies are different, then talkaround is allowed and one of the side buttons can be used to activate the talkaround feature. In talkaround, the Rx and Tx frequencies are reversed so when you speak to another radio programmed the same way, the Tx from one radio will go to the Rx of the other radio. This is used to speak direct to another radio and bypass the repeater.

Receive (Rx) Only

If the Rx Only feature is checked, then the transmitter for this channel is disabled.

Rx Frequency(MHz)

This is the frequency the radio will be receiving on.

Tx Frequency(MHz)

This is the frequency the radio will be transmitting on.

Offset

This parameter along with the Mapping button will be added to the Rx Frequency to generate the Tx Frequency.

Decode

This is the CTCSS tone or DCS code that much match the transmitter to allow the user to hear the voice from the transmitter. If set to none then the user will hear all signals.

Reverse Burst

When a transmitter with CTCSS is turned off, a CTCSS signal is generated with a phase delay. This phase delay can be 120 degrees, 180 degrees, or 240 degrees. For receiving Motorola radios, 120 Degrees is usually selected. For other radios, use standard

Encode
This is the CTCSS tone or DCS code that is being transmitted.

Reverse Burst
When a transmitter with CTCSS is turned off, a CTCSS signal is generated with a phase delay. This phase delay can be 120 degrees, 180 degrees, or 240 degrees. For transmitting to Motorola radios, 120 Degrees is usually selected. For other radios, use standard

Power Level
This allows you to transmit at full power which is 4 watts for the UHF version and 5 watts for the VHF version or transmit at low [power which is 1 watt for both versions.

TOT(sec)
This is the Time Out Timer which specifies how long the radio has to be in transmit mode before it turns off automatically.

TOT Key Delay(sec)
This parameter is used to determine how long the PTT key is released before the TOT timer is reset.

BCL
Busy Channel Lockout prevents the transmitter from turning on if there is already a signal on that channel. If it is set for carrier, any signal will prevent the transmitter from turning on. If it is set for CTCSS/DCS then only signals with matching encoding will prevent the transmitter from turning on. If set of OFF, then the transmitter will turn on unconditionally if the PTT is pressed.

STE
If squelch tail eliminate is checked, then the user will not hear the squelch tail generated when the transmitter is turned off from the radio you are listening to.

SCANNING PAGE

Adding a Scan List
To add a new scan list, highlight Scan and then right click the mouse and then press the Add button. Then highlight the new scan list you just created and then right click the mouse and press rename. Now you can rename the Zone list to something meaningful.

Configuration of scan list
Move the Available Channels to the Member Channels to form the scan list.

Talkback
If the talkback check box is checked, then pressing the PTT will allow the user to talkback based on the Tx Designated channel criteria below.

Tx Designated Channel
The choice for this is "Selected", "Last Active Channel", or any of the active channels in the system. If "Selected" is chosen, then the transmitting channel is based on the channel selector knob. If "Last Active Channel" is chosen, then the last channel that was transmitted on will be selected. You can also select any of the active channels in the system.