

Entry Rules v2 — Design Session (2026-09-28 evening)

Goal: rebuild trade1's entry_rules from everything the research and our own tests showed. Each part is a switch, tested alone and in combinations on the 22-day test set (8/27 – 9/28) before anything is used. The live trade bot only **records** the new values (no buy/sell rule uses them) so we collect real data.

1. The 14-day support / resistance reference (your step)

- **Period:** the previous 14 daily sessions (today not included).
- **Touches:** every daily high and low; touches within $0.25 \times$ daily ATR of each other form a group (a group can't stretch wider than that); 2+ touches = a level.
- **Level = a band** (lowest to highest touch), with its touch count and when it was last touched.
- **Role by current price:** levels above = resistance, below = support (a broken resistance becomes support automatically).
- **Recorded at every check:** nearest resistance and support bands, distance to each (% and daily ATRs), 14-day high/low, position in the range (0% = low, 100% = high).
- **Status:** built into the live bot, recording only, verified (settings: config.json → sr14).

Stock (at the moment)	Nearest resistance	Nearest support	Position in range
AGEN at \$8.84 (bot buy)	none — above its 14-day high \$8.82 (breakout)	\$8.59 – 8.70 (4 touches), 1.6% below	101%
TGB at \$8.60	\$8.66 – 8.74 (7 touches), 0.6% above	\$8.39 – 8.45 (4 touches), 1.8% below	57%
NWL at \$5.49 (bot buy)	\$5.56 – 5.62 (5 touches), 1.3% above	\$5.41 – 5.45, 0.7% below	16%

2. Volume references (your steps)

Measure	Calculation	Tells us
RVOL so far	volume so far today ÷ 14-day average volume by this same minute	is today's activity unusual (1× normal, 3× unusual)
Opening RVOL	9:30 – 9:35 volume ÷ 14-day average for those 5 minutes	the "stocks in play" measure from the best study
Volume per minute	this minute's volume ÷ 14-day average for this same minute	bursts, with the open/close volume pattern removed
Move vs normal (noise area)	(price – open) ÷ 14-day average move by this minute	is the price move unusual for this stock at this time

Buy volume (needs tick data, only kept for list days):

Version	Refer ence	Available
A — vs the stock's own day so far (per 30 s, per minute, since open, 5-min trend)	today	now (live since 9/28, and in tests)
B — estimated from minute bars (volume × where the bar closed in its range)	14 days	tests on all 22 days, after checking it follows true buy volume
C — true buy volume vs its 14-day normal	14 days	live recording builds it; complete after 14 trading days

3. The v2 parts

Group	Part	Source
Selection	Stock in play: RVOL so far + opening RVOL vs 14 days	research (strongest)
	Ranking: top N by opening RVOL; best-ranked signal gets a free slot	ORB study
	Liquidity / volatility floors: avg volume 500k vs 1M, daily ATR $\geq$ \$0.50	ORB study
	Stock type: daily range $\geq$ 5%, gap $\leq$ 10%	big-winner study
	Multi-day context: prior-day / 5-day change, big winner before, days since news, base length	big-winner study, AGEN / INLF / YDES
	News / catalyst flag	stocks-in-play research, AGEN
Trigger & timing	Opening-range breakout (5 / 15 / 30-min high, first candle green) vs current entry_rules trigger	ORB study
	Time windows (after 9:45 / 10:00 / 10:30); afternoon mode	our 20-day study, market intraday momentum
	Market: IWM at/above its open; market's first-half-hour direction	our study (0.77), research
	Order flow / VAS / buy volume for timing only	research: order flow predicts seconds
Filters	Move vs normal (noise area) instead of fixed 3-5% above the open	research; blocked 11 of 15 big winners 9/28
	Not stretched: $\leq$ ~2% above VWAP	3 studies
	Room: 14-day resistance / support	your step; NWL, TGB
	Volume per minute and buy volume vs normal	your steps
	Structure: higher lows	big-winner study (58 of 63)
	Spread vs expected move (spread $\leq$ X% of daily ATR)	YDES, INLF
Stop & reward/risk	Stop: 10% of daily ATR / 1% / pivot; reward/risk: none / 1.5 / 2.0	ORB study; AGEN
Later	Second-stage filter using different information (meta-labeling)	research

Not applicable: short selling (the cash account can't short).

4. Data: fixed vs live

Fixed reference — calculated once per stock at the scan (or when a rescan adds it), from the previous 14 sessions; never changes during the day:

Data	Used for
14-day volume per minute (390 values)	per-minute RVOL
14-day cumulative volume by minute	RVOL so far
14-day opening (9:30 - 9:35) volume	opening RVOL
14-day average move from the open by minute	move vs normal (noise area)
14-day support / resistance bands, 14-day high/low	room, position in range
Daily ATR, average daily volume, average daily range %	floors, stock type, stops, spread vs ATR
Previous close / high / low; premarket high / low / volume	levels, gap
Multi-day context; news before the open	stock type, catalyst
14-day buy volume (B now, C later)	buy volume vs normal

Data	Used for
IWM / SPY previous close and 14-day move profile	market regime

Fixed at the open: today's open and gap (9:30); opening range and first candle (9:35); opening RVOL (9:35); market's first-half-hour direction (10:00).

Live from the stream: price, bid/ask, spread; every trade labeled buy/sell; 1-minute bars (volume per minute, total so far, day high/low); VWAP; structure (higher lows); IWM/SPY vs their open; news during the day.

Comparisons at each check (live ÷ fixed): RVOL so far, per-minute RVOL, move vs normal, room to resistance/support, VWAP stretch, buy volume vs normal, spread vs ATR.

Storage: one reference file per stock per day — data/reference/<date>/<SYMBOL>.json — written at the scan. The **same code** builds the files for the 22 test days, so the simulator and the live bot use identical references.

5. How the tests will be judged

- Every pick labeled three ways: held to 15:55, first of stop / target / time limit, and with exit B.
- Reported per test: day winners picked, big winners picked, losers let in, P/L **with spread and slippage costs**, and both halves of the period.
- A rule must win on both halves **and** on new days added after it was chosen (every live day is added with add_day.py).
- Test order: selection → trigger & timing → filters → stop & reward/risk → combinations.

6. Changes made tonight and status

Item	Status
14-day support/resistance recording in the live bot	built, verified, recording only
trade bot start time	9:30 (was 9:25); first scan ~9:30:05 includes the opening trades; premarket high still premarket-only; premarket bot unchanged at 9:25
9/28 added to all test data (22 days)	done
Buy-volume 21-day test (trade1)	done
Setup J with VWAP-2% stretch limit (22 days)	done — results reported separately
Next: 14-day minute-bar download → reference files for 22 days; live recording of RVOL/volume/move references (verified before 9:25); v2 in trade1 with all switches; overnight tests	planned