

N4PY DX Spots Version 3.11

The N4PY DX Spots program consists of several programs that work together. These programs and data files are designed to work with all N4PY Radio Control programs. All these programs use the TenTec file interface. The DX Spot program will only work with N4PY Radio Control programs. The main goal of the program suite is to provide real time DX spot information, easy setting of the radio to the DX spot frequency, automatic and manual checking of the DX spot against the user's DXCC records and DXCC, WAS, and grid square record keeping. There is also a way to import a cabrillo or ADIF log file into the program to get your logs and DXCC statistics converted to N4PYLog format quickly. Once you have your log data imported into N4PYLog, your DXCC records can be automatically updated from your log information.

Starting with version 2.10, besides the DX Spots program, all the utility programs are now 32 bit programs. This means all the utilities will now run on any Windows version from Windows 95 to Windows 7, including the 64 bit Windows versions.

The real time DX Spot information comes from a DX Cluster internet connection. The program comes with a default DX cluster address of "dxspots.com". The program has been written for an "AR" cluster software type only.

Record Keeping Files

Your DXCC and worked all states records are kept in the WORKED.CFM file. This file is normally updated automatically by the logging program. Additionally, you may manually update this file by placing a "/" character in the columns corresponding to the country where you have worked the country but not obtained a QSL card. If you have received a QSL for a country, then place a "X" character in the appropriate column. If you have sent your card to the ARRL and received DXCC credit for the card, place a "C" in the appropriate column. Note that the "X" and "C" characters must be in upper case. Be very careful to not move the column position in this file as all searching done by SPOT, N4PYLog, and DXSCORE on this file is column sensitive.

On an automatic update, a small "x" will be used for a confirmed QSO and a "\" will be used for a worked but not confirmed QSO.

Country determination for a call sign is done with the COUNTRY.DAT file. This file is searched until a match is found for the possible prefix. Once the first match is found, the country name is picked up from column 12 of this line. If you need to add additional countries to this file, just remember the search stops at the first match. This means things like Balearic Islands with a EA6 prefix are merely placed ahead of Spain which has a EA prefix. If the call was EA6BB, a match would be found on EA6 before the entry for EA was reached. If EA3YY were searched, the first match would occur at EA. Columns 1 to 4 are searched for the matching prefix. Columns 6 to 9 contain the main prefix for the country. The country name starts in column 12. The first 12 characters of the country name must be an exact match for the country name in the WORKED.CFM file.

Grid square records are kept in the GRID.SQU file.

Tool Bar Buttons

Connect -

Click this button to connect to your Dx Cluster. See the settings menu for DX Cluster address definition.

Log -

Click this button to start the N4PYLog program. The first time you start this program, you may need to define its window characteristics. Right click the upper left hand corner and turn off the "toolbar" check mark. Next, right click the upper right hand corner and select "properties". Click "Program" and check the box "Close on exit". Then click "Font". Select a font size. I use 8x12 for N4PYLog.

DxScore -

Click this button to start the DXCSCORE program. It will show you a summary of your DXCC statistics. Press any key from the keyboard or click on the word "EXIT" in the DXCSCORE program window to exit the DXCSCORE program. The first time you start this program, you may need to define its window characteristics. Right click the upper left hand corner and turn off the "toolbar" check mark. Next, right click the upper right hand corner and select "properties". Click "Program" and check the box "Close on exit". Then click "Font". Select a font size. I use 9x15 for DXCSCORE.

Settings -

Click this button to bring up the settings menu. See settings menu below for a description of the settings.

Country -

Click this button to view or edit the country.dat file. The Microsoft notepad program is used to display this file. You must change the font settings in notepad for the file to display properly. In the notepad program, click on "Format" at the top of the page. Then select "Font". On the font page select "Terminal" as the font type. Select "Regular" as the Font Style. I use a size of 12 but select the size you like best.

Worked -

Click this button to view or edit the WORKED.CFM file. The Microsoft notepad program is used to display this file. You must change the font settings in notepad for the file to display properly. In the notepad program, click on "Format" at the top of the page. Then select "Font". On the font page select "Terminal" as the font type. Select "Regular" as the Font Style. I use a size of 12 but select the size you like best.

Disconnect -

Click this button to disconnect from the DX Cluster.

View Spot Log -

Click this button to view the spot log. This log is made if you have "Log Spot to Spotlog.txt" checked and "Automatic Spot Check" checked in "Spot Settings". If this action fails, it means the program is in the process of adding a record to the file. Just wait a few seconds and try again.

Exit -

Click this button to exit the N4PY DX Spots program.

Settings Menu

Spot Settings -

Call Sign -

Use this edit box to define your call sign. This is used for logon identification with the DX Clister.

Transfer Folder -

Use this edit box to define the folder where your N4PY Radio Control Program uses for frequency and mode logging. The default for this is "c:\n4py".

Automatic Spot Check -

Turning this check box on will cause all spots to be checked as they are received. If the spot is a needed, the spot will be automatically added to the check window and marked "NEW".

Automatic Respond to Call Sign Query -

Turning on this check box will cause your call sign to be sent automatically to the DX Cluster when the DX Cluster asks for it at start.

Automatic Reconnect -

Turning on this check box will cause the program to automatically try to connect to the DX Cluster any time the connection is lost.

Connect At Start -

Turning on this check box will cause the program to automatically try to connect to the DX Cluster at program start.

Auto new connect command -

Placing text in the edit box will define a command to be automatically sent to the DX Cluster after the call sign query. I like to use "sh/dx" for this command.

DX Cluster Name -

Use this edit box to define the full DX Cluster node name. Please note that this program was written for an AR cluster software type only. You can get a large list with many clusters by going to <http://telnet.dxcluster.info>

DX Cluster Port -

Use this edit box to define the DX Cluster port in use. There are two common values. Most clusters use the telnet port which is port 23. Others use port 7300. The program defaults to the telnet port of 23.

Previous Cluster Names -

This drop down list has the last six cluster names used. You can use this to select one of the last six cluster names you have selected.

Log Spots to Spotlog.txt

A log of all spots received is made to the file "spotlog.txt" if you turn on this check box. Note that "Automatic Spot Check" must also be on to log spots received to this file.

ATNO Alarm

With this check box turned on, anytime a spot is received that is an all time new country never before worked, the call sign of the spot is announced in CW through the sound card.

Announce New Band Countries in CW

With this check box turned on, anytime a spot is received that is a new band country in your worked.cfm file, the call sign of the spot is announced in CW through the sound card.

CW Volume

This edit box controls the volume of the new band country CW announce feature. Legal values are 0 to 100.

Text Editor

This edit box defines the text editor that will be used to view the worked.cfm file and the country.dat file. The default editor is Window's notepad. Please note that notepad must be configured for font type "Terminal" in order to display these two files properly.

If you get an error saying that the file is too large for notepad, you are probably using Windows 98 or ME. If this is the case, change the text editor to "pe2.exe".

Log Settings -

UTC-Local Correction -

Use this edit box to define your time zone offset from UTC. If you turn on "Auto DST", this value will be calculated automatically by the program. Only use this if the calculation by Auto DST is not correct.

Time zones west of Greenwich are positive and time zones east of Greenwich are negative. Some common values are:

| | |
|-----|----|
| EST | +5 |
| EDT | +4 |
| CST | +6 |
| CDT | +5 |
| MST | +7 |
| MDT | +6 |
| PST | +8 |
| PDT | +7 |

Log File Name -

Use this edit box to define the name of your log file for N4PYLog. The default name is "LOGMAIN.DAT".

Power Output -

Use this edit box to define your output to be placed in your log file by N4PYLog. If this value is 5 or less, the QRP field in WORKED.CFM will be automatically updated.

Run logging program with 43 rows, off for 25 rows -

With this box checked, the logging program will run in 43 column mode. With this box not checked, the logging program will run in 25 column mode.

Auto DST -

This checkbox is normally set to on. This will cause the UTC-Local Correction to be calculated automatically. Only turn this off if the calculation is not correct.

Spot Window

This is the window where all received information from the DX Cluster is displayed. There are 14 lines of received data. Each line has 3 buttons on the left side.

The first button is the frequency button. It shows the frequency of the spot. Clicking this button will cause the radio to go to this frequency so you can listen to the spot.

The next button is the "Check" button. Clicking this button will cause the call sign associated with the spot to be sent to the check window.

The third button is the "Log" button. Clicking this button will cause N4PYLog to be started with the call sign of this spot as the new log entry. Note that N4PYLog must not be running when this button is clicked.

There is also a "Command" edit box at the bottom of the window. Click this edit box and type text in it that you want sent to the Dx Cluster.

The button in the lower left labelled "Current" will allow you to toggle between the current and previous page. The button text shows which page you are viewing ("Current" or "Previous").

The button just to the right of the "Current" button labelled "Spot" is for sending spots to the DX cluster. If you click the "Spot" button, it will create the text "DX FFFFF.F" where "FFFFF.F" is the current radio frequency in kHz. The cursor will automatically be placed in the command edit box for you to then type in the call sign of the spot you just found. Pressing enter will then send the spot to the DX cluster. Note that you can right click the "spot" button to clear its contents.

The button at the end of the command window labelled "Suspend" will suspend receiving spots when it is clicked. When in suspend mode, the button text is in red. Clicking this button again will turn suspend off and the program will resume receiving spots.

Also, there is a status area in the lower right. It shows the current status of the connection to the DX Cluster.

Check Window

This is the window where your DXCC statistics for the last 4 checked spots are displayed.

Each of the 4 check lines has 2 buttons. The left button displays the call sign of the spot and if clicked will call N4PYLog to log a contact with the spot. The second button displays the frequency of the spot. If clicked, the radio will go to this frequency.

Under the two buttons is a small cryptic line that shows several

useful things. The first two numbers are the beam heading in degrees and great circle distance in miles from Raleigh, NC. If you live far from this area, you can the WORKED.CFM file and change these numbers for your area. The third number is the ITU zone. The fourth number is the CQ zone. Next is a two letter abbreviation for the continent the country is in. Next is the time of the spot. Finally, if this spot is needed, it is marked "NEW".

The beam heading displayed is also a button. If you click this button and rotor control is enabled in your N4PY control program, your rotor will go to this beam heading.

On the line with two buttons are the DXCC statistics. The boxes have a '/' if the country has been worked, 'X' if the country is confirmed, or a 'C' if you have DXCC with the ARRL for this country.

Information displayed about the spot in the boxes:

- MIX - this box shows the mixed DXCC status.
- SSB - this box shows the SSB DXCC status.
- CW - this box shows the CW DXCC status.
- RTTY - this box shows the RTTY or digital DXCC status.
- SAT - this box shows the satellite DXCC status.
- QRP - this box shows the QRP DXCC status.
- 630 - this box shows the 630 meter DXCC status.
- 160 - this box shows the 160 meter DXCC status.
- 80 - this box shows the 80 meter DXCC status.
- 60 - this box shows the 60 meter DXCC status.
- 40 - this box shows the 40 meter DXCC status.
- 30 - this box shows the 30 meter DXCC status.
- 20 - this box shows the 20 meter DXCC status.
- 17 - this box shows the 17 meter DXCC status.
- 15 - this box shows the 15 meter DXCC status.
- 12 - this box shows the 12 meter DXCC status.
- 10 - this box shows the 10 meter DXCC status.
- 6 - this box shows the 6 meter DXCC status.

There are also two other edit boxes in the check window.

Log -

Use this edit box to type in a call sign for N4PYLog to log. This is appropriate if the station you just worked is not on the screen anywhere. Also, you can add text for the log comment field by simply putting a space after the call sign and then typing some text for the comment field such as the op's name.

Check -

Use this edit box to type in a call sign to be checked that does not appear in any spot.

Sending DXSpots to a Flex 6000 Radio

Spots received by this program that are needed for a new band country can be sent to a Flex 6000 series radio. To enable this feature, open the spot.ini configuration settings file and find the line

```
FLEX 6000 SPOTS=0
```

and change it to

FLEX 6000 SPOTS=1

and save the change.

Receiving Calls from WSJT-X

You can have WSJT-X send its received calls to this program to check to see if they are needed for a new band country. To do this, make the following change to the spot.ini configuration settings file:

Find the line

```
WSJT PORT=0
```

and change it to

```
WSJT PORT=2237
```

and save the change.

Then in WSJT-X settings in the Reporting tab, set the UDP port number also to 2237. Additionally, you can log contacts directly from WSJT-X by turning on "Enable logged contact ADIF broadcast" and setting the N1MM Server port number also to 2237. Once this is done, all received calls in WSJT-X will pass through the worked.cfm file to see if they are needed and if so will show up in the check window. And when you make a contact, when you click "Log QSO" in WSJT-X, the log entry will go to the N4PYLog.

N4PYLog

This is my personal logging program that I have been using for several years. It utilizes a unique system of record keeping that allows for you to not have to input all your old log data in order to keep up with your DXCC band countries and modes worked and confirmed. A WORKED.CFM record keeping file is provided that you can update manually if necessary to indicate what you have already accomplished. As new QSO's are made and logged, this file is automatically updated by the logging program. The logging program provides a full screen customized editor for entering and maintaining QSO data with as much information as is possible being picked up automatically. The logging program also provides numerous report and searching capabilities to allow your data to be analyzed in many different ways. Here, enough capability is provided that is only limited by your own creativity.

N4PYLog creates 144 byte long fixed length records with the fields delimited with an ASCII 255 value. If you view this log file with another editor, be very careful to not change the size of the file or the delimiter record value. I do not recommend you edit your log file with another editor.

The N4PYLog is intended to be called from the N4PY DX Spots program. If you click "Log" in the DXSpots spot window, the log record will be automatically sent to N4PYLOG. To get N4PYLOG to receive this record, press the ENTER on the keyboard while N4PYLOG has the focus.

The current record being edited is always highlighted in red. There is a comment field for each record. The comment field for the current record always appears on line 24. You can tab to the next field in a record by pressing TAB. You can move to the previous field by pressing SHIFT TAB. The up and down arrow keys allow you to move to the previous or next record. The PAGE UP and PAGE DOWN keys allow you to move up or down 19 records at a time in the file. The HOME key will move you to the beginning of the file. The END key will move you to the end of the file.

The ENTER key signals completion of the current record and will move you to the next record.

The F1 key will perform a search for you. Before pressing F1, move the cursor to the field and record you want the search to begin from. Only the field the cursor is currently on will be searched. Type in the characters (not case sensitive) you want to search for, press ENTER, and the search will begin. If no match is found, you will be left exactly where you were in the file. If a match was found, you will be moved to that record in the file. Note that if you want to now continue the search for the same characters just searched, type = for the same characters to be searched.

The F2 key will allow a search for all previous QSO's with the keyed in call. When the search is complete, press "return" to return to the logging program screen.

The F3 key will check your DXCC records for a particular call.

The F4 key will print out the current file to your printer. Printing will begin at the current record and continue to the end of the file. To print an entire file, press the HOME key first and then press F4.

The F5 key will go to the report screen. All report functions generate a new log file with the name you have supplied when prompted. Once the report is complete, you will be returned to edit mode with the new generated file displayed. You may then generate another report from this by again pressing F5. In this way you can really narrow down on some specific information you are looking for. There are also some miscellaneous file functions for converting log files made by other programs and merging two N4PYLog log files.

There is also a selection with F5 to import a cabrillo log file. If your previous logging program can output a cabrillo file, then this is a good way to get your previous log data into N4PYLog. the cabrillo log file I used to test this function was from the ARRL 10 meter contest so I know a cabrillo log of the 10 meter contest will work. Also, if you can find a converter program that will convert your existing logs to the ARRL 10 meter cabrillo format, that will be an easy way to get all your logs into N4PYLog. WT4I contest tools offers some generic converters.

There is also a selection with F5 to import a ADIF log file.

There is also a selection with F5 to create a ADIF log file from the currently open log file. This ADIF file can be sent to "Log Book of the World". You will be prompted for several pieces of information. Any information you do not want to be in the file can be skipped by just pressing "Enter" at the prompt

for the information. If you have previously entered this data, the program will remember it and display it at each prompt for data. Just press "Enter" to use the old displayed value. If you are not making the ADIF have all the QSO's since your last submission to log book of the world, before starting this procedure with F5, you need to define the start and end for the ADIF file. You do this by first moving the log current record to where you want to start the ADIF file and press Alt-S for "start". You then move the log current record to where you want the ADIF file to end and press Alt-E for "end". After all your logs have been submitted to LOTW, you can press Alt-L to show that all the QSO's have been sent to the ARRL.

When you receive confirmations from log book of the world, you can have those confirmations automatically updated in the log and also in worked.cfm. At the ARRL LOTW website select the option to download your QSL's into an ADIF file. When you receive this file, you must rename it to a name that does not have more than 8 characters before the decimal point and 3 characters after the decimal point. A name such as "myqsls.adi" would work fine. Once you have this file, then select option 10 in the N4PYLOG reports section and it will be processed. The program will place an "L" in the QSL received column if the QSL was only confirmed with LOTW or place a "B" if the QSO was confirmed both with a QSL card and LOTW. Similarly, a "B" or "L" will be placed in the appropriate column of the worked.cfm file.

The F6 key will let you change the file you are currently editing and viewing to another log file.

Clicking "REAL" or pressing Alt-A can be used to enter realtime logging. When this key is pressed, the cursor will be placed at the end of the log in the station call sign field. When a call sign is entered and the TAB key is pressed, as much information as can be gathered from your HF rig and computer time will be input into the record. You may then change any fields that are not correct as required. A prompt will flash in the upper right of the screen indicating realtime logging mode is in effect. To exit realtime logging mode, click "REAL" or press the ALT-A key again.

Pressing ALT-D can be used to delete the last QSO in your log file. This is the only way to delete entries in the log file. This can be useful if you autologged by mistake.

Clicking "UPDATE" or pressing ALT-U can be used to automatically perform the country update function for a newly created log converted with F5 (REPORTS). Position the current line on the first line of the log and click "UPDATE" or press ALT-U. The countries will be automatically updated including your WORKED.CFM file. Press any key to stop this function.

Pressing ALT-L can be used to automatically indicate that all records in the current log starting with the current cursor position have been sent to log book of the world. Position the current line on the first line of the log and press ALT-L. The QSL sent column will be changed to an "L" if no QSL card has been sent or it will be changed to a "B" if a QSL card has also been sent. Press any key to stop this function.

The fields in the log file are used as follows:

DATE:

Enter date as DD MMM YY (as in 05 AUG 04)

FREQ

Frequency in MHZ with 1 decimal point (as in 14.297)

MODE

Use CW, SSB, RTTY, FM, etc.

PWR

Power output in watts (as in 100)

TIME

This is entered as 4 digits corresponding to the GMT start time of the QSO. (as in 2314)

STATION WORKED

This is the complete callsign of the station worked.
(as in N4PY)

Note this field must be left justified.

SN

This is the signal report sent to the remote station (599).

RD

This is the signal report received from the remote station (599).

TOFF

This is the ending time of the QSO (2315).

COUNTRY

This is the country of the remote station. Normally, N4PYLog will automatically fill in this field. Occasionally, N4PYLog will not be able to determine the country and place a "?" in this field. When that happens, simply type over the field. It is very important that the first 12 characters of the country name you key in match the first 12 characters of the name as defined in the WORKED.CFM record keeping file. Note this field must be left justified.

SR

This is the QSL sent/received field. Place an "X" in the first column when you send a QSL and an "X" in the second column when you receive a QSL. When you indicate you have received a QSL, your WORKED.CFM file will be automatically updated.

COMMENTS

This is a 38 column field that you may place any other data pertaining to the QSO that you like. It is always on the bottom line and is always associated with the current record. There are several indicators that can be added to the anywhere in the comments field for automatic record keep. They are:

' SAT' - This string will cause the "SAT" field (satellite) to be updated.

'#' - This character followed by a 4 character grid square will cause the grid square file to be updated.

'\$' - This character followed by a 2 letter state abbreviation will cause worked all states portion of the WORKED.CFM file to be updated.

If the power output in the log entry is 5 watts or less, the QRP field in WORKED.CFM will be updated.

You exit the N4PYLog program by pressing the "ESC" key or clicking the word "EXIT" on the N4PYLog screen.

DXCSCORE

DXCSCORE is a small program intended to provide DXCC summary information to you. This information is maintained in the WORKED.CFM file. You may manually update this file by placing a "/" character in the columns corresponding to the country where you have worked the country but not obtained a QSL card. If you have received a QSL for a country, then place a "X" character in the appropriate column. If you have sent your card to the ARRL and received DXCC credit for the card, place a "C" in the appropriate column. Note that the "X" and "C" characters must be in upper case. Be very careful to not move the column position in this file as all searching done by both N4PYLog and DXCSCORE on this file is column sensitive. Also, if you have not received a QSL card but have received DXCC credit via Log Book of the World, you should place an "L" in the appropriate column.

The DXCSCORE program is intended to be called from the N4PY DX Spots program.

Both N4PYLog and DXCSCORE use the COUNTRY.DAT file to convert a callsign into a country name. This file is searched until a match is found for the possible prefix. Once the first match is found, the country name is picked up from column 12 of this line. If you need to add additional countries to this file, just remember the search stops at the first match. This means things like Balearic Islands with a EA6 prefix are merely placed ahead of Spain which has a EA prefix. If the call was EA6BB, a match would be found on EA6 before the entry for EA was reached. If EA3YY were searched, the first match would occur at EA.

When your country totals are displayed with a "/" between two numbers, the first number is your total including deleted countries, and the second number is your total without deleted countries included.

You exit DXCSCORE by pressing the "return" key.

