

# DPLUS REPORT

**Current Version:** 0.8b (02/17/2010)

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This program is available for use on D-STAR gateways for non-commercial purposes. Permission is NOT granted for any use, in whole or in part, other than on amateur radio D-STAR systems.

```
wb4fay@dstar~  
Repeater: K4DSO      DPlus Report - Ver. 0.5e 09/22/08      Log Date: 2008/09/16  
Linked gateway list: 2008/09/16 21:30:58.222  
remote gateway 129.93.89.47:20001      call REF002 B status Linked to C  
  
Linked user list: 2008/09/16 20:31:58.218  
  
-----REPEATERS AND USERS-----  
K4DSO  A:  
K4DSO  B:  
K4DSO  C: WB4FAY N4HUB AK4AS K4CLG K3FP KI4HKO KE4DZU N1LF N4FOP W4ATK  
        N4JDU KW4J WA4SYI  
W9BCC  : K9PT KC9NW  
W4AP    : K4DJL KR4JY K4GR  
AK4EG   : AI4UE  
W4KCQ   : KG4MPU W4MD KI4UGM KJ4DDV  
KI4PPF  : W4VM W4OZK  
REF002  : KC4PZA KE4FOV K4DFW AB4WL  
W5SHV   : K5AI  
KJ4FHX  : KE4TV  
  
-----DPLUS.LOG ENTRIES-----  
152 < TX 21:23:57 MY:(KG4MPU /TCL ) UR:(CQCQCQ ) R1:(REF002 B) R2:(W4KCQ G)  
153 < TX 21:24:20 MY:(K9PT H/DEAN) UR:(CQCQCQ ) R1:(REF002 B) R2:(W9BCC G)  
154 < TX 21:24:42 MY:(K4DJL /EL ) UR:(CQCQCQ ) R1:(REF002 B) R2:(W4AP G)  
155 < TX 21:25:20 MY:(K4DJL /EL ) UR:(CQCQCQ ) R1:(REF002 B) R2:(W4AP G)  
156 < TX 21:25:22 MY:(K4DFW /DNGL) UR:(CQCQCQ ) R1:(REF002 G) R2:(REF002 B)  
157 > TX 21:25:37 MY:(KW4J /BILL) UR:(CQCQCQ ) R1:(K4DSO C) R2:(K4DSO G)  
158 < TX 21:25:45 MY:(KC4PZA /DNGL) UR:(CQCQCQ ) R1:(REF002 G) R2:(REF002 B)  
159 < TX 21:25:57 MY:(KE4TV /JOE ) UR:(CQCQCQ ) R1:(REF002 B) R2:(KJ4FHX G)  
***New user: (KE4TV /JOE ) ***New repeater: KJ4FHX  
user message: (JOE - JEFFERSON, GA )  
160 < TX 21:26:18 MY:(K4DJL /EL ) UR:(CQCQCQ ) R1:(REF002 B) R2:(W4AP G)  
161 < TX 21:26:49 MY:(KE4TV /JOE ) UR:(CQCQCQ ) R1:(REF002 B) R2:(KJ4FHX G)  
162 < TX 21:27:40 MY:(K4DJL /EL ) UR:(CQCQCQ ) R1:(REF002 B) R2:(W4AP G)  
163 > TX 21:28:22 MY:(WB4FAY / ) UR:(CQCQCQ ) R1:(K4DSO C) R2:(K4DSO G)  
164 < TX 21:28:45 MY:(K4DJL /EL ) UR:(CQCQCQ ) R1:(REF002 B) R2:(W4AP G)  
165 > TX 21:28:55 MY:(WB4FAY / ) UR:(CQCQCQ ) R1:(K4DSO C) R2:(K4DSO G)  
166 < TX 21:29:05 MY:(K4DJL /EL ) UR:(CQCQCQ ) R1:(REF002 B) R2:(W4AP G)  
167 > TX 21:29:33 MY:(WB4FAY / ) UR:(CQCQCQ ) R1:(K4DSO C) R2:(K4DSO G)  
168 < TX 21:29:51 MY:(K4DJL /EL ) UR:(CQCQCQ ) R1:(REF002 B) R2:(W4AP G)  
169 > TX 21:29:59 MY:(WB4FAY / ) UR:(CQCQCQ ) R1:(K4DSO C) R2:(K4DSO G)  
170 < TX 21:30:43 MY:(K4DJL /EL ) UR:(CQCQCQ ) R1:(REF002 B) R2:(W4AP G)  
MISSING HEADER: The following calls should be suspect.  
171 > TX 21:30:55 MY:(WB4FAY / ) UR:(CQCQCQ ) R1:(K4DSO C) R2:(K4DSO G)  
172 < TX 21:31:04 MY:(KC4PZA /DNGL) UR:(CQCQCQ ) R1:(REF002 G) R2:(REF002 B)  
173 < TX 21:31:09 MY:(AB4WL /DNGL) UR:(CQCQCQ ) R1:(REF002 G) R2:(REF002 B)  
***New user: (AB4WL /DNGL)  
174 < TX 21:31:32 MY:(K4DJL /EL ) UR:(CQCQCQ ) R1:(REF002 B) R2:(W4AP G)  
End date/time reached: 2008/09/16 21:30  
[wb4fay@dstar ~]$
```

## **FEATURES:**

'dplusreport' reads the dplus.log file and generates formatted display of various status and warning information. The original driver for the script was to have a tool that will aid Net Control Stations (NCS) in the management of large D-STAR nets.

The format of the display assumes an 80 character wide display and will utilize up to 60 rows of display. Therefore, it is recommended that prior to invocation of the script, the terminal window be sized to the maximum number of rows that are available on the monitor.

Three different "sections" are available for display. The user is given the option of selection and one, two, or three of these within a single terminal session depending upon the user's needs and the terminal window real estate.

The first display section shows the current status of any links that are active and any DVDongle users that are connected locally. For example:

---

*Linked gateway list: 2008/09/15 20:15:58.395*  
*Remote gateway 129.93.89.47:20001 call REF002 A status Linked to B*

*Linked user list: 2008/09/15 20:15:58.395*  
*Remote client 75.143.107.181:1035 call KC4CY type Dongle*

---

Rows are allocated on the display for up to three gateway links and for the maximum number of remote users allowed as specified in the local /var/log/dplus.conf file.

The second section displays the repeaters that have been recently reported as entry points for users heard on this repeater. Along with each repeater listed is a list of the individual user call signs that have been heard. It should be noted that aging of the users is implemented as follows:

- User heard with the last 30 minutes: Call sign is displayed in a 'normal' color (which is dependent upon terminal and the user's settings.)
- User heard between 30 and 60 minutes ago: Call sign is displayed in a YELLOW colored font.
- User heard between 61 and 90 minutes ago: Call sign is displayed in a RED colored font.
- User last heard over 90 minutes ago: Call sign completely dropped from the display.

Note that if this was the last call sign for a specific repeater, then the repeater is also dropped from the list. However, the local repeater modules A, B and C are never removed from the list.

For DVDongle users that are connected to a reflector they will be displayed with the REFxxx identification for the repeater because this is where they are 'entering' the D-STAR network.

Each time a users keys their transmitter (or dongle), their call sign will be underlined. When the dplusreport users depresses 'CTRL-Z' all underlines are cleared. This allows for the NCS to periodically clear all the underlines (e.g. after a group of check-ins are acknowledged).

An example of this screen section is as follows:

---

```
K4DSO  A:
K4DSO  B:
K4DSO  C: WB4FAY KE4DZU W4ATK  K3FP
KI4PPF  : W4OZK  W4VM
W4AP    : K4DJL
REF002  : N4JDU
```

---

The third section of the display is a display of portions of the dplus.log file after it has been processed and reformatted. There are several key things that are displayed in this portion.

An entry for each transmission is generated as follows:

---

```
1 < TX 20:02:54 MY: (KB5NFT /      ) UR: (CQCQCQ  ) R1: (REF002 A) R2: (W5NGU  G)
```

---

In each of these lines the four call sign fields are displayed as well as a directional indicator. This indicator is as follows:

“>” The transmission is from a local user and was sent over the net.  
“<” The transmission can into this D-STAR system via the Internet.  
“ “ The transmission was local and did not go out on the Internet.  
(No link up and no DVDongle user connected at the time)

Before a transmission line, one or more messages may be displayed. First, a warning message may be displayed in to indicating that the ‘missing header indicator’ was set. In these cases the call signs displayed for the transmission are likely suspect and in fact may be the information from the last good header received and not from the user that actually transmitted. Second, an error message may be displayed if there are obvious programming errors on the user’s part. For example an error will be reported if URCALL equals MYCALL, URCALL equals R1CALL, etc.

After a transmission line, one to three informational messages may be displayed. These are used for : 1) an green indicator of a new users and/or repeater (first time heard in the last 90 minutes); 2) display of the user’s twenty character text message coded in their radio; and 3) a yellow warning if the missed packet count exceeds five percent of the total packets in the transmission.

A more complete sample is:

---

```
PROGRAMMING ERROR! MY:(KB4FKN /STEV) UR:(K4DSO  C) R1:(K4DSO  G) R2:(K4DSO  C)
MISSING HEADER:  The following calls should be suspect.
46 > TX 20:58:56 MY:(KB4FKN /STEV) UR:(K4DSO  C) R1:(K4DSO  G) R2:(K4DSO  C)
PROGRAMMING ERROR! MY:(KB4FKN /STEV) UR:(K4DSO  C) R1:(K4DSO  G) R2:(K4DSO  C)
47 < TX 20:58:56 MY:(KB4FKN /STEV) UR:(K4DSO  C) R1:(K4DSO  G) R2:(K4DSO  C)
PACKET LOSS WARNING! Call:KB4FKN  (55998 of 61605 -- 90.90%)
48 < TX 21:00:01 MY:(W8SS SEZ/      ) UR:(CQCQCQ  ) R1:(K8LCD  G) R2:(REF002 A)
PACKET LOSS WARNING! Call:W8SS S  (2331 of 2467 -- 94.49%)
49 > TX 21:00:03 MY:(K4DPW  /DNGL) UR:(CQCQCQ  ) R1:(K4DSO  G) R2:(K4DSO  C)
```

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In this example, there was an active link to a reflector, so note that because of the PROGRAMMING ERROR, a loop was created. Line 46 indicates a transmission was sent from the local machine to (>) the Internet, then line 47 indicates that the same transmission came back in (<).

### **SUPPORTED ENVIRONMENT(S):**

This perl script has been tested on the ICOM recommended D-STAR gateway platform – Centos 5. It does require the additional installation of a perl add-on to support file tailing (see installation notes below).

DPLUS must be installed on the gateway. The most recent version of DPLUS tested is version 2.1e. Previous versions of dplus are supported by dplusreport but the full functionality is not available due to the lack of some log entry records in earlier versions.

### **INSTALLATION:**

The “perl-File-Tail” rpm is required. For the recommended Centos 5 implementation, the file “perl-File-Tail-0.99.3-1.2.el5.rf.noarch.rpm” can be found in various repositories on the Internet.

Once the file tail rpm is installed, the ‘dplusreport’ can be copied to the gateway. For consistency with other gateways, it is recommended that the directory /dstar/util be created and that that dplusreport be placed in that directory. Don’t forget to set the appropriate execute permissions (e.g. chmod 755 /dstar/util/dplusreport).

### **USAGE:**

*dplusreport [-f filename]*

-f used to specify a the dplus log file name. If omitted, the default file name is: /var/log/dplus.log. This option may be used if the dplus.log is included in file rotation and the user wished to process and earlier file. For example:  
*dplusreport -f /var/log/dplus.log.1*

Note: prior to execution, the terminal window should be sized to include as many rows as possible.

At program startup, the user is prompted for various inputs. In each case the default value is displayed in parenthesis. The user can enter a new value or press enter to accept the default value. The prompts are:

*Enter starting date (2008/09/15):*

This prompt is used to specify the starting date for log processing. All log entries prior to the specified date are ignored. The default is always the current system date. The date entered can be with our without the delimiters (/). Use ‘yyyy/mm/dd’ or ‘yyyymmdd’ for date entry.

*Enter starting time in 24 hour format (16:07):*

The prompt is used to specify the starting time for log processing. The time should be entered as machine local time and can be entered with or without the “:” in the middle (e.g. “21:00” or “2100” to represent 9:00 PM)

*Enter ending date (2009/12/31):*

This prompt is used to specify the ending date for log processing. All data after this date will be ignored. The default is always December 31<sup>st</sup> of ‘next year’.

*Enter the ending time (23:59):*

This is used to enter the ending time after which all log processing is terminated. The default is always 23:59.

*Enter desired display mode (7):*

This is used to allow the user to specify which combination of the three display sections (described in the FEATURES section above) to show on the user’s terminal. The sections are each assigned a value and the ‘mode’ specified is a summation of the desired sections. The first section of the display (Links and DVDongle users) is assigned a value of 01. The second section (Repeaters and associated user call signs) is assigned a value of 02. The third section (formatted dplus log) is assigned a value of 04. So for example if the user wants to display on the Links and the Log portion then enter mode = 5.

*Enter maximum number of repeaters to display (16):*

If the second portion of the display (Repeaters and associated user call signs) is selected, then the user can select the maximum number of repeaters to handle. This is used to manage the amount of terminal space (number of rows) that are allocated to this section. The more repeaters that are allowed, the less space is available for the log display portion. The minimum number of repeaters that can be specified here is 3 and the default is set to 16.

At this point the input parameters are displayed and the user is asked to confirm that they are correct. If incorrect, the user will be re-prompted for the various inputs.

### **COMMENTS, SUGGESTIONS and BUG REPORTS:**

Please send any comments, suggestions and bug reports to the author at [wb4fay@wb4fay.com](mailto:wb4fay@wb4fay.com). In the case of bug reports, if possible, please attach a copy of the dplus.log file along with the approximate date and time in which a problem was encountered.

If you would like to be included in the email distribution notices of new releases and other news worthy items, please send an email to the author specifying that you would like to be included in the distribution list.