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What You Can Learn from Your Log-Checking Report

I asked Doug to write this article at Dayton's Contest University 2018 after hearing the presentation. It's a hybrid article. The text is being printed in NCJ *and the article is available on the* NCJ *website,* **ncjweb.com***, as a bonus article. The audio files that Doug references are indicated by double brackets ([[CALLSIGN]] and are stored on the website and easily linked to, so you can listen to the SDR recordings he references. — NCJ Editor Scott Wright, KØMD*

When contest sponsors began to use computers to check QSOs in contest logs, the main interest was in removing duplicate QSOs and calculating the score correctly. A simple matter of programming then allowed the sponsor to match QSOs between logs to determine whether or not a good QSO had taken place. Another interesting report for each log listed all call signs unique to that log — in other words, call signs in the log that did not appear in any *other* log. A high number of "uniques" is often an indicator that the log deserves further scrutiny to determine if those QSOs are legitimate. Further enhancements and access to databases from many countries allowed the log-checking software to detect impossible call signs in logs, usually the result of copying errors. Then the capability of detecting "off-by-one" errors was added, where a QSO in the log matches the time and frequency of a QSO claimed by another station whose call sign differs from the logged call sign by one character.

The author has participated in various log-checking activities over the years and after an initial period of skepticism, has accepted that the automated log-checking processes in use for most major contests are trustworthy. They are not 100% perfect, and generally err on the side of accepting QSOs that are actually erroneous but not provably so. Most log checkers and contest sponsors strive to get the published order of finish correct, not determine conclusively the accuracy of every single QSO in every single log. If you review your log-checking report (LCR) carefully, you may find a QSO that was removed from your log in error. However, for each one of those, you probably got credit for one or more QSOs that are actually erroneous but allowed by the software.

Since I had recorded the 2017 CW WW SSB contest, I decided to review my LCR in detail to determine why I had lost some of the QSOs. My overall score reduction was about 5%, which was about double the reduction of my previous operation from the same station in 2014. The 2014 contest featured a great opening on 10 meters (remember that band?), with several hours over 200 QSOs, and over 2,000 QSOs on the band. I think the error rate was low because it is easier to find a clear frequency on 10 (I was well above 28.800 when running Europe). Propagation in 2017 was not quite as good, with fewer than 100 QSOs on 10.

Here is the summary section of my log check report:

4455 Claimed QSO before checking (does not include duplicates)
4389 Final QSO after checking reductions
12456 Claimed QSO points
11834 Final QSO points

450 Claimed countries
449 Final countries

123 Claimed zones
123 Final zones

573 Claimed mults
572 Final mults

7,137,288 Claimed score
6,769,048 Final score

5.2% Score reduction
1.5% Error Rate based on claimed and final qso counts
43 (0.9%) call signs copied incorrectly
8 (0.2%) exchanges copied incorrectly
15 (0.3%) not in log
105 (2.3%) duplicates (Removed without penalty)
68 (1.5%) call signs unique to this log only (not removed)

As a member of the CW WW Contest Committee, I had access to the wideband recordings of the contest made in several locations around the world. This allowed me to listen to any QSO in my log from multiple locations, compare the on-air audio to my own in-shack recordings, and figure out what happened.

Please note that this article is not intended to defend or criticize the log-checking process, only to illustrate some of the ways that QSOs may be identified and removed from a log. In the 2014 CW WW SSB, over 83% of the QSOs in the submitted logs were able to be cross-checked against other submitted logs, and over 97% of those were judged correct, so in general, contesters log QSOs pretty accurately.

Dissecting the LCR

The report is typically broken down into several sections, and we'll look at each of these:

- Not-in-Log
- Incorrect call
- Incorrect exchange information
- Out of band
- Band-change violation
- Duplicates
- Unique call signs
- Stations copying your call incorrectly

I'll take these out of order since some don't apply to my log.

Duplicates

The log-processing software simply identifies and removes them from the log with no penalty. It is a good idea to log duplicates, since they help the software to determine what really happened. Often a duplicate occurs when a station has logged your call sign incorrectly in one of the QSOs, and it does not appear as a duplicate in the other station's log.

Out of Band

When a station makes a QSO on a frequency where it is not allowed to transmit, that QSO is removed, usually with no additional penalty. This happens several ways, the most common of which is for an Assisted operator or operator in a multiop clicking a cluster spot without paying attention to the frequency. A US station may inadvertently call a station far below 7,125 kHz or a station in ITU Region 1 might call a multiplier above 7,200. If the log-checking software turns up a large number of these incidents, the entry may be subject to disqualification.

Another common case is using a frequency too close to the band edge. For example, in the US, operating USB on 14,349.0 kHz places most of the signal's power *above* 14,350, and is therefore out of the band. Americans should stay below 14,347.5 to be safe (and above 7,127.5 using LSB on 40). In some countries, the local regulatory authority has defined the

band edges differently, using the VFO dial frequency as the actual frequency. In such countries, a station can legally transmit on 14350. However, if a US station makes a QSO there, it will be removed from the US station's log. Fortunately, I had no out-of-band QSOs in my 2017 log.

Band-Change Violation

This applies to Multi-Single and Multi-Two stations, which are subject to limits on how frequently they may change bands. These violations usually occur by accident, when an operator logs a QSO before it is permitted. Some operators try to cover deliberate violations by altering the time of the QSO in the log. However, the log-checking software can easily detect such modifications by comparing the time of the QSO in the other station's log. A log with a pattern of these is subject to careful review and possible disqualification or reclassification. Since I was a single op, this category of violation did not apply to me.

Incorrect Call

A call sign in your log will be deemed incorrect if:

♦ There is a matching QSO with another station with a different, but similar, call sign — maybe off by one or two characters — at the time and frequency reported.

♦ The call sign in your log is known to be bad, perhaps not in the country's daase (a few countries have reliable databases available that can be used for call sign verification)

♦ The call sign is an obvious typographical error ("K1DG5905" or "K1DGGGGGGGG")

In this contest, I had 43 call signs that were proven to be have been copied incorrectly. That's a little less than 1%, which is not bad but leaves room for improvement. All but two of them were stations that called me. I listened to my recordings, and in some cases I did not hear one of the letters and guessed. One thing I noticed was that in eight of the cases, I asked for confirmation that I had the call correct, since I had some doubts, and the other station did not respond. Or the rate was high enough (in some cases 5 or 6 QSOs per minute, and several stations calling at once) that I just did not want to take the time to ask for multiple repeats, choosing instead to log a guess and pick up a waiting caller. Knowing that I might lose the QSO was a price I was willing to pay in order to keep the rate up. In many cases my guess was right, but obviously not all of them were.

Incorrect Exchanges

The log-checking process can also easily identify incorrect exchanges by comparing what the station has in his log as "Exchange Sent" and what is in your log as "Exchange Received." In contests such as the ARRL DX, WPX, Sweepstakes, and NCJ Sprints, it is critical to copy and log the exchange correctly, since it is errors that result in lost QSOs and a reduced score. In contests like the CW WW and IARU, where the exchange can almost always be determined from the station's call sign (except for US stations), it is unusual to lose QSOs for this, but it happens.

I am embarrassed to report that I had *eight* QSOs removed from my CW WW log due to logging incorrect exchanges. Most of the time this happened when I copied a call sign, hit the key that inserted the zone and logged the QSO, then had to go back and correct the call sign but forgot to update the zone. Usually I notice it and fix the zone, but eight times in this contest, I missed it.

Some operators rely on "pre-fill" databases to fill in the exchange automatically. In the case of C4A, I initially thought it was EC4A, and the program filled in zone 14 [[C4A]]. He then corrected the call sign, and I logged it okay, but i didn't update the zone and lost the QSO. Many programs also will use a previously logged exchange for subsequent QSOs with the same station. This is why I logged the wrong zone for UT6EE the second time. The first time I worked UT6EE [[UT6EE]], I heard his call sign as YT6EE, and the program filled in Zone 15. I just hit Enter after correcting the call sign and did not fix the zone. The two US stations with incorrect zones were the result of the program autofilling the zone, since most 7s are in Zone 3, and most 8s are in Zone 4. Since both stations submitted logs, the log-checking program determined that I logged the wrong zone – and you can hear both of them clearly on the recording [[N7KDT]] [[KB8ABJ]] giving me the correct zone. Apparently I was too tired to type in the correct zone, and I lost the QSOs. Using prefills can also lead to errors when an operator enters a contest from a different location. In the 2018 CQWW CW for example, N2IC operated from Maryland (Zone 5) instead of his home station in New Mexico (Zone 4). Nearly 900 stations lost credit for working him, since they logged the wrong zone.

Uniques

Unique call signs generally are not removed from a log unless they can be proven to be bad call signs. Some operators insist that their uniques are legitimate QSOs…maybe from friends who only get on in the contest to work them, and then shut off the rig. In my view, this is pretty rare, and in the 2017 contest, none of the uniques in my log were "friends who worked only me."

Most unique call signs are simply incorrectly logged call signs. The LCR said I had 68 unique call signs in my 2017 CQWW SSB log. Of these, the software determined that 24 of them were incorrect call signs and removed them from the log with a 3-for-1 penalty. The remaining 44 uniques were call signs that the log-checking software was not able to prove bad through cross-checking, one-off checking, etc. In some cases, more than two letters are wrong or two letters are reversed, and the log-checking software cannot find a close match. In some cases, the call sign logged is off by one letter but no log was received to cross check.

I listened carefully to each of these 44

Table 1 — QSOs with incorrect exchanges in K1DG's 2017 CW WW SSB log.

21236 PH 2017-10-28 1438 K1DG	5	UT6EE	15	correct 16
14335 PH 2017-10-28 1846 K1DG	5	UT6EE	15	correct 16
14325 PH 2017-10-28 2033 K1DG	5	DK2YL	15	correct 14
7142 PH 2017-10-28 2225 K1DG	5	C4A	14	correct 20
14263 PH 2017-10-29 1825 K1DG	5	CT1BXT	15	correct 14
14263 PH 2017-10-29 1837 K1DG	5	OE5JSL	14	correct 15
14262 PH 2017-10-29 1956 K1DG	5	N7KDT	03	correct 4
7148 PH 2017-10-29 2209 K1DG	5	KB8ABJ	04	correct 5

Table 2 — Review of uniques in K1DG's 2017 CW WW SSB Log-Checking Report.

Definitely good	Probably good	Unclear	Probably bad	Definitely bad	Removed by log-checking software
21	5	4	9	5	24
31%	7%	6%	13%	9%	35%

QSOs on the recording to see if I could determine why they were unique. I was curious to see if I was the beneficiary of the log-checking leniency and got credit for QSOs that were actually bad. After listening to the recordings, I tried to classify each QSO as

Definitely Good: No doubt that I copied and logged the call sign correctly — clear signal, clear phonetics, no QRM. I have no idea why nobody else worked this station.

Probably Good: As above, but with a little doubt about the call sign, maybe some QRM took out a letter. I probably asked for a repeat of the missing letter and got it confirmed. It is a valid call sign with a listing on QRZ.COM, so it is probably a good QSO. Again, I have no idea why nobody else worked this station.

Unclear: There is some question about the call sign. Maybe I copied a letter or two wrong, but can't figure out who it really was. Maybe good, maybe bad.

Probably Bad: It sounds pretty sketchy. Might have been good, but most likely miscopied. Maybe I asked for a repeat on a questionable letter but got no response. In some cases, I found an active off-by-one call sign, for which no log was received.

Definitely Bad: Using additional tools not available to the log checker (especially listening to the recording), I have determined that this QSO was bad, and I should not have gotten credit for it.

Of the 44 QSOs I reviewed, five were definitely bad. In one case (DF2ZW), I said the call correctly (DF5ZW) but typed it wrong [[DF2ZW]]. The log-checking could not find this off-by-one, since DF5ZW did not submit a log (although I looked at a couple of other logs and found that he was indeed active). In another case, I struggled for a long time to try to pull a call sign through the QRM and logged my best guess (MM6FGE). It is a bit clearer on the recording than it was in real time. The same station worked me a few minutes later, and I got the call sign correct (MM6KFE) that time. That call also appeared as a unique, but I am confident I copied it correctly that time…it is a valid call with a QRZ.com listing and lots of lookups, so he is apparently active. I have no idea why he only worked me.

"G3UPS" initially sounds like G3UAS on the recording but I heard it as UPS in real time. When I asked if I had the call sign okay, he confirmed that UPS was correct… at least it sounded like that. [[G3UPS]] However, it really was G3UAS, proven by a match in LoTW when I uploaded a QSO with G3UAS at that time and band. Thus, despite both of our efforts to make an accurate QSO, we both blew it. But since G3UAS did not submit a log, the log-checking software could not cross-check the QSO and find the one-off match, so I got credit for a bad QSO.

Spotter	Freq.	DX	Time	Info	Country
RC7KY	7142.2	K1DG	22:53 28 Oct 17	LSB	United States
SO4B	7142.2	K1DG	22:48 28 Oct 17		United States
VE3RZ	7142.2	K1DG	22:04 28 Oct 17		United States
[redacted]	7142.1	K1DJ	21:57 28 Oct 17	CQWW CQ CQ	United States
W3LPL	14202.1	K1DG	21:03 28 Oct 17		United States
W3LPL	14325.6	K1DG	20:39 28 Oct 17		United States
DL5FAB	14325.7	K1DG	20:33 28 Oct 17	correct call	United States

DX Summit example of K1DG incorrectly identified as K1DJ.

Spotter	Freq.	DX	Time	Info	Country
[redacted]	7188.7	K1DJ	08:52 28 Oct 17	LSB	United States
[redacted]	7177.7	K1DJ	08:20 28 Oct 17	LSB	United States
EA3CEC	7178	K1DG	08:10 28 Oct 17		United States
KM4SII-@	7178	K1DG	08:04 28 Oct 17		United States

A second example of incorrect spot of K1DG as K1DJ.

The other two Definitely Bad call signs were US stations. Listening to the recordings, it is clear that I was uncertain of the call sign and logged my best guess. A little investigation proved to me that these two were Definitely Bad. I logged KG7GKO and N9VV, who were most likely really KG7**C**KO and **KD**9VV. Both of those call signs appear in several logs on the same band and around the same time, but they did not submit logs. I confess to sometimes not putting in a full effort to copy US call signs in the CW WW, especially if the rate is high, since the QSOs count for zero points and if they are removed from the log, it has no impact on the score.

Another nine QSOs were in the Probably Bad category. The sum of the Definitely Bad, Probably Bad, and Removed by the log-checking software categories adds up to 56% of the uniques. I got credit for the 14 Definitely Bad and Probably Bad QSOs that were *not* removed from my log.

The 26 Definitely and Probably Good unique QSOs are hard to explain. Here are some examples: [[M1CTK]] [[KC1GEV]] [[DO3HAM]]. In the case of KC1GEV, he even gave me his name and QTH, which agree with the entry in QRZ.com.

Stations copying your call incorrectly

A long list of stations copying your call sign incorrectly may suggest that you are using poor phonetics or sending too fast for the conditions. For example, my call sign, K1DG, is often miscopied on SSB by non-native-English speakers as K1D**J**, since G and J sound alike in many languages, and my usual phonetic for G is "Germany," which starts with a soft G. This happened 45 times in the 2017 CQWW SSB. On CW, sometimes I send too fast, and stations copy K1DG as K1**B**G since D and B are pretty close on CW. Both K1BG and K1DJ are quite active and appear in the Super Check Partial database. And, since N1DG is well-known and often active in contests, some stations only hear the "DG" and assume it is Don.

Sometimes a cluster spot with the wrong call sign will appear, and operators will pounce, make the QSO, and log it without actually hearing the station's call sign. You can often tell this has happened when you get a burst of duplicates calling. You don't lose credit for these QSOs in most contests. Obviously, such QSOs will not match in LoTW, and you may lose desired confirmations if the other stations are not copying your call sign correctly. Likewise, the list of stations receiving not-in-log from you indicates that something is not right with your operating or logging practices.

Not-in-Log

The remainder of this article will examine the Not-in-Log ("NIL") section. These are QSOs in your log that do not appear in the other station's log on the same band and within a certain time window. They can arise from several scenarios:

♦ One station miscopied the call sign so badly that the log-checking software could not match the QSO.

♦ One station logged the QSO at the wrong time or on the wrong band.

♦ You thought the other station was working you, but he was working someone else.

♦ One station thought the QSO was a duplicate and did not log it.

The first case is one that is evolving. The

log-checking software can easily identify an "off-by-one" error, such as stations copying me as K1DJ or K1BG if DJ and BG send in their logs. Since I logged the other station's call sign correctly I keep credit for the QSO. The other station, on the other hand, loses credit for the QSO, because it can be proven that they actually worked K1DG at that time and on that band and not K1DJ.

"Off-by-one" errors are common and easy to detect in software. "Off-by-two" errors are much harder to detect in software, as are reversals (i.e., logging K1GD instead of K1DG). Authors of log-checking software continue to improve their algorithms and will doubtless be able to detect more of these copying errors as time goes on.

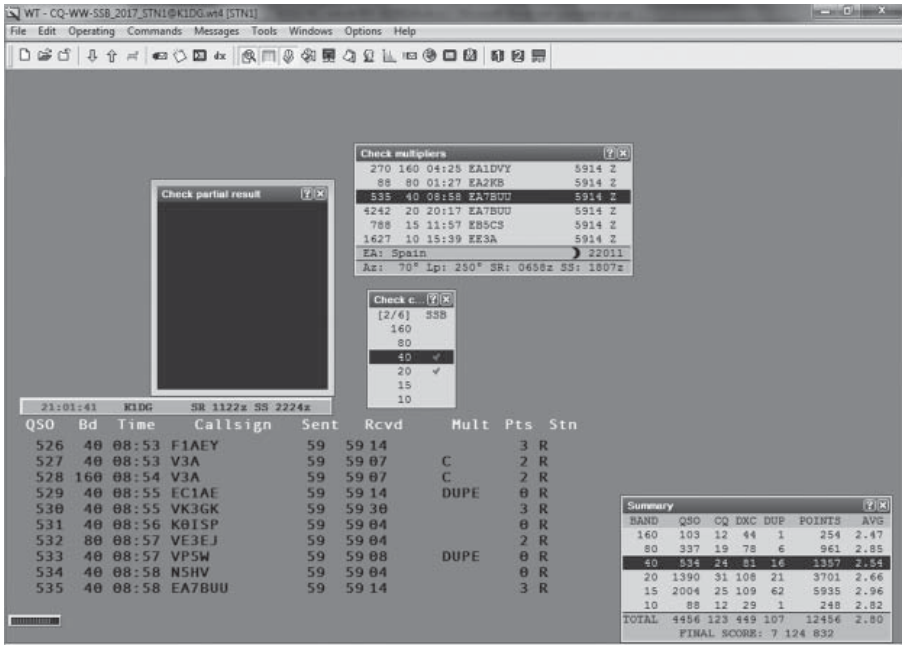
Time Error NIL

I was calling CQ on 40 meters, and T42A in Cuba called in with a big signal. Looking at my screen I saw that I needed Cuba on 160 meters, and I figured that if he was that loud on 40, he might have a good 160-meter setup and asked him to QSY there to give me another multiplier. He agreed, and while I continued to run on 40, I called him a few times on 160 on the second radio but got no answer. [[T42A]]

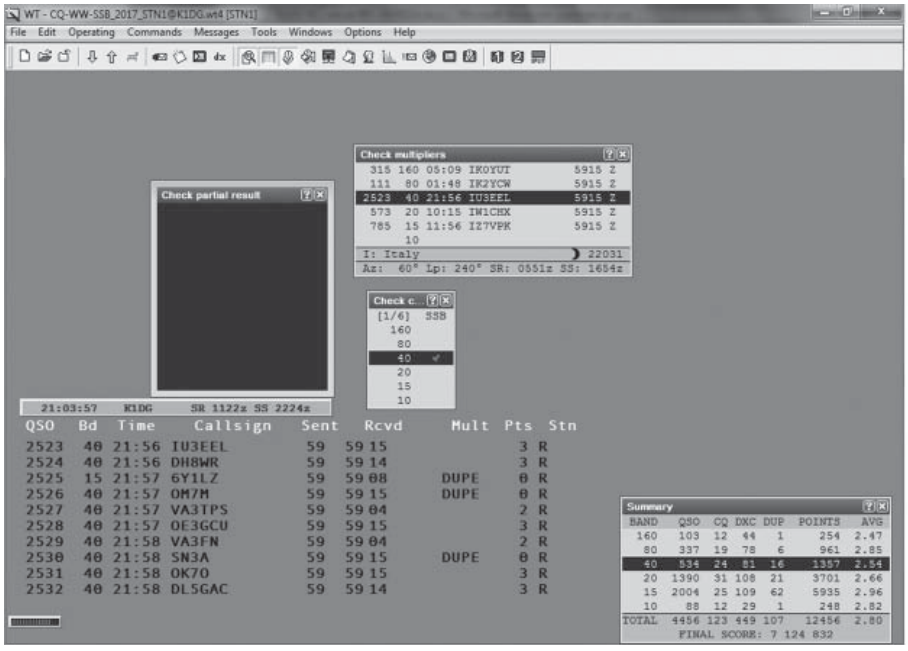
My log-checking report showed the T42A QSO on 40 as "not-in-log." But the QSO clearly took place. What happened? I looked at T42A's LCR and observed that he also lost credit for the QSO.

Apparently T42A, in his haste to change antennas and get tuned up on 160, forgot to hit Enter and log the 40-meter QSO. After 11 minutes of perhaps calling me unsuccessfully, he returned to the keyboard and hit Enter. The log-checking software did not find a match within 10 minutes, since the QSOs were logged 11 minutes apart, so we both lost credit for the QSO. T42A logged his other QSOs at the correct times, so his clock was not simply off by 10 minutes.

There are two lessons here : First, log the QSO as soon as you make it, and second, sometimes you lose a good one.



Dupes caused by bad cluster spot.



More dupes caused by bad cluster spot.

Log Dupes

Another scenario is when you have incorrectly logged someone while that operator was working someone else and then later calls you, and you think the QSO is a duplicate and don't log it. This pair of audio clips [[XQ6OA_II2S]], [[XQ6OA NIL]] gives an example of how this happens. In the first clip I am calling and working II2S on 40 during the first hour of the contest. If you listen very carefully, you will hear another station almost exactly on the same frequency, XQ6OA, who thinks I am working him. During the contest, I did not hear the XQ6 — I was beaming Europe and just picking off the loud CQers as I tuned up the band trying to find a good CQ frequency for myself.

Since XQ6OA logged me but I was not working him, he lost credit for the QSO. But it gets worse.

Later in the contest, I was tuning 40 again and found XQ6OA. Since he was not in my log from earlier, I called him. He looked at his log, saw a QSO with me and refused to work me since, according to his log, I was a dupe. I told him he was not in my log and asked him to log me anyway. He did not, so I lost credit for that QSO. If he had logged that QSO, we would both have gotten credit. By not logging the QSO, neither of us got credit for working each other.

The lesson here is that you should log dupes. It helps the log-checking software figure out what really happened, and you may get credit for a QSO that you would otherwise lose.

Frequency sharing

Sometimes a QSO that is removed from a log as an NIL sounds perfectly okay on the recording. For example, listen to this recorded QSO: [[DL9HB]]. It sounds per-

fectly okay. The timing is spot on. However, it was a NIL for me. I looked at DL9HB's log for that time, and there is nothing like my call there, even a mangled version with two letters off or reversed. Another QSO a few minutes later with DJ6DO [[DJ6DO]] also sounded good, but experienced ears may find the timing a teeny bit off. I looked at his log and again found nothing close to my call. However, both DL9HB and DJ6DO logged contacts with ES4RD at that time and on that frequency.

Recordings of that frequency and time made in Europe immediately showed the problem. Both ES4RD and I were calling CQ on that frequency. I could not detect ES4RD at my station, and you don't hear him on the recording. It would seem that he also could not hear me. Some stations heard and called me, some heard and called him — it depended on propagation and where their antennas were pointed. In the cases of DL9HB [[DL9HB_ES4RD]] and DJ6DO, they were calling and working ES4RD, but the timing made it seem like they were calling and working me. In the European recordings, you can hear both ES4RD and me answer them. I listened to several minutes on each side of these QSOs. ES4RD worked stations that I could not hear, and I worked several that he could not hear. Eventually ES4RD moved, and I had the frequency to myself.

This kind of "frequency-sharing" can occur when a band is beginning to open, as was the case here. There's really no way to avoid it other than to ask each station you work to confirm that he is calling you. Obviously, this would slow the rate considerably, and since the problem is relatively infrequent, I do not recommend it unless you notice that the timing of some QSOs doesn't sound right.

Mysteries

One NIL QSO that I cannot explain is my QSO with DL1QW. It occurred during a pretty fast run on 15 meters, while I was working 3 – 4 stations per minute. DL1QW was one of four QSOs at 1614 UTC and was a NIL. The recording sounds perfect [[DL1QW]]. And examination of his log shows that he has QSOs before 1614 on 20, and after on 40, but nothing on 15, and nothing at 1614.

To make things even more mysterious, DL1QW was looking at the CTU presentation from which this article is derived and was surprised to see himself featured as an inexplicable NIL. He emailed me to say, "No doubt abt it, that´s my audio. I will check my contest file to see what happened. May be someone´s joking (hi hi). I'd heard before from a guy who is making sound files from callers and local stations and plays them on the bands."

In this case we will probably never know what happened.

Mistakes due to fatigue

I can demonstrate how operator fatigue can cause a NIL in the other station's log. In this case, I was running at a good rate on 15, and YL3FT called in. You can hear the QSO very clearly in the recording [[YL3FT]], but somehow the QSO did not make it into my log. Listening a little further, you can hear another YL station call in (YL2TD). When I answered him, I only had the suffix. He said "please correct call" and gave his full call sign with phonetics. I made the (wrong) assumption that I had miscopied him a moment earlier and went back in the log and changed YL3FT to YL2TD. As a result, YL3FT lost a perfectly good QSO (sorry, OM), and so did I. The lesson here is to not assume that a station is calling to fix a miscopied call. Once a QSO is in the log, absent a really explicit comment such as, "You copied my call wrong before, please correct it," you should leave it in.

Another example of what sounded like a good QSO that never made it into my log is 9A6RMI [[9A6RMI]]. Two stations called at the same time, but I somehow only logged one of them. My apologies to 9A6RMI for not logging him. For what it's worth, we both lost out on a good QSO.

Another source of fatigue-induced error is hitting Enter at the wrong time. Late in the contest, I was running on 20 and tuning 15 with the second radio. I heard VE5SF CQing on 15, typed his call sign in to see if I needed him, found that I did, then toggled the SO2R box to 15. I called and worked him. I hit Enter and then toggled the SO2R box back to 20, where his call was still on the entry line. Another station called at that moment, so instead of wiping the line clear and entering the new call sign, I just hit Enter, which logged VE5SF inadvertently on 20. I lost that QSO since I was not in VE5SF's log on 20 at that time.

Guessing wrong

I lost another QSO due to a wrong guess. I was running on 20, and in the recording, you can clearly hear most of a call sign [[EA7BUU]]. What is clear is "Echo Alpha" and "Bravo Uniform Uniform." Only the prefix number is missing. I had the Super Check Partial window open, and the call sign EA7BUU appeared in green, indicating that I had worked him on another band during the contest, but not the current band. This is a good indicator EA7BUU is most likely correct. I called him as EA7BUU and gave him a report. He responded with a report. All seemed fine until it appeared as a NIL in my LCR. EA7BUU simply did not have me in his log. An excerpt of his log is shown below, with my QSO inserted in bold italics. You can see it does not seem to fit.

QSO: 7000 PH 2017-10-29 2013 EA7BUU 59 14 4X4M 59 20
QSO: 7000 PH 2017-10-29 2014 EA7BUU 59 14 F6HQP 59 14
QSO: 14262 PH 2017-10-29 2017 K1DG 59 5 EA7BUU 59 14
QSO: 7000 PH 2017-10-29 2021 EA7BUU 59 14 UA7K 59 16
QSO: 3500 PH 2017-10-29 2235 EA7BUU 59 14 EC6AAE 59 14
QSO: 3500 PH 2017-10-29 2236 EA7BUU 59 14 CN2R 59 33

So what happened? It took some detective work, but the Reverse-Log feature of the log-checking software revealed the problem. This feature creates a log for any station based on the QSOs with him that are reported by other stations. It is thus possible to reconstruct most of a station's activities by looking at the station's Reverse Log. In the case of this QSO, it turned out that EA**3**BUU was active around that time, tuning down the band and calling the louder stations.

QSO: 14335 PH 2017-10-29 2013 EA3BUU 59 14 W1NA 59 5
QSO: 14262 PH 2017-10-29 2017 K1DG 59 5 EA7BUU 59 14
QSO: 14201 PH 2017-10-29 2019 EA3BUU 59 14 VE3JM 59 4
QSO: 14169 PH 2017-10-29 2029 EA3BUU 59 14 K1XM 59 5
QSO: 14155 PH 2017-10-29 2032 EA3BUU 59 14 W2RE 59 5
QSO: 14150 PH 2017-10-29 2035 EA3BUU 59 14 K3LR 59 5
QSO: 14121 PH 2017-10-29 2037 EA3BUU 59 14 VE2IDX 59 2

I've inserted in bold italics the time and frequency where I logged EA7BUU. It's pretty conclusive evidence that I most likely worked EA3BUU but guessed the one unheard character incorrectly. The log-checking software was unable to determine that I worked EA3BUU, since he did not send in a log. However, it is possible to determine why I lost the EA7BUU QSO from this information.

Conclusion

The log-checking processes in place in the major contests work very well. They are not perfect, but correctly and impartially determine the order of finish. While good contacts are occasionally removed from a log, in most cases the processes err on the side of leniency and operators occasionally get credit for bad contacts.

I hope that this article sheds some light on how to interpret your own log-checking report and how some of the errors arise. Some are avoidable, some are not. And there is always room to improve.