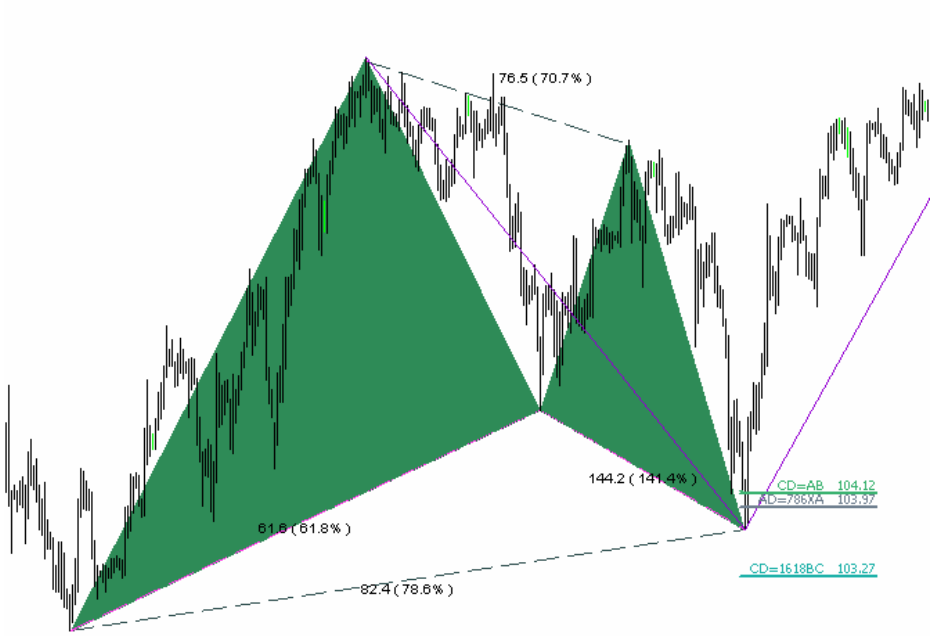

Indicator

korHarmonics

for harmonic and price patterns recognition on MT4 platforms

version 005

author: kor4x@yahoo.com

Revision history

Date	Version	Description of the main changes
14/02/2009	001T	Introduction to the indicator and its functionalities.
22/02/2009	002T	New formations added (3Drives, I+3Drives, I+SHS , 5-0 pattern), changes in the graphical layout, listed plans for the next versions.
01/05/2009	003T	A lot of changes – new formations, better recognition quality.
16/05/2009	004T	Optimization of default parameters and templates.
23/07/2009	005T	D point prognosis, emerging patterns, possibility to define MinSwing defaults for new formations.

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1. Introduction

korHarmonics is an indicator written in mq4 for Metatrader4 (MT4) platforms.
It automatically looks and presents (real-time and history) harmonic and price patterns appearing on any market and instrument supported by MT4.
For the user it means:

- possibility to monitor multiple markets, instruments, timeframes
- possibility to define set of favorite patterns to look for
- assurance that each pattern will be spotted and the user alerted
- at the end spending less time looking at the monitor, but not missing an opportunity

The market repeats continuously and on each timeframe. It does not draw anything new and will never draw anything new. It is just important to spot repetitive patterns, in order to remember their past behavior and get alerted on time when they show up next time. korHarmonics supports you in this.

There is no indicator that completely replaces an investor's eyes. Some recognized formations are 'DO NOT TOUCH". Some look good, but still fail, which is normal. It's the responsibility of each investor to study and learn when to play and when to stay out of the market.

Each version brings new functionality and improvements. At the moment we have:

1. Support for multiple markets, instruments and timeframes
2. Automatic real-time and history harmonic and price patterns recognition and presentation (see below the list of supported formations).
3. Early identification of the emerging/potential formations ("Emerging patterns").
4. ZIGZAG with its price and time relationships
5. Possibility to automatically save found pattern picture into a GIF file.
6. Alerts and sound alarms.
7. Choosing favorites patterns, filtering out the others
8. Templates with predefined optimal parameters
9. Default MinSwing pre-configuration for ZIGZAGs
10. Integration with korSigMonitor the indicator which allows you to monitor multiple formations, markets, instruments, timeframes on the single page.

Every day more tested, more used, more proven and more profitable.

I would like to thank everyone for your emails with comments, ideas and trading examples, I'd also like to thank all the people beta tested this system, your work and valuable suggestions are very important to me..
A number of your ideas are already in the indicator, some are awaiting the next versions. We have learned a lot from each other.

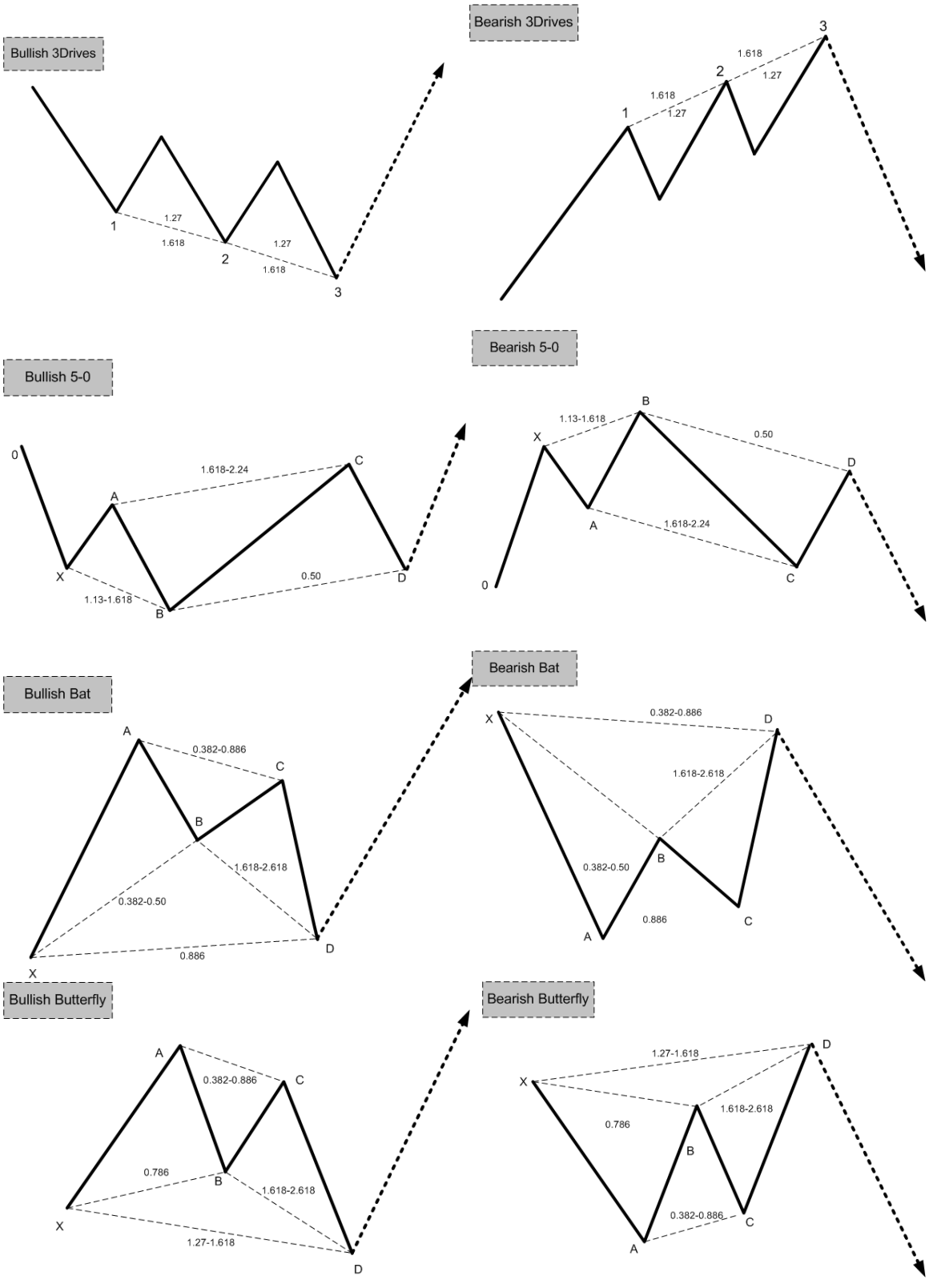
2. List of patterns supported in the trial version

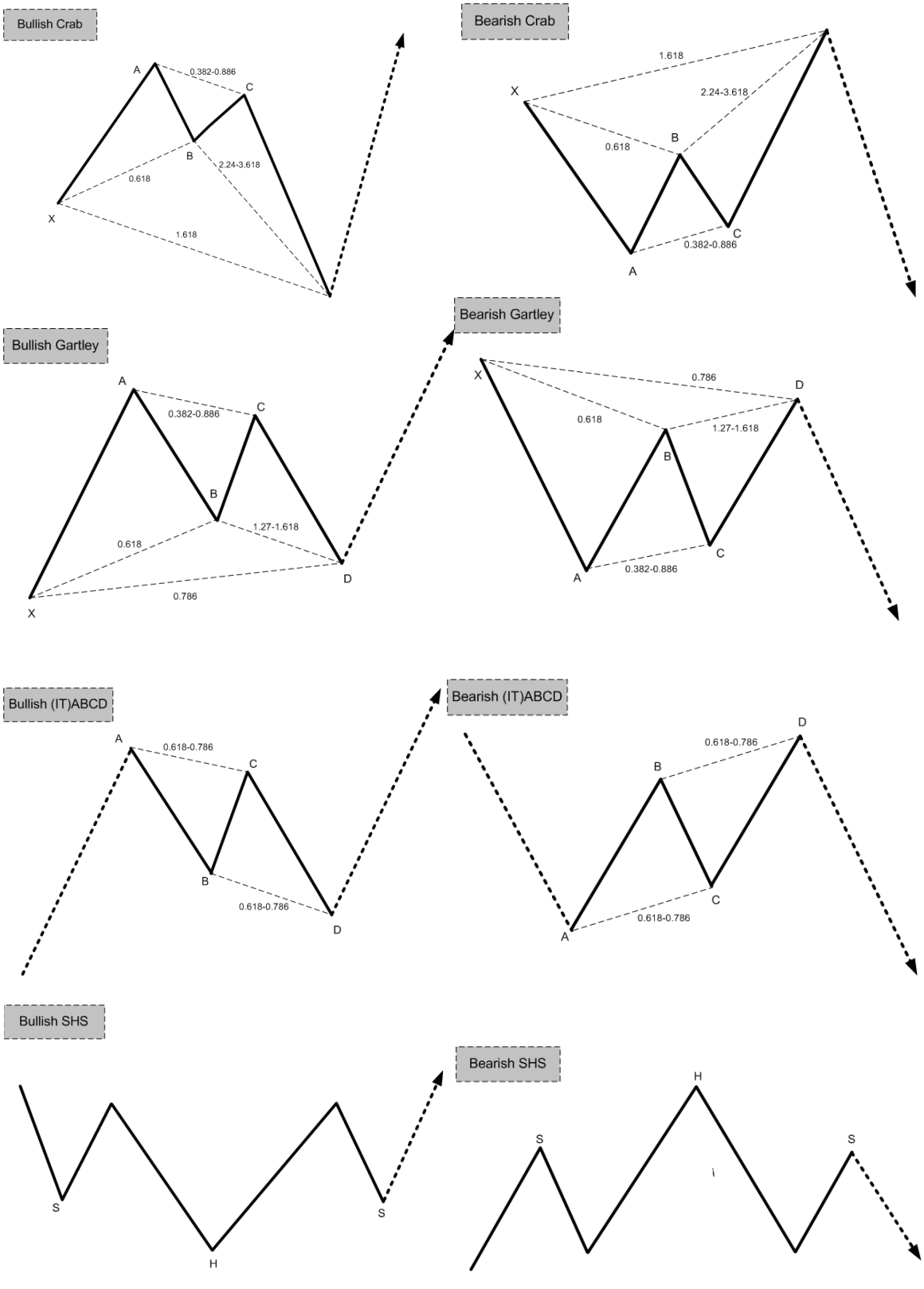
List of currently implemented formations:

- ABCD_Bullish
- ABCD_Bearish
- I ABCD_Bullish
- I ABCD_Bearish
- I+T ABCD_Bullish
- I+T ABCD_Bearish
- Gartley Bullish
- Gartley Bearish
- Butterfly Bullish
- Butterfly Bearish
- Crab Bullish
- Crab Bearish
- Bat Bullish
- Bat Bearish
- Batman Bullish
- Batman Bearish
- SHS Bullish - Head and Shoulders
- SHS Bearish
- I+SHS Bullish - Ideal Head and Shoulders
- I+SHS Bearish
- 3Drives Bullish
- 3Drives Bearish
- 5-0 Bullish
- 5-0 Bearish
- Running Corr Bullish – running correction
- Running Corr Bearish
- Emerging Gartley Bullish
- Emerging Gartley Bearish
- Emerging Butterfly Bullish
- Emerging Butterfly Bearish
- Emerging Crab Bullish
- Emerging Crab Bearish
- Emerging Bat Bullish
- Emerging Bat Bearish

Note: The above lists the formations implemented in the Trial version of the indicator. Full version (market with “F” letter) contains less known or private proprietary formations. They are included into indicator on special requests and are not published. Tests of their reliability are not completed.

Note: Detailed specification of the formations together with examples and trading strategies will be part of separate document.


Bullish 3Drives
1
2
3
1.27
1.618
1.27
1.618
Bearish 3Drives
1
2
3
1.618
1.27
1.618
1.27
Bullish 5-0
0
X
A
B
C
D
1.618-2.24
1.13-1.618
0.50
Bearish 5-0
0
X
A
B
C
D
1.13-1.618
0.50
1.618-2.24
Bullish Bat
X
A
B
C
D
0.382-0.886
1.618-2.618
0.382-0.50
0.886
Bearish Bat
X
A
B
C
D
0.382-0.886
1.618-2.618
0.382-0.50
0.886
Bullish Butterfly
X
A
B
C
D
0.382-0.886
0.786
1.618-2.618
1.27-1.618
Bearish Butterfly
X
A
B
C
D
1.27-1.618
1.618-2.618
0.786
0.382-0.886


Bullish Crab
A
0.382-0.886
C
B
2.24-3.618
0.618
X
1.618
Bearish Crab
1.618
X
2.24-3.618
0.618
B
C
0.382-0.886
A
Bullish Gartley
A
0.382-0.886
C
B
1.27-1.618
0.618
D
X
0.786
Bearish Gartley
X
0.786
D
0.618
1.27-1.618
B
C
A
0.382-0.886
Bullish (IT)ABCD
A
0.618-0.786
C
B
0.618-0.786
D
Bearish (IT)ABCD
0.618-0.786
D
B
C
A
0.618-0.786
Bullish SHS
S
S
H
Bearish SHS
H
S
S

3. Indicator parameters

Parameter name	Section / parameter description
	Main params
iextMaxBars	Parameter for ZIGZAG creation. Number of bars that are used to build the ZIGZAG based on which harmonic and price patterns are found. Currently cannot exceed 50 000 bars. If we look for real-time patterns only (not in history) that this parameter should be set in a way so number of bars allows to create a ZIGZAG that has minimum **iextMaxZZPointsUsed** points. Note: if **iextMaxZZPointsUsed = 7** then there is not point to specify too big number of points, as there is no point to build too big ZIGZAG. Defaults: - in indicator: 3000 - in realtime template: 3000 - in history template:40000.
iextHL_MinSwing	Parameter for ZIGZAG creation. Minimal number of pips to build the ZIGZAG swing. Set 0 means using the defaults predefined in the config file korHarmonics_MinSwingDefaults.txt Example for EURUSD defaults are as follows:
	EURUSD;4;20;40;70;130;200;350;650;1200;2500
	So M1=20, M5=40, M15=70, M30=130, H1=200, H4=350, D1=650, W1=1200, MN1=2500 Note1: Defaults are set for number of instruments only. Values can be changed or added. Note2: Default values may get changed in the future and be different than presented in this example. We still look for the optimal settings. Default: 0
iextMaxZZPointsUsed	Pattern search related parameter. Number of last ZIGZAG points that are used to look for patterns. Minimal value is 6 as 6 points are needed to spot formations like Head and Shoulders, 3Drives, 5-0 pattern. Default: 7
bextShowHistoryPatterns	Pattern search related parameter. Option to look for formations in history. Note: It can be used together with Multi ZIGZAG option as well as without it. Default: false
bextCheckMultiZigzags	Pattern search related parameter. Looking for patterns in number of ZIGZAGs in the same time, so not only in ZIGZAG built from the swing specified in **extHL_MinSwing** (if different than 0).

	Default: true
dextHL_MultiZZMinSwingRange	Pattern search related parameter. Must be in [0,0.9]. Defines the range of MinSwings that will be used for the MultiZIGZAG option. If set to 0.5and **extHL_MinSwing** is set to 30, patterns will be looked among ZIGZAGs build from Swings from 30-0.5*30 (so 15) till 30+0.5*30 (so 45). Default: 0.3
iextHL_MultiZZMinSwingNum	Pattern search related parameter. Number of ZIGZAGs checked for the MultiZIGZAG option. In the above example we check ZIGZAGs build from MinSwings from 15 till 45. Setting **MultiZZMinSwingNum** to 10 means that 10 ZIGZAGs will be checked, starting from 15 and then 15+1*30/10, 15+2*30/10, 15+3*30/10 .... 15+10*30/10 (so 45). Default: 5
	Calculation deltas
dextMaxDeviation	Pattern search related parameter. Calculation precision. Maximum allowed difference when calculation proportions of the pattern. Example. Gartley pattern requires that for point D following price relation exists: AD=0.786XA. Setting the **dextMaxDeviation** parameter to 0.1 so 10% defines what is the maximum allowed difference when verifying the relation. Point D then may be then positioned 10% away from the perfect book defined relation. Default: 0.1 (10%)
dextMaxSHSPriceDeviation	Pattern search related parameter. Price precision for Head and Shoulders (SHS) pattern. Default: 0.3
dextMaxSHSTimeDeviation	Pattern search related parameter. Time precision for Head and Shoulders (SHS) pattern. Default: 0.3
dextMaxCorrDeviation	Pattern search related parameter. Precision for different types of Correction patterns. Default: 0.1
	What to draw
bextDrawZZLine	Draw ZIGZAG line. Default: true
bextDrawZZRelations	Draw ZIGZAG line swing relations. Default: false
bextDrawZZPoints	Draw ZIGZAG points. Note: used mainly when programming/debugging indicator. Default: false
	Patterns ON/OFF
bextABCD	AB=CD pattern.

	Default: false
bextI_ABCD	Ideal ABCD with 61.8 or 78.6 price retracement. Default: false
bextIT_ABCD	Ideal ABCD in price and time. Default: false
bextGartley	Gartley pattern Default: true
bextButterfly	Butterfly Default: true
bextCrab	Crab Default: true
bextBat	Bat Default: true
bextBatman	Batman correction Default: false
bextSHS	Head and Shoulders (SHS) Default: false
bextI_SHS	Ideal Head and Shoulders (I+SHS) Default: true
bext3Drives	3Drives Default: true
bext5_0	5-0 pattern Default: true
bextRunningCorr	Running correction Default: false
bextEmergingPatterns	Emerging patterns: • Emerging Gartley, • Emerging Butterfly • Emerging Crab • Emerging Bat Default: true
	Alerts ON/OFF
bextMT4AlertON	Display Alert when new patterns are found or when existing pattern invalidates (is not matching the pattern conditions anymore). Default: true
bextSkypeMessageON	Send SKYPE message Functionality temporarily disabled.
SkypeAlert_AccountName	SKYPE account name where message should be sent

	Functionality temporarily disabled.
bextSkypeSMSON	Send SMS via SKYPE Functionality temporarily disabled.
SkypeAlert_PhoneNumber	Phone number where SMS should be sent. Functionality temporarily disabled.
	Sound Alarms ON/OFF
bextSoundAlertON	Play WAV sound together with Alert (see bextAlertON) Default: true
sextInfoPatternSoundFile	WAV file to be played. Default: "news.wav"
	Save as GIF ON/OFF
bextScreenshotPatternsON	Generate GIF file when new pattern found. Note: Works for patterns found with real-time option (when **bextShowHistoryPatterns** is false). Default: false
sextSaveImageDestinationDir	Subdirectory where GIF files will be storred. When set to: „korHarmonics/" GIF files will be recorded to C:\Program <MT4 DIRECTORY>\experts\files\korHamonics. Note: Subdirectory „korHarmonics", if does not exist, will be created automatically. Default: "korHarmonics/"
	Signal Monitoring ON/OFF **Note: functionality to be changed in v006**
bextSigMonitonitoringON	Generate signals in form of text files for korSigMonitor indicator. Default: false
sextSigMonitoringDir	Subdirectory where signals are recorded. Default: "korSigMon/"
	Patterns colors
Color settings for the patterns	....
	....
	....
	ZIGZAG lines colors
cextZZLineColor	ZIGZAG line color. Default: DarkViolet
cextZZRelLineColor	Color of the line representing relations within ZIGZAG. Default: Indigo
	Other colors
extBackgroundColor	Should be set according to the MT4 background color you use. Default: Black
extTextColor	Should be set according to the background color you use. If you use black background in MT4, then **extTextColor** should be set to White. If you use white background than set to Black.

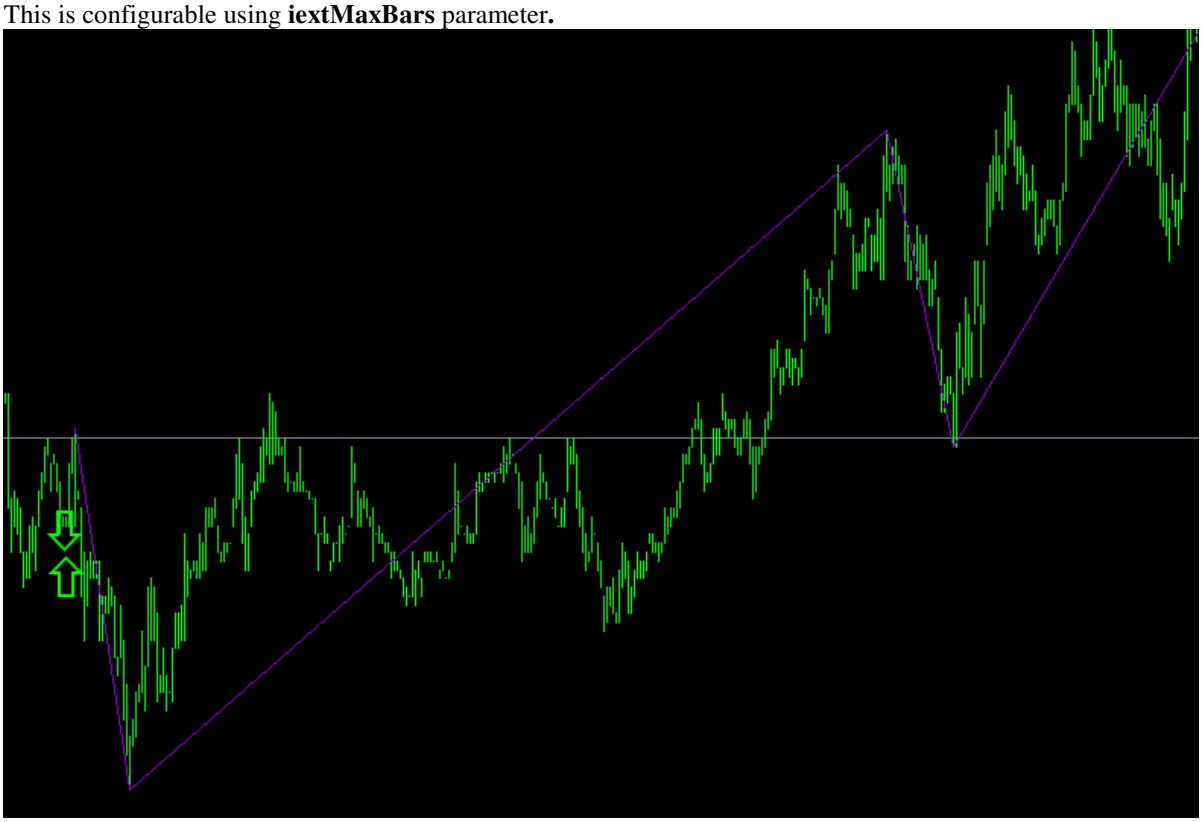
	Default: White
	MinSwing defaults file
sextMinSwingDefaultsFile	Configuration file with default MinSwings. Note: Predefined values are prepared for Forex market and most common currency pairs. Values can be changed and new lines can be added. Default: "korHarmonics/korHarmonics_MinSwingDefaults.txt"

4. Indicator functionality

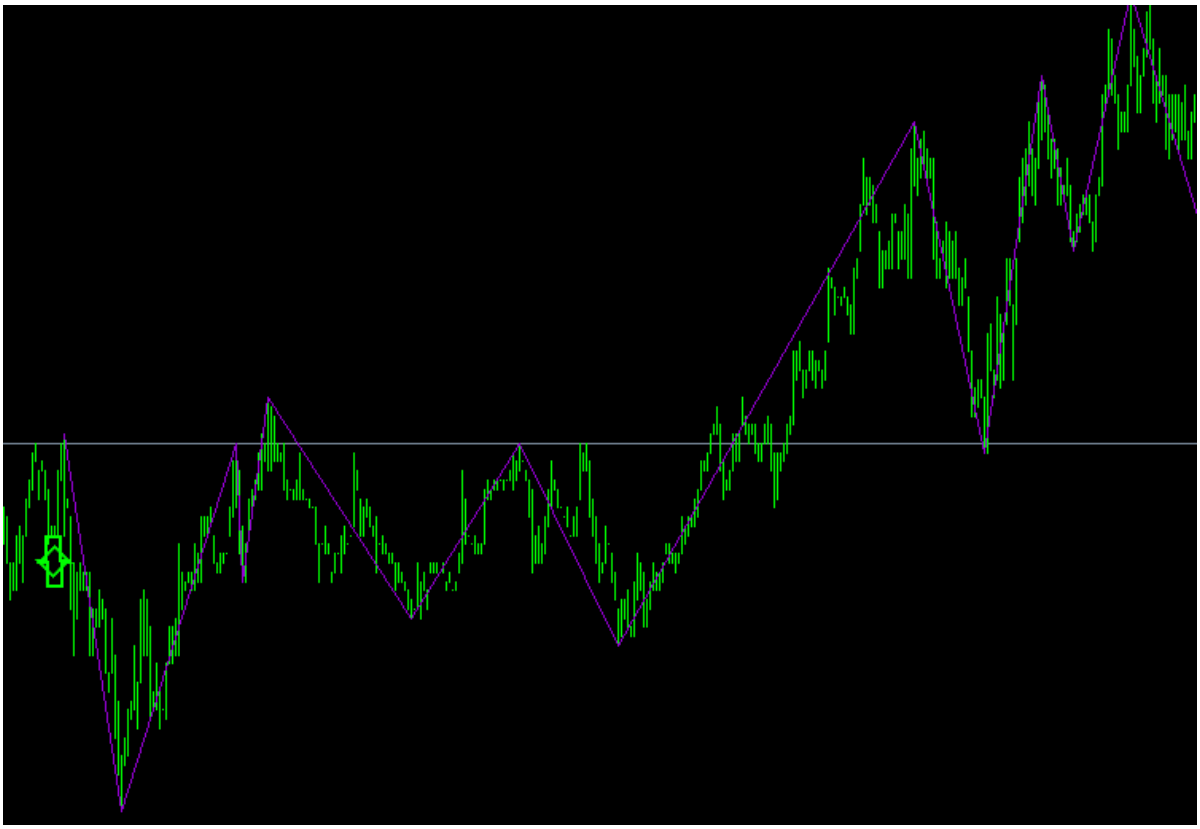
ZIGZAG

Indicator allows you to draw any ZIGZAG. Please see below the examples of ZIGZAG to understand it's construction and change possibility.

Picture presents ZIGZAG built for MinSwing=30. Green arrows on the left side identify the beginning. This is configurable using **iextMaxBars** parameter**.**

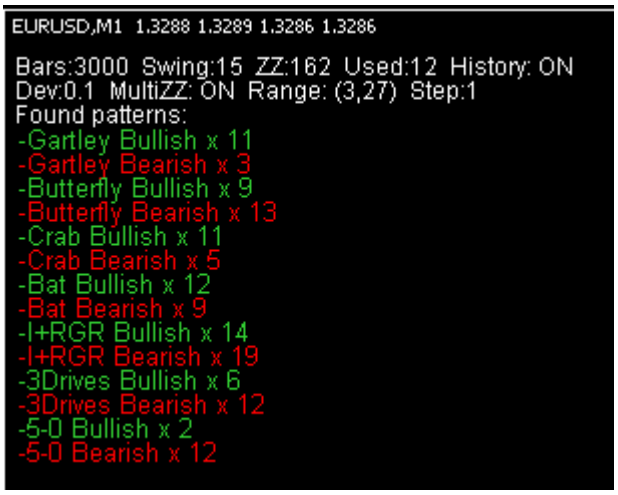


Following picture presents ZIGZAG in the same time period but with MinSwing set to 15.



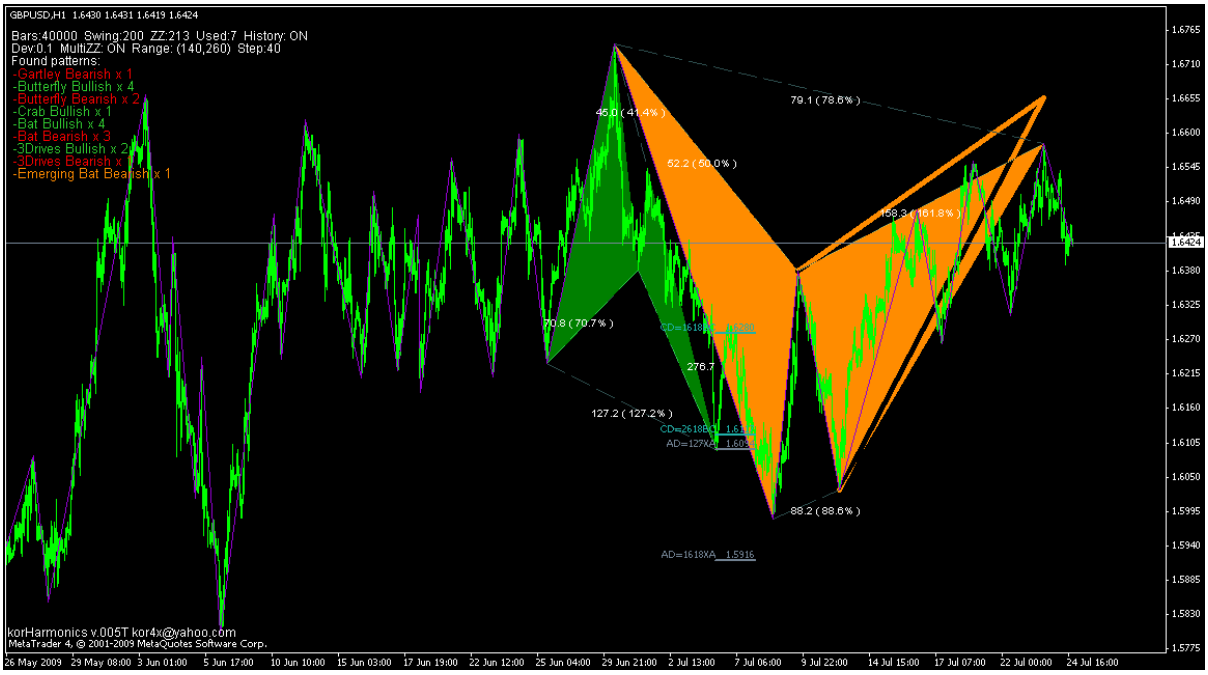
MinSwing should be selected according to the market, instrument and timeframe used.

Indicator settings and found patterns info



By default in the left upper corner MT4 displays the instrument details.

The information below comes from the indicator and presents the settings for the given moment:
Bars: 3000 – number of bars indicators works on
Swing: 15 - MinSwing value set to 15
ZZ: 162 – number of ZIGZAG points calculated from 3000 bars and MinSwing=15.
Used:12 – number of ZIGZAG points where patterns search happens
History: ON – if history search should be performed or only real-time (current) formations should be monitored
Dev: 0.1 – 10% calculations precision, see description of **dextMaxDeviation** parameter description
MultiZZ: ON – MultiZIGZAG option is ON, see **bextCheckMultiZigzags** parameter description
Range (3,27) – From such MinSwings ZIGZAGs will be built and patter lookup performed. Such range is calculated based on **dextHL_MultiZZMinSwingRange** (0.8) and MinSwing (15). Patterns are checked on ZIGZAGs built from Swings starting from 3 (as 15-80%*15) ending on 27 (as 15+80%*15), with step in this case equal 1.
Step: 1. Step is calculated as **iextHL_MinSwing** divided by **iextHL_MultiZZMinSwingNum.**
Found patterns: List of found patterns together with the their count. Green color means that pattern is bullish, red-bearish. Orange and yellow are colors reserved for emerging (still not completed) patterns.



Version info and contact details

In the left bottom corner you may find name of the indicator together with its version. “T” stands for Trial (usually a version with time and functional limitations).

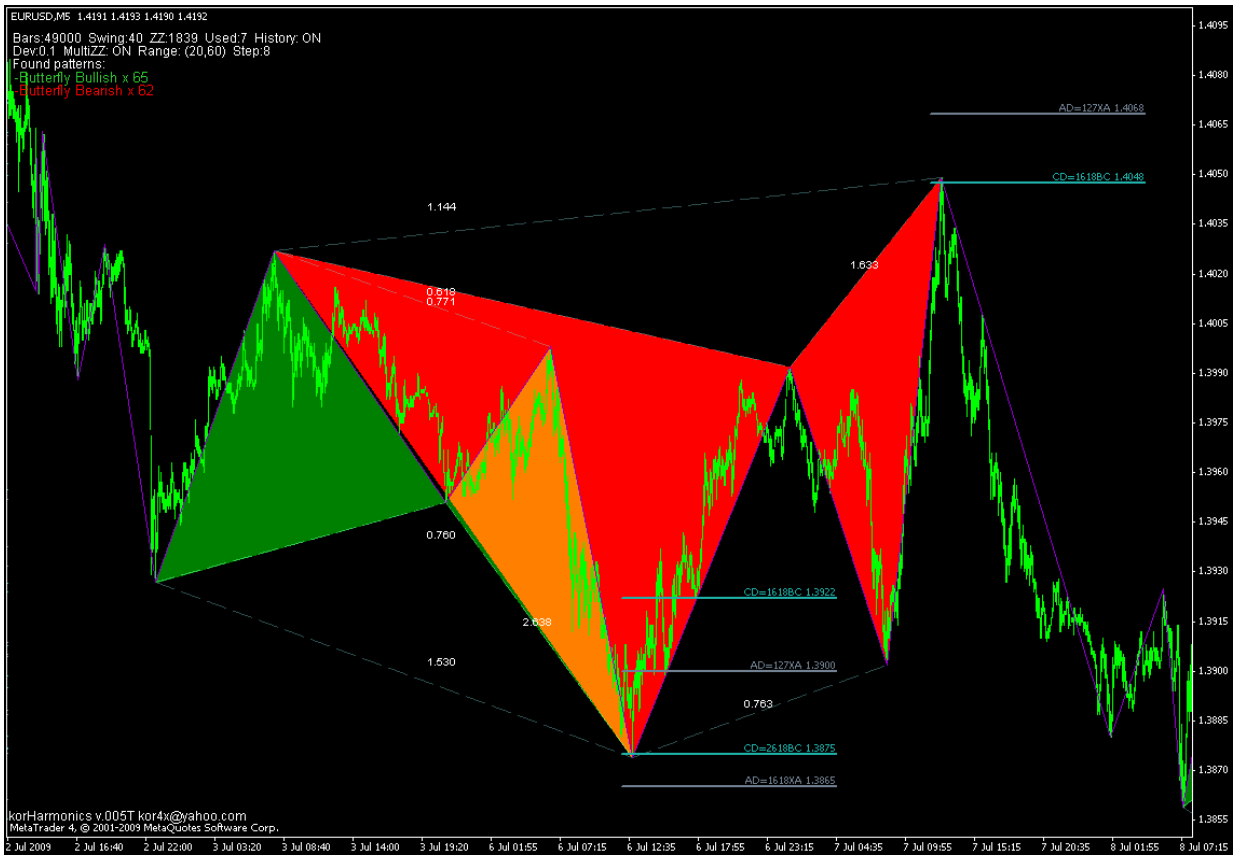
Feel free to send your comments and ideas to the provided email address.

History patterns recognition

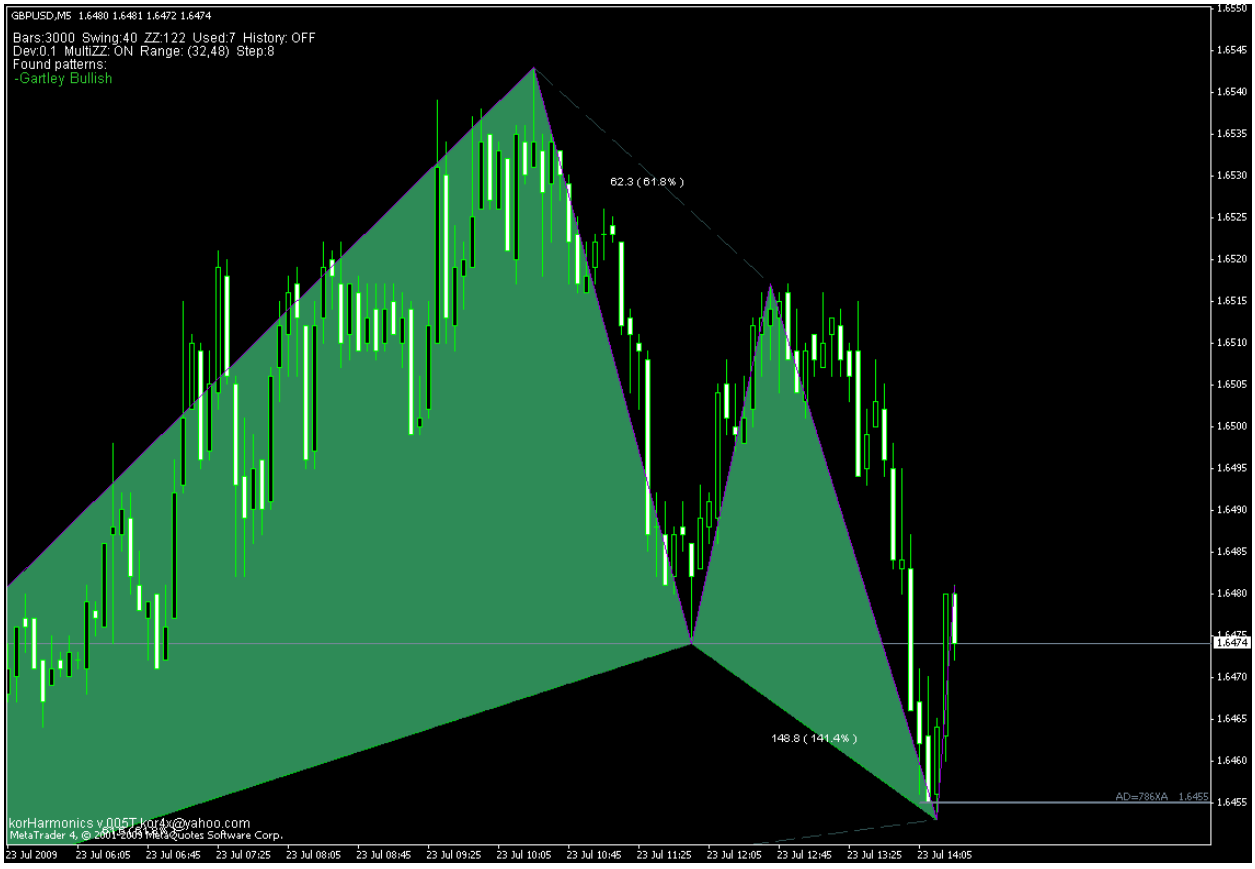
The following 2 pictures present result of using indicator for recognition of the patterns in the history.

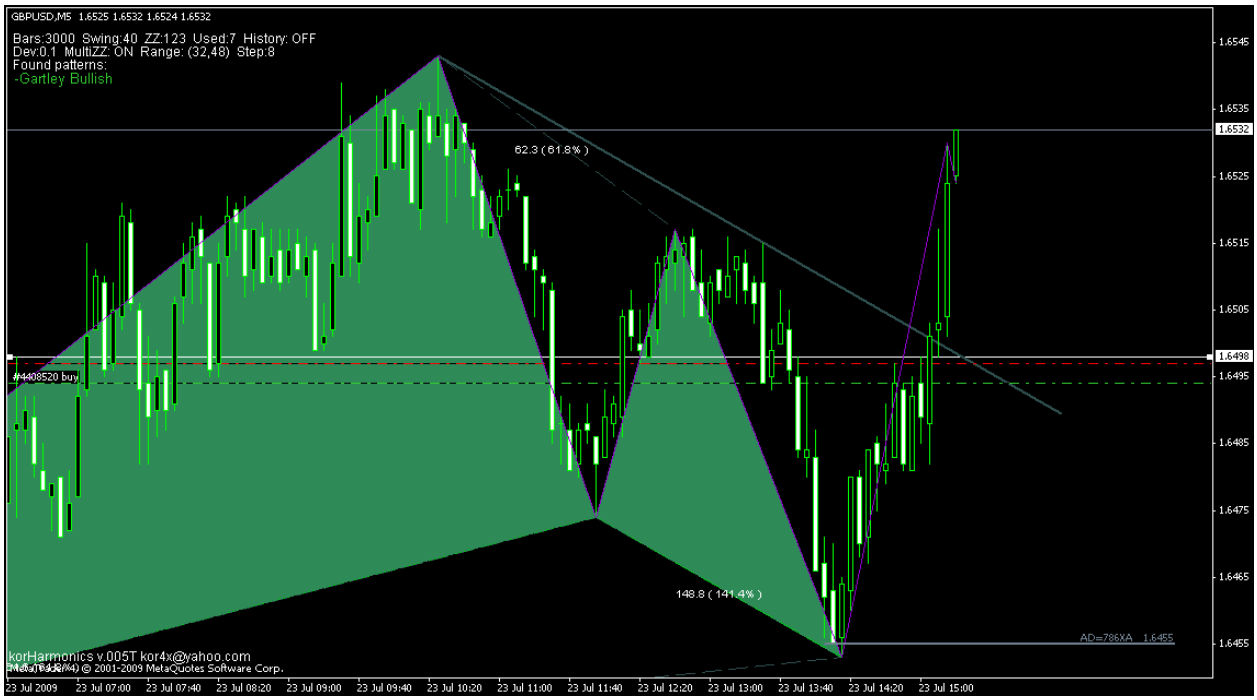
Picture1 presents around a 1 day period. During this day many different harmonic and price (SHS) patterns appeared. They seem to work nicely.
Beside the pattern name is the count number displayed.
Note: Picture comes from korHarmonics v003. Since then number of graphical layout changes happened.

Picture 2 comes from version 005T.

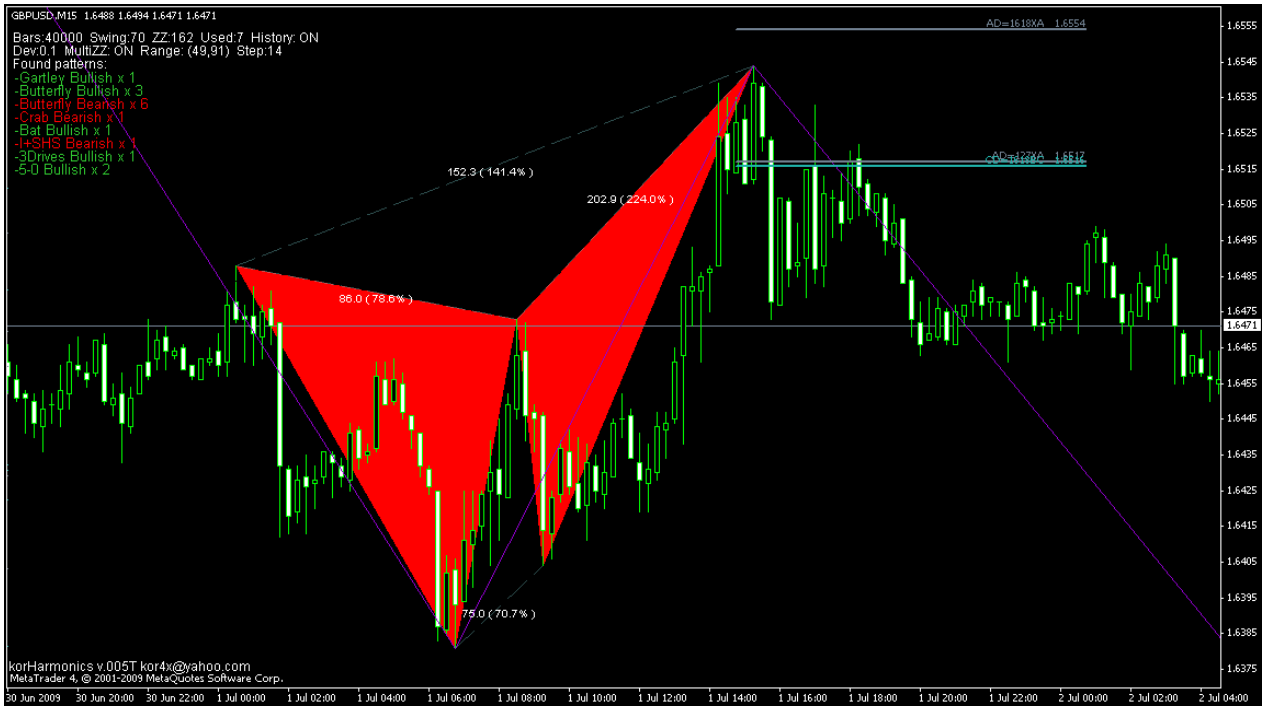


Real-time pattern recognition



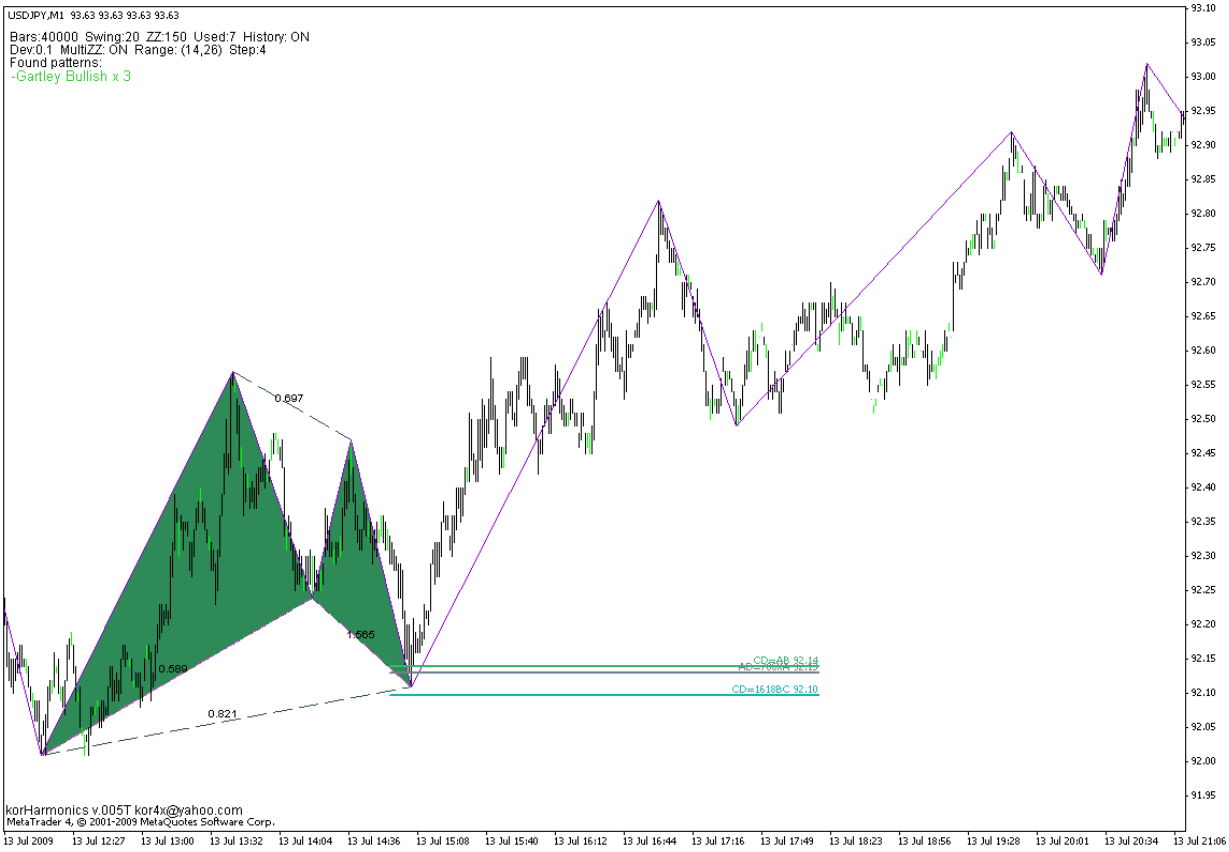


GBPUSD,M5 1.6409 1.6414 1.6401 1.6407
Bars:3000 Swing:40 ZZ:131 Used:7 History: OFF
Dev:0.1 MultiZZ: ON Range: (28,52) Step:8
Found patterns:
-Bat Bearish
0.892
CD=2618BC 1.6456
0.510
2.429
CD=1618BC 1.6414
0.525
korHarmonics v.005T kor4x@yahoo.com
MetaTrader 4, © 2001-2009 MetaQuotes Software Corp.


GBPUSD,M15 1.6488 1.6494 1.6471 1.6471
Bars:40000 Swing:70 ZZ:162 Used:7 History: ON
Dev:0.1 MultiZZ: ON Range: (49,91) Step:14
Found patterns:
-Gartley Bullish x 1
-Butterfly Bullish x 3
-Butterfly Bearish x 6
-Crab Bearish x 1
-Bat Bullish x 1
-I+SHS Bearish x 1
-3Drives Bullish x 1
-5-0 Bullish x 2
AD=1618XA 1.6554
152.3 (141.4%)
202.9 (224.0%)
86.0 (78.6%)
75.0 (70.7%)
korHarmonics v.005T kor4x@yahoo.com
MetaTrader 4, © 2001-2009 MetaQuotes Software Corp.

White background support

Picture below presents indicator usage on the white MT4 background. Please note additionally that the option to draw ZIGZAG price and time relations was turned ON (parameter **bextDrawZZRelations**).


USDJPY,M1 93.63 93.63 93.63 93.63
Bars:40000 Swing:20 ZZ:150 Used:7 History: ON
Dev:0.1 MultiZZ: ON Range: (14,26) Step:4
Found patterns:
-Gartley Bullish x 3
0.697
0.589
1.585
0.821
CD=AB 92.14
CD=1618BC 92.10
korHarmonics v.005T kor4x@yahoo.com
MetaTrader 4, © 2001-2009 MetaQuotes Software Corp.

Point D projection for ABCD and XABCD patterns

Based on the standard book relationships between X, A, B, C points, projection of point D is performed. Delta (calculation precision) is not involved in this prognosis calculation.

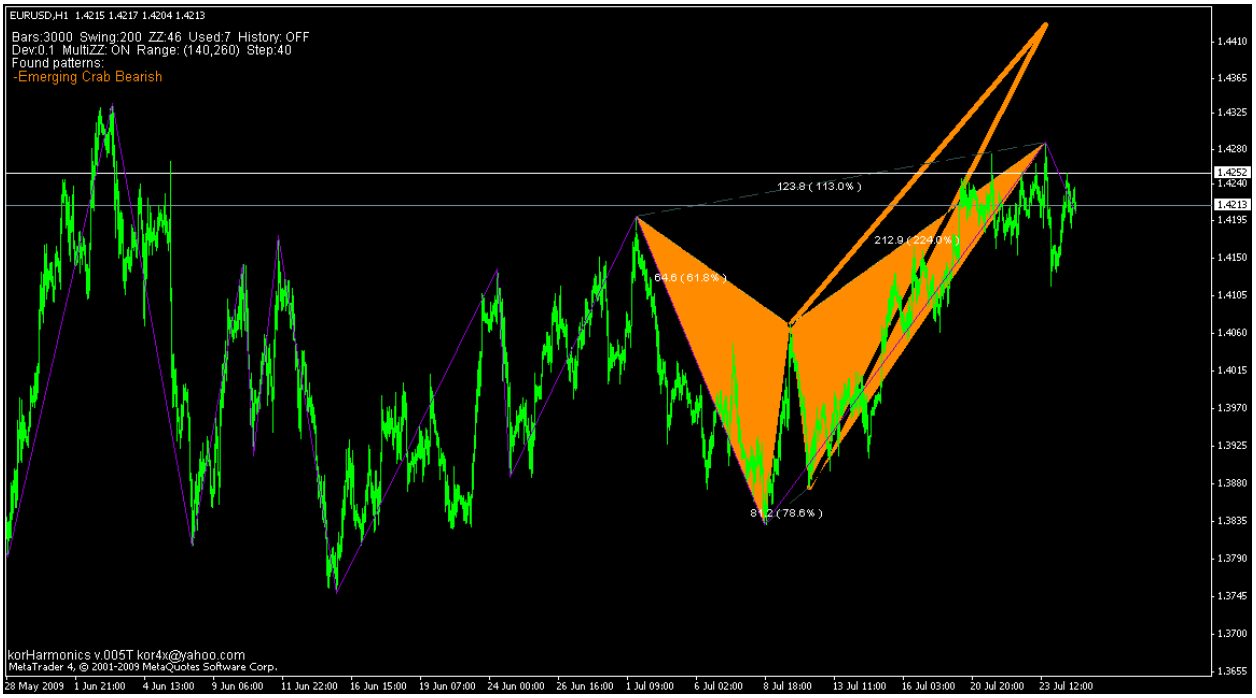
Example for Gartley pattern:
"AD=786XA"
"CD=1618BC"
"CD=AB"

Early pattern recognition- "Emerging patterns"

Emerging patterns appear when the first pattern relations are confirmed, meaning that as of yet the last pattern point has not been found. This allows the user to spot the interesting formation much earlier. Lines predict the place where pattern should complete. When price reaches this place a "Emerging pattern" will disappear and normal pattern will appear. From this moment we may look for final confirmation(s) to open the transaction.

Early pattern recognition has the following advantages:
- informs investor early enough so she/he can perform additional verifications (look for confirmation signals) before opening transaction (e.g.: Fibonacci based support and resistance levels, candlesticks analysis, divergences, etc)
- informs about potential levels for taking the profits (TP) from the current transactions.

Examples below present Emerging Bat Bullish and Bearish.



Configuration of the default MinSwings

Indicator allows defining your own MinsSwing values for any instrument traded. This is done via configuration file.

File format:

<SYMBOL>

<DIGITS> standard (common) number of digits platform offers for given instrument. Some platform like FxPro offer higher price precision, for example EURUSD 5 digits and USDJPY 3digits. Please still specify the standard number of digits and value for the MinSwing whenever needed will be automatically multiplied by indicator by 10. Always configuration in the file should be done for standard platforms (where EURUSD is with 4 digits precision, eg.:1.4207).

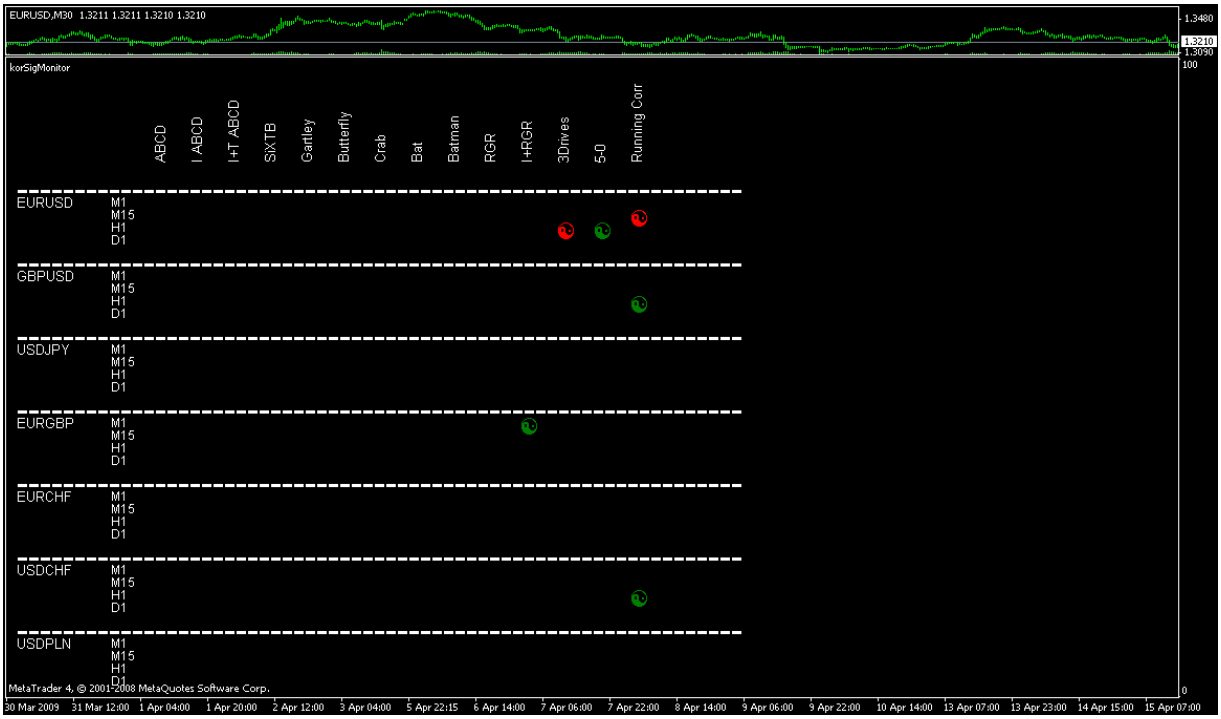
<M1> .. <MN> MinSwing values for different Timeframes.

```
symbol;digits;M1;M5;M15;M30;H1;H4;D1;W1;MN
EURUSD;4;20;40;70;130;200;350;650;1200;2500
EURGBP;4;20;40;70;130;200;350;650;1200;2500
EURCHF;4;20;40;70;130;200;350;650;1200;2500
EURCAD;4;20;40;70;130;200;350;650;1200;2500
EURAUD;4;20;40;70;130;200;350;650;1200;2500
EURNZD;4;20;40;70;130;200;350;650;1200;2500
GBPUSD;4;20;40;70;130;200;350;650;1200;2500
GBPCHF;4;20;40;70;130;200;350;650;1200;2500
USDJPY;2;20;40;70;130;200;350;650;1200;2500
EURJPY;2;20;40;70;130;200;350;650;1200;2500
```

Note: Maximum allowed configurations is set to 50. If more rows specified they will not be loaded and used.

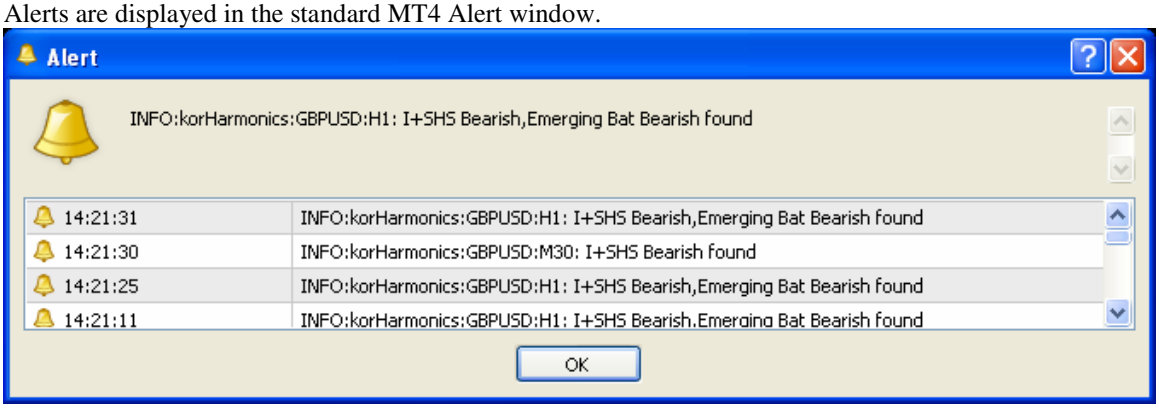
5. Integration with korSigMonitor indicator

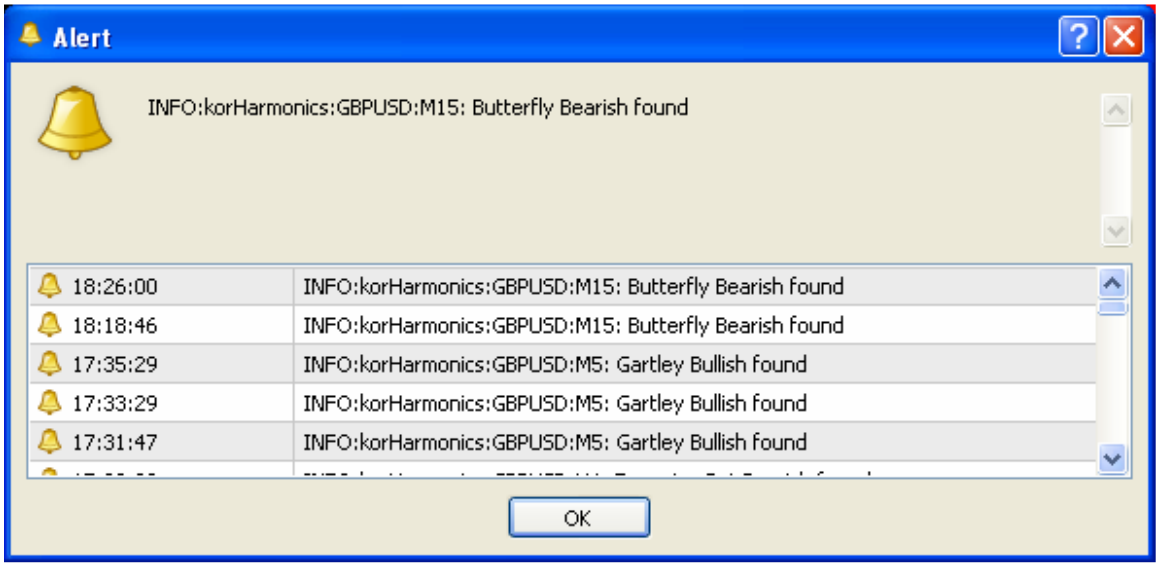
korSigMonitor allows to monitor number of different instruments and timeframes on 1 MT4 chart. This functionality will be extended in the future and will probably be offered in two versions, one as a MT4 indicator and the second as www service.



6. Alerts and errors

Alerts are displayed in the standard MT4 Alert window.





Note1: Alerts can be turned OFF using **bextMT4AlertON** parameter.
Note2: bextSoundAlertON and **sextInfoPatternSoundFile** allow additionally to turn ON sound alert and WAV file that is played when pattern appears.
Note3: Indicator has also functionality to:
a) send SKYPE message and
b) send SMSa via SKYPE service
Unfortunately first tests show that using this ways of alerting has significant impact on MT4 performance. Further tests are needed. Functionality is disabled.

Please see below the list of possible information massages, errors and warnings generated by indicator and displayed in the Alert window.

A=Alert, M=Meaning of the alert, S=Solution

A	ERROR:korHarmonics:GBPUSD:H4:Missing configuration file for the default MinSwing: korHarmonics/korHarmonics_MinSwingDefaults.txt
M	In case of using default MinSwing functionality (**iextHL_MinSwing**=0) data is read from the configuration file specified in **sextMinSwingDefaultsFile**. Error means that specified file does not exist in the specified directory.
S	Check if configuration file exists in the correct place. Default file name is korHarmonics_MinSwingDefaults.txt and should be located in directory <METATRADER DIR> \experts\files\korHarmonics\ **Note:** It's possible to set **iextHL_MinSwing** to any value higher than 0. Than configuration file is not needed/used as MinSwing value to build a ZIGZAG is used as specified in the parameter.
A	ERROR:korHarmonics:GBPUSD:M30:Specified iextMaxBars number:60000 in not supported, allowed:[0,50000] ...changing to max value...
M	Value specified for **iextMaxBars** is too high.
S	Decrease the **iextMaxBars** so value so it fits in the allowed range [0,50000]
A	WARNING:korHarmonics:GBPUSD:M30:Setting iextMaxZZPointsUsed to minimum =6 required for harmonic analysis.
M	Value specified for **iextMaxZZPointsUsed** is too small. Minimal value is 6, as some patterns are build from such amount of points (e.g.:Head and Shoulders (SHS), 5-0 pattern, 3Drives).
S	Increase **iextMaxZZPointsUsed** so it's >=6. Default value is set to 7.
A	WARNING:korHarmonics:GBPUSD:M30:dextHL_MultiZZMinSwingRange should be in the [0,0.9] range. Will use 0.
M	**MultiZZMinSwingRange** is lower than 0. Value will be set to 0.
S	Change parameter **MultiZZMinSwingRange** so it fits in allowed range [0,0.9].
A	WARNING:korHarmonics:GBPUSD:M30:dextHL_MultiZZMinSwingRange should be in the [0,0.9] range. Will use 0.9.
M	**MultiZZMinSwingRange** is higher than 0.9. Value will be automatically changed to 0.9 (maximum allowed value).
S	Change parameter **MultiZZMinSwingRange** so it fits in allowed range [0,0.9].
A	INFO:korHarmonics:GBPUSD:M15:This version has expired, please contact kor4x@yahoo.com to obtain newer version.

M	Version expired.
S	Most probably there is available newer version. Please contact the author.
A	INFO:korHarmonics:GBPUSD:M15:This version cannot be run on this MT4 account, please contact kor4x@yahoo.com to obtain a proper version.
M	This version is prepared for the dedicated MT4 account. Most probably it is testing version of a specific functionality.
S	Most probably there is available another version. Please contact the author.
A	WARNING:korHarmonics:[VZ]:D1:Default iextHL_MinSwing values are not defined for this instrument. Please specify in the configuration file. Now automatically defaulting to 100.
M	In case of using default MinSwing fuctionality (**iextHL_MinSwing=**0) data is read from the configuration file specified in **sextMinSwingDefaultsFile**. Warning means that defaults are not specified for this instrument. Default is then set automatically to 100, which usually is wrong.
S	Edit the MinSwing defaults configuration file and add new configuration according to your needs. Save the file and refresh the Timeframe you work on. New configuration will be automatically loaded and used. Check if correct setting (as specified in the file) is now used by looking at the chart left upper corner (value: Swing).
A	INFO:korHarmonics:GBPUSD:M15:Too many MinSwingDefaults. Only first 50 loaded.
M	Too many MinSwing values defined in the configuration file. Only first 50 will be loaded.
S	50 seems to be enough is most cases. If there are reasons for extending please contact the author. You may also remove from the file unwanted configurations before adding yours.
A	ERROR in ZigZag generation:GBPUSD:M15: Not enough MaxBars specified to calculate ZigZag with 8 points (iextMaxZZPointsUsed). Increase MaxBars.
M	To small iextMaxBars for specifid iextMaxZZPointsUsed. For example you specified 1000 M1 bars for your ZIGZAG analysis but big number of iextMaxZZPointsUsed or big size of MinSwing. In such scenario ZIGZAG that is created has not enough points to properly perform analysis of some patterns (for example Head and Shoulders, 5-0 or 3Drives patterns require 6 points for analysis).
S	It seems that you played with parameters and defined a set that does not really fit well indicator and pattern recognition needs. You can or increase **iextMaxBars** for ZIGZAG analysis, or decrease MinSwing size, or decrease iextMaxZZPointsUsed . Usually the increasing **iextMaxBars** works well. You can always reload the template to have correct settings and if you need some changes you can start performing them from clean template setup.

7. FAQ

Q: Does korHarmonics work with black and white MT4 background?

A: Yes, from version 003. See parameters **extBackgroundColor** and **extTextColor,** as well as provided templates for black and white settings.

Q: What type of confirmations can be used for harmonic trading?

A: Some of confirmation elements:
- trend
- momentum (Stochastics)
- candlesticks formations
- market fractals
- Elliott waves
- Fibonacci price retracements/extensions
- Fibonacci time retracements/extensions (measured in bars)

Q: Which patterns are most reliable?

A: I did not find any published statistics regarding this question. My tests and analysis are also not completed. When completed information will be provided.
Anyone having such data or anyone interested to take part in the patterns reliability analysis please contact the author.

Q: What are best settings for the indicator?

A: All the parameters are well described and allow the user to use the indicator in multiple ways, depending on the needs. Templates included in the package suggest the settings used by the author. Monitoring the market/instrument the investor comes to the conclusion which settings fit him and the market the best. A performance review/calibration should be completed and all applicable updates made to the default MinSwing configurations.

Q: How to turn off Alerts /Warnings?

A: Set bextAlertON to false.

8. Release Notes

Version 001T

First trial version to collect the comments from more experienced harmonic trading users, using solutions like ZUP or other commercial products for pattern recognition.
Trial till 2009.02.28.

Version 002T

1. New formations added: a)3Drives, b)Ideal 3Drives, c)Ideal Head and Shoulders and d)5-0 pattern
2. Graphical objects renaming.

Trial till 2009.05.01.

Version 003T

1. Optimization of the pattern recognition conditions for the XABCD and SHS patterns.
2. Running correction 'RunningCorr' pattern added.
3. Functionality of the default MinSwings for some instruments added (when MinSwing set to 0)
4. Templates delivered for realtime and history modes, also for black and white backgrounds used in MT4.
5. Defaults patterns colors changed.
6. Patterns descriptions removed from the chart. After a bit of time working with harmonic trading everyone knows the patterns and having additional description on the chart is not needed (annyoing/distracting).
7. Divide by 0 error appearing when indicator used over the weekend was fixed.
8. Alerts info updated.
9. Performance improvements although no performance issues identified till now.
10. Time analysis foundation added, not completed and not available in the Trial version.
    Trial due 2009.09.30.

Version 004T

1. Default MinSwing changes.
2. Template changes.
3. Alert changes.
4. Calculation problems fixed for platforms with higher price precision provided (e.g.: FxPro with 5 digits precision for EURUSD).
   Trial do 2009.09.30.

Version 005T

1. Point D prediction for main indicator patterns.
2. Emerging patterns functionality added for Gartley, Bat, Crab, Butterfly.
3. MinSwing defaults changed for main FX pairs. Two configuration sets provided in the ZIP package.
4. MinSwing defaults configurable via configuration file. Possibility exists to use this indicator feature on any instrument available via MT4 platform.
5. Main Alert change. Instead of: "Patterns list has changed (added or removed).", now precise information is displayed about new pattern that was found or one that got invalidated.
6. New templates supporting new functionalities.
7. Until now only on new candlestick from given Timeframe. From this version indicator performs the calculations:
   a. on new candlestick OR

b. after 5 minutes+TimeDelta from last calculations (TimeDelta is different for each TF so to avoid all the calculations being performed in the same time, instead spread them in time).

8. Display pattern points relation in a way that exact price relation is shown and then in the bracket the important Fibonacci relation, eg.: „78.2 (78.6 %)"
9. "RGR"->"SHS" (Head and Shoulders), pattern name changed.
10. Functionality to send SKYPE messages and SMSes via SKYPE was added, but disabled for the time being, as it seems to impact MT4 performance significantly.
11. Option to disable Alerts
    Trial due 2009.10.15.

List of candidates for next korHarmonics releases is provided below.

9. Candidates for the next versions

See below the list of functional and technical candidates for the next indicator releases. If you have any further ideas, suggestions for changes or simply comments, please contact the author.

1	New price patterns: a. trend channels b. Triangles c. Flags d. Wolfe Wave e. Specific corrections f. Elliott fractals
2	Separate voice signals per pattern or per „better" patterns.
3	Fibonacci lines for the last ZIZZAG swing
4	Optimization of the search conditions for 3Drivies, 5-0 and SHS patterns
5	Take Profit levels for patterns Partially done in v005
6	Early alert about emerging pattern Partially done in v005
7	User defined patterns. Possibility to define your own patterns.
8	Integration with korSigMonitor.
9	Integration of www service.
10	Verification of SKYPE based functionalities (messages, SMS).
11	Universal Expert Advisor for harmonic and price patterns
12	Time analysis
13	Add Point D prognoses for emerging patterns.
14	Specification (description) of each supported pattern with examples
15	Overbalance method
16	Integration with candlestick confirmation indicator.

List of open issues to be considered in the next indicator versions

1	Delta (calculation precision) to be only 1 global parameter for the indicator or separate per pattern groups? At the moment it's possible to define 3 different deltas: for SHS, for corrections and for rest of patterns.
2	SHS recognition conditions In the 003 I_SHS pattern was added that changes and improves conditions used for SHS. Further analysis needed.
3	Filters to eliminate some from Found patterns, e.g.: Gartley Bullish when found on the market tops.

	Filters will not be added to indicator. Most probably separate indicators will be integrated with korHarmonics for this purpose.
4	As for now only Fibonacci numbers are used in the indicator. Possibility to add Gann numbers.

10. Installation and configuration

Indicator work on Metatrader (MT4) platforms installed on Windows XP and Vista systems.

STEP 1
Place **korHarmonics.ex4** into directory **<MT4 DIRECTORY>\experts\indicators**
For me it's: C:\Program Files\MetaTrader 4\experts\indicators

STEP 2
Place **templates files** (all files with *.tpl extension) to directory **< MT4 DIRECTORY >\templates**.
For me it's: C:\Program Files\MetaTrader 4\templates
Note: In MT4 there are 2 „templates" directories. Choose the one as specified.

STEP 3
In directory **< MT4 DIRECTORY >**\experts\files create subdirectory **korHarmonics**.
For me it's: C:\Program Files\MetaTrader 4\experts\files\korHarmonics.
Place there the file with default MinSwing configuration: **korHarmonics_MinSwingDefaults.txt**

In the package there are 2 files with default MinSwings.
MinSwingDefaults.txt – smaller values which sometimes can lead to situations where the found pattern is built with too small amount of candles (1,2,3).
MinSwingDefaults.txt_ver2 – contains bigger MinSwing values. This solves the above problem, but may cause the situations that found formation is too big to nicely display on the chart.
Decide which file to use by renaming the one you need to MinSwingDefaults.txt (file specified in the parameters).

STEP 4
Restart MT4

STEP 5
Option 1. Insert korHarmonics indicator on the chart (any instrument, any timeframe) and manually change parameters according to the needs.
Option 2. Use provided templates that will add indicator on the chart with predefined settings.

In the package there are 4 different templates:

Nazwa pliku	Opis
korharmonics_history_black.tpl	Search patterns in history for users using MT4 with black background
korharmonics_history_white.tpl	Search patterns in history for users using MT4 with white background
korharmonics_realtime_black.tpl	Search patterns in realtime mode for users using MT4 with black background
korharmonics_realtime_white.tpl	Search patterns in realtime more for users using MT4 with white background.

Note: Not all available patterns are turned ON in the provided templates (e.g.: ABCD are OFF). After loading a template please review the parameters set and turn ON or OFF specific patterns according to your needs. After changes you may save your own template.

STEP 6

Double check if file specified in **sextInfoPatternSoundFile** (default "news.wav") exists in the directory **<MT4 DIRECTORY>\sounds**
For me it's: C:\Program Files\MetaTrader 4\sounds

STEP 7

Double check that subdirectory where GIF files will be stored was automatically created (when option is for generating GIF files is ON)

STEP 8

When using korSigMonitor indicator, double check that subdirectory **<MT4 DIRECTORY>**\experts\files\korSigMon for storing signals is created.
For me it's: C:\Program Files\MetaTrader 4\experts\files\korSigMon.