



FINRA[®]
Securitized Products
Dissemination ServiceSM
for 144A Transactions
(SPDS-144ASM)

*For Securitized Products Transactions Reported to
TRACE*

Data Feed Interface Specification

Version 1.3
May 18, 2015

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Introduction

1.0 Introduction

1.1 Background

In 2011, the Financial Industry Regulatory Authority® (FINRA®) added securitized products to the Trade Reporting and Compliance EngineSM (TRACESM). Under FINRA Rule 6700 Series, effective May 16, 2011, all FINRA member firms are required to report trades for eligible asset-backed securities, mortgage backed securities (including and other like securities, collectively referred to hereinafter as securitized products, into TRACE. For more information on TRACE, please refer to the FINRA website at http://www.finra.org/mkt_sys/trace_info.asp.

In association with the addition of securitized products to TRACE, effective November 12, 2012, FINRA, through its service provider NASDAQ OMX, introduced the Securitized Products Dissemination ServiceSM (SPDSSM). The SPDS data feed is used to broadcast last sale price and other relevant trade data for securitized products to authorized market data vendors. **Note: The initial implementation of SPDS consisted of the dissemination of Agency Pass-Through Mortgage-Backed Securities that are traded to be announced (“TBA”).**

Beginning on July 22, 2013, SPDS began to disseminate Agency Pass-Through and SBA-Backed specified pool transactions (“MBS”), as well as SBA-Backed Securities that are traded to be announced (“SBA TBA”).

SPDS will disseminate trades of certain Asset-Backed Securities (ABS) as described in Rule Filing SR-FINRA-2013-046. In addition, transactions in certain TRACE-Eligible asset-backed securities that are effected pursuant to Rule 144A under the Securities Act of 1933 (“Rule 144A transactions”) will be disseminated via a dedicated feed, separate from SPDS. The new feed will be similar in format to SPDS and will be identified as SPDS-144A. Like the original SPDS, SPDS-144A will disseminate trades real-time as they are reported to TRACE. The SPDS-144A feed will be distributed in addition to, and not as a replacement of, the current SPDS feed for securitized products data reporting.

Note: Of the current SP sub products subject to dissemination, only ABS securities may be identified as Rule 144A securities.

As the transactions are entered into TRACE, FINRA will automatically generate data messages to be disseminated real-time on SPDS-144A. SPDS-144A broadcasts last sale price and trade data on securitized products transactions reported to TRACE. The service is similar in message structure and delivery to the Bond Trade Dissemination ServiceSM (BTDSSM) and Agency Debt Trade Dissemination ServiceSM (ATDSSM) broadcast feeds. Since SPDS-144A is a separate product from other TRACE feeds, interested vendors are required to subscribe to receive this feed, regardless of whether or not they receive the BTDS or the ATDS feeds.

SPDS-144A originates from NASDAQ data centers located in the New York and Mid-Atlantic areas. These locations provide back-up capability to one another in the event of an emergency at either site.

1.2 Scope

This document defines the communications interface and message format requirements for the output from SPDS-144A. All references to a time of day in this specification are in Eastern Standard/Daylight Time. Direct access to FINRA and NASDAQ OMX data feed products is available

FINRA Securitized Products Dissemination Service (SPDS-144A)

Introduction

through select network providers

(<http://www.nasdaqtrader.com/content/ProductsServices/Trading/extranets.pdf>).

The SPDS-144A data feed contains information from the CUSIP Service Bureau. As a result, a firm must have a CUSIP daily licensing agreement in place to receive the direct SPDS-144A data feed product. Please refer to www.cusip.com for more information.

It should be noted that FINRA has the right to add, delete, or modify the message formats outlined in this document as needed. In advance of any data format changes, FINRA will publicly notify its SPDS-144A customers by posting a news item on the Internet with the details of the release. FINRA will also update this SPDS-144A interface specification document on a regular basis.

System Description

2.0 General System Description

2.1 Interface Protocol

Regardless of the network provider used, all transmissions from FINRA to direct connect data feed subscribers will be transmitted in a non-interactive simplex mode using Internet Protocol (IP) multicasting. A broadcast transmission with no answer back will be employed. A version of Cisco's Protocol Independent Multicast (PIM) routing protocol will be used to route multicast packets through the network. The transmission characteristics are outlined in the next section of the SPDS-144A specifications.

SPDS-144A is a separate channel on the private data work. Initially, the bandwidth for the SPDS-144A channel will not exceed 56 kilobits per second (kbps). Please note that NASDAQ OMX reserves the right to modify the bandwidth allocation for the IP call and/or to upgrade the network connectivity as system capacity dictates.

Transmission Characteristics

3.0 Transmission Characteristics

3.1 IP Multicast Characters

All transmissions will be in standard ASCII code with 7 data bits (8th bit is zero). This is in adherence to RFC 1112 standard from The NIC Group for IP multicasting protocol. A version of Cisco’s PIM routing protocol will be used to route multicast packets through the network. A quiet line condition will be indicated by a steady marked line.

3.2 IP Multicast Addressing

As stated above, the IP multicast protocol is defined by Request For Comment (RFC) 1112 from The NIC Group. This RFC states:

IP multicasting is the transmission of an IP datagram to a “host group”, a set of zero or more hosts identified by a single IP destination address. A multicast datagram is delivered to all members of its destination host group with the same “best-efforts” reliability as regular unicast IP datagrams, i.e., the datagram is not guaranteed to arrive intact at all members of the destination group or in the same order relative to other datagrams.

FINRA, through its service provider NASDAQ OMX, offers both primary and back-up groups for its data feed services. The data messages should be identical for both groups with the exception of the following UDP message header field values: Source IP Address, Destination IP Address, UDP Source Port Number, and UDP Destination Port Address.

Each IP Multicast stream will be assigned a unique Class D host group address for transmission via the extranets. The Class D addresses have been registered by NASDAQ with The NIC Group. For the SPDS-144A data feed, the outgoing IP Multicast addresses and port assignments will be as follows:

Data Feed	Primary Groups			Back-Up Groups		
	Class D IP Address	Port ₁₆	Port ₁₀	Class D IP Address	Port ₁₆	Port ₁₀
SPDS-144A (A-Z)	TBD	TBD	TBD	TBD	TBD	TBD

The purpose of two host groups is to provide an extra layer of data redundancy within the extranet and customer networks. By reading and utilizing both multicast groups into their production environment, IP multicast customers can help to protect themselves against network anomalies which could cause interruptions in data flow. To minimize data loss, FINRA strongly recommends that data feed customers process both the primary and back-up groups within their networks.

Transmission Characteristics

3.3 Transmission Block

Messages sent to data feed recipients are blocked to provide more efficient line utilization. Each block contains a maximum of 1000 data characters. Messages may not span blocks. Each message in a block ends in a Unit Separator (US) except the last message that ends in an End of Text (ETX). With the exception of certain messages, (e.g. Control messages) each message sent over SPDS-144A contains a fixed format header and a text section that has a format and length that varies for each message type.

DATA BLOCK FORMAT

UDP/IP Headers	S	Message 1	U	Message 2	U	Message n	E
	O	header and	S	header and	S	header and	T
	H	text		text		text	X
----- 1000 Byte Block (Max) -----							

3.4 UDP/IP Headers

Each IP datagram includes the IP and UDP headers as well as the block text data. The datagram fields can be read left to right starting at the top and working your way down through the datagram.

	0	16	32
IP	VERSION 4 bits	HEADER LENGTH 4 bits	TYPE OF SERVICE 8 bits
	IDENTIFICATION 16 bits		TOTAL LENGTH (in bytes) 16 bits
	TIME TO LIVE 8 bits	PROTOCOL 8 bits	FLAGS 3 bits
	FRAGMENT OFFSET 13 bits		
	IP HEADER CHECKSUM 16 bits		
SOURCE IP ADDRESS 32 bits			
DESTINATION IP ADDRESS 32 bits			
UDP	UDP SOURCE PORT NUMBER 16 bits		UDP DESTINATION PORT NUMBER 16 bits
	UDP LENGTH 16 bits		UDP CHECKSUM 16 bits
	UDP Data (BLOCK DATA < 1000 BYTES)		

3.5 Field Descriptions

3.5.1 IP Header Fields

The following field descriptions pertain to the IP header:

- **VERSION** – 4 bit field used to define the current version of the IP protocol for transmission. The value will be set to 4.
- **HEADER LENGTH** – 4 bit field to define the number of 32 bit words in the IP header portion of

Transmission Characteristics

the datagram. For multicast packets being generated, the value will be set to 5.

- **TYPE OF SERVICE** – 8 bit field with the first 3 bits generally ignored by most network equipment. The next 5 bits are set to zero. Based on this description this field will always have the value of zero (0) for all multicast packets.
- **TOTAL LENGTH** – 16 bit field contains the length in bytes of the entire IP datagram (including UDP header). Since the maximum length of the block text is 1000 bytes, the maximum value for this field is 1028.
- **IDENTIFICATION FIELD** – 16 bit field contains a value that is incremented by one for each packet sent by the system. Not supported for UDP/IP packets.
- **FLAGS AND FRAGMENT OFFSET** – Combined 16 bit field is only used when an IP datagram is fragmented. Not supported for UDP/IP packets.
- **TIME TO LIVE (TTL)** – 8 bit field contains a value that determines the number of routers that a datagram can pass through. Each router that forwards the datagram will decrement this value by one; when it reaches zero, the router throws it away. It is initially set to 32 by the multicast source systems.
- **PROTOCOL** – 8 bit field contains a value representing the next level encapsulated protocol. Since multicasting uses UDP, the value is set to 0x17 which is 23 decimal.
- **HEADER CHECKSUM** – 16 bit field contains a checksum made up of the IP header fields only. The calculation is based on the one's complement sum of the header broken into 16 bit words.
- **IP SOURCE ADDRESS** – 32 bit field contains the Registered Class C address of the multicast datagram source system. Address may vary depending on origin (system and location) of FINRA data. FINRA strongly warns customers against coding their systems for a particular IP source address. *FINRA will not notify data feed customers in advance when it changes the origin of data.*
- **IP DESTINATION ADDRESS** – 32 bit field contains the Registered Class D address for each IP Multicast Group. Please see Section 3.2 for a list of current multicast groups.

Transmission Characteristics

3.5.2 UDP Header Fields

The following field descriptions pertain to the UDP header:

- **UDP SOURCE PORT NUMBER** – 16 bit field identifies the Port₁₆ address for each IP multicast group. Please see Section 3.2 for a list of the current source port numbers.
- **UDP DESTINATION PORT NUMBER** – 16 bit field identifies the Port₁₀ address for each IP multicast group. Please see Section 3.2 for a list of the current destination port numbers.
- **UDP LENGTH** – 16 bit field contains the length in bytes of the UDP headers plus the Data Block. The maximum value is 1008.
- **UDP CHECKSUM** – 16 bit field contains a checksum made up of the UDP header plus the Data Block. In addition, it includes the UDP “pseudo header which is made up of selected fields from the IP headers such as Source Address, IP Destination Address, Protocol, and UDP Length. The calculation is based on the one’s complement sum of the datagram broken into 16 bit words.

3.5.3 UDP Data Fields

The following field descriptions pertain to the Data Block transmission:

- **SOH AND ETX** – The start of a block of data will be indicated by the Start of Header (SOH) control character. The end of the block will be signified by an End of Text (ETX) control character.
- **US** – The Unit Separator (US) character is utilized in message blocks with multiple messages to signify the end of the preceding message but not the end of the block.
- **BLOCK TEXT** – The block text may consist of one or more messages. A message may not span block boundaries. A message shall consist of a Message Header and a Message Text. Each message in a block shall be delimited by a US character except the last message, which will be delimited by an ETX character.
- **DATA FORMAT** – Alphabetic and alphanumeric fields will be left justified and space (hex 20) filled unless otherwise noted. Numeric fields will be right justified and zero (hex 30) filled unless otherwise noted.

Transmission Characteristics

3.6 Retransmission Capability

FINRA front-end processor will log messages transmitted to recipients. This log will be accessible as a record of messages sent, and will provide a full retransmission capability. Message types not logged and therefore unavailable for retransmission include:

Category	Type	Value
C	T	Line Integrity

Retransmission requests may be sent via e-mail to RETRANQ@nasdaq.com.

To ensure proper identification of each vendor, a line specific password must be supplied to the operator taking the request. To request a retransmission, the firm must provide the following information to NASDAQ OMX Operations:

- Company Name
- NASDAQ Retransmission Password
- Missing Message Sequence Number(s)
- Contact Name and Telephone Number

To obtain a firm's retransmission requester and password information, please contact FINRA TRACE Data Services at (888) 507-3665 or TRACEDataServices@finra.org.

Retransmission requests will only be honored during the period from the Start of Day (Category C – Type I) message through the End of Retransmission Request (Category C – Type K) message. The recipient can specify by message sequence number or date which message range the recipient would like retransmitted. For SPDS-144A, only the current day's data will be made available for retransmissions.

Transmission Characteristics

Retransmissions will be assigned a low priority in the outgoing message queue in order to prevent any delay or interference with current message delivery. As with original transmissions, retransmissions are broadcast to all SPDS-144A direct data feed subscribers. Therefore, it is the responsibility of the data feed recipient to ignore retransmitted messages not intended for their firm. Retransmission messages can be identified by the following attributes:

- **Message Blocking:** Retransmission messages will never be mixed with current messages in the same message block, but current message blocks and retransmission blocks can be interspersed. Recipient retransmission messages will be sent one block at a time.
- **Message Sequence Number:** The message header will contain the same message sequence number as the original SPDS-144A message. Please note that if the Message Sequence Number is reset to zero, no intra-day messages sent prior to the reset can be retransmitted.
- **Retransmission Requester:** The message header will contain the unique two-character retransmission requester assigned to the intended recipient. Each firm is given a unique two-character retransmission requestor that they should code for in their system. Please note that firms should also code their systems to process the three universal retransmission requesters outlined in Section 4.4 of this document.
- **Date/Time:** The message header will contain the same date and time stamp as the original SPDS-144A message.

Message Header

4.0 Message Header

Each SPDS-144A message will begin with a 27-byte header. The Message Header defines the type of data in the subsequent message. Please note that Alphabetic and Alphanumeric fields are left justified and space filled unless otherwise specified. Numeric fields are right justified and zero filled unless otherwise specified.

The Message Header always contains 27 characters consisting of the following data fields:

Message Category	Message Type	Reserved	Retransmission Requester	Message Sequence Number	Market Center	Date/ Time
1	1	1	2	7	1	14

27 BYTES

4.1 Message Category

The Message Category is a 1 byte, alphabetic character. This field along with the Message Type, identifies the message. The following table defines the Message Categories that SPDS-144A supports.

Category	Usage
T	Trade
C	Control
A	Administrative

4.2 Message Type

The Message Type is a 1 byte, alphabetic character. This field further identifies the type of information included in the message. The following defines the Message Types (in conjunction with the Message Categories) for SPDS-144A dissemination:

Trade Messages:

Category	Type	Usage
T	M	Trade Report
T	N	Trade Cancel
T	O	Trade Correction

Control Messages:

Category	Type	Usage
C	I	Start of Day

Message Header

C	J	End of Day
C	O	Market Session Open
C	C	Market Session Close
C	K	End of Retransmission Requests
C	L	Sequence Number Reset
C	T	Line Integrity
C	X	End of Trade Session
C	Z	End of Transmissions

Administrative Messages:

Category	Type	Usage
A	E	Daily Trade Summary
A	H	Trading Halt
A	A	General Administrative Message (Future)

4.3 Reserved

This one-byte field is reserved for future use. In the initial release, this field will be space-filled.

4.4 Retransmission Requester

The Retransmission Requester is a 2 byte, alphanumeric space filled identifier that signifies the intended recipient of the message. FINRA assigns retransmission codes to recipients of the service on a case-by-case basis. Retransmissions will be sent to all recipients, and it is the responsibility of each recipient to discard retransmitted messages not requested by them.

Message Header

Certain specific or global retransmission codes exist. They are all upper case and are represented by the following:

Code	Usage
O (space)	An original transmission to all recipients
A (space)	A test transmission or retransmission. May not contain accurate or meaningful data.
* (space)	A retransmission to all recipients

4.5 Message Sequence Number (MSN)

The Message Sequence Number is a 7 byte, numeric field that identifies each message. At the beginning of each operational cycle this number will begin with 0000000 as the first message, and will be incremented by one each time a new message is transmitted with the following exceptions:

- Retransmitted messages have the sequence number of the original message.
- Line Integrity Messages (Category C – Type T) contain the sequence number of the last message transmitted that was not a retransmitted message.
- Sequence Number Reset Messages (Category C – Type L) contain the number to which the Message Sequence Number counter is to be reset. This number is either zero or a number greater than the highest number previously transmitted.
- Control Messages, Category C – Type J (End of Day), Category C – Type K (End of Retransmission Requests), Category C – Type Z (End of Transmissions), and Category C – Type X (End of Trade Session), will be transmitted three times to ensure positive recognition. The message sequence counter is incremented by one on the first transmission only.
- Control Messages, Category C – Type I (Start of Day) will contain a message sequence number of zero. Category C – Type I messages will be transmitted three times to ensure positive recognition, but will have zero as the sequence number on all three messages.

4.6 Market Center Originator ID

The Market Center is a 1 byte, alphabetic character to indicate the Market Center or Exchange that originated the message.

Code	Usage
O	Over the Counter

Message Header

4.7 Date/Time

SPDS-144A will place a time stamp on each message disseminated to recipients of the service. The date/time is the calendar date and time that the record was entered into FINRA’s trade reporting system. It is 14 bytes, Numeric, in the format:

Date Year	Date Month	Date Day	Time Hour	Time Minute	Time Second
4	2	2	2	2	2

Date Year: The year the transaction was reported. This four byte field will be stated in numeric format, for example *2012*.

Date Month: The month the transaction was reported. This two byte field is stated in numeric format with possible values of 01 to 12.

Date Day: The day of the month the transaction was reported. This two byte field is stated in numeric format with possible values of 01 to 31.

Time Hour: The hour of the day the transaction was reported in military time. This two byte field is stated in numeric format with possible values of 00 to 23.

Time Minute: The minute of the hour the transaction was reported. This two byte field is stated in numeric format with possible values of 00 to 59.

Time Second: The second of the minute the transaction was reported. This two byte field is stated in numeric format with possible values of 00 to 59.

Note: All times are in Eastern Time.

Message Formats

5.0 Data Formats

This section outlines the fixed format Trade and Administrative message formats used to disseminate the SPDS-144A data feed to direct connect subscribers. For field definitions, please refer to Section 7 of this specification document.

Note: SPDS-144A Control message formats are comprised of the message header only. For processing information on the Control messages, please refer to Section 10 of this specification document.

5.1 Trade Messages

The following message formats are used to disseminate SPDS-144A. For processing guidelines, please refer to Section 8.

5.1.1 Trade Reports

Category T – Type M

The following message type is used to transmit trade transaction information to SPDS-144A subscribers.

Label

Symbol	CUSIP	BSYM	Sub-Product Type
14	9	12	5

Subtotal: 40 Bytes

Additional Information

Original Dissemination Date
8

Subtotal: 8 Bytes

Trade Information

Quantity Indicator	Quantity	Price	Commission Indicator	Special Price Indicator
1	14	11	1	1

Side*	As/Of Indicator	Execution Date/Time	Future Use	Sale Condition 3
1	1	14	2	1

Message Formats

Sale Condition 4 1	Settlement Date 8	Factor 12
--------------------------	-------------------------	--------------

Reporting Party Type* 1	Contra Party Type * 1	Future Use 1
-------------------------------	-----------------------------	-----------------

Subtotal: 71 Bytes

Summary Information

Change Indicator 1

Subtotal: 1 Byte

Total Message Size: 120 Bytes

*** Please note that for ABS trades, the Side, Reporting Party Type and Contra Party Type fields will not be populated, and will instead be space-filled.**

Message Formats

5.1.2 Trade Cancel

Category T- Type N

This message is used to notify SPDS-144A customers if a trade report entered during the past 20 business days, inclusive of the current day, has been cancelled (prior day Cancels are identified where the Original Dissemination Date is populated with a date prior to the current day – up to 20 business days prior). A detailed summary section containing high/low/last sale price information for the issue will follow the original trade section.

Label

Symbol	CUSIP	BSYM	Sub-Product Type
14	9	12	5

Subtotal: 40 Bytes

Additional Information

Original Dissemination Date	Original Message Sequence Number	Function
8	7	1

Subtotal: 16 Bytes

Original Trade Information

Quantity Indicator	Quantity	Price	Commission Indicator	Special Price Indicator
1	14	11	1	1

Side*	As/Of Indicator	Execution Date/Time	Future Use	Sale Condition 3
1	1	14	2	1

Sale Condition 4	Settlement Date	Factor
1	8	12

Message Formats

Reporting Party Type*	Contra Party Type *	Future Use
1	1	1

Subtotal: 71 Bytes

Summary Information

High Price	Low Price	Last Sale Price	Change Indicator
11	11	11	1

Subtotal: 34 Bytes

Total Message Size: 161 Bytes

*** Please note that for ABS trades, the Side, Reporting Party Type and Contra Party Type fields will not be populated, and will instead be space-filled.**

Message Formats

5.1.3 Trade Correction

Category T, Type O

This message is used to notify SPDS-144A customers if a trade report entered during the past 20 business days, inclusive of the current day, has been corrected (prior day Corrections are identified where the Original Dissemination Date is populated with a date prior to the current day – up to 20 business days prior). If the original trade was not disseminated, the Original Dissemination Date will be space-filled and the Original Message Sequence Number will be zero-filled.

A detailed summary section containing high/low/last sale price information for the issue will follow the correction trade section.

Label

Symbol	CUSIP	BSYM	Sub-Product Type
14	9	12	5

Subtotal: 40

Additional Information

Original Dissemination Date	Original Message Sequence Number	Function
8	7	1

Subtotal: 16 Bytes

Original Trade Information

Quantity Indicator	Quantity	Price	Commission Indicator	Special Price Indicator
1	14	11	1	1

Side*	As/Of Indicator	Execution Date/Time	Future Use	Sale Condition 3
1	1	14	2	1

Sale Condition 4	Settlement Date	Factor
1	8	12

Message Formats

Reporting Party Type*	Contra Party Type *	Future Use
1	1	1

Subtotal: 71 Bytes

Correction Trade Information

Quantity Indicator	Quantity	Price	Commission Indicator	Special Price Indicator
1	14	11	1	1

Side*	As/Of Indicator	Execution Date/Time	Future Use	Sale Condition 3
1	1	14	2	1

Sale Condition 4	Settlement Date	Factor
1	8	12

Reporting Party Type*	Contra Party Type *	Future Use
1	1	1

Subtotal: 71 Bytes

Summary Information

High Price	Low Price	Last Sale Price	Change Indicator
11	11	11	1

Subtotal: 34 Bytes

Total Message Size: 232 Bytes

*** Please note that for ABS trades, the Side, Reporting Party Type and Contra Party Type fields will not be populated, and will instead be space-filled.**

Message Formats

5.2 Administrative Message Formats

FINRA will use administrative message formats to transmit daily pricing summary, trading halt, and general information to SPDS-144A customers. Please refer Section 9 of this document for processing information.

5.2.1 Daily Trade Summary

Category A – Type E

FINRA will disseminate the following price summary message for each security that traded during the normal trading hours.

Symbol	CUSIP	BSYM	Sub-Product Type	Daily High Price	Daily Low Price
14	9	12	5	11	11

Daily Close Price
11

Total Message Size: 73 Bytes

5.2.2 Trading Halt

Category A – Type H

FINRA will disseminate the following message format when a trading halt is instituted or removed for a security.

Symbol	CUSIP	BSYM	Sub-Product Type	Issuer
14	9	12	5	30

Action	Action Date/Time	Halt Reason
1	14	4

Total Message Size: 89 Bytes

Message Formats

5.2.3 General Administrative Message

Category A – Type A

In a future release, FINRA will disseminate the following free-form text message format to relay general administrative information.

Text
1 – 300

Field Occurrences

6.0 Field Occurrences Within Messages

FIELD NAME	MESSAGE CATEGORY	MESSAGE TYPE
<u>A</u>		
ACTION	A	H, I
ACTION DATE/TIME	A	H, I
AS/OF INDICATOR	T	M
	T	N
	T	O
<u>B</u>		
BSYM	T	M
	T	N
	T	O
	A	E
	A	H
<u>C</u>		
CHANGE INDICATOR	T	M
	T	N
	T	O
COMMISSION INDICATOR	T	M
	T	N
	T	O
CONTRA PARTY TYPE	T	M
	T	N
	T	O
CUSIP	T	M
	T	N
	T	O
	A	E
	A	H
<u>D</u>		

FINRA Securitized Products Dissemination Service (SPDS-144A)

Field Occurrences

FIELD NAME	MESSAGE CATEGORY	MESSAGE TYPE
DAILY CLOSE PRICE	A	E
DAILY HIGH PRICE	A	E
DAILY LOW PRICE	A	E
<u>E</u>		
EXECUTION DATE/TIME	T T T	M N O
<u>F</u>		
FACTOR	T T T	M N O
FUNCTION	T T	N O
<u>H</u>		
HALT REASON	A	H
HIGH PRICE	T T	N O
<u>I</u>		
ISSUER	A	H
<u>L</u>		
LAST SALE PRICE	T T	N O
LOW PRICE	T T	N O
<u>O</u>		
ORIGINAL DISSEMINATION DATE	T T T	M N O

Field Occurrences

FIELD NAME	MESSAGE CATEGORY	MESSAGE TYPE
ORIGINAL MESSAGE SEQUENCE NUMBER	T	N
	T	O
<u>P</u>		
PRICE	T	M
	T	N
	T	O
<u>Q</u>		
QUANTITY	T	M
	T	N
	T	O
QUANTITY INDICATOR	T	M
	T	N
	T	O
<u>R</u>		
REPORTING PARTY TYPE	T	M
	T	N
	T	O
<u>S</u>		
SALE CONDITION 3	T	M
	T	N
	T	O
SALE CONDITION 4	T	M
	T	N
	T	O
SETTLEMENT DATE	T	M
	T	N
	T	O
SIDE	T	M
	T	N
	T	O

Field Occurrences

FIELD NAME	MESSAGE CATEGORY	MESSAGE TYPE
SPECIAL PRICE INDICATOR	T	M
	T	N
	T	O
SUB-PRODUCT TYPE	T	M
	T	N
	T	O
	A	E
	A	H
SYMBOL	T	M
	T	N
	T	O
	A	E
	A	H
<u>T</u>		
TEXT	A	A

Field Description

7.0 Field Descriptions

This section defines the size and layout for each field contained in a SPDS-144A message format. For a glossary of terms, please refer to Appendix A.

A

Action

Category A – Type H

One byte, alphabetic. This field describes what event is happening on the specific security. Associated values are:

Code	Value
H	Trading Halt (Date and Time fields represent time that the halt was instituted for the security)
R	Trading Resumption (Date and Time fields represent the time that trading is expected to resume in the security)

Action Date/Time

Category A – Type H

Fourteen bytes, numeric in the format YYYYMMDDHHMMSS. This field represents the date and time that the trading halt was instituted or lifted for the specified security.

As Of Indicator

Category T – Type M, N, O

One byte, alphabetic. This field will be populated if the transaction being reported is an As/Of trade or Reversal from a prior business day. Reversals are cancellations of trades that were reported 21 business days or more prior to the current day. Associated values for this field are:

Code	Value
A	As/Of Trade
R	Reversal
Space	Current Day Trade

Field Description

B

BSYM

Category T – Type M, N, O

Category A – Type E, H

12 bytes, alphanumeric. This is the Bloomberg identifier (provided when applicable) for the specific security.

C

Change Indicator

Category T – Type M, N, O

One byte, numeric. Describes the price change(s) that the transaction caused for the issue traded.

Code	Values
0	No Changed
1	Last Price Changed
2	Low Price Changed
3	Last Price and Low Price Changed
4	High Price Changed
5	Last Price and High Price Changed
6	High Price and Low Price Changed
7	All Prices Changed

Commission Indicator

Category T – Type M, N, O

One byte, alphabetic. Indicates if the price is inclusive of dealer commission. Associated values are as follows:

Code	Value
Y	Price includes commission
N	Price does not include commission

Field Description

Contra Party Type

Category T – Type M, N, O

One byte, alphabetic. This field identifies the type of contra party which the reported trade was executed against - a Broker/Dealer ~~or~~, a Customer (non-FINRA member) or an Affiliate (non-member affiliate). Associated values are as follows:

Code	Value
D	Contra party is a Broker/Dealer
C	Contra party is a Customer (non-FINRA member)
<u>A</u>	<u>Contra party is a non-member affiliate</u>

CUSIP

Category T – Type M, N, O

Category A – Type E, H

Nine bytes, alphanumeric. This is the universal identifier for the specific security as assigned by Standard & Poor’s CUSIP Service Bureau.

D

Daily Close Price

Category A – Type E

Eleven bytes, numeric, zero filled. This will represent the closing price reported for the specific security for the day. Daily Close Price is stated in \$\$\$\$.\$ddddd format, where the first four bytes represents the whole number, the fifth byte is a decimal point, and the last six bytes represents the decimal amount of the trade price. If the Daily Close Price is not available for a security, this field will be zero filled.

Daily High Price

Category A – Type E

Eleven bytes, numeric, zero filled. This will represent the high price reported for the specific security for the day. Daily High Price is stated in \$\$\$\$.\$ddddd format, where the first four bytes represents the whole number, the fifth byte is a decimal point, and the last six bytes represents the decimal amount of the trade price. If the Daily High Price is not available for a security, this field will be zero filled.

Daily Low Price

Category A – Type E

Field Description

Eleven bytes, numeric, zero filled. This will represent the low price reported for the specific security for the day. Daily Low Price is stated in \$\$\$\$.(ddddd) format, where the first four bytes represents the whole number, the fifth byte is a decimal point, and the last six bytes represents the decimal amount of the trade price. If the Daily Low Price is not available for a security, this field will be zero filled.

E

Execution Date/Time

Category T – Type M, N, O

Fourteen bytes, numeric in the format YYYYMMDDHHMMSS. This field represents the date that the FINRA member firm executed the trade transaction. If the transaction reported was an As/Of trade or a Reversal, this field will be populated with the date that the original trade was executed by the FINRA member firm.

F

Factor

Category T – Type M, N, O

Twelve bytes, numeric in the format NN.NNNNNNNNN where the third byte will always be a decimal point. This field indicates a reported factor on a trade that was not based on the latest published factor of that security. A Factor of 00.000000000 indicates the trade was executed and reported based on the latest published factor for that security.

Function

Category T – Type N, O

One byte, alphabetic. This field indicates if the transaction being disseminated is being taken out because it either is being canceled or was done in error. Associated values are:

Code	Value
C	Cancel
E	Error
N	Correction

Field Description

H

Halt Reason

Category A – Type H

Four bytes, alphanumeric. This field describes the specific reason for a halt being placed on a security. Associated values are:

Code	Values
T.1	Halt – News Pending
T.2	Halt – News Released
T.3	Halt – News and resumption times
T.12	Halt – Additional Information Requested by FINRA
H.10	Halt – SEC Trading Suspension
H.11	Halt – Regulatory Concerns

High Price

Category T – Type N, O

Eleven bytes, numeric, zero filled. The High Price field contains the current highest price for which the specified bond issue was traded for the current day. The High Price will be stated in \$\$\$\$.\$ddddd format, where the first four bytes represents the whole number, the fifth byte is a decimal point, and the last six bytes represents the decimal amount of the trade price. If the High Price is not available for a bond, this field will be zero filled.

I

Issuer

Category A – Type H

Thirty bytes, alphanumeric. This field will provide the name of the entity that issued the security. Please note that, due to character limitations, the company name may be truncated for this field.

L

Last Sale Price

Category T – Type N, O

Field Description

Eleven bytes, numeric, zero filled. This will represent the last sale price reported for the specific security for the day. The Last Sale Price will be stated in \$\$\$\$. d d d d d d format, where the first four bytes represents the whole number, the fifth byte is a decimal point, and the last six bytes represents the decimal amount of the trade price. If the Last Sale Price is not available for a security, this field will be zero filled.

Low Price

Category T – Type N, O

Eleven bytes, numeric, zero filled. This will represent the current low price for which the specified security was traded for the day. The Low Price will be stated in \$\$\$\$. d d d d d d format, where the first four bytes represents the whole number, the fifth byte is a decimal point, and the last six bytes represents the decimal amount of the trade price. If the Low Price is not available for a security, this field will be zero filled.

O

Original Dissemination Date

Category T – Type M, N, O

Eight bytes, numeric. Represents the date when the original message on a Reversal (As Of Indicator = R), Trade Cancel or Trade Correction was disseminated.

Original Message Sequence Number

Category T – Type N, O

Seven bytes, numeric. This message sequence number, located in the Additional Information section of Trade Correction and Trade Cancel messages, will represent the message sequence number for the original trade report that was disseminated.

Field Description

P

Price

Category T – Type M, N, O

Eleven bytes, numeric, zero filled. This field represents the security price, inclusive of any commission, mark-ups, and/or mark-downs, reported in the transaction. The Price will be stated in \$\$\$\$. d d d d d d format, where the first four bytes represents the whole number, the fifth byte is a decimal point, and the last six bytes represents the decimal amount of the trade price. If the Price is not reported for a security, this field will be zero filled.

Q

Quantity

Category T – Type M, N, O

Fourteen bytes, alphanumeric, including special characters. Represents the dollar size amount (volume) of the transaction, inclusive of a decimal. The field is right-justified, zero-filled unused positions on actual amounts and left-justified, space-filled unused positions on amounts with special limits applied (capped) as defined below.

Please note that the following special limits apply to this field:

For trades of ABS:

- If the reported volume of the transaction is less than or equal to \$10 million, the Quantity will state the actual reported volume.
- If the reported volume of the transaction is greater than \$10 million, the Quantity will be stated as 10MM+.

Quantity Indicator

Category T – Type M, N, O

One byte, alphabetic. This field indicates if the quantity reported is actual or estimated (when special limit caps are applied). Associated values are as follows:

Code	Value
A	Actual
E	Estimated

Field Description

R

Reporting Party Type

Category T – Type M, N, O

One byte, alphabetic. This field identifies the type of entity that reported the trade. Associated values are as follows:

Code	Value
D	Reporting party is a Broker/Dealer

S

Sale Condition 3

Category T – Type M, N, O

One byte, alphanumeric. This field is used to describe a sale condition that is applicable to the trade. Associated values are:

Code	Value
T	Trade reported after Market Hours
Z	Trade reported Late (Out of Sequence)
U	Trade reported Late after Market Hours
Space	No Modifier

Sale Condition 4

Category T – Type M, N, O

One byte, alphanumeric including special characters. This field will indicate if there are any special conditions or modifiers applicable to the trade transaction. Associated values are:

Code	Value
Space	Regular Trade
O	Specified Pool Transaction
N	Stipulation Transaction
D	Dollar Roll w/o Stipulation

Field Description

L	Stipulated Dollar Roll
W	Weighted Average Price

For more information on these Sale Conditions, please refer to Appendix C in this document.

Settlement Date

Category T – Type M, N, O

Eight bytes, numeric in the format YYYYMMDD. This field represents the reported date that the trade will settle.

Side

Category T – Type M, N, O, P, Q, R

One byte, alphabetic. This field identifies the side (i.e., Buy or Sell) from the reporting party’s perspective. Only one side of an Inter-dealer transaction is disseminated, which will be identified as the sell side from the reporting party’s perspective. Associated values are as follows:

Code	Value
B	Reporting party bought from contra party
S	Reporting party sold to contra party

Special Price Indicator

Category T – Type M, N, O

One byte, Alphanumeric. This field indicates the existence of a special trade condition that impacted the execution price, or if the transaction is a “specified trade.” Associated values are:

Code	Value
Y	Special Price Trade
Space	Not a Special Price Trade

Sub-Product Type

Category T – Type M, N, O

Category A – Type E, H

Five bytes, Alphanumeric. This field will identify the type of SP security traded. Associated values are:

Field Description

Code	Value
ABS	ABS securities that are backed by a variety of consumer, student and commercial credits

Symbol

Category T – Type M, N, O

Category A – Type E, H

Fourteen bytes, alphanumeric. This field will represent the security symbol as assigned by FINRA for TRACE trade reporting purposes.

T

Text

Category A – Type A

Variable length (1 to 300 bytes), alphanumeric including special characters. This free-form text field will be used to relate general administrative or market information to SPDS-144A subscribers.

Trade Processing

8.0 Securitized Products Trade Processing

This section provides general processing and display guidelines for SPDS-144A data.

8.1 Background Information

SPDS-144A will carry fixed income securitized products data reported by FINRA members via the TRACE system on a real-time basis between 8:00 and 18:30 ET. The SPDS-144A data feed will carry price information for the following types of securitized products that are identified as 144A (private placement) securities, categorized into Sub-Products:

Sub-Product Code	Security Type
ABS	certain asset-backed securities <i>e.g.</i> , collateralized by pools of credit card receivables, student loans, auto loans, etc.

A complete list of Securitized Products securities (SP Security Master) is available daily through download via Web API. Please refer to the following link for more information:

<http://www.finra.org/Industry/Compliance/MarketTransparency/TRACE/Documentation/index.htm>

The following types of transactions will not be disseminated via the SPDS-144A data feed:

- Transactions in non-144A (private placement) securities.
- Transactions of Corporate and Agency Debt securities.

FINRA requires that external redistributors of real-time SPDS-144A data include the following fields on their display of disseminated transactions:

- Security Identifier (Symbol or CUSIP number).
- Sub-Product Type.
- Price.
- Commission Indicator (if applicable).
- Special Price Indicator (if applicable).
- Quantity.
- Sale Conditions.
- Execution Date/Time (may be separated into two fields).
- Side.

Trade Processing

- Reporting Party Type.
- Contra Party Type.
- Settlement Date.
- Factor.

Provided that the market data vendor provides at least one display screen that adheres to this display requirement, FINRA will waive the requirement for any market minder, analytical, or ticker display screens.

8.2 Trade Processing

8.2.1 Security Identifier

The SPDS-144A data feed includes three identifiers:

- **Symbol:** FINRA will assign its own symbols for use by TRACE users. The TRACE symbol may be up to fourteen characters in length and will consist of a root symbol for the issuer plus a unique identifier code for each security. [Example: FNMA.SF045010K]
- **CUSIP:** A CUSIP number is a unique nine-character alphanumeric code assigned to a security by Standard & Poor's Corporation. The CUSIP is a universal identifier code that does not vary from market to market. As noted earlier, a firm must have a daily licensing agreement in place with Standard & Poor's to receive a direct SPDS-144A data feed product.
- **BSYM:** The BSYM is the 12-byte alphanumeric code assigned by Bloomberg to the security.

Note: FINRA members are required to report trades in exchange-listed securities to TRACE if the transaction was executed over the counter. The SPDS-144A data feed will carry these trade transactions under the FINRA-assigned symbol. Market data vendors may wish to use the CUSIP number to reconcile their databases for such issues.

8.2.2 Price and Associated Indicators

FINRA will disseminate securitized product prices on SPDS-144A in \$\$\$\$.(ddddd) format. For SPDS-144A display purposes, FINRA recommends that the price should be shown at the same granularity as it was disseminated whenever possible. If a firm chooses to shorten the price field, FINRA recommends that they round (rather than truncate) prices. At a minimum, a firm should be prepared to display prices to three places to the right of the decimal point as this is how it appears on customer statements. As outlined in Section 7, FINRA will disseminate the field as 0000.000000 if no price is reported for an issue. For SPDS-144A display purposes, the price field should be shown blank under this circumstance.

Transactions disseminated via SPDS-144A will represent the price paid by the buyer inclusive of any and all markups, markdowns, or commissions. Within the SPDS-144A trade message format, there are two toggle fields to indicate if the reported price reflects a broker commission and/or a special trading situation. For SPDS-144A display purposes, the price must be shown with the commission and special price indicator if populated. FINRA recommends that the commission

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indicator be shown as a lower case “c” to the right of the price, and the Special Price indicator as an asterisk “*” right of the price.

8.2.3 Quantity

SP trades have a volume “cap” rule by which either actual volume for the respective transaction will be disseminated or a “cap” value will be disseminated. FINRA strongly recommends that the SPDS-144A recipient indicate when the volume is actual versus estimated for each transaction. The breakdown of SPDS-144A volume dissemination rules is as follows:

- ABS transactions reported with a volume of \$10,000,000.00 or less will be disseminated with the actual volume of the transaction. The Quantity Indicator value will be “A”.
- ABS transactions reported with a volume greater than \$10,000,000.00 will be disseminated as 10MM+. The Quantity Indicator value will be “E”.

8.2.4 As/Of Indicator

FINRA allows its members to report trades and trade reversals on an “As/Of” basis. In the As/Of Indicator field in the SPDS-144A message format, regular As/Of trades are denoted by a value of A. Display of the As/Of indicator is optional. If the As/Of indicator is included in SPDS-144A displays, FINRA recommends that the As/Of indicator be shown as “A/O” and should be displayed to the left of the price.

If the trade is an As/Of transaction, the Execution Date/Time field in the SPDS-144A message will be populated with the actual trade date and time of the original transaction. While FINRA recommends that firms should show both the Execution Date and Execution Time for all transactions, it realizes that external redistributors may have limited screen space. If a firm chooses to show only one date/time field, it should display the Execution Time for current day transactions but the Execution Date for As/Of transactions.

Trade Processing

8.2.5 Trade Modifiers

FINRA members will also report if any of the following trade modifiers apply to the trade transaction:

Trade Modifier 3

Code	Value
Z	Reported Late (Out of Sequence)
U	Reported Late after market hours
T	Reported after market hours
Space	No Modifier Applicable

Trade Modifier 4

Code	Value
Space	Regular Trade
O	Specified Pool Transaction
N	Stipulation Transaction
D	Dollar Roll w/o Stipulation
L	Stipulated Dollar Roll
W	Weighted Average Price

Please refer to the Appendix B – Glossary of Terms for a description of each modifier. For SPDS-144A display purposes, the sale condition modifiers must be shown, preferably as separate field(s) on a security display.

Trade Processing

8.2.6 Price Change Indicator

In Appendix C of this document, FINRA has outlined its logic for updating the high, low, and last sale prices for securitized products. Since there are a number of sale conditions modifiers and indicators that must be considered in the calculation, FINRA also includes a Price Change Indicator field in the SPDS-144A message format. As outlined in Section 7, the possible values for the Price Change Indicator field are as follows:

Code	Values
0	No Price Changed
1	Last Price Changed
2	Low Price Changed
3	Last Price and Low Price Changed
4	High Price Changed
5	Last Price and High Price Changed
6	High Price and Low Price Changed
7	All Prices Changed

In the Trade Report (Category T – Type M) format, the Price Change Indicator field appears as the last field in the message. Depending on the value in the Price Change Indicator field, the firm should use the Price and values contained in the trade report message to update its high, low, and/or last sale fields for the issue.

In the Trade Cancel (Category T – Type N) and Trade Correction (Category T – Type O) formats, the Price Change Indicator appears as the last field in the Summary Information section of the message. Depending on the value in the Price Change Indicator field, the firm should use the appropriate price value(s) from the Summary Information to update its high, low, and/or last sale display.

8.2.7 Side

Side indicates whether the transaction is a buy or sell. Only the sell side of an inter-dealer (broker-dealer to broker-dealer) transaction is disseminated. For SPDS-144A display purposes, FINRA requires that the Side be shown and recommends using the same values provided in the SPDS-144A message.

8.2.8 Reporting Party Type

Reporting Party Type indicates what type of entity reported the trade. In the SPDS-144A trade messages, the reporting entity will always be a broker-dealer and will always be identified by the value “D”. For SPDS-144A display purposes, FINRA requires that the Reporting Party Type be

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shown and recommends using the same values provided in the SPDS-144A message (note that for ABS trades, SPDS-144A will not disseminate the Reporting Party Type).

8.2.9 Contra Party Type

Contra Party Type indicates whether the contra party of the transaction is a broker-dealer, ~~or~~ a customer or an affiliate. In the SPDS-144A trade messages, broker-dealer contra trades are identified by the value “D” ~~and~~, customer contra trades are identified by the value “C” and affiliate contra trades are identified by the value “A”. An affiliate is a non-member entity that controls, is controlled by or is under common control with a FINRA member, as further defined under FINRA Rule 6710. For SPDS-144A display purposes, FINRA requires that the Contra Party Type be shown and recommends using the same values provided in the SPDS-144A message (note that for ABS trades, SPDS-144A will not disseminate the Contra Party Type).

8.3 Trade Cancel and Correction Processing

FINRA allows its member firms to correct or cancel trades reported earlier in the current business day, or as far back as 20 business days. As outlined in section 5 of this document, the Trade Cancel (Category T – Type N) and Trade Correction (Category T – Type O) formats reference the original trade transaction via the message label and original trade information portions of the message. In addition, FINRA will include the adjusted daily high, low, and last sale prices as part of the Summary Information portion of these SPDS-144A message formats between 08:00 and 17:15. Cancels of trades submitted prior to the rolling 20 business day period are identified as Reversals (As Of Indicator = R).

8.3.1 Display Guidelines for Trade Cancellations

Upon receipt of a Trade Cancel (Category T- Type N) message, SPDS-144A recipients should take the following steps:

- 1) Locate the original trade report entry using the SPDS-144A Original Message Sequence Number. For prior day trade reports also use the Original Dissemination Date.
- 2) Modify the original trade report entry by adding a cancellation indicator. FINRA recommends that firms display the letter “X” to the left of the trade price to reflect a cancellation.
- 3) Update the daily high, low, and last sale prices as necessary. See the Price Change Indicator processing rules above.

8.3.2 Display Guidelines for Trade Corrections

Upon receipt of a Trade Correction (Category T – Type O) message, SPDS-144A recipients should take the following steps:

- 1) Locate the original trade report entry using the SPDS-144A Original Message Sequence Number. For prior day trade reports also use the Original Dissemination Date.
- 2) Modify the original trade report in the following manner:
 - a) Replace the original trade with the new data in the Corrected Trade Information portion of the message.

Trade Processing

- b) Add a correction indicator to the trade record. FINRA recommends that firms display “C” to the left of the new trade price to reflect a correction transaction.
- 3) Update the daily high, low, and last sale prices as necessary. See the Price Change Indicator processing rules above.

Please refer to Appendix D for the complete list of FINRA-recommended display standards.

Administrative Message Processing

9.0 Administrative Message Processing Guidelines

This section outlines the processing guidelines for administrative messages on the SPDS-144A. In its initial release, FINRA will support two types of administrative messages: Trade Summary Recaps and Trading Halts.

In a future release, FINRA plans to introduce General Administrative and Issue Maintenance message format for SPDS-144A subscribers. In the initial release, however, SPDS-144A subscribers should process the Daily List file available on the TRACE website for security additions, deletions, and modifications.

9.1 Daily Trade Summary

At approximately 17:20, FINRA will generate and disseminate a trade summary report. This SPDS-144A Trade Summary report will include the high, low, and closing price for those issues with trading volume for the current business day. If a security did not have any volume for the day, it will not be included in that day's closing report.¹

Please note that FINRA members may enter trade reports, cancels, and corrections into the TRACE system until 18:30; however, entries made after 17:15 will not impact the high, low, or closing price for the day.

9.2 Trading Halts

FINRA reserves the right to halt trading in a security by its members as material news is released. When a trading halt is instituted or removed, FINRA will disseminate a trading halt message on SPDS-144A to notify traders and investors. This SPDS-144A message will include the FINRA-assigned symbol, CUSIP number, sub-product type, halt reason, action date and time. **SPDS-144A recipients must display a “held” indicator whenever an issue is subject to a trading halt situation.**

In the initial SPDS-144A release, FINRA will only disseminate a trading halt message at the time of an action change. Since trading halt situations can span multiple days, SPDS-144A recipients must retain trading halt status information from day to day.²

¹ As/of trades and Reversals will not be reflected in the SPDS-144A Closing Recap Report.

² At the onset of service, SPDS-144A vendors may request a file of current trading halt information from which to build their database. Requests should be sent via e-mail to TRACEDataServices@finra.org.

Control Message Processing

10.0 Control Message Processing Guidelines

The following Control Messages will be transmitted by SPDS-144A:

Category	Type	Description
C	I	Start of Day
C	J	End of Day
C	O	Market Session Open
C	C	Market Session Closed
C	K	End of Retransmission Requests
C	L	Sequence Number Reset
C	T	Line Integrity
C	X	End of Trade Session
C	Z	End of Transmissions

Control Message Descriptions

A Control message is a fixed format message that performs a specific system function. All SPDS-144A Control Messages consist of a Standard Message Header only. The Message Type field will contain the appropriate single ASCII character that identifies the Control Message type.

To ensure proper reception of the following Control Messages, each is transmitted and repeated at one-minute intervals for a total of three transmissions, with a Quiet Line State between them:

Category	Type	Description
C	I	Start of Day
C	J	End of Day
C	K	End of Retransmission Requests
C	X	End of Trade Session
C	Z	End of Transmissions

All other Control Messages are transmitted one time and without repetition.

Control Message Processing

10.1 Start Of Day

Category C – Type I

The Start of Day Control Message signifies the beginning of FINRA's daily operational cycle. The message will be sent at the beginning of each day immediately following the last End of Test Cycle message. The purpose of this message is to inform SPDS-144A recipients that all subsequent data transmitted will be real-time updates and should be treated accordingly. The message will be sent three times, at one-minute intervals, with the same Message Sequence Number (0000000) on each message.

10.2 End Of Day

Category C – Type J

The End of Day Control Message signals the end of activity for the operational cycle. The End of Day message will be sent three times, at one-minute intervals. The first End of Day message will contain a Message Sequence Number of one greater than the highest Message Sequence Number previously transmitted. The second and third End of Day messages will contain the same Message Sequence Number as the previously transmitted message.

10.3 Market Session Open

Category C – Type O

The Market Session Open Control Message signifies the opening of the market for the session indicated in the Message Header. The Message Sequence Number field for the SPDS-144A Session Open will contain a number one greater than the highest Message Sequence Number previously transmitted.

10.4 Market Session Close

Category C – Type C

The Market Session Close Control Message signals the closing of the market for the session indicated in the Message Header. The Message Sequence Number field for the SPDS-144A Session Close will contain a number one greater than the highest Message Sequence Number previously transmitted.

10.5 End Of Retransmission Requests

Category C – Type K

This message signals that no further retransmission requests will be honored. The End of Retransmission Requests message will be sent three times, at one-minute intervals. The first message transmitted will contain a Message Sequence Number of one greater than the highest Message Sequence Number previously transmitted. The subsequent two messages will contain the same Message Sequence Number as the previously transmitted message.

Control Message Processing

10.6 Sequence Number Reset

Category C – Type L

The Sequence Number Reset is transmitted when a need to reset the Message Sequence Number counters to a specified number has been established. On receipt of this message, all recipients should reset their Message Sequence Number as indicated. The Message Sequence Number field will contain the number to which the Message Sequence Number counters are to be reset. This number will be zero or a number greater than the highest sequence number previously set. Please note that NASDAQ OMX may not be able to retransmit messages sent prior to the Sequence Number Reset control message.

10.7 Line Integrity

Category C – Type T

The Line Integrity Control Message will be transmitted at approximately one-minute intervals to verify the operational integrity of the SPDS-144A transmission, and will be intermixed with other messages. The Message Sequence Number will not be incremented for the Line Integrity Messages.

10.8 End of Trade Session

Category C – Type X

The End of Trade Session Control Message signals that no further trade reports or corrections (other than retransmissions) will be sent for that market session. The End of Trade Session message will be sent three times, at one-minute intervals. The first message transmitted will contain a Message Sequence Number of one greater than the highest Message Sequence Number previously transmitted. The subsequent two messages will contain the same Message Sequence Number as the previously transmitted message.

10.9 End of Transmissions

Category C – Type Z

The End of Transmissions Control Message signals that there will be no further transmissions of data sent through the SPDS-144A line. This message will be transmitted at the end of the operational day. The End of Transmissions message will be sent three times, at one-minute intervals. The first message transmitted will contain a Message Sequence Number of one greater than the highest Message Sequence Number previously transmitted. The subsequent two messages will contain the same Message Sequence Number as the previously transmitted message.

Format Release and Testing

11.0 Format Release & Testing Guidelines

11.1 Release Notification

To keep pace with the changing business environment, FINRA may modify its data feed format specifications for direct data feed customers. In advance of each release, FINRA will notify its direct connect customers of the format change by posting a notice on a FINRA or NASDAQ OMX website. In the notice, FINRA will outline the scope of the changes as well as the testing and release schedule. Direct connect customers are required to modify and test their code based on these technical notices.

11.2 Types of Testing

In advance of each release, FINRA will offer test data for its direct data feed customers to be used for quality assurance (QA) purposes. Depending on the scope of the changes, the testing period will range from one day to one month. For its data feed customers, FINRA offers the following types of testing opportunities:

NTF test transmissions: In advance of major releases, FINRA will transmit real time data from the NTF (NASDAQ Test Facility). As market participants enter transactions into the NTF environment, FINRA will broadcast this test data in the new data formats to direct data feed subscribers only, via the NTF IP/Port.

Evening test transmissions: For its evening testing opportunities, FINRA or NASDAQ OMX may create sample messages in the new formats to be broadcast on select weeknights from 20:30 to 21:30 via the Production IP/Port. To generate the sample data, test script will be used to exercise the full range of values for the affected message formats.

Saturday production tests: In advance of major releases, FINRA will conduct user acceptance tests on select Saturdays for its market participants. As market participants enter information into its production systems, FINRA will broadcast this test data in the new data formats to direct data feed subscribers only, via the Production IP/Port.

FINRA strongly recommends that all direct subscribers use these testing opportunities to check their hardware and software applications. During the testing phase, FINRA may ask market data vendors or market participants to provide status updates as part of the QA process.

11.3 Identification of test data

During market hours, FINRA will identify test data transmitted via the Production IP/Port in one of two ways:

Test Retransmission Requester: In Section 4.4 of this document, FINRA provides for a test retransmission requester for its data feed message header.

Test Symbols: FINRA may also send out intra-day test data using special issue symbols on its data feeds.

During non-system hours, FINRA may broadcast unmarked test data on its SPDS-144A feeds. Customers should take necessary precautions to protect their systems against database corruption during evenings, weekends, and market holidays. Please refer to the Appendix B of this document for the current data feed transmission schedule.

Appendix A

Appendix A – Glossary of Terms

Term	Definition
As/of trade	A transaction that was reported by a FINRA member on a date later than the actual transaction date. For SP trades, FINRA members are allowed to enter the trade date for an as/of as far back as May 16, 2011.
Asset-Backed Security	A security collateralized by any type of financial asset, such as a loan, a lease, a mortgage, or a secured or unsecured receivable, and includes but is not limited to an asset-backed security as defined in Section 3(a)(77)(A) of the Exchange Act, a synthetic asset-backed security, and any residual tranche or interest of any security specified above, which tranche or interest is a debt security for purposes of Rule 6710(a) and the Rule 6700 Series.
Commission	Fees paid to a broker for executing a trade based on the number of bonds traded or the dollar amount of the trade.
CUSIP number	CUSIP stands for the Council on Uniform Securities Identification Procedures. A CUSIP number is a unique nine-character alpha/numeric code appearing on the face of each stock or bond certificate that is assigned to a security by Standard & Poor's Corporation. The number is used to expedite clearance and settlement.
Dollar Roll	A simultaneous sale and purchase of an Agency Pass-Through Mortgage-Backed Security for different settlement dates, where the initial seller agrees to take delivery, upon settlement of the re-purchase transaction, of the same or substantially similar securities.
External redistributor	A firm that resells market data to third party customers. Also known as a market data vendor.
Face value	The value that appears on the front, or face, of a bond, which represents the amount the issuer promises to repay at maturity. Also known as principal amount.
Factor	The decimal value representing the proportion of the outstanding principal value or remaining face amount of a pool of assets underlying a security to the original principal value or original face amount of such assets.
Institutional investor	A bank, mutual fund, pension fund, or other corporate entity that trades securities in large volumes.
Internal redistributor	A firm that provides a market data display to its employees only.
Issuer	A corporation that has distributed to the public securities registered with the Securities and Exchange Commission. Can also be a government-sponsored enterprise or agency that issues a security.
Markup and Markdown	A markdown is a charge subtracted from the price of a security that a customer is selling to a dealer/broker for the broker/dealer's own account. A markup is the charge added to the price of a security that a customer is buying from a dealer/broker from the broker/dealer's own account. The markdown or markup is the equivalent of a commission on the sale.

Appendix A

Term	Definition
Material News	News released by a public company that might reasonably be expected to affect the value of a company's securities or influence investors' decisions. Material news includes information regarding corporate event of an unusual or non-recurring nature, news of tender offers, and unusually good or bad earning reports.
Maturity date	The date on which the principal amount of a bond is to be paid in full.
Over-the-counter market (OTC)	A securities market that is conducted by dealers throughout the country through negotiation of price rather than through the use of an auction system as represented by a stock exchange.
Private placement	A large block of securities offered for sale to an institutional investor or a financial institution through private negotiations. Transactions in private placement securities are restricted under SEC Rule 144.
Remaining Principal Balance	Remaining Principal Balance or "RPB" means, for an Asset-Backed Security backed by a pool of mortgages or other assets that are self-amortizing, the total unpaid principal balance of all such mortgages, or the equivalent remaining value of such self-amortizing assets held in the asset pool, at a specific time, such as the Time of Execution.
Reversal	A trade cancellation entered into TRACE on an As/of basis for an execution greater than the past twenty business days.
Secondary market	Markets where securities are bought and sold subsequent to original issuance.
Settlement date	The date for the delivery of securities and payment of funds.
Sold late	A sale condition to indicate that the trade was reported during current business hours but outside of the mandatory reporting interval outlined in FINRA Rule 6730.
Special Price Indicator	This field denotes trades that were consummated contrary to the current standard convention for the particular bond. Also known as "specified trades", e.g., when a debt security that conventionally and in the current market is traded at a price that reflects a due bill or warrant is, in the transaction to be reported, traded as specified without the due bill or warrant. Note that a trade identified with a "Special Price Indicator" will <u>not</u> be incorporated in the calculation of the day's high, low and last price for the security.
Specified Pool Transaction	A transaction in an Agency Pass-Through Mortgage-Backed Security requiring the delivery at settlement of one or more pools of mortgages that, at the Time of Execution, are identified by their unique pool identification numbers and original principal value.
Stipulation Transaction	A transaction in an Agency Pass-Through Mortgage-Backed Security where, at the Time of Execution, the parties agree that the seller will deliver to the buyer an Agency Pass-Through Mortgage-Backed Security of a specified face amount and coupon from a specified Agency or Government-Sponsored Enterprise program that represents a pool (or pools) of mortgages, at a specified price, and the parties stipulate that the pool or pools to be delivered meet certain conditions.

Appendix A

Term	Definition
TRACE	Under FINRA Rule 6730, FINRA members are required to report transactions in eligible securitized products to FINRA. The Trade Reporting and Compliance Engine (TRACE) is the FINRA-developed vehicle that facilitates the mandatory trade reporting of corporate bonds and public dissemination of market data. FINRA Rule 6730 requires the reporting of securitized product trades.
Weighted average price	A transaction where the price is determined by a weighted average of the prices of prior related transactions. Note that a trade identified with a weighted average price sale condition will <u>not</u> be incorporated in the calculation of the day's high, low and last price for the security.

Appendix B

Appendix B – Schedule of Transmissions

Note: All times referenced regarding the SPDS-144A feed are approximate and are stated in US Eastern Time. This schedule is based on a normal day. FINRA reserves the right to alter this schedule with minimal advance notice.

Time	Transmission	Message Category	Message Type
07:30	Start of Day Control Message	C	I
07:31	Start of Day Control Message	C	I
07:32	Start of Day Control Message	C	I
08:00	US Market Session Open Message	C	O
08:00 – 18:30	Trade Report, Cancel, and Correction Messages	T T T	M N O
17:15	US Market Session Closed Message	C	C
17:20	Trade Summary Recap Messages	A	E
19:05	End of Trade Session Control Message	C	X
19:06	End of Trade Session Control Message	C	X
19:07	End of Trade Session Control Message	C	X
19:08	End of Day Control Message	C	J
19:09	End of Day Control Message	C	J
19:10	End of Day Control Message	C	J
19:11	End of Retransmission Control Message	C	K
19:12	End of Retransmission Control Message	C	K
19:13	End of Retransmission Control Message	C	K
19:14	End of Transmissions Control Message (Time is approximate; delayed when retransmission's still active)	C	Z
19:15	End of Transmission Control Message	C	Z
19:16	End of Transmission Control Message	C	Z

Appendix C

Appendix C – Sale Condition Matrix

FINRA will use the Change Indicator field in the Trade Report, Trade Cancel, and Trade Correction message formats to notify SPDS-144A recipients which price fields to update based on the trade report. The Change Indicator field will be populated based on the following logic:

- **As/Of Indicator:** Current day trades will impact the high, low, and last sale prices and yields. Only update high, low, and/or last sale price fields if the As/Of Indicator field is blank (current day trade).
- **Special Price Indicator:** Only trade prices within the normal trading range for a securitized product will be used to calculate the price summary for an issue. Only update the high, low, and/or last sale price if the Special Price Indicator field is blank.

After factoring out As/of and special price trades, the TRACE system will then filter trades based on the Trade Modifier fields. The following Modifier Decision Matrix should be used to determine whether the “High,” “Low,” and “Last,” information is updated upon receipt of an individual trade report.

Modifier	Condition	Update High/Low	Update Last ³
	Regular Sale	Yes	Yes
T	Reported After Market Hours	No	No
Z	Sold Late (Out of Sequence)	Yes	Yes
U	Reported Late After Market Hours	No	No
W	Weighted Average Price	No	No
O	Specified Pool Transaction	Yes	Yes
N	Stipulation Transaction	No	No
D	Dollar Roll w/o Stipulation	No	No
L	Stipulated Dollar Roll	No	No

³ The SPDS-144A last sale price calculation algorithm includes an execution time factor. FINRA will only update the last sale price if the execution time in the current SPDS-144A message format is equal to or greater than the previous trade report message that was disseminated.

Appendix D

Appendix D – FINRA Display Guidelines for SPDS-144A Data Elements

FINRA has outlined its display requirements for external real-time distributors of SPDS-144A in Section 8 of this document. This table summarizes the recommended display value and placement for the required fields.

Data Element	Recommended Display Value	Recommended Data Placement
Bond Symbol or CUSIP	As disseminated.	Separate display field.
Sub-product Type	As disseminated	Separate display field.
Quantity Indicator	“Est” if estimated. Blank otherwise.	Indicator to the right of the Quantity field when applicable.
Quantity	As disseminated.	Separate display field.
Price	As disseminated or rounded to 3 decimal places.	Separate display field.
Factor	As disseminated.	Separate display field.
Side	As disseminated.	Separate display field.
Reporting Party Type	As disseminated.	Separate display field.
Contra Party Type	As disseminated.	Separate display field.
Commission Indicator	Lower case “c”.	Indicator to the right of the price when applicable.
As/Of Indicator ⁴	“A/O” for As/of transactions	Indicator to the left of the price field when applicable.
Date/Time	Execution time if current day transaction. Execution date if As/Of trade or reversal.	Separate display field.
Trade Modifiers ⁵	As disseminated.	Separate display fields. Modifiers 1 and 2 are not used for securitized products.
Special Price Indicator	Asterisk (*)	Indicator to the right of the price when applicable.
Settlement Date	As disseminated.	Separate display field.
Correction Indicators ⁶	“C” for Corrections. “X” for Cancellations.	Indicator to the left of the price field when applicable.

⁴ External redistributors are required to show the reversal indicator. As/Of indicator is optional.

⁵ Each SPDS-144A message contains four modifier fields: Trade Modifier 1 and Trade Modifier 2 are not used for securitized products.

⁶ Indicator should be shown next to the original transaction if a Trade Cancel or Trade Correction was subsequently disseminated on SPDS-144A.

Appendix E

Appendix E - Connectivity

An active Vendor Agreement is required to receive a TRACE real-time data feed, including the SPDS-144A feed (the Vendor Agreement can be found at <http://www.finra.org/Industry/ContentLicensing/TRACE>, "Vendor/ Subscriber Agreement Information").

If you have any questions, please contact TRACE Data Services at (888) 507-3665.

Connection Options:

Connectivity to NASDAQ datacenters is required either through an authorized Extranet Provider or through a Direct Circuit connection.

Option	Contact	Other instructions
Direct Connection to NASDAQ OMX	TRACE Data Services; TRACEDataServices@finra.org	Click on the following link for a list of current local access carriers that can provide Direct Circuit connectivity http://www.nasdaqtrader.com/content/ProductsServices/Trading/Direct_connect_providers.pdf
Connection via a new/additional Extranet provider	<ol style="list-style-type: none"> 1. Contact the network provider to discuss the communication costs/details and 2. Send an email to TRACE Data Services at TRACEDataServices@finra.org requesting access to ATDS via desired network provider. 	Click on the following link for list of current Extranet providers http://www.nasdaqtrader.com/content/ProductsServices/Trading/extranets.pdf

Once approval takes place FINRA will issue an approval letter notifying the indicated network provider.

Please email [FINRA Product Management](#) or call (866) 899-2107 for questions regarding the SPDS-144A message layouts or the TRACE application.

Appendix F

Appendix F – Document Revision Log

Version	Modification Date	Description of Change
1.0	12-29-2014	First published version.
1.1	1-12-2015	Removed Remuneration Indicator and restored Commission Indicator in its place. Removed value identifying ATS trades from the Reporting Party Type field and removed values identifying ATS and Affiliate trades from the Contra Party Type field.
1.2	3-2-2015	Removed references to April 27 th 2015 as the release date for the new feed.
1.3	5-18-2015	Expanded Contra Party Type in Section 7 to include new value "A" for affiliate trades and defined affiliates in Section 8.2.9.