When viewing with WordPad, Choose VIEW|OPTIONS, and on the Write page, Click No Wrap.

Radio Manager for Windows

Version 3.910 - January 2/10/99

Help File Contents

Visit http://www.interplaza.com/bensware/ to **download a printable version of this help file**.

Many features, functions, and controls are easily learned by simply hovering your mouse pointer over the part of the screen in question. These “hints” can be turned on and off through the TOOLS| CONFIGURATION menu.

NOTE: You must put the Uniden Bearcat BC895XLT into Remote Mode for Radio Manager to work properly. Hold the ALRT/RMT key on the scanner until it beeps twice and RMT is displayed on the scanner's LCD.

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What is Radio Manager for Windows?

Radio Manager (RM) for Windows is a control program for the following computer controlled scanning radios and test equipment.

- Uniden Bearcat BC895XLT - with TrunkTracking Modes!!!
- AOR AR8200, AR8000 and AR2700
- Radio Shack Pro-64 and Pro-2041 (uploading channels only - a hardware limitation)
- Icom R7000, R7100, R9000, R71 and Other Icoms supporting the CI-V protocol.
- OptoElectronics OptoScan456/535 Realistic equipped radios
- OptoElectronics OptoCom
- OptoElectronics Scout
- OptoElectronics Xplorer -Cellular Restoration (with code) - Download ALL fields to text file.
    - OptoElectronics DC442 (May work with DC440, but I haven't test that one.)

Featuring

- Scanning
- Searching
- Manual Tuning
- Individual Channel and Bank Descriptions
- TrunkTracking Channel Names and Search Ranges with the Uniden Bearcat BC895XLT
- TrunkTracking Size Code Helper for the Uniden Bearcat BC895XLT
- Lock Out + to maximize Lock Outs in the Uniden Bearcat BC895XLT's TrunkTracker mode
- Lock Out Uploading and Downloading for the Uniden Bearcat BC895XLT
- Filter Searching in the Uniden Bearcat BC895XLT's TrunkTracker mode
- Alarms in the Uniden Bearcat BC895XLT's TrunkTracker mode
- Select Scan
- Individual Channel and Bank Lock Outs
- Temporary Channel Lock Outs
- Trunk System Lock Outs
- Lock Out Review
- Individual Channel Delays
- User Defined Delay Amount
- 5 Priority Buttons with Priority Checking
- Quickly Tune Local Weather or Your Favorite Frequency
- Signal Detection Indicator
- User definable Banks and Channels
- User definable Search Ranges
- Hit List for logging active Frequencies and much more
- Birdie Lock Outs
- Auto Storing of New Frequencies
- User Friendly for Interactive Computer Controlled Scanning
- User Customizable
- DBF Data Format
- Import UFDBF Files
- Import Text Files
    - Small and Large Manual Tuning Steps

Some Radios Also Feature

- Upload and Download Radio's Memory
- Signal Strength Detection and Logging
- Squelch Tone Detection and Logging
- DTMF Detection and Logging
- Muting
- Attenuation
    - EEPROM and Band Plan Editing

See Also Getting Started

Version History

If you come across a bug or suggestion as you use Radio Manager, please let me know. Please let me know as much as you can about when the bug occurs and in what area of the program. It's also helpful to know what radio, interface, and computer you use. Please don't assume that someone else has already reported a problem, or I might not know to fix it.

Current Version 3.910 released 2/10/99.

Added some OptoElectronics **OptoCom Features** including: uploading, downloading, and clearing channels, remote Volume/Squelch control, and OptoCom mode selection.

Fixed several bugs
Fixed FILE|NEW Create AR8200/AR8000 Bank File problems
Fixed AR8000 Search Range bogus modes being added
Fixed a problem that was causing some channels to be duplicated depending on when you saved and how you sorted under the EDIT|CHANNEL dialog box
Fixed a GPF causing problem if you switched from a bank file with channels to one without any channels while in Scanning mode.

Version 3.900 released 1/24/99.

Added **AOR AR8200** Support

The AR8200 is a pretty cool radio with lots of features and options. It can be used for interactive scanning control, but is fairly slow compared to some other options like the OptoElectronics OptoScan and Radio Shack combinations. Radio Manager supports AR8200 uploading and downloading of Channels, Bank Names, Search Ranges, Search and Scan Bank Links, Dup (OffSets), Select Status, Lockout Status, Attenuation, Frequency, Mode, Step, selected user settings, and more!

Enhancements
Added Alpha Tags to Edit Channel Dialog listbox
Added Tone field to Edit Channel Dialog
Added Delete Bank option before Uploading Check box to Upload Dialog Box for AR8000
Added Select Status Writing to AR8000
Changes to AR8000/AR2700/AR8200 reading/writing routines
Added Tuning Delay Setting to Configuration Dialog Box for AR2700, 8000, & 8000
Fixed File SAVE AS with Overwrite problem previous .CDX files caused data duplication appearance.
Added Hide Main Window Checkbox to PCR1000 Virtual Key Pad

Bug Fixes
Fixed CTCSS Tone Upload for BC895
Fixed AutoContinue Signal Detection problem with BC895XLT
Fixed Bug that occurred when there were not any channels in a bank file
Fixed AutoSaving problem with Hit List

Version 3.898 released 10/19/98.
Mostly minor bug fixes and a few enhancements.

Enhancements
- Added Select Scan
- Added Auto Birdie option for use while searching.
- Added SEARCH|ADD CURRENT FREQUENCY TO BIRDIES
- Added Save Hit List Function to BC895XLT VKPD
- ScanList Names to Prg. Button in BC895XLT VKPD
- Added Upload ALL Option to BC895VKPD
  - Added Download Scan List to BC895VKPD

Bug Fixes
- Fixed AutoSave Hit List Problem where "not included" was being written incorrectly.
- Fixed LookUp Unknown Problems while searching.
- Fixed a problem with Birdie Lockouts
- Fixed RM Ranges Button in AR8000 Search Banks Dialog Box
- Fixed Flickering Hit List Problem
- Fixed reversed Tone and StepSize fields in Import function
- Fixed problem where signal detection method was being changed after Prompt to Save Files.

- Fixed Search Range Initialization Problem
  - Fixed BC895XLT VKPD Hit List problem

Version 3.896 released 1/1/98.

Lots of BC895XLT Enhancements

BC895XLT TrunkTracking Mode General Enhancements

- Added Lockout Upload/Download Features
- Added Manual Entry Area to Size Code Helper
- Added TOOLS|SETTINGS **Start in BC895XLT Virtual Key Pad** and **Remember Trunk Bank** for easier Starting of Radio Manager
- Added TOOLS|SETTINGS **Close Button Quits** Radio Manager for easier quitting of Radio Manager
- Added TOOLS|SETTINGS Alarms to set alarms to sound (3 Levels).
- Added Filter Scanning Features to Skip Talkgroups IDs not in Current Filter
- Added Lock Out + Feature to Automatically Lock Out Talkgroup IDs marked as such in the current look-up database.
- Added Talkgroup ID and Channel Name when minimized
  - Added Status bar to Trunk Manager Look-up database panel

BC895XLT Virtual Key Pad Hit List Related

- Added Hit List Hit Count and Time Stamp
- Added Fixed Font Option
- Added Delete Currently Selected Hit
- Added TOOLS|AUTO CONTINUE (Automatically continues searching after a talkgroup is active for more than a user determined amount of time.
- Added Show Frequency in TrunkTracker Mode - Displayed above Hit List.
  - Fixed Hit List double-click - now Edits Hit in database or offers option to add.

General Enhancements

- Added Import Text file from EDIT|CHANNELS then FILE|VIEW/IMPORT/APPEND
  - Added Choose Font menus to Frequency and Service Fields on main window. Right-Click the Frequency and Service fields in the main window to choose the font of your choice for easier across the room viewing.

Several Bug Fixes

- Improved Memory Management. In Windows 3.11 and below, System Resources where being depleted. ***Ami and Gregg, Thanks for catching this!!! They were rewarded with free registrations, because they took the time to report a very serious bug.***
- Added code to stop signal detection prior to AR2700/AR8000 upload/download, Search Banks, Scan Banks, System Editor, and Password Areas. The software signal detection was interfering with several other features. A hardware signal detection method is still strongly recommended for interactive control of the AR8000.
  - Added code to force manual mode when going into TOOLS|DOWNLOAD. Was getting lots of errors if scanning during download.

Version 3.895 released 11/23/97.

New Support for the Uniden Bearcat BC895XLT featuring…
Virtual BC895 Key Pad
Hit List for quickly returning to an ID
Lockout List for displaying all Locked Out IDs in a trunk bank.
Channel Names in TrunkTracking Mode
Upload TrunkTracking ScanLists
Size Code Helper to help nail down Fleet Maps.
Search Range - Automatically Skips over TrunkTracking IDs not within the range you define.
Upload Channels(Including Trunk Programming Mode)
Download Channels

Other New Features and Bug Fixes
New Sort Channels on Frequency in Descending Order in the EDIT|CHANNELS dialog box.

Fixed problem where Manual, Scan, and Search Buttons were not being displayed correctly after switching back to Radio Manager from other programs.

Fixed problem where certain frequencies would not upload to the Pro-64 and Pro-2041.

Fixed problem where some deleted channels were not being handled correctly.

Version 3.06 released 7/4/97.
New support for the OptoElectronics DC442 Decoder.
May also work with the DC440, but I have not tested it personally. Please let me know if you can confirm it works with the DC440. The DC442 is a Squelch Tone and DTMF decoder. With the DC442 Radio Manager can log even more information.

Version 3.05 released 5/12/97.

New support for the **Radio Shack Pro-64** 400 Channel Handheld scanner and Pro-2041 base model. The Pro-64 and Pro-2041 only support uploading from the PC to the Scanner, but it works great! There's a simple interface to build, but you can get the radio, interface, and Radio Manager for Windows for about $350 before taxes.

Version 3.04 released 5/1/97.

Hit List Improvements
(There are Several new Options under TOOLS|CONFIGURATION for the Hit List)
Added Reset to Default Size & Position to Hit List System Menu
Added Delimiter and Text Qualifier options to saving Hit List
Added AutoSaving to Hit List
Added option to Log Hits by number of hits or duration
Added Date & Time and Time Only options to Hit List Logging
Added Optional Prompt to Save Hit List Data if any exists before exiting.
Increased Hit List Max setting in Configuration from 150 to 999
Added AutoContinue

New Features
Added Lock Out Zero (0.0) Frequencies in This Bank option (**See** Lockouts for details)
Added Set to Current Channel to Priority buttons (**See** Priorities for details)
Added Priority Beep option to INI file (You must add Priority Beep=1 to your RM.INI file under the [General] section.)
Added Copy from UFDBF to **Scratch Pad Listbox**
Added Attenuate Function to Icoms
Added Mode to Mass Change dialog box
Choose to show either the Frequency or the Service field when minimized. (**See** TOOLS| CONFIGURATION for details)

Bug Fixes and General Enhancements
Added Several New Keyboard Shortcuts (Hot Keys)
Added AUT mode to SEARCH AR8000 Dialog Box
Fixed bug in EDIT|CHANNELS where "Cannot focus invisible window" message was being displayed
Added prompting to save changes when Priority Channels have been changed.
Fixed SEARCH|LOOKUPUNKNOWNS being checked when no FM file was available
Fixed problem with EDIT|CHANNELS - it wasn't saving AlphaTags on drag and drops.
Fixed UFDBF Import, was not getting last record

Version 3.03 released 1/6/97.

Lots of Feature Enhancements, Changes, and bug fixes

A special thanks goes to James F. Boehner, MD N2ZZ for encouraging me and getting others to encourage me to add and improve AR2700 support, and also helping me test the AR2700 functions. I don't have the 2700, so I could not have done a lot of the programming without his help. I'd also like to thank Bill Ezell. Who posted a lot of helpful information on his 2700 website at http://www.mv.com/users/wje/aor.html.

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Main Window
Added Right-Click menu items to Large Step Size spin edit control for automatically setting and quickly setting to common repeater offsets. This is a handy feature for quickly tuning in the input or output side of a repeater transmission when you already have one of the two tuned in.

Added System Menu commands for easier access when RM is minimized.

Added automatic window size and position saving for main window and Hit List so when you restart Radio Manager they look the same. Also added option on System Menu to reset to default size and position.

Changed Enter Button function to show the first channel that matches the frequency entered.

Made Insert Channel use the current bank, even if manual entry.

Added Cancel option to Yes | No prompt to when exiting or going to certain areas of the program.

Fixed "List Index Out of Bounds" problem closing the EDIT|CHANNELS dialog box.

Edit Channels dialog box (EDIT|CHANNELS) (Major and lots of improvements and fixes)
Added **Scratch Pad Listbox** (I think this is the best addition in this version.)

Changed top row of buttons to menus to make room for new features.

Added Print & Export to File. It's not to the printer, but you will be able to do that easily with NOTEPAD.EXE or your favorite word processor. Printing in Windows is a pretty complicated function to add. This is just a short term solution. Printing directly from Radio Manager is still on my to-do list. You can also Export to Comma Delimited text files and the AutoProgrammer File (*.APF) format used to program the CE-232 scanner controller.

Added channel sorting within a bank by Frequency, Class, Service, or just renumbering channels.

Fixed Step Size not being saved problem.

Added Empty and Status Displays to help you avoid banks without any channels that can cause some problems.

Searching Related
Added New Bank button to AutoStore Dialog box so you can save found frequencies to a new bank instead of just an existing bank.

Now Remembers SEARCH|LOOKUP UNKOWNS setting from the last time you ran RM.

Fixed problem where Search Range delay setting was being ignored.

Fixed problem where Small Step Number was not being set to Search Step Number, even it was selected to do so under the TOOLS|CONFIGURATION menu.

Fixed Search Dialog box "List Index out of Bounds" problem that occurred when no range was selected.

Fixed problem of entering too many characters when describing a search range.

Fixed duplicated birdies problem.

AR8000/AR2700
Added AR2700 Band Plan Editing by popular demand. You can now edit your band plan, and yes, you can remove cellular blocking!

Added Save to RM button in AR8000 Search Dialog box so you can save a range you have in your radio into the Radio Manager search range list.

Added AR8000 Search Step Offset. I overlooked it before.

Fixed AR8000/2700 Search Bank Downloading where it would get garbage characters depending on how radio was configured.

Fixed lowest signal strength range on AR8000 Signal Strength to -127

Made Frequency edit first focus in Band Plan Insert dialog.

Fixed AR2700 Downloading channels

Added Print Band Plan button to AR8000 System Area Editor to print to a text file for easier viewing.

Added fix to automatically add at least one channel to AR8000 download which prevents many problems caused by empty banks.

Changed AR8000 Complete Download to use existing banks rather than creating new and duplicate banks in some cases.

Fixed/Changed 'Match Radio-All Channels' from "Match Radio Bank" in AR800DL to fix minor problem.

OptoScan456/535
Improved DTMF decoding for OptoScans. You should not get a bunch of 55555555555555555s or 88888888888888s in the Hit List anymore, or at least as often.

Miscellaneous
Added Avoid Duplicates checkbox to UFDBF Import dialog box to prevent getting duplicate frequencies from a PerCon Spectrum UFDBF export.

Added Copy Call Sign checkbox to UFDBF Import dialog box to copy the Call Sign from the UFDBF file into the Radio Manager Bank File's Channel Label field.

Changed loading file with first channel that is 0.0 to be set to the lowest frequency the radio supports to avoid an error message in some instances.

Fixed problem with Lowest Frequency and Highest Frequency not being save in Configuration dialog box.

Added AMW, AM2, AM3 Modes to support Icom R7100 wider band widths. Untested by me. I don't have an R7100, but some folks requested it.

Version 3.02 released 10/20/96.

Added OptoElectronics Xplorer Support including the ability to download Xplorer memories to a bank file or text file. The text file option allows ALL Xplorer fields to be downloaded. If you have the unlock code for cellular coverage, Radio Manager will unlock your Xplorer.

Fixed AR8000 search range problem when writing to empty search bank in radio. Thanks for the bug report Steve!

Fixed the UFDBF Import and Append, so it will get the last record

Fixed the Step Size combobox in the EDIT|CHANNELS dialog box so it includes Step Sizes you have already defined.

Added "Match Bank File's Channels Checkbox in Upload Dialog Box.

Fix saving banks when using empty channels.

Added Program Button and mode for easier programming of channels. Thanks Michael!

Added AR8000 Password Dialog Box

Added "RM Ranges" button in the AR8000 Search Banks dialog box, so you can use the search ranges you have defined in Radio Manager to program your AR8000.

Fixed Look Up button problem. Look ups weren't always starting from beginning. Also fixed same for EDIT|FM RECORD dialog box, when the two were used together.

Fixed cause of "list index out of bounds" error message when going to EDIT|CHANNELS from a manually entered frequency.

Fixed Easy Add problem that was changed in 3.01.

Version 3.01 released 7/11/96.

〈 Mostly bugs fixes, especially under the EDIT|CHANNELS menu. You can now change a bank number more easily, and view the frequency next to the channel number. I apologize for the numerous and deadly bugs that slipped through.

〈 Added support for the AR8000's Auto Mode, so Radio Manager uses the information in the AR8000's Band Plan to set the mode accordingly.

〈 Added Write Delay to fix uploading channels to AR8000.

〈 New database engine .DLLS fix some bugs in someone else's code.

〈 Fixed problem with accessing Frequency Manager databases within Radio Manager.

Version 3.0 released 5/9/96.

〈 New and Improved User Interface
〈 New support for the AOR AR8000 & AR2700 and OptoElectronics Scout.
〈 New FoxPro .DBF file format for bank files by popular demand.
〈 Written in Delphi a new visual Pascal programming language that will make my life a whole lot easier. A 32 bit Windows 95 version should be available in a few months.

Previous versions included 1.0 through 2.03. I am not going to go into detail since this is such a major rewrite. I think you will like 3.0. There are probably a few things that I left out that were in previous versions. If you find something you cannot live without, please let me know, and I will try to add it if it has broad appeal, or is easy enough to implement. Many of the features in the previous versions were suggested by users like you, so don not be afraid to send in a suggestion. Of course questions and comments are always welcome.

Getting Started

What You Need

Computer	486 Processor or Better
Memory	8MB RAM
Storage	3MB Available Disk Space
Hardware	Available Serial Port
Software	Windows 3.1, 3.11, 95, NT, or Higher

Radio	Uniden Bearcat BC895XLT, Radio Shack Pro-64, Pro-2041, AOR:AR8200, AR8000 or AR2700, Icom PCR-1000, R7000, R7100, R9000, R71, or other CI-V compatible Radio, OptoElectronics OptoScan 456 or 535, OptoCom, Scout, Xplorer.
Interface	An interface for Radio Shack Pro-64/2041, AOR radios, Icom Radios, and OptoElectronics Scout. For best performance, the interface should support Hardware Signal Detection, or be modified to do so.

NOTE: You must put the Uniden Bearcat BC895XLT into Remote Mode for Radio Manager to work properly. Hold the ALRT/RMT key on the scanner until it beeps twice and RMT is displayed on the scanner's LCD.

Installation and Setup

If you are reading this help file, then you have probable already installed Radio Manager correctly. If not, following the instructions in the ZIP file or on the Radio Manager diskette.

The first time you run Radio Manager, you will be prompted to choose the radio you want to control and other pertinent connection parameters. If you need to change the settings later, use the TOOLS| CONFIGURATION menu item.

The most important parameter is the Com or Serial Port that you choose. You must choose an ***available*** serial port.

The Windows operating environment is great, but unfortunately the PC's architecture is a bit limited. In DOS normally you can only run one program at a time. In Windows you can run several programs at once. Since more than one program can run at a time, there's a good chance two different programs might try to use the same piece of equipment at the same time. In this case a com (serial, RS-232) port. Even though you may have 4 com ports, you probably can't use all four at once (There are some systems that allow this). The reason is the limited number of IRQ (Interrupt Request) lines of the PC. Because there are so few, com ports 1 and 3 usually share an IRQ, and com ports 2 and 4 usually share another. So as long as you don't try use devices on com 1 and 3 (or com 2 and 4) at the same time you'll be OK. There are some solutions to the problem. First you can rearrange your devices so you don't have the conflict. For example, my PC has this set up. Com 1:Mouse, Com2:Radio, Com3:Label Printer, com4:MODEM. Since I don't (can't) use my radio and MODEM at the same time there's no conflict. When I use the label printer my mouse dies, but comes back after closing the label printer program (luckily I don't use it often and for long). The other option is to buy one of the new com port cards that has a larger selection of IRQs (check your cards, may be you can change the IRQs). If you change IRQs on a com port, make sure you tell Windows about it. Go to Control Panel and choose the Ports icon, choose the appropriate com port, and then the Settings and Advanced buttons. The IRQ selected there must match the IRQ the hardware is set to (usually by jumpers or DIP switches on the card). I know it's a pain. Hopefully the Plug-In-Play will solve the problem on your next PC.

OK, sorry for the departure into technoland, but that's the most common problem I've seen.

Next make sure the connection rate matches the rate your radio is set to.

RM also must know what radio you want to control. Choose the correct interface protocol: Icom, OptoElectronics OS456/535, AR8000, or AR2700, or RS Pro-64.

Next on Icom and OptoElectronics products you'll need to make sure the address in the radio and in Radio Manager for Windows match. Consult your radio's manual for details. In RM simply type in the address you want to use. The easy way is to match RM to what your radio is set to, that way you only have to change one address.

Common Addresses

Radio	**Address**
OptoScan456/535/OptoCom	80
IC-R7000	08
IC-R7100	34
IC-R9000	30
IC-R71A/E/D	1A
IC-R72	32*

IC-761	1E
IC-735	4
IC-1271A/E	24
IC-275A/E/H	10
IC-751A	1C
IC-475A/E/H	14
IC-751	1C
IC-375A	12
IC-271A/E/H	20
IC-575A/E/H	16
IC-471A/E/H	22

You might need to open up the radio to turn on the Record Remote Jack feature. See your Icom manual for details. Thanks for the information Les!

(*This is the answer to the most commonly asked question about Radio Manager for Windows.*)
For Radio Manager to be able to stop on active frequencies you must choose the correct Signal Detection method, and your interface MUST support Signal Detection. Icom CI-V interfaces can be adapted to work with RM. OptoScan456/535s and AR8000 come with Signal Detection already. Choose the appropriate method for your interface.

For the OS456/535 and OptoCom, Signal Detection should be set to Hardware DCD. For the AR8000, Signal Detection should be set to Hardware DSR if using the AR8000INF interface. Javiation Interfaces use the DCD pin for signal detection. The default for Icom CI-V interfaces that I suggest is Hardware Ring. **Note:** The Radio Shack Pro-64 and Pro-2041 only support Uploading Channels to the scanner.

The Signal Sample Factor determines how well RM will detect signals. A higher number means a better chance of detecting a signal. Start with 50 and adjust as necessary. A higher number also means a slower scanning speed.

The Mode Delay number lets Radio Manager wait between sending the frequency and mode to the radio. For some radios, the mode won't change if this number is too low. Try increasing the number as needed.

There are many other settings available in the TOOLS|CONFIGURATION section, but those described above are the critical ones to get you going.

See Also Configuration

Keyboard Shortcuts (Hot Keys)

You may find the following key strokes more convenient than using the mouse for some commands in Radio Manager's main window.

Shortcut	**Command**
F2	Manual
F4	Scan
F6	Search
Escape	Continue Scanning or Searching
CTRL + O	FILE|OPEN
CTRL + S	FILE|SAVE
Insert	EDIT|INSERT CHANNEL/BANK
Delete	EDIT|DELETE CHANNEL
ALT + ENTER	EDIT|CHANNEL DESCRIPTION
F8	EDIT|FREQUENCY MANAGER RECORD
F5	EDIT|FIND
F3	EDIT|FIND NEXT
F12	TOOLS|SHOW HIT LIST
F1	HELP|CONTENTS

These Shortcuts should work in any Windows program.
Work in dialog boxes using shortcut keys

To	Press
Switch to the next tab in a tab dialog box	CTRL+TAB or CTRL+PAGE DOWN
Switch to the previous tab in a tab dialog box	CTRL+SHIFT+TAB or CTRL+PAGE UP
Move to the next option or group of option buttons	TAB
Move to the previous option or group of option buttons	SHIFT+TAB
Move within the active list box or group of option buttons	Arrow key
Select the active command button or check box	SPACEBAR
Move to the next item beginning with that letter in an active list box	Letter key
Select the item with that underlined letter	ALT+ letter key
Display a drop-down list box	ALT+DOWN ARROW
Close a drop-down list box	ESC
Choose the default command button	ENTER
Cancel the command and close the dialog box	ESC

Within a text box, to	Press
Move to the beginning or end of the entry	HOME or END
Move one character to the left or right	LEFT ARROW or RIGHT ARROW
Select from the insertion point to the beginning of the entry	SHIFT+HOME
Select from the insertion point to the end of the entry	SHIFT+END
Select the character to the left	SHIFT+LEFT ARROW
Select the character to the right	SHIFT+RIGHT ARROW

System Menu

The system menu is the menu that's common to most, if not all, Windows programs. It's located in the upper left corner of the window and looks like a dash - in Windows 3.11 and lower versions of Windows. In Windows 95 the system menu is represented by the programs icon.

The Restore, Move, Size, Minimize, Maximize, and Close commands are the same as for any other Windows programs,

Radio Manager for Windows adds the following commands. This make it easier to control Radio Manager while your are working in another program and Radio Manager is minimized. In Windows 95, you can set the Task bar to be "Always on Top".

Reset to Default Size and Position

Resets the Main window to its default size and position.

Manual

Starts Manual mode the same as hitting the Manual button.

Scan

Starts Scan mode the same as hitting the Scan button.

Search

Starts Search mode the same as hitting the Search button.

Lock Out

Locks out the current channel while scanning or in manual mode. When searching adds the current frequency to the birdie list.

Trunk Lock Out

Locks out the current channel and unlocks all others in the current bank.

Temp Lock Out

Locks out the current channel for an amount of time you specify in the configuration dialog box.

Who is it?

Displays the service of the current frequency.

Configuration

You can customize Radio Manager in many ways. You also need to specify which radio you want to control. The settings described below are stored in RM.INI by default, however you can create .INI files for other radios, and then create a separate icon or shortcut for each setup. For example, you can create an icon with the command line, `C:\RM\RM.EXE RADIO2.INI` When you start the program from this icon the `RADIO2.INI` file will be used for configuration. The .INI file in use is displayed on the status bar of the Configuration dialog box.

There are several pages of configuration settings. After you've changed the settings to what you want, click the OK button to save the changes and Radio Manager will start using the new settings. You can also click the Cancel button to abort any changes you've made.

Common Settings Listbox

Select a radio to change settings to most common for that radio. Complete by clicking on the Set button.

Radio Connection Page

Most important settings for basic control of your radio.

Radio Protocol listbox

Choose the proper radio protocol to match the radio you are controlling. Currently supported protocols are Icom, Icom PCR-1000, OptoScan456/535, Radio Shack Pro-64 and Pro-2041, AOR AR8200, AR8000, and AOR AR2700. Uniden BC895XLT. NOTE: Icom covers dozens of different Icom radios.

Note: The AR8000 should be set to CR,LF delimiting. On the radio, press FUNC + CONF, then down arrow until you get to "DELI". Finally, rotate the tuning knob until CR, LF is set and press the ENTER key.

Note: The OptoCom is controlled under the OptoScan456/535 protocol.

Communications Port listbox

Choose an AVAILABLE communications port also know as a com, serial, or RS-232 port. See also Trouble-Shooting.

Connection Rate listbox

Choose the connection rate that matches the settings in your radio. Radio Manager performs best at 9600 bits per second (BPS) or faster.
Note: If you are using the Radio Shack Pro-64 set this to 2400.

Signal Detection listbox

Choose the signal detection that your radio and interface supports. Radio Manager must have a way of determining whether or not a signal is active. The hardware methods are recommended for fastest performance. The AR8000 Software method is extremely flaky. The AR8200 works, but not as well as a hardware method. If you are using the Javiation RS-8200 or JAV-232, select Hardware-DCD.

Note: *The NONE - Always Active (simulates a constant active frequency) setting may be useful if you want to log squelch tones and DTMF characters with a decoder, but you do not have your radio under computer control. Simply tune the radio from its controls and leave it on the frequency you want to log. You can type in the frequency in Radio Manager to have it saved with in the Hit List. The None - Never Active setting simulates a frequency without any activity and may be useful if you don't have Radio Manager controlling any scanners, but you are controlling test equipment like the OptoElectronics Scout and Xplorer.*

Note: *The AOR AR2700 does not support Hardware Signal detection that Radio Manager needs to stop on active frequencies.*

Note: Ignore this setting if you are using the Radio Shack Pro-64 or Pro-2041.

Signal Sample Factor spinner

Choose how many times Radio Manager will check for an active signal. The higher the number, the better chance of catching a signal, but scanning and searching rates will be the slower. Start with 50 or so, and increase or decrease as needed.
Note: Ignore this setting if you are using the Radio Shack Pro-64.

Mode Delay spinner

Some radios take two commands to change the frequency and mode. Radio Manager sends the frequency change first then the mode change. In some cases time between the two commands may not be enough for the mode change to work correctly. A higher number means more accurate control, but slower scanning speed, so determine the lowest Mode Delay that works for your setup.
Note: Ignore this setting if you are using the Radio Shack Pro-64.

Address field (not needed for all radios)

Some radios have addresses that are included in any commands sent through the interface. Icom and OptoScan456/535s do need an address.

Common Addresses

Radio	**Address**
OptoScan456/535/OptoCom	80
Xplorer	B0
IC-R7000	08
IC-R7100	34
IC-R9000	30
IC-R71A/E/D	1A
IC-R72	32*
IC-761	1E
IC-735	4**
IC-1271A/E	24
IC-275A/E/H	10
IC-751A	1C
IC-475A/E/H	14
IC-751	1C
IC-375A	12
IC-271A/E/H	20
IC-575A/E/H	16
IC-471A/E/H	22

**You might need to open up the radio to turn on the Record Remote Jack feature. See your Icom manual for details. Thanks for the information Les!*
*** You will probably need to check the 4 Byte Frequency checkbox described below.*

Tuning Delay
For some radios a tuning delay is necessary to allow the receive to settle on the frequency that was just tuned before checking for an active signal.

4 Byte Frequency (IC-735) Checkbox
Only check if you are controlling the Icom IC-735 or a similar receiver that has a 4 byte frequency instead of the standard 5 byte. See your radio's owner's manual for details.

OptoCom Checkbox
Check if you will be controlling the OptoElectronics OptoCom

Radio Coverage Page

These settings are used to match Radio Manager to the limits of your radio.

Lowest Frequency field and Highest Frequency field

Enter the lowest and highest frequencies that your radio can tune.

Supported Modes listbox

Click on modes to selected or deselect the modes your radio supports.

Right-click to selected modes supported by common radios.

Radio Features Page

These settings are used to match Radio Manager to radio specific features. Some of the features are not fully supported by Radio Manager yet.

Supports Channel Attenuation checkbox (AR8000 only)

Check if your radio supports individual channel attenuation.

Supports Channel Step Sizes checkbox (AR8000 only)

Check if your radio supports individual step sizes.

Supports Channel Select checkbox (not ready yet)

Check if your radio supports individual select channels. Select channels are tagged as part of a "Select Scan" sequence for special channels.

Supports Channel Select Number checkbox (not ready yet)

Related to above setting. Some radios feature select scanning where all channels tagged with, say 1 are scanned, or a all channels tagged with 5, etc.

Supports Channel Labels checkbox (AR8200 & AR8000 only)

Check if your radio supports alphanumeric labels for individual channels.

Channel Labels Length (AR8200 & AR8000 only)

Enter the maximum number of characters your radio uses for channel labels. It's 7 for the AR8000, and 12 for the AR8200

Supports Tape Start/Stop checkbox (OptoScan456/535)

Check if your radio or interface features the ability to start or stop a tape record.

Supports Squelch Tones checkbox (OptoScan456/535, BC895XLT, & AR8200)

Check if your radio decodes squelch tones.

Supports Signal Strength checkbox (AR8200, AR8000, OptoScan456/535, and some Icoms including the PCR1000)

Check if your radio sends signal strength through the interface.

Supports Audio Mute checkbox (AR8200, AR8000, OptoScan456/535, PCR1000)

Check if your radio allows muting of the speaker.

Supports DTMF Reading checkbox (OptoScan456/535 and PCR1000)

Check if your radio decodes DTMF digits.

Read/Write Delay spinner

Enter a delay for reading and writing information. Some functions, like downloading and reading the system area may not work properly if the number is too low.

Radio Memory Page

These settings are used to match Radio Manager to the memory capabilities of your radio.

Lowest and Highest Channel Spinners

Enter the lowest and highest channel numbers that your radio has. Only significant for radios that support uploading and downloading.

Supports Download from Radio checkbox

Check if your radio allows memory channels to be read.

Supports Upload to Radio checkbox

Check if your radio allows writing to the radio's memory channels.

General Page

This settings are where you can customize Radio Manager the way you like.

Speed Factor spinner

Determines how fast Radio Manager will scan and search. 55 is the fastest rate. Higher numbers are slower, but may catch more active signals.

Delay Amount spinner

Enter how long you want Radio Manager to wait before resuming scanning and searching when a delay is on, and a signal drops out.

Temporary Lock Out Amount spinner

Enter how long you want a temporarily locked out channel to remain locked out in seconds.

Priority Checking Interval spinner

Enter how long in seconds you want Radio Manager to wait between checking any enabled priority channels.

Small Step Size Equals Search Step Size checkbox

Check if you want the Small Step Size spinner on the main window to equal the step size of the most recently used search range.

Small Step Size and Large Step Size fields

Enter the step size for the Small and Large Step Size spinners on the main window. The spinners are used to manually tune the radio. There are two for your convenience.

Priority on After Loading Bank File checkbox

Check if you want priority checking enabled after loading a bank file.

Prompt to Save Files checkbox

Check if you want Radio Manager to prompt you to save changed files before exiting or entering certain areas of the program.

Confirm Deletes checkbox

Check if you want Radio Manager to prompt you before deleting information.

Display Page

These settings are mostly user interface settings.

UTC Clock Adjustments spinner

Radio Manager shows the current time in the lower left corner of the main window. If you want to adjust the time to match UTC time, enter the adjustment amount here.

Show Hints checkbox

Check if you want Radio Manager to show quick help hints when you hover the mouse over certain areas of the screen and controls. You might leave this on until you are comfortable with Radio Manager's many features and functions.

Signal Strength Display Type radio buttons

Choose a bar graph or needle display type for the signal strength meter on the main window for those radios that report signal strength.

Show Bank radio buttons

Choose to show bank names, numbers, or both.

Move Scrollbars While Scanning checkbox

Check if you want Radio Manager to move the bank and channel scrollbars while scanning. It looks neat, but slows things down.

Weather Button Frequency field

The Weather Button on the main window is user similar to a preset button on your stereo. It's intended to be used to quickly tune the local weather channel, but you can put something else there. Enter a frequency to tune to when you click on the button.

Weather Button Mode listbox

Enter a mode to tune to when you click on the button.

Weather Button Caption field

Enter a caption to display on the Weather Button.

Weather Button Show Icon checkbox

Check if you want to display the storm cloud icon on the Weather Button.

When Minimized Show

Choose Frequency or Service. When minimized and scanning or searching, Radio Manager will display either the Frequency or Service, so that you can see what frequency Radio Manager is on even though you may be working in another program.

Logging (Hit List) Page

These settings are for customizing the Hit List window.

Log Number of Hits or Duration Radio Buttons

Choose to log the number of hits on a particular frequency, which means a frequency will not be duplicated in the list, but it's hit count will be increased for each hit. Or choose Log Duration and each time a frequency is active the duration of the activity will be logged. Once the activity stops, the next time the same frequency becomes active, it will appear as another hit with it's own duration.

Log to Hit List Checkboxes

Check to log Signal Strength, Squelch Tones, and DTMF digits if your radio supports them.

Hit List Limit Spinner

Enter the most number of hits you want to log. When that number is reached, the oldest hits will be cleared to make room for newer hits.

Show Hit List on Startup Checkbox

Check to have Radio Manager show the Hit List window when the program starts.

Always On Top Checkbox

Check to keep the Hit List window on top of other open windows.

AutoContinue After x Seconds Spinner

Enter the most number of seconds you want to remain on an active frequency. When that number of seconds is reached and you have TOOLS|AUTO Continued checked, Radio Manager will automatically continue Searching or Scanning.

Auto Birdie Checkbox

Check if you want frequencies that are AutoContinued (see above) to be added to the Birdie List.

Time and Date Format Combobox

Choose to log either the time or the date and time of hits in the Hit List window. *Note: The date and time formats are based on your Windows system settings in the Control Panel under Regional Settings.*

Prompt to Save

Check if you want Radio Manager to remind you to save the data in the Hit List when exiting.

Auto Save Checkbox

Check if you want Radio Manager to Save the data in the Hit List to a file periodically. When AutoSaving, Radio Manager also clears the data in the Hit List after writing the information to a file.

File button

Click and Enter the name of the file in which you want to AutoSave

Every X Minutes or Hits

Choose how often you want to AutoSave. You can choose to save every x minutes or hits.

Delimiter Character

Enter a character that you want to use to separate fields when saving Hit List data. A comma (,) is normal.

"Text" in Double Quotes Checkbox

Check if you want text fields like Class, Service, Channel Label, and Mode surrounded by double quotes.

Decoder

These settings are for configuring Radio Manager with optional decoder hardware like the OptoElectronics DC442. It may also work with the DC440, but I have not had the opportunity to test it yet. When Radio Manager detects a signal and you have a compatible decoder configured correctly, you can use the Hit List to log Squelch Tones and DTMF characters.

Enabled Checkbox

Only check if you have a compatible decoder attached.

Decoder Combobox

Choose the decoder that you have attached. Currently only the OptoElectronics DC442 is supported, but the DC440 might work. Give it a shot, and please let me know. Ben_Saladino@compuserve.com

Communications Port Combobox
Choose communications or "com port" that the decoder is connected to. For the OptoElectronics DC442 this could be a different com port than what your radio is connected to, but it may not have to me. There are many possibilities. You may want to connect your radio to the extra CI-V port on the DC442, or if you have CI-V level converter with an extra port that your radio is already attached to, then it might be better to use it to control the DC442. There are too many possibilities to explain here. If you need help, I will see what I can do. Please email me Ben_Saladino@compuserve.com

Note: *Setting up the Decoder and Radio on the same com port (using one as the level converter for the other)may cause some interference in communicating with the two for Radio Manager. If you experience trouble like that and have another available com port, try separating the two.*

Connection Rate Combobox
Selected the bits per second so that it matches how the decoder is configured.

Address
Select the CI-V address to match the address in the decoder. A0 is the default for the OptoElectronics DC442.

Registration -- Disclaimer and Agreement

To register please see Order Form

Users of Radio Manager must accept this disclaimer of warranty:
Radio Manager and Frequency Manager are supplied as is. The author disclaims all warranties, expressed or implied, including, without limitation, the warranties of merchantability and of fitness for any purpose. The author assumes no liability for damages, direct or consequential, which may result from the use of Radio Manager or Frequency Manager.

Radio Manager and Frequency Manager are "shareware programs" and are provided at no charge to the user for evaluation. Feel free to share it with your friends, but please do not give it away altered or as part of another system. The essence of "user-supported" software is to provide personal computer users with quality software without high prices, and yet to provide incentive for programmers to continue to develop new products. If you find this program useful and find that you are using Radio Manager and Frequency Manager and continue to use Radio Manager and Frequency Manager after a reasonable trial period, you must make a registration payment of $40.00 (plus shipping, handling, and tax in some situations) to Ben Saladino. The registration fee will license one copy for use on any one computer at any one time. You must treat this software just like a book. An example is that this software may be used by any number of people and may be freely moved from one computer location to another, so long as there is no possibility of it being used at one location while it's being used at another. Just as a book cannot be read by two different persons at the same time.

Anyone distributing Radio Manager or Frequency Manager for any kind of payment must first contact Ben Saladino at the address below for authorization.

You are encouraged to pass a copy of Radio Manager and Frequency Manager along to your friends for evaluation. Please encourage them to register their copy if they find that they can use it. All registered users will receive a copy of the latest versions of Radio Manager and Frequency Manager programs.

See also
Order Form

Please, send questions, comments, and suggestions to...

Ben Saladino KC5IRJ
660 W. Oak St.
Hurst, TX 76053-5526

817-282-0331
email address: Ben_Saladino@compuserve.com

Shareware

Shareware distribution gives users a chance to try software before buying it. If you try a Shareware program and continue using it, you are expected to register. Individual programs differ on details -- some request registration while others require it, some specify a maximum trial period. With registration, you get anything from the simple right to continue using the software to an updated program with printed manual.

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Shareware is a distribution method, not a type of software. You should find software that suits your needs and pocketbook, whether it's commercial or Shareware. The Shareware system makes fitting your needs easier, because you can try before you buy, and because the overhead is low, prices are low also. Shareware has the ultimate money-back guarantee -- if you don't use the product, you don't pay for it.

See also
Registration

Order Form

Radio Manager 3910 Copyright © 1992-1999 Ben Saladino KC5IRJ

Registration Form (2/10/99-63900)

Radio Manager includes Frequency Manager. You'll get the latest version Radio Manager and Frequency Manager without the registration reminder screens, and I'll let you know about major program enhancements and offer them at substantial discounts.

Registering by Check or Money Order: To register send a check or money order with this form to Ben Saladino, 660 W. Oak St. Hurst, TX 76053-5526. To print this order form, click on Print Topic in the File pull-down menu. Payments must be in US dollars.

Registering with Credit Cards including Master Card, Visa, American Express, and Discover. You can order directly from me as described above, or from Public (Software) Library (PsL) with your MC, Visa, AmEx, or Discover card by calling 800-242-4PsL (outside the United States: 713-524-6394), or by FAX to 713-524-6398, or by email to 10989@pslweb.com. Please visit my website at http://www.interplaza.com/bensware/rm.htm for internet ordering options. These numbers are for ordering only. Ben Saladino cannot be reached at those numbers. To contact Ben Saladino for information about dealer pricing, volume discounts, site licensing, the status of shipment of the product, the latest version number, or for technical information, call Ben Saladino at 817-282-0331 or write to me at 660 W. Oak St. Hurst, TX 76053-5526.

Radio Manager's registration number at PsL is 10989. ***NOTE: It is not necessary to order Frequency Manager separately. Frequency Manager is included with Radio Manager.***

Credit Card Pricing
Registration fee $40.00, Handling Charge for credit cards in the US $6.60, Handling Charge for credit cards outside of the US $9.60. Texas residents will be charged tax.

Registration Form for mailing registrations to Ben Saladino 2/10/99 (63910)

___ Send me a diskette ___ eMail me a password to download from the web.

Radio Manager single copy: quantity ____ @ $40.00 ea. = _____
Texas residents add 8.25% sales tax + _____

Shipping is included in the $40.00 for the US and Canada.
(Others add $3.00) _____
Total Payment _____

Name: _____

Company: _____

Address: _____

City, State, Zip: _____

Home Phone #: _____

Work Phone #: _____

E-Mail address: _____

How did you hear about Radio Manager? _____

Computer (circle one): 80386 80486 Pentium Other _____ Speed:_____ MHz

Windows Version: 3.0 3.1 3.11 95 98 NT

What radio(s) and test equipment are you controlling with Radio Manager?

Which other packages have you used to control your radios?

Comments, Questions, and Suggestions...

Scanning

Interactive Scanning is Radio Manager's best feature. You can select what you want to scan by selecting banks and channels, just like on a scanner. Before you can scan you must open or create a **bank file**. A bank file is a virtual scanner. In a bank file you can have as many channels in as many banks as you like. There are many ways to organize your frequencies: all one city in a bank, all one service like fire in a bank, or all of a trunked group in a bank etc.

You may be wondering, why not just put everything in one bank file? You can probably do that, but the bigger a bank file the longer it will take to load, and at some point, it won't be as convenient to select what you want to hear. I like to keep a separate bank file for when I'm in an "aviation" mood. I store all regional air traffic controls frequencies in it, sorted by area or function. I also keep another bank file for everyday scanning. It has the local police, fire, media, public works frequencies I like to monitor. Again, the bank file is still sorted into several different banks within that bank file. You might also want to create a bank file that is identical to your actual radios. Then you can use Radio Manager as way to organize and input frequencies into your radios.

Creating A Bank File

First from the main window, choose FILE|NEW (menu) and complete the dialog box according to how you want your bank file to be structured. You can choose to match several popular radio memory structures, or make banks and channels as you please. For this tutorial, choose

"Create Empty Bank File". You'll then be prompted for the name of the file you want to create. Change the name or simply accept the name that Radio Manager chooses for you.

Next, Radio Manager opens the Channels dialog box where you can insert, edit, and delete banks and channels. Start by creating a new bank. Click on the New button on the upper bank portion of the dialog box. Complete the New Bank dialog box by typing in a bank name and number. A bank name can be up to 20 alphanumeric characters. A bank number can be up to 4 alphanumeric characters. Once you've completed adding the new bank, Radio Manager places you in the frequency field, where you can start entering new channels.

Now, type in the frequency of the first channel you are adding. Press <TAB> to move to the Mode combobox to choose, the mode (FMN, FMW, AM, etc.). Continue by pressing <TAB> to move to the Class combobox where you can type in the Class like (Fire, Police, etc.), or choose a class from the list portion of the Class combobox. Press <TAB> again to move to the Service edit field. There you can type in a description for the channel like, "Hurst F1", "D/FW Tower", etc. There are more fields depending on how you have configured Radio Manager. The fields that you must complete are Frequency and Mode. Complete entering the new channel by clicking on the Save button, or simply press <ENTER>. To add another channel, press <ENTER> again, or click on the New button in the lower channel portion of the dialog box.

Repeat the steps in the two paragraphs above to add more banks and channels as needed. Use the Rename button to change the name of a bank, or the Delete button to delete an entire bank of channels.

To change a channel's information, simply click on the channel you want to change. Then change the Frequency, Mode, Class, Service, or other fields and click on the Save button. Use the Delete button to remove a channel after selecting it.

When the Auto # checkbox is checked Radio Manager will automatically generate the next available channel number when you start adding a channel. When not checked, you'll be prompted for a channel number.

After you've added some banks and channels, choose the File Save button to save the new banks and channels, choose File Save As button to save the bank file under a new name.

If that's too much for you, try the sample bank file. Choose FILE|OPEN, and select SAMPLE.DBF.

Tell Radio Manager What You Want To Scan

Once you've created your own bank file or opened the sample bank file, tell Radio Manager what you want to scan. Radio Manager's main window has a Bank listbox in the lower portion of the screen below the priority buttons.

Highlighted banks will be scanned. To highlight a bank, simply click on it, or click on it again to remove it from the scanning cycle.

Just like on most scanners, you can also lockout individual channels. Check or uncheck the Lock Out checkbox while in manual or scan mode.
Right-Click on the checkbox for even more convenient options

Temporary Lock Out [keyboard shortcut: +]

Locks out the current channel for an amount of time that you specify from the TOOLS| CONFIGURATION menu item. After the time elapses Radio Manager Unlocks the channel. This is handy for ignoring data bursts or other routine traffic. It is an interactive feature that you must control.

Trunk System Lock Out [keyboard shortcut: -]

Trunk System Lock Out assumes that every channel in a bank is part of the same trunk system. When you hear that annoying control channel that changes everyday, choose Trunk System Lock Out. Radio Manager will lock out the new control channel, and unlock all other channels in the current bank, so you don't have to go through and manually find the control channel from yesterday that has regular voice traffic today.

Review Locked Out Channels

Displays the next locked out channel. Choose again to see the next, and so on.

Unlock Out All in this Bank

Choose and Radio Manager will unlock out all channels in the current bank.

Unlock Out All Channels

Choose and Radio Manager will unlock out ALL channels in the current bank file.

Moving To and Through Channels

Use the Bank and Channel scrollbars to move through the current bank file's banks and channels. When moving the Bank scrollbar, Radio Manager moves to the first channel of the bank you move to.

You can also click on the words "Bank" and "Channels" to the left of the Bank and Channel scrollbars to see a list of banks and channels to choose from. That way you can see more banks and channels at once, rather than having to scroll through several banks and channels until you get to the one you want.

Another way to quickly move to a channel is to setup priority buttons with your favorite channels. Then when you click on the priority button, Radio Manager will quickly tune to that frequency. Right-Click on a Priority button to setup the channel and label. Radio Manager can check All, some, or none of the Priority channels periodically (configurable, of course).

You can also control what direction Radio Manager scans and searches by click on the Up and Down buttons on the tool bar. The Recycle button, starts scanning or searching from the beginning of a Bank file or Search range.

Starting and Stopping Scanning

Click on the Scan button to start scanning or continue scanning if you don't want to hear the current transmission.

Click on the Manual button to stop scanning.

Delays

The Delay Checkbox when checked, tells Radio Manager to wait before resuming scanning, after a signal stops. Right-Click for more options. You must be in Manual mode to turn channel delays on or off.

Program Button/Mode

Click the Program button on the main window to switch to Program Mode which behaves like common scanner programming modes.

Once you click the Program button you'll be in the Frequency field where you can change the existing frequency defined for the current channel or use the channel scroll bar to move to another channel.

Once you've entered or changed the frequency click the Enter button or type the <Enter> key on your keyboard.

Next you will be prompted to describe the frequency by entering its Class, Service, and Label fields. Click the OK button to save the description.

Radio Manager automatically moves you to the next channel, so you can quickly program it.

Repeat steps above.

When done click the Program button again.

Select Scan

Select Scan lets you scan only channels marked as "Select", allowing you to quickly scan through only those channels, even if they are in different banks. This can be handy for "highlighting" certain channels.

To add a channel to the Select Scan list, simply move to that channel and check "Select" on the main window.

To begin Select Scan, simply check Select Scan and the on the main window (upper right corner) **and** the normal Scan button. Uncheck to resume normal scanning. Note: At least one channel must be selected for Select Scan to work.

To review channels that are selected, right click on either Select Scan or Select, and choose Review Selected Channels.

To deselect all channels that are selected, right click on either Select Scan or Select, and choose Deselect All Channels.

Searching

To start searching, simply click on the Search button on the toolbar. If you want to search a different range double-click there, or choose the SEARCH|RANGE menu item. There are several search ranges included with Radio Manager, but you'll probably want to change some of them or add your own.

Search Range Dialog Box

Description Listbox

Lists the search ranges you have defined. Click on a range to edit or delete the range, or double-click to start searching that range.

New Button

Click to add a new search range.

Rename Button

Click to change the name of the current search range.

Delete Button

Click to delete the current search range.

Lower Limit Field

Enter the lower limit of the search range.

Upper Limit Field

Enter the upper limit of the search range.

Step Size Combobox

Enter or choose the search range increment you want Radio Manager to use.

Mode

Choose the mode for the search range.

Delay Checkbox

Check to delay before resuming searching after active frequencies become inactive while searching.

Search from Start Checkbox

Check if you want Radio Manager to start at the upper or lower limit when you begin searching, otherwise Radio Manager will start from the currently tuned frequency if it falls within the search range.

Direction Radio Buttons

Choose whether you want Radio Manager to search in ascending (up) or descending (down) order.

OK Button

Click to begin searching with the selected search range.

Cancel

Click to return to the main window and resume the previous mode.

Help

Click to open this help file.

Direct Search

Choose the SEARCH|DIRECT menu to beginning searching from the currently tuned frequency. The Up and Down arrow buttons determine the direction to search. You can press the Up and Down arrow buttons one after the other to scan or search back and forth.

Looking Up Unknown Frequencies

While searching, Radio Manager will display the first channel from the current bank file that matches a found frequency, or if no match is found, will display a message stating so.

If you are using Frequency Manager to organize your frequency list, Radio Manager can look up active frequencies found when searching. Radio Manager then displays the first Class and Service description that matches the frequency. To activate this feature check the SEARCH|LOOK UP UNKNOWNS menu.

Locking Out Birdies

Birdies got you down? Lock'em out! While searching, you can click on the Lock Out checkbox to add a frequency to the birdie list. Radio Manager will then skip over that frequency when searching. In manual mode, you can choose SEARCH|ADD CURRENT FREQUENCY TO BIRDIES or type <CTRL> + <ENTER> to add the current frequency to the birdie list.

Choose the SEARCH|REVIEW BIRDIES menu to open the Review Birdie dialog box. There you can review, remove, and save birdies.

Review Birdie Dialog Box

Birdie Listbox
Double-click an entry to quickly tune the radio to that frequency.

Unlock Out button
Select a channel to remove from the birdie list and click.

Unlock Out All button
Click to remove all birdies.

Save button
Click to save the birdie list, so Radio Manager will remember your birdie list the next time you run the program.

Auto-Storing Found Frequencies

Radio Manager can store new frequencies found during searching into the bank of your choice.

Choose the SEARCH|AUTO STORE menu to open the Auto Store Dialog Box.

Auto Store Dialog Box

Bank listbox
Choose a bank where new frequencies will be stored.

Beep checkbox
Check if you want Radio Manager to sound a beep when a new frequency is found.

Continue checkbox
Check if you want Radio Manager to continue searching automatically after a new frequency is found.

Add Bank button
Click to create a new bank where AutoStore will store found frequencies.

Tuning

Change to Manual mode by clicking on the Manual button. Next, type in a new frequency and click the Enter button, or click on the Up and Down Small or Large Step spin controls to tune the radio.

The Mode combobox is used to display the current mode and to change the mode when manually tuning the radio. Choose the mode you want, and click on the Enter button.

Priorities

Radio Manager features 5 priority channels. You can click on any one of the 5 priority buttons to quickly tune to the associated frequency. Of course you can also tell Radio Manager to periodically check none, some, or all of the priority channels. Additionally, you can label each priority button to identify the channel.

Priority Checkbox

Check to enable priority checking. Uncheck to turn off priority checking.

Right-click to change the priority checking interval. You can choose a time from 1 to 99 seconds.

Priority Channels Enabled Label

Shows which priority channels are enabled.

5 Priority Channel Buttons

Click to quickly tune to the priority channel.

Right-click to…

Change Channel menu
Opens the Channel dialog box to select a channel to set as priority.

Change Label menu
Opens a dialog box to change the label for the priority button.

Enable menu
Check to enable the priority channel, or uncheck to remove from priority checking.

Set to Current Channel menu
Click to make the current channel a priority channel.

Lock Outs

Just like on most scanners, in Radio Manager, you can also lockout individual channels.

Lock Out Checkbox

Check or uncheck while in manual or scan mode.

Right-Click for even more convenient options…

Temporary Lock Out [keyboard shortcut: +]

Locks out the current channel for an amount of time that you specify from the TOOLS| CONFIGURATION menu item. After the time elapses, Radio Manager Unlocks the channel. This is handy for ignoring data bursts or other routine traffic. It is an interactive feature that you must control.

Trunk System Lock Out [keyboard shortcut: -]

Trunk System Lock Out assumes that every channel in a bank is part of the same trunk system. When you hear that annoying control channel that changes everyday, choose Trunk System Lock Out. Radio Manager will lock out the new control channel, and unlock all other channels in the current bank, so you don't have to go through and manually find the control channel from yesterday that has regular voice traffic today.

Review Locked Out Channels

Displays the next locked out channel. Choose again to see the next, and so on.

Unlock Out All in this Bank

Choose and Radio Manager will unlock out all channels in the current bank.

Unlock Out All Channels

Choose and Radio Manager will unlock out ALL channels in the current bank file.

Lockout Zero (0.0) Frequency Channels in this Bank
Choose and Radio Manager will lockout all channels that have the frequency 0.0 in the current bank, with the exception that there must be at least one channel enabled.

Delays

Radio Manager can pause after a signal ends before resuming scanning or searching.

Delay Checkbox

Check to enable delay for the current channel, uncheck to disable.

Right-click to…
Turn On Delays for entire Bank menu
Click to turn on delays for every channel in the current bank.

Turn Off Delays for entire Bank menu
Click to turn off delays for every channel in the current bank.

Change Delay Amount menu
Click to change the amount of the delay in seconds. The amount is used for all delays. There is not a separate delay amount for each channel.

Logging

Radio Manager can log various information when a signal is detected. The Hit List window shows recently active frequencies.

TOOLS|SHOW HIT LIST [keyboard shortcut: F12] displays or hides the Hit List window.

Hit List Window

Save Button

Click to save the information in the Hit List window to a text file. You might want to use the information in another program for further analysis, or simply want to save the information.

Clear Button

Click to clear the information in the Hit List window.

Strength Button (not supported by all radios)

When depressed logs the signal strength to the Hit List window.

Tones Button (not supported by all radios)

When depressed logs detected squelch tones to the Hit List window.

DTMF Button (not supported by all radios)

When depressed logs detected DTMF digits to the Hit List window.

Configure Button

Click to open the Configuration dialog box. There you can change settings

Hit List Limit Spinner

Enter the most number of hits you want to log. When that number is reached, the oldest hits will be cleared to make room for newer hits.

Show Hit List on Startup Checkbox

Check to have Radio Manager show the Hit List window when the program starts.

Always On Top Checkbox

Check to keep the Hit List window on top of other open windows.

Help Button

Click to open this help file.

Hit Listbox

Displays the most recent hits with the following details: Frequency, Number of Hits, Last Time Active, Class, Service, and optionally Signal Strength, Tones, and DTMF digits.
Double-click an entry to quickly tune to that frequency.

See also OptoElectronics DC442 Decoder

Uploading

Some radios like the Uniden Bearcat BC895XLT, Radio Shack Pro-64 and Pro-2041, AOR AR8200, AR8000 & AR2700, and Icom R7000, R7100, & R9000 allow you to upload channels to the radio's memory. The OptoScan456/535 interface does not support uploading, but the OptoCom does.

To start, open the bank file with the channels that you want to upload to the radio. Next choose the TOOLS|UPLOAD menu to open the Upload dialog box. Next select the channels that you want to upload, and then tell Radio Manager where in the radio's memory to store them.

NOTE: If you uploading to a Uniden Bearcat BC895XLT, you will be asked, "Use Trunk Programming Mode?". You must choose "yes", if you want the scanner to work in it's TrunkTracking mode.

NOTE: If you are uploading to a Radio Shack Pro-64 or Pro-2041, make sure the cable is connected and make sure you hold the ENTER key and 3 key on the radio while turning the radio on. If you've done it correctly, you should see "PC" displayed on the scanner. Once Radio Manager has a connection or is uploading you should see "PC ConnECt". Some other messages you may see are…

"1-Error" A checksum error occurred while receiving a channel. Try again. Checksums are used to make sure the data coming into the radio is valid. If you get a lot of errors try increasing the Read/Write delay on the Radio Features page under TOOLS|CONFIGURATION.
"2-Error" Appears instead of "FiniSh" when out-of-range data on either channel or a frequency was encountered while transferring frequencies. Make sure you are not trying to upload to channels your radio doesn't have.
"3-Error" Appears instead of ConnECt when a communication error occurred while transferring frequencies. Make sure you have Radio Manager set to 2400 bps under TOOLS|CONFIGURATION.

If the Pro-64 or Pro-2041 doesn't seem to be receiving data correctly, reset the scanner by pressing the Reset button with the end of a paper clip, while the scanner is on. See the scanner's owner's manual for details. Make sure you are not holding any keys down when reset, or you may loose your data that's already in the scanner.

Upload Dialog Box

Bank listbox

Choose a bank from the list to quickly go to the first channel in that bank. **Note:** You can select channels from more than one bank. The bank listbox is only there to make finding channels easier.

Channel listbox

Select channels in the listbox that you want to upload. Highlighted channels will be uploaded. Click on a highlighted channel to remove it from the list of channels to be uploaded.

Upload Select Status Checkbox (Some Radios)

Check if you want the select status to be uploaded along with the other channel data.

Delete Bank before Uploading Checkbox (Some Radios)
Check if you want Radio Manager to delete the channels in the bank you will be uploading to before uploading the selected channels. For example, if your radio has channels 1 through 25 programmed in a bank, and you upload 10 channels over the existing channels with this option checked, the 15 channels after the 10 you are uploading will have been deleted, so there would only be 10 channels programmed in the bank after all is said and done.

Auto Frequency Offsets (Dup) Checkbox (AR8200)
The AOR AR8200 has a feature called "DUP" or frequency offset that is handy for quickly tuning to the input side of a repeated or DUPlex channel. With this option checked, Radio Manager will program in some common repeater offsets for the United States. For example, if you upload a channel with an 800Mhz frequency, Radio Manager will set the offset to 45Mhz higher or lower, depending on the frequency.

Copy to Radio's Bank listbox (enabled for certain radios only)

Choose which bank in the radio you want to upload the channels to.

Start and Stop at Channel spinners

Enter the first and last (or highest) channel numbers in the radio that you want to upload to. Radio Manager won't upload any more channels than there is room for, based on the numbers you enter here.

Match File's Channels Checkbox

Check to upload to radio's corresponding channel in the bank file, but not necessarily the same bank.

Select All Channels in Bank button

Click to quickly select all channels in the bank displayed in the Bank listbox described above.

Deselect All Channels in Bank button

Click to quickly deselect all channels in the bank displayed in the Bank listbox described above.

Upload button

Click to begin uploading the channels to the radio. A Stop button will appear should you have second thoughts, and need to stop the upload. Any channels already uploaded will remain in the radio.

OK button

Click to begin the upload as described above, and return to the main window.

Close button

Click to return to the main window without uploading any channels or when you are done.

Help button

Click to open help.

Upload All to AR8200/AR8000/AR2700 button

If your bank file matches the AR8200 or AR8000 channel memory format, where banks are lettered A to J (UPPERCASE and lowercase), and channels are number from 0 through 49, then you can click this button to upload all matching channels to the AR8200 or AR8000.
or
If your bank file matches the AR2700 channel memory format, where banks are lettered 0 to 9, and channels are number from 0 through 49, then you can click this button to upload all matching channels to the AR2700.

Downloading

Some radios like the Uniden Bearcat BC895XLT, AOR AR8200, AR8000 & AR2700, and Icom R7000, R7100, & R9000 allow you to download channels from the radio's memory. The OptoScan456/535 interface does not support downloading, but the OptoCom does.

To start, choose the TOOLS|DOWNLOAD menu to open the Download dialog box. Next select the channels that you want to download.

Download Dialog Box

Download from Radio's Bank listbox (BC895XLT, AR8200, AR8000, & AR2700)

Choose the bank that you want to download from. Choose “All” and Radio Manager will copy all channels from the radio into matching banks and channels in a bank file.

First and Last Channel to Download spinners

Enter the first and last channels in the radio that you want to download.

Copy into Bank File Bank listbox

Choose a bank where you want downloaded channels to be stored in a bank file.

Or

Match Radio-All Channels

For the BC895XLT, AR8200, AR8000 and AR2700 you can choose to Match Radio-All Channels and Radio Manager will copy all channels in the radio into matching banks and channels in the **current** bank file. **NOTE:** This method may lead to duplicate channel numbers. For example, if the bank file already has a bank A, with a channel number 1, and your scanner also has a channel 1 in bank A, then after the download, the bank file will have **two** channel "1"s in bank A.

Or

Match Radio-New File-All Channels.
For the BC895XLT, AR8000 and AR2700 you can choose to Match Radio-New File-All Channels and Radio Manager will copy all channels in the radio into matching banks and channels in a **new** bank file.

Service Description = Channel Label checkbox (AR8200 & AR8000 only)

Check if you want Radio Manager to use the channel label stored in the radio's memory as the Service description for the Radio Manager bank file.

Service Description field

Enter a Service description that will be entered for each channel downloaded. For example, “downloaded from Icom R7000”, “AR8000”, etc. It will be the same for every channel downloaded, but if you are downloading into a bank file that already has channels, it's handy for to know.

Download Select Status (Some radios)

Check if your want Radio Manager to retrieve each channel's select status from the radio.

Read Delay spinner (Icom radios)

If Radio Manager isn't downloading correctly, try increasing this number.

Download button

Click to begin downloading channels from your radio's memory into a Radio Manager bank file.

OK button

Click to Download as described above and to return to the main window.

Close button

Click to return to the main window.

Help button

Click to open help.

Files

Interactive Scanning is Radio Manager's best feature. You can select what you want to scan by selecting banks and channels, just like on a scanner. Before you can scan you must open or create a **bank file**. A bank file is a virtual scanner. In a bank file you can have as many channels in as many banks as you like. There are many ways to organize your frequencies: all one city in a bank, all one service like fire in a bank, or all of a trunked group in a bank etc.

You may be wondering, why not just put everything in one bank file? You can probably do that, but the bigger a bank file the longer it will take to load, and at some point, it won't be as convenient to select what you want to hear. I like to keep a separate bank file for when I'm in an "aviation" mood. I store all regional air traffic controls frequencies in it, sorted by area or function. I also keep another bank file for everyday scanning. It has the local police, fire, media, public works frequencies I like to monitor. Again, the bank file is still sorted into several different banks within that bank file. You might also want to create a bank file that is identical to your actual radios. Then you can use Radio Manager as way to organize and input frequencies into your radios.

Each channel features descriptive labels so you don't have to memorize who is using each frequency. There are up to three labels you can use to describe a channel. The first is the Class field that should be as a general description for the channel user. For example, Fire, Police, EMS,

Aviation, Secret Service, etc. Since Class descriptions are likely to be repeated often, Radio Manager offers the option to save Classes, so you don't have to retype them or remember how you typed them previously. It makes it easier to be consistent in labeling channels, which makes it easier to find and organize channels. The second label is the Service label where you can describe more specifically who is using a channel. For example, Hurst F1, Hurst F2, D/FW Tower, etc. The third label is optional for the AR8000. It can be uploaded as the radio's channel label.

See Also

Bank File Format

Creating A Bank File

Saving Files

Backing Up Files

Opening Files

Showing File Contents

Importing Files

Exporting Files

Editing Files

Maintaining Classes

Bank File Format

Radio Manager stores bank files in the FoxPro .DBF format.

Bank File Fields

#	Field Name	Type	Size	Decimals
1	BANK	C	4	
2	CHANNEL	N	4	
3	FREQUENCY	N	15	9
4	MODE	C	3	
5	CLASS	C	20	
6	SERVICE	C	44	
7	ALPHATAG	C	20	
8	BANKLOCKOU	L		
9	CHANNELLOC	L		
10	DELAY	L		
11	TONE	N	10	5
12	USE TONE	L		
13	ATTENUATE	L		
14	STEPSIZE	N	15	9
15	TAPE	L		
16	SELECTNUMB	N	3	0
17	SELECTENAB	L		

Types

C = Alphanumeric Characters

N = Numbers

L = Logic (Yes/No)

Bank files have a .DBF data file and a .CDX file that stores the index. The index fields (used for sorting) are Bank, Channel, and Frequency.

Creating A Bank File

First from the main window, choose FILE|NEW (menu) and complete the dialog box according to how you want your bank file to be structured. You can choose to match several popular radio memory structures, or make banks and channels as you please.

New Bank File Dialog Box

Format radio buttons

Create Empty Bank File
Choose to create an empty bank file where you create banks and channels as you need them.

Match Radio's Memory
Choose to create a bank file that has banks and blank channels numbered to match one of several popular scanners. You can still add, edit, and delete banks and channels as needed. This is simply a starting point.

Radio listbox
Choose a radio whose memory structure you want to match. The options below will be set to match, but you can change them as needed. Note: The AR8000/AR8200 option will create banks with bank **letters** to match the AR8000 and AR8200, not numbers.

Number of Banks spinner
Enter the number of banks you want Radio Manager to create.

Bank Numbers Start with 0 or 1 radio button
Choose whether you want bank numbers to start with the number zero (0) or one (1).

Number of Channels in Each Bank spinner
Enter the number of channels you want Radio Manager to create in each bank.

Channel Numbers Start with 0 or 1 radio button
Choose whether you want channel numbers to start with the number zero (0) or one (1).

Restart Channel Numbers in Each Bank checkbox
Check if you want channel numbers to start over in each bank like the AR8000. Uncheck if you want channel numbers to continue over from previous banks, like the Icom R7000 or Radio Shack scanners (for example on the PRO-2006 channel 201 is the first channel in bank 6).

Pad Bank Numbers with Zeros (0001) checkbox
Radio Manager uses an alphanumeric (you can enter numbers or letters) field for storing bank numbers to accommodate the AR8000 which uses bank letters instead of bank numbers. This throws sorting off, but if you pad bank numbers with Zeros (0), sorting appears more logically.

After you've click the OK button Radio Manager continues the process of creating a new bank file.

You'll be prompted to name the new file and have the option of choosing another directory where the bank file will be saved.

Next, Radio Manager opens the Channels dialog box where you can insert, edit, and delete banks and channels. Start by creating a new bank. Click on the New button on the upper bank portion of the dialog box. Complete the New Bank dialog box by typing in a bank name and number. A bank name can be up to 20 alphanumeric characters. A bank number can be up to 4 alphanumeric characters. Once you've completed adding the new bank, Radio Manager places you in the frequency field, where you can start entering new channels.

Now, type in the frequency of the first channel you are adding. Press <TAB> to move to the Mode combobox to choose, the mode (FMN, FMW, AM, etc.). Continue by pressing <TAB> to move to the Class combobox where you can type in the Class like (Fire, Police, etc.), or choose a class from the list portion of the Class combobox. Press <TAB> again to move to the Service edit field. There you can type in a description for the channel like, "Hurst F1", "D/FW Tower", etc. There are more fields depending on how you have configured Radio Manager. The fields that you must complete are Frequency and Mode. Complete entering the new channel by clicking on the Save button, or simply

press <ENTER>. To add another channel, press <ENTER> again, or click on the New button in the lower channel portion of the dialog box.

Repeat the steps in the two paragraphs above to add more banks and channels as needed. Use the Rename button to change the name of a bank, or the Delete button to delete an entire bank of channels.

To change a channel's information, simply click on the channel you want to change. Then change the Frequency, Mode, Class, Service, or other fields and click on the Save button. Use the Delete button to remove a channel after selecting it.

When the Auto # checkbox is checked Radio Manager will automatically generate the next available channel number when you start adding a channel. When not checked, you'll be prompted for a channel number.

After you've added some banks and channels, choose the File Save button to save the new banks and channels, choose File Save As button to save the bank file under a new name.

If that's too much for you, try the sample bank file. Choose FILE|OPEN, and select SAMPLE.DBF.

See Also Saving Files, Opening Files, and Importing Files

Saving Files

To save additions, changes, deletions, enabled banks & channels, priorities, and delays choose the FILE|SAVE, or the FILE|SAVE AS menu.

See Also Opening Files and Importing Files

Backing Up Files

You should back up your bank files occasionally.

Radio Manager stores configuration information in RM.INI (default), or an alternate .INI file, see the topic “Configuration” for details.

Finally, Radio Manager stores Search Range information in SEARCH.DB and SEARCH.PX, and Class information in CLASSES.DBF and CLASSES.CDX.

Opening Files

Choose the FILE|OPEN menu to open a bank file, or choose from the four (4) most recently used bank files under the FILE menu.

See Also Saving Files and Importing Files

Showing File Contents

Choose the FILE|INFORMATION menu and Radio Manager displays (on the main window's status bar) the number of banks and channels in the current bank file.

Importing Files

From a Text File

Choose EDIT|CHANNELS, then FILE|VIEW/IMPORT/APPEND, then FILE|OPEN or FILE APPEND and select the text file you want to import. Use the Import Dialog Box to specify how the file will be imported.

From an Older Version of Radio Manager

Previous versions of Radio Manager stored bank files in the Paradox (.DB) format. To import, simply use the FILE|OPEN menu and in the Open dialog box, choose the List Files of Type: Paradox Files

(*.DB), then choose the file you wish to open, and Radio Manager converts the old format file to the current format, keep the old file intact.

From Frequency Manager

If you are using Frequency Manager to organize your frequency list, you can convert those frequencies lists into bank files. It's a multi-step process, but it beets typing in the frequencies by hand.

1. Choose the EDIT|CHANNELS menu.
2. Choose the FILE|VIEW/IMPORT/APPEND menu.
3. Open the bank file that you want to add the frequencies to, or create a new bank file.
4. Choose the FILE|APPEND FROM menu.
5. In the Append From dialog box, choose to List files of type: Paradox Files (*.DB) which is the format Frequency Manager frequency lists are stored in.
6. Choose the Frequency Manager list file you want to import, and click on OK.
7. Radio Manager converts the frequency list into a bank file. Each Class because a separate bank.
8. Choose the FILE|CLOSE menu to return to editing channels.

You can also import selected records from a Frequency Manager file using the Scratch Pad in the Edit Channels dialog boxEditingFiles.

From a UFDBF file

What is UFDBF?
UFDBF is the Universal Frequency DataBase Format file for frequency data. It is any data file containing the specified data file structure. It can be an ASCII - Comma Delimited, ASCII - Fixed Field, or a Dbase III compatible data file. In the case of a Dbase file, not all fields are necessarily required to be read in by the destination application. The importing Dbase III file application must simply adhere to the naming and file structure conventions. Currently Radio Manager only imports UFDBF files that are in a Dbase III compatible data file.

1. Choose the EDIT|CHANNELS menu.
2. Choose the FILE|VIEW/IMPORT/APPEND menu.
3. Open the bank file that you want to add the frequencies to, or create a new bank file.
4. Choose the FILE|APPEND FROM menu.
5. Choose the UFDBF format file you want to import, and click on OK.
6. You'll then have the opportunity to limit the frequencies that will be imported. This option provides a way for you to weed out frequencies below a lower limit and above an upper limit. You can also check the Avoid Duplicates checkbox to skip repeated frequencies. Another option is to copy the Call Sign into the Radio Manager Bank File's Channel Label field.
7. Radio Manager converts the frequency list into a bank file.
8. Choose the FILE|CLOSE menu to return to editing channels.

See Also Exporting Files

Import Dialog Box

On the left side of the Import dialog box each field in Radio Manager is listed. You will need to enter the position of the corresponding field in the file you are importing. If you do not want to import a particular field to be filled with imported data, leave it blank. You do not have to use every field included in the file you are importing from.

Radio Manager automatically lists data fields from the first record of the file you are importing on the bottom right of the Import dialog box (labeled "Fields in Text File"). You can drag those fields to the field on the left of the dialog box, and Radio Manager will insert the proper position number.

For the Bank, Mode, Class, Service, and Channel Label fields you can tell Radio Manager to set that field to a particular value for each record imported. If the file you are importing doesn't have channel numbers, or even if it does, you can check the Auto checkbox next to channel number, and Radio Manager will number the channels as they are imported.

Some text files will have a header. A header is the first line of a text file that describes each of the fields in the text file. This makes it easier to see in Radio Manager, which fields should match up. Check the Skip Header checkbox to prevent Radio Manager from trying to make a record out of the header.

Once you have entered the proper field positions and adjusted any other settings as needed, click the Close button, and Radio Manager will begin importing the text file.

See Also Importing Files

Exporting and Printing Files

Since bank files are stored in the FoxPro (.DBF) format, there are many third party options for converting data. I'll try to add more exporting options in future versions. For now here are some exporting options.

You can use the FILE|PRINT & EXPORT TO FILE menu in the Edit Channels dialog box and from the main window to export or print to a file. Use the "Save File as Type" listbox to specify the exporting option you want.

***.TXT**

Radio Manager formats the current bank file into an easy reading text file than you can open and print with your favorite word processor.

***.CSV**

Saves the current bank file to a comma delimited file which can be imported by many programs.

***.APF**

Saves the current bank file to an AutoProgrammer file (*.APF) format file that can be used by the CE-232 scanner controller to program several model scanners.

See Also Importing Files and AutoProgrammer File dialog box

AutoProgrammer File Export dialog box

Radio Manager can save the current bank file into an AutoProgrammer File (*.APF) format for use by the CE-232 scanner controller for programming several model scanners.

Include Bank Number in APF Filter Field checkbox

The APF format has an optional Filter field that provides many programming options with the CE232. Check to include the Radio Manager Bank number field in the APF Filter field.

Include Channel Number in APF Channel Field checkbox

Check to include the Radio Manager Channel number field in the APF Channel field. If your bank file's channel numbers don't match up to the scanner you will be programming, it may be better to uncheck this option.

Include Class Description in APF Comment Field checkbox and

Include Service Description in APF Comment Field checkbox and

Include Channel Label in APF Comment Field checkbox

Check if you want Radio Manager to save the channel descriptions in the bank file to the comment field(s) in the APF file.

Combine Description fields into 1 APF comment field checkbox

Check if you want the description fields to be consolidated into one APF comment field rather than 2 or 3 separate comment fields.

See also Exporting Files

Editing Files (Edit Channels dialog box)

Eventually you will need to edit information in a bank file to add new channels, delete inactive channels, or simply correct a misspelling or classification. The EDIT menu provides several ways to so.

EDIT|CHANNELS on main window

Opens the Channels dialog box where you can do every kind of edit including creating a new bank file, importing, deleting, changing, etc. I admit this is a busy and complicated area, and I strongly encourage questions, comments and suggestions.

File New menu

Click to create a new bank file.

File Open menu

Click to open an existing bank file

File Save menu

Click to save the current bank file.

File Save As menu

Click to save the current bank file under a new name.

File View/Import/Append menu

Click to open the File View/Import/Append dialog box used for direct (changes are saved as they occur) editing of a bank file. You must tell Radio Manager to save changes in the Channels dialog box or main window. You can also use the File View dialog box to import channels from Frequency Manager and UFDBF files.

File Print & Export to File menu

Click to save the current bank to a formatted text (Print to File as *.TXT) file that can be printed using Windows Notepad or your favorite word processor. You can also save the file as comma delimited text by choosing *.CSV as the extension in the Print to File dialog box. Many programs can import comma delimited text, so there are many possibilities.

Close menu

Click to return to the main window.

Help button

Click to open help.

Banks listbox

Choose a bank that you want to delete, rename, or move to. You can also drag channels from the Scratch Pad listbox and drop them here to add the channels to the end of the current bank.

Banks New button

Click to create a new bank. You'll be prompted to enter a 4 character alphanumeric bank number and a 20 character description.

Banks Delete button

Click to delete the currently selected bank in the bank listbox and all of the channels in that bank.

Banks Rename button

Click to rename the currently selected bank in the bank listbox.

Channels listbox

Click on a channel to display for editing. You can also drag channels from the Scratch Pad listbox and drop them here to add the channels to the end of the current bank. You can also Right-drag channels from the Scratch Pad listbox and drop them here by clicking on the channel where you want them to be added in the current bank.

You can drag channels from here to the Scratch Pad listbox to copy them to the Scratch Pad listbox. You can Right-drag channels from here to the Scratch Pad listbox to copy them to the Scratch Pad listbox and then delete them from here.

Channels Auto # Checkbox

Check if you want Radio Manager to automatically calculate the next channel number for you.

Channels New button

Click to create a new channel. You'll be placed in the Frequency field to start adding the new channel. Click the Save Channel button when finished.

Channels Delete button

Click to delete the currently selected channel.

Save Channel button

Click to save changes or a new channel.

Sort button

Click to sort the channels in the current bank according to the method you choose in the Sort method listbox.

Sort Method listbox

Choose how you want to sort the channels in the current bank. Choices include sorting by Frequency, Class, Service, or Renumber only. The channels will always be renumbered regardless of the sort method.

Start At spinner

Enter the first number you want Radio Manager to when renumbering channels when the Sort button is pressed.

Frequency field

Enter the frequency for the channel.

Mode listbox

Choose the mode for the channel.

Class field

Enter or choose a Class description from the dropdown listbox.

Service field

Enter a Service description for the channel.

Label field (some radios)

Enter a Label for the channel that can be uploaded to some radios.

Delay checkbox

Check if you want delay turned on for the channel.

Step field (some radios)

Enter or choose a step size from the dropdown listbox.

Tone field (some radios)

Enter or choose a squelch tone from the dropdown listbox

Remember details for next new channel checkbox

Check if you want to use the Mode, Class, Service, Label, Step Size, and Delay for the next new channel you add. Uncheck, and Radio Manager will clear the fields the next time you click the New channel button.

Scratch Pad listbox

EDIT|INSERT CHANNEL/BANK (Alternative to the EDIT|CHANNELS option)

Opens the Insert Channel/Bank dialog where you can easily add channels and banks

Bank listbox

Choose a bank where the new channel will go, or type in the description of a new bank.

Bank Number field

If you typed in a new bank description, enter a bank number about to 4 alphanumeric (number or letters) characters.

Channel spinner

Enter a new channel's number.

Frequency field

Enter the frequency for the new channel.

Mode listbox

Choose the mode for the new channel.

Class field

Enter or choose a class from the dropdown listbox for the new channel.

Service field

Enter a service description for the new channel.

Label field (some radios)

Enter a label that can be uploaded to the radio.

Delay checkbox

Check if you want to turn on delay for the new channel.

Add button

Click to save the new channel, and add another.

Close button

Click to save the new channel, and return to the main window.

Cancel button

Click to not save the new channel, and return to the main window.

Help button
Click to open help.

EDIT|DELETE CHANNEL (Alternative to the EDIT|CHANNELS option)

Quickly deletes the current channel. If you have Confirm Deletes check in the TOOLS| CONFIGURATION menu, then you'll be prompted, otherwise, it's bye bye channel.

EDIT|CHANNEL DESCRIPTION (Alternative to the EDIT|CHANNELS option)

Opens the Channel Description dialog box, so you can quickly change Class, Service, and Label fields of an individual channel.

See Also Opening Files, Saving Files, and Maintaining Classes

Scratch Pad Listbox (Edit Channels dialog box)

The Scratch Pad listbox is used as a temporary working space for channels while you are editing a bank files. There are a number of ways to use it.

Getting channels into the Scratch Pad listbox

From the Bank listbox
Select the bank you want to work with.

Click the Menu button and choose Copy Currently Selected Bank to Scratch Pad to copy all channels in the currently selected bank to the Scratch Pad listbox.

or

Click the Menu button and choose Cut Currently Selected Bank to Scratch Pad to copy all channels in the currently selected bank to the Scratch Pad listbox ***and*** *then delete the currently selected bank.*

From the Channel listbox

Drag a channel from the channel list box to the Scratch Pad listbox to copy that channel.

or

Right-Drag a channel from the channel list box to the Scratch Pad listbox and click to copy that channel to the Scratch Pad listbox ***and*** *then delete the channel from the bank file.*

From Frequency Manager
Click the Menu button and choose Copy from Frequency Manager. Radio Manager will then prompt you for more information on what frequencies to get from Frequency Manager. Radio Manager opens the last Frequency Manager file that you used and copies any frequencies that match the information that you entered into the Scratch Pad listbox. **See Also** Copy from Frequency Manager dialog box

or

From a UFDBF format File
Click the Menu button and choose Copy from UFDBF File. Radio Manager will then prompt you for to choose a UFDBF file and for more information on what frequencies to get from Frequency Manager.

Copying Channels from the Scratch Pad listbox into a Bank File

Double-click channels in the Scratch Pad list box to select (high-light) them to be copied into the bank file.

Select the bank in which you want to copy the channels.

Drag one of the channels in the Scratch Pad list box to the Channels or Banks listbox to copy them to the end of the currently selected bank. ALL selected (high-lighted) channels in the Scratch Pad listbox will be copied.

or

Right-Drag one of the channels in the Scratch Pad list box to the Channels or Banks listbox and click on the channel where you want to start copying them. ALL selected (high-lighted) channels in the Scratch Pad listbox will be copied.

Selecting Channels In and Organizing the Scratch Pad listbox

Selecting All Channels
Click the Menu button and choose Select All to mark all channels in the Scratch Pad list box to be copied or changed.

Selecting No Channels
Click the Menu button and choose Select None to unmark all channels in the Scratch Pad list box.

Emptying
Click the Menu button and choose Empty Scratch Pad to delete all channels in the Scratch Pad listbox.

Sorting
Click the Menu button a to select a method of sorting the channels in the Scratch Pad listbox. Choices include Frequency, Class and Service, and Service.

Changing All Channels in the Scratch Pad listbox
Click the Menu button to make changes to all selected channels in the Scratch Pad list box. This is handy for making the descriptions the same for a group of channels or for building banks of input frequencies for trunked systems where you already have the output frequency. By listening to the input side you will only hear transmissions fairly close to you which can cut down on some of the traffic that's not as important. **See Also** Mass Change dialog box for options.

See Also Edit Channels dialog box

Copy from Frequency Manager dialog box

Enter the Class and/or Service and Radio Manager will extract any matching records from the last Frequency Manager file that you used. Check the Empty Scratch Pad before Copying checkbox to only display the newly found channels.

See Also Scratch Pad listbox and Edit Channels dialog box

Mass Change dialog box

Radio Manager can make changes to all the channels you have selected in the Scratch Pad listbox. This is very handy when inputting trunked systems or other repetitive channels schemes. Enter the Class, Service, Channel Label, and/or Mode that you want all of the selected channels to be. Leave the fields blanks to not make any changes.

The Change Frequency By check box can be used to add or subtract an amount to all channels selected. Each channel's frequency will be adjusted by the amount you choose. Why? Well, this is very handy if you want to listen to the repeater input frequency instead of the output frequency that you probably already have and normally listen to.

Here's how I use this feature. There are several 800Mhz trunked radio systems in the Dallas/Fort Worth area. In some cases the systems are home to dozens of different users. By listening to the input side of the system, which is always 45 Mhz lower than the output side for 800Mhz and above, you only hear transmissions that are fairly close to you. Now you don't have to hear about something

that's happening farther away from you and can concentrate on hearing what's happening close to home, an incident, or airshow, etc. I hope that makes sense.

See Also Scratch Pad listbox and Edit Channels dialog box

Maintaining Classes

Radio Manager bank files are composed of channels grouped in banks. Each channel features descriptive labels so you don't have to memorize who is using each frequency. There are up to three labels you can use to describe a channel. The first is the Class field that should be used as a general description of the channel user. For example, Fire, Police, EMS, Aviation, Secret Service, etc. Since Class descriptions are likely to be repeated often, Radio Manager offers the option to save Classes, so you don't have to retype them or remember how you typed them previously. It makes it easier to be consistent in labeling channels, which make it easier to find and organize channels.

Choose the EDIT|CLASSES menu to open the Classes dialog box.

Classes Dialog Box

Classes are listed in a listbox where you can add, edit, and delete them as necessary.
The VCR type controls are for moving to the first, previous, next, and last class listed.
Click on the + button to add a class.
Click on the - button to remove the selected class.
Click on the up arrow button to edit the selected class.
Click on the check mark button to save the selected class.
Click on the X button to cancel any changes to the selected class.
Click on the Close button to return to the main window.
Click on the Help button to open help.

Once you've built your own class list, Radio Manager will list the classes wherever else classes are used in the program. You can then type in a class, or choose from the list.

Maintaining Step Sizes

There are several places in Radio Manager where you may need to specify a Step Size. Since there are several Step Sizes that you will probably use over and over, Radio Manager offers the option to store common step sizes for easier and consistent data entry.

Choose the EDIT|STEPSIZES menu to open the Step Sizes dialog box.

Step Sizes Dialog Box

Step Sizes (MHz) listbox
Lists currently defined Step Sizes.

Add button
Click to add a new Step Size.

Delete button
Click to delete the selected Step Size.

Close button
Click to return to the main window.

Help button
Click to open Help.

Once you've added Step Sizes, Radio Manager lists them in other areas of the program, so you can choose them from a list rather than retyping them.

Editing Frequency Lists

Radio Manager includes a separate stand-alone program called Frequency Manager for Windows. Frequency Manager for Windows is a frequency list management program that helps you store, organize, and print your frequency lists.

You can start Frequency Manager from Radio Manager by choosing the EDIT|RUN FREQUENCY MANAGER menu.

Information you store in Frequency Manager can be quickly accessed in Radio Manager to facility searching for new frequencies. You can also quickly update records stored in Frequency Manager by using the EDIT|EDIT FREQUENCY MANAGER RECORD menu.

See Also Searching

Finding Channels

Once you've created a bank file with lots of channels, it may be difficult to remember where a particular channel is. There are several ways to find a channel.

If you know the Frequency…

Simply type in the frequency in the frequency field on the main window, and click on the Enter button. Radio Manager will move to the first channel with that frequency.

If you know some words in the Description…

Choose the EDIT|FIND menu and enter the part of the description you know. Click the OK button, and Radio Manager moves to the first channel that matches. Choose EDIT|FIND NEXT to continue searching for another match of the same description, or choose EDIT|FIND to enter a new description to search on.

If you know what Bank it's in…

Click on the words “Channel:” on the main window. Radio Manager opens the Channel Finder dialog box that lists banks and channels. Choose the Bank you want to look in, then visually scan the list to find the channel you are looking for. Double-click on the channel to move and tune to that channel.

AR8200, AR8000 and AR2700 Search Banks

With Radio Manager you can manage your radio's Search Banks without fumbling around with the radio's keypad. Choose the AR8200, AR8000 or AR2700|SEARCH BANKS menu to open the Search Banks dialog box.

Search Banks Dialog Box

Bank listbox

Choose the search bank in the radio that you want to edit.

Save to RM button

Saves a range you downloaded from your radio into Radio Manager's search range list.

RM Ranges Button
Click to choose a range you already have defined in Radio Manager.

Lower and Upper Limit fields
Enter the Lower and Upper limits for the search range.

Step Size field
Enter or choose a Step Size for the search range.

Mode listbox
Choose a Mode for the search range.

Label field (AR8200 and AR8000 Only)
Enter a description for search range.

Step Offset Checkbox (AR8200 and AR8000 Only)
Check to set the Step Size Offset for this search range.

Attenuate checkbox
Check if you want to attenuate the search range.

Restore button
Click if you want to download the search range from the radio into Radio Manager.

Upload button
Click when you've made changes to a search range and want to save them to the radio.

Linked Banks listbox
Choose which search ranges you want linked. Highlighted search banks will be linked.

Linked Banks Link button
Depress to turn on linking for search ranges in the radio.

Linked Banks Upload button
Click to upload the linked search ranges to the radio.

Group dropdown listbox (AR8200 only)
Choose what Search Group you want to edit (0-9)

Close button
Click to return to main window.

Help button
Click to open Help.

AR8200, AR8000 and AR2700 Scan Banks

With Radio Manager you can manage your AR8200, AR8000 and AR2700 Scan Banks without fumbling around with the radio's keypad. Choose the AR8200, AR8000 or AR2700|SCAN BANKS menu to open the Scan Banks dialog box.

Scan Banks Dialog Box

Bank listbox
Choose the scan banks in the radio that you want linked for scanning.

Group dropdown listbox (AR8200 only)
Choose the Scan Group you want to edit (0-9).

Linked Banks Link button
Depress to turn on linking for scan banks in the radio.

Linked Banks Upload button
Click to upload the linked scan banks to the radio.

Close button
Click to return to main window.

Help button
Click to open Help.

The following controls are for the AR8200 only
Bank Names dropdown list box
Displays the currently programmed Bank Names in the AR8200. Choose one to edit.

Bank Name edit
Displays the currently selected Bank Name for editing.

Upload Bank Name button
Click to Program the currently selected Bank Name in the AR8200.

AR8200, AR8000 and AR2700 Delete Channels

You can quickly delete ranges of channels, entire banks, or all channels in the AR8200, AR8000 or AR2700 using the AR8200, AR8000 or AR2700|DELETE CHANNELS menu to open the Delete Channels dialog box.

Delete Channels Dialog Box

Delete Radios' Bank listbox
Choose a bank or “ALL” banks to delete.

First and Last Channel to Delete spinners
Enter the First and Last channels of an *individual* bank to delete.

Delete button
Click to begin deleting channels from the radio.

Close button
Click to return to the main window.

Help button
Click to open Help.

AR8000 and AR2700 System Editor

Radio Manager supports many of the AR8000's and AR2700's features including the ability to change the Band Plan, Blocked Frequencies, Store User Information, and more. Use the AR8000 or AR2700|SYSTEM EDITOR to open the AR8000 and AR2700 System Area dialog boxes.

AR8000 and AR2700 System Area Dialog Box

Receive button

Click to begin receiving data from your radio. Follow on screen prompts. If you have trouble receiving keep the following in mind…

Some Trouble-Shooting…

The AR8000 must be in Expert mode. To switch to Expert mode follow these steps on the AR8000's keypad.
FUNC+CONF (Local)
Down Arrow
Down Arrow
Rotate Tuning Knob until Expert is Displayed (not NewUser).
ENTER

Only send the data that Radio Manager needs. Follow the prompts that Radio Manager gives, especially about sending only the SYS-DATA and not ALL-DATA or BNK-DATA. Otherwise Radio Manager will not received the AR8000's system area correctly. Radio Manager will not let you edit the system area until it is received correctly.

Those keystrokes on the AR8000 are…
FUNC+COPY
Down Arrow
Rotate Tuning Knob until SYS-DATA is displayed.
ENTER

Open button

Click to open a previously saved system area.

Send button (disabled in unregistered version)

Once you've made changes to the Band Plan, Blocked Frequencies, and Identification pages described below, Click to send a system area to the radio.

Save button (disabled in unregistered version)

Click to save the current system area to a file.

Close button

Click to return to main window.

Help button

Click to open Help.

AR8000/AR2700 Read Delay spinner

Increase if Radio Manager does not download the system area correctly and completely.

Band Plan Page

The AR8000 and AR2700 use a sophisticated Band Plan systems for determining the proper step size, mode, etc. when you enter a frequency in the radio. The Band Plan is composed of up to 128 entries for the AR8000 and up to 48 for the AR2700. The mode, step size, and step offset (for the AR8000 only) settings for each entry (starting with the lowest frequency) remain in effect until another entry (with a higher frequency) is encountered. When you use the Auto Mode on the AR8000 or AR2700, the radio looks at the frequency you enter and determines the appropriate mode, step size, and step offset based on the Band Plan. The AR8000 and AR2700 are sold around the world, so a changeable Band Plan is very useful. There are several “ideal” Band Plans for the United States floating around depending on who you ask. I'll leave that up to you. The US Scanner News one is available on my website at http://www.interplaza.com/bensware/rm.htm

Frequency listbox

Choose a Band Plan entry from the list to edit or delete.

Insert button

Click to insert a new Band Plan entry.

Delete button

Click to delete the currently selected Band Plan entry.

Borrow Band Plan button (AR2700 Only)
Since the entire AR2700 EEPROM has to be loaded into Radio Manager for editing, you can't exchange Band Plans with others easily without sharing everything else in your EEPROM. If you want to copy use someone else's band plan, but don't want all of their banks, channels, and other settings do this…

1) Receive your 2700's System Area (EEPROM) in to Radio Manager.
2) Click the Borrow Band Plan button the *.AOR file that contains the band plan you want to use.
3) Make any other changes you want to make to your System Area.
4) Send your 2700 the System the new system area. It's a good idea to save your new system area to a file too.

Frequency field

Enter the frequency for the Band Plan entry.

Mode radio buttons

Choose the mode for the Band Plan entry.

Step Size field

Enter or choose the Step Size for the Band Plan entry.

Step Offset checkbox (AR8000 Only)

Check to turn on Step Offset for the Band Plan entry.

Enter button

Click to save the Band Plan entry.

Print Band Plan to File
Click to save the Band Plan to a text file for easier printing and viewing.

Blocked Frequencies Page

The AR8000 and AR2700 have the ability to block two ranges of frequencies from being tuned. Luckily it is also possible to restore (unblock) those ranges too.

To block a range of frequencies, simply enter the lower and upper limits of the ranges and click the Enter button. To remove blocking, enter zeros (0) as the limits, and click the Enter button.

Credits Page (AR8000 Only)

This page simply displays names and call signs of AOR engineers who worked on developing the AR8000. Just think, you could have had a few more channels!

Identification Page

The AR8000 and AR2700 have some unused system area memory that you can use to store some information, like your name, ham call letters, address, etc. The information isn't easily (unless someone uses Radio Manager or similar software) viewed or changed, so it can be another way to identify your scanner.

Click on the Enter button once you've typed in the text you want to store in the radio.

Once you've made changes to the Band Plan, Blocked Frequencies, and Identification pages, Click on the Send button to send the new information to the radio. It's also a good idea to save the information to a text file by using the Save button.

AR8200 Settings Dialog Box

Power on Message Tab

Power on Message radio buttons
Choose Default, None, or User

If User is selected, then you can edit the message below, and use the Center button as needed to center the text on the AR8200's screen.

Priority Tab

Priority Channel dropdown listbox
Choose the channel that you want to be the priority channel in the AR8200, then click Upload to program the change.

Priority Checking Interval scrollbar
Move the scrollbar to select a priority checking interval from 1 and 99 seconds.

General Tab

Firmware Version label
Displays the AR8200 firmware version. My AR8200 reports 0102.

Beep Volume scrollbar
Move the scrollbar to select a beep volume from 0 to 9 that will be heard when you press keys on the AR8200. If you select 0, then it will not beep.

AR8200 and AR8000 Search Lock Outs Dialog Box

Choose AR8200 or AR8000|SEARCH LOCK OUTS to open this dialog box that displays frequencies locked out from your AR8200 or AR8000's search ranges.

Select individual frequencies and click the Delete button to restore them to the search range, or click Delete All to restore all frequencies for the selected range.

AR8000 Password Dialog Box

Displays the current AR8000 Password and allows you to change password.

OptoScan456 and OptoScan535 Features

Radio Manager supports several of the OptoElectronics OptoScan456 and OptoScan535 features. These additional features are available under the OS456/535 menu. NOTE: The OptoCom has an OptoScan535 emulation mode that will allow it to work just like an OptoScan535, so these features also apply to the OptoCom while it is in the OptoScan535 emulation mode.

Read CTCSS Tone

Click to display the most recently decoded CTCSS squelch tone. Radio Manager displays the tone and active status in the main window's status bar at the bottom of the screen.

Read DCS Tone

Click to display the most recently decoded DCS squelch tone. Radio Manager displays the tone and active status in the main window's status bar at the bottom of the screen.

Read DTMF Digits

Click to display the most recently decoded DTMF digits. Radio Manager displays the digits in the main window's status bar at the bottom of the screen.

Enable 5KHz Search

Check to enable a more selective search featuring of the OptoScan456/535. Radio Manager automatically enables this if you've chosen a 5KHz search step.

Remote Control

Check to enable computer control of your radio. Radio Manager automatically enables remote control, however you may wish to override this, or may need to reset remote control occasionally.

Status Bits

Click to display several status bits that the OptoScan456/535 interfaces report.

Remote Control
Checked when under computer control

DTMF Digits Pending
Checked when there are DTMF digits that have not been read

DTMF Buffer Overun
Checked when there are DTMF digits that were lost. The buffer holds up to 31 digits.

Squelch Open
Checked when a signal is detected

CTCSS Tone Active
Checked when a tone is in use

DCS Code Active
Checked when a code is in use

Tape Enabled
Checked when the tape jack is enabled

Speaker Enabled
Checked when the speaker is not muted

5KHz Search Enabled
Checked when the 5KHz search window is enabled

Audio Present
Checked when there is audio present and the Sound Squelch on the radio is on.
Checked when the Sound Squelch on the radio is off.

The current Frequency and Mode should also be displayed below the status bits.

Version

Click to display version information from the OptoScan456/535.

Enable Full Cover on OptoScan535

Click to enter the enable full coverage (cellular restoration - sounds like a Star Trek term eh?) code for the OptoScan535. Please don't ask me for it. If you are a legitimate authorized cellular monitor, then contact OptoElectronics for the code, otherwise look for it elsewhere.

OptoElectronics OptoCom Features

Radio Manager supports the OptoCom while it is in the OptoScan535 emulation mode. If the OptoCom is on when you open Radio Manager, the OptoCom will automatically be switched to OptoScan535 Emulation Mode.

The following options are available under the TOOLS|OPTOELECTRONICS OPTOCOM menu item.

Clear Memories

Use the **First** and **Last spin edits** to choose the ranger of channels you want to clear, then click the **Clear button**.

Volume/Squelch

Check the **Remote Volume/Squelch Control checkbox** if you want to control volume and squelch from Radio Manager.

The Volume and Squelch scrollbars indicate the current settings of the OptoCom's controls when **Remote Volume/Squelch Control checkbox** is unchecked. When **Remote Volume/Squelch Control checkbox** is checked, use the scrollbars to adjust volume and squelch.

Settings

Activate OptoCom Scanning Mode Button
When Scanning Mode is on, the channels in the OptoCom are scanned from 0 to the first empty channel repetitively. If channel 0 is empty, then scanning mode will not work.

Activate OptoCom Manual Mode Button
Switches the OptoCom to OptoCom manual mode.

Activate OptoScan535 Emulation Mode Button
Switches the OptoCom to OptoScan535 Emulation Mode;

OptoElectronics Scout Features

What a cool product! The OptoElectronics Scout is an awesome scanning tool. If you don't have one, get one now! You'll be able to nail down elusive frequencies provided you can get in very close range of the transmitters.

Once you've logged some hits in the Scout's memory you can use Radio Manager to download the frequencies into a bank file. Choose the TOOLS|OPTOELECTRONICS SCOUT menu to open the OptoElectronics Scout dialog box.

OptoElectronics Scout Dialog Box

First and Last Memory to Download spinners
Enter the First and Last memories in the Scout that you want to copy into Radio Manager.

Copy into Bank File Bank listbox
Choose which Bank you want to copy the Scout's memories into.

Read Delay spinner
Increase the Read Delay if Radio Manager doesn't download the Scout's memories properly.

Add Repeater Input/Output Frequency checkbox
Check if you want Radio Manager to calculate the Input or Output frequency to memories downloaded from the Scout. Usually you'll want to listen to the Output of a repeater pair. Since the Scout may have intercepted an input or an output, this option will help you cover all frequencies.

Com. Port listbox
Choose the available communications (RS-232, serial) port that you have your Scout connected to.

Address listbox
Choose the address that your Scout is set to. The default is 90.

Download button
Click to begin downloading memories from the Scout into a Radio Manager bank.

Clear Memory button
Click to clear the Scout's memory.

Close button
Click to return to the main window.

Help button
Click to open Help.

Squelch Tones

Squelch Tones are used to restrict access to repeaters and where two or more groups of radio users are using the same frequency, but don't want to hear the other group(s) radio traffic.

See Also OptoScan456 and OptoScan535 Features and DC442 Decoder

OptoElectronics

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http://www.optoelectronics.com

OptoCom™, OptoScan456™, OptoScan535™, Scout™, Xplorer™, and DC442™ are products and probably trademarks of OptoElectronics.

OptoElectronics Xplorer Features

What a another cool product! The OptoElectronics Xplorer is test receiver that's also a neat scanning tool.

Once you've logged some hits in the Xplorer's memory you can use Radio Manager to download the frequencies into a bank file. Choose the TOOLS|OPTOELECTRONICS XPLORER menu to open the OptoElectronics Xplorer dialog box. Hit counts are stored in the bank file's Label field.

OptoElectronics Xplorer Dialog Box

First and Last Memory to Download spinners
Enter the First and Last memories in the Xplorer that you want to copy into Radio Manager.

Copy into Bank File Bank listbox
Choose which Bank you want to copy the Xplorer's memories into.

Read Delay spinner

Increase the Read Delay if Radio Manager doesn't download the Xplorer's memories properly.

Add Repeater Input/Output Frequency checkbox

Check if you want Radio Manager to calculate the Input or Output frequency to memories downloaded from the Scout. Usually you'll want to listen to the Output of a repeater pair. Since the Xplorer may have intercepted an input or an output, this option will help you cover all frequencies.

Com. Port listbox

Choose the available communications (RS-232, serial) port that you have your Xplorer connected to. Make sure the Xplorer is set up for 9600 bps.

Address listbox

Choose the address that your Xplorer is set to. The default is B0.

Download button

Click to begin downloading memories from the Xplorer into a Radio Manager bank.

Save to File button

Click to open the Download Explorer Dialog Box.

Enable Cellular button

Click to open the Enable Cellular Reception Dialog Box.

Close button

Click to return to the main window.

Help button

Click to open Help.

See Also Download Xplorer Dialog Box

Download Xplorer Dialog Box

Use this dialog box to download information stored in the Xplorer's channels. There are lots of fields that the Xplorer can save in addition to the frequency. You can select which ones will be saved. The Frequency field must be downloaded. The information will be saved to a text (*.TXT) file with each field separated by commas (,) and alphanumeric fields surrounded by double quotes (").

First and Last Memory to Download

Enter the first and last memory to download from the Xplorer.

Read Delay

Increase if Radio Manager isn't reading memories correctly and completely.

Field Checkboxes

Check the fields you want downloaded and saved.

See Also OptoElectronics Xplorer Features

Enable Cellular Reception Dialog Box

You can choose to Enable or Disable cellular reception in your Xplorer. You must have the correct code to do so. The code if available from OptoElectronics to legitimate users.

When you turn on the Xplorer it will display "*XPLORER*" with asterisks on both sides of the word "XPLORER" if cellular reception is enabled or "XPLORER" without asterisks on both sides of the word "XPLORER" if cellular reception is disabled.

After entering the code and clicking the OK button, turn off your Xplorer and turn it back on again to verify that the change was made.

NOTE: *As of about 4/30/97, I do not believe the Xplorer is restorable any more. If so, it's enable code and/or method has probably been changed.*

OptoElectronics DC442

With Radio Manager and the OptoElectronics DC442 Decoder you can have even more information at your finger tips. The DC442 Decodes Squelch Tones (CTCSS and DCS) and DTMF digits.

Radio Manager for Windows can control and read data from the DC442. There are several ways to configure and connect the DC442 and your receivers. Some possibilities are: connect your radio to one com port and the DC442 to another com port. It's also possible to control some radios using the DC442 as the interface. Another option is to simply connect the DC442 to a com port and leave the radio unconnected to the computer. Radio Manager can work with all of these combinations. There's bound to be other configurations that may also work well. See Configuration for more details.

NOTE: The DC442 should be set to ALL DECODE in most circumstances. For logging in the Hit List window to work, a signal must be detected in Radio Manager. See also, Signal Detection Method under TOOLS|CONFIGURATION

OptoElectronics DC442 Dialog Box
Access this dialog box by choosing TOOLS|OPTOELECTRONICS DC442
Normally you use the Hit List for logging information that is decoded with the DC442, however you can also use this dialog box to display Squelch Tones and DTMF characters as well control the DC442.

Mode Options Box
Switches the DC442 to its different operating modes

Backlight Options Box
Switches the DC442 Backlighting modes

CTCSS and DCS
Displays the most recently decoded Squelch Tones. If the tone is active, it is followed by an asterisk like this 167.9*.

DTMF Display Checkbox
When check Radio Manager will log DTMF digits to the area below.

Clear CTCSS, Clear DCS, and Clear DTMF Buttons
Use to clear the DC442's memory and Radio Manager for Windows display.

BC895 Virtual Key Pad

NOTE: You must put the Uniden Bearcat BC895XLT into Remote Mode for Radio Manager to work properly. Hold the ALRT/RMT key on the scanner until it beeps twice and RMT is displayed on the scanner's LCD.

This window features almost all of the controls that are on the face of your Uniden Bearcat BC895XLT. Most controls work just as they do from the scanner's key pad. **NOTE:** *One major difference is how you simulate holding a button on the scanner. In Radio Manager, hold the CTRL key and Click your Left Mouse Button on the appropriate button.*

This area of Radio Manager works differently than other areas of Radio Manager. When you use Radio Manager's main window to Scan and Search, Radio Manager sends the frequencies to be scanned to the scanner, and Radio Manager checks to see if the frequency is active and takes any

necessary action, otherwise, scanning and searching continue. That's a lot of data being sent back and forth. In this area of Radio Manager, the scanner is doing the work of scanning and searching, and just reporting activity to Radio Manager, so that it can do any necessary actions. Another explanation is that in this window, Radio Manager looks up active IDs from the scanner, rather than moving through a database of IDs and tuning the scanner to each one and checking for activity.

I added this method so that Radio Manager can take advantage of the 895's TrunkTracking™ capabilities. Radio Manager can look up TrunkTracking™ IDs in a database you specify, and display some very helpful information. This happens immediately as active IDs are monitored on the scanner. Once you have a database of information, Radio Manager will display not only a numeric ID like 2160, but also a text ID, like "E-PTRL". Not only that, the entire database record will be displayed for even more detail. If you need to change the record, simply click the Edit Button to start the edit mode. **Note**: "*Look-up databases" are Trunk Manager .DBF files and you will see them referred to as both "look-up" and Trunk Manager databases.*

Database Look-Up Overview
For this "look-up" to work several things must be done.
1. There must be a database open.
2. You must be in TrunkTracking mode.
3. You must have the trunk bank named with the "System" name of a system in the database.
4. The Edit Button should not be depressed if you want the look-up feature on.

For step-by-step instructions, check out Getting Started with Trunk Manager Databases.

Controls (Top Panel)

Bank Buttons
Same as on Scanner

Program (Prg.) Button
Click to Name the Bank buttons (A-J). The name you define will be used when looking up information in the Trunk Manager database. It will also be displayed as you hover the mouse over Bank button, so you'll have a reminder of what trunked system or frequencies are stored in each bank.

Weather (WX) Button
Same as on Scanner

Mute Button
Enables and Disables the scanner audio

Dim Button
Same as on Scanner

Close Button
Closes BC895 Virtual Key Pad and returns you to the main window, or optionally quits Radio Manager. See TOOLS|SETTINGS for details.

Help Button
Open this help system

Scan Button
Same as on Scanner

Manual Button
Same as on Scanner

Hold/Up Arrow Button
Same as on Scanner

Auto Button
Same as on Scanner

Frequency/ID Display/Numeric Entry Area
Displays the currently active Frequency or TrunkTracking ID. Also used for entering numbers as if you were entering them on the scanner.

Channel Name Display
Displays the Channel Name of the currently active TrunkTracking ID if one is found in the look-up database.

Priority Button
Same as on Scanner

Trunk Button
Same as on Scanner

Data Button
Same as on Scanner

Search Button
Same as on Scanner

Aux Button
Same as on Scanner

Bank Name Display
Displays the name you have programmed for the currently active TrunkTracking bank.

Search Range Spinners
Enter a range of Type II ID numbers that you want to search, and Radio Manager will automatically skip any TrunkTracking IDs not included in that range. Only valid while searching in TrunkTracking mode and the Search Range On Checkbox is checked.

Search Range Checkbox
Check if you want to excluded TrunkTracking IDs outside of the ranges entered as described above.

Lockout Button
Same as on Scanner except when in TrunkTracking mode an ID must be active to unlock it, and you hold SHIFT and Click the Lockout button to unlock the ID.

Delay Button
Same as on Scanner

CTCSS Button
Same as on Scanner

Limit/Down Arrow Button
Same as on Scanner

Step Button
Same as on Scanner

Upload Button
When clicked, Radio Manager will search the Trunk Manager database for TrunkTracking IDs that have been set as ScanLists memories and upload them to their corresponding memories in the scanner.

Bank Combobox
Choose which ScanList Banks you want to upload.

Channel to Upload Spinners
Choose which ScanList Channels you want to upload.

Controls/Fields (Middle Panel as Database Record)

Field	Use
System	Denotes what radio system the channel is associated with.
Talkgroup	The talkgroup ID or fleet-subfleet ID for the channel.
Channel Name	The name of the channel that is commonly used to describe the channel. Usually it's the same as what is displayed on the actual two-way radio.
User	The name of the city, business, or department that uses the channel.
Class	The type of service that is using the channel. For example, "Police", "EMS", "Fire", "Public Works", etc.
Service	Specific information about how this channel is used. For example, "Talk", "Operations", "AMA", "Sewer Stoppages", etc.
Notes	Notes for this channel. For example, "simulcast on 484.2125", "rarely used", etc.
Bank	The bank where this channel is stored in a radio.
Channel	The channel where this channel is stored in a radio.
Date	Use to store a date. You may want enter the last date you heard the channel used, or the first, etc.
Lockout	Denotes whether this channel is locked out.
Custom Text	Used however you want to store text.
Custom Number	Used however you want to store a number.
Custom Logic	Used however you want to mark the channel. You may want to mark channels for various reasons. For example, to hide channels, to denote that the information may not be verified, etc.

Upload LO Button
Click to upload lockouts in the current Look-up database that match the system you are monitoring.
Note: The BC895XLT has a limited number of Lock Outs available for talkgroup. IDs.

Edit Button
Click to switch from Look-up mode to Edit mode. When the Edit button is out, Radio Manager looks for matching records in the look-up database while the scanner is TrunkTracking. When the Edit button is in, Radio Manager stops looking for matches, so that you can edit look-up database records.

Database Navigator
Used to navigate and edit the look-up database.

Status Bar
(Examples)
Currently selected Trunk Manager Look-up database file (C:\MyData\TMDFW.DBF)
The number of records in the current filter and the total number of records in the database (304/963).
The Filter status (On/Off)
The Lock Out + status (On/Off)

Controls (Middle Panel as Size Code Helper)

Current ID as Size Codes 0 through 12
Previous ID as Size Codes 0 through 12
Manual ID as Size Codes 0 through 12 (Enter a Type II talkgroup ID and click Set to display the ID as Type I fleet-subfleet.

Items in Red indicate that size code is not likely to be correct.
Items in Green indicate there's a good chance the size code is correct.
Items in Black indicate there's a chance the size code is correct.

Tips: Watch how the Type I IDs change as different units on the same channel transmit. If a the same conversation changes Type I IDs for a size code, then it's probably not the correct size code.

Primary channels are usually ###-1

Channels are often named, "A", "B", "C", etc. where the corresponding subfleets would be ###-1, ###-2, ###-3.

If channels are referred to as "1A", "2C", "1D", etc., then their proper size code will likely yield IDs, like "101-1", "102-3", "201-4", etc.

Knowing the number of channels that are in a particular block and the number of radios in a block can really narrow things. For example, if there are 300 police officers, each assigned their own radio, the you add the mobile and dispatch radios, you've got a size code that has a large number of IDs. Check out the Uniden Bearcat BC895XLT Owner's Manual Fleet Map Size Codes (page 59 on mine), and it will make more sense. It's not likely that a system would be defined as size 1, 2, 5, 6, and 7. Sizes 3, 4, 10, 11, and 12 are more likely.

Controls (Bottom Panel)

Hit List Button
When depressed the Hit List is displayed and the Lockout Listbox is hidden. The Hit List contains recently active TrunkTracking IDs. You can click on an ID in the Hit List to resume monitoring that ID. You can Double-Click on and ID in the Hit List to edit that ID's look-up database record. Right-Click to delete a single Hit from the list or to save the Hit List to a text file.

Lock Outs Button
When depressed the Lockout Listbox is displayed, and the Hit List is hidden. Radio Manager will display all TrunkTracking IDs that are locked out of the current trunk bank. If a matching look-up database record is available, the Channel Name is displayed to the right of the ID.
Click a Locked Out ID to monitor it. Double-Click a Locked Out ID to remove it from the Lockout list. Right-Click anywhere on the Lockout Listbox for the option of unlocking all IDs.

You can choose to be prompted to update your look-up database with the lock outs stored in the BC895XLT. Choose the TOOLS|SETTINGS menu to change whether you are prompted or not.

If you are prompted and you choose yes, then Radio Manager will look for each locked out ID (from the BC895XLT's current trunk bank) in the look-up database, and set the lock out status to match.

Clear Button
Clears the Hit List window or Lockout List

Fixed Font Checkbox
Check to display Hits in fixed font for easier readability. Otherwise, things may not line up so well.

Auto Clear Checkbox
When check automatically clears the Hit List when you switch to a different trunk bank.

Log Details
Check to Log the Class and Service for each Hit.

Current Frequency Display
If you have Show Frequency of Active Talkgroup While in Trunk mode checked under TOOLS| SETTINGS, then Radio Manager will display the frequency here. This will slow things down quite a bit, but it can be interesting to watch.

Menu Commands

FILE|NEW
Creates a new look-up database for TrunkTracking IDs. **See also** Getting Started with Trunk Manager Databases

FILE|OPEN
Opens a look-up database for TrunkTracking IDs. **See also** Getting Started with Trunk Manager Databases

FILE|RETURN TO MAIN WINDOW
Closes the BC895XLT Virtual Key Pad window and returns you to the main window.

FILE|QUIT RADIO MANAGER
Closes Radio Manager

EDIT|FIND
Opens the Find dialog box.

EDIT|FIND NEXT
Continues searching for the information you specified in the Find Dialog Box

EDIT|RUN TRUNK MANAGER
Starts Trunk Manager for Windows when installed. **See also** Getting Started with Trunk Manager

VIEW|SIZE CODE HELPER
Displays a table of TrunkTracker Type II IDs as Type I Fleet-Subfleet IDs so that you can quickly see how the Type II ID would look if it where each of the size codes from 0 through 12.

TOOLS|LOCK OUT +
When checked, Radio Manager will automatically lockout an active ID and continue searching if the ID's lock out field is checked in the look-up database. This can be a great way to overcome some of the limitation of the BC895XLT's lock outs.

TOOLS|AUTO CONTINUE
When checked, Radio Manager will automatically continue searching if an ID has been active for more than the amount of time you have specified. To specify the time, return to the main window, and choose TOOLS|CONFIGURATION and click on the Hit List (Logging) page to adjust the Auto Continue After amount.

TOOLS|DEFINE FILTER
Choose to define your own filter based on the System, User, and Class fields of the look-up database. When the filter is on (see below), Radio Manager will automatically skip over any IDs that do not match the filter while searching.

TOOLS|FILTER ON
Check to activate the Filter described above.

TOOLS|CLEAR FILTER
Click to clear the filter described above.

TOOLS|DOWNLOAD IDs…
Copies IDs from the radio into Radio Manager's database.

TOOLS|SETTINGS
Click BC895XLT Virtual Key Pad Settings dialog box.

See Also Uniden Bearcat BC895XLT Interface Cable

Getting Started with Trunk Manager Databases

NOTE: You must put the Uniden Bearcat BC895XLT into Remote Mode for Radio Manager to work properly. Hold the ALRT/RMT key on the scanner until it beeps twice and RMT is displayed on the scanner's LCD.

Trunk Manager for Windows is another stand-alone program of mine. Don't worry, you don't have to spend more money. Although, I hope you do. Trunk Manager is a master database serving a similar purpose as Frequency Manager. You use it to store, sort, search, publish, and manage your trunked radio system information. One of the coolest features is the ability to save your information to an HTML file, so others on the web can see your information. You can filter records out easily so that you only see relevant information while you are monitoring, as well as sort on almost all of the fields. Fields that you are likely to type often can be entered in separate databases to speed data entry and make your data more consistent.

Radio Manager lets you create Trunk Manager format .DBF files that you can use to look up, edit, add, and delete records. Each record consists of the following fields.

Field	Use
System	Denotes what radio system the channel is associated with.
Talkgroup	The talkgroup ID or fleet-subfleet ID for the channel.
Channel Name	The name of the channel that is commonly used to describe the channel. Usually it's the same as what is displayed on the actual two-way radio.
User	The name of the city, business, or department that uses the channel.
Class	The type of service that is using the channel. For example, "Police", "EMS", "Fire", "Public Works", etc.
Service	Specific information about how this channel is used. For example, "Talk", "Operations", "AMA", "Sewer Stoppages", etc.
Notes	Notes for this channel. For example, "simulcast on 484.2125", "rarely used", etc.
Bank	The bank where this channel is stored in a radio.
Channel	The channel where this channel is stored in a radio.
Lockout	Denotes whether this channel is locked.
Date	Use to store a date. You may want enter the last date you heard the channel used, or the first, etc.
Custom Text	Used however you want to store text.
Custom Number	Used however you want to store a number.
Custom Logic	Used however you want to mark the channel. You may want to mark channels for various reasons. For example, to hide channels, to denote that the information may not be verified, etc.

Step-by Step Instructions for Maximizing TrunkTracking scanning with Radio Manager for Windows.

Steps below assume you are already in the BC895 Virtual Key Pad window.

1. **Switch to trunk mode** - Click the Trunk button and then the trunk bank you want to monitor.

2. **Click the Prg.** (Program) Button and name the trunk bank that you are listening to. For example, "Richmond". The default names are "A", "B", "C", etc.

3. **Open** or create a **New file** using the FILE menu.

4. **Click the Edit Button**

5. **Add Records** for the system, always naming the system for which you are entering("Richmond" in this example) records.

Use the database navigator to move to First Record, Prior Record, Next Record, Last Record/Insert Record/Delete Record/Edit Record/Post Edit/Cancel Edit.
Once you've added some records click the Edit Button, so it's not depressed, and you cannot access the fields anymore.

6. Watch the IDs as Radio Manager looks in the database for matches. If an ID is found in the database, Radio Manager will pull up the record as well as display the Channel Name to the right of the ID.

Radio Manager saves the file automatically as you save each record. Radio Manager also will remember the file you had opened last, so you don't need to open it each time you run Radio Manager, unless you want to switch to another file. I'd put all of your trunk information into one file, so that you'll have more than one system described. Radio Manager uses the Bank Name you associate with the Prg. button to find the matching ID for a particular system, since there might be an ID used more than one system.

See also BC895 Virtual Key Pad and Uniden Bearcat BC895XLT Interface Cable

BC895XLT Filter Define Dialog Box

Enter a System, User, and Class to Filter on. Radio Manager will then automatically skip any talkgroup IDs that do not match the filter.

BC895XLT Virtual Key Pad Settings Dialog Box

Alarms page

Choose the .WAV files you want associated with alarms 1, 2, and 3.

Check Enable Alarms.

In the look-up database, enter 1, 2, or 3 in the Custom Number field of the records for which you want Radio Manager to sound an alarm when the ID becomes active.

General Page

Close Button Quits Radio Manager checkbox
When unchecked, clicking the Close button in the BC895XLT Virtual Key Pad window returns you to the main window. With this option checked, it quits Radio Manager.

Start Radio Manager in BC895XLT Virtual Key Pad window check box
When checked, Radio Manager will automatically start you in the BC895XLT window, rather than the main window.

Remember Trunk Bank checkbox
When checked, Radio Manager automatically starts TrunkTracking in the same bank you used last time your ran the program.

Show Frequency of Active Talkgroup while in Trunk mode checkbox
Check display the frequency that the current talkgroup ID is on. The frequency will be displayed above the Hit List on the right side of the window.

Prompt to Update Lock Outs in database when downloading from radio checkbox
Check to be prompted to update the database lock out fields based on the lock outs stored in the current BC895XLT trunk bank.

BC895 Prg. Button

Use this dialog box to name the bank keys in the BC895 Virtual Key Pad window.

Click the bank in the listbox you want to change.
Enter a bank name.
Click the Save button.

When you are done making changes click OK. Radio Manager will now use the names you have associated with the bank keys when looking up TrunkTracking IDs.

If you are in Scan mode, you will have the option to name the "ScanList" associated with the Bank Keys A through J.
Enter the System Name, for example: "Fort Worth"
Enter the Bank, for example: "A"
Enter the description of the ScanList, for example: "Fort Worth Fire"

BC895 Find Dialog Box

Use this dialog box to quickly search the look-up database. In most cases the Any Field is the way to go because it will look in all of the database fields for a match. If you want to be more specific use the fields below.

Uniden Bearcat BC895XLT Interface Cable

Here are the pin-outs for the interface cable to connect a Uniden Bearcat BC895XLT to a RS-232 9 Pin or 25 Pin connector. I've made the cable myself and it's working fine.

The RS-232 DB-9 and DB-25 are standard connectors. The scanner side is not so common. It's a flat card edge type connector. Although there are 5 pins on the scanner's remote port, you only need 3 of them (3 to the left, or 3 to the right). Also the way they are wired, you can put the cable in backwards and it should still work (Pin 1 to Pin 5). A computer CD audio cable as a similar connector that you can probably modify to work. Just shave off any tabs that are in the way. I think the CD audio connector is actually 4 pins, but again, it should still work. I found a 6 pin connector, and shave off one side to make it a 5 pin.

There is no voltage level conversion necessary to my knowledge. You'll want to use shielded RS-232 type cable to minimize interference to the scanner.

RS-232	DB-9	DB-25	Uniden BC895XLT
Transmitted Data	3	2	1 or 5 (Same)
Received Data	2	3	2 or 4 (Same)
Ground	5	7	3

As with all hardware modifications described in this helpful and everywhere else in the world, you make the modification and interface at your own risk. All I can say is that the interface described above works for me, and I know of no bad side effects.

NOTE: The Uniden Bearcat BC895XLT does not require or support hardware signal detection.

Frequently Asked Questions

Taken from my web site at http://www.interplaza.com/bensware/rm.htm
Please check in for the latest version, tips, and FAQs.

What is *Frequency* Manager and how does it relate to *Radio* Manager?

href="http://www.interplaza.com/bensware/index.htm#FM"MACROBUTTON is a another separate (stand-alone) shareware program that I also write. It is used to manage your frequency list whether you are using your computer to control your radio or not. You can store, sort, and print your frequency list using Frequency Manager.

Radio Manager can use the information you've stored in Frequency Manager to look up frequencies while searching. Radio Manager will display any matching frequencies that you already have in your database, or list a frequency as "unknown". As you scan and search in Radio Manager you can quickly add and edit information you've stored in Frequency Manager using the EDIT| FREQUENCY MANAGER RECORD (F8) menu item.
Radio Manager's registration fee includes Frequency Manager, but there's no price reduction for not getting Frequency Manager.

How do I import channels from Frequency Manager?

You can open a Frequency Manager file in Radio Manager to convert that file into a bank file. Simply follow these steps.

1. Choose FILE|OPEN
2. In the Open dialog box choose to List files of type Paradox Files (*.DB).
3. Select the Frequency Manager file you want to Import.
4. Click the OK button, and wait a moment while Radio Manager converts the Frequency Manager file into a new Radio Manager bank file.

You can also append a Frequency Manager file to an existing Radio Manager bank file by following these steps after opening the bank file that you want to append to.

1. Choose EDIT|CHANNELS.
2. Choose the FILE|VIEW/IMPORT/APPEND menu.
3. Choose FILE|APPEND FROM.
4. In the Append From dialog box choose to List files of type Paradox Files (*.DB).
5. Select the Frequency Manager file you want to Import.
6. Click the OK button, and wait a moment while Radio Manager converts and adds the Frequency Manager file into the existing Radio Manager bank file.

How do I import channels from PerCon Spectrum CD-ROMs or from a UFDBF file?

The PerCon Spectrum CD-ROM can save FCC frequency information in the Universal Frequency DataBase Format (UFDBF). Once you've saved the frequencies in PerCon or obtain any other UFDBF file Radio Manager can convert them to a bank file.

1. Choose EDIT|CHANNELS.
2. Choose FILE|VIEW/IMPORT/APPEND.
3. Choose FILE|OPEN or FILE|APPEND FROM.
4. Select the UFDBF file you want to Import.
5. Click the OK button, and wait a moment while Radio Manager converts the UFDBF file into a Radio Manager bank file.

What interface should I buy?

For the AR8200, I recommend the Javiation RS-8200 or JAV-232 available from http://www.javiation.co.uk I think the OptoElectronics OptoLinx is the most versatile. It controls the AR8000 and AR2700 as well as the OptoElectronics Scout, and Icom radios. It's about $130, but worth the price.

If you are good with a soldering iron there are some Icom CI-V compatible interface plans available. Please see the Radio Manager for Windows help file for contact information. I think there are probably some homebrew AR8000 interfaces out there on the web too, but I haven't tried them.

How do I restore cellular frequencies that blocked out?

If you are using the OptoScan456, you don't have to do anything. Radio Manager can scan and search the forbidden frequencies already.

If you are using the OptoScan535, you'll need the magic code to enter. Once you have the code, choose the OPTOSCAN456/535|ENABLE FULL COVERAGE ON OS535 menu item, and enter the 20 digit code.

If you are using the AR8000, follow these steps.

1. Choose AR8000|SYSTEM EDITOR.
2. Click the Receive button and follow the prompts. Your AR8000 must be in Expert mode..
3. Click the Blocked Frequencies page.

4. Enter 0.0 for the each of the four fields and then click the Enter button.
5. Click the Send button and follow the prompts.
That's all there is to it!

If you are using the AR2700, follow these steps.

1. Choose AR2700|SYSTEM EDITOR.
2. Click the Receive button and follow the prompts.
3. Click the Blocked Frequencies page.
4. Enter 0.0 for the each of the four fields and then click the Enter button.
5. Click the Send button and follow the prompts.
That's all there is to it!

See Also Trouble-Shooting and Tips

Tips

Please visit http://www.interplaza.com/bensware/rm.htm for the latest Tips.

Multiple Setups

You can setup Radio Manager icons for each of your radios by naming an INI file after the command to load Radio Manager. For example, C:\RM\RM.EXE AR8000.INI, or C:\RM\RM.EXE OptoScan.INI. Radio Manager will use that INI file instead of the default RM.INI.

Be an Expert
Some features of Radio Manager require that the AR8000 be in Expert mode. To switch your AR8000 from New User mode to Expert mode press the FUNC key, then the CONF (LOCAL) key, Down Arrow twice, rotate the tuning knob until "EXPERT" is displayed. Finish by pressing the ENT key.

See Also Trouble-Shooting and Frequently Asked Questions

Trouble-Shooting

Radio Manager does not respond or does so very slowly to Commands

If you are using a Software Signal Detection method, Radio Manager will be very sluggish. If it at possible, use a hardware signal detection method. You can change the signal detection method on the Radio Connection page by choosing the TOOLS|CONFIGURATION menu.

Radio Manager Will Not Upload to the Pro-64 or Pro-2041

If the interface and all configuration settings are correct, and the scanner still isn't receiving data follow these steps.
1. Turn on the scanner
2. Reset the scanner by pressing the Reset button with the end of a paper clip. Make sure you are not holding any buttons down, otherwise, you might clear the scanner's memory.
3. Turn the scanner off.
4. Hold 3 and ENTER on the scanner, and turn it On again.
5. Try Uploading with Radio Manager again.

Cannot Edit Search Ranges

or

When starting Radio Manager you get the message "Cannot share Paradox net file -- is SHARE.EXE loaded?"

If you get a message asking "Is SHARE.EXE loaded?" when you try to run Frequency Manager, you'll need to add a line similar to the one below to your CONFIG.SYS file with a text editor. You might need to specify a different directory than the one below depending on the location of SHARE.EXE on your system. SHARE.EXE is included with DOS. Please see your DOS manual for more information on SHARE.EXE.

Install=C:\DOS\SHARE.EXE /L:500

When starting Radio Manager you get the message Invalid Directory Name

Chances are you are using or have used another program that also uses the Paradox Engine. Open your WIN.INI file with your favorite text editor, NOTEPAD.EXE works well, and remove the NetNamePath=C:\ line from the [Paradox Engine] section, or comment the line out by placing a semicolon (;) in front of the line. Save WIN.INI and try running Radio Manager again.

Radio Manager or your Mouse "Locks Up" - IRQ Conflicts

The Windows operating environment is great, but unfortunately the PC's architecture is a bit limited. In DOS normally you can only run one program at a time. In Windows you can run several programs at once. Since more than one program can run at a time, there's a good chance two different programs might try to use the same piece of equipment at the same time. In this case a com (serial, RS-232) port. Even though you may have 4 com ports, you probably can't use all four at once (There are some systems that allow this). The reason is the limited number of IRQ (Interrupt Request) lines of the PC. Because there are so few, com ports 1 and 3 usually share an IRQ, and com ports 2 and 4 usually share another. So as long as you don't try use devices on com 1 and 3 (or com 2 and 4) at the same time you'll be OK. There are some solutions to the problem. First you can rearrange your devices so you don't have the conflict. For example, my PC has this set up. Com 1:Mouse, Com2:Radio, Com3:Label Printer, Com4:MODEM. Since I don't (can't) use my radio and MODEM at the same time there's no conflict. When I use the label printer my mouse dies, but comes back after closing the label printer program (luckily I don't use it often and for long). The other option is to buy one of the new com port cards that has a larger selection of IRQs (check your cards, may be you can change the IRQs). If you change IRQs on a com port, make sure you tell Windows about it. Go to Control Panel and choose the Ports icon, choose the appropriate com port, and then the Settings and Advanced buttons. The IRQ selected there must match the IRQ the hardware is set to (usually by jumpers or DIP switches on the card). I know it's a pain. Hopefully the Plug-In-Play will solve the problem on your next PC.

Radio Manager switches frequencies, but not modes.

If Radio Manager is switching frequencies OK, but won't change modes on the radio then you might need to increase the Mode Delay in the Configuration dialog box.

Radio Manager won't log hits in the History Window.

Try increasing the speed factor and the sample factor.

Radio Manager won't stop on active frequencies.

Check your cabling. Loose wires, especially inside that connect the OptoScan456/535™ can cause this problem. Also make sure you have configured Radio Manager correctly. You must be setup to use some form of Signal Detection. **Note:** The AOR AR2700 does not support Hardware Signal detection that Radio Manager needs to stop on active frequencies. The AOR AR8200 and AR8000

software signal detection methods do not work very well, and will cause sluggish performance in Radio Manager.

Radio Manager won't upload and/or download completely.

Try increasing the Read/Write Delay. Available in the Download dialog and/or on the Radio Features page under TOOLS|CONFIGURATION.

Radio Manager doesn't Upload/Download Correctly to the AR8000 with the OptoLinx

It's important that only the AR8000 flat cable is connected to the OptoLinx when you are controlling the AR8000.

Radio Manager won't receive the AR8000 System Area correctly.

The AR8000 must be in Expert mode. To switch to Expert mode follow these steps on the AR8000's keypad.
FUNC+CONF (Local)
Down Arrow
Down Arrow
Rotate Tuning Knob until Expert is Displayed (not NewUser).
ENTER

Only send the data that Radio Manager needs. Follow the prompts that Radio Manager gives, especially about sending only the SYS-DATA and not ALL-DATA or BNK-DATA. Otherwise Radio Manager will not received the AR8000's system area correctly. Radio Manager will not let you edit the system area until it is received correctly.

Those keystrokes on the AR8000 are…
FUNC+COPY
Down Arrow
Rotate Tuning Knob until SYS-DATA is displayed.
ENTER

See Also Interface Information, Configuration and FAQs

Interface Information

Build your own simple and inexpensive Radio Shack Pro-64 and 2041 Interface.

Build your own simple and inexpensive Uniden Bearcat BC895XLT Interface Cable
(**Note**: the Uniden Bearcat BC895XLT does not require or support Hardware Signal Detection.

If you're using some of the latest software available or want to control your Icom radio with your computer, you might find this information helpful. Here's how to modify your Icom CT-17, or similar computer interface to make it support signal detection.

Signal Detection works by attaching a cable to the Recorder Remote jack on the radio and to the RS-232 (Com. Port). This additional cable makes it possible for the software to detect when there is a signal present on the radio, so that the software can stop scanning, searching, or log a hit.

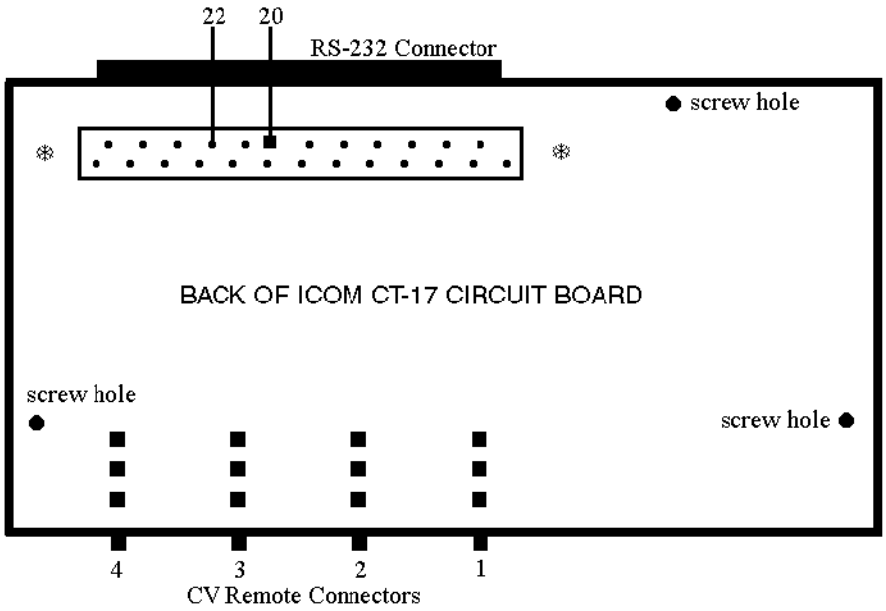
The cable needs a 1/8" mini plug for the radio side. The other end needs to be connected to the RS-232. One wire needs to be connected to pin 20 (Data Terminal Ready), and the second wire needs to be connected to pin 22 (Ring) or to Pin 8 (Carrier Detect). Make sure you choose the proper signal detection method in the Configuration dialog box. That's all!

I haven't seen a CT-17, but I know others have performed this enhancement. I have added it to a homemade interface, see below, and an interface that I ordered from J-COM Enterprises. Both

modifications were pretty easy to perform, especially considering I had not used a soldering iron before building the homemade interface.

If you don't have an interface yet here's information on an inexpensive homemade alternative to the Icom CT-17. I spent about $25 on parts and a few hours building it. Nigel Thompson KG7SG wrote the article, "A Low-cost PC Interface for Icom Radios" in QST July 1992 Page 37 describing the parts and how they go together. I've added the signal detection enhancement above to this one and it works great. The interface draws its power from the RS-232, so no external power supply is needed.

The following picture was provided by Ron Harris, who has made the modification to his CT-17.



Take one of the mini-plug cables that comes with the ICOM CT-17 and cut one end off. Either run the wire through one of the unused CV Remote Connectors (1,2,3, or 4) or through a hole you drill in the case. Strip the two exposed wires and solder to pins 20 and 22 shown above. The other end of the cable plugs into the R-7100 Recorder Remote Jack.

DISCLAIMER:
I AM NOT AN ELECTRICAL ENGINEER, BUT AS FAR AS I KNOW THIS MODIFICATION SHOULD CAUSE NO HARM. MODIFY AT YOUR OWN RISK.

AR8200 Interface Information

What Interface should I buy for my AR8200?
I recommend the **Javiation RS-8200 or JAV-232**. Those interfaces report squelch status on the DCD pin of the RS-232 end of the interface which makes it possible to stop scanning and searching on active signals without bogging down Radio Manager with the software detection method.

Please visit Error: Reference source not found and tell them you heard about it from the Radio Manager for Windows program.

AR8000 Interface Information

What Interface Should I Buy for my AR8000?

The **OptoElectronics OptoLinx** is probably the best thing going that I've seen. It's $130, but worth the versatility. It works with Radio Manager to control the Scout and the AR2700 and AR8000 and Icom radios. There are other interfaces that work including the EDCO AR8000INF about $100.

AR8000 and OptoElectronics OptoLinx CX12 Interface

Radio Manager works with the new OptoElectronics OptoLinx works.
DIP switch settings

1 Full Duplex - Off (Up)
2 Local - On (Down)
3 AR3000 - Off (Up)
4 Unused - On (Down)
Radio Manager should be set to use Ring or DCD as the Signal Detection Method under the TOOLS|CONFIGURATION menu.
Finally, it's important that only the AR8000 flat cable is connected to the OptoLinx when you are controlling the AR8000. Steve, Thanks for figuring that one out, and relaying the solution.

Icom Radios and OptoElectronics OptoLinx CX12 Interface

If you want Radio Manager for Windows to stop on active frequencies when controlling your Icom radio with the OptoElectronics OptoLinx, you will need a special cable for signal detection besides the cable used for controlling the radio. All jacks and plugs described here are 1/8" (3.5mm).

The control cable is connected from the Icom radio's Remote Jack to the OptoLinx A, B, or C Jack. I believe the OptoLinx comes with at least one of these.

The special cable that you need for signal detection is connected from the Icom's ***Recorder*** Remote Jack to the Aux Jack on the OptoLinx. The label on the radio may be different than "Recorder Remote" and "Remote", so pay close attention to that.

What's special about the cable?
On the Icom side it needs to be a mono (2 conductor) plug, and on the OptoLinx side it should be a stereo (3 conductor) plug. I used a cable with two mono plugs and cut one plug off leaving the ground wire and the inner wire. That is the Icom side. On the other side I connected a stereo plug (Radio Shack Cat. No. 274-284A).

Solder one of the two wires to the Inner ring on the stereo connector, and solder the other to the Middle ring of the stereo connector. The Tip of the stereo plug is not needed.

After connecting the special cable to the Icom and the OptoLinx, set Signal Detection in Radio Manager to "Hardware-Ring" or "Hardware-DCD". Use the TOOLS|CONFIGURATION menu to get to the setting.

A special thanks goes to Bill Kelly for figuring this one out.

Radio Shack Pro-64 and Pro-2041 Scanner Interface

The Radio Shack Pro-64 (Radio Shack Part 20-564) and Pro-2041 (20-438) scanners use the earphone jack as a computer interface jack as well. Wow! Why hasn't anyone done that before! It's a neat little radio with 400 channels, and you can quickly upload hundreds of channels in a matter of minutes without having to use the small keypad of the radio. Here's how to build the simple and inexpensive interface you will need to connect your computer to your radio.

RS Part #	Description	Quantity
276-1428	9 Position Female D-sub. Crimp-type Connector (RS-232 DB-9)	1
276-1508	Shielded D-sub connector hood (RS-232)	1
42-2387	6 ft Shielded Audio Cable 1/8" stereo miniplugs	1

I cut the stereo cable in half leaving plenty of slack in case I want to make another interface, but you may need more than 3 feet to conveniently connect to the back of your computer. Now strip and connect the cut end of the cable as follows. I don't know if the colors are standard or not, so you might want to verify the connection with a multi-tester or reverse the tip & ring connections if it does not seem to work.

Mini Plug	DB-9

TIP (red wire)	Pin 2
Ring (black wire)	Pin 3
Base (bare wire)	Pin 5

I finished by wrapping some electrical tape around the cable so the hood will have something to grasp.

Now connect the RS-232 9 pin connector to an available serial port on your computer and plug the mini phone plug into the earphone jack of the scanner with the radio off.

On the radio hold the ENTER key and 3 key and turn on the radio. You should see "PC" displayed on the scanner. Now you can start Radio Manager for Windows to upload channels.

NOTE: The Radio Shack Pro-64 and Pro-2041 only support uploading channels to the radio. Radio Manager has many other features and functions for other radios, but they are disabled for your convenience while you are set up for the Pro-64 and Pro-2041. You can use Radio Manager Bank Files to upload channels to your Icom, AOR, or Radio Shack. Bank Files are not specific to any radio, so it's a great way to manager your scanners.

About Radio Manager for Windows and the Author

I wrote Radio Manager for Windows in Borland's Delphi 1.0 (“Visual Pascal”). I wrote this help file in Word For Windows 95. I'm running Windows 95, and hope to offer a 32 bit Windows 95 version of Radio Manager some time.

I've been scanning for over fifteen years. I use a Bearcat TrunkTracker 235XLT and 895XLT, 3 Pro 2004s, 1 Pro 2006, 1 Pro 43, 1 Pro 64, 1 Pro-2041, 1 Pro-2046, 1 Bearcat 950XLT, 1 AOR AR8200, 1 AOR AR8000, 1 Icom R7000, and a Kenwood TH-78A. I also have the OptoElectronics Scout, OptoScan456, OptoCom, OptoLinx, DC442, and Xplorer. I have a ham license, KC5IRJ, but haven't done much with it yet. I have a web page devoted to Scanning the Dallas/Fort Worth Area at http://www.interplaza.com/scandfw/ and to my all of my shareware at http://www.interplaza.com/bensware/.

My full-time-full-paying job is at http://www.bicyclesinc.com - a full service retail bicycle shop. There I do accounts payable, inventory, computer administration, and most other office functions.

I thank God for the talents He has given me to write such a complicated program and for all of my family, friends, and of course my customers.

Uninstalling Radio Manager for Windows

I hope that you are happy with Radio Manager for Windows, but hey I know I can't please everyone. If you need to remove Radio Manager for Windows from your system, it's fairly easy to do.

Delete the following files and any icons that point to them.

File	Description	Default Location
RM.EXE	Radio Manager for Windows program file	C:\RM
RM.HLP	Radio Manager for Windows help file	C:\RM
RM.TXT	Radio Manager for Windows description file	C:\RM
RM.INI	Radio Manager for Windows configuration file	C:\WINDOWS
PXENGWIN.DLL	Paradox Database Engine	C:\RM
SCDX2016.DLL	FoxPro Database Engine	C:\RM
SDE2016.DLL	FoxPro Database Engine	C:\RM
STEPSIZE.LST	*Radio Manager for Windows Step Sizes*	*C:\RM*
LOCKOUT.TXT	*Search Birdie Lock Outs*	*C:\RM*
RMBC895B.CDX	Bearcat 895XLT Configuration Info	*C:\RM*
RMBC895B.DBF	Bearcat 895XLT Configuration Info Index	*C:\RM*
**.DBF*	*Frequency and Radio Manager data files*	*C:\RM*

**.CDX*	*Frequency and Radio Manager data files*	*C:\RM*
**.PX*	*Frequency and Radio Manager data files*	*C:\RM*
**.DB*	*Frequency and Radio Manager data files*	*C:\RM*

The default locations may not be accurate for your setup depending on where you chose to install Radio Manager and your Windows directory. You may want to keep the data files for use in other programs.