

Risk Parameter File Layouts for the Positional Formats

Currency Codes Recognized

- Type "0" Records - Exchange Complex Header - [Standard Format](#) | [Expanded Format and Paris Expanded Format](#)
- Type "1" Records - Exchange Header - [Standard Format](#) | [Expanded Format and Paris Expanded Format](#)
- Type "2" Records - Combined Commodity Definition - [Standard Format](#) | [Expanded Format](#) | [Paris Expanded Format](#)
- Type "3" Records - Intracommodity Spread Charge Parameters - [Standard Format](#) | [Expanded Format](#) | [Paris Expanded Format](#)
- Type "4" Records - Delivery (Spot) Charge Parameters - [Standard Format](#) | [Expanded Format](#) | [Paris Expanded Format](#)
- Type "5" Records - Combined Commodity Groups - [Standard Format](#) | [Expanded Format](#) | [Paris Expanded Format](#)
- Type "6" Records - Intercommodity Spreads - [Standard Format](#) | [Expanded Format](#) | [Paris Expanded Format](#)
- Type "8" Records - Risk Arrays - [Standard Formats](#) (both Unpacked and Packed) | [Expanded Format](#) | [Paris Expanded Format](#)
- Type "9" Records - Debt Securities - [Standard Format](#) | [Expanded Format](#)
- Type "9" Records - Liquidation Risk Prices - [Paris Expanded Format](#)
- Type "B" Records - Array Calculation Parameters - [Standard Format](#) | [Expanded Format](#) | [Paris Expanded Format](#)
- Type "C" Records - Tier to Tier Intracommodity Spreads - [Standard Format](#) | [Expanded Format and Paris Expanded Format](#)
- Type "E" Records - Series to Series Intracommodity Spreads - [Standard and Expanded Format](#)
- Type "P" Records - Price Conversion Parameters - [Standard and Expanded Format](#) | [Paris Expanded Format](#)
- Type "R" Records - Commodity (Product) Redefinition - [Standard Format](#) | [Expanded Format](#)
- Type "S" Records - Scanning Tiers - [Standard Format](#) | [Expanded Format and Paris Expanded Format](#)
- Type "T" Records - Currency Conversion Rates - [Standard and Expanded Format](#) | [Paris Expanded Format](#)
- Type "V" Records - Daily Adjustment Rates / Value Maintenance Rates - [Standard Format](#) | [Expanded Format](#)
- Type "X" Records - Combination Margining Method - [Standard and Expanded Format](#)
- Type "Y" Records - Option on Combination Product Family Definition - [Standard and Expanded Format](#)
- Type "Z" Records - Combination Underlying Legs - [Standard and Expanded Format](#)

These pages contain the comprehensive description of file layouts for four **positional formats** for SPAN risk parameter files -- the **unpacked** format, the **packed** format, the **expanded unpacked** format, and the **Paris expanded** format.

- the **unpacked format** is the original format with 80-byte records and two-byte product codes, still widely used;
- the **packed format** is a variant on the unpacked format optimized for programmers accustomed to receiving data in EBCDIC and COBOL COMP-3 (packed decimal) format. Only CME and CBOT produce their SPAN files in this format, and this is **in addition to** the unpacked format.
- the **expanded unpacked format** is an extension of the original unpacked format to add support for long product codes (up to 10 bytes), long combined commodity codes (up to 6 bytes), and explicit recognition of different product types. Most exchanges which have adopted SPAN more recently provide their SPAN files in this format.
- the **Paris expanded format** is a variant of the expanded unpacked format originally introduced by [Euronext](#) and [Clearnet SA](#) in Paris, which uses this format for its [SPAN files for the MATIF and Moneyp markets](#).

Please note that: the [London Clearing House](#) produces SPAN files for the LIFFE and the other exchanges it clears in the **London format**, not described here.

Summary Description of Record Types -- In Logical Order

- The **type "0" -- Exchange Complex Header** -- record is the first and only record in the file in the **expanded-unpacked** format. It identifies the clearing organization, cross-margin agreement, or other grouping of exchanges to which the file pertains.
- The **type "1" -- Exchange Header** -- record is the first record of a group of records for an exchange. The file may contain groups of records for any number of exchanges. In the standard unpacked or packed format, this is the first record in the file.
- **Type "P"** records contain **price conversion parameters**, such as decimal locators and contract value factors, needed to convert quoted prices into actual contract values. PC-SPAN will read these records and update the Organization Master database, its master repository of supported products. If present, type "P" records for an exchange should immediately follow the type "1" (exchange header) record for that exchange.
- The **types "2", "3" and "4"** records provide basic information about each **combined commodity**:
 - The **type "2"** record -- also called the **first combined commodity record** -- specifies which **products ("product families" or "commodities")** are grouped together in this combined commodity, and specifies the **performance bond currency** in which the performance bond requirement is denominated. In the standard-format files, it also provides the **settlement currency** for all products in the combined commodity and the **currency conversion rate** to use for that currency.
 - The **type "3"** record -- also called the **second combined commodity record** -- provides data specifying how the **intracommodity (intermonth) spread charge** is calculated. For the standard **table-driven, method "10"** calculation, it provides the **intracommodity spread tier** definitions. It also includes the **initial to maintenance ratios** for the different types of customer accounts.
 - The **type "4"** record -- also called the **third combined commodity record** -- provides data specifying how the **spot (delivery) charge** is calculated. It also provides the **short option minimum charge rate** and the **risk maintenance performance bond adjustment factors** for the different customer account types.
- The **types "B", "C", "E", "S" and "V"** records are considered **subrecords** of the types "2", "3" and "4" records for the combined commodity:
 - **Type "B"** records -- **SPAN risk array calculation parameters** records -- contain parameters such as the **price scan range, volatility scan range, expiration date and time to expiration** for each future and each option series. This data is not required for the performance bond calculation, except for the important **delta-scaling factors**. Reading the delta-scaling factors from the type "B"

records, and using them in the SPAN calculation, are critical to properly calculate SPAN requirements for portfolios including the CME's E-Mini and standard S&P 500 futures and options, the CME's Eurodollar contracts, and the Chicago Board of Trade's interest rate futures and options.

- **Type "C"** records contain specific **"tier to tier" intracommodity spreads** -- this is the table of intracommodity spreads in the table-driven calculation.
- The new **Type "E"** records contain specific **"series to series" intracommodity spreads** -- part of the new enhancement to intracommodity spreading which allows both series-to-series and tier-to-tier spreading.
- **Type "S"** records provide specifications for **tiered scanning** where tiered scanning is used -- for example, for the CBOT's catastrophic insurance products.
- **Type "V" records**, if present, pertain to the CME's TRAKRSSM futures and indicate that there is a financing cost associated with rolling each position from one day to the next. They provide the rates for the determination of this **"Daily Adjustment"** cash flow, and also provide parameters which drive the determination of the scan risk using the **"Value Maintenance Method"** for certain types of customer portfolios.
- **Type "5" records** specify the **combined commodity groups** and the combined commodities which are in each group.
- The **type "6" records** provide data about **intercommodity spreads**.
- **Type "8" records** provide the **risk array values**, the **composite delta**, and the **price** for each contract. They may also contain the **base (starting-point) volatility** for each option contract.
- **Type "9"** records contain data about **physical debt securities** -- for example, **U.S. Treasury bills, bonds, notes, etc.** - which will be margined on a **futures-equivalent** basis. In other words, by converting the physical position into an equivalent futures position, which is then processed in SPAN like any other futures position.
- **Types "X", "Y" and "Z"** contain parameters which drive two new special features of SPAN used for processing **options on combinations** -- the **split allocation** method, and the **delta-split allocation** method.
- **Type "T"** records are used in the expanded unpacked format to specify **currency conversion rates**.
- **Type "R"** records provide **commodity redefinition** instructions which allow a product on one exchange to be redefined to be part of a combined commodity on another exchange. In the future, the combined commodity will be defined as part of the exchange complex, not the exchange, and this feature will no longer be needed.