

# Crystal Reports for LANSA/Client: Date fields

The data-type "date" has only recently been introduced to the AS/400 and most of your applications probably still store date information in a numeric field. To make use of the many sophisticated date formula functions in Crystal, you need to convert a numeric or alpha-numeric database field containing a date to a proper date formula field. This document provides you with formulae for the most common field to date conversions.

Once you use date fields, calculating the number of days between two dates is as simple as subtracting one date field from another and transaction ageing can be done almost automatically.

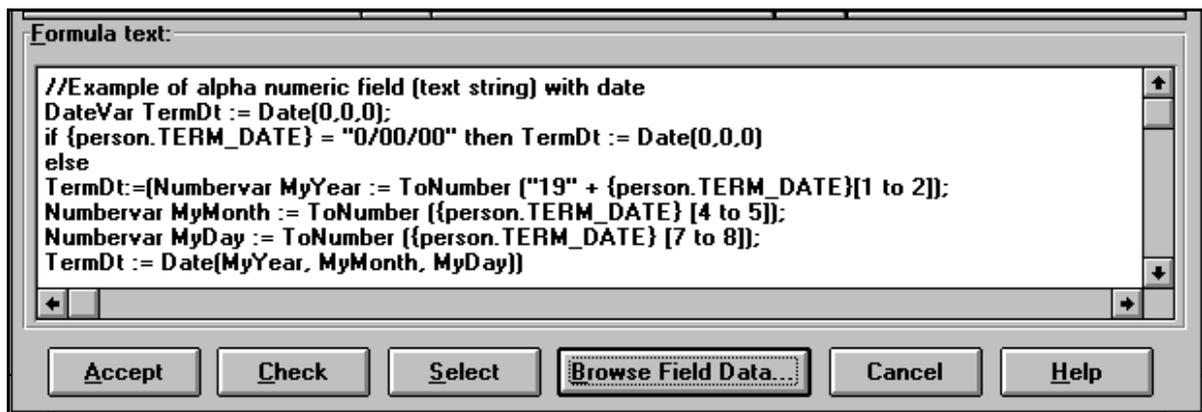
Below follow **two formula examples of converting a non-date field to a date field**:

1. Converting an alphanumeric database field (containing "yy/mm/dd") to a date formula field.
2. Converting a numeric database field (containing ccyymmdd) to a date formula field.

Next you will find **two examples of printing a date field**:

3. Using the "picture" function to print an alphanumeric field as a date (comparable with a "mask" in the DDS).
4. Format options to print a (proper) date field. Date formats depend on local preferences and site standards for which you can set the defaults in the File/Options menu.

## 1. Converting an alphanumeric database field to a date formula field



Input example "96/08/17" , an 8 character alpha numeric field  
positions           12345678

If you use a virtual field in LANSA to return a formatted "date" field, you actually retrieve a alpha-numeric (text string) from the AS/400. This field is suitable for printing (because it is already formatted), but is not suitable for date calculations.

In the above example the database field contains "yy/mm/dd" formatted dates, for example "96/08/17" meaning 17 August 1996. To convert this to a date field use the above formula:

- line 1: This is a comment line
- line 2: Defines and initializes a date variable "TermDt".
- lines 3/4: Filters out the records without a date (dates with value zero).
- line 5: Concatenates a century "19" and the year in a numeric field MyYear.  
You could also have typed  
MyYear := 1900 + ToNumber ({person.TERM\_DATE} [1 to 2])
- line 6: Retrieves the month in a numeric field MyMonth.
- line 7: Retrieves the day in a numeric field MyDay.
- line 8: Combines all retrieved fields in date field "TermDt".

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For easier readability you could start your formula by defining the variables first, for example:

```
NumberVar MyYear;  
NumberVar MyMonth;
```

Thereafter you can refer to these variables in the same way as any other field.

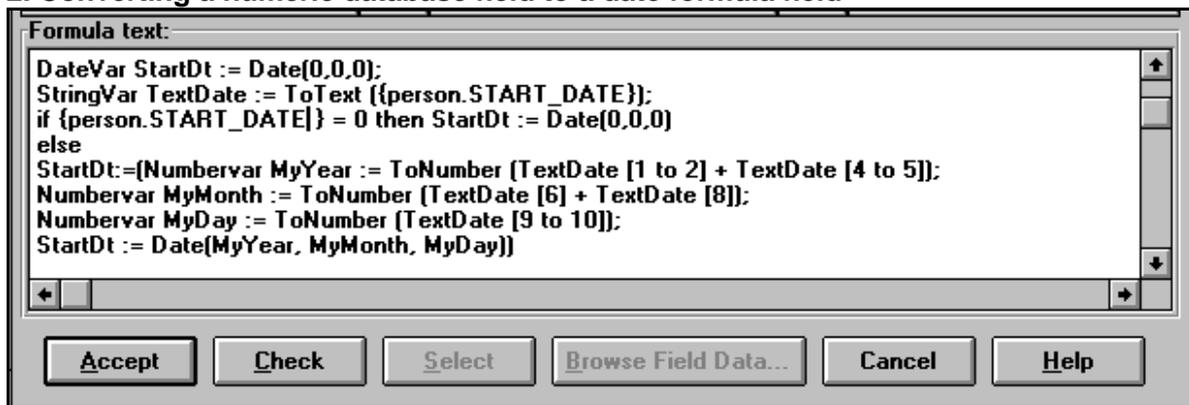
## Something about formulae in general:

In a formula with multiple statements, the result of the final statement is the result that is returned (gets printed). When you have multiple statements in a formula, you must separate the statements using a semicolon so that Crystal Reports knows where one statement ends and the next begins. Without semicolons, Crystal Reports treats the entire formula as a single statement. In a multiple statement formula, this can result in an incorrect result or an error message.

The general rule that best describes the use of semicolons in multiple statement formulae is that every statement needs to end in a semicolon with two exceptions:

- the last statement in a formula does not need one, and
- the last statement before an Else (when there are multiple statements before an Else) does not need one.

## 2. Converting a numeric database field to a date formula field



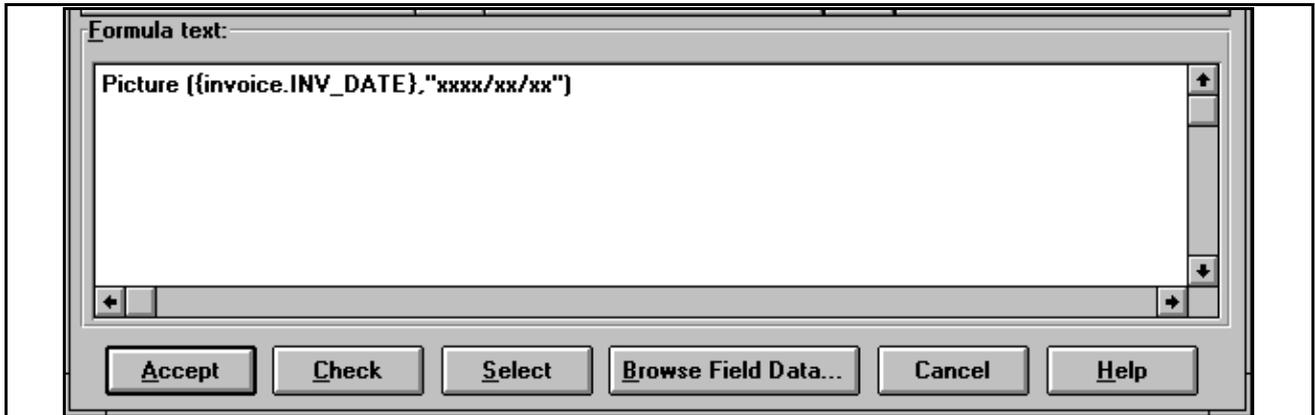
Input is ccYYMMDD, an 8 digit numeric field, which Crystal formats as:  
19,960,817.00 (or 19.960.817,00 depending on Windows setting).  
positions 1234567890

Clicking on the "Browse Field Data" button will pop-up a little window that displays field values as presented by Crystal. Crystal will insert a decimal point and thousand separators in a numeric field. The first step, in converting a numeric field to a date field, is to convert it to an alphanumeric field. Crystal will convert the decimal point and thousand separators to the alphanumeric field as well. After you have converted the numeric field to a alphanumeric field, the rest of the formula is similar to the formula in example one. The complete formula to convert a numeric field to a date field is displayed in the picture above:

- line 1: Defines and initializes a date variable "StartDt".
- line 2: Converts a numeric field to an alphanumeric (text string) field
- lines 3/4: Filter out the records without a date (dates with value zero).
- line 5: Concatenates century (position 1 to 2) and year (position 4 to 5) a numeric field MyYear.
- line 6: Retrieves the month (positions 6 and 8) in a numeric field MyMonth.
- line 7: Retrieves the day (positions 9 and 10) in a numeric field MyDay.
- line 8: Combines all retrieved fields in date field "StartDt".

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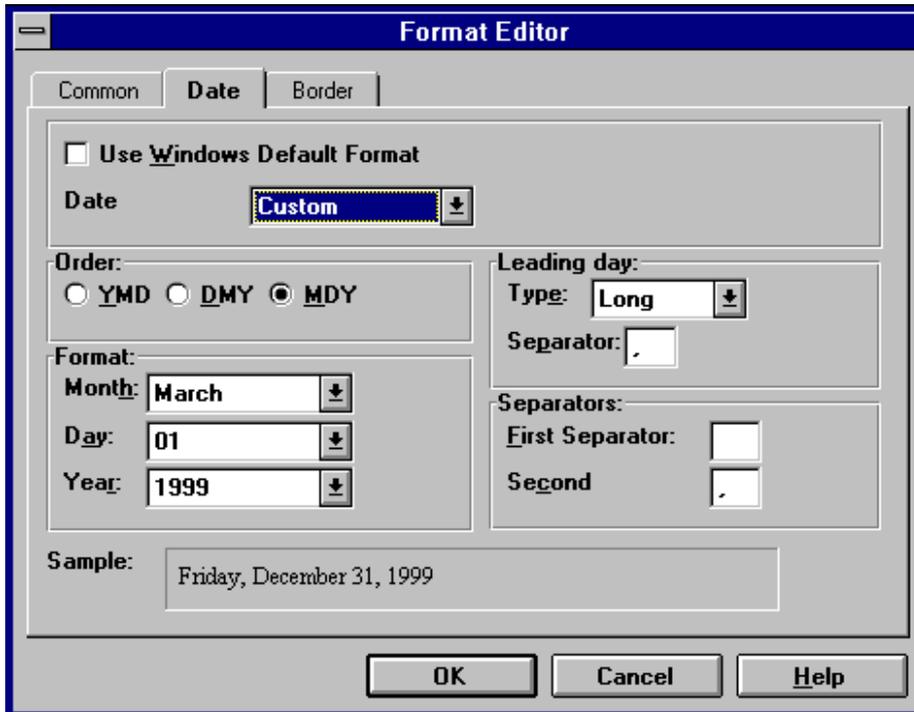
### 3. Using the picture function to print a non-date field as a date



Input example "19960817" , an 8 character alphanumeric field).  
positions        12345678

If you don't need any date calculations and only want to print a data in a certain format, you can use the "picture" function. The picture function allows you to print characters or symbols between the characters of the original field. You indicate the characters of the original field by "x". In the above example we have inserted slashes ("/") between the characters. The picture function is similar to the print-mask facility on the AS/400. The picture function only works with alphanumeric fields.

### 4. Printing a date field



The format editor allows you to print a date field in a variety of formats. You can set the default print format for dates with the File/Options menu and may change the format for each individual date. The format of dates will automatically adapt to the Windows settings if you have ticked the "Use Windows Default Format" box. This is handy when you Email your report to another (oversees) party.