



2026

AUTOMATED
ALGORITHMIC
TRADING



SAMA
PARTNERS



ALGORITHMIC TRADING

A Comprehensive Guide to Understanding Automated Trading Systems

1. What is Algorithmic Trading?
2. Market Fundamentals – Brokers, Platforms & Key Concepts
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PREPARED FOR

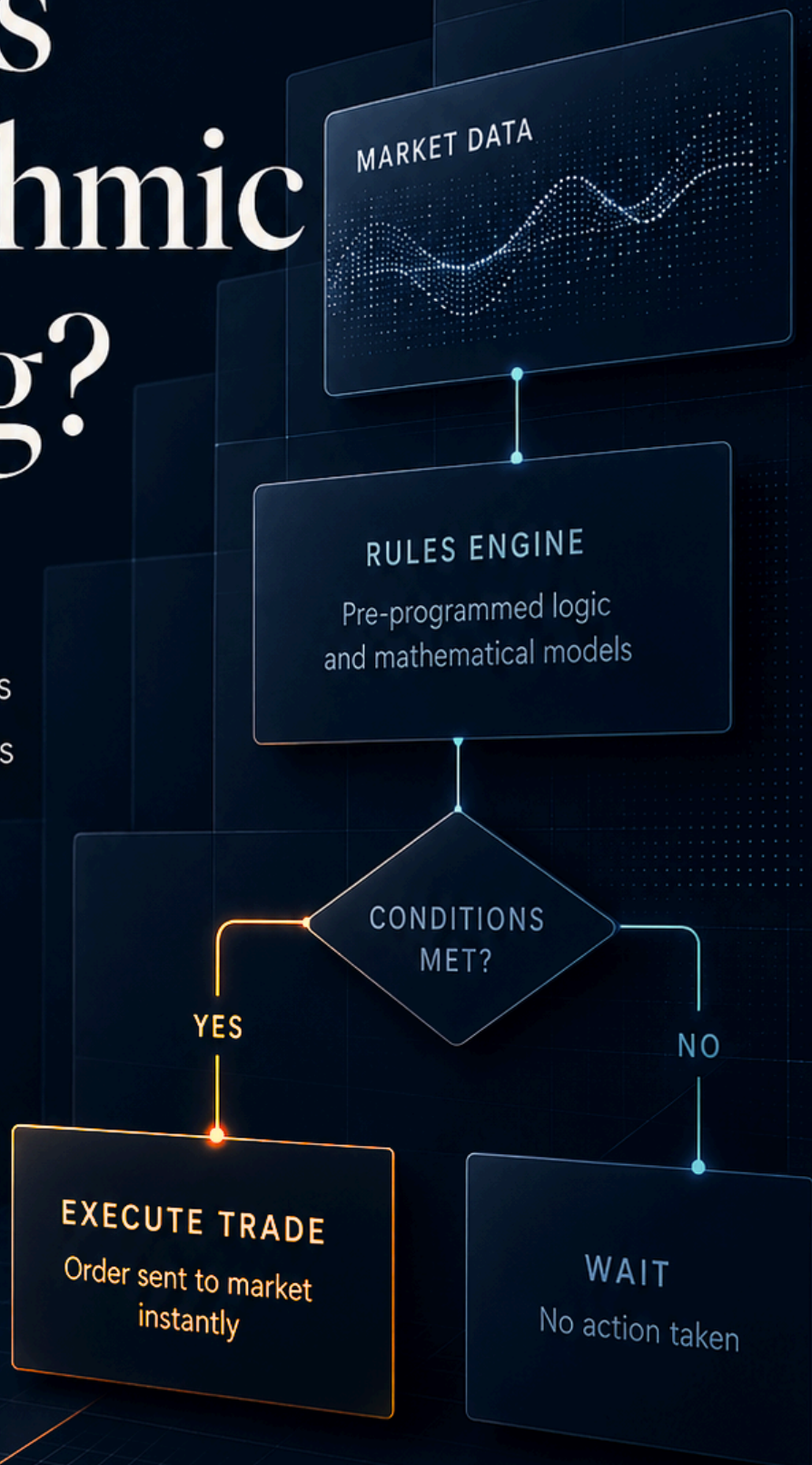
SAMA PARTNERS – INTERNAL REFERENCE

What Is Algorithmic Trading?

The use of pre-programmed rules and mathematical models to automatically execute trades in financial markets.

If the conditions are met, the system executes.

If not, it waits.



No hesitation. No second-guessing. No emotional override.

1. WHAT IS ALGORITHMIC TRADING?

Algorithmic trading is the practice of using pre-programmed rules and mathematical models to automatically execute trades in financial markets. Instead of a human trader making decisions based on intuition, experience, or emotion, an algorithm follows a strict set of conditions to determine when to enter a trade, when to exit, how much capital to deploy and how to manage risk.

At its simplest: if certain conditions in the market are met, the system executes a trade. If not, it waits. There is no hesitation, no second-guessing, no emotional override. The machine does exactly what it was designed to do, every single time.

WHY AUTOMATION OUTPERFORMS MANUAL TRADING

The majority of retail traders lose money. Studies consistently show that between 70–80% of individual traders end up with net losses.

The primary reasons are not a lack of knowledge or bad strategies, they are psychological:

- Emotional decision-making – fear causes premature exits, greed causes overexposure.
- Inconsistent execution – a trader may follow their rules on Monday but break them on Friday.
- Overtrading – boredom or the need to 'do something' leads to unnecessary positions.
- Revenge trading – after a loss, traders increase risk to try and recover quickly.
- Fatigue and attention limits – humans cannot monitor markets 24 hours a day.

Algorithms eliminate all of these problems. They execute instantly, follow rules with 100% consistency, operate around the clock, and never experience fear, greed, or fatigue. This is why institutional traders banks, hedge funds, and proprietary firms have relied on algorithmic systems for decades. The technology that was once exclusive to Wall Street is now accessible to smaller operations.

HOW THE INDUSTRY HAS EVOLVED

Trading has progressed through three distinct phases. The first was fully manual trading, where individuals placed orders by hand based on chart analysis and gut feeling. The second was semi automated tools indicators, alerts, and copy-trading platforms that assisted human decision making but still relied on manual execution. The third, and current, phase is fully automated systems: algorithms that analyze, decide and execute without any human intervention in the trading loop.

SAMA operates in this third phase. The systems are not 'trading bots' in the retail sense, they are structured, automated financial infrastructure designed to operate across multiple markets and conditions simultaneously.

THE SIMPLEST WAY TO THINK ABOUT IT

Manual trading is like driving a car yourself, you make every decision, and your skill determines the outcome. Algorithmic trading is like a self-driving car the system follows optimised routes based on real-time data. SAMA is a fleet of self-driving vehicles, each optimised for different road conditions, managed by a central system.

2. MARKET FUNDAMENTALS

Before understanding how algorithms trade, you need to understand the environment they operate in. This chapter covers the core infrastructure and terminology that every investor should know.

THE BROKER

A broker is the gateway between you and the financial markets. You cannot access currency, commodity, or index markets directly, you access them through a licensed broker who routes your orders to the market. The broker provides you with a trading account, a platform to execute an, and the liquidity to fill your orders. Examples include Vantage Markets and AvaTrade. The choice is broker matters significantly because differences in execution speed, spread levels, and slippage directly affect trading performance. Two identical algorithms running on two different brokers can produce meaningfully different results.

THE TRADING PLATFORM

The platform is where execution happens. The industry standard is MetaTrader 5 (MT5), which serves as the execution environment for trading algorithms. This is where bots run, trades are placed, and market data is received. The flow of every trade follows this path: your algorithm generates a signal, sends it to the MT5 platform, which routes it through the broker, which executes it in the market.

EXECUTION ENVIRONMENT



ALGORITHM

Generates signals based on pre-programmed rules and market data.



MT5 PLATFORM

Receives signals, manages execution, and routes orders through the broker.



BROKER

Routes order to the market and provides liquidity for execution.



MARKET

Executes orders at the best available prices in real time.

KEY CONCEPTS EVERY INVESTOR MUST UNDERSTAND



Spread

There is the cost of investing in a trade. It is the difference between the buy price and the sell price at any given moment. For example, if the buy price is 1.1002 and the sell price is 1.1000, the spread is 2 pips. Every trade starts slightly negative because of this cost. Scalping strategies are extremely sensitive to spread because they target very small price movements.



Leverage

Leverage allows you to control a larger position than your capital would normally permit. With 1:100 leverage, \$1,000 in your account lets you control a \$100,000 position. This amplifies both profits and losses equally. Leverage is a tool for capital efficiency but without proper risk management, it is the primary reason accounts get wiped out.



Pips

A pip is the standard unit of price movement. In EUR/USD, a move from 1.1000 to 1.1001 is one pip. All profit and loss calculations, bot parameters, and performance metrics are measured in pips. When you see that a system generated 67,000 pips, that means the cumulative price movement captured across all trades.



Lot Size

Lot size determines how large each trade is. One standard lot equals 100,000 units of the base currency. A mini lot (0.1) is 10,000 units, and a micro lot (0.01) is 1,000 units. Lot size is the single most important variable in risk management, it directly controls how much you gain or lose per pip of movement. Most account blow-ups are caused not by bad strategies but by oversized lot positions.

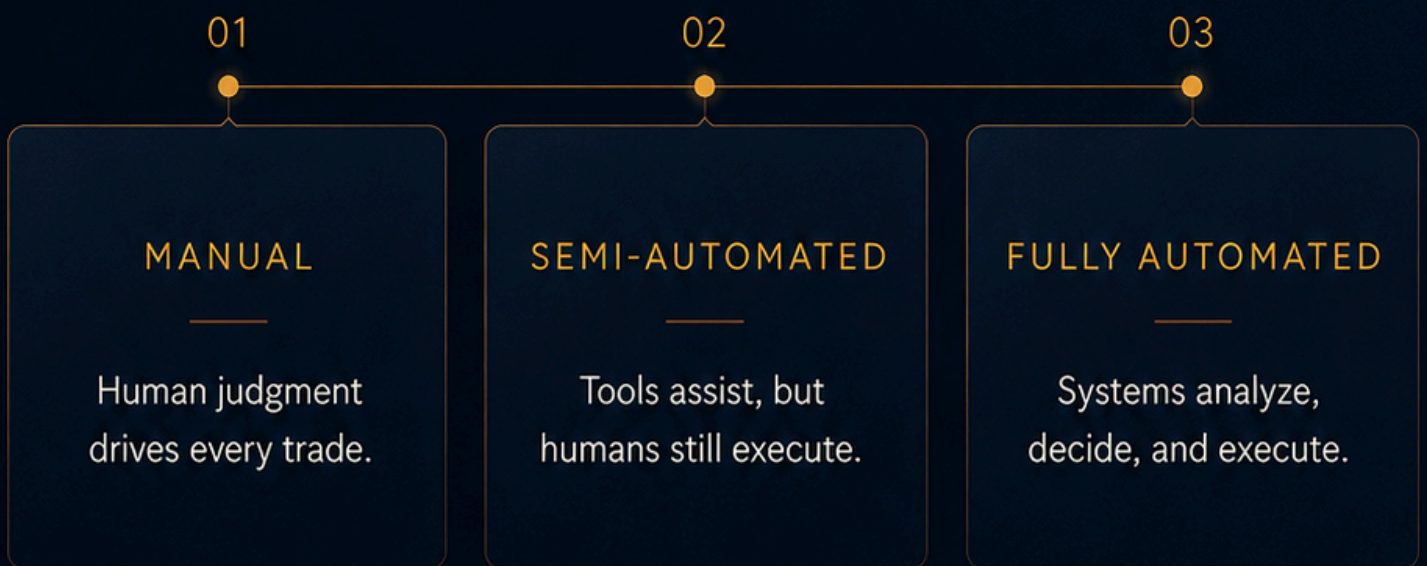


Margin

Margin is the capital your broker locks as collateral while a trade is open. If you open a \$100,000 position with 1% margin requirement, \$1,000 is set aside. Margin is not a fee, it is returned when the trade closes. If your account equity drops below the required margin, the broker issues a margin call and may forcibly close your positions.

From Manual Trading to Automated Systems

The industry evolved from manual execution, to semi-automated tools, to fully automated systems. SAMA operates in that third phase.



Understand how automated systems **operate**.

3. HOW TRADING BOTS ACTUALLY WORK

A trading bot is not magic and not artificial intelligence in the science-fiction sense. It is a structured logic system, a set of rules that tells the machine when to enter a trade, when to exit, and how much to risk. If conditions A, B, and C are all true, execute a buy order. If condition D becomes true, close the position. That is all a bot does – but it does it perfectly, consistently and without hesitation.

THE FOUR CORE COMPONENTS OF EVERY BOT

Regardless of complexity, every trading algorithm has exactly four layers. If any one of these is weak, the entire system fails.



ENTRY LOGIC

When to open a trade. This could be a breakout above resistance, an indicator signal, a volatility spike, or a confluence of multiple technical conditions. The entry logic defines the opportunity the bot is designed to capture.



EXIT LOGIC

When to close a trade. This includes take-profit targets (where to lock in gains), stop-loss levels (where to cut losses), and time-based exits (closing positions that have been open too long without resolution).



RISK MANAGEMENT

How much capital is deployed per trade. This covers lot sizing, maximum simultaneous trades, total portfolio exposure limits, and drawdown thresholds. This layer determines whether the account survives.



EXECUTION RULES

How orders are placed. Market orders execute immediately at current price. Pending orders wait for a specific price level. The execution layer also defines trade frequency from scalping (many fast trades) to swing trading (fewer, longer trades).

THE EXECUTION FLOW

In real time, the process works as follows: the market sends price data to the platform (MT5). The bot continuously analyses this data against its conditions. When conditions are met, a signal is triggered. The bot sends the order to MT5, which routes it to the broker, which executes it in the market. This entire cycle can happen in milliseconds.

BACKTESTING VS LIVE TRADING

Before deploying a bot with real money, it is tested on historical data, this is called *back testing*. You run the algorithm against years of past price data to see how it would have performed. This reveals potential profitability, drawdown patterns, and consistency. However, back testing has critical limitations: historical data is clean and orderly, while live markets are messy. Execution in back tests is instant and perfect; in live trading, there is slippage and variable spreads. A strategy that shows 200% returns in back testing may only deliver 30% live or may even lose money. As the professionals say: a good back test proves potential, not certainty.



CRITICAL: WHAT SEPARATES GOOD BOTS FROM BAD ONES

Good systems show moderate, consistent returns with controlled drawdowns and logical behaviour across market conditions. Bad systems show explosive returns, hidden martingale risk, sudden spikes followed by crashes, and over-optimised backtests.

4. TYPES OF TRADING STRATEGIES

There is no single 'best' strategy. Different strategies perform well in different market conditions. Understanding each type is essential because the strategy determines the risk profile, behaviour and survivability of a system.



TREND-FOLLOWING

Identifies a market direction (up or down) and rides the trend. Performs well in strong directional markets but struggles in sideways, choppy conditions. Tends to generate fewer but larger winning trades. Used for longer-term swing positions.

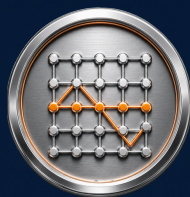
Best in: Strong directional markets



BREAKOUT

Waits for price to break through key support or resistance levels, then enters with momentum. Can capture explosive moves but is vulnerable to false breakouts, which are very common. Requires precise entry and exit logic.

Best in: High volatility news events



GRID

Places multiple buy and sell orders at regular price intervals, profiting from market fluctuations in either direction. Works well in range-bound sideways markets but can accumulate dangerous exposure if the market trends strongly in one direction without reverting.

Best in: Sideways, range-bound markets



SCALPING

Targets very small price movements across many trades throughout the day. Each trade aims for a few pips of profit. Generates frequent small gains with minimal market exposure time, but is extremely sensitive to spread costs, execution speed, and slippage.

Best in: Tight spreads, fast execution



MARTINGALE

WARNING: Extremely high risk – understand before deploying

After each losing trade, the position size is increased with the goal of recovering all previous losses plus a profit on the next win. Shows very high win rates in the short term but carries extreme risk – a single extended losing streak can wipe out an entire account. Many 'high return' bots are secretly martingale systems.

THE PROFESSIONAL APPROACH

Retail traders ask: 'Which bot is best?'
Professionals ask: 'Which combination of strategies creates stability?'
SAMA deploys multiple strategies simultaneously, so different systems activate under different market conditions.

5. CAPITAL & RISK MECHANICS

This is the most important chapter. Most trading accounts do not fail because of bad strategies they fail because of bad risk management. Understanding how money is protected, deployed and grown is what separates sustainable systems from gambling.

DRAWDOWN - THE MOST IMPORTANT METRIC



Drawdown measures how much an account drops from its highest point to its lowest point before recovering. If an account peaks at \$10,000 and drops to \$8,000, the drawdown is 20%. This is the single most important number for understanding real risk. A system showing 100% annual returns with 60% drawdown is far more dangerous than one showing 30% returns with 10% drawdown. High returns combined with high drawdown means the system is unstable and likely unsustainable.

RISK PER TRADE



Professional systems risk a fixed percentage of capital on each trade typically between 0.5% and 2%. On a \$10,000 account risking 1% per trade, each position risks \$100. This means the account can absorb 50 consecutive losses before being deleted, a scenario so unlikely that it provides a strong margin of safety. Compare this to someone risking 10% per trade: just 7 consecutive losses would destroy 50% of their capital.

EXPOSURE - THE HIDDEN RISK



Exposure is the total risk across all open positions combined. If you have 5 trades open, each risking \$200, your total exposure is \$1,000, not \$200. Many traders focus on risk per trade but ignore aggregate exposure, which is how accounts get caught in cascading losses when markets move sharply.

WHY ACCOUNTS BLOW UP



Account blow-ups are not random accidents, they are structural failures. The primary causes are: over-leverage (controlling positions too large for the account), oversized lot positions, absence of stop-loss protection, grid strategies in trending markets without exposure limits and martingale systems that escalate position sizes after losses. Every single one of these is a risk management failure, not a strategy failure.

THE SURVIVAL EQUATION

SURVIVAL > CONSISTENCY > GROWTH

If you survive, you can recover. If you grow fast without control, you collapse. Survival comes first – always.



PORTFOLIO RISK LOGIC



Instead of concentrating all capital in a single strategy, professional systems distribute risk across multiple bots with controlled allocation. For example, rather than one bot risking 10% of the account, you deploy five bots each risking 2%. The result is a smoother equity curve, lower volatility, and significantly higher survivability. This is the core principle behind Sama's approach.

6. HOW PROFESSIONALS EVALUATE SYSTEMS

The biggest mistake investors make is evaluating a trading system by its return alone. A system showing 50% annual returns sounds impressive until you discover it had a 40% drawdown meaning the investor watched half their capital disappear at one point.

Professionals evaluate systems through a combination of metrics that reveal the full picture.



ROI - NECESSARY BUT INSUFFICIENT

Return on investment tells you how much profit a system generated relative to capital.

A \$10,000 account that grows to \$12,000 has a 20% ROI. But ROI without context is marketing, not analysis. Two systems both showing 20% returns could have vastly different risk profiles one with 5% drawdown (excellent) and another with 35% drawdown (dangerous).

The return number alone tells you nothing about the journey or the risk taken to achieve it.



WIN RATE - OFTEN MISUNDERSTOOD

Win rate is the percentage of trades that close profitably. A 70% win rate sounds good, but it is meaningless without knowing the risk-reward ratio. A system winning 90% of trades but losing large amounts on the remaining 10% can still be a net loser. Conversely, a system winning only 35% of trades but making significantly more on winners than it loses on losers can be highly profitable. Profitability is the product of win rate multiplied by the average win/loss ratio not either metric alone.



PROFIT FACTOR

Profit factor is the ratio of gross profits to gross losses. A profit factor of 1.27 means the system makes \$1.27 for every \$1.00 it loses. Anything above 1.0 is profitable; above 1.5 is considered strong. This single number captures the overall efficiency of a system better than ROI or win rate alone.



SHARPE RATIO - RETURN PER UNIT OF RISK

The Sharper ratio measures how much return a system generates relative to its volatility (risk). Two systems can both return 20%, but if one does so with smooth, consistent growth and the other with wild swings, the first has a much higher Sharper ratio. Institutional investors prioritise risk-adjusted returns over raw performance = a lowerReturning but smoother system is often preferred over a higher returning but volatile one.



EQUITY CURVE VS BALANCE CURVE

The balance curve shows only closed trades completed profit and loss. The equity curve includes unrealised (open) positions. A smooth balance curve can hide dangerous floating losses that the equity curve would reveal. Professional analysis always examines equity, not just balance, because it shows the true risk being carried at any point in time.



**GREEN
FLAGS:**

Moderate consistent returns, controlled drawdowns, stable equity curve, profit factor above 1.2



RED FLAGS:

Extremely high ROI, large drawdowns, sudden spikes then crashes, hidden martingale, inconsistent results



SAMA's verified account shows: +39.96% gain, 13.30% max drawdown, 1.27 profit factor, 57% win rate across 1,559 trades

7. PORTFOLIO THINKING

The fundamental shift from retail to professional trading is moving from 'find the best bot' to 'build a portfolio where strategies complement each other.' Any single strategy is incomplete – it will perform well in some market conditions and poorly in others. A trend-following bot thrives in directional markets but loses in sideways conditions. A grid bot excels in ranges but can be destroyed by strong trends.

The solution is deploying multiple strategies simultaneously, each designed for different conditions. When the market trends, the trend bots activate and generate returns while the grid bots stay quiet. When the market ranges, the grid bots profit while the trend bots sit flat. This is called market-agnostic design – the portfolio does not depend on the market behavior in any particular way.

Correlation between strategies is critical. You want low correlation – meaning your different bots do not all win and lose at the same time. Two trend bots are highly correlated (both profit or lose together). A trend bot combined with a grid bot is much less correlated, creating genuine diversification. The result is a smoother equity curve, reduced drawdowns, and more predictable performance.

Professional portfolios are also rebalanced over time. Some strategies outperform in certain periods and underperform in others. Capital allocation is adjusted dynamically – more capital flows to strategies that are performing well in current conditions, and exposure is reduced for those that are not. The system evolves rather than staying static.

8. INFRASTRUCTURE & EXECUTION

A strategy alone does not make money – execution infrastructure does. The best algorithm in the world will underperform if it runs on unreliable hardware, connects to a slow broker, or suffers from latency issues.

VPS – Virtual Private Server

Trading bots do not run on a personal computer. They run on a VPS – a remote server that operates 24/7 with a stable, high-speed internet connection, typically located physically near the broker's servers to minimise latency. A VPS ensures zero downtime, consistent execution, and no missed trades due to computer restarts, power outages, or internet interruptions.

Latency and Slippage

Latency is the time between a bot detecting an opportunity and the trade is executed. Even 200 milliseconds of delay can mean a worse entry price. Slippage is the difference between the expected execution price and the actual price received, common during high volatility or news events. Both are hidden costs that directly reduce profitability, and both are managed through infrastructure optimisation: fast VPS, quality broker, and proper order type selection.

Monitoring and Verification

Even fully automated systems require monitoring. Performance dashboards, trade logs, and third-party verification tools like Myfxbook provide real-time visibility into system behaviour. Myfxbook independently verifies that a trading account is real (not demo), that the track record is authentic, and that performance data has not been manipulated. This transparency is fundamental to building investor trust.

9. REVENUE MODELS

A professional trading operation generates revenue through multiple streams, not just trading profits. Understanding these layers is important because they affect how the business is structured and where incentives are aligned.



TRADING PERFORMANCE

The primary revenue source: algorithms generate profits through successful trades. The investor keeps the majority share (typically 70%) and the operator takes a performance fee (typically 30%). Crucially, performance fees are only charged on profitable days, and a high-water mark ensures no fees are taken until previous losses are fully recovered.



INTRODUCING BROKER (IB) REBATES

When investors trade through a specific broker referral link, the broker shares a portion of its spread or commission with the referring partner. This does not cost the investor anything extra, the broker is sharing its existing revenue. Rebates are generated based on trading volume, meaning they provide a baseline revenue stream regardless of whether individual trades are profitable. Importantly, rebate structures should never incentivise overtrading.



PROFIT SHARING STRUCTURES

The most common model is the PAMM (Percentage Allocation Money Management) or MAM (Multi-Account Manager) structure. The investor maintains their own brokerage account with full control over their capital. The operator receives limited trading access to execute trades on the investor's behalf. Profits are split according to the agreed structure (e.g. 70/30), and the investor can withdraw their capital at any time.

10. RISK, REALITY & TRUST

There is no risk-free trading system. There are only well-managed risks. Any operator who claims otherwise is either dishonest or uninformed. Here is what an informed investor should understand:

- ▶ Markets change constantly. Strategies that worked last month may underperform this month. Trends shift, volatility spikes, and unexpected news events disrupt patterns.
- ▶ Backtests can be misleading. A strategy optimized perfectly for historical data may fail in live conditions. Over-fitting (designing a strategy to match past data too precisely) is one of the most common traps.
- ▶ Broker execution varies. The same algorithm on two different brokers produces different results due to differences in spread, slippage, and execution speed.
- ▶ Drawdowns are inevitable. Even the best systems go through losing periods. The key question is not whether drawdowns occur but how deep they are and how quickly the system recovers.
- ▶ Investor behaviour is a risk factor. Panicking during a drawdown and withholding capital at the worst moment is the most common way investors lock in losses unnecessarily.



TRUST IS BUILT THROUGH TRANSPARENCY

Verified track records, real-time reporting, honest communication about risk, and a fee structure aligned with investor success.

GLOSSARY OF KEY TERMS

- Algorithm / Bot** – A set of pre-programmed rules that automatically execute trades based on defined conditions.
- ATM** – SAMA's term for an individual trading strategy or system. Each ATM follows a specific set of rules.
- Backtest** – Testing a trading strategy on historical price data to evaluate potential performance.
- Broker** – A licensed intermediary that provides market access and executes trades on behalf of clients.
- Drawdown** – The percentage decline from an account's peak value to its lowest point before recovery.
- Equity Curve** – A chart showing account value over time including unrealised (open) positions.
- High-Water Mark** – A rule ensuring performance fees are only charged when the account exceeds its previous highest value.
- IB (Introducing Broker)** – A partner who refers clients to a broker and receives a commission or trade volume.
- Latency** – The time delay between a trading signal being generated and the order being executed.
- Leverage** – The ability to control a larger market position than your deposited capital would normally allow.
- Lot Size** – The volume of a trade. 1 standard lot = 100,000 units; 0.01 lot = 1,000 units.
- MAM / PAMM** – Multi(Account Manager / Percentage Allocation. Structures that allow one operator to trade across multiple investor accounts.
- Margin** – Capital set aside as collateral by the broker while a trade is open.
- Martingale** – A strategy that increases position size after losses to recover quickly. Carries extreme risk.
- MT5 (MetaTrader 5)** – The industry-standard trading platform used for executing algorithmic strategies.
- Myfxbook** – An independent third-party platform that verifies and publishes real trading account performance.
- Pip** – The smallest standard unit of price movement. In EUR/USD, one pip = 0.0001.
- Profit Factor** – Ratio of gross profits to gross losses. Above 1.0 = profitable; above 1.5 = strong.
- Sharpe Ratio** – A measure of risk-adjusted return — how much return per unit of volatility.
- Slippage** – The difference between expected execution price and the actual price received.
- Spread** – The difference between buy and sell price — the cost of entering a trade.
- Stop Loss (SL)** – A pre-set price level at which a losing trade is automatically closed to limit losses.
- Take Profit (TP)** – A pre-set price level at which a winning trade is automatically closed to secure gains.
- VPS** – Virtual Private Server — a remote computer that runs trading bots 24/7 with stable connectivity.

GET IN TOUCH



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