SpotCollector Help

Collecting Spots

SpotCollector captures spots from
> a local PacketCluster, by way of a Terminal Node Controller (TNC) attached to one of your PC's serial ports
> the DX Summit spotting network, by way of the #CQDX IRC channel
> up to four telnet-accessible DXClusters.

Spots are merged and stored in a Spot Database on your PC, enabling you to monitor, sort, and filter them in real time. If you are using DXKeeper to log QSOs and track progress against DXing awards, SpotCollector will automatically "color" each spotted station to indicate whether its unworked or unconfirmed on the spotted band and mode, and whether that band or mode matches your DXing objectives. SpotCollector includes a built-in web server, allowing you to monitor incoming spots from any PC connected to your LAN.

Collecting spots from multiple sources is useful because any one source provides only a subset of all spots, and because individual sources can occasionally become unavailable or inaccessible. By retaining spots, one can observe propagation patterns over time, or discover a needed DX station's operating habits. To make this retained data accessible, SpotCollector stores it in a database, and provides powerful filtering and sorting mechanisms. SpotCollector can be configured, for example, to continuously display
> only 6M CW spots posted by stations located in South America
> only spots of DX stations located in Temotu
> only SSB spots of P5/4L4FN
> only spots of stations whose callsign suffix is YQ
> only spots of stations operating within 5 kHz of 14195 kHz
> only spots of stations needed for the 15m DXCC award
> only spots of stations not located in North America

If you are monitoring more than one spot source, some spots may be reported by multiple sources. SpotCollector detects and eliminates such duplicate spots. SpotCollector goes one step further and combines spots of the same DX station into a single Spot Database entry if the spot frequencies and spot times are *close*, where *close* is defined by settings you can adjust. For example, a spot of P51DX on 14195.6 kHz at 0220Z and a spot of P51DX on 14194.6 kHz at 0300Z would be combined into a single Spot Database entry for P51DX if the Combination Criteria setting for time exceeds 40 minutes and the similar setting for frequency exceeds 1kHz. Each Spot Database entry records both the first and last time the DX station was spotted *close* to a particular frequency. In the above P51DX example, the entry for P51DX would show a first time of 0220Z and a last time of 0300Z. The frequency shown in the Spot Database entry will be the most recently reported frequency; in this case, 14194.6 kHz. Similarly, spotting notes, spotting station callsign, and the source DXCluster shown in a Spot Database entry are taken from the most recent spot of that station *close* to the frequency.

You can configure SpotCollector to audibly announce spots that meet your criteria.

To use SpotCollector effectively, you must specify a set of spot sources, and then learn to use the Spot Database.

SpotCollector's Main window provides a **Spot source status** panel containing six LED-like indicators to show the status of your spot sources, where red means "disconnected", yellow means "connecting", and green means "connected". Clicking one of these indicators activates its associated source's window; double-clicking the panel's caption displays the Config window's Spot Sources tab, from which you can specify and select spot sources.

Note that telnet-accessible DXClusters that utilize AR-Cluster software can be configured to append additional information to DX spots. This additional information prevents SpotCollector from properly decoding the spot information. To prevent this problem, disable the feature by entering the following command to the DXCluster:

```
set/nodxsqth
```

Collecting WWV Information

While its primary role is to collect spots, SpotCollector also facilitates propagation prediction by capturing WWV information from the spot sources to which it is connected:

SFI - the solar flux index

A - the A-index

K - the K-index

These parameters are automatically captured and recorded. The most recent values for these parameters are shown in **WWV panel** in the upper left of SpotCollector's Spot Database window . A graphical view of these parameters over the most recent 31 days can be viewed by clicking the WWV panel's **Hist** button; given the sun's 27-day rotation period, this view can be helpful in predicting future propagation. Depressing the CTRL key while clicking the **Hist** button will ensure that the window displaying the graphical view appears "on top" if it should overlap with SpotCollector's Main window.

SpotCollector automatically conveys the most recent SFI to PropView, allowing propagation prediction without manual entry of this parameter.

SpotCollector Prerequisites

To use SpotCollector, you need

a PC running Windows 95, Windows 98, Windows NT, Windows 2000, or Windows XP, ideally

300 mHz Pentium or better

128 MB RAM or more

an SVGA display or better

Monitoring multiple spot sources and/or running additional applications such as DXView, PropView, Commander, and/or DXKeeper in parallel with SpotCollector will require additional memory and/or CPU horsepower for satisfactory performance.

SpotCollector Download and Installation

Important Note

All DXLab applications are produced using a process that generates frequent releases, referred to as **development releases**. Every few months, a stable development release is used to create a **full release** containing all software and documentation components. Development releases contain only those components that have changed since the most recent full release. Thus installing SpotCollector on a PC for the first time is a two-step process:

> install the most recent full release
> install the most recent development release

The instructions below describe how to install the most recent full release. When you've completed these steps, check http://www.qsl.net/dxlab/download.htm for access to the latest development release and instructions for installing it.

Step	Directions
1	Create the application folder in which SpotCollector will reside, such as: `C:\Program Files\SpotCollector`
2	In the application folder, create an installation subfolder in which the downloaded and extracted files will reside, such as: `C:\Program Files\SpotCollector\Install`
3	Download SpotCollector200Archive.exe, a 5.9 MB self-extracting executable file that contains SpotCollector and its associated files, at http://www.qsl.net/spotcollector/SpotCollector200Archive.exe . When prompted, direct your browser to store this file into the installation subfolder you created in step 2.
4	Run SpotCollector200Archive.exe - in its WinZip Self-Extractor dialog box, direct it to place the unzipped files into the installation subfolder you created in step 2, and click the Unzip button. After extraction completes, click the Close button. The following files should now be present in the installation subfolder: SpotCollector200Archive.exe SpotCo1.cab SpotCo2.cab SpotCo3.cab SpotCo4.cab SpotCo5.cab setup.exe Setup.lst

5 To install SpotCollector, run the setup.exe program in the installation subfolder. Ignoring the setup program's request to close all running applications may result in error messages during the installation process, and possibly a faulty installation.

After copying several system files, the setup program may ask that you reboot your PC before continuing with the setup. If, after rebooting, your PC does not run setup.exe on its own, direct it to do so.

The setup program may report that the files being installed are older than files already installed on your system, and ask whether you want to over-write the existing newer files with the older files -- you should decline.

6 SpotCollector requires access to a DXCC database; step 5 above installs one, but DXCC databases are typically updated monthly. If you've installed, or are planning to install DXView, then SpotCollector will automatically use DXView's DXCC database; updating DXView's DXCC database will automatically give SpotCollector access to the most up-to-date DXCC data.

If you are not planning to use DXView, however, you should download DXCC.exe, the most recent DXCC database update at http://www.qsl.net/dxview/DXCC.exe ; when you run this self-extracting executable, be sure to set its "unzip to folder" to SpotCollector's Databases folder.

7 SpotCollector has the ability to announce needed DX Spots via your soundcard's audio output. To use this capability,

create a subfolder named `Sounds` in which the downloaded and extracted sound files will reside, such as `C:\Program Files\SpotCollector\Sounds`

download a self-extracting executable named `Announcements.exe` at http://www.qsl.net/spotcollector/Announcements.exe When asked, direct Windows to save this file in SpotCollector's `Sounds` subfolder

run `Announcements.exe` and extract its contents into the `Sounds subfolder`

8 To execute SpotCollector, run the program `SpotCollector.exe` in the application folder.

9 After SpotCollector is installed and you've verified that it works, you may delete the installation subfolder and the files it contains.

10 Check http://www.qsl.net/dxlab/download.htm for access to the latest development release

You can uninstall SpotCollector by running the Add/Remove Programs applet on the Windows control panel.

If you have questions or suggestions, please post them on the DXLab reflector at http://groups.yahoo.com/group/dxlab/; if you're not a member, you can sign up at http://www.qsl.net/dxlab/reflector.htm

Connecting to Spot Sources

Connecting to DXClusters

SpotCollector allows you to connect with up to 4 of the many DXClusters accessible via the Internet using the Telnet protocol.

Installing SpotCollector preconfigures its four DXCluster windows with host addresses, ports, and window captions for the *DX Central*, *GB7CGL*, *RK6LWX*, and *JK1ZRW* DXClusters respectively, but none are enabled.

Start by connecting to *DX Central.* Open the Config window and select the **Spot Sources** tab. In the Telnet pane, place a check the auto box; this will configure SpotCollector to automatically connect to *DX Central* on startup, or if disconnected. Then place a check in the enable box and find the *DX Central* window -- assuming this DXCluster is operational, you should see *DX Central's* welcoming message and a request to enter your callsign. After entering your callsign, you will be prompted to enter your password. If you've never logged into *DX Central* before, you will be prompted to enter a new password and then reconfirm it; if you have logged into *DX Central* before, just enter the password you created the first time you logged in. If you are having difficulty connecting to *DX Central*, consider the following:

- if you have established a username/password pair with *DX Central* via the web at http://www.dx-central.com/, this pair will **not** be valid from SpotCollector or any other telnet-based application. You must enter this username and password as if you were creating a new account; you can contact mailto:support@dx-central.com for assistance.
- it is evidently possible to establish a *DX Central* account with no password required. In this case, place a single hyphen character in the Password textbox associated with *DX Central.*

Once a connection to *DX Central* has been established, SpotCollector will automatically capture DX spots and add them to the Spot Database -- so you can minimize *DX Central's* window by clicking on the **Minimize** button (the one labeled _) in the upper right-hand corner. Do not click the **Close** button (the one labeled with an **X**) unless you want to disconnect from *DX Central* and close its associated Window. Alternatively, you can leave the *DX Central* window on-screen and interact with it directly as you would any standard DXCluster.

Click the **Config** button on SpotCollector's Spot Database Window and select the Spot Sources tab. In the Telnet panel, the first sub-panel contains the connection parameters for DX Central. At present, the Username and Password parameters for DX Central are blank. If you fill in the username and password with which you just logged on to DX Central, then SpotCollector will automatically log you into DX Central after completing the connection. Note that double-clicking either the Username or Password textboxes will enter the Operator Callsign you entered in the Configuration window's General tab.

If you'd like to monitor spots from the *4N6DXC*, *K4SQ*, and/or *JK1ZRW* DXClusters, enable them and repeat the above steps. Some DXClusters, like *4N6DXC* and *K4SQ*, don't require a password -- place a hyphen in associated Password textbox blank; specifying a password when none is required may cause the login to fail. Note the Cmd connection parameter; where connecting to the DXCluster involves navigating a sub-network, this parameter enables you to specify the appropriate post-login connection command.

You'll need to chose one enabled DXCluster to handle your outgoing spots; click the Spot radio button for this DXCluster.

If you wish to use DXClusters other than *DX-Central*, *GB7CGL*, *RK6LWX*, and *JK1ZRW*, several web sites maintain lists of such DXClusters and their connection parameters:

- http://ac6v.com/dxcluster.htm#TN
- http://ve9dx.weblink.nbtel.net/telnet/sites.html
- http://www.cpcug.org/user/wfeidt/Misc/cluster.html
- http://www.cestro.com/pcluster/telnet.html
- http://ve9wh.weblink.nbtel.net/dxclusters.html
- http://www.geocities.com/CapeCanaveral/1641/DXClusters.html

If you need less than four DXCluster connections, uncheck the Enable boxes of those DXCluster Windows you don't need, or just close those DXCluster windows using the **Close** button in the window's upper right corner.

SpotCollector automatically remembers the connection parameters and positions of all DXCluster windows from one SpotCollector session to another.

SpotCollector's Main window provides a **Spot source status** panel containing six LED-like indicators to show the status of your spot sources, where red means "disconnected", yellow means "connecting", and green means "connected"; the first four of these indicators correspond to the four possible DXCluster connections. Clicking one of these indicators activates its associated source's window. Double-clicking the panel's caption displays the Config window's Spot Sources tab.

Connecting to a PacketCluster

SpotCollector supports connection to a local PacketCluster through a Terminal Node Controller. Before connecting to a PacketCluster, you must establish a link between SpotCollector and your TNC by clicking the **Config** button on SpotCollector's Spot Database Window and selecting the Packet TNC tab. This tab enables you to configure your serial port and select a specific TNC model from among those for which SpotCollector includes command files in its `TNCs` subfolder. If a command file for your TNC is not present, you can construct your own with any text editor. Note that some of the TNC command files included with SpotCollector require the user's callsign. These are currently set to AA6YQ; please change them to your callsign before use.

To connect to a PacketCluster, Click the **Config** button on SpotCollector's Spot Database Window and select the Spot Sources tab. In the PacketCluster panel, enter the callsign of the node hosting the PacketCluster to which you wish to connect. Check the enable box, and a PacketCluster will appear; click the **Connect** button in this window, and SpotCollector will connect to the specified Packet Cluster. SpotCollector will automatically capture DX spots and add them to the Spot Database -- so you can minimize the PacketCluster Window by clicking on the **Minimize** button (the one labeled _) in the upper right-hand corner. Do not click the **Close** button (the one labeled with an **X**) unless you want to disconnect from the PacketCluster and close its associated Window. Alternatively, you can leave the PacketCluster window on-screen and interact with it directly as you would any standard PacketCluster.

SpotCollector's Main window provides a **Spot source status** panel containing six LED-like indicators to show the status of your spot sources, where red means "disconnected", yellow means "connecting", and green means "connected"; the fifth of these indicators correspond to your PacketCluster connection. Clicking one of these indicators activates its associated source's window. Double-clicking the panel's caption displays the Config window's Spot Sources tab.

Connecting to the CQDX IRC channel

SpotCollector supports connection to the CQDX Internet Relay Chat (IRC) channel for two reasons:
- to capture DX spots and WWV announcements from the excellent DX Summit DXCluster, which is not accessible via the Telnet protocol
- to provide convenient real-time interaction with DXers worldwide much as a DXCluster's talk command allows real-time interaction among its users

Installing SpotCollector preconfigures its IRC connection parameters for the CQDX channel via the IRC host `irc.radiochat.org`. SpotCollector uses your Operator Callsign as both the UserName and First Name with which you connect to CQDX; you can change these by editing the appropriate textboxes in the IRC panel. Open the Config window and select the **Spot Sources** tab. In the IRC pane, place a check the auto box; this will configure SpotCollector to automatically connect to CQDX on startup, or if disconnected. Then place a check in the enable box and find the CQDX window - you'll see the welcome text, followed by messages from individual DXers that may be conversing at the moment. Like DXCluster windows, DX spots are automatically captured and entered into the Spot Database; unlike DXCluster windows, DX Spots do not appear in the CQDX window, as they would otherwise make it hard to follow the conversation. If you are not interesting in participating in the conversation, you can minimize the CQDX window by clicking on the **Minimize** button (the one labeled _) in the upper right-hand corner. Do not click the **Close** button (the one labeled with an **X**) unless you want to disconnect from CQDX and close its associated Window. Alternatively, you can leave the CQDX window on-screen and interact with it directly.

If your PC is connected to the Internet through a router, you may experience multi-minute delays in connecting to the CQDX IRC channel. This can be avoided by configuring the router to forward TCP port 113 to your PC's internet address.

Managing Spot Source Windows

If you minimize a DXCluster, PacketCluster, or IRC window, it will no longer consume screen space, but will occupy a slot on the Windows task bar. If you instead close a connected DXCluster, PacketCluster, or IRC window, it will remain connected but consume neither screen space nor a slot on the Windows task bar; this state is referred to as *hidden*. You can directly hide or un-hide a DXCluster, PacketCluster, or IRC window via its Hide checkbox on the Configuration window's Spot Sources tab.

SpotCollector's Main window provides a **Spot source status** panel containing six LED-like indicators to show the status of your spot sources, where red means "disconnected", yellow means "connecting", and green means "connected"; the sixth of these indicators correspond to your CQDX connection. Clicking one of these indicators makes its un-hide its associated spot source window. Double-clicking the panel's caption displays the Config window's Spot Sources tab.

If a spot source is hidden when SpotCollector terminates, then it will be hidden when SpotCollector is next started. However, its window will remain onscreen until a connection has been established, at which point the window disappears from both the screen and Windows task bar.

Using the Spot Database

Each Spot Database Entry captures information about one or more spots of a DX station operating in the same mode around the same frequency over an interval of time:

Caption	Field Name	Content
Callsign	Callsign	the spotted DX station's callsign
Pfx	DXCCPrefix	the spotted DX station's DXCC entity prefix (determined from its callsign unless there's an entity override specified)
Freq	Frequency	the spotted DX station's frequency (if simplex) or transmitting frequency (if operating split)
QSX	QSX	the spotted DX station's receiving frequency (if operating split)
Band	Band	the spotted DX station's frequency band, as determined by the Sub-band Definition file
Mode	Mode	the spotted DX station's mode as determined by the Sub-band Definition file unless over-ridden by a mode designation like `PSK` or `MFSK` in the spot notes
FirstTime	FirstTime	the first UTC time at which this DX station was spotted in this mode close to this frequency, formatted as specified (see note 1)
LastTime	LastTime	the most recent UTC time at which this DX station was spotted in this mode close to this frequency, formatted as specified (see note 1)
RcvdTime	SpotTime	the most recent UTC time at which this DX station was spotted in this mode close to this frequency, formatted as specified (see note 2)
Source	Source	the callsign of the station that most recently spotted this DX station in this mode close to this frequency
LastOrigin	Origin	the likely geographic location of the station that most recently spotted this DX station in this mode close to this frequency (see note 3)
Notes	Notes	the notes associated with the most recent spot of this station in this mode close to this frequency
Network	Network	the name of the PacketCluster, DXCluster, or IRC channel from that supplied the most recent spot of this station in this mode close to this frequency
BandProgress	BandProgress	award progress for the DXCC entity on the spotted band (used by SpotCollector to determine whether or not an entry is unworked, unconfirmed, or unneeded) • `U – unworked` • `W – worked` • `F – confirmed`
ModeProgress	ModeProgress	award progress for the DXCC entity in the spotted mode (used by SpotCollector to determine whether or not an entry is unworked, unconfirmed, or unneeded) • `U – unworked` • `W – worked` • `F – confirmed`

CountryProgress	CountryProgress	award progress for the DXCC entity on any band or mode (used by SpotCollector to determine whether or not an entry is unworked, unconfirmed, or unneeded) • `U - unworked` • `W - worked` • `F - confirmed`
BandSought	BandSought	Indicates whether the spotted band's box is checked in the DXCC panel on the Awards tab of DXKeeper's Configuration window (used by SpotCollector to determine whether or not an entry is unworked, unconfirmed, or unneeded) • `Y - checked` • `N - unchecked`
ModeSought	ModeSought	Indicates whether the spotted mode's box is checked in the DXCC panel on the Awards tab of DXKeeper's Configuration window (used by SpotCollector to determine whether or not an entry is unworked, unconfirmed, or unneeded) • `Y - checked` • `N - unchecked`
BandWorked	BandWorked	Indicates whether or not this callsign has already been worked on the spotted band (used by SpotCollector to determine whether or not an entry is unworked, unconfirmed, or unneeded) • `Y - already worked on this band` • `N - never worked on this band`
ModeWorked	ModeWorked	Indicates whether or not this callsign has already been worked on the spotted mode (used by SpotCollector to determine whether or not an entry is unworked, unconfirmed, or unneeded) • `Y - already worked on this mode` • `N - never worked on this mode`
CountryWorked	CountryWorked	Indicates whether or not this DXCC entity has already been worked on the spotted band and mode (used by SpotCollector to determine whether or not an entry is unworked, unconfirmed, or unneeded) • `Y - already worked on this band and mode` • `N - never worked on this band and mode`
Index	Index	a number unique to each Spot Database Entry used by SpotCollector for navigation
UN, NAE, NAM, NAW, SA, EU, AF, AS, OC	UN, NAE, NAM, NAW, SA, EU, AF, AS, OC	these fields record the locations from which the spotted DX station has been spotted (unknown, North American East coast, North American Midwest, North American West coast, South America, Europe, Africa, Asia, Oceania)
Cont	Cont	the spotted DX station's continent
DXCCCountry	DXCCCountry	the spotted DX station's DXCC entity name
DXGrid	DXGrid	the spotted station's Maidenhead Gridsquare (extracted from spot notes)
OriginGrid	OriginGrid	the spotting station's Maidenhead Gridsquare (extracted form spot notes or provided by a spot source)
Hidden	Hidden	Indicates whether or not this entry should be hidden

		• Y - don't display this entry • N - display this entry
LotW	LotW	Indicates whether or not this station is known to QSL via the ARRL's Logbook of the World (LotW) • Y - the station is known to QSL via LotW • N - the station is not known to QSL via LotW

Notes

1. The FirstTime and LastTime fields are computed using the timestamps received with each spot unless they are in the future with respect to your PC's local clock; in this case, your PC's local clock is used.
2. The RcvdTime field is computed from your PC's local clock
3. The geographic location of the station posting a spot is inferred from its callsign. This is not always accurate, as when AA6YQ operates from the east coast of North America without appending a /1 to his call.

Access to and management of the Spot Database is accomplished via controls in the Spot Database Window . The most important of these controls is the Spot Database Display - a grid that displays several Spot Database entries. Expanding the height of the Spot Database window will increase the number of Spot Database entries visible in the Spot Database Display, and expanding the width of this window will increase the number of fields visible in each entry. You can reformat the Spot Database Display's field order and field widths.

Note that telnet-accessible DXClusters that utilize AR-Cluster software can be configured to append additional information to DX spots. This additional information prevents SpotCollector from properly decoding the spot information. To prevent this problem, disable the feature by entering the following command to the DXCluster:

```
set/nodxsqth
```

DXClusters running DX Spider software can be configured to append the spotting station's Maidenhead Gridsquare to each spot. DXKeeper can properly decode spots with appended gridsquares, and will record such gridsquares in the DXCC Database's OriginGrid field. To enable a cluster running DX Spider to append spotting station gridsquares, enter the following command:

```
set/dxgrid
```

Highlighting Spot Database entries for "Needed" stations

SpotCollector interoperates with DXKeeper, DXLab's logging program, to obtain

- objectives - whether or not you are pursuing confirmed QSOs on the reported band and mode, as specified in the **DXCC/Top Bands & Modes** panel on the **Awards** tab of DXKeeper's Config window
- awards progress - whether or not you've worked and/or confirmed a spotted station's DXCC entity on the reported band or mode, and whether or not you've worked the spotted station on the reported band or mode

Objectives are determined from information DXKeeper maintains in the Windows registry; thus DXKeeper need not be running for SpotCollector to appropriately characterize spots. Awards progress is determined from a DXKeeper log file. You can configure SpotCollector to

- consult the log file that was last opened by DXKeeper, and automatically switch to any new log opened in DXKeeper
- ask the operator to choose when a log is opened in DXKeeper that is different than the one currently being consulted by SpotCollector
- specify a log file to be consulted independently of what log file was last opened in DXKeeper

If you use only one log file in DXKeeper, then SpotCollector's out-of-the-box setting is appropriate (ask the operator for guidance when a log is opened in DXKeeper that is different than the one currently being consulted

by SpotCollector). If you use DXKeeper to maintain logs of QSOs made from multiple DXCC entities, you'll find it convenient to specify that SpotCollector always consult the log associated with your home station; this keeps SpotCollector focused on the correct source of award progress when you use DXKeeper to open one of the other logs for QSO confirmation, QSL generation, or other activities.

Using the objectives and awards progress information from DXKeeper, SpotCollector places each Spot Database Entry into one of three categories:

- **unworked**: a QSO with this station will advance your progress against your objectives
- **unconfirmed**: a confirmed QSO with this station will advance your progress against your objectives
- **unneeded**: a QSO with this station will not advance your progress against your objectives

By default, unworked Spot Database Entries are rendered with a red font, unconfirmed with a blue font, and unneeded with a black font; you can modify these colors via the Spot Database sub-tab on the Config window's Display Fonts tab.

Spot Database entries that would give you a duplicate QSO -- i.e. with a callsign you've already worked -- for an unconfirmed band, mode, or country are considered unneeded rather than unconfirmed. For example, suppose you have already worked, but not yet confirmed VU4DX on 20m SSB. Spot database entries for VU4DX on 20m SSB will be rendered in black - even though you don't have VU4 confirmed; that's because another QSO with VU4DX on 20m SSB will not advance your awards progress. However, spot database entries for VU4DY on 20m SSB would be colored blue, as QSOing this station would give you an alternate way to confirm VU4 on 20m and SSB.

If you have never installed or executed DXKeeper, then the Seek everything setting determines whether SpotCollector assumes that every Spot Database Entry is needed or unneeded.

SpotCollector can also generate an audio alarm whenever an unworked Spot Database Entry is created. Settings in the Audio Alarm panel on the Config window's General tab allow you to

- enable or disable the audio alarm
- specify that the DXCC country, band, and mode should be announced
- specify a .wav file to serve as the audio alarm instead of the DXCC country, band, and mode announcement
- specify that only unworked DXCC entities should be announced, or that both unworked and unconfirmed DXCC entities should be announced
- specify that the alarm should be triggered whenever a newly-created unworked Spot Database Entry is created, or only if this entry passes the Band, Mode, Origin, Continent, and LotW filters.
- test the audio alarm to verify proper volume settings

If you change logs in DXKeeper while SpotCollector is running, SpotCollector will give you the choice of continuing to check progress against the previously-opened log, or switching to the new log.

Highlighting Spot Database Entries of stations known to participate in ARRL's Logbook of the World (LotW)

The file `LotW.mdb` is a database containing callsigns known to participate in the ARRL's Logbook of the World (LotW). If at startup, `LotW.mdb` is present in DXView's Databases folder or in SpotCollector's Databases folder, then SpotCollector will set the LotW item of each Spot Database Entry it creates to indicate whether or not the entry's callsign is a known Logbook of the World participant; if `LotW.mdb` is not present in DXView's or SpotCollector's Databases folders, then each Spot Database Entry's LotW item will be set to 'N'. You can obtain `LotW.mdb` by downloading http://www.qsl.net/spotcollector/LotW.exe . If you have DXView installed, you should extract `LotW.mdb` into DXView's Databases folder, where it will be referenced by both DXView and SpotCollector; if you don't have DXView installed, extracting `LotW.mdb` into SpotCollector's Databases folder. The date at which `LotW.mdb` was last updated is displayed below the Filter panel's **LotW** checkbox.
By default, Spot Database Entries whose callsigns are not known to participate in Logbook of the World are rendered with a white background; Spot Database Entries whose callsigns are known to participate in Logbook of

the World are rendered with a yellow background. You can modify these colors via the Spot Database sub-tab on the Config window's Display Fonts tab.

Reformatting the Spot Database Display
To change the width of a column in the Spot Database display, position the cursor over the vertical line to the left or right of the column's caption; when properly positioned, the cursor will change to the Windows border adjustment cursor, allowing you to click and drag the column border to either expand or contract the column width as desired.

To change the order of columns in the Spot Database display, click on the caption of a column you wish to relocate. Then click-and-drag the column until the two red positioning triangles indicate the desired new location.

To change the format used to display dates and times in the FirstTime, LastTime, and RcvdTime fields, use the Config window's dates and times setting.

Sorting the Spot Database
Using the radio buttons in the Spot Database window's Sort panel, you can sort the Spot Database Display in order of

Sort	Description	Field	Order
First	sort by the UTC time (extracted from spot) each DX station was first spotted	FirstTime	ascending
Last	sort by the UTC time (extracted from spot) each DX station was most recently spotted	LastTime	ascending
Rcv	sort by the UTC time (from PC) each DX station was most recently spotted	RcvdTime	ascending
Call	sort by each spotted DX station's callsign	Callsign	ascending
Freq	sort by each spotted DX station's frequency	Frequency	ascending

Filtering the Spot Database
Through the use of filters, you can direct SpotCollector to limit the display of Spot Database Entries to those that match specific criteria, such as
- only Spot Database Entries for VK9NS
- only Spot Database Entries for stations on 6m working CW
- only Spot Database Entries for stations from Mongolia on 80m spotted from Europe
- only Spot Database Entries for stations whose DXCC entities you haven't confirmed on CW
- only Spot Database Entries for African, European, or Asian stations on 160m that were spotted from the North American East coast.
- only Spot Database Entries known to QSL via the ARRL's Logbook of the World

When you specify a filter, the Spot Database Display immediately hides all Spot Database entries that don't conform. Spot Database Entries created after you specify a filter are added to the Spot Database, but only appear in the Spot Database Display if they conform to the current filter. If you modify or clear the current filter, the Spot Database Display is immediately updated to show only conforming entries.

SpotCollector also provides a more fine-grained mechanism for controlling the Spot Database Display: any individual Spot Database Entry can be designated as hidden. You can further specify a set of keywords that, if found in a spot's notes, will automatically designate its Spot Database Entry as hidden; the words **pirate** and **slim** are good candidates for this list. You can review all hidden entries and, if desired, un-hide them.

The Spot Database window's Filter panel provides the means by which you specify the current filter. The Filter panel's caption displays the current filter within square brackets, for example

```
Filter: [call=VK9NS]
```
which means that the Spot Database Display only shows entries whose callsign is VK9NS and that have not been individually hidden . If the current filter is empty, then the Filter Panel's caption will be
```
Filter: All
```
which means that the Spot Database Display shows every Spot Database Entry except those that were hidden.

The Spot Database window's filter panel provides three groups of filters: General, Context, and SQL.

Filtering by Callsign, DXCC entity, Frequency, and Need

The four General filters let you choose one of four criteria; some of these criteria reference the contents of the General Expression textbox, located on the left side of the Filter panel.

Setting	Description	General Expression
Need	displays only unhidden Spot Entries for DX stations needed to satisfy current DX award objectives, as specified on the Awards tab of DXKeeper's configuration window; the Need Filter Mode setting determines whether unworked, or unworked and unconfirmed Spot Entries are displayed.	not used
Call	displays only unhidden Spot Entries for DX stations whose callsign is specified in the Filter Expression textbox	callsign
DXCC	displays only unhidden Spot Entries for DX stations whose DXCC prefix is specified in the Filter Expression textbox	DXCC prefix
Freq	displays only unhidden Spot Entries for DX stations spotted on frequencies near the current transceiver frequency as reported by Commander and younger than a specified age (this option is not available if Commander is not running)	not used

You can use * (asterisk) as a wildcard character when specifying either callsigns or DXCC prefixes in the General Expression textbox. For example,
```
  *K6MIO*
```
will match `KH6/K6MIO`, `K6MIO`, and `K6MIO/KH6`.
With Commander running, enabling both the Frequency Filter and Frequency sort automatically shows recent spots near your transceiver frequency as you QSY. You can enable the Mode and/or Origin filter for additional specificity.

To clear the General filters, click the button labeled **X** to the immediate right of the General Expression textbox. When the General filter is cleared, Spot Database Display shows all unhidden Spot Database Entries that conform to the four Context filters: Band, Mode, Continent, and Origin filters.

Filtering by Band, Mode, Continent, and Origin

The Band filter enables you to display only unhidden Spot Database entries for DX stations spotted on frequencies within specified bands; clicking the Filter panel's **Band** button displays the **Band Filter window**, with checkboxes for each amateur band from 160m to 12cm. The Spot Database Display will not show Spot Database entries with frequencies in bands having Band Filter boxes un-checked. If Commander is running, checking the **Transceiver Band Only** box will automatically keep the Band filter set only show spots for your transceiver's current band; this feature is currently limited to 160m through 2m. SpotCollector retains a history of the most recent 16 Band filter configurations; you can navigate within this history using the Band filter's ⬅ and ➡ buttons to travel backwards and forwards respectively.

The Mode filter enables you to display only unhidden Spot Database entries for DX stations spotted in specified modes; clicking the Filter panel's **Mode** button displays the **Mode Filter window**, with checkboxes for several amateur modes. The Spot Database Display will not show Spot Database entries with modes having Mode Filter boxes un-checked.

The Continent filter enables you to display only unhidden Spot database entries for DX stations located in specified continents; clicking the Filter panel's **Cont** button displays the **Continent Filter window**, with checkboxes for each of the six continents. The Spot Database Display will not show Spot Database entries with continents having Continent Filter boxes unchecked. Unchecking the Continent filter's **?** (unknown) checkbox is an effective way to suppress the display of Spots whose callsigns do not map to a DXCC entity; such Spots are generally bogus.

The Origin filter enables you to display only unhidden Spot Database entries for DX stations spotted from specified geographic locations; clicking the Filter panel's **Origin** button displays the **Origin Filter window**, with checkboxes for the geographic locations shown in the following table. The Spot Database Display will not show Spot Database entries not spotted from any geographic location having Origin Filter boxes checked. Note that a particular DX station may have been spotted from multiple geographic locations.

Origin Checkbox	Geographic Location
NA-E	the North American east coast
NA-M	the North American mid-west
NA-W	the North American west coast
SA	South America
EU	Europe
AF	Africa
AS	Asia
OC	Oceania
?	unknown

To avoid long, complex expressions in the Filter panel caption's display of the current filter, the following convention is used:
- if any Band filter checkbox is unchecked, the word **Band** appears in the current filter
- if any Mode filter checkbox is unchecked, the word **Mode** appears in the current filter
- if any Continent filter checkbox is unchecked, the word **Continent** appears in the current filter
- if any Origin filter checkbox is unchecked, the word **Origin** appears in the current filter

Thus if the Filter panel caption is
`Filter: Band and Mode and [call=VK9NS]`
then the Spot Database Display is showing unhidden Spot Database entries whose callsign is VK9NS with specific filtering by Band and Mode, but with no filtering by Continent or Origin. To see exactly which Bands and Modes are being filtered, you can click the Filter panel's Band and Mode buttons.

Filtering by LotW Participation

If the LotW callsign database LotW.mdb is present in SpotCollector's Database folder at startup, you can display only Spot Database Entries whose callsigns are known to participate in the ARRL's Logbook of the World by checking the Filter panel's **LotW** box.

Hiding Spot Database Entries: individually, or automatically by keyword

You can hide an individual Spot Database Entry by right-clicking it, and choosing the **Hide** option in the resulting pop-up menu.

To un-hide one or more hidden Spot Database Entries, click the Filter panel's **AutoHide** button to display SpotCollector's **AutoHide Filter window**, and check the **Display only hidden Spot Database Entries** box; the Spot Database Display will now show only hidden entries that match the General and Context filters. You can un-hide an individual entry by right-clicking it, and choosing the **Un-hide** option in the resulting pop-up menu. Alternatively, you can click the AutoHide Filter window's Un-hide button to un-hide all entries shown in the Spot Database Display.

You can configure SpotCollector to automatically hide the Spot Database Entry for any spot whose notes contain one of 16 words you specify. To enable this functionality,

1. click the Filter panel's **AutoHide** button to display SpotCollector's AutoHide Filter window
2. in the AutoHide Filter window's word list, key in the words that will trigger automatic hiding
3. check the AutoHide Filter window's **Enable Automatic Hiding...** box

Filtering with SQL expressions

The Filter panel's eight SQL filter buttons provide complete control over the display of Spot Database Entries through the specification of SQL expressions that specify values for named Spot Database Entry fields. Depressing the **Ctrl** key while clicking an SQL filter button displays SpotCollector's **SQL Filter window**, which allows you to specify a button caption and SQL expression for each of the Filter panel's eight SQL filter buttons. At the top of the SQL Filter window, the **Spot Database fields selector** lists the name of each Spot Database Entry field; double-clicking in an SQL expression in this window will append the selected field name to that expression.

When you click one of the Filter panel's eight SQL filter buttons, the Spot Database is filtered using the SQL expression associated with the clicked button, completely ignoring the Need, Call, DXCC, Freq, Band, Mode, Continent, Origin, and Hidden filters. The Filter panel caption indicates an active SQL filter with the word SQL followed by the caption of the SQL filter button you clicked within square brackets, for example
`Filter: SQL [DX 80]`
An SQL filter remains in force until you click another SQL filter, or until you click the Filter panel's Need, Call, DXCC, or Freq filter buttons.

Before executing an SQL filter expression, SpotCollector replaces any occurrence of
`<FILTERTEXTBOX>`
in the expression with the contents of the Filter panel's General Expression textbox. This enables you to create SQL filters that reference a callsign, band, DXCC prefix, etc. that you specify.

Here's a sample SQL filter expression an east coast DXer might use to display DX spots on 80m:
`(Band='80m') and ((Origin='NA-E') or (Origin='NA-M')) and ((Cont='EU') or`
`(Cont='SA') or (Cont='AS') or (Cont='OC'))`

When activated, this SQL filter will display only Spot Database entries for stations
- whose band is 80m

and
- that were spotted by stations on the North American east coast on in the North American midwest

and
- are located in Europe, South America, Asia, or Oceania

A online reference for SQL as supported by the Microsoft Jet engine, which is incorporated in both SpotCollector and Microsoft Access, is available at http://www.devguru.com/Technologies/jetsql/quickref/jet_sql_intro.html .

Selecting a Spot Database Entry

When you left-click on a Spot Database Entry, SpotCollector notifies the DXLab application DXView, which if running displays information about the DX station's location -- latitude and longitude, beam heading, distance, local time, CQ zone, and ITU zone -- and highlights that location on a world map with a blue dot connected to your QTH by the signal path. If the Convey DX Grid option is enabled and the DX station's Maidenhead gridsquare has been determined from spot notes, Spot Collector sends the gridsquare to DXView which uses it to plot a more accurate position and beam heading than could be accomplished from the DX callsign alone. Left-clicking a Spot Database Entry action disables AutoScroll if you depressed the **Shift** key when you clicked on the Spot Database Entry, or if you clicked on the Spot Database Entry's left-most column.

When you right-click on a Spot Database Entry, SpotCollector displays a pop-up menu from which you can choose to
- QSY your transceiver to the entry's frequency and mode (if Commander is running)
- rotate your antenna to the computed short-path or long-path beam heading to the entry's location (if DXView is running)
- generate a propagation forecast to the entry's location (if PropView and DXView are both running)
- create an entity override for the entry's callsign
- hide or un-hide the entry

When you double-click on a Spot Database Entry, SpotCollector's notifies the DXLab applications DXView, DXKeeper, WinWarbler, and Commander if they are currently running, and sends them information as described below. If the Convey DX Grid option is enabled and the DX station's Maidenhead gridsquare has been determined from spot notes, Spot Collector sends the gridsquare to DXView, which uses it to plot a more accurate position and beam heading than could be accomplished from the DX callsign alone, as well as to WinWarbler and DXKeeper for logging.
- PropView generates a propagation forecast if both it and DXView are running, and if the Request Prop Forecast box is checked
- DXView displays information about the DX station's location -- latitude and longitude, Maidenhead gridsquare, beam heading, distance, local time, CQ zone, and ITU zone -- and highlights that location on a world map with a blue dot connected to your QTH by the signal path
    - if you depress the **Ctrl** key while double-clicking on a Spot Database Entry with both DXView and DXKeeper running, then DXView will rotate your antenna to the computed short-path beam heading
    - if you depress the **Alt** key while double-clicking on a Spot Database Entry with both DXView and DXKeeper running, then DXView will rotate your antenna to the computed long-path beam heading
- DXKeeper
    - filters its Log Page Display to show previous QSOs with the station's base callsign, or previous QSOs with the station's DXCC entity as specified by the setting in SpotCollector's Log Filter panel
    - places the DX station's callsign, frequency, and mode into the appropriate fields of its Capture window so that you can log your QSO with a single click after entering the additional information gained during the conversation

- WinWarbler
    - If the DX station's mode is PSK31 or PSK63, switches to the correct mode and arranges for the current PSK receive pane to copy the DX station by
        - directing Commander to set the transceiver to *USB* or *LSB* as specified by WinWarbler's *soundcard PSK modulation* setting
        - directing Commander to set the transceiver frequency to the spot frequency less WinWarbler's *soundcard PSK optimal offset* setting if its *soundcard PSK modulation setting* is *USB*,
        - directing Commander to set the transceiver frequency to the spot frequency plus WinWarbler's *soundcard PSK optimal offset* setting if its *soundcard PSK modulation* setting is *LSB*,
        - setting the current receive pane's *audio offset* to the *soundcard PSK optimal offset* frequency
        - placing the station's callsign in the *call* textbox in WinWarbler's *QSO Info* panel.
    - If the DX station's mode is RTTY, arranges for the current RTTY receive pane to copy the DX station by
        - directing Commander to set the transceiver to the correct frequency and mode as a function of WinWarbler's settings (Transceiver mode, RTTY Mark Offset) for the current receive pane (Soundcard RTTY or External RTTY modem)
        - setting the current receive pane's frequency
        - placing the station's callsign in the *call* textbox in WinWarbler's *QSO Info* panel.
    - If the DX station's mode is CW and the CW mode panel is set to **CW via WW**,
        - directs Commander to set the transceiver to the correct frequency and mode as a function of WinWarbler's CW Mode setting
        - placing the station's callsign in the *call* textbox in WinWarbler's *QSO Info* panel.
    - if the DX station's mode is SSB, AM, or FM, and the corresponding box in the Phone modes panel is checked,
        - directs Commander to set the transceiver to the correct frequency and mode
        - placing the station's callsign in the *call* textbox in WinWarbler's *QSO Info* panel.
- If WinWarbler isn't running, or if the QSO mode is not RTTY or PSK, then Commander QSYs your transceiver to the DX station's frequency and changes its mode to the DX station's mode, where the mode is determined by spot notes, spot frequency, and settings in the CW mode panel and RTTY mode panel. If the spot notes indicate that the station is operating in split mode and the Set Xcvr Split box is checked, Commander will place your transceiver in split mode (if supported) and set the alternate VFO to the reported split frequency; the words and abbreviations *QSX, worked, wkd. wkd, up, down, dwn*, and *dn* are assumed to indicate split operation.

Double-clicking a Spot Database Entry disables AutoScroll if you depressed the **Shift** key when you clicked on the Spot Database Entry.

SpotCollector maintains a history of up to 64 selected spots. The ⬅ and ➡ buttons traverse that history backwards and forwards respectfully, QSYing the transceiver if Commander is running.

Navigating the Spot Database

You can scroll through the entries in the Spot Database using the vertical scrollbar along the right-hand margin of the Spot Database Display. A set of four VCR-style buttons located above the vertical scrollbar give you one-click access to the **first**, **previous**, **next**, and **last** Spot Database Entry. Clicking the **last** button places the Spot Database Display in **Autoscroll** mode; with Autoscroll mode enabled, new Spot Database entries are added to the Spot Database Display, and the display scrolls vertically to make these new entries visible. While this is convenient when scanning for DX, the automatic scrolling can be problematic when inspecting an entry in detail. Vertically or horizontally scrolling the Spot Database Display, or navigating via the **first**, **previous**, or **next** buttons disables Autoscroll mode so that the selected entry remains visible even as new entries are added to the Spot Database; clicking or double-clicking a Spot Database Entry while depressing the **Shift** key also disables Autoscroll mode. When Autoscroll is disabled, the words "**Autoscroll Disabled**" appear in blue font beneath the **first**, **previous**, **last**, and **next** buttons. If new Spot Database entries are added while Autoscroll is disabled, the words "**Autoscroll Disabled**" appear in red font. Enabling Autoscroll mode by clicking the **last** button will display the new Spot Database entries, and clear the "**Autoscroll Disabled**" notification.

Deleting a Spot Database Entry

To delete a Spot Database Entry, click in it's left-most column - a black triangle will appear in this column, and the entire entry will be highlighted - and then strike the **Delete** key, or the **CTRL-X** key; if the Confirm spot deletion setting is enabled, a dialog box will appear asking you to confirm the deletion. This can be used to eliminate erroneous spots.

Spotting DX Stations

Controls in the Spot Database window's Outgoing spot panel enable you to generate both local and DXCluster spots. In either case, enter the callsign of the DX station to be spotted in the panel's **Call** textbox, and information to accompany your spot in the panel's **Notes** textbox; the **Notes** textbox will not accept more than 29 characters, consistent with limits imposed by DXCluster software. Clicking the panel's **X** button will clear the **Notes** textbox. If Commander is running, the transceiver frequency will be used as the outgoing spot frequency, and is displayed in the panel; if Commander is not running, type the spot frequency in kilohertz into the freq textbox.

Clicking the **Cluster** button will compose and forward a spot to the DXCluster whose Spot radio button is selected in the Telnet panel on the Configuration window's Spot Sources tab. If you are spotting via the CQDX IRC Channel, your spot will be handled by that channel's spotting robot, which is normally **DXS**. If DXS is unavailable, however, you must specify the **DDX** backup spotting robot. If the **Cluster** button is disabled ("grayed out"), you must specify the DXCluster that will convey your outgoing spots by selecting a Spot radio button.

Clicking the **Local** button will enter the spot in your Spot Database as if it had been received by a spot source, with your callsign shown as the Network.

Striking **Ctrl-Enter** in the panel's **Call** or **Notes** textboxes is equivalent to clicking the **Cluster** button. Striking **Ctrl-Del** in either of these textboxes will clear their contents.

Spot Statistics

SpotCollector keeps track of the number of new spot database entries created during the most recent 60 minutes. Two sets of statistics are computed: by-band and by-continent. The by-band statistics are captured for 160m through 2m and are subject to the Mode filter, Continent filter, and Origin filter settings; the by-continent statistics are subject to the Band filter, Mode filter, and Origin filter settings. Spot statistics are presented in the **Statistics window**, which you can view by clicking the main window's **Stats** button. Newly created spot database entries immediately update the spot statistics. Periodically, the statistics are updated to exclude spots older than 60 minutes; this rate is controlled by the Update Interval setting in the Spot Statistics panel on the Config window's Spot Database tab. When SpotCollector starts, it scans the spot database for any entries less than 60 minutes old and initializes the spot statistics accordingly.

The Statistics window's **Reset button** clears all spot statistics.

Generating a Spot Database Report

Depressing the CTRL key while clicking the **Stats** button generates a report with one entry for each visible Spot Database entry, and places that report in a file in SpotCollector's `Reports` subfolder. This fixed-format report includes the following items:

- Callsign
- DXCC country
- Frequency
- Mode
- Date/Time of first spot
- Date/Time of most recent spot
- Spotting station
- Spot Notes

Pruning the Spot Database

The only limit to the growth of SpotCollector's Spot Database is the amount of free storage on its storage volume. Use the facilities of the Size Limit panel on the Configuration window's Spot Database tab to periodically prune the size of the Spot Database, or clear it entirely.

WWV Propagation Reports

SpotCollector monitors each DXCluster and the #CQDX IRC channel for WWV announcements. Data from the most recent announcement is shown in the Spot Display window's WWV panel.

Parameter	Description
SFI	Solar flux index
A	Boulder A index
K	Boulder K index

SpotCollector maintains a history of these parameters in the file `SolarHistory.txt`; to graphically display the last 31 days of history, click the WWV panel's history button; depressing the CTRL key while clicking the history button ensures that the window containing the solar history display is never obscured by other windows.. The checkboxes below the display let you examine trends in the SFI, A, and K parameters either individually, or together. Since the sun completes a revolution every 27 days, its behavior 27 days ago is often helpful in predicting current behavior; this point in time is highlighted in red font.

Descriptions of these parameters and their role in HF radio propagation are described in the many links available in AC6V's excellent Propagation page. PropView automatically references these parameters when generating its prediction of minimum and maximum useable frequencies between specified locations over a 24-hour period.

Viewing the Spot Database from Another PC on your LAN

If your PC is connected to a local area network (LAN), you can view the most recent entries in SpotCollector's Spot Database from any other PC on your LAN using a standard web browser, e.g. Internet Explorer, Netscape, or Opera. SpotCollector's built-in web server is controlled by the settings in the Web Server panel on the Configuration window's Spot Database tab; these settings determine how many Spot Database entries are displayed, and how frequently the display is updated. The automatically-generated web page also includes the most recently-reported WWV solar conditions along the bottom.

If the network name of the PC running SpotCollector is Fido, then the URL http://fido/spots will display the Spot Database in any web browser on your LAN. Alternatively, you can use the network address of the PC running SpotCollector, e.g. http://192.168.1.102/spots .

You can prevent the web server from responding to requests from PCs on your network by unchecking the Web Server Enable box.

Interacting with the CQDX IRC channel

The CQDX window supports interaction with the CQDX IRC channel. This window's caption, which appears in its title bar and on its windows task bar icon, is specified by its Caption connection parameter. The CQDX window is dominated by its receive pane, a rectangular area that displays information received from the CQDX; the receive pane expands and contracts as you resize the CQDX window.

A transmit pane is located immediately below the receive pane; characters you type into the transmit pane are sent to the CQDX when you strike the **enter** key; the button labeled **X** and located to the immediate right of the transmit pane will clear the transmit pane when clicked. In general, text you enter in the transmit pane will immediately appear in your receive pane, as well as the receive pane (or its equivalent) of every other active CQDX user; this facilitates a real-time, often lively conversation among DXers around the world. Rather than interrupt this message flow, SpotCollector routes DX spots from DX Summit directly to the Spot Database; they do not appear in the CQDX receive pane.

On occasion, you may want to converse exclusively with one CQDX user. To do so, enter his or her username in the textbox in the CQDX window's upper-left corner, and check the **Private** checkbox to its immediate right. Any information sent while the **Private** box is checked will only be sent to the designated user and will not be visible to any other user. Double-clicking on a line of text in the receive pane will automatically place the originator's username in the upper-left textbox, making it easy to initiate a private conversation with that user.

You can also enter commands in the transmit pane; N6RT provides an excellent summary of commands accepted by CQDX at http://dx.qsl.net/cqdx/index.html. Sixteen macros, accessible via eight macro buttons and a bank selector, provide an alternative means of supplying information to be transmitted; macros can automatically transmit text strings, your callsign, the current UTC time or date, and the contents of files.

Spotting via CQDX is accomplished via a spotting robot, which is normally DXS; if DXS is unavailable, however, you must specify the DDX backup spotting robot.

SpotCollector interprets and color codes information received from CQDX as directed by settings in the IRC sub-tab on the Configuration window's Display Fonts tab. Using these settings, unique colors can be assigned to status messages, private messages, transmitted text, and error messages. You can also control the receive pane's background color, font name, and font size, as well as the transmit pane's background color and font name, size, and color.

If SpotCollector is connected to CQDX, you can disconnect without closing the CQDX window by clicking the **Disconnect** button in the window's lower-left corner. The **Disconnect** button will then be replaced by a **Connect** button, which when clicked will re-establish the connection as specified by the current connection parameters.

Interacting with Telnet DXClusters

SpotCollector provides a window for each enabled DXCluster. Each DXCluster window's caption, which appears in the window's title bar and on its windows task bar icon, is specified by its Caption connection parameter. A DXCluster window is dominated by its receive pane, a rectangular area that displays information received from the DXCluster; the receive pane expands and contracts as you resize the DXCluster window.

A transmit pane is located immediately below the receive pane; characters you type into the transmit pane are sent to the DXCluster when you strike the **enter** key; the button labeled **X** and located to the immediate right of the transmit pane will clear the transmit pane when clicked. You can enter standard DXCluster commands in the transmit pane, e.g. `sh/dx`; the DXCluster's response will appear in the receive pane. Sixteen macros, accessible via eight macro buttons and a bank selector, provide an alternative means of supplying information to be transmitted; macros can automatically transmit text strings, your callsign, the current UTC time or date, and the contents of files.

SpotCollector interprets and color codes information received from the DXCluster as directed by settings in the DXCluster sub-tab on the Configuration window's Display Fonts tab. Using these settings, unique colors can be assigned to DX spots, WWV reports, transmitted text, and error messages. You can also control the receive pane's background color, font name, and font size, as well as the transmit pane's background color and font name, size, and color.

If SpotCollector is connected to a DXCluster, you can disconnect without closing the DXCluster window by clicking the **Disconnect** button in the window's lower-left corner. The **Disconnect** button will then be replaced by a **Connect** button, which when clicked will re-establish the connection as specified by the current connection parameters.

Note that telnet-accessible DXClusters that utilize AR-Cluster software can be configured to append additional information to DX spots. This additional information prevents SpotCollector from properly decoding the spot information. To prevent this problem, disable the feature by entering the following command to the ARC cluster:

```
set/nodxsqth
```

Telnet-accessible DXClusters that utilize DX Spider software can be configured to append the spotting station's Maidenhead Gridsquare to each spot. DXKeeper can properly decode spots with appended gridsquares, and will record such gridsquares in the DXCC Database's OriginGrid field. To enable a cluster running DX Spider to append spotting station gridsquares, enter the following command:

```
set/dxgrid
```

Interacting with PacketClusters

The PacketCluster window supports interaction with a local PacketCluster via a Terminal Node Controller (TNC) connected to a serial port. The window's caption, which appears in the window's title bar and on its windows task bar icon, is specified by its Caption connection parameter. A PacketCluster window is dominated by its receive pane, a rectangular area that displays information received from the PacketCluster; the receive pane expands and contracts as you resize the PacketCluster window.

A transmit pane is located immediately below the receive pane; characters you type into the transmit pane are sent to the PacketCluster when you strike the **enter** key; the button labeled **X** and located to the immediate right of the transmit pane will clear the transmit pane when clicked. You can enter standard PacketCluster commands in the transmit pane, e.g. `sh/dx`; the PacketCluster's response will appear in the receive pane. Sixteen macros, accessible via eight macro buttons and a bank selector, provide an alternative means of supplying information to be transmitted; macros can automatically transmit text strings, your callsign, the current UTC time or date, and the contents of files.

SpotCollector interprets and color codes information received from the PacketCluster as directed by settings in the PacketCluster sub-tab on the Configuration window's Display Fonts tab. Using these settings, unique colors can be assigned to DX spots, WWV reports, transmitted text, and error messages. You can also control the receive pane's background color, font name, and font size, as well as the transmit pane's background color and font name, size, and color.

If SpotCollector is connected to the PacketCluster, you can disconnect without closing the PacketCluster window by clicking the **Disconnect** button in the window's lower-left corner. The **Disconnect** button will then be replaced by a **Connect** button, which when clicked will re-establish the connection as specified by the current connection parameters.

Configuring SpotCollector

SpotCollector's Configuration screen provides seven tabs:

- the General tab
    - specifies your callsign and location
    - specifies the transceiver mode to be used for RTTY spots
    - specifies the transceiver mode to be used for CW spots
    - controls the audio announcement function
    - specifies the file containing sub-band definitions
    - contains settings that govern the presentation of online help
- the Spot Sources tab specifies the telnet-accessible DXClusters, PacketCluster, and Internet Relay Chat (IRC) channel from which spots are received for inclusion in the Spot Database
- the Display Fonts tab contains settings that control the color-coding and font selection of information shown in DXCluster windows, the IRC window, the PacketCluster window, and the Spot Database window
- the Spot Database tab contains settings that control
    - the validity of incoming spots
    - the combination of incoming spots to create Spot Database entries
    - the width of the Spot Database frequency filter
    - the display of Spot Database entries on web browsers accessible via a local area network (LAN)
    - the pruning of Spot Database entries that are no longer needed
- the Entity Overrides tab allows you to specify up to 16 callsigns and their associated DXCC entities. You can use this mechanism to handle DX callsigns that do not conform to standard prefix allocations. If DXView is installed, both it and DXKeeper will be governed by these Entity Overrides. You can also be specify or modify Entity Overrides via the Entity Overrides tab on DXView's Configuration window; any such changes will be reflected in SpotCollector's Entity Overrides tab.
- the TNC Serial Port tab lets you configure the serial port by which your TNC is connected

Configuring SpotCollector's General Settings

The General tab contains six panels:

General panel

Show control explanations	when checked, enables the display of explanatory information when the mouse cursor lingers over a textbox, button, checkbox, display pane, or setting.
Confirm spot deletion	when checked, attempting to delete a spot database entry displays a dialog box that asks you to confirm the deletion
Show 0 as Ø	when checked, displays received numeric zeros with a slash in Packet Cluster, IRC, and DX Cluster windows
Seek everything	if DXKeeper is not installed • checking this box indicates that your award objectives are to work every country on every band and mode; thus every spot database entry will be considered needed • not checking this box indicates spot database entries will be considered confirmed
Set Xcvr split	when checked, double-clicking on a spot database entry specifying a split frequency will place the transceiver in split mode (if support) and set the split frequency into the transceiver's alternate VFO
Convey DX Grid	when checked, clicking or double-clicking on a spot database entry with a DX Grid will convey that grid square to DXView, DXKeeper, and/or WinWarbler, if running
Main F-keys via WW	when checked, striking the function keys F5 through F12 will direct WinWarbler to invoke the associated macro; striking the ESC key will direct WinWarbler to abort the current transmission
Automatic DXView Update	when checked, creation of a new Spot Database Entry will automatically direct DXView to perform a lookup operation, displaying the station's location on its world map (if DXView is running)
Request Prop Forecast	when checked, double-clicking a Spot Database Entry will direct PropView (if running) to compute a propagation forecast based on the current solar flux and parameters pre-establish in PropView (this box will be disabled unless both PropView and DXView are running)
Use dual monitors	when checked, windows that resided on the secondary monitor during the previous session will be restored to the secondary monitor on startup
Log debugging information	when set, diagnostic information is recorded in the file errorlog.txt within SpotCollector's folder
Operator callsign	Spots you originate are attributed to this callsign
Operator location	Spots you originate are associated with this geographic origin
Log Filter	When you select a DX station (e.g. by double-clicking on a Spot Database entry), determines whether DXKeeper displays all previous QSOs with that station's base callsign, or all previous QSOs with that station's DXCC entity

RTTY Mode if no WW panel
If you select a RTTY DX spot with WinWarbler running, the spot information will be conveyed to WinWarbler, which will set the transceiver's frequency and mode according to its configuration. If WinWarbler isn't running, but Commander is, then the settings on this panel specify the transceiver mode.

RTTY	when a RTTY DX spot is selected, set the transceiver to normal RTTY mode (if Commander is running)
RTTY-R	when a RTTY DX spot is selected, set the transceiver to reversed RTTY mode (if Commander is running)
USB	when a RTTY DX spot is selected, set the transceiver to USB mode (if Commander is running)
LSB	when a RTTY DX spot is selected, set the transceiver to LSB mode (if Commander is running)
PKT	when a RTTY DX spot is selected, set the transceiver to PKT mode (if Commander is running)

Digital Mode if no WW panel
If you select a PSK31, PSK63, Packet, Throb, MT63, Hellschreiber, SSTV, MFSK16, FSK31, or TOR DX spot with WinWarbler running, the spot information will be conveyed to WinWarbler, which will set the transceiver's frequency and mode according to its configuration. If Winwarbler isn't running, but Commander is, then the settings on this panel specify the transceiver mode.

RTTY	when a non-RTTY digital mode DX spot is selected, set the transceiver to normal RTTY mode (if Commander is running)
RTTY-R	when a non-RTTY digital mode DX spot is selected, set the transceiver to reversed RTTY mode (if Commander is running)
USB	when a non-RTTY digital mode DX spot is selected, set the transceiver to USB mode (if Commander is running)
LSB	when a non-RTTY digital mode DX spot is selected set the transceiver to LSB mode (if Commander is running)
PKT	when a non-RTTY digital mode DX spot is selected set the transceiver to PKT mode (if Commander is running)

CW Mode panel

CW	when a CW DX spot is selected, set the transceiver to normal CW mode (if Commander is running)
CW-R	when a CW DX spot is selected, set the transceiver to reversed CW mode (if Commander is running)
CW via WW	when a CW DX spot is selected and WinWarbler and Commander are running, convey the spot information to WinWarbler; if WinWarbler isn't running but Commander is running, set the transceiver to normal CW mode. (requires WinWarbler 3.0.7 or later)

Phone Modes Panel

SSB via WW	when an SSB DX spot is selected and WinWarbler and Commander are running, convey the spot information to WinWarbler; if WinWarbler isn't running but Commander is running, set the transceiver to USB or LSB mode as a function of frequency. (requires WinWarbler 3.2.6 or later)
AM via WW	when an AM DX spot is selected and WinWarbler and Commander are running, convey the spot information to WinWarbler; if WinWarbler isn't running but Commander is running, set the transceiver to AM mode. (requires WinWarbler 3.2.6 or later)
FM via WW	when an FM DX spot is selected and WinWarbler and Commander are running, convey the spot information to WinWarbler; if WinWarbler isn't running but Commander is running, set the transceiver to FM mode. (requires WinWarbler 3.2.6 or later)

Interoperation panel

Controls on this panel let you specify the application to which SpotCollector will send frequency and mode information when the user double-clicks on a Spot Database entry. By default, SpotCollector will send such information to WinWarbler ; if you enter the name of another application and click the Connect button, SpotCollector will instead send the frequency and mode information to that application.

AudioAlarm panel

Enable	when checked, an audio alarm may be generated for a newly-created "needed" Spot Database entry as specified by the Unfiltered and Filtered settings; this box can be checked and unchecked via the **AA** box in the Main window's Filter panel
Announce country, band, and mode	• when unchecked, the file specified in the Sound pathname setting is played • when checked, the DXCC country, band, and mode will be announced whenever a "needed" Spot Database entry is created; if no sound file is available for the DXCC country in the Sounds sub-folder, the file specified in the Sound pathname setting is played instead.
Announce unconfirmed as well as unworked	• when unchecked, only unworked DXCC entities are considered "needed" • when checked, both unworked and unconfirmed DXCC entities are considered "needed" Note that a spot containing an unconfirmed DXCC entity will not be considered "needed" if you've already worked the spotted station on the spotted band and mode
Play intro on startup	when checked and if the Enable box is checked,, SpotCollector plays the .wav file specified in the Intro pathname on startup
Unfiltered	when selected, the audio alarm is generated whenever an unworked Spot Database entry is created
Filtered	when selected, the audio alarm is only generated for a newly-created unworked Spot Database entry if it passes the Band, Mode, Origin, and Continent filters
Intro pathname	the name of a file containing a .wav file that will be played on startup if the Enable box is checked • Select - click to select a .wav file • Test - click to play the selected .wav file (Enable box must be checked)

Sound pathname	the name of a file containing a .wav file that will be played when an unworked Spot Database entry is created if the "Announce country, band, and mode" box is not checked, or if no sound file is available for the DXCC country
	• Select - click to select a .wav file
	• Test - click to play the .selected wav file (the Enable box must be checked)

Sub-band Definition panel

File pathname textbox	• pathname to a Sub-band definition file used by SpotCollector to identify a spot's band and default mode from its frequency
	• each line of the file defines a sub-band, sequentially specifying a lower-frequency limit, an upper-frequency limit, the default mode name, and the band name, e.g. the following four entries used to define 15m sub-bands:
| | ```
21000,21070,CW,15M
21070,21110,RTTY,15M
21110,21200,CW,15M
21200,21450,USB,15M
``` |
	• sub-band frequency ranges must be non-overlapping
	• sub-band entries must be sorted in order of increasing frequency
	• valid mode names are AM, CW, FM, LSB, RTTY, and USB
	• valid band names are 160M, 80M, 40M, 30M, 20M, 17M, 15M, 12M, 10M, 6M, 4M, 2M, 1.25M, 70CM, 33CM, 23CM, and 12CM
Select button	displays a file selector dialog that allows you to select and activate a Sub-band definition file

Help Browser panel

Browser pathname textbox	if this setting is blank, SpotCollector displays online help using your PC's default HTML browser -- typically Internet Explorer or Netscape; if you'd prefer to display online help with a specific HTML browser, place its full pathname here.
Select button	displays a file selector dialog that allows you to choose a Browser pathname
Help button	displays the information you are now reading

Configuring SpotCollector Sources

The Sources tab contains two panels.

Telnet panel

This panel provides settings for each of four Telnet DXClusters.

Enable	If checked, a DXCluster Window is displayed for the specified Host Address
Auto	If checked, a connection with the specified Host Address will be initiated when SpotCollector is started, or after a previous connection has been broken
Hide	if checked, the DXCluster window is hidden when connected; if unchecked, the DXCluster window is immediately made visible • hidden windows do not appear on the Windows task bar • unchecking a DXCluster's Enable box will uncheck its Hide box • clicking the DXCluster's LED-like indicator in the Spot Source Status panel will uncheck the DXCluster's Hide box • closing a DXCluster's window will check the DXCluster's Hide box
Host Address	The internet address of the server on which the desired DXCluster is running
Port	The TCP port through which the server provides Telnet access to its DXCluster
Caption	Text that will appear in the title bar of the DXCluster Window
Username	Text used if the DXCluster's login process requires a user identifier • double-clicking this textbox enters the operator callsign • leave this setting blank if no username is required • enter a single hyphen if all that is required is a carriage return followed by a newline • embedded commands will be expanded
Password	Text used if the DXCluster's login process requires a user password (note: specifying a password when none is required may cause the login to fail) • double-clicking this textbox enters the operator callsign • leave this setting blank if no password is required • enter a single hyphen if all that is required is a carriage return followed by a newline • embedded commands will be expanded
Cmd	Text sent after the DXCluster's login process, typically to "connect" to the DXCluster • leave this setting blank if no post-login command is required • enter a single hyphen if all that is required is a carriage return followed by a newline • embedded commands will be expanded
Spot	If checked, outgoing spots will be sent to this DXCluster

In Telnet DXCluster's Username, Password, and Cmd settings, any information not surrounded by a pair of angle brackets is transmitted verbatim. Valid substitution commands begin and end with an angle bracket; SpotCollector processes such commands in these settings by replacing them as enumerated in the following table:

Command	Replacement
<n>	the character whose ASCII code is n (for 0 <= n < 255)
<enter>	the character whose ASCII code is 13
<file *filename*>	the contents of the designated file • *filename* should begin with a drive letter and include all intervening directories • use the macro definition screen's *Select* button to choose a file, then drag and drop its filename from the *filename textbox* to the desired macro's contents
<mycall>	the operator's callsign
<mylowercasecall>	the operator's callsign in lower case letters
<myuppercasecall>	the operator's callsign in upper case letters
<newline>	the character whose ASCII code is 10
<UTC>	the current UTC time
<date>	the current UTC date
<revision>	SpotCollector's revision level

Packet Panel

Enable	If checked, a PacketCluster Window is displayed for the specified PacketCluster Callsign
Auto	If checked, a connection with the specified PacketCluster Callsign will be initiated when SpotCollector is started, or after a previous connection has been broken
Hide	if checked, the PacketCluster window is hidden when connected; if unchecked, the PacketCluster window is immediately made visible • hidden windows do not appear on the Windows task bar • unchecking the PacketCluster's Enable box will uncheck its Hide box • clicking the PacketCluster's LED-like indicator in the Spot Source Status panel will uncheck the PacketCluster's Hide box • closing the PacketCluster's window will check the PacketCluster's Hide box
PacketCluster Callsign	The Callsign of the node hosting the PacketCluster to which you wish to connect
Keep	If checked, maintains your PacketCluster connection by sending a Newline character every 5 minutes
Caption	Text that will appear in the title bar of the PacketCluster Window
Bye Cmd	Command that will be sent to the PacketCluster when you disconnect (defaults to **Bye**)
TNC Model	Selects the Terminal Node Controller (TNC) model connected to the serial port, thereby determining the Command File from which TNC directives are defined
Spot	If checked, outgoing spots will be sent to this PacketCluster

IRC panel

Enable	If checked, an IRC Window for the specified IRC Channel is displayed
Auto	If checked, a connection with the specified IRC Channel will be initiated when SpotCollector is started, or after a previous connection has been broken
Hide	if checked, the IRC window is hidden when connected; if unchecked, the IRC window is immediately made visible • hidden windows do not appear on the Windows task bar • unchecking the IRC window's Enable box will uncheck its Hide box • clicking the IRC window's LED-like indicator in the Spot Source Status panel will uncheck the IRC window's Hide box • closing the IRC window will check the IRC window's Hide box
Host Address	The internet address of an IRC Server through which the specified IRC Channel is accessible • SpotCollector is designed to access the #CQDX IRC Channel, which is available on WorldIRC servers
Channel	The name of the desired IRC Channel, without the leading # • SpotCollector is designed to access the CQDX IRC Channel If you include the leading #, SpotCollector will remove it during the connection process.
Caption	Text that will appear in the title bar of the IRC Window
Username	Text used to login to the IRC server • double-clicking this textbox enters the operator callsign • a forward slash is not acceptable in this field -- use a back slash instead, e.g. AA6YQ\1
First Name	Text used to login to the IRC server
Robot	the name of the CQDX spotting robot (usually DXS; use DDX when DXS is unavailable)
Spot	If checked, outgoing spots will be sent to the CQDX IRC Channelr

Configuring SpotCollector's Display Fonts

The Display Fonts tab controls the color-coding and font selection of information shown in DXCluster windows, the IRC window, and the Spot Database window via a Color Selector and three sub-tabs.

Color Selector
The Color Selector allows you to choose a color by manipulating sliders that govern its red, green, and blue content. The currently-selected color is illustrated in a rectangular swatch, and is used to specify color coding of information displayed in the DXCluster windows, the IRC window, and the Spot Database window

DXCluster sub-tab
Controls in the Receive Pane Panel control the display of information in the Receive Pane of each DXCluster Window.

Background Color	Clicking this button sets background colors to the Color Selector's currently selected color
Received Color	Clicking the button sets the font color of received text to the Color Selector's currently selected color, where "received text" refers to text other than DX announcements, WWV announcements, text you transmitted, or error messages
Transmitted Color	Clicking this button sets the font color of transmitted text to the Color Selector's currently selected color
DX Color	Clicking this button sets the font color of DX announcements to the Color Selector's currently selected color
WWV Color	Clicking this button sets the font color of WWV announcements to the Color Selector's currently selected color
Error message Color	Clicking this button sets the font color of error messages to the Color Selector's currently selected color
Font Name	Specifies the font used to display all Receive Pane text; double-clicking this textbox will display a standard Windows font selector dialog box
Font Size	Moving this slider adjusts the size of the font used to display all Receive Pane text

Buttons in the Transmit Pane Panel control the display of information in the Transmit Pane of each DXCluster Window.

Background Color	Clicking this button sets background colors to the Color Selector's currently selected color
Text Color	Clicking the button sets the font color of all text to the Color Selector's currently selected color
Font Name	Specifies the font used to display all Transmit Pane text; double-clicking this textbox will display a standard Windows font selector dialog box
Font Size	Moving this slider adjusts the size of the font used to display all Transmit Pane text

IRC sub-tab

Controls in the Receive Pane Panel control the display of information in the IRC Window's Receive Pane.

Background Color	Clicking this button sets the background color to the Color Selector's currently selected color
Received Color	Clicking the button sets the font color of received text to the Color Selector's currently selected color, where "received text" refers to text other than private messages, status messages, text you transmitted, or error messages
Transmitted Color	Clicking this button sets the font color of transmitted text to the Color Selector's currently selected color
Status Color	Clicking this button sets the font color of status messages to the Color Selector's currently selected color
Private Color	Clicking this button sets the font color of private messages to the Color Selector's currently selected color
Error message Color	Clicking this button sets the font color of error messages to the Color Selector's currently selected color
Font Name	Specifies the font used to display all Receive Pane text; double-clicking this textbox will display a standard Windows font selector dialog box
Font Size	Moving this slider adjusts the size of the font used to display all Receive Pane text

Buttons in the Transmit Pane Panel control the display of information in the IRC Window's Transmit Pane.

Background Color	Clicking this button sets the background color to the Color Selector's currently selected color
Text Color	Clicking the button sets the font color of all text to the Color Selector's currently selected color
Font Name	Specifies the font used to display all Transmit Pane text; double-clicking this textbox will display a standard Windows font selector dialog box
Font Size	Moving this slider adjusts the size of the font used to display all Transmit Pane text

PacketCluster sub-tab

Controls in the Receive Pane Panel control the display of information in the PacketCluster Window's Receive Pane

Background Color	Clicking this button sets background colors to the Color Selector's currently selected color
Received Color	Clicking the button sets the font color of received text to the Color Selector's currently selected color, where "received text" refers to text other than DX announcements, WWV announcements, text you transmitted, or error messages
Transmitted Color	Clicking this button sets the font color of transmitted text to the Color Selector's currently selected color
DX Color	Clicking this button sets the font color of DX announcements to the Color Selector's currently selected color
WWV Color	Clicking this button sets the font color of WWV announcements to the Color Selector's currently selected color
Error message Color	Clicking this button sets the font color of error messages to the Color Selector's currently selected color

Font Name	Specifies the font used to display all Receive Pane text; double-clicking this textbox will display a standard Windows font selector dialog box
Font Size	Moving this slider adjusts the size of the font used to display all Receive Pane text

Buttons in the Transmit Pane Panel control the display of information in the PacketCluster Window's Transmit Pane

Background Color	Clicking this button sets background colors to the Color Selector's currently selected color
Text Color	Clicking the button sets the font color of all text to the Color Selector's currently selected color
Font Name	Specifies the font used to display all Transmit Pane text; double-clicking this textbox will display a standard Windows font selector dialog box
Font Size	Moving this slider adjusts the size of the font used to display all Transmit Pane text

Spot Database sub-tab
Controls in the Color and Font panels control the display of entries in the Spot Database Window based on DXing award progress and objectives.

Unneeded Color	Clicking this button sets color of "unneeded" spots to the Color Selector's currently selected color, where "unneeded" means that
	    the current DXKeeper log indicates that you have confirmed QSOs with the associated DXCC entity on the spotted band and mode, or
	    the current DXKeeper log indicates that you've already worked this station on the spotted band and mode, or
	    the current DXKeeper award setup indicates that you are not chasing this band and/or mode

Unconfirmed Color	Clicking this button sets color of "unconfirmed" spots to the Color Selector's currently selected color, where "unconfirmed" means that the current DXKeeper log indicates that you are missing confirmed QSOs with the associated DXCC entity on the spotted band or mode
Unworked Color	Clicking this button sets color of "unworked" spots to the Color Selector's currently selected color, where "unworked" means that the current DXKeeper log indicates that you are missing QSOs with the associated DXCC entity on the spotted band or mode
Font Name	Specifies the font used to display all Receive Pane text; double-clicking this textbox will display a standard Windows font selector dialog box
Font Size	Moving this slider adjusts the size of the font used to display all Receive Pane text

Configuring SpotCollector's Spot Database

The Spot Database tab contains 8 panels.

Spot Database File panel

Pathname	Specifies the full pathname of the Spot Database
Select	Displays a file selector that can be used to specify a Spot Database pathname
Open	After modifying the Pathname, click this button to open the Spot Database in that Pathname

Combination Criteria panel

Each incoming spot of a station is compare with existing Spot Database entries for that station. If, with respect to an existing Spot Database entry, the incoming spot lies within the time window and frequency range specified below, then the existing Spot Database entry is updated to reflect the incoming spot; otherwise, a new Spot Database entry is created.

Maximum separation in time (minutes)	Specifies the time window, in minutes, into which an incoming spot must fall in order to be combined with an existing Spot Database entry
Maximum separation in frequency (kHz)	Specifies the frequency range, in kHz., into which an incoming spot must fall in order to be combined with an existing Spot Database entry

Controls panel

Maximum age of valid incoming spots (minutes)	Incoming spots whose age exceeds this value are not considered for entry in the Spot Database; a spot's age is computed as the difference between the time at which it was received (using your PC's UTC time) and the time at which it was sent (using the sender's UTC timestamp)
Frequency Filter panel	range specifies the width of the Spot Database Frequency filter, in kHz on either side of the current transceiver frequency. age specifies the maximum age of spots shown by the Spot Database Frequency filter, in minutes When the Frequency filter is activated, all Spot Database entries whose frequencies lies outside the specified range **or** are older than the specified age are hidden
Need Filter panel	Determines whether the Spot Database Need filter hides entries for all but unworked DXCC entities, or hides entries for all but unworked or unconfirmed DXCC entities

Format panel

This panel's **Dates and times** textbox lets you specify the format of dates and times that appear in the Spot Database's FirstTime, LastTime, and RcvdTime fields. The default format is
`ddddd hhnn`
Which uses your system's short date format and a four-digit time; the following characters may be used to specify the format:

:	the system-defined time separator
/	the system-defined date separator
d	Display the day as a number without a leading zero (1 – 31).

`dd`	Display the day as a number with a leading zero (01 – 31).
`ddd`	Display the day as an abbreviation (Sun – Sat).
`dddd`	Display the day as a full name (Sunday – Saturday).
`ddddd`	Display the date as a complete date (including day, month, and year), formatted according to your system's short date format setting. The default short date format is `m/d/yy`.
`dddddd`	Display a date serial number as a complete date (including day, month, and year) formatted according to the long date setting recognized by your system. The default long date format is `mmmm dd, yyyy`.
`w`	Display the day of the week as a number (1 for Sunday through 7 for Saturday).
`ww`	Display the week of the year as a number (1 – 54).
`m`	Display the month as a number without a leading zero (1 – 12). If `m` immediately follows `h` or `hh`, the minute rather than the month is displayed.
`mm`	Display the month as a number with a leading zero (01 – 12). If `m` immediately follows `h` or `hh`, the minute rather than the month is displayed.
`mmm`	Display the month as an abbreviation (Jan – Dec).
`mmmm`	Display the month as a full month name (January – December).
`q`	Display the quarter of the year as a number (1 – 4).
`y`	Display the day of the year as a number (1 – 366).
`yy`	Display the year as a 2-digit number (00 – 99).
`yyyy`	Display the year as a 4-digit number (100 – 9999).
`h`	Display the hour as a number without leading zeros (0 – 23).
`hh`	Display the hour as a number with leading zeros (00 – 23).
`n`	Display the minute as a number without leading zeros (0 – 59).
`nn`	Display the minute as a number with leading zeros (00 – 59).
`s`	Display the second as a number without leading zeros (0 – 59).
`ss`	Display the second as a number with leading zeros (00 – 59).
`ttttt`	Display a time as a complete time (including hour, minute, and second), formatted using the time separator defined by the time format recognized by your system. A leading zero is displayed if the leading zero option is selected and the time is before 10:00 A.M. or P.M. The default time format is `h:mm:ss`.
`AM/PM`	Use the 12-hour clock and display an uppercase AM with any hour before noon; display an uppercase PM with any hour between noon and 11:59 P.M.
`am/pm`	Use the 12-hour clock and display a lowercase AM with any hour before noon; display a lowercase PM with any hour between noon and 11:59 P.M.
`A/P`	Use the 12-hour clock and display an uppercase A with any hour before noon; display an uppercase P with any hour between noon and 11:59 P.M.
`a/p`	Use the 12-hour clock and display a lowercase A with any hour before noon; display a lowercase P with any hour between noon and 11:59 P.M.
`AMPM`	Use the 12-hour clock and display the AM string literal as defined by your system with any hour before noon; display the PM string literal as defined by your system with any hour between noon and 11:59 P.M. AMPM can be either uppercase or lowercase, but the case of the string displayed matches the string as defined by your system settings. The default format is AM/PM.

Size Limit panel

The only limit to the growth of SpotCollector's Spot Database is the amount of free storage on its storage volume. Using facilities on this panel, you can either "prune" the Spot Database's older entries, or you can clear it completely.

Prune entries older than this age (days)	All Spot Database entries older than this will be deleted by the Prune command, or when SpotCollector starts if you have the Prune Spot Database on startup box checked
Prune	Deletes all Spot Database entries older than the specified age
Prune Spot Database on startup	If checked, the Spot Database is pruned when SpotCollector starts; all Spot Database entries older than the specified age will be deleted.
Clear Spot Database on startup	If checked, the Spot Database is cleared when SpotCollector starts
Clear	Deletes all Spot Database entries regardless of age

Web Server panel

Enabled	If checked, enables the web server to respond to incoming requests

Port	Specifies the TCP port used by SpotCollector's web server
	    most web browsers assume port 80 unless the URL includes an explicit port
	    use a port other than 80 if you are already running a port 80 web server on
	        your PC

Spots per page	SpotCollector's web server displays the most recent N Spot Database entries, where N is specified by this parameter
Refresh interval (minutes)	SpotCollector's web server provides updates every N minutes, where N is specified by this parameter
Restart	Restart SpotCollector's web server, e.g. after a network outage

Spot Statistics panel

Update interval	Specifies the interval (in minutes) at which spot statistics are updated to reflect spots which are more than 60 minutes old

Log file referenced for award progress

Use Log last opened by DXKeeper	consult the log file that was last opened by DXKeeper, and automatically switch to any new log opened in DXKeeper
Use Log in specified pathname	specify a log file to be consulted independently of what log file was last opened in DXKeeper
Query operator when DXKeeper Log changes	ask the operator to choose when a log is opened in DXKeeper that is different than the one currently being consulted by SpotCollector

Configuring SpotCollector's Terminal Node Controller (TNC) Settings

Serial Port Configuration

The **Packet TNC** tab lets you specify and configure the serial port by which your TNC is connected:

Port	Specifies the serial port to which your TNC is attached
Baud rate	Specifies the serial port's speed in baud
Word length	Specifies the serial port's word length in bits
Stop bits	Specifies the number of stop bits used in serial port transmission and reception
Parity	Specifies the serial port's parity
Flow control	Specifies the serial port's flow control

TNC Command Files

SpotCollector determines what commands to send to your TNC via command files present in the `TNCs` subfolder. Each command file present in this folder is presented as a choice in the **TNC model** listbox. SpotCollector opens and reads a command file

    at startup
    when the PacketCluster Window is enabled
    when a new TNC model is selected

By convention, a command file is named `model.txt`, where `model` represents the name of the modem -- e.g. `KPC.txt` or `PK232.txt`. Files in SpotCollector's `TNCs` subfolder having an extension other than `.txt` will not appear as a choice in the **TNC model** listbox.

A command file contains one or more commands separated by newline characters; you can create or edit command files using a text editor like Notepad or EMACS; if you use an word processor like Microsoft Word, be sure to save as "text only with line breaks", or SpotCollector will be unable to parse the command file.

The basic command syntax is

    CommandName = CommandString

`CommandString` is a sequence of ASCII characters sent to the TNC to accomplish a function denoted by `CommandName`. To facilitate the inclusion of control characters, the sequence `<N>` within a CommandString, will be replaced by a single byte of value N; N must be 0 or greater, and 255 or smaller. `<3>`, for example, would be replaced by Ctrl-C.

SpotCollector defines the following commands:

CommandName	Function
InitCmd	initialize the TNC
TermCmd	place the TNC in command mode and enable character echo
PacketConnectCmd	direct the TNC to connect to a node
PacketDisconnectCmd	direct the TNC to disconnect
ConverseCmd	direct the TNC to enter converse mode
PacketConnectMsg	the message emitted by the TNC when a connection has been made
PacketConnectMsg	the message emitted by the TNC when a connection has been broken