AmiBroker 3.20 - Guide

COLLABORATORS

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REVISION HISTORY

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AmiBroker 3.20 - Guide

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```
                              AmiBroker 3.2
                ----------------
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               All rights reserved.
```

This file describes stock analysis program AmiBroker 3.2.

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```

1.3 DISCLAIMER & LEGAL STUFF

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EXPRESS OR IMPLIED, STATUTORY OR OTHERWISE. THE ENTIRE RISK TO USE,
RESULTS AND PERFORMANCE OF THE PRODUCT IS ASSUMED BY YOU.

          AmiBroker executable and related files are

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that means you may use, copy and transfer unregistered version of product
in complete, unchanged form.
YOU ARE NOT ALLOWED TO COPY, RENT OR LEASE KEYFILE 'broker.key' WHICH
IS DISTRIBUTED WITH REGISTERED VERSION.

```
YOU MAY NOT DECOMPILE, DISASSEMBLE OR ATTEMPT TO UNLOCK OR BYPASS ANY
USER ACCESS LIMITATION INCLUDED WITHIN THIS PRODUCT.

                 AmiBroker uses ReqTools library which is
                       Copyright (C) Nico François.
```

1.4 Distribution

```
The most recent AmiBroker upgrades are avaliable from AmiBroker WWW Page:

http://www.polbox.com/a/amibrok

The main 'place' of distribution major versions of this program is AmiNet.
You can find the most recent version of AmiBroker in your
nearest AmiNet mirror in 'misc/biz' directory.


------------------------------------------------------------------------


You are allowed to copy/distribute this product in complete, unchanged form
as long as the copying fee does not exceed the cost of media.

YOU ARE NOT ALLOWED TO COPY, RENT OR LEASE KEYFILE 'broker.key' WHICH
IS DISTRIBUTED WITH REGISTERED VERSION.

If you like this program you should register by sending me proper
registration form and registration fee ($30 US).
```

1.5 Introduction

```
                 AmiBroker is the program for analysing stock trends and portfolio
management. Since it was written in Poland, it was designed to
meet Warsaw Stock Exchange (WSE) trading requirements.
I realize that WSE rules could be very different from other countries'
exchange circumstances. So, when you find this program useful, and
want to register, please describe your requirements to help me meet your needs.

AmiBroker has a powerful ARexx command set which allows writing custom
scripts for quotation import. There is also ASCII and Metastock import features  ↩
   suitable
for most users.

See also:
                 Main features
```

1.6 What's new in 3.2?

There are following new things in 3.2 release (compared to 3.1):

Drawing permanent trend-lines.

    Now trend line handling is greatly enhanced: trend lines are stored now along ←
        with stock data,
    they scale properly when scrolling/sizing chart windows. When daily/weekly/ ←
        monthly view mode
    changes trend lines are time-compressed accordingly.
    Usage hints: draw trend lines as always (using line draw tool), erase them one ←
         by one by pressing
    SHIFT key during mouse click over given trend line (when draw tool is active), ←
         erase all trend
    lines in active window by using Charts/Delete All trend lines menu item

Scrolling chart windows

    Now main chart window has horizontal scroll bar which allows you to scroll ←
        back to see previous
    quotations. Other charts are scrolled accordingly

Group and Market definitions

    Now AmiBroker supports 256 user definable markets and groups. You can assign ←
        each ticker to one
    market and one group. A new window (available from Stock->Groups and Markets ←
        menu) allows you to
    define market and group names. In the next version AmiBroker will feature ←
        filtering by Market/Group
    in the Review and Analysis windows.

More information about ticker

    In the Stock Information window you can now assign each ticker to user ←
        definable market and group.
    You can also mark given ticker as a Favourite (will be used for filtering) and ←
         Index
    (will be used for generating Advance-Decline information)

Changes/Improvements

ARexx SETSTOCKINFO/GETSTOCKINFO commands enhanced

    These two ARexx commands handle now additional information for groups, ←
        favourites and index flags.
    The new templates for these commands are:

    SETSTOCKINFO NAME=STOCK/A, FULL/K, CODE/N, ADDRESS/K, ISSUE/N, NOMINAL/K, ←
        BOOKVALUE=BV/N, MARKET/N,
    GROUP/N, CONT/S, FIXED=NOCONT/S, FAVOURITE/S, NOFAVOURITE/S, INDEX/S, NOINDEX/ ←
        S

    GETSTOCKINFO NAME=STOCK/A, FULL/S, CODE/S, ADDRESS/S, ISSUE/S, NOMINAL/S, ←
        BOOKVALUE=BV/S, MARKET/S,
    GROUP/S, CONT/S, FAVOURITE/S, INDEX/S

Improved Join function in Portfolio manager

    Join function now calculates weighted average buy price for joined stocks in ↩
        the portfolio.

Improved Commission table editor

    Commission editor now handles decimal parts in all values.

Volume and OBV grids look better

    OBV and Volume charts should look better thanks to less-dense grid lines.

Stock Issue is now stored in thousands

    The number of shares issued is now stored in thousands. This allows entering ↩
        properly some
    big companies. P/E and P/BV calculation is adjusted accordingly. Old files are ↩
        converted on
    the fly during loading.

Bug fixes

Portfolio "Sell" function fixed

    "Sell" function should not leave stocks in portfolio with quantity = 0 anymore
    Really fixed in the second build (from January 4th, 2000).

Renaming ticker is now safe

    The Stock Information window checks for already existing name when trying to ↩
        rename ticker

Standard Deviation calculation works safer now
    It happened sometimes that standard deviation was calculated wrong (square ↩
        root taken from
    negative value). The formula was OK, but due to the floating point rounding ↩
        errors it just happened.
    Added code that handles this situation. This should cure sometimes odd looking ↩
        Bollinger bands.

Fixed potential Y2K-related problem in the Metastock importer

    Fixed handling dates in Metastock importer. Now (year modulo 100) operation is ↩
        performed and
    dates yy < 50 are treated as 20yy. This should avoid problems with different ↩
        software storing files
    in Metastock format. However, due to the fact that Metastock file format is ↩
        not Y2K compliant
    (it does not store year in 4 digits) I can not give you 100% guarantee :-(.
    Second build fixes also minor display bug found today (January 4th, 2000).

Database is marked as "changed" after editing in "Stock Information" window

    This fixes problem that database would not save edited values in "Stock ↩
        information" window.

"Middle" grid setting works better in Indicator Builder

    When "Custom" scaling was selected in Indicator Builder "Middle" checkbox does ←
        not affect
    the chart. This is fixed now. With custom scaling and "Middle" checkbox set ←
        you get 3 or 4 grid
    lines in the middle.

****
*** Now follows bug fixes and enhancements introduced in 3.11 - 3.17

(3.17 fixes)
+   portfolio "sell" feature works OK again. When you sell stocks partially ←
     remaining shares
     are displayed correctly.
+   "snapshot windows" feature works OK now.

(3.16 fixes)
+   Currently selected quotation is marked with a line appearing on *ALL* charts.
     You can also select a quotation by clicking on chart in *ANY* window.
     (NOTE: this feature was the most frequently asked for. Finally you can throw ←
         away the ruler :-))

(3.15 fixes)
+   Fixed Risk/Yield map in 68000 version (non-FPU).
     There was an arror in non-FPU version of AmiBroker which caused wrong display ←
         of risk/yield map.
     Now it is fixed. 68020+FPU version was not affected by this bug, however I ←
         compiled both versions
     so also AmiBroker.FPU has the number 3.15.

(3.14 enhancements)
+   Unlimited number of graphs in custom indicators:
     The default number of graphs is 3 (as in 3.12 and 3.10) but now you can change ←
          the number
     of graphs that will be parsed and displayed in the custom indicator window by ←
         using
     following assignment:

     maxgraph = <number of graphs to parse/display>;

     Example 1:
     Let's say we want to display price as a blue line and bollinger bands as a red ←
         lines:

     //the line below sets the maximum number of graphs to parse/display (in this ←
         case: graph0...graph3):
     maxgraph = 4;

     graph0 = bbandbot(close, 15, 2); /* this will be drawn in red (indicator ←
         color)*/
     graph1 = close;   /* this will be drawn in blue (avg. color) ←
         */
     /* graph2 - we don't use it since it will result in bar chart */
     graph3 = bbandtop(close, 15, 2); /* this will be drawn again in red */

```
   Note about the colours used:
   The idea behind graph colours is that graphs with suffixes 0, 3, 6, 9 and so  ↩
       on are red by default;
   1, 4, 7, 10 are blue, 2, 5, 8, 11 and so on are black bar charts.
```

```
(3.12 fixes)
+   charts are refreshed automatically when you switched continuous quotation flag
    in stock information window
+   candlestick chart now looks much better - candles are resized depending on  ↩
    quotation count
    and display width. Finally doji looks like doji ;-)
+   manual entry window fixed
    low, high, open prices can now be entered with full precision.
```

```
(3.11 fixes)
+   manual entry window that was broken in 3.10:
    all prices entered were multiplied by 100 and sales were also calculated wrong ↩
      .
```

```
===================== New stuff in version 3.1  ↩
   ======================================
  There are following new things in 3.1 release (compared to 3.0):
```

```
+
                 Indicator Builder
                  A tool which enables you to write your own custom indicators!
  It uses
                 AFL
                 as a language for describing your
  indicator formulas.
```

```
+ New database format
  Now prices are stored with greater accuracy - there is no fixed
  0.01 precision anymore. So you can track the prices in full detail.
  Also - new database format supports more time resolution which will
  allow to handle intra-day quotations in the near future.
```

```
+ Undo (AMIGA-U) & clipboard ( AMIGA-X, AMIGA-C, AMIGA-V ) support in
  all AFL entry fields (analysis, commentary, indicator builder)
```

```
+ Join function in
                 portfolio manager
                  Can be used to join the same stocks bought in two or more  ↩
                      different
  days.
```

```
+ Several bug fixes to AFL engine (Stochastics function: stochk() and stochd()
  now work OK)
```

```
+ Bug fix in refreshing risk/yield map after changing workspace.
```

```
==================== New stuff in version 3.0 ↩
   ====================================
```

+ New analysis engine (AFL interpreter)
  AmiBroker now offers a new analysis language called
                AmiBroker Formula Language
                .
  offering you much more flexibility and complexity than previous RDL.
  This language is used to define trading rules and
                Guru Advisor commentaries
                .
  In the next version it will allow also to define custom indicators.

+ Brand new system to help you understand the meaning of different technical ↩
   analysis indicators
  called
                Guru Advisor Commentary
                . This system provides you textual description
  of actual technical situation and marks buy/sell signals on the price chart.

+ Original rules supplied with AmiBroker 2.5 have been rewritten to AFL.
  (You can find them in AFL/ subdir)

  See
                AFL
                for the description of a new formula language.

+ Enhanced Analysis/Simulation using AFL

+ AmiBroker is now localized !!! (finally). For more information see ReadMe file ↩
   in Locale subdirectory.

+ Metastock import speeded up by 50%.

KNOWN ISSUES:

– because all calculations are now performed in floating point you may observe
  significant slowdown in chart drawing when using non–FPU version;

1.7 Main features of AmiBroker

  These are the main features of AmiBroker

 1\textdegree{} Full technical analysis of stock trends – charts including:

    – daily/weekly/monthly charts
    – price
    – candlesticks (for open/close/high/low display)
    – volume
    – turnover value + moving average
    – short-time, mid-time , long-time moving averages
    – Bollinger bands
    – Rate Of Change indicator (ROC)

- Wilder's Relative Strength indicator (RSI)
- Moving Average Convergence-Divergence oscillator (MACD)
- On Balance Volume oscillator (OBV)
- Stochastic Slow oscillator
- Ultimate oscillator
- risk/yield map with zooming
- Relative Strength (RS) with selectable reference stock (NEW)
- Triple exponential indicator (TRIX)
- Commodity Channel Index (CCI)
- Negative Volume Index (NVI)
- Money Flow Index (MFI)
- Accumulation/Distribution
- Chaikin oscillator

* Drawing tool for trendlines etc.
* Zoom feature
* All charts freely scalable ;-))

2\textdegree{} Automatic technical analysis/System testing

- AmiBroker can check for buy/sell signals based upon user-defined trading ↩
  rules
- AmiBroker can check the performance of your trading system on historical ↩
  data

3\textdegree{} Stock information handling

- adding new & removing old stock issues
- split handling with automated date/ratio detection
- corporation finaces database
- fundamental indicators such as price-to-earnings ratio (P/E)

4\textdegree{} Convenient quotation data entry

- (NEW) Integrated Metastock importer
- configurable ASCII import feature
- (NEW) ARexx commands for adding new quotation data
- database with open/close/high/low prices
- import from teletext (Warsaw Stock Exchange specific)
- import from KING-service (WSE specific)
- manual entry
- removing selected quotation

5\textdegree{} Preferences editor:

- fully customizable parameters of indicators
- screen resolution and palette prefs
- snapshot windows feature (NEW)

6\textdegree{} Portfolio management

- buy/sell transactions handling
- dividend (with setable dividend tax)
- pay-in/pay-out evidence
- brokerage commission editor
- stock adding/removing

```
    - portfolio contents printing & export

7\textdegree{} SPEED !!!

    - chart drawing is extremely fast ( LESS THAN 1 SEC on stock A1200)
    - turbo-charged version for 68020+68881 8-))
      ( 50-300% speedup!!!)

8\textdegree{} ERGONOMY !!!

    - all or any selected number of charts can be viewed at the same time
    - instant access to any quotation data be selecting interesting point on the  ←
       chart
    - window auto-arrangement function
    - asynchronous design, all main windows are independent and can be opened
      at the same time
    - context-sensitive on-line help
    - toolbar help hints


9\textdegree{} ARexx

    - Powerful set of ARexx commands providing total control over quotation
      database. (introduced in version 1.6)
    - Script execution via function keys and menu-items

9\textdegree{} OS support

    - works on any kind of monitor - user selectable screen resolution/monitor ( ←
       now works even better)
    - fast-access, 8-color ToolBar providing main functions of the program
    - AmiBroker now opens public screen allowing visitor windows to be opened on.
    - Interleaved bitmaps and up to 8 bitplanes screen
    - Locale support
```

1.8 Program requirements

```
Minimum system:

    - any Amiga, 2MB RAM minimum
    - OS 2.04 or better
    - harddisk


Preffered system:

    - A1200 or better, 4MB RAM or more
    - 68030 or better, FPU
    - Hard disk
```

1.9 Installation and running

You can install AmiBroker with 'Install-AmiBroker' script. You will need
Installer program from Commodore (not included in this distribution).
If you have one, just double click on 'Install-AmiBroker' icon.
If you don't have Commodore's Installer program you will have to install
AmiBroker files manually.

These are the things you have to keep in mind doing manual installation:

1\textdegree{} Following files must be placed in AmiBroker main directory:

        - AmiBroker   (program itself CPU=68000+)
        - AmiBroker.FPU   (program itself CPU=68020+ FPU=68881+)
        - broker.prefs   (preferences file - optional)
        - broker.portfolio   (portfolio data file - optional)

2\textdegree{} In the 'data' subdirectory files containing qutation data must be ←
    placed

        - data/AGROS
        - data/AMERBANK
        - data/BIG
        - data/BRE
        ... itd.

3\textdegree{} You will need following libraries installed in LIBS: directory:

        - diskfont.library
        - reqtools.library   (version 38+)
        - Classes/Gadgets/textfield.gadget

    These libraries are required but not included in this distribution.

4\textdegree{} And following fonts in FONTS: directory:

        - XenPL.font
        - XenPL/8
        - XHelveticaPL.font
        - XHelveticaPL/11

Once you have installed the program you can run it by double-clicking
on its icon (AmiBroker or AmiBroker.FPU if you've got math co-processor)

1.10 AmiBroker main Windows

            AmiBroker can open following windows:

            Toolbar
            . . . . ToolBar with fast-access gadgets

            Select
             . . . . global stock name selector

```
Information
. . . . . information about corporation

Preferences
 . . . . . chart preferences

Portfolio
 . . . . . . portfolio management window

Financial data
. . financial data entry window

Install ARexx macros
. install macros window

Review
. . . . . . . . review of daily quotes/returns/ P/E and P/BV

Metastock importer
. . . . . . . . Metastock importer window

Automatic analysis
. . . . . . . . automatic analysis/simulation window

Guru Advisor Commentary
. . . . commentary window

Main chart
 . . . with price, volume, etc.

Turnover
. . . . . . . turnover/volume bar chart

ROC
 . . . . . . . . Rate Of Change chart

RSI
 . . . . . . . . Wilder's Relative Strength Index chart

MACD
. . . . . . . . MACD chart

OBV
 . . . . . . . . On Balance Volume Chart

Stochastic Slow
 . . Lane's Stochastic Slow chart

Ultimate
. . . . . . Ultimate indicator chart

Risk/Yield
. . risk/yield map

RS
. . . . . . . . . Relative Strength compared to market index
```

```
                    TRIX
                    . . . . . . . . TRIX chart
```

Chart windows are freely scalable and can be automatically arranged (see

```
                    preferences
                    settings).
```

All this windows are asynchronous i.e. you can open as many windows as you like,
and work with all of them at the same time.

If you select a stock in
```
                    Select
                    window all opened charts
```
will be redrawn.

1.11   ToolBar window

```
                    In Toolbar window there are several icons providing fast access  ←
                       to main
```
functions of th program:

– open
```
                    Main chart
                    window
```
– open
```
                    Turnover
                    bar-chart window
```
– open
```
                    MACD
                    chart
```
– open
```
                    RSI
                    chart
```
– open
```
                    ROC
                    chart
```
– open
```
                    Stochastic Slow
                    chart
```
– open
```
                    OBV
                    chart
```
– open
```
                    Ultimate
                    chart
```
– open
```
                    RS
                    chart
```
– open
```
                    TRIX
                    chart
```
– open

```
                CCI
                chart
- open

                risk/yield map
                - select normal pointer
- select

                drawing tool
                pointer
-

                zoom chart
                -
                import from ASCII file
                -
                import from teletext
                -
                manual entry
                - open
                information about corp.
                window
- add a

                new stock
                -
                remove stock
                -
                split
                - open
                financial data
                window
- arrange chart windows
- screen mode prefs
- palette prefs
- chart

                preferences
                - open
                portfolio management
                window
- open

                review window
                - quit AmiBroker
```

1.12 Drawing Tool

```
With the drawing tool you can draw trendlines by hand.
To draw a line simply press left mouse button, move
pointer to desired point and then release button.
To cancel drawing simply press ESC key or move pointer outside
the window.
```

1.13 Chart zooming

You can change number of displayed quotations by this gadget.
First click on the chart to select the beginning session, then press
this gadget.
To restore preferences' setting just click this gadget again.

You can also view all available quotations (zoom-out feature)
by selecting this gadget together with SHIFT key.

1.14   Select window

In this window we have got list of available stocks & indexes.
Selecting one of them will refresh all opened charts and update
information windows.

This selection is global for the program i.e. all stock functions will
reference stock selected in this window.

1.15   Portfolio management window

                    There are following items in the portfolio management window:

– portfolio stock list
– text fields containing date, quantity, buy price, current price, value,
  yield, and 'real' yield (this is yield minus commision)
– total stock value
– cash remaining
– total portfolio value

Following actions could be taken:

– Buy stocks – you will be asked for confirming stock selection and price
  and then you will be asked for a number of stocks you want to buy.

– Sell stocks – as before except of the fact that you have to choose the stock
from the _portfolio_ stock list.

– Dividend – after selecting that gadget you will be asked for dividend value
per one share. Program will calculate total dividend value minus income tax.

– Join – this function can be applied if there are more items in the list
showing the same stock (bought in different days). After pressing this button
all these items are joined together making one entry in the list

– Pay in
– Pay out

You can enter commission taken by all buy/sell transactions in

                    commission
                    window.

1.16   commission table

```
In this window you can enter commission taken by buy/sell transactions.
commission are in % of value of trade.
```

1.17   Quotation manual entry window

```
                Manual entry of quotations isn't the most convenient method.
Polish users can import quotations from teletext and KING service.
Foreigners may use
                ASCII import
                feature .

If you must enter quotations by hand here's the instruction:

After selecting 'manual entry' option you will be asked about the session
date. If one exists in the database you will be able to modify existing
quotations, if not - program will add new session to its database.

After selecting session's date, the window with following fields will show up:
- Pick - gadget which picks current stock name from stock list
- Stock name
- Price entry gadget (closing price )
- Turnover value entry gadget
For continous quotations you get also
- Opening price gadget
- Day's highest price
- Day's lowest price

By default program will start from the first stock in the list, however you
can change edited stock name using 'Pick' gadget.

You can enter stock price using price entry gadget, and turnover using
next gadget. Please remember that turnover MUST be entered in thousands
of your currency. (For example if turnover value is 123200 please enter
123.2 or simply 123 )

When continous quotations are enabled you will be asked for volume (not for  ←
    turnover)
You should then enter the number of shares.
You should also enter open, high and low prices into appropriate gadgets.

As you accept your entries with >TAB< key program will proceed to
the next stock in the list. (Tab-Cycle activation)


You can accept all your entries by hitting OK gadget or cancel all by
selecting >Cancel<
```

1.18   Financial data window

This window provides fundamental financial data of corporation as:

- sales income
- earnings before taxes (EBT)
- earnings after taxes (EAT)

These are given in a quarter base.

Program will compute P/E (Price to Earnigs ratio) and EPS (Earnings Per Share)
indicators from given data.

1.19   Install ARexx macros

This window allows to assign particular ARexx scripts to
function keys and menu items.

Just type script name (with optional path), or use file-requester to
do this for you.

CAUTION:

DUE TO THE WAY THE AREXX WORKS, SCRIPT NAME WITH PATH COMPONENT
CAN NOT CONTAIN ANY SPACES!!!!

1.20   Main chart window

Here we have price chart along with (as set in
preferences
window):

- turnover/volume bar chart
- short time moving average chart
- mid time moving average chart
- long time moving average chart
- Bollinger bands chart

On the X axis months are given and on the Y - prices.
Price scale could be linear or logarithmic.

There is one important feature of this window - if you click on the chart
you will get access to any displayed quotation - following
items will be displayed on the title bar:

- date
- price
- additional infos (WSE related) (nk, ns, rk, rs, ok, os)
- percentage price change
- turnover value/volume

When continous quotations are enabled you will get following items on title bar:

```
- date
- close
- percentage closing price change
- high
- low
- volume
```

By default last quotation's data are displayed.
You can switch this cursor-line by click outside the chart but within the window.

1.21   Turnover volume/value chart

This window contains turnover volume or value chart.
Which of these depends on your settings in
                preferences
                window.

With version 1.7+ you get also moving average for volume/turnover.

CAUTION: For continous quotations turnover value is approximate.

1.22   Information about corporation

This window provides several infos about corporation:

Short name   - the short form of firm name, used in 'Select' window and
                  with quotation import functions. If you use them, please check
                  if Short name given in this field is the same as used in ←
                     Teletext
                  service. (this is WSE specific feature)

Full name   - official version of firm name

Code   - stock code (WSE specific)

Address   - corporation address

Issue   - total number of shares

Nominal value

Book value

Information to which market and group given stock belongs.

Continous quotation mode (this enables candlestick charts and manual entry
open/high/low/volume gadgets and candlestick charts)
- this is oposite to price fixing.

Favourite   - check this to mark the stock as your favourite

 Index   – check this to mark that this ticker is an market index

1.23 Preferences window

              This window provides following chart settings:

 For

              main chart
              we've got

– fat/thin price line switch
– mark individual quotations on/off switch
– logarithmic scale on/off switch
– add turnover/volume chart
– add short-time moving average chart
– add mid-time moving average chart
– add long-time moving average chart
– add Bollinger bands

Ranges of moving averages and width of Bollinger bands are also definable.

For other charts:

              ROC
               – range

              RSI
               – range

              MACD
              – fast and slow average range, signal average range

              Stochastic Slow
              – range

              Ultimate
              – fast, medium and slow average range

              TRIX
              – averaging range

              CCI
              – range

              Turnover
              – value/volume switch
Turnover moving average range

              Relative Strength
              comparision base (reference stock)

 Additional options:

Auto-arrange charts – if this option is on chart windows are scaled and arranged
to fit the screen after every opening/closing chart window.

Number of quotations – sets maximum displayable quotation qty.

Limit number of saved quotations – if this option is ON AmiBroker will save
database with limited number of quotations. This prevents the database from
growing too much

Max. number of saved quotations – this is the limit itself. Preferable 300 or ↩
   higher.

Colors:

  These gadgets provides user definable color selection for charts, grid & ↩
    background.

1.24   Review window

This window provides overall market informations like:

- daily stock quotes in two formats
   a) Polish (close prices only)
   b) International (close/high/low + volume, continous trading)

- weekly returns comparision table
- monthly returns comparision table
- quarterly returns comparision table
- yearly returns comparision table

- Price/Earnings comparision
- Price/Book value comparision

'Pick' gadget picks current date (selected on the chart)

'Save' asks for file name and saves the list
'Print' prints displayed list
'Cancel' closes the window without any action

1.25   Automatic analysis window

             Automatic analysis window enables you to check your quotations ↩
                against
defined buy/sell rules.
AmiBroker can produce report telling you if buy/sell signals occured
on given stock in the specified period of time. It can also simulate
trading, giving you an idea about performance of your system.

In the upper part of window you can see text entry field.
In this field you should enter buy and sell rules.

These rules are assignment statements written in AmiBroker's own language.
You can find the description of this language in

                AmiBroker Formula Language
                chapter of this guide.

In order to make things work you should write two assignment statements
(one for buy rule, second for the sell rule), for example:
buy = cross(macd(), 0   );
sell = cross(0, macd());

Below these fields there are several gadgets for setting:

1. To which stock(s) analysis should be applied.
   you can select here all stock or only currently selected stock
   (selected in Select Window)

2. Time range of analysis
   analysis can be applied to all available quotations or only to
   the defined number of most recent quotations (or days).

In the lower part of the analysis window you can see 4 buttons:

1. Analysis
   this starts the analysis mode – AmiBroker will search through defined
   range of stocks and quotations for buy/sell signals defined
   by your trading rules.
   If one of the buy/sell conditions is fulfilled, AmiBroker will display
   a line describing when and on which stock the signal has occured.
   Next AmiBroker proceeds to the end of the range so multiple signals
   on single stock may be generated.

2. Simulation
   this starts the simulation mode – AmiBroker will search through defined
   range of stocks and quotation for BUY signal defined by your buy rule.
   If the buy rule is fulfilled, AmiBroker will "buy" currently analysed
   shares. Next it will search for SELL signal. Then, if sell rule
   is fulfilled, AmiBroker will "sell" previously bought stocks.
   At the same time it will display the information about this trading
   in the listview.
   After performing simulation the summary will be displayed.
   During trading simulation AmiBroker takes into account commisions
   defined in
                Commision window
                .
   The amount invested at start of every stock equals to 10000
   (dollars or your currency).

3. Save
   this saves analysis/simulation results to the file

4. Close
   this closes the analysis window

Moreover you have got 2 menu items "Analysis/Load rules" and
"Analysis/Save rules" for loading and saving your trading rules

```
from/to files.

Limitations:

    Currently only Long positions are taken into consideration during
    simulation.
```

1.26 Indicator Builder

```
              Indicator builder window enables you to define your own custom  ←
                  indicators.
Indicators are definable using formulas written in AmiBroker's own formula  ←
    language.
You can find the description of this language in

              AmiBroker Formula Language
              chapter of this guide.

You can define upto 20 custom indicators which are listed on the left
side of the window.

In upper right part of the window you can see the text field where
you should enter the formula of an indicator.

Upto 3 different graphs can be plotted within one indicator window.
The formulas defining these graphs should be assigned to reserved
variables named: graph0, graph1, graph2.
For example:

graph0 = macd();
graph1 = signal();
graph2 = macd() - signal();

First two graphs (graph0 and graph1) are plotted using line chart.
The last one (graph2) is plotted using bar chart.

In the bottom right part of the window you can define scaling options
for the chart and the way the grid is drawn.

"Apply" gadget causes AmiBroker to reinterpret the indicator formula and display  ←
    updated chart.
"Close" gadget closes the indicator builder window.
```

1.27 Guru Advisor Commentary window

```
              Commentary window enables you to view textual descriptions of  ←
                  actual
technical situation on given market.
Commentaries are generated using formulas written in AmiBroker's own formula  ←
    language.
```

You can find the description of this language in

                AmiBroker Formula Language
                chapter of this guide.

Moreover Commentary feature gives you also graphical representation of
buy & sell signals by placing the marks (arrows) on the price chart.

In the commentary window you can see View cycle gadget which defines current view ←
    mode.
Depending on this setting in text field below you can edit the commentary formula
or view the result (actual commentary).

When View gadget is turned to "Result" position AFL interpreter parses the
commentary formula and displays the result in the window (based on the selected ←
    date in the price chart).
Also, if commentary formula has buy/sell rule assignments defined, you will see
the green arrows marking bars on the chart when buy signal occured and the red ←
    arrows
marking bars when sell signal occured.

"Apply" gadget causes AmiBroker to reinterpret the commentary using currently ←
    selected stock/date.
"Load" and "Save" gadgets allow to load/save commentary formulas.
"Close" gadget closes the commentary window.

NOTE: Using complex commentary formulas you may observe long execution times.

1.28   AmiBroker Formula Language

                AmiBroker Formula Language (AFL) is a big leap forward in analysis ←
                    technology
compared to previously used Rule Description Language (RDL).

It supports quite complex syntax and is extremely powerful as you will see
from supplied examples located in /AFL subdirectory.

The only drawback is that AFL is not compatible with RDL so you will have to ←
    rewrite
your old rules to a new language.

AFL is used for defining your trading rules in
                automatic analysis window
                ,
custom commentaries in
                Guru Advisor commentary
                window
and indicator formulas in
                Indicator Builder
                window.

Detailed reference of AFL language is given in AFL.html file (located in AFL ←
    subdirectory).

1.29 Technical indicators

In AmiBroker there are following technical indicators:

ROC
 . . . . Rate Of Change

RSI
 . . . . Wilder's Relative Strength Index

MACD
. . . . Movinga Average Divergence/Convergence

OBV
 . . . . On Balance Volume

Stochastic Slow
 . . Lane's Stochastic Slow

Ultimate
. . . . . . Ultimate Indicator

RS
. . . . Relative Strength compared with index

TRIX
. . . . TRIple eXponential oscillator

CCI
 . . . . Commodity Channel Index

MFI
 . . . . Money Flow Index

NVI
 . . . . Negative Volume Index

Accumulation/Distribution
 . . Accumulation/Distribution

Chaikin
 . . . . . .Chaikin oscillator

and moving averages, Bollinger bands and
risk-yield map
 .

1.30 ROC - Rate Of Change

```
            ROC - Price Rate Of Change
```

This indicator displays the rate-of-change of a security's price.
Change is displayed as a percentage rather than as a ratio.
Both look at today's price in comparison to the price "n" days ago.
Prices tend to increase and retract in a cyclical wave like motion.
The faster prices fall, the faster the rate-of-change will fall
and the faster prices rise, the faster the ROC will rise.
This indicator is usually displayed as an overbought/oversold format.

Calculate the price rate-of-change by dividing the price change over
the last n-periods by the closing price n-periods ago. This gives you
percentage that the price has changed in the last n-periods.

Note: You can change value of "n" in
            preferences
            window.
        Default value of ROC's n = 10.

1.31   RSI - Wilder's Relative Strength Index

```
            RSI -   Relative Strength Index
```

The Wilder RSI is an excellent overbought/oversold indicator that can
be used to predict trend reversal points. Do not confuse this index
with relative strength in its everyday definition as used in comparing
the movement of one security, index or group against the movement of
another security, index or group. Developed by J. Welles Wilder, Jr.
and first described in his book "New Concepts in Technical Trading
Systems", this is a momentum oscillator that measures the velocity of
directional price movement. It compares a stock's highest highs and
lowest lows over a period of time. RSI is based upon the difference
between the average of the closing price on up days vs. the average
closing price on the down days.

```
        RSI=100-[100/(1+U/D)]
  U=average of upward price closes    (EMA of gains)
  D=average of downward price closes (EMA of losses)
```

The ratio between up and down closing averages is in fact the makeup
of the index. The author (Wilder) uses an n value of 14 days but other
values may be used that better fit particular securities.

When the graph exceeds 70, stock can be near a top. When the RSI gets
close to 30, stock may be forming a major bottom. - Support and
resistance may many times show up on the index before they appear on
the bar charts. Divergence between the RSI index and price movement is
a strong indicator of a possible correction as when the price
continues to rise and the RSI is declining. If the price of the stock
continues to fall, but the RSI rises, look for a possible correction
in the price direction. Failure swings above 70 or below 30 can also
be very strong indicators of a price reversal.

reversals. It provides a sensitive measurement of the intensity of
public sentiment and can be applied to the stock market, to individual
stocks or to mutual funds. In some instances, it an can provide
advance warning of reversals allowing you to buy into weakness and
sell into strength.

Note: You can change parameters of MACD averaging ranges in
            preferences
                    window.
      Default values are fast avg. = 12; slow avg. = 26; signal = 9

1.35 OBV

OBV – On Balance Volume,

OBV was created by Joe Granville, the father of OBV analysis. This is
a running total of volume that relates price changes and volume and
shows accumulation and distribution action.

The classic OBV is calculated by ADDING today's TOTAL VOLUME to a
cumulative total when PRICE CLOSES HIGHER than YESTERDAY'S close and
SUBTRACTING today's TOTAL VOLUME from the cumulative when the PRICE
CLOSES LOWER than YESTERDAY'S close. If price remains the same, then
the OBV is not changed. The actual amount of the price change is
irrelevant and only the direction of change is significant for these
calculations.

This indicator defines trends by showing underlying strength of price
movements over time. A solid price trend is assumed to be accompanied
with a stronger volume movement in the same direction. OBV analysis
assumes that volume trends lead price trends and that OBV changes
generally precede price changes.

Look for divergence or non-confirmation between price and volume
movements. A stock that is trending in an upward direction and starts
to experience higher volume on days of lower closing prices usually
indicates an end to the current trend. Look for changes or breakouts
in OBV trends. Sell short when the OBV makes a downside breakout and
buy long when the on OBV upside breakouts.

1.36 Stochastic slow

Stochastics is an oscillator that measures the position of a stock or
security compared with its recent trading range indicating overbought
or oversold conditions. It displays current day price at a percentage
relative to the security's trading range (high/low) over the specified
period of time. When the closing price is near the top of the recent
trading range (above 80%), the security is in an overbought condition
and may signal for a possible correction. Oversold condition exists at
a point below %20. Prices close near the top of the range during
uptrends and near the bottom of the range during downtrends.

```
                       (today's close)-(low price in period n)
   Fast Stoc = %K = ------------------------------------------- X100
                     (high price in period n)-(low price in period n)
```

In a Slow Stochastics, the highs and lows are averaged over a slowing
period. The default is usually 3 for slow and 1 (no slowing) for fast.

The line can then be smoothed using an exponential moving average,
Weighted, or simple moving average %D. Confirming Buy/sell signals can
be read at intersections of the %D with the %K as well.

1.37   Ultimate

Ultimate Oscillator –
this indicator is a combination of three moving averages each of different
range and weight. The purpose for that is to make it more reliable.
Oscillator swings above 50% line are buy signals, and falls below 50% line
are sell signals. You can also look for the support and resistance lines.

1.38   cci

CCI – Commodity Channel Index

A price momentum indicator developed by Donald R. Lambert – It
measures price excursions from the mean price as a statistical
variation. The indicator works well with commodities, stocks and
mutual funds. Can be used to look for divergences between the
indicator and price and also as a overbought/oversold indicator. A buy
is registered when it crosses the –100 line, moving up, and a sell
when it crosses +100 from above.

1.39   Money Flow Index

The Money Flow Index (MFI) attempts to measure the strength of money
flowing in and out of a security. It is closely related to the
Relative Strength Index (RSI); however, the Money Flow Index
accounts for volume action. The RSI incorporates price action only.
Money flow (not the Money Flow Index) is calculated by determining
the average price for the day and then comparing this figure to the
previous day's average price. If today's average price is greater,
it is considered positive money flow. If today's average price is less,
it is considered negative money flow. Money flow for a specific day
is calculated by multiplying the average price by the volume.

MoneyFlow = Volume x Average Price

Positive Money Flow is the sum of the positive money flow
over the specified number of periods. Negative Money Flow

is the sum of the negative money flow over the specified number of periods.

```
             Positive Money Flow
MoneyRatio = --------------------
             Negative Money Flow
```

Finally, the Money Flow Index is calculated using the following formula:

```
              100
MFI = 100 - ------------------
            100 + MoneyRatio
```

Typical time periods parameter is 14.

Interpretation:

The interpretation of the Money Flow Index is as follows:

·   Look for divergence/failure swings between the indicator
     and the price action. If the price trends higher (lower)
     and the MFI trends lower (higher), then a reversal may be imminent.
·   Look for market tops to occur when the MFI is above a specific level
     (e.g., 80). Look for market bottoms to occur when the MFI
     is below a specific level (e.g., 20).

1.40 Accumulation/Distribution

                 The contents of the Accumulation/Distribution Line are explained
in detail under the discussion of the Chaikin Oscillator
(Chaikin Oscillator). Briefly, the indicator is:

```
    ( Close - Low ) - ( High - Close )
  ( --------------------------------  * Volume ) + I
              ( High - Low )
```

Where "I" is yesterday's Accumulation/Distribution value.

The interpretation of the Accumulation/Distribution Line is similar to the
interpretation of
                On Balance Volume
                   wherein the indicator displays
the flow of volume into or out of a security.
The discussion on the
                Chaikin Oscillator
                 explains the principles
behind the Accumulation/Distribution Line.

1.41   Chaikin Oscillator

                    The Chaikin Oscillator is created by subtracting a 10-period ↩
                       exponential
moving average of the
                     Accumulation/Distribution Line
                    from a 3-period moving average of the
                     Accumulation/Distribution Line
                    .

Interpretation:
(see HTML manual on the web)

1.42   Negative Volume Index

   This indicator makes a very important assumption. It assumes that the
   unsophisticated investor follows market trends thus pushing up volume
   as they jump in on a rising security price. On the other hand,
   informed buying and selling by those "in the know" occurs on quieter
   periods reflected by negative volume changes on days of declining
   volume. This is an excellent bull market trend predictor.

   This index simply measures the trend of prices during periods when the
   volume is declining. The price index is only adjusted on those days
   during which the volume has decreased from the previous day. If the
   volume did not change or was positive, the indicator remains
   unchanged. If the index rises, it means simply that the price of the
   security has gone up on a day that the volume has dropped. A drop in
   the index indicates that the price of the security has gone down while
   the volume declined. (The change in the index is calculated as a
   percentage change in the price). This indicator can be compared to its
   longer period averages to reflect the movement of smart money. If, for
   example current index readings are above a six month average, it can
   very well indicate an up trend for the market or the security.

1.43   Risk-Yield Map

 This map provides fast information about risk and possible yields.
 Risk is calculated as standard deviation of weekly yields.
 On the X axis risk is presented and on Y axis - yield.

 Thus in the upper part of the map we've got stocks with giving best yield,
 with risk increasing from left to right side of the map.

 With version 1.7+ selected stock is marked with a different color, and you
 can zoom the part of the map by pressing left mouse button and marking
 rectangle to zoom in.

1.44   Main Menu

There are following menu items in main menu:

Program

Stock

Quotations

Charts

Portfolio

Preferences

ARexx

1.45   Program menu

Here we've got following items:

```
About...             - general program info (ARexx port name, Public screen name)
Registration         - how to register
Database status      - gives you some useful information about database
Open database        - open database from a new directory
Save database        - save changed quotation database
Quit                 - exits the program
```

1.46   Stock menu

Here following items come :

Add new...

Remove

Stock split

Company's info

Financial data

1.47   Quotations Menu

```
                    Here we've got:


                    Import ASCII

                    Metastock import

                    Import from KING

                    Import from teletext

                    Manual entry
                    Remove quotation   - removes quotation of single stock
 Remove session       - removes quotations of all stocks in given date
```

1.48 Charts Menu

```
                    There are following items:

 Arrange        - scale/arrange all chart windows


                    Main chart

                    Turnover

                    ROC

                    RSI

                    MACD

                    OBV

                    Stochastic Slow

                    Ultimate

                    Relative Strength

                    TRIX

                    Risk-yield map
```

1.49 Analysis menu

```
                    -
                    Automatic analysis window
                    - Load trading rules
```

```
- Save trading rules
-
                Guru commentary
                Next items are

- Daily returns comparision
- Weekly returns comparision
- Monthly returns comparision
- Price/Earnings comparision
- Price/Book value comparision

These items open
                Review
                window which
enables you to view, save and print market comparision tables.
```

1.50   Portfolio menu

```
                Here we've got 5 items:


                Portfolio management

                Commission table
                Income tax     - this sets (dividend) income tax

Add stock      - add specified number of shares without changing cash
Remove stock   - removes specified shares without changing cash

Print          - this print the contents of portfolio
Export ASCII   - this saves contents of portfolio in ASCII file
```

1.51   Preferences menu

```
                Preferences

  - Main chart     - invokes main chart
                preferences
                  - Other charts   - invokes other charts
                preferences
                  - Colors         - invokes color
                preferences
                  - Misc settings  - invokes misc.
                preferences
                  - Palette        - invokes palette requester
  - Screen mode    - invokes scren mode requester
  - Snapshot windows - this saves current windows setup and positions
  - Set default database - this invokes dir-requester which allows to select  ←
     default database location
  - Save           - save changed preferences to the disk
```

1.52   ARexx menu

```
                Install ARexx macros - this brings you
                Install ARexx macros
                                        window

 Custom ARexx scripts 1..10
```

1.53   Help menu

```
 This menu provides fast access to several important pages of AmigaGuide
 help file (AmiBroker.guide).
 You can also get help on particular menu item or window using context-
 sensitivity feature.
 All you have to do is to select window or menu item and press HELP key.
```

1.54   Import from teletext

```
 AmiBroker can import quotation data from teletext data file.
 Unfortunatelly this is a Warsaw Stock Exchange (WSE) specific feature.
 Thus this option is unusable for non-Poles ( SORRY ).

 Other import functions will be added upon request. So let me now what you need.
```

1.55   Import ASCII

```
 Version 1.6 introduces easy and flexible quotation import feature.
 The format of ASCII data file is very simple (take a look at example files
 in 'Examples' subdirectory).

 ASCII stock data file format description:

 1\textdegree{} Every line starting with * (asterisk) or ; (semicolon) or "#" ( ←
    hash)
    is treated as a comment and ignored by the program

 2\textdegree{} Every line starting with command is interpreted in special way,  ←
     commands start
    with '$' sign. Currently AmiBroker recognizes 2 special ASCII import commands:

    a) $NAME - sets stock name

       Example: $NAME APPLE
```

```
        This is effective until changed with next $NAME command

   b) $FORMAT - defines quotation data format

      Allowable parameters:

                DATE_USA - date in US format: MM-DD-YY
                DATE_CDN - date in Canadian format: DD-MM-YY
                DATE_INT - date in international format: YY-MM-DD

                VOLUME   - volume of trade                    \
                VOL1000  - volume in thousands of shares    - choose only one of  ←
                    these
                VOLMIL   - volume in millions of shares    /
                OPEN     - opening price
                CLOSE    - closing price
                HIGH     - highest price
                LOW      - lowest price

      DATE_xxx field is obligatory and must come first in the line.
      You can use '-', '/' or '\' as day/month/year separators, or omit  ←
          separators
      at all.
      Examples ( for December 5th, 1995):

                DATE_INT:       95-12-05 or 95/12/05 or 95\12\05 or 951205
                DATE_CDN:       05-12-95 or 05/12/95 or 05\12\95 or 051295
                DATE_USA:       12-05-95 or 12/05/95 or 12\05\95 or 120595

      After that you can provide VOLUME, OPEN, CLOSE, HIGH and LOW fileds in ANY  ←
          order,
      but remember that this should conform your data format.
      You don't have to specify any of OPEN, HIGH or LOW.
      Only CLOSE and VOLUME must be provided.

      Example: $FORMAT DATE_INT VOLUME OPEN CLOSE HIGH LOW

            or

            $FORMAT DATE_CDN CLOSE VOL1000

3\textdegree{} AmiBroker recognizes decimal as well as true fractions in price  ←
   data. True fractions
must follow the whole value after at least single space. For example you can  ←
   specify:

   5.33
or
   5 1/3

   AmiBroker in not limited to any kind of fraction, if you wish you can write  ←
      even: 5 333/999
```

1.56 Metastock import

```
Introduction
   ============


   Metastock importer opens AmiBroker to very rich source of historical data.
   The importer currently supports only standard Metastock 5.0 (256-records)  ←
       format.
   This is the most common version of the format, however you may find it  ←
       incompatible with
   the most recent versions of Metastock.


   Example data files are included in the 'Metastock' directory.


   Basically Metastock data consist of:
   * MASTER/EMASTER file which holds general information about the tickers, stock ←
       names, etc.
   * F1.DAT....Fxx.DAT files which hold actual quotation data


   The MASTER/EMASTER file is essential because it holds the references to Fxx. ←
       DAT files.
   Fxx.DAT files store only quotations in either 5 field (date/high/low/close/ ←
       volume) of
   7 field (date/open/high/low/close/volume/openinterest) format.


   As you see MASTER/EMASTER and Fxx.DAT files are closely conected and you need  ←
       them all
   to import the data.


   Usage
   =====


   To import Metastock data you should do the following:


   * Choose 'Metastock import' from 'Quotations' menu
   * Using the directory requester select the location of data in Metastock  ←
       format
     (the directory with MASTER/EMASTER and Fxx.DAT files)
   * After choosing proper directory AmiBroker will display the list of available ←
       stocks
     and date ranges. By default all available stock will be marked for importing ←
        ('+' sign
     at the beginning of the list). Now you can exclude some stock from the  ←
        import list
     by clicking appropriate item in the list ('+' will toggle when you click).
   * After making your selections push 'Import' button to start the process of  ←
       importation.
   * During the process you can cancel the operation by clicking 'Abort' button  ←
       in the progress
     window
```

1.57   Import from KING service

```
AmiBroker can import quotation data from KING data file.
Unfortunatelly this is a Warsaw Stock Exchange (WSE) specific feature.
Thus this option is unusable for non-Poles ( SORRY ).
```

Other import functions will be added upon request. So let me now what you need.

1.58 Adding a new stock

After selecting this function you will be prompted for new stock name.
This name is a short form of the firm. Please try not to exceed 15 chars.
For proper import functioning you should enter the name with CAPITALS.

1.59 Removing a stock

After choosing this function you will be asked for confirmation of
stock removing. Note well that this operation can not be undone !!!

1.60 Split a stock

This option provides easy way of handling stock splits.
Program will try to guess split date and ratio by analysing quotations.
If there is just a single quotation after split this should work, if not
you will be asked for split date and ratio.
Note well that this operation can not be undone !!!

From version 2.0 and up the split function offers more functionality:
you can use old-style ratio or you can specify a split using following
expression:

x->y

which means that x shares before split become y after it.

For example 2->3 means that 2 shares become 3 after the split.
So ordinary split into five pieces will be
1->5

As you have probably guessed it is possible now to perform reverse-split,
for example 2->1, which means that 2 shares are joined together into 1 share.

1.61 ARexx On-line reference

AmiBroker has built-in ARexx port with powerful command set which enables
you to write your custom scripts performing different tasks.

Sample ARexx script is included.

AmiBroker ARexx port is accessible by name "AMIBROKER.x" where x is 1,2,3, ...

Actual port name can be found in 'About' requester, but in most cases
you can assume that port name is "AMIBROKER.1".

When using any of the AmiBroker's internal commands (descibed below)
please keep in mind that ARexx commands are parsed twice: first by ARexx
server while interpreting the script, second by AmiBroker using the
dos.library/ReadArgs(). Please then, put the commands into sigle quotes
and double-quote this parameters which include spaces to prevent
from regarding them as string delimiters.

Example: 'REQUEST BODY="This is example" TITLE="Title with spaces" BUTTONS="Yes| ↩
    Oh no" '

AmiBroker passes command results to your script using special ARexx variable
RESULT. Error code is passed in RC variable, possible values of error code are:

```
   0 - success
   5 - warning
  10 - error
  20 - fatal error
```

AmiBroker internal commands description in alphabetic order:

```
Command:        ADDQUOTATION
Template:       STOCK/A,DATE/A,PRICE=CLOSE/A,OPEN/K,HIGH/K,LOW/K,VOLUME/K

Function:       Add a quotation to the database. If selected quotation already
                exists this function modifies existing price/volume data.
                STOCK  - (STRING) specifies stock name (case sensitive)
                DATE   - (STRING) YY-MM-DD, quotation date
                CLOSE  - (FLOAT)  closing price
                PRICE  - synonym to CLOSE
                OPEN   - (FLOAT)  opening price
                HIGH   - (FLOAT)  day's high
                LOW    - (FLOAT)  day's low
                VOLUME - (INT)    volume of trade

                This function will fail if there's no stock with specified name -
                use ADDSTOCK to add new stock name to the database.

                This function does NOT refresh the charts.
                Use REFRESH or ARRANGE to do that.

                ******************    CAUTION !  *************************
                The parameter template for this command has changed in 1.7
                Pre-1.7 scripts using keywords will work OK, but other will not.

-------------------------------------------------------------------------

Command:        ADDSTOCK
Template:       NAME=STOCK/A,CONT/S

Function:       Add a new stock to the database
                STOCK - (STRING) defines stock name (case sensitive)
```

```
                    NAME  - synonym to stock
                    CONT  - switches continous quotation mode on.

-------------------------------------------------------------------------------


Command:        ARRANGE
Template:       -none-

Function:       Arrange and refresh all opened chart windows

-------------------------------------------------------------------------------


Command:        ASK
Template:       STOCK/K,DATE=QUOTATION/K

Function:       Ask whether given stock/quotation exists in the database
                STOCK - stock name to search for
                DATE  - date of quotation to search for

                You can check only if given stock exists using this without
                DATE parameter.

                Returns 0 if given stock/quotation doesn't exist in database
                or      1 if it exists

-------------------------------------------------------------------------------


Command:        DATABASE
Template:       CHANGE/S,NOCHANGE/S,SAVE/S,STATUS/S,OPEN/K

Function:       Database control
                CHANGE   - switches database status to 'changed'
                NOCHANGE - switches database status to 'not changed'
                SAVE     - saves database to disk (if changed)
                STATUS   - query for database status, returns
                              1 - if database has been changed
                              0 - if database has not been changed

                OPEN     - (NEW) OPEN=work:data/nyse - path to database


                After OPEN keyword you should specify the path to the database  ←
                   directory (without trailing slash).

                With _single_ DATABASE command you can now force saving previous  ←
                   database and open new one, example:

                DATABASE CHANGE SAVE OPEN=your_path

-------------------------------------------------------------------------------


Command:        DEBUG
Template:       ON/S,OFF/S

Function:       Switch ARexx debug messages. If ON error/warning messages
                will be displayed in appropriate requester.
```

```
       ----------------------------------------------------------------------------


       Command:        GETFINANCE
       Template:       NAME=STOCK/A,QUARTER/N/A,YEAR/S,INCOME/S,EBT/S,EAT/S


       Function:       This command retrieves financial data
                       NAME=STOCK – short stock name (ticker) for which infromation is ↩
                           requested
                       QUARTER – quarter number 1-4

                       optional paramaters:
                       YEAR – get year number
                       INCOME – get sales income
                       EBT – get earnings before tax
                       EAT – get earnings after tax

                       Command output is stored in ARexx result string.


       ----------------------------------------------------------------------------


       Command:        GETQUOTATION
       Template:       STOCK/A,DATE/A,PRICE=CLOSE/S,OPEN/S,HIGH/S,LOW/S,VOLUME/S,INFO/S


       Function:       Get quotation data.
                       STOCK  – (STRING) specifies stock name (case sensitive)
                       DATE   – (STRING) YY-MM-DD, quotation date
                       CLOSE  – get closing price
                       PRICE  – synonym to CLOSE
                       OPEN   – get opening price
                       HIGH   – get day's high
                       LOW    – get day's low
                       VOLUME – get volume of trade
                       INFO   – get WSE specific info (version 2.5 and up)

                       Result: string containing selected data in this order
                       <close> <open> <high> <low> <volume>
                       with single space between actual numbers

        Example:       GETQUOTATION STOCK=APPLE DATE=96-01-03 CLOSE
                       This will return closing price only

                       GETQUOTATION STOCK=APPLE DATE=96-01-03 CLOSE VOLUME
                       This will return closing price and volume number

       ----------------------------------------------------------------------------


       Command:        GETSELECTED
       Template:       STOCK/S,DATE/S


       Function:       Get selected stock name or quotation date
                       STOCK – gimme selected stock name
                       DATE  – gimme selected quotation date


       ----------------------------------------------------------------------------


       Command:        GETSTOCKINFO
```

```
Template        NAME=STOCK/A, FULL/S, CODE/S, ADDRESS/S, ISSUE/S, NOMINAL/S,  ←
   BOOKVALUE=BV/S, MARKET/S,
                GROUP/S, CONT/S, FAVOURITE/S, INDEX/S


Function:       This command retrieves stock information:
                NAME=STOCK – short stock name (ticker) for which infromation is  ←
                    requested

                optional parameters:

                FULL – get company's full name
                CODE – get Polish stock code (INT)
                ADDRESS – get company's address
                ISSUE – get stock issue   (INT)
                NOMINAL – get nominal value (FLOAT)
                BOOKVALUE – get book value (in thousands)
                MARKET – get market ID
                GROUP – get group ID
                CONT – continuous quotation flag ( 0 = price fixing, 1 –  ←
                    continuous quotation enabled)
                FAVOURITE  – get favourite flag
                INDEX – get index flag

                Command output is stored in ARexx result string.
                This command can retrieve one or more listed items. When  ←
                    retrieving multiple items the result
                string will contain all selected item values concatenated with  ←
                    single space between.
                Keep in mind the fact that FULL and ADDRESS data can contain  ←
                    strings with spaces, so it
                will be difficult to separate them from other data!
                If you want to retrieve FULL or ADDRESS data please use following  ←
                    format:
                GETSTOCKINFO <your_stock_name> FULL
                or
                GETSTOCKINFO <your_stock_name> ADDRESS
                In this way you will get information you need in the result string ←
                     with no further parsing nescessary.

-------------------------------------------------------------------------------


Command:        GUI
Template:       LOCK/S,UNLOCK/S

Function:       Locks/unlocks user interface

                You can nest several GUI LOCK commands but you have to call GUI  ←
                    UNLOCK exactly the same number of
                times to actually unlock the user interface.

                Please use it with extreme care! If you fail to unlock properly  ←
                    the GUI user will not be able
                to exit the program!

-------------------------------------------------------------------------------
```

```
Command:        IMPORT
Template:       ASCII/S,TELETEXT/S,KING/S,FILE/K

Function:       Import quotation data from a specifed file.
                ASCII   - selects ASCII import mode
                TELETEXT - selects TELETEXT mode (Warsaw Stock Exch.)
                KING    - selects KING mode (WSE)

                FILE    - (STRING) specifies file name. If none specified
                           bring up file requester.

-----------------------------------------------------------------------------

Command:        QUIT
Template:       FORCE/S

Function:       Quit the program.
                FORCE/S   - supress requester asking for confirmation

-----------------------------------------------------------------------------

Command:        REFRESH
Template:       -none-

Function:       Redraw all opened charts

-----------------------------------------------------------------------------

Command:        REMQUOTATION
Template:       STOCK/A,DATE/A

Function:       Remove specified quotation of stock.
                STOCK - (STRING) stock name (case sensitive)
                DATE  - (STRING) quotation date (yy-mm-dd)

                This function does NOT refresh the charts.
                Use REFRESH or ARRANGE to do that.

-----------------------------------------------------------------------------

Command:        REMSTOCK
Template:       NAME=STOCK/A

Function:       Remove specified stock from the list
                STOCK - (STRING) stock name (case sensitive)
                NAME  - the same as STOCK (synonym)

                CAUTION!
                This function can NOT be undone. It removes all stock data
                from memory AND from the disk!!! Make sure that you know
                what you are doing !!!

-----------------------------------------------------------------------------

Command:        REQUEST
Template:       BODY/K,TITLE/K,BUTTONS/K,FILE/S,PATH/K,PATTERN/K,SAVE/S,STRING/S
```

```
 Function:       Show a requester.
                 BODY/A   - (STRING) defines requester body text. Multiple
                            lines are allowed - use '|' as a new line symbol.
                 TITLE/K  - (STRING) requester title
                 BUTTONS/K - (STRING) requester buttons. Multiple buttons
                            are allowed - use '|' to separate individual
                            button's texts.

                 New parameters (available since 2.6) are:
                     FILE        displays file-requester (BOOL)
                     PATH        specifies initial path for file-requester (STRING)
                     PATTERN     specifies file matching pattern (STRING)
                     SAVE        put file-requester into save mode
                     STRING      displays string-requester (BOOL)

                 NOTE:
                     BODY parameter is defined now with /K (it was /A in 2.5 and  ←
                        earlier versions)
                     so you have to specify the BODY keyword since now this  ←
                        parameter is optional
                     (and not used in the file-requester)

                 Thanks to the extended syntax of the REQUEST command, it now  ←
                    handles 3 types of
                 requesters:

                 * 'easy' requester - a simple message box with multiple answer  ←
                    buttons

                     Example:
                             REQUEST BODY="Do you want to continue?" TITLE="Please  ←
                                confirm" BUTTONS="Yes|No"

                     Returns: the number of selected button in order 0, 1, 2, ... ( ←
                        from left to right)

                 * file requester - asks for a file name

                     Example:
                             REQUEST FILE PATH=RAM: PATTERN=#?.h SAVE TITLE="Enter  ←
                                file name to save" BUTTONS=Save

                     Returns: the selected file name

                 * string requester - asks for a string

                     Example:
                             REQUEST STRING BODY="Enter some text" TITLE="Just an  ←
                                example" BUTTONS="Ok|No"

                     Returns: the entered string

------------------------------------------------------------------------

 Command:        SCREEN
 Template:       FRONT/S,BACK/S
```

```
Function:       Bring AmiBroker screen to FRONT or put it to BACK


------------------------------------------------------------------------


Command:        SELECT
Template:       STOCK/K,DATE/K


Function:       Select a stock or/and quotation (and mark it with a hairline
                on the chart)
                STOCK - (STRING) stock name (case sensitive)
                        From version 2.5 you can use also special names @NEXT and  ←
                            @PREV
                        to go to the next/previous stock in the list

                DATE  - (STRING) quotation date (yy-mm-dd)
                        if specified one doesn't exist the nearest next
                        will be selected.
                        From version 2.5 you can use also special names @NEXT and  ←
                            @PREV
                        to go to the next/previous quotation in the list

Example:        SELECT STOCK=APPLE  /* selects 'APPLE' */
                SELECT STOCK=@NEXT  /* selects next stock in the stock list */

                From version 2.6 SELECT can switch to the first/last/next/previous  ←
                    stock or quotation
                thanks to new special codes @FIRST, @LAST, @NEXT, @PREV which can  ←
                    be used in place of the short stock
                name (ticker) or quotation date.

                Examples:
                    SELECT STOCK=@FIRST
                    SELECT STOCK=@LAST
                    SELECT STOCK=@NEXT

                    SELECT DATE=@LAST
                    SELECT DATE=@PREV
                    SELECT DATE=@FIRST

                NOTE:
                    SELECT DATE=@FIRST will select the first VISIBLE quotation on  ←
                        the chart. To make
                    sure that the truly first quotation is selected, use the  ←
                        following sequence:
                    ZOOM ALL
                    SELECT DATE=@FIRST


------------------------------------------------------------------------


Command:        SETFINANCE
Template:       NAME=STOCK/A,QUARTER/N/A,YEAR/N,INCOME/N,EBT/N,EAT/N

Function:       set financial data

                NAME=STOCK is the ticker
                QUARTER    is the number of quarter 1-4
                YEAR       is the year to set
```

```
                  INCOME      is the sales income for the selected quarter (in  ←
                     thousands)
                  EBT         are earnings before taxes for the selected quarter (in  ←
                     thousands)
                  EAT         are earnings after taxes for the selected quarter (in  ←
                     thousands)


   ---------------------------------------------------------------------

   Command:       SETSTOCKINFO
   Template:      NAME=STOCK/A, FULL/K, CODE/N, ADDRESS/K, ISSUE/N, NOMINAL/K,  ←
      BOOKVALUE=BV/N, MARKET/N,
                  GROUP/N, CONT/S, FIXED=NOCONT/S, FAVOURITE/S, NOFAVOURITE/S, INDEX ←
                     /S, NOINDEX/S

   Function:      set stock information

                  NAME=STOCK is the stock short name (ticker)
                  FULL        is the full name of stock
                  CODE        is the 4 digit code (Polish)
                  ADDRESS     is the company's address
                  ISSUE       is the number of shares issued
                  NOMINAL     is the nominal stock value
                  BOOKVALUE   is the book value of company (in thousands $)
                  MARKET      is the zero-based market identifier (number)
                  GROUP       is the zero-based group identifier
                  FIXED       switches on price fixing (and line charts)
                  CONT        switches on continuous quotations (and candlestick  ←
                     charts)
                  FAVOURITE   switches on favourite flag
                  NOFAVOURITE     -   off
                  INDEX       switches on index flag
                  NOINDEX         -   off

   ---------------------------------------------------------------------

   Command:       VERSION
   Template:      -none-

   Function:      Return program version tag (STRING).

   ---------------------------------------------------------------------

   Command:       ZOOM
   Template:      SIZE/N,ALL/S

   Function:      zoom the chart


                  SIZE        specifies the number of quotations to show in the chart
                  ALL         switches the chart to show all available quotations

   ---------------------------------------------------------------------
```

1.62   How to register?

```
                   *************************** NEW ******************************
Now you can register AmiBroker ON-LINE!!!!
For details consult
                On-line registration
                **************************************************************


If you want to get full working version of AmiBroker, you should send me
proper registration request (see example
                registration form
                ).
Please supply a valid e-mail adddres for keyfile shipment.

Orders WITHOUT an e-mail address WILL NOT be processed!!!!!
I am sorry but I can not handle ordinary mail delivery any longer!!


Registered users receive a keyfile which enables all features of the program.
Keyfile is sent by e-mail immediatelly after receiving the payment.


Again: the only way to receive the keyfile is via e-mail !!!!


Registration fee is:

* AmiBroker 3.2 NEW USER      $30 US / 50 DM / 20 GBP

  You will receive the keyfile by e-mail. Keyfile will work upto version with  ←
      number +0.5
  (for example: if you are registering v3.2, keyfile will work upto version 3.7  ←
      (inclusive))

* AmiBroker 3.2 UPGRADE       $17 US / 25 DM / 10 GBP

  ******* FOR REGISTERED USERS ONLY *******

  You will receive new keyfile by e-mail. Keyfile will work upto version with  ←
      number +0.5.
  (for example: if you are registering v3.2, keyfile will work upto version 3.7  ←
      (inclusive))


AmiBroker 3.2 is THE LAST free upgrade for registered users of version 2.7.
===============================================================================

Users who have registered versions prior to 2.7 have to re-register (AmiBroker  ←
    3.2 UPGRADE).


=============== PRINTED MANUALS ARE NO LONGER AVAILABLE ==================


You can send CASH (in opaque envelope) or pay your fee by
bank draft/money transfer (in US dollars).

You can also
                Register On-line
```

```
                    These are account details for wire transfer:

  PLS PAY TO:    WIELKOPOLSKI BANK KREDYTOWY S.A.
                 WROCLAW BRANCH
  IN FAVOUR OF: TOMASZ JANECZKO
  ACCOUNT NO.:  10901522-1288177-152-1787
  SWIFT:        WBKP PL PP WRO


  The address for requesting registration is:

  Tomasz Janeczko
  BOX 2438
  PL 50-388 Wroclaw 48,
  POLAND.


  ****************************** WARNING ***********************************
  Since there have been several thefts of letters lately I strongly encourage
  you to send registration fee by REGISTERED mail. It is more expensive but
  100% safe !!!
  *************************************************************************



  PLEASE TYPE THIS ADDRESS CAREFULLY, CHECK SPELLING!!!!!
  FILL-IN REGISTRATION FORM WITH BLOCK LETTERS.


  For all other requests:

  E-Mail:  tjaneczk@cyber.ict.pwr.wroc.pl
```

1.63   AmiBroker ON-LINE Registration

```
AmiBroker ON-LINE Registration
===============================


Registration fee US $: 30.00
Registration fee Euro: based on current USD-EUR exchange rate

*** ON-LINE SECURE INTERNET REGISTRATION ***

If you would like to register AmiBroker, you can do the registration online on the ←
    Internet at
http://www.shareit.com/programs/104147.htm.
Alternatively, you can go to http://www.shareit.com and enter the program number  ←
    there: 104147.


*** PHONE/FAX/MAIL REGISTRATION ***

If you do not have access to the Internet, you can register via phone,
fax or postal mail. Please print out the following form, and fax or mail it to:

ShareIt!
element 5 AG
Sachsenring 69
```

```
50677 Koeln
Germany

Phone:          +49-221-2407279
Fax:            +49-221-2407278
E-Mail:         register@shareit.com

US customers may also order by calling 1-800-903-4152 (orders only please!).
US check and cash orders can be sent to our US office at

ShareIt! Inc.
PO Box 844
Greensburg, PA 15601-0844
USA

Tel. 724-850-8186
Fax. 724-850-8187


Registration form for AmiBroker

Program No.: 104147

Last name: _____

First name: _____

Company: _____

Street and #: _____

City, State, postal code: _____

Country: _____

Phone: _____

Fax: _____

E-Mail: _____ (required)


I would like to receive the registration key via e-mail.


I would you like to pay the registration fee by:

[  ] credit card
[  ] wire transfer
[  ] EuroCheque


Credit card information (if applicable)

Credit card:

[  ] Visa
```

```
[  ] Eurocard/Mastercard
[  ] American Express
[  ] Diners Club

Card holder: _____

Card No.: _____

Date of Expiration : _____



Date / Signature _____
```

1.64 Registration form

```
                    AMIBROKER REGISTRATION FORM

------------------------------------------------------------------------

     To:
     Tomasz Janeczko
     BOX 2438
     PL 50-388 Wroclaw 48
     POLAND


------------------------------------------------------------------------

     Please take my registration as a AmiBroker user.

     I want to receive:

             ( ) - AmiBroker 3.2 NEW     ( $30 US / 50 DM / 20 GBP )
             ( ) - AmiBroker 3.2 UPGRADE ( $17 US / 25 DM / 10 GBP )

     Please send me the keyfile by e-mail to the following address:


             _____
              (type clearly your e-mail, for example jack@aol.com )

     I am sending shareware fee as:

             ( ) - Cash, included with this letter
             ( ) - money transfer to this account:
                   Owner:      Tomasz Janeczko
                   Bank:       Wielkopolski Bank Kredytowy S.A.
                               Wroclaw Branch
                   SWIFT Code: WBKP PL PP WRO
                   Account No: 10901522-1288177-152-1787

Name and Surname: _____
```

```
Full address:        _____


E-mail:        _____        Phone: _____


Hardware config.    _____


Comments            _____


    I have read copyright notices in the manual and agree with the conditions.
    Specifically, with my signature, I commit on installing the keyfile
    only on one computer and not giving it to the others.

    (NOTE: Orders without an e-mail address will not be processed)



    Date:      _____  Signature: _____
```

1.65   Contact addresses

```
Please send all requests, suggestions, etc to:

E-mail:   tjaneczk@cyber.ict.pwr.wroc.pl
          tjaneczk@kki.net.pl
          amibroker@republika.pl (Win 32 requests only)
          amibrok@polbox.com     (Amiga requests only)

or

Mailing address

Tomasz Janeczko
BOX 2438
PL 50-388 Wroclaw 48
POLAND

Check out AmiBroker WWW Page:

http://www.polbox.com/a/amibrok

Subscribe AmiBroker mailing list:

amibroker-subscribe@eGroups.com
```

1.66   Next AmiBroker release

For a complete list of new features planned check out AmiBroker News page at:
http://www.polbox.com/a/amibrok/todo.html

1.67   Thanks

 I would like to thank all registered users for their generous support.

 Special thanks go to:

```
Donald Dalley       - for support & writting import scripts for AmiBroker
Marcin Kot          - for being the first registered user
Markus Baumeister   - for the Telestock script
Konrad Dubiel       - for bug reports & improvement suggestions
Mattias Moltkesson  - for long improvement list :)
Neil Mohr           - for great review and
                      sending me 3 Amiga Computing issues for free
Marek Pampuch       - for great article in Polish Amiga Magazine
Stefan Ossowski &
Urban D. Müller     - for free Aminet 10 & 12 CD
```