

The Derivatives Feed Specification

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This document describes the Derivatives Vendor feed.

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Contents

1	THE DERIVATIVES FEED - AN OVERVIEW	5
1.1	Introduction	5
1.2	What Kinds of Messages are Sent out, and when	5
1.3	Retransmissions	6
1.4	Integrity	6
1.5	Snapshot Functionality (Optional)	6
1.6	Communication	7
1.7	Market Quote Message (Q)	7
1.7.1	Message structure	7
1.8	Option Summary Message (O)	9
1.8.1	Message structure	10
2	TABLES	14
2.1	Message Types	14
2.2	Message Code	14
2.3	Instrument Types	14
2.4	X Marker	14
2.5	Currency Codes	14
2.6	Underlyings - Single Order-book	15
2.6.1	Indices	15
2.6.2	Securities	15
2.7	Underlyings - Block Order-book	17
2.7.1	Indices	17
2.7.2	Securities	18
2.8	Revision List	20

1 The Derivatives Feed - an Overview

1.1 Introduction

This document describes the Derivatives Vendor feed. This feed originates in the central system called OASIS, and distributes (in real time), trades and premium changes on instruments, as they occur during the course of a trading session. Information flows in the form of messages that are sent out when certain events (See 1.2) take place inside the main system. The feed may (optionally) utilize snapshot functionality in order to reduce the utilization of the communication line(s).

This document is revised every time the feed is adapted to new markets, new underlyings, new currencies etc. A revision list can be found in section 2.8.

The Athens Stock Exchange (ASE) Help Desk can handle any questions about this document.

1.2 What Kinds of Messages are Sent out, and when

In the morning (on system startup), all instruments defined in the system as tradable, are sent out as Option Summary (O) Messages with updated rates regardless of whether the markets are open or the instruments have been traded. All fields except BID, ASK, CLOSE and OPEN.IN shall be cleared. The BID and ASK shall have rates if anyone has placed an order which is valid over several days. CLOSE for all instruments, but options, shall reflect the settlement price set the day before by clearing office personnel. For options, CLOSE reflects the indicative closing price calculated the day before. OPEN.IN reflects the current open interest. The above mentioned messages are going to be identified by an 'S' in the Message Code. (See table 2.2.)

The instruments sent out are going to be sorted according to the following rules:

1. Market (index, stock, currency, interest rate).
2. Alphabetical order of the instrument symbol ("ALPHA" before "OTE").
3. Expiration date order.
4. Instrument type order (call before put before forward/future before security lending).
5. Strike price order (lowest strike price comes first).

The major events that cause messages to be generated in the system for subsequent distribution through the feed are the following:

- Trade
when a trade is made an **Option Summary (O) Message will be sent out immediately after the trade has been verified (registered) by the Clearing System.**
- Best Bid/Ask Spread/Volume Change
when a change in the spread occurs, or if the volume at the best bid or ask is changed, a **Market Quote (Q) Message** will be sent out.
- Underlying Value Change
any time a **change in the underlying value** occurs, an **Underlying Value Message** will be sent out (this feature is optional and lies at the discretion of the exchange to activate).
- Market close
when a market closes, all instruments for that market will be sent out as Market Quote Messages. These messages will be identified by an 'E' in the Message Code. (See table 2.2.)

- Diminished activity in the market
when there is diminished activity in the market, **Market Quote Messages for all instruments** shall be sent out, one instrument at a time. The interval between two such messages is a number of seconds chosen by ADEX. These messages are identified by an 'R' in the Message Code. (See table 2.2.). Note that these messages does not increment the sequence number
- Signal Ready
at the moment Clearing Office personnel signals a market as “ready” (by performing the Signal Ready function), Option Summary (O) messages one per instrument series for that market are sent out. In this message, the field CLOSE indicates *today’s settlement price* for all instruments except for options, where *today’s indicative closing price shall be included*. OPEN.IN indicates *today’s Open Interest*. These messages shall be identified by a 'G' in the Message Code. (See table 2.2.)

NOTE: O/I may be adjusted during evening run. This may affect the time that signal ready is performed.

1.3 Retransmissions

The vendor can recover missed messages through the retransmission feature provided by the Internet Oriented Communication Portal (please read the **FIC-IOCP Service Interface Technical Specification** for more information pertinent to the service).

The message types that can be re-transmitted are:

- Market Quote messages (for a specific market – Index, Stock, etc.).
- Option Summary messages (for all instruments on all markets).

1.4 Integrity

The feed uses a simple mechanism to ensure integrity of the connection. This mechanism is in the form of a “heartbeat” message sent at a pre-defined time interval (configured by the Exchange) in cases where no other message has been transmitted due to market activity. *This way, vendors may detect faulty connections.*

The actual heartbeat message is a replica of the last Market Quote message sent by the feed. One MQ message goes out for the single order book and one for the block order book.

1.5 Snapshot Functionality (Optional)

In order to minimize the communication line utilization the feed uses so-called snapshot functionality. This means that the feed tries to merge multiple updates (bid/ask order-book price changes) on a specific instrument into one single update (last update). The merging will take place during a time period defined by the exchange; a typical value is one second.

Example:

Central orderbook:

FTASE9F BUY 10 @ 2150

FTASE9F BUY 30 @ 2140

FTASE9F SELL 20 @ 2180

Derivatives Feed:

FTASE9F BUY 30 @ 2140

FTASE9F SELL 20 @ 2180

1.6 Communication

Transmission	:	Synchronous
Protocol	:	TCP/IP
Speed	:	Greater than 128kbps

Please read the **FIC-IOCP Service Interface Technical Specification** for more information pertinent to the Vendor-Service communication/interaction.

1.7 Market Quote Message (Q)

A Market Quote message is sent out when either of the following two events takes place:

- 1) When the market closes.
- 2) When a change in the spread between best bid and ask prices (or the volumes of the best bid and ask prices) takes place.

The Exchange can also force Market Quote messages to be sent out without the occurrence of any of the above events.

Currently, Market Quote Messages from two different order-books are sent out; the *Single* and the *Block* order-book. The field SYMB is used to indicate which of the order-books the update belongs to. For the single order-book the field is filled in with a value from **table 2.6** while for the block-order book the field is filled in with a value from **table 2.7**.

The TIME field is the time of transmission and not necessarily the time of the actual event.

1.7.1 Message structure

SYN1 | SYN2 | STX | MT | MC | PC | CC | SYMB | OP-TYPE | EXP-DAT | EX-PR | TIME | BID1 | BID2 | BID3 | BID4 | BID5 | ASK1 | ASK2 | ASK3 | ASK4 | ASK5 | BID1_VOL | BID2_VOL | BID3_VOL | BID4_VOL | BID5_VOL | ASK1_VOL | ASK2_VOL | ASK3_VOL | ASK4_VOL | ASK5_VOL | DEC_IN_STRIKE | DEC_IN_PREMIUM | SEQ-NO | ETX | BCC | PAD | CR | LF

Field	Starting Byte Position	Code	Bytes	Description	Value
1	1	SYN 1	1	Synchronization character	22
2	2	SYN 2	1	Synchronization character	'.'
3	3	STX	1	Start of text control character	2
4	4	MT	1	Message type. (Table 2.1)	'Q'
5	5	MC	1	Message code. (Table 2.2)	'x'
6	6	X-MARK	1	X marker. (Table 2.4)	'x'
7	7	CC	3	Currency code. (Table 2.5)	'xxx'
8	10	SYMB	7	Symbol underlying security. (Table 2.6 & 2.7)	'xxxxxxx'
9	17	OP-TYPE	1	Instrument type. (Table 2.3)	'x'

Field	Starting Byte Position	Code	Bytes	Description	Value
10	18	EXP-DAT	6*	Expiration date of the instrument	'YYMMDD'
11	24	EX-PR	7**	Strike price of the instrument	'xxxxxxx'
12	31	TIME	6***	The time of update	'HHMMSS'
13	37	BID1	6****	The current best bid premium	'xxxxxxx'
14	43	BID2	6****	The current 2d best bid premium	'xxxxxxx'
15	49	BID3	6****	The current 3d best bid premium	'xxxxxxx'
16	55	BID4	6****	The current 4 th best bid premium	'xxxxxxx'
17	61	BID5	6****	The current 5 th best bid premium	'xxxxxxx'
18	67	ASK1	6****	The current best ask premium	'xxxxxxx'
19	73	ASK2	6****	The current 2d best ask premium	'xxxxxxx'
20	79	ASK3	6****	The current 3d best ask premium	'xxxxxxx'
21	85	ASK4	6****	The current 4 th best ask premium	'xxxxxxx'
22	91	ASK5	6****	The current 5 th best ask premium	'xxxxxxx'
23	97	BID1-VOL	6	The current best bid volume	'xxxxxxx'
24	103	BID2-VOL	6	The current 2d best bid volume	'xxxxxxx'
25	109	BID3-VOL	6	The current 3d best bid volume	'xxxxxxx'
26	115	BID4-VOL	6	The current 4 th best bid volume	'xxxxxxx'
27	121	BID5-VOL	6	The current 5 th best bid volume	'xxxxxxx'
28	127	ASK1-VOL	6	The current best ask volume	'xxxxxxx'
29	133	ASK2-VOL	6	The current 2d best ask volume	'xxxxxxx'
30	139	ASK3-VOL	6	The current 3d best ask volume	'xxxxxxx'
31	145	ASK4-VOL	6	The current 4 th best ask volume	'xxxxxxx'
32	151	ASK5-VOL	6	The current 5 th best ask volume	'xxxxxxx'
33	157	DEC-IN- STRIKE	1	Decimals in strike price	'x'
34	158	DEC-IN- PREMIUM	1	Decimals in premium price	'x'
35	159	SEQ-NO	6*****	The sequence number	'xxxxxxx'
36	165	ETX	1	End of text character	3
37	166	BCC	1*****	Longitudinal redundancy character	'x'

Field	Starting Byte Position	Code	Bytes	Description	Value
38	167	PAD	1+	Padding characters	''
39	168	CR	1	Carriage return	13
40	169	LF	1	Line Feed	10

*

A six digit field that represents a date, in the format of YYMMDD, where YY are the two least significant digits of the year, MM the month - '01' is January, '12' is December - and DD a day between '01' and '31'.

**

This item is encoded as 7 integer digits, implicitly (not shown but implied) including 'DEC-IN-STRIKE' decimals, which are counted counterclockwise (from right-to-left).

A 6-digit number represents the time. Time is encoded as HHMMSS, where HH represents hours, MM represents minutes and SS represents seconds.

This item is encoded as 6 integer digits, implicitly (not shown but implied) including 'DEC-IN-PREMIUM' decimals, which are counted counterclockwise (from right-to-left).

A 6 digit number that represents the sequence number of a message. Sequence numbers start at '000001' and increment up to '999999' before wrapping back to '000001'. At the start of the day it resets to '000001'.

Longitudinal redundancy character. This is calculated by performing an XOR of all characters in the message apart from the SYN1, SYN2, STX and PAD characters, but including the ETX character.

NOTE:

- All numbers are padded with zeroes.
- Forwards and futures differ from normal options in that they have a strike price of zero. The option type (OP-TYPE) for forwards and futures will be a 'P' if the underlying security is deliverable, otherwise it will be a 'C'.

1.8 Option Summary Message (O)

An Option Summary Message is sent out when any of the following events take place:

- 1) When a ***new trade*** takes place. (NOTE: The actual message goes out immediately after trade confirmation arrives from the Clearing System).
- 2) When a ***trade is corrected*** (i.e., when a correction in the price of a trade is made by the exchange). Upon such correction the value in the VOL field could be decreased compared with the VOL value in the previous message.
- 3) When Clearing Office personnel perform ***'Signal Ready'*** for a market.

The Exchange may also force Option Summary messages out without the occurrence of the above events.

The Option Summary Messages are not related to any block size as the Market Quote Messages are. The field SYMB is therefore filled in with values from **table 2.6** only.

The BID and ASK fields are from the single order book.

The TIME field is the time of transmission (incorporating possible delays due to verifications that need to be performed by the Clearing System) and not necessarily the time of the actual event.

The open interest in field 23 OPEN.IN is not changed during the day. A change in open interest occurs only in the messages that are sent in the morning and those that are sent as a result of a market 'Signal Ready' event. During the day the number of traded contracts is accumulated in field 22 VOL. In the morning, OPEN.IN contains the open interest calculated the day before by the central exchange.

1.8.1 Message structure

SYN1 SYN2 STX MT MC PC CC SYMB OP-TYPE EXP-DAT EX-PR TIME CLOSE OPEN
HIGH LOW LAST BID ASK BID-VOL ASK-VOL VOL OPEN.IN REST-CO SEQ-NO ETX BCC
PAD CR LF

Field	Byte	Code	No. Bytes	Description	Value
1	1	SYN 1	1	Synchronization character	22
2	2	SYN 2	1	Synchronization character	'.'
3	3	STX	1	Start of text control character	2
4	4	MT	1	Message type. Table 2.1	'O'
5	5	MC	1	Message code. Table 2.2	'x'
6	6	X-MARK	1	X marker. Table 2.4	'D'
7	7	CC	3	Currency code. Table 2.5	'xxx'
8	10	SYMB	7	Symbol underlying security. Tables 2.6,2.7	'xxxxxxx'
9	17	OP-TYPE	1	Instrument type. Table 2.3	'x'
10	18	EXP-DAT	6*	Expiration date of the instrument	'YYMMDD'
11	24	EX-PR	7**	Strike price of the instrument	'xxxxxxx'
12	31	TIME	6***	The time of update	'HHMMSS'
13	37	CLOSE	6****	Closing price <u>previous</u> day. If field #5 (MC) is equal to 'G': Closing price <u>today</u> . The close field for Stock Borrowing series refers to yesterday's underlying price for messages with MC = G , for the rest messages (with value in close field) contains the day before yesterday underlying value.	'xxxxxx'
14	43	OPEN	6****	Opening price today	'xxxxxx'
15	49	HIGH	6****	Highest price today	'xxxxxx'
16	55	LOW	6	Lowest price today	'xxxxxx'

Field	Byte	Code	No. Bytes	Description	Value
17	61	LAST	6****	Last price today	'xxxxxx'
18	67	BID	6****	The current bid premium	'xxxxxx'
19	73	ASK	6****	The current ask premium	'xxxxxx'
20	79	BID-VOL	6	The current bid volume	'xxxxxx'
21	85	ASK-VOL	6	The current ask volume	'xxxxxx'
22	91	VOL	6	Total number of contracts traded today	'xxxxxx'
23	97	OPEN.IN	8	Total number of <u>yesterday's</u> outstanding contracts. If field #5 (MC) is equal to 'G': Total number of <u>today's</u> outstanding contracts.	'xxxxxxxx'
24	105	REST-CO	1	Indicates if trading is restricted	' '
25	106	SEQ-NO	6*****	The sequence number	'xxxxxx'
26	112	ETX	1	End of text character	3
27	113	BCC	1*****	Longitudinal redundancy character	'x'
28	114	PAD	1+	Padding characters	' '
29	115	CR	1	Carriage return	13
30	116	LF	1	Line feed	10

*

A six digit field that represents a date, in the format of YYMMDD, where YY are the two least significant digits of the year, MM the month - '01' is January, '12' is December - and DD a day between '01' and '31'.

**

This item is encoded as 7 integer digits. This field may not be filled in or updated for all instruments (e.g. futures/forwards).

Strike price representation:

- Index Options:
In index-points with no decimals.
I.e., 0005200 = 5200 index-points
- Stock Options:
In EUR with two (2) decimals.
I.e., 0003650 = 36,50 EUR
- EUR/USD Currency Options:
In USD per EUR with four (4) decimals in price.
I.e., 0010643 = 1,0643 USD / EUR
- Financial Return and Financial Asset Structured Derivatives:
There are no decimals in the strike price. The Strike Price is actually a 4-digit number used to encode the Issuer (first 2 digits), and the serial number of the product for this issuer.
I.e., 0001022 means Issuer code "10" and the contract with serial number "22"

Table 2.8 includes the possible Structured Derivatives (Financial Return or Financial Asset) issuers and their respective code numbers.

A 6-digit number represents the time. Time is encoded as HHMMSS, where HH represents hours, MM represents minutes and SS represents seconds.

This item is encoded as 6 integer digits.

Price / Premium representation:

- Stock Options (quoted in euro):
Price of option (premium) with two (2) decimals.
I.e., 000145 = 1, 45 EUR
- Index Options (quoted in index points):
Price of option (premium) in index points with two (2) decimals.
i.e., 008230 = 82, 30
- Stock Futures (quoted in euro):
Price of future (per share of the underlying lot) with two (2) decimals.
i.e., 001545 = 15, 45 EUR.
- Index Futures (quoted in index points):
Price of future (in index points) with two (2) decimals.
i.e., 214464 = 2144, 64
- EUR/USD Currency Futures (quoted in USD per EUR rates):
Price of future (in USD per EUR rates of exchange) with four (4) decimals.
i.e., 010643 = 1,0643 USD per EUR
- EUR/USD Currency Options (quoted in USD per EUR):
Price of option (premium), in USD per EUR, with four (4) decimals.
i.e., 000015 = 0,0015 USD per EUR
- Stock Repo (quoted in Euro cents per share):
Price (with 2 decimals).
i.e., 010281 = 102,81 Euro cents per share
- Reverse Stock Repo (quoted in interest rates):
Interest Rate (with 2 decimals).
i.e., 000070 = 0,70%
- Financial Return Structured Derivatives (quoted in interest rates):
Interest Rate (with 2 decimals).
i.e., 009870 = 98,70%, 013134 = 131,34%
- Financial Asset Structured Derivatives (quoted in euro, dollars, or index points, depending on market):
Price (with 2 decimals)
i.e., 965470 = 9654,70 EUR

A 6-digit number that represents the sequence number of a message. Sequence numbers start at '000001' and increment up to '999999' before wrapping back to '000001'. At the start of the day it resets to '000001'.

Longitudinal redundancy character. This is calculated by performing an XOR of all characters in the message apart from the SYN1, SYN2, STX and PAD characters, but including the ETX character.

Note:

All numbers are padded with zeroes.

Forwards and futures differ from normal options in that they have a strike price of zero. The option type (OP-TYPE) for forwards and futures will be a 'P' if the underlying security is deliverable, otherwise it will be a 'C'.

2 Tables

2.1 Message Types

'O'	Option Summary Message
'Q'	Market Quote Message

2.2 Message Code

' '	Normal message
'S'	Start of day (Option Summary)
'E'	End of day (Market Quote)
'R'	Retransmission (Market Quote)
'G'	Signal Ready for Market (Option Summary)

2.3 Instrument Types

'C'	Call option or Forward /Future without deliverable underlying security.
'P'	Put option or Forward /Future with deliverable underlying security.
'L'	Security Lending (Stock Repo)
'V'	Security Borrowing (Reverse Stock Repo)
'R'	Financial Return Structured Derivatives
'A'	Financial Asset Structured Derivatives

2.4 X Marker

'X'	Indicates that a major change in the characteristics of the instrument has taken place.
' '	Normal instrument

During an issue the involved instruments could alter their characteristics in such a way that the Exchange wants to indicate this. This is done by distributing an 'X' in the field X-MARK which normally is ' (a space character). Such characteristic changes could be that the contract size has changed; the strike price includes decimals etc. The actual reason for the Exchange to X-mark an instrument could be obtained by calling the Marketplace Support help desk.

2.5 Currency Codes

EUR	Euro
-----	------

2.6 Underlyings - Single Order-book

2.6.1 Indices

FTASE	Index, FTASE-20
FT40M	Index, FT40M-40

2.6.2 Securities

AEF20	ALPHA ETF FTSE 20
AEGN	AEGEAN AIRLINES (CR)
ALAPIS	ALAPIS S.A.
ALPHA	ALPHA BANK S.A. (CR)
ANEK	ANEK LINES S.A. (CR)
ARBA	S & B INDUSTRIAL MINERALS S.A. (CR)
ASTIR	ASTIR PALACE VOULIAGMENI S.A. (CR)
ATE	AGRICULTURAL BANK OF GREECE S.A. (CR)
AVAX	J. & P. - AVAX S.A. (CR)
BASIK	ALFA-BETA VASSILOPOULOS S.A.(CR)
BELA	JUMBO S.A. (CR)
BIOX	VIOHALCO (CB)
BOC	BANK OF CYPRUS PUBLIC COMPANY LTD (CR)
BYTE	BYTE COMPUTER S.A. (CR)
DOL	LAMBRAKIS PRESS S.A. (CR)
EEEEK	COCA-COLA E.E.E. S.A. (CB)
ELBA	ELVAL S.A. (CB)
ELPE	HELLENIC PETROLEUM S.A. (CR)
ELTEX	ELLAKTOR SA (CR)
ETE	NATIONAL BANK OF GREECE S.A. (CR)
EUPRO	EUROBANK PROPERTIES R.E.I.C.

EUROB	EFG EUROBANK ERGASIAS S.A. (CR)
EUROM	EUROMEDICA S.A. (CR)
EXAE	HELLENIC EXCHANGES HOLDINGS S.A.(CR)
EYDAP	ATHENS WATER SUPPLY & SEWERAGE S.A. (CR)
FOLLI	FOLLI - FOLLIE S.A. (CR)
FORTH	FORTHnet S.A. (CR)
FOYRK	FOURLIS S.A.(CR)
FRIGO	FRIGOGLASS S.A.(CR)
GEK	GENERAL CONSTRUCTION GROUP OF COMPANIES S.A. (CR)
HTO	HELLENIC TELECOM. ORGANISATION (CR)
IATR	ATHENS MEDICAL C.S.A. (CR)
INLOT	INTRALOT S.A. (CR)
INTRK	INTRACOM S.A. HOLDINGS (CR)
LAMDA	LAMDA DEVELOPMENT S.A. (CR)
MAIK	M. J. MAILLIS S.A. (CR)
MARFB	MARFIN POPULAR BANK (KO)
METKK	METKA S.A. (CR)
MIG	MARFIN INVESTMENT GROUP
MINOA	MINOAN LINES(CR)
MHXAK	MICHANIKI S.A
MOH	MOTOR OIL (HELLAS) REFINERIES SA (CR)
MYTIL	MYTILINEOS HOLDINGS S.A. (CR)
OLTH	THESSALONIKI PORT AUTHORITY S.A. (CR)
OLYMP	TECHNICAL OLYMPIC S.A. (CR)
OPAP	OPAP S.A. (CR)
PPC	PPC S.A. (CR)

PRO	PROTON BANK S.A. (CR)
QUEST	Info-Quest S.A. (CR)
ROKKA	CH. ROKAS S.A. (CR)
SAR	GR. SARANTIS S.A.(CR)
SFA	SFAKIANAKIS S.A.(CR)
SIDE	SIDENOR S.A. (FORMER ERLIKON) (CR)
SOLK	CORINTH PIPEWORKS S.A. (CR)
SPRDER	SPRIDER STORES S.A.
TENERGY	TERNA ENERGY S.A.(CR)
TERNA	TERNA S.A. (CR)
TGEN	GENERAL BANK OF GREECE S.A. (CR)
TITK	TITAN CEMENT COMPANY S.A. (CR)
TPEIR	PIRAEUS BANK S.A. (CR)
TT	GREEK POSTAL SAVINGS BANK (CR)
VOVOS	BABIS VOVOS INTER/NAL TECHNICAL S.A. (CR)
XAKO	HALKOR S.A (FORMER VECTOR) (CB)
YGEIA	HYGEIA S.A (CR)

2.7 Underlyings - Block Order-book

A 'B' character precedes the names of all underlyings in order to designate block order-book membership.

2.7.1 Indices

BFTASE	Index, FTASE-20
BFT40M	Index, FT40M-40

2.7.2 Securities

BAEF20	ALPHA ETF FTSE 20
BAEGN	AEGEAN AIRLINES (CR)
BALAPIS	ALAPIS S.A.
BALPHA	ALPHA BANK S.A. (CR)
BANEK	ANEK LINES S.A. (CR)
BARBA	S & B INDUSTRIAL MINERALS S.A. (CR)
BASTIR	ASTIR PALACE VOULIAGMENI S.A. (CR)
BATE	AGRICULTURAL BANK OF GREECE S.A. (CR)
BAVAX	J. & P. - AVAX S.A. (CR)
BBASIK	ALFA-BETA VASSILOPOULOS S.A.(CR)
BBELA	JUMBO S.A. (CR)
BBIOX	VIOHALCO (CB)
BBOC	BANK OF CYPRUS PUBLIC COMPANY LTD (CR)
BBYTE	BYTE COMPUTER S.A. (CR)
BDOL	LAMBRAKIS PRESS S.A. (CR)
BEEEK	COCA-COLA E.E.E. S.A. (CB)
BELBA	ELVAL S.A. (CB)
BELPE	HELLENIC PETROLEUM S.A. (CR)
BELTEX	ELLAKTOR SA (CR)
BETE	NATIONAL BANK OF GREECE S.A. (CR)
BEUPRO	EUROBANK PROPERTIES R.E.I.C.
BEUROB	EFG EUROBANK ERGASIAS S.A. (CR)
BEUROM	EUROMEDICA S.A. (CR)
BEXAE	HELLENIC EXCHANGES HOLDINGS S.A.(CR)
BEYDAP	ATHENS WATER SUPPLY & SEWERAGE S.A. (CR)

BFOLLI	FOLLI - FOLLIE S.A. (CR)
BFORTH	FORTHnet S.A. (CR)
BFOYRK	FOURLIS S.A.(CR)
BFRIGO	FRIGOGLASS S.A.(CR)
BGEK	GENERAL CONSTRUCTION GROUP OF COMPANIES S.A. (CR)
BHTO	HELLENIC TELECOM. ORGANISATION (CR)
BIATR	ATHENS MEDICAL C.S.A. (CR)
BINLOT	INTRALOT S.A. (CR)
BINTRK	INTRACOM S.A. HOLDINGS (CR)
BLAMDA	LAMDA DEVELOPMENT S.A. (CR)
BMAIK	M. J. MAILLIS S.A. (CR)
BMARFB	MARFIN POPULAR BANK (KO)
BMETKK	METKA S.A. (CR)
BMIG	MARFIN INVESTMENT GROUP
BMINOA	MINOAN LINES(CR)
BMHXAK	MICHANIKI S.A
BMOH	MOTOR OIL (HELLAS) REFINERIES SA (CR)
BMYTIL	MYTILINEOS HOLDINGS S.A. (CR)
BOLTH	THESSALONIKI PORT AUTHORITY S.A. (CR)
BOLYMP	TECHNICAL OLYMPIC S.A. (CR)
BOPAP	OPAP S.A. (CR)
BPPC	PPC S.A. (CR)
BPRO	PROTON BANK S.A. (CR)
BQUEST	Info-Quest S.A. (CR)
BROKKA	CH. ROKAS S.A. (CR)
BSAR	GR. SARANTIS S.A.(CR)
BSFA	SFAKIANAKIS S.A.(CR)
BSIDE	SIDENOR S.A. (FORMER ERLIKON) (CR)

BSOLK	CORINTH PIPEWORKS S.A. (CR)
BSPRDER	SPRIDER STORES S.A.
BTENERGY	TERNA ENERGY S.A.(CR)
BTERNA	TERNA S.A. (CR)
BTGEN	GENERAL BANK OF GREECE S.A. (CR)
BTITK	TITAN CEMENT COMPANY S.A. (CR)
BTPEIR	PIRAEUS BANK S.A. (CR)
BTT	GREEK POSTAL SAVINGS BANK (CR)
BVOVOS	BABIS VOVOS INTER/NAL TECHNICAL S.A. (CR)
BXAKO	HALKOR S.A (FORMER VECTOR) (CB)
BYGEIA	HYGEIA S.A (CR)

NOTE:

Caution must be exercised not to mistake Single Order-book Underlying Securities that begin with the letter 'B', as being part of the Block Order book (i.e., **BIOX**).

2.8 Revision List

Version	Date	Description
1.0	30-3-1999	Pre-release for review by vendors. The instrument tables have not been finalized.
1.1	31-3-1999	More detail in the explanation of bid/ask/price with examples for various instruments.
1.2	23-7-1999	Added CR-LF to message types.
1.3	21-9-1999	Added Bond / Athibor future instrument types
1.4	03-12-1999	Added: <ul style="list-style-type: none"> 1) BID / ASK VOLUMES to Option Summary(O) and Market Quote(Q) messages 2) New index FTASE Midcap-40 (FT40M)
1.5	01-01-2000	Added: <ul style="list-style-type: none"> 1) New Message Code 'G' (table 2.2) 2) On Signal Ready, the fields CLOSE, OPEN.IN reflect rates for the current date. 3) RESTART / CONTINUE functionality has been added

		beginning with this version.
1.6	30-05-2000	<p>Changes:</p> <ol style="list-style-type: none"> 1) Put a stop on Stock Lending / Borrowing related messages (both O and Q) from feed. 2) Now distributes <u>yesterday's</u> Settlement prices (instead of yesterday's Closing prices) for all instruments, except for options, on feed start up in the morning. For options, yesterday's indicative Closing prices are sent. 3) Now distributes <u>today's</u> Settlement prices (instead of today's Closing prices) for all instruments, except for options, on market Signal Ready. For options, today's indicative Closing prices are sent. NOTE: O/I may be adjusted during the evening run. This affects the timing of signal ready.
1.6a	15-09-2000	<p>Corrected error in number of decimals in strike price specification for index options. The correct representation should be without decimals in strike price.</p> <p>i.e.,</p> <p>Strike price representation:</p> <p>Index Options: Index Value (without decimals): e.g. 0005200 = 5200</p> <p>Corrected error in number of decimals in premium specification for index options. The correct representation should be with 2 decimals in premium price.</p> <p>i.e.,</p> <p>Premium price representation:</p> <p>Index Options: Premium price (with 2 decimals): e.g. 042500 = 425,00 GRD</p>
1.7	27-09-2000	<p>List of spec modifications related to the introduction of EURO:</p> <p>Price of underlying representation (optional):</p> <p>Stocks: Underlying value (with 2 decimals): e.g. 0003645 = 36, 45 EUR.</p> <p>Premium representation:</p> <p>Index Options: In index points (with 2 decimals): e.g., 008230 = 82,30</p> <p>Stock Options: Premium price (with 2 decimals): e.g. 000145 = 1, 45 EUR.</p>
1.8	22-03-2001	<p>Now, information about Stock Repo / Reverse Stock Repo markets is made available to Information Vendors through the feed.</p> <p>Instrument Types:</p> <p>'L' is used for Stock Repo and 'V' is used for Reverse Stock Repo.</p> <p>Updated: Underlying Security, Single Order book (paragraph 2.5)</p> <p>Updated: Underlying Security, Block Order book (paragraph 2.6)</p>

1.9	2-10-2001	Document update for Stock Futures.
2.0	5-8-2002	<p>Changed Market Quote (Q) Message structure in order to incorporate additional information (fields) for BBO level 5 prices, Decimals in Strike Price and Decimals in Premium.</p> <p>Added section on available Product Areas / Markets.</p> <p>Document update for the introduction of EUR/USD Currency Futures and EUR/USD Currency Options</p> <p>Updated: Underlying Security, Single Order book (paragraph 2.5)</p> <p>Updated: Underlying Security, Block Order book (paragraph 2.6)</p>
2.0b	16-01-2003	<p>Updated: Underlying Security, Single Order book (paragraph 2.5)</p> <p>Updated: Underlying Security, Block Order book (paragraph 2.6)</p>
2.1	1-7-2003	Document update for the introduction of DJ EURO STOXX 50 (DJ50E) Futures & Options.
2.2	8-10-2004	Document update for the introduction of Structured Derivatives
2.2.1	13-9-2005	Tables 2.5.3 & 2.6.3 updated
2.3.0	15-9-2008	<p>Modification: The “heartbeat” messages does not increment the message’s sequence number (see section 1.2)</p> <p>Modification: The retransmission of missed messages (see section 1.3)</p> <p>Modification: The communication protocol between Derivatives Vendor feed and Data vendors (see section 1.6)</p> <p>Delete: Sections 2.6.2 Currencies, 2.7.2 Currencies, 2.8 Structured Derivatives Issuers</p> <p>Update: Sections 2.6.1 Indices, 2.6.2 Securities , 2.7.1 Indices, 2.7.2 Securities</p>