

The WCS-D880 Programmer is designed to give you the ease and convenience of programming the memories and set menu options of your radio from your PC.

Memory Channels Include:

- 1,000 Memories with D-Star options
- 50 Limit Memories (25 pair) with D-Star options
- 8 VFO Channels
- 2 Call Channels with D-Star options
- 50 GPS Memories

Other Menu Item Categories Include:

- Common
- DTMF

The Programmer Is for so Much More than Just Memory Management.

With the WCS-D880 Programmer you can begin a new “factory fresh” file into which frequencies and option settings are entered. Or, you can read from the radio, store these details on your computer and make changes. Then, with minimal button pushing, send the new configuration back to the radio.

The Programmer allows you to create and save as many files as you want for your radio. Files can even be shared between users via email or the Internet. Any RT Systems Version 4.50 program can open a file from any other RT Systems Version 4.50 programmer... even from a different radio.

Managing all the options of this great little radio becomes easy with the Programmer. The cut, copy, paste and insert features of the Programmer make channel management easier than ever.

Open more than one file at a time. Memory channel information can be copied from one file to another within the Programmer making it really easy to set up a new file.



Hardware Requirements:

A PC running Windows XP, Vista, Windows 7 (32 or 64 bit) or Windows 8 (desktop version). A CD drive (local or network) for installation. A free USB port. The RT Systems USB-29A or the USB-RTS05 interface cable. The USB-29A cable connects the radio to the computer from the USB port on the computer to the speaker jack on the radio. The USB-RTS05 cable connects to the data jack on the radio and can also be used for digital work with programs such as D-Rats.



Limit Memory Functions
(left to right)

Scan Names	DCS Polarity
Receive Frequency	Skip
Transmit Frequency	Step
Offset Frequency	Digital Squelch
Offset Direction	Digital Code
Operating Mode	Your Callsign
Name	Rpt-1 Callsign
Tone Mode	Rpt-2 Callsign
CTCSS	Bank
Rx CTCSS	Bank Channel Number
DCS	Comments

Limit Memories

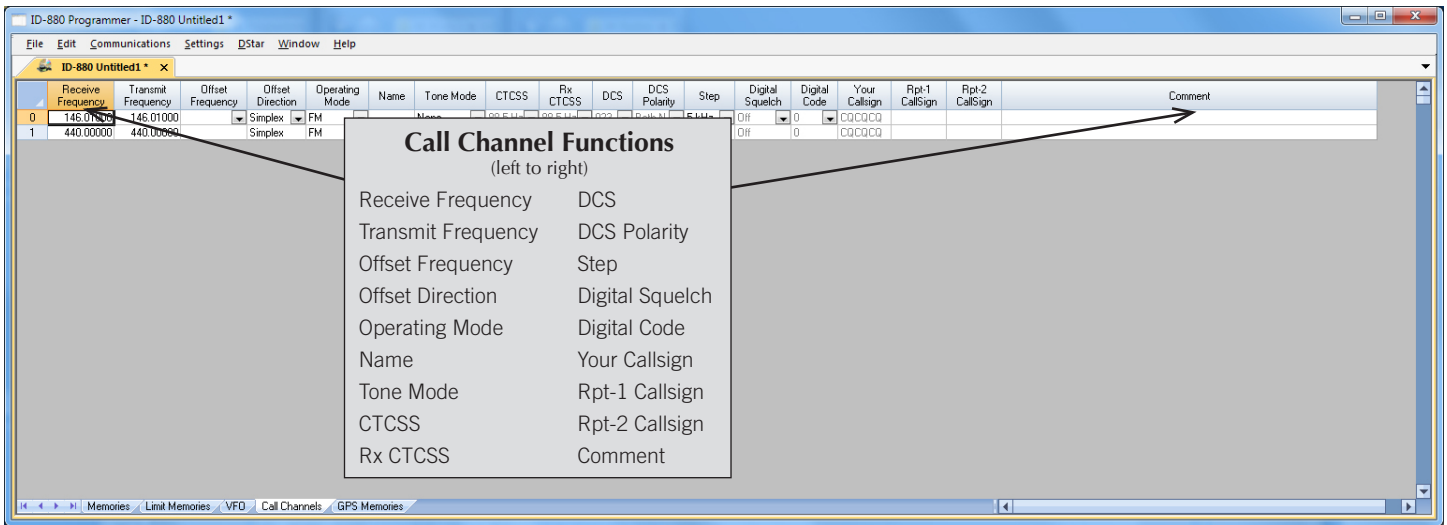
Limit Memories are used by the radio for Program Scan. Program the same details for Limit Memories as for regular memory channels. Many of the Limit Memories are preprogrammed in the radio and while the frequency can be changed to another within the band, they cannot be left blank.

VFO Functions
(left to right)

Receive Frequency	DCS Polarity
Transmit Frequency	Step
Offset Frequency	Digital Squelch
Offset Direction	Digital Code
Operating Mode	Your Callsign
Tone Mode	Rpt-1 Callsign
CTCSS	Rpt-2 Callsign
Rx CTCSS	Comments
DCS	

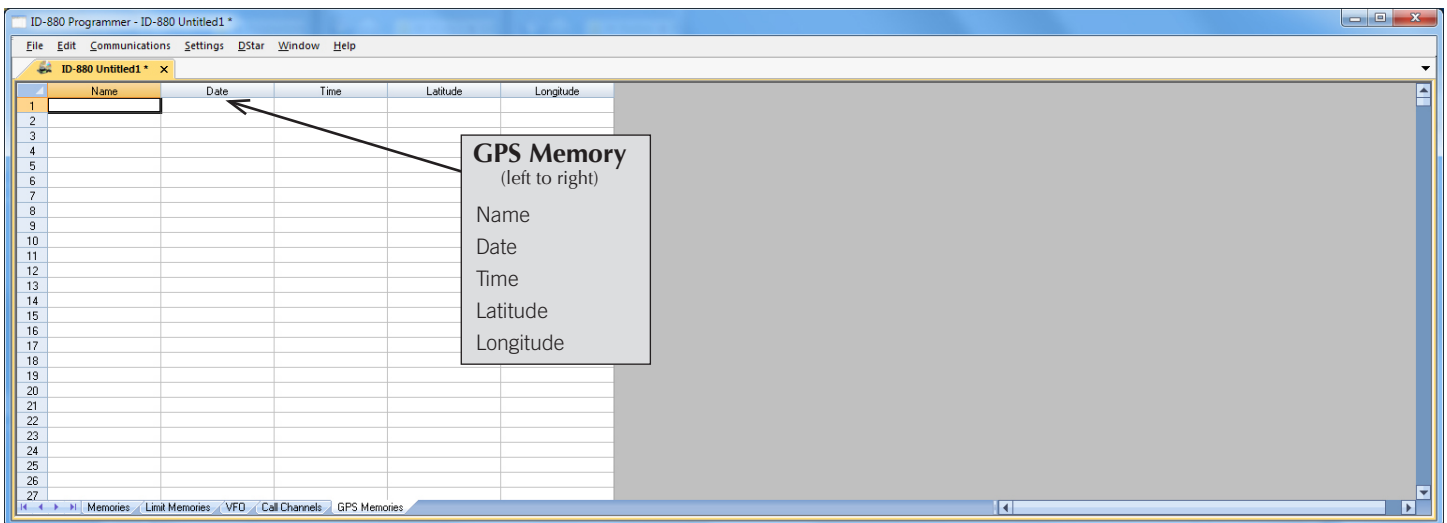
VFO

The program makes available the same VFO's as in the radio (usually one per band). Remember these are not real memory channels since the details are lost as soon as you tune the radio manually. There is no one button recall for these. You do not need to program into VFO before programming details into a memory channel. These channels are preprogrammed in the radio and while the frequency can be changed to another within the band, they cannot be left blank.



Call Channel

Home/Call channels are special memories accessed through one button recall on the radio. These channels are preprogrammed in the radio and while the frequency can be changed to another within the band, they cannot be left blank.



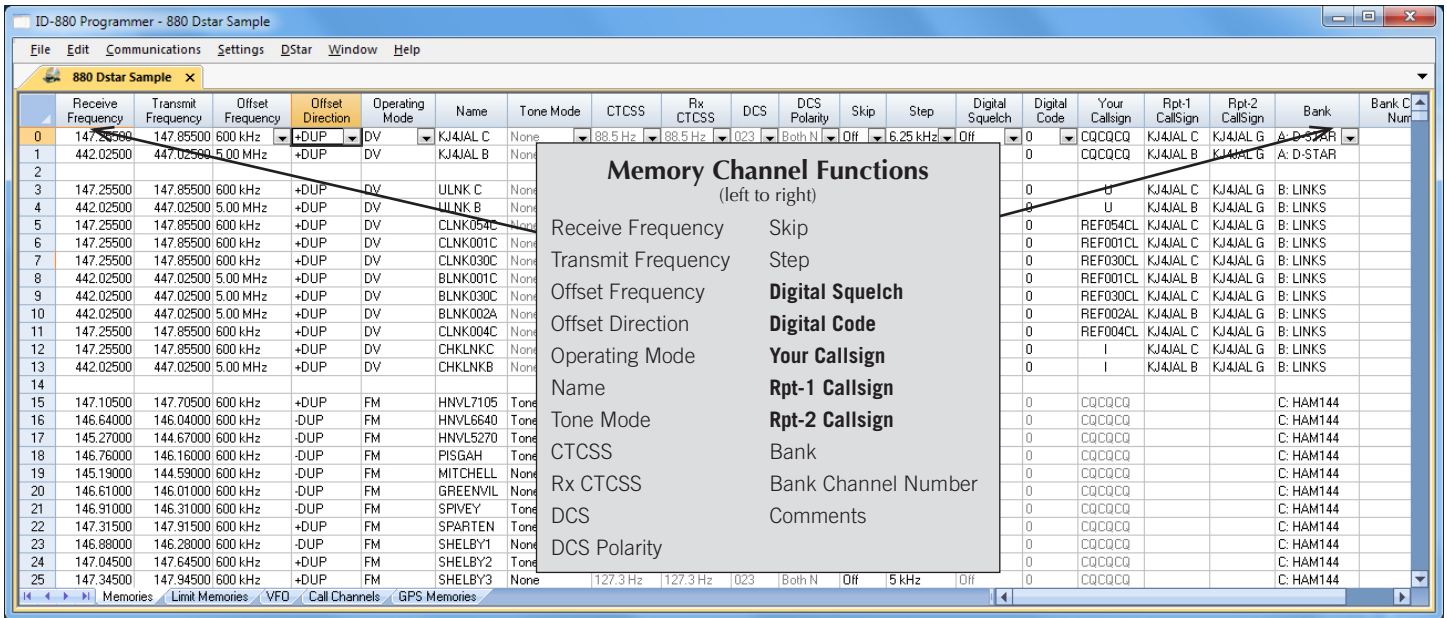
GPS Memory

Once stored in the radio during GPS operations, these channels are read from the radio with the other details.

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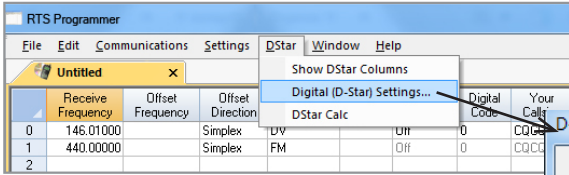
Want to Know Even More?

For additional details and tips, click here for the comprehensive WCS-D880 Programmer Help File.



Memories and D-Star Columns

The ID-880 handles D-Star and FM memories in Memories. It is here in the Programmer that the D-Star specifics for each channel are found. The D-Star columns become active once Operating Mode is set to DV.



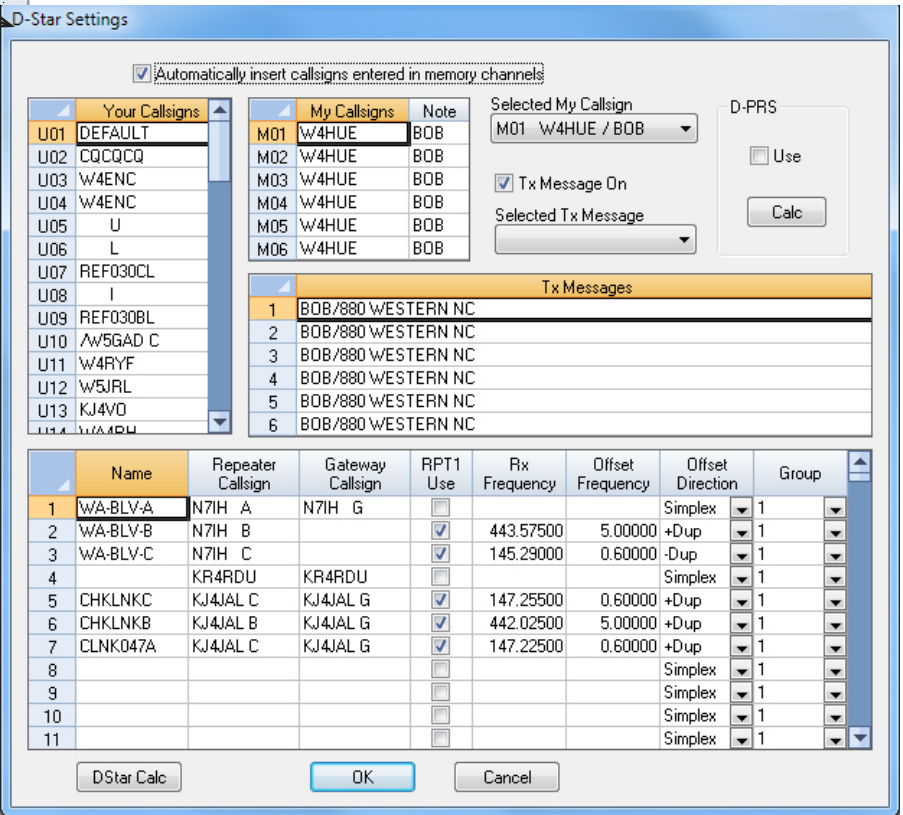
D-Star Settings

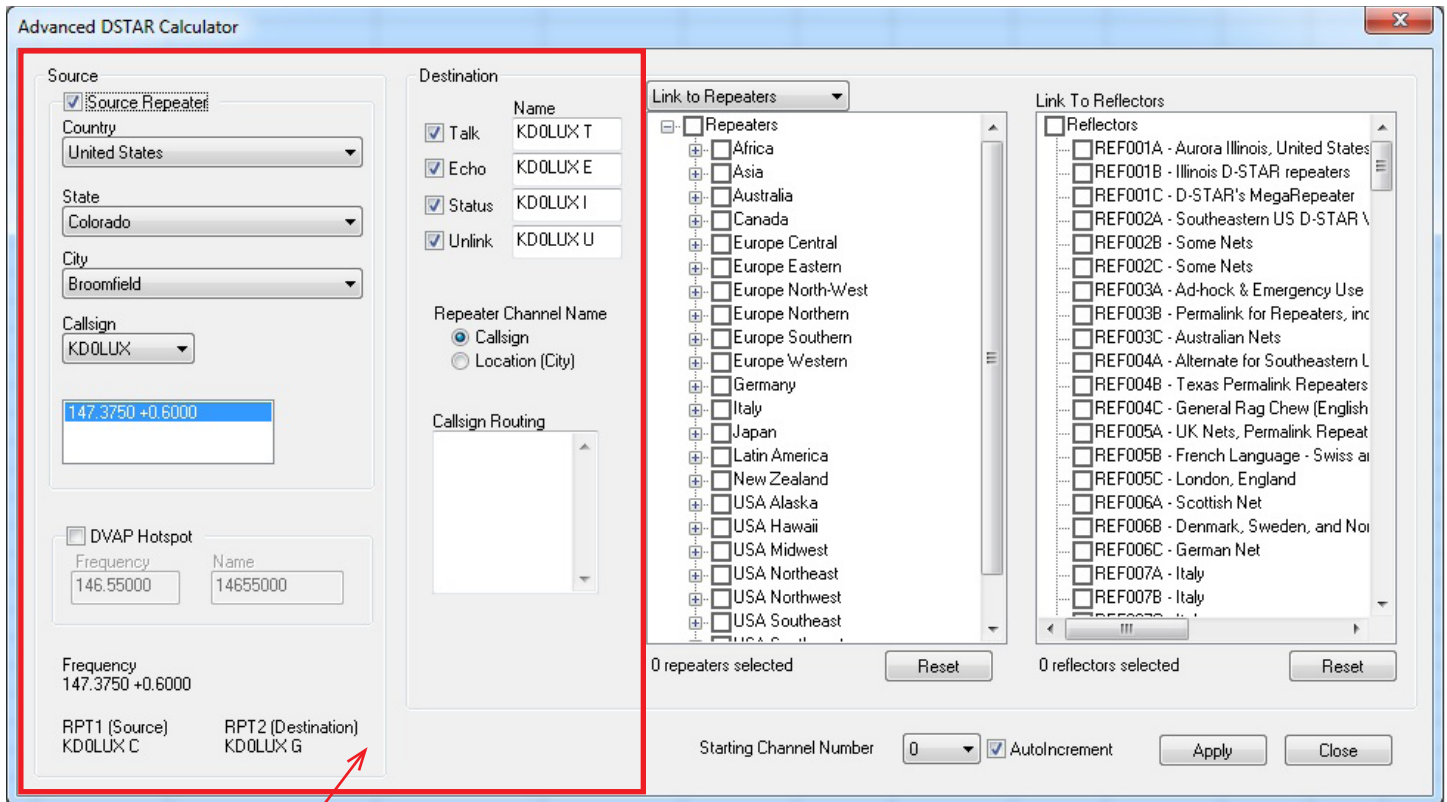
Set "My Callsign" to your FCC issued callsign.

The list of Your Callsigns and is just storage. The callsigns used during a transmission is programmed in the memory channel. This list is available to make a selection from; however, the callsign does not need to be entered here first.

Tx messages, name/location/equipment details, etc., scroll on the radio receiving your call.

Details for the 300 DR-Memories are easily completed on this screen. D-Star Calculator is available to make this even easier.





Source and Destination:

The D-STAR Calculator automatically sets up the Talk, Echo, Info and Unlink channels for your “Source” repeater. The “Source” is the repeater you access to begin your adventures. Just like with analog repeaters, you must be able to hit the “Source” repeater.

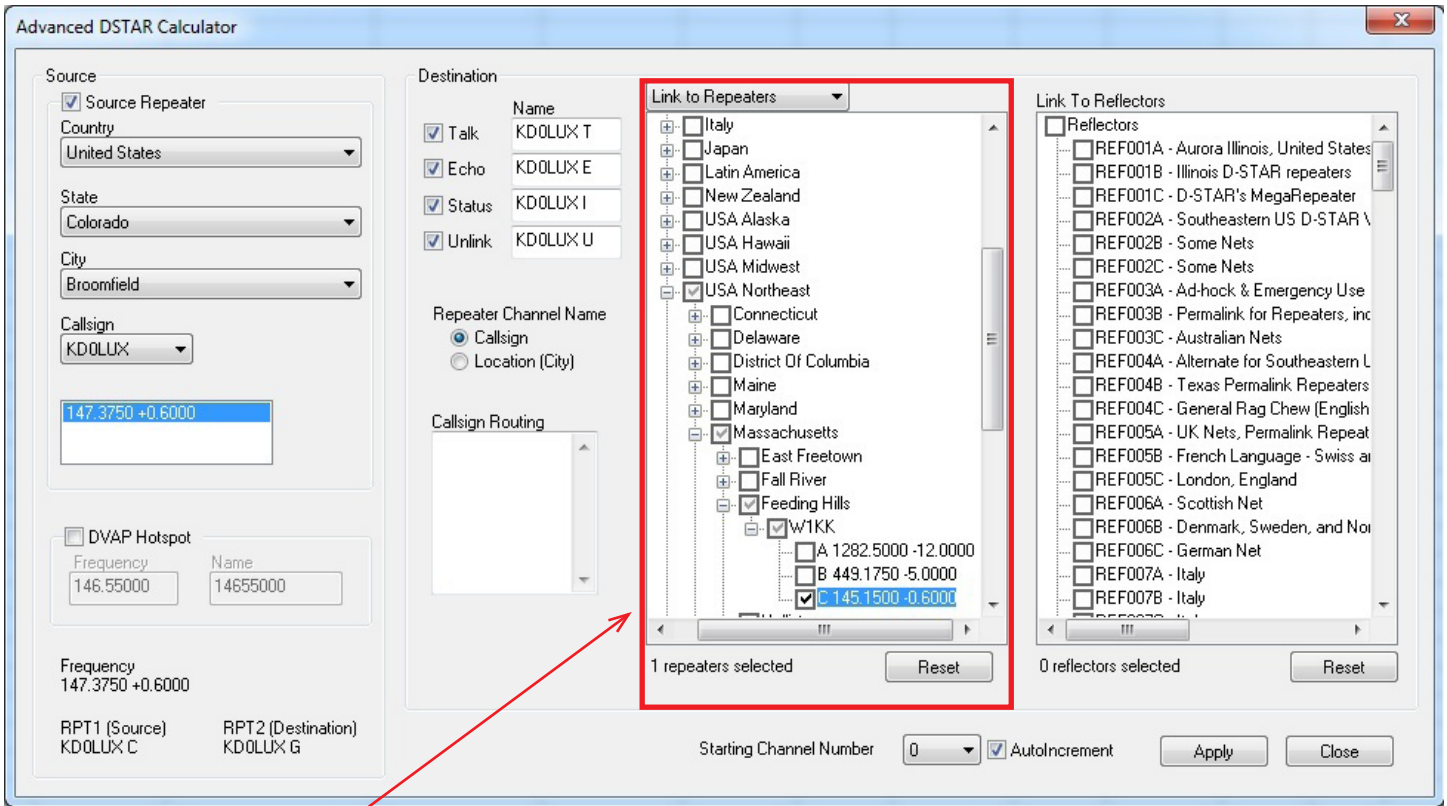
Talk - the CQ channel for talking with others.

Echo - a test function that repeats your transmission back to you. Good for letting you know that you are, or are not, hitting the repeater.

Info - The function that triggers a status response from the repeater (i.e. linked to “where”... not linked)

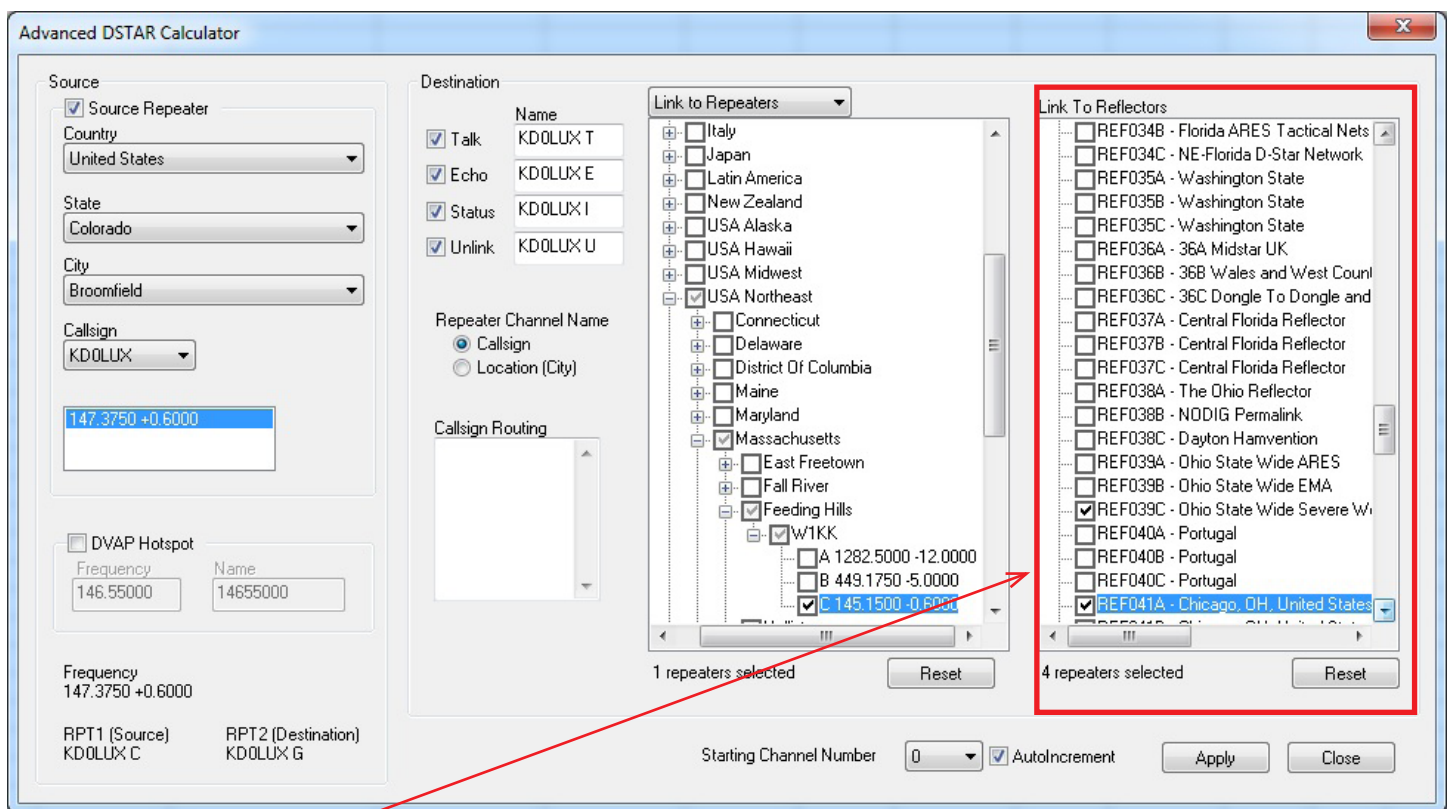
Unlink - Disconnects the current link of the repeater (where allowed). More widely used to disconnect a link you establish. Remember... if you link, it's always polite to unlink (hang up the phone) when you're done unless someone has joined you locally. Then you might leave it to them to unlink.

The calculator sets up the same channels for a DVAP hotspot. You enter your frequency only once.



Route/Link to Repeaters:

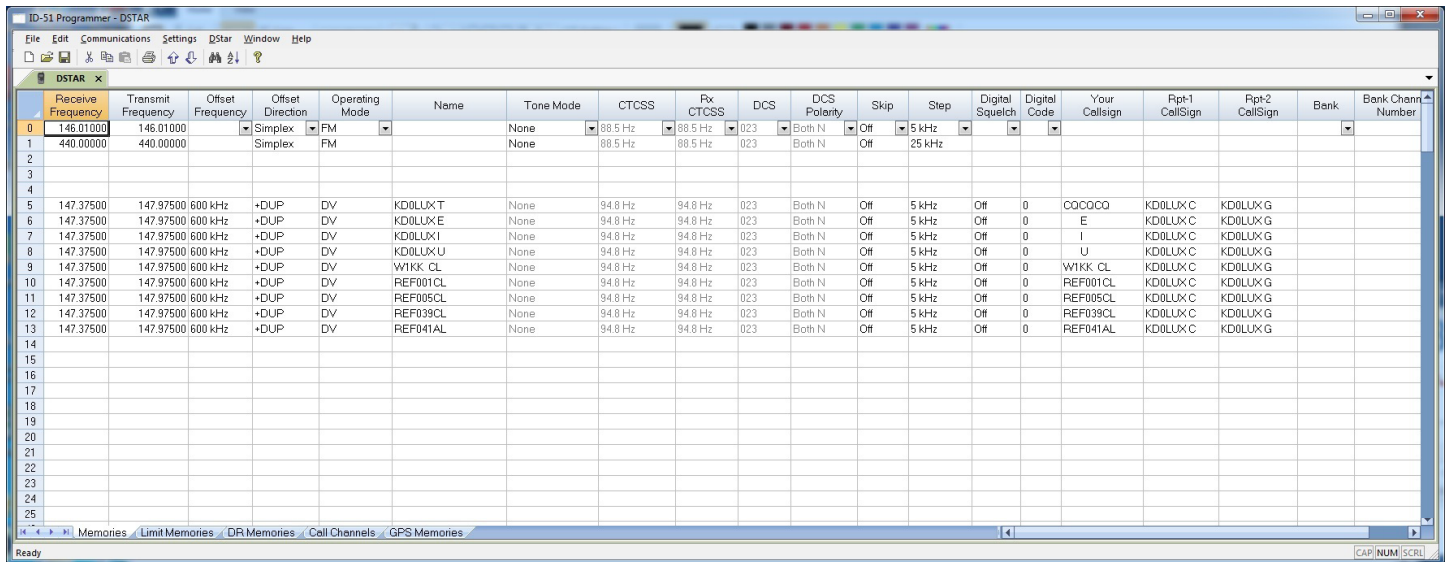
Now that you identified your “Source”, let’s set up your Destination. In D-STAR you can Link to Repeaters or Route to Repeaters. To set up channels that link or route, use the drop down at the top of the first tree to select your function, then select your repeaters by checking a country, region, state, city or individual repeater. A counter below the list keeps track of how many you have selected.



Link to Reflectors:

For even more fun, and a great way for a beginner to get started, Link to Reflectors. D-STAR reflectors are a special type of Internet connected gateway that rebroadcasts each signal to all the other linked nodes or repeaters. Remember... EVERYBODY is listening... but that's what makes it fun. You have a whole world to talk to through your local repeater, "Source", linked to a reflector. To set up a channel that links your repeater to a reflector, check the box for that reflector in the Link to Reflector tree.

Click **Apply** once to set up all these channels for the radio.



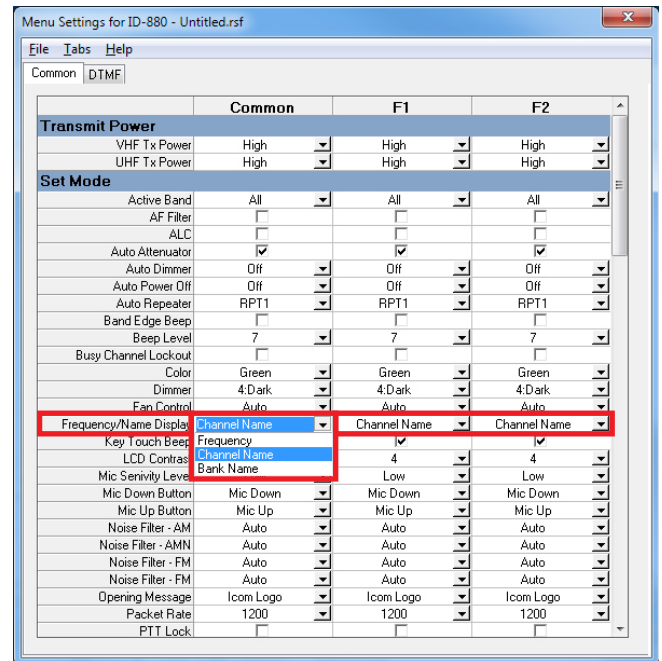
Receive Frequency	Transmit Frequency	Offset Frequency	Offset Direction	Operating Mode	Name	Tone Mode	CTCSS	Rx CTCSS	DCS	DCS Polarity	Skip	Step	Digital Squelch	Digital Code	Your Callsign	Rpt-1 Callsign	Rpt-2 Callsign	Bank	Bank Channel Number
146.01000	146.01000		Simplex	FM		None	88.5 Hz	88.5 Hz	023	Both N	Off	5 kHz							
440.00000	440.00000		Simplex	FM		None	88.5 Hz	88.5 Hz	023	Both N	Off	25 kHz							
147.37500	147.97500	600 kHz	+DUP	DV	KD0LLX T	None	94.8 Hz	94.8 Hz	023	Both N	Off	5 kHz	Off	0	COCOCO	KD0LLX C	KD0LLX G		
147.37500	147.97500	600 kHz	+DUP	DV	KD0LLX E	None	94.8 Hz	94.8 Hz	023	Both N	Off	5 kHz	Off	0	E	KD0LLX C	KD0LLX G		
147.37500	147.97500	600 kHz	+DUP	DV	KD0LLX I	None	94.8 Hz	94.8 Hz	023	Both N	Off	5 kHz	Off	0	I	KD0LLX C	KD0LLX G		
147.37500	147.97500	600 kHz	+DUP	DV	KD0LLX U	None	94.8 Hz	94.8 Hz	023	Both N	Off	5 kHz	Off	0	U	KD0LLX C	KD0LLX G		
147.37500	147.97500	600 kHz	+DUP	DV	WIKK CL	None	94.8 Hz	94.8 Hz	023	Both N	Off	5 kHz	Off	0	WIKK CL	KD0LLX C	KD0LLX G		
147.37500	147.97500	600 kHz	+DUP	DV	REF001CL	None	94.8 Hz	94.8 Hz	023	Both N	Off	5 kHz	Off	0	REF001CL	KD0LLX C	KD0LLX G		
147.37500	147.97500	600 kHz	+DUP	DV	REF005CL	None	94.8 Hz	94.8 Hz	023	Both N	Off	5 kHz	Off	0	REF005CL	KD0LLX C	KD0LLX G		
147.37500	147.97500	600 kHz	+DUP	DV	REF039CL	None	94.8 Hz	94.8 Hz	023	Both N	Off	5 kHz	Off	0	REF039CL	KD0LLX C	KD0LLX G		
147.37500	147.97500	600 kHz	+DUP	DV	REF041AL	None	94.8 Hz	94.8 Hz	023	Both N	Off	5 kHz	Off	0	REF041AL	KD0LLX C	KD0LLX G		

The resulting channels are set up and ready to go.

Your callsign, Rpt 1 Callsign and Rpt 2 Callsign are set automatically... No wondering which suffix goes where, of if it is positioned correctly. That is all done for you.

Name can be edited here to better identify the station. Name is what you see on the radio. It is not part of the D-STAR commands for use of the system. It may be all you have to identify the function of a channel. (Notice the frequency is the same for ALL these channels although they each do something different on the D-STAR network.) Make the Name something you understand.

Note: Be sure to turn ON the name display for the radio to use what you enter in the name field.

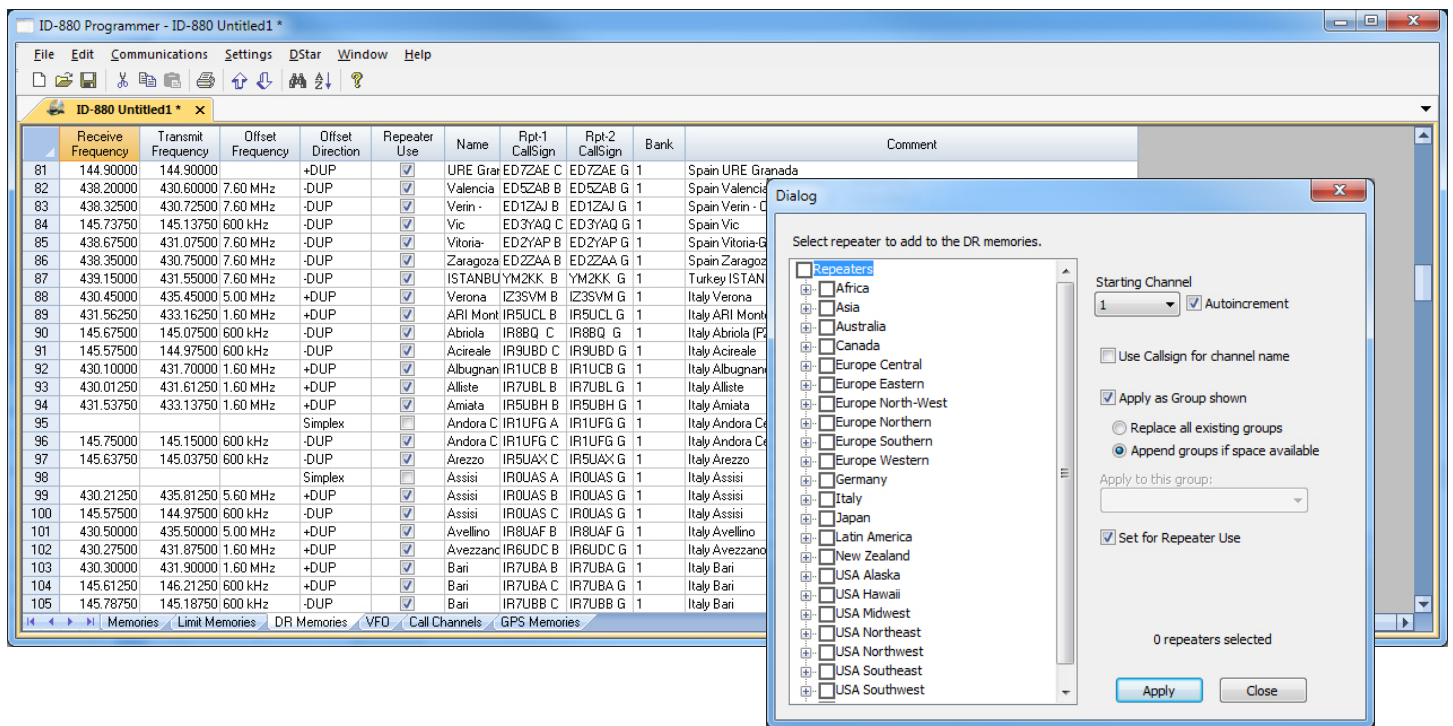


	Common	F1	F2
Transmit Power			
VHF Tx Power	High	High	High
UHF Tx Power	High	High	High
Set Mode			
Active Band	All	All	All
AF Filter	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ALC	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Auto Attenuator	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Auto Dimmer	Off	Off	Off
Auto Power Off	Off	Off	Off
Auto Repeater	RPT1	RPT1	RPT1
Band Edge Beep	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Beep Level	7	7	7
Busy Channel Lockout	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Color	Green	Green	Green
Dimmer	4:Dark	4:Dark	4:Dark
Fan Control	Auto	Auto	Auto
Frequency/Name Display	Channel Name	Channel Name	Channel Name
Key Touch Beep	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
LCD Contrast	4	4	4
Mic Sensitivity Level	Bank Name	Low	Low
Mic Down Button	Mic Down	Mic Down	Mic Down
Mic Up Button	Mic Up	Mic Up	Mic Up
Noise Filter - AM	Auto	Auto	Auto
Noise Filter - AMN	Auto	Auto	Auto
Noise Filter - FM	Auto	Auto	Auto
Noise Filter - FMN	Auto	Auto	Auto
Opening Message	Icom Logo	Icom Logo	Icom Logo
Packet Rate	1200	1200	1200
PTT Lock	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

To Use these Settings for D-STAR Fun:

- Save and send the file to the radio.
- Listen on the talk channel.
- Be sure your call sign is registered on the system.
- Check repeater status on info channel.
- Check your connection to repeater on Echo channel.
- Link repeater to a connection of your choice.
- Talk on Talk channel.

Have Fun!



D-STAR Calculator for DR Memories

D-STAR Calculator for DR Memories lists repeaters worldwide for you to update or customize the list in the radio. Easily customize this list for places you plan to travel or places you want to work using a DR memory as your RPT2 repeater.

All repeater nodes are listed. Those the radio can use to transmit will be set automatically for "Repeater Use".

Latitude and Longitude are included where that info is available from the source and the repeater is marked for use.

Click a country, region, state, city or individual repeater.

Use starting channel to replace or carefully add to your list.

No searching for data, it's all right in the RT Systems Programmer.

The D-STAR calculator is updated automatically with the program. Just "Check for Updates" periodically to be sure you have the latest list.

WCS-D880 Programming Software Radio Option Setting Screens

Common

Use these screens to customize other set menu features of the radio. Check boxes toggle features on or off, drop down menus list all selections and blank boxes for personalized entry add to the ease of setting up your radio exactly like you want it.

The entries on the Settings screens are made for you to “Set and Forget”. Once settings are customized, you are prompted to save before exiting. The saved settings will be there every time you create a new frequency file.

Use F1 and F2 columns to configure the settings for different activities.

	Common	F1	F2
Transmit Power			
VHF Tx Power	High	High	High
UHF Tx Power	High	High	High
Set Mode			
Active Band	All	All	All
AF Filter	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ALC	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Auto Attenuator	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Auto Dimmer	Off	Off	Off
Auto Power Off	Off	Off	Off
Auto Repeater	RPT1	RPT1	RPT1
Band Edge Beep	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Beep Level	7	7	7
Busy Channel Lockout	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Color	Green	Green	Yellow
Dimmer	3	3	3
Fan Control	Auto	Auto	Auto
Frequency/Name Display	Channel Name	Channel Name	Channel Name
Key Touch Beep	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
LCD Contrast	4	4	4
Mic Sensivity Level	High	High	High
Mic Down Button	Mic Down	Mic Down	Mic Down
Mic Up Button	Mic Up	Mic Up	Mic Up
Noise Filter - AM	Auto	Auto	Auto
Noise Filter - AMN	Auto	Auto	Auto
Noise Filter - FM	Auto	Auto	Auto
Noise Filter - FM	Auto	Auto	Auto
Opening Message	My Callsign	My Callsign	Icom Logo
Packet Rate	9600	9600	9600
PTT Lock	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Scan Pause Timer	10 seconds	10 seconds	10 seconds
Scan Resume Timer	3 seconds	3 seconds	3 seconds
Scan Names	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Scan Stop Beep	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Squelch Delay	Short	Short	Short
Time Out Timer	Off	Off	Off
Weather Alert	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Digital			
Auto Gateway Setting	Auto	Auto	Auto
Auto Mode Detect	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Auto Reply	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Callsign Edit Record	Auto	Auto	Auto
Data Tx	Auto	Auto	Auto
Monitor	Auto	Auto	Auto
Received Callsign Auto Write	Auto	Auto	Off
Received Callsign Display	Auto	Auto	Auto
Received Message Display	Auto	Auto	Auto
Repeater Setting	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Repeater Callsign Auto Write	Off	Off	Off
Scroll Speed	Slow	Slow	Slow
Standby Beep	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Transmitted Callsign Display	Your Callsign	Your Callsign	Your Callsign
GPS			
GPS On	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
GPS Speed	9600bps	9600bps	9600bps
Indicator	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Position Format	mm.mm'	mm.mm'	mm.mm'
Sentence Format	GGA	GGA	GGA
Tx Mode Items	Off	Off	Off
Units	Feet/mile	Feet/mile	Feet/mile
UTC Dffset	00:00	00:00	00:00
GPS Alarm	Off	Off	Off
Alarm Area1	00'25"	00'25"	00'25"
Alarm Area2	Both	Both	Both
Alarm Channel			
GPS-A Set Mode			
Auto Tx Timer	Off	Off	Off
Unproto Address	API880.DSTAR*	API880.DSTAR*	API880.DSTAR*
Comment			
Data Extension	On	On	Off
Data Extension			
Symbol	Car	Car	Car
Other Symbol			
Time Stamp	HMS	HMS	Off

	DTMF
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	
16	

DTMF

Enter DTMF memory details.

Bank Names and Linking

Bank Name	Common	F1	F2
A D-STAR	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B LINKS	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
C HAM144	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
D HAM440	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
E SMP.2M	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
F SMP.7M	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
G HCARES	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
H	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
I RPTRS	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
J CALL S	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
K	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
L	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
M RC0120	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
N RC2140	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
O RC4160	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
P RC6180	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Q	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
R	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
S	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
T RB0120	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
U RB2140	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
V RB4160	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
W RB6180	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
X	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Y	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Z	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Active Bank Selection

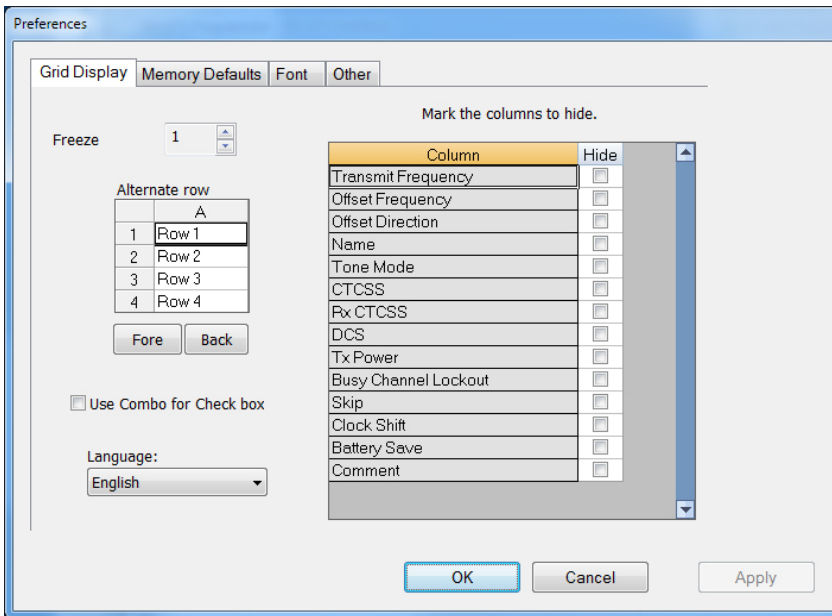
Common

F1

F2

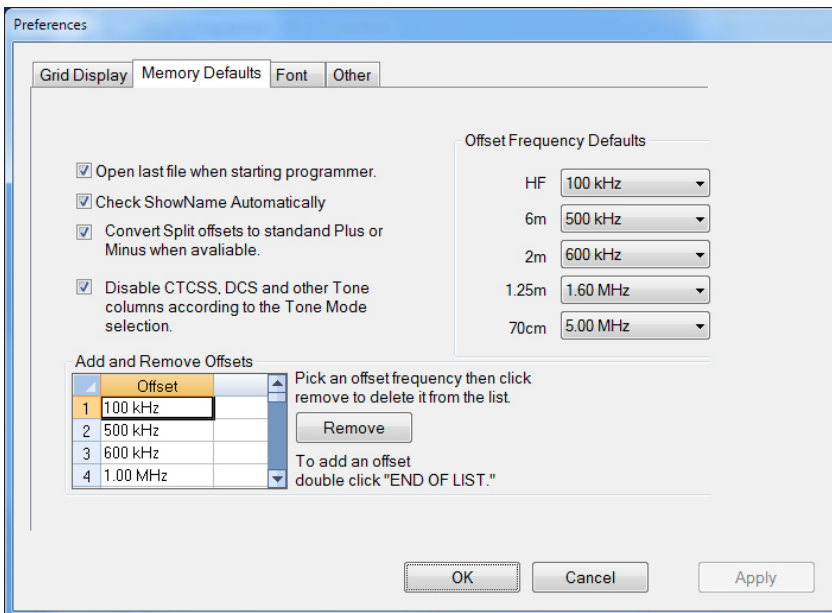
Bank Names and Linking

Set up Name for bank selection on radio, scanning links, and Active Bank. Use F1 and F2 for different configurations for separate activities.



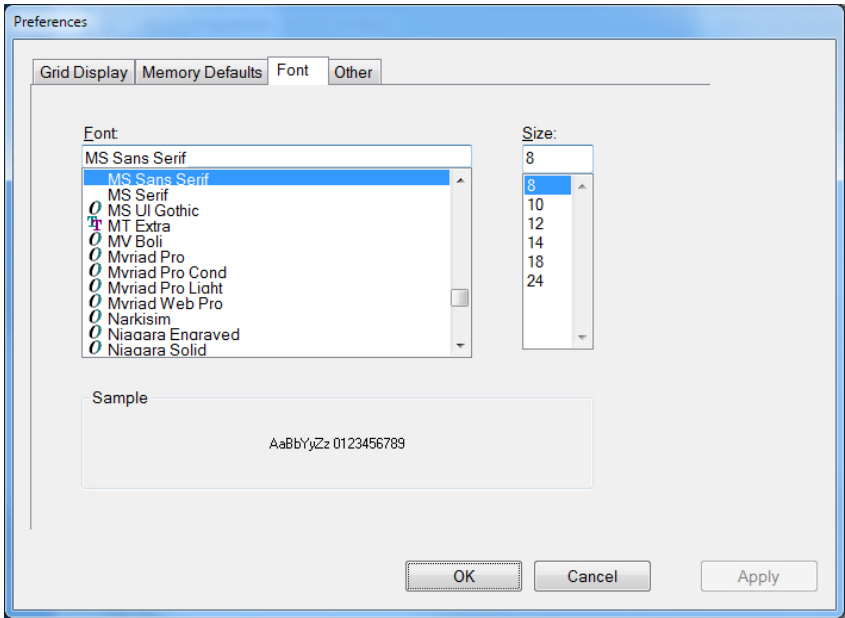
Grid Display

- RT Systems now available in English, French, German, Italian, Spanish, Portuguese and Japanese.
- Set colors for text (Fore) or background (Back) of alternate rows for easier viewing across the columns.
- Freeze columns to keep information on the screen as you scroll to the right of the page.
- Hide columns you don't use. Customize your print-out: hidden columns do not print.
- Use Combo for Check boxes – changes the grid to eliminate check box selections that are disabled on some systems.



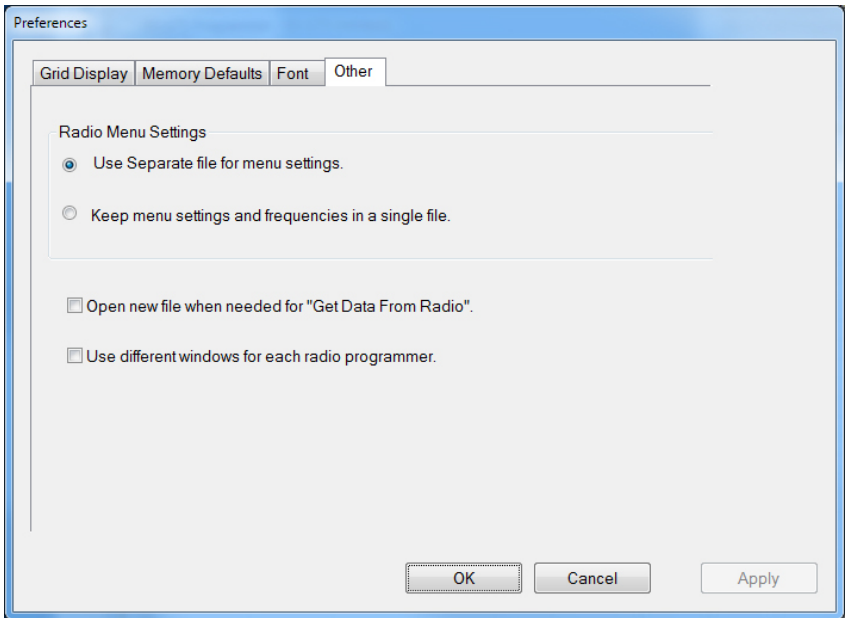
Memory Defaults

- Set options to control auto fill information for memory channel entries.



Font

- Set options to control the font in the column headers of the channel entry screens. Select any font and font size available on your computer.



Other

- Set options to control how the programmer handles the global Radio Menu Settings file.
 - Separate (default) handles the global settings of the radio in a “set and forget” fashion. Once you set these up and save the file you won’t have to reset them for a new frequency file.
 - Together as one gives you the ability to create files that are complete with frequencies and customized global settings. In this mode, each file begins with factory defaults for every option of the radio.
- Check “Get data from Radio” new file option to prevent data loss when you read from your radio into the programmer.
- Check “different window” option to make the programmer for a different radio run in completely separate window rather than in a separate tab of the same window.

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