



INTERNATIONAL TELECOMMUNICATION UNION

**ITU-T**

TELECOMMUNICATION  
STANDARDIZATION SECTOR  
OF ITU

**Z.316**

**MAN-MACHINE LANGUAGE**

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**OUTPUT LANGUAGE SYNTAX  
SPECIFICATION**

**ITU-T Recommendation Z.316**

(Extract from the *Blue Book*)

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## NOTES

1 ITU-T Recommendation Z.316 was published in Fascicle X.7 of the *Blue Book*. This file is an extract from the *Blue Book*. While the presentation and layout of the text might be slightly different from the *Blue Book* version, the contents of the file are identical to the *Blue Book* version and copyright conditions remain unchanged (see below).

2 In this Recommendation, the expression “Administration” is used for conciseness to indicate both a telecommunication administration and a recognized operating agency.

## Recommendation Z.316

### OUTPUT LANGUAGE SYNTAX SPECIFICATION

#### 1 General

Syntax diagrams of the output language are given in § 3 in sub-paragraphs having numbers corresponding to those in § 2. Where input elements are used in output, a reference is made to the input language description Recommendation Z.315. Procedural aspects utilizing output other than output outside dialogue are taken into account in Recommendation Z.317.

#### 2 Output structure

##### 2.1 *Output outside dialogue*

The output described is output outside dialogue. This output is either a spontaneous output indicating a certain event, e.g., an alarm situation, or it is a delayed response to an interactive operating sequence (see Recommendation Z.317). An example of such a delayed response is a traffic measurement result.

##### 2.2 *Header*

The header is given in output outside dialogue. It is also used in the dialogue procedure (see Recommendation Z.317). The main purpose of the header is to mark the output outside dialogue or the record of the dialogue for identification and information. The header can also be used for special purposes for an operation and maintenance centre. Recommended contents are information related to source identification, date and time. More information not related to the input or output function can be added to the header as additional header information.

The header is introduced by format effectors and/or graphic characters selected from a layout option.

##### 2.2.1 *Layout option*

A layout option is a combination of format effectors and graphic characters used to bound elements of the output in a clear and readable form.

##### 2.2.1.1 *Graphic characters*

Graphic characters are used to improve readability of output.

##### 2.2.1.2 *Format effector*

A format effector is used to format output in a suitable manner. Certain format effectors are specifically incorporated in the output definition given in § 3, but where the format effector element is shown any of the format effectors specified for MML can be used. No syntax diagram is shown.

##### 2.2.2 *Source identifier*

A source identifier indicates the physical area in which an output was generated.

##### 2.2.3 *Calendar date*

The output of the date in the header is based on the International Standard (ISO 2014) [1] for the writing of calendar dates in all-numeric form. The calendar date shall be written in the following order: year, month, day. The calendar date shall consist of a two decimal digit or four decimal digit year, a two decimal digit month, and a two decimal digit day of the month. The allowable characters between year and month and between month and day are hyphen or space.

Examples:

The 4th October 1979 shall be written in one of the following ways:

- a) 19791004;
- b) 1979-10-04;
- c) 1979 10 04;
- d) 791004;

e) 79-10-04;

f) 79 10 04.

The calendar date in input should preferably have a layout similar to that in output.

#### 2.2.4 *Time of day*

The output of the time in the header is based on the International Standard (ISO 3307) [2]. However, in MML the output of a decimal fraction of hours, minutes, or seconds is not utilized in the header.

Time representations are based upon the 24-hour timekeeping system. The sequencing of time elements shall be from high order to low order (left to right): hours, minutes, seconds. The hour shall be represented by a two-digit decimal number ranging from 00 up to and including 23. The minute shall be represented by a two-digit decimal number ranging from 00 up to and including 59. The second shall be represented by a two digit decimal number ranging from 00 up to and including 59.

Examples:

Hours, minutes            1225    or 12:25

Hours, minutes, seconds    122501   or 12:25:01

#### 2.2.5 *Additional header information*

Additional header information is general information which has no relation to the function of the output, e.g.:

- sequence number,
- processor number,
- output device,
- day of the week.

#### 2.3 *Alarm statement*

The alarm statement may give information of a general class such as the degree of alarm of the source of alarm.

##### 2.3.1 *Variable text*

Variable text is a set of information units which contains information unique to the event which caused the output.

#### 2.4 *Additional information*

Additional information is general information related to the output, e.g.:

- type of output e.g., maintenance, statistics. This is not the same as identification of output, (see § 2.6),
- output recipient identification.

#### 2.5 *Command reference*

A command reference supplies a command sequence number when needed in output outside dialogue as a reference to a previous input. In addition to the command sequence number it may also include clarifying text. It also may appear in dialogue procedures (see Recommendation Z.317).

##### 2.5.1 *Clarifying text*

Clarifying text is a set of information units used to make the purpose and contents of the output more clear to the reader. Several clarifying texts could appear in an output.

#### 2.6 *Identification of output*

Identification of output provides a unique identity for an output in a system's repertoire of outputs. Therefore, it could be used as a reference to the explanation of the output in a manual.

#### 2.7 *Text block*

A text block is any combination of clarifying texts, variable texts, parameter name defined parameters and/or tables which gives information wherever it is needed or requested. For VDT applications this may be a displayed form.

## 2.8 Table

A table is an ordered presentation of interrelated information.

Clarifying text within a table can be used as labels to each column contained within the table. Where a table name or additional information associated with the table is required the clarifying text appearing at the beginning of the table in the syntax diagram of § 3.8 could be used.

When parameter name defined parameters are used to label columns each parameter should be complete, i.e. contain a parameter value (see Recommendation Z.315).

### 2.8.1 New line

New line is a character combination necessary to reset an output device to the beginning of a new line. It is recognized that the character combination is device dependent but can contain the characters CR (carriage return) and LF (line feed). No syntax diagram is shown.

### 2.9 End of output

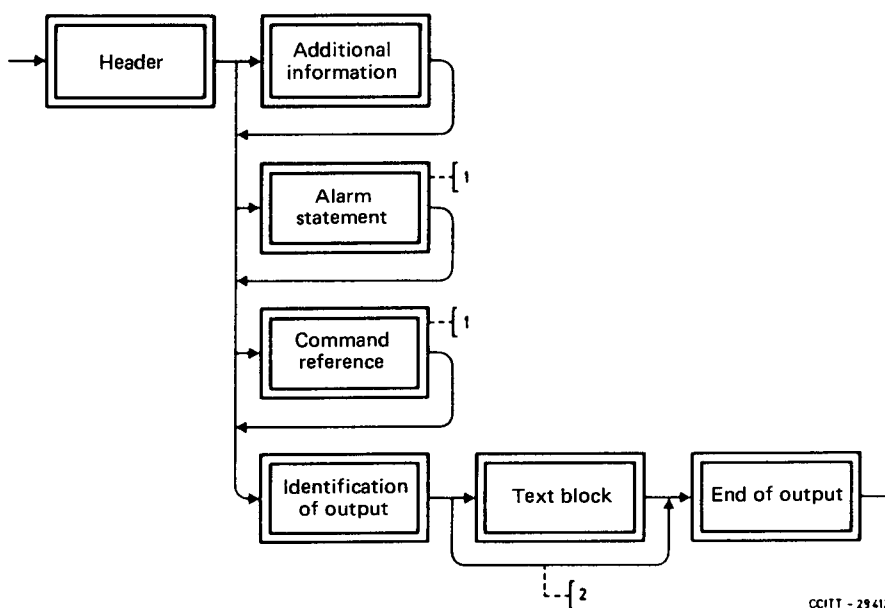
An end of output is an indication that an output is finished.

### 2.10 Comments in output

The purpose of a comment in output is as for clarifying text (see § 2.5.1) with the exception that the syntax is as for comment in input so that it may be discarded during a subsequent re-input. No syntax diagram is shown.

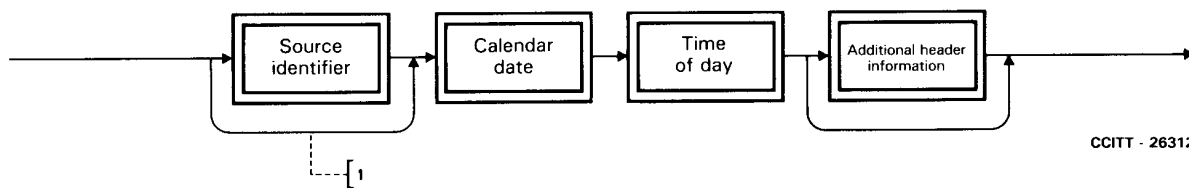
## 3 Definition of the output language syntax in diagrams

### 3.1 Output outside dialogue



- 1) Command reference and alarm statement could appear in the same output, e.g. if a control system unit is taken out of service by means of a command.
- 2) This by-pass can be taken only when the identification of output contains sufficient information.

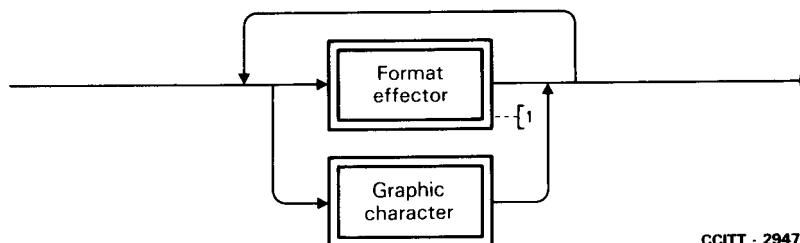
3.2 Header



CCITT - 26312

1) Source identifier may be omitted where there is only one source producing outputs.

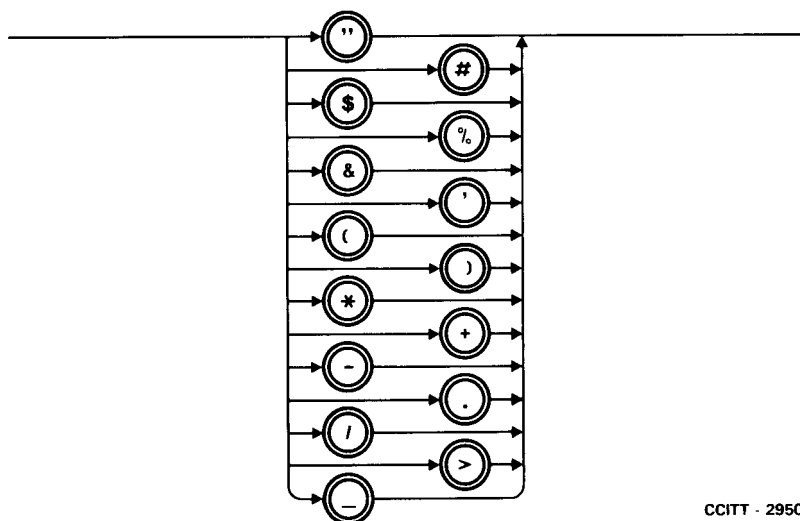
3.2.1 Layout option



CCITT - 29471

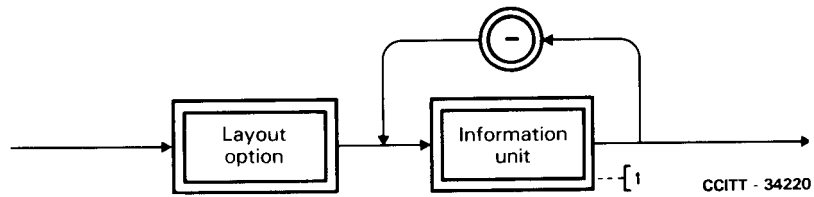
1) Not further expanded in diagram form.

3.2.1.1 Graphic character



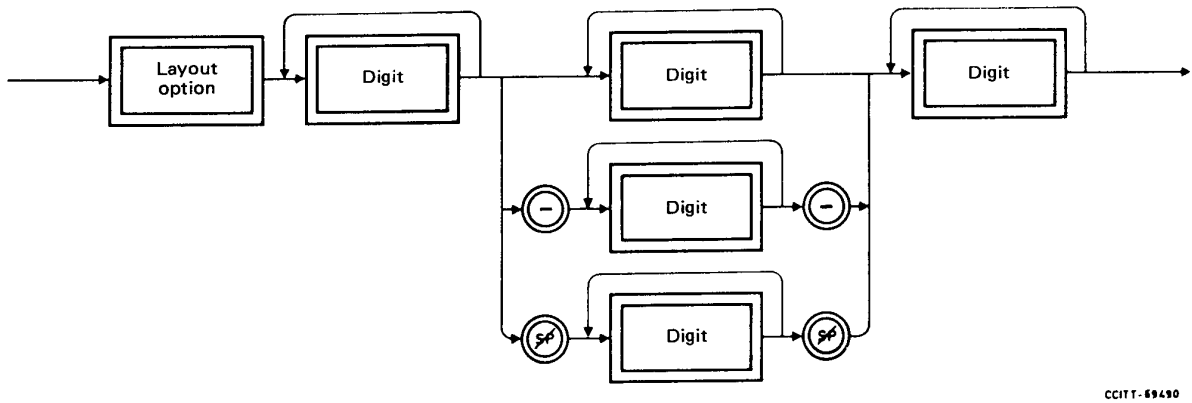
CCITT - 29501

### 3.2.2 Source identifier

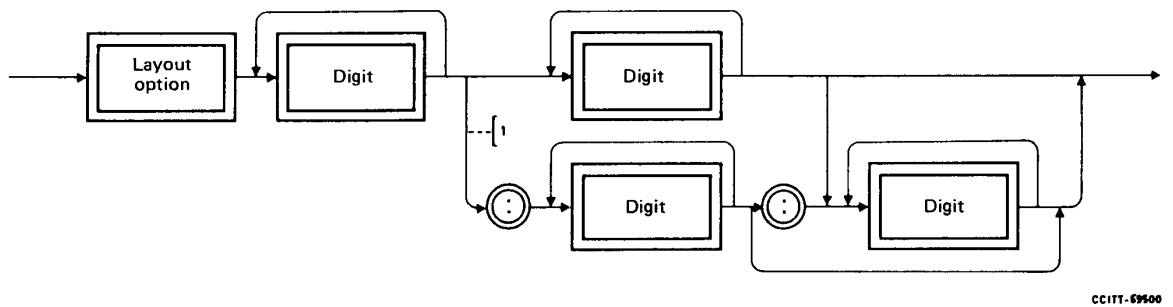


1) See Recommendation Z.315.

### 3.2.3 Calendar date

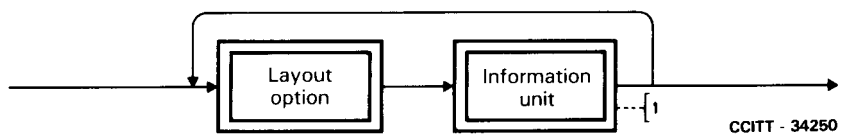


### 3.2.4 Time of day



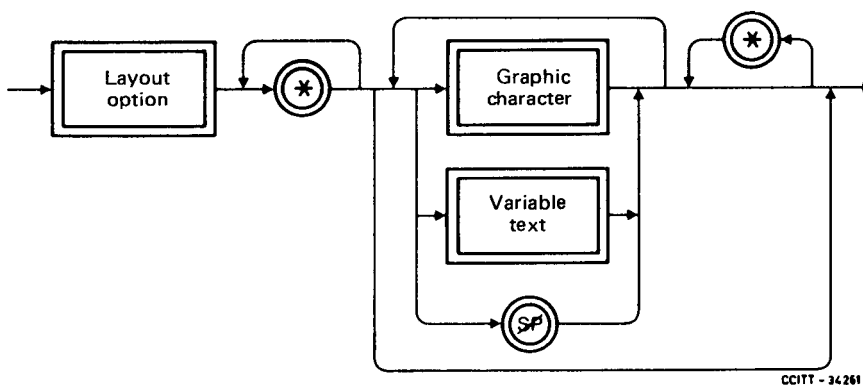
- 1)
  - a) If required to facilitate visual human understanding of output, a : (colon) may be used to separate hours, minutes and seconds (refer to [2]).
  - b) This use of the : (colon) is not allowed in input since the character is used as a separator between blocks of parameters.

3.2.5 Additional header information

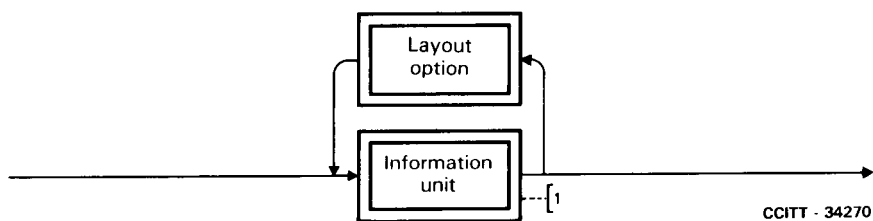


1) See Recommendation Z.315.

3.3 Alarm statement



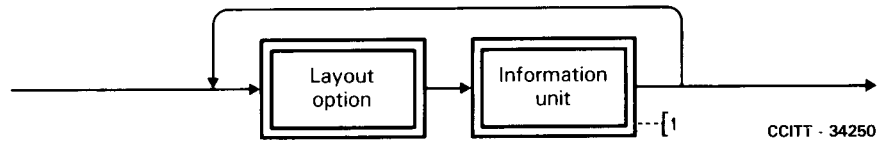
3.3.1 Variable text



1) See Recommendation Z.315.

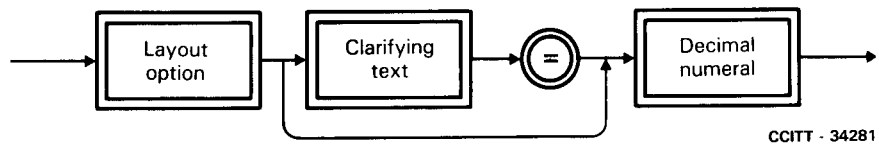


3.4 *Additional information*

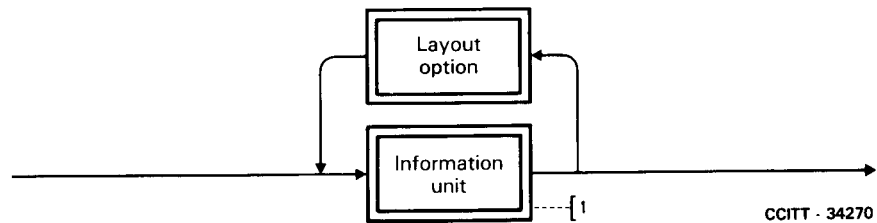


1) See Recommendation Z.315.

3.5 *Command reference*

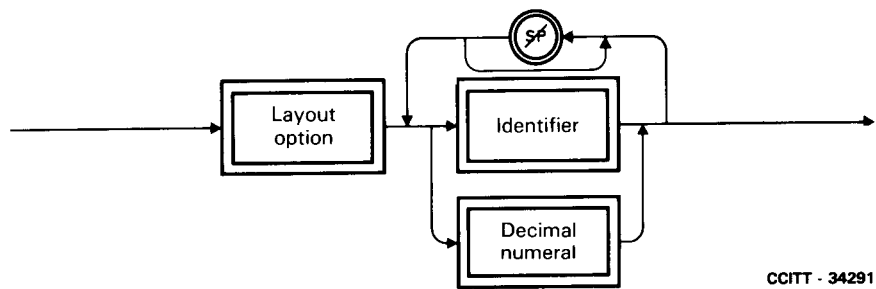


3.5.1 *Clarifying text*

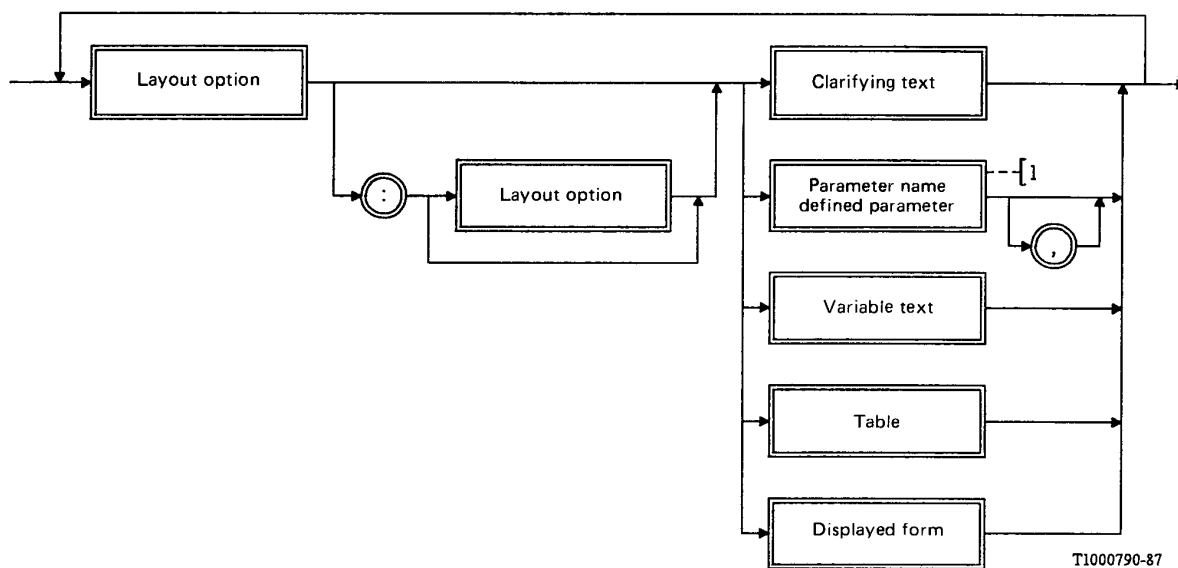


1) See Recommendation Z.315.

3.6 *Identification of output*

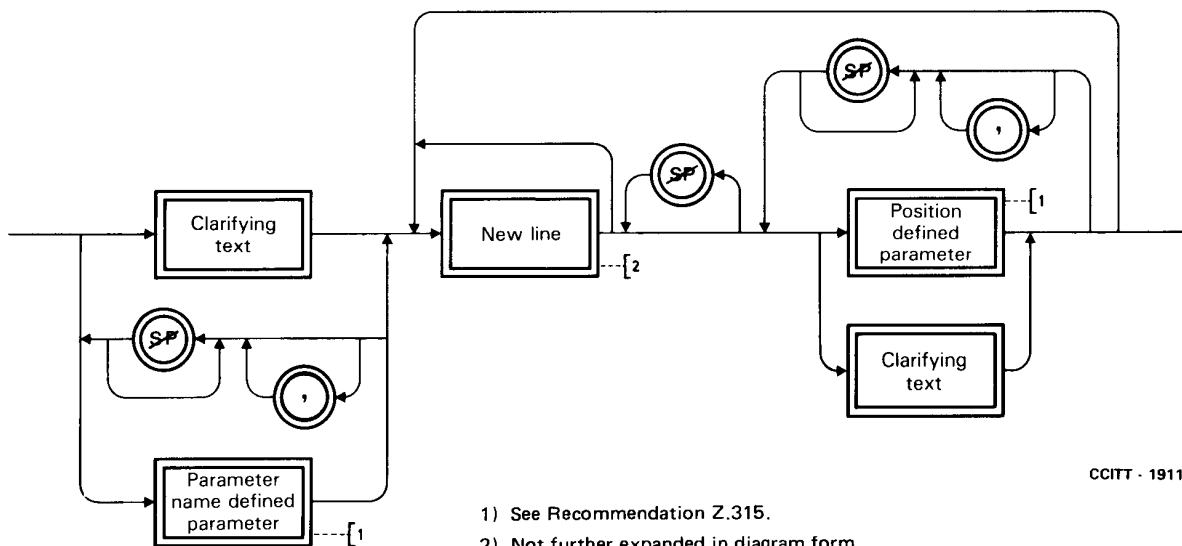


3.7 Text block

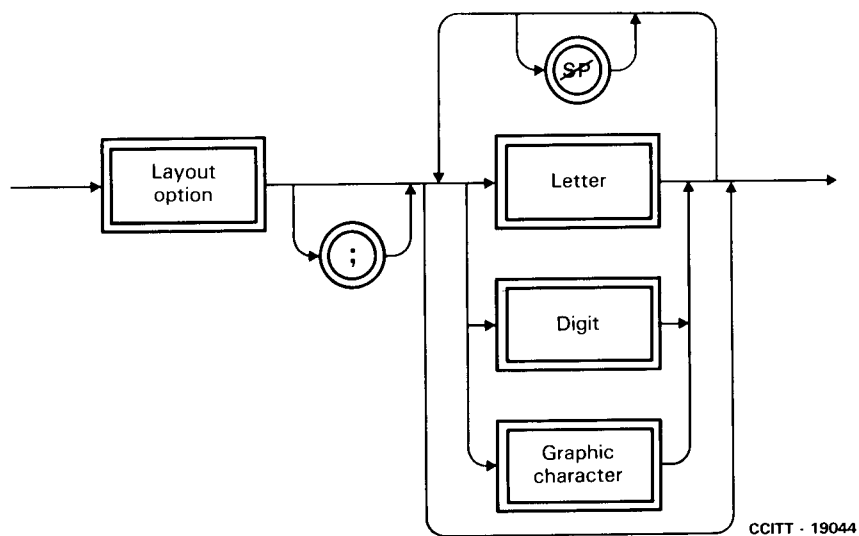


1) See Recommendation Z.315.

3.8 Table



- 1) See Recommendation Z.315.
- 2) Not further expanded in diagram form.



**References**

- [1] *Writing of Calendar Dates in All-Numeric Form*, ISO Standard 2014-1976.
- [2] *Information Interchange – Representation of Time of the Day*, ISO Standard 3307-1975.