

DX Spots AR-Cluster V6 Telnet User Manual

DX spots share important information about amateur radio stations such as their callsign, operating frequency, date, time and an optional comment. This information is valuable for amateurs chasing rare countries or operating in contests. DX Spots are shared across the various DX clusters and users connected to the clusters. By being connected into a DX Cluster you will get DX spots in real-time as they are spotted. You can also query the cluster for past DX spots. Note if you have DX filters active, they will also be applied to both the real-time spots and past spot queries.

For the ultimate in DX spot presentation and filtering, check out the new AR-Cluster Client application. Demo at:

<http://www.youtube.com/watch?v=7tq5j20kXu0>

Please use DX spots to spot information relating to real propagation reports of operating stations or beacons. Do not use DX spots to pass comments.

Command delimiters can either be a "/" or a space as:

```
show/dx
show dx
```

Real-Time DX Spots

As soon as you connect into a DX Cluster you will automatically start receiving DX spots. These spots can be filtered based on individual preferences. The Set/DX commands allow the optional filtering of the spots and control of the spots display.

Spotting DX

The **DX** command is used to post a DX spot. The syntax options are shown below.

Example:

```
dx frequency callsign (optional comment)
dx callsign frequency (optional comment)
```

The frequency parameter can be in megahertz or kilohertz and is the frequency that the station is operating on. The callsign is the callsign of the station you have worked or heard. The maximum length of characters in a callsign is twelve. The optional comment can be user to tell the stations name, location or QSL information.

Example:

```
dx 14088.8 ja1abc
dx ja1bn 14088.8
```

Once posted, the DX spot will be sent to all stations in the network. It will also be echoed back to you as a confirmation. You will get the spot confirmation even if you have filters set to remove the spot.

DX Test Spots

The **DXTEST** command is used to send a DX test spot that only gets echoed back to you and not send over the network. This way you can generate a test spot for that P5 and test software alarms in your logging program without the spot going to other users.

Example:

```
dxtest frequency callsign (optional comment)
dxtest callsign frequency (optional comment)
dxtest P5RV 14.195 Listing up
```

Show DX

The **SHow Dx** command can be used to output the last DX spots posted.

Example:

```
show/dx
show/dx Callsign
show/dx VP6T
```

The **Show/DX/nn** command allows you to specify the number of DX spots displayed.

Examples:

```
show/dx/20
show dx 30
```

The **Show/DX -** command can be used to display past DX spots while disabling the applied DX Filters. See Set/DX/Filter for DX Filter options.

Examples:

```
Show dx -
Show dx - Spotter=K3LR-#
show/dx/30 -
```

The **Show/DX @** command can be used to display past DX spots in the real-time format.

Examples:

```
Show dx @
show/dx/30 @
```

The **Show/DX callsign** command can be used to display DX spots filtered by DX call.

Examples:

```
Show dx call=v73aq
show/dx call=cyoa
```

The **Show/DX frequency** command can be used to display DX spots filtered by frequency.

Examples:

```
Show dx freq=14000
Show dx freq>=7000 and freq<=7100
show/dx freq>=133 and freq<=139
```

The **Show/DX band** command can be used to display DX spots filtered by band.

Examples:

```
Show dx band=15
show/dx band=160
```

The **Show/DX country** command can be used to display DX spots filtered by CTY country. The country list is based off the wpxloc.dat file maintained by AD1C.

Examples:

```
Show dx cty=v7
show/dx cty= 3D2/c
```

The **Show/DX continent** command can be used to display DX spots filtered by continent. Valid continents are: AF, AS, EU, NA, OC and SA.

Examples:

```
Show dx cont=eu
show/dx cont= as
```

The **Show/DX comment** command can be used to display DX spots filtered by comment. The command executes using an exact match. You can use the wildcard character "*" to do partial matches.

Examples:

```
Show dx comment=via buro
Show dx comment=*cq*
Show dx comment=*qsl* or comment=*via*
show/dx comment=*iota*
show/dx comment=*rtty*
```

The **Show/DX CqZone** command can be used to display DX spots filtered by CQ zone.

Examples:

```
Show dx cqzone=14
```

The **Show/DX ItuZone** command can be used to display DX spots filtered by ITU zone.

Examples:

```
Show dx ituzone=12
```

The **Show/DX Spotter** command can be used to display DX spots filtered by spotter.

Examples:

```
show/dx spotter=k5xh
```

The **Show/DX SpotterNode** command can be used to display DX spots filtered by spotter.

Examples:

```
Show dx spotternode=K1TTT-14
```

The **Show/DX SpotterCty** command can be used to display DX spots filtered by spotter CTY country. The country list is based off the cty.dat file.

Examples:

```
Show dx spottercty=k
```

The **Show/DX SpotterState** command can be used to display DX spots filtered by spotter state.

Examples:

```
show/dx spotterstate=tx
show/dx spotterstate=tx or spotterstate=nm
```

The **Show/DX SpotterCont** command can be used to display DX spots filtered by spotter continent.

Examples:

```
show/dx spottercont=na
```

The **Show/DX DTS** command can be used to display DX spots filtered by the date-time stamp.

Examples:

```
show/dx dts>2011-12-11 03:04:55
```

The **Show/Skimmer** command displays a list of all Skimmers that are currently reporting, along with CT1BOH algorithm totals. The command can also be limited to

Examples:

```
show/skimmer
```

```
Skimmer Configuration based on CT1BOH algorithms:
Call      FreqQSY%  TotCnt  ?Cnt  ValidCnt  QsyCnt  BustCnt
G3BJ-#    0.0       9       2     7         0       0
NC7J-#    0.0       6       1     5         0       0
RZ3DVP-#  0.0      13      1     12        0       0
DK9IP-#   9.1      11      0     9         1       1
SV8RV-#  11.1      9       2     6         1       0
K1FC-#   20.0      5       1     3         1       0
F4DXW-#  33.3      3       1     1         1       0
```

The **ShowSkimCty [Band]** command displays the countries recently spotted and the Skimmers spotting each country by band.

Compound filter can be build using the "AND" and "OR" operators.

Examples:

```
show/dx band=12 and call=vk0hi
show/dx band=12 and cty=ja
show/dx call=dx0dx and (band=12 or band=15)
show/dx dts>2011-12-17 03:04:55 and dts<2011-12-18 03:04:55
show/dx call=dx0dx and (comment=*qsl* or comment=*via*)
```

Show DX Options

The **SHow Dx Options** command is used to display the DX spot options. The following options are displayed:

DX Count – The default number of displayed DX spots.
DX Filter – The DX filter parameters
DX Mode – The filter mode for DX spots. Values are: Open, Filter, Needs and Debug
DX Output – The output mode for DX spots. Values are: OFF and On. Normally set to On.
DX Extension – Display additional extension data in the comment field

Example:

```
show dx op
show/dx/options
```

Set DX Options

The following options can be set using the **Set/DX** command:

Set/DX/Extension – Displays addition values in the comment field
Set/DX/Count – Set the default number of displayed DX spots
Set/DX/Default - Set the DX options back to the default settings.
Set/DX/Filter – Sets the DX filter
Set/DX/Mode – Sets the filter mode for DX spots. Valid modes are: Open, Filter, Needs and Debug
Set/DX/Output – Sets the output mode for DX spots. Valid modes are: Off and On.

Set DX Extension

The **SEt Dx EXTension** command is used to display additional information about the station being spotted. This data is displayed in the right side of the comment field only if there is room in the comment field. Valid modes are: LOTW, CTY, State, Section, County, Grid, CQZone, ITUZone and Name. If the user participates in the Logbook of the World, LOTW, a "+" will be indicated. For normal DXing and contesting where states are multipliers you might want to see the LOTW and the state. For a state QSO party or county hunting you might want to see the LOTW, state and county. For contests that exchange ARRL sections, you may want to display the ARRL section.

Examples:

```
set/dx/extension LOTW State
set/dx/extension LOTW Grid
set/dx/extension LOTW State County
set/dx/extension Section
set/dx/extension LOTW CTY State Section County CQZone ITUZone Name
set/dx/extension
```

Sample DX spot with all comment options active:

```
DX de AD5YJ: 14222.2 K5NA +W-TX-STX-Travis -4-7-Richard 1801Z
```

Common settings for normal activities, DXing and major contests:

Activity	DX Spot Comment Extension	Command
Ragchewing	Display the operators name	set/dx/extension Name
DX Chasing	Display the CTY and LOTW status	set/dx/extension LOTW CTY
ARRL 10 Meter Contest	Display the CTY and State	set/dx/extension CTY State
CQWW Contests	Display the CTY and CQ Zone	set/dx/extension CTY CQZone
IARU Contests	Display the CTY and ITU Zone	set/dx/extension CTY ITUZone
ARRL Sweepstakes Contests	Display the ARRL Section	set/dx/extension Section

State QSO Parties	Display the county	set/dx/extension County
County Hunting	Display the county	set/dx/extension County

Set DX Count

The **SEt Dx COU**nt command is used to set the default number of spots displayed for real-time and past DX display.

Examples:

```
set dx count 15
```

Set DX Default

The **SEt Dx Defau**lt command is used to set the DX options back to the default settings. Factory default settings are:

```
Count - 20
Filter - Cleared
Mode - Filter
Output - On
Comment extension - options cleared
```

Example:

```
set dx default
```

Set DX Filter

The **SEt Dx Fil**ter command is used to set the filters for the real-time and playback of past DX spots. A empty "**set dx filter**" command clears the filter. The "Set DX Mode Debug" command can be used to test complex filters to insure they are working correctly.

Examples:

```
set dx filter
set dx filter SpotterCont=na
set/dx/filter SpotterCty=k
set/dx/filter Spotterstate=tx or Spotterstate=ok or Spotterstate=nm
```

The fields available for the DX Filter and Show/DX commands are listed in the following table.

Field	Description
Call	Callsign of the spotted DX
Freq	Frequency of the spotted DX - Example 14195.0
Cty	Country of the spotted DX - follows wpxloc.dat file
State	If a US or VE spot, the state or province of the spot
County	If a US spot, the county of the spot
ArrlSection	If a US spot, the ARRL Section of the spot
Comment	Comment in the spotted DX
DTS	Date-Time-Stamp
Cont	Continent of the DX spot - AS, EU, NA, OC, SA
CqZone	CQ zone for the spot -
ItuZone	ITU zone for the spot
Band	Band for the spot - Example 20
Mode	Not recommended to filter by mode since its based of normal operating frequencies which change during contests
Spotter	Spotter callsign
SpotterNode	Callsign of the spotting node
SpotterCty	Country of the spotter - per the wpxloc.dat file
SpotterState	Spotter state if US or VE
SpotterCont	Spotter Continent- AS, EU, NA, OC, SA
Bob	Bottom of the band spots - usually comments
CQ	Flag indicating the station is calling CQ
Lotw	Station uses the Logbook of the World, LOTW
Grid	Grid square of the station
Name	Name of the spotted station
SpotterCqZone	CQ zone of the spotter
SpotterItuZone	ITU zone of the spotter
Master	Flag indicating the call is in the Master callsign database
InCb	Flag indicating the call is in the US or VE callbook
Top100	Flag indicating the CTY of the spot is in the top 100 country list
FOC	Flag indicating the spotted call is a FOC member
Skimmer	Flag indicating the spot originated from a skimmer

SkimWpm	Skimmer spot - Words per minute, filter by CW speed like: <code>SKimWpm > 35</code> or <code>SkimWpm < 25</code>
SkimDb	Skimmer spot - DB, filter by signal strength: <code>SkimDb > 10</code>
Unique	Count of the times the call has been spotted, great filter to remove bad skimmer spots
SkimCq	Flag indicating there is a CQ in the comment field
SkimDupe	Flag that lets the first spot fal thru as a non-dupe and other spots are flagged as dupe, reset every 10 minutes
SkimValid	CT1BOH Valid flag: assigned by looking back to see if there are two more spots of the same call, on the same frequency (+/- 0.3 KHz).
SkimQsy	CT1BOH QSY flag: assigned because the call was found to have been previously verified but the new spot frequency is +/- 0.4 KHz different from that last reported.
SkimBusted	CT1BOH Busted flag: assigned by looking back and determining that there is a similar spot already tagged as V, spotted on the same frequency as the new spot, +/- 0.1 KHz. A "similar" call is one which can be transformed into the new spot by character insertion, deletion or substitution.
SkimUnknown	CT1BOH Unknown flag: Any spot that is not given a Valid, Busted or QSY tag is tagged "?" until/unless it qualifies for one of the other tags.
SkimCtyCnt	The number of Skimmers currently spotting stations in a given country or (in the case of the USA) ITU zone. This filter is useful in determining which areas do not have adequate Skimmer coverage for effective working of the CT1BOH algorithm.

Want to filter out skimmer spots:

set dx filter not skimmer

Want to only see spots that originate from North America:

set/dx/filter spottercont=na

Want to only see spots that originate from the US:

set/dx/filter spottercty=k

Want to only see spots for HF:

set/dx/filter Freq<30000

Don't want those bottom of the band comment spots:

set/dx/filter not BOB

Only want to see spots from the state of Texas:

set/dx/filter SpotterState=TX

Only want to see spots from the state of Texas and Oklahoma:

set/dx/filter SpotterState=TX OR SpotterState=OK

Want to see skimmer spots that are validated by the CT1BOH algorithm

set/dx/filter SkimValid

Contesters, want to only see non-US spots plus spots for your own call. Use the following filter:

set/dx/filter Cty<>k or Call=AB5K

Don't want to see and DX spots from AA1A:

set/dx/filter Spotter<>AA1A

Don't want to see any DX spots from the DX Cluster AA2A:

set/dx/filter SpotterNode<>AA2A

Don't want to see any DX spots with the work BUST in them:

set/dx/filter Call <> *BUST*

Only want spots for 20 15 and 10

set/dx/filter band=20 or band=15 or band=10

Only want US spots for 20 15 and 10

set/dx/filter band=20 or band=15 or band=10 AND SpotterCty=k

Only want US HF spots

Set dx filter SpotterCty=k and freq<30000

Only want spots for CQ zone 2

set/dx/filter CqZone=2

Only want spots for that DX-Expedition

set/dx/filter Call=KH8SI

Only want to see spots with the key word "IOTA" in the comment

set/dx/filter Comment=*IOTA*

Only want to see spots for countries in Europe and Asia

set dx filter Cont=EU or Cont=AS

Only want to see spots for stations that QSL via the ARRL Logbook of the World, LOTW?

set dx filter Lotw

Only want to see spots for FOC members

set dx filter FOC

Only want to see TOP 100 spots

set dx filter Top100

Compound Filters

Most of the above filters are very simple. You can combine filter terms into compound filters. When building compound filters, keep in mind the AR-Cluster filter engine processes terms from left to right. It processes the "and" operator before it processes the "or" operator. To change this order, group terms that belong together with parentheses. Anything enclosed in parentheses is evaluated first. Parentheses indicate relationships between filter terms. They force the filter processing to process your search terms in the order you intend and to combine them in the way you want. Here is an example of a compound filter that uses parentheses to control the relationship between filter terms:

I do not want to see spots about US stations. I only want to see spots that originate from the Texas and Arkansas. I want to see spots about my call.

set/dx/filter Call=AB5K or (Cty<>k and (SpotterState=TX or SpotterState=TX))

Filter example: I want to set up a Filter to pass:

1. Cluster Spots, originated by only K & VE Stations, and between 1800 & 54000 Mhz
2. Skimmers Spots but only those originated by K1TTT-# or W3LPL-#

A good way to design the filter is to break the filter into the pieces per the requirements:

1. A not skimmer part where we qualify non skimmer spots = ((SPOTTERCTY=K OR SPOTTERCTY=VE) AND (Freq >=1800 or Freq <=54000) AND Not Skimmer)
2. A skimmer part where we qualify skimmer spots = (Skimmer AND (SPOTTER = K1TTT-# OR SPOTTER = W3LPL-#))

Then we OR the two pieces together to get:

SET DX FILTER ((SPOTTERCTY=K OR SPOTTERCTY=VE) AND (Freq >=1800 or Freq <=54000) AND Not Skimmer) or (Skimmer AND (SPOTTER = K1TTT-# OR SPOTTER = W3LPL-#))

Show only FOC legacy (no skimmer) world-wide spots:

Set DX Filter FOC AND NOT Skimmer

Show FOC legacy and skimmer world-wide spots but do not show skimmer dupes:

Set DX Filter FOC AND (NOT Skimmer or (Skimmer and NOT SkimDupe))

DX Filter Shortcuts

The **SEt Dx Filter** allows for the user of braces to define multiple commands. This can be applied to DX filter terms of: Call, Cty, State, County, ArrlSection, Cont, CqZone, ItuZone, Band, Mode, Spotter, SpotterNode, SpotterCty, SpotterState, SpotterCont, Grid, Name, SpotterCqZone, and SpotterItuZone.

set/dx/filter spotterstate=[ME,NH,NJ] can be used in place of the longer form command **set/dx/filter spotterstate=ME or spotterstate=NH or spotterstate=NJ**

Set DX Filter Macros

DX Filter Macros. The **Set/DX/Filter** command also has several build in macros to simplify setting up filters for contests. Macro commands have to be in upper case.

Examples:

set dx filter {ARRL-CW}
set/dx/filter {ARRL-SSB}
set/dx/filter {CQWW-CW}
set/dx/filter {CQWW-SSB}

Contest Macro	Macro Expansion
{EQUAL}	= (Used on N1MM where the "=" character is already used)
{ARRL-CW}	Cty<>K AND Cty<>VE AND {CW-CONTEST-FREQ}
{ARRL-SSB}	Cty<>K AND Cty<>VE AND {SSB-CONTEST-FREQ}
{CQWW-CW}	Cty<>K AND {CW-CONTEST-FREQ}

{CQWW-SSB}	Cty<>K AND {SSB-CONTEST-FREQ}
{CW-CONTEST-FREQ}	(Freq >= 1800 AND Freq <= 2000 OR Freq >= 3500 AND Freq <= 3600 OR Freq >= 7000 AND Freq <= 7100 (
{SSB-CONTEST-FREQ}	(Freq >= 1800 AND Freq <= 2000 OR Freq >= 3500 AND Freq <= 3600 OR Freq >= 7000 AND Freq <= 7100 (

Set DX Mode

The **SEt Dx Mode** command is used to set filter mode for real-time DX spots. The Debug mode prints all DX spots with a leading "-" in front of spots that would get rejected and a leading "+" in front of spots that pass the filters. Valid modes are: Open, Filter, Needs and Debug. Settings are defined as:

Open – Turn off the current DX filter and display all spots.

Filter – Activate the spot filter based on the SET/DX/FILTER settings

Needs – Filter by DX needs

Debug – Activate the spot filter based on the SET/DX/FILTER settings. Show filtered spots with a "-" and unfiltered spots with a "+". Excellent tool for filter debug.

Examples:

```
set dx mode open
set/dx/mode filter
set/dx/mode debug
```

Set DX Output

The **SEt Dx Output** command is used to set output mode for real-time DX spots. Valid modes are: OFF, ON.

Off – Turn off real-time spots.

On – Display the normal user spot format. Default setting.

Examples:

```
set/dx/output on
set/dx/output off
set dx output off
```

Testing DX Filters

Here is a typical example of a common DX filter and how we can test it. In this example we want to only see spots that originate in North America so first we enter:

```
set dx filter SpotterCont=na
```

Next we want to debug to make sure we have the correct filter. We enter:

```
set dx mode debug
```

Now we monitor the spots that are displayed. The spots that pass the filter gets a "+" in front of it and the spots rejected by the filter gets a "-" in front of it. See example below. When we are thru testing we can exit the debug mode with the following command:

```
set dx mode filter
```



