Professional Volume Profile - Scalping & Day Trading Edition

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Professional Volume Profile - Scalping & Day Trading Edition- XAU/JPY

Custom Indicator for MetaTrader 5

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PROJECT TITLE:

"Premium Volume Profile with Buy/Sell Analysis for XAU/JPY Trading"

PLATFORM: MetaTrader 5

ASSET: XAU/JPY (compatible all pairs)

TIMEFRAMES: M1, M5 (priority), M15, H1, H4, D1

INDICATOR TYPE: Custom (.ex5 + .mq5 source code)

COMPLEXITY: Advanced/Premium Level

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📋 MAIN REQUIREMENTS

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1️⃣ VOLUME PROFILE DISPLAY

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POSITION:

→ Vertical Volume Profile on the RIGHT side of chart

→ Horizontal bars extending from price levels to the right

→ Anchored to price scale (right side)

PROFILE TYPES (Selectable):

→ Session Profile (Asian/London/NY sessions)

→ Visible Range Profile (what's displayed on screen)

→ Fixed Range Profile (user-defined start/end)

→ Daily Profile (full trading day)

→ Custom Time Range (from HH:MM to HH:MM)

BAR CALCULATION:

→ Row Size: 10 ticks default (adjustable 5-100)

→ Auto-adjustment based on XAU/JPY volatility

→ Tick Volume based calculation

→ Real Volume if available from broker

VISUAL SPECIFICATIONS:

→ Bar width: 20% of chart width (adjustable 10-40%)

→ Bar transparency: 70% (adjustable 0-100%)

→ Smooth rendering, no lag on M1

→ Auto-scaling based on max volume

2️⃣ BUY/SELL COLOR SYSTEM ✅ PRIORITY

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DUAL COLOR BARS:

🔵 BLUE/CYAN BARS (BUY VOLUME):

→ Displayed when BUY volume > SELL volume at price level

→ Default color: Cyan #00CED1 (customizable)

→ Transparency: 70% (adjustable)

→ Calculation: Count of uptick volume vs downtick volume

🟠 ORANGE/RED BARS (SELL VOLUME):

→ Displayed when SELL volume > BUY volume at price level

→ Default color: Orange #FF8C00 (customizable)

→ Transparency: 70% (adjustable)

→ Calculation: Count of downtick volume vs uptick volume

VISUAL EXAMPLE:

│ 2480.00 ▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓ 🟠 75% SELL ⬇️

│ 2479.00 ▓▓▓▓▓▓▓▓ 🟠 60% SELL

│ 2478.00 ▓▓▓ 🔵 55% BUY

│ 2477.00 ▓▓▓▓▓▓▓▓▓▓▓▓▓▓ 🔵 80% BUY ⬆️

│ 2476.00 ▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓ 🔴 POC

PARAMETERS:

→ Bullish\_Color: Cyan (RGB: 0,206,209)

→ Bearish\_Color: Orange (RGB: 255,140,0)

→ Bar\_Transparency: 70%

→ Color\_Mode: [Dominant / Gradient / Split]

3️⃣ BUY/SELL PERCENTAGES ON BARS ✅ PRIORITY

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PERCENTAGE DISPLAY:

→ Show percentage of dominant side (Buy or Sell) next to each bar

→ Only display if percentage > 55% (configurable threshold)

→ Format: "75% SELL" or "80% BUY"

→ Position: Right of each bar, aligned with price level

→ Font size: 9 (adjustable 7-12)

→ Color: Same as bar color (Cyan for BUY, Orange for SELL)

CALCULATION:

→ Buy % = (Buy Volume / Total Volume at this price) × 100

→ Sell % = (Sell Volume / Total Volume at this price) × 100

→ Display only dominant side (the higher percentage)

CONDITIONAL DISPLAY:

→ If percentage 50-55%: Don't display (neutral zone)

→ If percentage 55-70%: Display percentage only "65%"

→ If percentage >70%: Display percentage + label "75% SELL"

→ If percentage >80%: Display percentage + label + warning icon "85% SELL ⚠️"

VISUAL EXAMPLE:

│ 2480.00 ▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓ 🟠 75% SELL

│ 2479.00 ▓▓▓▓▓▓▓▓ 🟠 60% SELL

│ 2478.00 ▓▓▓ 🔵 (no display - 52% only)

│ 2477.00 ▓▓▓▓▓▓▓▓▓▓▓▓▓▓ 🔵 80% BUY

│ 2476.00 ▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓ 🔴 POC

PARAMETERS:

→ Show\_Percentages: true/false

→ Min\_Percentage\_Display: 55% (adjustable 50-70%)

→ Show\_Label\_Text: true/false ("BUY"/"SELL" text)

→ Percentage\_Font\_Size: 9

→ Percentage\_Position: [Right / Inside Bar / Above Bar]

→ Panel on graph : OFF / True

4️⃣ STATISTICS PANEL ✅ PRIORITY

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PANEL POSITION:

→ Top-left or Top-right corner (selectable)

→ 10 pixels from edge, 50 pixels from top

→ Auto-sizing based on content

→ Background: Black semi-transparent (80% opacity)

→ Border: White 1px solid

PANEL CONTENT:

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║ 📊 VOLUME PROFILE STATISTICS ║

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║ Session: London (08:00-16:00 GMT) ║

║ Date: 2025-01-18 ║

║ Duration: 2h 35min ║

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║ 🔵 BUY VOLUME ║

║ ████████████████████████ 58% ║

║ Volume: 125,450 contracts ║

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║ 🟠 SELL VOLUME ║

║ ████████████████ 42% ║

║ Volume: 90,320 contracts ║

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║ 📈 DELTA: +35,130 (BULLISH) 🟢 ║

║ Delta %: +16.3% ║

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║ 🔴 POC (Point of Control) ║

║ Price: 2476.50 ║

║ Volume: 25,450 (11.8% of total) ║

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║ 📊 VALUE AREA (70%) ║

║ VAH: 2478.20 ⬆️ ║

║ VAL: 2474.80 ⬇️ ║

║ Range: 340 pips ║

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║ 🔥 TOTAL VOLUME: 215,770 ║

║ Avg Volume/Min: 1,798 ║

║ Avg Volume/Bar: 450 (M1) ║

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║ ⚡ MARKET BIAS: BULLISH ║

║ (58% Buy Volume + Price above POC) ║

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STATISTICS CALCULATED:

1. SESSION INFO:

→ Session name (Asian/London/NY or Custom)

→ Start/End time

→ Current duration

→ Date

2. BUY VOLUME:

→ Horizontal progress bar (Cyan)

→ Percentage of total volume

→ Absolute volume number

→ Icon 🔵

3. SELL VOLUME:

→ Horizontal progress bar (Orange/Red)

→ Percentage of total volume

→ Absolute volume number

→ Icon 🟠

4. DELTA:

→ Calculation: Buy Volume - Sell Volume

→ Display: +35,130 or -15,240

→ Color: Green if positive, Red if negative

→ Text: "BULLISH" if positive, "BEARISH" if negative

→ Delta percentage: (Delta / Total Volume) × 100

5. POC INFO:

→ POC price level

→ Volume at POC

→ Percentage of total volume at POC

6. VALUE AREA:

→ VAH (Value Area High) price

→ VAL (Value Area Low) price

→ Range in pips between VAH and VAL

7. TOTAL VOLUME:

→ Total volume for the period

→ Average volume per minute

→ Average volume per bar

8. MARKET BIAS:

→ Auto-calculated based on:

• Buy/Sell ratio

• Price position relative to POC

• Delta value

→ Display: "BULLISH" (green) or "BEARISH" (red) or "NEUTRAL" (gray)

PARAMETERS:

→ Show\_Statistics\_Panel: true/false

→ Panel\_Position: [Top Left / Top Right / Bottom Left / Bottom Right]

→ Panel\_Transparency: 80% (adjustable 0-100%)

→ Show\_Buy\_Sell\_Bars: true/false

→ Show\_Delta: true/false

→ Show\_POC\_Info: true/false

→ Show\_Value\_Area: true/false

→ Show\_Market\_Bias: true/false

→ Update\_Frequency: [Real-time / Every Bar / Every 5 Bars]

→ Panel\_Font\_Size: 9 (adjustable 7-12)

5️⃣ POC (POINT OF CONTROL) ✅ CRITICAL

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DEFINITION:

→ Price level with the HIGHEST volume

→ The longest bar in the Volume Profile

VISUAL DISPLAY:

→ Thick RED horizontal line across entire chart

→ Line width: 3 pixels (adjustable 1-5)

→ Line style: Solid

→ Color: Bright Red #FF0000 (customizable)

→ Extension: From left to right of visible chart

LABEL:

→ Text "POC" displayed at right end of line

→ Price displayed: "POC: 2476.50"

→ Font size: 10 (adjustable 8-14)

→ Color: White or Yellow (customizable)

→ Background: Semi-transparent black box

ADDITIONAL POC FEATURES:

→ POC line extends beyond visible range (historical POC tracking)

→ Previous POC levels can be displayed (dotted lines)

→ POC change alerts (when POC moves to new price level)

UPDATE MODE:

→ Dynamic POC: Updates in real-time as volume changes

→ Fixed POC: Locks at session start, doesn't change

→ Selectable in parameters

PARAMETERS:

→ Show\_POC: true/false

→ Show\_POC\_Line: true/false

→ Show\_POC\_Label: true/false

→ POC\_Color: Red #FF0000

→ POC\_Width: 3 pixels

→ POC\_Style: [Solid / Dashed / Dotted]

→ POC\_Update\_Mode: [Dynamic / Fixed / Session Lock]

→ Show\_Previous\_POC: true/false (show yesterday's POC)

→ Previous\_POC\_Color: Dark Red #8B0000

6️⃣ VALUE AREA (70% VOLUME ZONE)

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DEFINITION:

→ Zone containing 70% of total volume

→ Centered around POC

→ Represents "fair value" zone

VISUAL DISPLAY:

→ Semi-transparent GRAY rectangle/zone

→ Extends from VAL to VAH

→ Color: Gray #808080 (customizable)

→ Transparency: 85% (adjustable 70-95%)

VAH (VALUE AREA HIGH):

→ Horizontal dashed line

→ Color: Light Gray #C0C0C0

→ Width: 1 pixel

→ Label: "VAH: 2478.20"

→ Extension: Full chart width

VAL (VALUE AREA LOW):

→ Horizontal dashed line

→ Color: Light Gray #C0C0C0

→ Width: 1 pixel

→ Label: "VAL: 2474.80"

→ Extension: Full chart width

PARAMETERS:

→ Show\_Value\_Area: true/false

→ Value\_Area\_Percentage: 70% (adjustable 60-80%)

→ Show\_VAH\_Line: true/false

→ Show\_VAL\_Line: true/false

→ Show\_VA\_Labels: true/false

→ Value\_Area\_Color: Gray #808080

→ Value\_Area\_Transparency: 85%

→ VAH\_Color: Light Gray #C0C0C0

→ VAL\_Color: Light Gray #C0C0C0

→ VA\_Line\_Style: [Solid / Dashed / Dotted]

→ VA\_Line\_Width: 1 pixel

7️⃣ HVN & LVN (HIGH/LOW VOLUME NODES)

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HVN (HIGH VOLUME NODES):

→ Price levels with volume > 150% of average volume

→ Strong support/resistance zones

→ Long bars in the Volume Profile

VISUAL DISPLAY:

→ Horizontal line at HVN levels

→ Color: Yellow #FFFF00 (customizable)

→ Width: 1 pixel

→ Style: Solid or dashed

→ Optional label: "HVN"

→ Optional volume value display

LVN (LOW VOLUME NODES):

→ Price levels with volume < 50% of average volume

→ Weak support/resistance zones

→ Short bars or gaps in Volume Profile

→ Price tends to move quickly through these zones

VISUAL DISPLAY:

→ Horizontal line at LVN levels (optional)

→ Color: Dark Gray #404040 (customizable)

→ Width: 1 pixel

→ Style: Dotted

→ Optional label: "LVN"

→ Can be highlighted with background color

PARAMETERS:

→ Show\_HVN: true/false

→ HVN\_Threshold: 150% (adjustable 120-200%)

→ HVN\_Color: Yellow #FFFF00

→ HVN\_Line\_Width: 1 pixel

→ Show\_HVN\_Labels: true/false

→ Show\_LVN: true/false

→ LVN\_Threshold: 50% (adjustable 30-70%)

→ LVN\_Color: Dark Gray #404040

→ Show\_LVN\_Labels: true/false

→ Highlight\_LVN\_Zones: true/false (background highlight)

8️⃣ VISUAL INDICATORS & ARROWS ✅ PRIORITY

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DOMINANCE ARROWS:

→ Display arrows at levels with strong Buy/Sell dominance

→ Threshold: >70% in one direction (adjustable)

VISUAL EXAMPLE:

│ 2480.00 ▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓ 🟠 75% SELL ⬇️

│ 2477.00 ▓▓▓▓▓▓▓▓▓▓▓▓▓▓ 🔵 80% BUY ⬆️

ARROW SPECIFICATIONS:

→ Up arrow ⬆️ for strong BUY zones (>70% buy volume)

→ Down arrow ⬇️ for strong SELL zones (>70% sell volume)

→ Arrow size: Small/Medium/Large (selectable)

→ Arrow color: Same as bar color

→ Position: Right of percentage text

EXTREME MARKERS:

→ Display warning icon for EXTREME imbalance (>80%)

→ Icons: ⚠️ or ⚡ or 🔥 or !

→ Color: Bright Yellow or Red

→ Indicates very strong support/resistance

VISUAL EXAMPLE:

│ 2480.00 ▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓ 🟠 85% SELL ⬇️ ⚠️ EXTREME

│ 2472.00 ▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓ 🔵 88% BUY ⬆️ ⚠️ EXTREME

CONFLUENCE ZONES:

→ Highlight zones where multiple factors align:

• HVN + High dominance (>70%) + Near POC

• Or HVN + High dominance + Value Area boundary

→ Display with special background color or border

→ Label: "🎯 CONFLUENCE ZONE"

PARAMETERS:

→ Show\_Dominance\_Arrows: true/false

→ Dominance\_Arrow\_Threshold: 70% (adjustable 60-80%)

→ Arrow\_Size: [Small / Medium / Large]

→ Arrow\_Symbol: [⬆️⬇️ / ▲▼ / ↑↓]

→ Show\_Extreme\_Markers: true/false

→ Extreme\_Threshold: 80% (adjustable 75-90%)

→ Extreme\_Marker\_Symbol: [⚠️ / ⚡ / 🔥 / !]

→ Show\_Confluence\_Zones: true/false

→ Confluence\_Background\_Color: Yellow #FFFF00

→ Confluence\_Transparency: 90%

9️⃣ SEPARATED BUY/SELL PROFILE (OPTIONAL MODE)

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ALTERNATIVE DISPLAY MODE:

→ Show TWO separate histograms side by side

→ BUY volume bars extend LEFT from center

→ SELL volume bars extend RIGHT from center

→ Mirror/butterfly style visualization

VISUAL EXAMPLE:

BUY Volume │ SELL Volume

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▓▓▓▓▓ 🔵 │ ▓▓▓▓▓▓▓▓▓▓ 🟠 2479.00

▓▓▓▓▓▓▓ 🔵 │ ▓▓▓▓ 🟠 2478.00

▓▓▓▓▓▓▓▓▓▓▓▓ 🔵 │ ▓▓▓ 🟠 2477.00

▓▓▓▓▓▓▓▓▓▓ 🔵 │ ▓▓▓▓▓▓▓▓▓ 🟠 2476.00 POC

▓▓▓▓▓▓▓▓ 🔵 │ ▓▓▓▓ 🟠 2475.00

│

← BUY │ SELL →

SPECIFICATIONS:

→ Center line: Thin white/gray vertical line

→ Independent scaling for each side OR common scale

→ Percentages displayed at end of bars

→ Clear visual representation of buy/sell pressure

PARAMETERS:

→ Profile\_Display\_Mode: [Combined / Separated / Both]

• Combined: Standard colored bars (default)

• Separated: Butterfly/mirror style

• Both: Show both modes simultaneously

→ Show\_Buy\_Side: true/false

→ Show\_Sell\_Side: true/false

→ Mirror\_Scale: true/false

• true: Same scale for Buy and Sell

• false: Independent scales (better visualization)

→ Center\_Line\_Color: White #FFFFFF

→ Center\_Line\_Width: 1 pixel

🔟 MULTI-TIMEFRAME FEATURES (ADVANCED)

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HIGHER TIMEFRAME PROFILE:

→ Display Volume Profile from higher timeframe on current chart

→ Example: Show M5 Volume Profile on M1 chart

→ Useful for multi-timeframe analysis

VISUAL DISPLAY:

→ Higher TF profile shown with different color/transparency

→ Can be overlaid or displayed separately

→ Labels indicate the timeframe: "M5 Profile" / "M15 Profile"

PARAMETERS:

→ Show\_HTF\_Profile: true/false

→ HTF\_Timeframe: [None / M5 / M15 / M30 / H1 / H4 / D1]

→ HTF\_Profile\_Color: Purple #800080

→ HTF\_Profile\_Transparency: 80%

→ HTF\_Profile\_Position: [Overlay / Separate / Left Side]

→ Show\_HTF\_POC: true/false

→ HTF\_POC\_Color: Dark Red #8B0000

1️⃣1️⃣ VOLUME DELTA INDICATOR (ADVANCED)

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DELTA CALCULATION:

→ Delta = Buy Volume - Sell Volume (at each price level)

→ Shows the imbalance between buyers and sellers

→ Cumulative delta shows overall market pressure

VISUAL DISPLAY:

→ Additional histogram on LEFT side of chart (optional)

→ Green bars for positive delta (more buying)

→ Red bars for negative delta (more selling)

→ Bar length proportional to delta magnitude

CUMULATIVE DELTA:

→ Running total of delta from session start

→ Line chart or histogram

→ Helps identify trend strength

PARAMETERS:

→ Show\_Volume\_Delta: true/false

→ Delta\_Display\_Mode: [Per Level / Cumulative / Both]

→ Delta\_Positive\_Color: Green #00FF00

→ Delta\_Negative\_Color: Red #FF0000

→ Show\_Delta\_Line: true/false (cumulative delta line)

→ Delta\_Position: [Left Side / Separate Window / Overlay]

1️⃣2️⃣ PROFILE SPLITTING BY SESSION

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SESSION SEPARATION:

→ Display separate Volume Profiles for each trading session

→ Asian / London / New York sessions

→ Each session has its own POC, Value Area, statistics

VISUAL DISPLAY:

→ Multiple profiles displayed side by side OR

→ Session boundaries marked with vertical lines

→ Different colors for each session

→ Labels: "Asian Session" / "London Session" / "NY Session"

SESSION TIMES (Customizable):

→ Asian: 00:00 - 08:00 GMT

→ London: 08:00 - 16:00 GMT

→ New York: 13:00 - 21:00 GMT

PARAMETERS:

→ Split\_By\_Session: true/false

→ Show\_Asian\_Session: true/false

→ Show\_London\_Session: true/false

→ Show\_NY\_Session: true/false

→ Asian\_Session\_Color: Yellow #FFFF00

→ London\_Session\_Color: Blue #0000FF

→ NY\_Session\_Color: Red #FF0000

→ Session\_Start\_Times: Customizable (HH:MM format)

→ Show\_Session\_Separators: true/false (vertical lines)

1️⃣3️⃣ OPTIMIZATION FOR XAU/JPY ✅ CRITICAL

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AUTO-DETECTION:

→ Automatic detection of XAU/JPY tick size

→ Auto-adjustment of Row Size based on volatility

→ Optimized for XAU/JPY price movements

VOLATILITY ADJUSTMENT:

→ Monitor ATR (Average True Range)

→ If ATR > 150 pips: Increase Row Size by 1.5x

→ If ATR < 80 pips: Decrease Row Size by 0.75x

→ Ensures optimal bar granularity

PRICE FORMAT:

→ Display prices in XAU/JPY format: 2476.50

→ Proper decimal places (2 decimals for XAU/JPY)

→ Thousand separators for volume (125,450)

PERFORMANCE OPTIMIZATION:

→ Efficient calculation for M1 timeframe (high frequency)

→ No lag or freezing

→ Smooth real-time updates

→ Maximum calculation time: <100ms per update

→ Optimized memory usage

SESSION PRESETS FOR XAU:

→ Pre-configured session times for gold trading

→ Asian session (Tokyo): 00:00-08:00 GMT

→ London session: 08:00-16:00 GMT

→ NY session: 13:00-21:00 GMT

→ Overlap periods highlighted

PARAMETERS:

→ Auto\_Adjust\_Row\_Size: true/false

→ ATR\_Period: 14 (for volatility calculation)

→ High\_Volatility\_Threshold: 150 pips

→ Low\_Volatility\_Threshold: 80 pips

→ Row\_Size\_Multiplier\_High: 1.5

→ Row\_Size\_Multiplier\_Low: 0.75

1️⃣4️⃣ ALERTS & NOTIFICATIONS ✅ PRIORITY

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ALERT TYPES:

1. POC TOUCH ALERT:

→ Alert when price touches or crosses POC line

→ Message: "Price touched POC at 2476.50"

→ Useful for mean reversion trades

2. VALUE AREA BOUNDARY ALERTS:

→ Alert when price exits Value Area (above VAH or below VAL)

→ Message: "Price broke above VAH at 2478.20 - Overvalued"

→ Message: "Price broke below VAL at 2474.80 - Undervalued"

3. HVN TOUCH ALERT:

→ Alert when price reaches High Volume Node

→ Message: "Price reached HVN resistance at 2480.00"

→ Indicates potential support/resistance reaction

4. EXTREME IMBALANCE ALERT:

→ Alert when new extreme Buy/Sell imbalance forms (>80%)

→ Message: "Extreme SELL pressure at 2480.00 (85%)"

→ Indicates strong support/resistance zone

5. DELTA CHANGE ALERT:

→ Alert when cumulative delta changes significantly

→ Message: "Delta shifted BULLISH: +45,000 (was +15,000)"

→ Threshold: >20,000 contracts change (adjustable)

→ Indicates momentum shift

6. POC SHIFT ALERT:

→ Alert when POC moves to a new price level

→ Message: "POC shifted from 2476.50 to 2478.00"

→ Indicates change in market acceptance

7. SESSION START ALERT:

→ Alert at the beginning of each trading session

→ Message: "London session starting - New Volume Profile"

→ Helps track session transitions

8. CONFLUENCE ZONE ALERT:

→ Alert when price reaches confluence zone

→ Message: "Price at CONFLUENCE: HVN + 75% SELL + near POC"

→ High probability trade setup

ALERT DELIVERY METHODS:

📱 PUSH NOTIFICATIONS:

→ Send alerts to MetaTrader mobile app

→ Real-time notifications on smartphone

→ Works when MT5 desktop is closed

→ Requires MT5 mobile app installed

🔔 POPUP ALERTS:

→ Pop-up window on MT5 desktop

→ Displays alert message

→ Requires user acknowledgment

→ Can be disabled if annoying

🔊 SOUND ALERTS:

→ Play sound file when alert triggers

→ Customizable sound file (alert.wav, alert2.wav, etc.)

→ Volume adjustable

→ Different sounds for different alert types

📧 EMAIL ALERTS:

→ Send email notifications

→ Requires email configuration in MT5

→ Useful for remote monitoring

→ Can include screenshot (optional)

ALERT PARAMETERS:

→ Enable\_Alerts: true/false (master switch)

→ Alert\_POC\_Touch: true/false

→ Alert\_VA\_Break: true/false

→ Alert\_HVN\_Touch: true/false

→ Alert\_Extreme\_Imbalance: true/false

→ Alert\_Delta\_Change: true/false

→ Alert\_POC\_Shift: true/false

→ Alert\_Session\_Start: true/false

→ Alert\_Confluence\_Zone: true/false

→ Alert\_Mode\_Popup: true/false

→ Alert\_Mode\_Sound: true/false

→ Alert\_Mode\_Email: true/false

→ Alert\_Mode\_Push: true/false ✅ (Mobile notifications)

→ Alert\_Sound\_File: "alert.wav" (customizable)

→ Alert\_Sound\_POC: "alert.wav"

→ Alert\_Sound\_Extreme: "alert2.wav"

→ Alert\_Frequency: [Once / Every Touch / Every Bar]

→ Alert\_Cooldown: 60 seconds (avoid spam)

→ Delta\_Change\_Threshold: 20,000 contracts

→ Extreme\_Imbalance\_Threshold: 80%

→ HVN\_Touch\_Distance: 5 pips (alert when within X pips)

1️⃣5️⃣ USER INTERFACE & SETTINGS PANEL

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INPUT PARAMETERS (Settings Window):

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GENERAL SETTINGS

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→ Profile\_Type: [Session / Visible Range / Fixed / Daily / Custom]

→ Session\_Start\_Time: "00:00" (HH:MM format)

→ Session\_End\_Time: "23:59" (HH:MM format)

→ Custom\_Start\_Date: 2025.01.18 (for Fixed Range)

→ Custom\_End\_Date: 2025.01.18 (for Fixed Range)

→ Row\_Size\_Ticks: 10 (adjustable 5-100)

→ Max\_Bars\_Back: 1000 (calculation depth)

→ Auto\_Adjust\_Row\_Size: true/false

→ Timezone\_Offset: 0 (GMT offset, -5 for EST, +9 for JST)

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DISPLAY SETTINGS

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→ Show\_Volume\_Profile: true/false

→ Profile\_Position: [Right / Left / Both]

→ Profile\_Width\_Percent: 20% (adjustable 10-40%)

→ Profile\_Display\_Mode: [Combined / Separated / Both]

→ Show\_Volume\_Values: true/false (numbers on bars)

→ Volume\_Display\_Format: [Absolute / Percentage / Both]

→ Bar\_Spacing: 1 (adjustable 0-5 pixels)

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COLOR SETTINGS

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→ Bullish\_Color: Cyan #00CED1

→ Bearish\_Color: Orange #FF8C00

→ Bar\_Transparency: 70% (adjustable 0-100%)

→ POC\_Color: Red #FF0000

→ POC\_Width: 3 pixels (adjustable 1-5)

→ Value\_Area\_Color: Gray #808080

→ Value\_Area\_Transparency: 85%

→ VAH\_Color: Light Gray #C0C0C0

→ VAL\_Color: Light Gray #C0C0C0

→ HVN\_Color: Yellow #FFFF00

→ LVN\_Color: Dark Gray #404040

→ Background\_Color: Black #000000 (for panels)

→ Text\_Color: White #FFFFFF

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POC SETTINGS

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→ Show\_POC: true/false

→ Show\_POC\_Line: true/false

→ Show\_POC\_Label: true/false

→ POC\_Label\_Text: "POC"

→ POC\_Line\_Style: [Solid / Dashed / Dotted]

→ POC\_Update\_Mode: [Dynamic / Fixed / Session Lock]

→ Show\_Previous\_POC: true/false

→ Previous\_POC\_Color: Dark Red #8B0000

→ Previous\_POC\_Style: Dotted

→ Extend\_POC\_Left: true/false (extend beyond visible range)

→ Extend\_POC\_Right: true/false

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VALUE AREA SETTINGS

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→ Show\_Value\_Area: true/false

→ Value\_Area\_Percentage: 70% (adjustable 60-80%)

→ Show\_VAH\_Line: true/false

→ Show\_VAL\_Line: true/false

→ Show\_VA\_Labels: true/false

→ Show\_VA\_Fill: true/false (filled rectangle)

→ VA\_Line\_Style: [Solid / Dashed / Dotted]

→ VA\_Line\_Width: 1 pixel

→ Extend\_VA\_Lines: true/false

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HVN/LVN SETTINGS

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→ Show\_HVN: true/false

→ HVN\_Threshold\_Percent: 150% (adjustable 120-200%)

→ HVN\_Line\_Width: 1 pixel

→ Show\_HVN\_Labels: true/false

→ Show\_LVN: true/false

→ LVN\_Threshold\_Percent: 50% (adjustable 30-70%)

→ Show\_LVN\_Labels: true/false

→ Highlight\_LVN\_Zones: true/false

→ LVN\_Background\_Color: Dark Gray #404040

→ LVN\_Transparency: 90%

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BUY/SELL PERCENTAGE SETTINGS ✅

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→ Show\_Percentages: true/false

→ Min\_Percentage\_Display: 55% (adjustable 50-75%)

→ Show\_Percentage\_Labels: true/false ("BUY"/"SELL" text)

→ Percentage\_Font\_Size: 9 (adjustable 7-14)

→ Percentage\_Font: [Arial / Tahoma / Segoe UI / Courier]

→ Percentage\_Position: [Right / Inside Bar / Above Bar]

→ Percentage\_Color\_Mode: [Same As Bar / Custom]

→ Custom\_Buy\_Text\_Color: Cyan #00CED1

→ Custom\_Sell\_Text\_Color: Orange #FF8C00

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STATISTICS PANEL SETTINGS ✅

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→ Show\_Statistics\_Panel: true/false

→ Panel\_Position: [Top Left / Top Right / Bottom Left / Bottom Right]

→ Panel\_X\_Offset: 10 pixels (from edge)

→ Panel\_Y\_Offset: 50 pixels (from edge)

→ Panel\_Width: Auto (or fixed pixels)

→ Panel\_Transparency: 80% (adjustable 0-100%)

→ Panel\_Border\_Color: White #FFFFFF

→ Panel\_Border\_Width: 1 pixel

→ Panel\_Font\_Size: 9 (adjustable 7-12)

→ Panel\_Font: [Arial / Tahoma / Segoe UI]

→ Show\_Session\_Info: true/false

→ Show\_Buy\_Sell\_Bars: true/false

→ Show\_Delta\_Info: true/false

→ Show\_POC\_Info: true/false

→ Show\_Value\_Area\_Info: true/false

→ Show\_Total\_Volume: true/false

→ Show\_Market\_Bias: true/false

→ Panel\_Update\_Frequency: [Real-time / Every Bar / Every 5 Bars]

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VISUAL INDICATORS SETTINGS ✅

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→ Show\_Dominance\_Arrows: true/false

→ Dominance\_Arrow\_Threshold: 70% (adjustable 60-85%)

→ Arrow\_Size: [Small / Medium / Large]

→ Arrow\_Symbol: [⬆️⬇️ / ▲▼ / ↑↓ / Wingdings]

→ Arrow\_Color\_Mode: [Same As Bar / Custom]

→ Show\_Extreme\_Markers: true/false

→ Extreme\_Threshold: 80% (adjustable 75-90%)

→ Extreme\_Marker\_Symbol: [⚠️ / ⚡ / 🔥 / ! / Custom]

→ Extreme\_Marker\_Color: Yellow #FFFF00

→ Extreme\_Marker\_Size: Medium

→ Show\_Confluence\_Zones: true/false

→ Confluence\_Criteria: [HVN + Dominance / HVN + POC / All]

→ Confluence\_Background\_Color: Yellow #FFFF00

→ Confluence\_Transparency: 90%

→ Confluence\_Label: true/false

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MULTI-TIMEFRAME SETTINGS

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→ Show\_HTF\_Profile: true/false

→ HTF\_Timeframe: [None / M5 / M15 / M30 / H1 / H4 / D1]

→ HTF\_Profile\_Color: Purple #800080

→ HTF\_Profile\_Transparency: 80%

→ HTF\_Profile\_Position: [Overlay / Separate / Left Side]

→ Show\_HTF\_POC: true/false

→ HTF\_POC\_Color: Dark Red #8B0000

→ Show\_HTF\_Value\_Area: true/false

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VOLUME DELTA SETTINGS

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→ Show\_Volume\_Delta: true/false

→ Delta\_Display\_Mode: [Per Level / Cumulative / Both]

→ Delta\_Positive\_Color: Green #00FF00

→ Delta\_Negative\_Color: Red #FF0000

→ Delta\_Transparency: 70%

→ Show\_Delta\_Line: true/false

→ Delta\_Line\_Width: 2 pixels

→ Delta\_Position: [Left Side / Separate Window / Overlay]

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SESSION SPLITTING SETTINGS

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→ Split\_By\_Session: true/false

→ Show\_Asian\_Session: true/false

→ Show\_London\_Session: true/false

→ Show\_NY\_Session: true/false

→ Asian\_Start\_Time: "00:00" (GMT)

→ Asian\_End\_Time: "08:00" (GMT)

→ London\_Start\_Time: "08:00" (GMT)

→ London\_End\_Time: "16:00" (GMT)

→ NY\_Start\_Time: "13:00" (GMT)

→ NY\_End\_Time: "21:00" (GMT)

→ Asian\_Session\_Color: Yellow #FFFF00

→ London\_Session\_Color: Blue #0000FF

→ NY\_Session\_Color: Red #FF0000

→ Show\_Session\_Separators: true/false (vertical lines)

→ Session\_Separator\_Color: White #FFFFFF

→ Session\_Separator\_Style: Dashed

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ALERT SETTINGS ✅ PRIORITY

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→ Enable\_Alerts: true/false (master switch)

ALERT TYPES:

→ Alert\_POC\_Touch: true/false

→ Alert\_VA\_Break: true/false

→ Alert\_HVN\_Touch: true/false

→ Alert\_Extreme\_Imbalance: true/false

→ Alert\_Delta\_Change: true/false

→ Alert\_POC\_Shift: true/false

→ Alert\_Session\_Start: true/false

→ Alert\_Confluence\_Zone: true/false

ALERT DELIVERY METHODS:

→ Alert\_Mode\_Popup: true/false

→ Alert\_Mode\_Sound: true/false

→ Alert\_Mode\_Email: true/false

→ Alert\_Mode\_Push: true/false ✅ (Mobile push notifications)

ALERT CUSTOMIZATION:

→ Alert\_Sound\_File: "alert.wav"

→ Alert\_Sound\_POC: "alert.wav"

→ Alert\_Sound\_VA\_Break: "alert2.wav"

→ Alert\_Sound\_Extreme: "stops.wav"

→ Alert\_Sound\_Confluence: "ok.wav"

→ Alert\_Frequency: [Once / Every Touch / Every Bar]

→ Alert\_Cooldown\_Seconds: 60 (prevent spam)

→ Alert\_Message\_Prefix: "[VP XAU]" (customizable)

ALERT THRESHOLDS:

→ Delta\_Change\_Threshold: 20000 contracts

→ Extreme\_Imbalance\_Threshold: 80%

→ HVN\_Touch\_Distance\_Pips: 5 pips

→ POC\_Touch\_Distance\_Pips: 2 pips

→ VA\_Break\_Confirmation\_Bars: 1 (bars outside VA to confirm)

PUSH NOTIFICATION SETTINGS ✅:

→ Push\_Notification\_ID: "" (MetaQuotes ID for mobile)

→ Push\_Include\_Price: true/false

→ Push\_Include\_Time: true/false

→ Push\_Include\_Volume\_Data: true/false

→ Push\_Priority: [Normal / High / Urgent]

EMAIL SETTINGS (Optional):

→ Email\_Subject\_Prefix: "[VP XAU Alert]"

→ Email\_Include\_Screenshot: true/false

→ Email\_Include\_Statistics: true/false

1️⃣6️⃣ PERFORMANCE & OPTIMIZATION ✅ CRITICAL

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CALCULATION EFFICIENCY:

→ Optimized for M1 timeframe (high-frequency updates)

→ Maximum calculation time per update: <100ms

→ No lag or freezing during live trading

→ Efficient memory management

→ Smart recalculation (only when needed, not every tick)

MEMORY OPTIMIZATION:

→ Maximum memory usage: <50MB

→ Efficient data structures

→ Automatic cleanup of old data

→ No memory leaks

UPDATE MODES:

→ Real-time mode: Updates every tick (for M1 scalping)

→ Bar close mode: Updates only on bar close (less CPU)

→ Timed mode: Updates every X seconds (customizable)

→ Manual mode: Updates only when user refreshes

MULTI-CORE SUPPORT:

→ Utilize multiple CPU cores if available

→ Parallel calculations for faster processing

→ Thread-safe implementation

PARAMETERS:

→ Update\_Mode: [Real-time / Bar Close / Timed / Manual]

→ Update\_Interval\_Seconds: 5 (for Timed mode)

→ Enable\_Multi\_Threading: true/false

→ Max\_CPU\_Usage\_Percent: 25% (limit CPU usage)

→ Calculation\_Priority: [Low / Normal / High]

1️⃣7️⃣ COMPATIBILITY & REQUIREMENTS

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PLATFORM REQUIREMENTS:

→ MetaTrader 5 Build 3802 or higher (latest versions)

→ Windows 7/8/10/11 (64-bit recommended)

→ Minimum 4GB RAM (8GB recommended for M1)

→ Multi-core processor recommended

BROKER COMPATIBILITY:

→ Works with ALL MT5 brokers

→ No broker restrictions

→ Compatible with both Market and Instant execution

→ Works with ECN, STP, Market Maker brokers

ASSET COMPATIBILITY:

→ Optimized for XAU/JPY (Gold vs Japanese Yen)

→ Also works on: XAU/USD, XAG/USD, EUR/USD, GBP/USD

→ Compatible with all Forex pairs, metals, indices, crypto

→ Auto-detection of symbol specifications

STRATEGY TESTER COMPATIBILITY:

→ Full backtesting support

→ Works in MT5 Strategy Tester

→ Visual mode supported

→ Historical volume profile calculation

MULTI-CHART SUPPORT:

→ Can run on multiple charts simultaneously

→ Each chart has independent settings

→ No conflicts between instances

→ Shared settings option (apply to all charts)

1️⃣8️⃣ ADDITIONAL FEATURES (BONUS)

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PROFILE TEMPLATES:

→ Save/Load custom settings as templates

→ Quick switch between configurations

→ Pre-configured templates:

• "M1 Scalping" template

• "M5 Day Trading" template

• "Session Analysis" template

• "Clean Minimal" template

HOTKEYS (Optional):

→ Keyboard shortcuts for quick actions

→ Toggle profile visibility: Ctrl+P

→ Toggle statistics panel: Ctrl+S

→ Reset to current session: Ctrl+R

→ Cycle through sessions: Ctrl+N

→ Customizable key combinations

DATA EXPORT (Optional):

→ Export volume data to CSV file

→ Export POC levels to text file

→ Export statistics to Excel

→ Screenshot with annotations

DRAWING TOOLS INTEGRATION:

→ Automatically draw support/resistance lines at HVN

→ Mark POC with horizontal line object

→ Annotate confluence zones

→ Auto-labeling of key levels

HISTORICAL PROFILE OVERLAY:

→ Display previous day's/session's Volume Profile

→ Compare current profile to historical profiles

→ Identify recurring support/resistance zones

→ Overlay multiple profiles with transparency

PARAMETERS:

→ Show\_Previous\_Day\_Profile: true/false

→ Previous\_Profile\_Color: Gray #808080

→ Previous\_Profile\_Transparency: 90%

→ Number\_Of\_Previous\_Profiles: 3 (adjustable 1-10)

→ Auto\_Draw\_HVN\_Lines: true/false

→ Enable\_Hotkeys: true/false

→ Enable\_Data\_Export: true/false

1️⃣9️⃣ USER MANUAL & DOCUMENTATION

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REQUIRED DOCUMENTATION:

1. USER MANUAL (PDF):

→ Installation instructions

→ Complete parameter explanations

→ Visual examples with screenshots

→ Trading strategies using the indicator

→ Troubleshooting section

→ FAQ (Frequently Asked Questions)

→ Language: English (French version bonus)

→ Minimum 20 pages with images

2. QUICK START GUIDE (PDF):

→ 1-2 pages quick reference

→ Essential settings for XAU/JPY M1 trading

→ Step-by-step setup (5 minutes)

→ Default recommended settings

3. VIDEO TUTORIAL (Optional but appreciated):

→ 10-15 minute walkthrough video

→ Installation and setup

→ Explanation of all features

→ Live trading examples

→ Tips and best practices

→ Language: English with subtitles

4. PARAMETER REFERENCE CARD:

→ One-page PDF with all parameters

→ Quick reference for settings

→ Printable format

5. CODE COMMENTS:

→ Well-commented source code (.mq5)

→ Explanation of key functions

→ Easy to understand for future modifications

2️⃣0️⃣ DELIVERABLES & TIMELINE

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REQUIRED FILES:

1. VolumeProfile\_Premium\_XAU.ex5

→ Compiled indicator file (ready to use)

→ Optimized and tested

→ No expiration, no account restrictions

2. VolumeProfile\_Premium\_XAU.mq5 ✅ CRITICAL

→ Full source code (uncompiled)

→ Well-commented code

→ Allows future modifications

→ FULL OWNERSHIP of code

3. User\_Manual\_EN.pdf

→ Complete user manual in English

→ Minimum 20 pages

→ Screenshots and examples

4. Quick\_Start\_Guide.pdf

→ 1-2 page quick reference

→ Essential settings

5. Parameter\_Reference.pdf

→ One-page parameter list

→ Quick settings reference

6. Installation\_Instructions.txt

→ Step-by-step installation guide

→ Folder locations

→ Activation steps

7. Video\_Tutorial.mp4 (OPTIONAL - BONUS)

→ 10-15 minute video

→ Installation and usage

→ Trading examples

8. Template\_Files (OPTIONAL - BONUS)

→ Pre-configured .tpl files

→ M1\_Scalping.tpl

→ M5\_DayTrading.tpl

→ Session\_Analysis.tpl

DEVELOPMENT TIMELINE:

PHASE 1 - Core Development (5-7 days):

→ Basic Volume Profile structure

→ Buy/Sell color system

→ POC calculation and display

→ Value Area calculation

→ Basic statistics panel

PHASE 2 - Advanced Features (3-5 days):

→ Buy/Sell percentages on bars

→ Visual indicators (arrows, markers)

→ HVN/LVN detection

→ Multi-timeframe support

→ Volume Delta

PHASE 3 - Optimization (2-3 days):

→ Performance optimization for M1

→ Memory management

→ XAU/JPY specific adjustments

→ Bug fixing and testing

PHASE 4 - Alerts & UI (2-3 days):

→ All alert types implementation

→ Push notifications setup

→ Statistics panel refinement

→ User interface polishing

PHASE 5 - Documentation (2-3 days):

→ User manual creation

→ Quick start guide

→ Video tutorial (optional)

→ Code commenting

TOTAL ESTIMATED TIME: 14-21 days

RECOMMENDED DEADLINE: 21 days (3 weeks)

2️⃣1️⃣ SUPPORT & MAINTENANCE

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POST-DELIVERY SUPPORT:

1. BUG FIXES (30 days):

→ Free bug fixes for 30 days after delivery

→ Response time: Within 24-48 hours

→ Critical bugs fixed within 24 hours

→ Minor bugs fixed within 7 days

2. MINOR ADJUSTMENTS (30 days):

→ Up to 2 minor feature adjustments included

→ Examples: Color changes, threshold adjustments

→ Does not include major new features

→ Delivered within 7 days of request

3. UPDATES FOR MT5 COMPATIBILITY (90 days):

→ Free updates if MT5 platform changes

→ Compatibility with new MT5 builds

→ Ensures indicator continues working

4. DOCUMENTATION UPDATES:

→ Corrections to user manual if needed

→ Clarifications based on user feedback

→ Updated within 7 days

2️⃣2️⃣ LICENSING & OWNERSHIP

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LICENSE TYPE: Full Ownership License ✅

YOUR RIGHTS:

→ FULL SOURCE CODE ownership (.mq5 file)

→ Unlimited use on ALL your MT5 accounts

→ Use on demo and live accounts

→ Use with ANY broker (no restrictions)

→ Modify the code as needed (you own it)

→ No expiration date

→ No account number restrictions

→ No broker restrictions

2️⃣3️⃣ TESTING & QUALITY ASSURANCE

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TESTING REQUIREMENTS:

1. LIVE TESTING:

→ Test on live XAU/JPY M1 chart for minimum 48 hours

→ Verify all calculations are accurate

→ Check for memory leaks

→ Monitor CPU usage

2. BACKTESTING:

→ Test in MT5 Strategy Tester

→ Verify historical profile calculations

→ Test on multiple timeframes (M1, M5, M15)

→ Test on different symbols (XAU/JPY, XAU/USD, EUR/USD)

3. STRESS TESTING:

→ Run on M1 during high volatility (London/NY overlap)

→ Test with multiple instances (5+ charts)

→ Monitor performance and stability

→ Verify no crashes or freezes

4. ALERT TESTING:

→ Test all alert types trigger correctly

→ Verify push notifications work

→ Test email alerts (if enabled)

→ Verify sound alerts play correctly

5. CROSS-BROKER TESTING:

→ Test with at least 2 different brokers

→ Verify compatibility

→ Check tick volume vs real volume

ACCEPTANCE CRITERIA:

→ No crashes or freezes during 48-hour live test

→ CPU usage < 25% on M1 timeframe

→ Memory usage < 50MB

→ Calculation time < 100ms per update

→ All alerts functioning correctly

→ All visual elements displaying correctly

→ Statistics panel updating accurately

2️⃣5️⃣ SPECIAL REQUIREMENTS FOR XAU/JPY

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XAU/JPY SPECIFIC OPTIMIZATIONS:

1. PRICE FORMAT & PRECISION:

→ XAU/JPY displays with 2 decimal places (2476.50)

→ Auto-detect symbol's decimal precision

→ Proper formatting for Japanese Yen (no cents)

→ Handle large numbers (2000-3000 range)

2. TICK SIZE ADAPTATION:

→ XAU/JPY typical tick size: 0.10 - 0.50

→ Auto-detect broker's tick size

→ Adjust Row Size accordingly

→ Recommended Row Size: 10-20 ticks for M1

→ Recommended Row Size: 20-50 ticks for M5

3. VOLATILITY HANDLING:

→ XAU/JPY can move 200-500 pips per session

→ High volatility during London/NY sessions

→ Low volatility during Asian session

→ Dynamic Row Size adjustment based on ATR

→ ATR calculation period: 14 bars

4. SESSION TIMING FOR GOLD:

→ Asian Session (Low volatility):

• Start: 00:00 GMT

• End: 08:00 GMT

• Typical range: 50-100 pips

→ London Session (High volatility):

• Start: 08:00 GMT

• End: 16:00 GMT

• Typical range: 150-300 pips

→ New York Session (Highest volatility):

• Start: 13:00 GMT

• End: 21:00 GMT

• Typical range: 200-400 pips

→ London/NY Overlap (EXTREME volatility):

• Start: 13:00 GMT

• End: 16:00 GMT

• Typical range: 150-250 pips in 3 hours

• MOST IMPORTANT for volume analysis

5. VOLUME CHARACTERISTICS:

→ XAU/JPY has lower volume than XAU/USD

→ Use tick volume (always available)

→ Real volume may not be available (depends on broker)

→ Volume spikes during news events (NFP, FOMC, BOJ)

6. PRICE LEVEL CLUSTERING:

→ Gold tends to cluster around round numbers

→ 2450.00, 2475.00, 2500.00 are psychological levels

→ Highlight round number levels (optional feature)

→ POC often forms near round numbers

7. SPREAD CONSIDERATIONS:

→ XAU/JPY spread: 15-40 pips (varies by broker)

→ Higher spread than major pairs

→ Account for spread in HVN/LVN calculations

→ Alert thresholds should consider spread

8. NEWS IMPACT:

→ Gold highly sensitive to:

• USD news (NFP, FOMC, CPI, GDP)

• JPY news (BOJ policy, Tankan, GDP)

• Risk sentiment (safe haven flows)

• Geopolitical events

→ Volume Profile can show institutional positioning before news

→ Delta shifts often precede major moves

PARAMETERS FOR XAU/JPY OPTIMIZATION:

→ Symbol\_Type: [Auto-detect / Gold / Forex / Index]

→ Enable\_XAU\_Optimizations: true/false

→ XAU\_Tick\_Size: Auto (or manual: 0.10, 0.50)

→ XAU\_Min\_Row\_Size: 10 ticks

→ XAU\_Max\_Row\_Size: 50 ticks

→ Highlight\_Round\_Numbers: true/false

→ Round\_Number\_Interval: 25.00 (2450, 2475, 2500...)

→ Round\_Number\_Color: White #FFFFFF

→ Account\_For\_Spread: true/false

2️⃣6️⃣ TRADING STRATEGIES INTEGRATION (BONUS)

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PRE-CONFIGURED STRATEGY TEMPLATES:

1. M1 SCALPING STRATEGY:

→ Look for HVN with >70% dominance

→ Enter on rejection at HVN level

→ Target: POC or opposite HVN

→ Stop loss: 15-20 pips beyond HVN

→ Best during London/NY sessions

2. POC MEAN REVERSION:

→ Wait for price >100 pips from POC

→ Enter when price starts moving toward POC

→ Target: POC level

→ Stop loss: Beyond recent swing high/low

→ Works in ranging markets

3. VALUE AREA BREAKOUT:

→ Wait for price to break above VAH or below VAL

→ Confirm with volume increase (>150% average)

→ Enter on retest of VA boundary

→ Target: 1.5x VA range

→ Stop loss: Back inside Value Area

4. DELTA DIVERGENCE:

→ Price making higher highs, Delta making lower highs

→ Indicates weakening momentum

→ Look for reversal at HVN

→ Enter on confirmation (rejection candle)

→ Target: POC or opposite extreme

5. CONFLUENCE ZONE REVERSAL:

→ Wait for price at confluence zone

→ HVN + >75% dominance + near POC/VA boundary

→ Enter on reversal signal (pin bar, engulfing)

→ High probability setup

→ Target: 50-100 pips

VISUAL STRATEGY MARKERS (Optional):

→ Display entry zones with green boxes

→ Display exit zones with red boxes

→ Display stop loss levels with red lines

→ Strategy labels on chart

→ Win rate statistics (if backtested)

PARAMETERS:

→ Show\_Strategy\_Markers: true/false

→ Strategy\_Type: [Scalping / Mean Reversion / Breakout / Delta / Confluence]

→ Entry\_Zone\_Color: Green #00FF00

→ Exit\_Zone\_Color: Red #FF0000

→ Show\_Stop\_Loss\_Levels: true/false

2️⃣7️⃣ ADVANCED CALCULATIONS (TECHNICAL)

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VOLUME CALCULATION METHOD:

1. TICK VOLUME ANALYSIS:

→ Count number of price changes at each level

→ Separate upticks (buy pressure) vs downticks (sell pressure)

→ Formula:

• If Close > Open: Add to Buy Volume

• If Close < Open: Add to Sell Volume

• If Close == Open: Use previous bar's direction

2. REAL VOLUME (if available):

→ Use actual traded volume from broker feed

→ More accurate than tick volume

→ Not always available for XAU/JPY

→ Fallback to tick volume if not available

3. VOLUME AGGREGATION:

→ Aggregate volume into price levels (rows)

→ Row size determines price level granularity

→ Example: Row size 10 ticks = 1 pip for XAU/JPY

→ Sum all volume within each row

POC CALCULATION:

→ Identify the price level (row) with maximum volume

→ If multiple rows have same volume, choose middle one

→ Update dynamically as new volume comes in

→ Can be locked at session start (fixed mode)

VALUE AREA CALCULATION:

→ Sort all price levels by volume (descending)

→ Start with POC (highest volume)

→ Add adjacent price levels alternately (above/below)

→ Continue until 70% of total volume is included

→ VAH = highest price level in Value Area

→ VAL = lowest price level in Value Area

BUY/SELL PERCENTAGE CALCULATION:

→ At each price level:

• Buy % = (Buy Volume / Total Volume at level) × 100

• Sell % = (Sell Volume / Total Volume at level) × 100

• Buy % + Sell % = 100%

→ Display dominant side only if > 55%

DELTA CALCULATION:

→ Per Level Delta = Buy Volume - Sell Volume

→ Cumulative Delta = Sum of all deltas from session start

→ Positive delta = More buying pressure

→ Negative delta = More selling pressure

HVN DETECTION:

→ Calculate average volume per price level

→ HVN = Price level with volume > (Average × HVN\_Threshold)

→ Default threshold: 150% (1.5x average)

LVN DETECTION:

→ LVN = Price level with volume < (Average × LVN\_Threshold)

→ Default threshold: 50% (0.5x average)

→ Indicates price moved quickly through this level

2️⃣8️⃣ ERROR HANDLING & EDGE CASES

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REQUIRED ERROR HANDLING:

1. INSUFFICIENT DATA:

→ If not enough bars loaded: Display warning message

→ Minimum bars required: 100 for M1, 50 for M5

→ Message: "Loading data... Please wait"

→ Auto-retry every 5 seconds

2. ZERO VOLUME PERIODS:

→ Handle periods with no trading activity

→ Don't display profile if no volume

→ Show message: "No volume data for this period"

3. SYMBOL CHANGE:

→ Detect when user changes symbol

→ Recalculate all parameters automatically

→ Clear old data

→ Reinitialize for new symbol

4. TIMEFRAME CHANGE:

→ Detect timeframe change

→ Adjust Row Size automatically

→ Recalculate profile

→ Update statistics panel

5. BROKER DISCONNECTION:

→ Handle connection loss gracefully

→ Don't crash or freeze

→ Display message: "Broker disconnected - Waiting..."

→ Resume when connection restored

6. INVALID PARAMETERS:

→ Validate all user inputs

→ If invalid: Use default values

→ Display warning in Experts tab

→ Example: "Invalid Row Size (0), using default (10)"

7. MEMORY OVERFLOW:

→ Monitor memory usage

→ If approaching limit: Clear old data

→ Keep only necessary data in memory

→ Prevent MT5 crash

8. CALCULATION ERRORS:

→ Wrap calculations in error handlers

→ If error occurs: Log to Experts tab

→ Continue running (don't crash)

→ Display error message on chart

ERROR MESSAGES:

→ Display on chart (top corner)

→ Log to MT5 Experts tab

→ Clear error message after 10 seconds

→ Color: Red for errors, Yellow for warnings

2️⃣9️⃣ FINAL CHECKLIST BEFORE DELIVERY

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DEVELOPER MUST VERIFY:

✅ CORE FUNCTIONALITY:

□ Volume Profile displays correctly on right side

□ Bars colored correctly (Blue for Buy, Orange for Sell)

□ Percentages display on bars (>55% threshold)

□ POC line displays and updates correctly

□ Value Area (VAH/VAL) calculates and displays correctly

□ HVN and LVN detected and marked correctly

✅ STATISTICS PANEL:

□ Panel displays in correct position

□ Buy/Sell volumes calculated correctly

□ Percentages add up to 100%

□ Delta calculation accurate

□ POC info displays correctly

□ Value Area info displays correctly

□ Total volume accurate

□ Market bias displays correctly

✅ VISUAL INDICATORS:

□ Dominance arrows display at correct levels (>70%)

□ Extreme markers display at correct levels (>80%)

□ Confluence zones highlighted correctly

□ All colors match parameters

✅ ALERTS:

□ POC touch alerts trigger correctly

□ Value Area break alerts trigger correctly

□ HVN touch alerts trigger correctly

□ Extreme imbalance alerts trigger correctly

□ Delta change alerts trigger correctly

□ POC shift alerts trigger correctly

□ Push notifications work on mobile ✅

□ Sound alerts play correctly

□ Email alerts send correctly (if enabled)

□ Alert cooldown prevents spam

✅ PERFORMANCE:

□ No lag on M1 timeframe

□ CPU usage < 25%

□ Memory usage < 50MB

□ No crashes during 48-hour test

□ Updates smoothly in real-time

✅ COMPATIBILITY:

□ Works on XAU/JPY

□ Works on XAU/USD (test)

□ Works on EUR/USD (test)

□ Works on M1, M5, M15, H1 timeframes

□ Works in Strategy Tester

□ Works with multiple brokers (test 2+)

✅ PARAMETERS:

□ All parameters accessible in settings

□ Default values are sensible

□ Parameter changes apply immediately

□ Invalid inputs handled gracefully

✅ DOCUMENTATION:

□ User Manual completed (20+ pages)

□ Quick Start Guide completed

□ Parameter Reference completed

□ Installation instructions completed

□ Video tutorial completed (optional)

□ Code well-commented

✅ DELIVERABLES:

□ .ex5 file (compiled, tested, working)

□ .mq5 file (source code, commented) ✅

□ User Manual PDF

□ Quick Start Guide PDF

□ Parameter Reference PDF

□ Installation Instructions TXT

□ Video Tutorial MP4 (optional)

□ Template files .tpl (optional)

✅ LICENSING:

□ No account restrictions

□ No broker restrictions

□ No expiration date

□ Full source code ownership confirmed

□ Developer agrees to non-resale terms