

FOR TRADESTATION

FrontierAlgo

AI-POWERED TRADING INTELLIGENCE

CSI Pro Complete Owner's Manual

TradeStation Edition

Confluence Signal Intelligence

4 AI Models. 12 Evidence Factors. One Clear Verdict.

Questions? Ask Our AI Chatbot First - Instant Answers 24/7

Your first stop for help: <https://frontieralgo.com/csi/support.html>

Our AI assistant understands CSI Pro inside and out. Get instant answers about signals, settings, installation, and more - anytime, day or night. For anything the chatbot cannot resolve, email contact is available at the bottom of the support page.

Important: This manual explains how CSI Pro functions as an analytical tool. Nothing contained herein constitutes investment advice, trading recommendations, or solicitation to buy or sell any financial instrument. CSI Pro is not a registered investment advisor, broker-dealer, or financial planner. All trading involves substantial risk of loss; only trade with capital you can afford to lose. Past indicator performance does not guarantee future results. You are solely responsible for your own trading decisions. By using CSI Pro, you acknowledge and accept these terms.

[Read Full Disclaimer →](#)

Welcome to CSI Pro

Congratulations on your purchase of CSI Pro - Confluence Signal Intelligence. You now have access to a professional-grade trading indicator system that uses four machine learning models working together to analyze markets and generate clear trading signals.

This manual will teach you everything you need to know to use CSI Pro effectively, even if you're new to algorithmic trading indicators. We'll explain every feature, every setting, and every signal type in plain English - no advanced math or programming knowledge required.

What CSI Pro Does For You

Traditional trading often involves watching multiple indicators that frequently contradict each other. One indicator says buy while another says sell. You're left guessing which one to trust.

CSI Pro solves this problem by running all the analysis for you and delivering a single, unified verdict. Instead of interpreting five or six different indicators, you get one clear signal with a confidence rating that tells you how strongly the evidence supports that direction.

The CSI Pro Advantage

CSI Pro evaluates 12 independent analytical factors using 4 AI models, counts how many support each direction, and displays the result as a simple BUY or SELL signal labeled HIGH, MEDIUM, or LOW confidence.

What You'll Learn in This Manual

- **How to install CSI Pro** on TradeStation step-by-step
- **How to read signals** and understand what each confidence level means
- **How to use the dashboard** to see what the AI models are detecting

- **How the 4 AI models work** explained in plain English
- **What each of the 12 evidence factors measures** and why it matters
- **How to use the CEI and PRG indicators** for additional confirmation
- **How to customize settings** for your trading style
- **How to set up alerts** so you never miss a signal

How CSI Pro Helps You Trade

CSI Pro is designed to help you identify high-probability trading opportunities by synthesizing multiple analytical factors into clear, actionable signals. Here's what makes it valuable:

The Power of Confluence

When multiple independent analytical factors point in the same direction, you have *confluence*. CSI Pro measures this automatically and tells you exactly how strong that agreement is through confidence ratings.

What CSI Pro Does For You:

- **Synthesizes complex analysis** - 12 evidence factors and 4 AI models distilled into simple signals
- **Shows factor alignment** - See at a glance when multiple technical indicators agree
- **Identifies opportunities systematically** - Removes guesswork and emotional decision-making
- **Provides confidence context** - Know whether the evidence behind a signal is strong or moderate

Understanding Confidence Ratings: When CSI Pro shows a HIGH confidence signal, it means a large majority of the analytical factors are pointing in the same direction. MEDIUM confidence means solid agreement among several factors. This gives you valuable context about the technical strength behind each opportunity.

Don't Be Overwhelmed - This Is Easier Than It Looks

This documentation is comprehensive by design - it covers every feature, setting, and concept so you have a complete reference. But here's the truth: **CSI Pro is remarkably simple to use in practice.**

When you look at your charts, you'll see clear BUY and SELL signals with confidence ratings. That's really all you need to get started.

Your AI Assistant is Ready to Help

We have a 24/7 AI-powered chatbot at <https://frontieralgo.com/csi/support.html> that can:

- Answer any question about what you see on your charts
- Explain indicators and signals in plain English
- Help you understand settings and features
- Guide you through any confusion in real-time

You don't need to memorize this manual. Use it as a reference when needed, and let the AI assistant help you learn as you go. Many traders find they only need the first few sections to start using CSI Pro effectively.

New to TradeStation? If you're unfamiliar with adding indicators or navigating charts, refer to TradeStation's documentation for guidance, then return here.

Table of Contents

1. Part 1: Getting Started (Access & Installation)
2. Part 2: Understanding the Three Indicators
3. Part 3: Reading the Dashboard
4. Part 4: The 4 AI Models Explained
5. Part 5: The 12 Evidence Factors

6. [Part 6: Understanding Buy/Sell Signals](#)
7. [Part 7: The CEI - Cycle Exhaustion Index](#)
8. [Part 8: The PRG - Probability Reversal Gauge](#)
9. [Part 9: Triple Confirmation Method](#)
10. [Part 10: Complete Settings Reference](#)
11. [Part 11: Setting Up Alerts](#)
12. [Part 12: Troubleshooting](#)
13. [Glossary of Terms](#)
14. [Risk Disclosures](#)

Part 1: Getting Started

Before You Begin: Submitting Your Customer Number

CSI Pro for TradeStation is a protected indicator. To receive access, you must submit your TradeStation Customer Number so we can authorize your account.

Already Submitted Your Customer Number?

If you completed the form on the thank-you page after purchase, your access should be ready. Skip to the Installation section below.

If you purchased more than 24 hours ago and haven't received your ELD file, please contact support.

How to Find Your TradeStation Customer Number

Your Customer Number is a unique identifier assigned to your TradeStation account. Here's exactly how to find it:

- 1 Open TradeStation on your computer
- 2 Click `Help` in the top menu bar
- 3 Click `About TradeStation`
- 4 Look for "Customer Number" in the window that appears
- 5 Write down this number exactly as shown (it's typically 6-8 digits)

Submit Your Customer Number

Visit https://frontieralgo.com/csi/unlock_code.html and enter your Customer Number in the form.

Access is typically granted within 24 hours. You will receive an email with your ELD file and workspace.

What You Receive

Once your access is approved, you will receive two files via email:

FILE NAME	TYPE	WHAT IT CONTAINS
CSI_CONFLUENCE_SIGNAL_INTELLIGENCE.ELD	EasyLanguage Document	This is the actual indicator code. It contains all three CSI Pro indicators: the main ShowMe study, CEI, and PRG. You must install this first.
CSI_Pro_Workspace.TSW	TradeStation Workspace	A pre-configured chart layout with all three indicators properly arranged. This saves you setup time and ensures correct display.

What is an ELD file? ELD stands for EasyLanguage Document. It's TradeStation's file format for packaging indicator code. When you import an ELD file, TradeStation unpacks it and adds the indicators to your available analysis techniques.

What is a TSW file? TSW stands for TradeStation Workspace. It saves your entire chart layout, including which charts are open, what symbols they display, and which indicators are applied. Opening a TSW file restores that exact layout.

Installation: Step-by-Step

Important: Install Order Matters

You **MUST** install the ELD file first before opening the workspace. The workspace references the indicators inside the ELD. If you open the workspace first, you will see errors because the indicators don't exist yet.

Step 1: Install the ELD File

This adds the CSI Pro indicators to TradeStation.

- 1 Save the CSI_CONFLUENCE_SIGNAL_INTELLIGENCE.ELD file to a location on your computer where you can easily find it (like your Desktop or Downloads folder)
- 2 Open TradeStation
- 3 In the top menu bar, click `File`
- 4 Click `Import/Export EasyLanguage`
- 5 Click `Import EasyLanguage (ELD) File...`

The Import Wizard opens. A file selection dialog appears.

- 1 Click
- 2 Navigate to where you saved the CSI_CONFLUENCE_SIGNAL_INTELLIGENCE.ELD file
- 3 Select the file and click
- 4 Click

You will now see a list of what's inside the ELD file:

COMPONENT NAME	TYPE	PURPOSE
CSI_Pro_ShowMe	ShowMe Study	Main indicator that displays on your price chart. Shows BUY/SELL signals, trend lines, and the dashboard.
CSI_Pro_CEI	Indicator	Cycle Exhaustion Index. Displays in a separate panel below your chart.
CSI_Pro_PRG	Indicator	Probability Reversal Gauge. Displays in a separate panel below your chart.

What is a ShowMe Study? In TradeStation, a "ShowMe" is a type of indicator that displays directly on the price chart (as opposed to in a separate panel below). CSI Pro's main indicator is a ShowMe because it plots signals, trend lines, and the dashboard right on your chart.

- 1 Make sure all three components are checked (they should be by default)
- 2 Click
- 3 If you see a prompt asking about replacing existing files (this happens if you're updating), click
- 4 Click

TradeStation will process the files. Wait for the progress bar to complete. This usually takes 10-30 seconds.

Verify Your Installation

Let's make sure everything installed correctly:

- 1 In the TradeStation menu bar, click `View`
- 2 Click `EasyLanguage Documents`
- 3 In the left panel, expand `ShowMe Studies`
- 4 Look for `CSI_Pro_ShowMe` in the list
- 5 Now expand `Indicators`
- 6 Look for `CSI_Pro_CEI` and `CSI_Pro_PRG` in the list

Success!

If you see all three components in the lists above, your installation is complete.

Step 2: Open the Workspace

The workspace file provides a ready-to-use chart layout with all three CSI Pro indicators already configured.

Method 1: Double-click

- 1 Locate your `CSI_Pro_Workspace.TSW` file on your computer
- 2 Double-click the file
- 3 TradeStation will open and load the workspace

Method 2: Open from TradeStation

- 1 In TradeStation, click `File`

- 2 Click
- 3 Navigate to your TSW file and select it
- 4 Click

What You Should See

When the workspace loads, you should see a chart with three main areas:

AREA	WHAT YOU'LL SEE
Main Chart (Top)	Price bars or candles with colored trend lines, signal arrows/labels when they appear, and a dashboard panel on the right side
First Subchart	The CEI indicator - a colored oscillator line with zones marked
Second Subchart	The PRG indicator - multiple gauge lines with probability bars

Change the Symbol

The workspace opens with a default symbol. To change it to the market you want to analyze:

- 1 Click on the chart to make sure it's selected
- 2 Type the symbol you want (for example, type "ES" for E-mini S&P 500 futures)
- 3 Press

The chart will update to show the new symbol, and CSI Pro will begin analyzing it.

Step 3: Save Your Own Workspace

We recommend saving a personal copy of the workspace that you can customize:

- 1 Make any adjustments you like (resize panels, change colors, etc.)
- 2 Click `File`
- 3 Click `Save Workspace As...`
- 4 Give it a name like "My CSI Workspace"
- 5 Click `Save`

Now you have your own copy that won't be affected if you need to reimport the original workspace later.

Manual Indicator Setup (Alternative Method)

If you prefer to add the indicators to your own existing charts instead of using the workspace, here's how:

Adding CSI_Pro_ShowMe to a Chart

- 1 Open or select the chart where you want to add CSI Pro
- 2 Right-click anywhere on the chart
- 3 Click `Insert Analysis Technique...`
- 4 In the left panel, click `ShowMe Studies`
- 5 Find and select `CSI_Pro_ShowMe`
- 6 Click `OK`

The main CSI Pro indicator will appear on your chart with default settings.

Adding CEI and PRG to Subcharts

- 1 Right-click on the chart
- 2 Click `Insert Analysis Technique...`
- 3 In the left panel, click `Indicators`
- 4 Find and select `CSI_Pro_CEI`
- 5 Click `OK`

Repeat the same process for `CSI_Pro_PRG`.

Both indicators will automatically create their own subchart panels below the main price chart.

First-Time Use: What to Expect

When you first load CSI Pro on a chart, here's what to expect:

Loading Time

CSI Pro analyzes historical data to identify patterns. On first load, you may see a brief calculation period (usually 2-10 seconds depending on how much data is loaded). The dashboard will populate once calculations are complete.

Data Requirements

CSI Pro needs sufficient historical data to work properly. We recommend having at least 200 bars of data loaded on your chart. If you're using a very short timeframe (like 1-minute charts), make sure you have enough history loaded.

Signal Frequency

CSI Pro is designed to identify high-quality trading opportunities, not generate constant signals. Depending on market conditions and your timeframe:

- **Active markets:** You might see several signals per day
- **Quiet markets:** You might go hours or even days without a signal
- **This is by design** - CSI Pro waits for conditions where multiple factors align

Part 2: Understanding the Three Indicators

The CSI Pro System Overview

CSI Pro is not a single indicator - it's a coordinated system of three indicators that work together to give you a complete picture of market conditions. Each indicator serves a specific purpose:

INDICATOR	LOCATION	PRIMARY PURPOSE
CSI_Pro_ShowMe	Main price chart	The "brain" of the system. Runs all AI analysis, generates BUY/SELL signals, displays the dashboard with all readings.
CSI_Pro_CEI	Subchart	Cycle Exhaustion Index. Tells you when a move is running out of steam - when the momentum behind the current trend is depleting.
CSI_Pro_PRG	Subchart	Probability Reversal Gauge. Tells you how "stretched" price is from its normal range - like measuring how far a rubber band is pulled.

How They Work Together

Think of these three indicators as three different experts giving their opinion on the same market:

- **ShowMe** is the lead analyst who synthesizes everything and makes the final call
- **CEI** is the momentum specialist who warns when moves are getting tired
- **PRG** is the statistician who measures when price has gone too far in one direction

When all three agree, you have the highest-quality setup. When they disagree, you have conflicting information that suggests caution.

The ShowMe: Your Primary Signal Generator

The ShowMe is the main indicator you'll watch. It does three things:

1. Displays Trend Lines

Four moving average lines help you see the trend at different speeds:

COLOR	TYPE	WHAT IT SHOWS
Blue	20-bar EMA	Short-term trend. Reacts quickly to price changes. Good for timing entries.
Yellow	50-bar EMA	Medium-term trend. Balanced between speed and smoothness.
Magenta	200-bar EMA	Long-term trend. Slow-moving but shows the bigger picture.
Cyan	Kernel Trend	Adaptive smoothed trend that adjusts to volatility. A specialized "smart" moving average.

What is an EMA? EMA stands for Exponential Moving Average. It's a type of average that gives more weight to recent prices, making it more responsive than a simple average. The number (20, 50, 200) tells you how many bars it looks back.

How to Use the Trend Lines: When all lines are stacked in order (short above medium above long), you have a clear uptrend. When they're inverted (short

below medium below long), you have a clear downtrend. When they're tangled together, the market lacks clear direction.

2. Generates BUY and SELL Signals

When conditions align, the ShowMe places signal labels on your chart:

BUY HIGH

This tells you: A BUY opportunity was identified with HIGH confidence (multiple factors agree)

SELL MEDIUM

This tells you: A SELL opportunity was identified with MEDIUM confidence (several factors agree)

3. Displays the Real-Time Dashboard

On the right side of your chart, you'll see a panel showing live readings from all the AI models and analytical factors. We'll cover this in detail in Part 3.

The CEI: Momentum Exhaustion Detector

The CEI (Cycle Exhaustion Index) answers a crucial question: *Is the current move running out of energy?*

What is Exhaustion? In trading, exhaustion means the momentum (the force driving price in one direction) is depleting. Think of a car running out of gas - it might still be moving forward, but it's about to stop. When a price move is "exhausted," it often reverses or consolidates.

The CEI displays as an oscillator that moves between -1 and +1:

CEI ZONE	READING	WHAT IT MEANS
Bullish Exhaustion	Above upper exhaustion threshold	Upward momentum is depleting. The up-move may be ending.
Bearish Exhaustion	Below lower exhaustion threshold	Downward momentum is depleting. The down-move may be ending.
Neutral	Within exhaustion thresholds	Normal momentum range. No exhaustion signal.

REV Signals

When the CEI detects exhaustion AND sees the start of a turn, it displays a REV (Reversal) signal:

- **REV Bull** - Bearish exhaustion detected, potential bullish reversal starting
- **REV Bear** - Bullish exhaustion detected, potential bearish reversal starting

How to Use CEI: Watch for exhaustion readings that match ShowMe signals. A BUY signal is stronger when CEI shows bearish exhaustion (sellers are tired). A SELL signal is stronger when CEI shows bullish exhaustion (buyers are tired).

The PRG: Statistical Stretch Meter

The PRG (Probability Reversal Gauge) measures how far price has stretched from its normal range - like measuring how far a rubber band is pulled before it snaps back.

What is Mean Reversion? Mean reversion is the tendency of prices to return toward their average after moving too far in one direction. If a stock typically trades around \$100 and suddenly spikes to \$120, mean reversion is the force that tends to pull it back toward \$100. The PRG measures this "stretch."

The PRG shows multiple gauge lines (fast, medium, slow) that measure deviation at different speeds:

PRG ZONE	READING	WHAT IT MEANS
Overbought	Above extreme threshold	Price has stretched significantly above normal. Statistical pressure building for pullback.
Oversold	Below extreme threshold	Price has stretched significantly below normal. Statistical pressure building for bounce.
Normal Range	Within extreme thresholds	Price is within typical variation. No extreme stretch.

HP Signals

When the PRG detects an extreme reading AND sees the start of a turn, it displays an HP (High Probability) signal:

- **HP BUY** - Oversold extreme detected, potential bounce starting
- **HP SELL** - Overbought extreme detected, potential pullback starting

How to Use PRG: The PRG tells you if price has room to run or is statistically stretched. A BUY signal is stronger when PRG shows oversold conditions. A SELL signal is stronger when PRG shows overbought conditions.

Part 3: Reading the Dashboard

The Real-Time Information Panel

The dashboard is the information panel displayed on the right side of your chart. It shows you exactly what CSI Pro's AI models are detecting in real-time. This section explains every element so you know what you're looking at.

Market Condition Section

The top portion of the dashboard shows the current market environment:

ELEMENT	POSSIBLE VALUES	WHAT IT TELLS YOU
Regime	Strong Uptrend, Strong Downtrend, Range, High Volatility	The current market environment type. CSI Pro classifies the market into one of these states based on trend strength and volatility.
HMM State	BULL, BEAR, NEUTRAL	The Hidden Markov Model's assessment of the underlying market condition. This looks at patterns not visible on the surface.
ADX	0-100 (number)	Trend strength measurement. Below 25 = ranging/sideways market. Above 25 = trending market. Higher numbers = stronger trend.

What is ADX? ADX stands for Average Directional Index. It measures how strong a trend is, regardless of whether it's up or down. It doesn't tell you the direction - just the strength. A high ADX (like 40+) means price is trending strongly in some direction. A low ADX (like 15) means price is moving sideways with no clear trend.

How to Use Regime Information:

- In "Strong Uptrend" - BUY signals are trading with the trend (generally more reliable)
- In "Strong Downtrend" - SELL signals are trading with the trend (generally more reliable)
- In "Range" - Both BUY and SELL signals at range boundaries can work well
- In "High Volatility" - Use caution, price can overshoot and signals may trigger early

Indicator Readings Section

The middle portion shows readings from key technical indicators:

ELEMENT	RANGE	WHAT IT MEASURES	KEY LEVELS
Fisher	Typically -3 to +3	Statistical price position. Tells you if price is at an extreme.	Above upper extreme threshold = overbought, Below lower extreme threshold = oversold
RSI	0-100	Momentum oscillator comparing recent gains to losses.	Above 70 = overbought, Below 30 = oversold
CCI	Typically -200 to +200	Measures deviation from the average price.	Above +100 = overbought, Below -100 = oversold

What is the Fisher Transform? The Fisher Transform is a mathematical conversion that takes price data and transforms it into a Gaussian (bell-curve) distribution. In plain English: it amplifies extreme readings so they're easier to identify. When Fisher is very positive or very negative, price is at an extreme that

often precedes reversals. CSI Pro uses the Fisher Transform as its primary trigger for evaluating signals.

What is RSI? RSI stands for Relative Strength Index. It measures how much price has gone up versus how much it has gone down over a period (usually 14 bars). If price has been going up a lot, RSI will be high. If price has been going down a lot, RSI will be low. It helps identify when a move might be getting overextended.

AI Model Scores Section

This section shows what each of the four AI models is detecting:

ELEMENT	DISPLAY	WHAT IT MEANS
KNN	Percentage (0-100%)	K-Nearest Neighbors model score. Higher = more bullish patterns detected. Lower = more bearish patterns detected. 50% = neutral.
GradBoost	Percentage (0-100%)	Gradient Boosting model score. Uses decision trees to estimate direction. Higher = bullish, Lower = bearish.
NeuralNet	Percentage (0-100%)	Neural Network model score. Weighted analysis of multiple factors. Higher = bullish, Lower = bearish.
Ensemble	Percentage (0-100%)	Combined voting score from multiple indicators. Represents overall AI consensus.

How to Read AI Scores:

- All scores above 60% = Strong bullish AI consensus
- All scores below 40% = Strong bearish AI consensus
- Scores split (some high, some low) = Mixed signals, AI models disagree

- Scores near 50% = Neutral, no strong directional bias

Evidence and Trend Section

This section shows the evidence count and trend analysis:

ELEMENT	DISPLAY	WHAT IT MEANS
Evidence	"X up / Y dn"	Raw count of how many of the 12 evidence factors support bullish (up) vs bearish (dn) direction. This is the foundation of the confidence rating.
Bull Conf	Percentage + Level	Bullish confidence score and classification (HIGH/MEDIUM/LOW).
Bear Conf	Percentage + Level	Bearish confidence score and classification (HIGH/MEDIUM/LOW).
MTF Align	BULLISH, BEARISH, MIXED	Multi-Timeframe Alignment. Are higher timeframes confirming the same direction?
Kernel	UP, DOWN, FLAT	Direction of the adaptive kernel trend line.
AdapTrend	UP, DOWN, FLAT	Direction of the adaptive trend indicator.

What is Multi-Timeframe (MTF) Analysis? MTF analysis looks at higher timeframes to see if they confirm the signal on your current timeframe. For example, if you're on a 15-minute chart, CSI Pro checks 1-hour and 4-hour timeframes. If all timeframes agree on direction, that's "BULLISH" or "BEARISH"

alignment. If they disagree, that's "MIXED." Signals with aligned MTF are generally considered stronger.

Using the Dashboard Effectively

The dashboard provides context, not trading signals directly. Here's how to use it:

Before a Signal Appears

Glance at the dashboard to understand current conditions. Is the market trending or ranging? What are the AI models detecting? Are higher timeframes aligned?

When a Signal Appears

Check the dashboard to see WHY the signal fired. Look at the Evidence count, the AI scores, and the confidence rating. A signal with most dashboard elements aligned is stronger than one where elements conflict.

When Dashboard Elements Conflict

If you see contradictions (for example, some AI models bullish while MTF is bearish), this suggests mixed conditions. The signal may still be valid, but you have less confirming evidence. Some traders require all elements to align; others trade on partial alignment. This is a personal trading decision.

Part 4: The 4 AI Models Explained

How CSI Pro Uses Artificial Intelligence

CSI Pro employs four different machine learning models that analyze market data simultaneously. Each model uses a different approach to assess market direction, and they "vote" together to form the final signal. This section explains what each model does in plain English.

Why Four Models?

Different AI approaches have different strengths. By combining four methods, CSI Pro gets a more balanced view. When all four agree, that consensus carries more weight than any single model alone. When they disagree, you see that conflict reflected in lower confidence ratings.

Model 1: KNN (K-Nearest Neighbors)

Plain English Explanation

Imagine you're trying to predict tomorrow's weather. You could look at past days that had similar conditions (temperature, humidity, pressure) and see what happened the day after. If 8 out of 10 similar past days were followed by rain, you might predict rain.

KNN does exactly this with market data. It looks at current market conditions (Fisher readings, RSI, momentum, etc.) and searches through historical data to find the

8 most similar past situations. It then checks: "In those similar past situations, did price go up or down?" The result becomes the KNN score.

What KNN Measures

- Current Fisher Transform value
- Current RSI reading
- Current MACD state
- Current CCI reading
- Current ADX (trend strength)

How to Interpret KNN Scores

KNN SCORE	MEANING
70%+	Strong bullish pattern match. Similar past situations often led to up-moves.
50-70%	Moderate bullish lean or mixed historical results.
40-60%	Neutral zone. Historical patterns don't favor either direction strongly.
30-50%	Moderate bearish lean or mixed historical results.
Below 30%	Strong bearish pattern match. Similar past situations often led to down-moves.

Model 2: Gradient Boosting

Plain English Explanation

Imagine you have five financial advisors, each giving their opinion. The first advisor makes a prediction. The second advisor looks at where the first was wrong and tries to correct those mistakes. The third advisor corrects where the second was wrong, and so on. By the fifth advisor, you have a refined prediction that has iteratively improved.

Gradient Boosting works this way. It uses five "decision trees" (like simple if-then rules) that each learn from the mistakes of the previous one. The final output is the combined result of all five trees working together.

What Gradient Boosting Analyzes

- RSI position relative to overbought/oversold
- Fisher Transform extremes
- MACD momentum state
- ADX trend strength
- CCI deviation readings

How to Interpret Gradient Boost Scores

The scoring interpretation is the same as KNN: higher means more bullish, lower means more bearish, and around 50% is neutral. What differs is HOW it arrives at that score - through iterative refinement rather than pattern matching.

Model 3: Neural Network (Perceptron)

Plain English Explanation

Imagine a voting panel where different members have different influence. Some members' votes count more because they've historically been more accurate. A senior analyst's opinion might be weighted at 30%, while a junior analyst gets 10%.

The Neural Network works like this weighted voting panel. It takes input from multiple indicators (RSI, Fisher, MACD, etc.) and gives each one a learned "weight" based on how important that indicator is for predicting direction. It then combines all these weighted inputs through a mathematical function that outputs a probability.

What the Neural Network Weighs

The neural network considers the same core indicators but applies learned importance weights to each:

- RSI contribution (moderate weight)
- Fisher Transform contribution (high weight)
- MACD contribution (moderate weight)
- ADX contribution (lower weight for direction, higher for confidence)
- CCI contribution (moderate weight)

How to Interpret Neural Network Scores

Same scale as the other models: above 60% is bullish, below 40% is bearish, 40-60% is neutral. The Neural Network tends to produce smooth, balanced scores because of how it combines weighted inputs.

Model 4: Ensemble Voting

Plain English Explanation

Imagine a committee where each member casts a vote, but some members specialize in different areas. One member is the "trend expert," another is the "momentum expert," another handles "volume analysis," and so on. Each casts their vote, and the final decision is the weighted average of all votes.

The Ensemble is exactly this committee. It takes votes from six different analytical components, weights them based on their specialization, and produces a consensus score.

The Six Voters in the Ensemble

COMPONENT	WHAT IT VOTES ON
Fisher Transform	Is price at a statistical extreme?
RSI	Is momentum overbought or oversold?
MACD	Is momentum accelerating or decelerating?
Structure	Has a significant swing point been broken?
MTF Trend	Do higher timeframes confirm the direction?
Volume	Is volume supporting the move?

How to Interpret Ensemble Scores

The Ensemble score represents the broadest consensus. It's often the most balanced of the four AI scores because it synthesizes the most diverse inputs. A high Ensemble score means most components agree on direction.

When AI Models Agree vs. Disagree

Strong Agreement (All Models Align)

When all four AI models show similar readings (all leaning bullish or all leaning bearish), you have strong analytical consensus. This typically corresponds to HIGH confidence signals.

Example: All models showing bullish lean = Strong bullish consensus

Weak Agreement (Models Diverge)

When models show different readings (some bullish, some bearish, some neutral), you have conflicting analysis. This typically corresponds to MEDIUM or LOW confidence signals.

Example: Models showing mixed bullish/bearish/neutral readings = Mixed signals, lower confidence

Part 5: The 12 Evidence Factors

Understanding Evidence-Based Confidence

CSI Pro's confidence ratings are based on counting how many "evidence factors" support each direction. There are 12 independent factors that the system evaluates. Each factor can vote bullish, bearish, or neutral. The more factors that agree, the higher the confidence.

How Evidence Becomes Confidence

Multiple factors show strong agreement = HIGH confidence

Several factors agree = MEDIUM confidence

Limited factor agreement = LOW confidence (hidden by default)

Below is a detailed explanation of each evidence factor - what it measures, when it votes bullish, when it votes bearish, and why it matters.

Factor 1: Fisher Transform Extreme

What It Measures: Whether price is at a statistically unusual position - an "extreme" that often precedes reversals.

How It Works: The Fisher Transform converts price into a standardized scale where extreme readings are amplified. When the Fisher value exceeds certain thresholds, price is at an extreme.

CONDITION	VOTE
Fisher in oversold extreme zone AND turning up	BULLISH
Fisher in overbought extreme zone AND turning down	BEARISH
Fisher within normal range	NEUTRAL

Why It Matters: Fisher extremes are the primary trigger for CSI Pro signals. A signal won't fire unless Fisher first reaches an extreme and then shows signs of reversal.

Factor 2: RSI Confirmation

What It Measures: Whether the RSI (momentum oscillator) confirms overbought or oversold conditions.

How It Works: RSI measures recent price gains vs losses on a 0-100 scale. High RSI means lots of recent buying; low RSI means lots of recent selling.

CONDITION	VOTE
RSI below 30 (oversold)	BULLISH (for reversal potential)
RSI above 70 (overbought)	BEARISH (for reversal potential)
RSI between 30-70	NEUTRAL

Why It Matters: RSI is a widely-used confirmation indicator. When RSI agrees with Fisher, you have two independent measures pointing the same direction.

Factor 3: AI Directional Bias (ML Score)

What It Measures: The combined output from the KNN, Gradient Boost, and Neural Network models.

How It Works: This factor checks the average score from the AI models. If most models lean bullish, this factor votes bullish.

CONDITION	VOTE
Combined ML score shows bullish lean	BULLISH
Combined ML score shows bearish lean	BEARISH
Combined ML score shows neutral/mixed	NEUTRAL

Why It Matters: This represents the AI's overall opinion. A bullish AI bias combined with other bullish factors creates strong confluence.

Factor 4: Multi-Timeframe Alignment

What It Measures: Whether higher timeframes (bigger picture trends) agree with the signal direction.

How It Works: CSI Pro checks two higher timeframes (by default, 4x and 16x your current timeframe). If the trend on those higher timeframes matches the signal direction, this factor votes in agreement.

CONDITION	VOTE
Both higher timeframes show uptrend	BULLISH
Both higher timeframes show downtrend	BEARISH
Higher timeframes conflict or are neutral	NEUTRAL

Why It Matters: Trading with the higher timeframe trend is a core principle. Signals aligned with bigger-picture trends have wind at their back.

Factor 5: Market Structure (Break of Structure)

What It Measures: Whether price has broken a significant recent high or low - a potential shift in market structure.

How It Works: CSI Pro tracks recent swing highs and lows. When price decisively breaks above a swing high or below a swing low, it may signal a shift in who's controlling the market.

CONDITION	VOTE
Recent break above a swing high (bullish BOS)	BULLISH
Recent break below a swing low (bearish BOS)	BEARISH
No recent structure break	NEUTRAL

Why It Matters: Structure breaks often mark the start of new trends. A signal that coincides with a structure break has additional technical significance.

Factor 6: MACD Momentum

What It Measures: Whether momentum is accelerating or decelerating based on MACD readings.

How It Works: MACD compares a fast moving average to a slow moving average. When the fast is above the slow and rising, momentum is bullish. When below and falling, momentum is bearish.

CONDITION	VOTE
MACD line above signal line and histogram positive	BULLISH
MACD line below signal line and histogram negative	BEARISH
MACD crossing or unclear	NEUTRAL

Why It Matters: MACD is a momentum indicator. Signals aligned with momentum direction have the force of the current move behind them.

Factor 7: Volume Confirmation

What It Measures: Whether volume (trading activity) is confirming the price move.

How It Works: CSI Pro compares current volume to average volume. A "volume surge" (volume significantly above average, based on the configured multiplier) during a directional move suggests institutional participation.

CONDITION	VOTE
Volume surge on up-move or at oversold bounce	BULLISH
Volume surge on down-move or at overbought reversal	BEARISH
Normal volume	NEUTRAL

Why It Matters: Volume confirms conviction. Big moves with big volume are more meaningful than big moves with low volume.

Factor 8: Kernel Trend Direction

What It Measures: The direction of the adaptive kernel regression line - a sophisticated smoothed trend.

How It Works: The kernel trend uses advanced statistical smoothing to identify the underlying trend direction while filtering out noise.

CONDITION	VOTE
Kernel trend sloping upward	BULLISH
Kernel trend sloping downward	BEARISH
Kernel trend flat	NEUTRAL

Why It Matters: The kernel trend provides a statistically-smoothed view of direction. It filters noise better than traditional moving averages.

Factor 9: Regime Alignment

What It Measures: Whether the signal direction matches the current market regime (trend environment).

How It Works: CSI Pro classifies the market as Strong Uptrend, Strong Downtrend, Range, or High Volatility. This factor checks if your signal goes with or against that regime.

CONDITION	VOTE
BUY signal in Strong Uptrend or Range	BULLISH
SELL signal in Strong Downtrend or Range	BEARISH
Signal against strong trend (counter-trend)	NEUTRAL or conflicting

Why It Matters: Trading with the regime is generally safer than fighting it. A bullish signal in an uptrend has regime support.

Factor 10: HMM State (Hidden Markov Model)

What It Measures: The underlying market state detected by pattern analysis that isn't visible in simple price action.

How It Works: The HMM analyzes returns and volatility to classify the market into Bull, Bear, or Neutral states. This can detect regime changes before they're obvious in price.

CONDITION	VOTE
HMM State = BULL	BULLISH
HMM State = BEAR	BEARISH
HMM State = NEUTRAL	NEUTRAL

Why It Matters: The HMM provides a "hidden" view of market state. When HMM aligns with other factors, you have confirmation from a different analytical perspective.

Factor 11: Adaptive Trend Direction

What It Measures: The direction of the adaptive trend indicator, which adjusts its speed based on market conditions.

How It Works: Unlike fixed moving averages, the adaptive trend speeds up in trending markets and slows down in choppy markets. Its direction indicates the current trend.

CONDITION	VOTE
Adaptive trend pointing upward	BULLISH
Adaptive trend pointing downward	BEARISH
Adaptive trend flat or unclear	NEUTRAL

Why It Matters: The adaptive trend is responsive but not noisy. Its direction is a reliable indicator of current trend.

Factor 12: MACD 3D State

What It Measures: A three-dimensional view of MACD combining value, direction, and acceleration.

How It Works: MACD 3D looks at not just the MACD value, but also whether it's rising/falling and whether its rate of change is accelerating. This gives a richer momentum picture.

CONDITION	VOTE
MACD positive, rising, and accelerating	Strong BULLISH
MACD negative, falling, and accelerating down	Strong BEARISH
MACD mixed signals (positive but decelerating, etc.)	Weak vote or NEUTRAL

Why It Matters: MACD 3D adds nuance to momentum analysis. Strong accelerating momentum is different from strong but fading momentum.

Evidence Factor Summary

Here's a quick-reference table of all 12 factors:

#	FACTOR	CATEGORY	BULLISH WHEN...
1	Fisher Extreme	Price Position	Oversold extreme, turning up
2	RSI Confirmation	Momentum	RSI below 30 (oversold)
3	AI Directional Bias	Machine Learning	ML score shows bullish lean
4	MTF Alignment	Multi-Timeframe	Higher timeframes bullish
5	Market Structure	Price Action	Recent bullish BOS
6	MACD Momentum	Momentum	MACD bullish crossover/position
7	Volume Confirmation	Volume	Volume surge on up-move
8	Kernel Trend	Trend	Kernel sloping upward
9	Regime Alignment	Market State	Signal matches uptrend regime
10	HMM State	Hidden Pattern	HMM = BULL
11	Adaptive Trend	Trend	Adaptive trend pointing up
12	MACD 3D	Momentum	MACD positive and accelerating

Part 6: Understanding Buy/Sell Signals

Anatomy of a CSI Pro Signal

When CSI Pro identifies a potential trading opportunity, it displays a signal label on your chart. Understanding exactly what each part of that signal means is crucial for using CSI Pro effectively.

Signal Label Components

BUY HIGH

BUY The direction. CSI Pro has identified bullish conditions suggesting price may rise.

HIGH The confidence level. Multiple evidence factors show strong agreement on this direction.

% The confluence percentage. Shows what percentage of the analytical factors agree on this direction.

Understanding Confidence Levels

Understanding What Confidence Measures

Confidence ratings measure **analytical agreement** - how many independent factors support the same direction. Think of it as "strength of technical consensus" rather than a prediction of outcomes.

What confidence tells you:

- How many of the 12 evidence factors align
- The strength of the technical setup
- How decisively the analysis points in one direction

Use confidence ratings to prioritize which signals have the strongest technical foundation for your analysis.

HIGH Confidence

ASPECT	DETAILS
What It Means	Multiple evidence factors show strong agreement on this direction. Strong analytical consensus.
Display	HIGH with gold/prominent coloring
Interpretation	The technical picture is clear. Multiple independent measures point the same way. Fewer conflicting factors.
Common Approach	Many traders prioritize HIGH confidence signals. Some only trade HIGH signals.

MEDIUM Confidence

ASPECT	DETAILS
What It Means	Several evidence factors agree on this direction. Moderate consensus with some neutral or conflicting factors.
Display	MEDIUM
Interpretation	The opportunity is present but the technical picture is less unanimous. Some factors may be neutral or conflicting.
Common Approach	Some traders take MEDIUM signals with additional personal confirmation. Others may use smaller position sizes.

LOW Confidence

ASPECT	DETAILS
What It Means	Limited evidence factor agreement on this direction. Few factors are aligned.
Display	LOW - Hidden by default
Interpretation	The Fisher extreme triggered a signal evaluation, but few other factors confirmed. Mixed or conflicting readings.
Common Approach	LOW signals are hidden by default because they represent weak setups. Most traders skip these entirely.

The Trade Quality Grading System

Beyond the confidence level, you can assess overall trade quality by combining information from all three indicators:

GRADE	REQUIREMENTS	DESCRIPTION
A+	ShowMe HIGH + CEI exhaustion + PRG extreme + MTF aligned + Structure break	The absolute best setup. All components aligned with higher timeframe and structure confirmation.
A	ShowMe HIGH + CEI exhaustion + PRG extreme	Excellent setup. All three indicators agree on the reversal opportunity.
B+	ShowMe HIGH + either CEI or PRG confirmation	Good setup. Main signal confirmed by at least one subchart indicator.
B	ShowMe HIGH only	Decent setup. Strong main signal but lacking subchart confirmation.
C	ShowMe MEDIUM only	Marginal setup. Limited consensus, higher discretion needed.
F	ShowMe LOW or no signal	No trade. Either no signal present or too weak to consider.

How to Use Trade Grades: The grading system is a framework, not a rule. Some traders only take A and A+ setups. Others take B+ with confirmation from their own analysis. Develop your own criteria based on your risk tolerance and trading style.

Signal Timing: Wait for Bar Close

CSI Pro has a critical setting called **WaitForBarToClose** that affects when signals appear:

WaitForBarToClose = TRUE (Default)

Recommended Setting

- Signals only appear after the current bar closes
- Once a signal appears, it never changes or disappears
- Non-repainting: what you see stays on the chart
- Slightly later signal but completely reliable

WaitForBarToClose = FALSE

Advanced/Aggressive Setting

- Signals can appear intra-bar as conditions develop
- Signals may change or disappear if conditions shift before bar closes
- Earlier signal but potentially misleading
- Only use if you understand the risks

What is Repainting? Repainting occurs when an indicator shows a signal, but that signal later changes or disappears after you've already acted on it. This is frustrating because you think you saw a signal, but looking back at the chart, it's gone. The WaitForBarToClose=TRUE setting prevents repainting by only displaying signals on confirmed closed bars.

Part 7: The CEI - Cycle Exhaustion Index

What CEI Measures

The Cycle Exhaustion Index (CEI) is your momentum fatigue detector. While price might still be moving in one direction, the CEI reveals whether the energy behind that move is depleting.

The Car Running Out of Gas Analogy: Imagine a car accelerating down a highway. Even as it's still moving forward at high speed, the engine might be sputtering - running out of fuel. The car will soon slow down and stop, even though right now it looks fast. CEI detects this "sputtering" in price momentum. The move might look strong on the surface, but CEI shows the underlying energy is depleting.

How CEI Works

CEI combines three measurements:

1. **Price Position within its Cycle:** Where is price relative to its recent range?
2. **Momentum Measurement:** How quickly is price changing?
3. **Cycle Wave Analysis:** Where are we in the natural ebb and flow pattern?

These combine into a single oscillator that ranges from -1 to +1.

Reading the CEI Display

The Main CEI Line

The primary CEI line oscillates between -1 and +1:

ZONE	CEI VALUE	WHAT IT MEANS	WHAT TO DO
Upper Exhaustion	Above exhaustion threshold	Bullish momentum is exhausted. The up-move has used most of its energy.	Be cautious about new longs. Watch for reversal signals. Existing longs might consider taking profits.
Extreme Upper	Above extreme zone threshold	Extreme bullish exhaustion. Reversal increasingly likely.	Strong caution for longs. Prime zone for short entries if other factors align.
Neutral Zone	Within exhaustion thresholds	Normal momentum range. Trend has energy remaining.	No exhaustion signal. Trend may continue.
Lower Exhaustion	Below exhaustion threshold	Bearish momentum is exhausted. The down-move has used most of its energy.	Be cautious about new shorts. Watch for reversal signals. Existing shorts might consider taking profits.
Extreme Lower	Below extreme zone threshold	Extreme bearish exhaustion. Reversal increasingly likely.	Strong caution for shorts. Prime zone for long entries if other factors align.

The Cycle Wave Overlay (Purple Line)

A secondary purple line shows the estimated cycle wave - the natural oscillation pattern. When the main CEI line diverges significantly from the cycle wave, it suggests the move is overextended relative to the natural cycle.

The Reversal Probability Bar

A histogram bar shows reversal probability based on how extreme the CEI reading is. Taller bars indicate higher reversal probability.

CEI Signals: REV Bull and REV Bear

When CEI detects both exhaustion AND the start of a turn, it displays a reversal signal:

REV Bull Signal

REV Bull (Bullish Reversal)

Conditions:

- CEI was in lower exhaustion zone
- CEI is now turning upward (current value > previous value)

Meaning: Bearish momentum has exhausted and is now reversing. Potential bullish move beginning.

How to Use: Look for this to confirm ShowMe BUY signals. A BUY + REV Bull combination suggests both the main signal and CEI agree on a bullish reversal.

REV Bear Signal

REV Bear (Bearish Reversal)

Conditions:

- CEI was in upper exhaustion zone
- CEI is now turning downward (current value < previous value)

Meaning: Bullish momentum has exhausted and is now reversing. Potential bearish move beginning.

How to Use: Look for this to confirm ShowMe SELL signals. A SELL + REV Bear combination suggests both the main signal and CEI agree on a bearish reversal.

Using CEI Effectively

CEI as Confirmation

The primary use of CEI is to confirm ShowMe signals. When you see a BUY signal, check if CEI is in lower exhaustion (bearish momentum tired). When you see a SELL signal, check if CEI is in upper exhaustion (bullish momentum tired).

CEI as Warning

CEI can also warn you to be cautious. If you're in a long trade and CEI enters upper exhaustion, the upward momentum is depleting. Consider tightening stops or taking partial profits.

CEI Independent Signals

Sometimes CEI shows exhaustion before the main ShowMe fires. This can serve as early warning that conditions are developing for a potential reversal.

Part 8: The PRG - Probability Reversal Gauge

What PRG Measures

The Probability Reversal Gauge (PRG) measures statistical deviation - how far price has "stretched" from its normal range. Think of it like a rubber band: the further you pull it, the more force there is to snap it back.

The Rubber Band Analogy: Price tends to oscillate around an average (its equilibrium). When price moves too far in one direction, statistical pressure builds to pull it back. PRG measures this stretch. An extremely stretched reading means price is far from equilibrium, and mean reversion forces are strong.

How PRG Works

PRG uses a mathematical transformation (similar to the Fisher Transform) to normalize price position into a standardized scale. It then applies this at three different speeds:

1. **Fast Gauge:** Short-term stretch (10 bars default)
2. **Medium Gauge:** Medium-term stretch (21 bars default)
3. **Slow Gauge:** Longer-term context

When all three gauges agree on an extreme, it's a stronger indication than one gauge alone.

Reading the PRG Display

The Gauge Lines

ZONE	PRG VALUE	WHAT IT MEANS	WHAT TO DO
Overbought	Above extreme threshold	Price has stretched significantly above its equilibrium. Statistical pressure building for pullback.	Caution for longs. Watch for reversal signals. Prime zone for shorts if other factors align.
Normal Range	Within extreme thresholds	Price within typical variation. No extreme stretch.	No statistical pressure signal. Trend may continue freely.
Oversold	Below extreme threshold	Price has stretched significantly below its equilibrium. Statistical pressure building for bounce.	Caution for shorts. Watch for reversal signals. Prime zone for longs if other factors align.

The Probability Histogram

Below the gauge lines, a histogram shows reversal probability based on how extreme the current reading is and whether the gauges are starting to turn back toward equilibrium.

Gauge Agreement Markers

Yellow dots appear when all three gauges (fast, medium, slow) agree on an extreme reading. This multi-gauge alignment represents stronger reversal probability than a single gauge extreme.

PRG Signals: HP Buy and HP Sell

When PRG detects both an extreme reading AND the start of a turn back toward equilibrium, it displays a High Probability signal:

HP BUY Signal

HP BUY (High Probability Bullish)

Conditions:

- PRG was in oversold extreme zone
- Multiple gauges confirm the extreme
- PRG is now turning upward (starting to revert toward equilibrium)
- Probability threshold met

Meaning: Price stretched too far down and is now snapping back. Statistical forces favor upward movement.

How to Use: HP BUY is a strong confirmation for ShowMe BUY signals. Look for both to align for highest-quality long setups.

HP SELL Signal

HP SELL (High Probability Bearish)

Conditions:

- PRG was in overbought extreme zone
- Multiple gauges confirm the extreme
- PRG is now turning downward (starting to revert toward equilibrium)
- Probability threshold met

Meaning: Price stretched too far up and is now snapping back. Statistical forces favor downward movement.

How to Use: HP SELL is a strong confirmation for ShowMe SELL signals. Look for both to align for highest-quality short setups.

Using PRG Effectively

PRG as Confirmation

The primary use of PRG is to confirm ShowMe signals. A BUY signal with PRG oversold means you're buying at a statistically stretched low - favorable entry. A SELL signal with PRG overbought means you're selling at a statistically stretched high.

PRG as Context

Even without a ShowMe signal, PRG tells you if price has room to run. If you're considering a long but PRG is already overbought, price may be near a pullback - not ideal for chasing.

PRG for Targets

Some traders use PRG extremes as exit targets. If you enter on an oversold reading, watch for PRG to reach overbought as a potential profit-taking zone.

Part 9: Triple Confirmation Method

The Power of Three-Way Agreement

Triple Confirmation occurs when all three CSI Pro indicators align on the same opportunity. This represents the highest-quality setup the system can identify.

TRIPLE CONFIRMATION LONG

ShowMe: BUY HIGH signal fired

CEI: Bearish exhaustion zone + REV Bull signal

PRG: Oversold extreme + HP BUY signal

Why Triple Confirmation Matters

Each indicator measures something different:

- **ShowMe** synthesizes 12 factors and 4 AI models to identify the opportunity
- **CEI** confirms that momentum in the opposing direction is exhausted
- **PRG** confirms that price has statistically stretched and is reverting

When all three agree, you have confirmation from three independent analytical perspectives:

1. AI/technical factor confluence (ShowMe)
2. Momentum energy analysis (CEI)

Identifying Triple Confirmation Setups

For Long Trades (Triple Confirmation BUY)

Triple Confirmation Long Checklist

1. **ShowMe:** BUY signal appears (HIGH confidence preferred)
2. **CEI:** In bearish exhaustion zone OR REV Bull signal visible
3. **PRG:** In oversold extreme zone OR HP BUY signal visible

All three conditions met = Triple Confirmation Long

For Short Trades (Triple Confirmation SELL)

Triple Confirmation Short Checklist

1. **ShowMe:** SELL signal appears (HIGH confidence preferred)
2. **CEI:** In bullish exhaustion zone OR REV Bear signal visible
3. **PRG:** In overbought extreme zone OR HP SELL signal visible

All three conditions met = Triple Confirmation Short

Partial Confirmation (Two of Three)

Not every opportunity will have all three indicators aligned. Two-of-three alignment still represents a solid setup:

COMBINATION	STRENGTH	WHAT'S MISSING
ShowMe + CEI	Good	Statistical stretch confirmation. Price may not be at extreme, but momentum is exhausted.
ShowMe + PRG	Good	Exhaustion confirmation. Price is statistically stretched, but momentum hasn't fully reversed.
CEI + PRG	Moderate	Main signal. Subchart indicators align, but ShowMe hasn't triggered - conditions may not fully meet signal criteria.

Practical Triple Confirmation Workflow

- 1 Watch for ShowMe signals.** The main indicator is your primary trigger. When BUY or SELL appears, evaluate the setup.
- 2 Check CEI status.** Is it showing exhaustion in the opposing direction? Is there a REV signal?
- 3 Check PRG status.** Is it at an extreme? Is there an HP signal?
- 4 Assess confluence.** If all three align, you have maximum confirmation. If two align, you have good confirmation. If only one, consider waiting for better setup.
- 5 Consider context.** Check the dashboard for MTF alignment, regime, and AI model agreement.

6

Make your decision. Based on your trading plan and risk tolerance, decide whether to act.

Part 10: Complete Settings Reference

Accessing Settings

To modify any CSI Pro settings:

- 1 Right-click on your chart
- 2 Click `Format Analysis Techniques...`
- 3 Click on the indicator you want to modify (CSI_Pro_ShowMe, CSI_Pro_CEI, or CSI_Pro_PRG)
- 4 Click `Format...`
- 5 Select the `Inputs` tab
- 6 Modify the values as desired
- 7 Click `OK` to apply

Saving Your Settings

After modifying settings, save your workspace (`File > Save Workspace`) to preserve your customizations for future sessions.

Customizable Parameter Groups

CSI Pro offers extensive customization through the following parameter groups. All default values are configured in the platform and can be viewed and adjusted through the Format Indicator dialog:

- **Signal Control** - Adjust signal sensitivity, spacing, and filtering thresholds

- **Trend Detection** - Configure how the system identifies and classifies market trends
- **Fisher Transform** - Modify the primary signal trigger calculation parameters
- **Momentum Indicators** - Customize RSI and MACD calculation periods and thresholds
- **Multi-Timeframe Analysis** - Enable/disable and configure higher timeframe confirmation
- **Kernel Smoothing** - Toggle the adaptive kernel trend line and adjust its sensitivity and period
- **Hidden State Detection** - Enable/disable the Hidden Markov Model analysis for regime detection
- **Volume Analysis** - Configure volume period and surge detection multiplier for volume confirmation
- **Display Options** - Toggle visibility of various chart elements (signals, dashboard, trend lines)
- **Color Customization** - All indicator colors can be adjusted through the Style tab in Format Indicator

Viewing Default Values

To see the current default value for any parameter, access the indicator's Format dialog. The Inputs tab displays all available settings with their current values. This is where you can review and customize any parameter to suit your trading style.

ShowMe Settings (Main Indicator)

Signal Control Settings

SETTING	VALUE	WHAT IT DOES	TRADE-OFFS
ExtremeReadingLevel	See platform	The Fisher Transform threshold that triggers signal evaluation. Signals only fire when Fisher exceeds this level.	<i>Higher:</i> Fewer signals, only at more extreme conditions. <i>Lower:</i> More signals, triggers at less extreme conditions.
MinimumSpaceBetweenSignals	See platform	Minimum bars required between consecutive signals. Prevents signal spam.	<i>Higher:</i> More space between signals, fewer total signals. <i>Lower:</i> Signals can appear closer together.
WaitForBarToClose	TRUE	If TRUE, signals only appear after the bar closes. Prevents repainting.	<i>TRUE (recommended):</i> Non-repainting, reliable signals. <i>FALSE:</i> Intra-bar signals that may change.
HideLowQualitySignals	TRUE	If TRUE, LOW confidence signals are	<i>TRUE (recommended):</i> Only see MEDIUM and HIGH signals.

SETTING	VALUE	WHAT IT DOES	TRADE-OFFS
		hidden from the chart.	<i>FALSE</i> : See all signals including weak ones.

Trend Detection Settings

SETTING	VALUE	WHAT IT DOES	WHEN TO CHANGE
TrendStrengthPeriod	See platform	ADX calculation period for measuring trend strength.	Lower for faster timeframes, higher for slower timeframes.
TrendingMarketMinimum	See platform	ADX threshold above which market is considered trending.	Raise to require stronger trends before classifying as trending.
MarketStateReviewPeriod	See platform	Bars used to classify the current market regime.	Lower for faster regime switching, higher for more stable classification.

Fisher Transform Settings

SETTING	VALUE	WHAT IT DOES	WHEN TO CHANGE
FisherSignalPeriod	See platform	Lookback period for Fisher Transform calculation.	Lower for faster/more signals, higher for smoother/fewer signals.
FisherSignalSmoothing	See platform	EMA smoothing applied to Fisher readings.	Lower for more responsive, higher for smoother.

Momentum Indicator Settings

SETTING	VALUE	WHAT IT DOES
RSIPeriod	See platform	RSI calculation period.
OverboughtLevel	See platform	RSI level considered overbought.
OversoldLevel	See platform	RSI level considered oversold.
MACDFastPeriod	See platform	MACD fast EMA period.
MACDSlowPeriod	See platform	MACD slow EMA period.
MACDSignalPeriod	See platform	MACD signal line period.

Multi-Timeframe Settings

SETTING	VALUE	WHAT IT DOES	WHEN TO CHANGE
EnableMultipleTimeframes	TRUE	Whether to check higher timeframes for trend confirmation.	Set FALSE if you don't want MTF analysis affecting signals.
FirstHigherTimeframe	See platform	Multiplier for first higher timeframe analysis.	Adjust based on your trading style and base timeframe.
SecondHigherTimeframe	See platform	Multiplier for second higher timeframe analysis.	Adjust based on your trading style and base timeframe.

Display Settings

SETTING	VALUE	WHAT IT DOES
DisplaySignalLabels	TRUE	Show BUY/SELL signal labels on chart.
DisplayInfoDashboard	TRUE	Show the information panel on the right side.
DisplayTrendLines	TRUE	Show the EMA trend lines.
DisplaySmartTrendLine	TRUE	Show the adaptive kernel trend line (cyan).

CEI Settings (Cycle Exhaustion Index)

SETTING	VALUE	WHAT IT DOES	TRADE-OFFS
CycleLength	See platform	Base period for cycle measurement.	<i>Lower:</i> Faster, more sensitive to short-term momentum changes. <i>Higher:</i> Slower, smoother, less noise.
ExhaustionDetectionPeriod	See platform	Lookback for exhaustion detection.	<i>Lower:</i> Faster exhaustion detection. <i>Higher:</i> Waits for more confirmation.
SmoothingAmount	See platform	EMA smoothing for the CEI line.	<i>Lower:</i> More responsive but noisier. <i>Higher:</i> Smoother but slower.
UpperExhaustionLevel	See platform	Threshold for bullish exhaustion zone.	<i>Lower:</i> Earlier exhaustion warning. <i>Higher:</i> Later, more extreme.
LowerExhaustionLevel	See platform	Threshold for bearish exhaustion zone.	<i>Higher (closer to zero):</i> Earlier exhaustion warning. <i>Lower (further from zero):</i> Later, more extreme.

SETTING	VALUE	WHAT IT DOES	TRADE-OFFS
ExtremeZoneThreshold	See platform	Threshold for extreme exhaustion zone.	Adjust for earlier/later extreme warnings.
ShowReversalSignals	TRUE	Display REV Bull / REV Bear markers.	Set FALSE if you only want to read the oscillator visually.

PRG Settings (Probability Reversal Gauge)

SETTING	VALUE	WHAT IT DOES	TRADE-OFFS
MainSignalSpeed	See platform	Primary gauge lookback period.	<i>Lower:</i> Faster, more reactive gauge. <i>Higher:</i> Slower, smoother gauge.
ConfirmationSignalSpeed	See platform	Secondary gauge lookback period.	Should be higher than MainSignalSpeed for proper multi-speed analysis.
SmoothingAmount	See platform	WMA smoothing factor.	<i>Lower:</i> More responsive. <i>Higher:</i> Smoother.
ExtremeLevelThreshold	See platform	Threshold for overbought/oversold zones.	<i>Lower:</i> More frequent extreme readings. <i>Higher:</i> Only extreme of extreme.
ReversalSensitivity	See platform	Sensitivity for reversal detection.	<i>Higher:</i> More sensitive, earlier HP signals. <i>Lower:</i> Less sensitive, fewer HP signals.
HighProbabilityCutoff	See platform	Minimum probability required for HP signals to appear.	<i>Higher:</i> Fewer but stronger HP signals. <i>Lower:</i> More HP signals.

SETTING	VALUE	WHAT IT DOES	TRADE-OFFS
UseSignalAgreement	TRUE	Require multiple gauges to agree for HP signals.	Set FALSE to base HP signals on primary gauge only.

Part 11: Setting Up Alerts

Alert Overview

CSI Pro can notify you when signals appear so you don't have to watch the chart constantly. Alerts are disabled by default and must be configured for each indicator individually.

Available Alert Types

INDICATOR	AVAILABLE ALERTS
CSI_Pro_ShowMe	<ul style="list-style-type: none">• HIGH Confidence BUY Signal• HIGH Confidence SELL Signal• MEDIUM Confidence BUY Signal• MEDIUM Confidence SELL Signal• Bullish Break of Structure• Bearish Break of Structure
CSI_Pro_CEI	<ul style="list-style-type: none">• REV Bull (Bullish Reversal)• REV Bear (Bearish Reversal)
CSI_Pro_PRG	<ul style="list-style-type: none">• HP BUY (High Probability Buy)• HP SELL (High Probability Sell)

Enabling Alerts

- 1 Right-click on your chart
- 2 Select `Format Analysis Techniques...`
- 3 Click on the indicator you want alerts for (e.g., `CSI_Pro_ShowMe`)
- 4 Click `Format...`
- 5 Select the `Alerts` tab
- 6 Check `Enable Alert`
- 7 Configure your notification preferences (see below)
- 8 Click `OK`

Alert Configuration Options

OPTION	WHAT IT DOES
Alert Type	Choose between sound, visual message, or both.
Sound	Select an audio file to play when alert triggers.
Show Alert Log	Opens the Alert Log window to show historical alerts.

Alert Log

TradeStation maintains a log of triggered alerts.

Viewing the Alert Log

- 1 Click `View` in the menu bar
- 2 Click `TradeStation Message Center`
- 3 Select the `Alerts` tab

Here you can see all alerts that have fired, including timestamps and details.

Alert Best Practices

- **Consider starting with HIGH confidence only:** Many traders find it helpful to enable alerts only for HIGH confidence signals initially, as this can help prevent alert fatigue while learning the system.
- **Use distinct sounds:** Assign different sounds to BUY vs SELL alerts so you can distinguish them without looking at the screen.
- **Use alerts as a notification tool, not a complete system:** Alerts notify you of potential opportunities. Many traders prefer to review the chart and dashboard before making any decisions.
- **Set alerts on your primary timeframe:** Having alerts on multiple timeframes can create confusion and excessive notifications.

Part 12: Troubleshooting

Common Issues and Solutions

Installation Problems

PROBLEM	CAUSE	SOLUTION
Workspace opens with empty/error charts	ELD file was not installed before opening workspace.	Close the workspace. Install the ELD file following Part 1 instructions. Then reopen the workspace.
"Analysis technique not found" error	ELD installation incomplete or corrupted.	Reinstall the ELD file. If error persists, restart TradeStation and try again.
Indicators don't appear in list	ELD may not have imported correctly.	Go to View > EasyLanguage Documents and verify CSI_Pro_ShowMe, CSI_Pro_CEI, and CSI_Pro_PRG exist. If not, reimport the ELD file.

Signal Problems

PROBLEM	CAUSE	SOLUTION
No signals appearing	Multiple possible causes.	<ol style="list-style-type: none">1. Ensure at least 200 bars of data are loaded2. Check if market is quiet (no extremes occurring)3. Set HideLowQualitySignals to FALSE temporarily to see if LOW signals appear4. Try lowering ExtremeReadingLevel slightly to trigger signals at less extreme conditions
Too many signals appearing	ExtremeReadingLevel may be too low.	Increase ExtremeReadingLevel to require more extreme conditions. Increase MinimumSpaceBetweenSignals.
Signals appearing then disappearing	WaitForBarToClose is set to FALSE.	Set WaitForBarToClose to TRUE. Signals will only appear on closed bars and will not change.
Signals don't match historical examples	Settings may differ, or you're viewing different market conditions.	Reset all settings to defaults. Market conditions constantly change - signals won't look identical to past examples.

Display Problems

PROBLEM	CAUSE	SOLUTION
Dashboard not visible	DisplayInfoDashboard may be FALSE, or chart scrolled away from current bar.	Set DisplayInfoDashboard to TRUE. Scroll chart to the right so current bar is visible.
Dashboard shows wrong/stale data	Calculation hasn't updated.	Scroll chart or change timeframes briefly to force recalculation. Ensure data feed is connected.
Trend lines not showing	DisplayTrendLines is FALSE.	Set DisplayTrendLines to TRUE.
CEI or PRG not showing	Indicators not added to chart.	Right-click > Insert Analysis Technique > select the missing indicator.

Performance Problems

PROBLEM	CAUSE	SOLUTION
Chart loads slowly	Too much historical data or too many bars loaded.	Reduce the amount of historical data loaded. CSI Pro needs about 200 bars minimum for calculations.
TradeStation feels sluggish with CSI Pro	CSI Pro runs multiple calculations; on slower machines this can be noticeable.	Reduce the number of charts with CSI Pro active. Consider upgrading RAM or processor.

Alert Problems

PROBLEM	CAUSE	SOLUTION
Alerts not triggering	Alerts not enabled for the indicator.	Each indicator requires individual alert activation. Follow Part 11 instructions for each indicator you want alerts on.
Too many alerts	Alerts enabled for all signal types.	Disable alerts for LOW and MEDIUM signals. Consider alerts only for HIGH confidence or only for your preferred direction.

Getting Additional Help

Start Here: 24/7 AI Chatbot Support

Your first resource for any question:

<https://frontieralgo.com/csi/support.html>

Our AI assistant is trained on everything about CSI Pro and can answer most questions instantly - whether it's about signals, settings, installation, or troubleshooting. The chatbot is available 24 hours a day, 7 days a week, so you never have to wait for help.

For complex issues the AI chatbot cannot resolve, email contact information is available at the bottom of the support page.

If you need to reach a human, please include:

- Your TradeStation version
- The specific issue you're experiencing
- Any error messages you see

- Steps you've already tried

Glossary of Terms

Key Terms Defined

TERM	DEFINITION
ADX	Average Directional Index. Measures trend strength on a 0-100 scale. Above 25 = trending, below 25 = ranging. Does NOT indicate direction.
Bar	A single unit on a chart representing a time period (1 minute, 1 hour, 1 day, etc.). Also called a candle.
BOS	Break of Structure. When price breaks above a recent swing high or below a recent swing low, indicating potential trend change.
CCI	Commodity Channel Index. Measures deviation from the average price. Extreme readings suggest overbought/oversold conditions.
CEI	Cycle Exhaustion Index. CSI Pro component measuring momentum depletion and exhaustion.
Confluence	Multiple independent analytical factors agreeing on the same conclusion. Higher confluence = stronger signal basis.
ELD	EasyLanguage Document. TradeStation's file format for packaging indicator code.
EMA	Exponential Moving Average. An average that gives more weight to recent prices, making it more responsive than a simple average.
Ensemble	A method of combining multiple models or indicators to get a consensus result. CSI Pro's Ensemble combines 6 components.
Evidence Factor	One of the 12 analytical components that CSI Pro evaluates to determine signal confidence.

TERM	DEFINITION
Exhaustion	When momentum behind a price move has depleted. The move may continue briefly but lacks energy to sustain.
Fisher Transform	Mathematical conversion that amplifies extreme price readings. CSI Pro's primary trigger mechanism.
Gradient Boosting	Machine learning technique using multiple decision trees, each correcting errors of the previous one.
HIGH Confidence	Signal classification when multiple evidence factors show strong agreement on direction.
HMM	Hidden Markov Model. Pattern detection method identifying underlying market states not visible in price action.
HP	High Probability. PRG signal classification when reversal conditions are strongly met.
Kernel Trend	Adaptive smoothed trend line using kernel regression. More sophisticated than traditional moving averages.
KNN	K-Nearest Neighbors. Machine learning algorithm that finds similar historical patterns to predict direction.
MACD	Moving Average Convergence Divergence. Momentum indicator showing relationship between two EMAs.
Mean Reversion	The tendency for price to return toward its average after moving too far in one direction.
MEDIUM Confidence	Signal classification when several evidence factors agree on direction.
Momentum	The rate and force of price change. High momentum = price moving quickly in one direction.

TERM	DEFINITION
MTF	Multi-Timeframe. Analysis incorporating multiple time horizons (e.g., checking higher timeframes for confirmation).
Neural Network	Machine learning model using weighted inputs to produce output, similar to brain neurons.
Overbought	Condition where price has risen significantly and may be due for pullback. Statistical stretch to the upside.
Oversold	Condition where price has fallen significantly and may be due for bounce. Statistical stretch to the downside.
PRG	Probability Reversal Gauge. CSI Pro component measuring statistical price deviation from equilibrium.
Regime	Current market environment classification: Strong Uptrend, Strong Downtrend, Range, or High Volatility.
Repainting	When an indicator changes or removes signals after the fact. WaitForBarToClose=TRUE prevents this.
REV	Reversal. CEI signal indicating exhaustion reversal (REV Bull = bullish, REV Bear = bearish).
RSI	Relative Strength Index. Momentum oscillator measuring recent gains vs losses on 0-100 scale.
ShowMe	TradeStation indicator type that displays on the main price chart (as opposed to a subchart).
Subchart	Chart panel below the main price chart, used for oscillator-type indicators like CEI and PRG.
Trend	Sustained directional price movement. Uptrend = higher highs and higher lows. Downtrend = lower highs and lower lows.

TERM	DEFINITION
Triple Confirmation	When all three CSI Pro indicators (ShowMe, CEI, PRG) align on the same opportunity.
TSW	TradeStation Workspace. Saved chart and indicator layout file.
Volatility	The magnitude of price swings. High volatility = large, rapid price movements.

Important Risk Disclosures

Trading involves substantial risk of loss and is not suitable for all investors. You may lose more than your initial investment. Past performance is not indicative of future results.

This manual and CSI Pro do not constitute financial, investment, or trading advice. CSI Pro is an analytical tool that provides technical analysis signals - these are not recommendations to buy, sell, or hold any financial instrument. You should consult with a qualified financial advisor before making any trading or investment decisions.

Key Points to Understand:

- **CSI Pro is a professional analytical tool.** It identifies potential trading opportunities by synthesizing multiple technical factors into clear, actionable signals.
- **Confidence ratings measure analytical agreement.** Higher confidence means more factors align in the same direction, helping you prioritize the strongest technical setups.
- **Use CSI Pro as part of your complete trading approach.** Combine its signals with your risk management, market awareness, and trading plan for best results.
- **All trading decisions are yours.** CSI Pro provides the analysis; you apply it within your trading strategy.
- **Trade responsibly.** As with any trading activity, use capital you're comfortable putting at risk.

Considerations for Getting Started:

1. **Consider using simulation mode first.** Many traders find it helpful to practice with CSI Pro on TradeStation's paper trading before risking real money.
2. **Observe signals across market conditions.** Watching how CSI Pro behaves in trending, ranging, and volatile conditions can help you understand its behavior before live trading.
3. **Consider developing a complete trading plan.** Many experienced traders define entry rules, exit rules, position sizing, and risk management before trading.
4. **Many traders find it prudent to limit risk exposure.** Some common approaches include limiting risk per trade to 1-2% of trading capital.

Hypothetical Performance Disclaimer

Any examples, screenshots, or illustrations in this manual showing trades or signals are for educational purposes only. They represent hypothetical examples and do not represent actual trading results. Hypothetical performance results have inherent limitations: they do not reflect actual trading, do not involve financial risk, and cannot account for the impact of financial risk in actual trading.

Complete Legal Disclosures

For complete legal disclosures, terms of use, and privacy policy, please visit:

<https://frontieralgo.com/disclaimers.html>

FrontierAlgo | CSI Pro - Confluence Signal Intelligence

AI-Powered Trading Intelligence | TradeStation Edition

Copyright 2026 FrontierAlgo. All Rights Reserved.