

The 9:28 scanner: every piece of data it collects and uses

As of 2026-09-25 (after the prior-session and premarket-high fixes). Code: `universe.py`, `scanner.py`, `monitor.py`. Rescans (9:40, then every 30 min until 15:15) run the same four steps.

Step 1: Asset list (Alpaca assets: active US stocks, ~13,500)

Data	Used for
Symbol, tradable flag	Keep tradable stocks only
Company name	Drop ETFs/funds/trusts/notes, leveraged/inverse products; keep names of ≤ 5 syllables
Config include / exclude lists	Currently empty

Result: ~3,400 symbols.

Step 2: Snapshot prefilter (one Alpaca snapshot per symbol at 9:28)

Data	Used for
Latest trade price (last premarket trade)	Must be \$5-\$15
Previous session's volume	Must be $\geq 500,000$; also the RVOL baseline and Stage 1's volume-pace baseline
Previous session's high	Saved as the previous-day high level
Previous session's close	Saved as the previous close (for the gap)

Result: ~300 stocks. (Before the 9/25 fix, these three values came from **two sessions back**.)

Step 3: Daily bars (last ~40 days)

Data	Used for
20-day high	Score (resistance) and trade-plan target level
Daily ATR (14)	Volatility class; minimum stop = $0.25 \times$ daily ATR

Step 4: 1-minute premarket bars (last 6 hours) = the score

Measure	Calculation	Full credit at	Weight
Relative volume (RVOL)	Premarket volume $\div$ previous day's volume	3×	30
Premarket volume	Shares traded premarket	100,000	20
Gap	Last premarket price vs previous close (negative if down)	+10%	20
Premarket price strength	Avg close of last third vs first third of premarket (negative if falling)	+5%	15
Distance to resistance	Room to nearest level above: premarket high $\rightarrow$ previous-day high $\rightarrow$ 20-day high	$\geq 8\%$ room or no level above	15

Scaled to 0-100; **top 30** = watchlist. Also saved: premarket high/low, resistance level used, previous close, premarket volume.

Used after the scan by the bot

Saved data	Used by
Premarket high, previous-day high, 20-day high	Trade plan: breakout levels and targets
Previous day's volume	Stage 1 volume pace ($\geq 0.4\times$ normal for the time of day)
Daily ATR	Stop floor, volatility class
Score / rank	Only the order candidates are checked in

Not used at all

Bid/ask spread, float / shares outstanding, news, sector, short interest, multi-day average volume (the "average daily volume" filter is **yesterday's volume only**).

Which measures actually predicted early runners (20-day study)

Method: for every qualifying stock-day from 8/27 to 9/24, every scanner measure was recomputed the way the **fixed** scanner works (correct previous day). The outcome was checked against the first 30 minutes. A **runner** = a 5%+ low-to-high run between 9:30 and 10:00. 3,675 stock-days had premarket trading and could be scored; 303 were runners (8.2%). Script and data: reports/open_window/scanner_feature_study.py, scanner_features_*.csv.

Runner rate by each measure (lowest fifth → highest fifth of stocks):

Measure	Lowest 20%	Highest 20%	Verdict
Daily ATR % (how volatile the stock normally is)	1.1%	24.6%	Strongest. Not in the score at all today
Gap size (either direction)	4.1%	23.8%	Strong. But the score penalizes gaps down , and gap-downs of 1%+ ran 12.7% of the time
RVOL	2.9%	22.0%	Strong, but full credit at 3× is almost unreachable : 80% of stocks read under 0.02×, so the 30-point weight barely separates them
Room to resistance	3.8–4.5 %	20.8%	Works as intended
Premarket volume	2.7%	16.9%	Moderate
Premarket strength	3.5% (flat)	15.9% (up)	Falling premarkets also ran (12.7%): size matters more than direction
Current total score	3.8%	18.9%	Works, but weaker than single measures

Share of each day's runners caught by the top 30:

Ranking	Runners caught
Current score (fixed data)	39% (117 of 303)
The bot's live lists 9/17–9/24 (buggy data)	32% (34 of 107)
Gap size alone	53%
Daily ATR % alone	53%
Gap size + daily ATR %	56%
Gap size + daily ATR % + RVOL (equal weights)	60% (183 of 303)

What this suggests:

1. **Add daily ATR %** (normal volatility) to the score. It's the single best early-runner signal.
2. **Score the gap and premarket move by size, not direction.** Gap-downs and falling premarkets also produced early runners (often a bounce).

3. **Recalibrate RVOL** against premarket-sized volume (for example full credit at 0.05–0.10× of yesterday's volume, not 3×).

Caution: "caught a runner" isn't the same as "made money". Volatile stocks also fall hard, and a gap-down "run" is often a bounce. A new score should go through the entry backtest (every signal taken, same exits) before replacing the current one. These are simple equal-weight rankings on 20 days, so the risk of overfitting is modest but not zero.