ITS

RCI

Regional Computer Interface Specification

(TCP/IP Edition)
Regular & Expanded Formats

Version 1.6
June 20, 2006

SIAC

Securities Industry Automation Corporation

SUMMARY OF CHANGES

Initial Version 1.0 – September 10, 2003	
Section/PAGE(S)	**DESCRIPTION**
All	This document is based on the RCI specification that was written for an X.25 protocol. The document has been modified to be somewhat protocol independent, but with some mention of the TCP/IP environment. Added location information to the headers.

Revision #1 – October 20, 2003	
Section/PAGE(S)	**DESCRIPTION**
Cover Sheet	Updated to include "TCP/IP Edition"
2-1	Communications (TCP/IP): Revised Communications to include TCP/IP requirements, and deleted references to X.25. Deleted Transmission Characteristics
3-1	Sequence Numbering: Changed communications from X.25 to TCP/IP
4-2 & 4-3	General Routing: Redefined routing of messages sent by ITS to an MC-IC and messages sent by the MC-IC to ITS
5-1	Message Acknowledgements and Rejects: Deleted references to X.25
6-1	Message Switching: Deleted references to X.25
7-1	Alternate Routing: Updated to include network monitoring software capabilities and port usage alternatives
7-2	Failure Recovery ("Warm" Recovery): Modified to include TCP/IP recovery procedures and deleted references to X.25
9-4	Intelligent Controller ID (IC ID): Codes updated to reflect (1) the addition of NASDAQ utilizing NASD's old code; and (2) a code change for the NASD
9-5	Limited Price Denominator: Repositioned
9-6	Limited Price Denominator Indicator Code Table: Repositioned
9-7	MC ID Source/Destination Market Center: Codes updated to reflect (1) the addition of NASDAQ utilizing NASD's old code; and (2) a code change for the NASD
9-8	Price (Regular): Renamed Price to Price (Regular) and revised description to include Limited Price Denominator usage
9-9	Repositioned Price Denominator Indicator Code Table
9-11	Size: Renamed Size to Size (Regular) and repositioned Size (Expanded) field
9-12	Renamed Security Market Maker to Specialist Market Maker
9-13	Giveup (GU) Data Group: Renamed to Giveup (GU) Data Group (Regular)
9-15	Giveup (GU) Data Group: Renamed to Giveup (GU) Data Group (Expanded)

9-16	Giveup (GU) Data Group: Names Later GU increased from 32 to 40

Revision #1 – October 0, 2003	
Section/PAGE(S)	**DESCRIPTION**
9-18	Trade Data Group: Renamed to Trade Data Group Regular and revised to include Limited Price Denominator Indicator changes
9-19	Trade Data Group: Renamed to Trade Data Group (Expanded)
11-1	R S O T Message Field Notation: Renamed and Repositioned
11-7 – 11-57	Renamed column heading from "Contents" to "Notation"
11-10	Subtype e – Entry (from IC to ITS): Commitment Expanded Trade Data renamed to Commitment Trade Data (Expanded) and Commitment Expanded GU Data renamed to Commitment GU Data (Expanded)
11-11	Subtype f – Forward (from ITS to IC): Commitment Expanded Trade Data renamed to Commitment Trade Data (Expanded) and Commitment Expanded GU Data renamed to Commitment GU Data (Expanded)
11-13	Expanded Message Type r (from IC to ITS): Execution Expanded Trade Data renamed to Execution Trade Data (Expanded) and Execution Expanded GU Data renamed to Execution GU Data (Expanded)
11-21	Expanded Message Type n: Revised to include Trade Data Expanded field is required when checking modified trades
11-22	Subtype c – Expanded Committing GU Data (from IC to ITS): Executed Expanded Trade Data renamed to Executed Trade Data (Expanded) and Commitment Expanded GU Data renamed to Commitment GU Data (Expanded) and changed byte count
11-23	Subtype d – Expanded Prior Day (ASOF) Committing GU Data (from IC to ITS): Execution Expanded Trade Data renamed to Execution Trade Data (Expanded) and Commitment Expanded GU Data renamed to Commitment GU Data (Expanded) and changed byte count
11-24	Subtype r – Expanded Responding GU Data (from IC to ITS): Execution Expanded Trade Data renamed to Execution Trade Data (Expanded) and Execution Expanded GU Data renamed to Execution GU Data (Expanded and changed byte count)
11-25	Subtype s – Expanded Prior Day (ASOF) Responding GU Data (from IC to ITS): Execution Expanded Trade Data renamed to Execution Trade Data (Expanded) and Execution Expanded GU Data renamed to Execution GU Data (Expanded) and changed byte count
11-28	Expanded Message Type o (from IC to ITS): Execution Expanded Trade Data renamed to Execution Trade Data (Expanded), Commitment Expanded GU Data renamed to Commitment GU Data (Expanded) and Execution Expanded GU Data renamed to Execution GU Data (Expanded)

Revision #1 – October 20, 2003

Section/PAGE(S)	DESCRIPTION
11-38	Subtype r – Other MC Responds to MC-IC Commitment (from ITS to IC): Commitment Expanded Trade Data renamed to Commitment Trade Data (Expanded), Execution Expanded Trade Data renamed to Execution Trade Data (Expanded), Commitment Expanded GU Data renamed to Commitment GU Data (Expanded) and Execution Expanded GU Data renamed to Execution GU Data (Expanded)
11-40	Subtype o – Other MC sends MC-IC a One Sided Response (from ITS to IC): Commitment Expanded Trade Data renamed to Commitment Trade Data (Expanded), Execution Expanded Trade Data renamed to Execution Trade Data (Expanded), Commitment Expanded GU Data renamed to Commitment GU Data (Expanded) and Execution Expanded GU Data renamed to Execution GU Data (Expanded)
11-41	Subtype t – Expanded Same Day Trade Adjustment Report (from ITS to IC): Commitment Expanded Trade Data renamed to Commitment Trade Data (Expanded), Original Execution Expanded Trade Data renamed to Original Execution Trade Data (Expanded), Adjusted Expanded Size renamed to Adjusted Size (Expanded) and Adjusted Expanded Price renamed to Adjusted Price (Expanded). Adjusted Price Denominator revised to include IND as part of field name
11-42	Notes: Modified to include Trade Data requirement for One-sided responses
11-43	Subtype x – Manual Commitment Cancel (from ITS to IC): Commitment Expanded Trade Data renamed to Commitment Trade Data (Expanded) and Commitment Expanded GU Data renamed to Commitment GU Data (Expanded)
11-44	Subtype s – Auto-Cancel (from ITS to IC): Commitment Expanded Trade Data renamed to Commitment Trade Data (Expanded) and Commitment Expanded GU Data renamed to Commitment GU Data (Expanded)
11-46	Subtype a - Prior Day (ASOF) Trade Addition (from ITS to IC): Commitment Expanded Trade Data renamed to Commitment Trade Data (Expanded) and Execution Expanded Trade Data renamed to Execution Trade Data (Expanded)
11-47	Subtype b - Prior Day (ASOF) Trade Adjustment (from ITS to IC): Commitment Expanded Trade Data renamed to Commitment Trade Data (Expanded), Original Execution Expanded Trade Data renamed to Original Execution Trade Data (Expanded), Adjusted Expanded Size renamed to Adjusted Size (Expanded) and Adjusted Expanded Price renamed to Adjusted Price (Expanded)
11-50	Subtype G - General Admin (from ITS to IC): Reformatted text explanation

Revision #1 – October 20, 2003

Section/PAGE(S)	DESCRIPTION
11-52	Subtype G - General Admin (from IC to ITS): Reformatted text explanation
11-58	Notes: Updated to include Commitment and Admin processing for CID/ADMIN ID field

Revision #2 – April 7, 2004	
Section/PAGE(S)	**DESCRIPTION**
9-6, 9-10	Changed wording of Note on Denominator Code and Market Price.

Revision #3 – October 10, 2005	
Section/PAGE(S)	**DESCRIPTION**
9-1, 9-2	Updated to include modifications to the Commitment and Admin processing for CID/AID fields.
11-5	Updated to include modifications to the Commitment and Admin processing for CID/AID fields.

Revision #4 – October 17, 2005	
Section/PAGE(S)	**DESCRIPTION**
9-1, 9-2	Updated to include modifications to the Commitment and Admin processing for CID/AID fields.
11-5	Updated to include modifications to the Commitment and Admin processing for CID/AID fields.

Revision #5 – March 15, 2006	
Section/PAGE(S)	**DESCRIPTION**
9-1, 9-2, 9-12, 11-5 & Added Appendix 'A'	Redefined "Time" Field in Message Header to Include Milliseconds, Added Appendix 'A' Time Field Translation Table
9-1, 9-2, 9-13, 9-15, 11-5, 11-6, 11-9, 11-11, 11-12, 11-27, 11-29, & 11-61	Added New Clearing Firm ID fields/Clearing Firm Default field
9-3, 11-8, 9, 11 & 12	Added New Expiration codes
9-8	Expanded Price – NMS Linkage will no longer support Market Orders – Removed "A price at the market (MKT) will contain 'MKT' and nine (9) <space> characters in this field."
Section 9 & 11	NMS Linkage will no longer support Blocked Trades - Removed all references to Blocked Trade Indicator
11-50, 54, 55 & 56	NMS Linkage will no longer support Pre-Opening Response and Pre-Opening 2nd Look - Removed all references to Pre-Opening Response and Pre-Opening 2nd Look

Revision #6 – June 20, 2006	
Section/PAGE(S)	**DESCRIPTION**
9-1, 9-2	Updated to include modifications to the Commitment and Admin processing for CID/AID fields.
11-5	Updated to include modifications to the Commitment and Admin processing for CID/AID fields.

Table of Contents

Table of Contents

Table of Contents

1 GENERAL

This document describes the Regional Computer Interface (RCI) to the Intermarket Trading System (ITS).

This interface allows a participant complete local control and autonomy in ITS related activities. As currently conceived, ITS defines the physical, electrical, communications, functional and format aspects of RCI. These definitions impose certain requirements that should be implemented in a market center's (MCs) Intelligent Controller (IC). The IC is, in turn, connected to a local control station and one or more local terminals and/or local computer systems.

The scope of this document is the RCI and any imposed conditions or requirements for the IC. Any other internals of the IC and its "local interfaces" are beyond the scope of this document.

1.1 Relationship to Other ITS Interfaces

The RCI is one of a number of interfaces to the ITS system which a market center (MC) may select. RCI is an exclusive interface; that is, a given MC is totally supported via non-supervisory functions. An MC can retain some local terminals directly supported by ITS for supervisory functions only. These ITS terminals (Data Speed 40 (DS40)) should not be used for trading purposes.

This requirement ensures that ITS need not know about local MC arrangements for routing purposes. This is in keeping with one of RCI's major characteristics, that of local routing determination.

1.2 Cutover and Fallback Implications

Different cutover scenarios are envisioned based on the systems selected by the MC-IC. (These scenarios only apply to the initial cutover to RCI. Once an MC uses RCI it would not fall back to a different interface, only to an earlier version of RCI.).

ITS supports only one type of trading interface for an MC. A fallback to another interface is supplied only during the transition period

An MC can retain a "mini-network" of DS40s to be used as am alternate connection to ITS and during tests conducted in off-hours.

2 COMMUNICATIONS (TCP/IP)

The requirements for the TCP/IP Network Interface are defined in the supplement to this document, **"TCP/IP for National Market System (NMS) Participant Input"**.

As part of the above TCP/IP requirement a prefix containing the length of the entire message is appended to the RCI message.

BLOCK LENGTH	COMMUNICATIONS HEADER	MESSAGE HEADER	MESSAGE TEXT

The MC-IC is responsible for arranging for any desired backup facilities for the RCI circuits.

3 MESSAGE ACCOUNTABILITY

3.1 SEQUENCE NUMBERING

Both ITS and the IC have a store and forward capability for messages. Although TCP/IP ensures that there are no "unacknowledged" messages lost due to the communication link, there are still problems (e.g., software bugs) that can make acknowledged messages become lost or garbled. To protect against this, every message passing through the interface must contain a sequence number.

Sequence numbering shall be independent for each direction of transmission. Each side maintains a "NEXT to be ASSIGNED" sequence number for outbound messages and a "NEXT EXPECTED" sequence number for inbound traffic. Sequence numbering begins at "1" at start of day and is incremented by one for each message sent/received.

When a message is received, the sequence number is compared with the "NEXT EXPECTED":

If...	Then...
the sequence number and the "NEXT EXPECTED" match	there is no problem and the "NEXT EXPECTED" is incremented by one.
the number received is less than that expected (whether or not the message is labeled POSS DUPE)	the message is rejected and logged to the receiving control station, or system, with the notation that this is a duplicate sequence number. The "NEXT EXPECTED" is not changed.
the received sequence number is 1 and a higher number was expected (it must be assumed that the other end executed a Cold Startup)	the message should be accepted noting the suspected Cold Startup to the receiving control station and setting the "NEXT EXPECTED" sequence number to "2".
a message is received and its sequence number is greater than the "NEXT EXPECTED"	the message is accepted, "NEXT EXPECTED" is set to the number just received plus one, and the gap in sequence numbers is reported to the receiving control station.

MESSAGE ACCOUNTABILITY - SEQUENCE NUMBERING

Each side of the interface should be capable of setting the "NEXT to be ASSIGNED" and "NEXT EXPECTED" sequence numbers to any value by operator command.

Retransmitted messages will be identified as such and will have a "new" sequence number. Contained within the message will be the original sequence number and circuit on which it was sent.

If the interface consists of more than one link, each link will have its own independent set of sequence numbers. The total number of links shall not exceed 10.

In order to verify that a link is operational, ITS can send pre-formatted test messages to an Market Center Intelligent Controller (MC-IC). These messages take the form of a general administrative (Admin) message, contain the same sequence number as that of the last non-test message sent and are sent to the supervisor station ('SUP') at the MC-IC. Thus, a duplicate sequence number error should be generated for each test message that ITS sends to an MC-IC.

3.2 MESSAGE RETRIEVAL

When a gap occurs, the operator on the side of the interface detecting the gap may request the other side's operator to re-send the missing message(s). Both ITS and the IC must be capable of retrieving messages previously sent by outbound link and sequence number or by outbound link and the approximate time of transmission. After the message is retrieved it should be retransmitted as described above. A retransmission from ITS is achieved by operator command, and is limited to 15 messages per request.

Although not a requirement, the ability to retrieve the last "n" messages RECEIVED to the control station is a very useful capability for testing and problem resolution.

There is no need to re-send a message on the same link used for its original transmission.

4 MESSAGE ROUTING

When an MC opts for the RCI, virtually all the routing functions are removed from ITS and placed in the MC's IC. ITS treats the MC-IC as a single point, even if several physical links are involved, and ITS has a specific method of "routing" to one or the other link for any given message. After ITS writes a message to a communications line, the MC-IC is fully responsible for routing to the final destination device at the MC-IC. The MC-IC similarly treats ITS as a single point and allows ITS full control of routing to ITS constituent processes and devices.

This "single point interface" for RCI insures that ITS requires no network knowledge about the MC-IC and that the other MCs need not do anything special to access the MC-IC.

From the perspective of ITS, the concept of "station number" in the sense of physical device at an MC-IC almost completely disappears. (As noted below, there are a few destinations which are known by name to ITS and the other MCs). ITS no longer maintains by stock, a station destination.

If an MC-IC opts to have more than one virtual circuit operate between it and ITS, ITS will use a system of routing over these circuits based on security. Each circuit will be a "device" or "station" to ITS. Therefore, the physical device at the MC-IC to which the message is eventually delivered will have nothing to do with these "station" designations. The link (virtual circuit) number is what is actually identified by this "station" number.

4.1 GENERAL ROUTING

Routing of messages sent by ITS to an MC-IC occurs by four basic methods:

Routing Method	Message Routed By	Description
Security	IC at MC-IC	The IC uses the security to route the message to its destination(s)
SMM	IC at MC-IC	The IC uses the SMM to route the message to its destination(s)
Message ID	IC at MC-IC	Data which the IC-MC supplied with the commitment is returned to the IC-MC to aid in its routing of the message. This is the electronic equivalent of the "stamped, self-addressed envelope". Up to 16 characters may be supplied by the IC-MC for this purpose.
Generic	IC at MC-IC	Admin messages sent to an MC-IC can be routed to a few generic MC-IC destinations without specifying the actual physical device that fulfills this function at the MC-IC. For example, ITS may route an admin to the MC-IC supervisory station by passing “SUP” in the appropriate field.

MESSAGE ROUTING - GENERAL ROUTING

Routing of messages sent by the MC-IC to ITS occurs in three basic ways:

Routing Method	Message Routed By	Description
Security	ITS	Messages are validated and routed to MC using MC entry in ITS database.
Generic	ITS	Admin messages can be routed to a limited number of generic ITS destinations "directly". For example, an MC-IC may send an admin to one of the ITS supervisory stations by passing the appropriate identifier in the appropriate field ("SLA" and "SSF" for PCX and "SUP" for each of the other MCs).
Station Number	ITS	Station number may be used to route Admin messages sent to DS40 destinations, just as they are for DS40 originators.

The ITS system and the IC work together to properly route and validate messages. The IC begins the validation process. It can pass to ITS messages containing data it cannot validate. When ITS receives a message, ITS completes the validation and routing. If the message fails at this stage, whether due to routing problems or due to validation problems, it is rejected back to the MC-IC. Section 5 "Message Validation" explores this situation further.

4.2 SPECIFIC ROUTING COMMENTS

The ITS ADMIN and Pre-Opening ADMIN message formats allow the user to enter a specific "destination". In the context of an MC-IC the idea of a "station number" is no longer useful. Just as the MC-IC keeps its network details out of ITS' view, it must also keep it from other MCs. The IC must be able to find an SMM based on their GIVEUP (GU) NAME alone.

The IC must keep track of the source of each locally generated commitment or response. One way to do this is to include this source data with such messages and let ITS hold the data associated with the message. Any subsequent messages (responses, cancellations, trade adjustments, etc.) which are to be sent back to the MC-IC and which reference the original IC commitment or response will include the data ITS was "saving". Data to be used in this way should be stored in the Message ID field of the message header.

5 MESSAGE VALIDATION

The critical nature of individual messages sent via RCI and the problems resulting from data misinterpretation make it essential that both ITS and the IC validate incoming messages from the other side of the interface. The validation performed will be based on the type of message, its origin, destination, etc.

5.1 Messages from ITS to an MC-IC

All normal validation of MC, Size, Price, GU and Security takes place within ITS. Any validation failures detected by the IC are reported to the IC operator, who should inform the ITS Control Center (ICC). The messages can then be manually resent.

5.2 Messages from an MC-IC to ITS

All normal validation of MC, Size, Price, GU and Security takes place within ITS. ITS does not restrict the source of a commitment or response from an MC-IC as it does from the terminal network. It is assumed that the IC has already successfully performed this check.

5.3 Message Acknowledgments and Rejects

It should be understood that acknowledgments and rejects take place at two levels in RCI. At the communications level and at the applications level, where it is necessary to validate the data that has been received to make sure it follows the "rules".

In the case of direct ITS terminal input, rejection occurs immediately because ITS has all the data it needs to validate the message. On the other hand, an IC accepts inputs from its sources that it (the IC) cannot fully validate. To maintain ITS data integrity, the ITS system must finish the validation. Messages which fail the ITS validation are rejected back to the IC with the reason for failure. Section 11.11 "Accept/Reject Status (Error Bits)" provides a list of errors and how each would be indicated in the 'status' field of an Acknowledgment message.

6 MESSAGE SWITCHING

ITS has a number of message switching capabilities. RCI requires that the IC have the following message switching capabilities:

- Support of the link with ITS.
- Support of a control station with local command capabilities.
- Supports of message accountability functions like sequence number checking and message retrieval.
- The ability to quickly restart and recover its "place" in its communications and processing functions.
- The ability to survive single hardware failures.
- Message routing based on type and contents.
- Message validation.

Message queuing. The IC must be able to queue messages from ITS to all of its local destinations in a recoverable fashion for some period of time.

7 OPERATIONAL FUNCTIONS

7.1 Local Network Definition

Provided that the foregoing requirements are retained, there is no need for either the ITS system or other MCs to have any information of the content or architecture of the network local to the MC-IC.

7.2 Alternate Communications Channels

Communications channels may fail at a number of different points between the two communicating entities. Both ends of the RCI interface must be prepared to recover the communications channels between the two systems in case of a failure.

In case of a telephone company circuit failure, either additional dedicated (leased) lines or dial backup lines must be available. If a given MC uses more than one physical circuit, this requirement may be met by the use of alternate routing, discussed in the following section.

Alternative cables between the computers as well as spare computer ports should be available at either end in case of failure by these components.

7.3 Alternate Routing

Alternate routing can take place at three levels in the system:

At the lowest level, the MC-IC controls all its local routing and must make provisions for alternate routes from the IC to the terminals and systems that make up the local network. This will cope with local failures up to the IC.

At the next level may occur in the communications facility itself. For example, network-monitoring software can handle network outages. Packets are automatically rerouted over the next best path so quickly that the user is unaware of the change.

Finally, the ITS system can reroute traffic from a failed physical circuit used for one or more port numbers to another operational physical circuit currently in use for other ports. The link number (logical port number) of messages alt routed would then be that of the port on the new physical circuit. Alt routing of messages destined for one port on a physical circuit to another port on the same physical circuit is possible but unlikely as the usual reason for alt routing is an inability to transmit messages (e.g., a physical circuit problem).

7.4 Failure Recovery ("Warm" Recovery)

The ICs and ITS are responsible for keeping track of messages in transit, messages on queue, and whether a particular message has been received and validated properly. Since in the TCP/IP environment the communications acknowledgement does not imply that the other side's application has received and "safe-stored" the message both sides must be prepared to resynchronize in the event of lost messages.

In the event of a TCP/IP socket connection interruption and re-establishment, SIAC recommends that the Participant system, prior to sending data, contact ICC to determine last sequence number received. If there is a discrepancy between the sequence number the MC-IC system is ready to send, and the sequence number ITS is ready to receive, the MC-IC system should re-send the messages in question, before generating any new messages.

If an MC-IC is unable to utilize the above method, SIAC recommends an alternative method. The MC-IC system, prior to sending data, should re-send the five blocks of data sent prior to the disconnect. ITS will reject those messages (due to a lower than expected sequence number) it has already received and process those it has not received.

ITS and the ICs must be able to rebuild their queues of messages to be sent over the interface and queues of messages received from the interface which have not yet been delivered.

It is expected that after a failure, the recovering system will automatically re-send as a POSS DUPE, on a per link basis, the last messages sent prior to the failure that were not acknowledged at the communications level.

As a goal, recovery should take less than two minutes.

7.5 Startup/Shutdown

ITS sends "Good Morning" and "Good Night" messages in the form of broadcast Admins. The "Good Morning" will confirm that ITS is ready. The MC-IC is sent one of these messages per circuit configured for that MC-IC.

Formal shutdown procedures are not required. The IC may inform ITS of its shutdown via an Admin message.

7.6 Fault Detection/Logging/Reporting

The vast majority of ITS messages is and will continue to be entered by people at terminals of some sort. Nevertheless, RCI is a way of connecting two highly complex computer systems together with little human supervision. In addition to sequence checking and careful validation, it is vital that all errors and messages be logged to allow on-line problem review and later detailed study.

8 AFTER HOURS

ITS after-hours reports are unchanged with an MC utilizing RCI. Delivery/receipt times for messages to and from the MC-IC will be the times measured at ITS.

9 FIELD AND DATA GROUP DEFINITIONS

This section provides field descriptions in alphabetical order for the fields described in the "Message Formats" section . GU Data Group and Trade Data Group fields are described in the "Data Group Definitions" section.

9.1 FIELD DEFINITIONS

9.1.1 ADMINISTRATIVE ID (ADMIN ID):

Five digit alphanumeric field, upper case (A0001 through ZZZZ9), assigned by ITS, which uniquely identifies a given Admin message. Rejected Admins will not be assigned an ADMIN ID, they will contain the REJECT standard value of '00'.

This field is similar to the CID. The type of ID is determined from the message type/subtype.

Standard value is five <space> characters.

9.1.2 AGENCY CODE:

One alpha character code which specifies the relationship of the broker/SMM to the commitment.

<space>	=	Undetermined
'A'	=	Agent in one sided response
'P'	=	Principle
'X'	=	Firm

Standard value is <space>.

9.1.3 CLEARING FIRM IDENTIFIER:

4-byte Alphanumeric field, provided by the originating market center identifying a member of the destination market center.

9.1.4 COMMITMENT ID (CID):

Five digit alphanumeric field, upper case (A0001 through ZZZZ9), assigned by ITS, which uniquely identifies a given Commitment or One-Sided Response. Rejected Commitments will not be assigned a CID, they will contain the REJECT standard value of '00'. May also be input in a form with some or all leading zeros suppressed and blank padded to the right (i.e. 'A1 ' instead of 'A0001').

Standard value is five <space> characters.

9.1.5 DATE:

A six digit numeric field. The first two digits are the month (mm), the second two are the day (dd) and the third two are the last two digits of the year (yy). This six digit numeric format will continue to be used into the Year 2000 (yy=00).

There is no standard value for this field.

9.1.6 DEFAULT INDICATOR

1 Byte, numeric field, which indicates if the Clearing Firm Identifier is a valid or default firm:

'0' = valid firm

'1' = default.

9.1.7 DESTINATION:

A three character alpha-numeric field. The DESTINATION field may be used to specify the destination for Admin messages.

When used on an IC-originated message directed to a non-IC market, the DESTINATION field may take one of the following forms:

'###'	where the destination is a DS40 station at a non-MC-IC, and '###' stands for three numeric digits which is the DS40 station number
'ALT'	for the Pacific Exchange, the alternate destination to that used normally for the security (the other floor of the exchange)
'SUP'	the MC supervisor (at the Pacific Exchange, this indicates delivery to both supervisor stations)
'SLA'	for the Pacific Exchange only, the Los Angeles floor supervisor
'SSF'	for the Pacific Exchange only, the San Francisco floor supervisor
'TRD'	the MC trade printer (at the Pacific Exchange, this indicates delivery to both trade printers)
'TLA'	for the Pacific Exchange only, the Los Angeles floor trade printer
'TSF'	for the Pacific Exchange only, the San Francisco floor trade printer

When used on an IC-originated message directed to itself, the DESTINATION field may take one of the following forms:

'ALL'	if the source is 'SUP'

Plus all of the varieties indicated above except '###'

When used on a non-IC-originated message directed to an IC, it may take one of the following forms:

'ALL'	for ICC originated messages only, the message is for delivery to all stations at the destination
'ALT'	for the Pacific Exchange (if the Pacific Exchange is an MC-IC), the alternate destination to that used normally for the security (the other floor of the exchange)
'SUP'	the MC supervisor (at the Pacific Exchange, this indicates delivery to both supervisor stations)
'SLA'	for the Pacific Exchange only (if the Pacific Exchange is an MC-IC), the Los Angeles floor supervisor
'SSF'	for the Pacific Exchange only (if the Pacific Exchange is an MC-IC), the San Francisco floor supervisor
'TRD'	the MC trade printer (at the Pacific Exchange, if it is an MC-IC, this indicates delivery to both trade printers)
'TLA'	for the Pacific Exchange only (if the Pacific Exchange is an MC-IC), the Los Angeles floor trade printer
'TSF'	for the Pacific Exchange only (if the Pacific Exchange is an MC-IC), the San Francisco floor trade printer

The standard value is three <space> characters.

9.1.8 EXPIRATION CODE:

A one (1) digit numeric code which specifies the number of minutes the commitment is to remain in effect before being subject to automatic cancellation by ITS.

'0' = 30 seconds

'1' = 60 seconds

'2' = 120 seconds

'3' = 5 seconds

'4' = 15 seconds

There is no standard value for this field.

9.1.9 EXPIRATION TIME:

Time based on the ITS clock that a commitment will expire. Six alphanumeric characters (HMSsss) based on a 24-hour clock. (Reference Appendix 'A' for time conversion table)

Note: H= Hour, M= Minute, S=Second, sss=Milliseconds

There is no standard value for this field.

9.1.10 INTELLIGENT CONTROLLER ID (IC ID):

One byte identification of the Source/Destination IC ID. The codes are identical to the corresponding MC ID.

Currently assigned codes are:

'A'	=	AMEX	'N'	=	NYSE
'B'	=	BSE	'P'	=	PCX
'C'	=	NSX	'S'	=	ITS or System
'D'	=	NASD	'T'	=	NASDAQ
'I'	=	ICC	'W'	=	CBOE
'M'	=	CHX	'X'	=	PHLX
'*'	=	Broadcast (Admin messages only)			

Standard value is 'S'.

9.1.11 LIMITED PRICE DENOMINATOR

This is a one (1) byte alphanumeric field. The Limited Price Denominator Indicator field contains one of the codes listed in the "Limited Price Denominator Indicator Code Table" section. Otherwise, this field is zero filled. It identifies the price denominator of the fraction or the location of the decimal. Decimal prices can be entered using both the Regular and Expanded Formats. However, all decimal price adjustments require the Expanded Adjustment Format since it supplies the Price Denominator Field.

Standard value is '0'

9.1.12 LIMITED PRICE DENOMINATOR INDICATOR CODE TABLE

A field containing one alphanumeric character. The Limited Price Denominator Indicator field contains one of the codes listed below. Otherwise, the field is **zero** filled. It identifies the price denominator of the fraction or the location of the decimal

FRACTIONAL PRICES

Limited Price Denominator Code	Denominator Value	Price Field Size Whole	Numerator
0	256	3	3

DECIMAL PRICES

Limited Price Denominator Code	Denominator Value	Price Field Size Whole	Numerator
A	10	5	1
B	100	4	2
C	1,000	3	3
D	10,000	2	4
E	100,000	1	5
F	1,000,000	0	6

WHOLE PRICES (ONLY)

Limited Price Denominator Code	Denominator Value	Price Field Size Whole	Numerator
I	(N/A)	6	0

PRICE AT THE MARKET

Limited Price Denominator Code	Denominator Value	Price Field Size Whole	Numerator
Standard Value (0)	(N/A)	'MKT'	3 <spaces>

NOTE: For a zero (0) price, the standard value (0) of the Price Denominator Code should be used.

Messages forwarded by ITS contain the ITS Security File Denominator Code. An MC IC should use 'MKT' in the price field as the primary designator of a market price.

9.1.13 MC ID: SOURCE/DESTINATION MARKET CENTER ID:

A one character field that identifies an MC. Currently assigned codes are:

'A'	=	AMEX	'N'	=	NYSE
'B'	=	BSE	'P'	=	PCX
'C'	=	NSX	'S'	=	ITS or System
'D'	=	NASD	'T'	=	NASDAQ
'I'	=	ICC	'W'	=	CBOE
'M'	=	CHX	'X'	=	PHLX
'*'	=	Broadcast (admin messages only)			

Standard Value is "S'.

9.1.14 MESSAGE ID:

A free-format field which may be submitted by the MC-IC and which is returned to it in associated messages (see formats of individual messages below for details).

Standard value is sixteen (16) <space> characters.

9.1.15 ORIGINAL MESSAGE SEQUENCE NUMBER:

This is a six (6) digit numeric field ('000000' to '999999') that is returned by the ITS system on Accept/ Reject Acknowledgment messages. This is the value which was input in the Communications Header sequence number field by ITS or the MC-IC on the message being sent. In the case of a Cold Startup this number starts again at '000001'. If this number exceeds '999999' it starts again at '000001'.

9.1.16 ORIGINAL MESSAGE SUBTYPE:

A single (1) character alpha field returned by the ITS system on Accept/Reject Acknowledgment messages. This is the value that was input in the message header message subtype field by the MC-IC on the message being acknowledged. These fields are case sensitive, including both Upper Case A –Z and Lower Case a-z characters.

Standard value (used when the input message is too short to contain the message subtype field) is <space>.

9.1.17 ORIGINAL MESSAGE TYPE:

A single (1) character alpha field returned by the ITS system on Accept/Reject Acknowledgment messages. This is the value that was input in the message header message type field by the MC-IC on the message being acknowledged. These fields are case sensitive, including both Upper Case A –Z and Lower Case a-z characters.

Standard value (used when the input message is too short to contain the message type field) is <space>.

9.1.18 PRICE (Regular):

A six (6) character numeric field. Right justified, zero filled. For fractional prices, the first three digits signify the whole price (‘000’ - ‘999’) and the last three digits represent the fractional price expressed in terms of 256th’s (‘000’ - ‘255’). For decimal prices, the Limited Price Denominator Indicator determines the whole and decimal portion of the price.

Standard value is ‘000000’.

Please refer to the “Limited Price Denominator Indicator Code Table” section.

9.1.19 PRICE (Expanded):

A twelve (12) byte numeric field. Right justified, zero filled. The price is the whole and fractional (or decimal) portion of the trade price information with the PRICE DENOMINATOR INDICATOR code determining the price representation.

Standard value is ‘000000000000’.

Please refer to “Price Denominator Indicator Code Table”.

9.1.20 PRICE DENOMINATOR INDICATOR:

One (1) byte alphanumeric. The Price Denominator Indicator field contains one of the codes listed in the “Price Denominator Indicator Code Table” section. It identifies the price denominator of the fraction or the location of the decimal. Decimal Prices can be entered using both the Regular and Expanded Formats. However, all Decimal Price adjustments require the Expanded Adjustment Format since it supplies the Price Denominator Field.

Standard value is ‘0’.

9.1.21 PRICE DENOMINATOR INDICATOR CODE TABLE

A field containing one alphanumeric character. The Price Denominator Indicator field contains one of the codes listed below. Otherwise, the field is **zero** filled. Identifies the price denominator of the fraction or the location of the decimal

FRACTIONAL PRICES

Price Denominator Code	Denominator Value	Price Field Size Whole	Numerator
3	8	11	1
4	16	10	2
5	32	10	2
6	64	10	2
7	128	9	3
8	256	9	3

DECIMAL PRICES

Price Denominator Code	Denominator Value	Price Field Size Whole	Numerator
A	10	11	1
B	100	10	2
C	1,000	9	3
D	10,000	8	4
E	100,000	7	5
F	1,000,000	6	6
G	10,000,000	5	7
H	100,000,000	4	8

WHOLE PRICES (ONLY)

Price Denominator Code	Denominator Value	Price Field Size Whole	Numerator
I	(N/A)	12	0

PRICE AT THE MARKET

Price Denominator Code	Denominator Value	Price Field Size Whole	Numerator
Standard Value (0)	(N/A)	'MKT'	9 <spaces>

NOTES: The maximum whole price allowable is 92.2 billion.

For a zero (0) price, the standard value (0) of the Price Denominator Code should be used.

Messages forwarded by ITS contain the ITS Security File Denominator Code. An MC IC should use ‘MKT’ in the price field as the primary designator of a market price.

9.1.22 SECURITY:

This is an eleven (11) character alpha field that identifies a valid ITS security symbol/suffix.

Examples are:

'A-PR-------'	'A-PRACV----'
'ABC-A------'	'XYZ-WI-----'
'QABC-------'	'QXYZ-PRCVWI'
'ABCDEF-----'	'ABCDEF-PRWI'

1 - 6 Alpha Base Symbol Characters (Root), followed by <space>, followed by 0 - 9 Alpha Base Symbol Characters (Suffix) (which may contain more than one individual suffix). The suffices being optionally separated from each other by one or more blank characters. ITS originated messages will not include such blank separator characters. This field cannot exceed eleven (11) bytes in total, including spaces.

Standard value is eleven <space> characters.

9.1.23 SECURITY STATUS:

A one (1) character field which indicates any special status for the security in the preceding field. May be used to indicate, for example, bankruptcy. Not used at present.

Standard value is <space>.

9.1.24 SIZE (Regular):

A six (6) digit number ('000001' to '999999') that represents the number of shares. The size must be an even multiple of the security's unit of trade.

Standard value is '000000'.

9.1.25 SIZE (Expanded):

This is a nine (9) digit numeric field ('000000001' to '999999999') that represents the number of shares. The size must be an even multiple of the security's unit of trade.

Standard value is '000000000'.

9.1.26 SOURCE:

This is a three (3) character field. The Source field may be used to specify the source for Admin messages. When used on an IC-originated message directed to a non-IC market it may take one of the following forms:

'ALT'	for Pacific (if Pacific is an MC-IC) the alternate source to that used normally for the security (the other floor of the exchange)
'SUP	the MC supervisor (at Pacific, this cannot be used)
'SLA'	for Pacific only (if Pacific is an MC-IC) the Los Angeles floor supervisor
'SSF'	for Pacific only (if Pacific is an MC-IC) the San Francisco floor supervisor

Note that this information cannot be delivered to a DS40 type station and is lost in the current implementation of the ITS system.

When used on a non-IC-originated message directed to an IC, it may take the following form:

'###'	where the source is a DS40 station at a non-MC-IC, and '###' stands for three numeric digits specifying that station's number

The standard value is three <space> characters.

9.1.27 SPECIALIST MARKET MAKER (SMM):

A four (4) character field, each character of which must be alpha, numeric, or blank.

Standard value is four <space> characters.

9.1.28 TIME:

This is a six (6) digit alphanumeric field (HMSsss) based on a 24-hour clock. If a message is sent from IC, then the time is equal to the time IC sent it. If the message is from ITS, then the time is the time ITS sent it. There is no standard value for this field. (Reference Appendix 'A' for time conversion table).

Note: H = Hour, M = Minute, S = Second, sss = Milliseconds

Note: ITS Time Stamps every message that it receives and sends.

Note: If a message is sent from IC, both the current time stamp representation or the new timestamp with milliseconds will be accepted.

DATA GROUP DEFINITIONS

The following definitions specify groups of fields that commonly appear together in the messages for accommodating GU Data, GU Status, and Trade Data. Expanded GU and Trade Data groups are provided to handle larger sizes and prices.

9.1.29 GIVEUP (GU) DATA GROUP (Regular):

The GU Data Group is used to indicate GU information.

Field	Size	Type	Meaning
NUMBER OF GUs	**2**	numeric	Range '00' through '40'. Specifies the number of occurrences of GU Information (See Notes). If wrong on input, '00' is returned by ITS. Standard value '00'.
GU INFORMATION	**12**		
GU NAME	4	alphanum	1-4 characters (left justified with padding <space> characters) containing a valid Clearing Firm Id. If all blank, 'names later' is read for responses and the executing side of one- sided responses. Standard value is four <space> characters.
SIZE	6	numeric	See Section 9.1 - "Field Definitions"
TAX CODE	1	alpha	'Y' = taxable 'N' = non-taxable <space> = Undetermined Standard value is <space>.
GU STATUS	1	alphanum	Used as a bit map, with a base value of octal 60 ('0') and the bits (0 being the most significant) being used to flag status conditions as follows: bit 0 = always off bit 1 = 'Names Later' bit 2 = always on bit 3 = always on bit 4 = always off bit 5 = invalid tax code bit 6 = invalid size bit 7 = invalid GU name Standard value (used on input) is '0'.
Total	**14**		

NOTES:

1. Total group size is from 2 to 482 characters and depends upon the number specified in field # of "GUs" Field. Size = 2 + (12 * n).
2. Commitment GUs limited to 1 for now.
3. Executing GU's limited to 5 for now.
4. Only Names Later can enter up to 40 GU's.

9.1.30 GIVEUP (GU) DATA GROUP (Expanded):

This Group is utilized to accommodate larger sizes GUs (up to 9 characters).

Field	Size	Type	Meaning
NUMBER OF GUS	**2**	numeric	Range '00' through '40'. Specifies the number of occurrences of GU Information (See Notes). If wrong on input, '00' is returned by ITS. Standard value '00'.
GU INFORMATION	**15**		
GU NAME	4	alphanum	1-4 characters (left justified with padding <space> characters) containing a valid Clearing Firm Id. If all blank, 'names later' is read for responses and the executing side of one- sided responses. Standard value is four <space> characters.
EXPANDED SIZE	9	numeric	See Section 9.1 - "Field Definitions"
TAX CODE	1	alpha	'Y' = taxable 'N' = non-taxable <space> = Undetermined Standard value is <space>.
GU STATUS	1	alphanum	Used as a bit map, with a base value of octal 60 ('0') and the bits (0 being the most significant) being used to flag status conditions as follows: bit 0 = always off bit 1 = 'Names Later' bit 2 = always on bit 3 = always on bit 4 = always off bit 5 = invalid tax code bit 6 = invalid size bit 7 = invalid GU name Standard value (used on input) is '0'.
Total	**17**		

NOTES:

1. Total group size is from 2 to 482 characters and depends upon
2. the number specified in the "NUMBER OF GUs" Field. Size = 2 + (15 * n).
3. Commitment GUs limited to 1 for now.
4. Executing GUs limited to 5 for now.
5. **Only Names Later can enter up to 40 GUs.**

9.1.31 GIVEUP (GU) STATUS GROUP:

This Group is used for the processing of "GiveUp" information.

Field	Size	Type	Meaning
NUMBER OF GUs	**2**	numeric	Range '00' through '40'. Specifies the number of occurrences of the "NUMBER OF GUs" Status Field (See Notes). Standard value '00'.
GU STATUS	**1**	alphanum	Used as a bit map, with a base value of octal 60 ('0') and the bits (0 being the most significant) being used to flag status conditions as follows: bit 0 = always off bit 1 = 'Names Later' bit 2 = always on bit 3 = always on bit 4 = invalid status bit 5 = invalid tax code bit 6=invalid size bit 7 = invalid GU name
Total	**3**		

There is no standard value for this field.

NOTE:

1. Total group size is from 2 to 42 characters and depends upon the number specified in the "NUMBER OF GUs" Status Field. Size = 2 + (1*n).

9.1.32 TRADE DATA GROUP (Regular):

This group is used to indicate the Action, Size and Fractional or Limited Decimal Price of the transaction (up to 6 positions).

Field	Size	Type	Meaning
ACTION CODE	**1**	alpha	Action (to be) taken. 'B' = Buy (Bought) 'S' = Sell (Sold) 'T' = Sell (Sold) Short 'X' = Sell (Sold) Short Exempt Standard value is <space>.
LIMITED PRICE DENOMINATOR INDICATOR	**1**	numeric	Please see "Limited Price Denominator Indicator Code Table" section.
SIZE	**6**	numeric	Number of shares (to be) traded. (See Section 9.1.23, "SMM (Security Market Maker)"). Standard Value is '000000'.
PRICE	**6**	numeric	Commitment/execution price. Standard value '000000'. (See Section 9.1.18, "Price").
Total	**14**		

ALTERNATIVE A 1=Decimal

ALTERNATIVE B A=10ths
B=100ths
C=1,000ths
D=10,000ths
E=100,000ths
F=1,000,000ths

9.1.33 TRADE DATA GROUP (Expanded):

This group is used to indicate transaction sizes up to nine (9) positions and prices utilizing the expanded pricing scheme.

Field	Size	Type	Meaning
ACTION CODE	**1**	alpha	Action (to be) taken. 'B' = Buy (Bought) 'S' = Sell (Sold) 'T' = Sell (Sold) Short 'X' = Sell (Sold) Short Exempt Standard value is <space>.
RESERVED	**1**	numeric	Always '0'.
EXPANDED SIZE	**9**	numeric	Number of shares (to be) traded. (See Section 9.1.8, "Expanded Size"). Standard value is '000000000'.
PRICE DENOMINATOR INDICATOR	**1**	alphanumeric	The Price Denominator Indicator field contains one of the codes listed in Section 13. Otherwise, this field is zero filled. If the price is at the Market, this field equals the standard value. Identifies the price denominator of the fraction or the location of the decimal. Standard value is '0'. (e.g. MKT: Price Denominator Code=0, Whole Price Field=MKT, Numerator Price Field=9<space>)
EXPANDED PRICE	**12**	numeric	Commitment/Execution price. Standard value '000000000000'. (See Section 9.1.7, "Expanded Price").
Total	**24**		

10 MESSAGE FORMATTING OVERVIEW

The formatting of RCI messages is different from device-specific formatting in the following fundamental ways:

10.1 Formatting Summary

For messages to an MC-IC from an ICC or other MCs, the intelligence of the receiver is taken into account. Instead of sending separate messages for CRTs, printers and local trade printers, ITS sends only one message which has all the fields that the IC would need to generate the other messages. There is no requirement that the IC actually generate these messages. However, ITS defines a logical limit to the data ITS must send to the MC-IC by providing these fields with the content which is provided to the other MCs. Similarly, the IC sends one message to ITS. The fields which ITS provides also set the logical limit for what the IC can send to ITS.

- The overall message format is:

Fields may be added at the end of the message body following the convention that each field must specify its length. Thus a new field at the end of a message would appear as at least two characters ("00" if it contained no data, or the length followed by the data if it contained data). Any IC may ignore data beyond currently defined fields if it is of no use to that IC. These conventions will allow ITS to bring up a new release with extended messages without requiring new IC releases.

The message formats are based on three assumptions:

1. The IC retains the message data it sends ITS, until an Acknowledgment (ACC/REJ) is received for that message.
2. The IC need not retain data from messages previously sent to ITS and acknowledged or messages received from ITS (although optionally it may do so for local use).
3. ITS does not define the contents of, or an IC's use of, the Message ID field. However, ITS accepts and "saves" this identification field sent in IC Commitments or Responses and returns it in messages to the IC related to the original input.

For each IC input message, ITS returns an Acknowledgment/Reject (ACC/REJ) message. That acknowledgment does NOT contain any data from the body of the IC input message. In the Acknowledgment, where appropriate, ITS will supply a CID (or ADMIN ID), the IC's Message ID, validation information (for errors or qualified acceptances), and standard header data.

The IC may choose to maintain a database accessible by a CID (e.g. in order to append the original commitment data to the local hard copy of a response or commitment cancellation sent by the IC to ITS).

MESSAGE FORMATTING OVERVIEW

The IC need not wait for an ACC/REJ for message number 1 before sending in message number 2. Similarly, ITS may not acknowledge the messages in the sequence in which they were sent. (ITS might ACC/REJ message 2 before acting on message 1.) Every message from IC must contain a unique link and sequence number. IC can correlate the message and the ACC/REJ because the ACC/REJ contains the Link and Sequence Number the IC used on the original message.

The details of the messages are presented in the "Message Formats" section.

10.2 Message Types (Regular and Expanded)

10.2.1 Message Types from IC to ITS (Regular and Expanded)

- COMMITMENT (Regular and Expanded)
- COMMITMENT CANCELLATION (Regular and Expanded)
- TRADE RESPONSE (with or without GUs) (Regular and Expanded)
- ONE-SIDED RESPONSE (Regular and Expanded)
- NAMES LATER (Regular and Expanded)
- ADMIN (General and Pre-Opening)

10.2.2 Message Types from ITS to IC (Regular and Expanded)

- COMMITMENT (Regular and Expanded)
- GENERAL REPORT (Regular and Expanded)
    - TRADE RESPONSE (with and without GUs) to an IC COMMITMENT (Regular and Expanded)
    - ONE-SIDED RESPONSE (Regular and Expanded)
    - COMMITMENT CANCELLATION (Regular and Expanded)
    - AUTO COMMITMENT CANCELLATION (Regular and Expanded)
    - TRADE ADJUSTMENTS
    - “AS OF” messages
- ADMIN (General and Pre-Opening)
- ACKNOWLEDGMENT of MC-IC messages

11 MESSAGE FORMATS

Each message has three components: Communications Header, Message Header, and Message Type. This section describes these components.

11.1 R S O T Message Field Notation:

For every message type defined in this section, the message sender (ITS or any MC-IC) is responsible for appropriate content in every field of the message. Each field in any given message is classified with one of the four following states, which is noted under the "Notation" column of each field.

R -	Required	The sender must fill this field with a valid entry
S -	Standard Value	The sender must put the standard value in this field
O -	Optional	At the senders option, the field may have either a valid entry or a standard value
T -	Turnaround	ITS returns whatever MC-IC put in this field in a prior related message.

11.2 COMMUNICATIONS HEADER:

A Communications Header will precede each message.

If the message is a retransmission of a previous message via retrieval (Class = '1'), the Communications Header "Retransmit" fields will be filled in with data associated with the last transmission of that message.

Byte	Designation	Format
1	Class	'0' - Original transmission. '1' - Retransmission of an original via retrieval. '2' - Communication 'Poss Dupe' '3' - Retransmission of a 'Poss Dupe' or 'Poss Dupe' of a Retransmission
2	Link-Number	'0' through '9'. Identifies the virtual circuit of the transmission.
3-8	Sequence-Number	'000001' through '999999'. Incremented for each message sent.
	* Retransmit Fields are set to zero if class is not '1' or '3'. *	
9	R-Link-Number	'0' through '9'. Identifies the virtual circuit of the original transmission.
10-15	R-Sequence-Number	'000001' through '999999'. Identifies the sequence number of the original message being retransmitted.
16-21	R-Time	Time ITS processed original message. On any message (original or retransmission) from IC this field should be '000000'.
22	Unused	Always <space>.
Total**: 22**		

11.3 MESSAGE HEADER:

Each message will be preceded by a Message Header which defines the type of message and includes other information which identifies the message to ITS and/or the IC.

Byte	Designation	Format
1	Message Type	Identifies the type of message. All Regular Format Message Types are Upper Case alpha characters. '**C**' = Commitment '**R**' = Response (from IC to ITS only) '**X**' = Commitment Cancellation (from IC to ITS only) '**N**' = Names Later (from IC to ITS only) '**O**' = One-sided Response (from IC to ITS only) '**T**' = General Report (from ITS to IC only) '**A**' = Admin '**S**' = Accept/Reject Acknowledgment (from ITS to IC only) All Expanded Format Message Types are Lower Case alpha characters. '**c**' (Lower Case) = Expanded Commitment '**r'** (Lower Case) = Expanded Response (from IC to ITS only) '**n'** (Lower Case) = Expanded Names Later (from IC to ITS only) '**o'** (Lower Case) = Expanded One-sided Response (from IC to ITS only) '**t**' (Lower Case) = Expanded General Report (from ITS to IC only)
2	Message Subtype	Further identifies the type of message.

Message Type	Message Subtype(s)
'**C**'	'**E**' – Entry (from IC to ITS) **'F'** – Forward (from ITS to IC)
'**c**' (Lower Case)	'**e**' – Entry (from IC to ITS) '**f'** – Forward (from ITS to IC)
'**R**'	<space>
'**r'** (Lower Case)	<space>
'**X**'	<space>

MESSAGE FORMATS - MESSAGE HEADER:

'**N**'	**'C'** – Committing GU Data '**D**' – Prior Day (ASOF) Committing GU Data '**R**' – Responding GU Data '**S**' – Prior Day (ASOF) Responding GU Data
'**n**' (Lower Case)	'**c'** (Lower Case) – Expanded Committing GU Data '**d'** (Lower Case) – Expanded Prior Day (ASOF) Committing GU Data '**r'** (Lower Case) – Expanded Responding GU Data '**s**' (Lower Case) – Expanded Prior Day (ASOF) Responding GU Data
'**O**'	<space>
'**o**' (Lower Case)	<space>
'**T**'	**'R**' – Other MC Responds to MC-IC Commitment '**O**' – Other MC sends MC-IC One Sided Response '**T**' – Trade Adjustment Report – Adjust Price and or Size '**X**' – Manual Commitment Cancel '**S**' – Auto-Cancel from ITS to IC '**A**' – Prior Day (ASOF) Trade Addition '**B**' – Prior Day (ASOF) Trade Adjustment
'**t'** (Lower Case)	'**r'** (Lower Case) – Other MC Responds to MC-IC Commitment '**o'** (Lower Case) – Other MC sends MC-IC a One Sided Response '**t**' (Lower Case) – Expanded Same Day Trade Adjustment Report – Adjust Price and/or Size '**s**' (Lower Case) – Auto-Cancel (from ITS to IC) '**a**' (Lower Case) – Prior Day (ASOF) Trade Addition '**b**' (Lower Case) – Prior Day (ASOF) Trade Adjustment
'**A**'	'**G**' – General Admin (from ITS to IC) (from IC to ITS) '**I'** – Pre-opening Indication '**R**' – Pre-opening Response '**S**' – Second Look '**C**' – Opening Canceled
'**S'**	**'A**' - Accept '**Q**' - Qualified Acceptance '**J**' - Reject

MESSAGE FORMATS - MESSAGE HEADER:

3-5	Message Length	Maximum of '999'. Total number of characters in the message including Communications Header, Message Header and Message Text.
6-21	Message ID	A unique 16 character identifier assigned by the MC-IC to identify messages sent to ITS. ITS will return this id in ACCEPT/REJECT ACKNOWLEDGMENT messages as well as any message related to the input message via the CID/ADMIN ID assigned by ITS.
22-26	CID/ADMIN ID	A CID is a unique identifier (five character alphanumeric field, upper case (A0001 - ZZZZ9)) assigned to the commitment message by ITS and sent on outbound commitments and ACC/REJ messages. An AID is a unique identifier (five character alphanumeric field, upper case (A0001 - ZZZZ9)) assigned to an administrative message by ITS and sent on outbound commitments and ACC/REJ messages. The MC-IC will use five <space> characters in this field on their entry of commitments, admins and one-sided responses. The meaning of this field depends on message type; see individual message format descriptions below.
27-32	Time	For messages from IC this field is the time that IC sent the message (the current time stamp representation or the new timestamp with milliseconds will be accepted). For messages originated at or forwarded by ITS this field contains the time at which ITS generated or passed on the message. Six (6) alphanumeric characters (HMSsss). (Reference Appendix 'A' for time conversion table). Note: H= Hour, M=Minute, S=Second, sss=Milliseconds
33	Source MC ID	Source MC ID. One alpha character field.
34	Destination MC ID	Destination MC ID. One alpha character field.
35	Output Error	Flags invalid fields on messages output to an MC-IC: '0' = no errors '1' = errors This field should, in theory, never have the value '1' because of ITS' internal validation. An error here is significant primarily in the case of a commitment as the other output types are reports and do not involve the MC-IC in an obligation. Commitments flagged '1' could be allowed to time-out (auto cancel), manually canceled, or discussed with the sender. Acknowledgment messages cannot have '1' here. Errors on GU fields will be flagged in the status field described in GU DATA GROUP above. Standard value (use on input) is 'blank'.
36-39	Clearing Firm Identifier	4-byte Alphanumeric field. The originating market center provides the clearing firm number identifying a member of the destination market center.
40	Default	Standard value (use on input) is 'blank".

MESSAGE FORMATS - MESSAGE HEADER:

Indicator	1 Byte numeric field. Identifies if the Clearing Firm Identifier as a valid or default firm: '0' = valid firm '1' = default.

Total **40**

11.4 COMMITMENT:

11.4.1 Regular Message Type C (Upper Case)

Message Subtype: **E** - Entry (from IC to ITS)
F - Forward (from ITS to IC)

PURPOSE: To receive Commitments from and/or forward Commitments to an MC-IC. The originating IC will be notified of the Acceptance or Rejection of the commitment via an Acknowledgment message.

MESSAGE FORMATS - COMMITMENT:

11.4.1.1 Subtype E - Entry (from IC to ITS)

FORMAT:

Field/Group	Size	Notes	Notation
MESSAGE HEADER	40		
	1	Message Type	R
	1	Message Subtype	R
	3	Message Length	R
	16	Message ID	O
	5	CID	S
	6	Time	R
	1	Source MC ID	R
	1	Destination MC ID	R
	1	Output Error	S
	4	Clearing Firm ID	O
	1	Default Indicator	S
SECURITY	11	See SECURITY field.	R
SECURITY STATUS	1		S
EXPIRATION CODE	1	30, 60, 120, 5 and 15 second	R
AGENCY CODE	1	P/A/X	O
RESERVED	1		S
Commitment SMM/BROKER ID	4		O
Commitment TRADE DATA	14	Action, size and price.	R *1,2,3
Commitment GU DATA	14-62		R *4,5
Total	87-135		

NOTES:

*1. Size may not be zero.

*2. Price may not be zero.

*3. The TRADE DATA size must be equal to the sum of the sizes specified for the Gus.

*4. At present, one and only one commitment GU will be supplied.

*5. The sum of the GU DATA sizes will equal the TRADE DATA size.

MESSAGE FORMATS - COMMITMENT:

11.4.1.2 Subtype F - Forward (from ITS to IC)

FORMAT:

Field/Group	Size	Notes	Notation
MESSAGE HEADER	40		
	1	Message Type	R
	1	Message Subtype	R
	3	Message Length	R
	16	Message ID	S
	5	CID	R
	6	Time	R *1
	1	Source MC ID	R
	1	Destination MC ID	R
	1	Output Error	R
	4	Clearing Firm Identifier	O
	1	Default Indicator	S
SECURITY	11	See SECURITY field.	R
SECURITY STATUS	1		S
EXPIRATION CODE	1	30, 60, 120, 5 and 15 second	R *1
AGENCY CODE	1	P/A/X	O
RESERVED	1		S
Commitment SMM/BROKER ID	4		O
Commitment TRADE DATA	14	Action, size and price.	R
Commitment GU DATA	14-62		R *2,3
Total	87-135		

NOTES:

*1. The header time is the input time of the commitment (ITS time); expiration time may be calculated from it by adding the expiration code.

*2. At present, one and only one commitment GU will be supplied.

*3. The sum of the GU DATA sizes will equal the TRADE DATA size.

11.4.2 Expanded Message Type c (Lower Case)

Message Subtype: **e** -Entry (from IC to ITS)
f - Forward (from ITS to IC)

PURPOSE: To receive commitments from and/or forward commitments to an MC-IC for expanded prices and/or sizes. The originating IC will be notified of the Acceptance or Rejection of the commitment via an Acknowledgment message.

MESSAGE FORMATS - COMMITMENT:

11.4.2.1 Subtype e - Entry (from IC to ITS)

FORMAT:

Field/Group	Size	Notes	Notation
MESSAGE HEADER	40		
	1	Message Type	R
	1	Message Subtype	R
	3	Message Length	R
	16	Message ID	O
	5	CID	S
	6	Time	R
	1	Source MC ID	R
	1	Destination MC ID	R
	1	Output Error	S
	4	Clearing Firm Identifier	O
	1	Default Indicator	S
SECURITY	11	See SECURITY field.	R
SECURITY STATUS	1		S
EXPIRATION CODE	1	30, 60, 120, 5 and 15 second	R
AGENCY CODE	1	P/A/X	O
RESERVED	1		S
Commitment SMM/BROKER ID	4		O
Commitment TRADE DATA (Expanded)	24	Action, size, and price	R *1,2,3
Commitment GU DATA (Expanded)			R *4,5
Total	100-160		

NOTES:

*1. Size may not be zero.

*2. Price may not be zero.

*3. The TRADE DATA (Expanded)size must be equal to the sum of the sizes specified for the GUs.

*4. At present, one and only one commitment GU will be supplied.

*5. The sum of the GU DATA (Expanded) sizes will equal the TRADE DATA (Expanded) size.

MESSAGE FORMATS - COMMITMENT:

11.4.2.2 Subtype f - Forward (from ITS to IC)

FORMAT:

Field/Group	Size	Notes	Notation
MESSAGE HEADER	40		
	1	Message Type	R
	1	Message Subtype	R
	3	Message Length	R
	16	Message ID	S
	5	CID	R
	6	Time	R *1
	1	Source MC ID	R
	1	Destination MC ID	R
	1	Output Error	R
	4	Clearing Firm Identifier	O
	1	Default Indicator	S
SECURITY	11	See SECURITY field.	R
SECURITY STATUS	1		S
EXPIRATION CODE	1	30, 60, 120, 5 and 15 second	R *1
AGENCY CODE	1	P/A/X	O
RESERVED	1		S
Commitment SMM/BROKER ID	4		O
Commitment TRADE DATA (Expanded)	24	Action, size and price.	R
Commitment GU DATA (Expanded)	17-77		R *2,3
Total	100-160		

NOTES:

*1. The header time is the input time of the Commitment; expiration time may be calculated from it by adding the expiration code.

*2. At present, one and only one Commitment GU will be supplied.

*3. The sum of the GU DATA sizes will equal the TRADE DATA size.

MESSAGE FORMATS - RESPONSE:

11.5 RESPONSE:

11.5.1 Regular Message Type R (Upper Case) (from IC to ITS)

Message Subtype: <space>

PURPOSE: To effect a trade based upon a previously transmitted commitment. The originating IC will be notified of Acceptance, Partial Acceptance or Rejection of the response via an Acknowledgment Message.

FORMAT:

Field/Group	Size	Notes	Notation
MESSAGE HEADER	40		
	1	Message Type	R
	1	Message Subtype	S
	3	Message Length	R
	16	Message ID	O
	5	CID	R
	6	Time	R
	1	Source MC ID	R
	1	Destination MC ID	S
	1	Output Error	S
	5	Reserved	S
Execution SMM ID	4		O
Execution TRADE DATA	14	Action, size and price.	O *1,2,3
Execution GU DATA	2-62	May contain '00'.	R *4
Total	60-120		

NOTES:

*1. Action is always the standard value.

*2. Size is optional if there is one GU and required if more than one GU is specified. If it is supplied, it must equal the sum of the GU data sizes in the GU DATA fields.

*3. If commitment was at a price then price is optional. If commitment price was market then price is required.

4. At present, no more than five execution GUs may be supplied. If 'names later' is intended (i.e. equivalent to entering '' on a DS40 device), one and only one responding GU with the name field blank should be submitted (see Section 9.2, "Data Group Definitions"). If more than one is submitted, a 'Response Number of GUs' error will be returned.

MESSAGE FORMATS - RESPONSE:

11.5.2 Expanded Message Type r (Lower Case) (from IC to ITS):

Message Subtype: <space>

PURPOSE: To effect a trade based upon a previously transmitted expanded commitment that has larger prices and/or sizes. The originating IC will be notified of Acceptance, Partial Acceptance or Rejection of the response via an Acknowledgment Message.

FORMAT:

Field/Group	Size	Notes	Notation
MESSAGE HEADER	40		
	1	Message Type	R
	1	Message Subtype	S
	3	Message Length	R
	16	Message ID	O
	5	CID	R
	6	Time	R
	1	Source MC ID	R
	1	Destination MC ID	S
	1	Output Error	S
	5	Reserved	S
Execution SMM ID	4		O
Execution EXPANDED TRADE DATA	24	Action, size and price.	O *1,2,3
Execution GU DATA (Expanded)	17-77	May contain ‘00’.	R *4
Total	85-144		

MESSAGE FORMATS - RESPONSE:

NOTES:

*1. Action is always the standard value.

*2. Size is optional if there is one GU and required if more than one GU is specified. If it is supplied, it must equal the sum of the GU data sizes in the GU DATA (Expanded) fields.

*3. If commitment was at a price then price is optional. If commitment price was market then price is required.

4. At present, no more than five execution GUs may be supplied. If 'names later' is intended (i.e. equivalent to entering '' on a DS40 device), one and only one responding GU with the name field blank should be submitted (see Section 9.2, "Data Group Definitions"). If more than one is submitted, a 'response number of GUs' error will be returned.

11.6 COMMITMENT CANCELLATION:

11.6.1 Regular Message Type X (Upper Case) (from IC to ITS)

Message subtype: <space>

PURPOSE To inform ITS that a commitment has been canceled via a Manual Cancellation. The originating IC will be notified of the Acceptance or Rejection of the cancellation via an Acknowledgment Message.

FORMAT:

Field/Group	Size	Notes	Notation
MESSAGE HEADER	40		
	1	Message Type	R
	1	Message Subtype	S
	3	Message Length	R
	16	Message ID	O
	5	CID	R
	6	Time	R
	1	Source MC ID	R
	1	Destination MC ID	S
	1	Output Error	S
	5	Reserved	S
Canceling SMM ID	4		O
Total	44		

11.7 NAMES LATER:

11.7.1 Regular Message Type N (Upper Case)

Message Subtype:
C - Committing GU Data (from IC to ITS)
D - Prior Day (ASOF) Committing GU Data (from IC to ITS)
R - Responding GU Data (from IC to ITS)
S - Prior Day (ASOF) Responding GU Data (from IC to ITS)

PURPOSE: To provide new/amended GU Data for a previously entered Commitment or Response. The originating IC will be notified of the Acceptance or Rejection of the message via an Acknowledgment Message. Security and TRADE DATA are required as a check that the trade being modified is the one actually intended. The separate subtypes for changing each side of the trade are provided to allow the ITS communications node processes, which do not have access to the record of the original trade, to put the GU Data in the proper portion of the record which is passed to the application process which actually executes the Names Later.

PLEASE NOTE: **For Names Later Adjustments containing decimal prices, only the Expanded Format may be used.**

MESSAGE FORMATS - NAMES LATER:

11.7.1.1 Subtype C - Committing GU Data (from IC to ITS)

FORMAT:

Field/Group	Size	Notes	Notation
MESSAGE HEADER	40		
	1	Message Type	R
	1	Message Subtype	R
	3	Message Length	R
	16	Message ID	O
	5	CID	R
	6	Time	R
	1	Source MC ID	R
	1	Destination MC ID	S
	1	Output Error	S
	5	Reserved	S
SECURITY	11	From commitment/response	R
SECURITY STATUS	1		S
Execution TRADE DATA	14	Size and Price Required	R *1
Commitment GU DATA	14-482	Amended GU information.	R *2
Total	80-548		

NOTES:

*1. Action is always the standard value.

*2. At least one set of GU information is required.
The sum of the GU DATA size fields must equal the TRADE DATA size.
If the message subtype is wrong, errors here are reported in the responding IC side's fields.

MESSAGE FORMATS - NAMES LATER:

11.7.1.2 Subtype D - Prior Day (ASOF) Committing GU Data (from IC to ITS)

FORMAT:

Field/Group	Size	Notes	Notation
MESSAGE HEADER	40		
	1	Message Type	R
	1	Message Subtype	R
	3	Message Length	R
	16	Message ID	O
	5	CID	R
	6	Time	R
	1	Source MC ID	R
	1	Destination MC ID	S
	1	Output Error	S
	5	Reserved	S
SECURITY	11	From commitment/response	R
SECURITY STATUS	1		S
Execution TRADE DATA	14	Size and Price Required	R *1
ASOF DATE	6		R *2
Commitment GU DATA	14-482	Amended GU information.	R *3
Total	86-554		

NOTES:

*1. Action is always the standard value.

*2. At present, ITS maintains a prior day trade file with five days 'worth of trades upon which names later may be done.

*3. At least one set of GU information is required.
The sum of the GU DATA size fields must equal the TRADE DATA size.
If the message subtype is wrong, errors here are reported in the responding IC side's fields.

MESSAGE FORMATS - NAMES LATER:

11.7.1.3 Subtype R - Responding GU Data (from IC to ITS)

FORMAT:

Field/Group	Size	Notes	Notation
MESSAGE HEADER	40		
	1	Message Type	R
	1	Message Subtype	R
	3	Message Length	R
	16	Message ID	O
	5	CID	R
	6	Time	R
	1	Source MC ID	R
	1	Destination MC ID	S
	1	Output Error	S
	5	Response	S
SECURITY	11	From commitment/response	R
SECURITY STATUS	1		S
Execution TRADE DATA	14	Size and Price Required	R *1
Execution GU DATA	14-482	Amended GU information.	R *2
Total	80-548		

NOTES:

*1. Action is always the standard value.

*2. At least one set of GU information is required.
The sum of the GU DATA size fields must equal the TRADE DATA size.
If the message subtype is wrong, errors here are reported in the responding IC side's fields.

MESSAGE FORMATS - NAMES LATER:

11.7.1.4 Subtype S - Prior Day (ASOF) Responding GU Data (from IC to ITS)

FORMAT:

Field/Group	Size	Notes	Notation
MESSAGE HEADER	40		
	1	Message Type	R
	1	Message Subtype	R
	3	Message Length	R
	16	Message ID	O
	5	CID	R
	6	Time	R
	1	Source MC ID	R
	1	Destination MC ID	S
	1	Output Error	S
	5	Reserved	S
SECURITY	11	From commitment/response	R
SECURITY STATUS	1		S
Execution TRADE DATA	14	Size and Price Required	R *1
AS OF DATE	6		R *2
Execution GU DATA	14-482	Amended GU information	R *3
Total	86-554		

NOTES:

*1. Action is always the standard value.

*2. At present, ITS maintains a prior day trade file with five days' worth of trades upon which names later may be done.

*3. At least one set of GU information is required.
The sum of the GU DATA size fields must equal the TRADE DATA size.
If the message subtype is wrong, errors here are reported in the responding IC side's fields.

MESSAGE FORMATS - NAMES LATER:

11.7.2 Expanded Message Type n (Lower Case):

Message Subtype:
- **c** - Expanded Committing GU Data (from IC to ITS)
- **d** - Expanded Prior Day (ASOF) Committing GU Data (from IC to ITS)
- **r** - Expanded Responding GU Data (from IC to ITS)
- **s** - Expanded Prior Day (ASOF) Responding GU Data (from IC to ITS)

PURPOSE: To provide new/amended GU Data for a previously entered Expanded Commitment or Response. The originating IC will be notified of Acceptance or Rejection of the message via an Acknowledgment Message. Security and TRADE DATA (Expanded) are required as a check that the trade being modified is the one actually intended. The separate subtypes for changing each side of the trade are provided to allow the ITS communications node processes, which do not have access to the record of the original trade, to put the GU Data in the proper portion of the record which is passed to the application process which actually executes the Expanded Names Later.

MESSAGE FORMATS - NAMES LATER:

11.7.2.1 Subtype c - Expanded Committing GU Data (from IC to ITS)

FORMAT:

Field/Group	Size	Notes	Notation
MESSAGE HEADER	40		
	1	Message Type	R
	1	Message Subtype	R
	3	Message Length	R
	16	Message ID	O
	5	CID	R
	6	Time	R
	1	Source MC ID	R
	1	Destination MC ID	S
	1	Output Error	S
	5	Reserved	S
SECURITY	11	From commitment/response	R
SECURITY STATUS	1		S
Executed TRADE DATA (Expanded)	24	Size and Price Required	R *1
Commitment GU DATA (Expanded)	17-602	Amended GU information	R *2
Total	93-678		

NOTES:

*1. Action is always the standard value.

*2. At least one set of GU information is required.
The sum of the GU DATA size fields must equal the TRADE DATA size.
If the message subtype is wrong, errors here are reported in the responding IC side's fields.

MESSAGE FORMATS - NAMES LATER:

11.7.2.2 Subtype d - Expanded Prior Day (ASOF) Committing GU Data (from IC to ITS)

FORMAT:

Field/Group	Size	Notes	Notation
MESSAGE HEADER	40		
	1	Message Type	R
	1	Message Subtype	R
	3	Message Length	R
	16	Message ID	O
	5	CID	R
	6	Time	R
	1	Source MC ID	R
	1	Destination MC ID	S
	1	Output Error	S
	1	Reserved	S
SECURITY	11	From commitment/response	R
SECURITY STATUS	1		S
Execution TRADE DATA (Expanded)	24	Size and Price Required	R *1
ASOF DATE	6		R *2
Commitment GU DATA (Expanded)	17-602	Amended GU information.	R *3
Total	99-684		

NOTES:

*1. Action is always the standard value.

*2. At present, ITS maintains a prior day trade file with five days worth of trades upon which Names Later may be done.

*3. At least one set of GU information is required.
The sum of GU DATA size fields must equal the TRADE DATA size.
If the message subtype is wrong, errors here are reported in the responding IC side's fields.

MESSAGE FORMATS - NAMES LATER:

11.7.2.3 Subtype r – Expanded Responding GU Data (from IC to ITS)

FORMAT:

Field/Group	Size	Notes	Notation
MESSAGE HEADER	40		
	1	Message Type	R
	1	Message Subtype	R
	3	Message Length	R
	16	Message ID	O
	5	CID	R
	6	Time	R
	1	Source MC ID	R
	1	Destination MC ID	S
	1	Output Error	S
	5	Reserved	S
SECURITY	11	From commitment/response	R
SECURITY STATUS	1		S
Execution TRADE DATA (Expanded)	24	Size and Price Required	R *1
Execution GU DATA (Expanded)	17-602	Amended GU information.	R *2
Total	93-678		

NOTES:

*1. Action is always the standard value.

*2. At least one set of GU information is required.
The sum of the GU DATA size fields must equal the TRADE DATA size.
If the message subtype is wrong, errors here are reported in the responding IC side's fields.

MESSAGE FORMATS - NAMES LATER:

11.7.2.4 Subtype s – Expanded Prior Day (ASOF) Responding GU Data (from IC to ITS)

FORMAT:

Field/Group	Size	Notes	Notation
MESSAGE HEADER	40		
	1	Message Type	R
	1	Message Subtype	R
	3	Message Length	R
	16	Message ID	O
	5	CID	R
	6	Time	R
	1	Source MC ID	R
	1	Destination MC ID	S
	1	Output Error	S
	5	Reserved	S
SECURITY	11	From commitment/response	R
SECURITY STATUS	1		S
Execution TRADE DATA (Expanded)	24	Size and Price Required	R *1
AS OF DATE	6		R *2
Execution GU DATA (Expanded)	17-602	Amended GU information	R *3
Total	99-684		

NOTES:

*1. Action is always the standard value.

*2. At present, ITS maintains a prior day trade file with five days worth of trades upon which names later may be done.

*3. At least one set of GU information is required.
The sum of the GU DATA size fields must equal the TRADE DATA size.
If the message subtype is wrong, errors here are reported in the responding IC side's fields.

11.8 ONE-SIDED RESPONSE:

11.8.1 Regular Message Type O (Upper Case) (from IC to ITS)

Message subtype: <space>

PURPOSE: To report an execution against a previously entered pre-opening message. The originating IC will be notified of Acceptance, Partial Acceptance or Rejection of the one-sided response via an Acknowledgment Message.

FORMAT:

Field/Group	Size	Notes	Notation
MESSAGE HEADER	40		
	1	Message Type	R
	1	Message Subtype	S
	3	Message Length	R
	16	Message ID	O
	5	CID	S
	6	Time	R
	1	Source MC ID	R *1
	1	Destination MC ID	R *1
	1	Output Error	S
	4	Clearing Firm ID	O
	1	Default Indicator	S
SECURITY	11	See SECURITY field.	R
SECURITY STATUS	1		S
AGENCY CODE	1	P/A/X	O
Commitment SMM/BROKER ID	4		O
Execution SMM/BROKER ID	4		O
Execution TRADE DATA	14	Action, size and price.	R *2
Commitment GU DATA	14		R *3
Execution GU DATA	14		R *4
Total	103		

MESSAGE FORMATS - ONE-SIDED RESPONSE:

NOTES:

*1. In this case the Source MC ID is the “responder” or “executer” and the Destination MC ID is the “committer”.

*2. The action is the commitment action.

*3. At present, one and only one commitment GU must be supplied. The Commitment GU DATA size must equal the Execution TRADE DATA size.

4. At present, one and only one executing GU must be supplied. The Execution GU DATA size must equal the Execution TRADE DATA size. If ‘names later’ is intended (i.e. equivalent to entering ‘’ on a DS40 device), the name field should be all blanks.

MESSAGE FORMATS - ONE-SIDED RESPONSE:

11.8.2 Expanded Message Type o (Lower Case) (from IC to ITS):

Message subtype: <space>

PURPOSE: To report an execution against a previously entered pre-opening message. The originating IC will be notified of Acceptance, Partial Acceptance or Rejection of the one-sided response via an Acknowledgment Message.

FORMAT:

Field/Group	Size	Notes	Notation
MESSAGE HEADER	40		
	1	Message Type	R
	1	Message Subtype	S
	3	Message Length	R
	16	Message ID	O
	5	CID	S
	6	Time	R
	1	Source MC ID	R *1
	1	Destination MC ID	R *1
	1	Output Error	S
	4	Clearing Firm ID	O
	1	Default Indicator	S
SECURITY	11	See SECURITY field.	R
SECURITY STATUS	1		S
AGENCY CODE	1	P/A/X	O
Commitment SMM/BROKER ID	4		O
Execution SMM/BROKER ID	4		O
Execution TRADE DATA (Expanded)	24	Action, size and price.	R *2
Commitment GU DATA (Expanded)	17		R *3
Execution GU DATA (Expanded)	17		R *4
Total	119		

NOTES:

*1. In this case the Source MC ID is the "responder" or "executer" and the Destination MC ID is the "committer".

*2. The action is the commitment action.

*3. At present, one and only one Commitment GU must be supplied. The Commitment GU DATA size must equal the Execution TRADE DATA size.

4. At present, one and only one executing GU must be supplied. The Execution GU DATA size must equal the Execution TRADE DATA size. If 'Names Later' is intended (i.e. equivalent to entering '' on a DS40 device), the name field should be all blanks.

11.9 GENERAL REPORT:

11.9.1 Regular Message Type T (Upper Case)

Message Subtype:
- **R** - Other MC Responds to MC-IC Commitment (from ITS to IC)
- **O** - Other MC sends MC-IC One Sided Response (from ITS to IC)
- **T** - Same Day Trade Adjustment Report - Adjust Price and/or Size (from ITS to IC)
- **X** - Manual Commitment Cancel (from ITS to IC)
- **S** - Auto-Cancel from ITS to IC (from ITS to IC)
- **A** - Prior Day (ASOF) Trade Addition (from ITS to IC)
- **B** - Prior Day (ASOF) Trade Adjustment (from ITS to IC)

PURPOSE: To notify the MC-IC of:

- A Response received from another MC to a commitment entered by an MC-IC (subtype **R**).
- A One-Sided Response received from another MC to a pre-opening message by an MC-IC (subtype **O**).
- A Manual Cancel from another MC of a commitment entered by an MC-IC (subtype **X**).
- An Automatic Cancel from ITS of a commitment entered by an MC-IC

  (subtype **S**).

Trade Adjustment/Cancellation Reports and ASOF Reports are entered only from the ICC.

- Same day Trade Adjustment Report (subtype **T** - Execution Price and/or Size being Adjusted or Trade being canceled).
- Prior Day ASOF Trade Addition (subtype **A** - Execution Price and/or Size being Added).
- Prior Day ASOF Trade Adjustment (subtype **B** - Execution Price and/or Size being Adjusted or Trade being canceled).

MESSAGE FORMATS - GENERAL REPORT:

11.9.1.1 Subtype R - Other MC Responds to MC-IC Commitment (from ITS to IC)

FORMAT:

Field/Group	Size	Notes	Notation
MESSAGE HEADER	40		
	1	Message Type	R
	1	Message Subtype	R
	3	Message Length	R
	16	Message ID	T
	5	CID	R
	6	Time	R
	1	Source MC ID	R
	1	Destination MC ID	R
	1	Output Error	R
	5	Reserved	S
SECURITY	11	See SECURITY field.	T
SECURITY STATUS	1		S
AGENCY CODE	1	P/A/X	T
RESERVED	1		T
Commitment MC	1		T
Commitment SMM/BROKER ID	4		T
Commitment TRADE DATA	14	Action, size and price.	T
Execution MC	1		R
Execution SMM ID	4		O
Execution TRADE DATA	14	Action, size and price.	R
Commitment GU DATA	14-62		T *1
Execution GU DATA	2-62	May be ‘00’.	R *2
Total	108-216		

NOTES:

*1. At present, one and only one commitment GU will be supplied.

*2. If done via a names later indicator, both the default SMM in the GU name field and the ‘Names Later’ bit in the GU status field will be supplied.

MESSAGE FORMATS - GENERAL REPORT:

11.9.1.2 Subtype O - Other MC sends MC-IC a One Sided Response (from ITS to IC)

FORMAT:

Field/Group	Size	Notes	Notation
MESSAGE HEADER	40		
	1	Message Type	R
	1	Message Subtype	R
	3	Message Length	R
	16	Message ID	S
	5	CID	R
	6	Time	R
	1	Source MC ID	R
	1	Destination MC ID	R
	1	Output Error	R
	5	Reserved	S
SECURITY	11	See SECURITY field.	R
SECURITY STATUS	1		S
AGENCY CODE	1	P/A/X	O
RESERVED	1		S
Commitment MC	1		R
Commitment SMM/BROKER ID	4		O
Commitment TRADE DATA	14	Action, size and price.	S *1
Execution MC	1		R
Execution SMM ID	4		O
Execution TRADE DATA	14	Action, size and price.	R
Commitment GU DATA	14		R *2
Execution GU DATA	14-62		R *3
Total	120-168		

NOTES:

*1. Action is the commitment action; SIZE and PRICE are standard values.

*2. At present, one and only one Commitment GU will be supplied.

*3. At present, only New York may submit five executing GUs on a one-sided response type message; all other markets must submit one and only one executing GU.

MESSAGE FORMATS - GENERAL REPORT:

11.9.1.3 Subtype T - Same Day Trade Adjustment Report (from ITS to IC)

FORMAT:

Field/Group	Size	Notes	Notation
MESSAGE HEADER	40		
	1	Message Type	R
	1	Message Subtype	R
	3	Message Length	R
	16	Message ID	T
	5	CID	R
	6	Time	R
	1	Source MC ID = ICC	R *1
	1	Destination MC ID	R
	1	Output Error	R
	5	Reserved	S
SECURITY	11	See SECURITY field.	R
SECURITY STATUS	1		S
AGENCY CODE	1	P/A/X	O
RESERVED	1		S
Commitment MC	1		R
Commitment SMM/BROKER ID	4		O
Commitment TRADE DATA	14	Action, size and price.	R *2
Execution MC	1		R
Execution SMM ID	4		O
Original Execution TRADE DATA	14	Action, size and price.	R
Adjusted SIZE	6		O *3,4
Adjusted PRICE	6		O *3
Total	104		

NOTES:

*1. On these messages ICC is always the source MC.

*2. There will be no committing TRADE DATA (except for the action) if the original trade was a One-Sided Response.

*3. If a trade cancellation is being done, the SIZE, the PRICE, and the LIMITED PRICE DENOMINATOR INDICATOR Field will have the standard value, otherwise either the SIZE or PRICE or both and the LIMITED PRICE DENOMINATOR INDICATOR Field will have a non-standard value.

*4. The MC-IC is required to correct the GUs to correlate with a non-zero adjusted size (with a subsequent Names Later message or by requesting ICC to make the changes).

MESSAGE FORMATS - GENERAL REPORT:

11.9.1.4 Subtype X - Manual Commitment Cancel (from ITS to IC)

FORMAT:

Field/Group	Size	Notes	Notation
MESSAGE HEADER	40		
	1	Message Type	R
	1	Message Subtype	R
	3	Message Length	R
	16	Message ID	T
	5	CID	R
	6	Time	R
	1	Source MC ID	R
	1	Destination MC ID	R
	1	Output Error	R
	5	Reserved	S
SECURITY	11	See SECURITY field.	T
SECURITY STATUS	1		S
AGENCY CODE	1	P/A/X	T
RESERVED	1		S
Commitment MC	1		T
Commitment SMM/BROKER ID	4		T
Commitment TRADE DATA	14	Action, size and price.	T
Canceling MC	1		R
Canceling SMM ID	4		O
Commitment GU DATA	14-62		R *1
Total	92-140		

NOTE:

*1. At present, one and only one commitment GU will be supplied.

MESSAGE FORMATS - GENERAL REPORT:

11.9.1.5 Subtype S - Auto Cancel (from ITS to IC)

FORMAT:

Field/Group	Size	Notes	Notatio
MESSAGE HEADER	40		
	1	Message Type	R
	1	Message Subtype	R
	3	Message Length	R
	16	Message ID	T, S*1
	5	CID	R
	6	Time	R
	1	Source MC ID = ITS	R *2
	1	Destination MC ID	R
	1	Output Error	R
	5	Reserved	S
SECURITY	11	See SECURITY field.	T
SECURITY STATUS	1		S
AGENCY CODE	1	P/A/X	T
RESERVED	1		S
Commitment MC	1		T
Commitment SMM/BROKER ID	4		T
Commitment TRADE DATA	14	Action, size and price.	T
Canceling MC	1		R
Canceling SMM ID	4		S
Commitment GU DATA	14-62		R *3
Total	92-140		

NOTES:

*1. If this is an Auto Cancel of an MC-IC Commitment then this field contains the '**T**' data submitted with the Commitment. If this is not an MC-IC Commitment being canceled then the Message ID field holds the '**S**' standard value.

*2. The ITS System originates these messages.

*3. At present, one and only one Commitment GU will be supplied.

MESSAGE FORMATS - GENERAL REPORT:

11.9.1.6 Subtype A - Prior Day (ASOF) Trade Addition (from ITS to IC)

FORMAT:

Field/Group	Size	Notes	Notation
MESSAGE HEADER	40		
	1	Message Type	R
	1	Message Subtype	R
	3	Message Length	R
	16	Message ID	S
	5	CID	R
	6	Time	R
	1	Source MC ID = ICC	R
	1	Destination MC ID	R
	1	Output Error	R
	5	Reserved	S
SECURITY	11	See SECURITY field.	R
SECURITY STATUS	1		S
AGENCY CODE	1	P/A/X	O
RESERVED	1		S
Commitment MC	1		R
Commitment SMM/BROKER ID	4		O
Commitment TRADE DATA	14	Action, size and price.	S *1
Executing MC	1		R
Execution SMM ID	4		O
Execution TRADE DATA	14	Action, size and price.	R
ASOF DATE	6		R
ASOF TIME	6		R
Total	104		

NOTE:

*1. Action is the Commitment action; SIZE and PRICE are standard values.

MESSAGE FORMATS - GENERAL REPORT:

11.9.1.7 Subtype B - Prior Day (ASOF) Trade Adjustment (from ITS to IC)

FORMAT:

Field/Group	Size	Notes	Notation
MESSAGE HEADER	40		
	1	Message Type	R
	1	Message Subtype	R
	3	Message Length	R
	16	Message ID	S
	5	CID	R
	6	Time	R
	1	Source MC ID = ICC	R
	1	Destination MC ID	R
	1	Output Error	R
	5	Reserved	S
SECURITY	11	See SECURITY field.	R
SECURITY STATUS	1		S
AGENCY CODE	1	P/A/X	O
RESERVED	1		S
Commitment MC	1		R
Commitment SMM/BROKER ID	4		O
Commitment TRADE DATA	14	Action, size and price.	S *1
Executing MC	1		R
Execution SMM ID	4		O
Original Execution TRADE DATA	14	Action, size and price.	R
ASOF DATE	6		R
AS OF TIME	6		R
Adjusted SIZE	6		O *2
Adjusted PRICE	6		O *2
Total	116		

NOTES:

*1. Action is the Commitment action; SIZE and PRICE are standard values.

*2. If a Trade Cancellation is being done, the SIZE, the PRICE, and the LIMITED PRICE DENOMINATOR INDICATOR Field will have the standard value, otherwise either the SIZE or PRICE or both and the LIMITED PRICE DENOMINATOR INDICATOR Field will have a non-standard value.

11.9.2 Expanded Message Type t (Lower Case)

Message Subtype:
- **r** - Other MC Responds to MC-IC Commitment (from ITS to IC)
- **o** - Other MC sends MC-IC a One Sided Response (from ITS to IC)
- **t** - Expanded Same Day Trade Adjustment Report - Adjust Price and/or Size (from ITS to IC)
- **x** – Manual Commitment Cancel (from ITS to IC)
- **s** - Auto-Cancel (from ITS to IC)
- **a** - Prior Day (ASOF) Trade Addition (from ITS to IC)
- **b** - Prior Day (ASOF) Trade Adjustment (from ITS to IC)

PURPOSE: To notify the MC-IC of:

- A Response received from another MC to a commitment entered by an MC-IC (subtype **r**).
- A One-Sided Response received from another MC to a pre-opening message by an MC-IC (subtype **o**).
- A Manual Cancel from another MC of a commitment entered by an MC-IC (subtype **x**)
- An Automatic Cancel from ITS of a commitment entered by an MC-IC (subtype **s**).

Trade Adjustment/Cancellation Reports and ASOF Reports are entered only from the ICC.

- Same day Trade Adjustment Report (subtype **t** - Execution Price and/or Size being Adjusted or Trade being canceled).
- Prior Day ASOF Trade Addition (subtype **a**).
- Prior Day ASOF Trade Adjustment (subtype **b**).

MESSAGE FORMATS - GENERAL REPORT:

11.9.2.1 Subtype r - Other MC Responds to MC-IC Commitment (from ITS to IC)

FORMAT:

Field/Group	Size	Notes	Notation
MESSAGE HEADER	40		
	1	Message Type	R
	1	Message Subtype	R
	3	Message Length	R
	16	Message ID	T
	5	CID	R
	6	Time	R
	1	Source MC ID	R
	1	Destination MC ID	R
	1	Output Error	R
	5	Reserved	S
SECURITY	11	See SECURITY field.	T
SECURITY STATUS	1		S
AGENCY CODE	1	P/A/X	T
RESERVED	1		S
Commitment MC	1		T
Commitment SMM/BROKER ID	4		T
Commitment TRADE DATA (Expanded)	24	Action, size and price.	T
Execution MC	1		R
Execution SMM ID	4		O
Execution TRADE DATA (Expanded)	24	Action, size and price.	R
Commitment GU DATA (Expanded)	17-77		T *1
Execution GU DATA (Expanded)	17-77	May be ‘00’.	R *2
Total	34-266		

MESSAGE FORMATS - GENERAL REPORT:

NOTES:

*1. At present, one and only one Commitment GU will be supplied.

*2. If done via a Names Later indicator, both the default SMM in the GU name field and the 'Names Later' bit in the GU status field will be supplied.

MESSAGE FORMATS - GENERAL REPORT:

11.9.2.2 Subtype o - Other MC sends MC-IC a One Sided Response (from ITS to IC)

FORMAT:

Field/Group	Size	Notes	Notation
MESSAGE HEADER	40		
	1	Message Type	R
	1	Message Subtype	R
	3	Message Length	R
	16	Message ID	S
	5	CID	R
	6	Time	R
	1	Source MC ID	R
	1	Destination MC ID	R
	1	Output Error	R
	5	Reserved	S
SECURITY	11	See SECURITY field.	R
SECURITY STATUS	1		S
AGENCY CODE	1	P/A/X	O
RESERVED	1		S
Commitment MC	1		R
Commitment SMM/BROKER ID	4		O
Commitment TRADE DATA (Expanded)	24	Action, size and price.	S *1
Execution MC	1		R
Execution SMM ID	4		O
Execution TRADE DATA (Expanded)	24	Action, size and price.	R
Commitment GU DATA (Expanded)	17		R *2
Execution GU DATA (Expanded)	17-77		R *3
Total	141-		

NOTES:

*1. Action is the Commitment action; SIZE and PRICE are standard values.

*2. At present, one and only one Commitment GU will be supplied.

*3. At present, only New York may submit five executing GUs on a One-Sided Response type message; all other markets must submit one and only one executing GU.

MESSAGE FORMATS - GENERAL REPORT:

11.9.2.3 Subtype t - Expanded Same Day Trade Adjustment Report (from ITS to IC)

FORMAT:

Field/Group	Size	Notes	Notation
MESSAGE HEADER	40		
	1	Message Type	R
	1	Message Subtype	R
	3	Message Length	R
	16	Message ID	T
	5	CID	R
	6	Time	R
	1	Source MC ID = ICC	R *1
	1	Destination MC ID	R
	1	Output Error	R
	5	Reserved	S
SECURITY	11	See SECURITY field.	R
SECURITY STATUS	1		S
AGENCY CODE	1	P/A/X	O
RESERVED	1		S
Commitment MC	1		R
Commitment SMM/BROKER ID	4		O
Commitment TRADE DATA (Expanded)	24	Action, size and price.	R *2
Execution MC	1		R
Execution SMM ID	4		O
Original Execution TRADE DATA (Expanded)	24	Action, size and price.	R
Adjusted SIZE (Expanded)	9		O *3,4
Adjusted PRICE DENOMINATOR IND.	1		O *3
Adjusted EXPANDED PRICE	12		O *3
Total	134		

MESSAGE FORMATS - GENERAL REPORT:

NOTES:

*1. On these messages ICC is always the source MC.
*2. There will be no Committing TRADE DATA (except for the action) if the original trade was a one-sided response.
*3. If a Trade Cancellation is being done, the EXPANDED SIZE, the EXPANDED PRICE, and the PRICE DENOMINATOR INDICATOR Field will have the standard value, otherwise either the EXPANDED SIZE or EXPANDED PRICE or both and the PRICE DENOMINATOR INDICATOR Field will have a non-standard value.
*4. The MC-IC is required to correct the GUs to correlate with a non-zero adjusted EXPANDED SIZE (with a subsequent Names Later message or by requesting ICC to make the changes).

MESSAGE FORMATS - GENERAL REPORT:

11.9.2.4 Subtype x – Manual Commitment Cancel (from ITS to IC)

FORMAT:

Field/Group	Size	Notes	Notation
MESSAGE HEADER	40		
	1	Message Type	R
	1	Message Subtype	R
	3	Message Length	R
	16	Message ID	T, S *1
	5	CID	R
	6	Time	R
	1	Source MC ID = ITS	R *2
	1	Destination MC ID	R
	1	Output Error	R
	5	Reserved	S
SECURITY	11	See SECURITY field.	T
SECURITY STATUS	1		S
AGENCY CODE	1	P/A/X	T
RESERVED	1		S
Commitment MC	1		T
Commitment SMM/BROKER ID	4		T
Commitment TRADE DATA (Expanded)	24	Action, size and price.	T
Canceling MC	1		R
Canceling SMM ID	4		S
Commitment GU DATA (Expanded)	17-77		R *3
Total	105-165		

NOTE:

*1. At present, one and only one commitment GU will be supplied.

MESSAGE FORMATS - GENERAL REPORT:

11.9.2.5 Subtype s - Auto Cancel (from ITS to IC)

FORMAT:

Field/Group	Size	Notes	Notation
MESSAGE HEADER	40		
	1	Message Type	R
	1	Message Subtype	R
	3	Message Length	R
	16	Message ID	T, S *1
	5	CID	R
	6	Time	R
	1	Source MC ID = ITS	R *2
	1	Destination MC ID	R
	1	Output Error	R
	5	Reserved	S
SECURITY	11	See SECURITY field.	T
SECURITY STATUS	1		S
AGENCY CODE	1	P/A/X	T
RESERVED	1		S
Commitment MC	1		T
Commitment SMM/BROKER ID	4		T
Commitment TRADE DATA (Expanded)	24	Action, size and price.	T
Canceling MC	1		R
Canceling SMM ID	4		S
Commitment GU DATA (Expanded)	17-77		R *3
Total	105-165		

MESSAGE FORMATS - GENERAL REPORT:

NOTES:

*1. If this is an Auto Cancel of an MC-IC commitment then this field contains the '**T**' data submitted with the commitment. If this is not an MC-IC Commitment being canceled then the Message ID field holds the '**S**' standard value.

*2. The ITS System originates these messages.

*3. At present, one and only one Commitment GU will be supplied.

MESSAGE FORMATS - GENERAL REPORT:

11.9.2.6 Subtype a - Prior Day (ASOF) Trade Addition (from ITS to IC)

FORMAT:

Field/Group	Size	Notes	Notation
MESSAGE HEADER	40		
	1	Message Type	R
	1	Message Subtype	R
	3	Message Length	R
	16	Message ID	S
	5	CID	R
	6	Time	R
	1	Source MC ID = ICC	R
	1	Destination MC ID	R
	1	Output Error	R
	5	Reserved	S
SECURITY	11	See SECURITY field.	R
SECURITY STATUS	1		S
AGENCY CODE	1	P/A/X	O
RESERVED	1		S
Commitment MC	1		R
Commitment SMM/BROKER ID	4		O
Commitment TRADE DATA (Expanded)	24	Action, size and price.	S *1
Executing MC	1		R
Execution SMM ID	4		O
Execution TRADE DATA (Expanded)	24	Action, size and price.	R
ASOF DATE	6		R
ASOF TIME	6		R
Total	124		

NOTE:

*1. Action is the Commitment action; EXPANDED SIZE and EXPANDED PRICE are standard values.

MESSAGE FORMATS - GENERAL REPORT:

11.9.2.7 Subtype b - Prior Day (ASOF) Trade Adjustment (from ITS to IC)

FORMAT:

Field/Group	Size	Notes	Notation
MESSAGE HEADER	40		
	1	Message Type	R
	1	Message Subtype	R
	3	Message Length	R
	16	Message ID	S
	5	CID	R
	6	Time	R
	1	Source MC ID = ICC	R
	1	Destination MC ID	R
	1	Output Error	R
	5	Reserved	S
SECURITY	11	See SECURITY field.	R
SECURITY STATUS	1		S
AGENCY CODE	1	P/A/X	O
RESERVED	1		S
Commitment MC	1		R
Commitment SMM/BROKER ID	4		O
Commitment TRADE DATA (Expanded)	24	Action, size and price.	S *1
Executing MC	1		R
Execution SMM ID	4		O
Original Execution TRADE DATA (Expanded)	24	Action, size and price.	R
ASOF DATE	6		R
ASOF TIME	6		R
Adjusted EXPANDED SIZE	9		O *2
Adjusted PRICE DENOMINATOR INDICATOR	1		O *2
Adjusted EXPANDED PRICE	12		O *2
Total	146		

MESSAGE FORMATS - GENERAL REPORT:

NOTES:

*1. Action is the Commitment action; SIZE and PRICE are standard values.

*2. If a Trade Cancellation is being done, the SIZE, the PRICE, and the PRICE DENOMINATOR INDICATOR Field will have the standard value, otherwise either the SIZE or PRICE or both and the PRICE DENOMINATOR INDICATOR Field will have a non-standard value.

11.10 ADMINISTRATIVE MESSAGES:

11.10.1 Regular Message Type A (Upper Case)

Message Subtype:
G - General Admin
I - Pre-opening Indication
C - Opening Canceled

PURPOSE: To support administrative traffic to or from an MC-IC. If the ADMIN was from an IC, the originating IC will be notified of Acceptance or Rejection of the message via an Acknowledgment Message.

MESSAGE FORMATS - ADMINISTRATIVE MESSAGES:

11.10.1.1 Subtype G - General Admin (from ITS to IC)

FORMAT:

Field/Group	Size	Notes	Notation
MESSAGE HEADER	40		
	1	Message Type	R
	1	Message Subtype	R
	3	Message Length	R
	16	Message ID	S
	5	ADMIN ID	R
	6	Time	R
	1	Source MC ID	R
	1	Destination MC ID	R
	1	Output Error	R
	5	Reserved	S
SOURCE	3		O *1
SOURCE SMM/BROKER ID	4		O
SECURITY	11	<space> filled on messages which are not oriented to a specific security.	O, R *2
SECURITY STATUS	1		S
DESTINATION	3		O, R *1,2
DESTINATION SMM/BROKER ID	4		O
Text Length	3	Length of text field.(001 through 159)	R
Text	1-159	'Free format' text. An <RS> must appear at least once every 39 characters and indicates the end of a 'line'. No more than four 'lines' (three <RS> characters) are permitted.	R
Total	70-228		

MESSAGE FORMATS - ADMINISTRATIVE MESSAGES:

NOTES:

*1. See “DESTINATION”, and “SOURCE” sections.

*2. Security is optional if DESTINATION is specified. DESTINATION is optional if Security is specified.

MESSAGE FORMATS - ADMINISTRATIVE MESSAGES:

11.10.1.2 Subtype G - General Admin (from IC to ITS)

FORMAT:

Field/Group	Size	Notes	Notation
MESSAGE HEADER	40		
	1	Message Type	R
	1	Message Subtype	R
	3	Message Length	R
	16	Message ID	O
	5	ADMIN ID	S
	6	Time	R
	1	Source MC ID	R
	1	Destination MC ID	R
	1	Output Error	S
	5	Reserved	S
SOURCE	3		O *1
SOURCE SMM/BROKER ID	4		O
SECURITY	11	<space> filled on messages which are not oriented to a specific security.	O, R *2
SECURITY STATUS	1		S
DESTINATION	3		O, R *1,2
DESTINATION SMM/BROKER ID	4		O
Text Length	3	Length of text field. (001 through 159).	R
Text	1-159	'Free format' text. An <RS> must appear at least once every 39 characters and indicates the end of a 'line'. No more than four 'lines' (three <RS> characters) are permitted.	R
Total	70-228		

MESSAGE FORMATS - ADMINISTRATIVE MESSAGES:

NOTES:

*1. See “DESTINATION” and “SOURCE” sections.

*2. Security is optional if DESTINATION is specified. DESTINATION is optional if Security is specified.

MESSAGE FORMATS - ADMINISTRATIVE MESSAGES:

11.10.1.3 Subtypes I and C (from ITS to IC)

I - Pre-opening Indication
C - Opening Canceled

FORMAT:

Field/Group	Size	Notes	Notation
MESSAGE HEADER	40		
	1	Message Type	R
	1	Message Subtype	R
	3	Message Length	R
	16	Message ID	S
	5	ADMIN ID	R
	6	Time	R
	1	Source MC ID	R
	1	Destination MC ID	R
	1	Output Error	R
	5	Reserved	S
SOURCE	3		O *1
SOURCE SMM/BROKER ID	4		O
SECURITY	11		R
SECURITY STATUS	1		S
DESTINATION	3		O *1
DESTINATION SMM/BROKER ID	4		O
Text Length	3	Length of text field. (001 through 159).	R
Text	1-159	'Free format' text. An <RS> must appear at least once every 39 characters and indicates the end of a 'line'. No more than four 'lines' (three <RS> characters) are permitted The first line will contain a 3 character abbreviation of the subtype and a single blank followed by up to 35 characters of text.	R
Total	70-228		

NOTE:

*1. See "DESTINATION" and "SOURCE" sections.

MESSAGE FORMATS - ADMINISTRATIVE MESSAGES:

11.10.1.4 Subtypes I and C (from IC to ITS)

I - Pre-opening Indication
C - Opening Canceled

FORMAT:

Field/Group	Size	Notes	Notation
MESSAGE HEADER	40		
	1	Message Type	R
	1	Message Subtype	R
	3	Message Length	R
	16	Message ID	O
	5	ADMIN ID	S
	6	Time	R
	1	Source MC ID	R
	1	Destination MC ID	R *1
	1	Output Error	S
	5	Reserved	S
SOURCE	3		O *2
SOURCE SMM/BROKER ID	4		O
SECURITY	11		R
SECURITY STATUS	1		S
DESTINATION	3		O *1,2
DESTINATION SMM/BROKER ID	4		O *1
Text Length	3	Length of text field. (001 through 155).	R
Text	1-155	'Free format' text. An <RS> must appear at least once every 39 characters and indicates the end of a 'line'. No more than four 'lines' (three <RS> characters) are permitted. The first line may not contain more than 35 characters.	R
Total	70-224		

NOTES:

1. Destination MC ID must be "" (all) while destination and destination SMM cannot be supplied for indication and canceled subtypes.

MESSAGE FORMATS - ADMINISTRATIVE MESSAGES:
*2. See “DESTINATION” and “SOURCE” sections.

11.11 ACCEPT/REJECT ACKNOWLEDGMENT:

11.11.1Regular Message Type S (Upper Case)

Message Subtype: **A** - Accept (from ITS to IC)
Q - Qualified Acceptance (from ITS to IC)
J - Reject (from ITS to IC)

PURPOSE: To confirm the acceptance or rejection of messages sent to ITS from an MC-IC.

Every message sent to ITS from an MC-IC will result in an Accept/Reject Acknowledgment message being returned to the MC-IC. The link and sequence number in this message will identify the message being accepted/rejected.

For Commitments or Admin messages originated by the MC-IC, the CID/ADMIN ID in the message header will contain the unique identifier assigned by ITS to that Commitment or Admin.

11.11.211.10.1.1. Subtypes A, Q, and J (from ITS to IC)

FORMAT:

Field/Group	Size	Notes	Notation
MESSAGE HEADER	40		
	1	Message Type	R
	1	Message Subtype	R
	3	Message Length	R
	16	Message ID	O *1
	5	CID/ADMIN ID	R *5
	6	Time	R *2
	1	Source MC ID = ITS	R
	1	Destination MC ID	R
	1	Output Error	S
	5	Reserved	S
Original Message Link and Sequence	7	From Received Comm Header.	R
Original Message Type and Subtype	2	From the message header sent by the MC-IC.	R
STATUS	10		R *3
Invalid GU STATUS from Committer	2-42		R *4
Invalid GU STATUS from Responder	2-42		R *4
Total	63-143		

NOTES:

*1. The Message ID in this message will contain the value which was input by the IC with the message being acknowledged unless (1) the input value was the standard value and (2) the message type was a names later, in which case the Message ID associated with the IC's side of the original trade will be returned. If the message was rejected by the ITS communications handler without getting to the application process, the input value will be returned.

*2. This is the input time; it may be used by the MC-IC to calculate the expiration time if the input message was a commitment and was accepted.

*3. Bit-mapped matrix of errors detected (See Section 11.11 - "Accept/Reject Status (Error Bits)".

*4. a) Both sets of GU STATUS might have errors noted only in the case of One-sided Response - if the committing side has no errors to report, that side will consist of only a '00' in the Number of GUs field.

b) The number of GUs will be reported for each side regardless of the type of input message being accepted/rejected; if there are no GU errors to be flagged on a given side, this field will consist of simply '00'.

*5. Commitments and Admins sent by MC-IC and rejected by ITS will have a standard value in the CID/ADMIN ID field.

11.12 ACCEPT/REJECT STATUS - (Error Bits)

The STATUS field in the ACCEPT/REJECT ACKNOWLEDGMENT message type (type '**S**') consists of ten bytes, the six low order bits which flag specific types of errors detected by ITS and the two high order bits which always have the value 01. The use of the two high order bits in this fashion insures that no status byte will ever take on the value of a protocol control character. While this is of no concern with the bit synchronous protocols specified in "Link Characteristics", if the interface is ever implemented with a byte synchronous link, using the full eight bits of the STATUS bytes, protocol problems could occur in certain cases. Thus, this has been avoided. In the list below, bit 1 is the high order bit after the '01' mentioned above, and bit 6 is the rightmost, lowest order bit of the byte.

Byte	Bit	Meaning
1	1	Actual input message length
1	2	Admin DESTINATION
1	3	Admin Text Length
1	4	Admin SOURCE
1	5	Admin Text
1	6	AGENCY CODE
2	1	ASOF Date
2	3	Commitment Action
2	4	Commitment Number of Gus
2	5	Commitment Price
2	6	Commitment Size
3	1	Commitment or Admin SOURCE SMM
3	2	Commitment TRADE DATA Unused
3	3	Communications Header Class
3	4	Communications Header Link-Number
3	5	Communications Header R-Link-Number
3	6	Communications Header R-Sequence-Number
4	1	Communications Header R-Time
4	2	Communications Header Sequence-Number
4	3	Communications Header Unused
4	4	GU data (see GU status field)
4	5	Message Header CID/AID ID
4	6	Message Header CID already executed or canceled
5	1	Message Header CID for names later was not executed

5	2	Message Header Destination MC ID
5	3	Message Header Destination MC closed
5	4	Message Header Message Length
5	5	Message Header Message Subtype
5	6	Message Header Message Type
6	1	Message Header Output Error
6	2	Message Header Clearing Firm Identifier
6	3	Message Header Source MC ID
6	4	Message Header Source MC closed
6	5	Message Header Time
6	6	Response Action
7	1	Response Number of Gus
7	2	Response Price
7	3	Response Size
7	4	Response SMM or Admin Dest SMM
7	5	Response TRADE DATA Unused
7	6	Security
8	1	Security halted at Dest MC
8	2	Security halted at Source MC
8	3	Security not traded at Dest MC
8	4	Security not traded at Source MC
8	5	Security Status
8	6	Sum of GU sizes not equal to TRADE DATA size
9	1	Time-code
9	2	Commitment Price Denominator Indicator
9	3	Response Price Denominator Indicator
9	4	Either the sending or the receiving market center is not ready for new formats
10	6	ITS system error

12 Appendix 'A' Time Field Conversion Table

Listed below is the Time field conversion table, which is used to represent the hour, minute and seconds reflected in the Time field of the Message Header.

Hour/Minute/Second Value	Hour / Minute / Second Translation
0	A
1	B
2	C
3	D
4	E
5	F
6	G
7	H
8	I
9	J
10	K
11	L
12	M
13	N
14	O
15	P
16	Q
17	R
18	S
19	T
20	U
21	V
22	W
23	X
24	Y
25	Z
26	[
27	\
28	]
29	^
30	-

Hour/Minute/Second Value	Hour / Minute / Second Translation
31	`
32	a
33	b
34	c
35	d
36	e
37	f
38	g
39	h
40	i
41	j
42	k
43	l
44	m
45	n
46	o
47	p
48	q
49	r
50	s
51	t
52	u
53	v
54	w
55	x
56	y
57	z
58	{
59	|