

Altair — Game & Maths Sheet

Multiplayer crash game by Starfall X Games. Every figure is generated from the production function over 20,000,000 simulated rounds, never typed by hand. 25 October 2026.

97.00 % RTP, configurable 90-99 %	**3.00 %** House edge	**10,000.00x** Maximum multiplier
High Volatility	**3.95 %** Rounds busting at 1.00x	**1.94x** Median crash point

Identification

Field	Value
Name	Altair
Type	Crash / rising multiplier
Category	Instant win
Players	Multiplayer, shared round
RNG	HMAC-SHA256 (server seed + client seed + nonce)
Pre-committed chain	Yes — the whole sequence is fixed before the first bet
Provably fair	Yes — verifiable in the browser; see starfallxgames.com/docs/fairness.html
Platforms	Web (desktop and mobile), portrait and landscape
Languages	EN · ES · DE · FR · PT · ZH · HI

Maths

Field	Value
Configured RTP	97.00 %
Simulated RTP	97.00 % (cashing out at 2.00x)
House edge	3.00 %
Maximum multiplier	10,000.00x (hard cap in code)
Maximum win per bet	Configurable per currency — 500,000.00 by default in EUR
Highest win observed	10,000.00x over 20,000,000 rounds
Volatility	High

Field	Value
Rounds busting at 1.00x	3.95 %
Median crash point	1.94x
90th percentile	9.70x
99th percentile	97.15x
Standard deviation (cash out at 2x)	1.00
Standard deviation (cash out at 10x)	2.96

RTP is invariant to strategy

The property that makes the game fair: **expected return does not change with the cash-out target**. Cash out at 1.20x or at 100x and you expect the same 97 %. No strategy beats the house, and none is punished by it.

Target	Hit frequency	RTP at that target	Frequency
1.20x	80.826 %	96.99 %	1 in 1.2
1.50x	64.666 %	97.00 %	1 in 1.5
2.00x	48.501 %	97.00 %	1 in 2.1
3.00x	32.336 %	97.01 %	1 in 3.1
5.00x	19.405 %	97.03 %	1 in 5.2
10.00x	9.705 %	97.05 %	1 in 10.3
20.00x	4.853 %	97.06 %	1 in 20.6
50.00x	1.945 %	97.27 %	1 in 51.4
100.00x	0.972 %	97.16 %	1 in 102.9
1,000.00x	0.098 %	97.55 %	1 in 1,025.1

High targets carry sampling error: at 1000x there are only ~19,510 hits in 20,000,000 rounds, so that row moves by several points between runs. That is the sample, not a bias in the game. For a testing laboratory it is regenerated with more rounds.

Generator and distribution

Each round derives its result from an HMAC-SHA256:

```
h = HMAC-SHA256( key = serverSeed , message = clientSeed:nonce )
r = int( h[0..13) in hexadecimal ) / 2^52         ->  r in [0, 1)
crash = max( 1 , floor( RTP / (1 - r) ) / 100 )        ->  capped at 10,000x
```

`serverSeed` comes from a pre-committed chain published before the first bet. `clientSeed` includes the contribution of the players in the round and the hash of a Bitcoin block that did not exist when the commitment was published. The verification procedure is in starfallxgames.com/docs/fairness.html.

With r uniform on [0, 1), the probability of reaching any target x >= 1.01 is exactly **P(crash >= x) = RTP / (100x)**. With RTP = 97: **P(crash >= x) = 0.97 / x**. The full derivation and the statistical tests against the implementation are in the mathematical model: starfallxgames.com/docs/math.html

Operator configuration

Field	Value
Adjustable RTP	90-99 % via `RTP_PERCENT`
Minimum bet	Per currency — 1.00 EUR · 10.00 INR · 1.00 BRL (`MIN_BET`)
Maximum bet	Per currency — 10,000.00 EUR · 900,000.00 INR (`MAX_BET`)
Maximum win	Per bet and currency (`MAX_WIN`). On reaching it the bet cashes out on its own
Bets per round per player	2
Auto cash-out	Yes, target set by the player
Partial cash-out	Yes — take 50 % and let the rest fly
Round duration	Variable; ~5 s of betting plus flight until the crash

Integration

Field	Status
Seamless wallet API	**Yes** — balance, bet, win and rollback against the operator's wallet, with idempotent references, round end and reason codes on every call; each operator's specification is mapped by configuration (see starfallxgames.com/docs/wallet.html)
Retries	**Yes** — an unconfirmed win or rollback is retried with the same reference for up to 72 hours, surviving restarts
Launch URL with session token	**Yes** — `/launch?token=…&currency=…&lang=…`, with `&env=` to choose the operator's production environment
Game list API	**Yes** — `GET /games`: RTP, volatility, limits per currency
Transaction lookup	**Yes** — any reference returns its status and what the operator's wallet answered
Multi-currency	**Yes** — 21 currencies with their own limits; the operator overrides them
Reporting / back office	**Yes** — daily reconciliation with integrity checks, dispute lookup and manual balance adjustment
Round state	**Persistent** — a restart mid-round refunds the stakes
Mathematical model	**Documented** — derivation and statistical test in starfallxgames.com/docs/math.html
Lab certification	Quoted by two accredited labs for Malta; runs as part of onboarding

Play it now, no registration: **starfallxgames.com** · Fairness, wallet integration, load test and security review: **starfallxgames.com/operators** · Contact: **ferran@starfallxgames.com** (email or Teams)