CHICAGO BOOTH

CRSP®
Center for Research in Security Prices

CRSP UTILITIES AND PROGRAM LIBRARIES GUIDE

CRSP US Stock & US Index Databases and CRSP/Compustat Merged Database

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CHICAGO BOOTH

CRSP®
Center for Research in Security Prices

105 West Adams, Suite 1700
Chicago, IL 60603
Tel: 312.263.6400
Fax: 312.263.6430
Email: Support@crsp.ChicagoBooth.edu

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CRSPACCESS UTILITIES

The CRSPAccess software, also known as CUPL (CRSP Utilities and Programming Libraries), includes utilities for extracting CRSP stock and index data from the CRSP proprietary research databases. The utilities support the CRSP 1925 and 1962 US Stock and Index databases, the CRSP\Compustat Merged Database, and the new CRSP 1925-E(Expanded) US Stock & Index Database.

SUPPORTED PLATFORMS

CUPL tools have been tested on the following platforms and are supported by CRSP:

- Windows 7 – 32-bit & 64-bit
- Windows 8.1 – 32-bit & 64-bit
- Red Hat Linux – 32-bit & 64-bit

OPERATING SYSTEM	CPU	FORTRAN COMPILER*	C COMPILER	BINARY TYPE
Windows 7 & 8	Intel x86 32- and 64-bit	Intel VisualFortran 2011/ParallelStudio XE	MS Visual Studio C++ 2008 & 2010	IEEE – Little Endian
Red Hat Enterprise Linux 5.0	Linux x86 32 and 64-bit	G95 0.91	Gcc 4.1.2	IEEE – Little Endian

**Fortran support is not available for the new CRSP 1925-E database.*

COMMAND LINE TOOLS

While transparent to end users, the set of executables that make up the CRSPAccess command line tools have been consolidated.

- `ts_print` remains the time series reporting tool.
- `stk_print`, `ccm_print`, and `ind_print` are all run with a single executable, `crsp_print` and are used to access the CRSP 1925 and 1962 US Stock and Stock & Index Databases.
- Shortcuts and aliases are provided and work as they always have. Full syntax at the command line is simplified and listed within the following options.
- `sizprint` is a new alias used to call `crsp_print` for access to the CRSP 1925-E Stock & Index Database

ACCESS SYNTAX IS SUMMARIZED:

CRSP 1925-E STOCK & INDEX DATABASE:

Shortcut:

- `sizprint` – to call daily and monthly stock or index data

Full syntax:

- `crsp_print /d1 database name -` daily
- `crsp_print /d1 database name /fm` – monthly

CRSP 1925 AND 1962 US STOCK AND STOCK & INDEX DATABASES:

ts_print access:

`ts_print` <request file>

stk_print access:

Shortcuts:

- `stkprint` or `dstkprint` to read the daily CRSP stock database
- `mstkprint` to read the monthly CRSP stock database

Full syntax:

- `crsp_print /d1 database name /s1 10 -`daily
- `crsp_print /d1 database name /s1 20` – monthly

ccm_print access:

Shortcut:

- `ccmprint` – to read the CRSP/Compustat Merged database

Full syntax:

- `crsp_print /d1 ccm database name` – full syntax

ind_print access:

Shortcuts:

- `indprint` or `dindprint` – for daily index access
- `mindprint` – for monthly index access
- `dindprintg` – for accessing deciles within the daily index groups
- `mindprintg` – for accessing deciles within the monthly index groups

Full syntax:

- `crsp_print /d1 database name /sl 460 -`
  for daily index access
- `crsp_print /d1 database name /sl 420 -`
  for monthly index access
- `crsp_print /d1 database name /sl 440 -`
  for accessing deciles within the daily index groups
- `crsp_print /d1 database name /sl 400 -`
  for accessing deciles within the monthly index groups

SAS PROGRAMMING NOTES:

IMPORTANT!

For users on Windows platforms, this version of the CRSP tools is not fully supported with the current SAS engines. If you are using the CRSP tools for only the SAS engine, continue to use your current version. If you use the SAS engine and the CUPL command line tools and wish to upgrade, do not overwrite your existing installation that works with SAS. You can maintain multiple versions of the CUPL tools on your system, but will need to change your environment variables when switching between the two.

Two SAS engines are available:

- The original SASECRSP Interface Engine is supported in SAS versions as far back as 9.1.3. While this engine remains available, SAS recommends that users move to the SASEXCCM engine.

  To access the SASECRSP Interface Engine chapter for the SAS/ETS 13.1 User's Guide, go to: http://support.sas.com/documentation/cdl/en/etsug/66840/HTML/default/viewer.htm#etsug_sasecrsp_toc.htm

- The SASEXCCM Interface Engine includes support for all stock, index, and CRSP/Compustat Merged database. This engine went into production starting with SAS v940m1, which was the first maintenance release of version 9.4. This engine utilizes the ETS 13.1 module.

  To access the SASEXCCM Interface Engine chapter for the SAS/ETS User's Guide, go to: http://support.sas.com/documentation/cdl/en/etsug/66840/HTML/default/viewer.htm#etsug_sasexccm_toc.htm

- The pdf version of the guide can be found at http://support.sas.com/documentation/cdl/en/etsug/66840/PDF/default/etsug.pdf

C AND FORTRAN SUPPORT

Programming libraries for C and Fortran are compiled for 32- and 64-bit computers. Sample programs are provided for the CRSP 1925 and 1962 US Stock and US Stock & Indexes Databases.

While CRSP continues to support the original set-based data access through the libraries, we encourage subscribers to use the item-based access that was introduced in 2008. Item-based sample programs are provided in the sample* folder that installs with the software and include _itm_ in their names.

Sample C programs are provided for the new CRSP 1925-E Stock & Indexes Database. New sample C programs include:

- sizitm_samp1.c
- sizitm_samp2.c
- sizitm_samp4.c
- ind_sizitm_samp1.c
- ind_sizitm_samp2.c
- ccm_siz_samp1.c

ts_print is a command line executable program that can be used to access data from the CRSP Stock, Stock & Index, and CRSP/Compustat Merged Databases. Users control all of the specifications of reports through the request files. A solid understanding of CRSP data will allow users to maximize the potential of ts_print.

CRSP-Centric Mode

Accessing Compustat data through ts_print is CRSP-centric, meaning that the recommended primary access key in this mode is CRSP PERMNO or PERMCO. In CRSP-Centric mode a composite record is built using the CRSP Link reading one or more GVKEYs, creating a seamless one-to-one access with the CRSP database.

TS_PRINT REQUEST FILE

It is necessary to create the request file, a text input file, to run ts_print. The request file contains specifications for the data and for the report format. Every request file must contain four components: ENTITY, ITEM, DATE, and OPTIONS.

SECTION	DESCRIPTION
ENTITY	One or more selected securities, a precalculated CRSP supported index, or a user-defined portfolio.
ITEM	One or more ts_print supported data item.
DATE	Dates for output can be a set of absolute date ranges or relative dates.
OPTIONS	Controls the format and location of the output file.

Request File Rules

Descriptions in ts_print documentation use the request file rules below.

- Comment lines have a pound (#) sign in the beginning of the line, and are ignored by the application.
- Blank lines are ignored by the application.
- Names in uppercase COURIER in the documentation are keywords and must be typed as shown. ts_print is case sensitive.
- # in the documentation (excepting comment lines) represents an integer to be supplied by the user.
- Z represents an alphanumeric character to be supplied by the user.
- Names in lowercase courier are replaced by the user. For example, filename is replaced by the name of a user's file.
- Anything in brackets is optional. If names in brackets are used, the punctuation in the bracket is required. Brackets do not appear in the request file.
- Two or more keywords on a line must be separated with the pipe (|) character. Information specifying a keyword must be on the same line as the keyword. Additional keywords can also be placed on multiple lines; in this case the first line does not end in a pipe character.

While a request file can be run on more than one system, CRSP recommends creating and editing the specifications file on the same system you intend to run it. PC text editors insert carriage return characters at the end of lines which may not be readable on Linus systems.

Each component entry, numbered below, consists of three parts:

- A header row which identifies the component: ENTITY, ITEM, DATE, or OPTIONS.
- Center rows describing the desired functions of the component.
- The END row, which closes the component input information.

A basic example follows:

```
1  # Sample request file for price, volume, total return,

   # shares outstanding for a security

2  ENTITY

   LIST|PERMNO 12490|ENTFORMAT 3

   END

3  ITEM

   ITEMID prc

   ITEMID vol

   ITEMID ret

   ITEMID shr

   END

4  DATE

   CALNAME weekly|RANGE 19950101-19950201|CALFORMAT 4

   END

5  OPTIONS

   X ITEM,YES|Y DATE,YES|Z ENTITY,YES,1|OUTNAME finsamp.out|REPNAME Sample One

   END
```

In `ts_print`, ENTITY, ITEM, and DATE identify what your report will contain, and OPTIONS determines how your report will appear.

Explanation of Example Request File

1. Comment lines identifying the request file, and its functionality.

2. In the sample layout above, the `ENTITY` contains one issue, `PERMNO 12490`, with ticker selected as the optional output header (`ENTFORMAT 3`).

3. Under ITEM, price (prc), volume (vol), return (ret), and shares outstanding (shr) information from the daily stock file will be included in the output report. Since no SUBNO is specified, each ITEMID uses the default, SUBNO 0.

4. In this sample, DATE specifies that for each ENTITY and ITEM the report will contain one value each week (CALNAME). The source of the ITEMs selected above is the daily stock file. Thus, the weekly value for daily ITEMs is a weekly summary of the selected daily data items. In this case, prc and shr are prices and shares at the end of period, vol is the sum of volumes during the week, and ret is the compounded daily return during the week (dividends reinvested on the ex-date), reported between January 1, 1995 and February 1, 1995. Each date in the output will be in a MM|DD|YYYY calendar format (CALFORMAT 4).

5. The OPTIONS selected assign data to X, Y, and Z axes. ITEM options will be displayed on the X-axis, the DATE options on the Y-axis, and the entities will append themselves to the date or Y-axis. (This is indicated by the number 1 at the end of the Z options.) The YES in each of the axis groups indicates that the report will contain headers on each axis. finsamp.out is the name of the output file (OUTNAME) and Sample One is the report title in the output file (REPNAME).

ENTITY SPECIFICATION

There are three ways to describe entities in the ts_print request file:

LIST	Selects one or more issues. These can be specified by individual PERMNOs, PERMCOs, Header CUSIP, Historical CUSIP, Header Ticker, GVKEY, and Historical SIC Code, on one or more rows, with a predefined input file, or by ALL, which selects all issues available in the CRSP database.
INDEX	Selects precalculated index series supported by CRSP, identified by INDNO.
PORT	Describes a user-defined portfolio specified in a predefined input file assigned one of the following keys: PERMNO, PERMCO, Header CUSIP, Historical CUSIP, Header Ticker, GVKEY, or Historical SIC Codes. PORT can also be used with the ALL option, to include all issues in the portfolio. Each user-defined Portfolio may contain an unlimited number of issues.

The ENTITY component entry consists of three parts:

- The ENTITY heading row which identifies the component,
- The center row(s) which details the desired entities and options related to the entities, and
- The END row, which closes the ENTITY information.

Heading Row:

```
ENTITY
```

Center Row(s):

Primary identification options contain additional and possible ENTITY qualifiers:

```
LIST|PERMNO # or |PERMCO # or|GVKEY # or |CUSIP # or |HCUSIP # or
|TICKER # or |SICCD #|EVDATE #|USERHEAD text|ENTFORMAT #|ISSUERANGE #-#
```

or

```
LIST|FILE filename, format F1**(#,#)[D1(#,#),D2(#,#)SD (text)] or
F2DLZ**[D1D2SD]|EVDATE #|ISSUERANGE #-#|USERHEAD text|ENTFORMAT #
|EXCHANGE #[,#]
```

or

```
|SHARETYPE #,#[,#]or |NMSIND #[,#] or |SIC #[-#][,#[-#]
```

```
(** is the two character code for the key used in the input file. PE=PERMNO, PC=PERMCO, GV=GVKEY,
CU=CUSIP, HC=Historical CUSIP, TI=Header Ticker, and SI=Historical SIC Code.)
```

or

```
 LIST|ALL|ENTFORMAT #|EXCHANGE #[,#] and/or |SHARETYPE #,#[,#] and/or
|NMSIND #[,#]and/or |SIC #[-#][,#[-#]
```

or

```
INDEX|INDNO #|ISSUERANGE #-#|ENTFORMAT #|USERHEAD text |EXCHANGE #[,#]
and/or |SHARETYPE #,#[#] and/or |NMSIND #[,#]
```

or

```
PORT|FILE filename F1**(#,#) [D1(#,#),D2(#,#),WT#,ID#] or
F2DLZ**[D1D2WTID]|WEIGHT weighttype|EXCHANGE #[,#] and/or |SHARETYPE
#,#[,#] and/or |SIC #[-#][,#[-#]
```

```
(** is the two character code for the key used in the portfolio input file. PE=PERMNO, GV=GVKEY,
PC=PERMCO, CU=CUSIP, HC=Historical CUSIP, TI=Header Ticker, and SI=Historical SIC Code.)
```

or

```
PORT|ALL|WEIGHT weighttype|EXCHANGE #[,#] and/or |SHARETYPE #,#[,#]and/
or |NMSIND #[,#] and/or |SIC #[-#][,#[-#]
```

End Row:

```
END
```

Following are examples which demonstrate the two primary ways to set up the ENTITY component of your request file. The first pulls data for each of the supported keys. The second uses a semicolon-delimited input file which is keyed on CUSIPs and specifies event dates.

e.g.

```
ENTITY
LIST|PERMNO 43916
LIST|PERMCO 20583
LIST|GVKEY 6066.01
LIST|CUSIP 25384910
LIST|HCUSIP 25384910
LIST|TICKER DEC
LIST|SICCD 3573
INDEX|INDNO 1000080
END
```

e.g.

```
ENTITY
LIST|FILE ts_list.txt,F2DL;CUD1
END
```

input file ts_list.txt contains:

```
59491810;19900101
45920010;19700101
03783310;19850101
25384910;19800101
```

ENTITY KEYWORDS AND USAGE

The capitalized words in courier font need to be used as is. Lowercase words and symbols in courier font indicate user-specified information.

PRIMARY IDENTIFICATION OPTIONS:

1. LIST IDENTIFIER

Indicator that for each use, a single key or file containing one supported key will be used to identify an ENTITY.

To access CRSP stock data, the `stk_print` and search functions dstksearch and mstksearch can be used to identify PERMNO, PERMCO, company name, CUSIP, and ticker by searching the header file.

POSSIBLE KEYS INCLUDE:

PERMNO

One CRSP PERMNO, (permanent and unique 5-digit issue identification number assigned by CRSP) of an issue where # is the PERMNO. For example, the PERMNO for International Business Machines Corp. (IBM) is 12490. Syntax is:

```
LIST|PERMNO 12490
```

PERMCO

One CRSP PERMCO, (permanent and unique 5-digit company identification number assigned by CRSP) of an issue where # is the PERMCO. For example, the PERMCO for International Business Machines Corp. (IBM) is 20990. Syntax is:

```
LIST|PERMCO 20990
```

CUSIP

One current header CUSIP where # is the desired CUSIP. For example, the CUSIP for International Business Machines Corp. (IBM) is 45920010. CRSP stores CUSIPs as 8-characters. This means that the electronic check-digit in the 9th position is not included and will not be recognized by the program.

Syntax is:

```
LIST|CUSIP 45920010
```

HCUSIP

One historical CUSIP where # is the desired historical CUSIP. For example, the HCUSIP for International Business Machines Corp. (IBM) is 45920010. If a security's CUSIP has never changed, HCUSIP will always match CUSIP. Syntax is:

```
LIST|HCUSIP 45920010
```

TICKER

One ticker where # is the desired header ticker symbol. For example, the ticker for International Business Machines Corp. (IBM) is IBM. Syntax is:

```
LIST|TICKER ibm
```

SICCD

One SIC Code where # is the desired historical SIC Code. A user can enter a SIC Code to extract all securities with that particular code. Syntax is:

```
LIST|SICCD 3571
```

GVKEY

The GVKEY key for selecting entities based on Compustat's company level identifiers allows also for an issue level identifier, or IID, suffix. GVKEY and IID are separate by a period. For example:

```
LIST|GVKEY 6066.01
```

will return the PERMNO for the issue specified by the IID .01 for GVKEY 6066.

```
LIST|GVKEY 6066
```

will return the primary PERMNO or default linked GVKEY.

All links to CRSP can produce security level links to Compustat records. A Compustat GVKEY and IID are indicated for each period. Any security level items will be selected directly from the indicated IID.

ALL

All PERMNOs in relevant databases are used. Relevant databases are determined by the data items (daily or monthly) selected. When this option is used, issues with no data inside the selected date range are ignored.

ENTITY INPUT FILE

Indicator that an input file containing a supported key (required), date(s) (optional), and headers (optional) will be used. For example a PERMNO input file for use with relative dates containing a user-defined header would look like the following:

```
10107 19900101 Microsoft
12490 19700101 IBM
14593 19850101 Apple
43916 19800101 Digital
```

INPUT FILE OPTIONS

Format specification of the input file is required. Two types of formats are supported, F1 and F2. F1 is used when the input file is fixed-width. F2 is used when the content of the input file is delimited with a one character delimiter.

F1 - FIXED WIDTH

Input file data are in fixed positions. Each code is followed by character positions in the form (begpos, endpos). begpos is the first character position in the input file that contains the data for that specification, endpos the last.

PE PERMNO of the input security

PC PERMCO

GV GVKEY

CU Header CUSIP

HC Historical CUSIP

TI Header Ticker

SI Historical SIC Code

D1 Beginning date of a date range or a single event date, in YYYYMMDD format. If a relative calendar is used, D1 is the event date for the security. If an absolute calendar range is used, and D1 and D2 are specified, valid data output is the cross-section of the security's trading history, the DATE component date range, and the range set by D1 and D2.

D2 Ending date of a date range, in YYYYMMDD format.

SD Short Description to supply header text for the security, up to 20 characters long.

For example, if your input file named permin.txt contains PERMNOs in the first 5 character spaces, followed by the beginning date (D1) starting in the 7th character position and end date (D2) starting in the 16th character position of data desired for each PERMNO, where permin.txt contains:

```
10107 19900101 19901231 Microsoft
12490 19700101 19701231 IBM
14593 19850101 19851231 Apple
43916 19800101 19801231 DEC
```

your ENTITY portion of the request file would look like this:

e.g.

```
ENTITY
LIST|FILE permin.txt,F1PE(1,5)D1(7,14)D2(16,23)SD(25,35)
END
```

Notes:

- Header data are current or the most recent identifying data on the file.

- Historical data search the name history file for any occurrence of that identifier over time.

- Tickers are only included in the header file if the company is active at the time the file was created. Additionally, if a security has a share class, it will be appended to the header ticker; for example, WPO.B is the Washington Post Company, Class B.
- The date range will restrict your selected output values.
- The fields in a fixed-width input file can be positioned in any order with the LIST entity option.
- CRSP stores the 8-character CUSIP. The electronic check digit, or 9th character, is not included and will not be recognized by the program.

If you are using a list of 9-character CUSIPs, you will need to use the F1 formatting option to specify the character positions 1-8 that `ts_print` should consider.

If you are using an input file with a key that does not have a constant number of spaces, such as Ticker Symbol, PERMCO, or SIC Code, we recommend that you use the F2 delimited formatting option.

F2 - DELIMITED FILES

Input file data fields are delimited by a single defined character. The delimiting character is set with the DL code.

e.g. The same request file used in the F1 example, with fields delimited by spaces, would look like the following:

```
ENTITY
LIST|FILE permin.txt,F2DLSPED1D2SD
END
```

DL A delimiter character is used with F2. `ts_print` supports special delimiters: P for pipe, S for space, C for comma (DLP, DLS, DLC) and any other character can be used by adding a character on after DL (DL; for semicolon delimited input).

PE PERMNO of the input security

PC PERMCO

GV GVKEY

CU Header CUSIP

HC Historical CUSIP

TI Header Ticker

SI Historical SIC Code

D1 Beginning date of a date range or a single event date, in YYYYMMDD format. If a relative calendar is used, D1 is the event date for the security. If an absolute calendar range is used, and D1 and D2 are specified, valid data output is the cross-section of the security's trading history, the DATE component date range, and the range set by D1 and D2.

D2 Ending date of a date range, in YYYYMMDD format.

SD Short Description to supply header text for the security, up to 20 characters long.

2. INDEX - INDNO

Indicates that one of CRSP's precalculated indexes will be used to identify an ENTITY.

Each CRSPAccess index is assigned a unique 7-digit identifier, INDNO. There are several standard indexes included with the Stock databases: the CRSP equal- and value-weighted indexes, with and without dividends on the NYSE/NYSE MKT/NASDAQ/ARCA universe, the S&P 500 Composite, and the NASDAQ Composite. Additional indexes are available to subscribers of the CRSP US Stock and Index Database, the Index stand-alone files, and the Cap-based Portfolio reports. Note that only the indexes in the CRSP US Stock or the CRSP US Stock & Index Databases have `ts_print` access. The INDEX entity option is used as follows:

```
ENTITY
INDEX|1000200
END
```

There are a couple of ways to identify desired INDNOs:

- The complete list of all indexes and their INDNOs, which includes a column identifying product availability, in the Data Descriptions Guide, Index Methodologies chapter.
- The index search programs, dindsearch, and mindsearch (see "Search and Inquiry Tools" on page 128), may be used to find available daily or monthly indexes and their INDNOs.

Only a subset of CRSP data items may be used with an index ENTITY type. Please refer to the entity type columns in the `ts_print` Daily and Monthly Data Item Tables at the end of this document to identify available data items.

3. PORT

Indicates that the entity is a portfolio. This option allows for user-created portfolios. There are two methods of selecting issues for your portfolio, and four weight type options. Securities may be selected either by choosing all securities in the database (with or without filters), or individual issues may be included in a user-created portfolio input file. Weight type options include: equal-weight, value-weight, user-specified constant weights and user-specified constant shares. The portfolio id field is optional for all types of portfolios. Only select CRSP data items may be used with an PORT ENTITY type.

ALL

Includes all eligible issues in the stock file for the date range specified. (The date range is specified in the DATE section of the request file.) The equal-weighting and value-weighting options are available when ALL is used. PERMNO is the identifier that must be used with the ALL option.

PORTFOLIO INPUT FILE

Name and specifications of a user-defined input file used to define one or more portfolios. Filename is replaced with the actual name of your input file. The layout of the input file is specified with one of the format options, F1 fixed-width file, or F2 delimited file.

If you are using an input file with a key that does not have a constant number of spaces, such as Ticker Symbol, PERMCO, or SIC Code, we recommend that you use the F2 delimited formatting option.

Guidelines for creating portfolio input files follow:

- Multiple portfolios of the same type can be defined within one input file.
- One type of key identifier is used within a file. Key options include PERMNO, PERMCO, CUSIP, Historical CUSIP, Header Ticker, and Historical SIC Code.
- Portfolio id numbers are needed only if there is more than one portfolio defined within the input file.
- Up to 30 portfolio ids—numbered 0-29—can be defined and assigned within an input file for equal- and value-weighted options.
- Up to 200 portfolio ids—numbered 0-199—can be defined and assigned within an input file for user-defined-share or weight options.
- User-defined-share and weight portfolios require a beginning and ending date range for each security in the input file. Conversely, a single event date and a relative date range will not run with user-defined portfolios.

The following is a sample of an input file for an equal-weight or value-weight portfolio. PERMCO is the assigned key, and there are 3 portfolios, 0, 1, and 2.

```
20990   0
20583   0
8048    2
22426   1
22426   2
25707   2
22506   2
22506   0
```

Each input line for user-weight or user-share portfolios must contain the key, the beginning and ending date ranges or event date for each security, the assigned weight or number of shares, and portfolio id (optional). Following is a sample of an input file for a user-weight or user-share portfolio input file, in the default file format with PERMNO as the assigned key.

```
12490 19970101 19971231 100 0
43916 19961002 19971126 150 0
10107 19950204 19970910 200 2
13311 19970301 19971225 200 1
14218 19930101 19971231 260 2
14593 19960611 19970610 170 1
63255 19970201 19971121 130 2
76597 19950101 19971110 190 2
81191 19970201 19970517 500 1
```

Format codes are assigned to each portfolio input file. The first two characters of the format specification determine whether input fields are in fixed positions (F1) or are separated by a one-character delimiter (F2). Additional characters are used to identify the position of the information in the portfolio input file.

INPUT FILE OPTIONS

See "Input File Options on page 13.

WEIGHT weighttype

Weighting for use with portfolios. Four weights are available: equal_weight, value_weight, user_share, and user_weight.

WEIGHT equal_weight

Specifies equal-weighted results for the selected portfolio. The same value is invested in each eligible security each holding period. The portfolio is reweighted each input period.

WEIGHT value_weight

Specifies valued-weighted results for the selected portfolio. Eligible securities in the portfolio are weighted each input period by their market capitalization at the end of the previous period.

WEIGHT user_share

The user defines the portfolio by weighting issues based on the number of shares specified in the portfolio file. The number of shares specified remains constant throughout the date range unless they are adjusted by stock splits, stock dividends, or other events with price factors. The weights remain constant for each security once established at the beginning of the range. The weights are set each period to the value of shares held at the end of the previous period. To indicate that a portfolio component is sold short, a negative symbol precedes the shares value.

WEIGHT user_weight

The user defines the portfolio by defining the weight for each security specified in the portfolio input file. The portfolio is reweighted each input calendar period to maintain the weighting of eligible securities. User weights are normalized. The weights are based on the sum of the values given and do not need to equal 1. For example, if a two-security portfolio held 40% of one Security A and 60% of Security B, the weights could be expressed as 2 and 3, 4 and 6, .40 and .60, and so on. To indicate that a portfolio component is sold short, you should put a negative symbol before the weight value.

ADDITIONAL ENTITY QUALIFIERS

DATA FILTERS

EXCHANGE #[,#]

EXCHANGE allows the user to filter the trading history of issues on the basis of stock exchange. This option is available when using variations of LIST or PORT as the ENTITY type. Exchange code restriction options are specified in the first #, using the following codes:

1 NYSE
2 NYSE MKT
3 NYSE/NYSE MKT
4 NASDAQ
5 NYSE/NASDAQ
6 NYSE MKT/NASDAQ
7 NYSE/NYSE MKT/NASDAQ

8 ARCA
9 NYSE/ARCA
10 NYSEMKT/ARCA
11 NYSE/NYSEMKT/ARCA
12 NASDAQ/ARCA
13 NYSE/NASDAQ/ARCA
14 NYSEMKT/NASDAQ/ARCA
15 NYSE/NYSEMKT/NASDAQ/ARCA

The second # symbol further refines the selection using 3 flags. These are:

0 keep only during time period when valid
1 keep none if ever invalid
2 keep all if ever valid

For example,

```
PORT|ALL|WEIGHT equal_weight|EXCHANGE 1,0
```

will result in output for an equal-weighted portfolio with all stocks that traded on the NYSE during the time period specified in the DATE option.

SHARETYPE #,#[,#]

SHARETYPE allows the user to restrict the output on the basis of share type for individual securities. This option is available when using variations of LIST and PORT as the ENTITY type. The selection is based on the two-digit CRSP Share Type Code variable. The first two comma-separated number symbols above contain 10 digits each. If the value of a digit is 1, that type of issue is valid and if the value of a digit is 0, that type of issue is ineligible.

Columns for the first two codes can be added to the `ts_print` format to get the desired share code combination. For example, the share type restriction where only ordinary common shares and ADRs representing closed-end funds and closed-end funds incorporated outside the US are included is represented in `ts_print` format is 0101000000,0000110000.

The first # contains 10 digits relating to the security. These options are:

CODE	DEFINITION	TS_PRINT FORMAT
1	Ordinary common shares	0100000000
2	Certificates, Americus Trust Components	0010000000
3	ADRs (American Depository Receipts)	0001000000
4	SBIs (Shares of Beneficial Interest)	0000100000
7	Units (Depository Units, Units of Beneficial Interest, ETFs, and Depository Receipts, etc.)	0000000100

The second # contains 10 digits relating to the security type. These options are:

CODE	DEFINITION	TS_PRINT FORMAT
0	Securities which have not been further defined	1000000000
1	Securities which need not be further defined	0100000000
2	Companies incorporated outside the US	0010000000
3	ETFs and Americus Trust Components (Primes and Scores), HOLDR Trusts, and Index Fund Trusts	0001000000

CODE	DEFINITION	TS_PRINT FORMAT
4	Closed-end funds	0000100000
5	Closed-end fund companies incorporated outside the US	0000010000
8	REITs (Real Estate Investment Trusts)	0000000010

The third # symbol further refines the selection criteria using 3 flags. These are:

0 keep only during time period when valid

1 keep none if ever invalid

2 keep all if ever valid

For example,

```
LIST|ALL|SHARETYPE 0001000000,0010000000,0
```

will restrict the output to securities that have share codes identifying them as American Depository Receipts (ADRs) and companies incorporated outside the US.

NMSIND #[,#]

NASDAQ National Market Indicator. NASDAQ issue range restriction is applicable to variations of LIST and PORT as the ENTITY type. Each # represents a single integer. When the NMSIND option is used, only NASDAQ issue ranges are restricted. It has no effect on ranges that match NYSE and NYSE MKT name structures. The first # symbol ranges from 1 to 7. Each number has the following meaning:

Default keep all markets

1 keep NASDAQ National Market and Global Markets

2 keep NASDAQ SmallCap and Capital Market

3 keep all NASDAQ markets with price reporting

4 keep NASDAQ SmallCap before June 15, 1992

5 keep National Market and Global Select Market only

6 keep National Market and Global Market only

7 keep Global Select Market only

The second # symbol further refines the selection using 3 flags. These are:

0 keep only during time period when valid

1 keep none if ever invalid

2 keep all if ever valid

For example, LIST|ALL|NMSIND 2,0 will restrict the output to NASDAQ SmallCap and Capital Market securities.

SICCD#-#[,#-#...],#

SIC issue range restriction is applicable to LIST and PORT as the ENTITY type. Each # represents a single SIC Code. You can filter the data to output a list of securities from a range of SIC values or individual SIC values with the following syntax: SIC #[-#][,#[-#].

For example, LIST|ALL|SIC 1000-2000,3725 would extract all securities with SIC Codes between 1000 and 2000, and all with and SIC code of 3725.

ENTITY SUBSETTING

CRSP provides functionality supporting the subsetting of a larger universe based on a pre-defined constituency. Two supported options require CRSP Stock and Index databases: Grouping by the S&P 500 constituency, and subsetting a portfolio based on portfolio assignment.

Pre-Defined Group Membership

```
|GROUP group_subflag;grouptype;grouplist
```

Where `group_subflag` is one of:

0 Restrict time periods based on selected list

1 Erase if not always valid based on selected list

2 Keep if ever valid based on selected list

`grouptype` is the group type used as the basis for restrictions. Note: 16 is currently the only valid grouptype value, representing S&P 500 constituency.

`grouplist` provides the group list to keep in the subset.

Portfolio Assignment

```
|PORTASSIGN port_subflag;porttype;portlist
```

Where port_flag is one of:

0 Restrict time periods based on selected list

1 Erase if not always valid based on selected list

2 Keep if ever valid based on selected list

`porttype` is the portfolio type used as the basis for restrictions.

`portlist` provides the portfolio assignments to keep in the subset.

ENTITY DATE OPTIONS

The event date is in YYYYMMDD format for a PERMNO. A single EVDATE is required for all securities identified with LIST|PERMNO if the calendar type in the DATE component is RELATIVE, and is ignored otherwise. EVDATE does not work with indexes or portfolios.

For example, LIST|PERMNO 12490|EVDATE 19991231 used in the body of the ENTITY section would apply relative dates, defined in the date section of the request file.

For example:

```
EVDATE #
ENTITY
LIST|PERMNO 12490|EVDATE 19991231|ENTFORMAT 1
END
ITEM
ITEMID ret|SUBNO 0
END
```

```
DATE
CALNAME daily|RELATIVE -2,3
END
OPTIONS
X ITEM,YES|Y DATE,YES|Z ENTITY,YES,3
END
```

ISSUERANGE #-#

Issue date range is optional and must be followed by beginning and ending dates, connected with a dash when included. Dates may be in YYYYMMDD, YYYYMM, or YYYY format. For formats that do not specify months or days, the beginning date in the range will start with the first period within the specified range. The ending date will be the last period in the range.

When ISSUERANGE is included for an issue, the valid data output is the cross-section of the security's trading history, the DATE component date range, and the ISSUERANGE date range. ISSUERANGE must fall within the date range set in the DATE component of the request file. Note that ISSUERANGE must also exceed the duration of the calendar. For example, if your calendar is set to report annually, ISSUERANGE must be greater than 12 months.

```
ENTITY
LIST|PERMNO 77702|ISSUERANGE 200605-200703|ENTFORMAT 1
END
ITEM
ITEMID ret|SUBNO 0
END
DATE
CALNAME daily|RANGE 20060401-20071231
END
OPTIONS
X ITEM,YES|Y DATE,YES|Z ENTITY,YES,3|NOFILL
END
```

In the example, LIST|PERMNO 77702 | ISSUERANGE 200605 - 200703 will return daily data from May 1, 2006 through March 31, 2007.

ENTITY HEADER OPTIONS

USERHEAD text

Used to specify alternate output headers (short descriptions) for the ENTITY. The default headers, are PERMNO in LIST, INDNO in INDEX, or the portfolio identification number prefixed with the word "PORT", in PORT. The USERHEAD string can be up to 20 characters including spaces and must be specified manually. USERHEAD is assigned on a security by security basis.

For example, LIST|PERMNO 12490|USERHEAD IBM - 45920010 used in the body of the ENTITY section would use the Ticker and CUSIP as the header for security in the output file.

ENTFORMAT

Provides standard issue identification options for the output report file's header for security entities. Options include:

1 PERMNO, the default
2 CUSIP
3 Ticker symbol, header
4 Company Name, header. These may be up to 20 characters long.

ENTFORMAT is superseded by SD option with a formatted, predefined input file. This option is only available for securities.

For example, LIST|PERMNO 12490|ENTFORMAT 1 used in the body of the ENTITY section would print 12490 (the PERMNO) as the header in the output report.

Note that USERHEAD overrides short description (SD) from an input file for supplying headers and will label all entities identically.

ITEM SPECIFICATION

Data items are selected using a mnemonic name called ITEMID. Optional qualifiers, SUBNOs, can be used to further define the data item. See page 36 for a complete list of supported `ts_print` daily and monthly data items. Items are organized alphabetically by item name, and contain the following information for CRSP stock and index data:

- Item identifier (ITEMID)
- SUBNOs, to further define a data item, where SUBNO 0 is the default.
- Default header for each ITEM as it appears in the output file
- Default data item formatting
- Compatible ENTITY types

There are daily and monthly sets of CRSP data items. Monthly CRSP ITEMIDs are generally the same as daily, but are prefixed with an "m". CRSP stock and index items can be included in the same report. A given stock report generally should contain either daily or monthly data items.

Each ITEMID selected will generate one output for each ENTITY per DATE. The ITEM specification consists of three parts:

1. The ITEM header row which identifies the component
2. The center row(s) which detail(s) the desired data items
3. The END row, which closes the item input information

A summary of the ITEM component specifications follows:

Heading Row:

```
ITEM
```

Center Row:

```
ITEMID mnemonic | SUBNO # | ITEMLAG # | SDESC text | FORMAT m.n |
DATALEN #
```

End Row:

```
END
```

Each data item is assigned an ITEMID with an associated SUBNO. For CRSP stock and index data, the ITEMID identifies a data item and the SUBNO can indicate a variation of an item. Not all ITEMIDs have more than one SUBNO. Following is an example of a sample ITEM section. SUBNO 0 is the default for all data items and may be omitted in the request file.

Compustat data items use a keyset in place of a SUBNO.

Your product mix determines which of these are available. Additional indexes and portfolio types are available when using the CRSPAccess stock data in conjunction with the CRSP US Index Database and Security Portfolio Assignment Module.

DATA ITEM KEYWORDS AND USAGE

The keywords used to identify items are described below. Details for each of the data items can be found in the `ts_print` Daily and Monthly Data Item Tables. Please refer to these tables when creating your input file.

ITEMID

CRSP ITEMIDs are mapped to all raw and derived data items and serve as the primary item identification code for the specific data item requested. CRSP item definitions can be found in the Data Definitions Guide.

ITEMIDs may be defined by secondary identifiers:

SUBNO

Represents a variation of the item. For example, the data item Price (ITEMID prc) has 2 SUBNOs. SUBNO 0 = last price and SUBNO 1 = last non-missing price. For all data items, SUBNO 0 is the default and may be left off of the item specification row in a request file.

```
ITEMID prc
ITEMID prc | SUBNO 1
```

INDNO

Represents an associated index series used with the specified item. Items associated with an index are identified in the `ts_print` Daily and Monthly Data Item Tables with “indno” in the column labeled “Subno”. A full list of indexes is provided here.

```
ITEMID indtret | SUBNO 1000081
```

Keyset Usage for Stock

The portype and grouptype values for Portfolios and Groups may be accessed as either porttype and grouptype values or keyset offsets.

Daily porttype values 1-9 equate to keyset values 101- 109

Monthly porttype values 1-8 equate to keyset values 201-208

Grouptype values 1-50 equate to keyset value 301-350. *Note that S&P 500 Constituents is the only valid group, represented by grouptype 16 or keyset 316.*

The advantage to using keyset offsets is that they provide unique values across all frequencies of databases.

PORTTYPE

Represents an associated portfolio type used with the specified item. Each portfolio type represents a portfolio based on market capitalization within a market segment index. Items associated with a portfolio are identified in the `ts_print` Daily and Monthly Data Item Tables with "porttype" in the column labeled "Subno".

Data may be accessed with either `SUBNO` or with keyset offsets as described above.

```
ITEMID porttret|SUBNO 1
```

is equivalent to the following (for daily data):

```
ITEMID portret|keyset 101
```

KEYSET (for Compustat data items)

Qualifies `ITEMID` by specifying secondary keys. `KEYSET` must be followed by a numeric value. If no `KEYSET` is provided, the default is used.

```
ITEMID saleq|keyset 2
```

KEYHDR

Qualifies `ITEMID` by defining how the default item header is modified by the keyset that is used. Options include:

TAG

Returns the item header followed by an underscore and the keyset's TAG.

Example: for the Standard keyset for Sales:

`KEYHDR TAG` will result in the header `SALE_STD`

NUM

Returns the item header followed by an underscore and the keyset's NUM.

Example: for the Standard keyset for Sales:

`KEYHDR NUM` will result in the header `SALE_1`

NONE

Returns no keyset information with the item header.

Example: for the Standard keyset for Sales:

`KEYHDR NONE` will result in the header `SALE`

CURRENCY

Forces all monetary output for the selected item into a given currency. It is followed by codes:

USD US dollars

CAD Canadian dollars

Example:

```
ITEMID sale 2 | KEYHDR NONE | CURRENCY USD
```

The Compustat default is to present data in the native currency of the filing. `Ts_print` follows this same rule. Currency translation is applied to the data in their original time series periods and then mapped to the output calendar selected by the user. If no currency translation rate is available and the CURRENCY selected is different from the reported currency, all missing values are reported.

ITEM USAGE FOR COMPUSTAT DATA

Two pieces of information are needed for accessing Compustat data items:

Itm_name The CRSP-assigned name attached to a Compustat mnemonic. For most items, the CRSP itm_name is identical to the Compustat mnemonic name. In rare situations, CRSP has assigned a new name to preserve unique items acrpss Compustat and CRSP products. In `ts_print` request files, itm_names are specified with ITEMID, just as CRSP stock items.

Keyset The CRSP-assigned numeric representation of Compustat secondary keys needed to uniquely identify an itm_name's series. Secondary keys can distinguish series of the same items by such criteria as data format, industry format, consolidation level, and population source. CRSP assigns a default keyset to each item that will be used if keysets are not specified.

FINDING ITEM NAMES AND KEYSETS

CRSP directs subscribers to S&P's Compustat documentation for item names, definitions, and methodology at https://www.compustatresources.com/support/. Compustat has created Excel worksheets that cross-reference the old FTP item numbers and the new Xpressfeed data items. Not all items have one-to-one mappings.

UNPOPULATED DATA ITEMS

Many items are defined by Compustat but contain no data for any date range. `ts_print` excludes these items. If they are included in a request file, `ts_print` will report them as unknown items.

Not all items defined by Compustat are populated for all possible keysets. If an item is selected with an unpopulated keyset, it will be reported as unavailable.

ITEM QUALIFIERS

SDESC

Short text description allows you to override the default header text. The default item headers are listed in the Daily and Monthly data item tables. To customize a header for an item, use the SDESC qualifier. For example, to change a modified header for the return item RET would look like the following:

```
ENTITY
LIST|PERMNO 12490|ENTFORMAT 1
END
ITEM
ITEMID ret|SUBNO 0|SDESC TotRet
END
DATE
CALNAME daily|RANGE 20140601-20140831
END
OPTIONS
X ITEM,YES|Y DATE,YES|Z ENTITY,YES,3|OUTNAME C:\Users\janet\Documents\CRSPSift\test.txt|NOFILL
END
```

The short description may contain up to 20 characters.

FORMAT

Allows you to modify the output formatting assigned to a data item. While CRSP recommends keeping with the defaults set for data formats, there are two ways to specify the format. The first is in the form m.n, where m is the number of digits allocated to the left of the decimal point in the output, and n is the number of digits to the right of the decimal. The n is optional. It is ignored for integer fields. If n is not specified in the floating point fields, no decimal is printed. The second method of data item formatting uses output specifiers from the C programming language. The default C format for each ITEMID is listed in the Format column of the Daily and Monthly data item tables on page 36.

DATALEN

The number of characters needed to store the output data to override the default. This should be at least as large as any field width specified in the format. This field should be modified when you wish to assign the field a header which does not fit within the default FORMAT for the ITEMID.

The default data length for each item has been set to produce an output file that is easily readable. If you are importing the data into another program for additional data manipulation, you may choose to change the DATALEN (data length) field. This is particularly true with the character fields. The non-character fields may add spaces to the total allocated. If this occurs, use the FORMAT field to correct the total spaces for importing. When manipulating the format this way, you are not able to justify the fields. Character fields default to left justification.

DATE SPECIFICATION

The DATE component sets the calendar used in your output. It is the periodicity with which an output value will be included for each data item. This is independent of the reporting frequency of the data. Either a date range or a relative date may be selected. Output is based on one of five calendars in the database: daily, weekly, monthly, quarterly, and annual. The ranges can be either the same for all input entities, or based on an event date for each entity.

CCM Semi-annual Calendar

A semi-annual output calendar is provided that can be used in any request. The CALNAME used is semiann.

Compustat includes semi-annual data items and CRSP provides these items as semi-annual time series. One value per year at the midpoint between fiscal year-ends. Annual or quarterly items must be used to fill in the second half of the fiscal year.

CRSP software first looks for the daily stock calendar, then the monthly stock calendar, then the CCM calendar Because the semi-annual calendar resides only in the CCM database, its use requires an override of the CRSP daily and monthly calendars.

To invoke `ts_print` and override the calendar, use the following:

```
ts_print_itm.exe filename.rqt output.out
"CRSP_CAL=CRSP_CCM"
```

Data may be presented in using date ranges or relative dates. Date ranges have fixed beginning and end dates and apply globally. Relative dates require and return data around a specified event date. Event dates are provided when Entities are added or included in Entity input files.

The DATE component consists of three parts:

1. The DATE heading row which identifies the component
2. The DATE center row(s) which detail(s) the desired calendar information
3. The END row, which closes the DATE input information

A summary of the DATE component specifications follows.

Heading Row:

```
DATE
```

Center Row:

```
CALNAME text or CALFILE filename | RANGE (or ABSOLUTE) or
RELATIVE dates | FISCAL | CALFORMAT # | DISPLAY # [-#] [,# [-#]…
```

End Row:

```
END
```

The calendar name or a user-specified calendar file and either an absolute date, relative range must be chosen. The default calendar format is YYYYMMDD, but other calendar output formats are available, including YYMMDD, MM/DD/YY, MM/DD/YYYY, and DD-MMM-YYYY.

Following are examples. The first example will produce quarterly output for each of the data items in the date range between January 1, 1980 and December 31, 2007. The calendar indicates the frequency of the data items selected for the report. The second example will report on a daily basis a total of 5 days, from 5 days before the event date, the event date (EVDATE), and 5 days after the event date. The event date for each entity is specified in the ENTITY specification section of your input file.

e.g.

```
DATE
CALNAME quarterly|RANGE 198001-200712
END
```

e.g.

```
DATE
CALNAME daily|RELATIVE -5,5
END
```

Compustat Fiscal usage (see the FISCAL option below for details):

```
DATE
CALNAME annual | range 2000-2007 | FISCAL |
CALFORMAT 6
END
```

DATE KEYWORDS AND USAGE

The keywords used to identify the report date are described below.

CALNAME

The name of an existing calendar to set the frequency of reporting in the output file. `ts_print` supports reporting for Daily, Weekly, Monthly, Quarterly, Semi-Annual (for Compustat data), and Annual Calendars. Data items can be used with any of the supported calendars. Input data frequency is determined by the data item specified in the ITEM section. The supported calendars must be chosen from the following table:

CALNAME	CALENDAR DESCRIPTION
Daily	CRSP Daily Stock Calendar
Weekly	CRSP Weekly Stock Calendar
Monthly	CRSP Monthly Stock Calendar
Quarterly	CRSP Quarterly Stock Calendar
Semi-Annual	Compustat Semi-Annual Calendar
Annual	CRSP Annual Stock Calendar

CALFILE filename

CALFILE allows user to supply an output calendar from a file in place of standard CRSP calendars selected with the CALNAME option. Filename refers to a file containing calendar dates, one per row, in

date order, in YYYYMMDD format. Data items are converted to the user's calendar for output.

RANGE daterange

The fixed date range from which `ts_print` reports data. Ranges can be expressed as YYYY, YYYY-YYYY, YYYYMM, YYYYMM-YYYYMM, YYYYMMDD, or YYYYMMDD-YYYYMMDD. If only a month or year is specified, all dates in the calendar belonging to that month or year are included. If the chosen dates are not in the selected calendar, the beginning range uses the first available date in the calendar and the ending range uses the last available date in the calendar. Output will be produced for all entities for all items for each period in the range. If the entity does not have data during the range or is restricted by the date range selected in the ENTITY description section, missing values will be included in the output report.

RELATIVE daterange

The event time range of a report used to select data for entities based on an entity-specific event date. Ranges are expressed as the first period relative to the event date followed by a comma and the last period relative to the event date. A range before the event date is indicated as a negative number. For example, -5,10 would report 5 periods before the event date set in the ENTITY component and 10 period after. The period is the CALNAME you choose. The event date is indicated as 0.

The RELATIVE date is dependent on the event date EVDATE value in an input ENTITY component. Using this option, RELATIVE -5,6, for example, would return results for the five reporting dates before the event date, the event date period, and the six reporting periods after the event date. Only one event date per entity can be specified with this option.

It is useful to include the ITEMID caldt (mcaldt), or altdt (maltdt) in the output file to see the actual dates for each entity when using relative dates.

CALFORMAT

A numeric code for the formatting of the dates appearing in the output when date headers are chosen. Options include:

CODE	FORMAT	EXAMPLE
1	YYYYMMDD (default)	20071231
2	YYMMDD	071231
3	MM/DD/YY	12/31/07
4	MM/DD/YYYY	12/31/2007
5	DD-mmm-YYYY	31-Dec-2007
6	Cal-Based	2007.4

DISPLAY #[-#][,#[-#]]...

Enables the user to control exactly which output periods appear in the output.

This does not affect calculations, just which dates are displayed. It can be used with RANGE or RELATIVE dates. The display range must fall within the full selected range. For example, if RELATIVE -100,100|DISPLAY -100,-1-1,100 is used, data will be calculated for the range 100 days before event date to 100 days after event date, but only days -100, -1, 0, 1, and 100 will appear in the output. If RANGE 20030102-20030630|DISPLAY 20030102,20030415-20030418,20030615 is used, data will be calculated for the first half of 2003, but only days 20030102, 20030415, 20030415, 20030416, 20030417, and 20030615 will appear in the output.

FISCAL

It is often desirable to output the CRSP/Compustat Merged fundamental data items based on the company's fiscal year. A fiscal calendar option is available to do so. Compustat fundamental data are grouped and restricted by Data Year, which is determined by where a company's fiscal year falls within the calendar year ending December. The default in `ts_print` for presenting Compustat data is the Calendar year though users may switch to a Fiscal Year option.

The Fiscal Year output option is available when using Compustat data alone or in combination with CRSP stock data. The Compustat data are displayed in the year where most activity occurs.

Note: When CRSP and Compustat data are extracted together and using the fiscal calendar, the CRSP data will align with the fiscal Compustat data items. As an example, for a company with a March 2007 fiscal year end using an annual output fiscal calendar:

```
CALDT       Sales               Prc
2006        25000               15.50
```

The March Sales data will align with the 2006 calendar, for most activity occurred within that year. The price associated with the 2006 year is the March 2007 month-end price.

If a monthly output fiscal calendar is used:

```
CALDT   Sales       Prc
200606  25000       14.00
200607  25000       14.38
…
200612  25000       15.50
```

200606 represents the 6th month in the 2006 fiscal year, which equates to the September month-end 2006 price The 200612 price represents the 12th month in the 2006 fiscal year, which is the March 2007 month-end price.

OPTIONS AND OUTPUT SPECIFICATION

Each data point represents the data ITEM value for one ENTITY on a given DATE. These three points are plotted in a table to produce the report or output file. The OPTIONS component specifies the appearance of the output file.

1. A heading row which identifies the component.

2. Center rows describing the desired output options.

3. The END row, which closes the OPTIONS component input information.

Full syntax for an OPTIONS component is:

```
OPTIONS

X type[,headers]|Y type[,headers]|Z
type[,headers],zflag#

|OUTNAME filename|REPNAME text|FIELDDELIM
text|BUFSIZE #|NOFILL

|CHARDELIM text|ROWDELIM #,#|DEFAULT
#|COMPACT|PARTIAL 1|DLRET DEFAULT

|DLRET [filename]|PRIMARY|CURRENCY USD

END
```

The following example contains the required X, Y, and Z axes specifications. Output will include columns with data for each ENTITY and rows with ITEMs and DATEs, sorted by ITEM, then DATE. `ts_print` will generate an output file named ts_samp3.dat (OUTNAME) into the working directory. The report will have a heading called Sample 6.

e.g.

```
OPTIONS

X ENTITY|Y DATE|Z ITEM,3|OUTNAME ts_samp3.
dat|REPNAME Sample6

END
```

REPORT OPTIONS KEYWORDS AND USAGE

Row and Column Assignment

X-axis, Y-axis, and Z-axis assignments are mandatory, and must allocate ENTITY, ITEM, and DATE to the graphical axes.

type

Used to assign the data components to the axes with one of the keywords ENTITY, DATE, or ITEM. Each component must be assigned to exactly one axis.

headers

Determines whether headers are written to the output file for the axis. If included they must be set to YES, to show column and row header, or NO, to hide them. Header specification is included with each axis specification. The default is YES. The default header for an ENTITY is the PERMNO for a security and INDNO for an index. The default header for a data ITEM is the item header listed in the stock and indexes Data Item Tables. The default header for DATE is the YYYYMMDD date for absolute calendar ranges and relative period numbers for relative dates.

Z Flag #

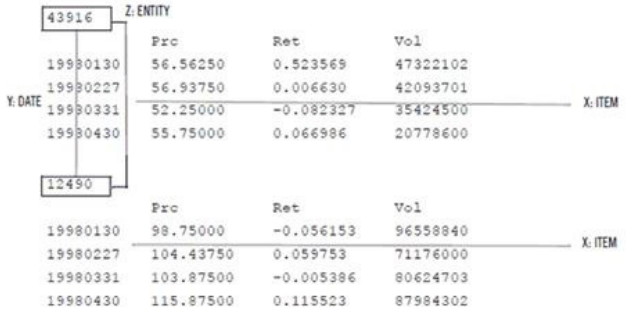
Z flag # controls how three-dimensional data is printed as two-dimensional output. It is a number, 1, 2, or 3, as described below.

Each dimension, ITEM, ENTITY, and DATE, is user-assigned to an X-, Y-, and Z-axis. Other

options control the output file's data spacing and delimiters. For the same axis-data allocation, the Z-axis can be printed in two dimensional output in three ways (below). The X-axis represents ITEMs (for example, Prices, Returns, and Volume). The Y-axis represents the date (January - April, 1998). The Z-axis represents the ENTITY (PERMNOs/securities 12490 (IBM) and 43916 (DEC)).

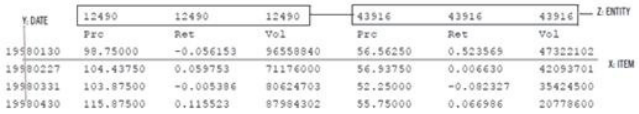
Z Flag 1:

X and Y table is repeated for each Z item, where Z is placed on the Y-axis effectively as a header for the DATE and ITEM information.



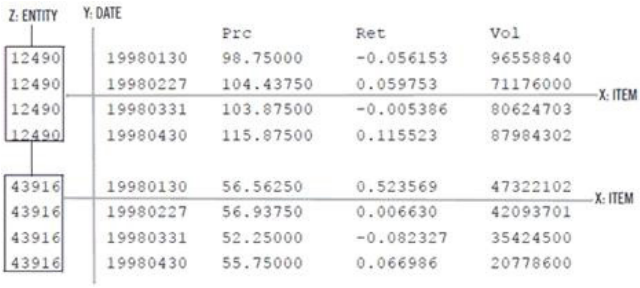
Z Flag 2:

Z (ENTITY) data is placed on the X-axis and repeated for each X item, where Z functions as an ENTITY header for each ITEM, with one ENTITY following the next.



Z Flag 3:

Z (ENTITY) data is placed on the Y-Axis and repeated for each Y item as the first column in the table for each DATE and ITEM.



OPTIONS OUTPUT

OUTNAME

The name of the file where the output will be stored. If OUTNAME is not specified, the data will dump to the screen.

REPNAME

A text description that will be placed at the top of the report.

DLRET DEFAULT

Outputs the default value, -88.0 for missing delisting returns for ENTITIES that have delisted during the selected dates. You must have return selected as an ITEM option to include Delisting Returns in your output.

DLRET filename

Outputs user-specified missing delisting return codes. The user may assign missing values for a range of delisting codes for select beginning and ending exchanges. To do this, a text input file must be created containing the following fields in the following order: begin delist code, end delist code, begin exchange code, end exchange code, alternate delisting return value, alternate delisting return without dividends value.

For example:

```
200     299 1 3 -0.50 -0.55
500     570 3 3 -0.40 -0.45
571     600 3 3 -0.30 -0.35
```

Note that in this example, the first row would assign a -0.50 value to missing delisting returns for securities with delisting codes 200-299 that initially traded on NYSE and ended up trading on NASDAQ, and -0.55 for missing delisting returns without dividends. If your request file included a security with a missing delisting return that was not included in your input file, the default missing delisting return, -55.0, would be used instead.

PARTIAL 1

Includes partial-period data in the output. If Partial 1 is not used, `ts_print` will not include the last month of data for a company that stopped trading mid-month, because only months with end-of-month data are normally included. This option applies to monthly data.

CURRENCY

Forces all output for any monetary item to a given currency. It is followed by one of the following codes:

USD US Dollars

REP (default) As reported by Compustat

```
OPTIONS
X ITEM,NO|Y DATE,YES|Z ENTITY,YES,3|OUTNAME
ts_ccm_all.out|NOFILL
FIELDDELIM p|COMPACT|CURRENCY USD|PRIMARY
END
```

PRIMARY

The PRIMARY option determines the links that will be used when linking Compustat data to CRSP PERMNOs. If PRIMARY is present, then only primary links based on the LINKPRIM qualifier of the link history are included. All other links are discarded. This will ensure that a company with multiple issues is only included once in the output.

```
OPTIONS
X ITEM,NO|Y DATE,YES|Z ENTITY,YES,3|OUTNAME
ts_ccm_all.out|NOFILL
FIELDDELIM p|COMPACT|CURRENCY USD|PRIMARY
END
```

NOFILL

Using the NOFILL default, rows outside an issue's date range or the user's date specification will not print to the output file. NOFILL is only applicable if ITEM is chosen for the X-axis, DATE for the Y-axis, ENTITY for the Z-axis, zflag # is 1 or 3, and the DATE specification is RANGE. NOFILL does not work with RELATIVE dates.

FIELDDELIM string

A specified character string that will be placed as a delimiter between fields in output file rows. The default is a space delimiter. Special predefined characters P (|) pipe, S ( ) space, and C(,) comma, can be used. P, S, and C can only be used as predefined characters. For example, using the default space delimiter, output appears like this:

```
                        Company Name            Askhi        Ret         Shr
12060 20080602 GENERAL ELECTRIC CO               30.89000   -0.010091   9967400
12060 20080603 GENERAL ELECTRIC CO               30.80000    0.001644   9967400
12060 20080604 GENERAL ELECTRIC CO               30.73000   -0.000328   9967400
12060 20080605 GENERAL ELECTRIC CO               31.14000    0.020033   9967400
12060 20080606 GENERAL ELECTRIC CO               30.86000   -0.033484   9967400
```

While `FIELDDELIM p` changes the field delimiter to the pipe (|) character:

```
     |        |          Company Name      |    Askhi   |    Ret    |   Shr
12060|20080602|GENERAL ELECTRIC CO         |    30.89000|  -0.010091|  9967400
12060|20080603|GENERAL ELECTRIC CO         |    30.80000|   0.001644|  9967400
12060|20080604|GENERAL ELECTRIC CO         |    30.73000|  -0.000328|  9967400
12060|20080605|GENERAL ELECTRIC CO         |    31.14000|   0.020033|  9967400
12060|20080606|GENERAL ELECTRIC CO         |    30.86000|  -0.033484|  9967400
12060|20080609|GENERAL ELECTRIC CO         |    30.35000|   0.001332|  9967400
```

BUFSIZE #

The size of memory that will be allocated by the program. In a large study, the program will save intermediate data in a temporary file. This can degrade performance . If memory is available on your system, you can use the BUFSIZE option to increase the size of the internal buffer. The program will report the necessary buffer size needed if the BUFSIZE option can improve performance. Switching axes can also be used to improve performance for large datasets. Performance for large datasets is greatly improved if ITEM is chosen for the X-axis, DATE is chosen for the Y-axis, ENTITY for the Z-axis, and zflag#is set to 1or 3.

CHARDELIM string

A character string placed before and after all character string fields in output file rows. The default is no character string delimiter. For example, CHARDELIM * causes the character string field Company Name below to be surrounded by asterisks.

```
                          Company Name          Askhi        Ret         Shr
12060 20080602 *GENERAL ELECTRIC CO       *     30.89000   -0.010091   9967400
12060 20080603 *GENERAL ELECTRIC CO       *     30.80000    0.001644   9967400
12060 20080604 *GENERAL ELECTRIC CO       *     30.73000   -0.000328   9967400
12060 20080605 *GENERAL ELECTRIC CO       *     31.14000    0.020033   9967400
12060 20080606 *GENERAL ELECTRIC CO       *     30.86000   -0.033484   9967400
12060 20080609 *GENERAL ELECTRIC CO       *     30.35000    0.001332   9967400
```

ROWDELIM #,#

Controls the number of rows between output lines. The first integer is the number of blank lines between rows when the Z-axis value changes when the Z-axis data is printed in rows. The second integer is the number of blank lines between all data rows. The default is 0,0.

DEFAULT

A value of 1 sets output header options to YES and FIELDDELIM to a space.

COMPACT

Compresses output by removing all spaces and trailing decimal zeros in numbers. The field delimiter is automatically set to 1 if not set with FIELDDELIM, and the row delimiters are set to produce no blank lines if not already set with ROWDELIM. COMPACT is ideal for producing output to be loaded into another program.

1. The row detailing the functionality of a single option must wrap. Different keywords can be on separate lines, but the last keyword on a line cannot end with a pipe character, and the beginning of a line must be a keyword.

2. Extra spaces are allowed between options, but not within the description of an option.

DAILY DATA

GROUP	ITEM HEADER	FULL NAME	SUBNO	FORMAT	ENTITY TYPE(S)	DESCRIPTION
DAILY DATA						
Identification DSTK_ID	CUSIP	CUSIP, Header	0	%8s	list	The latest 8 character CUSIP identifier for a security.
	PERMCO	PERMCO	0	%6d	list, index	A unique permanent company identification number assigned by CRSP to all companies with issues on a CRSP File. This number is permanent for all securities issued by a company regardless of name changes.
	PERMNO	PERMNO	0	%6d	list, index	A unique permanent identification number assigned by CRSP to each security. You can track a security through its entire trading history in CRSP's files with one PERMNO, regardless of name or capital structure changes.
	COMPNO	NASDAQ Company Number	0	%8d	list	The latest 8 character CUSIP identifier for a security.
Name Histories DSTK_NAMES	Company Name	Company Name	0	%-32.32s	list	Company name associated with the security, effective at the end of the period reported.
	EX	Exchange Code	0	%2d	list	Integer code(s) indicating the exchange(s) on which the security is listed at the end of the period reported.
	NCUSIP	CUSIP	0	%-8.8s	list	The 8 character CUSIP identifier for a security at the end of the period reported.
	Ex1	Primary Exchange	0	%c	list	Character code indicating the exchange on which the security has its primary listing at the end of the period reported. (N = NYSE, A = NYSE MKT, Q = NASDAQ, X = Other)
	Sst	Security Status	0	%c	list	Character code describing the status of a security at the end of the period reported. (W=when issued, R = regular way, E = Ex-distributed, Q = bankruptcy)
	SH	Share Code	0	%2d	list	2-digit code as of end of period. First digit describes the type of security, second digit provides further security or company detail.
	CL	Share Class	0	%-1.1s	list	Character identifying the class of stock as of the end of period, generally left blank. Assigned by the exchange in cooperation with the company.
	SIC	SIC Code	0	%4d	list	The SIC code used to group companies with similar products or services at the end of the period reported.
	Naics	North American Industry Classification System (NAICS)	0	%-7.7s	list	North American Industry Classification System, 6-character industry code, at the end of period reported.
	Ticker	Ticker Symbol	0	%-5.5s	list	An alphabetic symbol assigned to a security by an exchange at the end of the period reported.
	Tst	Trading Status	0	%c	list	One-character field describing the status of a security at the end of the period. (A = active, H = halted, S = suspended, X = unknown)
	Symbol	Trading Ticker Symbol	0	%-10.10s	list	Trading symbol listed by exchanges and consolidated quote systems, including all temporary values, share classes and share type suffixes, at the end of the period reported.
	Effective Name	Company Name, End of Previous Period	1	%-32.32s	list	Company name effective at the end of the period preceding the period reported.
	EXE	Exchange Code, End of Previous Period	1	%2d	list	Integer code(s) indicating the exchange(s) on which the security is listed at the end of the period preceding the period reported.
	NCUSIPE	CUSIP, End of Previous Period	1	%-8.8s	list	8 character CUSIP identifier for a security at the end of period preceding the period reported.

GROUP	ITEM HEADER	FULL NAME	SUBNO	FORMAT	ENTITY TYPE(S)	DESCRIPTION
DAILY DATA						
Name Histories DSTK_NAMES	Primexche	Primary Exchange, End of Previous Period	1	%c	list	Character code indicating the exchange on which the security has its primary listing at the end of the period preceding the period reported. (N = NYSE, A = NYSE MKT, Q = NASDAQ, X = Other)
	Secstate	Security Status, End of Previous Period	1	%c	list	One-character code describing the status of a security at the end of the period preceding the period reported. (W=when issued, R = regular way, E = Ex-distributed, Q = bankruptcy)
	SCE	Share Type Code, End of Previous Period	1	%2d	list	2-digit code as of the period preceding the period reported. First digit describes the type of security, second digit provides further security or company detail.
	CLE	Share Class, End of Previous Period	1	%-1.1s	list	Character identifying the class of stock as of the period preceding the period being accessed, generally left blank. Assigned by the exchange in cooperation with the company.
	SICE	SIC Code, End of Previous Period	1	%4d	list	The SIC code used to group companies with similar products or services at the end of the period preceding the period reported.
	Naicse	NAICS, End of Previous Period	1	%-7.7s	list	North American Industry Classification System, 6-character industry code, at the end of period preceding the period reported.
	Tickere	Ticker, End of Previous Period	1	%-5.5s	list	An alphabetic symbol assigned to a security by an exchange at the end of the period preceding the period reported.
	Trdstate	Trading Status, End of Previous Period	1	%c	list	One-character field describing the status of a security at the end of the period preceding the period reported. (A = active, H = halted, S = suspended, X = unknown)
	Symbole	Trading Ticker Symbol, End of Previous Period	1	%-10.10s	list	Trading symbol listed by exchanges and consolidated quote systems, including all temporary values, share classes and share type suffixes, at the end of the period preceding each period reported.
	Last Company Name	Company Name, Most Recent	2	%-32.32s	list	The most recent company name known to CRSP.
	EXL	Exchange Code, Most Recent	2	%2d	list	The most recently known integer code(s) indicating the exchange(s) on which the security is listed.
	NCUSIPL	CUSIP, Most Recent	2	%-8.8s	list	The most recently used 8 character CUSIP identifier for a security through the end of the file.
	Primexchl	Primary Exchange, Most Recent	2	%c	list	As of the period being accessed, the character code indicating the exchange on which the security has its most recently known primary listing. (N = NYSE, A = NYSE MKT, Q = NASDAQ, X = Other)
	Secstatl	Security Status, Most Recent	2	%c	list	One-character code describing the most recently known status of a security at the end of the period reported. (W=when issued, R = regular way, E = Ex-distributed, Q = bankruptcy)
	SCL	Share Code, Most Recent	2	%2d	list	2-digit code, most recently known as of end of period. First digit describes the type of security, second digit provides further security or company detail.
	CLL	Share Class, Most Recent	2	%-1.1s	list	Character identifying the most recently known class of stock as of the end of period, generally left blank. Assigned by the exchange in cooperation with the company.
	SICL	SIC Code, Most Recent	2	%4d	list	The most recent SIC code used to group companies with similar products or services.
	Naicsl	NAICS, Most Recent	2	%-7.7s	list	The most recently known North American Industry Classification System, 6-character industry code.
	Tickerl	Ticker, Most Recent	2	%-5.5s	list	The most recently used alphabetic symbol assigned to a security by an exchange.

GROUP	ITEM HEADER	FULL NAME	SUBNO	FORMAT	ENTITY TYPE(S)	DESCRIPTION
DAILY DATA						
Name Histories DSTK_NAMES	TrdstatI	Trading Status, Most Recent	2	%c	list	One-character field describing the status of a security most recently known at the end of the period. (A = active, H = halted, S = suspended, X = unknown)
	SymbolI	Trading Ticker Symbol, Most Recent	2	%-10.10s	list	Trading symbol listed by exchanges and consolidated quote systems, including all temporary values, share classes and share type suffixes, most recently known.
Prices DSTK_PRICES	Ask	Ask	0	%12.5f	list	Closing ask on the trading date being accessed.
	Askhi	Ask or High Price	0	%12.5f	list	Highest trading price during the day, or the closing ask if trading price not available. Ask identified by a leading dash -.
	Bid	Bid	0	%12.5f	list	Closing bid on the trading date being accessed.
	Bidlo	Bid or Low Price	0	%12.5f	list	Lowest trading price during the day, or the closing bid if trading price not available. Bid identified by a leading dash -.
	High	Highest Close	0	%12.5f	list	Highest daily closing price within the selected output calendar.
	Low	Lowest Close	0	%12.5f	list	Lowest daily closing price within the selected output calendar.
	OpenPrc	Open Price	0	%12.5f	list	Daily open price, representing the first trade of the day.
	Prc	Price or Bid/Ask Average	0	%12.5f	list	The daily closing price of a security. If unavailable, the number in the price field is replaced with a bid/ask average (marked by a leading dash).
	Tprc	Trade-only Price, End of Period	0	%12.5f	list	Last trade-only price of a day.
	Adjask	Ask, Adjusted	0	%12.5f	list	Closing ask on the trading date being accessed, adjusted for distributions.
	Adjaskhi	Askhi, Adjusted	0	%12.5f	list	Highest trading price during the day, or the closing ask if trading price not available, adjusted for distributions. Ask identified by a leading dash -.
	Adjbid	Bid, Adjusted	0	%12.5f	list	Closing bid on the trading date being accessed, adjusted for distributions.
	Adjbidlo	Bidlo, Adjusted	0	%12.5f	list	Lowest trading price during the day, or the closing bid if trading price not available, adjusted for distributions. Bid identified by a leading dash -.
	AdjOpenPrc	Open Price, Adjusted	0	%12.5f	list	Daily open price, representing the first trade of the day, adjusted for distributions.
	Adjprc	Price, Adjusted	0	%12.5f	list	Daily close, adjusted for distributions. Replaced with bid/ask average if price not available. Bid/ask average identified by a leading dash -.
	Adjtprc	Trade-only Price, Adjusted, End of Period	0	%12.5f	list	Last trade-only price of a day, adjusted for distributions.
	Askprev	Ask, Last Available Nonmissing	1	%12.5f	list	Last available non-missing closing ask as of the trading date being accessed.
	Bidprev	Bid, Last Available Nonmissing	1	%12.5f	list	Last available non-missing closing bid as of the trading date being accessed.
	Prcprev	Price, Last Available Nonmissing	1	%12.5f	list	The last non-missing daily closing price or bid/ask average of a security. If price is unavailable, the number in the price field is replaced with a bid/ask average (marked by a leading dash).
	Tprcprev	Trade-only Price, Last Available Nonmissing	1	%12.5f	list	Last available non-missing trade-only price as of date being accessed.
	Adjaskprev	Ask Adjusted, Last Available Nonmissing	1	%12.5f	list	Last available non-missing closing ask as of the trading date being accessed, adjusted for distributions.

GROUP	ITEM HEADER	FULL NAME	SUBNO	FORMAT	ENTITY TYPE(S)	DESCRIPTION
DAILY DATA						
Prices DSTK_PRICES	Adjbidprev	Bid Adjusted, Last Available Nonmissing	1	%12.5f	list	Last available non-missing closing bid as of the trading date being accessed, adjusted for distributions.
	Adjprcprev	Price Adjusted, Last Available Nonmissing	1	%12.5f	list	Last available non-missing daily close or bid/ask average, adjusted for distributions. Bid/ask average is used if price is not available. Bid/ask average identified by a leading dash -.
	Adjtprcprev	Trade-only Price, Adjusted, Last Available Nonmissing	1	%12.5f	list	Last available non-missing trade-only price as of date being accessed, adjusted for distributions.
Returns DSTK_RETURNS	Ret	Returns	0	%11.6f	list, index, port	Daily change in the total value of an investment, using prices or bid/ask averages if prices not available. Dividends are reinvested on the Ex-date.
	Reti	Returns on Income	0	%11.6f	list, index	Return on dividends, can be derived from the difference between total return and return without dividends.
	Retx	Returns Without Dividends	0	%11.6f	list, index	Day-to-day capital appreciation of a security, calculated as a change in price, or bid/ask average if prices not available.
	Toret	Returns on Trade-only Prices	0	%11.6f	list	Daily change in the total value of an investment, using trade-only prices. Dividends are reinvested on the Ex-date.
	Toretx	Returns Without Dividends, Trade-only Prices	0	%11.6f	list	Daily total returns, using trade-only prices, compounded from the beginning day in the range. Each trading day in the time series contains a cumulative return since the beginning period.
	Cumtret	Returns, Cumulative	0	%11.6f	list, index	Daily total returns compounded from the beginning day in the range. Each trading day in the time series contains a cumulative return since the beginning period.
	Cumaret	Returns Without Dividends, Cumulative	0	%11.6f	list, index	Daily returns without dividends compounded from the beginning month in the range. Each period in the time series contains a cumulative return since the beginning period.
	Cumiret	Returns on Income, Cumulative	0	%11.6f	list, index	Daily returns on income compounded from the beginning month in the range. Each period in the time series contains a cumulative return since the beginning period.
Returns vs Index DSTK_IRETURNS	Xstret	Excess Returns vs. Index Series	0	%11.6f	list	Difference between a security's total return and the total return of an index that a user selects to be associated with the security.
	Xsaret	Excess Returns Without Dividends vs. Index Series	0	%11.6f	list	Difference between a security's capital appreciation and the capital appreciation of an index that a user selects to be associated with the security.
	Xsiret	Excess Returns on Income vs. Index Series	0	%11.6f	list	Difference between a security's return on income and the return on income of an index that a user selects to be associated with the security.
	Xstoret	Excess Returns on Trade-only Prices vs. Index Series	0	%11.6f	list	Difference between a security's total return based on trade-only prices and the total trade-only price return of an index that a user selects to be associated with the security.
	Indtret	Associated Index Returns	0	%11.6f	list	Total returns of an index that a user selects to be associated with a security or group of securities.
	Indaret	Associated Index Returns Without Dividends	0	%11.6f	list	Compounded price appreciation only, of an index that a user selects to be associated with a security or group of securities.
	Indiret	Associated Index Returns on Income	0	%11.6f	list	Returns on income only of an index that a user selects to be associated with a security or group of securities.

GROUP	ITEM HEADER	FULL NAME	SUBNO	FORMAT	ENTITY TYPE(S)	DESCRIPTION
DAILY DATA						
Returns vs Index DSTK_IRETURNS	Cumxstret	Excess Returns vs. Index Series, Cumulative	0	%11.6f	list	Compounded difference between a security's total return and the total return of an index that a user selects to be associated with the security. Each period in the time series contains a cumulative return since the beginning period.
	Cumxsaret	Excess Returns Without Dividends vs. Index Series, Cumulative	0	%11.6f	list	Compounded difference between a security's capital appreciation and the capital appreciation of an index that a user selects to be associated with the security. Each period in the time series contains a cumulative return since the beginning period.
	Cumxsiret	Excess Returns on Income vs. Index Series, Cumulative	0	%11.6f	list	Compounded difference between a security's return on income and the return on income of an index that a user selects to be associated with the security. Each period in the time series contains a cumulative return since the beginning period.
	Cumindtret	Associated Index Returns, Cumulative	0	%11.6f	list	Compounded total returns of an index that a user selects to be associated with a security or group of securities. Each period in the time series contains a cumulative return since the beginning period.
	Cumindaret	Associated Index Returns Without Dividends, Cumulative	0	%11.6f	list	Price appreciation only, of an index that a user selects to be associated with a security or group of securities. Each period in the time series contains a cumulative return since the beginning period.
	Cumindiret	Associated Index Returns on Income, Cumulative	0	%11.6f	list	Compounded return, on income only, of an index that a user selects to be associated with a security or group of securities. Each period in the time series contains a cumulative return since the beginning period.
Returns vs Portfolio DSTK_PRETURNS	Portxstret	Excess Returns vs. Associated Portfolios	0	%11.6f	list	Difference between a security's total return and the total return of a portfolio that a user selects to be associated with the security.
	Portxsaret	Excess Returns Without Dividends vs. Associated Portfolios	0	%11.6f	list	Difference between a security's capital appreciation and the capital appreciation of a portfolio that a user selects to be associated with the security.
	Portxsiret	Excess Returns on Income vs. Associated Portfolios	0	%11.6f	list	Difference between a security's return on income and the return on income of a portfolio that a user selects to be associated with the security.
	Portxstoret	Excess Returns on Trade-only Prices vs. Associated Portfolios	0	%11.6f	list	Difference between a security's trade-only price total return and the trade-only price total return of a portfolio that a user selects to be associated with the security.
	Porttret	Associated Portfolios Returns	0	%11.6f	list	Total returns of a portfolio that a user selects to be associated with a security or group of securities.
	Portaret	Associated Portfolios Returns Without Dividends	0	%11.6f	list	Price appreciation only, of a portfolio that a user selects to be associated with a security or group of securities.
	Portiret	Associated Portfolios Returns on Income	0	%11.6f	list	Returns on income only of a portfolio that a user selects to be associated with a security or group of securities.
	Cumxsptret	Excess Returns vs. Associated Portfolios, Cumulative	0	%11.6f	list	Compounded difference between a security's total return and the total return of a portfolio that a user selects to be associated with the security. Each period in the time series contains a cumulative return since the beginning period.
	Cumxsparet	Excess Returns Without Dividends vs. Associated Portfolios, Cumulative	0	%11.6f	list	Compounded difference between a security's capital appreciation and the capital appreciation of a portfolio that a user selects to be associated with the security. Each period in the time series contains a cumulative return since the beginning period.

GROUP	ITEM HEADER	FULL NAME	SUBNO	FORMAT	ENTITY TYPE(S)	DESCRIPTION
DAILY DATA						
Returns vs Portfolio DSTK_PRETURNS	Cumxspiret	Excess Returns on Income vs. Associated Portfolios, Cumulative	0	%11.6f	list	Compounded difference between a security's return on income and the return on income of a portfolio that a user selects to be associated with the security. Each period in the time series contains a cumulative return since the beginning period.
	Cumptret	Member Portfolio Returns, Cumulative	0	%11.6f	list	Compounded total returns of a portfolio that a user selects to be associated with a security or group of securities. Each period in the time series contains a cumulative return since the beginning period.
	Cumparet	Member Portfolio Returns Without Dividends, Cumulative	0	%11.6f	list	Compounded price appreciation only, of a portfolio that a user selects to be associated with a security or group of securities. Each period in the time series contains a cumulative return since the beginning period.
	Cumpiret	Member Portfolio Returns on Income, Cumulative	0	%11.6f	list	Compounded return, on income only, of a portfolio that a user selects to be associated with a security or group of securities. Each period in the time series contains a cumulative return since the beginning period.
	Cumxstoret	Excess Returns on Trade-only Prices vs. Index Series, Cumulative	0	%11.6f	list	Compounded difference between a security's total return based on trade-only prices and the total trade-only price return of an index that a user selects to be associated with the security. Each period in the time series contains a cumulative return since
Shares DSTK_SHARES	Shr	Shares Outstanding Mapped to Time Series	0	%9d	list	The unadjusted number of publicly held shares on NYSE, NYSE MKT, and NASDAQ exchanges, recorded in 1000s.
	Adjshr	Shares Outstanding Mapped to Time Series, Adjusted	0	%9d	list	The number of publicly held shares on NYSE, NYSE MKT, and NASDAQ exchanges, recorded in 1000s and adjusted for all price factors.
	Shrxr	Shares Outstanding, Unadjusted for Rights	1	%9d	list	The number of publicly held shares on NYSE, NYSE MKT, and NASDAQ exchanges, recorded in 1000s and adjusted for price factors other than rights.
	Adjshrxr	Shares Outstanding, Adjusted for Rights	1	%9d	list	The number of publicly held shares on NYSE, NYSE MKT, and NASDAQ exchanges, recorded in 1000s and adjusted for rights only.
Volume DSTK_VOLUME	Tvol	Volume, Total	0	%13.0lf	list	Total volume traded within the selected output calendar. For example, the weekly calendar will sum the 5 trading days within each week.
	Volavg	Volume, Average	0	%9d	list	Average daily volume traded within the selected output calendar. For example, the weekly calendar will average the 5 trading days within each week.
	Volmed	Volume, Median	0	%9d	list	Median daily volume traded within the selected output calendar. For example, the weekly calendar will select the median value for the 5 trading days within each week.
	Adjvol	Volume, Adjusted	0	%13.0lf	list	Total volume traded within the selected output calendar, adjusted for splits. For example, the weekly calendar will sum the 5 trading days within each week.
	Numtrd	NASDAQ Number of Trades	0	%9d	list	The number of trades made on NASDAQ for each security for each date. Available for NASDAQ-traded securities.
Dividends DSTK_DIV	Adjdiv	Adjusted Dividend Amount in Period	0	%11.5f	list	Ordinary and return-of-capital dividends, adjusted using the Price adjustment factor.
	Adjodiv	Adjusted Ordinary Dividend Amount in Period	0	%11.5f	list	Ordinary cash dividends paid, adjusted using the price adjustment factor.
	Cumfacpr	Cumulative Factor to Adjust Prices Over a Date Range	0	%11.6f	list	Cumulative factor from a base date used to adjust prices after distributions so that equivalent comparisons can be made between prices before and after the distribution.

GROUP	ITEM HEADER	FULL NAME	SUBNO	FORMAT	ENTITY TYPE(S)	DESCRIPTION
DAILY DATA						
Dividends DSTK_DIV	Cumfacshr	Cumulative Factor to Adjust Shares/Volume Over a Date Range	0	%11.6f	list	Cumulative factor from a base date used to adjust shares and volume after distributions so that equivalent comparisons can be made between values before and after the distribution. Represented as a ratio.
	Facprc	Factor to Adjust Price in Period	0	%11.6lf	list	Factor from a base date used to adjust prices after distributions so that equivalent comparisons can be made between prices before and after the distribution.
	Odivamt	Ordinary Dividend Amount in Period, Beginning Basis	0	%11.5f	list	Ordinary cash dividends paid during the period, adjusted to beginning of period basis.
	TDivamt	Dividend Amount in Period, Beginning Basis	0	%11.5lf	list	Ordinary and return-of-capital dividends during the period, adjusted to beginning of period basis.
Capitalization DSTK_CAP	Cap	Capitalization, End of Previous Period	0	%15.2lf	list, index, port	Closing price * shares outstanding (in 1000s) at the end of the previous period. If an index, capitalization is the total market value of the issues used in the index at the beginning of the previous period.
	TCap	Capitalization, End of Period	0	%15.2lf	list, index	Closing price * shares outstanding (in 1000s), as of end of the period. If an index, capitalization is the total market value of the issues used in the index at the beginning of the period.
Index Levels DSTK_LEVEL	TLvl	Total Return Index Level	0	%11.2f	list, index	Value of an index, including all distributions, relative to its value at one fixed point in time.
	ALvl	Price Index Level	0	%11.2f	list, index	Value of an index, excluding ordinary dividends, relative to its value at one fixed point in time.
	ILvl	Index Level of Returns on Income	0	%11.2f	list, index	Ordinary dividend value of an index, relative to its value at one fixed point in time.
NASDAQ DSTK_NASDAQ	Nsdinx	NASDAQ Index Code	0	%2d	list	Integer code indicating the issue's classification within NASD's internal business description categories, at the end of each period reported.
	Nmsind	NASDAQ National Market Indicator	0	%2d	list	One-digit integer code indicating an issue's membership within the NASDAQ Market tier system.
	Mmcnt	NASDAQ Market Makers Count	0	%4d	list	Number of registered market makers for an issue trading on NASDAQ, at the end of the period reported.
	Trtscd	NASDAQ Status Code, End of Period	0	%2d	list	One-digit integer describing the trading status of an issue listed on NASDAQ, at the end of each period reported.
	Nsdinxe	NASDAQ Index Code, End of Previous Period	1	%2d	list	Integer code indicating the issue's classification within NASD's internal business description categories, at the end of the period preceding the period reported.
	Nmsinde	NASDAQ National Market Indicator, End of Previous Period	1	%2d	list	One-digit integer code indicating an issue's membership within the NASDAQ Market tier system, as of the previous period.
	Mmcnte	NASDAQ Market Makers, End of Previous Period	1	%4d	list	Number of registered market makers for an issue trading on NASDAQ, at the end of the period preceding the period reported.
	Trtscde	NASDAQ Status Code, End of Previous Period	1	%2d	list	One-digit integer describing the trading status of an issue listed on NASDAQ, at the end of the period preceding each period reported.
	Nsdinxl	NASDAQ Index Code, Most Recent	2	%2d	list	Integer code indicating the issue's classification within NASD's internal business description categories, the most recent value.
	Nmsindl	NASDAQ National Market Indicator, Most Recent	2	%2d	list	One-digit integer code indicating an issue's membership within the NASDAQ Market tier system, most recently known value.
	Mmcntl	NASDAQ Market Makers, Most Recent	2	%4d	list	Number of registered market makers for an issue trading on NASDAQ, the most recently known value.

GROUP	ITEM HEADER	FULL NAME	SUBNO	FORMAT	ENTITY TYPE(S)	DESCRIPTION
DAILY DATA						
	Trtscdl	NASDAQ Status Code, Most Recent	2	%2d	list	One-digit integer describing the trading status of an issue listed on NASDAQ, most recently know value, as of the end of each period reported.
Others DSTK_OTHER	Altdt	Date - YYYYMMDD Trading Date (partial period data)	0	%8d	list	Trading dates used with partial period data.
	Caldt	Date	0	%8d	list, index	Last quotation date in the month
	Cnt	Index Count Used	0	%6d	list, index, port	Number of issues used to create a specific index or portfolio during one calendar period.
	TCnt	Index Count Total	0	%6d	list, index, port	Total number of securities in an index universe with a valid price on the selected trading date.
	Date1	Entity Begin Date Range or Event Date	0	%9d	list	First period in a selected date range, or event date for an entity.
	Date2	Entity End Date Range	0	%9d	list	Last date in a selected date range for an entity.
	LSPInd	Group Flag of Associated Index, Last Flag, All Periods	2	%4d	list	Last known code identifying a group to which a security belongs. Currently, S&P 500 group flag 16 is the only active group.
	ESPInd	Group Flag of Associated Index, End of Previous Period	1	%4d	list	Code identifying a group to which a security belongs, in the period preceeding the period reported. Currently, S&P 500 group flag 16 is the only active group.
	Grpflag	Group Flag	0	%4d	list	Group flag
	Port	Portfolio Assignment	0	%4d	list	Integer portfolio assignment of a security for the portfolio type.
	Stat	Portfolio Statistic Value	0	%16.5lf	list	Statistic calculated for the security based on the rules for the selected portfolio type.

MONTHLY DATA

GROUP	ITEM HEADER	FULL NAME	SUBNO	FORMAT	ENTITY TYPE(S)	DESCRIPTION
MONTHLY DATA						
Identification MSTK_ID	CUSIP	CUSIP, Header	0	%8s	list	The latest 8 character CUSIP identifier for a security.
	PERMCO	PERMCO	0	%6d	list, index	A unique permanent company identification number assigned by CRSP to all companies with issues on a CRSP File. This number is permanent for all securities issued by a company regardless of name changes.
	PERMNO	PERMNO	0	%6d	list, index	A unique permanent identification number assigned by CRSP to each security. You can track a security through its entire trading history in CRSP's files with one PERMNO, regardless of name or capital structure changes.
	COMPNO	NASDAQ Company Number	0	%8d	list	The latest 8 character CUSIP identifier for a security.
Name Histories MSTK_NAMES	Company Name	Company Name	0	%-32.32s	list	Company name associated with the security, effective at the end of the period reported.
	EX	Exchange Code	0	%2d	list	Integer code(s) indicating the exchange(s) on which the security is listed at the end of the period reported.
	NCUSIP	CUSIP	0	%-8.8s	list	The 8 character CUSIP identifier for a security at the end of the period reported.
	Ex1	Primary Exchange	0	%c	list	Character code indicating the exchange on which the security has its primary listing at the end of the period reported. (N = NYSE, A = NYSE MKT, Q = NASDAQ, X = Other)
	Sst	Security Status	0	%c	list	Character code describing the status of a security at the end of the period reported. (W=when issued, R = regular way, E = Ex-distributed, Q = bankruptcy)
	SH	Share Code	0	%2d	list	2-digit code as of end of period. First digit describes the type of security, second digit provides further security or company detail.
	CL	Share Class	0	%-1.1s	list	Character identifying the class of stock as of the end of period, generally left blank. Assigned by the exchange in cooperation with the company.
	SIC	SIC Code	0	%4d	list	The SIC code used to group companies with similar products or services at the end of the period reported.
	Naics	North American Industry Classification System (NAICS)	0	%-7.7s	list	North American Industry Classification System, 6-character industry code, at the end of period reported.
	Ticker	Ticker Symbol	0	%-5.5s	list	An alphabetic symbol assigned to a security by an exchange at the end of the period reported.
	Tst	Trading Status	0	%c	list	One-character field describing the status of a security at the end of the period. (A = active, H = halted, S = suspended, X = unknown)
	Symbol	Trading Ticker Symbol	0	%-10.10s	list	Trading symbol listed by exchanges and consolidated quote systems, including all temporary values, share classes and share type suffixes, at the end of the period reported.
	Effective Name	Company Name, End of Previous Period	1	%-32.32s	list	Company name effective at the end of the period preceding the period reported.

GROUP	ITEM HEADER	FULL NAME	SUBNO	FORMAT	ENTITY TYPE(S)	DESCRIPTION
MONTHLY DATA						
Name Histories MSTK_NAMES	EXE	Exchange Code, End of Previous Period	1	%2d	list	Integer code(s) indicating the exchange(s) on which the security is listed at the end of the period preceding the period reported.
	NCUSIPE	CUSIP, End of Previous Period	1	%-8.8s	list	8 character CUSIP identifier for a security at the end of period preceding the period reported.
	Primexche	Primary Exchange, End of Previous Period	1	%c	list	Character code indicating the exchange on which the security has its primary listing at the end of the period preceding the period reported. (N = NYSE, A = NYSE MKT, Q = NASDAQ, X = Other)
	Secstate	Security Status, End of Previous Period	1	%c	list	One-character code describing the status of a security at the end of the period preceding the period reported. (W=when issued, R = regular way, E = Ex-distributed, Q = bankruptcy)
	SCE	Share Type Code, End of Previous Period	1	%2d	list	2-digit code as of the period preceding the period reported. First digit describes the type of security, second digit provides further security or company detail.
	CLE	Share Class, End of Previous Period	1	%-1.1s	list	Character identifying the class of stock as of the period preceding the period being accessed, generally left blank. Assigned by the exchange in cooperation with the company.
	SICE	SIC Code, End of Previous Period	1	%4d	list	The SIC code used to group companies with similar products or services at the end of the period preceding the period reported.
	Naicse	NAICS, End of Previous Period	1	%-7.7s	list	North American Industry Classification System, 6-character industry code, at the end of period preceding the period reported.
	Tickere	Ticker, End of Previous Period	1	%-5.5s	list	An alphabetic symbol assigned to a security by an exchange at the end of the period preceding the period reported.
	Trdstate	Trading Status, End of Previous Period	1	%c	list	One-character field describing the status of a security at the end of the period preceding the period reported. (A = active, H = halted, S = suspended, X = unknown)
	Symbole	Trading Ticker Symbol, End of Previous Period	1	%-10.10s	list	Trading symbol listed by exchanges and consolidated quote systems, including all temporary values, share classes and share type suffixes, at the end of the period preceding each period reported.
	Last Company Name	Company Name, Most Recent	2	%-32.32s	list	The most recent company name known to CRSP.
	EXL	Exchange Code, Most Recent	2	%2d	list	The most recently known integer code(s) indicating the exchange(s) on which the security is listed.
	NCUSIPL	CUSIP, Most Recent	2	%-8.8s	list	The most recently used 8 character CUSIP identifier for a security through the end of the file.
	Primexchl	Primary Exchange, Most Recent	2	%c	list	As of the period being accessed, the character code indicating the exchange on which the security has its most recently known primary listing. (N = NYSE, A = NYSE MKT, Q = NASDAQ, X = Other)
	Secstatl	Security Status, Most Recent	2	%c	list	One-character code describing the most recently known status of a security at the end of the period reported. (W=when issued, R = regular way, E = Ex-distributed, Q = bankruptcy)
	SCL	Share Code, Most Recent	2	%2d	list	2-digit code, most recently known as of end of period. First digit describes the type of security, second digit provides further security or company detail.

GROUP	ITEM HEADER	FULL NAME	SUBNO	FORMAT	ENTITY TYPE(S)	DESCRIPTION
MONTHLY DATA						
Name Histories MSTK_NAMES	CLL	Share Class, Most Recent	2	%-1.1s	list	Character identifying the most recently known class of stock as of the end of period, generally left blank. Assigned by the exchange in cooperation with the company.
	SICL	SIC Code, Most Recent	2	%4d	list	The most recent SIC code used to group companies with similar products or services.
	Naicsl	NAICS, Most Recent	2	%-7.7s	list	The most recently known North American Industry Classification System, 6-character industry code.
	Tickerl	Ticker, Most Recent	2	%-5.5s	list	The most recently used alphabetic symbol assigned to a security by an exchange.
	Trdstatl	Trading Status, Most Recent	2	%c	list	One-character field describing the status of a security most recently known at the end of the period. (A = active, H = halted, S = suspended, X = unknown)
	Symboll	Trading Ticker Symbol, Most Recent	2	%-10.10s	list	Trading symbol listed by exchanges and consolidated quote systems, including all temporary values, share classes and share type suffixes, most recently known.
Prices MSTK_PRICES	Ask	Ask	0	%12.5f	list	Closing ask on the last trading date of the month.
	Askhi	Ask or High Price	0	%12.5f	list	Highest trading price during the month, or the highest bid-ask spread if trading price not available. Bid-ask spreads identified by preceding dash -.
	Bid	Bid	0	%12.5f	list	Closing bid on the last trading date of the month.
	Bidlo	Bid or Low Price	0	%12.5f	list	Lowest trading price during the month, or the lowest bid-ask spread if trading price not available. Bid-ask spreads identified by preceding dash -.
	High	Highest Close	0	%12.5f	list	Highest month end closing price within the selected calendar. Appropriate to use with quarterly and annual output calendars.
	Low	Lowest Close	0	%12.5f	list	Lowest month end closing price within the selected calendar. Appropriate to use with quarterly and annual output calendars.
	Prc	Price or Bid/Ask Average	0	%12.5f	list	The closing price of a security for the last trading day of the month. If unavailable, the number in the price field is replaced with a bid/ask average (marked by a leading dash).
	Adjask	Ask, Adjusted	0	%12.5f	list	Closing ask on the last trading date of the month of the period being accessed, adjusted for distributions.
	Adjaskhi	Askhi, Adjusted	0	%12.5f	list	Highest trading price during the month, or the highest bid-ask spread if trading price not available, adjusted for distributions. Bid-ask spreads identified by preceding dash -.
	Adjbid	Bid, Adjusted	0	%12.5f	list	Closing bid on the last trading date of the month of the period being accessed, adjusted for distributions.
	Adjbidlo	Bidlo, Adjusted	0	%12.5f	list	Lowest trading price during the month, or the lowest bid-ask spread if trading price not available, adjusted for distributions. Bid-ask spreads identified by preceding dash -.
	Adjprc	Price, Adjusted	0	%12.5f	list	The closing price of a security for the last trading day of the month, adjusted for distributions. If unavailable, the number in the price field is replaced with a bid/ask average (marked by a leading dash).

GROUP	ITEM HEADER	FULL NAME	SUBNO	FORMAT	ENTITY TYPE(S)	DESCRIPTION
MONTHLY DATA						
Prices MSTK_PRICES	Askprev	Ask, Last Available Nonmissing	1	%12.5f	list	Last available non-missing month-end closing ask as of the trading date being accessed.
	Bidprev	Bid, Last Available Nonmissing	1	%12.5f	list	Last available non-missing month-end closing bid as of the trading date being accessed.
	Prcprev	Price, Last Available Nonmissing	1	%12.5f	list	
	Adjaskprev	Ask Adjusted, Last Available Nonmissing	1	%12.5f	list	Last available non-missing month-end closing ask as of the trading date being accessed, adjusted for distributions.
	Adjbidprev	Bid Adjusted, Last Available Nonmissing	1	%12.5f	list	Last available non-missing month-end closing bid as of the trading date being accessed, adjusted for distributions.
	Adjprcprev	Price Adjusted, Last Available Nonmissing	1	%12.5f	list	The last non-missing closing price of a security for the last trading day of the month, adjusted for distributions. If unavailable, the number in the price field is replaced with a bid/ask average (marked by a leading dash).
Returns MSTK_RETURNS	Ret	Returns	0	%11.6f	list, index, port	Month-end to month-end change in total investment of a security, with ordinary dividends reinvested at the month-end.
	Retx	Returns Without Dividends	0	%11.6f	list, index	Month-end to month-end capital appreciation of a security, calculate as a change in price only.
	Reti	Returns on Income	0	%11.6f	list, index	Return on dividends, can be derived from the difference between total return and return without dividends.
	Cumtret	Returns, Cumulative	0	%11.6f	list, index	Monthly total returns compounded from the beginning month in the range. Each period in the time series contains a cumulative return since the beginning period.
	Cumaret	Returns Without Dividends, Cumulative	0	%11.6f	list, index	Monthly returns without dividends compounded from the beginning month in the range. Each period in the time series contains a cumulative return since the beginning period.
	Cumiret	Returns on Income, Cumulative	0	%11.6f	list, index	Monthly returns on income compounded from the beginning month in the range. Each period in the time series contains a cumulative return since the beginning period.
Returns vs Index MSTK_IRETURNS	Xstret	Excess Returns vs. Index Series	0	%11.6f	list	Difference between a security's total return and the total return of an index that a user selects to be associated with the security.
	Xsaret	Excess Returns Without Dividends vs. Index Series	0	%11.6f	list	Difference between a security's capital appreciation and the capital appreciation of an index that a user selects to be associated with the security.
	Xsiret	Excess Returns on Income vs. Index Series	0	%11.6f	list	Difference between a security's return on income and the return on income of an index that a user selects to be associated with the security.
	Indtret	Associated Index Returns	0	%11.6f	list	Total returns of an index that a user selects to be associated with a security or group of securities.
	Indaret	Associated Index Returns Without Dividends	0	%11.6f	list	Price appreciation only, of an index that a user selects to be associated with a security or group of securities.
	Indiret	Associated Index Returns on Income	0	%11.6f	list	Returns on income only of an index that a user selects to be associated with a security or group of securities.

GROUP	ITEM HEADER	FULL NAME	SUBNO	FORMAT	ENTITY TYPE(S)	DESCRIPTION
MONTHLY DATA						
Returns vs Index MSTK_IRETURNS	Cumxstret	Excess Returns vs. Index Series, Cumulative	0	%11.6f	list	Compounded difference between a security's total return and the total return of an index that a user selects to be associated with the security. Each period in the time series contains a cumulative return since the beginning period.
	Cumxsaret	Excess Returns Without Dividends vs. Index Series, Cumulative	0	%11.6f	list	Compounded difference between a security's capital appreciation and the capital appreciation of an index that a user selects to be associated with the security. Each period in the time series contains a cumulative return since the beginning period.
	Cumxsiret	Excess Returns on Income vs. Index Series, Cumulative	0	%11.6f	list	Compounded difference between a security's return on income and the return on income of an index that a user selects to be associated with the security. Each period in the time series contains a cumulative return since the beginning period.
	Cumindtret	Associated Index Returns, Cumulative	0	%11.6f	list	Compounded total returns of an index that a user selects to be associated with a security or group of securities. Each period in the time series contains a cumulative return since the beginning period.
	Cumindaret	Associated Index Returns Without Dividends, Cumulative	0	%11.6f	list	Compounded price appreciation only, of an index that a user selects to be associated with a security or group of securities. Each period in the time series contains a cumulative return since the beginning period.
	Cumindiret	Associated Index Returns on Income, Cumulative	0	%11.6f	list	Compounded return, on income only, of an index that a user selects to be associated with a security or group of securities. Each period in the time series contains a cumulative return since the beginning period.
Returns vs Portfolio MSTK_PRETURNS	Portxstret	Excess Returns vs. Associated Portfolios	0	%11.6f	list	Difference between a security's total return and the total return of a portfolio that a user selects to be associated with the security.
	Portxsaret	Excess Returns Without Dividends vs. Associated Portfolios	0	%11.6f	list	Difference between a security's capital appreciation and the capital appreciation of a portfolio that a user selects to be associated with the security.
	Portxsiret	Excess Returns on Income vs. Associated Portfolios	0	%11.6f	list	Difference between a security's return on income and the return on income of a portfolio that a user selects to be associated with the security.
	Porttret	Associated Portfolios Returns	0	%11.6f	list	Total returns of a portfolio that a user selects to be associated with a security or group of securities.
	Portaret	Associated Portfolios Returns Without Dividends	0	%11.6f	list	Price appreciation only, of a portfolio that a user selects to be associated with a security or group of securities.
	Portiret	Associated Portfolios Returns on Income	0	%11.6f	list	Returns on income only of a portfolio that a user selects to be associated with a security or group of securities.
	Cumxsptret	Excess Returns vs. Associated Portfolios, Cumulative	0	%11.6f	list	Compounded difference between a security's total return and the total return of a portfolio that a user selects to be associated with the security. Each period in the time series contains a cumulative return since the beginning period.
Returns vs Portfolio MSTK_PRETURNS	Cumxsparet	Excess Returns Without Dividends vs. Associated Portfolios, Cumulative	0	%11.6f	list	Compounded difference between a security's capital appreciation and the capital appreciation of a portfolio that a user selects to be associated with the security. Each period in the time series contains a cumulative return since the beginning period.

GROUP	ITEM HEADER	FULL NAME	SUBNO	FORMAT	ENTITY TYPE(S)	DESCRIPTION
MONTHLY DATA						
	Cumxspiret	Excess Returns on Income vs. Associated Portfolios, Cumulative	0	%11.6f	list	Compounded difference between a security's return on income and the return on income of a portfolio that a user selects to be associated with the security. Each period in the time series contains a cumulative return since the beginning period.
	Cumptret	Member Portfolio Returns, Cumulative	0	%11.6f	list	Compounded total returns of a portfolio that a user selects to be associated with a security or group of securities. Each period in the time series contains a cumulative return since the beginning period.
	Cumparet	Member Portfolio Returns Without Dividends, Cumulative	0	%11.6f	list	Compounded price appreciation only, of a portfolio that a user selects to be associated with a security or group of securities. Each period in the time series contains a cumulative return since the beginning period.
	Cumpiret	Member Portfolio Returns on Income, Cumulative	0	%11.6f	list	Compounded return, on income only, of a portfolio that a user selects to be associated with a security or group of securities. Each period in the time series contains a cumulative return since the beginning period.
Shares MSTK_SHARES	Shr	Shares Outstanding Mapped to Time Series	0	%9d	list	The unadjusted number of publicly held shares on NYSE, NYSE MKT, and NASDAQ exchanges, recorded in 1000s.
	Adjshr	Shares Outstanding Mapped to Time Series, Adjusted	0	%9d	list	The number of publicly held shares on NYSE, NYSE MKT, and NASDAQ exchanges, recorded in 1000s and adjusted for all price factors.
	Shrxr	Shares Outstanding, Unadjusted for Rights	1	%9d	list	The number of publicly held shares on NYSE, NYSE MKT, and NASDAQ exchanges, recorded in 1000s and adjusted for price factors other than rights.
	Adjshrxr	Shares Outstanding, Adjusted for Rights	1	%9d	list	The number of publicly held shares on NYSE, NYSE MKT, and NASDAQ exchanges, recorded in 1000s and adjusted for rights only.
Volume MSTK_VOLUME	Tvol	Volume, Total	0	%13.0lf	list	Total volume traded within the selected output calendar, adjusted for splits. For example, the quarterly calendar will sum the 3 months within each quarter.
	Volavg	Volume, Average	0	%9d	list	Average monthly volume traded within the selected output calendar. For example, the quarterly calendar will average the 3 month-end volumes in the quarter.
	Volmed	Volume, Median	0	%9d	list	Median monthly volume traded within the selected output calendar. For example, the quarterly calendar will select the median value for the 3 month-end volumes in the quarter.
	Adjvol	Volume, Adjusted	0	%13.0lf	list	Total volume traded within the selected output calendar, adjusted for splits. For example, the quarterly calendar will sum the 3 months within each quarter.
Dividends MSTK_DIV	Adjdiv	Adjusted Dividend Amount in Period	0	%11.5f	list	Ordinary and return-of-capital dividends, adjusted using the Price adjustment factor.
	Adjodiv	Adjusted Ordinary Dividend Amount in Period	0	%11.5f	list	Ordinary cash dividends paid, adjusted using the price adjustment factor.
Dividends MSTK_DIV	Cumfacpr	Cumulative Factor to Adjust Prices Over a Date Range	0	%11.6f	list	Cumulative factor from a base date used to adjust prices after distributions so that equivalent comparisons can be made between prices before and after the distribution.

GROUP	ITEM HEADER	FULL NAME	SUBNO	FORMAT	ENTITY TYPE(S)	DESCRIPTION
MONTHLY DATA						
	Cumfacshr	Cumulative Factor to Adjust Shares/Volume Over a Date Range	0	%11.6f	list	Cumulative factor from a base date used to adjust shares and volume after distributions so that equivalent comparisons can be made between values before and after the distribution. Represented as a ratio.
	Facprc	Factor to Adjust Price in Period	0	%11.6lf	list	Factor from a base date used to adjust prices after distributions so that equivalent comparisons can be made between prices before and after the distribution.
	Odivamt	Ordinary Dividend Amount in Period, Beginning Basis	0	%11.5f	list	Ordinary cash dividends paid during the period, adjusted to beginning of period basis.
				%11.5lf		
Capitalization MSTK_CAP	Cap	Capitalization, End of Previous Period	0	%15.2lf	list, index, port	Closing price * shares outstanding (in 1000s) at the end of the previous period. If an index, capitalization is the total market value of the issues used in the index at the beginning of the previous period.
	TCap	Capitalization, End of Period	0	%15.2lf	list, index	Closing price * shares outstanding (in 1000s), as of end of the period. If an index, capitalization is the total market value of the issues used in the index at the beginning of the period.
Index Levels & Counts MSTK_LEVEL	TLvl	Total Return Index Level	0	%11.2f	list, index	Value of an index, including all distributions, relative to its value at one fixed point in time.
	ALvl	Price Index Level	0	%11.2f	list, index	Value of an index, excluding ordinary dividends, relative to its value at one fixed point in time.list
	ILvl	Index Level of Returns on Income	0	%11.2f	list, index	Ordinary dividend value of an index, relative to its value at one fixed point in time.
NASDAQ MSTK_NASDAQ	Nsdinx	NASDAQ Index Code	0	%2d	list	Integer code indicating the issue's classification within NASD's internal business description categories, at the end of each period reported.
	Nmsind	NASDAQ National Market Indicator	0	%2d	list	One-digit integer code indicating an issue's membership within the NASDAQ Market tier system.
	Mmcnt	NASDAQ Market Makers Count	0	%4d	list	Number of registered market makers for an issue trading on NASDAQ, at the end of the period reported.
	Trtscd	NASDAQ Status Code, End of Period	0	%2d	list	One-digit integer describing the trading status of an issue listed on NASDAQ, at the end of each period reported.
	Nsdinxe	NASDAQ Index Code, End of Previous Period	1	%2d	list	Integer code indicating the issue's classification within NASD's internal business description categories, at the end of the period preceding the period reported.
	Nmsinde	NASDAQ National Market Indicator, End of Previous Period	1	%2d	list	One-digit integer code indicating an issue's membership within the NASDAQ Market tier system, as of the previous period.
NASDAQ MSTK_NASDAQ	Mmcnte	NASDAQ Market Makers, End of Previous Period	1	%4d	list	Number of registered market makers for an issue trading on NASDAQ, at the end of the period preceding the period reported.
	Trtscde	NASDAQ Status Code, End of Previous Period	1	%2d	list	One-digit integer describing the trading status of an issue listed on NASDAQ, at the end of the period preceding each period reported.
	Nsdinxl	NASDAQ Index Code, Most Recent	2	%2d	list	Integer code indicating the issue's classification within NASD's internal business description categories, the most recent value.
	Nmsindl	NASDAQ National Market Indicator, Most Recent	2	%2d	list	One-digit integer code indicating an issue's membership within the NASDAQ Market tier system, most recently known value.

GROUP	ITEM HEADER	FULL NAME	SUBNO	FORMAT	ENTITY TYPE(S)	DESCRIPTION
MONTHLY DATA						
	Mmcntl	NASDAQ Market Makers, Most Recent	2	%4d	list	Number of registered market makers for an issue trading on NASDAQ, the most recently known value.
	Trtscdl	NASDAQ Status Code, Most Recent	2	%2d	list	One-digit integer describing the trading status of an issue listed on NASDAQ, most recently know value, as of the end of each period reported.
Others MSTK_OTHER	Altdt	Date - YYYYMMDD Trading Date (partial period data)	0	%8d	list	Trading dates used with partial period data.
	Caldt	Date	0	%8d	list, index	Last quotation date in the month
	Cnt	Index Count Used	0	%6d	list, index, port	Number of issues used to create a specific index or portfolio during one calendar period.
	TCnt	Index Count Total	0	%6d	list, index, port	Total number of securities in an index universe with a valid price on the selected trading date.
	Date1	Entity Begin Date Range or Event Date	0	%9d	list	First period in a selected date range, or event date for an entity.
	Date2	Entity End Date Range	0	%9d	list	Last date in a selected date range for an entity.
	LSPInd	Group Flag of Associated Index, Last Flag, All Periods	2	%4d	list	Last known code identifying a group to which a security belongs. Currently, S&P 500 group flag 16 is the only active group.
	ESPInd	Group Flag of Associated Index, End of Previous Period	1	%4d	list	Code identifying a group to which a security belongs, in the period preceeding the period reported. Currently, S&P 500 group flag 16 is the only active group.
	Grpflag	Group Flag	0	%4d	list	Group flag
	Port	Portfolio Assignment	0	%4d	list	Integer portfolio assignment of a security for the portfolio type.
	Stat	Portfolio Statistic Value	0	%16.5lf	list	Statistic calculated for the security based on the rules for the selected portfolio type.

`stk_print` is a command-line utility that can be used to access CRSPAccess stock data on all supported platforms. It is useful for browsing data formatted for a terminal or extracting data formatted for program input. It supports CRSP stock header, event, and time-series data items and supports individual securities typed at a terminal, securities in an input file, or all securities in the database. The user selects input and output options on the command line. If security identifiers are typed at the terminal, options can be switched between each entry. Output can be printed to a terminal or saved in a file.

STK_PRINT ACCESS:

Shortcuts:

- `stkprint` or `dstkprint` to read the daily CRSP stock database
- `mstkprint` to read the monthly CRSP stock database

Full syntax:

- `crsp_print  /d1 database name /s1 10` –daily
- `crsp_print /d1 database name /s1 20` - monthly

STK_PRINT OPTIONS

STK_PRINT DATA ITEMS

The following table contains the daily and monthly data items available in `stk_print` and the output headers. Some items offer adjustment parameters. A table of parameter information and definitions follows, on page 52.

ADJUSTED DELISTINGS				
DAILY ITEMID	**MONTHLY ITEMID**	**NAME**	**OUTPUT HEADER**	**PARAMETERS**
adjnextdt	madjnextdt	Date of Next Quote After Delisting, Adjusted	Nextdt	adjdate,adjtype,gaprule
adjdlstcd	madjdlstcd	Delisting Code, Adjusted	Dlstcd	adjdate,adjtype,gaprule
adjdlstdt	madjdlstdt	Delisting Date, Adjusted	Dlstdt	adjdate,adjtype,gaprule
adjdlret	madjdlret	Delisting Return, Adjusted	Dlret	adjdate,adjtype,gaprule
adjdlpdt	madjdlpdt	Effective Date of Delisting Payment, Adjusted	Dlpdt	adjdate,adjtype,gaprule
adjnwcomp	madjnwcomp	Linked PERMCO After Delisting, Adjusted	Nwcomp	adjdate,adjtype,gaprule
adjnwperm	madjnwperm	Linked PERMNO After Delisting, Adjusted	Nwperm	adjdate,adjtype,gaprule
adjdlprc	madjdlprc	Next Price After Delisting, Adjusted	Dlprc	adjdate,adjtype,gaprule
adjdlretx	madjdlretx	Return Without Dividends, Adjusted	Dlretx	adjdate,adjtype,gaprule
adjdlamt	madjdlamt	Total Amount Used in Delisting return, Adjusted	Dlamt	adjdate,adjtype,gaprule

ADJUSTED DISTRIBUTIONS				
DAILY ITEMID	**MONTHLY ITEMID**	**NAME**	**OUTPUT HEADER**	**PARAMETERS**
adjaccomp	madjaccomp	Acquiring PERMCO, Adjusted	Acomp	adjdate,adjtype,gaprule
adjacperm	madjacperm	Acquiring PERMNO, Adjusted	Aperm	adjdate,adjtype,gaprule
adjdclrdt	madjdclrdt	Declare Date, Adjusted	Dclrdt	adjdate,adjtype,gaprule
adjdistcd	madjdistcd	Distribution Code, Adjusted	Code	adjdate,adjtype,gaprule
adjdivamt	madjdivamt	Dividend Amount, Adjusted	Divamt	adjdate,adjtype,gaprule
adjexdt	madjexdt	Ex-Distribution Date, Adjusted	Exdt	adjdate,adjtype,gaprule
adjfacpr	madjfacpr	Factor to Adjust Price, Adjusted	Facpr	adjdate,adjtype,gaprule
adjfacshr	madjfacshr	Factor to Adjust Shares Outstanding, Adjusted	Facshr	adjdate,adjtype,gaprule
adjpaydt	madjpaydt	Payment Date, Adjusted	Paydt	adjdate,adjtype,gaprule
adjrcrddt	madjrcrddt	Record Date, Adjusted	Rcrddt	adjdate,adjtype,gaprule

ADJUSTED SHARES				
DAILY ITEMID	**MONTHLY ITEMID**	**NAME**	**OUTPUT HEADER**	**PARAMETERS**
adjshrsdt	madjshrsdt	Effective Date of Shares Outstanding, Adjusted	Shrsdt	adjdate,adjtypes,gaprule
adjshrflg	madjshrflg	Flag of Shares Source, Adjusted	Shrflg	adjdate,adjtypes,gaprule
adjshrsenddt	madjshrsenddt	Last Effective Date of Shares Outstanding, Adjusted	Shrsenddt	adjdate,adjtypes,gaprule
adjshrout	madjshrout	Shares Outstanding, Adjusted	Shrout	adjdate,adjtypes,gaprule

DELISTING HISTORY				
DAILY ITEMID	**MONTHLY ITEMID**	**NAME**	**OUTPUT HEADER**	**PARAMETERS**
nextdt	mnextdt	Date of Next Available Information	Nextdt	n/a
dlstcd	mdlstcd	Delisting Code	Dlstcd	n/a
dlstdt	mdlstdt	Delisting Date	Dlstdt	n/a
dlpdt	mdlpdt	Delisting Payment Date	Dlpdt	n/a
dlprc	mdlprc	Delisting Price	Dlprc	n/a
dlret	mdlret	Delisting Return	Dlret	n/a
dlretx	mdlretx	Delisting Return without Dividends	Dlretx	n/a
nwcomp	mnwcomp	Linked PERMCO After Delisting	Nwcomp	n/a
nwperm	mnwperm	Linked PERMNO After Delisting	Nwperm	n/a
dlamt	mdlamt	Total Amount Used in Delisting Return	Dlamt	n/a

DISTRIBUTION HISTORY				
DAILY ITEMID	**MONTHLY ITEMID**	**NAME**	**OUTPUT HEADER**	**PARAMETERS**
accomp	maccomp	Acquiring PERMCO	Acomp	n/a
acperm	macperm	Acquiring PERMNO	Aperm	n/a
distcd	mdistcd	Distribution Code	Code	n/a
dclrdt	mdclrdt	Distribution Declaration Date	Dclrdt	n/a
exdt	mexdt	Ex-Distribution Date	Exdt	n/a
facshr	mfacshr	Factor to Adjust Shares Outstanding	Facshr	n/a
paydt	mpaydt	Payment Date	Paydt	n/a
rcrddt	mrcrddt	Record Date	Rcrddt	n/a

GROUP INCLUSION				
DAILY ITEMID	**MONTHLY ITEMID**	**NAME**	**OUTPUT HEADER**	**PARAMETERS**
grpdt	mgrpdt	Group Beginning Date	Grpdt	n/a
grpenddt	mgrpenddt	Group Ending Date	Grpenddt	n/a
grpflag	mgrpflag	Group Flag	Grpflag	n/a
grpsubflag	mgrpsubflag	Group Subflag	Subflag	n/a

NASDAQ HISTORY				
DAILY ITEMID	**MONTHLY ITEMID**	**NAME**	**OUTPUT HEADER**	**PARAMETERS**
trtsdt	mtrtsdt	Beginning Effective Date of Traits	Trtsdt	n/a
trtsenddt	mtrtsenddt	Last Effective Date of Traits	Trtsenddt	n/a
nsdinx	mnsdinx	NASDAQ Index Code	Nsdinx	n/a
mmcnt	mmmcnt	NASDAQ Market Makers Count	Mmcnt	n/a
nmsind	mnmsind	NASDAQ National Market Indicator	Nmsind	n/a
trtscd	mtrtscd	NASDAQ Status Code, End of Period	Trtscd	n/a

NAME HISTORY				
DAILY ITEMID	**MONTHLY ITEMID**	**NAME**	**OUTPUT HEADER**	**PARAMETERS**
ncusip	mncusip	CUSIP	NCUSIP	n/a
comnam	mcomnam	Company Name	Company Name	n/a
exchcd	mexchcd	Exchange Code	EX	n/a
namedt	mnamedt	Names Information Begin Date	Namedt	n/a
nameenddt	mnameenddt	Names Information End Date	Enddt	n/a
snaics	msnaics	North American Industry Classification System (NAICS)	Naics	n/a
primexch	mprimexch	Primary Exchange	Ex1	n/a
secstat	msecstat	Security Status	Sst	n/a
shrcls	mshrcls	Share Class	CL	n/a
shrcd	mshrcd	Share Code	SH	n/a
siccd	msiccd	Standard Industrial Classification (SIC) Code	SIC	n/a
subexch	msubexch	Sub-Exchange	Ex2	n/a
ticker	mticker	Ticker Symbol	Ticker	n/a
trdstat	mtrdstat	Trading Status	Tst	n/a
tsymbol	mtsymbol	Trading Ticker Symbol	Symbol	n/a

PORTFOLIO HISTORY				
DAILY ITEMID	**MONTHLY ITEMID**	**NAME**	**OUTPUT HEADER**	**PARAMETERS**
port	mport	Portfolio Assignment	Port	n/a
stat	mstat	Portfolio Statistic Value	Stat	n/a

RAW SHARES HISTORY				
DAILY ITEMID	**MONTHLY ITEMID**	**NAME**	**OUTPUT HEADER**	**PARAMETERS**
rshrsdt	mrshrsdt	Effective Date of Shares Outstanding, without Imputed Observations	Shrsdt	n/a
rshrflg	mrshrflg	Flag of Shares Source, without Imputed Observations	Shrflg	n/a
rshrsenddt	mrshrsenddt	Last Day Shares Outstanding Effective, without Imputed Observations	Shrsenddt	n/a
rshrout	mrshrout	Raw Shares Outstanding, without Imputed Observations	Shrout	n/a

SHARES HISTORY				
DAILY ITEMID	**MONTHLY ITEMID**	**NAME**	**OUTPUT HEADER**	**PARAMETERS**
shrout	mshrout	Shares Outstanding	Shrout	n/a
shrsdt	mshrsdt	Shares Outstanding Observation Date	Shrsdt	n/a
shrsenddt	mshrsenddt	Shares Outstanding Observation End Date	Shrsenddt	n/a
shrflg	mshrflg	Shares Outstanding Observation Flag	Shrflg	n/a

STOCK HEADER RANGES				
DAILY ITEMID	**MONTHLY ITEMID**	**NAME**	**OUTPUT HEADER**	**PARAMETERS**
n/a	maltprc_beg	Alternate Price Begin Date	BegAltDt	n/a
n/a	maltprc_end	Alternate Price End Date	EndAltDt	n/a
ask_beg	mask_beg	Ask Begin Date	BegAsk	n/a
ask_end	mask_end	Ask End Date	EndAsk	n/a
askhi_beg	maskhi_beg	Ask or High Price Begin Date	BegHi	n/a
askhi_end	maskhi_end	Ask or High Price End Date	EndHi	n/a
bid_beg	mbid_beg	Bid Begin Date	BegBid	n/a
bid_end	mbid_end	Bid End Date	EndBid	n/a
bidlo_beg	mbidlo_beg	Bid or Low Price Begin Date	BegLo	n/a
bidlo_end	mbidlo_end	Bid or Low Price End Date	EndLo	n/a
hr_hcusip	mhr_hcusip	CUSIP, Historical	CUSIP	n/a
n/a	mspread_beg	Closing Bid/Ask Spread Begin Date	BegSpr	n/a
n/a	mspread_end	Closing Bid/Ask Spread End Date	EndSpr	n/a
n/a	maltprcdt_beg	Date of Alternate Price Begin Date	BegAlt	n/a
n/a	maltprcdt_end	Date of Alternate Price End Date	EndAlt	n/a
hr_hexcd	mhr_hexcd	Exchange Code, Historical	EX	n/a
avail_grouptypes	mavail_grouptypes	Group Types Available	Group Types Available	n/a
hr_begdt	mhr_begdt	Header Begin Date	Begdt	n/a
hr_enddt	mhr_enddt	Header End Date	Enddt	n/a
hr_compno	mhr_compno	NASDAQ Company Number, Historical	Compno	n/a
hr_issuno	mhr_issuno	NASDAQ Issue Number, Historical	Issuno	n/a
numtrd_beg	n/a	NASDAQ Number of Trades Begin Date	BegTrd	n/a
numtrd_end	n/a	NASDAQ Number of Trades End Date	EndTrd	n/a
total_dlsts	mtotal_dlsts	Number of Delisting Events	Dlst	n/a
total_dists	mtotal_dists	Number of Distribution Events	Dists	n/a
total_nasdins	mtotal_nasdins	Number of NASDAQ Information Events	Nasdin	n/a
total_names	mtotal_names	Number of Name Rows	Names	n/a
total_shares	mtotal_shares	Number of Shares Events	Shares	n/a
openprc_beg	n/a	Open Price Begin Date	BegOpn	n/a
openprc_end	n/a	Open Price End Date	EndOpn	n/a
hr_permco	mhr_permco	PERMCO, Historical	PERMCO	n/a
hr_permno	mhr_permno	PERMNO, Historical	PERMNO	n/a
avail_porttypes	mavail_porttypes	Portfolio Types Available	Portfolio Types Avail	n/a
prc_beg	mprc_beg	Price or Bid/Ask Average Begin Date	BegPrc	n/a
prc_end	mprc_end	Price or Bid/Ask Average End Date	EndPrc	n/a
ret_beg	mret_beg	Returns Begin Date	BegRet	n/a
ret_end	mret_end	Returns End Date	EndRet	n/a

retx_beg	mretx_beg	Returns without Dividends Begin Date	BegRtx	n/a
retx_end	mretx_end	Returns without Dividends End Date	EndRtx	n/a
hr_hsiccd	mhr_hsiccd	SIC Code, Historical	SIC	n/a
vol_beg	mvol_beg	Volume Traded Begin Date	BegVol	n/a
vol_end	mvol_end	Volume Traded End Date	EndVol	n/a

STOCK IDENTIFICATION				
DAILY ITEMID	**MONTHLY ITEMID**	**NAME**	**OUTPUT HEADER**	**PARAMETERS**
cusip	mcusip	CUSIP, Header	CUSIP	n/a
hcomnam	mhcomnam	Company Name, Header	Latest Company Name	n/a
issuno	missuno	Current NASDAQ Issue Identifier	Issuno	n/a
hdlstcd	mhdlstcd	Delisting Code, Header	DEL	n/a
hexcd	mhexcd	Exchange Code, Header	EX	n/a
compno	mcompno	NASDAQ Company Number	COMPNO	n/a
hsnaics	mhsnaics	North American Industry Classification System (NAICS), Header	Naics	n/a
permco	mpermco	PERMCO	PERMCO	n/a
permno	mpermno	PERMNO	PERMNO	n/a
hprimexch	mhprimexch	Primary Exchange, Header	Ex1	n/a
hsecstat	mhsecstat	Security Status, Header	Sst	n/a
hshrcd	mhshrcd	Share Code, Header	SH	n/a
hsiccd	mhsiccd	Standard Industrial Classification (SIC) Code, Header	SIC	n/a
begdt	mbegdt	Stock Data Begin Date	Begdt	n/a
enddt	menddt	Stock Data End Date	Enddt	n/a
hsubexch	mhsubexch	Sub-Exchange, Header	Ex2	n/a
htick	mhtick	Ticker Symbol, Header	Htick	n/a
htrdstat	mhtrdstat	Trading Status, Header	Tst	n/a
htsymbol	mhtsymbol	Trading Ticker Symbol, Header	Symbol	n/a

TIME SERIES				
DAILY ITEMID	**MONTHLY ITEMID**	**NAME**	**OUTPUT HEADER**	**PARAMETERS**
n/a	maltprc	Alternate Price	AltPrc	n/a
n/a	madjaltprc	Alternate Price, Adjusted	Adjaltprc	adjdate,adjtype,gaprule
ask	mask	Ask	Ask	n/a
askhi	maskhi	Ask or High Price	Askhi	n/a
adjask	madjask	Ask, Adjusted	Adjask	adjdate,adjtype,gaprule
adjaskhi	madjaskhi	Askhi, Adjusted	Adjaskhi	adjdate,adjtype,gaprule
bid	mbid	Bid	Bid	n/a
bidlo	mbidlo	Bid or Low Price	Bidlo	n/a
adjbid	madjbid	Bid, Adjusted	Adjbid	adjdate,adjtype,gaprule
adjbidlo	madjbidlo	Bidlo, Adjusted	Adjbidlo	adjdate,adjtype,gaprule
cretx	mcretx	Calculated Return without Dividends	Retx	validexch, gapwindow
cret	mcret	Calculated Total Return	Ret	validexch, gapwindow
n/a	mspread	Closing Bid/Ask Spread	Spread	n/a
n/a	madjspread	Closing Bid/Ask Spread, Adjusted	Adjspread	adjdate,adjtype,gaprule
n/a	maltprcdt	Date of Alternate Price	AltPrcDt	n/a
numtrd	n/a	NASDAQ Number of Trades	Numtrd	n/a
openprc	n/a	Open Price	OpenPrc	n/a

adjopenprc	n/a	Open Price, Adjusted	AdjOpenPrc	adjdate,adjtype,gaprule
alvl	malvl	Price Index Level	ALvl	basedate,baseamt
prc	mprc	Price or Bid/Ask Average	Prc	n/a
adjprc	madjprc	Price, Adjusted	Adjprc	adjdate,adjtype,gaprule
ret	mret	Returns	Ret	n/a
retx	mretx	Returns Without Dividends	Retx	n/a
shr	mshr	Shares Outstanding Mapped to Time Series	Shr	rightsrule
adjshr	madjshr	Shares Outstanding Mapped to Time Series, Adjusted	Adjshr	adjdate,adjtype,gaprule, rightsrule
tlvl	mtlvl	Total Return Index Level	TLvl	basedate,baseamt
adjvol	madjvol	Volume, Adjusted	Adjvol	adjdate,adjtypes,gaprule

PARAMETERS

`Param_list` describes a set of parameters that are applied to derive applicable items in the list element. Parameters must be specified in the expected order for the item. If a parameter is not specified the derivation will use the default value for that parameter. If earlier parameter are not specified a period is used as a placeholder in a list. If a parameter list is applied to a group it will be applied to all items in the group that require parameters. Groups never contain items with conflicting parameters. Examples are:

- `tlvl(20071231,100.0)`- first parameter basedate is 20071231 and second parameter baseamt is 100.0.
- `tlvl(.,1.0)` – first parameter `basedate` will use the default (date of earliest price) and the second parameter baseamt will be 1.
- `tlvl` – since no parameters are given `basedate` and `baseamt` will use default values, the date of earliest price for `basedate` and 100 for `baseamt`.
- `adjprc(20071231,1)` – first parameter `adjdate` is 20071231 and second parameter `adjtype` is 1. The third parameter gaprule is not specified so the default value will be used.

PARAMETER TYPES

PARAMETER NAME	DATA TYPE	PARAMETER TYPE	PARAMETER VALUES	FORMAT	DEFAULT	RANGE OF VALUES
basedate	integer	ex_caldt	Date set to base amount. If before first date of prices will be set to that date. If after last date of prices will be set to that date.	%8d	0	0 – 99999999
baseamt	Double precision	posnum	Amount to be reported on base date. If 0 then it will use the actual price on the base date.	%1d	100.0	0 – 10000
adjdate	integer	ex_caldt	Anchor date where all data reported as is. If before first date of prices will be set to that date. If after last date of prices will be set to that day.	%8d	99999999	0 – 99999999
gaprule	integer	flag01	Rule used to handle holes in the data. 0 = continue date on the other side of a gap at user risk due to incomplete adjustment data during gap. 1 = all values on the other side of a gap will be set to missing	%1d	1	0 – 1

PARAMETER NAME	DATA TYPE	PARAMETER TYPE	PARAMETER VALUES	FORMAT	DEFAULT	RANGE OF VALUES
rightsrule	integer	Flag01	Rule used to apply share factors from rights distributions 0 = use shares outstanding as in CRSP shares history. 1 = recreate shares history by ignoring shares factors associated with rights distributions.	%1d	0	0 - 1
adjtype	integer	flag04	Types of distribution events used to make price adjustments 0 = apply only stock splits and dividends 1 = apply all factors	%1d	1	0 - 1
adjtypes	integer	flag01	Types of distribution events used to make shares and volumes adjustments 0 = apply only stock splits and dividends 1 = apply all factors	%1d	0	0 - 1
validexch	integer	wholenum	Binary flag for exchanges of interest, 1 = NYSE, 2 = NYSE MKT, 4 = Nasdaq, 8 = ARCA, plus sums to get multiple exchanges.	%2d	15	0 - 15
gapwindow	integer	wholenum	Maximum number of periods allowed between current date and previous price for that price to be valid in a return calculation.	%45	10	0 - 99999

STK_PRINT OPTIONS

Options are preceded with a forward slash. Multiple options can be placed on a single line. A full request string of options can hold up to 2047 characters.

Following is a list of current `stk_print` options, grouped by option category. 0, -88.0, and 99.0 indicate missing values.

HEADER INFORMATION

/hh

Header file issue identification information

```
Stock Identification
--------------------
PERMNO    CUSIP Htick  PERMCO   COMPNO   Issuno EX  SIC    Begdt    Enddt DEL
 12490 45920010 IBM     20990        0        0  1 7379 19251231 20140930 100

Latest Company Name                  Symbol       Naics   SH Ex1 Ex2 Tst Sst
INTERNATIONAL BUSINESS MACHS COR     IBM          541512  11   N       A   R
```

Note that header ticker only contains values for active securities.

/hr

Header file issue identifiers with available data date ranges in YYYYMMDD format

```
 Stock Header Ranges
--------------------
PERMNO    CUSIP PERMCO   Compno   Issuno EX  SIC Names Dists Shares Dlst Nasdin
 12490 45920010  20990        0        0  1 7379     7   398    412    1      0

    Begdt    Enddt    BegPrc   EndPrc    BegRet   EndRet    BegRtx   EndRtx
 19251231 20140930  19251231 20140930  19251231 20140930  19251231 20140930

    BegLo    EndLo     BegHi    EndHi    BegVol   EndVol    BegBid   EndBid
 19251231 20140930  19251231 20140930  19251231 20140930  19251231 20140930

   BegAsk   EndAsk    BegTrd   EndTrd    BegOpn   EndOpn
 19251231 20140930                     19251231 20140930

Portfolio Types Avail

1 - NYSE/NYSEMKT/NASDAQ Cap Assignments                          1925 - 2015
2 - NYSE/NYSEMKT Cap Assignment                                  1925 - 2015
4 - NYSE Cap Assignment                                          1925 - 2015
6 - NYSE/NYSEMKT Betas                                           1926 - 2015
7 - NYSE/NYSEMKT Standard Deviations                             1926 - 2015

Group Types Available

16 - S&P 500 Universe                                      19570301 - 20140930
```

/hl

Header identifiers with ranges in terms of calendar day numbers, starting with Dec 31, 1925 as day 1. The /hl option includes all of the options /hr does, with the corresponding CRSP file calendar indexed in Calendar Trading Date, instead of dates in YYYYMMDD format. With the exception of the date presentation, /hl provides the same data as /hr.

```
   Stock Header Day Ranges
-----------------------
PERMNO    CUSIP PERMCO   Compno   Issuno EX  SIC Names Dists Shares Dlst Nasdin
 12490 45920010  20990        0        0  1 7379     7   398    412    1      0

    Begdt    Enddt    BegPrc   EndPrc    BegRet   EndRet    BegRtx   EndRtx
 19251231 20140930         1    23471         1    23471         1    23471

    BegLo    EndLo     BegHi    EndHi    BegVol   EndVol    BegExc   EndExc
        1    23471         1    23471         1    23471         0        0

   BegBid   EndBid    BegAsk   EndAsk    BegTrd   EndTrd    BegOpn   EndOpn
        1    23471         1    23471         0        0         1    23471

Portfolio Types Avail

1 - NYSE/NYSEMKT/NASDAQ Cap Assignments                          1925 - 2015
2 - NYSE/NYSEMKT Cap Assignment                                  1925 - 2015
4 - NYSE Cap Assignment                                          1925 - 2015
6 - NYSE/NYSEMKT Betas                                           1926 - 2015
7 - NYSE/NYSEMKT Standard Deviations                             1926 - 2015

Group Types Available

16 - S&P 500 Universe                                      19570301 - 20140930
```

/hn

Supplemental header identification information

```
Stock Header
------------
PERMNO    CUSIP PERMCO   COMPNO   Issuno Htick  EX  SIC DEL SH Symbol
 12490 45920010  20990        0        0 IBM     1 7379 100 11 IBM

   Begdt    Enddt Latest Company Name                     Rating    Expdt
19251231 20140930 INTERNATIONAL BUSINESS MACHS COR        0.0000        0

Naics   NameCd Hcntrycd Ex1 Ex2 Tst Sst ShT IsC InC Its Den ElC CvC NmF
541512       0            N       A   R

NameDesc
```

EVENT INFORMATION

/ns

Short name event history information. Every time such activities occur that cause a change to one of the fields included in the names array, a new row is added.

```
Name History - Short
--------------------
  Namedt    Enddt NCUSIP   Ticker Company Name                      CL SH EX  SIC
19251231 19620701                 INTERNATIONAL BUSINESS MACHS COR    11  1 3570
19620702 19680101          IBM    INTERNATIONAL BUSINESS MACHS COR    11  1 3573
19680102 19990103 45920010 IBM    INTERNATIONAL BUSINESS MACHS COR    11  1 3573
19990104 20010823 45920010 IBM    INTERNATIONAL BUSINESS MACHS COR    11  1 3571
20010824 20020101 45920010 IBM    INTERNATIONAL BUSINESS MACHS COR    11  1 3571
20020102 20090331 45920010 IBM    INTERNATIONAL BUSINESS MACHS COR    11  1 3571
```

/nm

Names History – includes all items that are populated by any securities. Reserved items available in the Names-All category are removed.

```
Name History
------------
  Namedt    Enddt NCUSIP   Ticker Company Name                      CL SH EX  SIC
19251231 19620701                 INTERNATIONAL BUSINESS MACHS COR    11  1 3570
19620702 19680101          IBM    INTERNATIONAL BUSINESS MACHS COR    11  1 3573
19680102 19990103 45920010 IBM    INTERNATIONAL BUSINESS MACHS COR    11  1 3573
19990104 20010823 45920010 IBM    INTERNATIONAL BUSINESS MACHS COR    11  1 3571
20010824 20020101 45920010 IBM    INTERNATIONAL BUSINESS MACHS COR    11  1 3571
20020102 20090331 45920010 IBM    INTERNATIONAL BUSINESS MACHS COR    11  1 3571

  Namedt    Enddt Symbol     Naics   Ex1 Ex2 Tst Sst
19251231 19620701                     N       A   R
19620702 19680101                     N       A   R
19680102 19990103                     N       A   R
19990104 20010823                     N       A   R
20010824 20020101            334111   N       A   R
20020102 20090331 IBM        334111   N       A   R
```

All of the name fields combined constitute a Name History Record. Therefore, a change to any name field adds a row to the Name History Array. For example, the /nm option does not appear to have any changes between 20010824 and 20021231, but there are two name history rows. Notice that under the /nm option, the NAICS code was added on 20010824 and the Trading Ticker Symbol was added on 20020102.

/an

All – complete names history, all fields available.

```
Name History - All
------------------
  Namedt    Enddt NCUSIP   Ticker Company Name                      CL SH EX  SIC
19251231 19620701                 INTERNATIONAL BUSINESS MACHS COR    11  1 3570
19620702 19680101          IBM    INTERNATIONAL BUSINESS MACHS COR    11  1 3573
19680102 19990103 45920010 IBM    INTERNATIONAL BUSINESS MACHS COR    11  1 3573
19990104 20010823 45920010 IBM    INTERNATIONAL BUSINESS MACHS COR    11  1 3571
20010824 20020101 45920010 IBM    INTERNATIONAL BUSINESS MACHS COR    11  1 3571
20020102 20090331 45920010 IBM    INTERNATIONAL BUSINESS MACHS COR    11  1 3571

  Namedt    Enddt Symbol     Naics   Ex1 Ex2 Tst Sst ShT IsC InC Its Den ElC CvC
19251231 19620701                      N       A   R
19620702 19680101                      N       A   R
19680102 19990103                      N       A   R
19990104 20010823                      N       A   R
20010824 20020101             334111   N       A   R
20020102 20090331 IBM         334111   N       A   R

  Namedt    Enddt NmF Cntrycd    Uot NameCd    Expdt    Rating NameDesc
19251231 19620701                   0      0        0    0.0000
19620702 19680101                   0      0        0    0.0000
19680102 19990103                   0      0        0    0.0000
19990104 20010823                   0      0        0    0.0000
20010824 20020101                   0      0        0    0.0000
20020102 20090331                   0      0        0    0.0000
```

/da

Adjusted distribution events. Returns distribution codes, adjusted dividend amounts, adjustment factors for prices and shares, declaration-, ex- , record-, and pay-dates. Parameters may be set for adjustment dates, types and gaprules.

If no parameters are set, defaults are used.

```
Adjusted Distributions
----------------------
Code    Divamt    Facpr   Facshr   Dclrdt     Exdt   Rcrddt    Paydt Aperm Acomp

1232   0.95000   0.0000   0.0000 20130730 20130807 20130809 20130910     0     0
1232   0.95000   0.0000   0.0000 20131029 20131106 20131108 20131210     0     0
1232   0.95000   0.0000   0.0000 20140128 20140206 20140210 20140310     0     0
1232   1.10000   0.0000   0.0000 20140429 20140507 20140509 20140610     0     0
1232   1.10000   0.0000   0.0000 20140729 20140806 20140808 20140910     0     0
```

/sh

Raw shares observation event histories

```
  Shrout   Shrsdt Shrsenddt Shrflg
   2858 20071109  20071230      0
   2875 20071231  20080210      0
   4345 20080211  20080304      0
   4345 20080305  20080330      2
   4347 20080331  20080511      0
   4347 20080512  20080630      0
```

/sa

Shares event histories adjusted for distributions

```
Shrout   Shrsdt Shrsenddt Shrflg
   2858 20071109  20071230      0
   2875 20071231  20080204      0
   4313 20080205  20080210      1
   4345 20080211  20080304      0
   4345 20080305  20080330      2
   4347 20080331  20080511      0
   4347 20080512  20080630      0
```

/sj

Adjusted shares events. Returns adjusted shares, dates, and shares flag. Parameters may be set for adjustment dates, types and gaprules. If no parameters are set, defaults are used.

```
Adjusted Shares
---------------
    Shrout   Shrsdt Shrsenddt Shrflg
     37791 19890929  19891228      0
     37791 19891229  19900329      0
     37791 19900330  19900628      0
     …
     26169 20060831  20060928      0
     26169 20060929  20061030      0
     26169 20061031  20061123      0
     26169 20061124  20061129      2
     26256 20061130  20061228      0
```

/de

Delisting event histories

```
Delisting History
-----------------
  Dlstdt Dlstcd   Nwperm   Nwcomp   Nextdt         Dlprc    Dlpdt         Dlamt
20131213    552        0        0 20131216       0.06200 20131216       0.06200

  Dlstdt       Dlret      Dlretx
20131213   -0.009585   -0.009585
```

/ej

Adjusted delisting events. Returns delisting amounts, dates, codes, prices, returns with and without dividends. Parameters may be set for adjustment dates, types and gaprules. If no parameters are set, defaults are used.

```
Adjusted Delistings
-------------------
  Dlstdt Dlstcd   Nwperm   Nwcomp   Nextdt         Dlprc    Dlpdt         Dlamt
20110318    580        0        0 20110617       0.50000                0.00000

  Dlstdt       Dlret      Dlretx
20110318  -66.000000  -66.000000
```

/qi

```
NASDAQ event information histories
  Trtsdt Trtsenddt Trtscd Nmsind Mmcnt Nsdinx
20080424  20080424       1      6     83     55
20080425  20080427       1      6     82     55
20080428  20080527       1      6     83     55
20080528  20080529       1      6     82     55
20080530  20080603       1      6     81     55
20080604  20080616       1      6     82     55
20080617  99999999       1      6     83     55
```

TIME-SERIES GROUPS

Only one of `/dd, /ds, /dr, /dx` can be used at a time.

/dd

Trading data including close, ask/high, bid/low, volume, and total return

```
Market Summary
--------------
   Caldt          Prc        Askhi        Bidlo        Vol         Ret
20140501     10.87000     11.17000     10.60000     281725    0.004621
20140502     10.57000     11.18000     10.37000     210988   -0.027599
20140505     10.89000     10.94000     10.20080     226582    0.030274
20140506     10.46000     11.17890     10.39000     352925   -0.039486
20140507     10.34000     11.17000     10.08040     383370   -0.011472
20140508      9.92000     10.51000      9.80000     595209   -0.040619
20140509      9.76000     10.19000      9.50030     554706   -0.016129
20140512      9.71000     10.21000      9.53000     432504   -0.005123
20140513      9.60000     10.04000      9.60000     492596   -0.011328
20140514      9.20000      9.72000      9.18000     597341   -0.041667
```

/dj

Adjusted time series. Returns adjusted time series for prices, ask hi, bid low, volumes and include returns. Adjustment date, type, and gaprules are available parameters. If no parameters are set, defaults defined in the Parameter Types table are used.

```
/dj 19980101,1,0
Adjusted Market Summary
-----------------------
   Caldt        Adjprc      Adjaskhi     Adjbidlo        Adjvol         Ret
20080530    258.85999    259.98001    257.60001       4326450   -0.002159
20080602    254.72000    258.73999    253.39999       3799650   -0.015993
20080603    255.67999    258.00000    254.92000       3619300    0.003769
20080604    255.10001    257.00000    252.89999       3216200   -0.002268
20080605    256.94000    258.07999    254.39999       3076900    0.007213
20080606    249.88000    256.28000    249.48000       3943100   -0.027477
```

/dr

Calculated returns. Returns price, calculated returns with and without dividends. Calculated returns items allow users control for returns based on specified exchange closing prices as well as control over the size of gap windows. If no parameters are set, defaults of a 10-day gap window and the aggregate of all CRSP-followed exchanges are used. Returns calculated with defaults will match CRSP standard return items.

```
/dt20080530-20080630 /dr 4,15

Price and Returns
-----------------
   Caldt          Prc          Ret         Retx
20080530     28.32000     0.000353     0.000353
20080602     27.80000    -0.018362    -0.018362
20080603     27.31000    -0.017626    -0.017626
20080604     27.54000     0.008422     0.008422
20080605     28.30000     0.027596     0.027596
20080606     27.49000    -0.028622    -0.028622
20080609     27.71000     0.008003     0.008003
20080610     27.89000     0.006496     0.006496
20080611     27.12000    -0.027608    -0.027608
20080612     28.24000     0.041298     0.041298
```

/dx

Weights. Returns security prices, shares, and returns. A parameter for Rights used to apply share factors from rights distributions may be set. The default uses shares outstanding in the CRSP shares history that includes rights distributions.

```
Price and Shares
----------------
   Caldt          Prc       Shr         Ret
20080530    129.42999   1373479   -0.002159
20080602    127.36000   1373479   -0.015993
20080603    127.84000   1373479    0.003769
20080604    127.55000   1373479   -0.002268
20080605    128.47000   1373479    0.007213
20080606    124.94000   1373479   -0.027477
20080609    125.86000   1373479    0.007364
20080610    125.94000   1373479    0.000636
20080611    123.25000   1373479   -0.021359
```

/dw

Adjusted weights. Returns security adjusted prices, adjusted shares, and returns. Parameters may be set for the adjustment date and type, gaprule, and rights for Rights. If no parameters are set, defaults are used.

```
/dw 19981215

Adjusted Price, Shares
----------------------
   Caldt       Adjprc    Adjshr         Ret
20080530    258.85999    686740   -0.002159
20080602    254.72000    686740   -0.015993
20080603    255.67999    686740    0.003769
20080604    255.10001    686740   -0.002268
20080605    256.94000    686740    0.007213
20080606    249.88000    686740   -0.027477
20080609    251.72000    686740    0.007364
```

/ds

Levels. Returns security prices and associated index levels of returns with and without dividends. Basedate and base amounts can be set for index level items. Setting no parameters will utilize defaults. Example: /dt20061220-20070131 /ds 20080103,100.000

```
/ds 20080605,100

Price and Index Levels
----------------------
   Caldt          Prc        TLvl        ALvl
20080530    129.42999      100.75      100.75
20080602    127.36000       99.14       99.14
20080603    127.84000       99.51       99.51
20080604    127.55000       99.28       99.28
20080605    128.47000      100.00      100.00
20080606    124.94000       97.25       97.25
20080609    125.86000       97.97       97.97
20080610    125.94000       98.03       98.03
20080611    123.25000       95.94       95.94
20080612    123.85000       96.40       96.40
20080613    126.15000       98.19       98.19
```

PORTFOLIO INFORMATION FOR ONE OR MORE PORTFOLIO TYPES

/dy.#-#

Portfolio assignments and statistics for portfolio type #. Porttype numbers or keysets are used. Notations can be a single number, a range separated by dashes, or a list separated by commas. Porttypes for a security can be identified by using the /hr option.

```
Example: /dy.101,106,107 or /dy.1,6,7
PERMNO    CUSIP Htick  PERMCO   COMPNO   Issuno EX  SIC    Begdt    Enddt DEL
 12490 45920010 IBM     20990        0        0  1 3571 19251231 20080630 100

Portfolio History
-----------------
KEYSET =  1
Year Port             Stat
2012   10  216438478.04828
2013   10  203673642.73303

KEYSET =  6
Year Port             Stat
2012    7          0.79574
2013    6          0.64802

KEYSET =  7
Year Port             Stat
2012    9          0.01017
2013    8          0.01177
```

GROUP DATA

/gp.#

Note: 16 - S&P 500 is the only group currently available.

```
Group Inclusion
---------------
KEYSET = 16
   Grpdt Grpenddt Grpflag Subflag
19570301 20140930
```

SINGLE TIME-SERIES

Time series items can be accessed in `stk_print` by two methods:

1.

```
/ml "<mnemonic1>[;<mnemonic2>...]"
```

For example:

```
/ml "prc;ret;retx"
```

Individual items are specified. If only a single item is called by /ml, no quotes are needed. /ml prc or /ml "prc" will both work. Command line length limits restrict the number of items that can be specified using this method.

2.

```
/mf itemfile
```

An input text file is supplied which contains one row per selection, each in <mnemonic>.<keyset> format.

Keyset is optional and is used with portfolios and groups. If not given, an item's default keyset is assumed. It can take the form of a list (#[,#[-#]]...) or an asterisk.

Both /ml and /mf methods can be used at the same time. The order in which they appear in a request determines the order in the output.

For a list of Time Series data items and their corresponding ITEMIDs, please see **"Time Series"** on page 56.

DATE RANGE SELECTION

/dt range1[-range2]

Date Ranges can be YYYY, YYYYMM, or YYYYMMDD, in any combination. If only one range is given, and year only or month only is used, the first period of the year or month is used for the beginning of the range and the last period of the year of month is used for the end of the range. Date ranges will be applied to all data selections except header, names, and delistings. If an issue does not trade the entire range, only the intersection of the issue range and the date range will be printed. Date range1 must precede date range2 if both are supplied. Date ranges relate to the event and timeseries data and do not alter the header information.

The output format options /fr and /fs alter the interpretation of date range:

- If the default /fr format option is used, names and delists are not restricted by date range, and the first shares observation or distribution event before and after the range, if any, are displayed.
- If the /fs format option is used, only names, delists, and distributions events in the range are displayed.

```
e.g. /dt 199609-199612 = all data from the beginning of September through December of
1996
/dt 1990 = all data in the year 1990
/dt 1994-19940615 = all data from the
beginning of 1994 until June 15, 1994
/dt 19961231 = data only on the date December
31, 1996
```

INPUT METHOD

/sq

Reads all issues in database sequentially. Note that the /sq option will extract data from the last PERMNO you referenced. Therefore, if you have an `stk_print` window open that you have been using, you will want to either go to the first index in the database with the /f option, or exit and restart the application prior to using the /sq option.

e.g. For example, to display name history for all the issues in the monthly database:

```
/nm /sq
```

/if filename

Selects data for all identifiers in a user-generated file. Any of the options may be selected to run with the input file. This input file should be a text file containing one column of identifiers, beginning in the first character space.

e.g. For example, to display name history for all PERMNOs in an input file in the default directory named perms.inp:

```
mstkprint /nm /if perms.txt
```

OUTPUT METHOD

/of filename.out

Write data to a file instead of to the terminal.

e.g. For example, to save name history of selected securities to a file in the current working directory:

```
dstkprint /mn /of names.txt
```

OUTPUT FORMAT

/fr

Toggle for 80-character formatted output with headers. This is the most readable when browsing data and supports multiple data items.

```
e.g. /hh /fr

PERMNO CUSIP PERMCO Compno Issuno EXCH SIC
Name Dist Share Delist Nasd
12490 45920010 20990 0 0 1 3573 3 154 146 1 0

BegDate/EndDate HTick DEL Latest Company Name
19620702-19981231 IBM 100 INTERNATIONAL
BUSINESS MACHS COR
```

/fs

Toggle for pipe-delimited output, intended for input to another program. The permno is output on each line with this option. The /fs option is most useful when data items are used with sequential or file input, and file output.

```
e.g. /fs /hh

12490|45920010| 20990| 0| 0| 1|3573|
3|154|146| 1| 0|19620702|199812
31|IBM |100|INTERNATIONAL BUSINESS MACHS COR
```

DATABASE SELECTION

The default is the daily database that is set to the CRSP_DSTK environment variable. These options are supported only on the command line at the initial program call, and cannot be switched within a session. These commands can be used only with the `stk_print` command, since databases are automatically set with the dstkprint or mstkprint commands.

/d1 dbdirectory

(Note: 1 = one) Selects an alternate database. Note that when you use this option if you are using a monthly database, you must also use the /fm option on the command line, when you specify the database location. (See the /fm option below for usage.)

```
stk_print /d1 database path and name

c:\Windows\system32>stk_print /d1 y:\diz201409

CRSP 1925 Daily US Stock & Indices, data ending 20140930
Date range: 20130930 - 20140930
```

/fm

Indicates that the alternate database is monthly

```
stk_print /fm /d1 database path and name

c:\Windows\system32>stk_print /d1 y:\miz201409 /fm

CRSP 1925 Monthly US Stock & Indices, data ending 20140930
Date range: 20130930 - 20140930
```

KEY SELECTION

The default is PERMNO. All input in the input file or at the terminal will be interpreted as this identifier. Sequential access will be in the order of this key. If a key is not unique such as PERMCO, direct access will always find the first security with the identifier. Other securities can be found with the next id (n) option.

The following codes can be used instead of a specified identifier at the command line or in an input file. These access securities by position relative to the current key set with the /ky option. These are input and not options and therefore do not require the forward slash line.

s - same identifier

n - next identifier

p - previous identifier

f - first identifier

l - last identifier

/ky permno

This option may be used to set input key to PERMNO. This is the default if no /ky option is used.

```
e.g. dstkprint /ky permno (10107)

PERMNO CUSIP PERMCO Compno Issuno EXCH SIC
Name Dist Share Delist Nasd
10107 59491810 8048 8048 9942 3 7370 1 7 60
1 637

BegDate/EndDate HTick DEL Latest Company Name
19860313-19981231 MSFT 100 MICROSOFT CORP
```

/ky permco

This option can be used to set the input key to PERMCO.

```
e.g. /ky permco (8048)

PERMNO CUSIP PERMCO Compno Issuno EXCH SIC
Name Dist Share Delist Nasd
10107 59491810 8048 8048 9942 3 7370 1 7 60
1 637

BegDate/EndDate HTick DEL Latest Company Name
19860313-19981231 MSFT 100 MICROSOFT CORP
```

/ky cusip

This option can be used to set the input key to the CRSP header CUSIP. Header CUSIPs are unique for each security

```
e.g. /ky cusip (59491810)

PERMNO CUSIP PERMCO Compno Issuno EXCH SIC
Name Dist Share Delist Nasd
10107 59491810 8048 8048 9942 3 7370 1 7 60
1 637

BegDate/EndDate HTick DEL Latest Company Name
19860313-19981231 MSFT 100 MICROSOFT CORP
```

/ky hcusip

This option can be used to set the input key to CRSP historical CUSIP. Historical CUSIPs are the list of any CUSIPs in the name history plus the header CUSIP if no names exist in the name history. Each security will have one or more historical CUSIPs, and no historical CUSIP will appear in more than one security.

```
e.g. /ky hcusip (59491810)

PERMNO CUSIP PERMCO Compno Issuno EXCH SIC
Name Dist Share Delist Nasd
10107 59491810 8048 8048 9942 3 7370 1 7 60
1 637

BegDate/EndDate HTick DEL Latest Company Name
19860313-19981231 MSFT 100 MICROSOFT CORP
```

/ky ticker

This option can be used to set the input key to header ticker. This is the latest ticker and is only set for securities active on the last date covered in the database. NYSE/NYSE MKT securities with non blank share class have a period and the share class appended to the ticker (TICKER.A). Header ticker is unique, but not all securities can be accessed by it.

```
e.g. /ky ticker (MSFT) - Cap Specific
PERMNO CUSIP PERMCO Compno Issuno EXCH SIC

Name Dist Share Delist Nasd
10107 59491810 8048 8048 9942 3 7370 1 7 60
1 637

BegDate/EndDate HTick DEL Latest Company Name
19860313-19981231 MSFT 100 MICROSOFT CORP
```

STK_PRINT USAGE AND EXAMPLES

Normally, identifiers are typed at the command line once the program is started. A full database, or a subset specified in an input file, can also be processed sequentially with `stk_print`.

You can locate PERMNOs or other supported identifiers for the security that you wish to enter by using the stk_search utility. See the Search and Inquiry Tools chapter for usage details.

Options to select different identifiers, data, date ranges, or output options can be added either at the command line or after the program is started. To browse the data, type selected data items within the program for the desired company data. The following example would extract name history, and daily prices and returns for Microsoft from April June, 2002.

```
CRSP3>stkprint

c:\Windows\system32>crsp_print /d1 Y:\diz201409\ /s1 10

CRSP 1925 Daily US Stock & Indices, data ending 20140930
Date range: 20130930 - 20140930

Enter identifier or new option beginning with a slash.
Type ? for help.
/hn /ml "prc;ret"
Keep previous data options? (y/n)
n
Daily data range: 20140902 - 20140930
options have been reset.

Enter identifier or new option beginning with a slash.
Type ? for help.
10107
```

To export data for additional processing, enter all desired parameters on the command line. This example would extract the name history data and daily prices and returns for the securities in the `companies.txt` file from April June, 2002. The output is then written to a file, sample.out.

CRSP3>`stk_print /hn /ml "prc;ret" /if companies.txt /of sample.out`

STK_PRINT OPTIONS

Time series items are accessed in `stk_print` by two methods:

1. `/ml "item1.keyset; item2.keyset"`

Individual items are specified. The maximum length of the command line limits the number of items that can be specified with this option. Keysets exist for portfolios and groups and are ignored for all use with other items.

2. `/mf item.file`

An input text file is supplied which contains one row per selection, each with <.keyset>.

Keyset is optional and is used with portfolios and groups. If not given, the item's default is assumed. It can take the form of a list `(#[,#[-#]]...)` or an asterisk.

Both /ml and /mf methods can be used at the same time. The order they appear in the request determines the order in the output. In both cases, item names are not case sensitive.

KEYSET USAGE FOR STOCK

The porttype and grouptype values for Portfolios (using /dy) and Groups (using /gp) can be accessed as either porttype and grouptype values or as keyset offsets. CRSP Portfolio Types follow:

- Daily porttype values 1-9 equate to keyset values 101-109.
- Monthly porttype values 1-8 equate to keyset values 201-208.
- grouptype values 1-50 equate to keyset values 301-350. Note that S&P 500 Constituents is currently the only valid group, represented by grouptype 16 or keyset 316.

The advantage to using keyset offsets is that they provide unique values across all frequencies of databases. `stk_print` maintains an offset for each group, so the user can specify the porttype or grouptype or the actual keyset. Both the porttype values and keyset offsets will access the same data. `stk_print` will appropriately translate porttype into keyset offsets if they are unknown.

Keysets are supplied as a period followed by * for all, or a list for specific selections. If no keyset is supplied, an item's default keyset is assumed.

For example, the following three notations all get portfolio type 1:

```
/dy
/dy.1
/dy.101
```

The following notation gets all portfolios:

```
/dy.*
```

In the CRSP subscriber Stock and Index Databases, only portfolios have multiple keysets. The command:

`/ml port.1,6;stat.1,6` returns portfolio assignments and statistics for keysets 1 and 6.

For example:

```
Portfolio History
-----------------
KEYSET =  1 (NYSE/NYSE MKT/NASDAQ Cap Assignments)
Year Port              Stat
2005   10  129836292.57970
2006   10  146342099.09851
2007   10  148956933.39741


KEYSET =  6 (NYSE/NYSE MKT Betas)
Year Port              Stat
2005    6           0.78004
2006    7           0.72267
2007    7           0.77042
```

Available Keysets

Daily

PORTTYPE	KEYSET	NAME
1	101	NYSE/NYSE MKT/NASDAQ Cap Assignments
2	102	Nyse/NYSE MKT Cap Assignments
3	103	NASDAQ Cap Assignments
4	104	NYSE Cap Assignments

PORTTYPE	KEYSET	NAME
5	105	NYSE MKT Cap Assingments
6	106	NYSE/NYSE MKT Betas
7	107	NYSE/NYSE MKT Standard Deviations
8	108	NASDAQ Betas
9	109	NASDAQ Standard Deviations

Monthly

PORTTYPE	KEYSET	NAME
1	101	NYSE/NYSE MKT/NASDAQ Cap Assignments
2	102	Nyse/NYSE MKT Cap Assignments
3	103	NASDAQ Cap Assignments
4	104	NYSE Cap Assignments
5	105	NYSE MKT Cap Assingments
6	106	Cap-Based NYSE/NYSE MKT.NASDAQ National Market
7	107	Cap-Based NYSE
8	108	Cap-Based NYSE/NYSE MKT

OUTPUT FORMAT CHANGES

- Formats are fixed and set based on reference data instead of predefined fixed formats.
- For some types of data (names) the same items may not fit the same way on 80-character windows, and the headers could have different text and width.
- Pipe-delimited output can have format changes to more standardized precision.
- Floating point numbers are now printed with scientific notation in pipe-delimited output formats.

INTRODUCTION

`ind_print` is a command-line utility used to browse and extract CRSPAccess index data in a legacy US Stock & Index Database. For individual indexes or groups of indexes, it supports index header, event, and time-series data items. INDNO, CRSP's permanent and unique identifier, is used to access index data.

IND_PRINT ACCESS:

Shortcuts:

- indprint or dindprint - for daily index access
- mindprint - for monthly index access
- dindprintg – for accessing deciles within the daily index groups
- mindprintg – for accessing deciles within the monthly index groups

Full syntax:

- crsp_print /d1 database name /s1460 – for daily index access
- crsp_print /d1 database name /s1 420 – for monthly index access
- crsp_print /d1 database name /s1 440 – for accessing deciles within the daily index groups
- crsp_print /d1 database name /s1 400 – for accessing deciles within the monthly index groups

IND_PRINT DATA AND OPTIONS

TIME SERIES, HEADER, REBALANCING ITEMS

TIME SERIES

ITEM NAME	ITEM HEADER	DINDPRINT	MINDPRINT	DINDPRINTG	MINDPRINTG
Total Return on Index	Tret	tret	mtret	tretg	mtretg
Total Return Index Levels	Tind	tind	mtind	tindg	mtindg
Return on Index without Dividends	Aret	aret	maret	aretg	maretg
Index without Dividend Levels	Aind	aind	maind	aindg	maindg
Income Return on Index	Iret	iret	miret	iretg	miretg
Income Index Levels	Iind	iind	miind	iindg	miindg
Used Count	Usdcnt	usdcnt	musdcnt	usdcntg	musdcntg
Used Value	Usdval	usdval	musdval	usvalg	musdvalg
Total Count	Totcnt	totcnt	mtotcnt	totcntg	mtotcntg
Total Value	Totval	totval	mtotval	totvalg	mtotvalg

HEADER

ITEM NAME	ITEM HEADER	INDEX RESTRICTION	PARTITION RESTRICTION
INDNO	Indno		
INDCO	Indco		
Index Primary Link	Primflag		
Portfolio Number if Subset Series	Portnum		
Index Name	Indname		
Index Group Name	Groupname		
Index Method Type Code	Ethcode		
Index Primary Methodology Type	Primtype		
Index Secondary Methodology Group	Subtype		
Index Reweighting Type Flag	Wgttype		
Index Reweighting Timing Flag	Wgtflag		
Index Basic Exception Type Code	Flagcode		
Index New issues Flag	Addflag		
Index Ineligible Issues Flag	Delflag		
Return of Delisted Issues Flag	Delretflag		
Index Missing Data Flag	Issflag		
Universe Subset Types Code		Uunivcode	Punivcode
Begin Date		Ubegdt	Pbegdt
Enddate		Uenddt	Penddt
Valid Exchange Codes in the Universe		Uwantexch	Pwantexch
Valid NASDAQ Market Groups in the Universe		Uwantnms	Pwantnms
Valid When-Issued Securities in the Universe		Uwanti	Pwantwi
Valid Incorporation of Securities in the Universe		Uwantinc	Pwantinc
Share Code Groupings for Subsets		Usccode	Psccode
Valid First Digit of the Share Code		Ufstdig	Pfstdig
Valid Second Digit of the Share Code		Usecdig	Psecdig
Index Basic Rule Types Code	Rulecode		
Index Function Code for Buy Rules	Buyfnct		
Index Function Code for Sell Rules	Sellfnct		
Index Function Code for Generating Statistics	Statfnct		
Index Statistic Grouping Code	Groupflag		
Index Basic Assignment Types Code	Assigncode		
Indno of Associated Index	Asperm		
Portfolio Number of Asssociated Index	Asport		
Calendar Identification Number of Rebalance Calendar	Rebalcal		
Calendar Identification Number of Assignment Calendar	Assigncal		
Calendar Identification Number of Calculations Calendar	Calccal		

REBALANCING

ITEM NAME	ITEM HEADER
Index Rebalancing Begin Date	Rbbegdt
Index Rebalancing End Date	Rbenddt
Count Used as of Rebalancing	Rusdcnt
Statistic Minimum Identifier	Minid
Statistic Maximum Identifier	Maxid
Statistic Minimum in Period	Minstat
Statistic Maximum in Period	Maxstat

USAGE

`ind_print` is invoked at the command line and is controlled through the use of various options strings.

For daily data, the default, use the following command:

```
CRSP> ind_print
```

or

```
CRSP> dindprint
```

For monthly data, type:

```
CRSP> mindprint
```

or

```
CRSP> ind_print /d1 /fm (path to monthly database directory)
```

where `/d1` points to a database other than the daily default and `/fm` indicates that it is a monthly database.

Sample of usage:

```
C:\CMGS310> ind_print /fm /d1 c:\crspdata\mix200712\

CRSP 1925 Monthly US Stock & Index, data ending 20071231
Default date range 20071031 - 20071231

Setid: 420
Available -> portfolio(s):1, rebaltype(s):1, listtype(s):1

Enter identifier or new option beginning with a slash.
Type ? for help.
/ml "mtret;mtind;maret;maind"

Keep previous data options? (y/n)
y

Enter identifier or new option beginning with a slash.
Type ? for help.
1000080

Indno   Indco   Primflag Portnum
1000080 1000004 0        0

Indname
CRSP NYSE/NYSE MKT/Nasdaq Value-Weighted Market Index

Groupname
NYSE/NYSE MKT/Nasdaq Market Capitalization

Date            Tret            Tind            Aret            Aind
20071031        0.025852        4018.33         0.024710        1379.56
20071130        -0.049292       3820.26         -0.051242       1308.87
20071231        -0.004328       3803.72         -0.006266       1300.67
```

Options begin with a forward slash. Multiple options are placed on a single line.

```
/hh /dt 2000-2007
```

Monthly data items precede daily items with an "m". For example, Daily Total Returns are accessed with item name `tret`. Monthly Total Returns are accessed with item name `mtret`.

DATE RANGE SELECTION

If date range is not set, the default for daily data is one month. The default for monthly data is one year.

/dt range1[-range2]

Date Ranges can be YYYY, YYYYMM, or YYYYMMDD, in any combination. If only one range is given, and year only or month only is used, the first period of the year or month is used for the beginning of the range and the last period of the year of month is used for the end of the range. Date ranges will be applied to all data selections except header, names, and delistings. If an issue does not trade the entire range, only the intersection of the issue range and the date range will be printed. Date range1 must precede date range2 if both are supplied. Date ranges relate to the event and timeseries data and do not alter the header information.

The output format options `/fr` (80-character output with Headers) and `/fs` alter the interpretation of date range:

- If the default `/fr` format option is used, names and delists are not restricted by date range, and the first shares observation or distribution event before and after the range, if any, are displayed.
- If the `/fs` (pipe delimited) format option is used, only names, delists, and distributions events in the range are displayed.

```
e.g. /dt 199609-199612 = all data from the beginning of September through December of 1996
/dt 1990 = all data in the year 1990
/dt 1994-19940615 = all data from the beginning of 1994 until June 15, 1994
/dt 19961231 = data only on the date December 31, 1996
```

IND_PRINT OPTIONS

Following is a list of current `ind_print` options, grouped by option category, listing the options and the variables included in each option, followed by an output sample for each option. Samples for individual indexes are run from the daily indexes data using INDNO 1000080 (The CRSP value-weighted NYSE/NYSE MKT/NASDAQ Market Index) using the dindprint command to start the application. Samples for select group indexes (deciles) are run from the daily group indexes data using INDNO 1000012 (The CRSP NYSE Market Capitalization Deciles) using the dindprintg command to start the application. INDNO usage is indicated in parenthesis at the end of the item description. If alternate data is used, it is noted within the parenthesis, after the INDNO. If the output contains 0, -88.0, or 99.0 values, there are no data in the file for the selected issue.

HEADER INFORMATION

/hh

Header File, Issue Identification Information. This is the default output of the ind_print applications

```
Index Identification
--------------------
  Indno   Indco Primflag Portnum
1000080 1000004        0       0

Indname
CRSP NYSE/NYSEMKT/Nasdaq Value-Weighted Market Index

Groupname
NYSE/NYSEMKT/Nasdaq Market Capitalization
```

/hr

Header File Issue Identifiers with Available Data Date Ranges in YYYYMMDD Format

```
Index Header
------------
  Indno   Indco Primflag Portnum
1000080 1000004        0       0

Indname
CRSP NYSE/NYSEMKT/Nasdaq Value-Weighted Market Index

Groupname
NYSE/NYSEMKT/Nasdaq Market Capitalization

Ethcode Primtype Subtype Wgttype Wgtflag Flagcode Addflag Delflag Delretflag
      4        3       0       2     11        1       1       1          2

Issflag Uunivcode   Ubegdt   Uenddt Uwantexch Uwantnms Uwantwi Uwantinc Usccode
      3         0                          0        0       0        0       0

Ufstdig Usecdig Punivcode   Pbegdt   Penddt Pwantexch Pwantnms Pwantwi Pwantinc
      0       0        24                          7        0     110        0

Psccode Pfstdig Psecdig Rulecode Buyfnct Sellfnct Statfnct Groupflag Assigncode
      1     484    1011        0       0        0        0         0          0

Asperm Asport Rebalcal Assigncal Calccal
     0      0        0          0       0
```

/lv - Levels

Returns levels for indexes calculated total returns, returns without distributions, and income-only returns, used counts, and values.

```
Indno = 1000511
Index Levels
------------
Caldt      Tind           Aind           Iind           Usdcnt         Usdval
20140902   21657.47       6463.72        335.13         502            18288760146.58
20140903   21659.01       6462.81        335.20         502            18279974044.26
20140904   21630.69       6453.95        335.22         502            18265998201.22
20140905   21735.23       6484.72        335.24         502            18240408242.31
20140908   21664.69       6462.22        335.32         502            18331232914.76
```

/re - Returns

Returns Index total returns, returns without dividends, and income-only returns, used counts, and values.

```
Index Returns
-------------
Caldt      Tret           Aret           Iret           Usdcnt         Usdval
20140902   -0.000476      -0.000502      0.000027       502            18288760146.58
20140903   0.000071       -0.000141      0.000212       502            18279974044.26
20140904   -0.001307      -0.001371      0.000064       502            18265998201.22
20140905   0.004833       0.004768       0.000065       502            18240408242.31
20140908   -0.003246      -0.003469      0.000223       502            18331232914.76
```

/cv - Counts

Returns index used and total counts and values.

```
Index Counts and Values
-----------------------
Caldt      Usdcnt  Usdval                Totcnt  Totval
20140902   502     18288760146.58        502     18279974044.26
20140903   502     18279974044.26        502     18265998201.22
20140904   502     18265998201.22        502     18240408242.31
20140905   502     18240408242.31        502     18331232914.76
20140908   502     18331232914.76        502     18273426405.07
```

/rb

Use with Single Series (dindprint and mindprint)
Returns rebalance information for decile INDNO that has been selected.

For example:
INDNO 1000002 represents decile 1 of the CRSP NYSE Capitalization Deciles.

```
Enter identifier or new option beginning with a slash.
Type ? for help.
/rb
Keep previous data options? (y/n)
n
Date range: 20130930 - 20140930
options have been reset.
Enter identifier or new option beginning with a slash.
Type ? for help.
1000002
Indno = 1000002
Rebalancing Data
----------------
Rbbegdt    Rbenddt         Rusdcnt         Minid   Maxid   Minstat         Maxstat
20121231   20131231        242             79923   13209   5794.680        157616.998
20131231   20141231        244             12007   50286   12983.880       185450.682
```

/rb #[-#][,#[-#]]

Use with Index Group (dindprintg and mindprintg)
Returns rebalance information for decile INDNO that has been selected.

For example:
INDNO 1000012 represents the family of CRSP NYSE Capitalization Deciles. To extract deciles 1 and 3 through 5:

```
Enter identifier or new option beginning with a slash.
Type ? for help.
1000012
Indno = 1000012
Index Identification
--------------------
Indno      Indco   Primflag Portnum
1000012    1000000 0        0
Indname
CRSP NYSE Market Capitalization Deciles
Groupname
CRSP Decile Indices
Enter identifier or new option beginning with a slash.
Type ? for help.
/rb.1,3-5
Indno = 1000012
Rebalancing Data
----------------
KEYSET =  1
Rbbegdt    Rbenddt         Rusdcnt Minid   Maxid   Minstat         Maxstat
20121231   20131231        242     79923   13209   5794.680        157616.998
20131231   20141231        244     12007   50286   12983.880       185450.682
KEYSET =  3
```

```
Rbbegdt    Rbenddt        Rusdcnt Minid   Maxid   Minstat        Maxstat
20121231   20131231       242     14087   47706   286218.000     474057.348
20131231   20141231       244     92467   93315   328996.433     548690.487
KEYSET =   4
Rbbegdt    Rbenddt        Rusdcnt Minid   Maxid   Minstat        Maxstat
20121231   20131231       242     84010   70704   475048.184     729680.095
20131231   20141231       243     76121   90042   550488.000     923392.809
KEYSET =   5
Rbbegdt    Rbenddt        Rusdcnt Minid   Maxid   Minstat        Maxstat
20121231   20131231       242     12785   68021   729892.313     1135025.346
20131231   20141231       244     49488   92477   923770.410     1470106.184
```

INPUT METHOD

The default is to allow the user to type in identifiers at the terminal.

/sq

Sequentially Reads all Indexes in Database. Note that the /sq option will extract data from the last INDNO you referenced. Therefore, if you have an ind_print window open that you have been using, you will want to either go to the first index in the database by typing f, or exit and restart the application prior to using the /sq option.

e.g. To output to the screen, total returns for all indexes in the database, you would enter the following command,

```
indprint /tr /sq
```

/if filename.txt

Selects data for all INDNOs in the user-created input file. Any of the options may be selected to run with the input file. This input file should be a text file containing one column of INDNOs, beginning in the first character space.

e.g. To display total returns for all INDNOs in an input file located in the default directory,

```
mindprint /ml tret /if indnos.txt
```

OUTPUT METHOD

/of filename.txt

The default is for output to be printed on the terminal.

To write data to an output file instead of to the terminal window, use

/of filename.txt

e.g. To save header data of selected securities to the file, indnos.txt, in your current working directory,

```
dindprint /hh /of indnos.txt
```

/fr

Toggle for 80-Character Formatted Output with Headers. This default format is the most readable when browsing data on the screen.

```
e.g. /hh /fr
Indno Indco Primflag Portnum
1000080 1000004 0 0
Name: CRSP NYSE/NYSE MKT/NASDAQ Value-Weighted Market Index
Groupname: CRSP Market Indexes
```

/fs

Toggle for Pipe-Delimited Output Format, outputs data in a pipe (|) delimited format. The INDNO is output on each line with this option. It is particularly useful when you wish to import data extracted through ind_print to another program for further manipulation.

```
e.g. /fs /hh
1000080|1000004| 0| 0|CRSP NYSE/NYSE MKT/NASDAQ Value-Weighted Market Inde
x |CRSP Market Indexes
```

Exit the Program

To exit the program, enter a blank row at any time.

Help

Access the on-screen help menu at any time.

e.g. ?

CRSP INDEX SERIES AND GROUPS

For INDNOs for individual indexes, see CRSP Index Series in the Index Methodologies chapter of the Data Descriptions Guide.

For information on group INDNOs, see CRSP Index Groups in the Index Methodologies chapter of the Data Descriptions Guide.

USING KEYSETS WITH INDEX GROUPS

When viewing index series, no keysets are needed since only one time series is available. Keysets are used to identify the portfolio numbers within the index groups. Keyset numbers are assigned to make keysets unique across all products. Rebaltypes are listed beginning at 401, indtypes at 501, and listtypes at 601. `ind_print` maintains an offset for each group so that users can specify the porttype, grouptype, or actual keyset.

`ind_print` software is backwards compatible to accept either keyset values or portfolio numbers. If a keyset value is nonzero and less than 200, the offset is applied, so that the old type notation or new keyset notation selects the same series. Selecting portfolios 1-10 is translated for index groups to keysets 501-510 internally, and returns tags 1-10.

A user can select specific or sets of portfolios using keyset qualifiers.

For example, `TRETG.1-5;IRETG.10` will translate internally to keysets 501-505 for TRETG and 510 for IRETG. These will return Total Return group data for portfolios 1-5 and Return on Income group data for portfolio 10.

If no keyset or portfolio number is defined, the default is portfolio 1.

`ccm_print` is a command-line utility providing basic browsing capabilities for the CRSP/Compustat Merged Databases created from data delivered via Compustat's Xpressfeed product. Company level, index level, and security level data are all available. `ccm_print` relies on reference data, distributed with the databases, that describe the available items, their relationships and usage.

COMPANY, INDEX, AND SECURITY SELECTION

`ccm_print` supports company and index data. Company data may include data for one or more securities. Compustat data may be selected by using any of several company, security, and index identifiers. These identifiers include Compustat identifiers, such as GVKEY, and CRSP identifiers that operated through the CRSP link.

An identifier is called a keytype. GVKEY is the default keytype used to access Compustat data. All other keytypes are selected by using the /ky option:

```
/ky KEYTYPE
```

Supported keytypes for use with Compustat data follow:

GVKEY

Compustat's permanent identifier for company records only. Securities can be specified by combining GVKEY with IID in the form:

```
gvkey.iid
```

For example, 6066.01 represents the GVKEY 6066 for IBM, and its first security, noted by .01.

GVKEYX

Compustat's permanent identifier for indexes only. Individual company and security data are ignored.

CCMID

Compustat's permanent identifier, either GVKEY for companies or GVKEYX for indexes. Input is in the gvkey.iid format, where the iid is ignored if the specified identifier represents an index.

PERMNO

CRSP's historical PERMNO link for security level data. Any GVKEY found with a PERMNO in its link history can be reported. The data reported are for the GVKEY organized by Compustat with no regard to the time period of the PERMNO in the link. Security data will only be reported for IIDs found in the link.

PERMCO

CRSP's historical PERMCO link for company level data. Any GVKEY found with a PERMCO in its link history can be reported. The data reported are for the GVKEY organized by Compustat with no regard to the time period of the PERMCO in the link.

Ticker

Compustat reported issue-trading ticker, which selects a GVKEY and a specific security of the GVKEY.

SIC

Compustat reported SIC Industry Code.

CUSIP

Compustat CUSIP will select a GVKEY and a specific security within the GVKEY.

APERMNO

Composite company and security data based on CRSP PERMNO via the link. Provides access to Compustat data in CRSP-Centric mode.

PPERMNO

Composite Compustat company and security data linked to a CRSP PERMNO with data only when the security is marked as primary by Compustat. Provides access to CRSP data in CRSP-Centric mode.

Data items are either company or security-based. Security-based data items require both GVKEY and IID numbers. Keytypes PERMNO, Ticker, and CUSIP do not required IIDs for they are by definition security level identifiers. GVKEYX accesses index data.

CRSP-Centric Mode

Accessing Compustat data through `ts_print` is CRSP-centric, meaning that the primary access key in this mode is CRSP PERMNO or PERMCO. In CRSP-Centric mode a composite record is built using the CRSP Link reading one or more GVKEYs, creating a seamless one-to-one access with the CRSP database.

USING COMPANY AND INDEX DATA

KEY IDENTIFIERS

Company and Index data provided by Compustat share some common data items, however, applicable header data and keysets are different. If data not applicable to the key type is selected, all missing values will be reported. Key options are provided to make it easy to select data of only one type. /ky gvkey accesses company data and /ky gvkeyx accesses index data. /ky ccmid can be used for either company or index data. All other keys will find company data.

DATA GROUPS

Data groups /in and /ih, Index header and S&P Index header respectively, contain data for indexes only. Company and security data groups contain no data for indexes.

Annual and quarterly groups, including period descriptors, contain items available for both companies and indexes. If a keyset 1 is available for an item, it represents company data. If keyset 0 is available, it represents index data.

LINK CHANGES

The CRSP CCM database links CRSP PERMNO to both GVKEY and Compustat's new security identifier, IID. By doing so, additional Compustat issues are identified and a CRSP PERMNO can link to Compustat data even when it is not the primary security.

Consider the following in order to access the security level link data.

- Additional security links allow multiple PERMNOs of the same company to link to the same company level data. Users must be aware that the same company data can be retrieved in multiple ways.
- The PERMCO link is not needed since a secondary security can link directly between CRSP and Compustat. PERMCO can still be used to find other securities when no direct link is found.
- Security level links are available only during the range of Compustat security data. In some cases, Compustat security data are not available as far back as company data. In others, there may be gaps of security data within a company range. CRSP fills in the available Compustat company data range so at least one link record covers all time periods in the range. If no securities are available during a range, a dummy security is generated for purposes of the link. These dummy securities always have an IID ending with X.
- CRSP assigns a LINKPRIM marker to all link records, based on the Compustat PRIMISS marker, which is used to identify the primary security for the company at any given time. LINKPRIM values are:
  - P if marked by Compustat as the primary issue
  - C if marked by CRSP as the primary issue at a time when Compustat marks no securities or multiple securities.
- CRSP supports an access option of primary PERMNO, or PPERMNO, which restricts links to only those marked primary.

ITEM SELECTION OPTIONS

ITEM OVERVIEW – ITM_NAMES

Each Compustat item in the CCM database has a unique mnemonic text name, itm_name, maintained by CRSP. The CRSP item names match the Compustat mnemonic names wherever possible. In some rare instances, CRSP must provide a different name from Compustat's in order to maintain uniqueness across the Compustat data groups and all CRSP products supported by CRSPAccess.

The following table is a comprehensive list of cases where the CRSP itm_name used does not match Compustat's mnemonic.

COMPUSTAT MNEMONIC	CRSP ITM_NAME	DESCRIPTION	DEFINITION
BETA	XPFBETA	Data item	Beta
DVPSXM	XDVPXSM	Data item	Index Monthly Dividend
PRC	XPFPRC	Data item	Participation Rights Certificates
PRCCM	XPRCCM	Data item	Index Price – Close Monthly
PRCHM	XPRCHM	Data item	Index Price – High Monthly

COMPUSTAT MNEMONIC	CRSP ITM_NAME	DESCRIPTION	DEFINITION
PRCLM	XPRCLM	Data item	Index Price – Low Monthly
PRC_DC	XPFPRC_DC	Data code	Participation Rights Certificates Data Code
PRC_FN	XPFPRC_FN	Footnote	Participation Rights Certificates Footnote
RET	XPFRET	Data item	Total RE Property
RET_DC	XPFRET_DC	Data code	Total RE Property Data Code
RET_FN	XPFRET_FN	Footnote	Total RE Property Footnote
YEAR	YEARQ	Data item	Year Quarterly

KEYSETS

Compustat items can be further qualified by a set of secondary keys. This collection of secondary keys and values is a keyset that assigns a numeric code and mnemonic tag to each unique collection. Each keyset represents different output series. When multiple keysets are available for a particular data item, users can specify both the item and keyset to identify the series of interest or simply use the default preset combination that is most commonly used.

For example, the data item SALE has secondary keys for industry format, data format, population source, and consolidation level. A different value of company sales may be available for any combination of these keys. One keyset may represent originally reported sales. Another may represent the final restated sales from a later filing.

KEYSET	TAG	KEYSET COMPONENTS	KEYSET DESCRIPTION
All Keysets use a Domestic POPSRC and use some form of standardized data in their DATAFMT presentation			
0		Null Keyset, no variations using secondary keys	Indexes
1	STD	DATAFMT = STD INDFMT = INDL CONSOL = C POPSRC = D	Industrial Format, Consolidated Information, Standardized Presentation
2	SUMM	DATAFMT = SUMM_STD INDFMT = INDL CONSOL = C POPSRC = D	Industrial Format, Consolidated Information, Standardized Summary Data from the Latest Annual Filing
3	PRES	DATAFMT = PRE_AMENDSS INDFMT = INDL CONSOL = C POPSRC = D	Industrial Format, Consolidated Information, Standardized Summary Data Collected prior to Company Amendment
4	FS	DATAFMT = STD INDFMT = FS CONSOL = C POPSRC = D	Financial Services Format, Consolidated Information, Standardized Presentation
5	PFO	DATAFMT = STD INDFMT = INDL CONSOL = R POPSRC = D	Industrial Format, Pro Forma Reporting, Standardized Presentation
6	PFAS	CONSOL = P POPSRC = D	Pre FASB Reporting
7	SFAS	DATAFMT = STD INDFMT = INDL CONSOL = P POPSRC = D	Industrial Format, Pre-FASB Reporting, Standardized Presentation
8	PRE	DATAFMT = PRE_AMENDS INDFMT = INDL CONSOL = C POPSRC = D	Industrial Format, Consolidated Information, Standardized Data Collected from the Latest Annual Filing
10	PDIV	DATAFMT = STD INDFMT = INDL CONSOL = D POPSRC = D	Industrial Format, Pre-Divestiture Reporting, Standardized Presentation
11	DOM	POPSRC = D	Domestic
12	SUPF	DATAFMT = SUMM_STD INDFMT = INDL CONSOL = P POPSRC = D	Industrial Format, Pre-FASB Reporting, Standardized Summary Data from the Latest Annual Filing
14	STD1	DATAFMT = STD INDFMT = INDL CONSOL = C POPSRC = D RANK = 1	Industrial Format, Consolidated Information, Standardized Presentation, Rank 1
15	FSFO	DATAFMT = STD INDFMT = FS CONSOL = R POPSRC = D	Financial Services Format, Pro-Forma Reporting, Standardized Presentation

KEYSET	TAG	KEYSET COMPONENTS	KEYSET DESCRIPTION
16	FS1	DATAFMT = STD INDFMT = FS CONSOL = C POPSRC = D RANK = 1	Financial Services Format, Consolidated Information, Standardized Presentation, Rank 1
17	FS2	DATAFMT = STD INDFMT = FS CONSOL = C POPSRC = D RANK = 2	Financial Services Format, Consolidated Information, Standardized Presentation, Rank 2
18	SUFS	DATAFMT = SUMM_STD INDFMT = INDL CONSOL = R POPSRC = D	Industrial Format, Pro-Forma Reporting, Standardized Summary Data from the Latest Annual Filing
19	PDI1	DATAFMT = STD INDFMT = INDL CONSOL = D POPSRC = D RANK = 1	Industrial Format, Pre-Divestiture Reporting, Standardized Presentation, Rank 1
20	PFA1	DATAFMT = STD INDFMT = INDL CONSOL = P POPSRC = D RANK = 1	Industrial Format, Pre-FASB Reporting, Standardized Presentation, Rank 1
21	SUPD	DATAFMT = SUMM_STD INDFMT = INDL CONSOL = D POPSRC = D	Industrial Format, Pre-Divestiture Reporting, Standardized Summary Data from the Latest Annual Filing
22	FS3	DATAFMT = STD INDFMT = FS CONSOL = C POPSRC = D RANK = 3	Financial Services Format, Consolidated Information, Standardized Presentation, Rank 3
23	PDI2	DATAFMT = STD INDFMT = INDL CONSOL = D POPSRC = D RANK = 2	Industrial Format, Consolidated Information, Standardized Presentation, Rank 2
24	CONS	CONSOL = C POPSRC = D	Consolidated Information
25	STD2	DATAFMT = STD INDFMT = INDL CONSOL = C POPSRC = D RANK = 2	Industrial Format, Consolidated Information, Standardized Presentation, Rank 2
26	STD3	DATAFMT = STD INDFMT = INDL CONSOL = C POPSRC = D RANK = 3	Industrial Format, Consolidated Information, Standardized Presentation, Rank 3
27	STD4	DATAFMT = STD INDFMT = INDL CONSOL = C POPSRC = D RANK = 4	Industrial Format, Consolidated Information, Standardized Presentation, Rank 4
28	STD5	DATAFMT = STD INDFMT = INDL CONSOL = C POPSRC = D RANK = 5	Industrial Format, Consolidated Information, Standardized Presentation, Rank 5
29	PFA2	DATAFMT = STD INDFMT = INDL CONSOL = P POPSRC = D RANK = 2	Industrial Format, Pre-FASB Reporting, Standardized Presentation, Rank 2
30	PFA3	DATAFMT = STD INDFMT = INDL CONSOL = P POPSRC = D RANK = 3	Industrial Format, Pre-FASB Reporting, Standardized Presentation, Rank 3
31	CUSD	CFFLAG = C POPSRC = D MKT_CURCD = USD	Calendar Based Reporting in US Dollars
32	FUSD	CFFLAG = F POPSRC = D MKT_CURCD = USD	Fiscal Based Reporting in US Dollars
33	CCAD	CFFLAG = C POPSRC = D MKT_CURCD = CAD	Calendar Based Reporting in Canadian Dollars
34	FCAD	CFFLAG = F POPSRC = D MKT_CURCD = CAD	Fiscal Based Reporting in Canadian Dollars
35	PFA4	DATAFMT = STD INDFMT = INDL CONSOL = P POPSRC = D RANK = 4	Industrial Format, Pre-FASB Reporting, Standardized Presentation, Rank 4
36	PFO2	DATAFMT = STD INDFMT = INDL CONSOL = R POPSRC = D RANK = 2	Industrial Format, Pro-Forma Reporting, Standardized Presentation, Rank 2
37	PFO1	DATAFMT = STD INDFMT = INDL CONSOL = R POPSRC = D RANK = 1	Industrial Format, Pro-Forma Reporting, Standardized Presentation, Rank 1
38	PRE1	DATAFMT = PRE_AMENDS INDFMT = INDL CONSOL = C POPSRC = D RANK = 1	Industrial Format, Consolidated Information, Standardized Data Collected before Company Amendment, Rank 1
39	FFO1	DATAFMT = STD INDFMT = FS CONSOL = R POPSRC = D RANK = 1	Financial Services Format, Pro-Forma Reporting, Standardized Presentation, Rank 1
40	FS4	DATAFMT = STD INDFMT = FS CONSOL = C RANK = 4	Financial Services Format, Consolidated Information, Standardized Presentation, Rank 4
41	GICS	INDTYPE = GICS	Industry Code Type GICS
43	FORD	CONSOL = R POPSRC = D	Pro-Forma Reporting
51	I1		First stored issue
52	I2		Second stored issue
53	I3		Third stored issue

KEYSET	TAG	KEYSET COMPONENTS	KEYSET DESCRIPTION
54	I4		Fourth stored issue
55	I5		Fifth stored issue
56	I6		Sixth stored issue
57	I7		Seventh stored issue
58	I8		Eigth stored issue
59	I9		Ninth stored issue
60	I10		Tenth stored issue
61	I11		Eleventh stored issue
62	I12		Twelfth stored issue
63	I13		13th stored issue
64	I14		14th stored issue
65	I15		15th stored issue
66	I16		16th stored issue
67	I17		17th stored issue
68	I18		18th stored issue
69	I19		19th stored issue
70	I20		20th stored issue
71	I21		21st stored issue
72	I22		22nd stored issue
73	I23		23rd stored issue
74	I24		24th stored issue
75	I25		25th stored issue
76	I26		26th stored issue
77	I27		27th stored issue
78	I28		28th stored issue
79	I29		29th stored issue
80	I30		30th stored issue
81	I31		31st stored issue
82	I32		32nd stored issue
83	I33		33rd stored issue
84	I34		34th stored issue
85	I35		35th stored issue
86	I36		36th stored issue
87	I37		37th stored issue
88	I38		38th stored issue
89	I39		39th stored issue
90	I40		40th stored issue
2100	BSTD	DATAFMT = STD INDFMT = BANK CONSOL = C POPSRC = D	Bank Format, Consolidated Information, Standardized Presentation
2101	BSUMM	DATAFMT = SUMM_STD INDFMT = BANK CONSOL = C POPSRC = D	Bank Format, Consolidated Information, Standardized Summary Data from the Latest Annual Filing
2102	BSTD1	DATAFMT=STD INDFMT=BANK CONSOL=C RANK=1	Bank Format, Consolidated Information, Standardized Presentation, Rank 1
2103	BSTD2	DATAFMT=STD INDFMT=BANK CONSOL=C RANK=2	Bank Format, Consolidated Information, Standardized Presentation, Rank 2
2140	BPFO	DATAFMT = STD INDFMT = BANK CONSOL = R POPSRC = D	Bank Format, Pro-Forma Reporting, Standard Presentation

KEYSET	TAG	KEYSET COMPONENTS	KEYSET DESCRIPTION
2120	BASTD	DATAFMT = AVG_STD INDFMT = BANK CONSOL = C POPSRC = D	Bank Format, Consolidated Information, Average Standardized Presentation
2121	BASUMM	DATAFMT = AVG_SUMM_STD INDFMT = BANK CONSOL = C POPSRC = D	Bank Format, Consolidated Information, Average Standardized Summary Presentation from the Latest Annual Filing
2122	BASTD1	DATAFMT=AVG_STD INDFMT=BANK CONSOL=C RANK=1	Bank Format, Consolidated Information, Average Standardized Presentation, Rank 1
2123	BASTD2	DATAFMT=AVG_STD INDFMT=BANK CONSOL=C RANK=2	Bank Format, Consolidated Information, Average Standardized Presentation, Rank 2
2160	BAPFO	DATAFMT = AVG_STD INDFMT = BANK CONSOL = R POPSRC = D	Bank Format, Pro-Forma Reporting, Average Standardized Presentation

DATA ITEM GROUPS

Compustat itm_names are further organized into groups for ease of selection and presentation. Each group is given a grp_name. Grp_names are unique and do not overlay with itm_name.

A group can be made up of either items or other groups. Items can belong to more than one group. If the group contains items, they must be comparable so that they form a single table. For example, time series items in the same group must share the same calendar so that they properly align.

Groups have a two-letter mnemonic shortcut that may be used to access the data. Group data may also be accessed by using the grp_name.

ITEM GROUP NAME	GROUP NAME	CCM CODE
Annual Period Descriptor Items	APERDES	/pa
Company Header	COMPANY	/co
Company Header History	COMPHIST	/ch
Company Link History	LINK	/li
Company Link Range History	LINKRNG	/lr
Company Summary	COMPSUMM	/cs
CST Header History	CSTHIST	/nh
Link Used History	LINK USED	/lu
Officer Title	OFFTITL	/ot
Company Master	MASTER	/ma
Operating Segment Currency	CCM_SEGCUR	/sr
Operating Segment Customer	CCM_SEGCUST	/sc
Operating Segment Detail	CCM_SEGDTL	/sd
Operating Segment Geographic Area Codes	CCM_SEGGEO	/sg
Operating Segment Item	CCM_SEGITM	/sm
Operating Segment NAICS	CCM_SEGNAICS	/sy
Operating Segment Product	CCM_SEGPROD	/sp
Operating Segment Source	CCM_SEGSRC	/ss
Company Filing Date Data	CCM_FILEDATE	/fd
Company Audit Data - Annual	CCM_AAUDIT	/ua
Company Audit Data – Quarterly	CCM_IAUDIT	/ia
Company Adjustment Factor Event History	ADJFACT	/aj

ITEM GROUP NAME	GROUP NAME	CCM CODE
Company Industry Presentation Code	CCM_IPCD	/ip
Company Fortune 500 Ranking Data	FORTUNE	/fo
Company Market Data - Annual	AMKT	/am
Company Market Data - Quarterly	IMKT	/qm
GICS History	HGIC	/gh
Quarterly Period Descriptor Items	QPERDES	/pq
Security Header List	SECLIST	/sl
Security Header	SECURITY	/se
Security Header History	SECHIST	/sn
Security Monthly Stock Split Events	SEC_MTHSPT	/tx
Security Monthly Stock Split Events Footnotes	SEC_MSPTFN	/tf
Security Monthly Stock Dividend Events Footnotes	SEC_MDIVFN	/td
Constituent Mapping	IDXCST_HIS	/im
Security S&P Index Old Format Change Events	SEC_SPIND	/is
S&P Index Constituent Descriptor Change Events	SPIDX_CST	/ix
Index Header	IDX_INDEX	/in
Index Header Pre-GICS	SPIND	/ih
Annual Index Period Descriptor	IDXADES	/xa
Quarterly Index Period Descriptor	IDXQDES	/xq

G. CCM_PRINT SYNTAX

All options are preceded by a forward slash and can be followed by additional qualifiers. If multiple options are called, they must be separated by spaces, each option with a leading slash.

Three methods are used to select data items:

/ml "full_list"

Individual items are specified, enclosed by double quotes. Command line length limits the number of items that can be specified with this option. (Maximum input line is 2047 characters.)

/mf file + list

Utilizes an input file of data items. Appropriate for a large number of items in a request.

/printopt

For items that are in groups that can be selected using a two-letter group code.

COMMAND LINE LIMITATIONS

When using /ml "full_list" syntax, the list portion (including quotation marks) may not exceed 256 characters. For lengthy requests involving many data items, use /printopts or /mf syntax. A full string of options in a `ccm_print` request may not exceed 2047 characters.

CRSP ITEM LIST NOTATION

CRSP has established a standard notation for specifying a set of data items. The notation includes a high level item descriptor comprised of item elements, global qualifiers, and keyset specifications. If an item/keyset combination is requested more than one time, it is honored in the first request and ignored in all subsequent requests.

FULL_LIST

Full description of items to select, in the form

```
[global_section:]list_section
```

GLOBAL_SECTION

Optional section modifies all elements in the list_section. The following markers can be included:

f:

Applicable and populated footnote items are added for every item selected. Example:

```
/ml "f:sale;at;ceq"
```

Selects sales, total assets, and common equity items with default keysets and available footnotes for the selected items. This is equivalent to:

```
/ml "sale;sale_fn;at;at_fn;ceq;ceq_fn"
```

d:

Applicable and populated data codes items are added for every item selected. Example:

```
/ml "d:sale;at;ceq"
```

Selects sales, total assets, and common equity items with default keysets and available data codes for the selected items.

This is equivalent to:

```
/ml "sale;sale_dc;at;at_dc;ceq;ceq_dc"
```

k.keyset_list

The specified keyset _list is applied to all items in the list without a keyset already specified. keyset_list is one of the following:

*	select all available keysets for each item selected.
#-#,#...	select all indicated keysets in a numeric list. Examples include: k.3 or 1-2 or 1,3,7, or 2-4,8 and so on.
empty	use default keysets for all items selected.

For example, the following two usages are equivalent, since keyset 1 is usually the default keyset.

```
/ml "k:sale;at;ceq"
```

```
/ml "k.1:sale;at;ceq"
```

LIST_SECTION

Semi-colon-delimited string of list elements, enclosed in double quotes, in the form:

```
"list_element[;list_element…]"
```

list_element

Describes an element name, elem_name that can be either a CRSP item name (itm_name) or group name (grp_name) and keysets that are applied to it. It is in the form elem_name[.keyset_list]

Examples:

```
/ml "sale.1;at.1"

/ml "sale;at;ceq"
```

FILE + LIST

Variation of full_list, but allows for use of an input file to manage large data requests. It is specified in the form

```
[global_section:]file_path
```

Where file_path is the path of a text file conitaining a list_element on each row.

Examples:

Example 1

```
/mf itm_file.inp
```

Where itm_file.inp contains three lines:

```
sale

at

ceq
```

and is equivalent to

```
/ml "sale;at;ceq"
```

Example 2

```
/mf f:itm_file.inp
```

Finds items and associated footnotes of those items. With the same input file as in Example 1 above, is equivalent to

```
/ml "f:sale;at;ceq"
```

or

```
/ml "sale;sale_fn;at;at_fn;ceq;ceq_fn"
```

PRINTOPT

2-letter shorthand code for selected groups, specified in the form print_opt[.keyset_list]

Example:

```
/pa.1 /pq.* /ml "aperdes.1" /ml "qperdes.*"
```

Printopt, /ml, and /mf options may be used within a single request in any combination.

INPUT, OUTPUT AND FORMATTING OPTIONS

`ccm_print` allows qualifiers that control database selection, input methods, and output formats.

SET DATE RANGES

/dt range1 [-range2]

Each range can be in the form YYYY, YYYYMM, or YYYYMMDD. The earliest possible date implied by that range is used for the beginning date and the last possible date implied by that range is used for the end date.

Using YYYY: /dt2007
Annual data range: 2007 - 2007
Quarterly data range: 2007.1 - 2007.4

Using YYYYMM-YYYYMM: /dt200702-200803
Annual data range: 2007 - 2007
Quarterly data range: 2007.1 - 2008.1

Using YYYYMMDD-YYYYMMDD: /dt20070125-20080415
Annual data range: 2007 - 2007
Quarterly data range: 2007.1 - 2008.1

CHANGE DATE DISPLAY

/dd DATE_DISP

CCM data may be displayed as either fiscal or calendar-based data.. Compustat data are grouped and restricted by Data Year, which is determined by where a company's fiscal year falls within the calendar year. CRSP's default displays the Compustat data in the calendar year for which it is reported.

Possible values are:

CAL Default calendar-based display. All filing data will be dated by the Compustat DATADATE, the ending date of the filing period. All non-filing data will be dated normally by calendar date.

FYR Fiscal-based display. All filing data will be dated in terms of its fiscal year or quarter using the Compustat concept of a Data Year, where the filing data are reported in the year in which most activity occurs. All non-filing data will be dated normally.

The following table illustrates the difference in output between the CAL and FYR options. Sales reported for a fiscal year ending in May, where most activity occurs in the previous year, reports as follows under each option:

/DD CAL (DEFAULT)		/DD FYR		
DATADATE	SALE	YEAR	FYRA	SALE
	1999	5	10130.13	
20000531	10130.13	2000	5	10859.67
20010531	10859.67	2001	5	9673
20020531	9673	2002	5	9475
20030530	9475	2003	5	10156
20040528	10156	2004	5	11799
20050531	11799	2005	5	14380
20060531	14380	2006	5	17996

MISCELLANEOUS REPORTING OPTIONS

CONVERT CURRENCY

/ct CUR

Monetary data may be converted to and extracted using a specified currency code. Values for CUR are:

REP As reported by Compustat is the default.

USD US dollars

KEYSET DISPLAY

/kd DIS

Keyset information is displayed with the output. Possible values for DIS are:

TAG

The default value returns the CRSP-defined mnemonic keyset tag. In the example below the keyset tags are STD and SUMM.

```
/ml "sale.1,2" /kd tag
```

```
Ann_TS_Item
-----------
```

```
KEYSET = STD
Year FYRA SALE
2002 5 9475.0000
2003 5 10156.0000
2004 5 11799.0000
2005 5 14380.0000
2006 5 17996.0000


KEYSET = SUMM
Year FYRA SALE
2002 5 9475.0000
2003 5 10156.0000
2004 5 11799.0000
2005 5 14380.0000
2006 5 17996.0000
```

NUM

Returns the keyset number.

```
/ml "sale.1,2" /kd num
```

```
KEYSET = 1
Year FYRA SALE
2002 5 9475.0000
2003 5 10156.0000
2004 5 11799.0000
2005 5 14380.0000
2006 5 17996.0000

KEYSET = 2
Year FYRA SALE
2002 5 9475.0000
2003 5 10156.0000
2004 5 11799.0000
2005 5 14380.0000
2006 5 17996.0000
```

EXP

Expands the keyset to return the Compustat items and values used to define the keyset.

```
/ml "sale.1,2" /kd exp
```

```
CONSOL = C, DATAFMT = STD, INDFMT = INDL, POPSRC = D
Year FYRA SALE
2002 5 9475.0000
2003 5 10156.0000
2004 5 11799.0000
2005 5 14380.0000
2006 5 17996.0000


CONSOL = C, DATAFMT = SUMM, INDFMT = INDL, POPSRC = D
Year FYRA SALE
2002 5 9475.0000
```

```
2003 5 10156.0000
2004 5 11799.0000
2005 5 14380.0000
2006 5 17996.0000
```

Keysets are never displayed if there are no effective item-qualifying keys, unless they are in a group combined with other keysets having item-qualifying keys.

CCM_PRINT OPTIONS

/aj

Company Adjustment Factor Event History

```
Adjustment Factors
------------------
   EFFDATE   THRUDATE          ADJEX         ADJPAY
         0   99999999         0.0000         1.0000
  19631101   19680131         5.5687         0.0000
  19680201   19681130         5.0625         0.0000
  19681201   19700131         3.3750         0.0000
```

/am

Company Market Data - Annual

```
KEYSET = FUSD
DATADATE CLSM              CSHTR          DVPSP          DVPSX         MKVALT
20041231   12    1316783600.0000         0.7000         0.7000    162222.4594
20051230   12    1546626300.0000         0.7800         0.7800    129381.1560
20061229   12    1454758500.0000         1.1000         1.1000    146354.8235
20071231   12    2010359488.0000         1.5000         1.5000    149743.7954

KEYSET = FUSD
DATADATE           PRCC           PRCH           PRCL
20041231        98.5800       100.4300        81.9000
20051230        82.2000        99.1000        71.8500
20061229        97.1500        97.8800        72.7300
20071231       108.1000       121.4600        88.7700
```

/qm

Company Market Data - Quarterly

```
KEYSET = FUSD
DATADATE CLSMQ         CSHTRQ         DVPSPQ         DVPSXQ        MKVALTQ
20070928     9 545610916.0000         0.4000         0.4000    162323.2168
20071231    12 502522430.0000         0.4000         0.4000    149743.7954
20080331     3 595034421.0000         0.4000         0.4000    158142.3721


KEYSET = FUSD
DATADATE          PRCCQ          PRCHQ          PRCLQ
20070928       117.8000       118.8900       103.7000
20071231       108.1000       121.4600        99.2700
20080331       115.1400       119.7900        97.0400
```

/pa

Annual Period Descriptor Items

```
Period Summary - Annl
---------------------

KEYSET = STD
DATADATE FYEAR  SRC  UPD
20021231  2002   53    3
20031231  2003    5    3
20041231  2004    5    3
```

/pq

Quarterly Period Descriptor Items

```
KEYSET = STD
DATADATE DATACQTR DATAFQTR     SRCQ UPDQ
20070928 2007Q3   2007Q3          5    3
20071231 2007Q4   2007Q4          5    3
20080331 2008Q1   2008Q1          5    3
```

/ua

Company Audit Data - Annual

```
Audit Data - Annl
-----------------

KEYSET = STD1
DATADATE       AU     AUOP AUOPIC CEOSO CFOSO   INVVAL
20051230        7        4 1      Y     Y            4
20061229        7        4 1      Y     Y            4
20071231        7        4 1      Y     Y            4
```

/ia

Company Audit Data - Quarterly

```
Audit Data - Qtr
----------------

KEYSET = STD1
DATADATE CEOSOQ CFOSOQ
20070928 Y      Y
20071231 Y      Y
20080331 Y      Y
```

/fd

Company Filing Date Data

```
Filing Dates
------------
FDATADATE FCONSOL FPOPSRC SRCTYPE      FILEDATE FILEDATETIME
 20100331 C       D       10Q          20100507
 20100331 C       D       8K           20100503
 20100331 C       D       NW           20100503
 20100630 C       D       10Q          20100806 10:10:16
 20100630 C       D       8K           20100727 20:22:51
 20100930 C       D       10Q          20101109 11:01:52
 20100930 C       D       8K           20101028 20:08:46
```

/ip

Company Industry Presentation Code History

```
Company Industry Pres
---------------------
IPDATADATE IPCONSOL IPPOPSRC IPC

  19961231 C        D        B
  19971231 C        D        B
  19981231 C        D        B
```

/sr

Operating Segment Currency

```
Segment Currency
----------------
Datyr Datfyr Calyr Srcyrfyr            Xrate          Xrate12 Srccur Curcd
 2007     12  2007   200712       1.01204332       1.01204332 CAD    USD
```

/sc

Operating Segment Customer

```
Segment Customer
----------------
Cstype   Csid Srcyr Srcfyr Cdid      Csale Ctype    Cgeocd   Cgeoar
         0000  2006     12 0003 39511.0000 GEOREG   AMERICAS REG
```

```
         0000  2006     12 0004 30491.0000 GEOREG   EUROPE   REG
         0000  2006     12 0005 17566.0000 GEOREG   ASIA     REG
         0000  2006     12 0006 25181.0000 MARKET
         0000  2006     12 0007 13401.0000 MARKET
         0000  2007     12 0012  3465.0000 MARKET
BUSSEG   0000  1992     12 0001  2165.0000 GOVDOM
BUSSEG   0000  1992     12 0002     0.0001 GOVFRN
BUSSEG   0000  1993     12 0001  2300.0000 GOVDOM

Cstype   Csid Srcyr Srcfyr Cdid Cname

         0000  2006     12 0003 Americas
         0000  2006     12 0004 Europe/Middle East/Africa
         0000  2006     12 0005 Asia Pacific
         0000  2006     12 0006 Financial Services
         0000  2006     12 0007 Public
         0000  2006     12 0008 Industrial
         0000  2006     12 0009 Distribution
BUSSEG   0000  1990     12 0001
BUSSEG   0000  1991     12 0001
BUSSEG   0000  1992     12 0001
```

/sd

Operating Segment Detail

```
Segment Detail
--------------
Stype    Sid  Srcyr Srcfyr Soptp1   Soptp2   Sgeotp
BUSSEG   0010  2007     12 PD_SRVC
BUSSEG   0011  2007     12 PD_SRVC
BUSSEG   0014  2007     12 PD_SRVC

Stype    Sid  Srcyr Srcfyr Sname
BUSSEG   0010  2007     12 Software
BUSSEG   0011  2007     12 Global Financing
BUSSEG   0014  2007     12 Systems and Technology Group
```

/sg

Operating Segment Geographic Area Codes

```
Segment Geographic Area
-----------------------
Stype    Sid  Srcyr Srcfyr Sgeocd   Sgeotp
GEOSEG   0004  2007     12 USA      ISO
GEOSEG   0008  2007     12 JPN      ISO
GEOSEG   0009  2007     12 OTHER    REG
```

/sm

Operating Segment Item

```
Segment Item
------------
Stype    Sid  Datyr Fiscyr Srcyr Srcfyr Calyr       Emp       Sale       Oibd
BUSSEG   0010  2013     12  2013     12  2013        -2 25932.0000     0.0001
BUSSEG   0011  2013     12  2013     12  2013        -2  2022.0000     0.0001
BUSSEG   0014  2013     12  2013     12  2013        -2 14371.0000     0.0001
GEOSEG   0004  2013     12  2013     12  2013        -2 34809.0000     0.0001
GEOSEG   0009  2013     12  2013     12  2013        -2 64942.0000     0.0001

Stype    Sid  Datyr Fiscyr Srcyr Srcfyr         Dp       Oiad       Capx
BUSSEG   0010  2013     12  2013     12  1211.0000     0.0001   540.0000
BUSSEG   0011  2013     12  2013     12   574.0000     0.0001   467.0000
BUSSEG   0014  2013     12  2013     12   855.0000     0.0001   781.0000
GEOSEG   0004  2013     12  2013     12     0.0001     0.0001     0.0001
GEOSEG   0009  2013     12  2013     12     0.0001     0.0001     0.0001

Stype    Sid  Datyr Fiscyr Srcyr Srcfyr        Iat     Eqearn      Inveq
BUSSEG   0010  2013     12  2013     12 27101.0000     0.0008     0.0001
BUSSEG   0011  2013     12  2013     12 40138.0000     0.0008     0.0001
BUSSEG   0014  2013     12  2013     12  7960.0000     0.0008     0.0001
GEOSEG   0004  2013     12  2013     12     0.0001     0.0008     0.0001
GEOSEG   0009  2013     12  2013     12     0.0001     0.0008     0.0001

Stype    Sid  Datyr Fiscyr Srcyr Srcfyr         Rd      Obklg    Exports
BUSSEG   0010  2013     12  2013     12     0.0001     0.0001     0.0001
BUSSEG   0011  2013     12  2013     12     0.0001     0.0001     0.0001
BUSSEG   0014  2013     12  2013     12     0.0001     0.0001     0.0001
GEOSEG   0004  2013     12  2013     12     0.0001     0.0001     0.0001
GEOSEG   0009  2013     12  2013     12     0.0001     0.0001     0.0001

Stype    Sid  Datyr Fiscyr Srcyr Srcfyr     Intseg      Opinc         Pi
BUSSEG   0010  2013     12  2013     12  3191.0000     0.0001 11106.0000
BUSSEG   0011  2013     12  2013     12  2282.0000     0.0001  2171.0000
BUSSEG   0014  2013     12  2013     12   593.0000     0.0001  -507.0000
GEOSEG   0004  2013     12  2013     12     0.0000     0.0001     0.0001
GEOSEG   0009  2013     12  2013     12     0.0000     0.0001     0.0001

Stype    Sid  Datyr Fiscyr Srcyr Srcfyr         Ib         Ni Salef    Opincf
BUSSEG   0010  2013     12  2013     12     0.0001     0.0001
BUSSEG   0011  2013     12  2013     12     0.0001     0.0001
BUSSEG   0014  2013     12  2013     12     0.0001     0.0001
GEOSEG   0004  2013     12  2013     12     0.0001     0.0001
GEOSEG   0009  2013     12  2013     12     0.0001     0.0001

Stype    Sid  Datyr Fiscyr Srcyr Srcfyr Capxf    Eqearnf  Empf     Rdf
BUSSEG   0010  2013     12  2013     12
BUSSEG   0011  2013     12  2013     12
BUSSEG   0014  2013     12  2013     12
GEOSEG   0004  2013     12  2013     12
GEOSEG   0009  2013     12  2013     12
```

/sy

Operating Segment NAICS

```
Segment NAICS
-------------
Stype    Sid  Srcyr Srcfyr Rank  Sic Snaics
```

```
BUSSEG   0010  2007     12 0001 7373 541512
BUSSEG   0010  2007     12 0002 7372 511210
BUSSEG   0011  2007     12 0001 6159 522298
```

/sp

Operating Segment Product

```
Segment Product
---------------
Pstype   Psid Srcyr Srcfyr Pdid      Psale Pnaics
BUSSEG   0014  2007     12 0013  2589.0000 334111
BUSSEG   0015  2007     12 0014 29212.0000 541519
BUSSEG   0015  2007     12 0015  6670.0000 541519
BUSSEG   0015  2007     12 0016   221.0000 541519

Pstype   Psid Srcyr Srcfyr Pdid Pname
BUSSEG   0014  2007     12 0013 Technology OEM
BUSSEG   0015  2007     12 0014 Services
BUSSEG   0015  2007     12 0015 Maintenance
BUSSEG   0015  2007     12 0016 Software
```

/ss

Operating Segment Source

```
Segment Source
--------------
Srcyr Srcfyr Calyr Ssrce Sucode Curcd Srccur Hnaics
 2005      5  2006 05    3      USD          423860
 2006      5  2007 05    3      USD          423860
 2007      5  2008 05    3      USD          423860
```

/co

Company

```
Company Description
-------------------
CIK        EIN        STKO
0000051143 13-0871985    0
CONM
INTL BUSINESS MACHINES CORP
FYRC COSTAT  IPODATE    DLDTE DLRSN    PRIUSA   PRICAN   PRIROW   IDBFLAG FIC
  12 A             0        0          01                        B       USA
LOC INCORP   STATE
USA NY       NY
COUNTY
Westchester
CITY
Armonk
 SIC NAICS  GSECTOR GGROUP GIND   GSUBIND  SPCINDCD SPCSECCD
7370 541519  45      4520   452020 45202010      190      940
CONML
International Business Machines Corp
WEBURL                                                    PHONE
www.ibm.com                                               914-499-1900
```

```
FAX
ADD1
1 New Orchard Rd
ADD2
ADD3
ADD4
ADDZIP
10504-1722
BUSDESC
International Business Machines Corporation (IBM) develops and manufactures info
rmation technologies, including computer systems, software, networking systems,
storage devices, and microelectronics worldwide.
```

/ch

Company Header History

```
Company History
---------------
  HCHGDT HCHGENDDT HCIK         HEIN              HSTKO
20070414  20070713 0000051143   13-0871985            0
20070714  20080411 0000051143   13-0871985            0
20080412  99999999 0000051143   13-0871985            0

  HCHGDT HCHGENDDT HCONM
20070414  20070713 INTL BUSINESS MACHINES CORP
20070714  20080411 INTL BUSINESS MACHINES CORP
20080412  99999999 INTL BUSINESS MACHINES CORP

  HCHGDT HCHGENDDT      HFYRC HCOSTAT   HIPODATE   HDLDTE HDLRSN
20070414  20070713         12 A                0        0
20070714  20080411         12 A                0        0
20080412  99999999         12 A                0        0

  HCHGDT HCHGENDDT HPRIUSA      HPRICAN      HPRIROW      HIDBFLAG
20070414  20070713 01                                     B
20070714  20080411 01                                     B
20080412  99999999 01                                     B

  HCHGDT HCHGENDDT HFIC             HLOC HINCORP      HSTATE
20070414  20070713 USA              USA  NY           NY
20070714  20080411 USA              USA  NY           NY
20080412  99999999 USA              USA  NY           NY

  HCHGDT HCHGENDDT HCOUNTY
20070414  20070713
20070714  20080411 Westchester
20080412  99999999 Westchester

  HCHGDT HCHGENDDT HCITY
20070414  20070713 Armonk
20070714  20080411 Armonk
20080412  99999999 Armonk

  HCHGDT HCHGENDDT       HSIC HNAICS   HGSECTOR     HGGROUP      HGIND
20070414  20070713       7370 541519   45           4520         452020
20070714  20080411       7370 541519   45           4520         452020
20080412  99999999       7370 541519   45           4520         452020

  HCHGDT HCHGENDDT HGSUBIND      HSPCINDCD  HSPCSECCD
20070414  20070713 45202010            190        940
```

```
20070714  20080411 45202010            190        940
20080412  99999999 45202010            190        940

  HCHGDT HCHGENDDT HCONML
20070414  20070713 International Business Machines Corp
20070714  20080411 International Business Machines Corp
20080412  99999999 International Business Machines Corp

  HCHGDT HCHGENDDT HWEBURL
20070414  20070713 www.ibm.com
20070714  20080411 www.ibm.com
20080412  99999999 www.ibm.com

  HCHGDT HCHGENDDT HPHONE           HFAX
20070414  20070713 914-499-1900
20070714  20080411 914-499-1900
20080412  99999999 914-499-1900

  HCHGDT HCHGENDDT HADD1
20070414  20070713 1 New Orchard Rd
20070714  20080411 1 New Orchard Rd
20080412  99999999 1 New Orchard Rd

  HCHGDT HCHGENDDT HADD2
20070414  20070713
20070714  20080411
20080412  99999999

  HCHGDT HCHGENDDT HADD3
20070414  20070713
20070714  20080411
20080412  99999999

  HCHGDT HCHGENDDT HADD4
20070414  20070713
20070714  20080411
20080412  99999999

  HCHGDT HCHGENDDT HADDZIP
20070414  20070713 10504-1722
20070714  20080411 10504-1722
20080412  99999999 10504-1722

  HCHGDT HCHGENDDT HBUSDESC
20070414  20070713 International Business Machines Corporation (IBM) engages in
the development and manufacture of the advanced information technologies, includ
ing computer systems, software, storage systems, and microelectronics. It operat
es in three segments: Systems and Financing, Software, and Services.
20070714  20080411 International Business Machines Corporation (IBM) engages in
the development and manufacture of the advanced information technologies, includ
ing computer systems, software, storage systems, and microelectronics. It operat
es in three segments: Systems and Financing, Software, and Services.
20080412  99999999 International Business Machines Corporation (IBM) develops an
d manufactures information technologies, including computer systems, software, n
etworking systems, storage devices, and microelectronics worldwide.
/cs
Company Summary
Company Summary
---------------
CONM
```

```
INTL BUSINESS MACHINES CORP

COSTAT  IPODATE    DLDTE PRIUSA   PRICAN   FIC  SIC GSUBIND
A             0        0 01                USA 7370 45202010
```

/cs

Company Summary

```
Company Summary
---------------
CONM
INTL BUSINESS MACHINES CORP
COSTAT IPODATE DLDTE PRIUSA PRICAN FIC SIC GSUBIND
A 0 0 01 USA 7370 45202010
```

/nh

CST Header History

```
Company History - CST
---------------------
CHGDT    CHGENDDT DNUM FILE ZLIST STATE COUNTY STINC FINC XREL STK  DUP  CCNDX
20000824 99999999 7370   11     1    36    119    36    0  903    0    0     0

CHGDT    CHGENDDT GICS     IPODT    FUNDF1 FUNDF2 FUNDF3 NAICS    CPSPIN CSSPIN
20000824 99999999 45202010        0      0      0      0 541519   1      1

CHGDT    CHGENDDT CSSPII SUBDBT CPAPER SDBT SDBTIM CNUM             CIC
20000824 99999999 1             102    07          459200           101

CHGDT    CHGENDDT CONAME
20000824 99999999 INTL BUSINESS MACHINES CORP

CHGDT    CHGENDDT INAME
20000824 99999999 CMP PROGRAMMING,DATA PROCESS

CHGDT    CHGENDDT SMBL             EIN              INCORP
20000824 99999999 IBM              13-0871985
```

/fo

Company Fortune 500 Ranking Data

```
Fortune 500 Data
----------------

KEYSET = DOM
DATADATE FORI FORRK
20051230   10    10
20061229   10    15
20071231   10    15
```

/gh

GICS History

```
GICS History
------------

KEYSET = GICS
 INDFROM  INDTHRU GGROUPH      GINDH        GSECTORH     GSUBINDH
19990630 99999999 4520         452020       45           45202010
```

/ot

Officer Titles

```
Company Officer Titles
----------------------
     OFID OFCD     OFNM
    19923 CB       Samuel J. Palmisano
    19923 CE       Samuel J. Palmisano
    19923 DI       Samuel J. Palmisano
    19923 PR       Samuel J. Palmisano
   145583 CR       Timothy S. Shaughnessy
   145583 VP       Timothy S. Shaughnessy
   145584 CF       Mark Loughridge
   145584 SP       Mark Loughridge
   167114 EP       Nicholas M. Donofrio
```

/xa

Index Annual Period Descriptor Data

```
Index Per Desc - Annl
---------------------
DATADATE          SPEQA SPNOA YEAR
20051230        97.0000  1500 2005
20061229        98.0000  1500 2006
20071231        99.0000  1500 2007
```

/xq

Index Quarterly Period Descriptor Data

```
Index Per Desc - Qtr
--------------------
DATADATE          SPEQQ SPNOQ QTR YEARQ
20070629       100.0000   369   2  2007
20070928       100.0000   367   3  2007
20071231       100.0000   366   4  2007
```

/im

Index Constituent Mapping

```
Security - Constituents
-----------------------
     XFROM      XTHRU    XGVKEYX
  19841121   20060601     132038
  19841121   20060601     132040
  19950703   20000702     165155
  19970701   20060601     165157
  19950703   20000702     165186
  19970701   20060601     165188
```

/in

Index Header

```
Index Header
------------
XTIC     IDX13KEY      XINDEXID   IDXCSTFLG INDEXCAT   INDEXGEO   INDEXTYPE
I0001    0000000000000 500        N         S&P        USA        LGCAP

INDEXVAL   TICI     SPII SPMI
000000000  I0001       0    0

XCONM
S&P Industrials-Wed
```

/li

Company Link History

```
Link History
------------
LINKDT LINKENDDT LPERMNO LPERMCO LIID LINKTYPE LINKPRIM
19500101  19620130   12490   20990 00X  LC       C
19620131  99999999   12490   20990 01   LC       P
```

/lr

Company Link Range History

Must be accessed with /ky apermno or /ky ppermno

```
Link Used Ranges
----------------
LINKID KEYSET  CALID BEGIND ENDIND PREVIND    BEGDT    ENDDT   PREVDT FISC_FLG
     1      1    300     62     62       61 19861231 19861231 19851231        F
     1      1    310    242    247      241 19860331 19870630 19851231        F
     1      2    300     62     62       61 19861231 19861231 19851231        F
     1     14    300     62     62       61 19861231 19861231 19851231        F
     1     24    300     62     62       61 19861231 19861231 19851231        F
     1     31    300     62     62        0 19861231 19861231        0        C
     1     31    310    242    247        0 19860331 19870630        0        C
     1     32    300     62     62       61 19861231 19861231 19851231        F
     1     32    310    242    247      241 19860331 19870630 19851231        F
```

/lu

Link Used History

Must be accessed with /ky apermno or /ky ppermno

```
  LINKDT LINKENDDT  GVKEY IID LINKID PERMNO PERMCO USEDFLAG LINKPRIM LINKTYPE
19840101  19860106  13007 00X      0      0      0       -1 C        NU
19860107  19870630  13007 01       1  10000   7952        1 P        LU
19870701  19870731  13007 99X      2      0      0       -1 C        NU
```

/ma

Company Master

```
CCM Header and Ranges
---------------------
CCMID  CCMIDTYPE BEGYR ENDYR BEGQTR ENDQTR   CBEGDT   CENDDT
006066         1  1950  2007  19621  20081 19500101 20080630
```

/sn

Security Header History

```
GVKEY = 006066, IID = 01

Security - Header Hist
----------------------
 HSCHGDT HSCHGENDDT HIID HIID_SEQ_NUM HSCUSIP      HTIC             HEXCHG
20070419   99999999 01              1 459200101    IBM                 11

 HSCHGDT HSCHGENDDT HTPCI        HSSECSTAT HDLRSNI       HDLDTEI HEXCNTRY
20070419   99999999 0            A                             0 USA

 HSCHGDT HSCHGENDDT HISIN            HSEDOL   HEPF
20070419   99999999 US4592001014     2005973

 HSCHGDT HSCHGENDDT HDSCI
20070419   99999999 COM USD.2
```

/sl

Security Header List

```
Company Security List
---------------------
IID IID_SEQ_NUM SCUSIP       TIC      EXCHG TPCI     SSECSTAT DLRSNI     DLDTEI
01            1 459200101    IBM         11 0        A                       0

IID EXCNTRY ISIN         SEDOL   EPF   SBEGDT   SENDDT
01  USA     US4592001014 2005973     19620131 20080630

IID DSCI
01 COM USD.2
```

/se

Security Header List

```
GVKEY = 006066, IID = 01

Security - Header
-----------------
IID IID_SEQ_NUM SCUSIP       TIC      EXCHG TPCI     SSECSTAT DLRSNI     DLDTEI
01            1 459200101    IBM         11 0        A                        0

IID EXCNTRY ISIN         SEDOL   EPF   SBEGDT   SENDDT
01  USA     US4592001014 2005973     19620131 20080630

IID DSCI
01 COM USD.2
```

/td

Security Monthly Stock Dividend Events Footnotes

```
Security - Dividend FN
----------------------
DIVDATADATEMF DIVDATAITEMMF DVPSPM_FN1 DVPSPM_FN2 DVPSPM_FN3 DVPSPM_FN4
     19980131 DVPSPM        IR
     19980131 DVPSXM

DIVDATADATEMF DIVDATAITEMMF DVPSPM_FN5 DVPSXM_FN1 DVPSXM_FN2 DVPSXM_FN3
     19980131 DVPSPM
     19980131 DVPSXM                   IR

DIVDATADATEMF DIVDATAITEMMF DVPSXM_FN4 DVPSXM_FN5
     19980131 DVPSPM
     19980131 DVPSXM
```

/tf

Security Monthly Stock Split Events Footnotes

```
Security - Split Ev FN
----------------------
DATADATEMF DATAITEMMF RAWPM_FN1 RAWPM_FN2 RAWPM_FN3 RAWPM_FN4 RAWPM_FN5
  19920630 RAWPM      JN
  19920630 RAWXM

DATADATEMF DATAITEMMF RAWXM_FN1 RAWXM_FN2 RAWXM_FN3 RAWXM_FN4 RAWXM_FN5
  19920630 RAWPM
  19920630 RAWXM      JN
```

/tx

Security Monthly Stock Split Events

```
Security - Split Events
-----------------------
 DATADATEM          RAWPM          RAWXM
  19790630         0.0000         4.0000
  19970531         2.0000         2.0000
  19990531         2.0000         2.0000
```

/is

Security S&P Index Old Format Change Events

```
Security - S&P
--------------
 SPBEGDATE  SPENDDATE SPHIID SPHMID SPHSEC SPH100   SPHCUSIP
  19970602   19980630    190    500    940          459200101
  19980701   19990412    190    500    940          459200101
  19990413   20020102    190    500    940 *        459200101

 SPBEGDATE  SPENDDATE SPHNAME                        SPHTIC   SPHVG
  19970602   19980630 International Bus. Machines...  IBM      V
  19980701   19990412 International Bus. Machines...  IBM      G
  19990413   20020102 International Bus. Machines...  IBM      G
```

/ix

S&P Index Constituent Descriptor Change Events

```
Security - S&P Constit
----------------------
 SXBEGDATE  SXENDDATE        SPFLOAT INDEXID    EXCHGX TICX       CUSIPX
  20071016   20071102      1380.0000 500        XNYS   IBM        459200101
  20071105   20080228      1377.9560 1500       XNYS   IBM        459200101
  20071105   20080228      1377.9560 500        XNYS   IBM        459200101

 SXBEGDATE  SXENDDATE CONMX                                    CONTYPE
  20071016   20071102 International Bus. Machines             SPGICX
  20071105   20080228 International Bus. Machines             SPGICX
  20071105   20080228 International Bus. Machines             SPGICX

 SXBEGDATE  SXENDDATE CONVAL
  20071016   20071102 45202010
  20071105   20080228 45202010
  20071105   20080228 45202010
```

/ih

S&P Index Header

```
Index Header - pre GICS
-----------------------
SPIIID SPIMID SPITIC
     0      0
SPIDESC
```

ccm_ref_print is a reference data utility specifically written for use with the CRSP|Compustat Merged Database. ccm_ref_print is an application for accessing non-security or company specific Compustat data. Data items include references to codes and numbers for footnotes, auditors, industry classifications, to name only a few, as well as economic indicator, currency, and exchange rate data. It functions in much the same way as ccm_print and other CRSP command-line utilities and has a very similar interface.

Access from the command line using:

```
C:\Windows>ccm_ref_print /d1 y:\cmz201412
```

KEYS AND KEYTYPES /ky <keytype>

Keytypes tell ccm_ref_print what kinds of keys will be used to access data. They are the analogous to GVKEY, PERMNO, CUSIP in ccm_print and other CRSPAccess utilities.

The default keytype is refcode, used to access Compustat character reference code data. To access numeric reference codes, currency and economic data, the user must specify the keytype needed to access each category of data. This is done with the "/ky <keytype>" option, entered at the command line or at the program prompt. Only one keytype can be active at a time, and only data tied to the active keytype is retrieved.

Four keytypes are available for use with ccm_ref_print:

/ky refcode (default)
used to access Compustat reference data associated with character keys
Examples: Accounting Standard Codes, Footnote Codes, Major Index Codes

/ky refnum
used to access Compustat reference data associated with numerical keys
Examples: GICS, S&P Economic Sector, Auditors

/ky currency
used to access Compustat currency and exchange rate data
Examples: Daily and Monthly Exchange Rates, ISO Currency Codes

/ky country
used to access Compustat economic indicator data
Examples: CPI, GDP, Housing starts

USAGE

ccm_ref_print conventions differ slightly from other CRSP command-line utilities.

- "*" wild card – for Reference Codes and Reference Numbers, an asterisk will return all available values for the selected print options within those categories.
- Relative keys (first, next, last, previous) are not supported.
- Two Reference Code print options, /nt – Note Type and /ns – Note Subtype Codes allow entry of the reference code key, "general info" :

```
Enter identifier or new option beginning with a slash.
Type ? for help.
/ns
Keep previous data options? (y/n)
n
Date range: 20131213 - 20141213
options have been reset.

Enter identifier or new option beginning with a slash.
Type ? for help.
general info

CODE = GENERAL INFO

Note Subtype
------------
SUB_NOTETYPECD  SUBTYPECD      SUBTYPEDESC
GENERAL INFO    FOOTNOTE       Footnote
GENERAL INFO    GENERAL        General
GENERAL INFO    SOURCE DOC     Source type, page and note number
```

AVAILABLE DATA

As in ccm_print, data items can be selected individually, or in groups.

Item tables and groups accessible through ccm_ref_print, organized by keytype, follow. Each table includes the two-character code, or print option to retrieve the data, a descriptive title of the group, the base categorizing item and the data items in the group. The Base Items will not retrieve data but help users to understand the grouping of the data items.

An entire group can be printed by specifying its print option, and individual group items can be printed with the "/ml" option. Items printed separately with "/ml" will be followed by their appropriate key(s).

For example, the printopt code, /ot, and the data item list syntax, /ml ofcdcd;ofcddesc, are equivalent and will both return the Officer Title code and description.

REFERENCE CODES: KEY /ky refcode (DEFAULT KEY)

Reference code data can be used in two ways: to return a list of unknown codes, or to find the meaning of a specific code.

If the list of available reference codes is unknown, it can be retrieved using the asterisk as a wild card key, "*" If the reference code is known but its meaning is unknown, entering the reference code will return its information.

For example, to return all available information about Audit Opinions, use the asterisk:

```
Enter identifier or new option beginning with a slash.
Type ? for help.
/ia
Keep previous data options? (y/n)
n
Date range: 20131213 - 20141213
options have been reset.

Enter identifier or new option beginning with a slash.
Type ? for help.
*

CODE =

IC Auditor Opinion
------------------
AUOPICCD                        AUOPICDESC
0                               No Auditor's report
1                               Effective (No Material Weakness)
2                               Adverse (Material Weakness Exists)
3                               Disclaimer (Unable to Express Opinion)
4                               Delayed Filing
```

To return specific information about a specific code, enter the code:

```
Enter identifier or new option beginning with a slash.
Type ? for help.
/ia
Keep previous data options? (y/n)
n
Date range: 20131213 - 20141213
options have been reset.


Enter identifier or new option beginning with a slash.
Type ? for help.
2

CODE = 2

IC Auditor Opinion
------------------
AUOPICCD                        AUOPICDESC

2                               Adverse (Material Weakness Exists)
```

When returning group data using the printopts, each group contains:

- a character code item (*CD) which describes a base item from the CCM data
- sometimes secondary keys (cannot be used to filter data)
- a text description (*DESC) of the code

PRINT OPTION (PRINTOPT)	DESCRIPTION	BASE ITEM	DATA ITEMS
/ac	Accounting Standard	ACCTSTD	ACCTSTDCD ACCTSTDDESC
/aq	Acquisition Method	ACQMETH	ACQMETHCD ACQMETHDESC
/bs	Balance Sheet Presentation	BSPR	BSPRCD BSPRDESC
/cm	Comparability Status	COMPST	COMPSTCD COMPSTDESC
/cn	Constituent	CONTYPE CONVAL	CONTYPECD CONVALCD CONVALDESC
/co	Country	FIC, LOC, EXCNTRY	ISOCNTRYCD ISOCNTRYCDDESC
/dc	Data Code	*_DC	DATCDCD DATCDDESC
/df	Data Format	DATAFMT	DATAFMTCD DATAFMTDESC
/er	Exchange Rate Type	EXRATTPD	EXRATTPDCD EXRATTPDDESC
/ff	Footnote	*_FN* POPSRC	FND_FNCD FND_POPSRC FND_FNDESC
/fn	Footnote	*_FN*	FNCD FNDESC
/ia	Internal Control Auditor Opinion	AUOPIC	AUOPICCD AUOPICDESC
/in	Industry Format	INDFMT	INDFMTCD INDFMTDESC
/ip	Industry Presentation	IPCD	IPCDCD IPCDDESC
/is	Issue Status Alert	STALT	ISALRTCD ISALRTDESC
/it	Issue Type	TPCI	TPCICD TPCIDESC
/ix	Index	INDEXTYPE INDEXVAL	IDXTYPECD IDXVALCD IDXVALDESC
/lc	Level of Consolidation	CONSOL	CONSOLCD CONSOLDESC
/mh	Market Holiday	ISOCNTRYCD	ISOCD HCAL_DATADATE
/mi	Major Index	INDEXID	IDXIDCD IDXCAT IDXIDDESC
/ns	Note Subtype	NOTETYPECD SUBTYPE	SUB_NOTETYPECD SUBTYPECD SUBTYPEDESC

PRINT OPTION (PRINTOPT)	DESCRIPTION	BASE ITEM	DATA ITEMS
/nt	Note Type	NOTETYPE	NOTETYPECD NOTETYPEDESC
/oc	Officer SOX Certification	CEOSO, CFOSO	OSOCD OSODESC
/og	Oil & Gas Method	OGM	OGMCD OGMDESC
/ot	Officer Title	OFCD	OFCDCD OFCDDESC
/rd	Research Company Reason for Deletion	DLRSN	DLRSNCD DLRSNDESC
/sa	Status Alert	STALT	STALTCD STALTDESC
/st	State / Province	STATE, INCORP	STATECD STATEDESC

REFERENCE NUMBERS: KEY /ky refnum

Reference Numbers are numeric codes assigned to Compustat data. Like Reference Codes, Reference Number data can be used in two ways: to return a list of unknown numeric codes, or to find the meaning of a specific numeric code.

Like reference codes, if reference numbers are unknown, the full list can be retrieved by using the asterisk as a wild card key, "*". If the reference number is known but its meaning is not, entering the identified reference number key will return its information.

To obtain a full list of Cash Flow Format reference numbers,

```
Enter identifier or new option beginning with a slash.
Type ? for help.
/ky refnum
Date range: 20080215 - 20090215


Enter identifier or new option beginning with a slash.
Type ? for help.
/cf
Keep previous data options? (y/n)
n
Date range: 20080215 - 20090215
options have been reset.


Enter identifier or new option beginning with a slash.
Type ? for help.
*

NUM =    0

Cash Flow Format
----------------
SCFCD SCFDESC

    0 No usable statement

    1 Working Capital Statement

    2 Cash Statement Classified by Source and Use

    3 Cash Statement Classified by Activity

    4 ROW Cash Flow Format
```

When a Cash Flow Format reference number is known but its meaning is not, use the number to return its meaning:

```
Enter identifier or new option beginning with a slash.
Type ? for help.
/cf
Keep previous data options? (y/n)
n
Date range: 20080215 - 20090215
options have been reset.


Enter identifier or new option beginning with a slash.
Type ? for help.
5

NUM =    5

Cash Flow Format
----------------
SCFCD SCFDESC

    5 Net Liquid Funds/Net Funds Statement Classified by Source and Use
```

Each of these groups contains:

- an integer code item (*CD) which describes a base item from the CCM data
- occasional secondary keys (which cannot be used to filter data)
- a text description (*DESC) of the code

PRINT OPTION	DESCRIPTION	BASE ITEM	ITEMS
/ao	Auditor Opinion	AUOP	AUOPCD AUOPDESC
/au	Auditor	AU	AUCD AUDESC
/cf	Cash Flow Format	SCF	SCFCD SCFDESC
/do	Source Document	SRC	SRCCD SRCDESC
/dq	Source Document (Quarterly)	SRCQ	SRCQCD SRCQDESC
/es	S&P Economic Sector	SPCSEC	SPSECCD SPSECDESC
/ex	Stock Exchange	EXCHG	EXCHGCD EXCHGDESC
/fi	Fortune Industry	FORI	FORICD FORISTAT FORIDESC
/gi	GICS	GGROUP, GIND, GSECTOR, GSUBIND	GICCD GICSTAT GICDESC
/ii	S&P Industry Index	SPII	SPIICD SPIISTAT SPIIDESC
/im	Income Statement Model	ISMOD	ISMODCD ISMODDESC

PRINT OPTION	DESCRIPTION	BASE ITEM	ITEMS
/iv	Inventory Valuation	INVVAL	INVVALCD INVVALDESC
/na	NAICS	NAICS	NAICSCD NAICSTAT NAICSDESC
/pr	Price Status	PRCSTD	PRCSTDCD PRCSTDDESC
/sc	SIC	SIC, SICH	XPFSICCD SICSTAT SICDESC
/si	S&P Industry Sector	SPIND	SPINDCD SPINDDESC
/sm	S&P Major Index	SPMI	SPMICD SPMISTAT SPMIDESC
/so	Stock Ownership	STKO	STKOCD STKODESC
/up	Update	UPD	UPDCD UPDDESC

CURRENCY DATA: KEY `/ky currency`

Currency data items include information about a country's currency as well as a history of daily and monthly exchange rates. An entire group can be printed by specifying its print option, and individual group items can be printed with the "/ml" option.

There is no wildcard used with the currency data. The key for these groups and all of their items is each country's currency code, for example, "USD", "CAD", "GBP", "JPY" etc. A full list of available country currency codes is in Appendix A.

Note on Exchange Rate Data:

Exchange rates are listed "from" a common currency, "to" the currency in question. Currently, "GBP" (Pounds Sterling) is used as the common "from" currency.

Currency Data - `/cu`

ITM_NAME	DESCRIPTION
ISOCURCD	ISO Currency Code
ISOCURBD	Currency Birth Date
ISOCURDD	Currency Death Date
ISOCURLNK	Currency Link Code
ISOCURTR	Currency Tier Number
ISOCURNM	Currency Name

To return currency information for the Euro, from Appendix A, using the input "eur."

```
Enter identifier or new option beginning with a slash.
Type ? for help.
/ky currency
```

```
Date range: 20080215 - 20090215

Enter identifier or new option beginning with a slash.
Type ? for help.
/cu
Keep previous data options? (y/n)
n
Date range: 20080215 - 20090215
options have been reset.


Enter identifier or new option beginning with a slash.
Type ? for help.
eur

CURRENCY = EUR

Currency
--------
ISOCURCD ISOCURBD ISOCURDD ISOCURLNK ISOCURTR
EUR      19990101        0       189        1

ISOCURNM

EURO
```

Daily Exchange Rate - `/xd`

ITM_NAME	DESCRIPTION
EXRATD	Daily Exchange Rate

To extract daily exchange rate data for the Euro for a specified date range:

```
Enter identifier or new option beginning with a slash.
Type ? for help.
/xd /dt20090101-20090201
Keep previous data options? (y/n)
n
Daily data range: 20090102 - 20090130
options have been reset.


Enter identifier or new option beginning with a slash.
Type ? for help.
eur

CURRENCY = EUR

Exch Rate - Daily
-----------------
DATADATE           EXRATD
20090102       1.04100000
20090105       1.06800000
20090106       1.09760000
20090107       1.11030000
...
20090130       1.11640000
```

Monthly Exchange Rate - /xm

ITM_NAME	DESCRIPTION
EXRATM	Monthly Exchange Rate

```
To extract monthly exchange rate data for the Euro for a specified date range:
Enter identifier or new option beginning with a slash.
Type ? for help.
/xm /dt20080101-20090101
Keep previous data options? (y/n)
n
Monthly data range: 200801 - 200812
options have been reset.


Enter identifier or new option beginning with a slash.
Type ? for help.
eur

CURRENCY = EUR

Exch Rate - Mthly
-----------------
DATADATE            EXRATM
20080131       1.34110000
20080229       1.31030001
20080331       1.25470000
20080430       1.27210000
...
20081231       1.03320000
```

Monthly Exchange Rate Averages - /xv

ITM_NAME	DESCRIPTION
EXRAT1M	Monthly Exchange Rate, 1 Month Average
EXRAT2M	Monthly Exchange Rate, 2 Month Average
EXRAT3M	Monthly Exchange Rate, 3 Month Average
EXRAT4M	Monthly Exchange Rate, 4 Month Average
EXRAT5M	Monthly Exchange Rate, 5 Month Average
EXRAT6M	Monthly Exchange Rate, 6 Month Average
EXRAT7M	Monthly Exchange Rate, 7 Month Average
EXRAT8M	Monthly Exchange Rate, 8 Month Average
EXRAT9M	Monthly Exchange Rate, 9 Month Average
EXRAT10M	Monthly Exchange Rate, 10 Month Average
EXRAT11M	Monthly Exchange Rate, 11 Month Average
EXRAT12M	Monthly Exchange Rate, 12 Month Average
EXRAT13M	Monthly Exchange Rate, 13 Month Average
EXRAT14M	Monthly Exchange Rate, 14 Month Average
EXRAT15M	Monthly Exchange Rate, 15 Month Average
EXRAT16M	Monthly Exchange Rate, 16 Month Average
EXRAT17M	Monthly Exchange Rate, 17 Month Average
EXRAT18M	Monthly Exchange Rate, 18 Month Average

To extract monthly exchange rate averages for the Euro for a specified date range:

```
Enter identifier or new option beginning with a slash.
Type ? for help.
/xv
Keep previous data options? (y/n)
n
Monthly data range: 200801 - 200812
options have been reset.


Enter identifier or new option beginning with a slash.
Type ? for help.
eur

CURRENCY = EUR

Exch Rate - Mthly Avg
---------------------
DATADATE          EXRAT1M          EXRAT2M          EXRAT3M          EXRAT4M
20080131       1.33817727       1.36106879       1.37714769       1.39164047
20080229       1.33169524       1.33492838       1.35113468       1.36549616
20080331       1.28944286       1.31022850       1.31941413       1.33516484
20080430       1.25797273       1.27351340       1.29233412       1.30349790
...
20081231       1.09927826       1.14928353       1.18751869       1.20317392


…

DATADATE         EXRAT17M         EXRAT18M
20080131       1.45829039       1.45941346
20080229       1.44886882       1.45062920
20080331       1.43626781       1.43898464
...
20081231       1.30216518       1.31101431
```

COUNTRY ECONOMIC INDICATOR DATA: KEY /ky country

The economic indicator data group accesses a broad number of measures that can be printed with its print option resulting in a large quantity of data. Individual items may be printed with "/ml <items>".

These items are stored as monthly time series, so the "/dt" qualifier can be used to restrict the output to a specified date range.

The key for this group and all of its items is a country code. Presently, data items exist only for "USA" and "CAN".

Economic Indicator Data - /ec

ITM_NAME	DESCRIPTION
AUTO	Sale of Passenger Cars
BOND10YR	Government Bonds – 10 Year (Canada Only)
BOND20YR	Government Bonds – 20 Year (U.S. Only)
BOND30YR	Government Bonds – 30 Year (U.S. and Canada)
CABGDP1	Current Account Balance (Annual)
CABGDP2	Current Account Balance (Quarterly)
CPI	Consumer Price Index
CPI1	Consumer Price Index Inflation Rate (Index Value – Annual)
CPI3	Consumer Price Index Inflation Rate (Index Value – Monthly)
CPIR	Consumer Price Index Inflation Rate (Percent)
EMPLOY	Employment – Nonfarm
EMPLOYT1	Employment – Total (Annual)
EMPLOYT2	Employment – Total (Quarterly)
FEDFUNDS	Federal Funds Rate
GDP	Gross Domestic Product
GDPN1	Nominal Gross Domestic Product (Annual)
GDPN2	Nominal Gross Domestic Product (Quarterly)
GDPR1	Real Gross Domestic Product (Annual)
GDPR2	Real Gross Domestic Product (Quarterly)
HOUSE	Housing Starts
IP1	Industrial Production Growth Rate (Index Value – Annual)
IP3	Industrial Production Growth Rate (Index Value – Quarterly)
IPGR	Industrial Production Growth Rate (Percent)
IPPI	Industrial Product Price Index – Canada
LIBOR1M	London Interbank Offering Rate – 1 Month
LIBOR2M	London Interbank Offering Rate – 2 Month
LTGDR	Interest Rate on Long Term Government Debt
M1	Money Supply
M2	Money Supply
MBROAD1	Broad Money Supply (Annual)
MBROAD3	Broad Money Supply (Monthly)
NOTE10YR	Government Notes – 10 Year
NOTE2YR	Government Notes – 2 Year
NOTE3YR	Government Notes – 3 Year
NOTE5YR	Government Notes – 5 Year

ITM_NAME	DESCRIPTION
NOTE7YR	Government Notes – 7 Year
POPT	Population
PPI	Producer Price Index
PRIME	Prime Interest Rate
RAWMAT	Raw Material Price Index
RTLSALES	Retail Sales
STGDR	Interest Rate on Short Term Government Debt
TBILL12M	Treasury Bill – 12 Month
TBILL3M	Treasury Bill – 3 Month
TBILL6M	Treasury Bill – 6 Month
TXCR	Corporate Income Tax Rate
UNEMP	Unemployment Rate
UNEMP1	Unemployment Rate (Annual)
UNEMP2	Unemployment Rate (Quarterly)
WPI1	Wholesale Price Index Inflation Rate (Index Value – Annual)
WPI3	Wholesale Price Index Inflation Rate (Index Value – Monthly)
WPIR	Wholesale Price Index Inflation Rate (Percent)

```
Enter identifier or new option beginning with a slash.
Type ? for help.
/ky country
Monthly data range: 200810 - 200812


Enter identifier or new option beginning with a slash.
Type ? for help.
/ec
Keep previous data options? (y/n)
n
Monthly data range: 200801 - 200812
options have been reset.


Enter identifier or new option beginning with a slash.
Type ? for help.
usa

COUNTRY = USA

Economic Indicator
------------------
DATADATE             AUTO         BOND10YR         BOND20YR         BOND30YR
20081031         429.4000           0.0000           4.7400           4.3500
20081128         359.7000           0.0000           3.7100           3.4500
20081231         422.7000           0.0000           3.0500           2.6900

DATADATE          CABGDP1          CABGDP2              CPI             CPI1
20081031          -4.7454          -3.7063           2.1671         110.2067
20081128          -4.7454          -3.7063           2.1306         110.2067
20081231          -4.7454          -3.7063           2.1149         110.2067

DATADATE             CPI3             CPIR           EMPLOY        EMPLOYT1
20081031         110.9550           3.7960      136700.0000         145.6153
20081128         109.1750           3.7960      136167.0000         145.6153
```

20081231	108.8360	3.7960	0.0000	145.6153

DATADATE	EMPLOYT2	FEDFUNDS	GDP	GDPN1
20081031	144.8192	0.2200	11599.4000	14322.4525
20081128	144.8192	0.5200	11599.4000	14322.4525
20081231	144.8192	0.1400	11599.4000	14322.4525

DATADATE	GDPN2	GDPR1	GDPR2	HOUSE
20081031	14415.3100	11678.8875	11622.1500	0.7670
20081128	14415.3100	11678.8875	11622.1500	0.6510
20081231	14415.3100	11678.8875	11622.1500	0.5500

DATADATE	IP1	IP3	IPGR	IPPI
20081031	102.1902	99.5977	-1.6475	0.0000
20081128	102.1902	98.9809	-1.6475	0.0000
20081231	102.1902	97.8782	-1.6475	0.0000

DATADATE	LIBOR1M	LIBOR2M	LTGDR	M1
20081031	3.8096	3.9392	3.7775	1473.2000
20081128	1.6210	2.1506	3.5135	1522.6000
20081231	1.0826	1.5854	2.4157	1599.8000

DATADATE	M2	MBROAD1	MBROAD3	NOTE10YR
20081031	7879.2000	7960.0540	7789.0480	4.0100
20081128	7934.5000	7960.0540	7878.3350	2.9300
20081231	0.0000	7960.0540	7963.1880	2.2500

DATADATE	NOTE2YR	NOTE3YR	NOTE5YR	NOTE7YR
20081031	1.5600	1.8000	2.8000	3.2900
20081128	1.0000	1.2700	1.9300	2.3500
20081231	0.7600	1.0000	1.5500	1.8700

DATADATE	POPT	PPI	PRIME	RAWMAT
20081031	305.3654	1.7650	4.5600	0.0000
20081128	305.3654	1.7260	4.0000	0.0000
20081231	305.3654	1.6900	3.6100	0.0000

DATADATE	RTLSALES	STGDR	TBILL12M	TBILL3M
20080930	334.4150	1.1467	1.7300	0.9000
20081031	321.9650	0.6859	1.3000	0.4400
20081128	313.9250	0.1939	0.8800	0.0100
20081231	305.3970	0.0341	0.3500	0.1100

DATADATE	TBILL6M	TXCR	UNEMP	UNEMP1
20081031	0.9200	19.6381	6.5000	5.6851
20081128	0.4300	19.6381	6.7000	5.6851
20081231	0.2700	19.6381	0.0000	5.6851

DATADATE	UNEMP2	WPI1	WPI3	WPIR
20081031	6.5000	120.5694	118.5090	9.8977
20081128	6.5000	120.5694	113.0060	9.8977
20081231	6.5000	120.5694	110.8140	9.8977

COMMAND LINE OPTIONS

`ccm_ref_print` supports the following `ccm_print` command line and/or user prompt options. See the `ccm_print` documentation for further information on the usage of these options.

`/d1 <db directory>`

Location of database to read

`/dt <date>[-<date>]`

Filter output on date range (for applicable data)

`/ml <item list>`

Individual items to print

`/mf <item input file>`

File containing items to print

`/if <entity input file>`

File from which to read entity inputs

`/of <output file>`

File to contain all output

`/wi <width>`

Change the screen width from the default of 80 characters

`/fs`

Pipe-delimited output

`/fr`

80-character formatting with headers (default)

`/fe`

print data with no prompts

APPENDIX A: AVAILABLE CURRENCY CODES

The following is a list of the currency codes (and descripions) available for all currency data ("/ky currency").

CURRENCY CODE	CURRENCY DESCRIPTION
AED	United Arab Dirham
AFA	Afghanistan Afghani
ALL	Albanian Lek
AMD	Armenian Dram
ANG	Neth. Antillian Guilder
AOA	ANGOLAN NEW KWANZA
AON	INACTIVE-ANGOLAN NEW KWANZA
AOR	INACTIVE-Angolan Kwanza Rejustado
ARA	INACTIVE-Argentine Austral
ARS	Argentine Peso
ATS	Austrian Schilling
AUD	Australian Dollar
AWG	ARUBAN GUILDERS
AZM	Azerbaijan Manat
AZN	AZERBAIJAN MANAT
BAM	BOSNIA & HERZEGOVINA CV MARK
BBD	Barbados Dollar
BDT	Bangladesh Taka
BEF	Belgian Franc
BEL	INACTIVE-Belgium Financial Franc
BGL	INACTIVE-Bulgarian Lev (Old)
BGN	Bulgarian Lev
BHD	Bahraini Dinar
BIF	Burundi Franc
BMD	Bermuda Dollar
BND	Brunei Dollar
BOB	Bolivian Boliviano
BOV	INACTIVE-Bolivia Mvdol
BPN	British Pence
BRC	INACTIVE-Brazilian Cruzado
BRE	INACTIVE-Brazilian Cruzeiro
BRL	Brazilian Real
BRR	INACTIVE-Brazilian Cruzeiro Real
BSD	Bahamian Dollar
BTN	Bhutan Ngultrum
BWP	Botswana Pula
BYB	INACTIVE-BELARUS ROUBLE
BYR	Belarussian Ruble
BZD	Belize Dollar
CAD	Canadian Dollar
CDF	CONGO (DEM REP) FRANC
CHF	Swiss Franc

CURRENCY CODE	CURRENCY DESCRIPTION
CLF	Chilean Unidades De Fomento
CLP	Chilean Peso
CNY	Chinese Yuan Renminbi
COP	COLOMBIAN PESO
CRC	Costa Rica Colon
CUP	Cuban Peso
CVE	Cape Verde Escudo
CYP	Cyprus Pound
CZK	Czech Republic Koruna
DEM	German Deutsche Mark
DJF	Djibouti Franc
DKK	DANISH KRONE
DOP	Dominican Peso
DZD	Algerian Dinar
ECS	Ecuador Sucre
EEK	Estonian Kroon
EGP	Egyptian Pound
ESP	Spanish Peseta
ETB	Ethiopian Birr
EUR	EURO
FIM	Finnish Markka
FJD	Fiji Dollar
FKP	INACTIVE-FALKLAND ISLAND POUND
FRF	French Franc
GBP	POUNDS STERLING
GEL	GEORGIA LARI
GHC	Ghana Cedi
GHS	GHANA CEDI (NEW)
GIP	INACTIVE-GIBRALTER POUND
GMD	Gambia Dalasi
GNF	Guinea Franc
GRD	Greek Drachma
GTQ	Guatemala Quetzal
GWP	INACTIVE-GUINEA-BISSAU FRANC
GYD	Guyana Dollar
HKD	Hong Kong Dollar
HNL	Honduras Lempira
HRD	INACTIVE-Croatian Dinar
HRK	Croatian Kuna
HTG	Haiti Gourde
HUF	Hungarian Forint
IDR	Indonesian Rupiah
IEP	Irish Pound
ILS	Israeli Shekel
INR	Indian Rupee
IPN	Irish Pence

CURRENCY CODE	CURRENCY DESCRIPTION
IQD	Iraqi Dinar
IRR	Iranian Rial
ISK	Icelandic Krona
ITL	Italian Lira
JMD	Jamaican Dollar
JOD	Jordanian Dinar
JPY	Japanese Yen
KES	Kenyan Shilling
KGS	KYRGYZSTAN SOM
KHR	Cambodian Riel
KMF	Comoro Franc
KPW	North Korean Won
KRW	South Korean Won
KWD	Kuwaiti Dinar
KYD	Cayman Islands Dollar
KZT	Kazakhstan Tenge
LAK	Laos Kip
LBP	Lebanese Pound
LKR	Sri Lankan Rupee
LRD	Liberian Dollar
LSL	Lesotho Loti
LTL	Lithuanian Litas
LUF	Luxembourg Franc
LVL	Latvian Lats
LYD	Libyan Dinar
MAD	Moroccan Dirham
MDL	Moldovan Leu
MGF	Malagasy Franc
MKD	Macedonian Denar
MMK	Myanmar Kyat
MNT	Mongolian Tugrik
MOP	MACAO PATACA
MRO	Mauritania Ouguiya
MTL	Maltese Lira
MUR	Mauritius Rupee
MVR	Maldives Rufiyaa
MWK	Malawi Kwacha
MXN	Mexican Nuevo Peso
MXP	INACTIVE-Mexican Peso
MYR	Malaysian Ringgit
MZM	MOZAMBIQUE METICALS
MZN	MOZAMBIQUE METICAL NEW
NAD	Namibia Dollar
NGN	Nigerian Naira
NIC	INACTIVE-Nicaragua Cordoba
NIO	Nicaraguan Cordoba Oro

CURRENCY CODE	CURRENCY DESCRIPTION
NLG	Netherlands Guilder
NOK	Norwegian Krone
NPR	Nepalese Rupee
NZD	New Zealand Dollar
OMR	Oman Rial
PAB	Panama Balboa
PEI	INACTIVE-Peruvian Inti
PEN	Peruvian Nuevo Sol
PGK	Papua New Guinea Kina
PHP	Philippine Peso
PKR	Pakistani Rupee
PLN	Polish New Zloty
PLZ	INACTIVE-Polish Zloty
PTE	Portuguese Escudo
PYG	Paraguay Guarani
QAR	Qatari Rial
ROL	INACTIVE-ROMANIAN LEU
RON	ROMANIAN LEU (NEW)
RSD	Serbian Dinar
RUB	Russian Ruble
RUR	INACTIVE-RUSSIAN ROUBLE (OLD)
RWF	Rwanda Franc
SAR	Saudi Riyal
SBD	Soloman Islands Dollar
SCR	Seychelles Rupee
SDD	Sudanese Dinar
SDG	Sudanese Pound
SDP	INACTIVE-Sudanese Pound
SEK	Swedish Krona
SGD	Singapore Dollar
SHP	INACTIVE-ST. HELENA POUND
SIT	Slovenian Tolar
SKK	Slovak Koruna
SLL	Sierra Leone Leone
SOS	Somali Shilling
SRG	Surinam Guilder
STD	Sao Tome & Principe Dobra
SUR	INACTIVE-USSR Rouble
SVC	El Salvador Colon
SYP	Syrian Pound
SZL	Swaziland Lilangeni
THB	Thailand Baht
TJR	INACTIVE-Tajik Ruble
TJS	Tajikistan Somoni
TND	Tunisian Dinar
TOP	TONGA PA'ANGA

CURRENCY CODE	CURRENCY DESCRIPTION
TRL	INACTIVE-Turkish Lira
TRY	Turkish Lira (NEW)
TTD	Trinidad & Tobago Dollar
TWD	New Taiwan Dollar
TZS	Tanzania Shilling
UAH	Ukraine Hryvnia
UAK	INACTIVE-Ukraine Karbovanet
UDT	INACTIVE-USD Per 1000 Brazilian Shares (IBES)
UGX	Uganda Shilling
UNK	INACTIVE-Unknown Currency
USD	U.S. Dollar
UYN	INACTIVE-Peso Uruguayo
UYU	Uruguayan Peso (new)
UZS	Uzbekistan Sum
VEB	VENEZUELAN BOLIVAR
VEF	VENEZUELAN BOLIVAR FUERTE
VND	Vietnam Dong
VUV	Vanuatu Vatu
WST	Western Samoa Tala
XAF	CFA (BEAC) FRANC (CENTL AFR)
XCD	East Caribbean Dollar
XEU	INACTIVE-EUROPEAN COMPOSITE UNIT
XOF	CFA (BCEAO) FRANC (WEST AFR)
XPF	French Polynesia - C.F.P. Franc
YER	Yemeni Rial
YUD	INACTIVE-YUGOSLAVIAN NEW DINAR
ZAL	INACTIVE-South African Financial Rand
ZAR	South African Rand
ZMK	Zambian Kwacha
ZMW	Zambian New Kwacha
ZRN	INACTIVE-NEW ZAIRE
ZRZ	INACTIVE-Zaire
ZWD	ZIMBABWE DOLLAR

CRSP provides header files for each CRSPAccess database. These name lists are useful for finding identifiers and name histories of securities when only partial information is known. The identifiers can then be used as input to other CRSP reporting utilities or programs. The files are fixed format text files and be accessed with system utilities or other tools.

SEARCH AND INQUIRY TOOLS

The following table lists header files found in CRSP databases:

File Name	Database(s)	Description
Cheadfile.dat	CRSP 1925 and 1962 stock and index databases	Current header information for each security, sorted by PERMNO
Headfile.dat	CRSP 1925 and 1962 stock and index databases	Historic header information for each security, sorted by PERMNO
Psortby.dat	CRSP 1925 and 1962 stock and index databases	PERMNO listing in numeric order
Headind.dat	CRSP 1925 and 1962 stock and index databases	Index listing information for those included in each database
Cheadccm.dat	CRSP\Compustat Merged Database	Current header information for each security sorted by GVKEY
Headccm.dat	CRSP\Compustat Merged Database	Historic header information for each security, sorted by GVKEY
Iheadccm.dat	CRSP\Compustat Merged Database	Index listing information for those included in the CCM database
Cheadsiz.dat	CRSP 1925 Expanded Stock and Index Database	Current header information for each security, sorted by PERMNO
Headsiz.dat	CRSP 1925 Expanded Stock and Index Database	Historic header information for each security, sorted by PERMNO
Iheadsiz.dat	CRSP 1925 Expanded Stock and Index Database	Index listing information for indexes, index families and groups

SEARCH UTILITIES

CRSP provides the following search utilities for header files.

Utility Name	Description
dstksearch	Use with 1925 and 1962 Stock and Index databases to search daily header files
mstksearch	Use with 1925 and 1962 Stock and Index databases to search monthly header files
dindsearch	Use with 1925 and 1962 Stock and Index databases to search daily index header files
mindsearch	Use with 1925 and 1962 Stock and Index databases to search monthly index header files
sizsearch	Use with 1925 Expanded Stock and Index Database to search header files
ccmsearch	Use with CRSP\Compustat Merged Database to search header files

USAGE

WINDOWS:

Enter the command and the text string on which to search in double quotes. All header rows that contain the string will return.

```
C:\Windows\system32>sizsearch "oxford"
C:\Windows\system32>echo off
                          1925-E Stock Headers
              Exchange Codes 1=NYSE, 2=NYSEMKT, 3=NASDAQ, 4=ARCA
Perm# Permco CUSIP            Company Name            Tick   EX    date range
---------- Y:\SIZ201409\\HEADSIZ.DAT
11671  9494 46610710 J B OXFORD HOLDINGS INC         JBOH   3 19940825-20021014
11671  9494 46610720 J B OXFORD HOLDINGS INC         JBOH   3 20021015-20051229
11671  9494 46610730 J B OXFORD HOLDINGS INC         JBOH   3 20051230-20051230
12007 53466 69180710 OXFORD RESOURCE PARTNERS L P    OXF    1 20100714-20140930
12505 53640 69154310 OXFORD LANE CAPITAL CORP        OXLC   3 20110120-20140930
14319 54659 G6855A10 OXFORD IMMUNOTEC GLOBAL PLC     OXFD   3 20131122-20140930
25427 23333          OXFORD PAPER CO                        1 19550214-19620701
25427 23333          OXFORD PAPER CO                 OXP    1 19620702-19670731
```

UNIX:

Upon typing the name of the search function, you will be prompted for the search string. No quotes are needed and case is ignored.

CRSP_SHOW_DB_INFO

This program generates a listing of information about a CRSPAccess database. Information generated includes creation date, last modification date, data cut date, binary type, CRSPAccess version, product code, product name, data version, a list of data sets available, and a list of calendars available. It takes a parameter of the database location and an optional parameter for an output file. If no output file is given the information is printed to the terminal. To run the program, type the name of the program followed by parameter options at a command prompt. The parameters follow.

USAGE

```
crsp_show_db_info inpath [outfile]
```

PARAMETER VALUES

Inpath Input CRSPDB directory path. The directory where the database is stored. Standard environment names can be used such as $CRSP_DSTK or $CRSP_MSTK on UNIX, %crsp_dstk% or %crsp_mstk% on Windows for 1925 and 1962 Stock Databases $CRSP_SIZ or %crsp_siz% for 1925 Expanded Stock Database.

Outfile (optional) Output CRSPDB directory path. The file where the output will be written. If this option is not included, the output will be printed to the terminal.

EXAMPLES:

WINDOWS

```
C:\Windows\system32>crsp_show_db_info %crsp_siz%

Create date  : Tue Dec  9 13:46:43 2014

Mod date     : Tue Dec  9 14:42:24 2014
Cut date     : 20140930
Binary type  : L (IEEE little endian)
Code Version : CACC_387
Product code : SIZ
Product name : SIZ database
Data Version : 1

Settypes    Setids     Wanted        Setname
 7(gen)       30        8191(1-13)   Enhanced Stock

Calid(Types)                                                    Calcd F
  100( 3)    US Daily Stock Calendar                            USSTK D
  101( 3)    US Monthly Stock Calendar                          USSTK M
  300( 3)    US Annual Stock Calendar                           USSTK Y
  310( 3)    US Quarterly Stock Calendar                        USSTK Q
  500( 3)    US Weekly Stock Calendar                           USSTK W
```

UNIX

This command will summarize the 1925 Expanded Stock Database.

```
crsp_show_db_info $CRSP_SIZ
```