



**US Equity Trade, Quote and One-Minute Data
File Format Document**

Version 2.87

Table of Contents

I. Trade Data	3
A. Sample	3
B. File Layout	3
C. Field Descriptions	4
D. Fields for User-Defined Interval-Based Bars	6
II. Quote Data	7
A. Sample	7
B. File Layout	7
C. Field Descriptions	8
III. One-Minute Data (trade-only)	11
A. Sample	11
B. File Layout	11
C. Field Descriptions	12
IV. File Naming Convention	13
V. Corporate Actions	13
A. Company Information (CompanyInfo.asc)	13
B. Split and Dividend Information (Stocksplits.csv)	14
C. Mergers (Mergers.csv)	15
D. Cash Dividends (Dividends.csv)	15
VI. Appendix A – Stock Suffixes	17
VII. Appendix B – NYSE Industry Codes	19
VIII. Appendix C – NASDAQ Market Makers	24
IX. Appendix D – Sales Condition Codes	25
X. Appendix E – Mode codes	28

I. Trade Data

A. Sample

```
01/11/2010,10:00:00.753,210.86,200,D,,00,155373,,N,Q,,  
01/11/2010,10:00:00.757,210.86,100,D,,00,155374,,N,Q,,  
01/11/2010,10:00:00.930,210.81,100,Q,@F,00,155401,,N,,,  
01/11/2010,10:00:01.360,210.845,500,D,,00,155472,,N,Q,,  
01/11/2010,10:00:01.490,210.85,100,Q,,00,155492,,N,,,  
01/11/2010,10:00:01.707,210.81,400,D,,00,155535,,N,Q,,  
01/11/2010,10:00:01.810,210.81,120,Q,@F,00,155543,,N,,,  
01/11/2010,10:00:01.810,210.81,100,Z,,00,155544,,N,,,  
01/11/2010,10:00:01.810,210.81,100,Z,@F,00,155545,,N,,,  
01/11/2010,10:00:01.823,210.81,800,I,@F,00,155546,,N,,,
```

B. File Layout

Trade Data is provided as ASC files. Each tick contains up to thirteen (13) comma-separated fields and is laid out as follows:

- Date
- Time
- Price
- Volume
- Exchange Code
- Sales Condition
- Correction Indicator
- Sequence Number
- Trade Stop Indicator
- Source of Trade
- MDS 127 / TRF (*Trade Reporting Facility*) (*)
- Exclude Record Flag
- Filtered Price

(*) MDS 127 only until 12/31/03; Trade Reporting Facility from 10/26/09 forward.

C. Field Descriptions

The following fields contain data pertaining to the following exchanges, unless otherwise noted:

- American Stock Exchange
- NASDAQ
- New York Stock Exchange

Field Name	Type	Description
Date	MM/DD/YYYY	Trade date.
Time	HH:MM:SS.mmm	Trade time. This number reflects the time at which the trade entered CTS. Milliseconds available: NYSE and AMEX from 1/2/04; NASDAQ from 12/5/05.
Price	Number (14,7)	Trade price per share. Up to seven decimal places.
Volume	Integer (9)	Number of shares traded.
Exchange Code	Character (2)	Exchange on which the trade occurred. A AMEX B NASDAQ OMX BX (Boston) C National Stock Exchange (Cincinnati) D NASD ADF (FINRA) E Market Independent (SIP - Generated) I ISE (International Securities Exchange) J DirectEdge A K DirectEdge X M Chicago N NYSE P ARCA (formerly Pacific) S Consolidated Tape System T/Q NASDAQ W CBOE X NASDAQ OMX PSX (Philadelphia) Y BATS Y-Exchange, Inc. Z BATS
Sales Condition	Character (up to 4)	Sales Condition. These conditions apply to trades on all exchanges except as indicated. More than one code can be displayed in the field (up to four codes). See Appendix D for list of codes.

Correction Indicator	Character (up to 2)	<p>Correction Indicator. Beginning in June 1995, corrections to corrections are permissible. TAQ shows only the original trade and final correction. No interim corrections are shown.</p> <p><u>Good trades:</u> Regular trade that was not corrected, changed, or signified as cancel or error. Original trade which was later corrected. This record contains the original time and the corrected data for the trade. Symbol correction (out of time sequence).</p> <p><u>Original trade records:</u> 7 Trade cancelled due to error. 8 Trade cancelled. 9 Trade cancelled due to symbol correction.</p> <p><u>Correction instructions:</u> 10 Cancel record (associated with 8). 11 Error record (associated with 7). 12 Correction record (associated with 1; contains corrected time and original data).</p>
Sequence Number	Integer (9) and Integer (16) post 12/31/2003.	Unique sequence number for both Consolidated Tape Service and NASDAQ trade messages.
Trade Stop Indicator	Character (1)	Blank= N/A (Correction or NASDAQ) N=Not Indicated as Stop Stock (NYSE Only) Y=Indicated as Stop Stock (NYSE Only)
Source of Trade	Character (1)	C =CTS N=NASDAQ NTDS
MDS_127 / TRF	Character (3)	<p>MDS 127 – Prior to 1/1/2004</p> <p>Combined "G", Rule 127, and stopped stock trade indicator. This field applies only to NYSE trades. For example, a trade that is Display Book-reported (40) and complies with Rule 127 (100) would appear as 140 in the file.</p> <ul style="list-style-type: none"> 0 = Does not qualify as "G", Rule 127, or stopped stock trade 2 = "G" trade buyer and seller 3 = "G" trade buyer 4 = "G" trade seller 10 = Elect box stroked 20 = Percent box stroked 40 = A Display Book-reported trade. 100 = Rule 127 trade 200 = Stopped stock trade <p>"G" trade - A member firm trading for its own account must publicly identify that the order is principal. (See NYSE Constitution and Rules, ¶2090, Rule 90.)</p> <p>Rule 127 – An NYSE trade reported as having been executed as a block position. (See NYSE Constitution, ¶2127, Rule 127.)</p> <p>Stopped stock - A guarantee by the specialist that an order will be executed at a specific price. (See NYSE Constitution, ¶2116, Rule 116.)</p>

TRF (Trade Reporting Facility)	Character (1)	(continued) This field shows Trade Reporting Facility (TRF), if applicable, starting 10/26/2009.
		A AMEX B Boston C Cincinnati D NASD ADF E Market Independent (SIP - Generated) I ISE M Chicago N NYSE P ARCA (formerly Pacific) S Consolidated Tape System T/Q NASD W CBOE X Philadelphia Z BATS

Exclude Record Flag¹	Character (1)	Filtered trade indicator. "X" is present if Tick Data recommends exclusion of trade from time series due to condition code(s).
Filtered Price	Number (14,7)	Filtered price. If Tick Data would have adjusted the price of this trade during its filtering process due to scrubbing algorithm conditions being met, the adjusted price is shown.

D. Fields for User-Defined Interval-Based Bars

Selecting Interval Tick-Based Bars, Time-Based Bars, Daily Bars, Weekly Bars or Monthly Bars, to be built from Trade Data, the following fields are available.

Field Name	Type	Description
Date	MM/DD/YYYY	Date of Interval-bar
Time	HH:MM	Time of Interval-bar (Tick-Based Bars and Time-Based Bars Only)
Open	Number	Price of first trade within the minute bar. Up to seven decimal places.
High	Number	Highest trade price within the minute bar. Up to seven decimal places.
Low	Number	Lowest trade price within the minute bar. Up to seven decimal places.
Close	Number	Price of last trade within the minute bar. Up to seven decimal places.
Volume	Number	Total number of shares traded within the minute bar.
Tick Count	Number	Total number of trades within the minute bar.
Up Ticks	Number	Total number of trades increasing in price compared to the previous trade.
Down Ticks	Number	Total number of trades decreasing in price compared to the previous trade.
Same Ticks	Number	Total number of trades having the same price compared to the previous trade.

¹ The following condition codes are excluded: B, C, G, L, M, N, P, Q, R, S, W, Z

II. Quote Data

A. Sample

```
01/11/2010,10:00:00.007,P,210.8,210.86,6,2,R,,2486662,P,P,,0,,N
01/11/2010,10:00:00.577,W,210.51,211.61,1,1,R,,2487172,W,W,,0,,N
01/11/2010,10:00:00.627,T,210.81,210.87,1,2,R,,2487206,T,T,,0,,N
01/11/2010,10:00:00.630,Z,210.81,210.88,1,1,R,,2487208,Z,Z,,0,,N
01/11/2010,10:00:00.653,Z,210.81,210.88,1,2,R,,2487215,Z,Z,,0,,N
01/11/2010,10:00:00.740,P,210.8,210.86,6,1,R,,2487260,P,P,,2,,N
01/11/2010,10:00:00.743,P,210.8,210.87,6,1,R,,2487277,P,P,,2,,N
01/11/2010,10:00:00.927,T,210.8,210.87,11,2,R,,2487397,T,T,,0,,N
01/11/2010,10:00:00.927,T,210.8,210.87,12,2,R,,2487402,T,T,,0,,N
01/11/2010,10:00:00.930,T,210.8,210.87,13,2,R,,2487407,T,T,,0,,N
```

B. File Layout

Quote files are provided as ASC files and designated by a Q_ followed by the appropriate symbol. Each quote record contains up to sixteen (16) comma-separated fields and is laid out as follows:

- Date
- Time
- Exchange
- Bid Price
- Ask Price
- Bid Size (*)
- Ask Size (*)
- Quote Condition (**)
- Market Maker ID
- Sequence Number
- Bid Exchange (begins 01/01/2004)
- Ask Exchange (begins 01/01/2004)
- National BBO Indicator (begins 01/01/2004) (***)
- NASDAQ BBO Indicator (begins 01/01/2004) (***)
- Quote Cancel/Correction (begins 01/01/2004)
- Quote Source

(*) – Provided in actual size prior to 1/1/2004 and in 100's thereafter.

(**) – Field contains 'Mode' data prior to 1/1/2004.

(***) – Tick Data has found this field to be an unreliable indicator for determining NBBO. Please visit our website to download our white paper on deriving NBBO from our time series: http://www.tickdata.com/pdf/Tick_Data_Deriving_NBBO_from_TAO.pdf

C. Field Descriptions

The following fields contain data pertaining to the following exchanges, unless otherwise noted:

- American Stock Exchange
- NASDAQ
- New York Stock Exchange

Field Name	Type	Description
Date	MM/DD/YYYY	Quote date.
Time	HH:MM:SS.mmm	Quote time. This number reflects the time at which the quote entered CTS. Milliseconds available: NYSE and AMEX from 2/7/06; NASDAQ from 12/5/05.
Exchange	Character (2)	The Exchange that issued the quote: A AMEX B Boston C Cincinnati D NASD ADF E Market Independent (SIP - Generated) I ISE J DirectEdge A K DirectEdge X M Chicago N NYSE P ARCA (formerly Pacific) S Consolidated Tape System T/Q NASD W CBOE X NASDAQ OMX PSX (Philadelphia) Y BATS Y-Exchange, Inc. Z BATS
Bid Price	Number	Bid price. Truncated to eight implied decimal places.
Ask Price	Number	Ask price. Truncated to eight implied decimal places.
Bid Size	Integer	Bid size in number of round lots (100 share units).
Ask Size	Integer	Ask size in number of round lots (100 share units).
Quote Condition	Character	Condition of Quote issued: 'A' = Slow on the Ask Side 'B' = Slow on the Bid Side 'C' = Closing 'D' = News Dissemination 'E' = Slow on the Bid due to LRP or GAP Quote ¹ 'F' = Slow on the Ask due to LRP or GAP Quote ² 'G' = Trading Range Indication 'H' = Slow on the Bid and Ask side 'I' = Order Imbalance 'J' = Due to a Related Security - News Dissemination 'K' = Due to a Related Security - News Pending 'L' = Closed Market Maker (NASD)

¹ This was assigned the value of 'Order Influx' prior to August 2006

² This was assigned the value of 'Fast Trading' prior to August 2006

<i>Quote Condition (continued)</i>		<p>'M' = Volatility Trading Pause¹ 'N' = Non-firm quote 'O' = Opening Quote 'P' = News Pending 'Q' = Undefined² 'R' = Regular, two-sided open quote (FINRA Open) 'S' = Due to Related Security 'T' = Resume 'U' = Slow on the Bid and Ask due to LRP or GAP Quote 'V' = In View of Common 'W' = Slow Quote due to a Set Slow list on both the bid and offer sides 'X' = Equipment Changeover 'Y' = Sub-Penny Trading³ 'Z' = No open/no resume</p>
Mode	Character	<p>This field shows Mode prior to 1/1/2004, if applicable. See Appendix E for list of codes.</p>
Market Maker ID	Character	<p><u>NASDAQ ONLY</u></p> <p>Identifies the NASDAQ market maker for each NASD quote. See Appendix C for a list of valid market makers.</p> <p>Note: This field was added in August 1993. Beginning in March 1997, the values AA, AI, IA, and II were replaced with blanks. Previously, these values identified aggregate CAES and non-CAES quotes.</p>
Sequence Number	Integer	<p><u>NYSE ONLY</u></p> <p>Market Data Systems (MDS) sequence number. This field applies only to NYSE trades. It will contain a zero if the trade is not an NYSE trade or if the sequence number is indeterminate.</p>
Bid Exchange (begins 1/1/2004)	Character	<p>Exchange where the bid originated.</p> <p>A AMEX B Boston C Cincinnati D NASD ADF E Market Independent (SIP - Generated) I ISE M Chicago N NYSE P Pacific S Consolidated Tape System T/Q NASD W CBOE X Philadelphia Z BATS</p>
Ask Exchange (begins 1/1/2004)	Character	<p>Exchange where the ask originated.</p> <p>A AMEX B Boston C Cincinnati D NASD ADF</p>

¹ This was assigned the value of 'Additional Information' prior to June 7, 2010

² This was assigned the value of 'Additional Information – Due to Related Security' prior to May 24, 2010

³ This was assigned the value of 'Regular – One Sided Quote (NASDAQ)' prior to September 7, 2007

		<p>E Market Independent (SIP - Generated)</p> <p>I ISE</p> <p>M Chicago</p> <p>N NYSE</p> <p>P Pacific</p> <p>S Consolidated Tape System</p> <p>T/Q NASD</p> <p>W CBOE</p> <p>X Philadelphia</p> <p>Z BATS</p>
National BBO Indicator (begins 1/1/2004)	Number (1)	<p><u>AMEX and NYSE ONLY (We do not recommend using this field)</u></p> <p>CQS Only - National BBO Indicator</p> <p>0 = No National BBO change - Current quote does not affect the BBO. No National appendage is required.</p> <p>1 = Quote Contains all National BBO Information - Current quote is itself the new National BBO. No National appendage is required.</p> <p>2 = No National BBO - There is no calculation of National BBO such as before Market Open or after Market Close. No National appendage is required.</p> <p>4= Long Format of National BBO Appendage - A new National BBO is generated and the new BBO information is contained in the Long National BBO appendage.</p> <p>6 = Expanded Price Short Format of National BBO Appendage - a new National BBO is generated and the new BBO information is contained in the Expanded Price Short National BBO appendage.</p>
NASDAQ BBO Indicator (begins 1/1/2004)	Number (1)	<p><u>NASDAQ ONLY (We do not recommend using this field)</u></p> <p>NASD BBO INDICATOR (CQS) & NBBO APPENDAGE INDICATOR (NASDAQ)</p> <p>0=No NASD BBO Change, current quote does not affect the BBO. No NASD appendage is required.</p> <p>1= Quote Contains all NASD BBO Information - Current quote is itself the new NASD BBO. No NASD appendage is required.</p> <p>2= No NASD BBO - There is no calculation of NASD BBO such as before Market Open or after Market Close. No NASD appendage is required.</p> <p>3= NASD BBO Appendage - A new NASD BBO is generated and the new BBO information is contained in the NASD BBO appendage.</p> <p>NASDAQ</p> <p>0=No National BBO change - Current quote does not affect the BBO. No National appendage is required.</p> <p>1 = Quote Contains all National BBO Information - Current quote is itself the new National BBO. No National appendage is required.</p> <p>2= No National BBO - There is no calculation of National BBO such as before Market Open or after Market Close. No National appendage is required.</p> <p>4= Long Format of National BBO Appendage - A new National BBO is generated and the new BBO information is contained in the Long National BBO appendage.</p> <p>6- Expanded Price Short Format of National BBO Appendage - A new National BBO is generated and the new BBO information is</p>

		contained in the Expanded Price Short National BBO appendage.
Quote Cancel/Correction (begins 1/1/2004)	Character (1)	<u>AMEX and NYSE ONLY</u> CQS ONLY A = Not a Cancel Quote B= Cancel quote/Cancel Price Indication/ Cancel Trading Range Indication C=Corrected Price Indication
Quote_Source	Character (1)	C= CQS N= NASDAQ

III. One-Minute Data (trade-only)

A. Sample

```
01/20/2010,09:00,24.71,24.71,24.71,24.71,800
01/20/2010,09:02,24.71,24.71,24.71,24.71,5000
01/20/2010,09:04,24.7,24.7,24.7,24.7,100
01/20/2010,09:05,24.7,24.7,24.7,24.7,100
01/20/2010,09:13,24.7,24.7,24.7,24.7,500
01/20/2010,09:14,24.7,24.7,24.69,24.69,1000
01/20/2010,09:23,24.69,24.69,24.69,24.69,900
01/20/2010,09:26,24.7,24.7,24.7,24.7,400
01/20/2010,09:27,24.7,24.7,24.69,24.69,1351
01/20/2010,09:28,24.69,24.69,24.69,24.69,100
```

B. File Layout

One-Minute Data is provided as ASC files, and is generated from tick equity trade data. Each minute bar contains up to seven (7) comma-separated fields in all ASC files.

Date
Time
Open
High
Low
Close
Volume

C. Field Descriptions

The following fields contain data pertaining to the following exchanges, unless otherwise noted:

- American Stock Exchange
- NASDAQ
- New York Stock Exchange

Field Name	Type	Description
Date	MM/DD/YYYY	Date of Minute bar
Time	HH:MM	Time of Minute bar The minute timestamp reflects the interval from the start of the previous minute at :00 seconds to the end at :59 seconds. For example, the minute bar timestamp 09:26 reflects all trades from 09:25:00 to 09:25:59.
Open	Number	Price of first trade within the minute bar. Up to seven decimal places.
High	Number	Highest trade price within the minute bar. Up to seven decimal places.
Low	Number	Lowest trade price within the minute bar. Up to seven decimal places.
Close	Number	Price of last trade within the minute bar. Up to seven decimal places.
Volume	Number	Total number of shares traded within the minute bar.

IV. File Naming Convention

Tick Data names corporate entities by a proprietary Internal ID#. We do this so that we are able to deliver files for multiple companies, active and/or inactive, that have used the same symbol in different time periods. For example, Chrysler (ticker = C, ID# = 1208) and Citigroup (ticker = C, ID# = 1335) both used the same symbol, 'C', at different times. Data for both is available. All supporting corporate action files will also reference our Internal ID#.

```
3149 9/7/2007 9/20/2007 9/24/2007 10/25/2007 0.28 USD
```

When data is delivered 'as-traded', as it is when used with TickWrite or Time Series Builder (TSB), files are named by ticker symbol and contain data for a single trading day. That was the actual symbol under which the company was listed on a particular trade date. On occasion, upon client request, we can deliver the data 'mapped' for corporate actions. This data is the same as the output of TickWrite 7 and TSB. When we deliver data in this manner, the files are named by Internal ID and each file will span the full range of data requested for that company.

V. Corporate Actions

Tick Data provides the following corporate actions files with each dataset delivered. The format for each file is described below:

A. Company Information (CompanyInfo.asc)

Provides a map of Tick Data's internal ID# to current company symbol, company name, and CUSIP.

Sample

```
TWX,TWX,TIME WARNER INC.,887317105000,NEW YORK STOCK EXCHANGE,,01/04/1993,09/30/2007,357
GE,GE,GENERAL ELECTRIC CO,369604103000,NEW YORK STOCK EXCHANGE,,01/04/1993,09/30/2007,3149
MSFT,MSFT,MICROSOFT CORP,594918104002,NASDAQ GLOBAL SELECT MARKET,,01/04/1993,09/30/2007,5061
PCP,PCP,PRECISION CASTPARTS CORP,740189105000,NEW YORK STOCK EXCHANGE,,01/04/1993,09/30/2007,5822
```

File Layout

Each record contains nine (9) comma-separated fields of data and is laid out as follows:

```
symbol
file name
company name
CUSIP
exchange
industry code
first date
last date
company id
```

Field Descriptions

Field Name	Type	Description
Symbol	Character	Stock symbol. See Appendix A for details on suffixes.
File Name	Character	Name of file if data is delivered named by Symbol rather than by ID#.
Company_Name	Character	Company name.
CUSIP	Character	CUSIP number, which uniquely identifies a security. The Committee on Uniform Security Identification Procedure (CUSIP) assigns the first nine digits. <ul style="list-style-type: none"> ▪ Digits/characters 1-6 identify the issuer ▪ Digits/characters 7-9 identify the issue. ▪ The last three digits are applied by the NSCC to distinguish between NYSE, AMEX, and NASD issues: <ul style="list-style-type: none"> ○ NYSE 000 ○ NYSE when issued 100 ○ AMEX 001 ○ AMEX when issued 101 ○ NASD 002 ○ NASD when issued 102
Exchange	Character	Current exchange on which the symbol is traded.
Industry	Character	NYSE industry code. See Appendix B. Null after 01/01/2000.
First Date	MM/DD/YYYY	The first date for which data is available for the company.
Last Date	MM/DD/YYYY	The last date for which data is available for the company.
ID #	Numeric	Tick Data's Internal ID#.

B. Split and Dividend Information (Stocksplits.csv)

Provides adjustment ratios for stock splits and stock dividends.

Sample

```
AEG, 05/13/2003, 0.96
APA, 04/02/2003, 0.95
BRL, 03/17/2003, 0.66666667
CBI, 02/10/2003, 0.5
CXWPRB, 03/31/2003, 0.97
PSS, 03/27/2003, 0.33333333
ROL, 03/10/2003, 0.66666667
```

File Layout

Each record contains three (3) comma-separated fields of data and is laid out as follows:

```
Symbol
Date
Ratio
```

Field Descriptions

The following fields contain data pertaining to the following exchanges, unless otherwise noted:

- American Stock Exchange
- NASDAQ
- New York Stock Exchange

Field Name	Type	Description
Symbol	Character	Stock symbol. See Appendix A for details on suffixes.
Split_Date	MM/DD/YYYY	Date of stock split or dividend.
Ratio	Numeric	Percentage of adjustment made to the price of the symbol due to a stock split, stock distribution, stock dividend, or cash dividend.

C. Mergers (Mergers.csv)

Provides adjustment ratios for a certain type of stock splits where price should be adjusted but volume should not be adjusted.

File Layout

Each record contains three (3) comma-separated fields of data and is laid out as follows:

symbol
effective date
ratio

D. Cash Dividends (Dividends.csv)

Provides the amount of cash dividends.

Sample

```
3149,9/7/2007,9/20/2007,9/24/2007,10/25/2007,,0.28,USD  
5822,8/15/2007,9/5/2007,9/7/2007,10/1/2007,,0.03,USD
```

File Layout

Each record contains eight (8) comma-separated fields of data and is laid out as follows:

symbol / company id
declared date
ex_date
record_date
pay_date
net amount
gross amount
currency type

Field Descriptions

Field Name	Notes
Company ID or Symbol	Depends on data being delivered by ID or by Symbol.
Declare Date	no definition required
Ex-Date	no definition required
Record Date	no definition required
Pay Date	no definition required
Net Amount	no definition required
Gross Amount	no definition required
Currency Type	no definition required

VI. Appendix A – Stock Suffixes

NYSE and AMEX Issues

All securities on the NYSE and AMEX are identified by a three-character symbol. The following table lists the valid four- to seven-character suffix identifiers.

<u>Description</u>	<u>Suffix</u>
Class A	A
Class A Called	ACL
Class A Convertible	ACV
Class A When Issued	AWI
Class B	B
Class B Called	BCL
Class B Convertible	BCV
Class B When Issued	BWI
Called	CL
Certificate	CT
Convertible	CV
Convertible Called	CVCL
Ex-Dividend	XD
Ex-Rights	XRT
Without Warrants	XW
Part Called	PTCL
Preferred	PR
Preferred A through Preferred Z	PRA through PRZ
Preferred Called	PRCL
Preferred When Issued	PRWI
Rock Island Certificate UP	CTUP
Rights	RT
Rights When Issued	PRWI
Special	SP
Stamped	SD
Warrants	WS
Warrants Class A	WSA
Warrants Class B	WSB
Warrants When Issued	WSWI
With Warrants	WW
When Distributed	WD
When Issued	WI

NASDAQ Issues

A unique four- or five-letter symbol is assigned to NASDAQ securities. If a fifth letter appears, it identifies the issue as other than a single issue of common stock or capital stock. A list of fifth-letter identifiers and a description of what each represent follows:

<u>Description</u>	<u>Suffix</u>
Class A	A
Class B	B
Issuer qualification exception - the issuer has been granted a continuance in NASDAQ under an exception to the qualification standards for a limited period.	C
New	D
Delinquent in required filings with the SEC.	E
Foreign	F
First convertible bond	G
Second convertible bond, same company	H
Third convertible bond, same company	I
Voting	J
Nonvoting	K
Miscellaneous situations, such as depositary receipts, stubs, additional warrants, and units	L
Fourth preferred, same company	M
Third preferred, same company	N
Second preferred, same company	O
First preferred, same company	P
Bankruptcy - The issuer is involved in bankruptcy proceedings.	Q
Rights	R
Shares of beneficial interest	S
With warrants or with rights	T
Units	U
When-issued and when-distributed	V
Warrants	W
ADR (American Depositary Receipt)	Y
Miscellaneous situations, such as depositary receipts, stubs, additional warrants, and units	Z

Source: NASDAQ website: <http://www.nasdaq.com/reference/glossary.stm>

VII. Appendix B – NYSE Industry Codes

Industry Group	Code
INDUSTRIALS	100
Aerospace	102
Aircraft	102A
Parts and Equipment	102B
Business Supplies and Services	104
Machines and Equipment (Excl. Computers)	104A
Supplies	104B
Services	104C
Chemicals	106
Diversified Chemicals	106A
Specialized	106B
Computers, Data Processing	108
Computer Systems	108A
Data Processing, Software	108B
Peripheral Devices and Supplies	108C
Construction	110
Residential	110A
Industrial	110B
Cement	110C
Lumber, Wood	110D
Other Building Materials and Products	110E
Electrical Equipment	112
Electronics	114
Semi Conductors and Other Components	114A
Telecommunications Equipment	114B
Test, Control Instruments and Systems	114C
Other Systems and Equipment	114D
Environmental Control	116
Foods, Beverages	118
Beverages	118A
Branded Food Products	118B
Processing and Production	118C

Wholesalers	118D
Health and Beauty Products	120
Personal Health Products	120A
Toiletries, Cosmetics, Perfumes	120B
Health Care Services	122
Equipment and Supplies	122A
Health Care Facilities	122B
Household Goods	124
Appliances	124A
Furnishings and Fixtures	124B
Housekeeping Products	124C
House-wares	124D
Industrial Machinery and Equipment	126
Heavy Machinery	126A
Machine Tools	126B
Measuring and Control Devices	126C
Transmissions and Engines	126D
Other Industrial Equipment	126E
Lodging, Restaurants	128
Hotels, Motels	128A
Restaurants	128B
Mining, Refining, Fabricating	130
Aluminum	130A
Coal	130B
Gold, Silver	130C
Steel, Iron	130D
Other Non-Ferrous Metals	130E
Motor Vehicles	132
Auto and Truck	132A
Parts and Equipment	132B
Oil and Gas	134
Crude Production	134A
Contract Drilling, Exploration	134B
Integrated Domestic Refiners	134C
Integrated International Refiners	134D
Non-Integrated Refiners	134E
Services and Equipment	134F

Packaging	136
Glass	136A
Metal	136B
Paper	136C
Other	136D
Paper Production	138
Pharmaceuticals	140
Publishing	142
Newspaper Chains	142A
Magazines	142B
Books	142C
Recreation Services and Products	144
Broadcasting	144A
Gaming Operations and Services	144B
Leisure Time Products	144C
Motion Pictures, Entertainment Services	144D
Outdoor Recreational Vehicles and Equipment	144E
Retail Trade	146
Department Store Chains	146A
Discount Variety Chains	146B
Drug Store Chains	146C
Supermarkets, Food Stores	146D
Hardware, Furniture Stores	146E
Specialty Apparel Shops	146F
Other Retail Operations	146G
Textiles, Apparel	148
Textile and Mill Products	148A
Clothing Companies	148B
Shoes	148C
Tires, Rubber	150
Tobacco	152
Wholesalers, Distributors	154
Consumer Products (Non-Food)	154A
Industrial Products	154B
Multi-Industry	170

Other	180
Manufacturing	180A
Services	180B
TRANSPORTATION	200
Air	202
Passenger Airlines	202A
Freight Airlines	220B
Rail	204
Trucking	206
Other Transportation Services	208
UTILITIES	300
Electric Services	302
Gas Services	304
Distribution and Integrated Natural Gas Cos.	304A
Natural Gas Transmission Companies	304B
Other Gas Services	304C
Telecommunications	306
Water Supply Companies	308
Multi-Service Companies	310
FINANCE, REAL ESTATE	400
Banks	402
Multinational	402A
Regional	402B
Savings and Loan Associations	402C
Brokerage Services	404
Closed-End Investment Companies	406
Bond Funds	406A
Stock Funds	406B
Specialty Funds	406C
Finance Companies	408

Insurance	410
Brokers, Agents	410A
Carriers	410B
Trusts	412
Real Estate Investment Trusts (REITS)	412A
Oil Royalty Trust	412B
Other Trusts	412C
Real Estate	414
Diversified Financial Services	416

VIII. Appendix C – *NASDAQ Market Makers*

NASDAQ Market Makers mnemonics can be found using the National Securities Clearing Corporation (NSCC) Directory or at the NSCC website www.nsc.com under Member Directory where an electronic version can be downloaded. Below is a sample list.

<u>MMID</u>	<u>Company Name</u>
(blank)	Aggregate quote, valid only for NASDAQ issues.
AA	Bid and offer are CAES aggregates*
AI	Bid is CAES aggregate; offer is non-CAES or exchange aggregate*
CAES	NASD Market Services, Inc.
DEAN	Dean Witter Reynolds Inc.
FAHN	Fahnestock & Co., Inc.
IA	Bid is non-CAES or exchange aggregate; offer is CAES aggregate*
II	Bid and offer are non-CAES or exchange aggregates*
LEHM	Lehman Bros.
MADF	Madoff (Bernard L.)
NASD	End of day quote for that issue
RHCO	Robinson-Humphrey Company Inc.
SHAW	Shaw (D.E.) Securities
TRIM	Trimark Securities, Inc.

* This value only valid prior to March 1997.

IX. Appendix D – Sales Condition Codes

Sales Condition (Character, up to 4)

Regular Way (blank, @, or *) - A trade made without any stated conditions.

Note: Effective June 7, 1995 the standard settlement cycle was changed from five business days to three business days.

Cash-Only Basis (A)¹ - (CTS) All trading in that issue for that day is on a 'cash only' basis. Every trade for that day will have a condition of **A**. (NASD) Acquisition.

Bunched (B) - (NASD) A trade representing an aggregate of two or more regular trades (other than the opening or reopening trade) that were executed within the same 60 second period at the same price. (CTS) Average Trade.

Cash Sale (C) - A transaction which calls for the delivery and payment of securities on the same day the trade took place.

Next day Settlement Only (D)² - (CTS) All trading in that issue for that day is for 'next day settlement' only. Every trade for that day will have a condition of **D**. (NASD) Distribution

NYSE Direct+ (E) - (CTS only) The high-speed electronic connection for immediate automatic execution (Auto-X) of limit orders up to 1,099 shares.

Intermarket Sweep Order (F) - The transaction that constituted the trade-through was the execution of an order identified as an Intermarket Sweep Order.

Bunched sold (G)³ - A bunched trade not reported within 90 seconds of execution.

Price Variation Trade (H)⁴ - Indicates a regular market session trade transaction that carries a price that is significantly away from the prevailing consolidated or primary market value at the time of the transaction.

CAP Election Trade (I) - The CAP Election Trade highlights sales as a result of a sweep execution on the NYSE, whereby CAP orders have been elected and executed outside the best price bid or offer and the orders appear as "repeat" trades at subsequent execution prices. This indicator provides additional information to market participants that an automatic sweep transaction has occurred with repeat trades as one continuous electronic transaction.

Rule 127 trade (J)⁵ - (NYSE only) An NYSE trade reported as having been executed as a block position.

(See NYSE Constitution and Rules, ¶2127, Rule 127.)

Rule 155 trade (K) - (AMEX only) A specialist must give precedence to agency orders in any stock before executing a purchase or sale for the same stock in which he/she has an interest. (See Amex Constitution and Rules, ¶9295, Rule 155.) OR Rule 127 Trade (block position) (NYSE only).

Sold last (L) - A transaction that occurs in sequence but is reported to the tape at a later time; there are no intervening trades between the time the transaction occurs and when it is reported.

Market Center Official Closing Price (M) - Effective April 2003. The official closing price as determined by a Market Center. This is for information purposes only.

Next day (N) - Calls for delivery of securities on the first business day following the day of the contract.

¹ Prior to August 1993, condition code A was assigned the value of 'Acquisition' for CTS issues. This code became obsolete for CTS issues as of May 24, 2010.

² Prior to August 1993, condition code D was assigned the value of 'Distribution' for CTS issues.

³ Obsolete for CTS issues as of July 3, 2007.

⁴ Prior to July 3, 2007, condition code H was assigned the value of Intraday Trade Detail for CTS issues.

⁵ Obsolete for CTS issues as of February 15, 2007).

Market Center Opening Price (O)¹ - The trade that constituted the trade-through was a single priced opening transaction by the Market Center (REG NMS Rule 611b3).

Prior Reference Price (P) - An executed trade that occurred in a marketplace where members execute certain transactions that actually relate to an obligation to trade at an earlier point in the trading day or that refer to prior referenced price.)

Market Center Official Opening Price (Q) – The official opening price as determined by a Market Center. This is for information purposes only.

Seller (R) - "Seller's Option". Delivery date is specified by the seller and must be between two and sixty calendar days following the day of the contract (but not on the third business day after the trade date, which is considered **regular way**). (See NYSE Constitution and Rules, ¶2064, Rule 64.)

Note: Beginning in June 1995, values over 60 are permissible. Any value over 99 has been changed to 99.

Split Trade (S) - (NASD only) An execution that takes place in two markets. The market-maker in the first market agrees to execute a portion of an order at a price realized in another market, to which the balance of the order is forwarded for execution.

Pre- and Post-Market Close Trades (T) - (NASD only) A trade that occurred within the current trading day, but is executed outside of the current market hours and within the market reporting hours. These trades include:

- European market between 9:06 and 9:13 EST;
- U.S. market between 8:00 and 9:30 EST;
- U.S. market between 16:00 and 17:16 EST.

Out of Sequence After-hours (U) - Sale condition for trade reports used to identify extended trading hours trades that are reported more than 90 seconds after execution.

Stock Option Trade (V) - Stock-Option Trade is used to identify cash equity transactions which are related to options transactions and therefore potentially subject to cancellation if market conditions of the options leg(s) prevent the execution of the stock-option order at the price agreed upon.

Average Price Trades (W) – (NASD only) A trade where the price reported is an average of the prices for transactions during all or any portion of the trading day. Applies to Nasdaq NMS and SmallCap issues.

Cross Trade (X) - Indicates that the trade resulted from a Market Center's crossing session.

Yellow Flag Regular Trade (Y) – (NASD only) Market Centers will have the ability to identify regular trades being reported during specific events as out of the ordinary by appending a new sale condition code Yellow Flag ("Y") on each transaction reported to the UTP SIP.

Sold Out of Sequence (Z) - A transaction that is reported to the tape at a time later than it occurred and when other trades occurred between the time of the transaction its report time.

Derivatively Priced (4) - The transaction that constituted the trade-through was the execution of an order at a price that was not based, directly or indirectly, on the quoted price of the NMS stock at the time of execution, and for which the material terms were not reasonably determinable at the time the commitment to execute the order was made (REG NMS 611b7).

Market Center Reopening Trade (5) - The trade that constituted the trade-through was a single priced reopening transaction by the Market Center (REG NMS Rule 611b3).

Market Center Closing Trade (6) - The transaction that constituted the trade-through was a single priced closing transaction by the Market Center (REG NMS Rule 611b3).

Reserved (7)

¹ Prior to October 12, 2006, condition code O was assigned the value of Opened Last (opening trade out of sequence).

Crossing Session (8, 9)¹- (CTS only) One record per symbol for executed volume entered as one-sided orders (9) and one record per symbol for executed volume entered as two-sided orders (i.e., matched) at the closing price (8). There are no individual records for executed one-sided or two-sided orders.

(For details on Crossing Session, see NYSE Market Surveillance Information Memo 91-19, June 5, 1991.)

¹ Obsolete as of February 14, 2007.

X. Appendix E – Mode codes

This field shows Mode prior to 1/1/2004, if applicable.

Zero (0) - invalid field for that issue (e.g., NASDAQ NMS issue).

Depth on offer side (1) - Indicated more size behind the quote being disseminated for the offer. This depth may be at the ask price of the quote or at a price immediately outside the disseminated ask quote.

Closing quote (3) – Indicates the last quote from a participant for that security during the trading day. There may be two closing quotes per symbol at the same price for market-on-close (MOC) transactions.¹

News dissemination (4) - A regulatory halt used when relevant news influencing the stock is disseminated. Trading is suspended until the resultant impact has been assessed.

Fast trading (5) - Used during extremely active periods of short duration. While in this mode, quotes are entered on a "best efforts" basis.

Depth on bid and offer (6) - Indicated more size behind the reported quote for both bid and offer. The depth may be either at or immediately outside the quote.

Order imbalance (7) – A non-regulatory halt used when there is a severe buy or sell order imbalance. To prevent a disorderly market, trading is temporarily suspended.

Closed market maker (NASD) (8) - This condition is disseminated by each market maker to signify either the last quote of the day or the premature close of a market maker for the day. In the latter case, the market maker can re-open by transmitting a quote accompanied by Mode 12.

Non-firm quote (9) - A regulatory halt used when the level of trading activity in a security is such that the Exchange cannot collect, process, and disseminate quotes that accurately reflect market conditions. The specialist, with Floor Official approval, may switch to "non-firm mode" for 30 minutes.² (See NYSE Constitution and Rules, ¶2060, Rule 60.)

Opening quote (10) – The first quote disseminated from a given market center for each security.

News pending (11) – Indicates a regulatory trading halt or delayed opening due to an expected news announcement which may influence trading in the stock. A trading halt or opening delay may be reversed once the news has been disseminated.

Regular (NASD open) (12) - Indicates normal trading environment. May be used by NASD market makers in place of Mode 10 to indicate the first quote of the day or if a market maker re-opens a security during the day (see Mode 8).

Trading halt due to related security (13) - A non-regulatory halt used when events relating to one security will affect the price and performance of another security (e.g., a tender offer).

Trading halt in view of common (14) - A non-regulatory trading halt used when matters that affect the common stock of a company may affect the performance of other classes of securities for the same company.

Order influx (15) - A non-regulatory halt used when there is a severe influx of buy and sell orders. To prevent a disorderly market, trading is temporarily suspended.

No open/no resume (16) - Indicates a trading halt or an opening delay is to be in effect for the rest of the trading day. Generally, a trading halt condition indicating the reason for the halt or delay is indicated prior to the input of Mode 16.

¹For more information, see Hasbrouck, Sofianos, and Sosebee (1993), "New York Stock Exchange Systems and Trading Procedures," Working Paper #93-01, New York Stock Exchange, p.46-47.

²For more information, see Hasbrouck, Sofianos, and Sosebee (1993), "New York Stock Exchange Systems and Trading Procedures," Working Paper #93-01, New York Stock Exchange.

Opening (Re-opening) Price (17, 18) - Indicates the probable trading range (bid and offer sizes, no prices) of a security that is not opening delayed or halted. This quote condition can be used prior to (17) or after (18) the opening of a security.

Related Security News dissemination (19) - A regulatory halt used when news relating to one security will affect trading in an associated security. For example, news pertaining to the common issues of a company may affect the preferred issues.

Related Security News pending (20) - Same as above but refers to expected news.

Additional Information (27) - A regulatory halt or delayed opening used if more disclosure of information for the security is requested by the exchange. If inadequate information is disclosed during a trading halt or delayed opening due to news dissemination (mode 4) or news pending (mode 11), the reason could subsequently be reported as mode 27.

Additional Information due to related security (28) - A regulatory halt or delayed opening used if more disclosure of information for the security is requested for a related security.

Resume (29) - Used with zero-filled bid and offer sizes to indicate that quoting is no longer suspended for a security that was halted or delayed.