

Aurora Linked Progressive

Multi.Bingo Live Bingo · Cert Pack v1

Engine: aurora-linked

Region: US

Cartela price: 100 cents · **Sale window:** 30s

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Signing key: Ed25519 · ID d651f1b9f793f40d

Game family

Aurora Linked Progressive · 75-ball · 3-tier jackpot (Bronze/Silver/Gold) · multi-site contribution

RTP target: 92.0% (with 3-tier progressive contribution)

1. Round lifecycle

Rounds cycle every **30s** sale window + ball-draw phase. Flow: `sale_open` → `cartelas_minted` → `sale_close` → `ball_draw_seeded` → `balls_drawn` → `patterns_detected` → `settle` → `payout`. Cartelas are deterministically generated from `round_id` + `player_id` + `cartela_seq`; ball draws come from the RGS service `multibingo-rng:9443` per K.A.R. RNG requirements.

2. RNG service (mandatory)

All randomness comes from the certified RGS service `multibingo-rng:9443` (RNG_STRICT=true environment, no local `crypto.randomBytes` fallback). Each `round_id` is associated with a single `rng_draw_id`; balls drawn are `rngdraw(round_seed)[0..ball_count-1]` via Fisher-Yates over a 1..90 (or 1..75) integer array.

3. Audit chain (K.A.R. (h) compliance)

Each round persists: `round_seed_hash`, `ball_sequence_hash`, `cartela_root` (Merkle of all cartelas), and an Ed25519 signature (key ID `d651f1b9f793f40d`) over the round envelope. Daily Merkle root spans all rounds + tickets across all verticals (iLottery + Bingo + Keno).

4. Verifier endpoints

```
GET /api/bingo-ent/rooms
GET /api/bingo-ent/rooms/sala-9-aurora/round/current
GET /api/bingo-ent/rounds/:round_id/audit
GET /api/ilottery/audit/public-key (shared signing key)
GET /api/ilottery/merkle/proof/:settlement_id (cross-vertical Merkle)
```

5. Aurora Linked Progressive jackpot (\$349.211 compliant)

3-tier progressive (Bronze/Silver/Gold) with multi-site contribution. Each cartela contributes configurable % to each level. Must-go logic enforces hit by max threshold. Settlement halts at W-2G threshold (\$1,200+ for bingo wins per IRS) with TIN collection.

6. Operator Ed25519 public key

```
-----BEGIN PUBLIC KEY-----
MCowBQYDK2VwAyEAU2k0zXnm09QHduKLSEQYUAFeACAEOTUceEuiRGLSiXs=
-----END PUBLIC KEY-----
```