SpotCollector 5.8.3

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.

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 DXCC entity is unworked or unconfirmed on the spotted band and mode, and whether that band or mode matches your specified DXCC and TopList award objectives. If the currently-open log provides realtime award tracking for the CQ Worked All Zones (WAZ) award family, SpotCollector will also automatically "color" each spotted station to indicate whether its CQ zone is unworked or unconfirmed on the spotted band and mode, and whether that band or mode matches your specified WAZ 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.

SpotCollector's continuously adds information to its spot database; left to grow without bound, this will eventually reduce your PC's performance. You can manually prune the spot database, or configure SpotCollector to automatically prune it on your behalf.

SpotCollector provides a window for each spot source that displays all incoming DX spots, WWV spots, announcements, and messages. If desired, you can configure one of these windows to only display incoming announcements and messages.

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 the **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.

You can optionally display a Smoothed Sunspot Number estimated from the last-reported solar flux index by double clicking the word **SFI** in the **WWV panel**; clicking the word **SSN** will display the last-reported solar flux index. The Smoothed Sunspot Number is estimated using the equation
$S = (33.52 \times (85.12 + SFI)^{1/2}) - 408.99$
as shown on page 23-25 of the ARRL Antenna Handbook, 16th Edition.

SpotCollector Download and Installation

Installing or Upgrading the DXLab Launcher
The **DXLab Launcher** automates the installation of new DXLab applications, including SpotCollector, and the upgrading of already-installed DXLab applications.

If you're an aspiring DXLab user who has **not installed any DXlab applications** on your PC, or if you're a long-time DXLab user who has **never installed the Launcher**, then installing the Launcher will make it easy to install new DXLab applications and keep them up to date as upgrades are released.

Step-by-step guides for installing the Launcher are available, both in HTML for browsing (http://www.dxlabsuite.com/dxlabwiki/InstallLauncher) and in PDF for printing (http://www.dxlabsuite.com/Download%20and%20Installation.pdf).

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.dxlabsuite.com/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, username, and window captions for the *DX Spots*, *EI7MRE*, VE1DX, and *JK1ZRW* DXClusters respectively, but none are enabled.

Start by connecting to *DX Spots.* 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 Spots* on startup, or if disconnected. Then place a check in the enable box and find the *DX Spots* window -- assuming this DXCluster is operational, you should see the *DX Spots* welcome message.

Once a connection to *DX Spots* has been established, SpotCollector will automatically capture DX spots and add them to the Spot Database -- so you can minimize the *DX Spots* 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 Spots* and close its associated Window. Alternatively, you can leave the *DX Spots* window on-screen and interact with it directly as you would any standard DXCluster.

If you'd like to monitor spots from the *EI7MRE*, VE1DX, and *JK1ZRW* DXClusters, enable them and repeat the above steps. Like *DX Spots,* none of these DXClusters require a password, so you can leave their Password textboxes 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 Spots*, *EI7MRE*, VE1DX, and *JK1ZRW*, this web page provides a list of such DXClusters and their connection parameters: http://www.dxcluster.info/telnet/index.php

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.

DXClusters that utilize DX Spider or CC Cluster 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

Note that some DXClusters are parts of a *sub-network* that permits only a single connection. For example, if DXClusters A and B are part of the same sub-network and you are connected to A, connecting to B will cause the connection with A to silently drop. If SpotCollector is configured to automatically reconnect dropped connections, then when SpotCollector reconnects with A, the connection with B will silently drop - *ad infinitum*. Thus after configuring SpotCollector to connect to a new DXCluster, monitor the messages in its Source Window for a few minutes; if you see a spontaneous reconnection, the new DXCluster may be part of a sub-network to which you are already connected, in which case you should choose a different DXCluster.

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.

PacketClusters 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

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 pre-configures its IRC connection parameters for the CQDX channel via the IRC host US.WorldIRC.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

Spots arriving from spot sources are used to create entries in SpotCollector's Spot Database. Each Spot Database Entry represents a single DX station operating in the same mode around the same frequency over an interval of time. When a spot arrives, SpotCollector

- discards it if its too old (make sure your PC is set to the correct time zone and local time!)
- checks to see if there's already a Spot Database Entry for the spotted DX station in the same mode around the same frequency that is still active
    - o   if so, the existing entry is updated
    - o   if not, a new entry is created

The information recorded in a Spot Database Entry is obtained from

- the incoming spot, e.g. DX station's callsign, frequency, mode, time, spotting station's callsign
- the incoming spot's notes (if enabled), e.g. DX station's gridsquare, DX station's IOTA tag, spotting station's gridsquare
- a specified DXKeeper log, e.g. award progress for the DX station's entity, entity-band, and entity-mode
- performing a DXCC or USAP database lookup on the DX callsign's (if enabled), e.g. DX station's DXCC prefix, gridsquare, CQ zone, ITU zone, IOTA tag, continent
- performing a DXCC or USAP database lookup on the spotting station's callsign (if enabled), e.g. spotting station's gridsquare

A table describing each of a Spot Database Entry's fields is available on page 28.

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 Spot Database's OriginGrid field. To enable a cluster running DX Spider to append spotting station gridsquares, enter the following command:

> set/dxgrid

the Spot Database Display
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.

The Spot Database Display shows a subset of all Spot Database Entries . Specifying this subset is referred to as Filtering the Spot Database. You can control the order in which entries appear in the Spot Database Display, as well as the order of the columns used to display each entry's contents. Whether all columns in the Spot Database Display will be simultaneously visible depends on their number and width, as well as the width of the Main window. If all columns are not simultaneously visible, a horizontal scrollbar will be displayed along the bottom of the Spot Database Display; you can use this scrollbar to select the columns you wish to see. The small black rectangle to the left of the horizontal scrollbar can be dragged to the right to split the Spot Database Display into two independently scrollable sets of columns. You can adjust the boundary between the two sets by dragging the black rectangle to the left of the horizontal scrollbar at the bottom of the right-hand set of columns; to eliminate the right-hand set of columns, drag its black rectangle all the way to the left.

Window 1

WWV 12-21 0300 Z | Outgoing spot

SFI 69 History Call 1,828.9 Freq Cluster ● ● ● ● ● ●

Q: 0 A 2 1 K Notes X Local Report Stats Config Help

Spot source status

	Call	Pfx	Mode	Freq	QSX	FirstTime	Last	Band	NA	CQ	DXGrid	Orig Grid	ODX	Sourc ▲
	HA3OU	HA	CW	7,012.4		21 0340	0340	40M		15	JN98	LO73	8192	UA9T
	PA1RVL	PA	SSB	3,800.0		21 0340	0340	80M		14	JO22	JO22	5578	PA1RV
	RA0JBL	UA0	SSB	14,180.0		21 0333	0341	20M		19	PO32	OO06	8998	RA0SC
	4Z5LA	4X	CW	1,832.0		21 0341	0341	160M		20	KM72	JO55	5820	OZ1LX
	9A8M	9A	CW	1,825.9		21 0341	0341	160M		15	JN95	EM99	781	K3J
	T47C	CO	SSB	3,799.0		21 0218	0341	80M	Y	8	EL93	DM78	101	KV6
	9A8A	9A	CW	7,013.3	7,023.0	21 0338	0341	40M	Y	15	JN86	EL98	1769	K5AU
	EA8MQ	EA8	CW	7,013.4		21 0342	0342	40M		33	IL19	LO73	8192	UA9T
	RA3RKC	UA	PSK	7,036.4		21 0343	0343	40M		16	LO13	IO87	4935	GM0DBV
	RD3A	UA	CW	7,014.1		21 0343	0343	40M		16	KO85	LO73	8192	UA9T
	HA3MY	HA	SSB	3,796.5		21 0344	0344	80M		15	JN98	JN65	6438	S58
▶	OH6M	OH	CW	7,014.6		21 0344	0344	40M		15	KP20	LO73	8192	UA9T

Sort
○ First ○ Call
● Last ○ Freq
○ Rcv ○ Az

Filter: Band
X Need Call DXCC Freq Tag Band Mode Cont Origin
AutoHide ☑ AA ☐ LotW 2008 11-30 ☐ SB DX 160 DX 80 DX 40 DX 30 DX 20 DX 17 DX 15 DX 6

Window 2

WWV 12-21 0300 Z | Outgoing spot

SFI 69 History Call 1,828.9 Freq Cluster ● ● ● ● ● ●

Q: 0 A 2 1 K Notes X Local Report Stats Config Help

Spot source status

	Call		CQ	DXGrid	Orig Grid	ODX	Source	Notes	Region	Network ▲
	RD3A		16	KO85	LO73	8192	UA9TQ	CROATIAN	Moscow	GB7JK
	RA3RKC		16	LO13	IO87	4935	GM0DBW	BPSK31 Eugene Tambov	Tambov	GB7JK
	UN3M		17	LO63	LN07	8020	UA6LV	cq test	Uralskaya	GB7JK
	HA3MY		15	JN98	JN65	6438	S58F	CQ DX...	Hungary	GB7JK
	4L6QC		21	LN22	LO73	8192	UA9TQ	CROATIAN	Adjaria	GB7JK
	OH6M		15	KP20	LO73	8192	UA9TQ	CROATIAN	Finland	GB7JK
	RK0AB		18	NO66	KO92	7537	RN3GA		Krasnoyarsk	CQDX
	T47C		8	EL93	EM46	716	W3HWY	UP 5 gud cpy WPA	Cuba	GB7JK
	UY5ZZ/A		16	KO51	LN07	8020	UA6LV	test	Nikolayev	GB7JK
	KH2JU		27	QK23jl	PM85	10889	JK2TTP		Guam	GB7JK
	RZ9OJ		18	NO15	LO73	8192	UA9TQ	CROATIAN	Novosibirsk	GB7JK
▶	E70T	▶	15	JN94	FN65	493	VE9HF	tks for the new one 160	Bosnia-Herzegovir	GB7JK

Sort
○ First ○ Call
● Last ○ Freq
○ Rcv ○ Az

Filter: Band
X Need Call DXCC Freq Tag Band Mode Cont Origin
AutoHide ☑ AA ☐ LotW 2008 11-30 ☐ SB DX 160 DX 80 DX 40 DX 30 DX 20 DX 17 DX 15 DX 6

Identifying Spot Database Display Entries for Needed stations
SpotCollector interoperates with DXKeeper, DXLab's logging program, to obtain

- ARRL DXCC objectives, which indicate 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

Award Program	boxes to check in DXKeeper's DXCC/Top Bands & Modes panel
DXCC	none
5-band DXCC	80m, 40m, 20m, 15m, 10m
DXCC Challenge	80m, 40m, 30m, 20m, 17m, 15m, 12m, 10m, 6m, Phone, CW, RTTY
TopList	80m, 40m, 30m, 20m, 17m, 15m, 12m, 10m, Phone, CW, RTTY

- CQ WAZ objectives, which indicate whether or not you are pursuing confirmed QSOs on the reported band and mode, as specified in the WAZ Bands & Modes panel on the **Awards** tab of DXKeeper's **Config** window
- CQ DX Marathon objectives, which indicate whether or not you are pursuing QSOs on the reported band and mode, as specified on the Marathon panel on the **Awards** tab of DXKeeper's **Config** window
- realtime award tracking - information indicating whether or not you've worked and/or confirmed a spotted station's DXCC entity and CQ zone on the reported band or mode, 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. realtime award tracking information is obtain 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.

The term **counter** refers to the object of an award for which realtime award tracking information is provided in the currently-open log:

- for ARRL DXCC awards, the award counter is a DXCC entity
- for CQ WAZ awards, the counter is a CQ zone.
- for CQ Marathon awards, the counter is a CQ country or CQ zone

Using the objectives specified on the DXCC/Top panel on DXKeeper's Awards tab and realtime award tracking information from the specified log, SpotCollector places each Spot Database Entry into one of five categories:

- **unworked counter**: a QSO with this station will be your first with an unworked counter towards an award for which realtime award tracking information is provided
- **unworked band or mode**: a QSO with this station will be your first with the counter on a band or mode or band-mode combination you're pursuing towards an award for which realtime award tracking information is provided
- **unconfirmed**: a confirmed QSO with this station will advance your progress against your objectives towards an award for which realtime award tracking information is provided

- **unneeded**: a QSO with this station will not advance your progress against your objectives towards an award for which realtime award tracking information is provided, but you do not have verified QSOs with the station's counter, counter-band (if being pursued), and/or counter-mode (if being pursued)
- **verified**: a QSO with this station will not advance your progress against your objectives because for each award for which realtime award tracking information is provided, you have verified QSOs with the station's counter, counter-band (if being pursued), and/or counter-mode (if being pursued)

When the currently-open DXKeeper log provides realtime award tracking information for more than one award -- e.g. DXCC and WAZ -- a Spot Database Entry's category is determined by the award for which the Entry is *most* needed. The unworked counter category is considered the most needed, and the verified category is considered the least needed.

By default, unworked counter Spot Database Entries and unworked band or mode or band-mode Spot Database Entries are rendered with a red font, unconfirmed Spot Database Entries with a blue font, and unneeded and verified Spot Database Entries with a black font; you can modify these colors via the Configuration window's Spot Database Display tab. A **Color codes** panel summarizing these font colors is displayed to the right of the Main window's **Filter** panel if window width permits; double-clicking the phrase **Color codes** directs SpotCollector to display the Configuration window's Spot Database Display 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 counter are categorized as 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 working this station would give you a new way to confirm VU4 on 20m and SSB.

There are three ways to determine why a Spot Database Entry is colored unworked counter, unworked band or mode or band-mode, or unconfirmed, each revealing progressively more information:
1. Examine the contents of the Entry's SpotNeeded field (assuming it's present in the Spot Database Display):
   - **D** means the entry is needed for a DXCC or TopList award
   - **M** means the entry is a needed Marathon Country
   - **N** means the entry is a needed Marathon Zone
   - **Z** means the entry is needed for WAZ
2. Let the mouse cursor hover for a few seconds over the Entry's callsign field; an explanatory popup will appear that explains in more detail why the Entry is needed
3. Right-click the Entry and select the **Display Award Tracking** menu entry; SpotCollector will display an **Award Tracking** window that shows progress towards each award for which realtime award tracking information is provided in the currently-open log.

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 a needed or special 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, and automatically re-enable the alarm after 15 minutes
- specify that the award counters, band, and mode should be announced; if realtime award tracking information is provided for more than one award in the currently open DXKeeper log and a Spot Database Entry is needed for more than one award, each award's counter is announced (e.g. "Yemen, zone 39, on 12 meters, RTTY, Marathon"
- specify that only unworked counters should be announced, or that both unworked and unconfirmed DXCC entities should be announced
- suppress CQ Marathon announcements (useful early in the year when the number of countries and zones needed would be overwhelming if announced)

- specify whether the needed or special callsigns are to be announced letter by letter and if so, whether phonetics should be used
- specify a .wav file to serve as the audio alarm instead of the DXCC country, band, and mode announcement
- specify that a specific sound file be played after announcing a Spot Database Entry whose callsign is known to participate in Logbook of the World
- specify that a specific sound file be played after announcing a Spot Database Entry whose callsign is known to participate in eQSL.cc
- 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, LotW, and eQSL filters.
- test the audio alarm to verify proper volume settings
- specify the names of folders containing
    - the .wav files used to announce entities, bands, and modes
    - the .wav files used to announce callsigns alphanumerically
    - the .wav files used to announce callsigns phonetically

Each Spot Database Entry includes award progress information obtained the log file referenced for award progress. If you modify or delete a logged QSO in DXKeeper, SpotCollector is automatically directed to update this award progress information. If you are planning to modify or delete many QSOs in DXKeeper, it may be more efficient to disable these automatic updates, perform one update after all changes have been made, and then re-enable automatic updates. If automatic updates are left disabled, SpotCollector may incorrectly identify Spot Database Display entries for needed stations.

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.

Identifying Spot Database Display Entries for 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); recent versions of this database include each callsign's "date of last upload to 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'. If the LotW database includes "date of last upload to LotW" information, then you can also specify the maximum age of a station's last upload to LotW; callsigns listed in LotW Database but with a "date of last upload" older than the specified age will not be considered to be an LotW participant. You can obtain the most recent LotW.mdb via the Databases tab of DXView's Databases folder.

By default, Spot Database Entries whose callsigns are not known to participate in Logbook of the World and not Authenticity Guaranteed members of eQSL.cc 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, unless they are also Authenticity Guaranteed members of eQSL.cc -- in which case they are rendered with a light blue (cyan) background. You can modify these colors via the Configuration window's Spot Database Display tab.

Checking the Announce LotW participation box directs SpotCollector to identify announced Spot Database entries whose callsigns are known to participate in Logbook of the World.

Identifying Spot Database Display Entries for Authenticity Guaranteed members of eQSL.cc
The file eQSLAG.mdb is a database containing Authenticity Guaranteed members of eQSL.cc. If at startup, eQSLAG.mdb is present in DXView's Databases folder or in SpotCollector's Databases folder, then SpotCollector will set the eQSL item of each Spot Database Entry it creates to indicate whether or not the entry's callsign is an Authenticity Guaranteed member; if eQSLAG.mdb is not present in DXView's or SpotCollector's Databases folders, then each Spot Database Entry's eQSL item will be set to 'N'. You can obtain the most recent eQSLAG.mdb via the Databases tab of DXView's Databases folder. .

By default, Spot Database Entries whose callsigns are not Authenticity Guaranteed members of eQSL.cc and 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 pink background, unless they are also known to participate in Logbook of the World -- in which case they are rendered with a light blue (cyan) background You can modify these colors via the Configuration window's Spot Database Display tab.

Checking the Announce eQSL participation box directs SpotCollector to identify announced Spot Database entries whose callsigns are Authenticity Guaranteed members of eQSL.cc.

Formatting 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 pot 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 specify which fields appear as columns in the Spot Database Display, the caption appearing at the top of each column, and the alignment of each information in each column, use the Layout panel in the Configuration window's Spot Database Display tab.

To split the Spot Database Display into two independently scrollable sets of columns, use the black rectangle to the left of the horizontal scroll bar. Using the left mouse button to click-and-drag this rectangle to the right will create a second set of columns. To eliminate this second set of columns, click-and-drag this rectangle back to the left margin.

To change the format used to display dates and times in the FirstTime, LastTime, and RcvdTime fields, use the Configuration 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	per Date & Time Sort Order panel
Last	sort by the UTC time (extracted from spot) each DX station was most recently spotted	LastTime	per Date & Time Sort Order panel
Rcv	sort by the UTC time (from PC) each DX station was most recently spotted	RcvdTime	per Date & Time Sort Order panel
Call	sort by each spotted DX station's callsign	Callsign	ascending
Freq	sort by each spotted DX station's frequency	Frequency	ascending
Az	sort by each spotted DX station's azimuth (short path antenna heading)	Azimuth	ascending

You can sort by any column in the Spot Database Display by double-clicking on its caption. The first time you do this, the Spot Database Display will be sorted in ascending order of the selected column; if you double-click the caption again, the Spot Database Display will be sorted in descending order. The **Sort** panel's caption will indicate how the Spot Database Display is being sorted by displaying the caption of the Spot Database Display column you double-clicked, followed by the word **desc** if the order is descending.

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 SV2ASP/A
- 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=SV2ASP/A]
which means that the Spot Database Display only shows entries whose callsign is SV2ASP/A and that have not been individually hidden . If the current filter is empty, then the Filter Panel's caption will be
Filter: None
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 Need, Callsign, DXCC entity, Frequency, and Tag
The five General filter buttons let you choose one of five criteria; some of these criteria reference the contents of the General Expression textbox, located on the left side of the Filter panel.

Button	Description	General Expression
Need	When clicked without the **Ctrl** key being depressed, displays only unhidden Spot Database Entries for needed DXCC entities, entity-bands, and entity-modes and/or needed WAZ zones, zone-bands, zone-modes, and zone-band-modes, and/or needed Marathon countries, zones, country-bands, country-modes, zone-bands, and zone-modes as specified on the Awards tab of DXKeeper's configuration window. When clicked with the **Ctrl** key being depressed, displays only unhidden Spot Database Entries for needed DXCC entities. In either case, the Need Filter Mode setting determines whether unworked, or both unworked and unconfirmed Spot Database Entries are displayed. When checked, the **Mrthn** checkbox beneath the Need filter button removes Marathon as a consideration in identifying and highlighting needed Spot Database Entries; this is useful early in the year when the large number of entries needed for Marathon might make it difficult to notice entries needed for DXCC or WAZ.	not used
Call	Displays only unhidden Spot Database Entries for DX stations whose callsign is specified in the General Expression textbox	callsign
DXCC	Displays only unhidden Spot Database Entries for DX stations whose DXCC entity is the same as the DXCC entity of the callsign or callsign fragment specified in the General Expression textbox (taking Overrides into account)	DXCC prefix
Freq	Displays only unhidden Spot Database 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
Tag	Displays only unhidden Spot Database Entries for DX stations that contain a Special Callsign Tag that matches the tag specified in the General Expression textbox • if the tag in the General Expression textbox contains a hyphen, then the Tag filter displays all Spot Database Entries whose Tags field contains the specified tag surrounded by angle brackets • if the tag in the General Expression textbox does not contain a hyphen, then the Tag filter displays all Spot Database Entries whose Tags field contains the specified tag surrounded by angle brackets or contains the specified tag preceded by an angle bracket and followed by a hyphen and a membership number.	

General Expression box	Spot Database Entry Tag List	Match ?
EPC	<EPC>, <FOC>	Yes
EPC	<FOC>	No
EPC	<EPC-2640>, <FOC>	Yes
EPC-2640	<EPC-2640>, <FOC>	Yes
EPC-2123	<EPC-2640>, <FOC>	No

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.

Typing a callsign into the General Expression textbox and striking the Enter key is equivalent to clicking the **Call** filter button.

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 these filters are 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, Origin, LotW, and eQSL-AG
SpotCollector six Context filters let you specify criteria independent of the General filters.

Filtering by Band
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 **Enable** checkboxes for each amateur band from 160m to 12cm. This window also provides buttons that toggle groups of band checkboxes on or off; these allow you to, for example, enable all three **WARC** bands with a single mouse click, or disable the 6m, 4m, 2m, and 1.25m **VHF** bands with two mouse clicks. 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.

If you check the **Enable Start/End & Max Origin DX Filtering** box, then you can optionally specify the following additional filtering rules for each band individually:

- a starting and ending UTC time (either an absolute time, or as an offset in minutes from the current Sunrise or Sunset time)
- a maximum distance between your QTH location and the closest station to have spotted the DX station, in miles or kilometers

When you specify a band's **Start UTC** or **End UTC** settings, Spot Database Entries whose frequencies are in this band will only be visible when the current UTC time is after the **Start UTC** and before the **End UTC** specified for that band. To temporarily disable "Start/End UTC" filtering for all bands, check the **Ignore** panel's **Start & End times** box.

You can only modify a band's starting UTC time, ending UTC time, or maximum distance to closest spotting station if that band's **Enable** box is unchecked. Typically, one would uncheck a band's **Enable** box, specify or update these settings, and then check the band's **Enable** box to put those settings into action. To specify an absolute UTC time, simply enter that time; for example, if you want to filter out spot database entries that occur on 80m before 0900Z, then enter 0900 into the 80m band's **Start UTC** textbox. To specify a UTC time relative to sunrise or sunset, use the format SR+X, SR-X, SS+X, or SS-X where SR refers to the current sunrise time, SS refers to the current sunset time, and X is an offset in minutes. To filter out spot database entries that occur on 160m starting 45 minutes after sunrise, for example, type SR+45 into the 160m band's **End UTC** textbox.

You can specify the current sunrise and sunset times in the **Band Filter** window's **Sunrise & Sunset** panel, but you must check the **Ignore** panel's **Start & End times** box before modifying the **Sunrise UTC** or **Sunset UTC** and then uncheck the **Ignore** panel's **Start & End times** box after completing these modifications. If you are running DXView version 2.8.9 or later, the **Sunrise UTC** or **Sunset UTC** will automatically be updated at 0Z each day, eliminating the need to manually keep these settings up to date.

If you specify an invalid starting or ending time, it will be rendered in red font.

If you type a distance into a band's **Max origin DX** textbox, the band's **Enable** box will be disabled. After completing the entry or modification of this distance, check the band's **Enable** box; only Spot Database Entries on this band whose distance to the closest spotting station is equal to or less than the specified **Max origin DX** will be visible in the Spot Database Display. To temporarily disable "maximum distance to closest spotting station" filtering for all bands, check the **Ignore** panel's **Max origin DX** box.
SpotCollector can be configured to determine a spotting station's location as a Maidenhead gridsquare by
- extracting the spotting station's gridsquare from spot notes, if present: enable Capture location info from notes
- capturing the spotting station's gridsquare provided by DX clusters running DX Spider software that have been enabled with the set/dxgrid command
- if the spotting station's gridsquare has not been extracted from spot notes or provided by a DX cluster, by performing a lookup on the spotting station's callsign in the DXCC or USAP database: enable Lookup missing location info

If desired, you can place the set/dxgrid command in the Spot Sources tab's initial cluster command so that SpotCollector will automatically configure all enabled clusters to provide spotting station GridSquares when connecting to the cluster.

Filtering by Mode
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.

Filtering by Continent
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 seven 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.

Filtering by Origin
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

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

Filtering by Authenticity Guaranteed eQSL.cc Participation
If the Authenticity Guaranteed eQSL.cc callsign database eQSLAG.mdb is present in DXView's or SpotCollector's Database folder at startup, you can limit the display of Spot Database Entries to those whose callsigns are Authenticity Guaranteed members of eQSL.cc by checking the Filter panel's **eQSL** box.

Filtering with SQL expressions
SQL filters enable complete control over the display of Spot Database Entries through the specification of SQL expressions that reference Spot Database fields. You can specify up to 16 SQL expressions, organized as two groups of 8, that can used to filter the Spot Database Display by a button click. You can also directly type an SQL expression in the Filter panel and use it to filter the Spot Database Display by striking **CTRL-S**.

With the Filter panel's **ALT** box unchecked, its eight SQL filter buttons provide access to SQL filters 1 to 8; with the **ALT** box checked, the buttons provide access to SQL filters 9 to 16. . 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 16 SQL filters. 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 textbox in this window will append the selected field name to that textbox.

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, LotW, eQSL, 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.

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

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.
Similarly, SpotCollector replaces any occurrence of

- <BANDFILTER> with an SQL expression generated by the current band filter
- <MODEFILTER> with an SQL expression generated by the current mode filter
- <CONTFILTER> with an SQL expression generated by the current continent filter
- <ORIGINFILTER> with an SQL expression generated by the current origin filter
- <NEEDFILTER> with an SQL expression generated by the current need filter
- <XCVRBAND> with the current transceiver band (if Commander is running)
- <XCVRMODE> with the current transceiver band (if Commander is running)
- <DIGIMODE> with WinWarbler's current operating mode

These substitution commands let you create create SQL expressions that incorporate your current band filter,
mode filter, continent filter, origin filter, or need filter settings. For example,
(Callsign='<FILTERTEXTBOX>') and <NEEDFILTER> and ((Band='160m') or (Band='80m'))
lets you specify a callsign in the Filter textbox and see all needed spots of that callsign on 160m and 80m, and
(BAND='<XCVRBAND>') and <NEEDFILTER>
will display all needed Spot Database Entries on the current transceiver band.

If you want an SQL expression to exclude Spot Database Display entries that are hidden, append
and (Hidden <> 'Y')

For additional information, see Filtering the Spot Database Display with SQL.

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

To clear the General, Context, and SQL filters so that the Spot Database Display will show all Spot Database
Entries, depress the **CTRL** key while clicking the button labeled **X** to the immediate right of the General
Expression textbox; the Filter panel caption will be set to
Filter: None

Filter Panel Caption
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 box is unchecked, the word **Band** appears in the current filter
- if any Mode filter box is unchecked, the word **Mode** appears in the current filter
- if any Continent filter box is unchecked, the word **Continent** appears in the current filter
- if any Origin filter box is unchecked, the word **Origin** appears in the current filter
- if the LotW filter box is checked, the word **LotW** appears in the current filter
- if the eQSL box is unchecked, the word **eQSL-AG** appears in the current filter
- if an SQL filter has been activated, the word **SQL** appears at the beginning of the current filter

Thus if the Filter panel caption is
Filter: Band and Mode and [call=SV2ASP/A]
then the Spot Database Display is showing unhidden Spot Database entries whose callsign is SV2ASP/A 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.

If no Spot Database Display filtering is active, the filter panel caption will be set to
Filter: None

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 **AH** 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

If you're using an SQL expression to filter the Spot Database Display, appending
and (Hidden <> 'Y')
will prevent hidden entries from becoming visible.

Audio Alarms
SpotCollector can be configured to announce via the default Windows soundcard the creation of Spot Database Entries representing
* needed DXCC entities, entity-bands, and entity-modes and/or needed WAZ zones, zone-bands, zone-modes, and zone-band-modes and/or needed Marathon countries, zones, country-bands, country-modes, zone-bands, and zone-modes, as specified on the Awards tab of DXKeeper's configuration window
* special callsigns

Be sure to disable audio announcements if you are operating digital modes with a single soundcard.

You can quickly enable or disable audio announcements by unchecking the **Audio** box in the Main window's **Filter** panel. If the Automatically re-enable Audio Alarm after 15 minutes option is enabled, disabling audio announcements by unchecking the **Audio** box will cause SpotCollector to re-enable audio announcements by re-checking the **Audio** box 15 minutes later; the word **Audio** will be rendered in blue font during this 15 minute interval. If SpotCollector is terminated during this 15-minute interval, Audio announcements will be enabled when SpotCollector next starts.

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; DXView will also convey the location information to PropView. 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)
- display cumulative spot notes for the entry in a Spot Notes window (if enabled); new spot notes for the entry will be appended to the display as they arrive
- lookup previously logged QSOs (if DXKeeper is running), DX information (if DXView is running), and QSL routes (if Pathfinder is running)
- display an **Award Tracking** window that shows progress towards each award for which realtime award tracking information is provided in the currently-open log; If the **Award Tracking** window is already being displayed, left-clicking on another Spot Database entry updates the **Award Tracking** window's contents to reflect progress for the newly-selected entry.
- generate a propagation forecast to the entry's location (if PropView and DXView are both running)
- create an Override for the entry's callsign
- hide or un-hide the entry
- copy the entry's callsign, frequency, mode, last time, DXCC prefix, and DXCC country to the Windows clipboard

When you double-click on a Spot Database Entry, SpotCollector's notifies the DXLab applications DXView, DXKeeper, WinWarbler, Pathfinder, and Commander if they are currently running, and sends them information as described below. If you have specified a Digital Mode Application other than WinWarbler -- like MultiPSK -- then SpotCollector sends it information as described below.

- If the Entry's mode is RTTY, PSK31, PSK125, then WinWarbler is always notified. If the Entry's mode is CW, SSB, AM, or FM, then WinWarbler is only notified if the mode's **Service** box is checked in Actions with Digital Mode Application Connected panel. This panel also lets you specify whether WinWarbler's Main window should be automatically restored or minimized as a function of the Entry's mode.
- If the DX station's Maidenhead gridsquare has been determined from spot notes or a DXCC or USAP database lookup, Spot Collector sends the gridsquare to DXView, to the Digital Mode Application, and to 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
- Pathfinder captures the the Entry's callsign, and initiates the designated automatic search if one is specified
- 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

- If the specified Digital Mode Application is WinWarbler, and WinWarbler is running, then 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 Actions with Digital Mode Application connected panel's CW Service box is checked,
    - directs Commander to set the transceiver to the correct frequency and mode as a function of WinWarbler's CW Mode setting
    - places 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 Service box in the Actions with Digital Mode Application connected panel is checked,
    - directs Commander to set the transceiver to the correct frequency and mode
    - places the station's callsign in the *call* textbox in WinWarbler's *QSO Info* panel.
  - if the DX station's mode is other than PSK31, PSK63, RTTY, CW, SSB, AM, or FM,
    - directs Commander to set the transceiver to the spotted frequency and either USB (if above 10 MHz) or LSB (if below 10 MHz)
    - places the station's callsign in the *call* textbox in WinWarbler's *QSO Info* panel.
- If the specified Digital Mode Application is other than WinWarbler, and the Digital Mode Application is running, then the Digital Mode Application
  - if the DX station's mode is other than USB, LSB, AM, FM, or CW, switches to the correct mode (if supported) and arrange to copy the DX station
  - If the DX station's mode is CW and the Actions with Digital Mode Application connected panel's CW Service box is checked, switches to the CW mode (if supported) and arranges to copy the DX station
  - if the DX station's mode is SSB, AM, or FM, and the corresponding Service box in the Actions with Digital Mode Application connected panel is checked, switches to the correct mode (if supported) and arranges to copy the DX station
- If the specified Digital Mode Application isn't running, 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, or if you double-clicked on the Spot Database Entry's left-most column.

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. Depressing the **CTRL** key while clicking either button will enable AutoScroll.

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. Normally, SpotCollector operates with its **Autoscroll** mode enabled, meaning that the Spot Database Display is automatically scrolled so that the most recent addition is always 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, clicking or double-clicking a Spot Database Entry while depressing the **Shift** key or, clicking or double-clicking a Spot Database Entry in its left-most column all disable Autoscroll mode so that the selected Spot Database Entry remains visible even as new Spot Database Entries are added to the Spot Database.

- If the Date & Time Sort Order panel is set to **ascending**, or if the Sort panel is set to **Callsign**, **Freq**, or **Az**, then the most recent Spot Database Entry appears at the bottom of the Spot Database display. Clicking the **last** VCR-style button will enable **Autoscroll** mode; clicking the **first**, **previous**, or **next** buttons will disable **Autoscroll** mode so that incoming Spots no longer scroll the Spot Database Display (and thus may no longer be visible).
- If the Sort panel is set to **First, Last**, or **Rcv** and the Date & Time Sort Order panel is set to **descending**, then most recent Spot Database Entry appears at the top of the Spot Database display. Clicking the **first** VCR-style button will enable **Autoscroll** mode; clicking the **previous**, **next**, or **last** buttons will disable **Autoscroll** mode so that incoming Spots no longer scroll the Spot Database Display (and thus may no longer be visible).

When Autoscroll is disabled, the words "**Autoscroll Disabled**" blink 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**" blink in red font. Enabling Autoscroll mode by clicking either the **last** or **first** button (depending on the Sort selection and Sort order as described above) will display the new Spot Database entries, and clear the "**Autoscroll Disabled**" notification.

Generating a Spot Database Report

Clicking the **Report** button generates a report with one entry for each visible Spot Datbase 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

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.

Clicking the **Cluster** or **Local** buttons enables **Autoscroll** mode.

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.

If the Spot Xcvr split setting is enabled and Commander is running (version 5.9.2 or later), then the **Notes** textbox will track the current transceiver split frequency, e.g. "up 2.5" or "dn 1"; if Commander indicates that the transceiver is not in split mode, then the **Notes** textbox will be cleared.

If the Save Spot Notes option is disabled, clicking either the **Cluster** or **Local** buttons will clear **Notes** textbox so you can easily enter new notes for the next outgoing spot. If the Save Spot Notes option is enabled, clicking either the **Cluster** or **Local** buttons will leave the **Notes** textbox; this is useful when all outgoing spots will have identical notes, e.g. when spotting stations participating in a particular contest. Depressing the CTRL key while clicking the panel's **X** button will toggle the state of the Save Spot Notes option.

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.

If Commander is running (version 6.6.4 or later), clicking the band button above a by-band statistic will QSY the transceiver to that band.

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

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.

DXCC and USAP Databases
SpotCollector performs lookups in a DXCC database to determine a callsign's DXCC entity and as much location information as can be unambiguously determined from that callsign -- e.g. CQ zone, ITU zone, and IOTA tag. If DXView is installed, then SpotCollector uses the DXCC database located in the DXCC.mdb file in DXView's Databases sub-folder; If DXView is not installed, then SpotCollector uses the DXCC database located in the DXCC.mdb file in SpotCollector's own Databases sub-folder.

Due to the policies of the United States Federal Communications Commission (FCC), the DXCC database cannot unambiguously determine location information from callsigns issued to stations in the United States, Alaska, Puerto Rico, US Virgin Islands, Baker Howland Island, Guam, Johnston Island, Midway Island, Palmyra Island, Kingman Reef, Hawaii, Kure Island, American Samoa, Wake Island, or the Marianas Islands. To accurately determine location information from callsigns in these DXCC entities, an optional US and Possessions (USAP) database is available. When present in either DXView's or SpotCollector's Databases sub-folder, SpotCollector uses the USAP database to determine location information for callsigns in these entities. The current USAP database is available in http://www.DxLabSuite.com/dxview/USAP.exe . Note that DXView will report the presence of an updated USAP database, and can be directed to download and install the updated database with a single click.

Occasionally, stations use callsigns that the DXCC and USAP databases cannot unambiguously or correctly map to the DXCC entity in which the station is operating; examples include callsigns like TO5M or E51DX. To address such situations, SpotCollector permits the definition of Overrides.

Spot Database Fields

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 by performing a lookup in the DXCC or USAP database unless there's an 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 overridden by a mode designation like PSK or MFSK in the spot notes (if the DX station is operating split, then the QSX frequency's sub-band is used to determine the mode rather than the DX station's transmit frequency)
Submode	Submode	the spotted DX station's sub-mode, as extracted from a mode-submode designation like CONTESTI-4-500 in the spot notes (mode = CONTESTI, submode = 4-500)
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 taken from the most recent spot of this station in this mode close to this frequency with non-empty notes
Network	Network	the name of the PacketCluster, DXCluster, or IRC channel 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 • V - verified

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 • V - verified
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 • V - verified
BandSought	BandSought	Indicates whether the spotted band's box is checked in the **DXCC/TopList Bands & Modes** 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/TopList Bands & Modes** 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 callsign 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 (**un**known, **N**orth **A**merican **E**ast coast, **N**orth **A**merican **M**idwest, **N**orth **A**merican **W**est coast, **S**outh **A**merica, **Eu**rope, **Af**rica, **As**ia, **Oc**eania)
Cont	Cont	the spotted DX station's continent
DXCCCountry	DXCCCountry	the spotted DX station's DXCC entity name
DXCCID	DXCCID	the spotted DX station's DXCC country code
DXGrid	DXGrid	the spotted station's Maidenhead gridsquare
Azimuth	Azimuth	short-path bearing to the spotted station (in degrees)
Distance	Distance	distance to the spotted station in miles or kilometers; if no DX station gridsquare is known, this value is set to -1 (displayed as a blank entry in the Spot Database Display)
CQ	CQ	the spotted stations' CQ zone
ITU	ITU	the spotted station's ITU zone
IOTA	IOTA	the spotted station's IOTA tag
Primary	Primary	the ADIF-defined code for the primary administrative subdivision in which the spotted station is located
Region	Region	the location of the spotted stations (with any region code or primary code removed)
RegionCode	RegionCode	the code for the Region defined by the award sponsor (e.g. CQ, WAE, Holyland)
OriginGrid	OriginGrid	the spotting station's Maidenhead gridsquare (extracted form spot notes or provided by a spot source)
ODX	ODX	the distance from the center of the Maidenhead gridsquare of the closest station to spot the DX station and the Operator's latitude and longitude in miles or kilometers; if no DX station or spotting station gridsquare is known, this value is set to -1 (displayed as a blank entry in the Spot Database Display)
OMDX	OMDX	the maximum distance from the center of the Maidenhead gridsquare of the closest station to spot the DX station and the Operator's latitude and longitude in miles or kilometers
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 **L**ogbook **of t**he **W**orld (LotW) • Y - the station is known to QSL via LotW • N - the station is not known to QSL via LotW
eQSL	eQSL	Indicates whether or not this station is an Authenticity Guaranteed member of eQSL.cc • A - the station is an Authenticity Guaranteed member of eQSL.cc • N - the station is not an Authenticity Guaranteed member of eQSL.cc •

Tags	Tag	the spotted DX station's Tags, assigned by the Special Callsign List
NoteSource	NotesSource	callsign of the station that posted the spot notes
Cumulative	CumulativeNotes	all spot notes received for this station in order of ascending time, separated by carriage return and line feed
BFA	BFA	Indicates whether or not this entry's **B**and **F**ilter is **A**ctive • Y - the band filter is active; either the Start Time or End Time is unspecified, or the current time is after the Start Time and before the End time • N - the band filter is inactive: the current time is before the Start Time or after the End Time
CQZProg	CQZProg	award progress for the CQ zone 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 • V - verified
CQZWB4	CQZWB4	indicates whether or not this callsign has already been worked when valid for WAZ awards (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
CQZBandEn	CQZBandEn	indicates whether the spotted band's box is checked in the **WAZ Bands & Modes** 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
CQZBandProg	CQZBandProg	award progress for the CQ zone 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 • V - verified
CQZBandWB4	CQZBandWB4	indicates whether or not this callsign has already been worked on the spotted band when valid for WAZ awards (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
CQZModeEn	CQZModeEn	indicates whether the spotted mode's box is checked in the **WAZ Bands & Modes** 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

CQZModeProg	CQZModeProg	award progress for the CQ zone 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 • V - verified
CQZModeWB4	CQZModeWB4	indicates whether or not this callsign has already been worked on the spotted mode when valid for WAZ awards (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
CQZBandModeProg	CQZBandModeProg	award progress for the CQ zone in the spotted band-mode combination (used by SpotCollector to determine whether or not an entry is unworked, unconfirmed, or unneeded) • U - unworked • W - worked • F - confirmed • V - verified
Needed	Needed	indicates for which awards this entry is categorized as unworked counter, unworked band or mode, or unconfirmed • D - this entry is needed for an ARRL DXCC or Toplist award • M - this entry's Marathon Country is unworked • N - this entry's Marathon Zone is unworked • Z - this entry is needed for a CQ WAZ award
MarBandEn	MarBandEn	indicates whether the spotted band's box is checked in the **Marathon** panel on the Awards tab of DXKeeper's Configuration window (used by SpotCollector to determine whether or not an entry is unworked) • Y - checked • N - unchecked
MarModeEn	MarModeEn	indicates whether the spotted modes box is checked in the **Marathon** panel on the Awards tab of DXKeeper's Configuration window (used by SpotCollector to determine whether or not an entry is unworked) • Y - checked • N - unchecked
MarCntryProg	MarCntryProg	award progress for the Marathon Country on any band or mode (used by SpotCollector to determine whether or not an entry is unworked) • U - unworked • W - worked
MarCntryBandProg	MarCntryBandProg	award progress for the Marathon Country on the spotted band (used by SpotCollector to determine whether or not an entry is unworked) • U - unworked • W - worked

MarCntryModeProg	MarCntryModeProg	award progress for the Marathon Country in the spotted mode (used by SpotCollector to determine whether or not an entry is unworked) • U - unworked • W - worked
MarZoneProg	MarZoneProg	award progress for the Marathon Zone on any band or mode (used by SpotCollector to determine whether or not an entry is unworked) • U - unworked • W - worked
MarZoneBandProg	MarZoneBandProg	award progress for the Marathon Zone on the spotted band (used by SpotCollector to determine whether or not an entry is unworked) • U - unworked • W - worked
MarZoneModeProg	MarZoneModeProg	award progress for the Marathon Zone in the spotted mode (used by SpotCollector to determine whether or not an entry is unworked) • U - unworked • W - worked

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.

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 .

A smaller web page optimized for display on mobile handsets is also available. Using the above example, the URLs would be http://fido/smallspots and http://192.168.1.102/smallspots .

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

SpotCollector's web server uses port 80 by default, but you can specify another port if port 80 is already in use by another application running on your PC; port 8080 is typically uses as an alternative to port 80. If you specify a port other than 80, you'll need to include this port in the URL specified in your web browser, e.g. http://fido:8080/spots or http://192.168.1.102:8080/spots .

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. Clicking the **Disable Autoscroll** button stops the display of newly-received information so you can scroll backwards to peruse already-received data, and flashes the **Autoscroll Disabled** warning. Clicking the **Autoscroll Disabled** warning displays all information received while autoscroll was disabled, resumes the real-time display of newly-received information, and displays the **Disable Autoscroll** button.

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. 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. Clicking the **Disable Autoscroll** button stops the display of newly-received information so you can scroll backwards to peruse already-received data, and flashes the **Autoscroll Disabled** warning. Clicking the **Autoscroll Disabled** warning displays all information received while autoscroll was disabled, resumes the real-time display of newly-received information, and displays the **Disable Autoscroll** button.

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.

You can specify an initial cluster command to be executed after logging in to each DXCluster.

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

Some DXClusters are parts of a *sub-network* that permits only a single connection. For example, if DXClusters A and B are part of the same sub-network and you are connected to A, connecting to B will cause the connection with A to silently drop. If SpotCollector is configured to automatically reconnect dropped connections, then when SpotCollector reconnects with A, the connection with B will silently drop - *ad infinitum*. Thus after configuring SpotCollector to connect to a new DXCluster, monitor the messages in its Source Window for a few minutes; if you see a spontaneous reconnection, the new DXCluster may be part of a sub-network to which you are already connected, in which case you should choose a different DXCluster.

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. Clicking the **Disable Autoscroll** button stops the display of newly-received information so you can scroll backwards to peruse already-received data, and flashes the **Autoscroll Disabled** warning. Clicking the **Autoscroll Disabled** warning displays all information received while autoscroll was disabled, resumes the real-time display of newly-received information, and displays the **Disable Autoscroll** button.

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.

You can optionally specify a post-connection command to be sent 5 seconds after connecting to the specified callsign; this could be used to connect to a second packet node to reach the PacketCluster. You can also optionally specify an initial cluster command to be executed after logging in to the PacketCluster.

PacketClusters that utilize DX Spider or CC Cluster 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

Configuring SpotCollector's General Settings

The General tab contains seven panels:
- General
- Transceiver mode with no Digital Mode Application connected
- Actions with Digital Mode Application connected
- Digital Mode Application
- User-defined Sequence after QSY
- Sub-band Definition
- Help Browser

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
Save Spot Notes	when checked, the Outgoing Spots panel's Notes textbox is not cleared after the panel's Cluster or Local button is clicked, and the parenthetical phrase **(notes saved)** is appended to the panel's caption
Spot Xcvr split	when checked with Commander running (version 5.9.2 or later), the outgoing spot notes will track the transceiver's split frequency in kHz, e.g. "up 2.5" or "dn 1"
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
Determine mode from notes	when checked, the operating mode determined by a DX station's sub-band is overridden by a mode specifier found in its spot notes
Capture location info from notes	when checked, SpotCollector attempts to recover location information for an entry's DX station (grid square, IOTA tag) and spotting station (grid square) from its spot notes; if successful, this information is used in preference to location information provided by the cluster software
Lookup missing location info	when checked, SpotCollector attempts to obtain location information for an entry's DX station (grid square, IOTA tag, CQ zone, ITU zone, continent, primary administrative subdivision, region) and spotting station (grid square) via DXCC or USAP database lookup if this information has not been extracted from spot notes or provided by the cluster software.

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 and its **SC Lock button** has not been clicked)
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)
Display info in title bars	when checked, UTC time and log information is displayed in the Main window's title bar, and UTC time is displayed in the spot source windows' title bars (uncheck if running Vista)
Use multiple monitors	when checked, windows that resided on a secondary monitor during the previous session will be restored to the same secondary monitor on startup; when not checked, all windows will be restored to the primary 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: • **N**orth **A**merican **E**ast coast • **N**orth **A**merican **M**idwest • **N**orth **A**merican **W**est coast • **S**outh **A**merica, **Eu**rope • **Af**rica • **As**ia • **Oc**eania) Operator Latitude and Longitude are used to compute the distance to the station originating a DX spot for Band filtering
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
DX Unit	Specifies whether Distances, Origin Distances and Band Filter Maximum Origin Distances are stored and displayed in miles or kilometers.

Transceiver mode with no Digital Mode Application connected
If the specified Digital Mode Application isn't connected but Commander is running, then the settings in this panel's sub-panels determine to what mode the transceiver will be set when a Spot Database Entry is activated by double clicking or by right-clicking and selecting the QSY menu item.

CW spot sub-panel
When a CW Spot Database Entry is activated with Commander running, set the transceiver to the specified mode:

CW	"normal" CW
CW-R	"reversed" CW

RTTY spot sub- panel
When a RTTY Spot Database Entry is activated with Commander running, set the transceiver to the specified mode:

RTTY	"normal" RTTY
RTTY-R	"reversed" RTTY
USB	upper sideband
LSB	lower sideband
PKT	"normal" packet (present unless the primary transceiver supports Data modes)
PKT-R	"reversed" packet (present unless the primary transceiver supports Data modes)
Data-L	data mode, lower sideband (present if the primary transceiver supports Data modes)
Data-U	data mode, upper sideband (present if the primary transceiver supports Data modes)

non-RTTY Digital spot sub-panel
When a Spot Database Entry is activated with Commander running and the entry's mode is other than USB, LSB, AM, FM, CW, or RTTY, then set the transceiver to the specified mode:

RTTY	"normal" RTTY
RTTY-R	"reversed" RTTY
USB	upper sideband
LSB	lower sideband
PKT	"normal" packet
PKT-R	"reversed" packet
Data-L	data mode, lower sideband (present if the primary transceiver supports Data modes)
Data-U	data mode, upper sideband (present if the primary transceiver supports Data modes)

Actions with Digital Mode Application connected Panel
The **Service**, **Auto-restore**, and **Auto-minimize** columns of checkboxes in this panel determine SpotCollector's actions if the specified Digital Mode Application is connected and a Spot Database Entry is activated by double clicking or by right-clicking and selecting the QSY menu item.

The **Service** checkboxes determine whether activation of a Spot Database Entry is conveyed to the Digital Mode Application as a function of the Entry's mode. The **Digital Service** box cannot be unchecked, because Digital mode Spot Database Entries are always conveyed to the Digital Mode Application if its connected. The CW, SSB, AM, and FM Service checkboxes determine whether activation of Spot Database Entries of these modes are also conveyed to the Digital Mode Application.

The **Auto-restore** checkboxes determine on a mode-by-mode basis whether after conveying activation of a Spot Database Entry to the Digital Mode Application, the Digital Mode Application's Main window is restored to the screen if it was minimized.

The **Auto-minimize** checkboxes determine on a mode-by-mode basis whether after activating a Spot Database Entry whose mode's **Service** checkbox is disabled, SpotCollector minimizes the Digital Mode Application's Main window if it is on-screen. The **Digital Auto-minimize** box cannot be checked because the **Digital Service** box cannot be unchecked, as explained above.

Digital Mode Application panel

Controls on this panel let you specify the Digital Mode Application to which SpotCollector will send frequency and mode information when you select a Spot Database Entry, subject to settings on the panels described below. By default, the Digital Mode Application textbox is set to WinWarbler; if the Digital Mode Application textbox is empty, SpotCollector sets it to WinWarbler . If you specify a Digital Mode Application like MultiPSK and click the **Connect** button, then when you select a Spot Database Entry, SpotCollector will send the frequency and mode information to that Digital Mode Application from then on.

User-defined Sequence after QSY panel

If Commander is running, the user-defined command sequence named in this panel's textbox is executed after any QSY directive sent from SpotCollector to Commander -- such as when you double-click on a Spot Database Entry; this capability could be used to enable an automatic antenna tuner, select a specific antenna, or set a clarifier offset. If you double-click a Spot Database Entry whose frequency and mode information will be sent to a specified Digital Mode Application (as described above), then SpotCollector will neither direct Commander to QSY nor direct Commander to execute the specified user-defined command sequence; you can configure WinWarbler to specify a user-defined command sequence to be conveyed to Commander in this scenario.

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 or QSX 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 any mode defined in ADIF • 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 four panels and the alert when Talk message received setting.

Telnet DXCluster 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
Ann/Talk	If checked, only announcement and talk messages will be displayed in the DXCluster window (DX and WWV spots will be added to their respective databases, but will not be displayed in the DXCluster window)
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, and in the Initial Cluster Command, 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

PacketCluster 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
Ann/Talk	If checked, only announcement and talk messages will be displayed in the PacketCluster window (DX and WWV spots will be added to their respective databases, but will not be displayed in the PacketCluster window)
Packet 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
Cmd	Text sent 5 seconds after the PacketCluster login process, typically to "connect" to another packet node; leave this setting blank if no post-login command is required.
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 Channel

Initial Cluster Command panel

Enable	when checked, the specified command will be sent to each Telnet DXCluster and PacketCluster after logging in
Command	cluster command sent to each Telnet DXCluster and PacketCluster after logging in (embedded commands can be used)

If the **alert when Talk message received** box is checked, then a Talk message received by a Telnet DXCluster or PacketCluster source window or a Private message received by the IRC source window will make the source window visible and play the sound file specified in the **Audio message alert pathname** textbox; if no filename is specified, the Windows **Default Beep** audible alert will be played.

Configuring the Display of Information in Spot Source windows

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

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 displays a color selection window that lets you set background colors
Received Color	Clicking the button displays a color selection window that lets you sets th the font color of received text, where "received text" refers to text other than DX announcements, WWV announcements, text you transmitted, or error messages
Transmitted Color	Clicking this button displays a color selection window that lets you set the font color of transmitted text
DX Color	Clicking this button displays a color selection window that lets you set the font color of DX announcements
WWV Color	Clicking this button displays a color selection window that lets you set the font color of WWV announcements
Error message Color	Clicking this button displays a color selection window that lets you set the font color of error messages
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 displays a color selection window that lets you set background colors
Text Color	Clicking the button displays a color selection window that lets you set the font color of all text
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 displays a color selection window that lets you set the background color
Received Color	Clicking the button displays a color selection window that lets you set the font color of received text, where "received text" refers to text other than private messages, status messages, text you transmitted, or error messages
Transmitted Color	Clicking this button displays a color selection window that lets you set the font color of transmitted text
Status Color	Clicking this button displays a color selection window that lets you set the font color of status messages
Private Color	Clicking this button displays a color selection window that lets you set the font color of private messages
Error message Color	Clicking this button displays a color selection window that lets you set the font color of error messages
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 displays a color selection window that lets you set the background color
Text Color	Clicking the button displays a color selection window that lets you set the font color of all text
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 displays a color selection window that lets you set background colors
Received Color	Clicking the button displays a color selection window that lets you set the font color of received text, where "received text" refers to text other than DX announcements, WWV announcements, text you transmitted, or error messages
Transmitted Color	Clicking this button displays a color selection window that lets you set the font color of transmitted text
DX Color	Clicking this button displays a color selection window that lets you set the font color of DX announcements

WWV Color	Clicking this button displays a color selection window that lets you set the font color of WWV announcements
Error message Color	Clicking this button displays a color selection window that lets you set the font color of error messages
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 displays a color selection window that lets you set background colors
Text Color	Clicking the button displays a color selection window that lets you set the font color of all text
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

Configuring the Spot Database Display

Panels on the Configuration window's **Spot Database Display tab** enable to control the appearance of information in the Spot Database Display. This tab can be directly displayed by double-clicking the Main window's Color Codes panel.

Controls in the **Font Colors panel** control the appearance of entries in the Spot Database Display based on a categorization driven by realtime award tracking information present in DXKeeper's current log and on award objectives -- the bands and modes on which an award is being pursued. Realtime award tracking information for ARRL DXCC and TopList awards is present in every log; objectives for these awards are specified in DXKeeper. If Realtime award tracking information for CQ WAZ awards is present in the current log, award objectives are also specified in DXKeeper. The term **counter** refers to the object of each award; for ARRL DXCC awards, the award counter is a DXCC entity, whereas for CQ WAZ awards, the counter is a CQ zone.

Verified DX Font Color	Clicking this button displays a color selection window that lets you set the color of verified Spot Database Entries, meaning that for each award for which realtime award tracking information is present in DXKeeper's current log • you have a verified QSO with the associated counter • if you're pursuing counters on the spotted band, the current DXKeeper log indicates that you have a verified QSO with the associated counter on the spotted band, and • if you're pursuing counters in the spotted mode, the current DXKeeper log indicates that you have a verified QSO with the associated counter in the spotted mode
Unneeded DX Font Color	Clicking this button displays a color selection window that lets you set the color of unneeded Spot Database Entries, meaning that for at least one award for which realtime award tracking information is present in DXKeeper's current log • the current DXKeeper log indicates that you have confirmed QSOs with the associated counter 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 • DXKeeper's award setup indicates that you are not pursuing counters on this band or in this mode
Unconfirmed DX Font Color	Clicking this button displays a color selection window that lets you set the color of unconfirmed Spot Database Entries, meaning that for at least one award for which realtime award tracking information is present in DXKeeper's current log, you are pursuing but missing confirmed QSOs with the associated counter on the spotted band or mode
Unworked DX Band or Mode Font Color	Clicking this button displays a color selection window that lets you set the color of unworked band or mode Spot Database Entries, meaning that for at least one award for which realtime award tracking information is present in DXKeeper's current log, you are missing QSOs with the associated counter on the spotted band or mode
Unworked DX Counter Font Color	Clicking this button displays a color selection window that lets you set the color of unworked counter Spot Database Entries, meaning that for at least one award for which realtime award tracking information is present in DXKeeper's current log, you are missing a QSO with the associated counter on any band and in any mode
Tagged Special Callsign Font Color	Clicking this button displays a color selection window that lets you set the color of Spot Database Entries of special callsigns with tags

When the currently-open DXKeeper log provides realtime award tracking information for more than one award -- e.g. DXCC and WAZ -- a Spot Database Entry's category is determined by the award for which the Entry is *most* needed. The unworked counter category is considered the most needed, and the verified category is considered the least needed.

Controls in the **Background Colors panel** control the appearance of entries in the Spot Database Display based on known participation in ARRL's Logbook of the World (LotW).

Normal Background Color	Clicking this button displays a color selection window that lets you set the background color of spots of stations not known to participate in LotW
LotW Background Color	Clicking this button displays a color selection window that lets you set the background color of spots of stations known to participate in LotW
eQSL AG Background Color	Clicking this button displays a color selection window that lets you set the background color of spots of stations that are Authenticity Guaranteed members of eQSL.cc
LotW & eQSL AG Background Color	Clicking this button displays a color selection window that lets you set the background color of spots of stations known to participate in LotW and are Authenticity Guaranteed members of eQSL.cc

Controls in the **Font panel** specify the Font used to display information in the Spot Database Display

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
Set Row Height	Clicking this button sets the Spot Database Display's row height to match the selected Font Size

Controls in the **Date & Time Sort Order panel** specify whether the Spot Database Display is sorted in ascending or descending order when the Sort panel is set to **First**, **Last**, or **Rcv**.

The **Layout panel** contains a table that enables you to specify
- which fields appear as columns in the Spot Database Display
- the caption for each such field
- the alignment of each such field.

To add a field to the Spot Database Display,
- scroll to the last row of the table; this row is distinguished by an asterisk in its leftmost cell
- in the field cell of this last row, click the pulldown icon (a small black triangle) and choose the field to be displayed from the resulting list
- in the caption cell of the newly added row, enter the caption to be used for this field in the log page display, followed by the enter key

To see the newly added field, you may need to horizontally scroll the Spot Database Display. The order in which fields appear in the Spot Database Display, and the width of each column in the Spot Database Display are controlled by direct manipulation.

To remove a field from the Spot Database Display,
- select the row in the table corresponding to the field to be removed by clicking in the row's leftmost cell (this cell is shaded)
- click the **Delete selected list entry** button.

The Layout 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.

Configuring SpotCollector's Spot Database

The Spot Database tab contains 7 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)
Maximum age of last LotW upload (months)	a Spot Database Entry whose callsign is known to participate in LotW but whose last upload to LotW exceeds this age will have its LotW item set to 'N'. • if no value for this setting is specified, Spot Database Entries for stations known to participate in LotW will have their LotW items set to 'Y'. no matter when they last uploaded to LotW • changes to this setting will apply to subsequently-created Spot Database Entries; to apply a changed setting to existing Spot Database Entries, invoke the Recomp function
Make cumulative spot notes available	When checked, each Spot Database Entry's Cumulative field maintains a list of all spot notes received in ascending time order for display in the Spot Notes window
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

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 • **Select**: when clicked, displays a window with which you can navigate to the desired pathname • **Open**: when clicked, uses the currently-specified pathname
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

Size Limit panel

The only limit to the growth of SpotCollector's Spot Database is the amount of free storage on its storage volume. Left to grow without bound, this will eventually reduce your PC's performance. Using facilities on this panel, you can manually "prune" the Spot Database's older entries, or clear it completely. You can also configure SpotCollector to automatically prune the Spot Database hourly; this makes it easy, for example, to limit the Spot Database to the last two days of entries without requiring user attention.

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	When clicked, 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 are deleted.
Prune Spot Database hourly	If checked, the Spot Database is pruned when at the beginning of each hour; all Spot Database entries older than the specified age are deleted.
Clear Spot Database on startup	If checked, the Spot Database is cleared when SpotCollector starts
Clear	When clicked, deletes all Spot Database entries regardless of age

Recomputation panel
Each Spot Database Entry includes award progress information obtained the log file referenced
for award progress. If you modify or delete a logged QSO in DXKeeper, SpotCollector is
automatically directed to update this award progress information. If you are planning to modify or
delete many QSOs in DXKeeper, it may be more efficient to disable these automatic updates,
and then perform one update after all changes have been made.

- To disable these automatic updates, uncheck this panel's **Enable automatic updates**
  box.
- To update each entry in the Spot Database Display to reflect updates to logged QSOs,
  click this panel's **Recomp** button.
- To re-enable automatic updates, check this panel's **Enable automatic updates** box.

If automatic updates are left disabled, SpotCollector may incorrectly identify Spot Database
Entries for needed DX stations.

To update each entry in the Spot Database Display, click this panel's **Recomp** button, which
- updates each Spot Database Entry's DXCC entity and award progress information by
  querying the specified log file
- updates LotW participation and Authenticity Guaranteed eQSL.cc membership if the
  required databases are installed

You must also update each entry in the Spot Database Display after upgrading to a new DXCC
database version that defines one or more new DXCC entities, or modifies the DXCC Prefix or
country code of one or more existing DXCC entities; do this by clicking this panel's **Recomp**
button.

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

Process Priority panel
This panel specifies SpotCollector's priority with respect to other running applications.

Configuring SpotCollector

SpotCollector's Configuration screen provides nine 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
    - 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 Spot Source Display 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 Display tab contains settings that govern what information is displayed in Spot Database Display, and settings that control the color-coding and fonts used to display that information
- 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 **Overrides** tab allows you to specify the callsigns of up to 16 stations and the details of their operating location in a set of 7 components:

DXCC Entity	the DXCC entity from which the station is operating; if DXView is running; left-clicking a DXCC entity or striking the Enter key performs a DXCC database lookup that initializes the other components of the override -- Location, CQ, ITU, Cont, Grid, IOTA, and Time -- if they are unspecified

Location	the name of the location from which the station is operating
	    o use the <Pri:> tag to specify an ADIF Primary Administrative Subdivision code, e.g. <Pri:SC>
	    o use the <Reg:> tag to specify a DXKeeper Award Region code, e.g. <Reg:IT9>

CQ	the CQ zone from which the station is operating
ITU	the ITU zone from which the station is operating
Cont	the Continent from which the station is operating
Grid	the Maidenhead Grid Square from which the station is operating
IOTA	the IOTA tag for the island from which the station is operating

- You can use this mechanism to handle DX callsigns that do not conform to standard prefix allocations, or to provide specific location information for a station operating in a needed CQ zone, continent, grid square, or IOTA tag. DXView and SpotCollector both use these Overrides when determining a station's location. You can also be specify or modify Entity Overrides via the Overrides tab on DXView's Configuration window; any such changes will be reflected in SpotCollector's Overrides tab.

- the TNC Serial Port tab lets you configure the serial port by which your TNC is connected
- the Audio tab lets you control the audio announcement function
- the Special Callsigns tab allows you to
    - specify callsigns to be ignored when spotted
    - tag callsigns that associated with groups or activities

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

Configuring SpotCollector's Audio Settings

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
Automatically re-enable Audio Alarm after 15 minutes	When checked, the Audio Alarm will be automatically re-enabled 15 minutes after being disabled via the Main window's Audio checkbox

Announce award counters, band, and mode	• when unchecked, the file specified in the Sound pathname setting is played
	• when checked, the following will be announced when a Spot Database entry is created whose callsign is needed for ARRL DXCC, CQ WAZ, or CQ DX Marathon awards:
	:
	    o DXCC country (if the callsign is needed for DXCC)
	    o Marathon country (if the callsign is needed for Marathon, its country is not a DXCC country, and Suppress Marathon Announcements is disabled)
	    o CQ zone (if the callsign is needed for WAZ or Marathon)
	    o band
	    o mode

Announce unconfirmed as well as unworked	• when unchecked, only unworked DXCC entities and CQ zones are considered "needed" • when checked, both unworked and unconfirmed DXCC entities and CQ zones are considered "needed" Note that a spot containing an unconfirmed DXCC entity or an unconfirmed CQ zone will not be considered "needed" if you've already worked the spotted station on the spotted band and mode
Announce special callsigns	when checked, the creation or update of a Spot Database entry for a callsign on the Special Callsign list will be announced whether or not a QSO with the callsign would advance award progress
Suppress Marathon announcements	When checked, newly created Spot Database entries needed for Marathon will not be announced;
Include special callsigns in announcements	When checked, each new Spot Database entry's Special Callsign will be announced by playing letter and number files in SpotCollector's Sounds/Alphanumerics sub-folder
Announce callsign phonetically	When checked, announces the Spot Database entry's callsign phonetically by playing letter and number files in SpotCollector's Sounds/Phonetics sub-folder at the specified speed
Include LotW participation in announcement	When checked, plays the file LotW.wav in SpotCollector's Sounds sub-folder after announcing a Spot Database entry whose callsign is known to participate in LotW
Include eQSL AG participation in announcement	When checked, plays the file eQSL.wav in SpotCollector's Sounds sub-folder after announcing a Spot Database entry whose callsign is an Authenticity Guaranteed member of eQSL.cc
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

Alarm trigger sub-panel	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
Callsign Announcement sub-panel	Phonetics speed	controls the speed at which callsign phonetics are announced
	Test callsign	specifies a callsign to be announced when the Test button is clicked
	Test	announces the Test callsign according to the current callsign announcement settings
Transceiver Announcements sub-panel	Frequency changes	when checked with Commander running, transceiver frequency changes are announced after the frequency remains unchanged for 1 second
	Mode changes	when checked with Commander running, transceiver mode changes are announced
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)	
Sound Folder Pathnames sub-panel	Entities, Bands, Modes	pathname of the folder containing .wav files used to announce entities, bands, and modes
	Alphanumerics	pathname of the folder containing .wav files used to announce callsigns alphanumerically
	Phonetics	pathname of the folder containing .wav files used to announce callsigns phonetically

Identifying Special Callsigns

SpotCollector's Special Callsign List can be used to accomplish three objectives:
1. to specify callsigns that should be ignored when spotted, e.g. PIRATE or SLIM
2. to specify callsigns whose spots should be ignored, and that should be ignored when spotted
3. to associate callsigns with groups or activities so they can be rapidly identified when spotted

The Special Callsign List is displayed on the Configuration window's Special Callsigns tab. If the Special Callsign List contains more entries than can be simultaneously displayed, you can scroll through the entries using the vertical scrollbar along the List's right-hand margin. A set of two VCR-style buttons located above the vertical scrollbar give you one-click access to the **first** and **last** Special Callsign List Entry.

Each entry on the Special Callsign List contains a callsign and optionally a list of one or more alphanumeric tags
- A Special Callsign List Entry that specifies no tag means that spots of the Entry's callsign should be ignored
    - o such Special Callsign List Entries are displayed using red font
- A Special Callsign List Entry that specifies the single tag *BadSource* means that spots of the Entry's callsign should be ignored, and that spots sourced by the Entry's callsign should be ignored
    - o such Special Callsign List Entries are displayed using red font
    - o SpotCollector only checks the source (spotting station callsign) for a *BadSource* tag if the **Check Spotting station callsigns for BadSource tags** option is enabled
- A Special Callsign List Entry containing one or more tags other than *BadSource* means that the Entry's callsign is sought independently of need for award progress
    - o if more than one tag is specified, they should be separated with commas, e.g. EPC, FOC, QCWA
    - o if a tag specifies both an organization and a membership number, they should be separated by a hyphen, e.g. EPC-2640
    - o when a Spot Database Entry is created for such a callsign, its tags field will be populated from the tag list specified in the Special Callsign List Entry, and it will be announced
    - o SpotCollector's Tag Filter can be used to display all Spot Database Entries that match a specified tag value

An incoming spot's callsign matches the callsign of an entry in the Special Callsigns list if
1. the incoming spot's callsign is identical to an entry's callsign (ignoring upper/lower case)
2. the incoming spot's callsign contains one or two forward slash characters separating the callsign into two or three components, one of which is identical to an entry's callsign (ignoring upper/lower case)

When a spot arrives with the **Check Spotting station callsigns for BadSource tags** option is enabled, SpotCollector checks to see whether the incoming spot's **spotting station callsign** matches the callsign of an entry in the Special Callsign list. If a matching entry is found and this entry's tag is *BadSource*, then the incoming spot is ignored.

If the **Check Spotting station callsigns for BadSource tags** option is not enabled, or if it is is enabled but the spotting station callsign matches no entry in the Special Callsign list or matches an entry whose tag is not *BadSource*, then SpotCollector checks to see whether the incoming spot's **callsign** matches the callsign of an entry in the Special Callsign list. If a matching entry is found and this entry either specifies no tag or specifies the tag *BadSource*, then the spot is ignored.

If a matching entry is found for the spot's callsign and this entry specifies tags other than *BadSource,* then SpotCollector will either create or update a Spot Database Entry for the spotted station. In either case,

- the Spot Database Entry's tags field will be populated from the tag list specified in the matching Special Callsign List Entry, with each tag in the Special Callsign List Entry enclosed with angle brackets; for example, the tag list

EPC-2640, FOC, QCWA

would set the Spot Database Entry's tags field to

<EPC-2640>, <FOC>, <QCWA>

- the Spot Database Entry will be displayed in the specified font color
- if not previously announced and either Announce special callsigns is enabled or a QSO with the station would advance your award progress, the Spot Database Entry will be announced
    - o the announcement is preceded by playing the file Special.wav in SpotCollector's Sounds folder. If Special.wav is not present, then the file You Want This One.wav in the General sub-folder of SpotCollector's Sounds folder is played.
    - o settings in the Audio Alarm panel on the Config window's General tab allow you to
        - ▪ enable or disable the audio alarm
        - ▪ specify whether the award counters, band, and mode should be announced
        - ▪ specify whether or not the callsign should be announced phonetically
        - ▪ specify that the alarm should be triggered whenever a Spot Database Entry for a tagged Special Callsign 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 an incoming spot's callsign contains one or two forward slash characters that separate the callsign into two or three components, then

- if any of these components match a Special Callsign List entry that either specifies no tag or specifies a tag of *BadSource*, the incoming spot will be ignored
- if more than one of these components match a Special Callsign List entry that specifies tags other than *BadSource*, then the tags associated with the left-most of these components is recorded in the Spot Database Entry's tags item in the angle bracket-enclosed format described above

Example: suppose the Special Callsign List contains 7 entries:

Callsign	Tag List
B	
SLIM	
SP3E	DXLab
W4TV	DXLab
G6CSY	DXLab
AA6YQ	DXLab, EPC-2640
P	portable

The Spot Database Entry for the spotted callsign KP2/G6CSY/P would be recorded with its tags set to *<DXLab>* (rather than *portable)*, because G6CSY is the left-most callsign component to match a Special Callsign List entry. The Spot Database Entry for the spotted callsign KP2/K4CY/P would be recorded with its tags set to *<portable>.*

Adding entries to the Special Callsign List
You can add an entry to the Special Callsign List directly, or by importing from a comma-delimited text file. To add an entry directly,
- scroll to the last row of the list; this row is distinguished by an asterisk in its leftmost cell
- click in the Callsign cell of this last row; SpotCollector will immediately create a new row, into which you can type the desired callsign and optional tag.

To load Special Callsign List Entries from a comma-delimited text file, click the **Load** button to display a navigation window that lets you specify the file to be loaded. Each line of this file should contain a callsign, followed optionally by a comma and a comma-separated list of tags:
BROKE
W2NRA,DXLab
BUST
BOZO
SP3E,DXLab
B0ZO
DX
MUSIC
SLIM
W4TV,DXLab
G6CSY,DXLab
V1DEO
VIDEO
BCI
BROADCAST
PIRATE
SL1M
BAD
K3BZ,DXLab
AA6YQ, DXLab, EPC

Loading a file containing the above text into your Special Callsign List would specify 15 callsigns to ignore and 6 callsigns to tag as members of the DXLab group.

If a line of a comma-delimited file being loaded contains a callsign already present in Special Callsign List, then
- if the line does not specify a tag, then the tag list in the existing Special Callsign List Entry will be cleared.
- if the line specifies a single *BadSource* *tag,* then the tag list in the existing Special Callsign List Entry will be set to *BadSource*
- if the line specifies one or more tags other than *BadSource*, any new tags will be appended to the tag list in the existing Special Callsign List

Membership lists for several amateur radio clubs are available in files formatted for direct loading into SpotCollector's Special Callsign List.

Deleting an entry from the Special Callsign List
To delete an entry from the Special Callsign List, select entry by clicking in its leftmost cell (this cell is shaded) and then click the **Delete selected list entry** button.

Sorting the Special Callsign List
You can arrange the Special Callsign list in ascending order of Callsign by clicking the **Sort** button.

Saving the Special Callsign List
You can save the contents of the Special Callsign list to a tab-delimited text file by clicking the **Save** button; SpotCollector will display a navigation window that lets you specify the name and location of the file to be save.

Clearing the Special Callsign List
To clear the Special Callsign List, click the **Clear** button. This is useful as a prelude to re-loading the list from one or more text files.

Filtering the Spot Database Display with SQL

To create a more sophisticated search in SQL (Structured Query Language), click the **Adv** button to the immediate left of the Filter panel; this will display the DXKeeper's **Advanced Log Sorts and Filter** window. Using the **SQL Query Filters** panel, you can compose and activate up to eight different SQL Queries; these are automatically saved between DXKeeper sessions. Notice that this panel also gives you the ability to construct more sophisticated UTC filters, specify BAND and MODE filters, and compose up to four advanced Sorts. Like the SQL Queries, the Sorts are also saved between sessions.

The **SQL Query Filters** panel contains four query textboxes that display either SQL Queries 1 to 4, or SQL Queries 5 to 8; click the **~** button in the panel's upper right corner switch between the two sets of four. To create a Query, enter the appropriate expression in one of the panel's four query textboxes; to use that query as a log filter, click the **Filter** button to immediate right of the query text box. If you have enough screen space, arranging things so you can see both the **Advanced Log Sorts and Filter** window and the main window makes it easy to compose queries and immediately see their results.

The first SQL Query can be directly invoked from the Main window's Filter panel by clicking the SQL1 button.

The database schema for logs contains one record for each QSO, and each record contains an identical set of fields. Use each field's specified ADIF field name when constructing a query.

At the very top of the **Advanced Log Sorts and Filter** window, you'll find a pull-down list containing all valid field names. Having selected a field name in this list, double-clicking in one of the four query textboxes in the **SQL Query Filters** panel will append the field name to the query.

A simple SQL query that shows only your QSOs with VK9NS would be
CALL='VK9NS'

We could have simply used the main window's Call filter to accomplish that query, but

(CALL='VK9NS') AND (QSO_Begin > #1997-06-01 12:00#)

shows how to incorporate a constraint on the QSO's begin time, in this case showing only QSOs occurring after noon UTC on June 1, 1997. Notice the use of the ISO date format, which is YYYY-MM-DD HH:MM:SS . In SQL, date constants must be enclosed between # symbols.

(CALL='VK9NS') AND (QSO_Begin between #1997-06-01 12:00# and #1999-12-1#)

illustrates the use of the "between" operator to find QSOs within a specified date/time range.

(CALL='VK9NS') OR (CALL='VK9NL')

shows all QSOs with the Smith family, illustrating the use of the OR operator.

SQL provides the LIKE operator and wildcard characters to enable broader searches by specifying a pattern, for example
CALL LIKE 'VK9*'
which shows all QSOs with callsigns whose first three characters are VK9. The Asterisk wildcard character matches 0 or more characters. The Question Mark wildcard character matches exactly one character. Thus

CALL LIKE 'VK9?'
shows all QSOs VK9X, but not those with VK9NS or VK9NL.
(DXCCPrefix='VK9-N') AND NOT (CALL='VK9NS')

uses the NOT operator to show all Norfolk QSOs not involving Jim.

Besides the Asterisk and Question Mark, the LIKE operator provides wildcard characters that let you specify a single digit, or a range of characters, as illustrated in the table below:

To match...	Example	Samples that match	Samples that don't match
one or more characters	VU4*W	VU4CW, VU4WWW, VU41W	VU2CW, VU4DY
one or more characters	*YV1DIG*	YV1DIG, YV0/YV1DIG, YV0/YV1DIG/QRP	YV0/YV1DX
one character	OX1VHF/?	OX1VHF/P, OX1VHF/5,OX1VHF/M	OX1VHF, OX1VHF/MM
one digit	A6#AJ	A61AJ, A64JA	A6JA, C61AJ
a range of characters	A[A-L]6DX	AA6DX, AF6DX	AM6DX, A6DX, AA6DY
outside a range of characters	K[!G-H]4DX	KC4DX, KK4DX, K$4DX	KG4DX, KC4DY
outside the range of digits	K5[!0-9]	K5K, K5%	K50
a pattern composed of several sub-patterns	A[A-L]#[A-Z]*	AA6YQ, AL7X	AM4DX, KH6/AL7X, AA6
characters that are wildcard characters	[*]Footnote	*Footnote	Footnote, -Footnote

Note that you can combine multiple wildcards to specify more complex patterns.

In summary, you can use the following comparison and logical operators to create filters:

Operator	Meaning	Example
=	equal to	PROP_MODE='F2'
<	less than	QSO_BEGIN < #2003-12-31 12:00#
<=	less than or equal to	QSO_END <= #2003-12-31 12:00#
>	greater than	QSO_BEGIN > #2003-12-31 12:00#
>=	greater than or equal to	QSO_END >= #2003-12-31 12:00#
<>	not equal to	MODE <> 'SSB'
LIKE	used to match a pattern	QTH LIKE '*Pittsburgh*'
BETWEEN...AND	used to specify a range of values	QSO_BEGIN BETWEEN #2003-12-31 12:00# and #2004-01-01 12:00#
IN	used to specify a set of values	MODE IN ('PSK31','PSK63','MFK8','MFSK16')

Operator	Meaning	Example
AND	both conditions must be true	(PROP_MODE='F2') AND (MODE <> 'SSB')
OR	either condition can be true	(QTH LIKE '*Pittsburgh*') OR (QTH LIKE '*Philadelphia*')
NOT	logical inversion	(STATE='PA') AND NOT (QTH LIKE '*Philadelphia*')

If the character string <filtertextbox> is found in an SQL Query being executed, it is replaced by the contents of the **Filter textbox**. Thus the query
QTH like '*<filtertextbox>*'
with the **Filter textbox** set to
Philadelphia
results in execution of the query
QTH like '*Philadelphia*'

If you then change the contents of the **Filter textbox** to
Pittsburgh
and invoke the query,
QTH like '*Pittsburgh*'
will be executed.

Spotcollector provides several such substitution commands:

substitution command	information substituted
<filtertextbox>	contents of the SpotCollector's `Filter textbox`
<bandfilter>	an SQL expression representing SpotCollector's current `Band Filter`
<modefilter>	an SQL expression representing SpotCollector's current `Mode Filter`
<contfilter>	an SQL expression representing SpotCollector's current `Continent Filter`
<originfilter>	an SQL expression representing SpotCollector's current `Origin Filter`
<needfilter>	an SQL expression representing SpotCollector's current `Need Filter`
<xcvrband>	if `Commander` is running, the current transceiver band
<xcvrmode>	if `Commander` is running, the current transceiver mode
<digimode>	if `WinWarbler` is running, its current operating mode

Thus the SQL expression
(BAND='<xcvrband>') and <needfilter>
will display all needed Spot Database Entries on the current transceiver band.

An online reference for SQL as supported by the Microsoft Jet engine, which is incorporated in both DXKeeper and Microsoft Access, is available at http://www.devguru.com/Technologies/jetsql/quickref/jet_sql_intro.html .
Functions that can be used in SQL expressions are described in
- http://www.webcheatsheet.com/sql/access_functions/
- http://www.techonthenet.com/access/functions/