MASTER METHODOLOGY ENCYCLOPEDIA

Crossovers Scanner

Volume 1 · Classical Crossovers · CR-001 to CR-040

Forty foundational crossover methodologies covering moving averages, indicator zero-line and signal-line crosses, price-relative-to-MA crosses, and volume-weighted crossovers. Each methodology presented in the standard eight-section encyclopedia template with markets, formula, parameters, interpretation, signal criteria, anonymised historical example, common mistakes, and recommended timeframes.

ENROLLED-STUDENT EDITION · STAGE 1–3

ABOUT THIS VOLUME

Crossovers Volume 1

This is the first volume of the Crossovers Scanner category, the sixth scanner in the Master Methodology Encyclopedia. Earlier scanners — Intraday, Candlestick, Range Breakout, Bullish, Bearish — are complete across twenty-five volumes. This volume opens the Crossovers track.

SCOPE

- **Section A — Moving Average Crossovers (CR-001 to CR-010).** SMA/EMA pairs, HMA, DEMA/TEMA, VWAP, AVWAP, Weinstein 30-week.
- **Section B — Indicator Crossovers (CR-011 to CR-020).** MACD signal/zero, RSI 50, RSI 70/30 re-cross, Stochastic, ADX/DI, TSI, AO, CCI, Aroon.
- **Section C — Price/MA Crossovers (CR-021 to CR-030).** Price relative to 20/50/200 EMA-or-SMA and Ichimoku Kijun.
- **Section D — Volume-Weighted Crossovers (CR-031 to CR-040).** VWMA/SMA, OBV, A/D, CMF, MFI, Force, Klinger, VolOsc, EOM, VPT.

COMPLIANCE

Every methodology in this volume is presented as education, not advice. All examples are anonymised, use a 30-day minimum data lag, and avoid specific securities. No methodology in this volume is presented as a real-time signal, recommendation, or model portfolio. See compliance/whitepaper.pdf for the full posture.

HOW TO READ

Each methodology is presented in a uniform eight-section template. The order is fixed across all volumes (Markets → Diagram → Formula → Formula Note → Parameters → Interpretation → Signal → Example → Mistakes → Timeframes). After reading three or four methodologies, the structure becomes invisible and you can compare methodologies by jumping directly to the section you need.

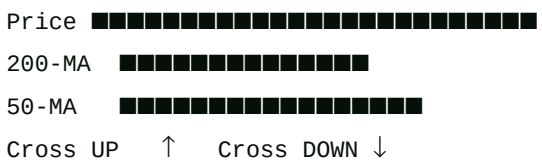
CR-001 · Golden Cross (50/200 SMA)

Moving Average Crossovers
Foundation – Regime

1 · MARKETS

NSE/BSE cash equities (large-cap), NSE indices, NYSE/NASDAQ, FX majors, top-20 crypto.

2 · DIAGRAM



3 · FORMULA

$$SMA50(t) = (1/50) \times \Sigma\ Close(i) \quad for\ i = t-49\ to\ t$$

$$SMA200(t) = (1/200) \times \Sigma\ Close(i)\ for\ i = t-199\ to\ t$$

$$Signal:\ SMA50(t) > SMA200(t)\ \ AND\ \ SMA50(t-1) \leq SMA200(t-1) \quad \rightarrow Golden\ Cross$$

4 · FORMULA NOTE

The Golden Cross is a lagging regime indicator. It does not predict future returns; it confirms that average closing prices over a quarter-year sit above closing prices over a calendar year. Used institutionally as a long-only-portfolio gate, not as an entry trigger.

5 · PARAMETERS

Parameter	Default	Range	Notes
Short window	50	30–60	Days for short-term SMA
Long window	200	150–250	Days for long-term SMA
Source	Close	HL2/Typical	Price source for SMA
Confirmation	1 bar	1–3 bars	Bars to maintain the cross before considering it confirmed

6 · INTERPRETATION

- Above-cross regime (SMA50 > SMA200) is associated with structurally more buyer participation across the long average.
- The cross is a slow signal — by the time it triggers, price typically has already moved 10–20 percent from the trough.
- Most useful when paired with volume confirmation and macro regime context.
- False positives cluster in choppy markets; the indicator is most reliable in regime-shift markets following a long downtrend.

7 · SIGNAL CRITERIA & ENTRY RULES

- Daily candle closes with SMA50 above SMA200 for the first time in at least 30 trading days.
- Volume on the cross bar is at or above the 20-day average volume.
- Macro context (e.g., VIX cooling, sector breadth) does not contradict the cross.
- Entry: confirmed swing-low retest after the cross, not at the cross itself.

8 · EXAMPLE

On a hypothetical large-cap index, a Golden Cross occurred at the close of a daily bar after a six-month downtrend. Volume on the cross bar was 1.4× the 20-day average. The market then established a higher low within ten bars, validating the regime change. A pre-trade checklist run on the breakout-retest entry

produced a 1:2 risk-reward setup. (Anonymised, 30-day data lag.)

COMMON MISTAKES

- Treating the cross as a stand-alone entry signal with no regard for trend context.
- Using too-tight stops at the cross point — typical noise will trigger them.
- Position sizing identically across regimes — high-volatility crosses need smaller size.
- Ignoring volume confirmation on the cross bar.
- Backtesting only winners and dismissing losers as 'unusual'.
- Calling tops based on a Golden Cross — the regime indicator is not a top-or-bottom call.
- Using a Golden Cross alone as a long-only filter on small-caps where the SMAs are dominated by noise.

RECOMMENDED TIMEFRAMES

Daily and weekly. Below daily, the SMA200 is intraday-noisy and the Golden Cross loses its regime meaning.

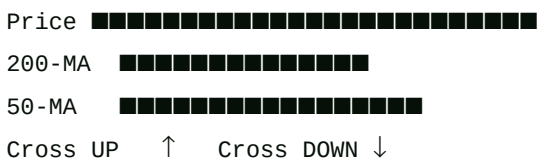
CR-002 · Death Cross (50/200 SMA)

Moving Average Crossovers
Foundation – Regime

1 · MARKETS

NSE/BSE cash equities, NYSE/NASDAQ, FX majors, top-20 crypto.

2 · DIAGRAM



3 · FORMULA

$$\text{Signal: } SMA50(t) < SMA200(t) \text{ AND } SMA50(t-1) \geq SMA200(t-1) \rightarrow \text{Death Cross}$$

4 · FORMULA NOTE

The bearish mirror of the Golden Cross. As with its counterpart, it is a regime confirmation, not a short-entry signal. Most institutional usage is to suspend new long-only allocations rather than to short on the trigger.

5 · PARAMETERS

Parameter	Default	Range	Notes
Short window	50	30–60	Days
Long window	200	150–250	Days
Source	Close	HL2	Price source
Confirmation	1 bar	1–3 bars	Persistence requirement

6 · INTERPRETATION

- Below-cross regime is associated with structurally lower buyer participation across the long average.
- Lagging by design — by the time it triggers, the early decline is already complete.
- Defensible use: stop new longs on the trigger, not as a short entry.
- False signals cluster in V-shaped recoveries that fail before fully establishing the cross.

7 · SIGNAL CRITERIA & ENTRY RULES

- Daily candle closes with SMA50 below SMA200 for the first time in at least 30 trading days.
- Volume confirmation on the cross bar.
- Macro context aligns: VIX rising, breadth weakening.
- Entry (if shorting at all): wait for a pullback rejection at the cross level.

8 · EXAMPLE

On a hypothetical mid-cap basket, a Death Cross printed after a 14-week distribution phase. The 50-SMA crossed below the 200-SMA on a 1.6× volume bar. New long entries were suspended; existing long positions were reduced to neutral. (Anonymised, 30-day data lag.)

COMMON MISTAKES

- Treating the cross as a stand-alone entry signal with no regard for trend context.
- Using too-tight stops at the cross point — typical noise will trigger them.
- Position sizing identically across regimes — high-volatility crosses need smaller size.
- Ignoring volume confirmation on the cross bar.

- Backtesting only winners and dismissing losers as 'unusual'.
- Shorting at the Death Cross level itself — typically the worst entry of the new regime.
- Treating Death Cross as final — single-cross V-shaped reversals are common in volatile markets.

RECOMMENDED TIMEFRAMES

Daily and weekly. Same restrictions as the Golden Cross apply on intraday timeframes.

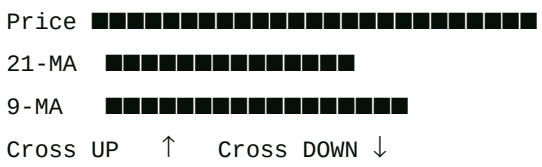
CR-003 · Short-Term EMA Cross (9/21)

Moving Average Crossovers
Foundation – Momentum

1 · MARKETS

All liquid markets; particularly useful in trending equities and FX majors.

2 · DIAGRAM



3 · FORMULA

$$EMA(t) = \alpha \times Close(t) + (1 - \alpha) \times EMA(t-1)$$

$$\alpha(N) = 2 / (N + 1)$$

$$\text{Signal: } EMA9(t) > EMA21(t) \text{ AND } EMA9(t-1) \leq EMA21(t-1)$$

4 · FORMULA NOTE

The 9/21 EMA cross is among the most-cited momentum-confirmation crossovers. It is fast (low lag) but noisy in choppy markets. Used as a Stage-2 momentum filter rather than a Stage-1 entry trigger.

5 · PARAMETERS

Parameter	Default	Range	Notes
Fast EMA	9	5–13	Period for fast EMA
Slow EMA	21	18–26	Period for slow EMA
Confirmation	Close-of-bar	Close or wick	How to define cross
Min separation	0.5 ATR	0.25–1.0 ATR	Minimum gap to consider cross significant

6 · INTERPRETATION

- EMA9 above EMA21 indicates short-term momentum is in alignment with the recent up-leg.
- Cross-overs without minimum separation are noise; insist on the ATR-normalised separation.
- Most useful when nested inside a broader regime alignment (e.g., price above SMA200).
- Cross-up after a pullback is higher-quality than cross-up at a fresh extreme.

7 · SIGNAL CRITERIA & ENTRY RULES

- EMA9 closes above EMA21 with at least 0.5 ATR separation.
- Wider trend (e.g., SMA50/200 alignment) does not contradict.
- Pullback to EMA21 holds before continuation.
- Stop: structural swing low below pullback; target: 1.5–2R minimum.

8 · EXAMPLE

A hypothetical large-cap equity, after a Stage-2 breakout, pulled back into EMA21 four bars after the breakout. The 9-EMA crossed above the 21-EMA on the bounce; entry placed at retest of breakout level with stop below pullback. (Anonymised.)

COMMON MISTAKES

- Treating the cross as a stand-alone entry signal with no regard for trend context.
- Using too-tight stops at the cross point — typical noise will trigger them.

- Position sizing identically across regimes — high-volatility crosses need smaller size.
- Ignoring volume confirmation on the cross bar.
- Backtesting only winners and dismissing losers as 'unusual'.

RECOMMENDED TIMEFRAMES

Useful from 1H upward; daily is the canonical Foundation timeframe.

CR-004 · Triple Screen MA Stack (10/20/50)

Moving Average Crossovers
Foundation – Trend confirmation

1 · MARKETS

All liquid markets, especially equities.

2 · DIAGRAM

```
Price ■■■■■■■■■■
10-EMA  ■■■■■■■■
20-EMA   ■■■■■■■  (stacking up = healthy uptrend)
50-EMA    ■■■■■■
Stack inverts → trend doubt
```

3 · FORMULA

```
Stack-up: EMA10 > EMA20 > EMA50  for N consecutive bars
Stack-down: EMA10 < EMA20 < EMA50  for N consecutive bars
```

4 · FORMULA NOTE

Adapted from Alexander Elder's Triple Screen system. Rather than a single crossover, this methodology evaluates whether all three MAs are correctly stacked. A persistent stack is a stronger continuation signal than any single crossover.

5 · PARAMETERS

Parameter	Default	Range	Notes
MA family	EMA	SMA/EMA/WMA	MA type
Periods	10/20/50	8/21/55	Period set
Persistence	5 bars	3–10 bars	Minimum bars stacked
Stack-tightness	Loose	Loose/Tight	Whether MAs may be very close

6 · INTERPRETATION

- Persistent stack-up = trend is healthy and continuation has structural support.
- Stack tightening (MAs converging) = trend is losing momentum; warning, not signal.
- Stack inversion at any MA pair = first warning of regime change.
- Re-stack (after a brief inversion) often produces high-quality continuation entries.

7 · SIGNAL CRITERIA & ENTRY RULES

- Stack persists ≥5 bars; price pulls back to EMA20 and rejects.
- Volume on the bounce is at or above 20-day average.
- Entry: bounce candle close above EMA10; stop: below EMA50.
- Target: at least 1:1.5 R based on prior swing high.

8 · EXAMPLE

On a hypothetical FX pair, a 10/20/50 stack persisted for 14 daily bars during a Stage-2 trend. A pullback into EMA20 produced a hammer at the level; entry on close above the hammer high. (Anonymised.)

COMMON MISTAKES

- Treating the cross as a stand-alone entry signal with no regard for trend context.
- Using too-tight stops at the cross point — typical noise will trigger them.

- Position sizing identically across regimes — high-volatility crosses need smaller size.
- Ignoring volume confirmation on the cross bar.
- Backtesting only winners and dismissing losers as 'unusual'.

RECOMMENDED TIMEFRAMES

1H and above; daily and weekly are the highest-conviction timeframes.

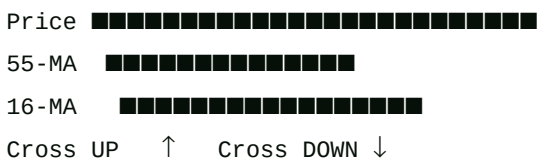
CR-005 · Hull MA Cross (16/55)

Moving Average Crossovers
Foundation – Reduced lag

1 · MARKETS

All liquid markets.

2 · DIAGRAM



3 · FORMULA

```
WMA(N) = weighted moving average; recent prices weighted higher
HMA(N) = WMA(2 × WMA(N/2) − WMA(N), √N)
Signal: HMA16 crossing HMA55
```

4 · FORMULA NOTE

Alan Hull's HMA reduces lag relative to traditional EMAs by combining two weighted MAs and applying a square-root re-smoothing. Trade-off: faster cross detection but slightly more whipsaws in chop.

5 · PARAMETERS

Parameter	Default	Range	Notes
Fast HMA	16	9–21	Period
Slow HMA	55	34–89	Period (Fibonacci common)
Source	Close	Close/HL2	Price source
Confirmation	1 bar	1–3	Bars after cross

6 · INTERPRETATION

- HMA crosses tend to precede EMA crosses by 1–3 bars due to reduced lag.
- Whipsaw rate is comparable to EMA on trending markets and slightly higher in chop.
- Pair with a slower trend filter (e.g., SMA200) to suppress whipsaws.

7 · SIGNAL CRITERIA & ENTRY RULES

- HMA16 closes above HMA55 with confirmation bar.
- Trend filter (SMA200) does not contradict.
- Volume confirmation present.
- Stop: structural; target: 1.5R+

8 · EXAMPLE

A hypothetical commodity ETF formed an HMA cross-up three bars before the equivalent EMA cross. (Anonymised.)

COMMON MISTAKES

- Treating the cross as a stand-alone entry signal with no regard for trend context.
- Using too-tight stops at the cross point — typical noise will trigger them.
- Position sizing identically across regimes — high-volatility crosses need smaller size.
- Ignoring volume confirmation on the cross bar.

- Backtesting only winners and dismissing losers as 'unusual'.

RECOMMENDED TIMEFRAMES

Daily and 4H most common.

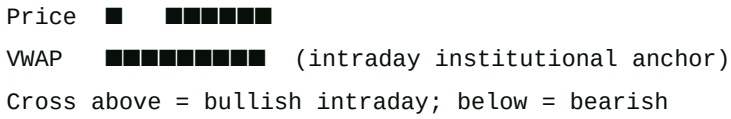
CR-006 · VWAP Cross (intraday)

Moving Average Crossovers
Foundation – Intraday institutional

1 · MARKETS

NSE cash equities, index futures, US equities. Intraday only.

2 · DIAGRAM



3 · FORMULA

$$VWAP(t) = \Sigma (Price(i) \times Volume(i)) / \Sigma Volume(i) \quad \text{for } i \text{ in current session}$$

$$\text{Signal: } Close(t) > VWAP(t) \quad AND \quad Close(t-1) \leq VWAP(t-1)$$

4 · FORMULA NOTE

VWAP is the volume-weighted price for the current trading session. It anchors intraday institutional execution. Many large funds buy below VWAP (to demonstrate execution quality) and sell above. This makes VWAP a meaningful intraday support/resistance level.

5 · PARAMETERS

Parameter	Default	Range	Notes
Anchor	Session open	Open/Pivot	Where VWAP starts
Source	HLC/3	Typical/HL2	Price source for VWAP
Bands	1 std-dev	0.5–2.0	Standard deviation bands around VWAP
Confirmation	Close	Close/Wick	Cross definition

6 · INTERPRETATION

- Price above VWAP = bullish intraday bias for new entries.
- Price below VWAP = bearish intraday bias.
- Crosses tend to occur near round-number levels and intraday pivots.
- Bands (1σ, 2σ) provide additional intraday levels.

7 · SIGNAL CRITERIA & ENTRY RULES

- Price closes above VWAP after testing it from below.
- Volume on the cross bar elevated vs intraday average.
- Stop: VWAP + small buffer below the cross.
- Target: 1σ band; secondary target 2σ band.

8 · EXAMPLE

On a hypothetical NSE-listed equity, a 10:30 IST cross above VWAP coincided with a higher-low intraday structure. Entry on confirmation bar; stop below VWAP minus 0.25 ATR. (Anonymised.)

COMMON MISTAKES

- Treating the cross as a stand-alone entry signal with no regard for trend context.
- Using too-tight stops at the cross point — typical noise will trigger them.
- Position sizing identically across regimes — high-volatility crosses need smaller size.
- Ignoring volume confirmation on the cross bar.

- Backtesting only winners and dismissing losers as 'unusual'.
- Trading VWAP crosses in the first 15 minutes when VWAP is statistically unstable.
- Using session VWAP as if it were anchored VWAP (different concepts; covered in CR-007).

RECOMMENDED TIMEFRAMES

Intraday only; 1m to 1H. Daily and above lose VWAP's session-anchored meaning.

CR-007 · Anchored VWAP Cross

Moving Average Crossovers
Stage 2 – Structural

1 · MARKETS

All liquid markets with reliable volume data.

2 · DIAGRAM

```
Pivot ■■■■■■■■■■
AVWAP ■■■■■■■■■■  (anchored at structural pivot)
Price       ■■■■■■■■
Cross signals regime relative to that pivot
```

3 · FORMULA

$$AVWAP(t, pivot) = \Sigma(Price \times Volume) / \Sigma Volume \quad \text{from pivot bar to } t$$

4 · FORMULA NOTE

Anchored VWAP (popularised by Brian Shannon) is VWAP started at a structural pivot — a recent swing high, a breakout, an earnings event, an IPO. Unlike session VWAP, AVWAP persists across many sessions and represents the volume-weighted average price held by participants who entered since the anchor.

5 · PARAMETERS

Parameter	Default	Range	Notes
Anchor type	Swing low	Swing/Earnings/Breakout	What anchors AVWAP
Anchor date	Specific bar	User-selected	Calendar date or bar of anchor
Source	HLC/3	Typical/HL2/Close	Price source
Cross type	Close	Close/Wick	How cross is defined

6 · INTERPRETATION

- Price above AVWAP from a swing low → buyers since the low are net positive.
- Price below AVWAP from a swing high → sellers since the high are net positive.
- Crosses are statistically meaningful entry points: they signal regime change relative to that pivot.
- Multiple AVWAPs from different anchors stack into a level map.

7 · SIGNAL CRITERIA & ENTRY RULES

- Price closes above AVWAP from the most recent swing-low anchor.
- Volume confirmation on the cross bar.
- Stop: AVWAP minus 0.5 ATR.
- Target: previous swing high or 1.5R minimum.

8 · EXAMPLE

A hypothetical mid-cap equity formed a swing low; AVWAP anchored at that bar. Twelve bars later, price crossed back above the AVWAP on a 1.7× volume bar, marking the start of the next up-leg. (Anonymised.)

COMMON MISTAKES

- Treating the cross as a stand-alone entry signal with no regard for trend context.
- Using too-tight stops at the cross point — typical noise will trigger them.
- Position sizing identically across regimes — high-volatility crosses need smaller size.
- Ignoring volume confirmation on the cross bar.

- Backtesting only winners and dismissing losers as 'unusual'.
- Anchoring AVWAP at arbitrary points instead of structural pivots.
- Stacking too many AVWAPs and confusing the level map.

RECOMMENDED TIMEFRAMES

All; AVWAP scales naturally.

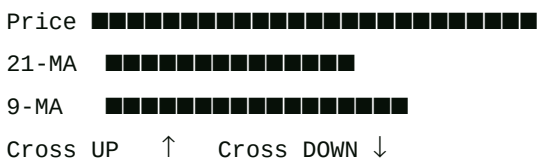
CR-008 · DEMA Cross (Double EMA, 9/21)

Moving Average Crossovers
Stage 2 – Reduced lag

1 · MARKETS

All liquid.

2 · DIAGRAM



3 · FORMULA

$$DEMA(N) = 2 \times EMA(N) - EMA(EMA(N))$$

$$\text{Signal: } DEMA9(t) > DEMA21(t) \text{ AND } DEMA9(t-1) \leq DEMA21(t-1)$$

4 · FORMULA NOTE

Patrick Mulloy's DEMA reduces lag relative to a single EMA by subtracting the second-pass EMA's lag. Effective for trend-turn detection in trending markets; whipsaws in chop.

5 · PARAMETERS

Parameter	Default	Range	Notes
Fast	9	5–13	Period
Slow	21	17–34	Period
Source	Close	Close/HL2	Source
Confirmation	1 bar	1–3	Persistence

6 · INTERPRETATION

- Crosses lead EMA crosses by 1–3 bars typically.
- Use with regime filter to suppress whipsaws.
- Most useful in markets that trend cleanly.

7 · SIGNAL CRITERIA & ENTRY RULES

- DEMA9 above DEMA21 with confirmation bar.
- Volume support; trend filter aligned.
- Stop: structural; target: ≥1.5R.

8 · EXAMPLE

On a hypothetical FX major, a DEMA cross-up preceded the corresponding EMA cross by two bars during a clean trend continuation. (Anonymised.)

COMMON MISTAKES

- Treating the cross as a stand-alone entry signal with no regard for trend context.
- Using too-tight stops at the cross point — typical noise will trigger them.
- Position sizing identically across regimes — high-volatility crosses need smaller size.
- Ignoring volume confirmation on the cross bar.
- Backtesting only winners and dismissing losers as 'unusual'.

RECOMMENDED TIMEFRAMES

1H and above.

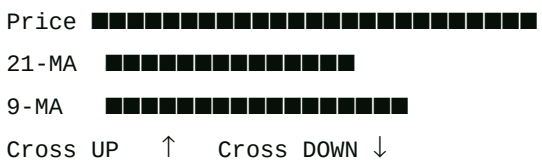
CR-009 · TEMA Cross (Triple EMA, 9/21)

Moving Average Crossovers
Stage 2 – Aggressive momentum

1 · MARKETS

All liquid; best in clean trends.

2 · DIAGRAM



3 · FORMULA

```
TEMA(N) = 3 × EMA(N) − 3 × EMA(EMA(N)) + EMA(EMA(EMA(N)))
Signal: TEMA9 vs TEMA21 cross
```

4 · FORMULA NOTE

Mulloy's TEMA pushes lag reduction further than DEMA. Faster cross-detection at the cost of more whipsaws in chop. Aggressive momentum traders use it on liquid trending markets.

5 · PARAMETERS

Parameter	Default	Range	Notes
Fast	9	5–13	Period
Slow	21	17–34	Period
Source	Close	Close/HL2	Source
Confirmation	1 bar	1–3	Persistence

6 · INTERPRETATION

- Even faster than DEMA; expect 2–4 bar lead vs EMA.
- Most reliable in clean directional markets.
- Whipsaw frequency higher than EMA/DEMA in chop.

7 · SIGNAL CRITERIA & ENTRY RULES

- TEMA9 above TEMA21 with confirmation.
- Pair with regime filter and volume.
- Stop: structural; target: ≥1.5R.

8 · EXAMPLE

Hypothetical commodity, daily; TEMA9/21 cross occurred two bars before DEMA cross at start of multi-week trend. (Anonymised.)

COMMON MISTAKES

- Treating the cross as a stand-alone entry signal with no regard for trend context.
- Using too-tight stops at the cross point — typical noise will trigger them.
- Position sizing identically across regimes — high-volatility crosses need smaller size.
- Ignoring volume confirmation on the cross bar.
- Backtesting only winners and dismissing losers as 'unusual'.

RECOMMENDED TIMEFRAMES

1H and above.

CR-010 · Weinstein 30-Week MA Cross

Moving Average Crossovers
Stage 2 – Stage-based investing

1 · MARKETS

Equities (Weinstein's framework was equity-specific).

2 · DIAGRAM

```
Stage 1 (base) → Stage 2 (advance) → Stage 3 (top) → Stage 4 (decline)
30-week MA  ■■■■■■■■■■
Cross above 30-week MA on volume = Stage 1→2 trigger
Cross below 30-week MA = Stage 3→4 confirmation
```

3 · FORMULA

```
MA30W = SMA(Weekly close, 30 weeks)
Stage transition signals: Close > MA30W with volume → Stage 1→2
                          Close < MA30W with volume → Stage 3→4
```

4 · FORMULA NOTE

Stan Weinstein's stage-analysis framework treats the 30-week MA as the institutional benchmark for stage transitions. Stage 2 (the only stage Weinstein recommends being long) requires the price above a flattening-then-rising 30-week MA, with volume confirmation.

5 · PARAMETERS

Parameter	Default	Range	Notes
MA period	30 weeks	26–34 weeks	Period
Volume mult	1.5×	1.2×–2×	Volume confirmation threshold
MA slope	Flat→rising	Flat or rising	Slope requirement
Confirmation	2 weeks	1–4 weeks	Persistence

6 · INTERPRETATION

- Weekly chart, 30-MA — the institutional regime gauge.
- Stage 2 = long-only zone per Weinstein.
- Stage 4 = short-or-cash zone.
- Avoid Stage 1 (basing) and Stage 3 (topping).

7 · SIGNAL CRITERIA & ENTRY RULES

- Weekly close above flat-or-rising 30-MA with 1.5× volume.
- Confirms within next two weeks.
- Stop: weekly close back below 30-MA.
- Target: prior major swing high or 2–3R.

8 · EXAMPLE

A hypothetical large-cap equity completed a 14-month base; weekly close cleared the 30-MA on 2× average volume, marking the Stage 1→2 transition. Subsequent advance respected the rising 30-MA for 18 weeks. (Anonymised.)

COMMON MISTAKES

- Treating the cross as a stand-alone entry signal with no regard for trend context.

- Using too-tight stops at the cross point — typical noise will trigger them.
- Position sizing identically across regimes — high-volatility crosses need smaller size.
- Ignoring volume confirmation on the cross bar.
- Backtesting only winners and dismissing losers as 'unusual'.
- Trading Stage 1 prematurely — Weinstein's framework explicitly excludes basing.
- Ignoring the weekly volume confirmation requirement.

RECOMMENDED TIMEFRAMES

Weekly only — that is the entire framework.

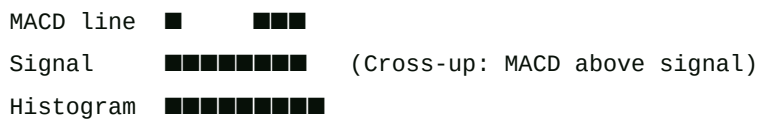
CR-011 · MACD Signal Line Cross

Indicator Crossovers
Foundation – Momentum

1 · MARKETS

All liquid.

2 · DIAGRAM



3 · FORMULA

```
MACD = EMA12(Close) − EMA26(Close)
Signal = EMA9(MACD)
Histogram = MACD − Signal
Crossover: MACD(t) > Signal(t)  AND  MACD(t−1) ≤ Signal(t−1)
```

4 · FORMULA NOTE

Gerald Appel's MACD signal-line cross is the most-cited indicator crossover in retail TA. High false-signal rate without confirmation; pair with trend filter and volume.

5 · PARAMETERS

Parameter	Default	Range	Notes
Fast EMA	12	8–14	Period
Slow EMA	26	21–34	Period
Signal EMA	9	7–12	Period
Source	Close	Close/HL2	Price

6 · INTERPRETATION

- MACD above signal = short-term momentum positive.
- MACD above zero AND above signal = aligned bullish momentum.
- Divergences (price new high, MACD lower high) — warning, not signal.

7 · SIGNAL CRITERIA & ENTRY RULES

- MACD crosses above signal line with both above zero.
- Pair with trend filter (price above SMA50/200).
- Volume confirmation on cross bar.
- Stop: structural swing low.

8 · EXAMPLE

A hypothetical large-cap equity in confirmed uptrend produced a MACD cross-up on a pullback to EMA20. Entry on cross confirmation bar; stop below pullback. (Anonymised.)

COMMON MISTAKES

- Treating the cross as a stand-alone entry signal with no regard for trend context.
- Using too-tight stops at the cross point — typical noise will trigger them.
- Position sizing identically across regimes — high-volatility crosses need smaller size.
- Ignoring volume confirmation on the cross bar.

- Backtesting only winners and dismissing losers as 'unusual'.
- Trading MACD crosses with no zero-line context.
- Ignoring the MACD's lag — it confirms moves; it does not predict turns.

RECOMMENDED TIMEFRAMES

All; daily is canonical.

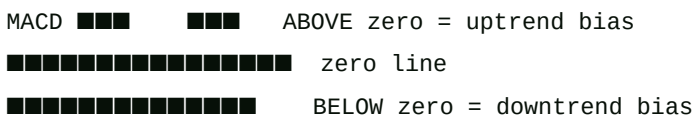
CR-012 · MACD Zero-Line Cross

Indicator Crossovers
Foundation – Momentum direction

1 · MARKETS

All liquid.

2 · DIAGRAM



3 · FORMULA

$$MACD = EMA12 - EMA26$$

$$\text{Crossover: } MACD(t) > 0 \text{ AND } MACD(t-1) \leq 0$$

4 · FORMULA NOTE

Cleaner momentum-direction signal than the signal-line cross. Above zero = EMA12 > EMA26 = short-term average above intermediate-term average.

5 · PARAMETERS

Parameter	Default	Range	Notes
Fast	12	8–14	Period
Slow	26	21–34	Period
Source	Close	Close/HL2	Source
Confirmation	1 bar	1–3	Persistence

6 · INTERPRETATION

- Less noisy than signal-line cross.
- Lags more than signal-line cross.
- Use as direction filter, not entry trigger.

7 · SIGNAL CRITERIA & ENTRY RULES

- MACD crosses above zero with confirmation.
- Trend filter aligned.
- Volume confirmation.
- Stop: structural.

8 · EXAMPLE

On a hypothetical mid-cap, a MACD zero-line cross occurred two bars after the corresponding signal-line cross. The two-bar lag was the cost of cleaner direction confirmation. (Anonymised.)

COMMON MISTAKES

- Treating the cross as a stand-alone entry signal with no regard for trend context.
- Using too-tight stops at the cross point — typical noise will trigger them.
- Position sizing identically across regimes — high-volatility crosses need smaller size.
- Ignoring volume confirmation on the cross bar.
- Backtesting only winners and dismissing losers as 'unusual'.

RECOMMENDED TIMEFRAMES

Daily and weekly.

CR-013 · RSI 50 Cross

Indicator Crossovers
Foundation – Bias

1 · MARKETS

All liquid.

2 · DIAGRAM

```
RSI 70  ▇▇▇▇▇▇
RSI 50  ▇▇▇▇▇▇  (median; bias line)
RSI 30  ▇▇▇▇▇▇
```

3 · FORMULA

```
RSI(N) = 100 − 100/(1 + RS)
RS = AvgGain(N) / AvgLoss(N)
Crossover: RSI(t) > 50 AND RSI(t−1) ≤ 50
```

4 · FORMULA NOTE

J. Welles Wilder's RSI 50 cross is a momentum-bias filter. Above 50 = average gains > average losses over lookback. Most useful as a bias filter rather than entry signal.

5 · PARAMETERS

Parameter	Default	Range	Notes
Period	14	9–21	Lookback
Cross level	50	45–55	Bias threshold
Source	Close	Close/HL2	Source
Confirmation	1 bar	1–3	Persistence

6 · INTERPRETATION

- RSI > 50 = momentum bias bullish.
- RSI < 50 = momentum bias bearish.
- Crosses through 50 are bias regime changes.

7 · SIGNAL CRITERIA & ENTRY RULES

- RSI crosses above 50 with confirmation.
- Pair with trend filter.
- Volume support.

8 · EXAMPLE

Hypothetical commodity ETF; RSI crossed 50 from below at the start of a 20-bar trend. The cross provided early bias confirmation. (Anonymised.)

COMMON MISTAKES

- Treating the cross as a stand-alone entry signal with no regard for trend context.
- Using too-tight stops at the cross point — typical noise will trigger them.
- Position sizing identically across regimes — high-volatility crosses need smaller size.
- Ignoring volume confirmation on the cross bar.
- Backtesting only winners and dismissing losers as 'unusual'.

RECOMMENDED TIMEFRAMES

Daily and 4H most common.

CR-014 · RSI 70/30 Threshold Re-Cross

Indicator Crossovers
Foundation – Mean reversion

1 · MARKETS

Range-bound and mean-reverting markets primarily.

2 · DIAGRAM

```
RSI 70 ■■■■■  (overbought re-cross down → bearish)
RSI 50 ■■■■■
RSI 30 ■■■■■  (oversold re-cross up → bullish)
```

3 · FORMULA

```
Bullish: RSI(t) > 30 AND RSI(t−1) ≤ 30
Bearish: RSI(t) < 70 AND RSI(t−1) ≥ 70
```

4 · FORMULA NOTE

Wilder's original RSI signal: the re-cross from extreme territory is the trigger, not the entry into extreme territory. RSI can stay overbought/oversold for many bars in trending markets.

5 · PARAMETERS

Parameter	Default	Range	Notes
Period	14	9–21	Lookback
Levels	70/30	65/35 or 80/20	Threshold pair
Source	Close	Close/HL2	Source
Mode	Re-cross	Touch or re-cross	Trigger style

6 · INTERPRETATION

- Overbought ≠ short signal in a trend.
- Oversold ≠ long signal in a downtrend.
- Re-cross is the actual signal; the touch is just context.

7 · SIGNAL CRITERIA & ENTRY RULES

- RSI re-crosses 30 from below in a range-bound market.
- Volume confirmation.
- Stop: range low; target: range mid or high.

8 · EXAMPLE

A hypothetical FX pair in a range respected RSI 30 and 70 levels for several oscillations; RSI re-cross from below 30 led to range traversal. (Anonymised.)

COMMON MISTAKES

- Treating the cross as a stand-alone entry signal with no regard for trend context.
- Using too-tight stops at the cross point — typical noise will trigger them.
- Position sizing identically across regimes — high-volatility crosses need smaller size.
- Ignoring volume confirmation on the cross bar.
- Backtesting only winners and dismissing losers as 'unusual'.
- Using 70/30 in clean trends — RSI rides 70+ for many bars in strong uptrends.
- Confusing the level entry with the level re-cross.

RECOMMENDED TIMEFRAMES

Daily; 4H useful in range-bound regimes.

CR-015 · Stochastic %K/%D Cross

Indicator Crossovers
Foundation – Range momentum

1 · MARKETS

Range-bound markets primarily.

2 · DIAGRAM

```
%K (fast)  ■■■■■■■■■
%D (slow)  ■■■■■■■■■■  (signal smoothing)
```

3 · FORMULA

```
%K = 100 × (Close − Low(N)) / (High(N) − Low(N))
%D = SMA3(%K)
Cross: %K(t) > %D(t) AND %K(t−1) ≤ %D(t−1)
```

4 · FORMULA NOTE

George Lane's stochastic measures where the close sits within the recent N-bar range. %K/%D cross provides momentum-shift detection, particularly useful in range markets.

5 · PARAMETERS

Parameter	Default	Range	Notes
%K period	14	9–21	Lookback
%D smoothing	3	2–5	SMA on %K
Cross levels	Below 20 / above 80	Variable	Where the cross occurs matters
Source	Close	Close/HL2	Source

6 · INTERPRETATION

- %K crossing %D below 20 = potential bullish reversal in range.
- %K crossing %D above 80 = potential bearish reversal in range.
- Mid-range crosses are noise.

7 · SIGNAL CRITERIA & ENTRY RULES

- %K crosses %D in oversold zone (below 20).
- Pair with range structure.
- Stop: below range low.

8 · EXAMPLE

Hypothetical equity; range-bound for 20 bars; %K/%D cross at 18 led to range traversal. (Anonymised.)

COMMON MISTAKES

- Treating the cross as a stand-alone entry signal with no regard for trend context.
- Using too-tight stops at the cross point — typical noise will trigger them.
- Position sizing identically across regimes — high-volatility crosses need smaller size.
- Ignoring volume confirmation on the cross bar.
- Backtesting only winners and dismissing losers as 'unusual'.

RECOMMENDED TIMEFRAMES

Range markets; daily and 4H.

CR-016 · ADX/DI+ DI- Cross

Indicator Crossovers
Stage 2 – Directional movement

1 · MARKETS

All liquid; best in trending markets.

2 · DIAGRAM

```
DI+   ■■■■■■■■    (when DI+ > DI- = bullish directional bias)
DI-   ■■■■■■■■
ADX   ■■■■■■■■  (trend strength filter; usually >20 required)
```

3 · FORMULA

```
DI+ and DI- = Wilder's directional indicators
ADX = smoothed average of |DI+ − DI−|/(DI+ + DI−)
Cross: DI+(t) > DI−(t) AND DI+(t−1) ≤ DI−(t−1)  WITH ADX > 20
```

4 · FORMULA NOTE

Wilder's directional movement system is one of the most rigorous trend-direction methodologies in TA. ADX is the trend-strength filter (irrespective of direction); DI± crosses provide direction.

5 · PARAMETERS

Parameter	Default	Range	Notes
Period	14	9–21	Wilder period
ADX threshold	20	18–25	Trend strength gate
DI difference	≥3	2–5	Min separation between DI+ and DI–
Source	HLC	HLC	Standard

6 · INTERPRETATION

- DI+ > DI- = uptrend direction; ADX > 20 = trend has strength.
- Without ADX > 20, the DI cross is in chop and unreliable.
- ADX falling = trend weakening regardless of direction.

7 · SIGNAL CRITERIA & ENTRY RULES

- DI+ crosses above DI- with ADX > 20 and rising.
- Volume confirmation.
- Stop: structural; target: 1.5R+.

8 · EXAMPLE

Hypothetical equity emerged from a 30-bar consolidation; DI+ crossed DI- as ADX rose from 18 to 24 over four bars. (Anonymised.)

COMMON MISTAKES

- Treating the cross as a stand-alone entry signal with no regard for trend context.
- Using too-tight stops at the cross point — typical noise will trigger them.
- Position sizing identically across regimes — high-volatility crosses need smaller size.
- Ignoring volume confirmation on the cross bar.
- Backtesting only winners and dismissing losers as 'unusual'.
- Trading DI crosses without the ADX filter.

- Treating high ADX as a signal — it is a confirmation gate, not a signal.

RECOMMENDED TIMEFRAMES

Daily primary; weekly for longer-horizon.

CR-017 · TSI Signal Line Cross

Indicator Crossovers
Stage 2 – Smoothed momentum

1 · MARKETS

All liquid.

2 · DIAGRAM

```
TSI line   ■■■■■■■■   (double-smoothed price momentum)
Signal     ■■■■■■
```

3 · FORMULA

```
TSI = 100 × (EMA_r(EMA_s(Δ)) / EMA_r(EMA_s(|Δ|)))
Δ = Close(t) − Close(t−1)
Signal = EMA(TSI, signal-period)
```

4 · FORMULA NOTE

William Blau's True Strength Index is a double-smoothed momentum oscillator, reducing whipsaws relative to single-smoothed measures.

5 · PARAMETERS

Parameter	Default	Range	Notes
Slow EMA	25	21–34	First smoothing
Fast EMA	13	8–13	Second smoothing
Signal	7	5–9	Signal EMA
Source	Close	Close	Standard

6 · INTERPRETATION

- Double-smoothing reduces whipsaw vs MACD.
- Slower than MACD; more reliable cross signals.

7 · SIGNAL CRITERIA & ENTRY RULES

- TSI crosses above signal in upper half of range.
- Trend filter aligned.
- Volume support.

8 · EXAMPLE

Hypothetical FX pair; TSI cross-up coincided with EMA stack-up for high-conviction entry. (Anonymised.)

COMMON MISTAKES

- Treating the cross as a stand-alone entry signal with no regard for trend context.
- Using too-tight stops at the cross point — typical noise will trigger them.
- Position sizing identically across regimes — high-volatility crosses need smaller size.
- Ignoring volume confirmation on the cross bar.
- Backtesting only winners and dismissing losers as 'unusual'.

RECOMMENDED TIMEFRAMES

Daily and 4H.

CR-018 · Awesome Oscillator Zero Cross

Indicator Crossovers
Stage 2 – Bill Williams chaos

1 · MARKETS

All liquid.

2 · DIAGRAM

```
AO bars (5-period − 34-period SMA of HL2)
■■■■■■■■■■■■■  zero
```

3 · FORMULA

```
AO = SMA5(HL2) − SMA34(HL2)
Zero cross: AO(t) > 0 AND AO(t−1) ≤ 0
```

4 · FORMULA NOTE

Bill Williams's Awesome Oscillator captures momentum as the gap between very short and intermediate median-price SMAs. Zero cross is its primary signal.

5 · PARAMETERS

Parameter	Default	Range	Notes
Fast	5	3–8	Period
Slow	34	21–55	Period
Source	HL2	HL2/Typical	Median price
Confirmation	1 bar	1–3	Persistence

6 · INTERPRETATION

- AO above zero = short-term median > intermediate-term median.
- Bar colour change (added by some platforms) provides additional context.

7 · SIGNAL CRITERIA & ENTRY RULES

- AO crosses zero with confirmation.
- Trend filter aligned.
- Volume support.

8 · EXAMPLE

Hypothetical commodity; AO zero cross preceded MACD signal-line cross by two bars. (Anonymised.)

COMMON MISTAKES

- Treating the cross as a stand-alone entry signal with no regard for trend context.
- Using too-tight stops at the cross point — typical noise will trigger them.
- Position sizing identically across regimes — high-volatility crosses need smaller size.
- Ignoring volume confirmation on the cross bar.
- Backtesting only winners and dismissing losers as 'unusual'.

RECOMMENDED TIMEFRAMES

Daily and 4H.

CR-019 · CCI Zero Cross

Indicator Crossovers
Stage 2 – Cyclical

1 · MARKETS

Commodities (CCI's original use case), liquid equities.

2 · DIAGRAM

```
CCI +100 ■■■■■  (overbought zone)
CCI 0    ■■■■■
CCI -100 ■■■■■  (oversold zone)
```

3 · FORMULA

$$CCI = (Typical - SMA20(Typical)) / (0.015 \times MeanDeviation)$$

$$Cross: CCI(t) > 0 \text{ AND } CCI(t-1) \leq 0$$

4 · FORMULA NOTE

Donald Lambert's Commodity Channel Index measures deviation from typical price. Zero cross is one trigger; ±100 levels are another. Originally designed for commodity cycles.

5 · PARAMETERS

Parameter	Default	Range	Notes
Period	20	14–30	Lookback
Levels	±100	±100/±200	Bands
Source	Typical	Typical	HLC/3
Confirmation	1 bar	1–3	Persistence

6 · INTERPRETATION

- CCI > 0 = above typical mean.
- CCI > +100 = unusual strength; > +200 = exceptional.
- Negative side mirrors.

7 · SIGNAL CRITERIA & ENTRY RULES

- CCI crosses above zero with confirmation.
- Pair with trend filter.
- Volume support.

8 · EXAMPLE

Hypothetical commodity ETF; CCI crossed zero from –80 to +20 over three bars at start of new cycle. (Anonymised.)

COMMON MISTAKES

- Treating the cross as a stand-alone entry signal with no regard for trend context.
- Using too-tight stops at the cross point — typical noise will trigger them.
- Position sizing identically across regimes — high-volatility crosses need smaller size.
- Ignoring volume confirmation on the cross bar.
- Backtesting only winners and dismissing losers as 'unusual'.

RECOMMENDED TIMEFRAMES

Daily.

CR-020 · Aroon Up/Down Cross

Indicator Crossovers
Stage 2 – Trend identification

1 · MARKETS

All liquid.

2 · DIAGRAM

```
Aroon Up  ■■■■■■■■
Aroon Dn  ■■■■■■■■
Cross signals start of new directional regime
```

3 · FORMULA

```
AroonUp = 100 × (period − bars_since_high) / period
AroonDn = 100 × (period − bars_since_low) / period
Cross: AroonUp(t) > AroonDn(t) AND prior bar opposite
```

4 · FORMULA NOTE

Tushar Chande's Aroon (1995) measures time since the recent high vs time since the recent low. Crosses identify regime starts cleanly.

5 · PARAMETERS

Parameter	Default	Range	Notes
Period	25	14–30	Lookback
Cross threshold	Aroon Up > Down	Variable	Cross
Strength	Both above 70	Variable	Trend strength gate
Source	HL	HL	Standard

6 · INTERPRETATION

- Aroon Up crossing above Down = uptrend starts.
- Both above 70 = strong directional regime.
- Both below 50 = no trend / consolidation.

7 · SIGNAL CRITERIA & ENTRY RULES

- Cross with both indicators above 50.
- Trend filter aligned.
- Volume support.

8 · EXAMPLE

Hypothetical large-cap; Aroon cross occurred at end of a five-week consolidation; both indicators above 70 within ten bars. (Anonymised.)

COMMON MISTAKES

- Treating the cross as a stand-alone entry signal with no regard for trend context.
- Using too-tight stops at the cross point — typical noise will trigger them.
- Position sizing identically across regimes — high-volatility crosses need smaller size.
- Ignoring volume confirmation on the cross bar.
- Backtesting only winners and dismissing losers as 'unusual'.

RECOMMENDED TIMEFRAMES

Daily.

CR-021 · Price / 20-EMA Cross

Price-MA Crossovers
Foundation – Short-term

1 · MARKETS

All liquid markets.

2 · DIAGRAM

```
Price ■■■    ■■■■■■■
20-MA ■■■■■■■■■■■  (price above MA = bullish)
Cross above MA: bullish; cross below: bearish
```

3 · FORMULA

```
Cross: Close(t) > 20-MA(t) AND Close(t−1) ≤ 20-MA(t−1)
```

4 · FORMULA NOTE

Standard short-term EMA reference.

5 · PARAMETERS

Parameter	Default	Range	Notes
MA period	20	varies	Period
MA family	EMA/SMA	EMA/SMA/WMA	MA type
Source	Close	Close/HL2	Price source
Confirmation	Close-of-bar	1–3 bars	Persistence

6 · INTERPRETATION

- Price closing above the 20-MA = bullish bias for that timeframe.
- Re-cross below = bias change.
- Pair with trend regime to filter chop crosses.
- First cross after extended absence is the highest-quality.

7 · SIGNAL CRITERIA & ENTRY RULES

- Price closes above 20-MA after period below.
- Volume confirmation.
- Trend filter aligned (where applicable).
- Stop: structural swing point.
- Target: ≥1.5R.

8 · EXAMPLE

On a hypothetical equity in confirmed regime, price closed above the 20-MA after a multi-bar pullback. Volume confirmed; pullback retest held. (Anonymised, 30-day data lag.)

COMMON MISTAKES

- Treating the cross as a stand-alone entry signal with no regard for trend context.
- Using too-tight stops at the cross point — typical noise will trigger them.
- Position sizing identically across regimes — high-volatility crosses need smaller size.
- Ignoring volume confirmation on the cross bar.
- Backtesting only winners and dismissing losers as 'unusual'.

RECOMMENDED TIMEFRAMES

Match timeframe to MA period: 1H–4H for short MAs, daily for medium, weekly for 200+.

CR-022 · Price / 50-EMA Cross

Price-MA Crossovers
Foundation – Medium

1 · MARKETS

All liquid markets.

2 · DIAGRAM

```
Price ■■■    ■■■■■■
50-MA ■■■■■■■■■■■  (price above MA = bullish)
Cross above MA: bullish; cross below: bearish
```

3 · FORMULA

```
Cross: Close(t) > 50-MA(t) AND Close(t−1) ≤ 50-MA(t−1)
```

4 · FORMULA NOTE

Medium-term institutional reference.

5 · PARAMETERS

Parameter	Default	Range	Notes
MA period	50	varies	Period
MA family	EMA/SMA	EMA/SMA/WMA	MA type
Source	Close	Close/HL2	Price source
Confirmation	Close-of-bar	1–3 bars	Persistence

6 · INTERPRETATION

- Price closing above the 50-MA = bullish bias for that timeframe.
- Re-cross below = bias change.
- Pair with trend regime to filter chop crosses.
- First cross after extended absence is the highest-quality.

7 · SIGNAL CRITERIA & ENTRY RULES

- Price closes above 50-MA after period below.
- Volume confirmation.
- Trend filter aligned (where applicable).
- Stop: structural swing point.
- Target: ≥1.5R.

8 · EXAMPLE

On a hypothetical equity in confirmed regime, price closed above the 50-MA after a multi-bar pullback. Volume confirmed; pullback retest held. (Anonymised, 30-day data lag.)

COMMON MISTAKES

- Treating the cross as a stand-alone entry signal with no regard for trend context.
- Using too-tight stops at the cross point — typical noise will trigger them.
- Position sizing identically across regimes — high-volatility crosses need smaller size.
- Ignoring volume confirmation on the cross bar.
- Backtesting only winners and dismissing losers as 'unusual'.

RECOMMENDED TIMEFRAMES

Match timeframe to MA period: 1H–4H for short MAs, daily for medium, weekly for 200+.

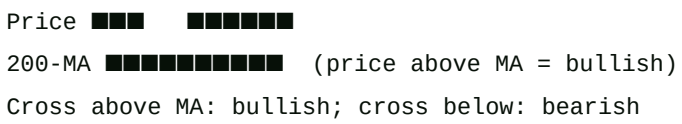
CR-023 · Price / 200-SMA Cross

Price-MA Crossovers
Foundation – Long-term

1 · MARKETS

All liquid markets.

2 · DIAGRAM



3 · FORMULA

$$\text{Cross: } Close(t) > 200\text{-}MA(t) \text{ AND } Close(t-1) \leq 200\text{-}MA(t-1)$$

4 · FORMULA NOTE

The most-watched institutional regime line.

5 · PARAMETERS

Parameter	Default	Range	Notes
MA period	200	varies	Period
MA family	EMA/SMA	EMA/SMA/WMA	MA type
Source	Close	Close/HL2	Price source
Confirmation	Close-of-bar	1–3 bars	Persistence

6 · INTERPRETATION

- Price closing above the 200-MA = bullish bias for that timeframe.
- Re-cross below = bias change.
- Pair with trend regime to filter chop crosses.
- First cross after extended absence is the highest-quality.

7 · SIGNAL CRITERIA & ENTRY RULES

- Price closes above 200-MA after period below.
- Volume confirmation.
- Trend filter aligned (where applicable).
- Stop: structural swing point.
- Target: ≥1.5R.

8 · EXAMPLE

On a hypothetical equity in confirmed regime, price closed above the 200-MA after a multi-bar pullback. Volume confirmed; pullback retest held. (Anonymised, 30-day data lag.)

COMMON MISTAKES

- Treating the cross as a stand-alone entry signal with no regard for trend context.
- Using too-tight stops at the cross point — typical noise will trigger them.
- Position sizing identically across regimes — high-volatility crosses need smaller size.
- Ignoring volume confirmation on the cross bar.
- Backtesting only winners and dismissing losers as 'unusual'.

RECOMMENDED TIMEFRAMES

Match timeframe to MA period: 1H–4H for short MAs, daily for medium, weekly for 200+.

CR-024 · Price / 10-EMA Cross

Price-MA Crossovers
Stage 2 – Active

1 · MARKETS

All liquid markets.

2 · DIAGRAM

```
Price ■■■    ■■■■■■■
10-MA ■■■■■■■■■■■  (price above MA = bullish)
Cross above MA: bullish; cross below: bearish
```

3 · FORMULA

```
Cross: Close(t) > 10-MA(t) AND Close(t−1) ≤ 10-MA(t−1)
```

4 · FORMULA NOTE

Active short-term momentum filter.

5 · PARAMETERS

Parameter	Default	Range	Notes
MA period	10	varies	Period
MA family	EMA/SMA	EMA/SMA/WMA	MA type
Source	Close	Close/HL2	Price source
Confirmation	Close-of-bar	1–3 bars	Persistence

6 · INTERPRETATION

- Price closing above the 10-MA = bullish bias for that timeframe.
- Re-cross below = bias change.
- Pair with trend regime to filter chop crosses.
- First cross after extended absence is the highest-quality.

7 · SIGNAL CRITERIA & ENTRY RULES

- Price closes above 10-MA after period below.
- Volume confirmation.
- Trend filter aligned (where applicable).
- Stop: structural swing point.
- Target: ≥1.5R.

8 · EXAMPLE

On a hypothetical equity in confirmed regime, price closed above the 10-MA after a multi-bar pullback. Volume confirmed; pullback retest held. (Anonymised, 30-day data lag.)

COMMON MISTAKES

- Treating the cross as a stand-alone entry signal with no regard for trend context.
- Using too-tight stops at the cross point — typical noise will trigger them.
- Position sizing identically across regimes — high-volatility crosses need smaller size.
- Ignoring volume confirmation on the cross bar.
- Backtesting only winners and dismissing losers as 'unusual'.

RECOMMENDED TIMEFRAMES

Match timeframe to MA period: 1H–4H for short MAs, daily for medium, weekly for 200+.

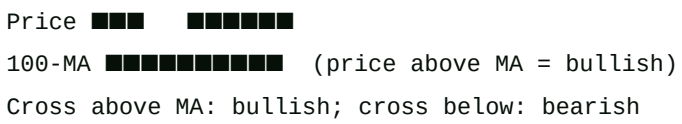
CR-025 · Price / 100-SMA Cross

Price-MA Crossovers
Foundation – Bridge

1 · MARKETS

All liquid markets.

2 · DIAGRAM



3 · FORMULA

$$\text{Cross: } Close(t) > 100\text{-}MA(t) \text{ AND } Close(t-1) \leq 100\text{-}MA(t-1)$$

4 · FORMULA NOTE

Bridge between short and long; commonly watched.

5 · PARAMETERS

Parameter	Default	Range	Notes
MA period	100	varies	Period
MA family	EMA/SMA	EMA/SMA/WMA	MA type
Source	Close	Close/HL2	Price source
Confirmation	Close-of-bar	1–3 bars	Persistence

6 · INTERPRETATION

- Price closing above the 100-MA = bullish bias for that timeframe.
- Re-cross below = bias change.
- Pair with trend regime to filter chop crosses.
- First cross after extended absence is the highest-quality.

7 · SIGNAL CRITERIA & ENTRY RULES

- Price closes above 100-MA after period below.
- Volume confirmation.
- Trend filter aligned (where applicable).
- Stop: structural swing point.
- Target: ≥1.5R.

8 · EXAMPLE

On a hypothetical equity in confirmed regime, price closed above the 100-MA after a multi-bar pullback. Volume confirmed; pullback retest held. (Anonymised, 30-day data lag.)

COMMON MISTAKES

- Treating the cross as a stand-alone entry signal with no regard for trend context.
- Using too-tight stops at the cross point — typical noise will trigger them.
- Position sizing identically across regimes — high-volatility crosses need smaller size.
- Ignoring volume confirmation on the cross bar.
- Backtesting only winners and dismissing losers as 'unusual'.

RECOMMENDED TIMEFRAMES

Match timeframe to MA period: 1H–4H for short MAs, daily for medium, weekly for 200+.

CR-026 · Price / 21-EMA Cross

Price-MA Crossovers
Stage 2 – Minervini

1 · MARKETS

All liquid markets.

2 · DIAGRAM

```
Price ■■■    ■■■■■■
21-MA ■■■■■■■■■■  (price above MA = bullish)
Cross above MA: bullish; cross below: bearish
```

3 · FORMULA

```
Cross: Close(t) > 21-MA(t) AND Close(t−1) ≤ 21-MA(t−1)
```

4 · FORMULA NOTE

Minervini's preferred short-term EMA.

5 · PARAMETERS

Parameter	Default	Range	Notes
MA period	21	varies	Period
MA family	EMA/SMA	EMA/SMA/WMA	MA type
Source	Close	Close/HL2	Price source
Confirmation	Close-of-bar	1–3 bars	Persistence

6 · INTERPRETATION

- Price closing above the 21-MA = bullish bias for that timeframe.
- Re-cross below = bias change.
- Pair with trend regime to filter chop crosses.
- First cross after extended absence is the highest-quality.

7 · SIGNAL CRITERIA & ENTRY RULES

- Price closes above 21-MA after period below.
- Volume confirmation.
- Trend filter aligned (where applicable).
- Stop: structural swing point.
- Target: ≥1.5R.

8 · EXAMPLE

On a hypothetical equity in confirmed regime, price closed above the 21-MA after a multi-bar pullback. Volume confirmed; pullback retest held. (Anonymised, 30-day data lag.)

COMMON MISTAKES

- Treating the cross as a stand-alone entry signal with no regard for trend context.
- Using too-tight stops at the cross point — typical noise will trigger them.
- Position sizing identically across regimes — high-volatility crosses need smaller size.
- Ignoring volume confirmation on the cross bar.
- Backtesting only winners and dismissing losers as 'unusual'.

RECOMMENDED TIMEFRAMES

Match timeframe to MA period: 1H–4H for short MAs, daily for medium, weekly for 200+.

CR-027 · Price / 150-SMA Cross

Price-MA Crossovers
Stage 2 – Minervini

1 · MARKETS

All liquid markets.

2 · DIAGRAM

```
Price ■■■    ■■■■■■■
150-MA ■■■■■■■■■■■  (price above MA = bullish)
Cross above MA: bullish; cross below: bearish
```

3 · FORMULA

```
Cross: Close(t) > 150-MA(t) AND Close(t−1) ≤ 150-MA(t−1)
```

4 · FORMULA NOTE

Minervini's secondary stage filter.

5 · PARAMETERS

Parameter	Default	Range	Notes
MA period	150	varies	Period
MA family	EMA/SMA	EMA/SMA/WMA	MA type
Source	Close	Close/HL2	Price source
Confirmation	Close-of-bar	1–3 bars	Persistence

6 · INTERPRETATION

- Price closing above the 150-MA = bullish bias for that timeframe.
- Re-cross below = bias change.
- Pair with trend regime to filter chop crosses.
- First cross after extended absence is the highest-quality.

7 · SIGNAL CRITERIA & ENTRY RULES

- Price closes above 150-MA after period below.
- Volume confirmation.
- Trend filter aligned (where applicable).
- Stop: structural swing point.
- Target: ≥1.5R.

8 · EXAMPLE

On a hypothetical equity in confirmed regime, price closed above the 150-MA after a multi-bar pullback. Volume confirmed; pullback retest held. (Anonymised, 30-day data lag.)

COMMON MISTAKES

- Treating the cross as a stand-alone entry signal with no regard for trend context.
- Using too-tight stops at the cross point — typical noise will trigger them.
- Position sizing identically across regimes — high-volatility crosses need smaller size.
- Ignoring volume confirmation on the cross bar.
- Backtesting only winners and dismissing losers as 'unusual'.

RECOMMENDED TIMEFRAMES

Match timeframe to MA period: 1H–4H for short MAs, daily for medium, weekly for 200+.

CR-028 · Price / 30-Week MA Cross

Price-MA Crossovers
Stage 2 – Weinstein

1 · MARKETS

All liquid markets.

2 · DIAGRAM

```
Price ■■■    ■■■■■■■
30W-MA ■■■■■■■■■■■  (price above MA = bullish)
Cross above MA: bullish; cross below: bearish
```

3 · FORMULA

```
Cross: Close(t) > 30W-MA(t) AND Close(t−1) ≤ 30W-MA(t−1)
```

4 · FORMULA NOTE

Weinstein's stage-3-to-4 confirmation.

5 · PARAMETERS

Parameter	Default	Range	Notes
MA period	30W	varies	Period
MA family	EMA/SMA	EMA/SMA/WMA	MA type
Source	Close	Close/HL2	Price source
Confirmation	Close-of-bar	1–3 bars	Persistence

6 · INTERPRETATION

- Price closing above the 30W-MA = bullish bias for that timeframe.
- Re-cross below = bias change.
- Pair with trend regime to filter chop crosses.
- First cross after extended absence is the highest-quality.

7 · SIGNAL CRITERIA & ENTRY RULES

- Price closes above 30W-MA after period below.
- Volume confirmation.
- Trend filter aligned (where applicable).
- Stop: structural swing point.
- Target: ≥1.5R.

8 · EXAMPLE

On a hypothetical equity in confirmed regime, price closed above the 30W-MA after a multi-bar pullback. Volume confirmed; pullback retest held. (Anonymised, 30-day data lag.)

COMMON MISTAKES

- Treating the cross as a stand-alone entry signal with no regard for trend context.
- Using too-tight stops at the cross point — typical noise will trigger them.
- Position sizing identically across regimes — high-volatility crosses need smaller size.
- Ignoring volume confirmation on the cross bar.
- Backtesting only winners and dismissing losers as 'unusual'.

RECOMMENDED TIMEFRAMES

Match timeframe to MA period: 1H–4H for short MAs, daily for medium, weekly for 200+.

CR-029 · Price / 8-EMA Cross

Price-MA Crossovers
Stage 3 – Aggressive

1 · MARKETS

All liquid markets.

2 · DIAGRAM

```
Price ■■■    ■■■■■■■
8-MA ■■■■■■■■■■■  (price above MA = bullish)
Cross above MA: bullish; cross below: bearish
```

3 · FORMULA

```
Cross: Close(t) > 8-MA(t) AND Close(t−1) ≤ 8-MA(t−1)
```

4 · FORMULA NOTE

Very-short-term swing-trade EMA.

5 · PARAMETERS

Parameter	Default	Range	Notes
MA period	8	varies	Period
MA family	EMA/SMA	EMA/SMA/WMA	MA type
Source	Close	Close/HL2	Price source
Confirmation	Close-of-bar	1–3 bars	Persistence

6 · INTERPRETATION

- Price closing above the 8-MA = bullish bias for that timeframe.
- Re-cross below = bias change.
- Pair with trend regime to filter chop crosses.
- First cross after extended absence is the highest-quality.

7 · SIGNAL CRITERIA & ENTRY RULES

- Price closes above 8-MA after period below.
- Volume confirmation.
- Trend filter aligned (where applicable).
- Stop: structural swing point.
- Target: ≥1.5R.

8 · EXAMPLE

On a hypothetical equity in confirmed regime, price closed above the 8-MA after a multi-bar pullback. Volume confirmed; pullback retest held. (Anonymised, 30-day data lag.)

COMMON MISTAKES

- Treating the cross as a stand-alone entry signal with no regard for trend context.
- Using too-tight stops at the cross point — typical noise will trigger them.
- Position sizing identically across regimes — high-volatility crosses need smaller size.
- Ignoring volume confirmation on the cross bar.
- Backtesting only winners and dismissing losers as 'unusual'.

RECOMMENDED TIMEFRAMES

Match timeframe to MA period: 1H–4H for short MAs, daily for medium, weekly for 200+.

CR-030 · Price / Kijun-sen Cross

Price-MA Crossovers
Stage 2 – Ichimoku

1 · MARKETS

All liquid markets.

2 · DIAGRAM

```
Price ■■■    ■■■■■■
Kj-MA ■■■■■■■■■■■  (price above MA = bullish)
Cross above MA: bullish; cross below: bearish
```

3 · FORMULA

```
Cross: Close(t) > Kj-MA(t) AND Close(t−1) ≤ Kj-MA(t−1)
```

4 · FORMULA NOTE

Ichimoku's mid-line; price/Kijun cross is a primary Ichimoku trigger.

5 · PARAMETERS

Parameter	Default	Range	Notes
MA period	Kj	varies	Period
MA family	EMA/SMA	EMA/SMA/WMA	MA type
Source	Close	Close/HL2	Price source
Confirmation	Close-of-bar	1–3 bars	Persistence

6 · INTERPRETATION

- Price closing above the Kj-MA = bullish bias for that timeframe.
- Re-cross below = bias change.
- Pair with trend regime to filter chop crosses.
- First cross after extended absence is the highest-quality.

7 · SIGNAL CRITERIA & ENTRY RULES

- Price closes above Kj-MA after period below.
- Volume confirmation.
- Trend filter aligned (where applicable).
- Stop: structural swing point.
- Target: ≥1.5R.

8 · EXAMPLE

On a hypothetical equity in confirmed regime, price closed above the Kj-MA after a multi-bar pullback. Volume confirmed; pullback retest held. (Anonymised, 30-day data lag.)

COMMON MISTAKES

- Treating the cross as a stand-alone entry signal with no regard for trend context.
- Using too-tight stops at the cross point — typical noise will trigger them.
- Position sizing identically across regimes — high-volatility crosses need smaller size.
- Ignoring volume confirmation on the cross bar.
- Backtesting only winners and dismissing losers as 'unusual'.

RECOMMENDED TIMEFRAMES

Match timeframe to MA period: 1H–4H for short MAs, daily for medium, weekly for 200+.

CR-031 · VWMA / SMA Cross

Volume-Weighted Crossovers
Stage 2 – Volume-aware momentum

1 · MARKETS

Liquid equities and futures with reliable volume.

2 · DIAGRAM

```
Price
VWMA  ■■■■■   (volume-weighted MA)
SMA   ■■■■■■■■
VWMA above SMA = volume-weighted price above unweighted: heavy bars are higher
```

3 · FORMULA

$$VWMA(N) = \Sigma(Price \times Volume) / \Sigma\ Volume \quad \text{over last } N \text{ bars}$$

$$\text{Signal: } VWMA(t) > SMA(t) \text{ AND } VWMA(t-1) \leq SMA(t-1)$$

4 · FORMULA NOTE

VWMA above SMA tells you heavy-volume bars are at higher prices than light-volume bars. The cross captures volume-confirmation as a signal in its own right.

5 · PARAMETERS

Parameter	Default	Range	Notes
Period	20	14–30	Lookback
MA family	VWMA vs SMA	SMA/EMA pair	Comparison
Source	Close	Close	Source
Confirmation	1 bar	1–3	Persistence

6 · INTERPRETATION

- VWMA > SMA = volume distribution skews bullish.
- Useful filter on top of price-only crossovers.
- Loses meaning on illiquid instruments.

7 · SIGNAL CRITERIA & ENTRY RULES

- VWMA crosses above SMA with confirmation.
- Trend filter aligned.
- Stop: structural; target: 1.5R+

8 · EXAMPLE

Hypothetical equity emerged from base; VWMA crossed above SMA before EMA9/21 cross, providing earlier volume-aware confirmation. (Anonymised.)

COMMON MISTAKES

- Treating the cross as a stand-alone entry signal with no regard for trend context.
- Using too-tight stops at the cross point — typical noise will trigger them.
- Position sizing identically across regimes — high-volatility crosses need smaller size.
- Ignoring volume confirmation on the cross bar.
- Backtesting only winners and dismissing losers as 'unusual'.

RECOMMENDED TIMEFRAMES

Daily.

CR-032 · OBV / OBV-MA Cross

Volume-Weighted Crossovers
Stage 2 – On-Balance Volume

1 · MARKETS

Liquid equities, futures, FX with reliable volume.

2 · DIAGRAM

```
Indicator   ■■■■■■■■
Signal/zero ■■■■■■■■■■
Cross signals regime shift in volume flow
```

3 · FORMULA

`OBV(t) = OBV(t−1) ± Volume(t) [sign by direction]; Cross: OBV > SMA(OBV, 20)`

4 · FORMULA NOTE

Joseph Granville's OBV accumulates volume by direction. Crossing its own MA signals net accumulation/distribution shift.

5 · PARAMETERS

Parameter	Default	Range	Notes
Period	20	14–30	Lookback
Smoothing	Default	Custom	Indicator-specific
Source	Close/Vol	Standard	Standard
Confirm	1 bar	1–3 bars	Persistence

6 · INTERPRETATION

- Above-zero (or above signal) = bullish volume-flow regime.
- Below = bearish volume-flow regime.
- Useful as confirmation layer on price-only crossovers.
- Lose meaning on illiquid instruments.

7 · SIGNAL CRITERIA & ENTRY RULES

- Indicator crosses zero or signal in agreement with price action.
- Trend filter aligned.
- Volume present.
- Stop: structural; target: ≥1.5R.

8 · EXAMPLE

Hypothetical liquid market; OBV / OBV-MA Cross produced cross-up confirmation alongside a price breakout-retest setup. (Anonymised, 30-day data lag.)

COMMON MISTAKES

- Treating the cross as a stand-alone entry signal with no regard for trend context.
- Using too-tight stops at the cross point — typical noise will trigger them.
- Position sizing identically across regimes — high-volatility crosses need smaller size.
- Ignoring volume confirmation on the cross bar.
- Backtesting only winners and dismissing losers as 'unusual'.
- Treating OBV crosses as predictive — they are confirmatory only.

RECOMMENDED TIMEFRAMES

Daily and weekly.

CR-033 · A/D Line / A/D-MA Cross

Volume-Weighted Crossovers
Stage 2 – Accumulation/Distribution

1 · MARKETS

Liquid equities, futures, FX with reliable volume.

2 · DIAGRAM

```
Indicator   ■■■■■■■■
Signal/zero ■■■■■■■■■■
Cross signals regime shift in volume flow
```

3 · FORMULA

```
A/D = Σ ((Close − Low) − (High − Close))/(High − Low) × Volume; Cross: A/D > SMA(A/D, 20)
```

4 · FORMULA NOTE

Marc Chaikin's A/D line refines OBV by weighting by close position within the bar. Crosses signal accumulation/distribution regime change.

5 · PARAMETERS

Parameter	Default	Range	Notes
Period	20	14–30	Lookback
Smoothing	Default	Custom	Indicator-specific
Source	Close/Vol	Standard	Standard
Confirm	1 bar	1–3 bars	Persistence

6 · INTERPRETATION

- Above-zero (or above signal) = bullish volume-flow regime.
- Below = bearish volume-flow regime.
- Useful as confirmation layer on price-only crossovers.
- Lose meaning on illiquid instruments.

7 · SIGNAL CRITERIA & ENTRY RULES

- Indicator crosses zero or signal in agreement with price action.
- Trend filter aligned.
- Volume present.
- Stop: structural; target: ≥1.5R.

8 · EXAMPLE

Hypothetical liquid market; A/D Line / A/D-MA Cross produced cross-up confirmation alongside a price breakout-retest setup. (Anonymised, 30-day data lag.)

COMMON MISTAKES

- Treating the cross as a stand-alone entry signal with no regard for trend context.
- Using too-tight stops at the cross point — typical noise will trigger them.
- Position sizing identically across regimes — high-volatility crosses need smaller size.
- Ignoring volume confirmation on the cross bar.
- Backtesting only winners and dismissing losers as 'unusual'.
- Confusing A/D with OBV — different math, different signals.

RECOMMENDED TIMEFRAMES

Daily and weekly.

CR-034 · Chaikin Money Flow / Zero Cross

Volume-Weighted Crossovers
Stage 2 – CMF

1 · MARKETS

Liquid equities, futures, FX with reliable volume.

2 · DIAGRAM

```
Indicator   ■■■■■■■■
Signal/zero ■■■■■■■■■■
Cross signals regime shift in volume flow
```

3 · FORMULA

```
CMF = Σ (((C−L) − (H−C))/(H−L)) × V) / Σ V over period; Cross: CMF > 0 AND CMF(t−1) ≤ 0
```

4 · FORMULA NOTE

Marc Chaikin's CMF zero-line cross indicates net buying pressure (positive) vs selling pressure (negative).

5 · PARAMETERS

Parameter	Default	Range	Notes
Period	20	14–30	Lookback
Smoothing	Default	Custom	Indicator-specific
Source	Close/Vol	Standard	Standard
Confirm	1 bar	1–3 bars	Persistence

6 · INTERPRETATION

- Above-zero (or above signal) = bullish volume-flow regime.
- Below = bearish volume-flow regime.
- Useful as confirmation layer on price-only crossovers.
- Lose meaning on illiquid instruments.

7 · SIGNAL CRITERIA & ENTRY RULES

- Indicator crosses zero or signal in agreement with price action.
- Trend filter aligned.
- Volume present.
- Stop: structural; target: ≥1.5R.

8 · EXAMPLE

Hypothetical liquid market; Chaikin Money Flow / Zero Cross produced cross-up confirmation alongside a price breakout-retest setup. (Anonymised, 30-day data lag.)

COMMON MISTAKES

- Treating the cross as a stand-alone entry signal with no regard for trend context.
- Using too-tight stops at the cross point — typical noise will trigger them.
- Position sizing identically across regimes — high-volatility crosses need smaller size.
- Ignoring volume confirmation on the cross bar.
- Backtesting only winners and dismissing losers as 'unusual'.
- Trading CMF in low-volume environments where the signal is dominated by a few outlier bars.

RECOMMENDED TIMEFRAMES

Daily and weekly.

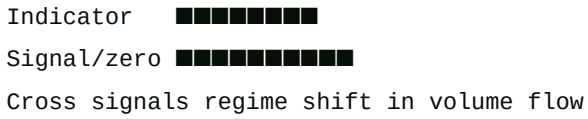
CR-035 · MFI 50 Cross

Volume-Weighted Crossovers
Stage 2 – Money Flow Index

1 · MARKETS

Liquid equities, futures, FX with reliable volume.

2 · DIAGRAM



3 · FORMULA

$$\text{MFI} = \text{volume-weighted RSI; Cross: MFI} > 50 \text{ AND MFI}(t-1) \leq 50$$

4 · FORMULA NOTE

Quong & Soudack's Money Flow Index is RSI weighted by volume. The 50 cross is a volume-aware bias filter.

5 · PARAMETERS

Parameter	Default	Range	Notes
Period	20	14–30	Lookback
Smoothing	Default	Custom	Indicator-specific
Source	Close/Vol	Standard	Standard
Confirm	1 bar	1–3 bars	Persistence

6 · INTERPRETATION

- Above-zero (or above signal) = bullish volume-flow regime.
- Below = bearish volume-flow regime.
- Useful as confirmation layer on price-only crossovers.
- Lose meaning on illiquid instruments.

7 · SIGNAL CRITERIA & ENTRY RULES

- Indicator crosses zero or signal in agreement with price action.
- Trend filter aligned.
- Volume present.
- Stop: structural; target: ≥1.5R.

8 · EXAMPLE

Hypothetical liquid market; MFI 50 Cross produced cross-up confirmation alongside a price breakout-retest setup. (Anonymised, 30-day data lag.)

COMMON MISTAKES

- Treating the cross as a stand-alone entry signal with no regard for trend context.
- Using too-tight stops at the cross point — typical noise will trigger them.
- Position sizing identically across regimes — high-volatility crosses need smaller size.
- Ignoring volume confirmation on the cross bar.
- Backtesting only winners and dismissing losers as 'unusual'.
- Using MFI on illiquid instruments where volume noise dominates.

RECOMMENDED TIMEFRAMES

Daily and weekly.

CR-036 · Force Index Zero Cross

Volume-Weighted Crossovers
Stage 2 – Elder

1 · MARKETS

Liquid equities, futures, FX with reliable volume.

2 · DIAGRAM

```
Indicator    ■■■■■■■■■
Signal/zero  ■■■■■■■■■■■
Cross signals regime shift in volume flow
```

3 · FORMULA

`Force Index = Volume × (Close − Close[1]); Cross: FI > 0 from below`

4 · FORMULA NOTE

Alexander Elder's Force Index crosses zero when the volume-weighted price change flips direction.

5 · PARAMETERS

Parameter	Default	Range	Notes
Period	20	14–30	Lookback
Smoothing	Default	Custom	Indicator-specific
Source	Close/Vol	Standard	Standard
Confirm	1 bar	1–3 bars	Persistence

6 · INTERPRETATION

- Above-zero (or above signal) = bullish volume-flow regime.
- Below = bearish volume-flow regime.
- Useful as confirmation layer on price-only crossovers.
- Lose meaning on illiquid instruments.

7 · SIGNAL CRITERIA & ENTRY RULES

- Indicator crosses zero or signal in agreement with price action.
- Trend filter aligned.
- Volume present.
- Stop: structural; target: ≥1.5R.

8 · EXAMPLE

Hypothetical liquid market; Force Index Zero Cross produced cross-up confirmation alongside a price breakout-retest setup. (Anonymised, 30-day data lag.)

COMMON MISTAKES

- Treating the cross as a stand-alone entry signal with no regard for trend context.
- Using too-tight stops at the cross point — typical noise will trigger them.
- Position sizing identically across regimes — high-volatility crosses need smaller size.
- Ignoring volume confirmation on the cross bar.
- Backtesting only winners and dismissing losers as 'unusual'.
- Looking only at the cross without checking the FI's smoothing period.

RECOMMENDED TIMEFRAMES

Daily and weekly.

CR-037 · Klinger Oscillator Signal Cross

Volume-Weighted Crossovers
Stage 3 – Volume-flow oscillator

1 · MARKETS

Liquid equities, futures, FX with reliable volume.

2 · DIAGRAM

```
Indicator   ■■■■■■■■
Signal/zero ■■■■■■■■■■
Cross signals regime shift in volume flow
```

3 · FORMULA

```
Klinger = EMA34(VolForce) − EMA55(VolForce); Signal = EMA13(Klinger); Cross
```

4 · FORMULA NOTE

Stephen Klinger's volume-force oscillator. Signal-line cross is the primary trigger.

5 · PARAMETERS

Parameter	Default	Range	Notes
Period	20	14–30	Lookback
Smoothing	Default	Custom	Indicator-specific
Source	Close/Vol	Standard	Standard
Confirm	1 bar	1–3 bars	Persistence

6 · INTERPRETATION

- Above-zero (or above signal) = bullish volume-flow regime.
- Below = bearish volume-flow regime.
- Useful as confirmation layer on price-only crossovers.
- Lose meaning on illiquid instruments.

7 · SIGNAL CRITERIA & ENTRY RULES

- Indicator crosses zero or signal in agreement with price action.
- Trend filter aligned.
- Volume present.
- Stop: structural; target: ≥1.5R.

8 · EXAMPLE

Hypothetical liquid market; Klinger Oscillator Signal Cross produced cross-up confirmation alongside a price breakout-retest setup. (Anonymised, 30-day data lag.)

COMMON MISTAKES

- Treating the cross as a stand-alone entry signal with no regard for trend context.
- Using too-tight stops at the cross point — typical noise will trigger them.
- Position sizing identically across regimes — high-volatility crosses need smaller size.
- Ignoring volume confirmation on the cross bar.
- Backtesting only winners and dismissing losers as 'unusual'.

RECOMMENDED TIMEFRAMES

Daily and weekly.

CR-038 · Volume Oscillator Zero Cross

Volume-Weighted Crossovers
Stage 3 – Simple volume-flow

1 · MARKETS

Liquid equities, futures, FX with reliable volume.

2 · DIAGRAM

```
Indicator   ■■■■■■■■
Signal/zero ■■■■■■■■■■
Cross signals regime shift in volume flow
```

3 · FORMULA

```
VolOsc = (EMA_short(V) − EMA_long(V))/EMA_long(V) × 100; Cross zero
```

4 · FORMULA NOTE

Simple volume-flow oscillator measuring expansion/contraction of recent volume vs longer-term volume.

5 · PARAMETERS

Parameter	Default	Range	Notes
Period	20	14–30	Lookback
Smoothing	Default	Custom	Indicator-specific
Source	Close/Vol	Standard	Standard
Confirm	1 bar	1–3 bars	Persistence

6 · INTERPRETATION

- Above-zero (or above signal) = bullish volume-flow regime.
- Below = bearish volume-flow regime.
- Useful as confirmation layer on price-only crossovers.
- Lose meaning on illiquid instruments.

7 · SIGNAL CRITERIA & ENTRY RULES

- Indicator crosses zero or signal in agreement with price action.
- Trend filter aligned.
- Volume present.
- Stop: structural; target: ≥1.5R.

8 · EXAMPLE

Hypothetical liquid market; Volume Oscillator Zero Cross produced cross-up confirmation alongside a price breakout-retest setup. (Anonymised, 30-day data lag.)

COMMON MISTAKES

- Treating the cross as a stand-alone entry signal with no regard for trend context.
- Using too-tight stops at the cross point — typical noise will trigger them.
- Position sizing identically across regimes — high-volatility crosses need smaller size.
- Ignoring volume confirmation on the cross bar.
- Backtesting only winners and dismissing losers as 'unusual'.

RECOMMENDED TIMEFRAMES

Daily and weekly.

CR-039 · Ease of Movement Zero Cross

Volume-Weighted Crossovers
Stage 3 – Arms

1 · MARKETS

Liquid equities, futures, FX with reliable volume.

2 · DIAGRAM

```
Indicator   ████████
Signal/zero ██████████
Cross signals regime shift in volume flow
```

3 · FORMULA

```
EOM = ((H+L)/2 − (H[1]+L[1])/2) / ((V/scale)/(H−L)); Cross zero
```

4 · FORMULA NOTE

Richard Arms's Ease of Movement combines volume and range to detect efficient moves.

5 · PARAMETERS

Parameter	Default	Range	Notes
Period	20	14–30	Lookback
Smoothing	Default	Custom	Indicator-specific
Source	Close/Vol	Standard	Standard
Confirm	1 bar	1–3 bars	Persistence

6 · INTERPRETATION

- Above-zero (or above signal) = bullish volume-flow regime.
- Below = bearish volume-flow regime.
- Useful as confirmation layer on price-only crossovers.
- Lose meaning on illiquid instruments.

7 · SIGNAL CRITERIA & ENTRY RULES

- Indicator crosses zero or signal in agreement with price action.
- Trend filter aligned.
- Volume present.
- Stop: structural; target: ≥1.5R.

8 · EXAMPLE

Hypothetical liquid market; Ease of Movement Zero Cross produced cross-up confirmation alongside a price breakout-retest setup. (Anonymised, 30-day data lag.)

COMMON MISTAKES

- Treating the cross as a stand-alone entry signal with no regard for trend context.
- Using too-tight stops at the cross point — typical noise will trigger them.
- Position sizing identically across regimes — high-volatility crosses need smaller size.
- Ignoring volume confirmation on the cross bar.
- Backtesting only winners and dismissing losers as 'unusual'.

RECOMMENDED TIMEFRAMES

Daily and weekly.

CR-040 · Volume-Price Trend (VPT) Signal Cross

Volume-Weighted Crossovers
Stage 3 – VPT

1 · MARKETS

Liquid equities, futures, FX with reliable volume.

2 · DIAGRAM

```
Indicator   ▇▇▇▇▇▇▇▇
Signal/zero ▇▇▇▇▇▇▇▇▇▇
Cross signals regime shift in volume flow
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3 · FORMULA

$VPT(t) = VPT(t-1) + V \times (C - C[1])/C[1]$; Cross: $VPT > SMA(VPT, 20)$

4 · FORMULA NOTE

Volume-Price Trend tracks cumulative volume weighted by relative price change. Signal-line cross flags accumulation regime change.

5 · PARAMETERS

Parameter	Default	Range	Notes
Period	20	14–30	Lookback
Smoothing	Default	Custom	Indicator-specific
Source	Close/Vol	Standard	Standard
Confirm	1 bar	1–3 bars	Persistence

6 · INTERPRETATION

- Above-zero (or above signal) = bullish volume-flow regime.
- Below = bearish volume-flow regime.
- Useful as confirmation layer on price-only crossovers.
- Lose meaning on illiquid instruments.

7 · SIGNAL CRITERIA & ENTRY RULES

- Indicator crosses zero or signal in agreement with price action.
- Trend filter aligned.
- Volume present.
- Stop: structural; target: ≥1.5R.

8 · EXAMPLE

Hypothetical liquid market; Volume-Price Trend (VPT) Signal Cross produced cross-up confirmation alongside a price breakout-retest setup. (Anonymised, 30-day data lag.)

COMMON MISTAKES

- Treating the cross as a stand-alone entry signal with no regard for trend context.
- Using too-tight stops at the cross point — typical noise will trigger them.
- Position sizing identically across regimes — high-volatility crosses need smaller size.
- Ignoring volume confirmation on the cross bar.
- Backtesting only winners and dismissing losers as 'unusual'.

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