Algobot
Maximize Your Profits

Median Channel Breakout

Expert Advisor Documentation

PLATFORM	TYPE	TIMEFRAME	WEBSITE
MetaTrader 5 (MT5)	Trend-Following Breakout	M15 – H4	www.algobot.live

Overview

Median Channel Breakout is a trend-following breakout Expert Advisor built on a **spike-immune price channel**. A classic Donchian breakout fires the instant price clears the single *highest* high (or *lowest* low) of the lookback — but that level is set by one outlier bar: a news wick, a stop run, a thin-liquidity spike. Price only has to re-touch that lonely extreme to “break out”, so a large share of Donchian breaks are just re-tests of an outlier and fail immediately.

This strategy replaces the extreme with the **median** of the last *N* highs and the median of the last *N* lows. The median is the textbook outlier-resistant statistic: one freak spike moves the maximum a long way but barely nudges the median. The upper rail therefore represents the *typical* recent high — the price the market has repeatedly been willing to reach. A close above that rail means price has cleared the **bulk** of recent highs, not just one spike: a far cleaner signal of genuine demand.

> **Core idea:** Fewer false breaks → higher-quality entries → lower drawdown. Every dollar of risk is anchored to real market structure rather than a single outlier bar, and the money-management stack is engineered around a target of roughly **1% drawdown**.

How It Works

The spike-immune median channel

On every completed bar the EA rebuilds two rails from the last `ChannelPeriod` bars:

```
UpperRail = median( High[0..N] )
LowerRail = median( Low[0..N] )
Midline   = (UpperRail + LowerRail) / 2
```

The **midline slope** — the change in the midline over the last `SlopeBars` bars, normalised by ATR — measures the channel's drift. This keeps the EA trading only *with* the prevailing direction:

- **Trend up** when `slope ≥ SlopeAtrMin` — only long breakouts allowed.
- **Trend down** when `slope ≤ -SlopeAtrMin` — only short breakouts allowed.
- A flat channel (|slope| below the gate) produces **no trades**.

Entry logic

All calculations come from a single timeframe (`ctx.PrimaryTimeframe`). A signal is evaluated only on the just-closed bar:

- **Long:** the midline is rising (slope gate passed) *and* the closed bar makes a **fresh** cross of the upper rail — the previous close was at/below the rail, this close is decisively above it by `BreakAtrMult × ATR` — *and* the bar is bullish (`close > open`).
- **Short:** the exact mirror — midline falling, a fresh decisive close below the lower rail, on a bearish bar.

> **"Fresh cross" = no pyramiding.** Because the entry requires the previous close inside the channel and this close outside it, only the *first* breakout bar of each move can trade. Price staying beyond the rail never re-fires; it must dip back inside and cross again to re-arm. That prevents chasing a runaway move.

Exit, stop-loss & take-profit

The risk stack is deliberately tight because the entry sits right at the rail:

- **Structural stop:** just beyond the recent swing extreme over the last `StopSwingBars` bars, padded by `StopAtrMult × ATR` .
- **Risk cap:** any trade whose stop distance exceeds `MaxRiskAtr × ATR` is **skipped entirely**, capping the loss any single trade can take.
- **Take-profit:** `RewardRisk × risk` from the entry price.
- **Break-even & trail:** once price is `BreakevenR` risk-multiples onside, the stop jumps to break-even and is then trailed by `TrailAtrMult × ATR` . The stop is never loosened, so it only ratchets in the trade's favour

to bank runners.

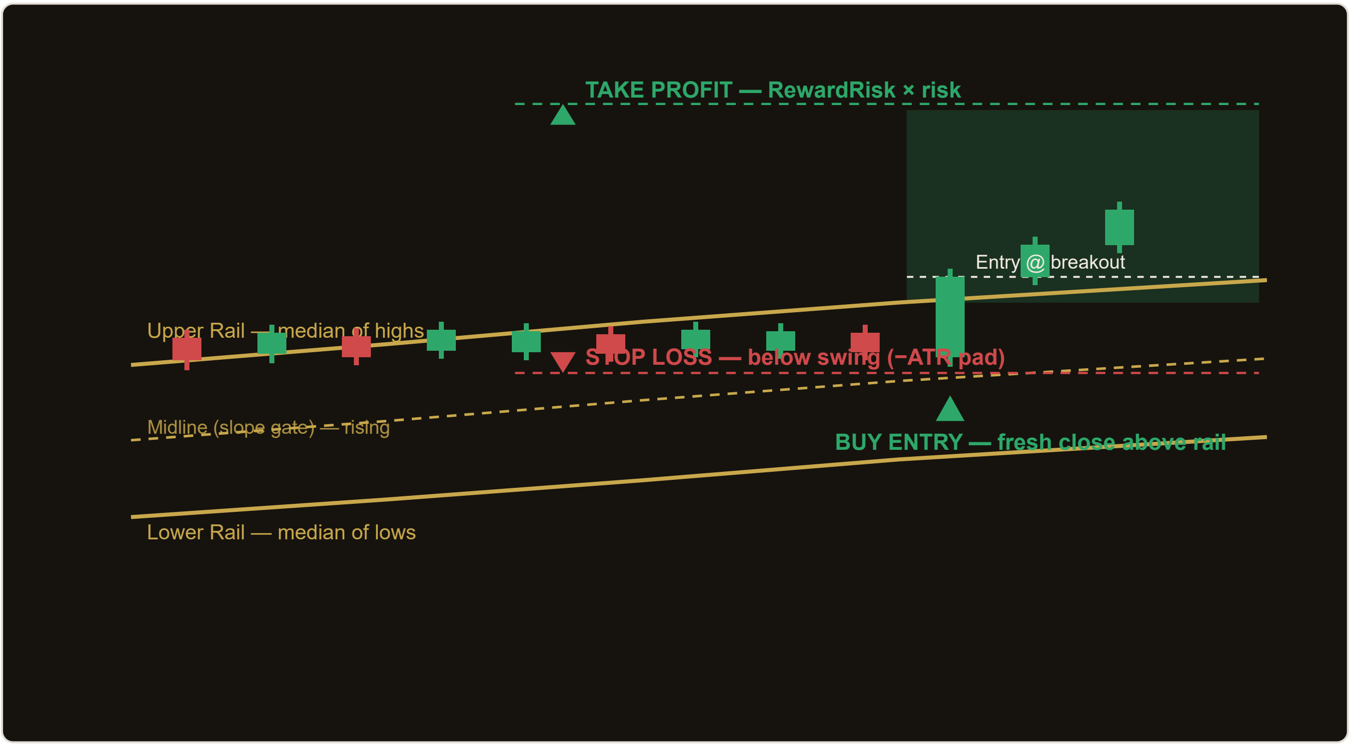
- **Guards:** one position per `Magic`, and a spread guard (`MaxSpreadPoints`) blocks entries in poor conditions.

Worked example (long)

Over the last 20 bars the median of the highs sits at 1.10450 and the midline has been rising. The previous bar closed at 1.10420 (below the rail). The next bar closes bullish at 1.10510 — clear of the rail by more than `BreakAtrMult × ATR`. That is a fresh, decisive break: the EA buys at the Ask, places the stop just below the 4-bar swing low (padded by ATR), and sets the take-profit 1.8× that risk away. As price advances one full risk-multiple, the stop snaps to break-even and then trails 1.5× ATR behind price.

Strategy in Action

The illustration below shows an example of how the strategy identifies a setup and triggers its entry and exit. This is a simplified, illustrative example for educational purposes — not real market data.



Illustrative example only. Actual market behaviour varies.

Parameters

Parameter	Default	Description
ChannelPeriod	`20`	Number of bars used for the median of highs and lows that form the channel rails (range 8–60). Larger values give smoother, slower rails.
SlopeBars	`5`	Lookback for measuring the midline slope, i.e. the channel's drift (range 2–20).
SlopeAtrMin	`0.05`	Minimum ATR-normalised midline slope required to permit a breakout; filters out flat, choppy channels (range 0.0–0.60).
BreakAtrMult	`0.10`	Extra distance beyond the rail (× ATR) the close must clear for the break to count as "decisive" (range 0.0–1.0).
AtrPeriod	`14`	ATR averaging period — the volatility unit used for the slope gate, break pad, stop and trail (range 5–40).
StopSwingBars	`4`	Lookback for the recent swing extreme that anchors the structural stop (range 2–12).
StopAtrMult	`0.50`	Padding beyond the swing extreme (× ATR) applied to the stop-loss (range 0.0–2.0).
MaxRiskAtr	`3.0`	Trades whose stop distance exceeds this multiple of ATR are skipped, capping single-trade loss (range 1.0–8.0).
RewardRisk	`1.8`	Take-profit distance as a multiple of the initial risk (range 1.0–5.0).
BreakevenR	`1.0`	Profit in R-multiples at which the stop jumps to break-even and trailing arms (range 0.3–2.0).
TrailAtrMult	`1.5`	ATR trailing distance once the trade is armed; the stop is never loosened (range 0.5–4.0).
MaxSpreadPoints	`80`	Maximum spread, in points, allowed to open a new trade (range 5–300).
Lots	`0.05`	Fixed trade volume in lots (range 0.01–1.0).
Magic	`20714`	Magic number identifying the EA's own orders so it manages only its trades.

Recommended Settings

The defaults are tuned for liquid, trending markets and a low-drawdown risk profile. As a starting point:

- **Instruments:** FX majors, XAUUSD (gold), and major indices — markets with real directional drift.
- **Timeframe:** M15 to H4. Lower timeframes generate more signals but more noise; higher timeframes give cleaner, rarer breaks.
- **Risk:** keep `Lots` sized to your account — the default 0.05 assumes a modest balance. Because `MaxRiskAtr` caps stop distance and `RewardRisk` targets 1.8×, the system is built around roughly 1% drawdown at these defaults.
- **Spread guard:** raise or lower `MaxSpreadPoints` to match the instrument (tight for FX majors, wider for gold/indices).

> **Tuning tip:** If the EA takes too many marginal breaks, raise `BreakAtrMult` (demands a more decisive close) or raise `SlopeAtrMin` (demands a stronger channel drift). To trade more often, lower both — but expect more false breaks. Always re-run the Strategy Tester after any change.

How to Install on MetaTrader 5

1. Copy `MedianChannelBreakout.ex5` to your MT5 `MQL5\Experts\` folder
2. Restart MetaTrader 5 and refresh the Navigator panel
3. Drag the EA onto a chart matching the recommended symbol and timeframe
4. Configure the input parameters and click **OK**
5. Enable **Algo Trading** in the MT5 toolbar

Risk Warning

> Trading foreign exchange, CFDs, and other leveraged financial instruments involves substantial risk of loss and is not suitable for all investors. The strategies and tools described in this document are provided for **educational purposes only** and do not constitute financial advice, investment recommendations, or solicitation to trade. Always consult a qualified financial adviser before making trading decisions. Past backtest performance is not indicative of future results.