InputMask Property

You can use the **InputMask** property to make data entry easier and to control the values users can enter in a text box control. For example, you could create an input mask for a Phone Number field that shows you exactly how to enter a new number: (___) ___-____. It is often easier to use the Input Mask Wizard to set the property for you.

Setting

The **InputMask** property can contain up to three sections separated by semicolons (;).

Section	Description
First	Specifies the input mask itself; for example, !(999) 999-9999. For a list of characters you can use to define the input mask, see the following table.
Second	Specifies whether Microsoft Access stores the literal display characters in the table when you enter data. If you use 0 for this section, all literal display characters (for example, the parentheses in a phone number input mask) are stored with the value; if you enter 1 or leave this section blank, only characters typed into the control are stored.
Third	Specifies the character that Microsoft Access displays for the space where you should type a character in the input mask. For this section, you can use any character; to display an empty string, use a space enclosed in quotation marks (" ").

In Visual Basic you use a string expression to set this property. For example, the following specifies an input mask for a text box control used for entering a phone number:

```
Forms!Customers!Telephone.InputMask = "(###) ###-####"
```

When you create an input mask, you can use special characters to require that certain data be entered (for example, the area code for a phone number) and that other data be optional (such as a telephone extension). These characters specify the type of data, such as a number or character, that you must enter for each character in the input mask. You can define an input mask by using the following characters.

Character	Description
0	Digit (0 to 9, entry required, plus [+] and minus [–] signs not allowed).
9	Digit or space (entry not required, plus and minus signs not allowed).
#	Digit or space (entry not required; spaces are displayed as blanks while in Edit mode, but blanks are removed when data is saved; plus and minus signs allowed).
L	Letter (A to Z, entry required).
?	Letter (A to Z, entry optional).
A	Letter or digit (entry required).
a	Letter or digit (entry optional).
&	Any character or a space (entry required).
C	Any character or a space (entry optional).
. , : ; - /	Decimal placeholder and thousand, date, and time separators. (The actual character used depends on the settings in the **Regional Settings Properties** dialog box in Windows Control Panel).
<	Causes all characters to be converted to lowercase.
>	Causes all characters to be converted to uppercase.
!	Causes the input mask to display from right to left, rather than from left to right. Characters typed into the mask always fill it from left to right. You can include the exclamation point anywhere in the input mask.
\	Causes the character that follows to be displayed as the literal character (for example, \A is displayed as just A).

Note Setting the **InputMask** property to the word "Password" creates a password-entry control. Any character typed in the control is stored as the character but is displayed as an asterisk (*). You use the Password input mask to prevent displaying the typed characters on the screen.

For a control, you can set this property in the control's property sheet. For a field in a table, you can set the property in table Design view (in the Field Properties section) or in Design view of the Query window (in the Field Properties property sheet).

You can also set the **InputMask** property by using a macro or Visual Basic.

Remarks

When you type data in a field for which you've defined an input mask, the data is always entered in Overtype mode.
If you use the BACKSPACE key to delete a character, the character is replaced by a blank space.
If you move text from a field for which you've defined an input mask onto the Clipboard, the literal display characters are copied, even if you have specified that they not be saved with data.
Note Only characters that you type directly in a control or combo box are affected by the input mask. Microsoft Access ignores any input masks when you import data, run an action query, or enter characters in a control by setting the control's **Text** property in Visual Basic or by using the SetValue action in a macro.
When you've defined an input mask and set the **Format** property for the same field, the **Format** property takes precedence when the data is displayed. This means that even if you've saved an input mask, the input mask is ignored when data is formatted and displayed. The data in the underlying table itself isn't changed; the **Format** property affects only how the data is displayed.

Format Property

You can use the **Format** property to customize the way numbers, dates, times, and text are displayed and printed. For example, if you've created a Price text box, you can set its **Format** property to **Currency** and its **DecimalPlaces** property to 2 or Auto. If you enter **4321.678** in the control, the number would be displayed as $4,321.68.
You can use one of the predefined formats or you can create a custom format by using formatting symbols.

Setting

The **Format** property uses different settings for different data types. For information about settings for a specific data type, see one of the following topics:

- Date/Time Data Type
- Number and Currency Data Types
- Text and Memo Data Types
- Yes/No Data Type

For a control, you can set this property in the control's property sheet. For a field, you can set this property in table Design view (in the Field Properties section) or in Design view of the Query window (in the Field Properties property sheet). You can also use a macro or Visual Basic.

Note In Visual Basic, enter a string expression that corresponds to one of the predefined formats or enter a custom format.

Remarks

The **Format** property affects only how data is displayed. It doesn't affect how data is stored.
Microsoft Access provides predefined formats for Date/Time, Number and Currency, Text and Memo, and Yes/No data types. The predefined formats depend on the country specified by double-clicking Regional Settings in Windows Control Panel. Microsoft Access displays formats appropriate for the country selected. For example, with **English (United States)** selected on the **Regional Settings** tab, 1234.56 in the Currency format appears as $1,234.56, but when **English (British)** is selected on the **Regional Settings** tab, the number appears as £1,234.56.
If you set a field's **Format** property in table Design view, Microsoft Access uses that format to display data in datasheets. It also applies the field's **Format** property to new controls on forms and reports.
You can use the following symbols in custom formats for any data type.

Symbol	Meaning
(space)	Display spaces as literal characters.
"ABC"	Display anything inside quotation marks as literal characters.
!	Force left alignment instead of right alignment.
*	Fill available space with the next character.
\	Display the next character as a literal character. You can also display literal characters by placing quotation marks around them.
[*color*]	Display the formatted data in the color specified between the brackets. Available colors: Black, Blue, Green, Cyan, Red, Magenta, Yellow, White.

You can't mix custom formatting symbols for the Number and Currency data types with Date/Time, Yes/No, or Text and Memo formatting symbols.
When you have defined an input mask and set the **Format** property for the same data, the **Format** property takes precedence when the data is displayed and the input mask is ignored. For example, if you create a Password input mask in table Design view and also set the **Format** property for the same field, either in the table or in a control on a form, the Password input mask is ignored and the data is displayed according to the **Format** property.

Format Property — Date/Time Data Type

You can set the **Format** property to predefined date and time formats or use custom formats for the Date/Time data type.

Setting

Predefined Formats

The following table shows the predefined **Format** property settings for the Date/Time data type.

Setting	Description
General Date	(Default) If the value is a date only, no time is displayed; if the value is a time only, no date is displayed. This setting is a combination of the Short Date and Long Time settings. Examples: 4/3/93, 05:34:00 PM, and 4/3/93 05:34:00 PM.
Long Date	Same as the Long Date setting in the **Regional Settings Properties** dialog box in Windows Control Panel. Example: Saturday, April 3, 1993.
Medium Date	Example: 3-Apr-93.
Short Date	Same as the Short Date setting in the **Regional Settings Properties** dialog box in Windows Control Panel. Example: 4/3/93. **Warning** The Short Date setting assumes that dates between 1/1/00 and 12/31/29 are twenty-first century dates (that is, the years are assumed to be 2000 to 2029). Dates between 1/1/30 and 12/31/99 are assumed to be twentieth century dates (that is, the years are assumed to be 1930 to 1999).
Long Time	Same as the setting on the **Time** tab in the **Regional Settings Properties** dialog box in Windows Control Panel. Example: 5:34:23 PM.
Medium Time	Example: 5:34 PM.
Short Time	Example: 17:34.

Custom Formats

You can create custom date and time formats by using the following symbols.

Symbol	Description
: (colon)	Time separator. Separators are set in the **Regional Settings Properties** dialog box in Windows Control Panel.
/	Date separator.
c	Same as the General Date predefined format.
d	Day of the month in one or two numeric digits, as needed (1 to 31).
dd	Day of the month in two numeric digits (01 to 31).
ddd	First three letters of the weekday (Sun to Sat).
dddd	Full name of the weekday (Sunday to Saturday).
ddddd	Same as the Short Date predefined format.
dddddd	Same as the Long Date predefined format.
w	Day of the week (1 to 7).
ww	Week of the year (1 to 53).
m	Month of the year in one or two numeric digits, as needed (1 to 12).
mm	Month of the year in two numeric digits (01 to 12).
mmm	First three letters of the month (Jan to Dec).
mmmm	Full name of the month (January to December).
q	Date displayed as the quarter of the year (1 to 4).
y	Number of the day of the year (1 to 366).
yy	Last two digits of the year (01 to 99).
yyyy	Full year (0100 to 9999).
h	Hour in one or two digits, as needed (0 to 23).
hh	Hour in two digits (00 to 23).
n	Minute in one or two digits, as needed (0 to 59).

nn	Minute in two digits (00 to 59).
s	Second in one or two digits, as needed (0 to 59).
ss	Second in two digits (00 to 59).
ttttt	Same as the Long Time predefined format.
AM/PM	Twelve-hour clock with the uppercase letters "AM" or "PM", as appropriate.
am/pm	Twelve-hour clock with the lowercase letters "am" or "pm", as appropriate.
A/P	Twelve-hour clock with the uppercase letter "A" or "P", as appropriate.
a/p	Twelve-hour clock with the lowercase letter "a" or "p", as appropriate.
AMPM	Twelve-hour clock with the appropriate morning/afternoon designator as defined in the **Regional Settings Properties** dialog box in Windows Control Panel.

Custom formats are displayed according to the settings specified in the **Regional Settings Properties** dialog box in Windows Control Panel. Custom formats inconsistent with the settings specified in the **Regional Settings Properties** dialog box are ignored.

Note If you want to add a comma or other separator to your custom format, enclose the separator in quotation marks like this: mmm d", "yyyy.

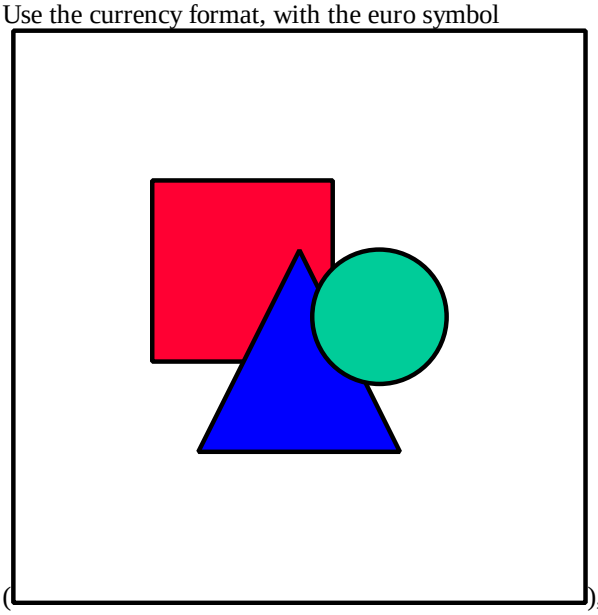
Format Property — Number and Currency Data Types

You can set the **Format** property to predefined number formats or custom number formats for the Number and Currency data types.

Setting

Predefined Formats

The following table shows the predefined **Format** property settings for numbers.

Setting	Description
General Number	(Default) Display the number as entered.
Currency	Use the thousand separator; follow the settings specified in Regional Settings in Windows Control Panel for negative amounts, decimal and currency symbols, and decimal places.
Euro	Use the currency format, with the euro symbol (), regardless of the currency symbol specified in Regional Settings in Windows Control Panel.

Fixed	Display at least one digit; follow the settings specified in Regional Settings in Windows Control Panel for negative amounts, decimal and currency symbols, and decimal places.
Standard	Use the thousand separator; follow the settings specified in Regional Settings in Windows Control Panel for negative amounts, decimal symbols, and decimal places.
Percent	Multiply the value by 100 and append a percent sign (%); follow the settings specified in Regional Settings in Windows Control Panel for negative amounts, decimal symbols, and decimal places.
Scientific	Use standard scientific notation.

Custom Formats

Custom number formats can have one to four sections with semicolons (;) as the list separator. Each section contains the format specification for a different type of number.

Section	Description
First	The format for positive numbers.
Second	The format for negative numbers.
Third	The format for zero values.
Fourth	The format for **Null** values.

For example, you could use the following custom Currency format:

```
$#,##0.00[Green];($#,##0.00)[Red];"Zero";"Null"
```

This number format contains four sections separated by semicolons and uses a different format for each section.

If you use multiple sections but don't specify a format for each section, entries for which there is no format either will display nothing or will default to the formatting of the first section.

You can create custom number formats by using the following symbols.

Symbol	Description
. (period)	Decimal separator. Separators are set by double-clicking Regional Settings in Windows Control Panel.
, (comma)	Thousand separator.
0	Digit placeholder. Display a digit or 0.
#	Digit placeholder. Display a digit or nothing.
$	Display the literal character "$".
%	Percentage. The value is multiplied by 100 and a percent sign is appended.
E– or e–	Scientific notation with a minus sign (–) next to negative exponents and nothing next to positive exponents. This symbol must be used with other symbols, as in 0.00E–00 or 0.00E00.
E+ or e+	Scientific notation with a minus sign next to negative exponents and a plus sign (+) next to positive exponents. This symbol must be used with other symbols, as in 0.00E+00.

Remarks

You can use the **DecimalPlaces** property to override the default number of decimal places for the predefined format specified for the **Format** property.

The predefined currency and euro formats follow the settings in Regional Settings in Windows Control Panel. You can override these by entering your own currency format.

Format Property — Text and Memo Data Types

You can use special symbols in the setting for the **Format** property to create custom formats for Text and Memo fields.

Setting

You can create custom text and memo formats by using the following symbols.

Symbol	Description
@	Text character (either a character or a space) is required.

&	Text character is not required.
<	Force all characters to lowercase.
>	Force all characters to uppercase.

Custom formats for Text and Memo fields can have up to two sections. Each section contains the format specification for different data in a field.

Section	Description
First	Format for fields with text.
Second	Format for fields with zero-length strings and **Null** values.

For example, if you have a text box control in which you want the word "None" to appear when there is no string in the field, you could type the custom format **@;"None"** as the control's **Format** property setting. The @ symbol causes the text from the field to be displayed; the second section causes the word "None" to appear when there is a zero-length string or Null value in the field.

Note You can use the **Format** function to return one value for a zero-length string and another for a **Null** value, and you can similarly use the **Format** property to automatically format fields in table Datasheet view or controls on a form or report.