

Submitting an Electronic Contest Log

“What’s this Cabrillo Log Format I’ve been hearing about?”

Sean Kutzko, KX9X

Most contesters today log their QSOs with a computer. Computer logging offers many advantages over paper logging, especially real-time stats and scores, keeping track of multipliers, and huge time savings in submitting a log! Many contest sponsors, including the ARRL, require electronic logs to be in “Cabrillo format.” I’ve received a lot of questions regarding *Cabrillo*, so I thought it would be good to provide a basic overview.

What Is Cabrillo?

Cabrillo is the standard file format used by the ARRL and other major contest sponsors for log checking and scoring. The Cabrillo standard only specifies how the text in a file is to be structured – specific items in a specific format. It does not affect the scoring of the log and it does not guarantee the validity of QSOs. The name Cabrillo has no significant meaning, other than it is the name of the place in California where Trey Garlough, N5KO, developed the format. Refer to the Cabrillo Web page at www.kkn.net/~trey/cabrillo for more detailed information.

Log files in Cabrillo format are e-mailed to a server (affectionately called “The Robot”) that automatically collects your log and stores it for future analysis by the contest sponsors. By creating a log in a standardized format, it allows the contest sponsors to analyze thousands of entries quickly and accurately — something not possible before Cabrillo when logs in literally dozens of different formats were received.

Cabrillo files are broken into two parts: the *header* and the *QSO data*. Let’s take a look at how each part of a Cabrillo file needs to be constructed.

The Cabrillo Header

The header contains all the information *about* your contest entry, such as what contest you’re entering, what call sign was used in the contest, how much power you were running, and other administrative information. The header is normally created by the logging software. Each piece of information is called a *tag*. There are several different tags included in a Cabrillo header. A sample Cabrillo header is shown in Figure 1.

Start-of-log: 3.0: the very first line of a log file. It tells the Robot that this is the beginning of your log file and what version of the Cabrillo format was used to construct the file. As of this writing, the latest version is 3.0.

Location: where you operated the contest from. For ARRL contests, W/VE stations list the standard two or three letter abbreviation of your ARRL/RAC section such as CT for Connecticut, or LAX for Los Angeles. Your logging program will prompt you for this information when setting up your contest file.

Contest: the name of the contest you are entering. The Robot handles many different contests; this line tells the Robot which one. There are standard abbreviations for over forty contests; see the Cabrillo Web site I mentioned earlier for specifics.

Callsign: the call sign used during the contest.

Category-Operator: categories for how many operators participated. The choices are Single-op, Multi-op or Checklog. Checklogs allow you to submit your log, but it will not be scored for the final contest results. These logs are very helpful to the contest scoring process.

Category-Transmitter: the number of transmitters you used on the air simultaneously. The three choices are One, Two or Unlimited.

Category-Power: the power you used during the contest. Your choices are High, Low and QRP.

Category-Assisted: indicates whether you used any type of spotting assistance, such as a spotting network (like Packet Cluster™) or an Internet chat room, to get information about stations you worked in the contest (such as their frequency). Your choices are Assisted or Non-Assisted.

Category-Band: identifies the bands used during the contest. Your choices are any single band (“80m,” “40m,” etc) or All.

Claimed-Score: the score you are claiming for your contest effort. This is usually computed automatically by your logging software.

Operators: calls of all operators that participate — critical for Multi-operator entrants.

Name: name of the log submitter.

Address: mailing address of the log submitter.

Soapbox: a line for comments about the contest. Do not use *Soapbox* for questions to the contest sponsors or for scoring information about your log — e-mail the sponsors separately if you have questions. There may be multiple Soapbox lines in the log.

There are more types of Cabrillo tags. For example, many VHF+ contests use a *Category-Station* tag to indicate whether you operated from a fixed location, as a portable station or as a rover (mobile). While logging software will often ask questions to fill in the tags during the export process, double-check the rules and read your Cabrillo file before submitting it, just to make sure you’re including all needed information in your header.

The QSO Data

This section of the Cabrillo file contains the log of the stations you worked in the contest. Each line *must* contain *all* elements of

the QSO from *both* stations: the date, time (in UTC), frequency, mode, both stations’ call signs, and the contest exchange information sent and received. A sample *Cabrillo* QSO section is shown in Figure 2.

Each line of QSO data begins with *QSO*: The first item is the frequency on which the QSO took place. The frequency can be generic (such as 14000 for 20 meters), but the exact frequency may be shown (14254, for example).

The next item is the mode used. The standard abbreviations are PH for an SSB or AM QSO, CW for CW, FM for FM, and RTTY/digital modes.

Figure 1 – Cabrillo Header for a W/VE station entering the ARRL DX Contest.

```
START-OF-LOG: 3.0
LOCATION: CT
CONTEST: ARRL-DX-SSB
CALLSIGN: W1AW
CATEGORY-OPERATOR: SINGLE-OP
CATEGORY-TRANSMITTER: ONE
CATEGORY-POWER: HIGH
CATEGORY-ASSISTED: NON-ASSISTED
CATEGORY-BAND: ALL
CLAIMED-SCORE: 1000000
OPERATORS: KX9X
CLUB:
NAME: Sean Kutzko
ADDRESS: 225 Main Street
ADDRESS: Newington, CT 06111
SOAPBOX: I had a lot of fun at W1AW!
```

Next comes the date of the QSO. It must be listed in YYYY-MM-DD format; a QSO made on March 1, 2008 must be listed as 2008-03-01. Next comes the time, in UTC.

The call you used comes next, followed by the contest exchange. In Figure 2, the exchange sent by W1AW is the signal report (59) and state (CT) in which W1AW is located.

After that, the call of the station *worked* is listed, followed by the

```

QSO: 14000 PH 2008-03-01 1456 W1AW 59 CT 6Y5/NN1N 59 100
QSO: 14000 PH 2008-03-01 1459 W1AW 59 CT G0ABC 59 400
QSO: 14000 PH 2008-03-01 1504 W1AW 59 CT EA8XYZ 59 500
QSO: 21000 PH 2008-03-01 1508 W1AW 59 CT XE1ABC 59 100
END-OF-LOG:

```

Figure 2 – A Cabrillo file QSO area for W1AW, entering the ARRL DX Contest.

contest exchange you received. Figure 2 is based on the ARRL DX Contest, so the exchange received by W1AW would be a signal report and the transmit power sent by the DX station. Every QSO must be reported in this format. Remember: Different contests use different information in the exchange; read the rules of each specific contest so you know what data is to be exchanged.

After the last line of QSO data, “End-of-log:” must appear on its own line, to tell the Robot that there is no more QSO information.

Submitting Your Log

Once your Cabrillo log file has been created, send it to the Robot as an e-mail attachment. The file should be named with the call you used in the contest in the form *[yourcall].log*. For example, my log file would be named *kx9x.log*. Each ARRL contest uses a different e-mail address; for example, CW Sweepstakes logs are sent to **sscw@arrl.org**. The official rules for the contest will include the e-mail address. The subject of your e-mail should be the call used in that contest (W1AW, for example). No text in the body of your e-mail will be read. Do not send any other files except your Cabrillo-formatted log; the Robot doesn’t need them and it could cause your submission to get rejected.

After you send your log, you should get a reply within a few minutes showing you the details of how the Robot interpreted your log file and whether there were any problems. You should check this note very carefully and make sure there aren’t any discrepancies. (The robot does *not* check your QSOs against other logs.) If there are any, check the Cabrillo file to be sure you entered the correct data in the header and that your QSO: lines contain the correct information. Figure 3 shows a sample reply message.

If there aren’t any problems listed in the details of the note, your log has been accepted and you’ve entered the contest. Save the reply message and your confirmation number.

Help! I Have a Problem with My Log

If you have a problem with your log, the robot will tell you the exact problem in the message. There are two types of problems: *Fatal* and *Non-Fatal*. A Fatal Problem means the Robot cannot accept your log. Examples would be improperly formatted QSOs in your log file, lack of a call sign in your log, or in the case of a multi-operator entry no list of operators.

Non-Fatal problems may occur if the log is generally sound, but has a minor issue such as ambiguous information. Examples include not stating your power or choosing an improper entry category. In each of these cases, the Robot will automatically default to the most inclusive value possible, such as “High Power” or “Single Operator” for the problems listed above. If the Robot cannot completely ascertain your logging category, it may reclassify your log as a Checklog, so be sure to check that your log information was noted as you expected.

Common Problems

Some of the more common problems when submitting a log are:

No value set for “LOCATION” to tell the Robot where you operated the contest from. See the rules of the contest for the information required.

Incorrect times or dates. If you get a message back that says some (or all) of your QSOs aren’t being accepted, check to make sure your log’s dates and times fall within the contest period. We see a

lot of logs where the times are off by a few hours, which is a sure sign that the submitter’s PC clock was set to local time instead of UTC.

Improperly formatted QSO data. The QSO area of the Cabrillo file has to have the data listed in the exact format of the standard. If your reply message from the Robot says QSOs are not being accepted, check to make sure the QSO data is formatted properly.

I Still Log on Paper. Can I Use Cabrillo?

You can use an on-line converter tool created by Bruce Horn, WA7BNM, which will walk you through the steps to create a Cabrillo file from your paper log. The Web applet will ask you a series of questions about your contest operation. Then you

```

2008 ARRL DX SSB Contest
Callsign: W1AW
Operator(s): KX9X
Category-Operator: SINGLE-OP
Category-Transmitter: ONE
Category-Power: HIGH
Category-Assisted: NON-ASSISTED
Location: CT
Name: Maxim Memorial Station W1AW
Address: 225 Main Street
Newington, CT 06111
USA
Log Deadline: 2008-04-3 00:00:00 UTC
Received at: 2008-03-04 21:23:23 UTC
Reported QSOs: 494
Confirmation #: 4025031.arrl-dx-ssb
Thank you for entering the contest and submitting your log in
Cabrillo format. Please review the information listed above and, if
necessary, resubmit the log to make any corrections.
73.
ARRL Contest Branch

```

Figure 3 – A typical reply from the contest log robot.

will manually enter the QSO information into the online form. Once you’re done, the Web site will send you a copy of your log in Cabrillo format and mail a copy of it to the appropriate Robot. While the process can be time-consuming (especially if you have a large paper log), the rewards of instantaneous log acceptance are well worth it. The address for Bruce’s online form is **b4h.net/cabforms/**.

Conclusion

Computer logging is here to stay. The benefits are enormous, and the Cabrillo format is not difficult to learn. I hope this primer has encouraged you to give computer logging a try. Have questions? Call me or e-mail me at the ARRL Contest Branch or visit the Cabrillo Web page. Here’s hoping to see your Cabrillo log soon!