

Filename: "Docs/UsersGuide.md"

Contest Log Analyzer - User Guide

Version: 0.26.3-Beta Date: 2025-08-03

1. Introduction: What is the Contest Log Analyzer?

The Contest Log Analyzer is a powerful command-line tool designed for amateur radio contesters who want to perform deep, data-driven analysis of their operating performance. It goes beyond the simple score summary provided by most logging software, allowing you to:

- Process raw Cabrillo log files into a clean, standardized format.
- Automatically classify every QSO as "Run," "Search & Pounce," or "Unknown" to analyze your operating strategy.
- Generate detailed reports and charts that compare your log against one or more others.
- Analyze performance on a band-by-band basis to identify strengths and weaknesses.
- Calculate contest-specific QSO points for supported contests.

The ultimate goal of this program is to help you understand your contest operation in minute detail, identify missed opportunities, and improve your strategy for the next event.

2. What You Need to Get Started

Before running the analyzer, you will need a few files:

- **Your Cabrillo Log File(s):** These are the standard log files generated by your contest logging software (e.g., `k3lr.log` , `kc1xx.log`). You can analyze a single log or compare multiple logs at once.
- **Data Files:** The program requires specific data files to be placed in a central `data/` directory.
 - `cty.dat` : Required for all contests.
 - `ARRLDXmults.dat` : Required for the ARRL DX contest.
 - `SweepstakesSections.dat` : Required for ARRL Sweepstakes.
- **An Environment Variable:** You must tell the program where to find your data files by setting an environment variable named `CONTEST_DATA_DIR` . This variable should point to your `data` directory.

3. How to Run the Analyzer

The program is run from your command prompt or terminal using `main_cli.py` .

Basic Syntax

```
python main_cli.py --report <ReportID|all> <LogFile1> [<LogFile2>...] [options]
```

Command-Line Options

- `--report <ReportID|all>` : (Required) Specifies which report to generate. Use a specific `ReportID` (e.g., `score_report`) or `all` to generate every available report.
- `<LogFile1> ...` : (Required) One or more paths to the Cabrillo log files you want to analyze.
- `--include-dupes` : (Optional) By default, duplicate QSOs are ignored. Use this flag to include them in all calculations.
- `--mult-name <name>` : (Optional) For reports that analyze multipliers (like `missed_multipliers`), this specifies which multiplier to use (e.g., 'Countries', 'Zones').
- `--metric <qsos|points>` : (Optional) For the `cumulative_difference_plots` report, this specifies whether to compare QSO counts or Point totals. Defaults to 'qsos'.

Examples

- **Generate all available reports for two logs:**

```
python main_cli.py --report all Logs/2024/cq-ww-cw/k3lr.log Logs/2024/cq-ww-cw/kc1xx.log
```

- **Generate a specific report (Score Summary) for a single log:**

```
python main_cli.py --report score_report Logs/2024/cq-ww-cw/k3lr.log
```

- **Generate a Missed Multipliers report for CQ WW Zones:**

```
python main_cli.py --report missed_multipliers --mult-name Zones Logs/2024/cq-ww-cw/k3lr.log Logs/2024/cq-ww-cw/kc1xx.log
```