

How Does DATAFEED Work?

The communication between the Interactive Data computer system and the PC is called a format transaction. Each format transaction request and response is identified by a format identifier. DATAFEED responds to each transaction request with one or more formats of data or characters. A response format contains a logical grouping of data or characters (e.g., a data format may contain the open, high, low, closing price, volume, and split factors for a given issue; or may contain a single character to signify that DATAFEED has completed a requested transaction). If you have written your own communications interface, special communications protocols must be used. For information on these special protocols, please contact DATAFEED Product Management.

The following example illustrates a request from the PC for the DATAFEED L Format (pricing data for exchange-listed securities), for an IBM stock issue (*type-code* = "E", for equity), for daily data (*periodicity* = "D"), on December 31, 1998 (*price-date* = "981231"), trading on the New York Stock Exchange (*identifier* = "nyse-ibm"):

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L E D 981231 nyse-ibm
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For details on how to implement DATAFEED formats in your software, please refer to the *DATAFEED Technical Description*. Contact DATAFEED Product Management for a copy of the manual.

Considerations for Choosing Formats in DATAFEED

You should select the DATAFEED format(s) most inclusive of your requirements. For example, if your customers require information on many fixed income securities - including corporate, government agency, and municipal bonds, pass-through securities, collateralized mortgage obligations (CMOs), and asset-backed securities - are unlisted and are not traded on any traditional exchanges. If you require pricing for unlisted municipal bonds and listed common stocks, you should select the V format, which provides pricing for both listed and unlisted securities.

Note: A listed security is a stock, bond, option, or commodity/futures contract that has been accepted for trading by one of the non-North American organized and registered securities exchanges.

The following sections list formats in various categories to help you find the format you need:

Pricing

Format	Returns
H	daily/weekly/monthly historical pricing information for global listed securities. It does not cover any unlisted securities, e.g., U.S. municipal securities.
I	latest and historical daily/weekly market indicator information for the New York, American, and Nasdaq exchanges.
J	latest and historical evaluations and yields for United States and Canadian government, agency issues, and corporate bonds; and United States municipal bonds and pass-through securities.
L	latest daily/weekly/monthly pricing information for United States and Canadian listed securities. This does not include any unlisted securities.
P	latest and historical portfolio analysis data on global equities (including mutual funds and indices), options, corporate bonds, government and agency securities; global commodity/futures contracts; and United States municipal bonds, pass-through securities, collateralized mortgage obligations (CMOs), and asset-backed securities.
V	latest and historical pricing data on global equities (including mutual funds and indices) and

options, corporate bonds, government and agency securities; global commodity/futures contracts; United States municipal bonds, pass-through securities, collateralized mortgage obligations (CMOs), and asset-backed securities.

W	latest-only daily closing prices for non-North American securities.
!V	latest volatility data for United States and Canadian listed equity securities.
!X	latest and historical spot conversion data from EXSHARE and financial exchange rate data from WM/Reuters. The data are returned in local currency with conversion rates to U.S. dollars, British pounds, and euro.
&E	latest and historical pricing for global equities (including mutual funds and indices), corporate, government bond, and agency issues, and options, United States municipal bonds, pass-through securities, collateralized mortgage obligations (CMOs), and asset-backed securities, and global commodity/futures contracts. In addition, this format returns shares outstanding data for global equities, bond amount outstanding data for global corporate, government, and agency bonds, and Standard & Poor's and Moody's ratings for global corporate bonds, and United States municipal bonds; CMOs; and asset-backed securities.
&P	latest-only closing prices for stocks, options, and corporate bonds trading on the New York, American, Nasdaq, Toronto Stock exchanges, and the five United States options exchanges.

Note: The &P format returns prices in an earlier timeframe than other formats. Subsequently, customers who use the &P format are billed at a premium rate in comparison to rates for other formats.

Dividends, Splits and Shares

Format	Returns
D	latest and historical dividend information for United States and Canadian equity issues.
P (<i>type-codes</i> "E", "F", "I", "R", and "9")	among other data items, indicated annual dividend data for United States and Canadian equities, and forecast total dividend data for non-North American equities.
U	among other data items, indicated annual dividend and shares outstanding data for United States and Canadian equity securities, and forecast total dividend information for non-North American securities.
V (<i>type-code</i> "S")	latest number of shares outstanding for United States and Canadian equities, in addition to pricing.
!S	latest and historical number of shares outstanding for United States and Canadian equities, and latest-only number of shares outstanding for non-North American equities.
!U	among other data items, indicated annual dividend and shares outstanding data for United States and Canadian equity securities, and forecast total dividend information for non-North American securities.
!Y	indicated annual dividend yield data for listed United States and Canadian equity securities, including United States mutual funds, and selected indices.

Descriptive

Format	Returns
R	descriptive and identifier information on global equities and options, corporate, government, and agency securities; global commodity/futures contracts; and United States municipal bonds, pass-through securities, collateralized mortgage obligations (CMOs), and asset-

backed securities.

U	issue status and other information for global equities, investment trusts, indices, corporate and government issues, and options.
!A	descriptive and issue information for global corporate and government bond issues; and United States municipal bonds, pass-through securities, and collateralized mortgage obligations (CMOs) and asset-backed securities.
!B	selected descriptive and issue data items for global corporate and government bond issues; and United States municipal bonds, pass-through securities, and collateralized mortgage obligations (CMOs) and asset-backed securities that can change over time.
!K	alpha and beta calculations for United States and Canadian equity securities. These values are used to compare the expected return for an individual equity security with the expected return for the market portfolio.
!R	latest and historical selected notification announcements for United States and Canadian securities, such as, CUSIP number and company name changes, liquidations, distributions, mergers, acquisitions, etc.
!U	changes in issue status and other information for United States and Canadian equities, and changes in issue status and other information for non-North American equities; investment trusts; indices; and corporate and government issues and options.
&B	descriptive information necessary to set up and process monthly a portfolio containing United States and Canadian corporate and government bond issues and United States municipal bonds, pass-through securities, collateralized mortgage obligations (CMOs), and asset-backed securities.

Factors

Format	Returns
F	latest and historical factor and descriptive information for United States pass-through securities, collateralized mortgage obligations (CMOs), and asset-backed securities.
!F	descriptive information regarding projected cash flows for United States collateralized mortgage obligations (CMOs) and asset-backed securities. It also returns the projected cash flows themselves.

Ratings

Format	Returns
P	latest-only Standard & Poor's and Moody's quality ratings for United States and Canadian corporate and government bond issues, and United States municipal bond issues, collateralized mortgage obligations (CMOs), and asset-backed securities. Mortgage-backed securities and commodity/futures contracts are not rated by Standard & Poor's and Moody's. The P format also returns the latest Standard & Poor's ranking codes for common and preferred stocks as well as portfolio analysis data and dividend information, described above.
!A	latest Standard & Poor's and Moody's quality ratings for global corporate and government bond issues, and United States municipal bonds, collateralized mortgage obligations (CMOs), and asset-backed securities. Mortgage-backed securities are not rated by Standard & Poor's and Moody's. The !A format also returns descriptive information as described above.
!B (<i>response-code "R"</i>)	changes in Standard & Poor's and Moody's quality ratings for global corporate and government bond issues, and United States municipal bonds, collateralized mortgage

obligations (CMOs), and asset-backed securities. The !B format also returns descriptive information as described above.

Note: Mortgage-backed securities are not rated by Standard and Poor's and Moody's.

!G latest Standard & Poor's and Moody's quality ratings for United States and Canadian corporate and government bond issues; and United States municipal bonds, collateralized mortgage obligations (CMOs), and asset-backed securities. Mortgage-backed securities are not rated by Standard and Poors' and Moody's. The !G format also returns the latest Standard & Poors 'ranking codes for common and preferred stocks.

Non-North American

Format	Returns
H (<i>type-code "I"</i>)	daily/weekly/monthly historical pricing information for non-North American listed securities, as well as United States and Canadian pricing described above. It does not cover any unlisted securities.
P (<i>type-codes "F" & "I"</i>)	latest and historical daily portfolio analysis data on non-North American equities, options, corporate bonds, and government and agency securities.
U (<i>type-code "I"</i>)	issue status and other information for global equities, investment trusts, indices, corporate and government issues, and options.
V (<i>type-codes F & I</i>)	latest and historical daily pricing data on non-North American equities, options, corporate bonds, and government and government and agency securities.
W	latest pricing information for non-North American securities.
!N	latest dividend information for non-North American equities and investment trusts.
!S	latest number of shares outstanding for non-North American equities.
!U	changes in issue status for non-North American equities, investment trusts, indices, options, and corporate and government issues.
!X	latest and historical spot conversion and forward exchange rate data from Financial Times Information. The data are returned in local currency with conversion rates to U.S. dollars, British pounds, and euro.
&S	latest corporate action information for non-North American equity, corporate, and sovereign debt issues.

Considerations for Constructing Your Request to DATAFEED

The DATAFEED request and response formats have very specific sequences. The sequences are separated by spaces (e.g., *D dividend-code response-code start-date end-date identifier*), and the spaces are shown simply to illustrate the separation between request components. When you enter a request, omit the spaces (e.g., DAA981101latest45920010). Each format page includes examples showing the request and response format.

Note: Some data formats, such as the L format, may include commas in the request to DATAFEED. For formats such as these, place commas in your request to DATAFEED, as shown.

Data Response Format - Interactive Data System to PC

DATAFEED returns data in slightly different formats depending on whether you use DATAFEED's Communications Interface (DCI) Program or your own interface package. Response through interface packages other than the DCI consists of the format identifier followed by the data values. Response through the DCI repeats the request followed by a comma, then the data values. Each of the following format sections includes examples for both response formats.