Report Interpretation Guide

Version: 0.40.0-Beta Date: 2025-08-19

--- Revision History ---

[0.40.0-Beta] - 2025-08-19

Changed

- Updated the guide to be comprehensive, adding descriptions for all

available reports.

[0.35.24-Beta] - 2025-08-15

Added

- Added a new "Animation Reports" section to explain the

three-chart `hourly_animation` report.

[0.30.30-Beta] - 2025-08-05

- No functional changes. Synchronizing version numbers.

[0.30.0-Beta] - 2025-08-05

- Initial release of Version 0.30.0-Beta.

- Standardized all project files to a common baseline

version.

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1. Introduction

This guide explains how to read and interpret the various reports generated by the Contest Log Analyzer. The goal is not just to understand the numbers, but to turn them into actionable insights that can help you improve your scores in future contests.

2. Text Reports

Text reports provide detailed, granular data in a plain-text format. They are best for deep-dive analysis and finding specific details.

Score Report (`score_report`)

This is a comprehensive, single-log summary of your final score, broken down by band. It provides the most important top-level metrics for your operation.

How to Interpret This Report

- **AVG (Average Points per QSO)**: This is a crucial metric. An AVG close to 3.0 indicates a strong focus on high-value inter-continental QSOs. An AVG closer to 1.0 or 2.0 suggests more contacts within your own continent.
- **Multiplier Totals**: For contests like CQ WW, multipliers are counted on each band. The `TOTAL` row shows the *sum* of multipliers from each band, not the number of unique multipliers.

Comparative Score Report (`comparative_score_report`)

This report interleaves the score summaries for multiple logs, allowing for a direct, band-by-band and mode-by-mode comparison of performance.

How to Interpret This Report

Use this report to see at a glance how your band-by-band totals for QSOs, Points, and Multipliers stack up against your competitors. The final `TOTAL SCORE` at the bottom provides the ultimate bottom line.

QSO Summary (`summary`)

This report provides a high-level comparative overview of the total QSO counts and operating styles for all analyzed logs.

How to Interpret This Report

This report is the quickest way to understand fundamental differences in operating strategy. A station with a high Run-to-S&P ratio is primarily calling CQ, while a station with a lower ratio is spending more time tuning the bands.

Rate Sheet (`rate_sheet` & `rate_sheet_comparison`)

The `rate_sheet` provides an hour-by-hour breakdown of QSO rates for a single log, while the `rate_sheet_comparison` places this data side-by-side for multiple logs.

How to Interpret This Report

Use this report to analyze strategic differences in band selection and pacing. You can see which operator was on which band during critical times (like band openings) and how their hourly rates compare.

QSO Comparison Summary (`qso_comparison`)

This powerful pairwise report breaks down how two logs compare on each band, focusing on which QSOs were **unique** to each station and which were **common** to both.

How to Interpret This Report

The Unique columns reveal the real strategy. If one operator has a high number of "Unique Run" QSOs, it means their CQing was effective at attracting stations the other operator never logged. A high number of "Unique S&P" QSOs would indicate that one operator was more effective at searching for and finding rare stations that the other missed. This analysis is key to understanding *how* an advantage was gained—whether through a more effective "Run" frequency or superior "S&P" skill.

Missed Multipliers (`missed_multipliers`)

This report is essential for identifying the most costly unworked stations. It lists every multiplier that was worked by at least one person in the group but missed by at least one other, showing who worked it and how.

How to Interpret This Report

The text `(Run)`, `(S&P)`, or `(Both)` shows how the station logged that multiplier. This is critical information. If your competitor worked a rare

multiplier via `(S&P)`, it means they found it by tuning the band. If they got it via `(Run)`, it means that multiplier *called them*.

Multiplier Summary (`multiplier_summary`)

This report lists every unique multiplier (e.g., each individual Country, Zone, or State) worked by one or more logs and shows the QSO count for that multiplier on each band.

How to Interpret This Report

This report provides a granular view of multiplier productivity. It helps you see which multipliers were most fruitful on which bands and identify multipliers that you might have worked only once or twice, representing potential vulnerabilities.

Multipliers by Hour (`multipliers_by_hour`)

This report shows the number of *new* multipliers added to the log during each hour of the contest.

How to Interpret This Report

This is a key report for analyzing pacing. A strong start with a high number of new multipliers is common. A lull in the middle hours followed by a second peak can indicate a successful search for late-opening multipliers. Comparing your hourly multiplier rate to others can reveal differences in S&P strategy.

Continent Summaries (`continent_summary`, `continent_breakdown`, `comparative_continent_summary`)

These reports provide different views of QSO counts by continent.

- `continent_summary`: For a single log, shows total QSOs per continent on each band.
- `continent_breakdown`: For a single log, provides a Run/S&P/Unknown breakdown for each continent.
- `comparative_continent_summary`: Places the simple QSO totals for multiple logs side-by-side.

How to Interpret This Report

Use these reports to understand your geographic focus. A high number of QSOs with your own continent might yield a lower score in a DX contest. The `continent_breakdown` is particularly useful for seeing *how* you worked different regions—were you running Europeans, or were you S&P-ing for rare African stations?

3. Plots and Charts

Plots and charts provide a high-level, visual summary of performance.

QSO Rate Plot (`qso_rate_plots`)

This plot shows the cumulative QSO total over the course of the contest. It's the best way to visualize the overall "horse race."

How to Interpret This Plot

- **Slope of the Line**: A steeper slope indicates a higher QSO rate. You can see periods where one station pulls ahead or another catches up.
- **Plateaus**: Flat sections of the graph indicate off-times or periods of very low activity.
- **Inset Table**: The table provides a convenient summary of the final QSO totals and the Run/S&P/Unknown breakdown for each station.

Point Rate Plot (`point_rate_plots`)

This plot is identical in format to the QSO Rate Plot but tracks the cumulative **Point** total over time.

How to Interpret This Plot

This plot shows how a scoring advantage was built. A station's point line might rise faster than their QSO line if they are focusing on high-value contacts (e.g., inter-continental QSOs). Comparing this plot to the QSO Rate Plot reveals insights into scoring efficiency.

Cumulative Difference Plot (`cumulative_difference_plots`)

This plot presents rate information as a cumulative difference, which shows trends and momentum shifts more clearly than traditional rate graphs. It is one of the most powerful analysis tools in the package for visualizing the flow of a competition between two logs.

How to Interpret This Plot

This plot shows a comparison of two logs (e.g., Station A minus Station B).

- **Top Panel (Overall Diff)**: This shows the total QSO difference. When the line is above zero, Station A is ahead. When it drops below zero, Station B has taken the lead. The slope reveals who is winning at any given time.
- **Middle Panel (Run Diff)**: This isolates the difference in **Run** QSOs. It shows which operator had a more effective run station over time.
- **Bottom Panel (S&P+Unk Diff)**: This isolates the difference in **S&P** QSOs. An upward trend shows that Station A was more effective at Search & Pounce.
- **Strategic Insight**: This plot tells a clear story about how the contest was won or lost, breaking down whether the advantage came from running or S&P.

QSO Breakdown Chart (`qso_breakdown_chart`)

This chart provides a visual companion to the `qso_comparison` text report, breaking down the unique and common QSOs on each band.

How to Interpret This Chart

This chart is unique to this analyzer and reveals where each station gained its advantage.

- **Gray Bar (Common)**: This represents the base of QSOs that both stations worked.
- **Colored Bars (Unique)**: The stacked, colored bars on either side show the QSOs that were unique to that station, broken down by Run, S&P, and Unknown.
- **Strategic Insight**: On 20 meters, for example, a high "Common" bar shows both stations worked a similar pool of stations. However, large red segments (**Unique Run** QSOs) would reinforce that they were successfully running different sets of stations.

Point Contribution Breakdown (`chart_point_contribution` & `chart_point_contribution_single`)

This chart shows where your points came from. For CQ WW, for example, points are awarded based on the continent of the station worked. The `_single` version shows a per-band breakdown for one log, while the main version compares multiple logs.

How to Interpret This Chart

- **Pie Chart**: The slices show the proportion of total points that came from each point value. In CQ WW, 3-point inter-continental QSOs are the most valuable.
- **Table**: The table below the chart provides the exact counts for each point category and the final average points per QSO.

Band Activity Heatmaps (`band_activity_heatmap` & `comparative_band_activity_heatmap`)

These plots visualize QSO rates over time on a grid.

- `band_activity_heatmap`: Shows the rate for a single log in 15-minute intervals. Darker colors mean higher rates.
- `comparative_band_activity_heatmap`: A powerful split-cell view comparing two logs. Each hourly cell is split, showing the rate for each operator.

How to Interpret This Plot

This is the best way to visualize an entire contest at a glance. You can see band openings and closings, off-times, and periods of high activity. The comparative version makes it immediately obvious which operator was more active on which band at any given time.

Comparative Band Activity (`comparative_band_activity`)

This is a "butterfly" chart that shows the hourly QSO rate for two logs on each band.

How to Interpret This Plot

For each band, bars for one station go up, and bars for the other go down. This provides a clear, hour-by-hour visual of which operator had a higher rate on a specific band. It's excellent for analyzing head-to-head band selection strategy.

4. Animation Reports

Animation reports provide an hour-by-hour replay of the entire contest.

Hourly Animation (`hourly_animation`)

This report generates an MP4 video that visualizes the contest progression between up to three logs. It is composed of three main charts.

How to Interpret This Animation

- **Top Chart (Cumulative Totals)**: This horizontal bar chart shows the overall "horse race."
    - The top bar for each station shows the cumulative score.
    - The bottom bar shows the cumulative QSO count.
    - The scales are independent, allowing you to see how QSO count translates into score over time.
- **Bottom-Left Chart (Hourly Rates)**: This vertical bar chart shows the moment-to-moment action.
    - It displays the number of QSOs made in the current hour, broken down by band and mode.
    - The bars are stacked and color-coded by Run/S&P/Unknown status, showing *how* the QSOs were made.
- **Bottom-Right Chart (Cumulative by Band)**: This vertical bar chart shows the cumulative QSO totals for each band.
    - Like the hourly chart, it is a stacked, color-coded bar chart showing the breakdown of Run, S&P, and Unknown QSOs.
    - Use this chart to see which bands were most productive over the entire contest and how each operator's band strategy differed.