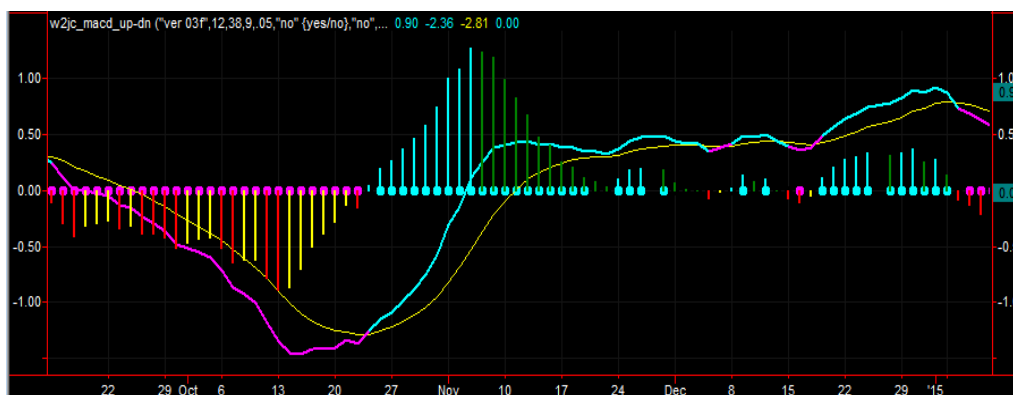# Enhanced Indicator for Tradestation Charts

designed and programmed by Jim Cooper w2jc

Enhanced M A C D Indicator

MACD Enhanced Indicator for Tradestation Charts

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MACD Enhanced Indicator for Tradestation Charts

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MACD Indicator

Introduction

Color coding lets your eyes spot important changes and reversals easily.

The MACD (Moving Average Convergence Divergence) indicator is popular among technical stock traders. Most traders, however, do not really understand what the MACD shows or how it is obtained.

> Note: Convergence is when two things come closer together;
>   Divergence is when two things spread further apart.

Basically, MACD shows how two moving averages relate to each other at each moment of time (each bar on the chart). If the fast moving average is above the slow moving average, then the MACD is positive. At the point where the two moving averages are at the same value, the MACD is equal to zero.

As the two moving averages move further apart, the MACD value becomes larger; as the two moving averages move closer together, the MACD value becomes smaller. (The second line of the MACD Line display is a smoothed value of MACD).

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Common use of the MACD includes two types of display for the same value --

1. A line plotting the value of the MACD, with a second 'averaged' line for comparison.
2. A histogram display (vertical bars going up or down) which shows the <u>difference</u> between the MACD Line and the Smoothing line. At the crossover point of the Line and the Smoothing line, the histogram value is zero. (The histogram basically 'flattens out' the two Lines).

The Line display of MACD can be very useful for getting a sense of the direction and strength of the trend, but it is often hard to see where the strength begins to wither or get weaker. The <u>slope</u> of the line, however, gives a visual clue as to the strength of the current move.

On the other hand, the histogram display is extremely useful for spotting the point where the current trend begins to reverse. This is the point where the two moving averages (on which the MACD is based) stop moving apart and begin to come closer to each other. Because the histogram is flat, your eye can see this reversal much easier.

Many chart users prefer to display both the Line and the Histogram in the same graph area, as shown in the example above.

The special enhanced features of the **w2jc_macd_up-dn** indicator will be discussed later in this Guide.

This indicator (as with all 'w2jc' enhanced indicators) provides very descriptive text and audible alerts which will tell you the Ticker, the type of chart, the type and value of the indicator and the action causing the alert. The audible alert ends with a repeat of the Ticker, so that once your attention is drawn to the announcement you are again reminded of which ticker is causing the alert.

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Special Features

Universal Application

This indicator was developed because I did not like having to use two copies of the standard MACD indicator in order to get both the Lines and the Histogram.   In addition, I wanted to use colors to clearly show direction and reversal points.

Additionally, I like to have "traffic lights" with my indicators so that I can tell "at a glance" whether the indicator is Bullish, Bearish or "confused." The **w2jc_macd_up-dn** indicator has a horizontal row of dots, on the zero-line, which show whether the histogram is bullish or bearish. An option allows the user to define a small band around the zero-line where no dot is shown -- and no trading should be done. (This feature is described in detail later).

Color Coding

The Line display of MACD uses two lines, as described above. One line is the MACD Value line, the other line is a smoothing (or moving average of the MACD) line. The smoothing line is made yellow, while the MACD Line changes from cyan when it is above the smoothing line to magenta when it is below the smoothing line. (This is very useful when the two lines are very close to each other). The same colors are used for the "traffic light" dots.

The Histogram display of MACD uses vertical bars that go up and down from the center (zero) line. Four colors are used for the histogram:

- Cyan when the histogram value is above zero and is rising;
- Dark Green when the histogram value is above zero but falling;
- Red when the histogram value is below zero and becoming more negative;
- Yellow when the histogram value is below zero but is rising.

As you can see in the following chart example, near the center, the histogram rises sharply and suddenly begins falling. While the exact place where this happens is not easily seen on the lines, the histogram changes color exactly at the top -- making it very clear where the "momentum" has lost power.

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On the left of the example chart, where the histogram is negative, it is easy to see the "indecision" -- where the red changes to yellow for a few bars then back to red then back to yellow. It is also very clear where the actual reversal occurs, and the yellow bars become steadily shorter (showing the downward momentum is losing power.

These color changes at reversal points can act as an "early warning" signal.

Below is an example showing how the "traffic light" dots turn off during periods of "chop" -- in this example, the **H_band_width** setting is 0.5, which is a small amount compared to the MACD values of 2.0 to 7.0 ...

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Formatting and Setup
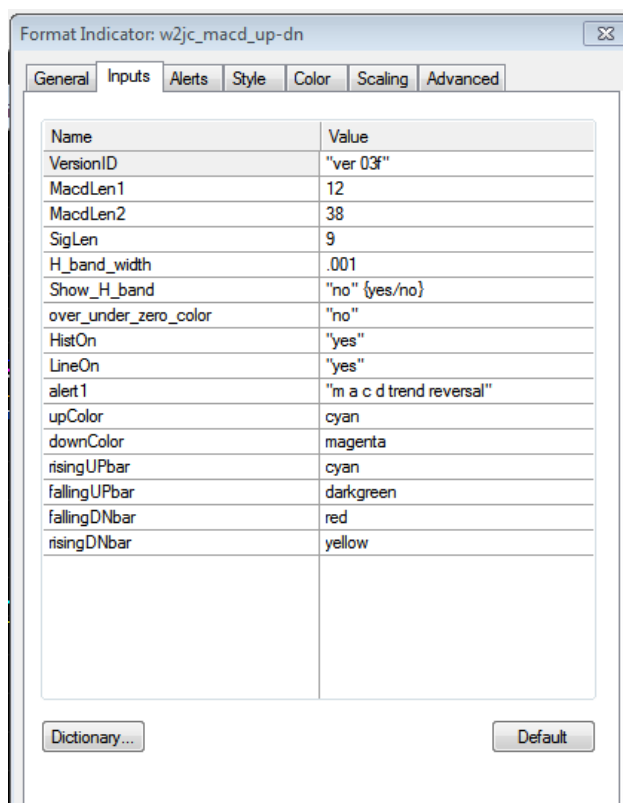
Adding Indicator to your Chart

As with all Tradestation indicators, it is very easy to add this indicator to your chart. It can be done several ways.

1. From the top line of the active window, click on **Insert**
   a. From the drop-down menu, select **Indicator**
   b. From the "Insert Analysis Techniques" menu,
      find and select (click once) on **w2jc_macd_up-dn**
   c. At the lower right of the menu window, be sure that
      the box next to Prompt for Format has a check mark
      (if there is no check mark showing, click once inside the box)
   d. Click the OK button at the bottom of the menu window
2. You should now see a new menu window labeled
   Format Indicator: w2jc_macd_up-dn
   a. Each of the items in this menu will be described in the following section.

Name	Value
VersionID	"ver 03f"
MacdLen1	12
MacdLen2	38
SigLen	9
H_band_width	.001
Show_H_band	"no" {yes/no}
over_under_zero_color	"no"
HistOn	"yes"
LineOn	"yes"
alert1	"m a c d trend reversal"
upColor	cyan
downColor	magenta
risingUPbar	cyan
fallingUPbar	darkgreen
fallingDNbar	red
risingDNbar	yellow

Format Indicator: w2jc_macd_up-dn — General | Inputs | Alerts | Style | Color | Scaling | Advanced — Dictionary... Default

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Format Inputs

The **w2jc_MACD_Up-Dn** indicator provides a versatile set of input parameters with which the user can control the settings and appearance of this indicator.

The default settings are shown below -- generally there is no need to change them.

Format Indicator: w2jc_macd_up-dn

| General | Inputs | Alerts | Style | Color | Scaling | Advanced |

Name	Value
VersionID	"ver 03f"
MacdLen1	12
MacdLen2	38
SigLen	9
H_band_width	.001
Show_H_band	"no" {yes/no}
over_under_zero_color	"no"
HistOn	"yes"
LineOn	"yes"
alert1	"m a c d trend reversal"
upColor	cyan
downColor	magenta
risingUPbar	cyan
fallingUPbar	darkgreen
fallingDNbar	red
risingDNbar	yellow

Dictionary...   Default

However, for advanced users these settings provide a lot of flexibility. You can turn on or off the Histogram and the Line display individually, so you can have both showing or just one or the other -- depending on your preference.   All the major color coding can be change if you prefer a different combination. Text of the alert message can be changed if desired (be sure to keep the quotation marks). The width of the band around the zero line can be changed, and it can even be displayed if you want to see it.

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Below is a description of each input setting --

Name	Value	Description
MacdLen1	12	See Note 1, below.
MacdLen2	38	See Note 1, below.
SigLen	9	See Note 1, below.
H_band_width	0.001	The default setting of 0.001 will not turn off the center-line "traffic light" dots. Use a larger number to get the range desired.
Show_H_band	"no"	Use "yes" (with quote marks) if you want to see two horizontal lines showing the width of the H_band.
Over_under_zero_color	"no"	The default "no" setting colors the MACD Line depending on whether it is above or below the Smoothing Line (2 colors); "yes" setting will color the MACD Line depending on whether the MACD Value is above or below zero as well as above or below the Smoothing Line (4 colors).
HistOn	"yes"	Use "no" (with quote marks) if you do not want to see the histogram.
LineOn	"yes"	Use "no" (with quote marks) if you do not want to see the MACD lines.
Alt_Alerts_On	"no"	
Use_brief_alerts	"no"	
Alert1	"m a c d trend reversal"	Change this only if you want a different alert message; note, the 'm a c d' are spaced out to force the text-to-voice translator to speak separate letters.
upColor	Cyan	Changes color of MACD Line and "traffic light" dots.
downColor	Magenta	Changes color of MACD Line and "traffic light" dots.
risingUPbar	Cyan	For positive, rising histogram bars.
fallingUPbar	Darkgreen	For positive, falling histogram bars.
fallingDNbar	Red	For negative, falling histogram bars.

risingDNbar	Yellow	For negative, rising histogram bars.

Note 1: These are the standard settings for MACD; the default is 12, 38, 9.

Note 2:   The color names used in the last six settings must be from the standard list of 16 basic Windows colors. Any of 32,000 colors can be specified using the RGB(nRed, nGreen, nBlue) format -- for example, yellow could be specified with RGB(255,255,0) ...

http://help.tradestation.com/09_01/tsdevhelp/Subsystems/elword/word/rgb_reserved_word_.htm

No harm should come from experimenting with any of the settings in this table !!

Format General

The only setting on this Format tab that you might want to change is the one labeled "Update value intra-bar ...."   If for some reason you do not want to display the current MACD value until the current bar has completed, you can un-check the box.

Format Style

Default settings for Style are shown below:

Plots	Type	Style	Weight
Histogram	Histogram	Solid Line	2
MACD	Line	Solid Line	2
Signal	Line	Solid Line	1
Zero	Point	Solid Line	5
U_H-band	Line	Solid Line	1
L_H-band	Line	Solid Line	1

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Format Color

Default settings for Color are shown below:

Plots	Foreground Color
Histogram	Red
MACD	DarkBlue
Signal	Yellow
Zero	Cyan
U_H-band	Red
L_H-band	DarkBlue

Note: The color setting for these Plots is not important, as the colors are determined by the indicator code and the Format Inputs settings.

Format Scaling

The default settings for Scaling are best shown with a capture of the menu:
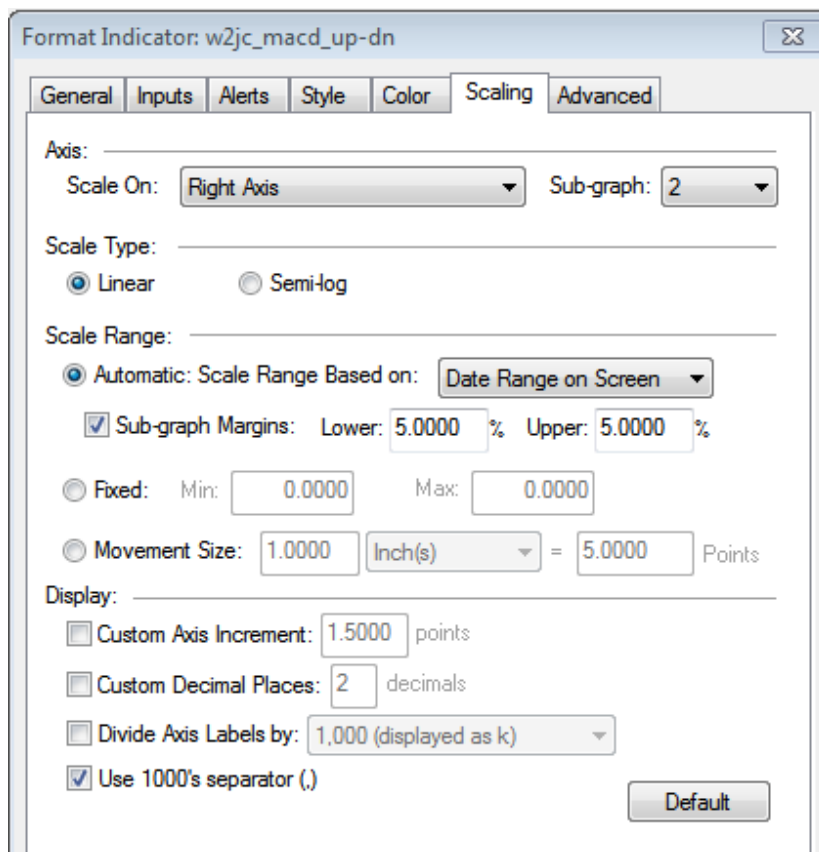
Format Advanced

The default setting is **Auto-detect** and should not be changed.

Format Alerts

If you want to have the advantage of the alerts built into this indicator, click the "**Alerts**" tab of the "**Format Indicator**:" window and then be sure there is a check mark in the "**Enable Alert**" box -- if not, left click once on the box and the check mark should appear.

Our suggestion is to select "**Alert once per bar (interval)**" -- however, you might prefer other options.

You can use "**Custom Settings**" if you have specific requirements for moving average alerts, or you can use the common "**Global Messaging Preferences**" which are used for all other alerts. Our recommended settings for the Global preferences are:

- Audible - Voice (text to speech)
- Visual - Pop-up window: 15 seconds

You may, of course, configure the alert preferences any way you prefer.

Alerts

Very descriptive alerts are included in this indicator, which are configured so that audible alerts will be informative even if you are across the room and cannot see the chart!

The alerts include the ticker, the time base of the chart (# ticks, # minutes, daily, weekly or monthly), the type and length of the moving average, the direction of movement, and a repeat of the ticker (in case you missed it at the start of the alert!).

Tickers used in the alerts are generated with a space between each letter, so that the Windows text-to-voice speaker will pronounce them as individual letters instead of trying to pronounce the ticker as a word.

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An example audio alert might be:

"EYE BEE EM ON THIRTY MINUTE CHART, EXPONENTIAL MOVING AVERAGE EIGHT TURNING UP, ON EYE BEE EM"

or

"EYE BEE EM ON DAILY CHART, PRICE CROSSED ABOVE SIMPLE MOVING AVERAGE FIFTY, ON EYE BEE EM"

Note that the commas shown in the text alerts are used to create a pause in the audible alert, so that the message is more easily understood when spoken.

Each alert message begins with the Ticker (unfortunately, Tradestation uses the standard Microsoft 'text to voice' utility - which tries to pronounce things as words rather than spelling out items that are all capitalized. Maybe someday they will fix that...)

The audible alert then pauses, and next describes the time base of the chart (works for tick charts as well as minutes, daily, weekly and monthly charts).

The action causing the alert is then described in detail, including the type and length of the moving average involved.

The alert message then repeats the ticker symbol, in case you missed it when the alert began to announce!

There are two basic conditions that are alerted using this custom indicator --

> MACD Trend Reversal UP
> MACD Trend Reversal Down

The alert format is:

TKRNAME + "ON " + CHART_TYPE + "CHART" + "M A C D TREND REVERSAL" + TKRNAME + UP/DOWN

A very useful feature of the Tradestation visible alert box is that you can mouse-over the alert box and click, and you will be taken directly to the chart and workspace that generated the alert.

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Here is a little lesson on the MACD ... for me, the 'shape' of the pattern can be important ... look at the macd on this chart, where the arrow is pointing, and see how the red macd line came up to the yellow but then bent away and did not cross it ... this is very negative (bearish) ... and see how the stochastic (near the arrow) has come up but is starting to 'roll over'? when the stochastic turns down with the macd not wanting to cross over, you can expect the price to move lower.