

# GoldenFibsSystem Indicator User Manual NT8

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## User Guide GoldenFibs

## 1. Quick Start Guide

- a. Data Requirement
- b. Default Settings for Indicator

## 2. Indicator Explained

- a. Fibonacci
- b. Fibonacci Retracements
- c. Traditional Support and Resistance
- d. Fibonacci Expansions
- e. Fibonacci Projections
- f. Alternates
- g. Timeframes

## 3. User Options

- a. Fibonacci Swing Timeframe
- b. Grid Strength
- c. Reference Period
- d. Threshold for major lines
- e. CalculateOnBarClose
- f. Autoscale
- g. Plots

## 1. Quick Start Guide

### a. Data Requirement

The GoldenFibs indicator uses a preloading feature of minute data to load historical data for calculating the Fibonacci sequences. The indicator can be used with as little as 1 day of chart look-back while still processing up to 300 days of data internally. This is a very powerful component because we can leverage the power of large Fibonacci sequences using Multiple Timeframes, while using small charts for trading.

### Futures

For futures it is necessary to use merged contracts. The gap that occurs during rollover should be eliminated, because it can otherwise distort the swing sizes which are used to calculate the Fibonacci levels. It is recommended to use <u>back adjusted futures</u>. NinjaTrader will automatically merge and back adjust your contracts, if you set the merge policy to <u>MergeBackAdjusted</u> under -> Tools -> Options -> Data -> Merge Policy. The rollover dates used for merging the contracts are downloaded from NinjaTrader servers. For financial futures the rollover dates are correctly preset, for agricultural, energy, metals and softs it is recommended to check all rollover dates, as some of the default settings cannot be used. NinjaTrader will either download the offsets from NinjaTrader servers or calculate them from the close values of your daily data prior to rollover date. The back adjusted contracts can be used for periods up to about 2 years. If 2 years are exceeded the skew may become important and falsify results.

## **Equities and FOREX**

The data does not pose any problems here.

## **b.** Default Settings of the Indicator

It is recommended to first use the indicator with the default settings.

| Properties                     |                       |        |  |
|--------------------------------|-----------------------|--------|--|
| ✓ Parameters                   |                       |        |  |
| Bar period for minute bars     | 5                     |        |  |
| Fibonacci swing timeframe      | Smallest              | *      |  |
| Grid strength                  | Strong                | *      |  |
| Threshold for confluence lines | 100                   |        |  |
| Total lookback (days)          | 300                   |        |  |
| Check data preloading          |                       |        |  |
| ✓ Data Series                  |                       |        |  |
| Input series                   | FDAX 06-16 (1 Minute) |        |  |
| ✓ Set up                       |                       |        |  |
| Calculate                      | On bar close          | ~      |  |
| Label                          | GoldenFibs_MTF        |        |  |
| Maximum bars look back         | 256                   | *      |  |
| ✓ Visual                       | 1                     |        |  |
| Auto scale                     |                       |        |  |
| Displacement                   | 0                     |        |  |
| Display in Data Box            |                       |        |  |
| Panel                          | Same as input series  | ~      |  |
| Price marker(s)                |                       |        |  |
| Scale justification            | Right                 | ~      |  |
| Visible                        |                       |        |  |
| ✓ Plots                        | 1                     |        |  |
| Resistance lines               | Maroon                | ~      |  |
| Support lines                  | Blue                  | ~      |  |
| Line width major lines         | 2                     |        |  |
| Line width minor lines         | 2                     |        |  |
| Plot style major lines         | Line                  | *      |  |
| Plot style minor lines         | Line                  | ~      |  |
| Dash style major lines         | Solid                 | *      |  |
| Dash style minor lines         | Solid                 | *      |  |
|                                |                       | preset |  |

## c. GoldenFibs: Description of Parameters

Below is a description of parameters of the GoldenFibs\_MTF indicator that can be accessed via the indicator dialogue box. Although the default settings are recommended, adjustments may be necessary for individual preferences.

Changing the (bar period) & (Fibonacci Swing Timeframe) will result in more or less swings being used to calculate the confluence. We recommend leaving the grid strength on "Strong". Changing the swing timeframe from "Smallest to Largest" will result in populating less or more confluence levels on the chart. We recommend leaving the "Threshold for Major Lines" set to 100. It is strongly recommended to leave the "Dash Style" for major and minor lines set to (Solid) as this will increase computer performance while using the indicator.

| Group      | Parameters                    | Allowable Values  | Description   |
|------------|-------------------------------|---|---|
| Parameters | Bar Period For<br>Minute Bars | Integer > 0<br>Default = 5  | This is the minute bar used for<br>calculating the Fibonacci<br>Confluence levels.<br>Ex: If set to 5, the indicator will<br>use 5 minute bars for calculating<br>the Fibonacci   |
|            |                               |   | Confluence despite the default chart you are using.   |
|            | Check Data Pre-<br>Loading    | True/False<br>Default = False   | This is a simple visual display that<br>appears on the bottom left<br>corner of the chart panel. When<br>turned on, the indicator will<br>display the date/time period<br>being pre-loaded for the internal<br>Fibonacci Confluence algo. |
|            | Fibonacci swing<br>timeframe  | Smallest, Small,<br>Default, Increased,<br>Large Largest<br>Default = Small | Shifts the timeframes used to<br>calculate the confluence levels,<br>this increases or reduces the<br>number of lines displayed   |
|            | Grid Strength                 | Strong/Weak<br>Default = Strong   | Sets the width of the confluence levels   |
|            | Reference period<br>(days)    | Integer > 7<br>Default = 7  | Sets the lookback period for the indicator in days, cannot exceed chart lookback period   |

|       | Threshold for<br>Confluence Lines | Integer > 0<br>Default = 100                                   | Sets the minimum threshold<br>required for major lines. We<br>recommend not changing this<br>number!!!  |
|-------|-----------------------------------|--|---|
|       | Total Look-Back<br>(Days)         | Integer > 0<br>Defaul = 300                                    | This sets the number of days for pre-loading data to calculate the Fibonacci Confluence.  |
| Data  | Calculate On Bar<br>Close         | True/False<br>Default = True                                   | When set to false, indicator<br>recalculates with every incoming<br>tick on real-time data. For best<br>results the indicator should remain<br>on COBC = True |
| Plots | Dash style major<br>lines         | Solid, Dash, Dot,<br>DashDot,<br>DashDotDot<br>Default = Solid | Sets the dash style for the major confluence lines  |
|       | Dash style minor<br>lines         | Solid, Dash, Dot<br>DashDot,<br>DashDotDot<br>Default = Solid  | Sets the dash style for the minor confluence lines  |
|       | Line width major<br>lines         | Integer >= 1<br>Default = 2                                    | Sets the line width for the major confluence lines  |
|       | Line width minor<br>lines         | Integer >= 1<br>Default = 1                                    | Sets the line width for the minor confluence lines  |
|       | Plot style major<br>lines         | Solid, Dash, Dot,<br>DashDot,<br>DashDotDot<br>Default = Line  | Sets the plot style for the major confluence lines  |
|       | Plot style minor<br>lines         | Solid, Dash, Dot<br>DashDot,<br>DashDotDot<br>Default = Line   | Sets the plot style for the minor confluence lines  |

| Resistance Lines | Color<br>Default = Maroon | Sets the color for resistance lines |
|------------------|---------------------------|-------------------------------------|
| Support Lines    | Color<br>Default = Blue   | Sets the color for support lines    |

## 2. The GoldenFibs Indicator Explained

The GoldenFibs indicator identifies high probability confluence lines where price action is likely to pause or to reverse. To find these lines the indicator identifies swings by using different timeframes and then calculates up to 540 support and resistance lines from prior highs and lows, Fibonacci retracements, expansions, projections and alternates. Below you can see a 30 min chart for TF 06-16 with all these lines plotted:



This is the same chart for TF 16-16 with the vertical scale expanded:



It is impossible to use all that information for entering or exiting trades. Therefore the indicator condenses the lines into confluence levels. The chart below shows the same price action for TF 06-16 with the confluence zones replacing the individual lines:



### a. Zigzags



In a first step the indicator creates 10 different zigzags, each of them representing a different timeframe. The minimum deviations of the zigzags auto adjust to the volatility of the instrument by via the average true range over the data period. This has the advantage that the indicator can be used for different instruments, timeframes and chart types with the same default settings. The default settings are well adapted for standard fixed period charts such as shown above.

Fine-tuning of the adjustment of the zigzags to volatility can be done via the Fibonacci swing timeframe option. This effectively changes the minimum deviation of the zigzags. On narrow range days the Fibonacci swing timeframe can be reduced to adjust to low volatility, on wide ranging and trending days it is possible to select a higher Fibonacci swing timeframe to avoid displaying too many lines. It is important not to display too many lines, but only leave the strong support and resistance lines on your chart. The timeframes selected should also depend on the time horizon of your trade. The distance between two confluence zones and the profit target for your trade should have the same magnitude.

The indicator determines support and resistance by using zigzag highs and lows. These are not only determined for the current swing, but the indicator has a memory and remembers prior swings as well.

## b. Swing Highs and Swing Lows

This is a concept well known in technical analysis. Prior highs and lows are important pivots that usually create support and resistance. The chart below shows the swing highs and lows identified by the indicator.



## **Fibonacci Retracements**

The indicator further identifies all Fibonacci retracements for the 10 different timeframes. Details are shown by the chart below.



There is fat orchid line on the chart at 1134.8. The thickness of that line indicates that it is a larger timeframe retracement. Let us have a look, where that lines comes from. To find that retracement we need to switch to a daily chart, and the line can be identified as the 76.4% retracement from the low that was made on February 12.



## Fibonacci Expansions

The support or resistance line created by a former swing high or low can be also seen as a 100% retracement of the prior swing. If the current upswing exceeds the prior down swing, or if the current down swing exceeds the prior up swing, this is called an expansion. An expansion is a retracement of more than 100%. The chart below, it is still the original 30 min chart for TF 06-16 shows the expansions levels detected by the indicator.



Fibonacci expansions are particularly useful, if price moves in uncharted territory. From the above charts we have learned that there are two larger timeframe retracement levels on this chart. When large retracement levels are absent, expansions become increasingly important. Within the same timeframe, Fibonacci expansions are higher probability levels than Fibonacci retracements. However, retail traders are more focusing on Fibonacci retracements.

The chart above shows three fat Fibonacci expansion levels located at 1057.7 (127.2% expansion), 1092.2 (161.8% expansion) and 1130.2 (200% expansion) which belong to a higher timeframe. To explain how these lines have been created we need to switch to a daily chart.



Fibonacci Projections (or Extensions)

A Fibonacci projection is an extension of a first swing AB with the extension measured from the point B to D.



Extensions are similar to range projections, which are used in technical analysis to identify targets for various patterns. There are different Fibonacci ratios which are used for extensions.

The chart below shows Fibonacci projections for TF 06-16 created from swings identified for different timeframes.



Both projections and expansions are also known as targets for classical chart patterns, including:

- Symmetrical triangle: 200% expansion or 100% projection
- Ascending and descending triangles: 61.8%, 100% or 161.8% projection
- Rising and falling wedges: 200% expansion of depth of wedge
- Rectangles: 200% expansion or 100% projection of channel width
- Broadening top and bottom: 200% expansion or 100% projection of height
- Cup and handle pattern: 62% or 100% projection of depth of cup
- Head and shoulders, inverse head and shoulders: 62% or 100% of the depth

#### Measured Moves (Alternates)

An alternate is a two legged move, where the second move is measured as a percentage of the first move. The most common relation of the swing sizes is 1:1. This is shown below:

#### Example of a 1:1 Alternate



Other ratios – all derived from the golden ration – can also apply. The indicator detects measured moves with different ratios from swings belonging to different timeframes.

The chart below shows alternates using different Fibonacci ratios for TF 06-16 created from swings identified for different timeframes.



## **Confluence Levels**

Let us summarize at this point, what the indicator does. It identifies support and resistance by using different concepts related to Fibonacci ratios. By using a zigzag function, swings are identified for different timeframes. From these swings the indicator identifies

- prior swing highs and lows
- Fibonacci retracements
- Fibonacci expansions Fibonacci projections
- measured moves or alternates

Which often also represent targets for classical chart patterns. In total the indicator may identify up to 540 Fibonacci lines on any chart, if the lookback period is large enough. Not all of these lines are of equal importance, but some are higher probability lines and others are lower probability lines. To determine the conditional probabilities that price reverses, when hitting a line, statistical distributions of the relative swing sizes have been studied for a number of instruments and various timeframes. As a result of this analysis each of the 540 Fibonacci lines is attributed a statistical weight which depends on timeframe, type of line and Fibonacci level. The indicator also remembers the preceding generation of fib lines generated via the same zigzag function and includes them a by using a reduced weighting factor. After knowing the statistical significance of each line, the whole price range of the chart is scanned with a confluence window, which has a fixed size depending on the average true range over the entire chart period. This confluence window has two possible settings - a wide or a narrower window can be chosen. The wide window will show fewer, but more important confluence zones, which is the default setting for the indicator. The indicator then adds up the statistical weights of all the lines within the confluence window, and if a threshold value is reached detects a confluence area. The confluence area becomes a confluence zone, if it prevails over the neighboring confluence areas. The indicator displays the strongest Fibonacci line within the confluence zone, which is not necessarily the midrange of the confluence zone, but the highest probability area for a reversal. Please keep in mind that the line displayed stands for a confluence area, which could also be displayed. The lines have been simply chosen for display because it is easier to use them visually.

## 3. Settings for the Indicator

Below is a description of all selectable parameters of the GoldenFibs\_MTF indicator which appear in the indicator dialogue box. Although the default settings are recommended, adjustments may be necessary.

### a. Bar Period For Minute Bars

The indicator uses pre-loading of minute data to calculate the Fibonacci Confluence levels. This is important because some traders will use very small look-back period for intraday trading but still require the Fibonacci levels from large data periods.

This setting can be changed to any numerical value (1, 2, 3, 4, 5, 15, 30, 60 minutes etc.) The variable used will be how the indicator calculates the Fibonacci calculations. Despite using any other bartypes, values or lookback periods, the indicator allows for calculating the Fibonacci Confluence from Higher timeframes despite the chart you are trading on.

## b. Check Data Preloading

This is a simple visual display that appears on the bottom left corner of the chart panel. When turned on, the indicator will display the date/time period being pre-loaded for the internal Fibonacci Confluence algo.

#### c. Fibonacci swing timeframe

The only parameter that needs to be adjusted to use the indicator with different types of charts, instruments and timeframes is the *Fibonacci swing timeframe*. There are 6 different settings. If the indicator plots too many lines, change the setting to *Small or Default*, if it does not plot a sufficient number of lines, you can increase the number of lines by selecting a *Smallest* timeframe.

## d. Grid strength

For the *Grid Strength* two settings are possible, *Strong* and *Weak*. This option determines the size of the window that the indicator uses to add up the statistical weight of the Fibonacci lines and to select confluence zones. If you set the grid strength to *Weak*, the indicator will find more confluence zones of a lesser importance. For most purposes, the default setting *Strong* is recommended.

#### e. Threshold for Confluence lines

The Fibonacci confluence zones displayed by the indicator can be separated into major zones with a higher combined statistical weight of the individual lines and minor zones with lines of a lesser combined statistical weight. If the combined statistical weight is below the threshold value, no confluence zone will be displayed. The default value for the *Threshold* is 100. This is a low value and virtually no confluence zones will be filtered away. You may increase this value, which will reduce both the number of major and minor confluence zones. We recommend not changing this number!!!

## f. Total Look Back (Days)

This sets the number of days for pre-loading data to calculate the Fibonacci Confluence. This number can be changed however it's not recommended because the larger this number the stronger the Fibonacci levels will be for confirmed trading setups. Because it operates on an internal pre-loading feature, we have set this to 300 days as a default because this is just shy of 1 year and is ample for loading data for intraday trading.

### g. Calculate on Bar Close

It is suggested to set this option to true, otherwise the indicator will recalculate the fib levels with every incoming tick, which is not necessary, as the levels barely change unless there is a substantial change in market structure during the day.

### h. Auto scale

The indicator will reset itself to Auto Scale = false, as this feature is not required.

### i. Plots

Dash style, plot style, strength and colors of the confluence zones can be selected for major and minor confluence zones. WE STRONGLY RECOMMEND LEAVING THE DASH STYLE – SET TO SOLID, AND THE PLOT STYLE – SET TO LINE.....THIS IS TO IMPROVE PC PERFORMANCE WHILE USING THE TOOL!

## **GF\_SYSTEM\_MTF - MAIN OVERVIEW**

Asides from the GoldenFibs being an excellent tool for identifying Multiple Timeframe levels of support/resistance, the purpose is to identify how support and resistance can be used for application in form of a SEMI-AUTOMATED TRADING SYSTEM. In order to fully identify trading rules and setups, we must first identify the nature of how support and resistance is defined, used and most of all reacts to market volatility.

Main Volatility Overview – Support and Resistance is a Dynamic Concept, meaning it applies to the volatility of the market dependent on the fractal/timeframe used for trading.

- EX: Support/Resistance on a 5 min chart is not the same as on a 15min ٠
- EX: Support/Resistance on a 3333 volume chart is not the same as on an 8888 volume chart
- EX: Support/Resistance on a 12 Range chart is not the same as on a 4 Range chart

The main takeaway from this relates to the volatility of your chosen fractal to trade from. You must first decide the timeframe you wish to trade, then set the FIBS to adjust to the fractal (in minutes) so that you can plot GF\_System levels on your chart based on your chosen market and timeframe.

Once you determine this, we can then discuss the next critical step in trading support and resistance: Support/Resistance – is a measure of volatility. Since each market is independent of each other, we must factor in the (ATR – Average True Range) of each market.

EX: NQ Futures on a 5 min chart will have different ATR than the EUR/USD on a 5 min or the QQQ on a 5 MIN. Each market has its own movement, levels of structure and ATR.

Why is this important? Because when we look to trade support and resistance FIB levels, we must understand that each level of Support/Resistance acts like a MAGNET/REPELLANT around levels of Support/Resistance and is very accurately depicted by the ATR:

See Examples Below (KEEP IN MIND – Support is always below current price and Resistance is always above current price):



5M V GFS 🙀

In the next image we will add a 13 period ATR – Average True Range to determine the ATR for this CL 8888 volume chart. You will see that at the time of this example the ATR = 21 ticks.

The main reason this is important is the crux of the entire concept around support and resistance. In fact most people are unaware that this is actually how market volatility is driving the market and how it impacts price. In the images below you will see we use the FIB levels to act as the midpoint for ATR and we divide the ATR in ½ so that we get a VOLATILITY BUFFER around each level of S/R.



Now we will show the Volatility Buffer around each level of S/R. For this example we demonstrate 1 resistance level and 1 support level, however this is true for all levels equally.



The main aspect of the volatility buffer is that price will begin to react to these areas similar to buy/sell areas around S/R. THIS IS WHERE WE SEGMENT TO HOW THE SEMI-AUTO TRADE SYSTEM/PLAN LEVERAGES THIS IN AN AUTOMATED WAY! SEE EXAMPLES BELOW.



## The GF\_System\_MTF operates from a UI Dropdown Menu for easy access and quick functionality.

We have designed the system planning component to show the Near Plan (trade plan S/R – closest to current price) or the Far Plan (trade plan S/R – 2 nd closest to price). Most traders will only be planning the first 1-2 trades in either direction so this was a design concept we implemented for easy use and configuration.

Each plan consists of (Entry), (Stop), and (T1 & T2) the entry, stop and targets are all factors of the ATR and can be adjusted based on volatility preference. The default settings are configured for easy use and access however as you are the trader most familiar with your markets of choice we encourage you to test these based on your experience on your markets.



Below is an example of a Near Plan Short for Resistance:



Below is an example of a Far Plan Short for Resistance:

Below is an example of a Near Plan Long for Support:



Below is an example of a Far Plan Long for Support:



Example of Support Plan Long to T1 Completion:



#### Example of Resistance Plan Short to T1 Completion:



MARKET STRUCTURE:

As with many trading systems, most semi-automated strategies or trade plans start from a top down approach. Here is an example of what one would look like.



Knowing this, Step 1 and 2 factor in having a directional bias as well as knowing what permissive action you are looking for in taking a trade. An example would be:

Take Long Trades in Uptrending Markets Take Short Trades in Downtrending Markets

These are two common examples but are quite viable when trading support and resistance. Since we designed this to factor in complete trade planning, we added a market structure component as well as trend detection feature to allow custom design around trading in trending markets.



Below is an example of the Market Structure Component:

Below is an example of an Uptrending market structure:



## Below is an example of a Downtrending market structure:



Trend Trade Short to T1 & T2 Completion:



## Trend Trade Long to T1 & T2 Completion:



The above examples all show details around trading this example strategy with market trends however we have one vital component that contributes to a holistic trade plan approach.

Each strategy must account for risk planning. We have created a risk planning calculator called "Avg Tick Calculators" which takes the average size stop loss (based on ATR) for the entire chart and all S/R levels and produces the Avg Size Stop based on ATR. Equally this is done for T1 and T2 based on a factor of R:R (Risk:Reward) inside the strategy parameters section. These all can be adjusted however it is set based on the default settings for immediate use.

| GF System            |   |              |
|----------------------|---|--------------|
| TradePlan Master     |   |              |
| Market Structure     | _ |              |
| Avg Tick Calculators |   | Avg SL: 18.3 |
|                      |   | Avg T1: 18.3 |
|                      |   | Avg T2: 27.1 |

This type of planning allows you to select your markets and timeframes, the build a proper trade plan based on your Risk Tolerance and capitalization. As per industry regulations, we are not allowed to suggest risk measures, however this is the next best thing to allow you to plan your risk according to your tolerance.

In Conclusion, We have discussed a complete method for trading (MTF\_Fibonacci Confluence) and the strategy examples are a great way to get started. Should you wish to see alternative methods to this system and trade planning or if you have questions on the software please email <a href="mailto:support@architectsai.com">support@architectsai.com</a> and we will schedule a call to assist you moving forward. You can also join our trade rooms for an active community and live market commentary using the tools.