



Cboe End-of-Day ETP Key Values Feed Specification

Version 1.0.4

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1 Introduction

The Bats End-of-Day ETP Key Values Feed is designed to provide ETP issuers with end-of-day data for each symbol listed on the BZX Exchange.

2 Protocol

2.1 Format

The file is available as a pipe-separated file. It has a header row with the column names in that header row.

Cboe reserves the right to add additional columns to the file without any advance notice. Recipients of the file should design their systems to ignore any new columns that have not been defined by this specification.

2.2 Availability

The file is generally available sometime between 10:30 p.m. ET and 12:30 a.m. ET and may be downloaded from a Cboe FTP server. By special arrangement, it is generally possible for Cboe to SFTP the file to an issuer.

2.3 File Name

The file name can be requested by the issuer as long as it fits these parameters:

- can include the date as YYYY-MM-DD (e.g., "our_etf_file_2016-05-11.psv")
- can include the date as YYYYMMDD embedded in the name (e.g., "our_etf_file_20160511.psv")
- can include the time as HHMMSS embedded in the name (e.g., "our_etf_file_231211.psv")
- all other characters must be of a fixed nature and cannot be a name that is already taken

3 File Layout and Field Documentation

The following rules apply to the file layout.

- All fields will be separated by pipes (|).
- The absence of a field will be represented by two consecutive pipes (||).
- If the last field is absent, then the last character will be the pipe that precedes that field.
- The standard Linux end of line character (typically denoted as \n) follows each row.

Field Name	Data Format	Notes
<i>Trade Date</i>	Text, MM/DD/YY	
<i>Symbol</i>	Text	
<i>IssueName</i>	Text	
<i>PrimaryExchange</i>	Text, single character	Will always be 'Z'
<i>SharesOutstanding</i>	Integer	
<i>Volume</i>	Integer	Shares traded on the BZX Exchange for the <i>Trade Date</i> . Zero if no volume traded on the <i>Trade Date</i> .
<i>High</i>	Decimal, 2 places	High trade price on the BZX Exchange for the <i>Trade Date</i> . Pre and Post Market trades are included as well as odd lot trades. Blank if no volume traded on the <i>Trade Date</i> .
<i>Low</i>	Decimal, 2 places	Low trade price on the BZX Exchange for the <i>Trade Date</i> . Pre and Post Market trades are included as well as odd lot trades. Blank if no volume traded on the <i>Trade Date</i> .
<i>Close</i>	Decimal, 4 places	The Official Closing Price as determined by the BZX Exchange. Populated even when volume is zero.
<i>12 Noon Bid</i>	Decimal, 2 places	The price of the highest displayed bid quote on the BZX Exchange at 12:00 ET; blank if the BZX Exchange does not have a displayed bid at that time
<i>12 Noon Offer</i>	Decimal, 2 places	The price of the lowest displayed offer quote on the BZX Exchange at 12:00 ET; blank if the BZX Exchange does not have a displayed ask at that time
<i>12 Noon Bid/Offer Midpoint</i>	Decimal, 2 places	The average of the <i>12 Noon Bid</i> and <i>12 Noon Offer</i> ; blank if one or both values is blank
<i>4PM Bid</i>	Decimal, 2 places	The price of the highest displayed bid quote on the BZX Exchange at 16:00 ET; blank if the BZX Exchange does not have a displayed bid at that time

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<i>4PM Offer</i>	Decimal, 2 places	The price of the lowest displayed offer quote on the BZX Exchange at 16:00 ET; blank if the BZX Exchange does not have a displayed ask at that time
<i>4PM Bid/Offer Midpoint</i>	Decimal, 2 places	The average of the <i>4PM Bid</i> and <i>4PM Offer</i> ; blank if one or both values is blank
<i>4:15PM Bid</i>	Decimal, 2 places	The price of the highest displayed bid quote on the BZX Exchange at 16:15 ET; blank if the BZX Exchange does not have a displayed bid at that time
<i>4:15PM Offer</i>	Decimal, 2 places	The price of the lowest displayed offer quote on the BZX Exchange at 16:15 ET; blank if the BZX Exchange does not have a displayed ask at that time
<i>4:15PM Bid/Offer Midpoint</i>	Decimal, 2 places	The average of the <i>4:15PM Bid</i> and <i>4:15PM Offer</i> ; blank if one or both values is blank
<i>Last Trade Price</i>	Decimal, 2 places	The price of the last trade on the BZX Exchange during regular trading hours within the last 45 days. Odd lot trades are included. Blank if no trade in the last 45 days.
<i>Last Trade Date</i>	Text, MM/DD/YY	The date of the last trade on the BZX Exchange during regular trading hours within the last 45 days. Blank if no trade in the last 45 days.
<i>Last Trade Time</i>	Text, HH:MM:SS.mmm	The time of the last trade on the BZX Exchange during regular trading hours within the last 45 days. Blank if no trade in the last 45 days.
<i>Closing NAV</i>	Decimal, 6 places	The NAV as of the end of the day, as provided by a SIP processor or other source
<i>Last Trade to NAV (\$Amt)</i>	Decimal, 6 places	The <i>Last Trade Price</i> less the <i>Closing NAV</i>
<i>Last Trade to NAV (\$Percent)</i>	Decimal, 6 places	The <i>Last Trade to NAV (\$Amt)</i> divided by the <i>Closing NAV</i> and multiplied by 100 to express the number as a percentage
<i>Bid/Offer Mid to NAV (\$Amt)</i>	Decimal, 6 places	The <i>4:15PM Bid/Offer Midpoint</i> less the <i>Closing NAV</i>
<i>Bid/Offer Mid to NAV (\$Percent)</i>	Decimal, 6 places	The <i>Bid/Offer Mid to NAV (\$Amt)</i> divided by the <i>Closing NAV</i> and multiplied by 100 to express the number as a percentage
<i>Total Consolidated Volume</i>	Integer	The total consolidated volume traded for the symbol
<i>4PM Consolidated Best Bid (effective 9/14/18)</i>	Decimal, 2 places	The price of the highest displayed bid quote across all exchanges at 16:00 ET.
<i>4PM Consolidated Best Offer (effective 9/14/18)</i>	Decimal, 2 places	The price of the lowest displayed offer quote across all exchanges at 16:00 ET.

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<i>4PM Consolidated Bid/Offer Midpoint</i> (effective 9/14/18)	Decimal, 2 places	The average of the <i>4PM Consolidated Best Bid and Offer</i> .
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4 Support

Unexpected data values or requests for changes to the data should be forwarded through the issuer's normal Cboe business contacts or the Cboe Trade Desk (tradedesk@cboe.com – 913.815.7001). Cboe hours of operational support are 6 a.m. – 8 p.m. ET.

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Revision History

Document Version	Date	Description
1.0.0	05/16/16	Initial version 1.0.0.
1.0.1	10/17/17	Cboe branding/logo changes.
1.0.2	06/13/18	Updates to definitions of <i>Last Trade Price</i> , <i>Last Trade Date</i> , and <i>Last Trade Time</i> . These fields will reflect the last trade during regular trading hours on the BZX Exchange within the last 45 days. The <i>Close</i> field is updated to reflect the Official Closing Price as determined by the BZX Exchange. Added the <i>Total Consolidated Volume</i> field (effective 8/1/18).
1.0.3	06/15/18	File delivery delayed from 10:30 p.m. ET to 12:30 a.m. ET as a result of changes to <i>Last Trade</i> calculations. Cboe reserves right to add additional columns without notice. Additional clarifications about values sent when there is no volume for a given <i>Trade Date</i> .
1.0.4	08/29/18	Added 3 new fields to file - 4PM Consolidated Best Bid, 4PM Consolidated Best Offer, 4PM Consolidated Bid/Offer Midpoint (effective 9/14/18). Updated <i>Close</i> to Decimal, 4 places.