



BATS Europe Reference Data Specification

Version 1.7
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1 Overview

This document describes the file formats of BATS' reference data files. These files describe the symbols tradable on BATS, including ISIN, currency, tick sizes, and more. The files are formatted in simple comma-separated value (CSV) format, making them easy to parse or view in a spreadsheet program such as Microsoft Excel.

1.1 Availability

Files are available by 7:00am London time prior to trading. Files are published for both the BATS certification and production environments.

1.2 Location

Files are available on the BATS public website via HTTP.

Production:

Symbol data	http://www.batstrading.co.uk/market_data/symbol_listing/csv/
Tick sizes	http://www.batstrading.co.uk/market_data/symbol_listing/tickcsv/

Certification:

Symbol data	http://certification.batstrading.co.uk/market_data/symbol_listing/csv/
Tick sizes	http://certification.batstrading.co.uk/market_data/symbol_listing/tickcsv/

2 Symbol File

The symbol file consists of a *descriptor*, a *heading*, and many *data* rows.

2.1 Descriptor

The descriptor line gives information about the file, such as the environment (CERT or PROD) for which it was created and the date and time when it was created. This line is represented with comma-separated key/value pairs.

Key	Type	Value Interpretation
environment	String	The environment for which the file was generated. Allowed values are CERT or PROD.
created	Date	The date on which the file was created. Expressed in YYYY-MM-DD format.
time	Time	The time at which the file was created. Expressed in HH:MMZ format; "Z" indicates the time is in UTC.

An example descriptor for a certification file created on 1 October 2008 at 6:25am UTC:

```
environment=CERT,created=2008-10-01,time=06:25Z
```

It is recommended that parsers ignore new keys which are added over time.

2.2 Heading and Data

The heading line describes the format of the data rows which will follow. To aid in backward compatibility, columns will never be removed or reordered. New columns, however, may be added. **It is highly recommended that parsers be able to ignore new columns which are added over time.**

Column Name	Type	Value Interpretation
company_name	String	Name of the company. Human-readable.
bats_name	String	BATS/Uniform Symbology symbol for the symbol. May contain digits and lower case letters.
isin	String	ISIN
currency	String	Traded currency. Instruments traded in pence will be denoted GBX.
mic	String	Market identification code. For example, XLON.
reuters_exchange_code	String	The Reuters exchange code. For example, L or PA.
lis_local	Notional Value	The MiFID large in scale value. Orders with a notional value less than this value must be displayed (i.e., cannot be hidden). Expressed in traded currency. For example, for GBX, this value is in pence.
live	Boolean	Either t or f . Symbol is only allowed for trading if market t .
tick_type	String	Name of the tick size banding used for this symbol. Refers to a definition in the BATS Ticks file.
reference_price	Numeric	The last price of the instrument for BATS (or routed through BATS) for the previous trading day. If the instrument was not traded on BATS (or routed through BATS) on the previous day, a suitable last price from an external venue will be used.
bats_prev_close	Numeric	The last price of the instrument on BATS (or routed through BATS) for the previous trading day. If the instrument was not traded on BATS (or routed through BATS) during the previous day, the close from the last day the instrument was traded on BATS (or routed through BATS) will be used. No value will be present if the instrument has never been traded on BATS (or routed through BATS).
live_date	Date	The date the instrument went live or will go live on BATS Europe in YYYY-MM-DD format. This may be empty if an instrument is not live on BATS Europe and a live date has not yet been planned.
bloomberg_primary	String	The Bloomberg ticker for this instrument on the primary listing exchange.
bloomberg_bats	String	The Bloomberg ticker for this instrument on BATS Europe ("EB" Bloomberg exchange code).
mifid_share	Boolean	Either t or f . If t then this instrument is a share admitted to trading on an EU Regulated Market under MiFID.
asset_class	String	One of ETF, DR or EQTY. Indicates whether this instrument is an Exchange Traded Fund, Depositary Receipt or some other equity.
matching_unit	Numeric	The matching unit for this instrument. Matching units are used to divide instruments into multicast groups for transmission in Multicast PITCH.

2.3 Sample

Example record for Vodafone Group (line broken for readability):

```
Vodafone Group PLC,VOD1,GB00B16GWD56,GBX,XLON,L,39721800,t,fese1,141.8,140.5,
2008-10-31,VOD LN Equity,VOD EB Equity,t,EQTY,3
```

3 Ticks File

The ticks file describes the allowed minimum price increments in different price bands for each symbol. Much like a Symbol File, a Ticks File also begins with a descriptor and a heading, followed by rows which define the tick sizes.

3.1 Descriptor

The descriptor line gives information about the file, such as the environment (CERT or PROD) for which it was created and the date and time when it was created. This line is represented with comma-separated key/value pairs.

Key	Type	Value Interpretation
environment	String	The environment for which the file was generated. Allowed values are CERT or PROD.
created	Date	The date on which the file was created. Expressed in YYYY-MM-DD format.
time	Time	The time at which the file was created. Expressed in HH:MMZ format; "Z" indicates the time is in UTC.

An example descriptor for a certification file created on 1 October 2008 at 6:25am UTC:

```
environment=CERT,created=2008-10-01,time=06:25Z
```

It is recommended that parsers ignore new keys which are added over time.

3.2 Heading and Data

The heading line describes the format of the data rows which will follow. To aid in backward compatibility, columns will never be removed or reordered. New columns, however, may be added. It is recommended that parsers be able to ignore new columns which are added over time.

Column Name	Type	Value Interpretation
tick_type	String	Name of the tick size. One row will be present per tick band per tick type. <code>tick_type</code> column values in the Symbol File will match these values.
min_price	Numeric	The minimum price, inclusive, for this tick band. Prices at or greater than this value (up to, but not including the <code>min_price</code> of the next row), have the given <code>tick_size</code> .
tick_size	Numeric	The minimum price increment for this tick band. If this value is null, the price in <code>min_price</code> represents the <i>maximum</i> allowed price for order entry for this tick type.

The interpretation is best understood with an example. Here are the rows which, at the time of writing, defined the `eurozone` tick type:

```
eurozone,0.0010,0.0010
eurozone,10.0000,0.0050
eurozone,999999.9950,
```

The interpretation of these rows is as follows:

- The minimum price allowed for order entry would be 0.001.
- For prices greater than or equal to 0.001 but less than 10.0000, the allowed minimum price increment is 0.001.
- Prices greater than 10.00 have a minimum price increment of 0.005.

- The maximum allowed price for order entry is 999999.995.

Some tick types define a uniform minimum price increment regardless of price. For example, at the time of writing, the `tck_0010` tick type is defined as:

```
tck_0010,0.0010,0.0010  
tck_0010,999999.9990,
```

This tick type allows a minimum price increment of 0.001 for all prices, with the minimum order price being 0.001 and the maximum order price being 999999.999.

4 Support

Please email questions or comments regarding this specification to tradedeskeurope@batstrading.com.

5 Revision History

1 October 2008	Initial draft version.
11 November 2008	Version 1.0. Updated text to note FSA authorisation.
28 January 2009	Version 1.1. Defined <code>time</code> field on the descriptor line of the symbol and tick files. Defined the <code>reference_price</code> field for symbols.
2 March 2010	Version 1.2. Cosmetic changes only. Added table of contents.
5 March 2010	Version 1.3. Defined the <code>bats_prev_close</code> field for symbols.
14 May 2010	Version 1.4. Defined the <code>live_date</code> , <code>bloomberg_primary</code> , <code>bloomberg_bats</code> and <code>mifid_share</code> fields for symbols.
11 Nov 2010	Version 1.5. Defined the <code>asset_class</code> field for symbols.
19 January 2011	Version 1.6. Defined the <code>matching_unit</code> field for symbols.
18 March 2011	Version 1.7. Updated the URLs for the symbol and tick files.