

Linx 5900 & 7900



How To Create Date and Time
Formats



THINKING ALONG YOUR LINES

How To Create Date and Time Formats



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1 Introduction

This document shows how you can create a new Date and Time field format for the 7900 printer. It also includes details of available time formats for the 5900 and 7900 printers.

NOTE: You cannot create new Date and Time formats on the 5900 printer.

You need a User Level C password to perform all the tasks that are described in this document.

1.1 Health and Safety

Make sure that you read and understand the Health and Safety information in the 'Safety' section of the *Linx 5900 & 7900 Quick Start Guide*.



2 Date and Time store

In the *Linux 5900 & 7900 Quick Start Guide* you learnt how use the Message Editor to add a **Date and Time** field to your message. You can select any of the default formats to display the date or time in a different style, as follows.

TIME AND DATE FORMATS: ENGLISH	
Format	Usage / Example
d (Day of Week digit)	1 through 7
dd (Day of Month)	1 through 31
dd mmm yy	15 DEC 06
dd mmm yyyy	15 DEC 2006
dd.mn.yy	15.12.06
dd/mm/yy	15/12/06
dd/mm/yyyy	15/12/2006 (5900 only)
HH	00 through 23
HH (12hr)	01 through 12
HH:MM	16:35
HH:MM:SS	16:35:57
HH:MMam/pm	04:35 pm
HHMM	0435
HHMM am/pm	0435 pm
jjj (Julian Date USA)	001 through 366
jjj (Julian Date)	001 through 366
MM (Minute)	00 through 59
mm (Month of Year)	1 through 12
mm/dd/yy	12/15/06
mmm (Month)	JAN through DEC
mmm dd yy	DEC 15 06
mmm dd yyyy	DEC 15 2006
SS (Second)	00 through 59
ww (Week of Year)	1 through 53
y (Year of Decade)	0 through 9
yy (Year of Century)	00 through 99
yy.mm.dd	06.12.15
YYYY	2006
yjjj (Year of Decade + Julian Date)	0 through 9, 001 through 366 (5900 only)
yjjj (USA) (Year of Decade + Julian Date)	0 through 9, 001 through 366 (5900 only)
mm (2 letter month of Year)	JA, FE, MR, AL, MA, JN, JL, AU, SE, OC, NO, DE (5900 only)

Figure 1. Date and Time formats

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If you need a special format that is not in this list, follow the steps in this document to build a customized format.

NOTE: You cannot create new Date and Time formats on the 5900 printer.

2.1 Create a new format

This section shows you how you build a new Date and Time format.

2.1.1 Elements and separators

Each format normally contains some elements and separators as shown in the following examples:

Format	Element 1	Separator	Element 2
23-59	HH (24hr)	-	MM (Minutes)
31/12	dd (Day of Month)	/	mm (Month)

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You can use any of the following elements to create a format.

TIME AND DATE FORMAT ELEMENTS			
Element type	Element name	Default style	Range
Day of Week	day (Day of Week)	MON, TUE, WED...	MON through SUN
	d (Day of Week)	1, 2, 3...	1 through 7
Day of Month	dd (Day of Month)	01, 02, 03...	01 through 31
Julian Date	j (Julian Date)	001, 002, 003...	001 through 366
Week of Year	ww (Week of Year)	01, 02, 03...	01 through 53
Month	mmm (Month)	JAN, FEB, MAR...	JAN through DEC
	mm (Month)	01, 02, 03...	01 through 12
Year	yy (Year)	00, 01, 02...	00 through 99
	y (Year)	0, 1, 2...	0 through 9
	yyyy (Year)	2000, 2001, 2002...	N/A
Seconds	SS (Seconds)	00, 01, 02...	00 through 59
Minutes	MM (Minutes)	00, 01, 02...	00 through 59
15 minutes	15 min (15 min of day)	01, 02, 03...	01 through 96
30 minutes	30 min (30 min of day)	01, 02, 03...	01 through 48
Hours	HH (12hr)	00, 01, 02...	00 through 11
	HH (24hr)	00, 01, 02...	00 through 23
Before/After Noon	am/pm (Before/After Noon)	am, pm	am or pm
(Round)	(See page 31)		
(Macro)	(See page 16)		

Figure 2. Date and Time format elements

The separators are optional, but if there are no separators, the field is less clear. The following separators are available:

/ : - . , [space]

(These symbols are the default separators, but you can create your own separators.)

In this example, you create the following format for a **Date & Time** field in your message.

Item	Details
Element 1	day (Day of Week)
Separator 1	-
Element 2	HH (24hr)
Separator 2	:
Element 3	MM (Minutes)

Figure 3. Custom format example

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If the current day is Monday and the current time is 11:59 p.m., your message displays the following:

“MON-23:59”

The following instructions show how you create this format.

2.1.2 Example

- 1 At the **Print Monitor** page, select **Menu > Stores > Date & Time Store**. The printer displays the **Date & Time Store** page.

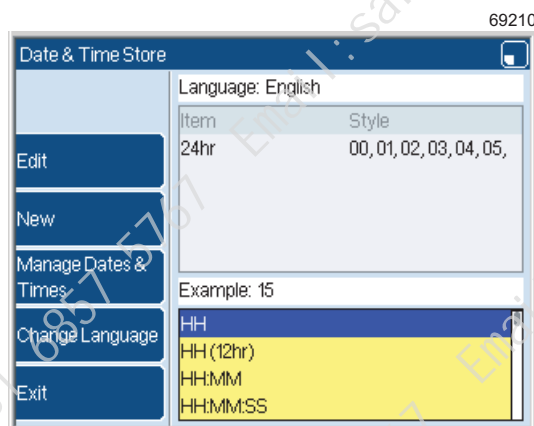


Figure 4. Date & Time Store page

This page displays a list of the existing Date and Time formats.

(You can access this page from the Message Editor but the **Edit** key and the **Manage Dates & Times** key are not displayed.)

NOTE: The **Edit** key and the **Manage Dates & Times** key are described later. The **Change Language** key in the **Date & Time Store** page changes the default formats that are available. For more information, see the *Linx 5900 & 7900 Quick Start Guide*.

- 2 At the **Date & Time Store** page, press the **New** key. The printer displays the **Date & Time Editor** page.

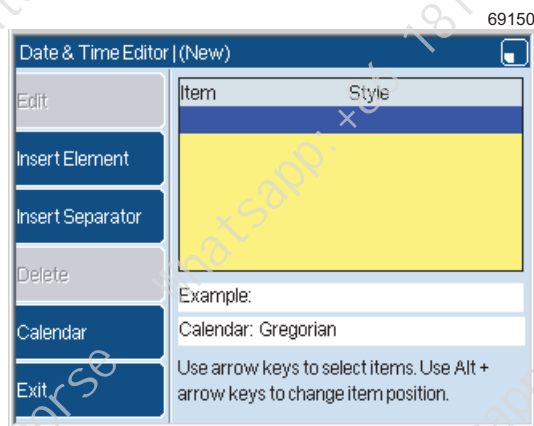


Figure 5. Date & Time Editor page

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The page title displays the word “New” when you create a new format, as shown.

- 3 To insert the first element of your format, press the **Insert Element** key. The printer displays a list of the available elements.

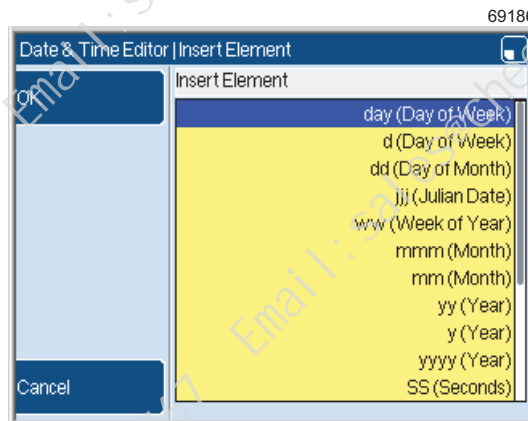


Figure 6. Insert Element page

- 4 For this example, the first element that you need is “day (Day of Week)”. Make sure that this element is highlighted then press the **OK** key to return to the **Date & Time Editor** page:

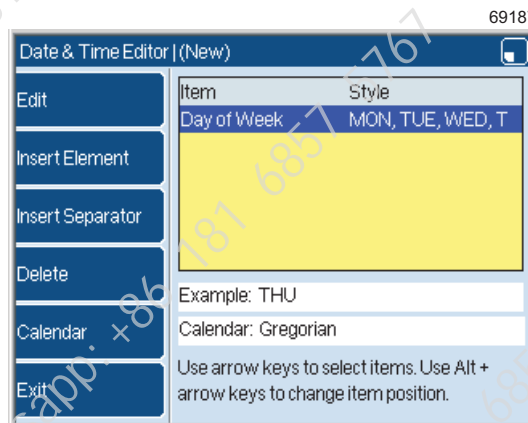


Figure 7. Date & Time Editor page

The page shows the element that you selected and some examples of the format: “MON, TUE, WED...”.

NOTES:

1. The days of the week and the months are shown in the default language. You can change the language that the format uses (see ‘Change Language’ on page 14).
2. You can change the content of any element—see ‘Edit Strings’ on page 11.

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- 5 The next item that you need is a separator. Use the Down arrow key to move the highlight to the next row (which is empty) then press the **Insert Separator** key. The printer displays the **Insert Separator** page.

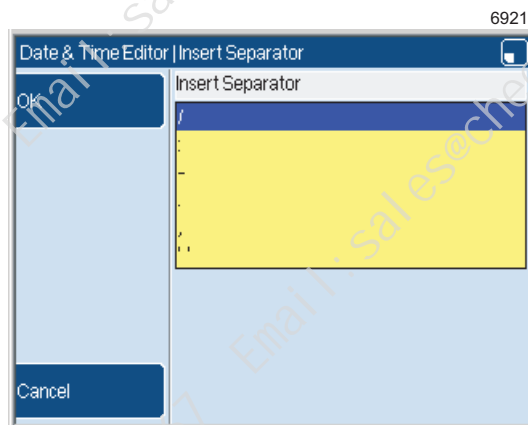


Figure 8. Insert Separator page

- 6 For this example, the first separator that you need is the hyphen ("-"). Use the Down arrow key to highlight the "-" then press the **OK** key to return to the **Date & Time Editor** page.

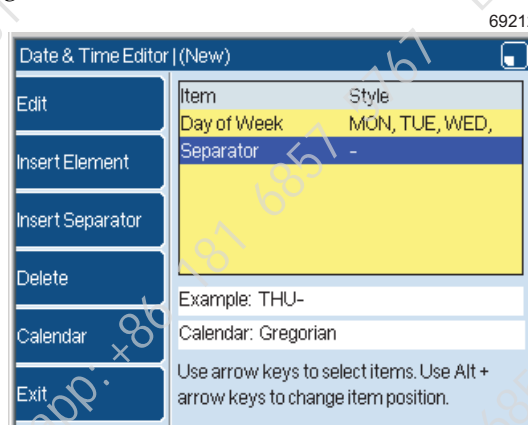


Figure 9. First element and separator

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- 7 Repeat steps 4 to 6 to add the second element, the second separator, and the third element. The completed format is shown below.

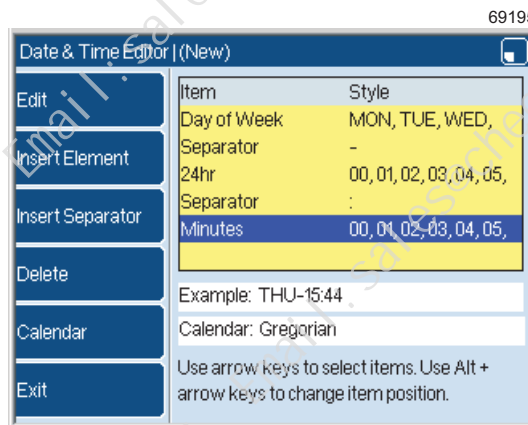


Figure 10. Complete format

You can see an example of the complete format next to the word “Example” on the **Date & Time Editor** page.

Save your format

When the Date and Time format is completed, press the **Exit** key to display the **Save As** page.

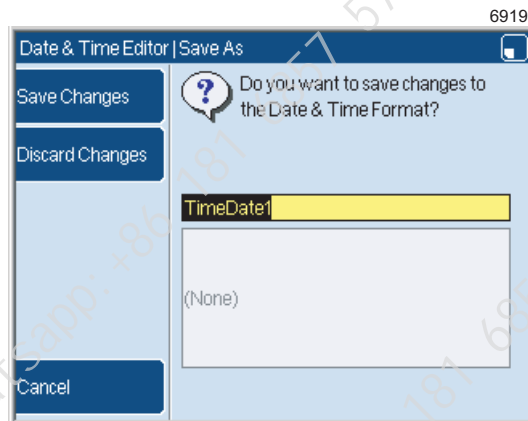


Figure 11. Save As page

You can save the format or discard your changes, or change the default name that is shown. Press the **Cancel** key to return to the previous page. The box below the default name shows the names of other formats that you created. If there are no customized formats, the box is empty as shown in Figure 11.

If you use an existing name, the printer displays a warning that your changes are seen in all messages that use the format.

2.1.3 Edit key

At the **Date & Time Store** page (Figure 4 on page 6), you can use an existing format instead of a blank format when you begin to create a new format. The method you use to build the format is the same.

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At the **Date & Time Store** page, highlight an existing format that is like the format that you need and press the **Edit** key. Then you can edit this format and use a new name to save the changed version.

2.1.4 Manage Dates & Times

You can use the **Manage Dates & Times** key to copy a format, change a format name, delete a format, or change the language. (You cannot delete or change the name of any of the formats that are supplied with the printer.) The **Copy** option, the **Rename** option, and the **Delete** option are not described in this document. These options are like the options in the **Message Store > Manage Messages** page, which is described in the *Linx 5900 & 7900 Quick Start Guide*.

2.1.5 Change the order of the elements

You can change the position of the elements in the format. Use the Arrow keys to highlight an element. Press the [alt] key and the Up or Down arrow key to drag the element towards the top or bottom of the list.

2.1.6 Calendar types

You can use the **Calendar** option to select the calendar for your Date & Time format. Press the **Calendar** key to display the available calendar types, as follows.

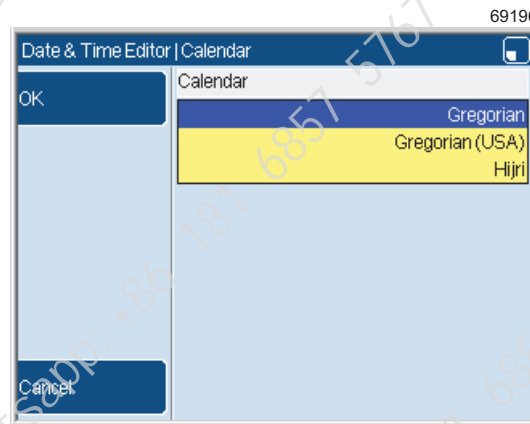


Figure 12. Calendar page

Highlight the required calendar and press the **OK** key to return to the **Date & Time Editor** page.

NOTE: All the elements in a format must use the same calendar.

- Use the **Gregorian** option if you need a Julian Date element that uses the European style.
- Use the **Gregorian USA** option if you need a Julian Date element that uses the American style.

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Julian Date formats

The European version of the Julian Date and the American version are different, as shown in Figure 13. The default Julian Date format that is used depends on the Installation setup (see *How To Change the System Setup*).

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	EUROPEAN	AMERICAN
Non-Leap Year	1 Jan = Day 001	1 Jan = Day 001
	28 Feb = Day 059	28 Feb = Day 059
	1 Mar = Day 060	1 Mar = Day 060
	31 Dec = Day 365	31 Dec = Day 365
Leap Year	1 Jan = Day 001	1 Jan = Day 001
	28 Feb = Day 059	28 Feb = Day 059
	29 Feb = Day 366	29 Feb = Day 60
	1 Mar = Day 060	1 Mar = Day 061
	31 Dec = Day 365	31 Dec = Day 366

Figure 13. Julian Date

2.1.7 Edit Strings

The following description applies to the **Days of the Week** element, but the method is the same for the other elements.

You can use this page to change the text description for the days of the week. For example "MON-23:59" becomes "AAA-23:59" and "TUE-08:00" becomes "BBB-08:00".

NOTE: You can use the following method to edit a separator too, so that you can use a symbol that is not one of the default separators.

- 1 In the **Date & Time Editor** page (Figure 7 on page 7), use the arrow keys to highlight an element. Press the **Edit** key to display the **Edit Strings** page.

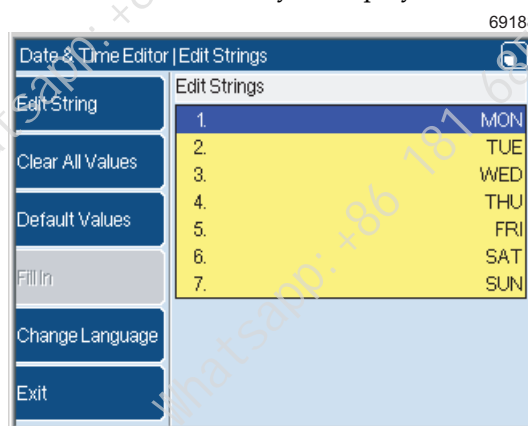


Figure 14. Edit Strings page

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- 2 Press the **Edit String** key to display the selected string ("MON" in this example). Enter the new text "AAA" to overwrite the old text as shown below.

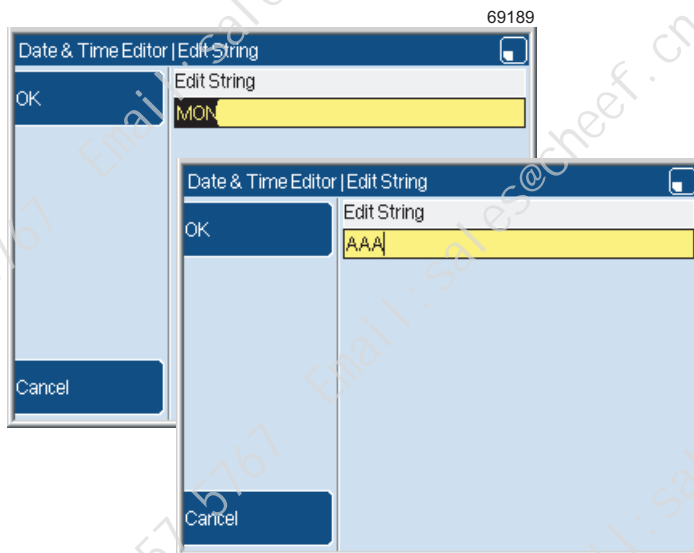


Figure 15. Edit a string

- 3 Press the **OK** key to return to the **Edit Strings** page, which now shows that the first day of the week is "AAA".

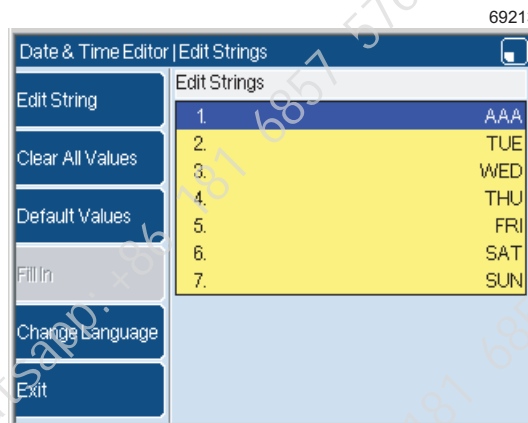


Figure 16. New string: "AAA"

Repeat steps 2 and 3 if necessary to change the other days of the week, then press the **Exit** key to finish.

Clear All Values

To delete all the existing strings in *only this element*, press the **Clear All Values** key. This key does not change the other elements in the format.

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The **Edit Strings** page shows that all of the text descriptions are clear.

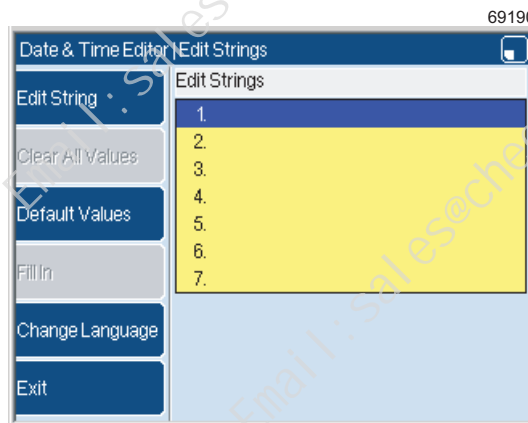


Figure 17. Edit Strings page

You can enter new text for each string as shown in Figure 15 on page 12.

Default Values

To reset all the strings to their default values, press the **Default Values** key. In the example above, "AAA" is reset to "MON".

Fill In

If you press the **Fill In** key at the **Edit Strings** page, the printer automatically enters a string into every row. The printer uses the first string (or the first two strings) to calculate the strings for the other rows.

The **Fill In** key is not available if the printer cannot calculate the other strings.

The string that you enter in the first row or the second row must be one of the following:

- The default name for this item, or the first part of the default name. For example, you can set the first day of the week to "Monday" or "mOnD". You cannot use "Mnday" because the letters are incorrect. You cannot use "Tuesday" because that is the wrong day.
- A single letter—the printer uses the next letters of the alphabet for the next strings. For example you can use the sequence "A, B, C..." or "R, S, T...".
- A whole number—the printer uses the next number for the next string. For example you can use the sequence "1, 2, 3..." or "527, 528, 529...".

The difference between the steps can be more than 1. For example:

120, 125, 130, 135,...

To create a sequence like this example, enter the numbers for the first string and the second string (100 and 125 in this example). The printer calculates the difference (125 - 120 = 5), and uses this difference to calculate the other numbers.

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To use the **Fill In** key, first enter a string into the first row of the data.

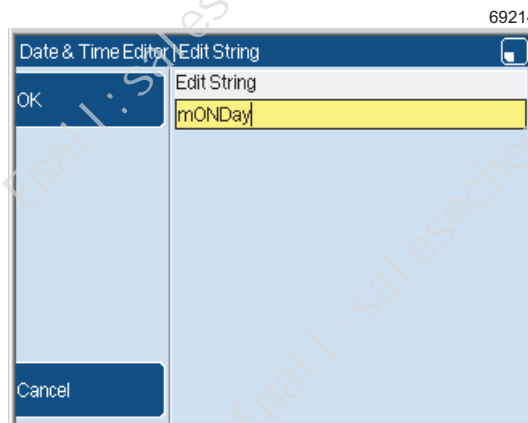


Figure 18. Edit String page

Press the **OK** key to return to the previous page, then press the **Fill In** key. The printer copies the capitalization of the first string, as shown in the following example.

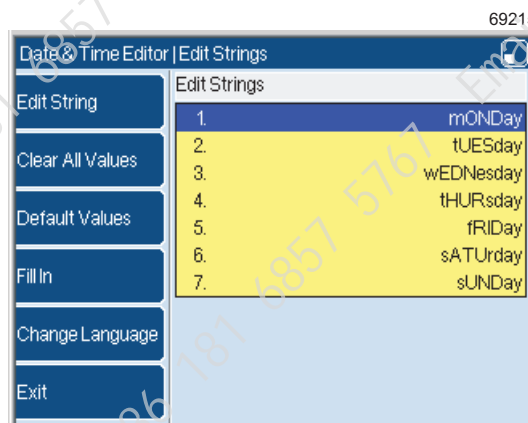


Figure 19. Edit Strings page with new defaults

Change Language

NOTE: The **Change Language** key in the **Edit Strings** page is different from the **Change Language** key in the **Date & Time Store** page (Figure 4 on page 6).

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To change the language of the string, press the **Change Language** key and select the required language from the list. Press the **OK** key to return to the **Edit Strings** page, which shows the language change.

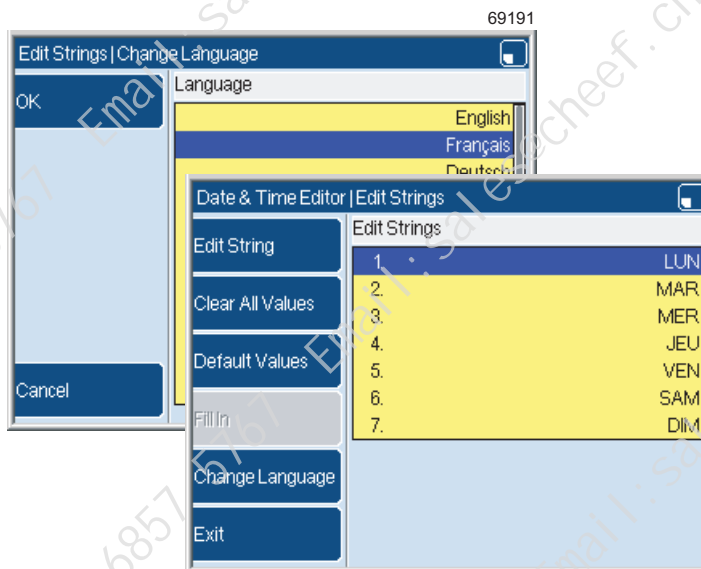


Figure 20. Change the language

The **Change Language** key changes only this element of the format.

NOTE: The **Change Language** key changes a numeric element to a text element. For example, "d(Day of Week)" changes to "day(Day of Week)".

Exit

When you have completed the changes to the Day of the Week element, press the **Exit** key to return to the **Date & Time Editor** page.



3 Macro

3.1 Introduction

A Macro element is part of a Date and Time format. You use a Macro element to generate a customized Date and Time format that does not use the standard date or time elements. To create a Macro element you must write a simple program which controls the text that is printed. You can write a short and simple program, or a long and complex program.

To use a Macro element, you insert the Macro element into a Date and Time format, as shown in the following example.

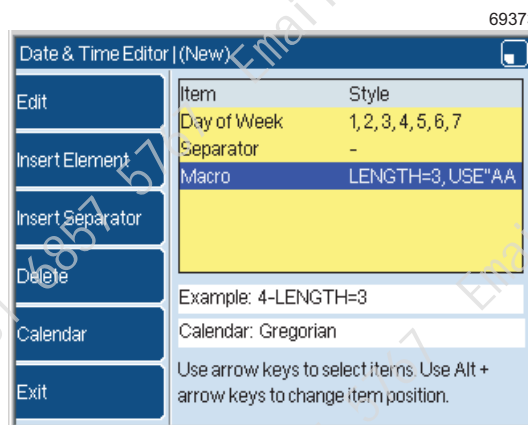


Figure 21. Date and Time format with Macro

This simple example is not useful, but shows you how a Macro element is used. The Date and Time format in Figure 21 contains the following elements:

- The day of the week (1 to 7)
- A separator ("-")
- A Macro element

The Macro element tells the printer to print the text string "AAA" after the separator. If the day of the week is 7, the printed date is "7-AAA".

NOTE: All the lines of the Macro program are contained in a single line in the **Date & Time Editor** page, as shown in Figure 21.

To help you follow the description, the lines in a program are shown in a different font ('Courier'), like this example:

This line uses the courier font.

The next section shows you the commands that you can use to make a Macro element. Then you learn how a Macro element is inserted into a Date and Time format.

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3.2 Macro structure

A Macro program must contain a minimum of two lines and a maximum of 100 lines. Every Macro program must contain the following lines:

- A **Length** command
- A **Use** command

The **Length** command must be the first line of your Macro program.

3.2.1 Length

The **Length** command defines the length of the text string that the Macro element generates. The length is an integer in the range 1 to 32. For example, to print the text "AAA", the first line of the Macro program must be as follows:

```
length = 3
```

3.2.2 Use

This command defines the characters that are displayed in the Macro element of the Date and Time format. When a **Use** command is performed, the printer ignores any lines that follow the **Use** command.

The **Use** command can generate any of the following:

- A text string
- A number
- A numeric expression

Text

To print a text string, enclose the characters in quotation marks, as follows:

```
use "AAA"
```

This command tells the printer to print the text string "AAA". The length of the text string must match the length that you defined in the **Length** command.

Number

To print a number, enclose the number in brackets, as follows:

```
use (25)
```

If the number of digits is less than the **Length** setting, you can add two 'format' symbols to control the alignment of the numbers. For example:

```
use (25)_#
```

NOTE: Do not insert a space between the "(" and the format symbols.

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The following table shows the format symbols that you can use. The table shows an example for each format that shows how the format changes a 5-character string.

Format symbols	Description	Example
#_	Left aligned (default)	"25 "
_#	Right aligned	" 25"
0#	Right aligned, with leading zeros	"00025"

Figure 22. Format symbols

If you do not add the format symbols, the printer uses the default alignment (left aligned).

Numeric expression

A numeric expression is one of the following:

- A number in the range 0 to 999,999,999.
- A time that uses the format "HH:MM" (for example "23:59"). The numeric value is (HH x 60) + MM.

For example, "23:59" = (23 x 60) + 59 = 1439.

- A time that uses the format "HH:MM:SS" (for example "23:59:30"). The numeric value is (HH x 3600) + (MM x 60) + SS.

For example, "23:59:30" = (23 x 3600) + (59 x 60) + 30 = 86,370.

- A time value—see below.

You can use some mathematical symbols to build a numeric expression that is more complex. For example:

(6+10)
(24/2)
(6+10) + (24/2)

You can use any of the following mathematical symbols.

Symbol	Description
+	Add the two numbers.
-	Subtract the second number from the first number.
*	Multiply the two numbers.
/	Divide the first number by the second number.
%	Calculate the remainder after the first number is divided by the second number. For example, 28 % 5 = 3.

Figure 23. Numeric operators

3.2.3 Time value

A time value—for example, "MOH" (Minute of Hour)—generates a number that depends on the current time. If the time is 23:59, the time value "MOH" generates the number 59.

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The following table describes the time values that are available.

Time value	Description
SOH	Second of Hour. The number of seconds that have passed after the start of the hour. The value is in the range 0 to 3599.
SOD	Second of Day. The number of seconds that have passed after the start of the day (today at 00:00:00). The value is in the range 0 to 86399.
MOH	Minute of Hour. The value is in the range 0 to 59.
MOD	Minute of Day. The number of minutes that have passed after the start of the day (today at 00:00). The value is in the range 0 to 1439.
MOW	Minute of Week. The number of minutes that have passed after the start of the week (Monday at 00:00). The value is in the range 0 to 10079.
HOD	Hour of Day. The value is in the range 0 to 23.
HOW	Hour of Week. The number of hours that have passed after the start of the week (Monday at 00:00:00). The value is in the range 0 to 167.
HOM	Hour of Month. The number of hours that have passed after the start of the month (1st of month at 00:00:00). The value is in the range 0 to 744.
DOW	Day of Week. The value is 1 for Monday, 2 for Tuesday, ..., 7 for Sunday.
DOM	Day of Month. The value is in the range 1 to 28, 29, 30 or 31 depending upon the month.
DOY	Day of Year. The value is in the range 1 to 365 (or 366 for a leap year).
WOM	Week of Month. The value is in the range 1 to 5.
WOY	Week of Year. The value is in the range 1 to 53.
MOY	Month of Year. The value is in the range 1 to 12.
MOE	Month of Decade. The value is in the range 1 to 120.
YOE	Year of Decade. The value is in the range 0 to 9.
YOC	Year of Century. The value is in the range 0 to 99.

Figure 24. Time values

For example, if the current day of the month is 31, then $(DOM - 10) = 21$.



3.2.4 If

You can use this keyword to compare two values, and make a decision that depends on the comparison. The following examples show how you use this keyword.

Example 1

```
if (moh = 59) use "AAA"
```

In example 1, if the time value 'minute of hour' is equal to 59, the text string "AAA" is used. If the two values are not equal, the printer ignores the Use command.

Numeric comparator

In example 1, the "=" symbol compares two numeric values. The result of the comparison is 'true' or 'false'. For numeric values, the comparator symbol can be any of the following.

Symbol	Name	Result of comparison
<	Less than	<ul style="list-style-type: none"> 'True' if the left number is less than the right number. 'False' if the left number is <i>not</i> less than the right number.
<=	Less than or equal	<ul style="list-style-type: none"> 'True' if the left number is less than or equal to the right number. 'False' if the left number is <i>greater</i> than the right number.
=	Equal	<ul style="list-style-type: none"> 'True' if the left number is equal to the right number. 'False' if the left number is <i>not</i> equal to the right number.
>=	Greater than or equal	<ul style="list-style-type: none"> 'True' if the left number is greater than or equal to the right number. 'False' if the left number is <i>less</i> than the right number.
>	Greater than	<ul style="list-style-type: none"> 'True' if the left number is greater than the right number. 'False' if the left number is <i>not</i> greater than the right number.

Figure 25. Numeric comparator symbols

Logical expression

In this example, "(moh = 59)" is a *logical expression*. A logical expression has the value 'true' or 'false'.

The logical expression "moh = 59" is true if the 'minute of hour' is 59 (for example, the current time is 08:59 or 23:59). If the time is 08:58 or 23:58, then the 'minute of hour' is *not* 59 and the logical expression is false.

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Example 2

```
if ((moh = 59) & (dow = 7))
{
    use "AAA"
}
```

The program in this example has a different layout—see ‘Blocks’.

In example 2, the printer uses the text string “AAA” if:

- The ‘minute of hour’ is 59, *and*
- The ‘day of week’ is 7.

In example 2, the “&” symbol compares two logical expressions. The logical expressions in this example are:

- “(moh = 59)”
- “(dow = 7)”

When you compare two logical expressions (which are each true or false), the result of the comparison is also ‘true’ or ‘false’. You can use one of the following two comparator symbols.

Symbol	Name	Result of comparison
&	AND	• ‘True’ if the left expression <i>and</i> the right expression are both true.
		• ‘False’ if the left expression <i>or</i> the right expression is false.
	OR	• ‘True’ if the left expression is true <i>or</i> the right expression is true.
		• ‘False’ if the left expression and the right expression are both false.

Figure 26. Logical comparator symbols

3.2.5 Blocks

In example 2, the **If** comparison and the **Use** command are on separate lines. If you separate the lines, you must insert the “{” and “}” brackets as shown (*use the correct type of brackets*). You can insert a number of lines (a ‘block’ of lines) between the brackets. The following example shows a block that contains three lines:

```
if (hod < 12)
{
    if (dow = 1) use "AAA"
    if (dow = 2) use "BBB"
    if (dow = 3) use "CCC"
}
```

NOTE: In the above example the lines are formatted to make the structure clear.

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If you put a number of lines in a block, the printer processes all the lines together. In this example:

- If the time value 'hour of day' is less than 12, the logical expression "(hod < 12)" is 'true'. The printer processes *all three* lines in the block that follows.
- If the logical expression is 'false', the printer ignores *all three* lines in the block.

3.2.6 Else

You can use the **If** and **Else** keywords together to create a structure like the following example:

```
if (hod < 12)
{
    block 1
}
else
{
    block 2
}
```

In this example, 'block 1' and 'block 2' contain a number of lines.

- If the expression "(hod < 12)" is true, the printer processes the commands in block 1 and ignores block 2.
- If the expression "(hod < 12)" is false, the printer ignores block 1 and processes the commands in block 2.



3.3 Macro examples

3.3.1 Example 1

```
length = 3
use "ABC"
```

This simple example shows you the smallest structure for a Macro element. The example generates a string that does not change. (Normally you do not use a Macro element for this purpose).

The printer prints the text "ABC".

3.3.2 Example 2

```
length = 3
use (yoc/2)
```

This example uses the time value 'YOC' ('year of century'). The printer divides the value by 2, and uses two digits to display the result. The printer uses the default alignment (left alignment) because there are no format symbols.

The **Length** command sets the length of the element to 3, so that there is a space after each number. The space separates the Macro element from any element that follows.

For the years 2006, 2007, 2008, 2009,... the printer prints the text "03 ", "03 ", "04 ", "04 "...

3.3.3 Example 3

```
length = 3
use (doy)0#
```

This example prints the day of the year, as a 3-digit string, right aligned with leading zeros.

The printer prints the text "001", "002", "003",...

3.3.4 Example 4

```
length = 4
if ((doy % 2) > 0)
{
    use "AAA "
}
else use "BBBB"
```

This example generates the following text strings:

- "AAA " if the time value 'day of year' is 1, 3, 5, 7... ...363, 365.
- "BBBB" if the time value 'day of year' is 2, 4, 6, 8... ...364, 366.

There is a space at the end of the string "AAA " because both strings must have the same length.

This example uses the remainder symbol "%".

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3.3.5 Example 5

```
length = 1
if (mod < 06:00) use "A"
if (mod < 14:00) use "B"
if (mod < 22:00) use "C"
use "A"
```

This example generates a shift code. The printer changes each of the times (06:00, 14:00, and 22:00) to a numeric value (number of minutes).

If any comparison result is 'true', the printer processes the **Use** command for that comparison and ignores the next lines in the program.

The result for all three comparisons is 'false' for any time from 22:00 to 23:59, and the final command is processed.

3.3.6 Example 6

```
length = 3
if ((dow = 1) | (dow = 2))
{
    if (hod < 12) use "AAA"
    if (hod < 18) use "BBB"
    use "CCC"
}
else use "DDD"
```

This example generates the following:

- "AAA" on Monday and Tuesday from 00:00 to 11:59.
- "BBB" on Monday and Tuesday from 12:00 to 17:59.
- "CCC" on Monday and Tuesday from 18:00 to 23:59.
- "DDD" at other times.

This example uses the comparator symbol "|" (the 'OR' comparator).

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3.4 Create a Macro element

The following example shows how you use a Macro element in a Date and Time format. In this example, the Date and Time format has the following elements:

- d(Day of Week)
- A separator “-”
- A Macro element

The Macro element is the simple example shown on page 16. The Macro contains the following lines:

```
length = 3
use “AAA”
```

If the day of the week is 7, the printed date is “7-AAA”.

To create this Macro element, perform the following steps.

- 1 Create a new, blank Date and Time format—select **Menu > Stores > Date & Time Store > New > Insert Element**. (See steps 1 to 3 of the example on page 6.)

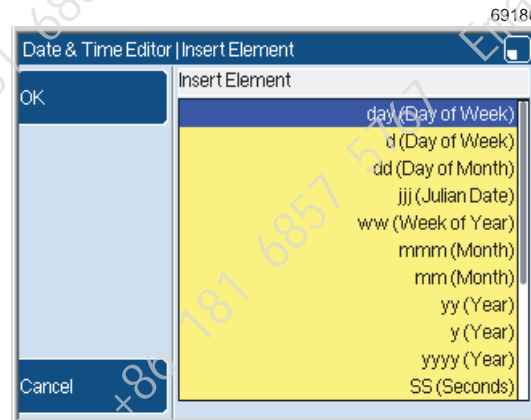


Figure 27. Insert Element page

- 2 Insert the first two elements of the Date and Time format: “d(Day of Week)” and the separator “-”. (See steps 4 to 6 on page 7 and page 8.)

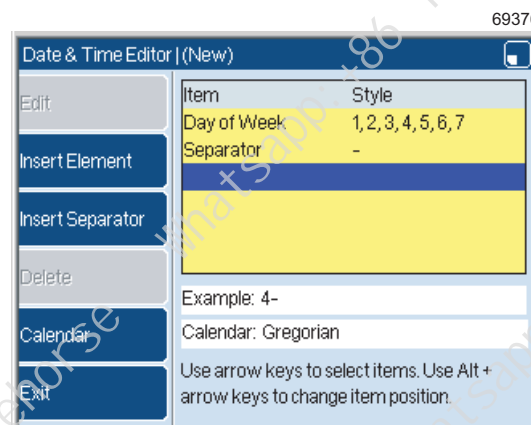


Figure 28. Date and Time format with two elements

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- 3 At the **Date & Time Editor** page, move the highlight to the empty position, as shown in Figure 28 on page 25, then press the **Insert Element** key.
- 4 At the **Insert Element** page, use the Down arrow key to highlight the '(Macro)' element.

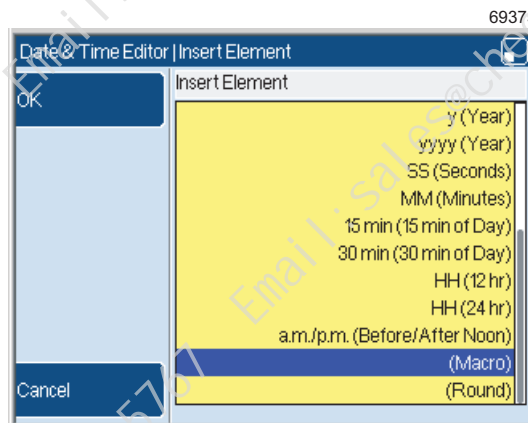


Figure 29. Insert Element: Macro

- 5 Press the **OK** key to return to the **Date & Time Editor** page.

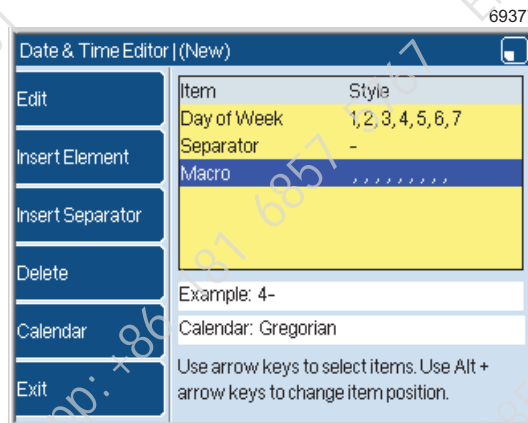


Figure 30. Date & Time Editor page with Macro element

The empty Macro element is shown in the list of elements in Figure 30. Each comma is an empty line in the Macro.

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- 6 Press the **Edit** key to display the **Edit Strings** page.

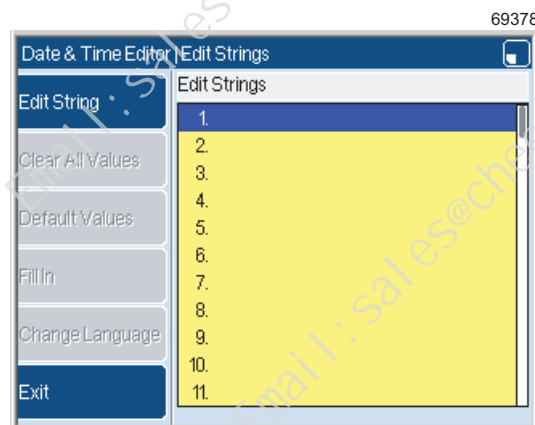


Figure 31. Edit Strings page

The **Edit Strings** page shows you all the lines of the Macro program. (All the lines in Figure 31 are empty.) If the Macro is long, you can use the Down arrow key or the [page down] key to see the other lines. (The maximum length of a Macro is 100 lines.)

- 7 Press the **Edit String** key to display the **Edit String** page, and enter the first line of the program, as shown below.

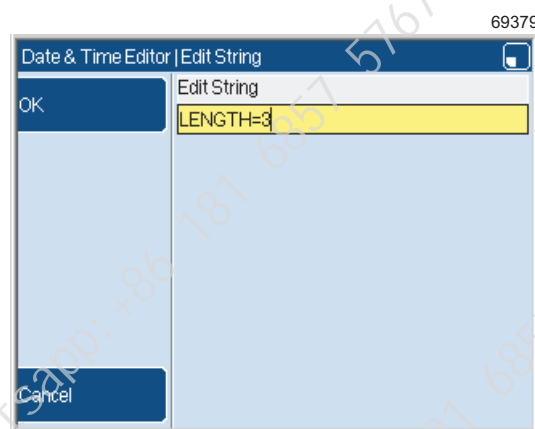


Figure 32. Edit String page: Length command

NOTE: The printer accepts upper case or lower case characters.

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- 8 Press the **OK** key to return to the **Edit Strings** page.

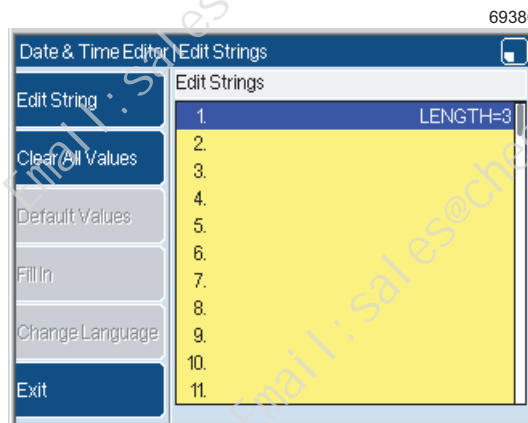


Figure 33. Edit Strings page with first string

If you make an error, you can use the **Edit String** key to change the contents of the string. The **Clear All Values** key deletes *all* the lines.

CAUTION: If you press the **Clear All Values** key accidentally, you must enter all the lines again.

- 9 Move the highlight to the first empty position (line 2) then press the **Edit String** key to display the **Edit String** page.
- 10 Enter the second line of the program, as shown below.

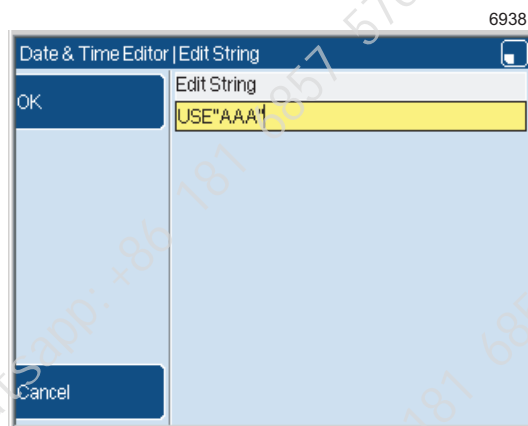


Figure 34. Edit String page

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- 11 Press the **Exit** key to return to the **Edit Strings** page.

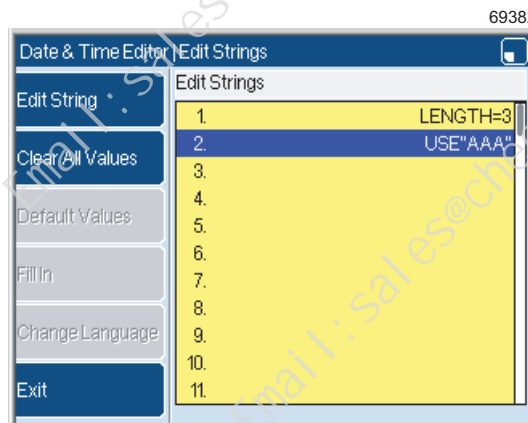


Figure 35. Edit Strings page with two strings

The Macro element is complete.

- 12 Press the **Exit** key. If there are no errors in your Macro element the printer displays the **Date & Time Editor** page. This page shows you the complete Date and Time format as shown below.

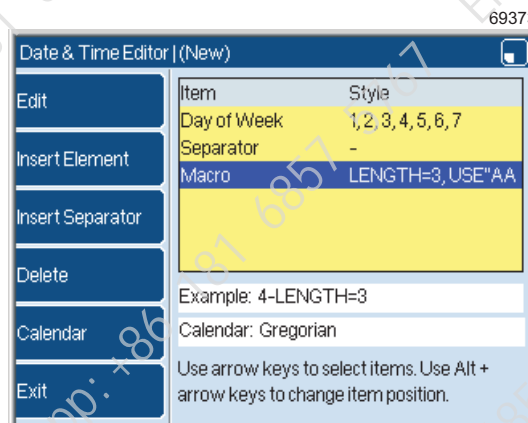


Figure 36. Date & Time Editor page with completed format

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If you entered a line that contains an error, the printer displays an information page like the one shown below.

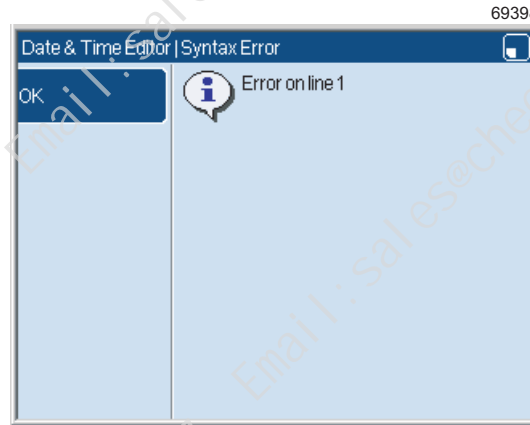


Figure 37. Syntax Error page

The **Syntax Error** page tells you which line contains the error. Press the **OK** key to return to the **Edit Strings** page, then correct the problem and try again.

- 13** To make changes to the Macro element, press the **Edit** key, or press the **Exit** key to finish and display the **Save As** page.



4 Round

4.1 Introduction

You can insert the Round element into a Date and Time format to adjust the printed date or the time. The Round element is not printed in the message, but adjusts the Date and Time elements that follow in the format. You cannot use a Round element without other Date and Time elements.

The adjustments that you can perform with the Round element are not available if you use only the **Date Offset** or **Time Offset** options. (These options are described in the *Linx 5900 & 7900 Quick Start Guide*.)

For example, the printer can print the same date on every day of the week and change the date each week, as shown below. The sequence of dates in this example starts on Monday 18 December. The first nine days of the sequence are as follows.

Day	Printed Date
Monday (Day 1)	"18-12"
Tuesday (Day 2)	"18-12"
...	
Sunday (Day 7)	"18-12"
Monday (Day 8)	"25-12"
Tuesday (Day 9)	"25-12"
...	

The example on page 34 shows you how to use the Round element to print this sequence of dates.

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4.2 Command parameters

You must use a 'command parameter' with each Round element, and each command parameter has a number, for example:

"NEXTMOH,30"

(Note that there is no space between the comma and the number in a command parameter.)

The command parameter tells the printer how to adjust the date and time. The table below shows the available command parameters and describes how each parameter changes the printed date or time.

Command	Description
NEXTMOH,n	Sets the Minutes element of the time used by the Date and Time field forward to n. If the current minute is equal to n, the printer adds one hour to the time. The value of n is in the range 0 to 59.
NEXTHOD,n	Sets the Hours element of the time used by the Date and Time field forward to n. If the current hour is equal to n, the printer adds one day to the date. The value of n is in the range 0 to 23.
NEXTDOW,n	Sets the Days element of the date used by the Date and Time field forward to day n of the week. If the current day is equal to n, the printer adds one week to the date. The value of n is in the range 1 to 7.
NEXTDOM,n	Sets the Days element of the date used by the Date and Time field forward to day n of the month. If the current day is equal to n, the printer adds one month to the date. The value of n is in the range 1 to 31. If the month does not have n days, the day element is set to the last day of the month.
FWDMOH,n	Like NEXTMOH except that if the current minute is equal to n, the time is not changed.
FWDHOD,n	Like NEXTHOD except that if the current hour is equal to n, the date is not changed.
FWDDOW,n	Like NEXTDOW except that if the current day of week is equal to n, the date is not changed.
FWDDOM,n	Like NEXTDOM except that if the current day of month is equal to n, the date is not changed.
PREVMOH,n	Sets the Minutes element of the time used by the Date and Time field back to n. If the current minute is equal to n, the printer subtracts one hour from the time. The value of n is in the range 0 to 59.
PREVHOD,n	Sets the Hours element of the time used by the Date and Time field back to n. If the current hour is equal to n, the printer subtracts one day from the date. The value of n is in the range 0 to 23.
PREVDOW,n	Sets the Days element of the date used by the Date and Time field back to day n of the week. If the current day is equal to n, the printer subtracts one week from the date. The value of n is in the range 1 to 7.
PREVDOM,n	Sets the Days element of the date used by the Date and Time field back to day n of the month. If the current day is equal to n, the printer subtracts one month from the date. The value of n is in the range 1 to 31. If the month does not have n days, the day element is set to the last day of the month.

Figure 38. Command parameters for Round

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Command	Description
BAKMOH,n	Like PREVMOH except that if the current minute is equal to n, the time is not changed.
BAKHOD,n	Like PREVHOD except that if the current hour is equal to n, the time is not changed.
BAKDOW,n	Like PREVDOW except that if the current day of week is equal to n, the date is not changed.
BAKDOM,n	Like PREVDOM except that if the current day of month is equal to n, the date is not changed.
Reset	Resets the date and time to the current date and time.

Figure 38. Command parameters for Round (Continued)

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4.3 Insert a Round element

The following example shows how you use a Round element in a Date and Time format. The command parameter is "BAKDOW,1". This parameter makes sure that the printed date is always a Monday, like the example on page 31.

- 1 Create a new, blank Date and Time format—select **Menu > Stores > Date & Time Store > New > Insert Element**. (See steps 1 to 3 of the example on page 6.)
- 2 At the **Insert Element** page, use the Down arrow key to highlight the '(Round)' element.

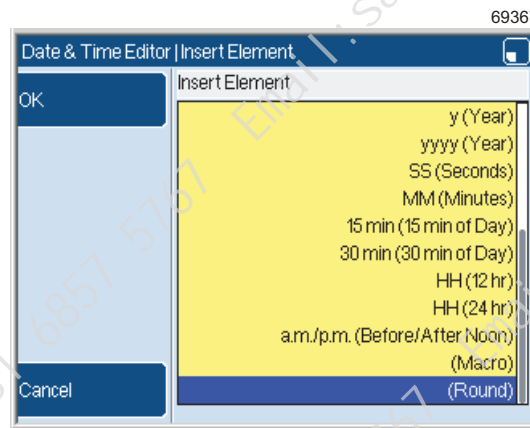


Figure 39. Insert Element: Round

- 3 Press the OK key to return to the **Date & Time Editor** page.

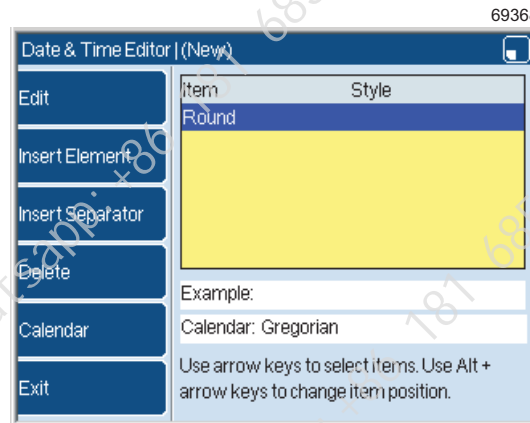


Figure 40. Round element with no parameter

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- 4 Press the **Edit** key then the **Edit String** key.

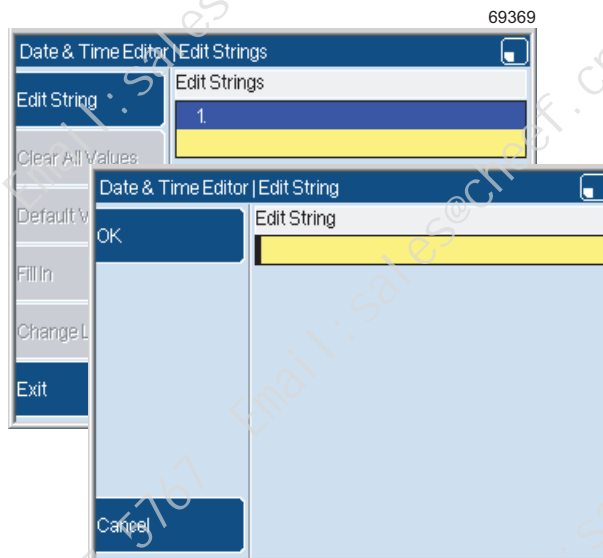


Figure 41. Edit String page

- 5 Enter the required parameter. For this example, enter "BAKDOWN,1" then press the **OK** key to return to the **Edit Strings** page.

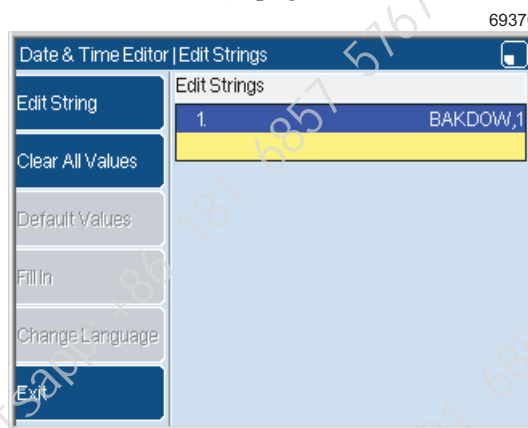


Figure 42. Edit Strings page with BAKDOWN parameter

If you make an error, you can use the **Clear All Values** key on this page to delete the contents of the string.

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- 6 Press the **Exit** key to return to the **Date & Time Editor** page.

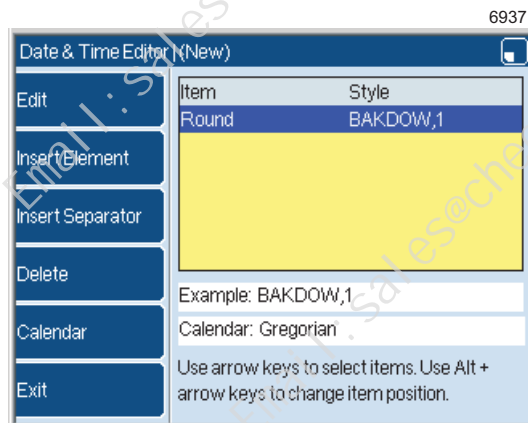


Figure 43. Date & Time Editor with Round element

The Round element is complete. The next items in the Date and Time format are the date elements and the separator.

- 7 Add the other two elements and the separator, as shown in steps **3** to **7** on page 7 to page 9. The other elements are “dd(Day of Month)” and “mm(Month)”. The separator is “-”. The complete format is as shown below.

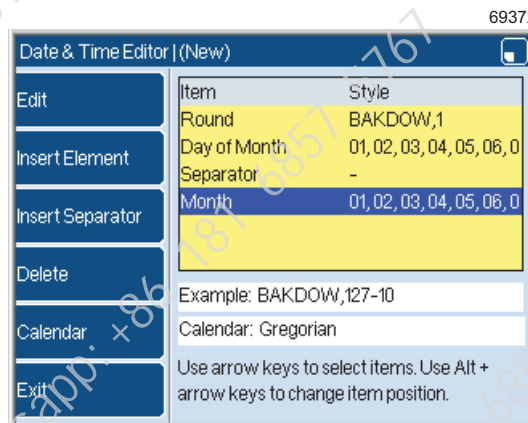


Figure 44. Date & Time Editor page with completed format

- 8 Press the **Exit** key to finish, and display the **Save As** page.

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4.4 Command parameter examples

The following table contains some examples to show how each command parameter changes the printed date or time. In each example, the current time and date is **12:22pm on Friday, 7-April**. The 'Day of Week' number for Friday is 5 (Monday is day 1, and Sunday is day 7).

COMMAND PARAMETER EXAMPLES			
Command Parameter	Example	Printed time:	Printed date:
NEXTMOH	NEXTMOH,30	12:30	7-April (not changed)
	NEXTMOH,22	13:22	7-April (not changed)
	NEXTMOH,19	13:19	7-April (not changed)
NEXTHOD	NEXTHOD,15	15:22	7-April (not changed)
	NEXTHOD,12	12:22 (not changed)	8-April
	NEXTHOD,10	10:22	8-April
NEXTDOW	NEXTDOW,7	12:22 (not changed)	9-April
	NEXTDOW,5	12:22 (not changed)	14-April
	NEXTDOW,1	12:22 (not changed)	10-April
NEXTDOM	NEXTDOM,9	12:22 (not changed)	9-April
	NEXTDOM,7	12:22 (not changed)	7-May
	NEXTDOM,1	12:22 (not changed)	1-May
FWDMOH	FWDMOH,30	12:30	7-April (not changed)
	FWDMOH,22	12:22 (not changed)	7-April (not changed)
	FWDMOH,19	13:19	7-April (not changed)
FWDHOD	FWDHOD,15	15:22	7-April (not changed)
	FWDHOD,12	12:22 (not changed)	7-April (not changed)
	FWDHOD,10	10:22	8-April
FWDDOW	FWDDOW,7	12:22 (not changed)	9-April
	FWDDOW,5	12:22 (not changed)	7-April (not changed)
	FWDDOW,1	12:22 (not changed)	10-April
FWDDOM	FWDDOM,9	12:22 (not changed)	9-April
	FWDDOM,7	12:22 (not changed)	7-April (not changed)
	FWDDOM,1	12:22 (not changed)	1-May
PREVMOH	PREVMOH,30	11:30	7-April (not changed)
	PREVMOH,22	11:22	7-April (not changed)
	PREVMOH,19	12:19	7-April (not changed)

Figure 45. Command parameter examples

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COMMAND PARAMETER EXAMPLES			
Command Parameter	Example	Printed time:	Printed date:
PREVHOD	PREVHOD,15	15:22	6-April
	PREVHOD,12	12:22 (not changed)	6-April
	PREVHOD,10	10:22	7-April (not changed)
PREVDOW	PREVDOW,7	12:22 (not changed)	2-April
	PREVDOW,5	12:22 (not changed)	31-March
	PREVDOW,1	12:22 (not changed)	3-April
PREVDOM	PREVDOM,9	12:22 (not changed)	9-March
	PREVDOM,7	12:22 (not changed)	7-March
	PREVDOM,1	12:22 (not changed)	1-April
BAKMOH	BAKMOH,30	11:30	7-April (not changed)
	BAKMOH,22	12:22 (not changed)	7-April (not changed)
	BAKMOH,19	12:19	7-April (not changed)
BAKHOD	BAKHOD,15	15:22	6-April
	BAKHOD,12	12:22 (not changed)	7-April (not changed)
	BAKHOD,10	10:22	7-April (not changed)
BAKDOW	BAKDOW,7	12:22 (not changed)	2-April
	BAKDOW,5	12:22 (not changed)	7-April (not changed)
	BAKDOW,1	12:22 (not changed)	3-April
BAKDOM	BAKDOM,9	12:22 (not changed)	9-March
	BAKDOM,7	12:22 (not changed)	7-April (not changed)
	BAKDOM,1	12:22 (not changed)	1-April

Figure 45. Command parameter examples (Continued)