Taipei Exchange (TPEx)

TPEx IP Feed Network Specifications

Information Department

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Version: 5.4i

Contents

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I. Preface

To improve the efficiency of the existing real-time market information transmission system, TPEx will provide better transaction data and market reporting services, and plans to design a “TPEx IP Feed Network” which will include information on bonds, emerging stocks, derivatives trading, and indices.

The trading system types related to real-time market information are as Follows:

Trading System Type:

1. Electronic Bond Trading System (EBTS)

   Computerized Price Negotiation System

   (1) Entities who may enter: Bond firms (who are licensed as a government bond dealer).

   (2) Transaction Object: Central government book-entry bonds.

   (3) Quote method: Yield.

   (4) Trading method: each bond firm trades and compares in the computerized price negotiation on the system.

   Quotes and Price Negotiation by Over the Counter

   (1) Entities who may enter: Bond firms (who are licensed as a securities dealer).

   (2) Transaction Object: various types of bonds.

   (3) Quote method: Based on the bond issuance terms at yield or per-hundred price.

   (4) Trading method: Each bond firm trades within over the counter with price self- negotiation.

2. Price Negotiation for Emerging Stocks and the Click Trading System

   (1) Entities who may enter: Securities brokers and securities firms.

   (2) Transaction Object: Emerging stocks.

   (3) Order method: Computer quotes and click orders.

   (4) Trading method: Each securities firm completes trading on the system.

3. TPEx Derivative Trading System

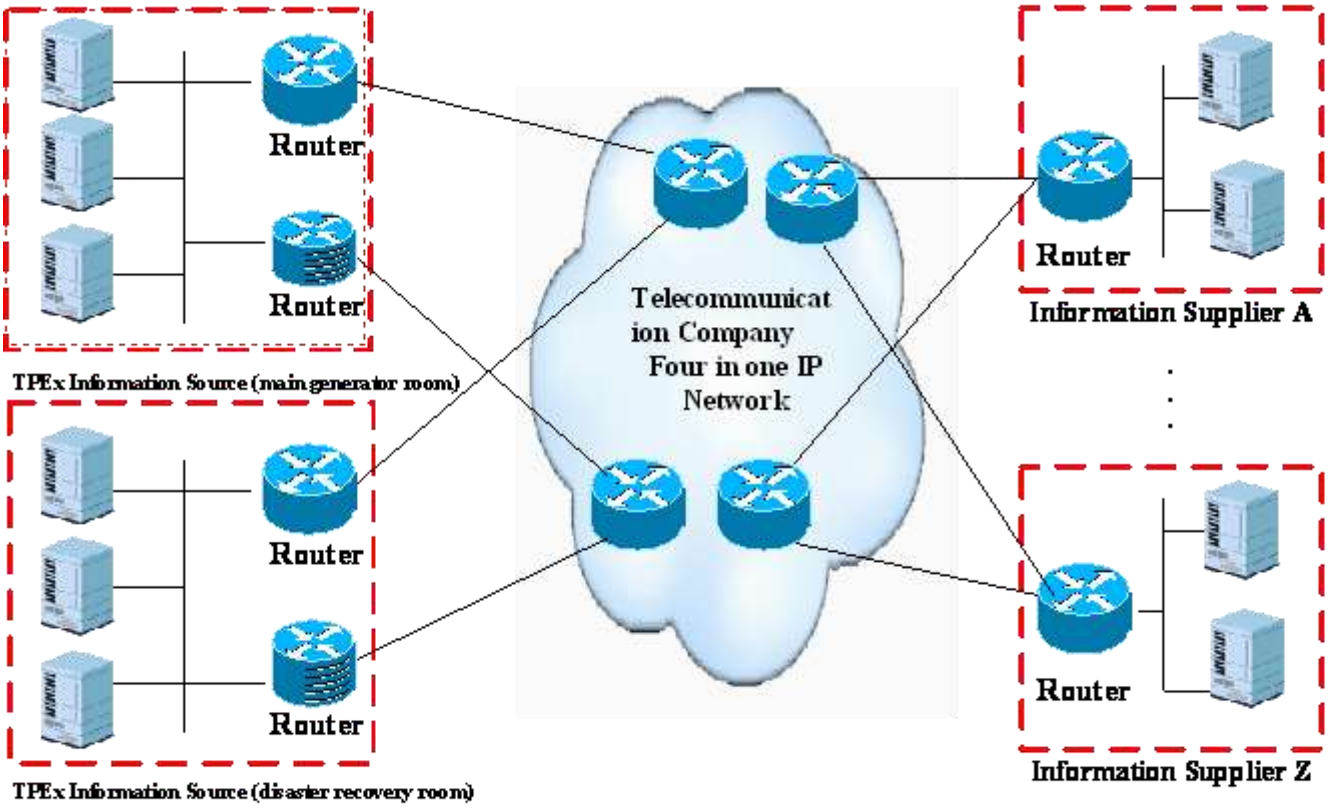
   (1) Entities who may enter: All trading firms.

   (2) Transaction Object: Products include bonds and interest rates.

   (3) Quote method: Based on interest rate or volatility rate of each contracted product.

   (4) Trading method: Each trading firm trades within the computerized price negotiation of this system.

II. Connection Structure



TPEx IP Feed Network

III. Description of Revision

1. Revision Functions (version 5.4)
   For the “Price Field Expansion Program”, the data format of the adjusted information is as below:
   1. Multicast data of emerging stocks - Format 1, Format 4, Format 5, Format 8, and Format 15.
   2. Specific file download - Code E01, E03, E04, E05, A01, A05, A07 A09, A11, and A13.
2. Considering the high increase of bandwidth demand followed by the implementation of Continuous trading, as of April 1, 2019 TPEx will stop multicasting market information of (TPEx) Main board stocks on its IP trading network (Multicast Group at 229.0.0.3 and 229.0.0.6).
3. Revision Functions (version 5.4a)
   Versions 5.4a and 5.3i have been simultaneously revised according to the new compiled TPEx 200 Index (these have different effective dates), the revised content remains the same as version 5.3i. Version 5.4a is scheduled to be launched on March 23, 2020.
4. Revision Functions (version 5.4b)
   In compliance with the event related suspension on the emerging stock, the identification (ID) codes for “Market Cooling Suspension of Trading”, “Suspension of Trading in the Event”, and “Resumption of Trading in the Event” have been added in the “note field” in Format 14 of the multicast data of emerging stocks. The program is scheduled to be launched on March 23, 2020.
5. Revision Functions (version 5.4c)
   In compliance with the TPEx trading of bonds multicast in Format 16 “Trading of Bonds Heartbeat Information Transmission”, emerging stocks multicast in Format 16 “Trading of Emerging Stocks Heartbeat Information Transmission”, derivatives market multicast in Format 16 “Trading of Derivatives Heartbeat Information Transmission”, and trading of index market multicast in Format 2 “Trading of Index Heartbeat Information Transmission” have been added, the host of the daily TPEx transmitter will send a multicast once every 30 seconds after it is turned on. Versions 5.4c and 5.3j have been simultaneously revised (these have different effective dates). Version 5.4c is scheduled to be launched on March 23, 2020.
6. Revision Functions (version 5.4d)
   In compliance with the “TPEx RGA Quality 50 Index” and “TPEx RGA Quality 50 Total Return Index” have been added, related information is as below:
   1. Format 1 of the index subsystem, the length of the format remains the same.
   2. For downloading specific files of A00 has been added. The program is scheduled to be launched on August 31, 2020.
7. Revision Functions (version 5.4e)
   In compliance with the “TPEx Semiconductor Leaders Total Return Index” have been added. Format 1 of the index subsystem, the length of the format remains the same. The program is scheduled to be launched on October 5, 2020.
8. Revision Functions (version 5.4f)
   In compliance with the “TPEx 200 Total Return Index Daily Return Leveraged 2X Index” have been added. Format 1 of the index subsystem, the length of the format remains the same. The program is scheduled to be launched on November 2, 2020.
9. Revision Functions (version 5.4g)
   For downloading specific files of A1, A5, A7, A9, A11, A13, A15 and A17, the base value field is filled in the zero. The program is scheduled to be launched on March 2, 2021.
10. Revision Functions (version 5.4h)
    In compliance with the “TPEx Online Game Industry Index” is going to be terminated of calculation and disseminated. The downloading specific files of A05 and A06 will be removed. The program is scheduled to be launched on January 3, 2022.
11. Revision Functions (version 5.4i)
    For downloading specific files of E05, the fields of “Increase the volume of quotations” and “blank” are redefined to the section of “Information on disposition stocks”. The program is scheduled to be launched on October 17, 2022.

Revision records:

Date	Version	Description
June 11, 2004	4.3	Newly added: “Specific File Transmission” function (see the first chapter of “Query”).
September 23, 2004	4.4	Adjusting the various field properties of bonds, emerging stocks, and the check mechanism “Operation Date” has been newly added.
January 20, 2005	4.5	Newly added: “The TPEx Control Message”.
April 26, 2005	4.6	Trading of foreign bonds has been added in the “Fixed Income Securities Trading System”, data files B02 and B03 have been revised.
September 28, 2005	4.7	1. Trading of international bonds multicast in Format 14 has been newly added. 2. Trading of Odd-Lots for (TPEx) Main board Stock in Format 13 has been newly added. 3. Data files for bond statistics B04-B07.
March 31, 2006	5.0	Newly added: Current price of derivatives transactions.
January 25, 2007	5.0a	Description of the adjustment for the industry category of emerging stocks (please see multicast Format 1 and Specific File E01 for details).
June 30, 2008	5.0b	Newly added: specific files for emerging stocks “E04: New Basic Data Files for Stocks”.
July 15, 2008	5.0c	Change of transmission format for (TPEx) Main board stocks. A new ID code has been added to the Security Group field in Transmission Format 1. Transmission Format 14, 15, and 16 have been newly added.
December 26, 2008	5.0d	The content in the transmission field of the trading of (TPEx) Main board stock in Format 1 has been revised according to the index of warrant products.
August 5, 2009	5.0e	The field description of Format 8 in Bonds “Securities Firm Codes” has been revised.
March 5, 2010	5.1	1. Trading Format 1 has been added in the newly compiled TPEx Indices. 2. Continuous trading of (TPEx) Main board warrants in Format 1 has been revised. Market price of (TPEx) Main board stock in Format 17 and 18 has been newly added. 3. Trading in Format 1 of secondary foreign stocks that were listed on TPEx has been revised. 4. Performance rates have been added in bond options, and trading of derivatives in Format 13 has been revised.
July 20, 2010	5.1a	In compliance with “the Frequency of the Best Statistics of Indices and Trading Orders is 15 Seconds” and “Trading and Orders Statistics Category”, the statistics categories in Format 2 and Format 4 have

		been newly added, and Formats 2, 3, and 4 have been revised with a sending frequency of 15 seconds.
March 8, 2011	5.1b	1. Specific file of Emerging stocks “E05: Taipei Exchange Operation Directions for the Announcement or Notice of Attention regarding Trading Information and Dispositions for Emerging Stocks”. 2. The notes in Formats 2, 3, 4, 5, 8, and 14 that state “quotes to 80 or more companies” have been adjusted to 70 companies.
March 22, 2011	5.2	1. The field of the “Corresponding Order of Stock Codes” in Formats 1, 6, 9, 10, 13, and 17 in (TPEx) Main board has been replaced with “Stock Codes”. 2. Format 6 of (TPEx) Main board has been adjusted. Matching calculation and data updating mechanisms for delayed closing prices have been added. 3. To respond to the Suspension of Market Trading/ Resumption of Trading Program, Format 19 of the (TPEx) Main board stocks “Information on Suspension/Resumption of Trading” has been added and Appendix 6 has been adjusted.
October 3, 2011	5.2a	1. An On-line game index has been added (Format 1 of the index subsystem, the length of the format remains the same). 2. For downloading specific files of A05 and A06.
November 1, 2011	5.2b	Format 1 in the (TPEx) Main board trading “Basic Information on (TPEx) Main Board Individual Stock” has been revised, adding fields including “Notes of Non-$10 Face Value”, “Notes regarding The Securities Unusually Recommended”, and “Notes regarding Specific Abnormal Securities”.
March 6, 2013	5.2c	In compliance with the issuance of international bonds issued in CNY, a description of trading content in the format has been added.
July 15, 2013	5.2d	1. Industrial categories of the “Cultural and Creative Industry” for emerging stocks have been newly added, adding a description of notes for Format 1, specific files E01 and E04. 2. Industrial categories regarding the “Cultural and Creative Industry” for (TPEx) Main board has been newly added. Multicast Format 3 has been revised, adding a “Cultural and Creative Industry” category index. 3. (October 22, 2013) The “Reference Price” field of emerging stocks multicast in Format 1 has been changed to sending “Average Prices from the Previous Day”.

January 20, 2014	5.2e	Data Formats 2, 3, 4, and 12 of (TPEx) Main board Stock have been adjusted with a transmission frequency of 10 seconds.
February 12, 2014	5.2f	1. A TPEx "High Dividend Yield Index" has been added (Format 1 of the index subsystem, the length of the format remains the same). 2. For downloading specific files of A07 and A08.
March 20, 2014	5.2g	Data Format 5 in emerging stocks has been revised, adding the "Transaction Price of Sale/Purchase" field.
April 23, 2014	5.2h	1. The TPEx "Labor Employment 88 Index" has been added (Format 1 of the index subsystem, the length of the format remains the same). 2. For downloading specific files of A09 and A10.
September 1, 2014	5.2i	1. A TPEx "Compensation Index" has been added (Format 1 of the index subsystem, the length of the format remains the same). 2. For downloading specific files of A11 and A12.
September 23, 2014	5.2j	1. Multicast Formats 13 and 14 have been added in emerging stocks. The format content of E4 has been adjusted (scheduled to launch on January 5, 2015). 2. Multicast Format 15 has been added in bonds. The format content of B02 has been adjusted (scheduled to launch on December 29, 2014).
January 20, 2014 (Launched on December 1)	5.2k	1. Adjustment of the trading of derivatives in Formats 1-6 (FRA and IRS products) 2. A specific file of D08 for download has been added, and the file formats of D04 and D05 have been adjusted.
December 4, 2014 (Launched on December 1)	5.2l	Data Formats 2, 3, 4, and 12 of (TPEx) Main Board Stocks have been adjusted with a transmission frequency of 5 seconds.
March 3, 2015 (Launched on June 29)	5.3	1. E6 "Net Worth of Open-end Funds from the Previous Day File" has been added. 2. Data Formats 6, 11, 17, and 18 of (TPEx) Main Board Stocks have been revised, adding disclosure of the calculation of trading volumes and trading prices at the opening and closing periods of the trading day and 5 trading volumes. Format 19 has also been revised, adding the definition of "Circuit Breaker".
June 3, 2015 (Launched on June 29)	5.3a	1. TPEx "Corporate Governance Index" has been added (Format 1 of the index subsystem, the length of the format remains the same). 2. For downloading specific files of A13 and A14.
July 20, 2015 (Launched on	5.3b	For the "Securities Abbreviation Bytes Expansion Program", Format 1 of the multicast data for

October 19)		emerging stocks has been revised. Format 6 for (TPEx) Main board stock, Format 17 for (TPEx) Main board stock, and the specific files E01, E04, E05, A01, A05, A07, A09, A11, and A13 for downloading have been amplified in the securities field to 16 bytes.
March 18, 2016 (Launched on August 15)	5.3c	Data Format 14 of emerging stocks has been newly added: Data on Intraday Suspension/Resumption.
June 2, 2016 (Launched on September 5)	5.3d	Industrial categories of "Agricultural and Technology Industry" for emerging stocks have been newly added (code: 33), adding Multicast Format 1 and a description of the notes for specific files E01 and E04.
February 18, 2017 (Launched on May 8)	5.3e	1. In order to compile other electronics categories and other category of indices, Format 3 of (TPEx) Main board stock has been adjusted. 2. In order to expand TPEx to compile indices sending individual numbers, the content descriptions of Format 12 of (TPEx) Main board stock and Format 1 of indices have been adjusted.
June 26, 2017 (Launched on September 25)	5.3f	Revised Format 12 of (TPEx) Main board stock: Newly Compiled TPEx Indices.
December 12, 2017 (Launched on March 12, 2018)	5.3g	Industrial categories of "Electronic Commerce" for emerging stocks have been newly added (code: 34). Multicast Format 1 and a description of the notes for specific files E01 and E04 have been added.
January 15, 2018 (Launched on May 21)	5.3h	1. Data Format 15 of emerging stocks has been newly added: The Best 5 Recommended Quotes for individual Stock Market Maker. 2. Data Format 5 in emerging stocks has been revised, adding fields including "Best Purchasing Quote at the Time of Transaction" and "Best Selling Quote at the Time of Transaction".
February 11, 2019 (Launched on March 27)	5.3i	1. TPEx "Compensation Index" has been added (Format 1 of the index subsystem, the length of the format remains the same). 2. For downloading specific files of A15, A16, A17, and A18.
October 7, 2019 (Launched on December 16, 2019)	5.3j	In order to enhance the service quality of the TPEx IP Feed Trading, trading of bonds multicast in Format 16 "Trading of Bonds Heartbeat Information Transmission", emerging stocks multicast in Format 16 "Trading of Emerging Stocks Heartbeat Information Transmission", derivatives market multicast in Format 16 "Trading of Derivatives

		Heartbeat Information Transmission", and trading of index markets multicast in Format 2 "Trading of Index Heartbeat Information Transmission" have been added.
January 8, 2019 (Launched on March 23, 2020)	5.4	1. For the "Price Field Expansion Program", Formats 1, 4, 5, 8, and 15 of the multicast data for emerging stocks have been revised, and the price fields of the specific files E01, E03, E04, E05, A01, A05, A07, A09, A11, and A13 for downloading have been expanded from 9(4)v9(2) to 9(5)v9(4). 2. TPEx will stop multicasting the market information of (TPEx) Main board stocks on its IP feed trading network (Multicast Group at 229.0.0.3 and 229.0.0.6).
February 11, 2019 (Launched on March 23, 2020)	5.4a	Versions 5.4a and 5.3i have been simultaneously revised according to the new compiled TPEx 200 Index (the two versions have different launching dates), however the revised content remains the same as version 5.3i.
August 8, 2019 (Launched on March 23, 2020)	5.4b	In compliance with the suspension of trading on the emerging stock message section, the identification (ID) codes for "Market Cooling Suspension of Trading", "Suspension of Trading in the Message Section", and "Resumption of Trading in the Message Section" have been added in the "note field" in Format 14 of the multicast data of emerging stocks.
October 7, 2019 (Launched on December 16, 2019)	5.4c	Versions 5.4c and 5.3j have been simultaneously revised according to the newly added message of Heartbeat on the TPEx IP feed market Network (these have different implementation dates), however the revised content remains the same as version 5.3j.
August 6, 2020 (Launched on August 31, 2020)	5.4d	1. "TPEx RGA Quality 50 Index" and "TPEx RGA Quality 50 Total Return Index" has been added (Format 1 of the index subsystem, the length of the format remains the same). 2. For downloading specific files of A00.
September 14, 2020 (Launched on October 5, 2020)	5.4e	"TPEx Semiconductor Leaders Total Return Index" has been added (Format 1 of the index subsystem, the length of the format remains the same).
September 28, 2020 (Launched on November 2, 2020)	5.4f	"TPEx 200 Total Return Index Daily Return Leveraged 2X Index" has been added (Format 1 of the index subsystem, the length of the format remains the same).

January 26, 2021 (Launched on March 2, 2021)	5.4g	For downloading specific files of A1, A5, A7, A9, A11, A13, A15 and A17, the base value field is filled in the zero. The length of the files remain the same.
November 23, 2022 (Launched on January 3, 2022)	5.4h	In compliance with the "TPEx Online Game Industry Index" is going to be terminated of calculation and disseminated. The downloading specific files of A05 and A06 will be removed.
July 14, 2022 (Scheduled to be launched on October 17, 2022)	5.4i	For downloading specific files of E05, the fields of "Increase the volume of quotations" and "blank" are redefined to the section of "Information on disposition stocks".

IV. Description/Data Formats of Bonds

System Name: "Electronic Bond Trading System (EBTS)" and "Fixed Income Securities Trading System"
File name: Format 1 (Reference Price)
Length of record: 24

Item name	Attribute	Length	Description	Note
ESC-CODE	X(01)	1	(ASCII 27)	
Multicast serial number	9(8)	4	PACK BCD	All formats for the daily bond system are mixed and compiled according to their transmission order (starting from 00000001)
Multicast time	9(6)	3	PACK BCD (HHMMSS)	Multicast time (HHMMSS)
Format code	X(02)	2	"01"	
Bond code	X(07)	7		
Closing Price of the Previous Day	9(4)V9(4)	4	PACK BCD Average yield in the final 5 minutes of the previous day (or per-hundred price)	
CHECK SUM	X(01)	1	The XOR value of each bit in all bytes from the 2nd Byte to the one preceding this field shall be recorded in this field	
TERMINAL-CODE	X(02)	2	(HEXACODE: 0D 0A)	

System Name: Electronic Bond Trading System (EBTS)
File name: Format 2 (Transaction Data on Electronic Bond Trading System (EBTS))
Length of record: 47

Item name	Attribute	Length	Description	Note
ESC-CODE	X(01)	1	(ASCII 27)	
Multicast serial number	9(8)	4	PACK BCD	All formats for the daily bond system are mixed and compiled according to their transmission order (starting from 00000001)
Multicast time	9(6)	3	PACK BCD (HHMMSS)	Multicast time (HHMMSS)
Format code	X(02)	2	"02"	
Bond code	X(07)	7		
Trading time	9(08)	4	PACK BCD (HHMMSSmm) 0 when deleting or revising	
Trading yield	9(4)V9(4)	4	PACK BCD Most recent trading yield 0 when deleting New revised value after revision	(Note 1.)
Per-hundred price	9(4)V9(4)	4	PACK BCD Most recent per-hundred price 0 when deleting New revised value after revision	
Duration	9(4)V9(4)	4	PACK BCD Duration (year) 0 when deleting New revised value after revision	
Accumulative Trading Volume	9(06)	3	PACK BCD Calculated based on the trading unit	The accumulated trading volume is updated after a deletion or revision
Accumulative Trading Amount	9(10)	5	PACK BCD Unit: 10 thousand	Ex-dividends price. The accumulated trading Amount is updated after a deletion or revision
Transaction serial	9(6)	3	PACK BCD	Trading record

number				number (compiled by TPEx), it is the original transaction serial number when deleting or revising.
CHECK SUM	X(01)	1	The XOR value of each bit in all bytes from the 2nd Byte to the one preceding this field shall be recorded in this field.	
TERMINAL-CODE	X(02)	2	(HEXACODE: 0D 0A)	

Note: 1. The transmitted content is the transaction information of the computerized price negotiation “Public Quotation (for 70 or more companies)”.

2. If they are exchangeable government bonds or international bonds, then “Trading Yield” is fixed 0 (does not mean to delete).

System Name: Electronic Bond Trading System (EBTS)
File name: Format 3 (Five-Minute Trading)
Length of record: 39

Item name	Attribute	Length	Description	Note
ESC-CODE	X(01)	1	(ASCII 27)	
Multicast serial number	9(8)	4	PACK BCD	All formats for the daily bond system are mixed and compiled according to their transmission order (starting from 00000001)
Multicast time	9(6)	3	PACK BCD (HHMMSS)	Multicast time (HHMMSS)
Format code	X(02)	2	"03"	
Bond code	X(07)	7		
Time	X(4)	4	HHMM	
Highest yield or per-hundred price	9(4)V9(4)	4	PACK BCD The highest yield or per-hundred price of the market day	Or per-hundred price
Lowest yield or per-hundred price	9(4)V9(4)	4	PACK BCD The lowest yield or per-hundred price of the market day	Or per-hundred price
Average yield or per-hundred price	9(4)V9(4)	4	PACK BCD Average yield or per-hundred price per 5 minutes	Only includes the average yield or per-hundred price per 5 minutes
Accumulative Trading Volume	9(06)	3	PACK BCD Calculated based on the trading unit	Only includes the accumulation within every 5 minutes
CHECK SUM	X(01)	1	T The XOR value of each bit in all bytes from the 2nd Byte to the one preceding this field shall be recorded in this field	
TERMINAL-CODE	X(02)	2	(HEXACODE: 0D 0A)	

Note: 1. The transmitted content is the transaction information per 5 minutes of the computerized price negotiation “Public Quotation (for 70 or more companies)”.

System Name: Electronic Bond Trading System (EBTS)
File name: Format 4 (Closing price)
Length of record: 78

Item name	Attribute	Length	Description	Note
ESC-CODE	X(01)	1	(ASCII 27)	
Multicast serial number	9(8)	4	PACK BCD	All formats for the daily bond system are mixed and compiled according to their transmission order (starting from 00000001)
Multicast time	9(6)	3	PACK BCD (HHMMSS)	Multicast time (HHMMSS)
Format code	X(02)	2	"04"	
Bond code	X(07)	7		
(Computerized price negotiation) Opening yield or per-hundred price	9(4)V9(4)	4	PACK BCD	9:05 average yield or per-hundred price
(Computerized price negotiation) The highest yield or per-hundred price	9(4)V9(4)	4	PACK BCD	Yield or per-hundred price
(Computerized price negotiation) The lowest yield or per-hundred price	9(4)V9(4)	4	PACK BCD	Yield or per-hundred price
(Computerized price negotiation) Closing yield or per-hundred price	9(4)V9(4)	4	PACK BCD	Average yield or per-hundred price in the final 5 minutes
(Computerized price negotiation) Average yield or per-hundred price	9(4)V9(4)	4	PACK BCD	Yield or per-hundred price
(Computerized price negotiation) Total Trading volume	9(06)	3	PACK BCD	Calculated based on the trading unit
(Computerized price negotiation) Total trading amount	9(10)	5	PACK BCD	Unit: 10 thousand
(Comparison transaction) The highest yield or per-hundred price	9(4)V9(4)	4	PACK BCD	Yield or per-hundred price
(Comparison transaction) The lowest yield or per-hundred price	9(4)V9(4)	4	PACK BCD	Yield or per-hundred price
(Comparison transaction)	9(4)V9(4)	4	PACK BCD	Yield or per-hundred

The average yield or per-hundred price				price
(Comparison transaction) Total trading volume	9(06)	3	PACK BCD	Calculated based on the trading unit
(Comparison transaction) Total trading amount	9(10)	5	PACK BCD	Unit: 10 thousand
(EBTS) Total trading volume	9(08)	4	PACK BCD	Computerized price negotiation + Comparison transaction
(EBTS) Total trading amount	9(12)	6	PACK BCD Computerized price negotiation + Comparison transaction	Unit: 10 thousand
CHECK SUM	X(01)	1	The XOR value of each bit in all bytes from the 2nd Byte to the one preceding this field shall be recorded in this field	
TERMINAL-CODE	X(02)	2	(HEXACODE: 0D 0A)	

Note: 1. 13:32 - 14:00 The transmitted content is the transaction information of the computerized price negotiation "Public Quotation (for 70 or more companies)".

2. 16:30 - 17:00 the transmission content includes all the transaction data of the day (including deleted and modified results).

System Name: Electronic Bond Trading System (EBTS)
File name: Format 5 (Overall Market Statistics) (Domestic Government Bonds, NTD)
Length of record: 39

Item name	Attribute	Length	Description	Note
ESC-CODE	X(01)	1	(ASCII 27)	
Multicast serial number	9(8)	4	PACK BCD	All formats for the daily bond system are mixed and compiled according to their transmission order (starting from 00000001)
Multicast time	9(6)	3	PACK BCD (HHMMSS)	Multicast time (HHMMSS)
Format code	X(02)	2	"05"	
(Computerized price negotiation) Total Trading volume	9(06)	3	PACK BCD	Calculated based on the trading unit
(Computerized price negotiation) Total trading amount	9(10)	5	PACK BCD	Unit: 10 thousand
(Comparison transaction) Total trading volume	9(06)	3	PACK BCD	Calculated based on the trading unit
(Comparison transaction) Total trading amount	9(10)	5	PACK BCD	Unit: 10 thousand
Total trading volume	9(08)	4	PACK BCD Computerized price negotiation + Comparison transaction	
Total trading amount	9(12)	6	PACK BCD Computerized price negotiation + Comparison transaction	Ex-dividend price Unit: 10 thousand
CHECK SUM	X(01)	1	The XOR value of each bit in all bytes from the 2nd Byte to the one preceding this field shall be recorded in this field	
TERMINAL-CODE	X(02)	2	(HEXACODE: 0D 0A)	

Note: 1. 09:05 - 13:31 the transmission content includes all the transaction data of the day (including deleted and modified results).

2. 13:32 - 14:00 The transmitted content is the transaction information of the computerized price negotiation “Public Quotation (for 70 or more companies)”.

3. 16:30 - 17:00 the transmission content includes all the transaction data of the day (including deleted and modified results).

System Name: “Electronic Bond Trading System (EBTS)” and “Fixed Income Securities Trading System”
File name: Format 6 (Announcement Information)
Length of record: 96

Item name	Attribute	Length	Description	Note
ESC-CODE	X(01)	1	(ASCII 27)	
Multicast serial number	9(8)	4		All formats for the daily bond system are mixed and compiled according to their transmission order (starting from 00000001)
Multicast time	9(6)	3	PACK BCD (HHMMSS)	Multicast time (HHMMSS)
Format code	X(02)	2	"06"	
Announcement main serial number (9999)	9(04)	2	PACK BCD, ex: '0001', '0002'	Starting from 0001
Announcement sub-serial number (99)	9(02)	1	PACK BCD ‘01’: Subject ‘02’-‘99’: Rest of the announcement contents	Starting from 01
Announcement by Category	X(02)	2	’01’ - trading starts ‘02’ - trading stops ‘03’ - trading resumed ‘04’ - trading terminated ‘05’ - bond firms ‘06’ - other ‘99’ - emergency announcement	
Bond codes	X(07)	7	Can be left as blank (ex: market announcement)	
Starting date of announcement	9(08)	4	PACK BCD	YYYYMMDD (western year) YYYYMMDD
End date of announcement	9(08)	4	PACK BCD	YYYYMMDD (western year) YYYYMMDD
Relevant announcement serial number	9(04)	2	PACK BCD	Relevant announcement main serial number
Announcement content	X(60)	60		
Notes to sub-serial number end	X(01)	1	‘1’: the last trading, ‘0’: not the last trading Announcement sub-serial number	
CHECK SUM	X(01)	1	The XOR value of each bit in all bytes from the	

			2nd Byte to the one preceding this field shall be recorded in this field	
TERMINAL-CODE	X(02)	2	(HEXACODE: 0D 0A)	

System Name: Electronic Bond Trading System (EBTS)
File name: Format 8 (Best 6 Quotes by Computerized Price Negotiation)
Length of record: 80

Item name	Attribute	Length	Description	Note
ESC-CODE	X(01)	1	(ASCII 27)	
Multicast serial number	9(8)	4	PACK BCD	All formats for the daily bond system are mixed and compiled according to their transmission order (starting from 00000001)
Multicast time	9(6)	3	PACK BCD (HHMMSS)	Multicast time (HHMMSS)
Format code	X(02)	2	"08"	
Bond code	X(07)	7		
Data generated time	9(08)	4	PACK BCD	HHMMSSmm
Quotation by Category	X(1)	1	R - reference price F - firm quote	
Type of trading (purchase or sale)	X(1)	1	B - purchasing S - selling	
Rank 1 Yield or per-hundred price	9(4)V9(4)	4	PACK BCD If there is no yield/per-hundred price, fill this out with zero	Indication of yield or per-hundred price
Volume	9(1)	1	(RESERVED)	
Securities firm code	X(4)	4	If the quote is a hidden quote, the field is 4 ‘X’	XXXX for hidden quotes
Rank 2 Yield or per-hundred price	9(4)V9(4)	4	PACK BCD If there is no yield/per-hundred price, fill this out with zero	Indication of yield or per-hundred price
Volume	9(1)	1	(RESERVED)	
Securities firm code	X(4)	4	If the quote is a hidden quote, the field is 4 ‘X’	XXXX for hidden quotes
Rank 3 Yield or per-hundred price	9(4)V9(4)	4	PACK BCD If there is no yield/per-hundred price, fill this out with zero	Indication of yield or per-hundred price
Volume	9(1)	1	(RESERVED)	
Securities firm code	X(4)	4	If the quote is a hidden quote, the field is 4 ‘X’	XXXX for hidden quotes
Rank 4 Yield or per-hundred price	9(4)V9(4)	4	PACK BCD If there is no yield/per-hundred price, fill this out with zero	Indication of yield or per-hundred price
Volume	9(1)	1	(RESERVED)	
Securities firm	X(4)	4	If the quote is a hidden	XXXX for hidden

code			quote, the field is 4 'X'	quotes
Rank 5 Yield or per-hundred price	9(4)V9(4)	4	PACK BCD If there is no yield/per-hundred price, fill this out with zero	Indication of yield or per-hundred price
Volume	9(1)	1	(RESERVED)	
Securities firm code	X(4)	4	If the quote is a hidden quote, the field is 4 'X'	XXXX for hidden quotes
Rank 6 Yield or per-hundred price	9(4)V9(4)	4	PACK BCD If there is no yield/per-hundred price, fill this out with zero	Indication of yield or per-hundred price
Volume	9(1)	1	(RESERVED)	
Securities firm code	X(4)	4	If the quote is a hidden quote, the field is 4 'X'	XXXX for hidden quotes
CHECK SUM	X(01)	1	The XOR value of each bit in all bytes from the 2nd Byte to the one preceding this field shall be recorded in this field	
TERMINAL-CODE	X(02)	2	(HEXACODE: 0D 0A)	

Note: 1. The transmitted content is the information of the computerized price negotiation "Public Quotation (for 70 or more companies)"

System Name: “Electronic Bond Trading System (EBTS)”
File name: Format 12 (Best 6 Quotes and Price Negotiation by Over the Counter)
Length of record: 79

Item name	Attribute	Length	Description	Note
ESC-CODE	X(01)	1	(ASCII 27)	
Multicast serial number	9(8)	4	PACK BCD	All formats for the daily bond system are mixed and compiled according to their transmission order (starting from 00000001)
Multicast time	9(6)	3	PACK BCD (HHMMSS)	Multicast time (HHMMSS)
Format code	X(02)	2	"12"	
Bond code	X(07)	7		
Data generated time	9(08)	4	PACK BCD	HHMMSSmm
Type of trading (purchase or sale)	X(1)	1	B - purchasing S - selling	
Rank 1 Price	9(4)V9(4)	4	PACK BCD	If there is no such price, fill in ‘0’
Price by Category	9(1)	1	‘0’- Trading yield ‘1’ - per-hundred price	
Securities firm code	X(4)	4		
Rank 2 Price	9(4)V9(4)	4	PACK BCD	If there is no such price, fill this out with zero
Price by Category	9(1)	1	‘0’ - Trading yield ‘1’ - per-hundred price	
Securities firm code	X(4)	4		
Rank 3 Price	9(4)V9(4)	4	PACK BCD	If there is no such price, fill in ‘0’
Price by Category	9(1)	1	‘0’ - Trading yield ‘1’ - per-hundred price	
Securities firm code	X(4)	4		
Rank 4 Price	9(4)V9(4)	4	PACK BCD	If there is no such price, fill in ‘0’
Price by Category	9(1)	1	‘0’ - Trading yield ‘1’ - per-hundred price	
Securities firm code	X(4)	4		
Rank 5 Price	9(4)V9(4)	4	PACK BCD	If there is no such price, fill in ‘0’
Price by Category	9(1)	1	‘0’ - Trading yield ‘1’ - per-hundred price	

Securities firm code	X(4)	4		
Rank 6 Price	9(4)V9(4)	4	PACK BCD	If there is no such price, fill in ‘0’
Price by Category	9(1)	1	‘0’ - Trading yield ‘1’ - per-hundred price	
Securities firm code	X(4)	4		
CHECK SUM	X(01)	1	The XOR value of each bit in all bytes from the 2nd Byte to the one preceding this field shall be recorded in this field	
TERMINAL-CODE	X(02)	2	(HEXACODE: 0D 0A)	

System Name: “Electronic Bond Trading System (EBTS)”
File name: Format 13 (Information on Government Bonds Benchmark (Index))
Length of record: 50

Item name	Attribute	Length	Description	Note
ESC-CODE	X(01)	1	(ASCII 27)	
Multicast serial number	9(8)	4	PACK BCD	All formats for the daily bond system are mixed and compiled according to their transmission order (starting from 00000001)
Multicast time	9(6)	3	PACK BCD (HHMMSS)	Multicast time (HHMMSS)
Format code	X(02)	2	"13"	
Calculation time	9(4)	2	PACK BCD HHMM	Before 09:00: 0000 After 09:00 (including): HHMM Close of the market (last trading): 9999 Clearing of the indices of the day: 9998 (see Note 5)
Price indices or benchmark (index) rate for previous business day	9(6)V9(2)/ 9(4)V9(4)	4	PACK BCD	Data of the previous business day (see Note 1)
Benchmark (index) code	X(2)	2		“01”: Ten Year Government Bond Benchmark “02”: Government Bond Indices
Price indices or benchmark (index) rate	9(6)V9(2)/ 9(4)V9(4)	4	PACK BCD	(see Note 1)
Accumulative Trading Volume	9(06)	3	PACK BCD (50 million per face value)	Accumulative value until the calculation time, see Note 3
Indicator(s) date	9(8)	4	PACK BCD (YYYYMMDD)	
Return index	9(6)V9(2)	4	PACK BCD	See Note 2
Return index of the previous business day	9(6)V9(2)	4	PACK BCD	Data of the previous business

				day See Note 2
RESERVED	X(10)	10	Reserved field	Reserved (fill in blank)
CHECK SUM	X(01)	1	The XOR value of each bit in all bytes from the 2nd Byte to the one preceding this field shall be recorded in this field	
TERMINAL-CODE	X(02)	2	(HEXACODE: 0D 0A)	

Note:

1. According to the benchmark (index) codes, the different meanings are as follows:
   (A) When the code shows "01", it means the average benchmark interest rate per 5 minutes, it only includes the average per 5 minutes with the attributes being 9(4)V9(4). (Before the market opens at 9:00 refers to the benchmark rate of the previous business day).
   (B) When the code shows "02", it means the "price index" of government bonds with the attributes being 9(6)V9(2).
2. When the benchmark index shows "01", the value of this field is 0.
3. When the benchmark index shows "02", the value of this field is 0.
4. After 16:10 every day, market files of government bonds benchmark(s) (DIDXRATE.DATA) of the day can be found at "After-market data download" (website: intd.gretai.org.tw). File formats are as follows. If there are any questions, please call Cheng-Mei, Wang, our special agent (number- 02-23666163).
5. The system completes clearing every day at 16:00. The latest data of government bonds (index code = "02") will be sent for the next business day. The calculation time is indicated as "9998".

File description	Government bonds benchmark (index) day trading file	File name	DIDXRATE.DATA	Length (bytes)	60
Serial number	Item name	Field code	Length	Type	Note
1	Calculation time	CAL-TIME	4	9(4)	Th notes and description same as format 13
2	Price indices or benchmark (index) rate for previous business day	PREV-INDEX-RATE	8	9(6)V9(2)/9(4)V9(4)	Th notes and description same as format 13
3	Benchmark (index) code	INDEX-CODE	2	X(2)	Th notes and description same as format 13
4	Price indices or benchmark (index) rate	INDEX-RATE	8	9(6)V9(2)/9(4)V9(4)	Th notes and description same as format 13

5	Accumulative Trading Volume	MATCH-COUNT	6	9(6)	Th notes and description same as format 13
6	Indicator(s) date	INDEX-DATE	8	9(8)	Th notes and description same as format 13
7	Return index	INDEX-A	8	9(6)V9(2)	Th notes and description same as format 13
8	Return index of the previous business day	PREV-INDEX-A	8	9(6)V9(2)	Th notes and description same as format 13
9	RESERVED	RESERVED	6	X(6)	Fill in blank
10	Line break symbol	TERMINAL-CODE	2	X(2)	0x0D + 0x0A

Note: 1. Type: 9: Digits X: Text and Numbers.

2. “First Trading” and “Last Trading” format is as follows:

Information on first trading: ZERO(50) + data date(8) + line break symbol(2)

Information on last trading: ZERO(52) + number of trading(6) + line break symbol(2)

System Name: Electronic Bond Trading System (EBTS)
File name: Format 14 Overall Market Statistics of International Bonds
Length of record: 41

Item name	Attribute	Length	Description	Note
ESC-CODE	X(01)	1	(ASCII 27)	
Multicast serial number	9(8)	4	PACK BCD	All formats for the daily bond system are mixed and compiled according to their transmission order (starting from 00000001)
Multicast time	9(6)	3	PACK BCD (HHMMSS)	Multicast time (HHMMSS)
Format code	X(02)	2	"14"	
Foreign Currency Type	X(02)	2		“08”: USD “09”: JPY “10”: EUR “11”: AUD “12”: CNY
(Computerized price negotiation) Total Trading volume	9(06)	3	PACK BCD	Calculated based on the trading unit
(Computerized price negotiation) Total trading amount	9(10)	5	PACK BCD	Unit: 10 thousand
(Comparison transaction) Total trading volume	9(06)	3	PACK BCD	Calculated based on the trading unit
(Comparison transaction) Total trading amount	9(10)	5	PACK BCD	Unit: 10 thousand
Total trading volume	9(08)	4	PACK BCD Computerized price negotiation + Comparison transaction	
Total trading amount	9(12)	6	PACK BCD Computerized price negotiation + Comparison transaction	Ex-dividend price Unit: 10 thousand
CHECK SUM	X(01)	1	The XOR value of each bit in all bytes from the 2nd Byte to the one preceding this field shall be recorded in this field	
TERMINAL-CODE	X(02)	2	(HEXACODE: 0D 0A)	

Note: 1. 09:05-13:31 the transmission content includes all the transaction data of the day (including deleted and modified results).

2. 3:32 - 14:00 The transmitted content is the transaction information of the computerized price negotiation “Public Quotation (for 70 or more companies)”.

3. 16:30 - 17:00 the transmission content includes all the transaction data of the day (including deleted and modified results).

System Name: Electronic Bond Trading System (EBTS)
File name: Format 15 (Overall Market Statistics) (Other Bonds, NTD)
Length of record: 39

Item name	Attribute	Length	Description	Note
ESC-CODE	X(01)	1	(ASCII 27)	
Multicast serial number	9(8)	4	PACK BCD	All formats for the daily bond system are mixed and compiled according to their transmission order (starting from 00000001)
Multicast time	9(6)	3	PACK BCD (HHMMSS)	Multicast time (HHMMSS)
Format code	X(02)	2	"15"	
(Computerized price negotiation) Total Trading volume	9(06)	3	PACK BCD	Calculated based on the trading unit
(Computerized price negotiation) Total trading amount	9(10)	5	PACK BCD	Unit: 10 thousand
(Comparison transaction) Total trading volume	9(06)	3	PACK BCD	Calculated based on the trading unit
(Comparison transaction) Total trading amount	9(10)	5	PACK BCD	Unit: 10 thousand
Total trading volume	9(08)	4	PACK BCD Computerized price negotiation + Comparison transaction	
Total trading amount	9(12)	6	PACK BCD Computerized price negotiation + Comparison transaction	Ex-dividend price Unit: 10 thousand
CHECK SUM	X(01)	1	The XOR value of each bit in all bytes from the 2nd Byte to the one preceding this field shall be recorded in this field	
TERMINAL-CODE	X(02)	2	(HEXACODE: 0D 0A)	

Note: 1. 09:05 - 13:31 the transmission content includes all the transaction data of the day (including deleted and modified results).

2. 13:32 - 14:00 The transmitted content is the transaction information of the computerized price negotiation “Public Quotation (for 70 or more companies)”.

3. 16:30 - 17:00 the transmission content includes all the transaction data of the day

(including deleted and modified results).

System Name: Electronic Bond Trading System (EBTS)
File name: Format 16 (Trading of Bonds “Heartbeat” Information Transmission)
Length of record: 17

Item name	Attribute	Length	Description	Note
ESC-CODE	X(01)	1	(ASCII 27)	
Multicast serial number	9(8)	4	PACK BCD	All formats for the daily bond system are mixed and compiled according to their transmission order (starting from 00000001)
Multicast time	9(6)	3	PACK BCD (HHMMSS)	Multicast time (HHMMSS)
Format code	X(02)	2	"16"	
Heartbeat time	9(6)	3	PACK BCD (HHMMSS)	Heartbeat time
Note	X(1)	1	Blank	
CHECK SUM	X(01)	1	The XOR value of each bit in all bytes from the 2nd Byte to the one preceding this field shall be recorded in this field	
TERMINAL-CODE	X(02)	2	(HEXACODE: 0D 0A)	

Note 1: The Heartbeat data is transmitted once every 30 seconds.

Note 2: “Heartbeat” allows companies to evaluate the transmission of their trading network. If Heartbeat data is interrupted during transmission, it might suggest that there is an irregularity with the connection or system. However, the transmission of other trading formats depends on the actual situation.

V. Description/Data Formats of Emerging Stocks

System Name: Real-Time Transaction Data Transmission of Emerging Stocks Computerized Price Negotiation Click System
File name: Format 1 total length: 73
Name: Basic Information on Stocks

Item name	Attribute	Length	Description	Note
ESC-CODE	X(1)	1	(ASCII 27)	
Multicast serial number	9(8)	4	PACK BCD	All formats for the daily emerging stocks are mixed and compiled according to their transmission order (starting from 00000001)
Multicast time	9(6)	3	PACK BCD (HHMMSS)	Multicast time (HHMMSS)
Format code	X(2)	2	"R1"	
Stock code	X(6)	6		
Chinese short name	X(16)	16		
English short name	X(16)	16		
Industry categories	X(2)	2	Note 2	
Stock volume	9(12)	6	PACK BCD	Issued shares: (unit: shares)
Average price of the previous day	9(5)v9(4)	5	PACK BCD	Weighted average price of the previous business day (dollar)
Index sampling notes	X(1)	1	Y: Index sampling notes N: Non-index sampling notes	
Trading status	X(1)	1	1. Trading starts 2. Stop of trading 3. Trading resumed 4. Trading terminated	
Occurrence date of status	9(8)	4	PACK BCD YYYYMMDD (western year)	Ex: August 28, 2001 as 20010828 The payment clearing date is on (the date shown in this field) and afterwards
Transmission serial number	9(6)	3	PACK BCD	
CHECK SUM	X(1)	1	The XOR value of each bit in all bytes from the 2nd Byte to the one preceding this field shall be recorded in this field	
TERMINAL-CODE	X(2)	2	(HEXACODE: 0D 0A)	

Note 1: The format is transmitted in 2 different times, which are:

(1) 17:01 - 17:30 transmitting basic data of changed emerging stocks.

(2) 08:30 - 08:59 transmitting all the basic data of emerging stocks.

Note 2: Code Table for Industry Categories

Code	Stocks by Category	Code	Stocks by Category	Code	Stocks by Category	Code	Stocks by Category
02	Food Industry	03	Plastic Industry	04	Textile fiber	05	Electrical Engineering & Machinery
06	Appliance and Cable	08	Glass & Ceramics	10	Steel & Iron Industry	11	Rubber Industry
14	Construction Material and Construction	15	Sea Transport Industry	16	Tourism Industry	17	Finance Industry
18	Wholesale & Retailing	20	Other	21	Chemical Industry	22	Biotechnology & Medical Care Industry
23	Oil, Gas and Electricity Industry	24	Semiconductor Industry	25	Computer & Peripheral Equipment Industry	26	Optoelectronic Industry
27	Communications and Internet Industry	28	Electronic Parts/ Components Industry	29	Electronic Products Distribution Industry	30	Information Service Industry
31	Other Electronic Industry	32	Cultural Innovation Industry	33	Agricultural Technology Industry	80	Stock Management
34	E-commerce						

Description: (the shadowed part is the change).

Note 3: The trading price of the previous day on the first day of emerging stocks listing is 0.

System Name: Real-Time Transaction Data Transmission of Emerging Stocks Computerized Price Negotiation Click System

File name: Format 4 total length: 71
Name: Information on Best Stock Quotes

Item name	Attribute	Length	Description	Note
ESC-CODE	X(1)	1	(ASCII 2)	
Multicast serial number	9(8)	4	PACK BCD	All formats for the daily emerging stocks are mixed and compiled according to their transmission order (starting from 00000001)
Multicast time	9(6)	3	PACK BCD (HHMMSS)	Multicast time (HHMMSS)
Format code	X(2)	2	"R4"	
Stock code	X(6)	6		
Data generated time	9(8)	4	PACK BCD (hour, minute, second, millisecond)	Ex: 09:03:20:30 Ex: 09032003
Price category	X(1)	1	B: Best purchasing quote S: Best selling quote	
Total number of securities firms	9(3)	3		If the total number of recommended securities firms under this price category exceeds 4 or more, the second piece of data will be transmitted.
Best price	9(5)v9(4)	5	PACK BCD	Ex: 123456789 is expressed as $12345.6789
Total volume	9(8)	4	PACK BCD (unit: shares)	Total volume under this best price
Recommended securities firm code	X(4)	4		
Volume	9(8)	4	PACK BCD (unit: shares)	Stocks recommended by securities firms under this price
Recommended securities firm code	X(4)	4		
Volume	9(8)	4	PACK BCD (unit: shares)	Number of recommended securities firms under this price
Recommended securities firm code	X(4)	4		
Volume	9(8)	4	PACK BCD (unit: shares)	Number of recommended

				securities firms under this price
Recommended securities firm code	X(4)	4		
Volume	9(8)	4	PACK BCD (unit: shares)	Number of recommended securities firms under this price
Transmission serial number	9(6)	3	PACK BCD	
CHECK SUM	X(1)	1	The XOR value of each bit in all bytes from the 2nd Byte to the one preceding this field shall be recorded in this field	
TERMINAL-CODE	X(2)	2	(HEXACODE: 0D 0A)	

System Name: Real-Time Transaction Data Transmission of Emerging Stocks Computerized Price Negotiation Click System
File name: Format 5 total length: 64
Name: Information on All Trading

Item name	Attribute	Length	Description	Note
ESC-CODE	X(1)	1	(ASCII 27)	
Multicast serial number	9(8)	4	PACK BCD	All formats for the daily emerging stocks are mixed and compiled according to their transmission order (starting from 00000001)
Multicast time	9(6)	3	PACK BCD (HHMMSS)	Multicast time (HHMMSS)
Format code	X(2)	2	"R5"	
Stock code	X(6)	6		
Trading return time	9(12)	6	PACK BCD 0 when deleting or revising at trading	Ex: AM09:03:20:30 is as 090320030000
*Transaction price	9(5)v9(4)	5	PACK BCD 0 when deleting at transaction	Ex: 123456789 is expressed as $12345.6789 (see Notes*)
Transaction price for purchase or sale type	X(1)	1	This transaction is for the investor (order) to buy (B) or sell (S)	Investor (order) purchasing: 'B' Investor (order) selling: "S" (This field remains the same when deleting or modifying at the original transaction purchase or sale price)
*Number of transactions	9(8)	4	PACK BCD	Margin (0) when deleting at transaction(Unit: shares) (see Notes*)
*Accumulative Trading Amount	9(12)	6	PACK BCD	(see Notes*)
*Accumulative Trading Volume	9(12)	6	PACK BCD	Unit: shares (see Notes*)
System transaction serial number	9(8)	4	PACK BCD Starting from 00000001	Original transaction serial number when deleting or revising at trading
Best purchasing quote at transaction	9(5)v9(4)	5	PACK BCD 0 when deleting, revising or when there	Ex: 123456789 is expressed as $12345.6789

			is no quotation at trading	
Best selling quote at transaction	9(5)v9(4)	5	PACK BCD 0 when deleting, revising or when there is no quotation at trading	Ex: 123456789 is expressed as $12345.6789
Transmission serial number	9(6)	3	PACK BCD	
CHECK SUM	X(1)	1	The XOR value of each bit in all bytes from the 2nd Byte to the one preceding this field shall be recorded in this field	
TERMINAL-CODE	X(2)	2	(HEXACODE: 0D 0A)	

Note*:

When deleting or revising a transaction, the result is determined after the deletion or revision of the transaction (new volume or new price).

System Name: Real-Time Transaction Data Transmission of Emerging Stocks Computerized Price Negotiation Click System
File name: Format 6 total length: 38
Name: Information on Market Order Statistics

Item name	Attribute	Length	Description	Note
ESC-CODE	X(1)	1	(ASCII 27)	
Multicast serial number	9(8)	4	PACK BCD (TWSE)	All formats for the daily emerging stocks are mixed and compiled according to their transmission order (starting from 00000001)
Multicast time	9(6)	3	PACK BCD (HHMMSS)	Multicast time (HHMMSS)
Format code	X(2)	2	"R6"	
Order statistics time	9(4)	2	PACK BCD	Ex: 1005 (HHMM)
Order of total purchasing volume	9(12)	6	PACK BCD	Unit: shares
Order of total selling volume	9(12)	6	PACK BCD	Unit: shares
Order of total purchasing record	9(8)	4	PACK BCD	
Order of total selling records	9(8)	4	PACK BCD	
Transmission serial number	9(6)	3	PACK BCD	
CHECK SUM	X(1)	1	The XOR value of each bit in all bytes from the 2nd Byte to the one preceding this field shall be recorded in this field	
TERMINAL-CODE	X(2)	2	(HEXACODE: 0D 0A)	

System Name: Real-Time Transaction Data Transmission of Emerging Stocks Computerized Price Negotiation Click System
File name: Format 7 total length: 42
Name: Market Transaction Statistics

Item name	Attribute	Length	Description	Note
ESC-CODE	X(1)	1	(ASCII 27)	
Multicast serial number	9(8)	4	PACK BCD	All formats for the daily emerging stocks are mixed and compiled according to their transmission order (starting from 00000001)
Multicast time	9(6)	3	PACK BCD (HHMMSS)	Multicast time (HHMMSS)
Format code	X(2)	2	"R7"	
Trading statistics time	9(4)	2	PACK BCD	Ex: PM1:20 Ex: 1320 (HHMM)
Total amount of trading	9(12)	6	PACK BCD (Total Market)	
Total volume of transaction	9(12)	6	PACK BCD (Total Market)	Unit: shares
Total record of trading	9(8)	4	PACK BCD (Total Market)	
Emerging Stocks Indices	9(8)	4	PACK BCD	9(6)v9(2)
Emerging stocks of the previous business day	9(8)	4	PACK BCD	9(6)v9(2)
Transmission serial number	9(6)	3	PACK BCD	
CHECK SUM	X(1)	1	The XOR value of each bit in all bytes from the 2nd Byte to the one preceding this field shall be recorded in this field	
TERMINAL-CODE	X(2)	2	(HEXACODE: 0D 0A)	

System Name: Real-Time Transaction Data Transmission of Emerging Stocks Computerized Price Negotiation Click System
File name: Format 8 total length: 56
Name: Individual Stock Trading Statistics

Item name	Attribute	Length	Description	Note
ESC-CODE	X(1)	1	(ASCII 27)	
Multicast serial number	9(8)	4	PACK BCD	All formats for the daily emerging stocks are mixed and compiled according to their transmission order (starting from 00000001)
Multicast time	9(6)	3	PACK BCD (HHMMSS)	Multicast time (HHMMSS)
Format code	X(2)	2	"R8"	
Stock code	X(6)	6		
Statistics Category	X(1)	1	1. Trading information of market hours 2: After-market information 3. RESERVED	
Trading statistics time	9(4)	2	PACK BCD	Ex: PM1:20 Ex: 1320 (HHMM)
Highest price	9(5)v9(4)	5	PACK BCD	Ex: 123456789 is expressed as $12345.6789
Lowest price	9(5)v9(4)	5	PACK BCD	Ex: 123456789 is expressed as $12345.6789
Average price of the day	9(5)v9(4)	5	PACK BCD	Ex: 123456789 is expressed as $12345.6789 It refers to the average price of all the transaction information in the Click System
Total amount of trading	9(12)	6	PACK BCD	
Total volume of transaction	9(12)	6	PACK BCD	Unit: shares
Total record of trading	9(8)	4	PACK BCD	
Transmission serial number	9(6)	3	PACK BCD	
CHECK SUM	X(1)	1	The XOR value of each bit in all bytes from the 2nd Byte to the one preceding this field shall be recorded in this field	

TERMINAL-CODE	X(2)	2	(HEXACODE: 0D 0A)	

System Name: Real-Time Transaction Data Transmission of Emerging Stocks Computerized Price Negotiation Click System
File name: Format 9 total length: 98
Name: Announcement Items

Item name	Attribute	Length	Description	Note
ESC-CODE	X(1)	1	(ASCII 27)	
Multicast serial number	9(8)	4	PACK BCD	All formats for the daily emerging stocks are mixed and compiled according to their transmission order (starting from 00000001)
Multicast time	9(6)	3	PACK BCD (HHMMSS)	Multicast time (HHMMSS)
Format code	X(2)	2	"R9"	
Announcement main serial number (9999)	9(4)	2	PACK BCD	Starting from 0001
Announcement sub-serial number (99)	9(2)	1	PACK BCD ‘01’: Announcement “02” - “09”: Rest of the content	Under the same announcement, if the content length exceeds 60 bytes or more, the announcement content will be segmented with different content serial numbers.
Announcement by category	X(2)	2	“1” - Trading starts “2” - Trading stops “3” - Trading resumed “04” - Trading terminated “05” - changes of recommended securities firms “06” - Other “99” - emergency announcement	(v2.0 newly added)
Stock code	X(6)	6	Can be left as blank (Ex: market announcement)	If the announcement content does not belong to any stock, the stock code will be presented by 6 blanks
Start date of announcement	9(8)	4	PACK BCD YYYYMMDD (western year)	(v2.0 newly added)
End date of announcement	9(8)	4	PACK BCD YYYYMMDD (western year)	(v2.0 newly added)

Relevant announcement serial number	9(4)	2	PACK BCD Relevant announcement main serial number	This sequence number is the announcement sequence number related to this announcement.
Announcement content	X(60)	60		
Notes to sub-serial number end	X(1)	1	‘1’: the last entry ‘0’: not the last entry	(v2.0 newly added)
Transmission serial number	9(6)	3	PACK BCD	
CHECK SUM	X(1)	1	The XOR value of each bit in all bytes from the 2nd Byte to the one preceding this field shall be recorded in this field	
TERMINAL-CODE	X(2)	2	(HEXACODE: 0D 0A)	

System Name: Real-Time Transaction Data Transmission of Emerging Stocks Computerized Price Negotiation Click System
File name: Format 12 total length: 40
Name: Information on Product Market Order Statistics

Item name	Attribute	Length	Description	Note
ESC-CODE	X(1)	1	(ASCII 27)	
Multicast serial number	9(8)	4	PACK BCD	All formats for the daily emerging stocks are mixed and compiled according to their transmission order (starting from 00000001)
Multicast time	9(6)	3	PACK BCD (HHMMSS)	Multicast time (HHMMSS)
Format code	X(2)	2	"RC"	
Order statistics time	9(4)	2	PACK BCD	Ex: 1005 (HHMM)
Products by category	X(2)	2		Please see File E04 Note 4: Code Table for Product Category for details
Order of total purchasing volume	9(12)	6	PACK BCD	Unit: the volume unit is varied according to product category. Ex: Emerging Stocks - shares Fund - Beneficiary Certificate Unit Gold - Trading Unit
Order of total selling volume	9(12)	6	PACK BCD	Unit: (Description as above)
Order of total purchasing record	9(8)	4	PACK BCD	
Order of total selling record	9(8)	4	PACK BCD	
Transmission serial number	9(6)	3	PACK BCD	
CHECK SUM	X(1)	1	The XOR value of each bit in all bytes from the 2nd Byte to the one preceding this field shall be recorded in this field	
TERMINAL-CODE	X(2)	2	(HEXACODE: 0D 0A)	

System Name: Real-Time Transaction Data Transmission of Emerging Stocks Computerized Price Negotiation Click System
File name: Format 13 total length: 45
Name: Product Market Transaction Statistics

Item name	Attribute	Length	Description	Note
ESC-CODE	X(1)	1	(ASCII 27)	
Multicast serial number	9(8)	4	PACK BCD	All formats for the daily emerging stocks are mixed and compiled according to their transmission order (starting from 00000001)
Multicast time	9(6)	3	PACK BCD (HHMMSS)	Multicast time (HHMMSS)
Format code	X(2)	2	"RD"	
Trading statistics time	9(4)	2	PACK BCD	Ex: PM1:20 Ex: 1320 (HHMM)
Product category	X(2)	2		Please see File E04 Note 4: Code Table for Product Category for details
Total amount of trading	9(14)	7	PACK BCD (Total Market)	
Total volume of transaction	9(12)	6	PACK BCD (Total Market)	Unit: the volume unit is varied according to product category. Ex: Emerging Stocks - shares Fund - Beneficiary Certificate Unit Gold - Trading Unit
Total record of trading	9(8)	4	PACK BCD (Total Market)	
Emerging stocks indices	9(8)	4	PACK BCD	9(6)v9(2)
Emerging stocks indices of the previous business day	9(8)	4	PACK BCD	9(6)v9(2)
Transmission serial number	9(6)	3	PACK BCD	
CHECK SUM	X(1)	1	The XOR value of each bit in all bytes from the 2nd Byte to the one preceding this field shall be recorded in this field	
TERMINAL-CODE	X(2)	2	(HEXACODE: 0D 0A)	

System Name: Real-Time Transaction Data Transmission of Emerging Stocks Computerized Price Negotiation Click System
File name: Format 14 total length: 26
Name: Suspension/Resumption of Trading of the Day

Item name	Attribute	Length	Description	Note
ESC-CODE	X(1)	1	(ASCII 27)	
Multicast serial number	9(8)	4	PACK BCD	All formats for the daily emerging stocks are mixed and compiled according to their transmission order (starting from 00000001)
Multicast time	9(6)	3	PACK BCD (HHMMSS)	Multicast time (HHMMSS)
Format code	X(2)	2	"RE"	
Stock code	X(6)	6		
Suspension of trading time	9(6)	3	PACK BCD (HHMMSS)	Suspension of trading time of the day
Trading resumption time	9(6)	3	PACK BCD (HHMMSS)	Trading resumption time of the day
Note	X(1)	1	C: Market cooling suspension of trading S: Suspension of trading in the Event R: Resumption of trading in the Event	
CHECK SUM	X(1)	1	The XOR value of each bit in all bytes from the 2nd Byte to the one preceding this field shall be recorded in this field	
TERMINAL-CODE	X(2)	2	(HEXACODE: 0D 0A)	

Note 1: When certain emerging stocks engaging in a transaction are suspended/resumed, this format will be transmitted immediately, after that, it is transmitted once every 10 minutes.
Note 2: If a individual stock during the market hours reaches the cooling standard, it will suspend the trading until the closing of the market. If the suspended time happens at the time of cooling, the resumed trading time is 999999. The ID code in the Note field is “C”.
Note 3: Suspension of trading in the event is for the whole day, with the suspension of trading time 090000, the resumption of trading time 999999 and ID code in the note field “S”.
Note 4: Resumption of trading in the event is the first day, with the resumption of trading time 090000, the resumption of trading time 090000, and ID code in the note field “R”.

System Name: Real-Time Transaction Data Transmission of Emerging Stocks Computerized Price Negotiation Click System
File name: Format 15 total length: 72
Name: The Best 5 Recommended Quotes for Individual Stock Market Maker

Item name	Attribute	Length	Description	Note
ESC-CODE	X(1)	1	(ASCII 27)	
Multicast serial number	9(8)	4	PACK BCD	All formats for the daily emerging stocks are mixed and compiled according to their transmission order (starting from 00000001)
Multicast time	9(6)	3	PACK BCD (HHMMSS)	Multicast time (HHMMSS)
Format code	X(2)	2	"RF"	
Stock code	X(6)	6		
Data generated time	9(8)	4	PACK BCD (hour, minute, second, millisecond)	Ex: AM09:03:20:30 is as 09032003 (HMSMILLISECOND)
Trading Type	X(1)	1	B: Purchasing Quote S: Selling Quote	
Rank 1 Price	9(5)v9(4)	5	PACK BCD	Ex: 123456789 is expressed as $12345.6789
Rank 1 Volume	9(8)	4	PACK BCD unit: shares	Fill this out with zero where there is no quote
Rank 2 Price	9(5)v9(4)	5	PACK BCD	Ex: 123456789 is expressed as $12345.6789
Rank 2 Volume	9(8)	4	PACK BCD unit: shares	Fill this out with zero where there is no quote
Rank 3 Price	9(5)v9(4)	5	PACK BCD	Ex: 123456789 is expressed as $12345.6789
Rank 3 Volume	9(8)	4	PACK BCD unit: shares	Fill this out with zero where there is no quote
Rank 4 Price	9(5)v9(4)	5	PACK BCD	Ex: 123456789 is expressed as $12345.6789
Rank 4 Volume	9(8)	4	PACK BCD unit: shares	Fill this out with zero where there is no quote
Rank 5 Price	9(5)v9(4)	5	PACK BCD	Ex: 123456789 is expressed as $12345.6789
Rank 5 Volume	9(8)	4	PACK BCD unit: shares	Fill this out with zero where there is no quote
Transmission serial number	9(6)	3	PACK BCD	
CHECK SUM	X(1)	1	The XOR value of each bit in all bytes from the 2nd Byte to the one preceding this field shall be recorded in this field	
TERMINAL-CODE	X(2)	2	(HEXACODE: 0D	

			0A)	

Note: If the field of both the price and volume of a certain transaction are both zero, it means there is no quotation. If there are 5 zeros for price and volume, it suggests the stock has no quotation for purchase or sale.

System Name: Real-Time Transaction Data Transmission of Emerging Stocks Computerized Price Negotiation Click System
File name: Format 16 total length: 17
Name: Trading of Emerging Stocks “Heartbeat” Information Transmission

Item name	Attribute	Length	Description	Note
ESC-CODE	X(1)	1	(ASCII 27)	
Multicast serial number	9(8)	4	PACK BCD	All formats for the daily emerging stocks are mixed and compiled according to their transmission order (starting from 00000001)
Multicast time	9(6)	3	PACK BCD (HHMMSS)	Multicast time (HHMMSS)
Format code	X(2)	2	"RG"	
Heartbeat time	9(6)	3	PACK BCD (HHMMSS)	Heartbeat time
Note	X(1)	1	Blank	
CHECK SUM	X(1)	1	The XOR value of each bit in all bytes from the 2nd Byte to the one preceding this field shall be recorded in this field	
TERMINAL-CODE	X(2)	2	(HEXACODE: 0D 0A)	

Note 1:The Heartbeat data is transmitted once every 30 seconds.

Note 2: “Heartbeat” allows companies to evaluate the transmission of their trading network. If Heartbeat data is interrupted during transmission, it might suggest that there is an irregularity with the connection or system. However, the transmission of other trading formats depends on the actual situation.

VI. Description/Data Formats of Derivatives

System Name: TPEx Derivative Trading System
File name: Format 1 (Best 6 Quotes for the Forward Rate Agreement (FRA))
Length of record: 76

Item name	Attribute	Length	Description	Note
ESC-CODE	X(1)	1	(ASCII 27)	
Multicast serial number	9(8)	4	PACK BCD	All formats for the daily derivative system are mixed and compiled according to their transmission order (starting from 00000001)
Multicast time	9(6)	3	PACK BCD (HHMMSS)	Multicast time (HHMMSS)
Format code	X(2)	2	"D1"	
Product Type	X(1)	1	“1”: Forward Rate Agreement (FRA)	
Interest rate benchmark	X(15)	15	Linked floating rate benchmark	Ex: TAIBIR, TAIBIR 02
Contract form 1	X(2)	2	Starting date Unit: month	Ex: January, February, March, June, September
Contract form 2	X(2)	2	Maturity Unit: month	Ex: April, May, June, September, December
Trading Type	X(1)	1	B - purchasing S - selling	
Rank 1 Interest Rate Quotation	9(4)V9(4)	4	PACK BCD If there is no interest rate quotation, fill this out with zero	
Rank 1 Volume	9(6)	3		
Rank 2 Interest Rate Quotation	9(4)V9(4)	4	PACK BCD If there is no interest rate quotation, fill this out with zero	
Rank 2 Volume	9(6)	3		
Rank 3 Interest Rate Quotation	9(4)V9(4)	4	PACK BCD If there is no interest rate quotation, fill this out with zero	
Rank 3 Volume	9(6)	3		
Rank 4 Interest Rate Quotation	9(4)V9(4)	4	PACK BCD If there is no interest rate quotation, fill this	

			out with zero	
Rank 4 Volume	9(6)	3		
Rank 5 Interest Rate Quotation	9(4)V9(4)	4	PACK BCD If there is no interest rate quotation, fill this out with zero	
Rank 5 Volume	9(6)	3		
Rank 6 Interest Rate Quotation	9(4)V9(4)	4	PACK BCD If there is no interest rate quotation, fill this out with zero	
Rank 6 Volume	9(6)	3		
CHECK SUM	X(1)	1	The XOR value of each bit in all bytes from the 2nd Byte to the one preceding this field shall be recorded in this field	
TERMINAL-CODE	X(2)	2	(HEXACODE: 0D 0A)	

System Name: TPEx Derivative Trading System
File name: Format 2 (Transaction Data on the Forward Rate Agreement (FRA))
Length of record: 51

Item name	Attribute	Length	Description	Note
ESC-CODE	X(1)	1	(ASCII 27)	
Multicast serial number	9(8)	4	PACK BCD	All formats for the daily derivative system are mixed and compiled according to their transmission order (starting from 00000001)
Multicast time	9(6)	3	PACK BCD (HHMMSS)	Multicast time (HHMMSS)
Format code	X(2)	2	"D2"	
Product Type	X(1)	1	"1": Forward Rate Agreement (FRA)	
Interest rate benchmark	X(15)	15	Linked floating rate benchmark	Ex: TAIBIR, TAIBIR 02
Contract form 1	X(2)	2	Starting date Unit: month	Ex: January, February, March, June, September
Contract form 2	X(2)	2	Maturity Unit: month	Ex: April, May, June, September, December
Trading time	9(8)	4	PACK BCD (HHMMSSmm) 0 when deleting or revising	
Transaction rate	9(4)V9(4)	4	PACK BCD 0 when deleting New revised value when revised	
Accumulative record of transactions	9(6)	3	PACK BCD Calculated based on the trading unit	The accumulative record of transactions is updated after a deletion or revision.
Accumulative trading amount	9(6)V9(2)	4	PACK BCD Unit: billion	The accumulative trading amount is updated after a deletion or revision.
Transaction serial number	9(6)	3	PACK BCD	Trading record number (compiled by

				TPEx), it is the original transaction serial number when deleting or revising
CHECK SUM	X(1)	1	The XOR value of each bit in all bytes from the 2nd Byte to the one preceding this field shall be recorded in this field	
TERMINAL-CODE	X(2)	2	(HEXACODE: 0D 0A)	

System Name: TPEx Derivative Trading System
File name: Format 3 (Closing Price for the Forward Rate Agreement (FRA))
Length of record: 60

Item name	Attribute	Length	Description	Note
ESC-CODE	X(1)	1	(ASCII 27)	
Multicast serial number	9(8)	4	PACK BCD	Formats of daily derivatives are mixed and compiled according to their transmission order (starting from 00000001)
Multicast time	9(6)	3	PACK BCD (HHMMSS)	Multicast time (HHMMSS)
Format code	X(2)	2	"D3"	
Product Type	X(1)	1	“1”: Forward Rate Agreement (FRA)	
Interest rate benchmark	X(15)	15	Linked floating rate benchmark	Ex: TAIBIR, TAIBIR 02
Contract form 1	X(2)	2	Starting date Unit: month	Ex: January, February, March, June, September
Contract form 2	X(2)	2	Maturity Unit: month	Ex: April, May, June, September, December
Market opening transaction rate	9(4)V9(4)	4	PACK BCD	First transaction rate
Highest transaction rate	9(4)V9(4)	4	PACK BCD	
Lowest transaction rate	9(4)V9(4)	4	PACK BCD	
Closing Transaction Rate	9(4)V9(4)	4	PACK BCD	Last transaction rate
Average transaction rate	9(4)V9(4)	4	PACK BCD	
Total number of transactions	9(6)	3	PACK BCD	Calculated based on the trading unit
Total trading amount	9(6)V9(2)	4	PACK BCD Unit: billion	
CHECK SUM	X(1)	1	The XOR value of each bit in all bytes from the 2nd Byte to the one preceding this field shall be recorded in this field	
TERMINAL-CODE	X(2)	2	(HEXACODE: 0D 0A)	

Note: The contract is only transmitted on the day of the transaction

System Name: TPEx Derivative Trading System
File name: Format 4 (Best 6 Quotes for Interest Rate Swap (IRS))
Length of record: 76

Item name	Attribute	Length	Description	Note
ESC-CODE	X(1)	1	(ASCII 27)	
Multicast serial number	9(8)	4	PACK BCD	All formats for the daily derivative system are mixed and compiled according to their transmission order (starting from 00000001)
Multicast time	9(6)	3	PACK BCD (HHMMSS)	Multicast time (HHMMSS)
Format code	X(2)	2	"D4"	
Product Type	X(1)	1	“2”: Interest Rate Swap	
Interest rate benchmark	X(15)	15	Linked floating rate benchmark	Ex: TAIBIR, TAIBIR 02
Contract form	X(2)	2	Year Unit: year	Ex: 1, 2, 3, 4, 5, 7, 10, 15, 20
Notional principal (Trading unit)	X(2)	2	Unit: billion	Ex: 3, 5
Trading Type	X(1)	1	B - purchasing S - selling	
Rank 1 Interest Rate Quotation	9(4)V9(4)	4	PACK BCD If there is no interest rate quotation, fill this out with zero	
Rank 1 Volume	9(6)	3		
Rank 2 Interest Rate Quotation	9(4)V9(4)	4	PACK BCD If there is no interest rate quotation, fill this out with zero	
Rank 2 Volume	9(6)	3		
Rank 3 Interest Rate Quotation	9(4)V9(4)	4	PACK BCD If there is no interest rate quotation, fill this out with zero	
Rank 3 Volume	9(6)	3		
Rank 4 Interest Rate Quotation	9(4)V9(4)	4	PACK BCD If there is no interest rate quotation, fill this out with zero	
Rank 4 Volume	9(6)	3		
Rank 5 Interest Rate Quotation	9(4)V9(4)	4	PACK BCD If there is no interest rate quotation, fill this	

			out with zero	
Rank 5 Volume	9(6)	3		
Rank 6 Interest Rate Quotation	9(4)V9(4)	4	PACK BCD If there is no interest rate quotation, fill this out with zero	
Rank 6 Volume	9(6)	3		
CHECK SUM	X(1)	1	The XOR value of each bit in all bytes from the 2nd Byte to the one preceding this field shall be recorded in this field	
TERMINAL-CODE	X(2)	2	(HEXACODE: 0D 0A)	

System Name: TPEx Derivative Trading System
File name: Format 5 (Transaction Data on Interest Rate Swap (IRS))
Length of record: 51

Item name	Attribute	Length	Description	Note
ESC-CODE	X(1)	1	(ASCII 27)	
Multicast serial number	9(8)	4	PACK BCD	All formats for the daily derivative system are mixed and compiled according to their transmission order (starting from 00000001)
Multicast time	9(6)	3	PACK BCD (HHMMSS)	Multicast time (HHMMSS)
Format code	X(2)	2	"D5"	
Product Type	X(1)	1	“2”: Interest Rate Swap	
Interest rate benchmark	X(15)	15	Linked floating rate benchmark	Ex: TAIBIR, TAIBIR 02
Contract form	X(2)	2	Year Unit: year	Ex: 1, 2, 3, 4, 5, 7, 10, 15, 20
Notional amount (Trading unit)	X(2)	2	Unit: billion	Ex: 3, 5
Trading time	9(8)	4	PACK BCD (HHMMSSmm) 0 when deleting or revising	
Transaction rate	9(4)V9(4)	4	PACK BCD 0 when deleting New revised value when revised	
Accumulative record of transactions	9(6)	3	PACK BCD Calculated based on the trading unit	The accumulative number of transactions is updated after a deletion or revision
Accumulative trading amount	9(6)V9(2)	4	PACK BCD Unit: billion	The accumulative trading amount is updated after a deletion or revision
Transaction serial number	9(6)	3	PACK BCD	Trading record number (compiled by TPEx), it is the original transaction serial number when deleting or revising
CHECK SUM	X(1)	1	The XOR value of each bit in all bytes from the 2nd Byte to the one preceding this field shall be recorded in this field	
TERMINAL-CODE	X(2)	2	(HEXACODE: 0D 0A)	

System Name: TPEx Derivative Trading System
File name: Format 6 (Closing Price for Interest Rate Swap (IRS))
Length of record: 60

Item name	Attribute	Length	Description	Note
ESC-CODE	X(1)	1	(ASCII 27)	
Multicast serial number	9(8)	4	PACK BCD	Formats of daily derivatives are mixed and compiled according to their transmission order (starting from 00000001)
Multicast time	9(6)	3	PACK BCD (HHMMSS)	Multicast time (HHMMSS)
Format code	X(2)	2	"D6"	
Product Type	X(1)	1	“2”: Interest Rate Swap	
Interest rate benchmark	X(15)	15	Linked floating rate benchmark	Ex: TAIBIR, TAIBIR 02
Contract form	X(2)	2	Year Unit: year	Ex: 1, 2, 3, 4, 5, 7, 10, 15, 20
Notional amount (Trading unit)	X(2)	2	Unit: billion	Ex: 3, 5
Market opening transaction rate	9(4)V9(4)	4	PACK BCD	First transaction rate
Highest transaction rate	9(4)V9(4)	4	PACK BCD	
Lowest transaction rate	9(4)V9(4)	4	PACK BCD	
Closing Transaction Rate	9(4)V9(4)	4	PACK BCD	Last transaction rate
Average transaction rate	9(4)V9(4)	4	PACK BCD	
Total number of transactions	9(6)	3	PACK BCD	Calculated based on the trading unit
Total trading amount	9(6)v9(2)	4	PACK BCD Unit: billion	
CHECK SUM	X(1)	1	The XOR value of each bit in all bytes from the 2nd Byte to the one preceding this field shall be recorded in this field	
TERMINAL-CODE	X(2)	2	(HEXACODE: 0D 0A)	

Note: The contract is only transmitted on the day of the transaction

System Name: TPEx Derivative Trading System
File name: Format 7 (Best 6 Quotes for Bond Forward)
Length of record: 65

Item name	Attribute	Length	Description	Note
ESC-CODE	X(1)	1	(ASCII 27)	
Multicast serial number	9(8)	4	PACK BCD	All formats for the daily derivative system are mixed and compiled according to their transmission order (starting from 00000001)
Multicast time	9(6)	3	PACK BCD (HHMMSS)	Multicast time (HHMMSS)
Format code	X(2)	2	"D7"	
Product type	X(1)	1	“3”: bond forward	
Bond codes	X(7)	7		
Contract form	X(1)	1	Period Unit: week	Ex: 1, 2, 3, 4
Trading type	X(1)	1	B - purchasing S - selling	
Rank 1 interest rate quotation	9(4)V9(4)	4	PACK BCD If there is no interest rate quotation, fill this out with zero	
Rank 1 volume	9(6)	3		
Rank 2 interest rate quotation	9(4)V9(4)	4	PACK BCD If there is no interest rate quotation, fill this out with zero	
Rank 2 volume	9(6)	3		
Rank 3 interest rate quotation	9(4)V9(4)	4	PACK BCD If there is no interest rate quotation, fill this out with zero	
Rank 3 volume	9(6)	3		
Rank 4 interest rate quotation	9(4)V9(4)	4	PACK BCD If there is no interest rate quotation, fill this out with zero	
Rank 4 volume	9(6)	3		
Rank 5 interest rate quotation	9(4)V9(4)	4	PACK BCD If there is no interest	

			rate quotation, fill this out with zero	
Rank 5 volume	9(6)	3		
Rank 6 interest rate quotation	9(4)V9(4)	4	PACK BCD If there is no interest rate quotation, fill this out with zero	
Rank 6 volume	9(6)	3		
CHECK SUM	X(1)	1	The XOR value of each bit in all bytes from the 2nd Byte to the one preceding this field shall be recorded in this field	
TERMINAL-CODE	X(2)	2	(HEXACODE: 0D 0A)	

System Name: TPEx Derivative Trading System
File name: Format 8 (Transaction Data on Bond Forward)
Length of record: 40

Item name	Attribute	Length	Description	Note
ESC-CODE	X(1)	1	(ASCII 27)	
Multicast serial number	9(8)	4	PACK BCD	All formats for the daily derivative system are mixed and compiled according to their transmission order (starting from 00000001)
Multicast time	9(6)	3	PACK BCD (HHMMSS)	Multicast time (HHMMSS)
Format code	X(2)	2	"D8"	
Product Type	X(1)	1	“3”: bond forward	
Bond codes	X(7)	7		
Contract form	X(1)	1	Period Unit: week	Ex: 1, 2, 3, 4
Trading time	9(8)	4	PACK BCD (HHMMSSmm) 0 when deleting or revising	
Transaction rate	9(4)V9(4)	4	PACK BCD 0 when deleting New revised value when revised	
Accumulative record of transactions	9(6)	3	PACK BCD Calculated based on the trading unit	The accumulative number of transactions is updated after a deletion or revision
Accumulative trading amount	9(6)V9(2)	4	PACK BCD Unit: billion	The accumulative trading amount is updated after a deletion or revision
Transaction serial number	9(6)	3	PACK BCD	Trading record number (compiled by TPEx), it is the original transaction serial number when deleting or revising
CHECK SUM	X(1)	1	The XOR value of each bit in all bytes from the 2nd Byte to the one preceding this field shall be recorded in this field	
TERMINAL-CODE	X(2)	2	(HEXACODE: 0D 0A)	

System Name: TPEx Derivative Trading System
File name: Format 9 (Closing Price for Bond Forward)
Length of record: 49

Item name	Attribute	Length	Description	Note
ESC-CODE	X(1)	1	(ASCII 27)	
Multicast serial number	9(8)	4	PACK BCD	Formats of daily derivatives are mixed and compiled according to their transmission order (starting from 00000001)
Multicast time	9(6)	3	PACK BCD (HHMMSS)	Multicast time (HHMMSS)
Format code	X(2)	2	"D9"	
Product Type	X(1)	1	“3”: Bond Forward	
Bond codes	X(7)	7		
Contract form	X(1)	1	Period Unit: week	Ex: 1, 2, 3, 4
Market opening transaction rate	9(4)V9(4)	4	PACK BCD	First transaction rate
Highest transaction rate	9(4)V9(4)	4	PACK BCD	
Lowest transaction rate	9(4)V9(4)	4	PACK BCD	
Closing transaction rate	9(4)V9(4)	4	PACK BCD	Last transaction rate
Average transaction rate	9(4)V9(4)	4	PACK BCD	
Total record of transactions	9(6)	3	PACK BCD	Calculated based on the trading unit
Total trading amount	9(6)V9(2)	4	PACK BCD Unit: billion	
CHECK SUM	X(1)	1	The XOR value of each bit in all bytes from the 2nd Byte to the one preceding this field shall be recorded in this field	
TERMINAL-CODE	X(2)	2	(HEXACODE: 0D 0A)	

Note: The contract is only transmitted on the day of the transaction.

System Name: TPEx Derivative Trading System
File name: Format 10 (Best 6 Quotes for Bond Option)
Length of record: 73

Item name	Attribute	Length	Description	Note
ESC-CODE	X(1)	1	(ASCII 27)	
Multicast serial number	9(8)	4	PACK BCD	All formats for the daily derivative system are mixed and compiled according to their transmission order (starting from 00000001)
Multicast time	9(6)	3	PACK BCD (HHMMSS)	Multicast time (HHMMSS)
Format code	X(2)	2	"DA"	
Product Type	X(1)	1	“4”: Bond Option	
Bond codes	X(7)	7		
Option type	X(1)	1	C- CALL P- PUT	
Contract form	X(1)	1	Period Unit: week	1: Express 1 Week 2: Express 2 Week 3: Express 3 Week 4: Express 4 Week Other values are defined additionally
Performance rate code	X(3)	3	K1 - K??	
Performance rate	9(4)v9(4)	4	PACK BCD	
Trading type	X(1)	1	B - purchasing S - selling	
Rank 1 volatility rate quotation	9(4)V9(4)	4	PACK BCD If there is no volatility rate quotation, fill this out with zero	
Rank 1 volume	9(6)	3		
Rank 2 volatility rate quotation	9(4)V9(4)	4	PACK BCD If there is no volatility rate quotation, fill this out with zero	
Rank 2 volume	9(6)	3		
Rank 3 volatility rate quotation	9(4)V9(4)	4	PACK BCD If there is no volatility rate quotation, fill this out with zero	
Rank 3 volume	9(6)	3		
Rank 4 volatility	9(4)V9(4)	4	PACK BCD	

rate quotation			If there is no volatility rate quotation, fill this out with zero	
Rank 4 volume	9(6)	3		
Rank 5 volatility rate quotation	9(4)V9(4)	4	PACK BCD If there is no volatility rate quotation, fill this out with zero	
Rank 5 volume	9(6)	3		
Rank 6 volatility rate quotation	9(4)V9(4)	4	PACK BCD If there is no volatility rate quotation, fill this out with zero	
Rank 6 volume	9(6)	3		
CHECK SUM	X(1)	1	The XOR value of each bit in all bytes from the 2nd Byte to the one preceding this field shall be recorded in this field	
TERMINAL-CODE	X(2)	2	(HEXACODE: 0D 0A)	

System Name: TPEx Derivative Trading System
File name: Format 11 (Transaction Data for Bond Option)
Length of record: 45

Item name	Attribute	Length	Description	Note
ESC-CODE	X(1)	1	(ASCII 27)	
Multicast serial number	9(8)	4	PACK BCD	All formats for the daily derivative system are mixed and compiled according to their transmission order (starting from 00000001)
Multicast time	9(6)	3	PACK BCD (HHMMSS)	Multicast time (HHMMSS)
Format code	X(2)	2	"DB"	
Product Type	X(1)	1	“4”: Bond Option	
Bond codes	X(7)	7		
Option type	X(1)	1	C- CALL P- PUT	
Contract form	X(1)	1	Period Unit: week	1: Express 1 Week 2: Express 2 Week 3: Express 3 Week 4: Express 4 Week Other values are defined additionally
Performance rate code	X(3)	3	K1 - K??	
Performance rate	9(4)V 9(4)	4	PACK BCD	
Trading time	9(8)	4	PACK BCD (HHMMSSmm) 0 when deleting or revising	
Transaction volatility rate	9(4)V 9(4)	4	PACK BCD 0 when deleting New revised value when revised	
Accumulative Notional Amount	9(6)V 9(2)	4	PACK BCD Unit: billion	The accumulative notional principal amount is updated after a deletion or revision
Transaction serial number	9(6)	3	PACK BCD	Trading record number (compiled by TPEx), it is the original transaction serial number when deleting or revising
CHECK SUM	X(1)	1	The XOR value of each bit in all bytes from the 2nd Byte to the one preceding this field shall be recorded in this field	

TERMINAL-CODE	X(2)	2	(HEXACODE: 0D 0A)	

System Name: TPEx Derivative Trading System
File name: Format 12 (Closing Price for Bond Option)
Length of record: 54

Item name	Attribute	Length	Description	Note
ESC-CODE	X(1)	1	(ASCII 27)	
Multicast serial number	9(8)	4	PACK BCD	Formats of daily derivatives are mixed and compiled according to their transmission order (starting from 00000001)
Multicast time	9(6)	3	PACK BCD (HHMMSS)	Multicast time (HHMMSS)
Format code	X(2)	2	"DC"	
Product Type	X(1)	1	“4”: Bond Option	
Bond codes	X(7)	7		
Option type	X(1)	1	C- CALL P- PUT	
Contract form	X(1)	1	Period Unit: week	1: Express 1 Week 2: Express 2 Week 3: Express 3 Week 4: Express 4 Week Other values are defined additionally
Performance rate code	X(3)	3	K1 - K??	
Performance rate	9(4)V9(4)	4	PACK BCD	
Market opening transaction volatility rate	9(4)V9(4)	4	PACK BCD	First transaction volatility rate
Highest transaction volatility rate	9(4)V9(4)	4	PACK BCD	
Lowest transaction volatility rate	9(4)V9(4)	4	PACK BCD	
Closing volatility Rate	9(4)V9(4)	4	PACK BCD	Last transaction volatility rate
Average transaction volatility rate	9(4)V9(4)	4	PACK BCD	
Total trading amount	9(6)v9(2)	4	PACK BCD Unit: billion (notional amount)	
CHECK SUM	X(1)	1	The XOR value of each bit in all bytes from the 2nd Byte to the one preceding this field shall be recorded in this field	
TERMINAL-CODE	X(2)	2	(HEXACODE: 0D 0A)	

Note: The contract is only transmitted on the day of the transaction.

System Name: TPEx Derivative Trading System
File name: Format 13 (Performance Rate of the Day for Bond Option)
Length of record: 114

Item name	Attribute	Length	Description	Note
ESC-CODE	X(1)	1	(ASCII 27)	
Multicast serial number	9(8)	4	PACK BCD	All formats for the daily derivative system are mixed and compiled according to their transmission order (starting from 00000001)
Multicast time	9(6)	3	PACK BCD (HHMMSS)	Multicast time (HHMMSS)
Format code	X(2)	2	"DD"	
Product Type	X(1)	1	“4”: Bond Option	
Bond codes	X(7)	7		
At-the-money interest rate for previous business day	9(4)v9(4)	4		
At-the-money interest rate of the day (K11)	9(4)v9(4)	4		
Range (n)	9(2)	1	K1 - K2 tick range(bp)	
K1	9(4)v9(4)	4	K11 – 10n(bp)	
K2	9(4)v9(4)	4	K11 – 9n(bp)	
K3	9(4)v9(4)	4	K11 – 8n(bp)	
K4	9(4)v9(4)	4	K11 – 7n(bp)	
K5	9(4)v9(4)	4	K11 – 6n(bp)	
K6	9(4)v9(4)	4	K11 – 5n(bp)	
K7	9(4)v9(4)	4	K11 – 4n(bp)	
K8	9(4)v9(4)	4	K11 – 3n(bp)	
K9	9(4)v9(4)	4	K11 – 2n(bp)	
K10	9(4)v9(4)	4	K11 – n(bp)	
K12	9(4)v9(4)	4	K11 – n(bp)	
K13	9(4)v9(4)	4	K11 – 2n(bp)	
K14	9(4)v9(4)	4	K11 – 3n(bp)	
K15	9(4)v9(4)	4	K11 – 4n(bp)	
K16	9(4)v9(4)	4	K11 – 5n(bp)	
K17	9(4)v9(4)	4	K11 – 6n(bp)	
K18	9(4)v9(4)	4	K11 – 7n(bp)	
K19	9(4)v9(4)	4	K11 – 8n(bp)	
K20	9(4)v9(4)	4	K11 – 9n(bp)	
K21	9(4)v9(4)	4	K11 – 10n(bp)	
Risk-free interest rate	9(4)v9(4)	4		

CHECK SUM	X(1)	1	The XOR value of each bit in all bytes from the 2nd Byte to the one preceding this field shall be recorded in this field	
TERMINAL-CODE	X(2)	2	(HEXACODE: 0D 0A)	

Note: At-the-money interest rate of the day is determined using the 5-minute average price of the first transaction of the bond on the Trading System, once determined, the performance rate of the day will not change.

System Name: TPEx Derivative Trading System
File name: Format 14 (Trading Statistics per Minute)
Length of record: 43

Item name	Attribute	Length	Description	Note
ESC-CODE	X(1)	1	(ASCII 27)	
Multicast serial number	9(8)	4	PACK BCD	All formats for the daily derivative system are mixed and compiled according to their transmission order (starting from 00000001)
Multicast time	9(6)	3	PACK BCD (HHMMSS)	Multicast time (HHMMSS)
Format code	X(2)	2	"DE"	
Data statistics time	9(4)	2	PACK BCD HHMM	After the opening of market: HHMM Close of market: 9999
Total record of transactions for the Forward Rate Agreement (FRA)	9(6)	3	PACK BCD	
Total trading amount for the Forward Rate Agreement (FRA)	9(6)V9(2)	4	PACK BCD Unit: billion	
Total record of transactions for Interest Rate Swap (IRS)	9(6)	3	PACK BCD	
Total trading amount for Interest Rate Swap (IRS)	9(6)V9(2)	4	PACK BCD Unit: billion	
Total record of transactions for bond forward	9(6)	3	PACK BCD	
Total trading amount for bond forward	9(6)V9(2)	4	PACK BCD Unit: billion	
Total record of transactions for bond option	9(6)	3	PACK BCD	
Total transaction amount for bond option	9(6)V9(2)	4	PACK BCD Unit: billion	
CHECK SUM	X(1)	1	The XOR value of each bit in all bytes from the 2nd Byte to the one preceding this field shall be recorded in this field	
TERMINAL-CODE	X(2)	2	(HEXACODE: 0D 0A)	

Note: It is transmitted once per minute after the opening of market until the closing of market

System Name: TPEx Derivative Trading System
File name: Format 15 (Announcement Information)
Length of record: 89

Item name	Attribute	Length	Description	Note
ESC-CODE	X(1)	1	(ASCII 27)	
Multicast serial number	9(8)	4		All formats for the daily derivative system are mixed and compiled according to their transmission order (starting from 00000001)
Multicast time	9(6)	3	PACK BCD (HHMMSS)	Multicast time (HHMMSS)
Format code	X(2)	2	"DF"	
Announcement main serial number (9999)	9(4)	2	PACK BCD, ex: '0001', '0002'	Starting from 0001
Announcement sub-serial number (99)	9(2)	1	PACK BCD ‘01’: Announcement ‘02’-‘99’: Rest of the announcement contents	Starting from 01
Announcement by category	X(2)	2	‘01’ - trading starts ‘02’ - trading stops ‘03’ - trading resumed ‘04’ - trading terminated ‘06’ - others ‘99’ - emergency announcement	
Start date of announcement	9(8)	4	PACK BCD	YYYYMMDD (western year) YYYYMMDD
End date of announcement	9(8)	4	PACK BCD	YYYYMMDD (western year) YYYYMMDD
Relevant announcement serial number	9(4)	2	PACK BCD	Relevant announcement main serial number
Announcement content	X(60)	60		
Notes to sub-serial number end	X(1)	1	‘1’: the last trading, ‘0’: not the last trading Announcement sub-serial number	
CHECK SUM	X(1)	1	The XOR value of each bit in all bytes from the 2nd Byte to the one preceding this field shall be recorded in this field	
TERMINAL-CODE	X(2)	2	(HEXACODE: 0D 0A)	

System Name: TPEx Derivative Trading System
File name: Format 16 (Trading of Derivative “Heartbeat” Information Transmission)
Length of record: 17

Item name	Attribute	Length	Description	Note
ESC-CODE	X(01)	1	(ASCII 27)	
Multicast serial number	9(8)	4	PACK BCD	All formats for the daily derivative system are mixed and compiled according to their transmission order (starting from 00000001)
Multicast time	9(6)	3	PACK BCD (HHMMSS)	Multicast time (HHMMSS)
Format code	X(02)	2	"DG"	
Heartbeat time	9(6)	3	PACK BCD (HHMMSS)	Heartbeat time
Note	X(1)	1	Blank	
CHECK SUM	X(01)	1	The XOR value of each bit in all bytes from the 2nd Byte to the one preceding this field shall be recorded in this field	
TERMINAL-CODE	X(02)	2	(HEXACODE: 0D 0A)	

Note 1: The Heartbeat data is transmitted once every 30 seconds.

Note 2: “Heartbeat” allows companies to evaluate the transmission of their trading network. If Heartbeat data is interrupted during transmission, it might suggest that there is an irregularity with the connection or system. However, the transmission of other trading formats depends on the actual situation.

VII. Description/Data Formats of Index

System Name: Index System
File name: Format 1 (Newly Compiled TPEx Indices)
Length of record: 144

Item name	Attribute	Length	Description	Note
ESC-CODE	X(1)	1	(ASCII 27)	
Multicast serial number	9(8)	4	PACK BCD	All formats for the daily index system are mixed and compiled according to their transmission order (starting from 00000001)
Multicast time	9(6)	3	PACK BCD (HHMMSS)	Multicast time (HHMMSS)
Format code	X(2)	2	"A1"	
Effective index number	9(2)	1	“01” - ”10” Ex: 07 refers to index 1 to index 7 are effective index numbers, index 8 to index 10 are reserved for future use.	
Index 1 code	X(6)	6		
Index 1 time	9(6)	3	PACK BCD	
Latest index 1	9(5)V99	4	PACK BCD	
Index 2 code	X(6)	6		
Index 2 time	9(6)	3	PACK BCD	
Latest index 2	9(5)V99	4	PACK BCD	
Index 3 code	X(6)	6		
Index 3 time	9(6)	3	PACK BCD	
Latest index 3	9(5)V99	4	PACK BCD	
Index 4code	X(6)	6		
Index 4 time	9(6)	3	PACK BCD	
Latest index 4	9(5)V99	4	PACK BCD	
Index 5 code	X(6)	6		
Index 5 time	9(6)	3	PACK BCD	
Latest index 5	9(5)V99	4	PACK BCD	
Index 6 code	X(6)	6		
Index 6 time	9(6)	3	PACK BCD	
Latest index 6	9(5)V99	4	PACK BCD	
Index 7 code	X(6)	6		
Index 7 time	9(6)	3	PACK BCD	
Latest index 7	9(5)V99	4	PACK BCD	
Index 8 code	X(6)	6		
Index 8 time	9(6)	3	PACK BCD	
Latest index 8	9(5)V99	4	PACK BCD	

Index 9 code	X(6)	6		
Index 9 time	9(6)	3	PACK BCD	
Latest index 9	9(5)V99	4	PACK BCD	
Index 10 code	X(6)	6		
Index 10 time	9(6)	3	PACK BCD	
Latest index 10	9(5)V99	4	PACK BCD	
CHECK SUM	X(1)	1	The XOR value of each bit in all bytes from the 2nd Byte to the one preceding this field shall be recorded in this field	
TERMINAL-CODE	X(2)	2	(HEXACODE: 0D 0A)	

Note 1:

1. If the index number compiled exceeds 10 or more, more index records are transmitted each cycle. Ex: There are 12 index numbers, 2 index records are being transmitted each cycle, and the value field of the first transaction "effective index number" is "10", the value field of second index number "effective index number" is "02" Ex: There are 23 index numbers, 3 index records are being transmitted each cycle, and the value fields of first and second index number "effective index number" are "10", the value field of third transaction "effective index number" is "03".
2. Index code field: ASCII 6 BYTES. If the field is blank, it means there is no such index for now.
3. Index time field
   i. Record HHMMSS
   ii. Index time showing as "000000" refers to the transmission of the closing index of the previous day.
   iii. Index time showing as "999999" refers to the closing index of today.
   iv. The cycle of calculation during market hours is approximately 5 seconds.
   v. If the index code for the previous field is blank, it means there is no such index for now, index time is filled out as zero.
4. Latest index field: If the index code for the previous field is blank, it means there is no such index for now, and the index time is filled out as zero.

Note 2:
TPEx Indices Table:

Items	Index codes	Index names
Index 1	GTSM50	TPEx 50 Index
Index 2	TWTBI	TPEx Taiwan Treasury Benchmark Index
Index 3	GTHD	TPEx High Dividend Yield Index
Index 4	EMP88	TPEx Labor Employment 88 Index
Index 5	GTCI	TPEx Compensation Index
Index 6	TPCGI	TPEx Corporate Governance Index
Index 7	IX0118	TPEx 200 Index
Index 8	IR0118	TPEx 200 Total Return Index
Index 9	IX0138	TPEx RGA Quality 50 Index
Index 10	IR0138	TPEx RGA Quality 50 Total Return Index
Index 11	IR0140	TPEx Semiconductor Leaders Total Return Index
Index 12	IR0141	TPEx 200 Total Return Index Daily Return Leveraged 2X Index
Index 13	RESERVED	RESERVED
Index 14	RESERVED	RESERVED
Index 15	RESERVED	RESERVED
Index 16	RESERVED	RESERVED
Index 17	RESERVED	RESERVED
Index 18	RESERVED	RESERVED
Index 19	RESERVED	RESERVED
Index 20	RESERVED	RESERVED

System Name: Index System
File name: Format 2 (Trading of Indices "Heartbeat" Information Transmission)
Length of record: 17

Item name	Attribute	Length	Description	Note
ESC-CODE	X(1)	1	(ASCII 27)	
Multicast serial number	9(8)	4	PACK BCD	All formats for the daily index system are mixed and compiled according to their transmission order (starting from 00000001)
Multicast time	9(6)	3	PACK BCD (HHMMSS)	Multicast time (HHMMSS)
Format code	X(2)	2	"A2"	
Heartbeat time	9(6)	3	PACK BCD (HHMMSS)	Heartbeat time
Note	X(1)	1	Blank	
CHECK SUM	X(1)	1	The XOR value of each bit in all bytes from the 2nd Byte to the one preceding this field shall be recorded in this field	
TERMINAL-CODE	X(2)	2	(HEXACODE: 0D 0A)	

Note 1: The Heartbeat data is transmitted once every 30 seconds.

Note 2: "Heartbeat" allows companies to evaluate the transmission of their trading network. If the Heartbeat data is interrupted during transmission, it might suggest that there is an irregularity with the connection or system. However, the transmission of other trading formats depends on the actual situation.

VIII. Description on Transmission Time

1. Transmission time for Bonds (see below table)

Format	Data name	Object	Start	End	Description
Format 1	Reference Price	Government bonds, international bonds, and other bonds	08:30	08:59	After a cycle of transmission is complete, it is transmitted again after 5 minutes
Format 2	Transaction Data on Electronic Bond Trading System (EBTS)	Government bonds, international bonds, and other bonds	09:00	16:00	Immediate transmission after a transaction
Format 3	Five-Minute Trading	Government bonds, international bonds, and other bonds	09:05	13:31	It is transmitted once every 5 minutes after statistics
Format 4	Closing Price	Government bonds, international bonds, and other bonds	13:32 16:30	14:00 17:00	After a cycle of transmission is complete, it is transmitted again after 5 minutes (see Format notes)
Format 5	Overall Market Statistics	Government bonds	09:05 13:32 16:30	13:31 14:00 17:00	After a cycle of transmission is complete, it is transmitted again after 5 minutes (see Format notes)
Format 6	Announcement Information	None	08:30	17:00	Transmission at any time (Emergency announcements are not restricted by start/end time)
Format 8	Information on Electronic Bond Trading System (EBTS) Quotes	Government bonds, international bonds, and other bonds	09:00	13:30	It is transmitted immediately when there is a change in the quote data
Format 12	Information on Negotiation and Quotes by Securities Firms	All bonds	09:00	15:00	It is transmitted immediately when there is a change in quotation data.
Format 13	Government Bonds Benchmark (Index)	Government bonds	08:30 After clearing	13:31 System off	It is transmitted once every 5 minutes after statistics (after approximately 16:00 when the system clearing is completed, information of the day's clearing will be transmitted. See Format notes)
Format 14	International	International	09:05	13:31	After a cycle of transmission is

	Bonds Overall Market Statistics	bonds	13:32 16:30	14:00 17:00	complete, it is transmitted again after 5 minutes (see Format notes)
Format 15	Other Bonds Overall Market Statistics	Other bonds	09:05 13:32 16:30	13:31 14:00 17:00	After a cycle of transmission is complete, it is transmitted again after 5 minutes (see Format notes)
Format 16	Trading of Bonds Heartbeat Information Transmission	None	08:00	18:00	It is transmitted once every 30 seconds

2. Transmission time for Emerging Stocks (see below table)

Start time	End time	Format	Description
8:00	8:59	Format 1, Format 9	It is transmitted by the order cycle of Format 1 and Format 9 (basic data for all emerging stocks). After the end of each cycle is complete, and delays a minute, the cycle starts again
9:00	15:00	Format 4, Format 15	It is transmitted immediately when there is a change in quotation data
9:00	16:00	Format 5	It is transmitted immediately when there is a change with transaction data
9:00	16:00	Format 6, Format 7	It is transmitted once per minute by the order cycle of Format 6 and Format 7 (until 15:00)
8:30	08:59	Format 7	It is transmitted once per minute
9:00	16:00	Format 8	It is transmitted once per 5 minutes (statistics information of the intraday)
9:00	15:00	Format 9	It is transmitted immediately when there is an announcement (Emergency announcements are not restricted by start/end time)
16:30	16:59	Format 8	It is transmitted once per 5 minutes (It is the after-hour statistics after trading finishes)
17:01	17:30	Format 1	After the end of each cycle is complete, and delays a minute, the cycle starts again. (Format 1 only includes data on emerging stocks with changes)
9:00	16:00	Format 12, Format 13	It is transmitted once per minute by the order cycle of Format 12 and Format 13 (until 15:00)
8:00	17:00	Format 14	It is transmitted immediately when there is an occurrence of suspension/resumption situation
8:00	18:00	Format 16	It is transmitted once every 30 seconds

3. Transmission time for Derivatives (see the below table)

Format	Data name	Object	Start	End	Description
Format 1	Best 6 Quotes for the Forward Rate Agreement (FRA)	FRA	08:30	16:00	It is transmitted immediately when there is a change in the quote data
Format 2	Transaction Data on the Forward Rate Agreement (FRA)	FRA	09:00	16:00	Immediate transmission after a transaction
Format 3	Closing Price for the Forward Rate Agreement (FRA)	FRA	16:30	17:00	After a cycle of transmission is complete, it is transmitted again after 5 minutes
Format 4	Best 6 Quotes for Interest Rate Swap (IRS)	IRS	08:30	16:00	It is transmitted immediately when there is a change in the quote data
Format 5	Transaction Data on Interest Rate Swap (IRS)	IRS	09:00	16:00	Immediate transmission after a transaction
Format 6	Closing Price for Interest Rate Swap (IRS)	IRS	16:30	17:00	After a cycle of transmission is complete, it is transmitted again after 5 minutes
Format 7	Best 6 Quotes for Bond Forward	Bond Forward	08:30	13:30	It is transmitted immediately when there is a change in the quote data
Format 8	Transaction Information on Bond Forward	Bond Forward	09:00	13:30	Immediate transmission after a transaction
Format 9	Closing Price for Bond Forward	Bond Forward	16:30	17:00	After a cycle of transmission is complete, it is transmitted again after 5 minutes
Format 10	Best 6 Quotes for Bond Option	Bond Option	08:30	13:30	It is transmitted immediately when there is a change in quotation data
Format 11	Transaction Data on Bond Option	Bond Option	09:00	13:30	Immediate transmission after a transaction
Format 12	Closing Price for Bond Option	Bond Option	16:30	17:00	After a cycle of transmission is complete, it is transmitted again after 5 minutes
Format 13	Performance Rate of the Day for Bond Option	Bond Option	09:00		It is only transmitted once
Format 14	Transaction Statistics per		09:00	16:00	It is transmitted once per minute

	Minute				
Format 15	Announcement Information				Transmission at any time
Format 16	Trading of Derivatives Heartbeat Information Transmission		08:00	18:00	It is transmitted once every 30 seconds

4. Transmission Time for Indices

Start time	End time	Format	Description
7:50	8:59	Format 1	Yesterday's closing index is transmitted once approximately per minute
9:00	13:35	Format 1	Newly compiled TPEx indices are transmitted once per 5 seconds
8:00	18:00	Format 2	It is transmitted once approximately every 30 seconds

IX. Query

(1) Description on Functions

Query offers two different types of operational functions, see below for an explanation:

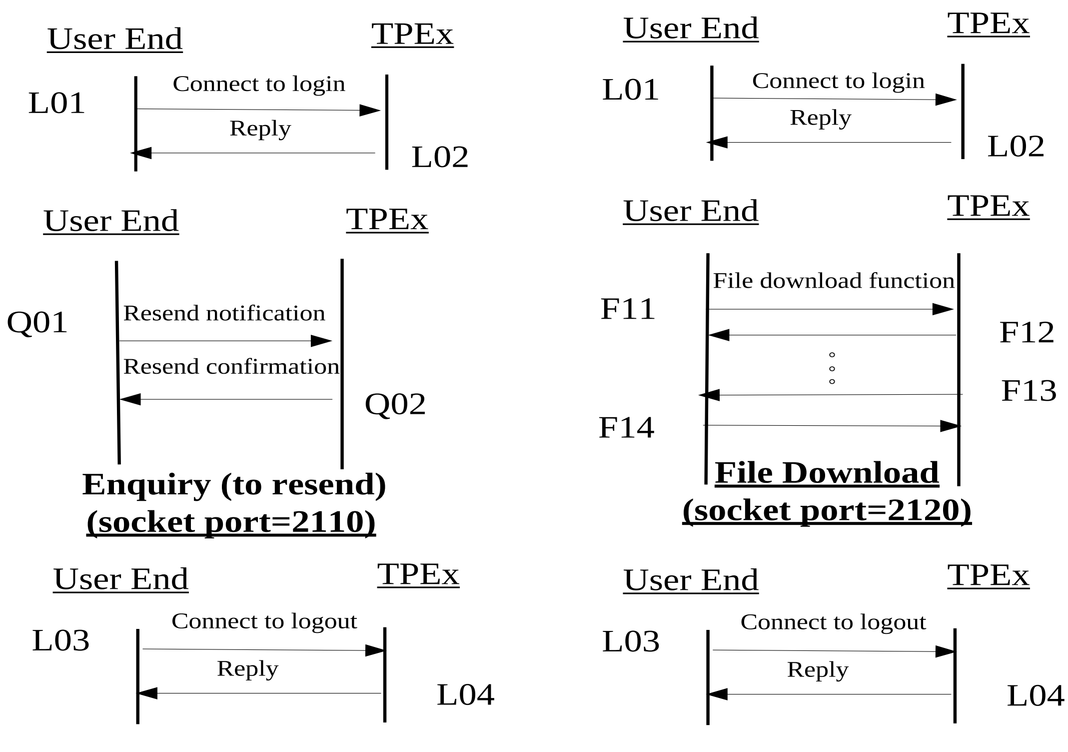
1. It provides Multicasting data that is missing
   For the starting and ending missing Multicasting data serial number, you first inform the TPEx server with the “Query (missing) Request Operation”, then obtain the required data in “File Download Operation” using the Filecode replied by TPEx.
2. Transmission of specific files (Fixed Filecode)
   For specific (basic) data files, you can obtain the required data in “File Download Operation” using the fixed Filecode. (see Appendix 3 for specific file code table provided by TPEx)

(2) Operation Modes

Query is divided into 3 types of operational modes:

1. Connection Operation
2. Query Requirement Operation (Message Channel: port=2110)
3. File Downloads (File Channel: port=2120)

“Connection Operation” is an operation that requires the work of other operations, meaning the Message Channel of (2) “Query (missing) Request Operations” and File Channel of (3) “File Download Operations”. Both (2) and (3) need their own Socket connection Session to successfully log in. And each user can have one Session each at a time from the number of Socket Sessions logged in for the Message Channel and File Channel. Picture as below:

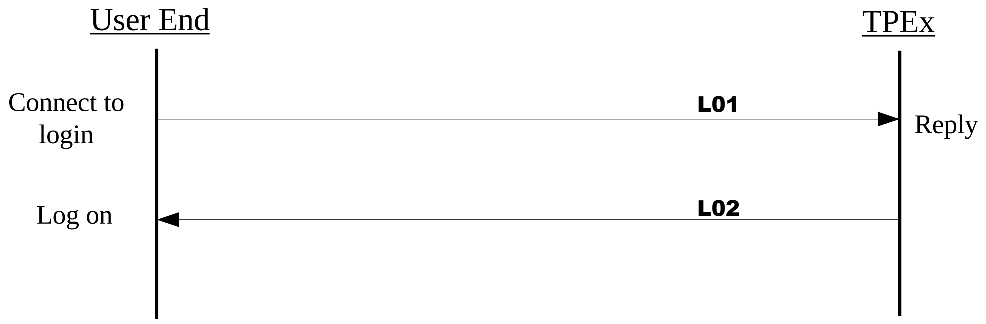


[Message Channel] **[File Channel]**

(3) Connection Operation

■ ***<u>Login</u>***

(1) Message procedures



(2). L01 Message Format (V → TPEx) (0001)

Field name	Length	Format	Description
Packet Length	Char(5)	9(5) = 00036	The packet length of this field is not included (bytes)
System Type	Char(2)	88	System Type
Function ID	Char(2)	**00**	Function ID Code
Message Type	Char(2)	**01**	
User Defined	Char(8)		
Message Time	Char(6)	HHMMSS	
Status Code	Char(4)		N/A
ID	Char(4)		User Code (company code)
Padding	Char(8)		

(3). L02 Message Format (V ← TPEx) (0002)

Field name	Length	Format	Description
Packet Length	Char(5)	9(5) = 00061	The packet length of this field is not included (bytes)
System Type	Char(2)	88	System Type
Function ID	Char(2)	**00**	Function ID Code
Message Type	Char(2)	**02**	
User Defined	Char(8)		
Message Time	Char(6)	HHMMSS	
Status Code	Char(4)	0000 - successfully logged in 0001 - invalid ID 0002 - invalid padding 0003 - logged in users have reached the limit 0004 - the user has logged in 8001 - today is not a business day 9998 - unclear message 9999 - system irregularity	The same user can only log in on system once
SysDate	Char(8)	YYYYMMDD	System date
IDNo	Char(5)	9(5)	User number (system specified)
InfoType	Char(4)	9(4)	Information category rights value can be inquired (summation of total individual values) 1- Emerging Stock System 2 - Bond System ~~4 - (TPEx) Main board stocks System~~ 8 - Derivative System 16 - Index System ~~32 - (TPEx) Main board stocks System (second IP)~~
Reserved	Char(20)		RESERVED

Note:

When connecting to log in, the system will determine if today is a business day and will inform the user in L02. When the Status Code in L02 replies “8001”, it means that it is not a business day. Other statuses mean it is a business day.

■ ***Log out***

(1) Message procedures

(2). L03 Message Format (V → TPEx) (0003)

Field name	Length	Format	Description
Packet Length	Char(5)	9(5) = 00024	The packet length of this field is not included (bytes)
System Type	Char(2)	88	System Type
Function ID	Char(2)	**00**	Function ID Code
Message Type	Char(2)	**03**	
User Defined	Char(8)		
Message Time	Char(6)	HHMMSS	
Status Code	Char(4)	0006 - Log out (disconnection) 0006 – Reserve (disconnection)	

(3). L04 Message Format (V ← TPEx) (0004)

Field name	Length	Format	Description
Packet Length	Char(5)	9(5) = 00024	The packet length of this field is not included (bytes)
System Type	Char(2)	88	System Type
Function ID	Char(2)	**00**	Function ID Code
Message Type	Char(2)	**04**	
User Defined	Char(8)		
Message Time	Char(6)	HHMMSS	
Status Code	Char(4)	0000 - successfully logged out 0005 - user not logged in 9998 - unclear message 9999 - system irregularity	Once logging out successfully, no information categories will accept further inquiries

(4) Query (missing) Request Operation

■ ***Query (missing) Request***

(1). Q01 Message Format (V → TPEx) (0251)

Field name	Length	Format	Description
Packet Length	Char(5)	9(5) = 00047	The packet length of this field is not included (bytes)
System Type	Char(2)	88	System Type
Function ID	Char(2)	**02**	Function ID Code
Message Type	Char(2)	51	
User Defined	Char(8)		
Message Time	Char(6)	HHMMSS	
Status Code	Char(4)		N/A
IDNo	Char(5)	9(5)	User number (system specified)
SysID	Char(2)	X(2)	System code 01 - Emerging Stocks 02 - Bond System ~~03 - (TPEx) Main board stockss~~ 04 - Derivative system 05 - Index System ~~06 - (TPEx) Main board stocks (second IP)~~
SMulticastNO	Char(8)		Start of multicast serial number
EMulticastNO	Char(8)		End of multicast serial number, ‘00000000’ refers to the current last multicast serial number

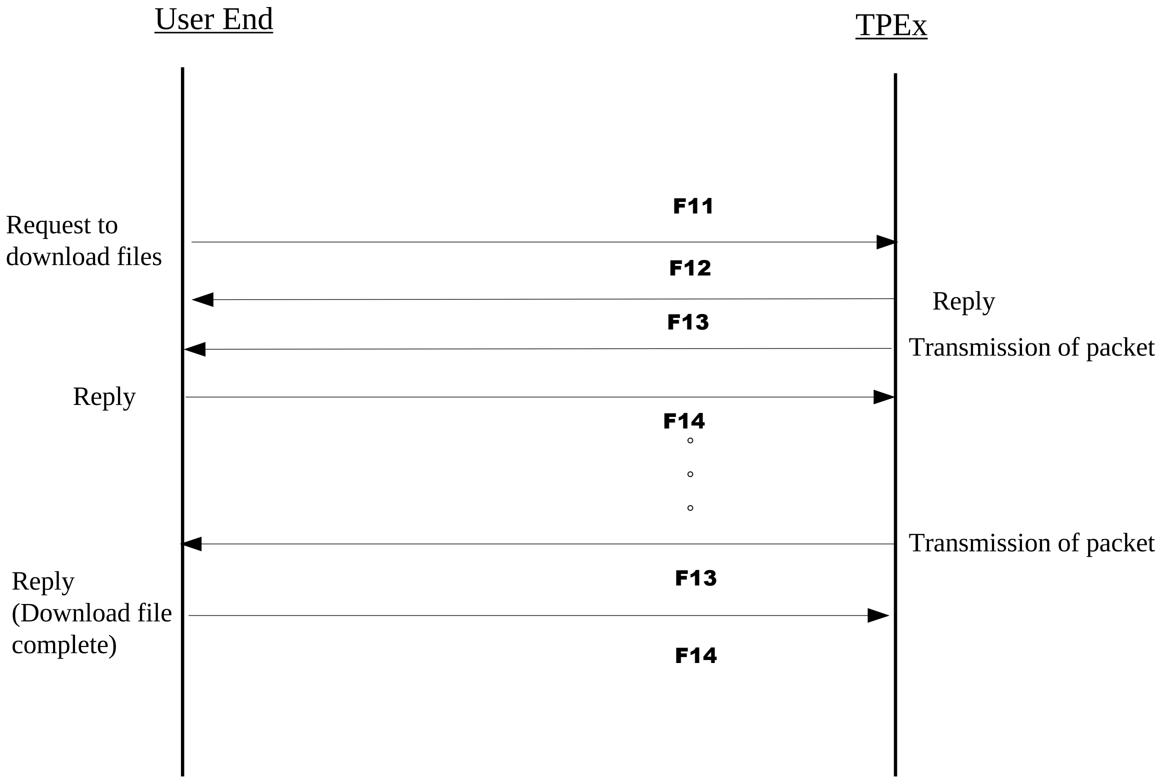
(2). Q02 Message Format (V → TPEx) (0252)

Field name	Length	Format	Description
Packet Length	Char(5)	9(5) = 00027	The packet length of this field is not included (bytes)
System Type	Char(2)	88	System Type
Function ID	Char(2)	**02**	Function ID Code
Message Type	Char(2)	**52**	
User Defined	Char(8)		
Message Time	Char(6)	HHMMSS	
Status Code	Char(4)	0000 - successful 0101 - wrong multicast starting serial number 0102 - wrong multicast ending serial number 0103 - insufficient query information 0104 - no multicast data so far 0105 - wrong SysID or code does not exist 0106 - not yet logged in 0107 - no data query authorization 0305 - process for the previous query is not yet complete 9998 - unclear message 9999 - system irregularity	Status Code
File Code	Char(3)		File Code

(5) File Downloads

■ ***File download***

(1) Message procedures



(2). F11 Message Format (V → TPEx) (0111) **file download request (V) from user's end**

Field name	Length	Format	Description
Packet Length	Char(5)	9(5) = 00043	The packet length of this field is not included (bytes)
System Type	Char(2)	88	System Type
Function ID	Char(2)	**01**	Function ID Code
Message Type	Char(2)	**11**	
User Defined	Char(8)		
Message Time	Char(6)	HHMMSS	
Status Code	Char(4)		
File Code	Char(3)	X(3)	File Code
Reserved	Char(16)		RESERVED

(3). F12 Message Format (V ← TPEx) (0112) **Response**

Field name	Length	Format	Description
Packet Length	Char(5)	9(5) = 00040	The packet length of this field is not included (bytes)
System Type	Char(2)	88	System Type
Function ID	Char(2)	**01**	Function ID Code
Message Type	Char(2)	**12**	
User Defined	Char(8)		
Message Time	Char(6)	HHMMSS	
Status Code	Char(4)	0000 - normal 0301 - wrong FileCode 0302 - file does not exist 0303 - no data in file 0304 -file is not for download 0305 - process for the previous file is not yet complete 0306 - not authorized to download this file 0307 - not yet logged in 9998 - unclear message 9999 - system irregularity	
FileLength	Char(8)	9(8)	Total file length (unit: byte)
SysDate	Char(8)	9(8) YYYYMMDD	System date

(4). F13 Message Format (V ← TPEx) (0113)

Field name	Length	Format	Description
Packet Length	Char(5)	9(5) = 01024	The packet length of this field is not included (bytes)
System Type	Char(2)	88	System Type
Function ID	Char(2)	**01**	Function ID Code
Message Type	Char(2)	**13**	
User Defined	Char(8)		
Message Time	Char(6)	HHMMSS	
Status Code	Char(4)	0000 - normal 0302 - file does not exist 9998 - unclear message 9999 - system error	
DataLength	Char(3)	9(3)	Part of actual data length (unit: byte)
EOF	Char(1)	0 - intermediate data packet 1 - last data packet	File data end flag (1: yes, 0: no)
Data	Char(996)	X(996)	File data (bytes)

(5). F14 Message Format (V → TPEx) (0114)

Field name	Length	Format	Description
Packet Length	Char(5)	9(5) = 00024	The packet length of this field is not included (bytes)
System Type	Char(2)	88	System Type
Function ID	Char(2)	**01**	Function ID Code
Message Type	Char(2)	**14**	
User Defined	Char(8)		
Message Time	Char(6)	HHMMSS	
Status Code	Char(4)	0000 - normal 0308 - irregular data received 0309 - interrupted (socket disconnected)	

■ ***File Content***

The files transmitted from file downloads are all data files with their content format as below:

1. **It provides Multicasting data that is missing**
   Except for the first format (including TerminalCode 36 bytes) which is the file information, the rest are in the actual feed data format (see each format), and each format has one row. The first format is as below:

Field name	Length	Format	Description
SystemID	Char(2)	X(2)	System Type 01 - Transmission of emerging stocks information by TPEx 02 - Transmission of bonds information by TPEx ~~03 - Transmission of (TPEx) Main board stocks~~ 04 - Transmission of derivatives data by TPEx 05 - Transmission of index information by TPEx ~~06 - Transmission of (TPEx) Main board stocks (second IP)~~
DateTime	Char(8)	9(8) HHMMSSmm	Data time (hour, minute, second, millisecond)
Snumber	Char(8)	9(8)	First multicast serial number
Enumber	Char(8)	9(8)	Last multicast serial number
RecordNo	Char(8)	9(8)	(withing files) Total record of data (this one excluded)
EOR	Char(2)	0x0D 0x0A	End of each data TERMINAL-CODE

Note: Fill this out with zero on the left of right side where there is a digits type in fields.

2. **Transmission of specific files (Fixed Filecode)**
   The content is the actual information of the complete file.

Appendix 1: Description on PACK BCD Format

The last 4 bits of a byte from number “0” to “9” in ASCII code are transmitted. Ex: the bit value of “1” in ASCII code is 00110001, so its PACK BCD bit value is 0001, and the bit value of “5” in ASCII code is 00110101, so its PACK BCD bit value is 0101.

Example of average price displayed in Emerging Stocks Format 8:

Average price displayed data format is 9(5)V9(4) (including 5 integers and 4 decimals)

Average price = 12345.6789

Original data format transmitted expressed in ASCII: “1” “2” “3” “4” “5” “6” “ 7 “ “ 8 “ “ 9 “

(it needs to transmit 9 bytes) = hexagonal expressions: 0x31 0x32 0x33 0x34 0x35 0x36 0x37 0x38 0x39 in total 9 bytes) (the recipient will decipher the codes into integers and decimals)

Compressed with PACK BCD = PACK BCD expressions: 0x01 0x23 0x45 0x67 0x89

(it needs to transmit only 5 bytes): <u>0000 0001</u> <u>0010 0011</u> <u>0100 0101</u> <u>0110 0111</u> <u>1000 1001</u>

(totally 5 bytes) (the recipient will decipher the codes into integers and decimals)

Appendix 2: Example of Multicast Message Receiving

For easier explanation, the C programming language fragment is being used as an example as below:

```
int                   sock;               /* socket descriptor */
int                   flag_on = 1;        /* socket option flag */
struct sockaddr_in    mc_addr;            /* socket address structure */
struct ip_mreq        mc_req;             /* MC request structure */
struct sockaddr_in    from_addr;          /* packet source */
size_t          from_len;         /* source addr length */
char                  recv_str[MAXPACKET+1];  /* buffer to receive string */

/* create socket to join multicast group on */
if ((sock = socket(PF_INET, SOCK_DGRAM, IPPROTO_UDP)) < 0) {
    perror("socket() failed");
    exit(1);
}
 /* set reuse port to on to allow multiple binds per host */
if ((setsockopt(sock, SOL_SOCKET, SO_REUSEADDR, &flag_on,   sizeof(flag_on))) < 0)
{
    perror("setsockopt() failed");
    exit(1);
}
/* construct a multicast address structure */
memset(&mc_addr, 0, sizeof(mc_addr));
mc_addr.sin_family      = AF_INET;
mc_addr.sin_addr.s_addr = htonl(INADDR_ANY);
mc_addr.sin_port        = htons(mc_port);
/* bind to multicast address to socket */
if ((bind(sock, (struct sockaddr *) &mc_addr,    sizeof(mc_addr))) < 0) {
    perror("bind() failed");
    exit(1);
}
/* construct an IGMP join request structure */
mc_req.imr_multiaddr.s_addr = inet_addr(mc_addr_str);
mc_req.imr_interface.s_addr = htonl(INADDR_ANY);
/* send an ADD MEMBERSHIP message via setsockopt */
if ((setsockopt(sock, IPPROTO_IP, IP_ADD_MEMBERSHIP, (void*) &mc_req,
sizeof(mc_req))) < 0) {
    perror("setsockopt() failed");
    exit(1);
}
/* block waiting to receive a packet */
if ((recv_len = recvfrom(sock, recv_str, MAXPACKET, 0,  (struct sockaddr*)&from_addr,
&from_len)) < 0) {
     perror("recvfrom() failed");
     exit(1);
}
```

Appendix 3: Specific File Code Table

Filecode	File description
I00	Transmission Code Table for Specific Files
E01	Basic Data File of Emerging Stocks
E02	Basic Information on Securities Firms Recommended by Emerging Stocks
E03	Announcement of Ex-rights or Ex-dividends for Emerging Stocks
E04	New Basic Data File of Emerging Stocks
E05	Data file of “Taipei Exchange Operation Directions for Announcement or Notice of Attention to Trading Information and Dispositions for Emerging Stocks”
E06	Net Worth of Open-end Funds for Previous Day File
B01	Basic Information on Securities Firms
B02	Basic Information on Bonds and Average Price of the Previous Day
B03	Basic Data File of Trading Units
B04	Data File of Interest Rate Curve Reference for Bonds
B05	Data File of Interest Rate Quote Reference for Bonds
B06	Data File of Government Bond Indices
B07	Data File of Fair Value for Each Period of Government Bonds
D01	File of Basic Information on Trading Firms
D02	Basic Data File of Bonds
D03	Data File of Product Contracts
D04	Trading Data of the Previous Business Day for Forward Rate Agreement (FRA)
D05	Trading Data of the Previous Business Day for Interest Rate Swap (IRS)
D06	Trading Data File of for Bond Forward for Previous Business Day
D07	Trading Data of the Previous Business Day for Bond Option
D08	Data File of Floating Rate Benchmark (newly added)
A01	Data File of TPEx 50 Index Constituents
A02	Data File of TPEx 50 Index of the day
A03	Data File of Constituents of the TPEx Taiwan Treasury Benchmark Index
A04	Data File of Taiwan Treasury Benchmark Index of the Day
A07	Data File of High Dividend Yield Index Constituents
A08	Data File of High Dividend Yield Index of the Day
A09	Data File of Labor Employment 88 Index Constituents
A10	Data File of Labor Employment 88 Index of the Day
A11	Data File of TPEx Compensation Index Constituents
A12	Data File of TPEx Compensation Index of the Day
A13	Data File of TPEx Corporate Governance Index Constituents
A14	Data File of TPEx Corporate Governance Index of the Day
A15	Data File of TPEx 200 Index Constituents
A16	Data File of TPEx 200 Index of the Day

A17	Data File of TPEx 200 Total Return Index Constituents
A18	Data File of TPEx 200 Total Return Index of the Day
A00	Data File of TPEx Indices Constituents

Note: If there is an attachment of **"File Format of Specific Files"** in the format content.

File Format of Specific File

(1) I00 “Transmission Code Table for Specific Files”

Length of each piece of data: 131

Field name	Type/length	Description	Note
File Code	X(3)		Filecode Ex: B01
File Date	9(8)	YYYYMMDD(western year)	Ex: August 28, 2001 as 20010828
File Time	9(6)	HHMMSS	123456
Length of each record of data	9(6)	bytes	Bytes
Amount of data	9(6)		Record number
Chinese description	X(50)		Chinese file description
English description	X(50)		English file description
TERMINAL-CODE	X(2)	(HEXACODE: 0D 0A)	

(2) E01 Emerging Stock Trading System: "Basic Data File of Stocks"

Length of each piece of data: 90

Field name	Type/length	Description	Note
Stock code	X(6)		
Stock short name	X(16)		
English short name	X(16)		
Industry categories	X(2)	Note 1	
Stock volume	9(12)		Issued shares: (unit: shares)
Reference price	9(5)v9(4)		Closing price of the previous business day (dollar)
Index sampling notes	X(1)		Y: Index sampling N: Non-index sampling
Trading status	X(1)		1: Trading starts 2: Stop of trading 3. Trading resumed 4: Trading terminated
Occurrence date of status	9(8)	YYYYMMDD (western year)	Ex: August 28, 2001 as 20010828
Average price of the previous business day	9(5)v9(4)		Ex: 123456789 is expressed as $12345.6789
Date of the previous business day	9(8)	YYYYMMDD (western year)	Ex: August 28, 2001 Ex: 20010828
TERMINAL-CODE	X(2)	(HEXACODE: 0D 0A)	

Note 1: Code Table for Industry Categories

Code	**Stocks by Category**	**Code**	**Stocks by Category**	**Code**	**Stocks by Category**	**Code**	**Stocks by Category**
02	Food Industry	03	Plastic Industry	04	Textile fiber	05	Electric Engineering & Machinery
06	Appliance and Cable	08	Glass & Ceramics	10	Steel & Iron Industry	11	Rubber Industry
14	Construction Material and Construction	15	Sea Transport Industry	16	Tourism Industry	17	Finance Industry
18	Wholesale & Retailing	20	Other	21	Chemical Industry	22	Biotechnology & Medical Care Industry
23	Oil, Gas, and Electricity	24	Semiconductor Industry	25	Computer & Peripheral Equipment Industry	26	Optoelectronic Industry
27	Communications and Internet Industry	28	Electronic Parts/ Components	29	Electronic Products Distribution	30	Information Service Industry

			Industry		Industry		
31	Other Electronics Industries	32	Cultural Innovation Industry	33	Agricultural Technology Industry	80	Stock Management
34	E-commerce						

Note 2: The reference price on the first day of emerging stock listing and the average price of the previous business are both 0.

(3) E02 Emerging Stock Trading System: "Basic Information on Stocks (recommended securities firms)"

Length of each piece of data: 50

Field name	Type/length	Description	Note
Recommended stock code	X(6)		
Securities firm code	X(4)		
Securities firm name	X(10)		
Transaction contact	X(10)		
Transaction contact phone number	X(18)	Area code (blank after 3 digits) + phone number (blank after 10 digits) + extension (blank after 5 digits)	Ex 1: with extension '02 23691223 6181 ' Ex 2: without extension '02 23666181 '
TERMINAL-CODE	X(2)	(HEXACODE: 0D 0A)	

(4) E03 Emerging Stock Trading System: "Data File of Ex-rights or Ex-dividend for Stocks"

Length of each piece of data: 87

Field name	Type/length	Description	Note
Stock code	X(6)		Ex:
Capital stock before ex-rights or ex-dividend	9(12)		Unit: shares
Ex-rights or ex-dividend by category	X(1)		1. Ex-dividend 2: Ex-rights 3: Ex-rights or Ex-dividend
Ex-dividend	9(4)v9(6)		Ex: 1234567890 is expressed as $1234.567890
Employee bonus	9(12)v9		Ex: 1000.1 shares
Rights issuance of new shares	9(12)v9		Ex: 1000.1 shares
Rights subscription price per share	9(5)v9(4)		Ex: 123456789 is expressed as $12345.6789
Issuance of new shares	9(12)v9		Ex: 1000.1 shares

Ex-rights or Ex-dividend date	9(8)	YYYYMMDD(western year) >= Transaction date	Ex: August 28, 2001 Ex: 20010828
TERMINAL-CODE	X(2)	(HEXACODE: 0D 0A)	

(5) E04 Emerging Stock Trading System: "New Basic Data File of Stocks"
Length of each piece of data: 158

Field name	Type/length	Description	Note
Stock code	X(6)		
Stock short name	X(16)		
English short name	X(16)		
Industry categories	X(2)	Note 1	
Stock volume	9(12)		Issued shares (unit: shares)
Reference price	9(5)v9(4)		Closing price of the previous business day (dollar)
Index sampling notes	X(1)		Y: Index sampling N: Non-index sampling
Trading status	X(1)		1: Trading starts 2: Stop of trading 3. Trading resumed 4: Trading terminated
Occurrence date of status	9(8)	YYYYMMDD (western year)	Ex: August 28, 2001 as 20010828
Average price of the previous business day	9(5)v9(4)		Ex: 123456789 is expressed as $12345.6789
Date of the previous business day	9(8)	YYYYMMDD (western year)	Ex: August 28, 2001 Ex: 20010828
Trading volume of the previous business day	9(12)	Unit: shares	
Trading amount of the previous business day	9(14)	Unit: dollar	
Security group code	X(2)	Note 2	
Trading currency	X(3)	Note 3	
Exchange rate	9(3)v9(5)	refers to the exchange rate of yesterday's trading currency to TWD	Ex: trading currency is USD and the exchange rate is 03015000, meaning 1 USD is 30.15000 to TWD
Trading unit	9(5)	How many quotation units each transaction at least needs	1. When the product category is "Emerging Stocks" or "Funds", the trading unit "1" refers to the number of "share",

			Ex: 1000 shares. 2. When the product category is "gold", it means how many quotation units each transaction at least needs. Ex: If the quotation unit is a Taiwan Cian and the minimum trading unit is 1 Taiwan Tael, this field is therefore filled in with 10. (1 Taiwan Tael = 10 Taiwan Cian)
Product category	X(2)	Note 4	Products by category, ex: Emerging stocks, funds and gold
Quotation unit	X(3)	Quotation unit codes (Note 5)	Quotation units differ according to "Product Category", ex 1. Emerging Stocks: "Shares" 2. Open-end Funds: "Beneficiary Certificate Unit". 3. Physical gold: "Taiwan Cian"
Tick size	9(2)v99	Tick/change size in price	1. Emerging stocks and funds are $0.01. 2. Gold is $0.1
Reserved field	X(15)	Temporarily not in use	
TERMINAL-CODE	X(2)	(HEXACODE: 0D 0A)	

Note 1: Code Table for Industry Categories

Code	Stocks by Category	code	Stocks by Category	Code	Stocks by Category	Code	Stocks by Category
02	Food Industry	03	Plastic Industry	04	Textile fiber	05	Electric Engineering & Machinery
06	Appliance and Cable	08	Glass & Ceramics	10	Steel & Iron Industry	11	Rubber Industry
14	Construction Material and Construction	15	Sea Transport Industry	16	Tourism Industry	17	Finance Industry
18	Wholesale & Retailing	20	Other	21	Chemical Industry	22	Biotechnology & Medical Care Industry
23	Oil, Gas and	24	Semiconductor	25	Computer	26	Optoelectron

	Electricity		Industry		& Peripheral Equipment Industry		ic Industry
27	Communications and Internet Industry	28	Electronic Parts/ Components Industry	29	Electronic Products Distribution Industry	30	Information Service Industry
31	Other Electronics Industries	32	Cultural Innovation Industry	33	Agricultural Technology Industry	80	Stock Management
34	E-commerce						

Note 2

Security Group Code	Meaning
RS	Securities stocks of foreign companies
RB	Bank stocks of foreign companies
RR	Listed securities of other foreign companies (excluding RS and RB)
Blank	Listed securities of Taiwan companies

Note 3:

Trading currency	Meaning	Trading currency	Meaning
TWD	New Taiwan Dollar	HKD	Hong Kong Dollar
USD	American Dollar	MYR	Malaysian Ringgit
EUR	Euro	VND	Vietnam Dong
JPY	Japanese Yen	THB	Thai Baht
CNY	China Yen	SGD	Singapore Dollar
AUD	Australian Dollar	IDR	Indonesian Rupiah

Description 1:

This file format is a format of the Basic Data File of Stocks (filecode E01) adding fields such as “Trading Volume of the Previous Business Day”, “Trading Amount of the Previous Business Day”, “Security Group Code”, “Trading Currency”, “Exchange Rate”, “Trading Unit”, “Product Category”, “Quotation Unit”, “Tick Size”, and “Reserved Fields”.

Description 2:

The reference price on the first day of emerging stock listing and the average price of the previous business are both 0.

Note 4: Code Table for Product Category

code	**Product Category**
01	Emerging Stocks
02	Open-end Funds
03	Gold

Note 5: Quotation Unit Code Table:

code	Quotation Unit
001	Share
002	Beneficiary Certificate Unit
003	Taiwan Cian

(6) E05 Emerging Stock Trading System: Data file of "Taipei Exchange Operation Directions for Announcement or Notice of Attention to Trading Information and Dispositions for Emerging Stocks".

Length of each piece of data: 112

Field name	Type/length	Description	Note
Stock code	X(6)	Blank on the right of the left side	
Stock short name	X(16)	Blank on the right of the left side	
Previous weighted average price	9(5)v9(4)		
Previous transaction day	9(8)	YYYYMMDD (western year)	
Notes of disposition stock	X(1)		0: normal 1: under disposition.
Notes of attention stock	X(1)		0: normal 1: under attention
Information on disposition stocks			Note 1
Increasement of quotation volumes	9(5)	Unit: shares	
Blank (RESERVED)	X(15)		
Disposition status	X(1)		
Single order limit	9(9)	Unit: shares	
Accumulated multiple order limit	9(9)	Unit: shares	
Percentage of advance collection of Securities	9(3)	Unit: %	
Blank (RESERVED)	X(27)		
TERMINAL-CODE	X(2)	(HEXACODE: 0D 0A)	
First:			
Data date	9(8)	YYYYMMDD (western year)	
Blank	X(102)		
TERMINAL-CODE	X(2)	(HEXACODE: 0D 0A)	

Note 1: The fields of "Information on Disposition Stocks" is the measure taken by the securities that are under disposition. There is only data if the fields of "Notes of Disposition Stocks" is not 0, otherwise the value is 0 for type 9 and space for X.

"Single Order Limit" field: When the securities single orders reach the amount limit, they shall collect advance securities from investors based on "Securities of Advance Collection of Securities". Data unit: shares.

"Accumulated Multiple Order Limit" field: When the accumulated securities multiple orders

reach the amount limit, they shall collect advance securities from investors based on "Securities of Advance Collection of Securities". Data unit: shares.
"Percentage of Advance Collection of Securities" field: Data unit: %. Ex: 50 percent, data is shown as 050.
"Disposition Status" field: space denotes normal securities; 1 denotes disposition securities; 2 denotes second announcement of disposition securities; 3 denotes other disposition securities.

(7) E6 Emerging Stock Trading System: "Net Worth of Open-end Funds of the Previous Day File"

Length of each piece of data: 26

Field name	Type/length	Description	Note
Net worth of open-end funds codes	X(6)	Starting 'T' + add 5 numbers	
Net worth date	9(8)	YYYYMMDD (western year)	
Net worth of the previous day	9(5)v9(5)		
TERMINAL-CODE	X(2)	(HEXACODE: 0D 0A)	

(8) B01 Bond Trading System: “Data File of Basic Information on Securities Firms”
Length of each piece of data: 22

Field name	Type/length	Description	Note
Securities firm code	X(4)		
Securities firm name	X(16)		
TERMINAL-CODE	X(2)	(HEXACODE: 0D 0A)	

(9) B02 Bond Trading System: “Basic Data File of Bonds”
Length of each piece of data: 106

Field name	Type/length	Description	Note
Bond code	X(7)		Bond codes
Bond short name	X(16)		Chinese short name
Issuance day	9(8)		YYYYMMDD
Maturity	9(8)		YYYYMMDD
Duration	9(3)V9(4)		Duration of the previous business day (year)
Coupon interest rate	9(3)V9(4)		0052321
Reference price (Electronic Bond Trading System or fixed income)	9(3)V9(4)		Closing price on previous business day (yield-weighted average or per-hundred price at final 5 minutes)
Weighted average price (Electronic Bond Trading System or fixed income)	9(3)V9(4)		yield-weighted average of the previous business day (or per-hundred price)
Weighted average price (negotiation by over the counter)	9(3)V9(4)		yield-weighted average of the previous business day (or per-hundred price)
Total amount of issuance	9(12)		Dollar (New Taiwan Dollar)
Number of annual interest payment	9(3)		001
Number of annual interest calculated	9(3)		001
Benchmark bonds	X(1)		“Y”: benchmark bonds “N”: non-benchmark bonds
Transaction flag for computerized price negotiation	9(2)		01/08/09/10/11/12: Tradable (note) 00: Not tradable
Transaction flag for comparison transaction	9(2)		01/08/09/10/11/12: Trading (note) 00: Not tradable

Transaction flag for Exchangeable government bonds	9(2)		03: Tradable; 0: Not tradable
Reserved field	9(2)		Fill in this field with 0
Currency type	X(3)		\`TWD\`: New Taiwan Dollar \`USD\`: American Dollar \`JPY\`: Japanese Yen \`EUR\`: Euro \`AUD\`: Australian Dollar \`CNY\`: China Yuan \`ZAR\`: South African Rand \`CAD\`: Canadian Dollar
TERMINAL-CODE	X(2)	(HEXACODE: 0D 0A)	

Note: 08/09/10/11/12 is the newly added transaction flag for international bonds, the business for each flag number is as below Table (10), Basic Data File of Trading Units (B03)

(10) B03 Bond Trading System: "Data File of Basic Information on Trading Units"
Length of each piece of data: 14

Field name	Type/length	Description	Note
Business category	9(2)		00: Not applicable 01: Computerized price negotiation (NTD) 02: Comparison transaction (NTD) 03: Exchangeable government bonds 08: Computerized price negotiation (USD) 09: Computerized price negotiation (JPY) 10: Computerized price negotiation (EUR) 11: Computerized price negotiation (AUD) 12: Computerized price negotiation (CNY) 13: Computerized price negotiation (ZAR) 14: Computerized price negotiation (SGD) 15: Computerized price negotiation (CAD) 16: Computerized price negotiation (GBP)

			17: Computerized price negotiation (CHF) 18: Computerized price negotiation (HKD) 19. Comparison transaction (AUD) 20: Comparison transaction (CAD) 21: Comparison transaction (CNY) 22: Comparison transaction (EUR) 23: Comparison transaction (GBP) 24: Comparison transaction (JPY) 25: Comparison transaction (NZD) 26: Comparison transaction (USD) 27: Comparison transaction (ZAR) 28: Comparison transaction (CHF) 29: Comparison transaction (HKD) 30: Price Negotiation by Securities Firms (the professional board) (AUD) 31: Price Negotiation by Over the Counter (the professional board) (CAD) 32: Price Negotiation by Over the Counter (the professional board) (CNY) 33: Price Negotiation by Over the Counter (the professional board) (EUR) 34: Price Negotiation by Over the Counter (the professional board) (GBP) 35: Price Negotiation by Over the Counter (the professional board) (JPY) 36: Price Negotiation by Over the Counter (professional board) (NZD) 37: Price Negotiation by Over the Counter (the professional board) (USD) 38: Price Negotiation by Over the Counter (the professional board) (ZAR) 39: Price Negotiation by Over the Counter (the professional board) (CHF) 40: Price Negotiation by Over the Counter (the professional board) (HKD) 41: Price Negotiation by Over the Counter (the general board) (AUD) 42: Price Negotiation by Over the

			Counter (the general board) (CAD) 43: Price Negotiation by Over the Counter (the general board) (CNY) 44: Price Negotiation by Over the Counter (the general board) (EUR) 45: Price Negotiation by Over the Counter (the general board) (GBP) 46: Price Negotiation by Over the Counter (the general board) (JPY) j47: Price Negotiation by Over the Counter (the general board) (NZD) 48: Price Negotiation by Over the Counter (the general board) (USD) 49: Price Negotiation by Over the Counter (the general board) (ZAR) 50: Price Negotiation by Over the Counter (the general board) (CHF) 51: Price Negotiation by Over the Counter (the general board) (HKD)
Trading unit	9(10)		Unit: dollar
TERMINAL-CODE	X(2)	(HEXACODE: 0D 0A)	

(11) B04 Bond Trading System: "Data File of Interest Rate Curve Reference for Bonds"
Length of each piece of data: 80

Field name	Type/length	Description	Note
Date	9(8)		YYYYMMDD (western year)
Data category	X(2)		01: Corporate bonds 02: Government bonds
Rating	X(8)		Ex: twAAA, Spline, Svensson
Maturity	9(3)	Unit: month	Ex: 3 years = 36 months
Reference yield	9(3)v9(4)		
RESERVED	X(50)	Reserved field	Fill in the blank
TERMINAL-CODE	X(2)	(HEXACODE: 0D 0A)	

Note: Daily data will be generated at 16:30 after the close of the market

(12) B05 Bond Trading System: "Data File of Interest Rate Quote Reference for Bonds"
Length of each piece of data: 80

Field name	Type/length	Description	Note
Date	9(8)		YYYYMMDD (western year)
Data category	X(2)		01: Corporate bonds 02: Government bonds
Rating	X(8)		Ex: twAAA
Quotation trading firm	X(4)		

codes			
Quotation trading firm names	X(16)		
Maturity	9(3)	Unit: month	Ex: 3 years = 36 months
Reference yield	9(3)v9(4)		
RESERVED	X(30)	Reserved field	Fill in the blank
TERMINAL-CODE	X(2)	(HEXACODE: 0D 0A)	

Note: Daily data will be generated at 16:30 after the close of the market.

(13) B06 Bond Trading System: "Data File of Government Bond Indices"

A. Sample data

Length of each piece of data: 120

Sample field name	Type/length	Description	Note
Date	9(8)		YYYYMMDD (western year)
Data category	X(2)		01: Sample data
Sample serial number	9(6)		
Bond codes	X(7)		
Bond name	X(16)		
Ex-dividend price for bonds	9(3)v9(4)		
Source of bond prices	X(1)		1. Computerized price negotiation transaction 2. Computerized price negotiation quote 3. Quotation of securities firms 4. Continue to use the previous price
Bond accrued interest	9(3)v9(4)		
Bond dirty price	9(3)v9(4)		
Bond yield	9(3)v9(4)		
Bond maturity	9(2)v9(2)	Unit: year	
Duration	9(2)v9(2)	Unit: year	
Bond balance	9(4)v9(3)	Unit: billion	
Index attributes for bond category	X(1)		A: 1-3 years, B: 3-5 years, C: 5-7 years, D: 7-10 years, E: 10+ years
T+1 day bond status	X(1)		M: Ex-dividends D: Delete, blank means no change

RESERVED	X(33)	Reserved field	Fill in the blank
TERMINAL-CODE	X(2)	(HEXACODE: 0D 0A)	

B. Index data

Length of each piece of data: 120

Index field name	Type/length	Description	Note
Date	9(8)		YYYYMMDD (western year)
Data category	X(2)		02: Index data
Index category	X(3)		Index category such as: I00, I01, I03, I05, I07, I10
Index names	X(16)		Index names such as: Bond indices, 1-3 years, 3-5 years, 5-7 years, 7-10 years, 10+ years
Price indices	9(6)v9(4)		
Total return index	9(6)v9(4)		
Rises or declines of price index	S9(6)v9(4)	First place is plus or negative sign	
Rises or declines of total return index	S9(6)v9(4)	First place is plus or negative sign	
Weighted average coupon interest rate of index category	9(3)v9(4)		
Weighted average years to maturity of index category	9(2)v9(2)	Unit: year	
Weighted average yield of index category	9(3)v9(4)		
Weighted average duration of the index category	9(2)v9(2)	Unit: year	
RESERVED	X(25)	Reserved field	Fill in the blank
TERMINAL-CODE	X(2)	(HEXACODE: 0D 0A)	

Note: Daily data will be generated at 16:30 after the close of the market

(14) B07 Bond Trading System: "Data File of Fair Price for Each Period of Government Bonds"

Length of each piece of data: 120

Field name	Type/length	Description	Note
Date	9(8)		YYYYMMDD (western year)
Bond codes	X(7)		
Bond name	X(16)		
Maturity date	9(8)		YYYYMMDD (western year)

Until maturity	9(2)v9(2)	Unit: year	
Duration	9(2)v9(2)	Unit: year	
Coupon interest rate	9(3)v9(4)		
Number of annual interest payment	9(2)		01-12
Number of annual interest calculated	9(2)		01-12
Buyer yield	9(3)v9(4)		
Final best purchase price	9(3)v9(4)		
Seller yield	9(3)v9(4)		
Final best selling price	9(3)v9(4)		
Weighted average yield	9(3)v9(4)		
Weighted average per-hundred price	9(3)v9(4)		
Theoretical yield	9(3)v9(4)		
Theoretical price	9(3)v9(4)		
RESERVED	X(4)	Reserved field	Fill in the blank
TERMINAL-CODE	X(2)	(HEXACODE: 0D 0A)	

Note: Daily data will be generated at 16:30 after the close of the market

(15) D01 TPEx Derivative Trading System: “Basic Data File of Trading Firms”
Length of each piece of data: 22

Field name	Type/length	Description	Note
Trading firm codes	X(4)		
Trading firm names	X(16)		
TERMINAL-CODE	X(2)	(HEXACODE: 0D 0A)	

(16) D02 TPEx Derivative Trading System: “Basic Data File of Bonds”
Length of each piece of data: 72

Field name	Type/length	Description	Note
Bond code	X(7)		Bond codes
Bond short name	X(16)		Chinese short name
Currency type	X(3)		\`TWD\`: New Taiwan Dollar \`USD\`: American Dollar \`JPY\`: Japanese Yen \`EUR\`: Euro \`AUD\`: Australian Dollar \`CNY\`: China Yuan
Issuance day	9(8)		YYYYMMDD
Maturity date	9(8)		YYYYMMDD
Trading day starts	9(8)		YYYYMMDD
Number of annual interest payment	9(3)		001
Number of annual interest calculated	9(3)		001
Total amount of issuance	9(12)		Dollar (New Taiwan Dollar)
Benchmark bonds	X(1)		“Y”: benchmark bonds “N”: non-benchmark bonds
When-issued (WI) trading bonds	X(1)		‘Y’ refers to pre-issuance transactions
TERMINAL-CODE	X(2)	(HEXACODE: 0D 0A)	

(17) D03 TPEx Derivative Trading System: “Data File of Product Contracts”
Length of each piece of data: 16

Field name	Type/length	Description	Note
Business type	X(1)		1: Forward Rate Agreement (FRA) 2: Interest Rate Swap (IRS) 3: Bond Forward 4: Bond Option
Contract form 1	9(2)		

Contract form 2	9(2)		
Trading unit	9(6)v9(2)		Unit: billion
Quotation arrangement	X(1)		‘A’: Ascend ‘D’: Descend
TERMINAL-CODE	X(2)	(HEXACODE: 0D 0A)	

(18) D04 TPEx Derivative Trading System: “Trading data of the previous business day for Forward Rate Agreement (FRA)”
Length of each piece of data: 64

Field name	Type/length	Description	Note
Interest rate benchmark	X(15)	Linked floating rate benchmark	Ex: TAIBIR, TAIBIR 02
Contract form 1	9(2)		
Contract form 2	9(2)		
Market opening rate	9(3)v9(4)		
Highest interest rate	9(3)v9(4)		
Lowest interest rate	9(3)v9(4)		
Average interest rate	9(3)v9(4)		
Closing Rate	9(3)v9(4)		
Trading amount	9(6)v9(2)		Unit: billion
TERMINAL-CODE	X(2)	(HEXACODE: 0D 0A)	

(19) D05 TPEx Derivative Trading System: “Trading Data of the Previous Business Day for Interest Rate Swap (IRS)”
Length of each piece of data: 64

Field name	Type/length	Description	Note
Interest rate benchmark	X(15)	Linked floating rate benchmark	Ex: TAIBIR, TAIBIR 02
Contract form	9(2)		
Notional principal (trading unit)	9(2)		Unit: billion
Market opening rate	9(3)v9(4)		
Highest interest rate	9(3)v9(4)		
Lowest interest rate	9(3)v9(4)		
Average interest rate	9(3)v9(4)		
Closing rate	9(3)v9(4)		
Trading amount	9(6)v9(2)		Unit: billion
TERMINAL-CODE	X(2)	(HEXACODE: 0D 0A)	

(20) D06 TPEx Derivative Trading System: “Trading Data File of for Bond Forward for Previous Business Day”
Length of each piece of data: 54

Field name	Type/length	Description	Note
Bond code	X(7)		
Contract form	9(2)		
Market opening rate	9(3)v9(4)		
Highest interest rate	9(3)v9(4)		

Lowest interest rate	9(3)v9(4)		
Average interest rate	9(3)v9(4)		
Closing rate	9(3)v9(4)		
Trading amount	9(6)v9(2)		Unit: billion
TERMINAL-CODE	X(2)	(HEXACODE: 0D 0A)	

(21) D07 TPEx Derivative Trading System: “Trading data of the previous business day for Bond Option”
Length of each piece of data: 65

Field name	Type/length	Description	Note
Option type	X(1)		C - CALL (Call Option) P - Put (Put Option)
Bond code	X(7)		
Contract form	9(2)		
Performance rate code	X(3)		K1 - K21
Performance rate	9(3)v9(4)		
Market opening volatility rate	9(3)v9(4)		
Highest volatility rate	9(3)v9(4)		
Lowest volatility rate	9(3)v9(4)		
Average volatility rate	9(3)v9(4)		
Market closing volatility rate	9(3)v9(4)		
Trading amount	9(6)v9(2)		Unit: billion
TERMINAL-CODE	X(2)	(HEXACODE: 0D 0A)	

(22) D08 TPEx Derivative Trading System: “Floating Rate Benchmark File”
Length of each piece of data: 17

Field name	Type/length	Description	Note
Floating rate benchmark	X(15)	Linked floating rate benchmark for Forward Rate Agreement (FRA) and Interest Rate Swap (IRS)	Ex: TAIBIR, TAIBIR 02
TERMINAL-CODE	X(2)	(HEXACODE: 0D 0A)	

(23) A01 Index System: "Data File of TPEx 50 Index Constituents"
Length of each piece of data: 80

Field name	Type/length	Description	Note
Codes for constituents	X(6)		
Short name for constituents	X(16)		
Number of shares issued	9(14)		
Free float factor	9(3)		
Closing price of the previous day	9(5)v9(4)		
RESERVED	X(30)	Reserved field	Fill in the blank
TERMINAL-CODE	X(2)	(HEXACODE: 0D 0A)	
First:			
Data date	9(8)		YYYYMMDD (western year)
Stock number for constituents	9(5)		
Length of data	9(3)		
Index codes	X(6)		
Index names	X(20)		
Base value	9(18)		Fill in the zero
Previous-day closing index	9(5)v99		
Blank	X(11)		
TERMINAL-CODE	X(2)	(HEXACODE: 0D 0A)	

(24) A02 Index System: "Data File of TPEx 50 Index of the Day"
Length of each piece of data: 21

Field name	Type/length	Description	Note
Index codes	X(6)		
Index time	9(6)		
Index value	9(5)v99		
TERMINAL-CODE	X(2)	(HEXACODE: 0D 0A)	

(25) A03 Index System: “Data File of Constituents of the TPEx Taiwan Treasury Benchmark Index”

Length of each piece of data: 80

Field name	Type/length	Description	Note
Constituents Code	X(7)		
Short name for constituents	X(16)		
Final per-hundred price	9(3)v9(4)		After-tax interest
Accrued interest	9(3)v9(4)		
RESERVED	X(11)	Reserved field	Fill in the blank
TERMINAL-CODE	X(2)	(HEXACODE: 0D 0A)	
First:			
Data date	9(8)		YYYYMMDD (western year)
Bound number for constituents	9(5)		
Length of data	9(3)		
Index codes	X(6)		
Index names	X(20)		
Base value	9(3)v9(4)		
Previous-day closing index	9(5)v99		
Blank	X(22)		
TERMINAL-CODE	X(2)	(HEXACODE: 0D 0A)	

(26) A04 Index System: “Data File of Taiwan Treasury Benchmark Index”

Length of each piece of data: 21

Field name	Type/length	Description	Note
Index codes	X(6)		
Index time	9(6)		
Index value	9(5)v99		
TERMINAL-CODE	X(2)	(HEXACODE: 0D 0A)	

(27) A07 Index System: “Data File of High Dividend Yield Index Constituents”
Length of each piece of data: 80

Field name	Type/length	Description	Note
Codes for constituents	X(6)		
Short name for constituents	X(16)		
Number of shares issued	9(14)		
Free float factor	9(3)		
Closing price of the previous day	9(5)v9(4)		
RESERVED	X(30)	Reserved field	Fill in the blank
TERMINAL-CODE	X(2)	(HEXACODE: 0D 0A)	
First:			
Data date	9(8)		YYYYMMDD (western year)
Stock number for constituents	9(5)		
Length of data	9(3)		
Index codes	X(6)		
Index names	X(20)		
Base value	9(18)		Fill in the zero
Previous-day closing index	9(5)v99		
Blank	X(11)		
TERMINAL-CODE	X(2)	(HEXACODE: 0D 0A)	

(28) A08 Index System: “Data File of High Dividend Yield Index of the Day”
Length of each piece of data: 21

Field name	Type/length	Description	Note
Index codes	X(6)		
Index time	9(6)		
Index value	9(5)v99		
TERMINAL-CODE	X(2)	(HEXACODE: 0D 0A)	

(29) A09 Index System: “Data File of Labor Employment 88 Index Constituents”
Length of each piece of data: 80

Field name	Type/length	Description	Note
Codes for constituents	X(6)		
Short name for constituents	X(16)		
Number of shares issued	9(14)		
Closing price of the previous day	9(5)v9(4)		
RESERVED	X(33)	Reserved field	Fill in the blank
TERMINAL-CODE	X(2)	(HEXACODE: 0D 0A)	
First:			
Data date	9(8)		YYYYMMDD (western year)
Stock number for constituents	9(5)		
Length of data	9(3)		
Index codes	X(6)		
Index names	X(20)		
Base value	9(18)		Fill in the zero
Previous-day closing index	9(5)v99		
Blank	X(11)		
TERMINAL-CODE	X(2)	(HEXACODE: 0D 0A)	

(30) A10 Index System: “Data File of Labor Employment 88 Index of the Day”
Length of each piece of data: 21

Field name	Type/length	Description	Note
Index codes	X(6)		
Index time	9(6)		
Index value	9(5)v99		
TERMINAL-CODE	X(2)	(HEXACODE: 0D 0A)	

(31) A11 Index System: “Data File of TPEx Compensation Index Constituents”
Length of each piece of data: 80

Field name	Type/length	Description	Note
Codes for constituents	X(6)		
Short name for constituents	X(16)		
Number of shares issued	9(14)		
Closing price of the previous day	9(5)v9(4)		
RESERVED	X(33)	Reserved field	Fill in the blank
TERMINAL-CODE	X(2)	(HEXACODE: 0D 0A)	
First:			
Data date	9(8)		YYYYMMDD (western year)
Stock number for constituents	9(5)		
Length of data	9(3)		
Index codes	X(6)		
Index names	X(20)		
Base value	9(18)		Fill in the zero
Previous-day closing index	9(5)v99		
Blank	X(11)		
TERMINAL-CODE	X(2)	(HEXACODE: 0D 0A)	

(32) A12 Index System: “Data File of TPEx Compensation Index of the Day”
Length of each piece of data: 21

Field name	Type/length	Description	Note
Index codes	X(6)		
Index time	9(6)		
Index value	9(5)v99		
TERMINAL-CODE	X(2)	(HEXACODE: 0D 0A)	

(33) A13 Index System: “Data File of TPEx Corporate Governance Index Constituents”
Length of each piece of data: 80

Field name	Type/length	Description	Note
Codes for constituents	X(6)		
Short name for constituents	X(16)		
Number of shares issued	9(14)		
Closing price of the previous day	9(5)v9(4)		
RESERVED	X(33)	Reserved field	Fill in the blank
TERMINAL-CODE	X(2)	(HEXACODE: 0D 0A)	
First:			
Data date	9(8)		YYYYMMDD (western year)
Stock number for constituents	9(5)		
Length of data	9(3)		
Index codes	X(6)		
Index names	X(20)		
Base value	9(18)		Fill in the zero
Previous-day closing index	9(5)v99		
Blank	X(11)		
TERMINAL-CODE	X(2)	(HEXACODE: 0D 0A)	

(34) A14 Index System: “Data File of TPEx Corporate Governance Index of the Day”
Length of each piece of data: 21

Field name	Type/length	Description	Note
Index codes	X(6)		
Index time	9(6)		
Index value	9(5)v99		
TERMINAL-CODE	X(2)	(HEXACODE: 0D 0A)	

(35) A015 Index System: “Data File of TPEx 200 Index Constituents”
Length of each piece of data: 80

Field name	Type/length	Description	Note
Codes for constituents	X(6)		

Short name for constituents	X(16)		
Number of shares issued	9(14)		
Free float factor	9(3)		
Closing price of the previous day	9(5)v9(4)		
RESERVED	X(30)	Reserved field	Fill in the blank
TERMINAL-CODE	X(2)	(HEXACODE: 0D 0A)	
First:			
Data date	9(8)		YYYYMMDD (western year)
Stock number for constituents	9(5)		
Length of data	9(3)		
Index codes	X(6)		
Index names	X(20)		
Base value	9(18)		Fill in the zero
Previous-day closing index	9(5)v99		
Blank	X(11)		
TERMINAL-CODE	X(2)	(HEXACODE: 0D 0A)	

(36) A16 Index System: “Data File of TPEx 200 Index of the Day”
Length of each piece of data: 21

Field name	Type/length	Description	Note
Index codes	X(6)		
Index time	9(6)		
Index value	9(5)v99		
TERMINAL-CODE	X(2)	(HEXACODE: 0D 0A)	

(37) A17 Index System: “Data File of TPEx 200 Total Return Index Constituents”
Length of each piece of data: 80

Field name	Type/length	Description	Note
Codes for constituents	X(6)		
Short name for constituents	X(16)		
Number of shares issued	9(14)		
Free float factor	9(3)		

Closing price of the previous day	9(5)v9(4)		
RESERVED	X(30)	Reserved field	Fill in the blank
TERMINAL-CODE	X(2)	(HEXACODE: 0D 0A)	
First:			
Data date	9(8)		YYYYMMDD (western year)
Stock number for constituents	9(5)		
Length of data	9(3)		
Index codes	X(6)		
Index names	X(20)		
Base value	9(18)		Fill in the zero
Previous-day closing index	9(5)v99		
Blank	X(11)		
TERMINAL-CODE	X(2)	(HEXACODE: 0D 0A)	

(38) A18 Index System: “Data File of TPEx 200 Total Return Index of the Day”
Length of each piece of data: 21

Field name	Type/length	Description	Note
Index codes	X(6)		
Index time	9(6)		
Index value	9(5)v99		
TERMINAL-CODE	X(2)	(HEXACODE: 0D 0A)	

(39) A00 Index System: “Data File of TPEx Indices Constituents”
Length of each piece of data: 30

Field name	Type/length	Description	Note
Index codes	X(6)		
Codes for constituents	X(6)		
Short name for constituents	X(16)		
TERMINAL-CODE	X(2)	(HEXACODE:0D 0A)	
First：			
Data date	9(8)		YYYYMMDD (western year)

Appendix 4: The TPEx Control Message (Format 99)

(A) Message Specifications: “The TPEX Control Message” is a notification message. The specifications are as below:

Message Name: Format 99 (The TPEx Control Message)

Length of record: 66

Item name	Attribute	Length	Description	Note
ESC-CODE	X(01)	1	(ASCII 27)	
Multicast serial number	9(8)	4	PACK BCD Please see Note (1)	Same as Note (1)
Multicast time	9(6)	3	PACK BCD (HHMMSS)	Multicast time (HHMMSS)
Format code	X(02)	2	"99"	The TPEx Control Message
Application system code	X(2)	2		System code 01 - Emerging Stocks 02 – Bond System ~~03 - (TPEx) Main board stocks~~ 04 - Derivative system 05- Index System ~~06 - (TPEx) Main board stock (second IP)~~
Host IP	X(15)	15	Please see Note (2) Blank on the right of the left side	Online Host IP Address xxx.xxx.xxx.xxx (for information query)
File Code	X(3)	3	Please see Note (3)	Filecode for download from TPEx is required or blank
System version	9(2)v9(2)	2	Specification version number of the system data	Ex: **0540 = version 5.4**
Market opening flag	X(1)	1	‘B’-Before Market Opens ‘O’-During Trading ‘C’-Market Closes Please see Note (4)	The market opening flag of application system (only for emerging companies, bond system and derivative system)
RESERVED	X(30)	30	Fill in the blank	Reserved field
CHECK SUM	X(01)	1	The XOR value of each bit in all bytes from the	

			2nd Byte to the one preceding this field shall be recorded in this field	
TERMINAL-CODE	X(02)	2	(HEXACODE: 0D 0A)	

Note:

(1) "Multicast serial number":

A. "00000000": When the TPEx backup system starts, "The TPEX Control Message" (Format 99) is transmitted through Multicast mechanism, informing the recipient to reset the online multicast serial number (Multicast Number). After the reset, the multicast serial number will start from 00000001. "Query" will also record from the multicast serial number 00000001 and market trading at the time will be re-transmitted.

Case 1: Original host (IP= 10.153.1.1) system is switched to backup host (IP= 10.153.1.2). User will be notified to download File B01 (Basic Data File of Bond Firms"

ESC-CODE	Multicast serial number	Multicast time	Format code	Application system code	Host IP
0x1c	00000000	123456	99	02	10.153.1.2

File Code	System version	Market opening flag benchmark	RESERVED	CHECK SUM	TERMINAL-CODE
B01	0540	O		(Calculation)	0x1b

B. Under general situation, the multicast serial number is still followed to the application systems numbers at the time.

(2) "Host IP": To inform users the information on IP address of the TPEx current trading transmission system.

(3) "File Code":

File Codes in "Specific Files" data as compiled by TPEx

(4) "Market Opening Flag":

C. Both the daily bonds and emerging stocks systems will send a "TPEx Control Message" when the market opens, to say all application systems are open with the value of "O: During Trading".

Case 2: Market opening of emerging stocks

ESC-CODE	Multicast serial number	Multicast time	Format code	Application system code	Host IP
0x1c	00000320	090001	99	01	10.153.1.1

File Code	System version	Market opening flag benchmark	RESERVED	CHECK SUM	TERMINAL-CODE
	0540	O		(Calculation)	0x1b

D. When a "TPEx Control Message" is sent at other times, the value of this field indicates the status of each application system at the time. The message is sent with a possible value “B: Before Market Opens” or “O: During Trading” or “C: Market Closes”.

(B) Transmission method: Immediately transmit “TPEx Control Message” by using the current multicast message mode.