KG RelativeStrength trading EA

For those new to this, the terminology can be confusing. The terms 'Strong' and 'Weak' refer to the trigger currency, originally the Japanese Yen (JPY), so:

- 'Strong' means the Yen is going to rise. We sell xxxJPY.
- 'Weak' means the Yen is going to fall. We buy xxxJPY.
- 'Trigger' currency is the currency whose strength is being measured against the other currencies shown in the indicator. If you do not understand *this*, then go back to the beginning of KG's thread and read it until you do.

This EA allows us to trade:

- KG's original strategy
- The range trading strategy that we have developed.
- The Daily Cross strategy.

Important note: this EA will trade only one strategy at a time. If you wish to use the EA to trade multiple strategies on the same account, you will need multiple instances of it running.

Getting started

- Extract all the indicators to the Indicators folder of your mt4 platform. You do not need them on a chart, although KG RS GROUP V1.1 will send countless errors to your Experts tab if you do not drag this one onto a chart. If this does not bother you, then forget about it.
- Unzip the EA to the Experts folder of your mt4 platform.
- Decide which strategy you want to adopt – Original, Range or Daily Cross. Each instance of the EA can trade only one strategy. If you want to trade more than one at a time, you have to use multiple instances of the EA on multiple charts.

Original Strategy

This involves the JPY as the only trigger. It requires KG RS GROUP V1.1 and RS_GROUP_JPY V1.1 to be present on your chart as indicators to help you decide when to trade. Simplified, here is how it works:

- Go Strong when:
  - RS_GROUP_JPY V1.1 said 'Strong'.
  - KG RS GROUP V1.1 is over 50.
- Go Weak when:
  - RS_GROUP_JPY V1.1 said 'Weak'.
  - KG RS GROUP V1.1 is under 50.

Eddie noticed that a difference of 10 or more between the red and white line values invariably led to a successful trade, so we added this into the mix.

The EA uses indicators written by KG that apply the algorithm in RS_GROUP_JPY V1.1 to the other currencies in the basket, so they can all be triggers, for example RS_GROUP_USD V1.1 etc.

The EA settings specific to this strategy are:

- TradeOriginalMethod=true;
- WeakUpperBound=50;
- WeakLowerBound=35;
- StrongUpperBound=65;

- StrongLowerBound=50;
- MinDiff=0;

Upper and Lower bound effectively mark the trading area as indicated by KG RS GROUP V1.1. For example, there seems to me little point in going Weak if the trigger strength is already approaching 30 or so, hence the default. This needs experimenting with in order to find the best settings. MinDiff is effectively 'Eddie's rule', so set it to 10 if you want to follow this. **The lower this setting is**, the more likely you are to get caught by a 'whipsaw' when a trigger's strength abruptly reverses direction and you end up with both a Strong and a Weak basket open at the same time.
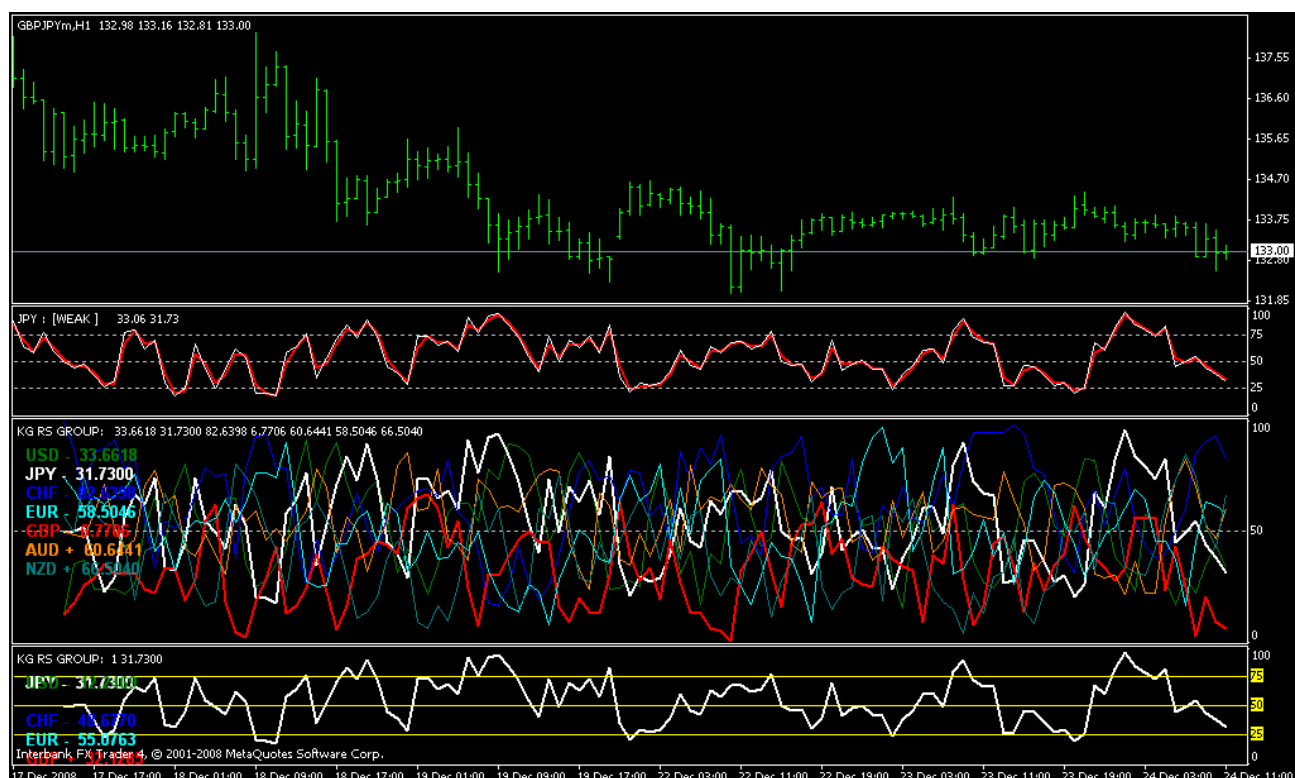
A tiny point to note about the screen displays of the red and white line values is, they are truncated to two decimal places for readablilty. They are actually numbers with four decimal places. The numbers can occasionally *appear* to be the same; in fact, they will be different but you cannot see the difference because the final two decimal places are not displayed.

Set up a GBPJPY 1 hour chart, drag the ea onto it, load the 'kg original basket set' and sit back and watch.

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Range Strategy
A few of us noticed that the relative strength of the Yen tended to travel between roughly the 75 and 25 levels on KG's indicator. We started trading this, taking out a Weak basket at the 75 level, and a Strong basket at the 25 level. The picture highlights this. Look at the bottom band, where you can see a second instance of KG RS GROUP with only the JPY strength indicated. The yellow lines represent the 75, 50 and 25 levels respectively. Elchoco advocated 80\20; the EA adopts this by default.

By waiting until the strength passed the 'trigger' level then started to retrace so that we could see the white line starting to curve back, we could enter profitable baskets.

The EA automates the process of monitoring the relative strength of the trigger currency and placing the trades when appropriate. The trigger currencies are:
- JPY
- USD
- GBP
- EUR
- CHF
- AUD
- NZD (think carefully before trading this on IBFX – lethal spreads).
- CAD (not available to IBFX users).

The EA is a full auto-trader. It has the facility to close a basket that hits take profit and stop loss settings. For more flexibility, you need either to monitor the trades manually, or use my multi purpose trade manager.

To use the EA for basket range trading:
- You need KG RS GROUP V1.1 copied into the Indicators folder of you mt4 platform. You do not need it on the chart.
- Drag the EA onto a 1h GBPJPY chart. Any chart will do, but this one is the most volatile, so the EA will consult the relative strength index more often.
- Change the settings to suit yourself.
- Sit back and enjoy.

Specific settings for range trading:
- **TradeRangeMethod=true;**
- **WeakEntryPending=80:** the entry level on KG's indi that tells the EA that a Weak basket is pending. It will wait for a retrace to place the trades.
- **StrongEntryPending=20:** the entry level on KG's indi that tells the EA that a Weak basket is pending. It will wait for a retrace to place the trades.
- **RetraceDistance=5:** this is the distance the trigger currency strength must retrace into the area in between 20 and 80, so:
    1. Weak baskets will be placed at 75 (WeakEntryPending – RetraceDistance).
    2. Strong baskets will be placed at 25 (WeakEntryPending + RetraceDistance).
- **ValidatingTimeFilterMins:** This is a filter invented by Eddie to try to avoid the situation where the EA sends a basket, then the trigger's strength immediately retraces sending the basket into heavy draw down. Sending a basket becomes a 3 stage process easiest to understand with an example. Take a Strong basket, with the EA set to the defaults; the stages are:
    1. Waiting for the strength to pass 80. This sets the EA to Pending.
    2. Pending: the EA is waiting for the strength to drop to or below 75. This sets the EA to Validating.
    3. Validating involves waiting for 3 minutes before taking sending the basket.
        - During the three minutes:
            - Strength rises back above 85, so the EA cancels the pending trade and returns to stage 1.
        - After three minutes:
            - Strength is still below 75, so the EA sends the basket if all the other criteria are met (spread, max trades etc).
- The default of 3 minutes is open to experimentation; it is based on Eddie's

observations.

- **EndValidationPoints:** during Validation, if the trigger strength moves by this figure (default 10) in favour of opening the basket, the EA cancels Validation and sends the basket. Set it to a ridiculous figure like 40000 if you do not want to use this feature.
- **StrengthInProfitClose:** set this to 'true' to enable this function (see the explanation that follows).
- **StrengthProfitDollarTarget:** the minimum profit you will accept from the closure.

StrengthInProfitClose
The easiest way to explain this is to give an example:
- You have a Strong JPY basket open.
- Jpy strength passes your WeakEntryPending value (default of 80) and the EA prepares to open a Weak basket. Your Strong basket has not yet hit its take profit, but its upl will fall if the strength of JPY starts to fall.
- Rather than letting this happen, the EA will close the basket so long as it has passed the profit point you set in StrengthProfitDollarTarget (default of 0 means breakeven).

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Select the currencies you want to act as triggers for basket trading, by setting, for example, JpyIsTrigger to 'true'.

You tell the EA to manage its own baskets by setting the **xxxManagedByThisEA** inputs to 'true' – for example JpyManagedByThisEA, EurManagedByThisEA etc.

The EA offers to option to suspend trading in individual pairs. This feature should become more useful as we become more sophisticated in our basket trading. IBFX do not offer CADxxx, so non-IBFX users need to remember to turn CADJPY to 'true', as the default is 'false'.

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Daily Cross Strategy
This uses KG RS GROUP to initiate individual trades. Please note that individual DC trades are subject to the **MaximumSpread** setting; the EA will not send the trade if the broker spread is too large, but will keep on trying.

KG posted that on the D1 chart, individual trades taken when there is a crossover of trigger currencies are successful. His method involved spotting the cross, then waiting until the new candle (I.e. the start of the next day) then placing the trade when some of the lower tf relative strength reading match.

Once you have your EA set up on a D1 chart, **DO NOT CHANGE THE TIMEFRAME.** You will muck up the EA's calculations and you could easily end up with a shed-load of trades you do not want. Use a separate chart if you want to visually check lower time frames.

The EA uses a two-stage process to send trades. Imagine a GBPJPY long trade:
1. Stage 1 spots the cross:
    - Checks to see that the JPY trigger was stronger than the GBP two days ago.
    - If so, checks to see that the GBP trigger was stronger than the JPY yesterday.
    - If so, checks to see that the GBP trigger is stronger than the JPY today.

- If so, sets a Validating Trade status.
2. Stage 2 validates the trade:
    - Checks that the GBP trigger is stronger than the JPY on the lower time frames (LowerTimeFrameFilter1 etc).
    - If each of the time frames match up, sends the trade.

During the Validation process, you will occasionally see all your lower time frame filters lined up yet the EA is not sending the trade. This will happen when the spread exceeds your maximum – this happens a lot with NZD pairs on IBFX.

. Daily Cross inputs are:
- **TradeDailyCrossMethod:** set this to 'true' to trade this strategy.
- **Tradexxx:** the trigger currencies you are hoping to trade.
- **DcStopLoss:** set this to the number of pips you want to use as a stop loss.
- **AutoDcCalcStopLoss:** set this to true to base the stop loss on KG's settings (overrides DcStopLoss). He said this:
    - OK.. once a cross has occurred, i suggest we entering the trade on the next candle open with SL at High of previous candle+spread+10 for SELL and Low previous candle-spread-10 for BUY (If we need a SL). This is for individual trade base on D1 chart.
    - **MinStopLoss:** the auto-calculated sl can be too tight if the high\low of the previous candle is too close to the market price. This setting ensures a minimum sl. The default of 200 is a best-guess.
- **DcTakeProfit:** take profit in pips (the EA adds the spread).
- **AutoCalculateTakeProfit:** set this to true to make the EA calculate a take profit using a combination of ATR and ADX. These are both indicators that ship with Mt4 platforms; they need to be in the Indicators folder but not on the chart. You can read about these at **http://www.forexpros.com/education/technical-analysis/doubly-adaptive-profit-objectives-2592**. The settings associated with this function are:
    - **AtrPeriod:** leave this alone unless you are familiar with ATR.
    - **AdxPeriod:** leave this alone unless you are familiar with ADX.
- **DailyCrossMagicNumber** & **DailyCrossTradeComment:** take a guess at what these mean.
- **OverrideMaxTradesAllowed:** I include this for anybody trading either of the basket strategies in addition to this one. Set this to true and the EA will override the MaxTradesAllowed setting when sending individual Daily Cross Trades,
- **LowerTimeFrameFilter1:** the first lower time frame, in minutes, that the EA will check after detecting a cross and validating a new trade. The default of 240 is the 4H chart.
- **LowerTimeFrameFilter2:** the next lower time frame, in minutes, that the EA will check after detecting a cross and validating a new trade. The default of 60 is the 1H chart.
- **LowerTimeFrameFilter3 & 4:** these allow you to drill into even lower time frames if you wish. The defaults of 0 turn them off, so enter lower TF values if you wish to use them.

Managing Daily Cross Trades
The EA has no individual trade management functions. To manage these trades, you can:
1. Manage them manually.
2. Use my Multi-purpose trade management EA (or any other suitable EA). My EA and its associated user guide is included with the zipfile you downloaded.

General EA settings

- **MaxTradesAllowed=24:** if the EA discovers that there are more than this number of trades already open, it will not open a new basket. This is to avoid over-trading as new trigger currencies are added to the EA. If this figure is exceeded during a basket opening, the EA will complete the basket.
- **Lot=0.01:**
- **TradeWeak=true:** tells the EA to place Weak baskets.
- **TradeStrong=true:** tells the EA to place Strong baskets.
- **MinTradesPerBasket:** this setting tells the EA how many trades constitute a 'basket'. It checks the broker spread of each pair in the basket and aborts the send if there are not enough pairs with acceptable spreads. This is not total protection because:
  - The spread might have changed by the time the EA sends an individual trade. The EA will not send the trade if the spread has become unacceptable.
  - Mt4 platform problems might result in a trade not being sent.
- **PairSuffix="m":** use this if yours is an IBFX mini account. Change it to "" if not. If your broker uses a different suffix, then change PairSuffix to this setting.
- **ShowAlerts=true:**
- **MaximumSpread=20:** matrixebis's indi highlighted some horrible spreads on occasions. If the broker's spread exceeds this, the EA will not place the individual trade. It will continue to place the remaining trades in the basket. If your broker quotes 5 decimal places, then you need to multiply this number by 10.
- **DisplayGapSize:** this indents the screen feedback. It is useful if your broker puts messages on the left of the chart that clash with the feedback.
- **ShowMagicNumbersOnScreen:** set this to 'false' and the EA will not show the magic numbers. This frees up a lot of screen space and is useful if you are using the EA to manage the trades.
- **WatchTradesOnly:** set this to 'true' if you want to use the EA purely for trade display. It will perform no basket trading\management functions.
- **CurrencySymbol:** a present for Eddie. Change this to the currency you use for trading if it is not the $.

Trading time filters

- **SleepMinsAtStartup=2:** this is a *really* important setting. On first starting your mt4 platform, or loading up KG's indi, the indi has a lot of work to do. The values you first see on screen are incorrect and can lead the EA to place trades incorrectly. This figure tells the EA how long to wait before starting up, and gives the indi time to sort out the correct values.
- **TradeSundayCandle:** set this to 'true' to tell the EA to trade on Sunday, if you live in a part of the world where this is possible. Experienced traders say not to do this, so best to leave it set to 'false'.
- **MondayStartHour:** the hour at which you want the EA to start trading on Monday.
- **StopTradingOnFriday=true:** tells the EA not to trade after FridayStopHour on Fridays – an attempt to enter the weekend without an open position. I live in the UK, so 2.00 pm still leaves about 7 hours of trading before New York knocks off for the weekend. US residents will need to adjust this to suit themselves.
- **FridayStopHour=14:**

- **Session time trade filters:** these apply to the Range and Original trading methods. We are indebted to cybernet69 for suggesting we use them. The EA works on you computer's local time, so you need to make sure this is correct. Default settings are for my computer; you might need slightly different ones. These filters will stop the EA sending trades during the hours you specify. The settings are:
    - **UseAsiaTimeFilter:** filters out JPY, AUD, & NZD triggers.
    - **AsiaStartTime:** the hour at which the Asian markets open.
    - **AsiaEndTime:** the hour at which the Asian markets close.
    - **UseLondonTimeFilter:** filters out EUR, GBP, CHF & CAD triggers
    - **UseNewYorkTimeFilter:** filters out the USD trigger.
- **Individual basket trade filters**
    - **UseKgGroupFilter:** set this to 'true' to use this filter. The EA examines the relative strength of the currencies in the basket, and allows the individual trade if this is appropriate.
    - **KgFilterMins:** this should represent the next time frame up from the one you are trading. The default 240 minutes is correct if you are trading a 60 minute (1H) chart.
    - **ReverseNotCancel:** tells the EA to reverse the direction of an individual trade within a basket, when it fails the individual filter test.

Management inputs
- **BasketClosureTP:** set this to 'true' to tell the EA to manage open baskets to a take profit setting, Related inputs are:
    - **BasketStrongDollarTP:** the take profit in dollars for Strong baskets.
    - **BasketWeakDollarTP:** the take profit in dollars for Weak baskets.
- **Basket stop loss:** works in the same way as the take profit routine.
- **Basket jumping stop settings:**
    - **UseJumpingStop:** set this to 'true' to use this feature.
    - **JumpingStopDollars:** profit points in dollars at which the EA should lock in the basket UPL – JumpingStopDollars,
    - **LockInDollars:** the profit to lock in at the first jump. Leave this at 0 to simply set a break even point. Make sure this is less than JumpingStopDollars, or the EA will immediately close the basket, as it is below the take profit.
    - Here is how a jumping stop works. Imagine you have it set to $3: LockInDollars = 1:
        - Basket profit hits $3: EA locks in $1 and will close the basket if the profit falls to this.
        - Basket profit hits $6: EA locks in $4 profit and will close the basket if the profit falls to $4.
        - And so on until the basket is closed by a change of strength direction.

I have imported and modified a couple of functions from the multi purpose trade manager – Global Order Closure and Shirt Protection. Use them with care, because if triggered they close **all** open trades, not merely those opened by this EA.

Global order closure settings

This offers the facility to close all open positions when the trading profit reaches your target. By default, the settings are all either false or ridiculous profit targets for safety. The settings are:

1) **GlobalOrderClosureEnabled:** set this to 'true' to enable this feature, 'false' to disable.
2) **IncludePendingOrdersInClosure:** will close pending orders if 'true' but will ignore them if 'false'.
3) **DollarProfit:** The profit at which you want the EA to close all your trades. The default of 100,000 is for safety.

Shirt Protection Settings

"Losing your shirt" is a slang expression to describe losing everything - money, home etc. Here, it applies to a margin call.

1) **ShirtProtectionEnabled:** set this to 'true' if you wish to enable this feature.
2) **MaxLoss:** set this to the dollars loss at which you want the ea to close all open trades (it will leave pending orders in place). For example, imagine you have an account with a balance of $1,000. You can stand up to 80% upl but no more. You would set MaxLoss to -800. **MaxLoss must be a negative number.**

Really important point:
This routine should be irrelevant to you. If you think you might need it, they your trades are over-leveraged and ridiculously risky. Re-examine your trading techniques.

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Lot sizes
- IBFX mini account holders, where I pip = approx 1 cent: 0.01 lots per $100 seems safe.
- Other mini accounts where I pip = approx 10 cents: 0.01 lots per $1000 seems safe.

Remember that a basket can easily take your account into a 10% drawdown, so take care with the number of trigger currencies you use.

IBFX users
IBFX routinely puts criminal spreads on some of their pairs – I have seen GBPNZD at 105, for example. I think this practice makes NZD and AUD unusable as triggers for IBFX account holders.

And finally
If you are new to it, demo this EA for a few days to get a feel for how it works. **DO NOT** rush straight into live trading with it – only an idiot does this.

You can lose a *lot* of money trading Forex. Use of this EA does not guarantee you will

profit from its use. Default settings are provided to get you started and do not constitute trading recommendations.