

# Bridge Hand Generator — User Guide

*Functional guide — how to use the system, not how it is built*

## 1. What this tool does

Bridge Hand Generator creates practice bridge deals that obey very specific constraints you define in profiles. You can define exact hand shapes, weight alternative hand types, couple opener and responder behavior, generate TXT and LIN outputs, and combine LIN files for large practice sets.

## 2. Mental model

Think in three layers: Profile → Seat profiles → Sub-profiles. For each deal, one sub-profile per seat is selected (using weights), hands are dealt in order, and invalid deals are rejected until a valid board is produced.

## 3. Profiles

Profiles define the scenario you are practicing. They live in the profiles/ folder as JSON files and are normally created and edited through the CLI, not by hand-editing JSON.

## 4. Viewing a profile

View / Edit Profile → View profile shows metadata and a summary. You can then print full constraints and optionally export them to a TXT file stored alongside the profile.

## 5. Exported constraint TXT files

Exported TXT files are documentation only. They mirror the on-screen constraint display and are useful for review, printing, and sharing.

## 6. Editing a profile

Profiles can be edited in two modes: metadata only, or constraints only. Constraint editing reuses current values as defaults to make safe incremental changes.

## 7. Seat profiles and sub-profiles

Each seat can have multiple sub-profiles. If multiple exist, exactly one is chosen per deal. Sub-profiles can be weighted to control frequency.

## 8. Opener → responder coupling (F3)

When partners have matching numbers of sub-profiles, the responder automatically uses the same sub-profile index as the opener. No extra configuration is required.

## 9. Random suit constraints

Random suit constraints allow one suit to be chosen per deal and constrained afterward. This supports patterns like 'any 5-card major'.

## 10. Partner and opponent contingent constraints

These constraints depend on another seat's random suit choice. The referenced seat must have a random suit constraint and be dealt earlier.

## 11. Sub-profile exclusions

Exclusions reject specific shapes or rule-based patterns even if a sub-profile was selected.

## 12. Generating deals

Generate deals by choosing a profile and board count. The generator retries until all constraints are satisfied or fails clearly if impossible.

## 13. Outputs

TXT output is human-readable. LIN output is BBO-compatible and written to out/lin/.

## 14. LIN combiner

The LIN combiner groups files by scenario, selects the latest per group, interleaves boards randomly, and rennumbers them cleanly.

## 15. Typical workflows

Common workflows include creating practice sets, tuning profiles, and teaching with shared LIN files.

## 16. Final note

If you can describe a bridge hand in words, this system can usually generate it safely and repeatably.