

AT COPILOT CHEATSHEET

Trading System · 5 Pillars + 5 Active Filters · v2.13 — Bot (Advisor Mode) · Scalping (M1-M15) or Intraday via Strategy Mode
Companion Indicator development discontinued since v2.9 — 100% focus on the Bot (GLMCopilotAdvisorVisual.cs)

THE 5 PILLARS

1. EMA Trend 25+5 pts	2. RSI Momentum 25 pts	3. MACD Confirmation 25 pts	4. VWAP (real) Inst. Context 15 pts	5. Volume Participation 10 pts
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PERIODS — TUNED FOR SCALPING (M1-M15)

EMA Fast / Slow	Fast and slow EMA periods (define directional bias)	9 / 21 · was 20/200
RSI Period	RSI period (momentum)	9 · was 14
MACD Fast/Slow/Signal	"Fast" config, tuned for short timeframes	5 / 13 / 6 · was 12/26/9
Volume Lookback	Window for average volume	10 · was 20
Min Trend Separation %	With faster EMAs, the % separation between them is smaller	0.01% · was 0.02%
VWAP	Real, per session — no period needed (already intraday)	N/A

SIGNAL RANGES

▲ ▲ STRONG LONG	90-105	▲ LONG	80-89	◆ WATCH	60-79
○ WAIT	0-59	▼ SHORT	80-89	▼ ▼ STRONG SHORT	90-105

LONG CONDITIONS (Bullish Trend)

EMA to +5)	Fast EMA > Slow EMA (EMA9 > EMA21 in Scalping) + distance bonus (up to +5)	EMA to +5)	Fast EMA < Slow EMA (EMA9 < EMA21 in Scalping) + distance bonus (up to +5)
RSI	50-70 (optimal)	RSI	30-50 (optimal)
MACD	MACD > Signal + Hist > 0	MACD	MACD < Signal + Hist < 0
VWAP	Price > VWAP Real VWAP: volume-weighted, accumulated from the start of the session (day)	VWAP	Price < VWAP Real VWAP: volume-weighted, accumulated from the start of the session (day)
Volume	Score proportional to Vol / (Average × Multiplier), max 10 pts Used to be binary (all or nothing) — now scales based on closeness to target	Volume	Score proportional to Vol / (Average × Multiplier), max 10 pts Used to be binary (all or nothing) — now scales based on closeness to target

Score Maximum: 105 pts

EXAMPLES

EXAMPLE: STRONG LONG (100 pts) EMA: 25/25 [OK] RSI: 25/25 [OK] MACD: 25/25 [OK] VWAP: 15/15 [OK] (Price > real VWAP) Volume: 8/10 [OK] (80% of target) 100/105 → STRONG LONG Visible pillar sum: 88/105. The real total (100) includes the EMA distance bonus (up to +5), which isn't reflected in its own "25" ratio — same as on the real panel.	EXAMPLE: SHORT blocked by Volume (94 pts) EMA: 25/25 [OK] RSI: 25/25 [OK] MACD: 25/25 [OK] VWAP: 15/15 [OK] Volume: 3/10 [FAIL] (30% < 50% minimum) 94/105 → WATCH (Volume not confirming) Visible pillar sum: 93/105. The real total (94) includes +1 EMA distance bonus, not reflected in its ratio.
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NEW v2.6: MORE SYNC FIXES

- FIX** Direction visible in WATCH/WAIT: previously the bias ("v") was hidden when there was no entry; now it always shows which way the market is leaning
- CRITICAL FIX** Sound alerts: a bug left alerts nearly silent (with arrows enabled) or repeating on every tick (with arrows disabled). Fixed
- FIX** Shortened signal arrows ("v"/"vvv") + new MinBarsBetweenArrows to avoid piled-up text when the signal flaps quickly
- FIX** Clearer block labels: "[VWAP not confirming]" / "[VOL not confirming]" (previously "[VWAP?]" / "[VOL?]", ambiguous)
- ADJUSTMENT** EMA/RSI/MACD/Volume periods returned for M1-M15 scalping

NEW v2.7: INDICATOR CALCULATION VALIDATION

- CRITICAL FIX** Bot VWAP on start/restart mid-session: previously it started accumulating from the moment the Bot started, ignoring the whole prior session — VWAP miscalculated for the rest of the day. Now it rebuilds from the real start of the session (same as the Indicator already did)
- FIX** Volume average without self-reference: previously the average included the current (forming) candle, skewing it downward and letting the Volume filter pass "for free" at the start of every candle. Now it uses only previous closed candles
- FIX** More robust minimum-bars check (HasEnoughData): now also considers MACD startup (Slow+Signal), not just EMA/RSI/Volume — relevant with a smaller EMA Slow (scalping)
- CLOSED** Min Trend Separation % (0.01%): reviewed analytically (−0.76 index points on US500 at 7650) — kept at default, trusting the other 4 pillars + the Watch/Entry/Strong thresholds to filter noise

NEW v2.8: REBRANDING AND VISUAL ADJUSTMENT

- CHANGE** Visible name updated from "GLMCopilot" to "AT CoPilot" (from Algorithmic Trading CoPilot) on the Bot panel, log messages, and this cheatsheet. cAlgo's internal classes (GLMCopilotAdvisorVisual, GLMCopilotIndicator) and internal object IDs stay unchanged, to preserve the instance already loaded on the chart
- FIX** Bot info panel overlapped the chart's native indicator legend. New parameter Panel Top Offset (lines) (default 5) adds blank lines before the panel to detach it from the legend

NEW v2.9: CANDLE ANALYSIS (INFORMATIONAL)

- NEW** Detection of candle patterns on the LAST CLOSED CANDLE (never the candle in formation): Engulfing, Marubozu, Doji, Pin Bar/Hammer, Pin Bar/Shooting Star, and Inside Bar, each with its bias (Bullish/Bearish/Neutral). Shown as a new panel line: *Candle: Engulfing (Bullish)*
- IMPORTANT** It's 100% informational — it does not modify the score, thresholds, or TradeAction. Extra context for the trader's manual decision, not another scoring pillar

NEW v2.10: MORE COMPLETE BLOCK DIAGNOSTICS

- FIX** The BLOCKED message only mentioned VWAP/Volume (the only pillars with boolean "gate" logic), even when EMA/RSI/MACD were also at 0 and were the real cause of a low score. Now it adds "Pillars at 0: X, Y" listing any of EMA/RSI/MACD contributing zero points. Only improves the message — doesn't change score or decision logic

NEW v2.11: STRATEGY MODE (SCALPING / INTRADAY / CUSTOM)

New Strategy Mode parameter that overrides periods and timing when the Bot starts (OnStart), based on the chosen mode:

Parameter	Scalping (M1-M15)	Intraday
EMA Fast / Slow	9 / 21	20 / 50
RSI Period	9	14
MACD Fast/Slow/Signal	5 / 13 / 6	12 / 26 / 9
Volume Lookback	10	25
Min Trend Separation %	0.01%	0.04%
Update Interval	2s	20s
ADX Period	14	14
Divergence Lookback	20 candles	40 candles
HTF Timeframe	H1	H4
CUSTOM	Overrides nothing — the values loaded by hand in each individual parameter are respected	
NO CHANGE	Weights, thresholds, and VWAP (always per session) — same scoring model in both modes, only timing sensitivity changes	
HEADS UP	The preset is applied in OnStart, and is NOT reflected in cTrader's "Modify cBot" dialog. Confirm the active mode in the panel header — e.g. "AT CoPilot [Intraday]"	

NEW v2.12: ADX FILTER + RSI DIVERGENCES

- ACTIVE FILTER** ADX (trend strength) — same type of gate as VWAP/Volume: if UseAdxFilter is active and current ADX falls below MinAdxForTrend (default 20), the action is forced to WAIT. Panel: *ADX: 23.4 (trend)*
- INFORMATIONAL** RSI vs price divergences: compares the last 2 pivots (swing high/low, closed candles) of price against RSI at those same points. Early warning of momentum exhaustion, doesn't touch the score. Panel: *Divergence: Bearish (RSI)*

NEW v2.13: MULTI-TIMEFRAME FILTER + MOMENTUM + CONFLUENCE

- ACTIVE FILTER** Trend on a LARGER timeframe (HTF): pulls a series of candles from a higher timeframe (H1 in Scalping, H4 in Intraday) and calculates its bias. If the entry timeframe says LONG but the HTF is bearish (or vice versa), forces WAIT. Panel: *HTF (Hour): Bullish*
- INFORMATIONAL** Momentum acceleration: compares the MACD histogram against the previous closed candle. Doesn't change the MACD score, just adds timing context. Panel: *Momentum: Accelerating (bullish)*
- INFORMATIONAL** Candle + key level confluence: when a candle pattern is detected, checks whether that candle touched VWAP, the fast EMA, or the slow EMA. Added to the candle line: *Candle: Engulfing (Bullish) [confluence: VWAP+EMA9]*

ACTIVE FILTERS (block LONG/SHORT → WAIT)

5 boolean gates, independent from each other, evaluated in this order. Any failure forces WAIT, no matter how high the score

1	Trend Separation — Fast/slow EMA separated ≥ MinTrendSeparationPercent	UseTrendFilter
2	ADX — ADX ≥ MinAdxForTrend (there's trend strength, not a range)	UseAdxFilter
3	HTF Trend — The larger timeframe confirms the same direction	UseHtftrendFilter
4	VWAP — Price on the correct side of the session VWAP	RequireVwapForEntry
5	Volume — Volume score ≥ MinVolumeScorePercent of the weight	RequireVolumeForEntry

HOW TO READ THE PANEL AND MAKE THE DECISION

The panel reads "outside in" — not every line carries the same weight

- Is there a BLOCK? If that line is present, there's no valid entry no matter how high the score — it's the system's final word. It also states which filter is failing.
- Score + Signal. Defines how aligned the 5 pillars are and which way the market is leaning ("v" arrow), even if still in WATCH/WAIT.
- Breakdown of the 5 pillars. That's where the score comes from. If something is blocking, you can see which one is at [−] or [−] and why.
- Context: ADX, HTF, Candle, Momentum, Divergence. This does NOT block anything (except ADX and HTF, which already count as filters) — it's information to decide how to act once the score and filters have already enabled an entry.

General rule

No BLOCK and Score ≥ 80 → actionable signal (Long/Short depending on sign)

With BLOCK → look at which specific pillar or filter is failing, and wait for that gap to close before trading

Before executing, check Divergence and Momentum — they don't block anything, but signal whether to be aggressive or conservative

Reminder: the Bot runs in Advisor Mode. This guide is to help you decide better — buy/sell execution is always done manually by the trader

SCORE PARAMETERS (Bot)

ThresholdStrong	default: 90
WeightRSI	default: 25
ThresholdEntry	default: 80
WeightMACD	default: 25
ThresholdWatch	default: 60
WeightVWAP	default: 15
ThresholdWait (informational, doesn't set the range floor)	default: 40
WeightVolume	default: 10
WeightEMA	default: 25 (+5 bonus)
MinVolumeScorePercent	default: 50
UseTrendFilter	default: true
MinTrendSeparationPercent	default: 0.01%

BOT-EXCLUSIVE PARAMETERS

UpdateInterval	default: 2
ShowSignalArrows	default: true
ShowCandleColors	default: true
AlertOnSignalChange	default: true
ShowScoreLabel	default: true
MinBarsBetweenArrows	default: 3
PanelTopOffsetLines	default: 5
UseHtftrendFilter / Htftimeframe	default: true / H1-H4
StrategyMode	default: Scalping
ShowDivergences / ShowMomentum / ShowCandleConfluence	default: true
UseAdxFilter / AdxPeriod	default: true / 14
MinAdxForTrend	default: 20

REFERENCE LEVELS (Score Thresholds)

40 60 75 80 90

Level 75 is a legacy visual reference (ThresholdEntry moved from 75 to 80); it's no longer an active threshold. 40 is likewise informational (block reason), not the real floor of the WAIT range (0-59).

IMPORTANT: development focused 100% on the Bot

The companion indicator (GLMCopilotIndicator.cs) was frozen at v2.8 — it no longer receives v2.9+ changes (candle analysis, block diagnostics, Strategy Mode, ADX, HTF). If you still use it in parallel, keep in mind its formulas/periods will keep diverging from the Bot's starting at v2.9. The Bot runs in Advisor Mode (no automatic execution) — every entry/exit is executed manually by the trader.

AT CoPilot v2.13 · Advisor Mode (no automatic execution) · cTrader/cAlgo · Bot: GLMCopilotAdvisorVisual.cs

v2.13 — HTF filter + Momentum (informational) + Candle+key level confluence (informational)

v2.12 — Active ADX filter + RSI vs price divergences (informational)

v2.11 — Strategy Mode (Scalping/Intraday/Custom), overrides periods and timing in OnStart

v2.10 — Expanded BLOCKED message: lists EMA/RSI/MACD pillars at 0

v2.9 — Informational candle analysis · Indicator discontinued from this version on

v2.8 — Visual rebranding to "AT CoPilot" + info panel overlap fix

v2.7 — VWAP fixed for mid-session start/restart + Volume average without self-reference