



INTERNATIONAL TELECOMMUNICATION UNION

**CCITT**

THE INTERNATIONAL  
TELEGRAPH AND TELEPHONE  
CONSULTATIVE COMMITTEE

**F.220**

(11/1988)

SERIES F: NON-TELEPHONE TELECOMMUNICATION  
SERVICES

Teletex service

---

**Service requirements unique to the processable  
mode number one (PM1) used within the  
teletex service**

Reedition of CCITT Recommendation F.220 published in  
Blue Book, Fascicle II.5 (1989)

---

## NOTES

1 CCITT Recommendation F.220 was published in Fascicle II.5 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 F.220

### SERVICE REQUIREMENTS UNIQUE TO THE PROCESSABLE MODE NUMBER ONE (PM1) USED WITHIN THE TELETEx SERVICE

#### CONTENTS

- 1 *Introduction*
- 2 *Description*
- 3 *Intercommunication with other services*
- 4 *Quality of service*
- 5 *Customer's information*

## 1 Introduction

### 1.1 *Scope*

1.1.1 The processable mode number one (PM1) is one of the standardized options of the teletex service.

1.1.2 Equipments with teletex capabilities providing PM1 belong to the teletex service and shall meet with all the rules expressed in the main body of the Recommendation F.200. Furthermore, they shall meet with the additional rules described in this Recommendation.

1.1.3 The purpose of PM1 is to cater for the interchange of documents such as memoranda, letters and reports that contain characters only. The documents can be interchanged in a form that will enable the recipient:

- either to further process the document;
- or, to display or print the document as intended by the sender.

1.1.4 Questions of an essentially technical nature concerning this processable mode PM1 of the equipments with teletex capabilities are dealt with by the following Recommendations:

- T.400 series of Recommendations: Document Architecture, Transfer and Manipulation”;
- Recommendation T.502: “A document application profile PM1 for the interchange of processable form documents”;
- Recommendation T.522: “Communication application profile BT1 for document bulk transfer”;
- Recommendation T.562: “Terminal characteristics for Teletex processable mode PM1”.

### 1.2 *Definition*

#### 1.2.1 *General on the processable mode*

- a) The processable mode of operation provides the user, in addition to the basic features of the Teletex service, with means for interchanging documents containing suitable information to reprocess them efficiently.
- b) Several processable modes are being defined within the CCITT depending on the users' needs (number of reprocess functions provided to the user and the ability or not to reprocess text containing graphics or other contents).
- c) They all are to be designed as application profiles of the T.400 series of Recommendations. Each new one is a superset of the previous. It is intended that equipments supporting a higher level of Processable Mode will always support any lower level.

#### 1.2.2 *Definition of PM1*

**PM1** is a processable mode designed to take into account a common set of functions commonly available to wordprocessing softwares.

Its main characteristics are that it allows to reprocess transmitted documents with only a single-column layout and containing only character encoded text. Additional characteristics may be found in § 2.

The complete definition of this mode includes:

- the definition of the document features which can be interchanged between equipments supporting PM1. These features are functionally as well as technically defined in Recommendation T.502;
- the definition of the protocol elements to be used for the transfer of documents and for the negotiation of optional features between equipments supporting PM1. This definition is technically specified in Recommendation T.522;
- the specification of the equipment characteristics to be supported for PM1. These characteristics are defined in Recommendation T.562.

### 1.2.3 *Document application profiles (T.500 series)*

The document application profiles defined in the T.500 series of Recommendations may be used by any telematic services. Supplementary constraints may be added by particular services using these document application profiles.

This Recommendation F.220 defines in § 2.2.4 the constraints unique to the equipments participating in the Teletex service using the application profile PM1 as described in Recommendation T.502.

### 1.2.4 *Communication application profiles (T.520 series)*

A DTAM protocol subset has to be used for the interchange of documents between PM1 equipments with Teletex capabilities. These subsets are defined in the T.520 series of Recommendations as “communication application profiles”.

This Recommendation F.220 refers in § 2.3.1 to Recommendation T.522 defining the adequate communication application profile (called BT1 for Bulk Transfer 1”) to be used for PM1.

### 1.2.5 *Equipment characteristics (T.560 series)*

The characteristics of equipments using application profiles are defined in the T.560 series of Recommendations.

This Recommendation F.220 refers in § 2.4 to Recommendation T.562 defining the particular characteristics for equipments with Teletex capabilities supporting PM1.

## **2 Description**

### 2.1 *General*

Documents can be interchanged in three principal forms, namely:

- processable form, which allows a document to be revised by a recipient, if required;
- formatted processable form, which allows a recipient to reproduce the document as intended by the sender and/or to revise the document;
- formatted form, which allows a recipient to reproduce the document as intended by the sender.

### 2.2 *Characteristics of a PM1 interchanged document*

#### 2.2.1 *Logical characteristics*

From the logical point of view, the document interchanged between equipments using PM1 consists of a set of paragraphs.

The paragraph refers to an amount of text that is distinct from any other part of the document. The use of such paragraphs is therefore to distinguish between portions of the document content that have different properties.

### 2.2.2 *Layout characteristics*

- a) A document may be divided into one or more page sets, which are not nested. This allows, for example, sets of pages having different layouts to be distinguished.
- b) A page set is considered to consist of a sequence of pages. The first page of this sequence may have a layout different from the other pages of the set.
- c) The maximum number of independent and non-overlapping areas which may subdivide a page is three. These areas consist of an area lying at the top of the page that is reserved for header text, an area lying at the bottom that contains footer text and an area lying between the header and footer areas that is reserved for body text.
- d) Text designated as header or footer text may consist of one or more paragraphs and these are intended to be laid out entirely in the header or footer area respectively on each page of a document. Header and footer text may not occur in any other area of the page. Header and footer text is optional and therefore may not exist on each page of the document. Also, the header and footer text may not be the same throughout the document.
- e) Also, it is possible to specify that the text area is to be laid out on the “recto” or “verso” side of the sheet of paper and to specify the orientation (portrait or landscape) for any page of the document.

### 2.2.3 *Document content*

Only a character content shall be used within a document interchanged between equipments with Teletex capabilities supporting PM1.

Characters rendition are: normal rendition, bold, italicized, underlined and crossed out (this last is non-basic).

### 2.2.4 *Features supported by PM1*

The features supported by PM1 are described by Recommendation T.502: “Document application profile PM1 for the interchange of processable form documents”. The purpose of this paragraph is to give an overview of these features.

#### 2.2.4.1 The features which can be interchanged using PM1 mode fall into the following categories:

- Page format features: these relate to how the layout of each page of a document will appear when reproduced (e.g. left and right margins, headers and footers).
- Character content layout and imaging features: these relate to how the document content will appear within the page of the reproduced document (e.g. first line indentation, alignment).
- Character repertoire: this relates to the character sets and control functions that make up the document content.
- Document management features: these concern the information associated with the document that relates to the document as a whole, such as its title, history and creation date. This information can be used in applications such as filing and retrieval.

#### 2.2.4.2 Paper formats and assured reproduction areas

##### a) *Paper formats*

Different paper formats can be declared by the sender for the presentation of the interchanged document.

The two principal paper formats which can be used without any negotiation are:

- ISO A4 paper format (210 × 297 mm);
- North American letter paper format (215.9 × 279.4 mm).

The following paper formats may also be used, but need a negotiation:

- ISO A3 paper format (297 × 420 mm);
- Japanese legal paper format (257 × 364 mm);
- Japanese letter paper format (182 × 257 mm).

##### b) Assured reproduction areas

Recommendation T.562 specifies the assured reproduction areas for the paper formats listed above.

The presentation of the document layout and content by the recipient is guaranteed if the dimensions of the interchanged page do not exceed the dimensions of the assured reproduction area.

c) Page dimensions

The page dimensions are always smaller than the paper formats.

The maximum dimensions of the basic interchanged page correspond to the common area between the assured reproduction areas of A4 and North American paper formats.

These dimensions are given in Recommendation T.562. This allows any PM1 document to be printed by using one of the two principal paper formats. The use of larger page dimensions must be negotiated.

2.2.4.3 *Fall-back techniques*

- a) Some basic and non-basic features described in Recommendation T.562 are allowed to be approximated using fall-back techniques.
- b) This Recommendation determines the fall-back procedure which may be used by the recipient if features present in the interchanged document are not locally available (see Table 1/F.220).
- c) All other features, not listed in Table 1/F.220, must not be approximated.

2.3 *Communication aspects*

2.3.1 All the non-basic features defined for PM1 in Recommendation T.502 must be negotiated before the interchange of the document. Negotiation is only allowed to fail when a required non-basic feature is not supported by the recipient's system and that this system does not support any suitable fall-back mode for this feature.

2.3.2 A processable mode document can only be sent as a unit. If an equipment tries, for any reason, to send one document in different parts, the contribution of the document is not accepted by the recipient because it is not possible to provide an automatic linkage for PM1 documents. Consequently, the sender has to retransmit the whole document.

TABLE 1/F.220

Features	Fall-back modes
<i>Document layout</i>	
Separation	Ignore
Widows and orphans	Ignore
Association of paragraphs	Ignore
Recto/verso pages	Recto
<i>Content layout and imaging</i>	
Emphasis	
– Italicized	Bold or underlined
– Bold	Italicized or underlined
<i>Document management (e.g.: title, subject, etc.)</i>	Ignore

2.3.3 Direct communication of basic teletex documents between a teletex equipment supporting only the basic mode and a teletex equipment supporting both the basic and the processable mode PM1 is provided. Technical communication rules are defined in Recommendation T.562, § 8, taking into account the case where an equipment tries to send a PM1 document to an equipment supporting only the basic mode.

2.3.4 If the transmission of a PM1 document fails, the user should always be informed of the reason of the failure.

*Note* – The consultation, before the communication, of the teletex service directory allows to know the nature of the receiving equipment and so, allows to avoid communication failures due to incompatible modes.

Some local mechanisms may also be implemented to check the nature of the receiving equipment by consulting a local directory before any communication. The process may be useful when the recipient belongs to a list of usual addressees.

2.3.5 Generally, equipment will provide an automatic conversion from a PM1 document to a basic teletex document if the PM1 document is in a formatted form.

## 2.4 *Equipment characteristics*

2.4.1 Equipments with Teletex capabilities supporting PM1 must provide the user with the ability:

- To create, transmit, receive the three forms of documents defined in § 2.1. The sender's intention, concerning the transmitted document, is expressed by the particular form of this document.
- To present (print or display on screen) the received document when it has been transmitted in the formatted processable form or the formatted form. If printed, the receiving user is furnished with a document identical with that produced by the sending subscriber as far as its contents, layout and format are concerned.

*Note* – If sent in a processable form, the layout of the document between the sending and the receiving sides may differ.

- To reprocess the received document when it has been transmitted in the processable or the formatted processable form.

2.4.2 Other characteristics of equipments with teletex capabilities supporting the processable mode PM1 are described in Recommendation T.562.

2.4.3 The CIL presentation rules, as defined in Recommendation F.200, apply with the restriction that there is no page number in the field 4 of the CIL.

## **3 Intercommunication with other services**

Equipment belonging to the processable mode PM1 of the Teletex service has the ability to intercommunicate with equipment belonging to any other services that incorporate the PM1 document application profile, BT1 communication profile, and PM1 terminal characteristics.

## **4 Quality of service**

For further study.

## **5 Customer's information**

### 5.1 *Directories*

5.1.1 In the Teletex directory published by each Administration, the special symbol PM1, the meaning of which is "Processable Mode number 1", shall be inserted when an equipment with Teletex capabilities provides this processable mode in order to give some guidance to the users.

5.1.2 This symbol should be placed so that it could not be understood as a part of the equipment identification.



ITU-T F-SERIES RECOMMENDATIONS  
**NON-TELEPHONE TELECOMMUNICATION SERVICES**

<b>TELEGRAPH SERVICE</b>	
Operating methods for the international public telegram service	F.1–F.19
The gentex network	F.20–F.29
Message switching	F.30–F.39
The international telemesssage service	F.40–F.58
The international telex service	F.59–F.89
Statistics and publications on international telegraph services	F.90–F.99
Scheduled and leased communication services	F.100–F.104
Phototelegraph service	F.105–F.109
<b>MOBILE SERVICE</b>	
Mobile services and multideestination satellite services	F.110–F.159
<b>TELEMATIC SERVICES</b>	
Public facsimile service	F.160–F.199
<b>Teletex service</b>	<b>F.200–F.299</b>
Videotex service	F.300–F.349
General provisions for telematic services	F.350–F.399
<b>MESSAGE HANDLING SERVICES</b>	
<b>DIRECTORY SERVICES</b>	
<b>DOCUMENT COMMUNICATION</b>	
Document communication	F.550–F.579
Programming communication interfaces	F.580–F.599
<b>DATA TRANSMISSION SERVICES</b>	
<b>AUDIOVISUAL SERVICES</b>	
<b>ISDN SERVICES</b>	
<b>UNIVERSAL PERSONAL TELECOMMUNICATION</b>	
<b>HUMAN FACTORS</b>	

*For further details, please refer to ITU-T List of Recommendations.*

## ITU-T RECOMMENDATIONS SERIES

Series A	Organization of the work of the ITU-T
Series B	Means of expression: definitions, symbols, classification
Series C	General telecommunication statistics
Series D	General tariff principles
Series E	Overall network operation, telephone service, service operation and human factors
<b>Series F</b>	<b>Non-telephone telecommunication services</b>
Series G	Transmission systems and media, digital systems and networks
Series H	Audiovisual and multimedia systems
Series I	Integrated services digital network
Series J	Transmission of television, sound programme and other multimedia signals
Series K	Protection against interference
Series L	Construction, installation and protection of cables and other elements of outside plant
Series M	TMN and network maintenance: international transmission systems, telephone circuits, telegraphy, facsimile and leased circuits
Series N	Maintenance: international sound programme and television transmission circuits
Series O	Specifications of measuring equipment
Series P	Telephone transmission quality, telephone installations, local line networks
Series Q	Switching and signalling
Series R	Telegraph transmission
Series S	Telegraph services terminal equipment
Series T	Terminals for telematic services
Series U	Telegraph switching
Series V	Data communication over the telephone network
Series X	Data networks and open system communications
Series Y	Global information infrastructure and Internet protocol aspects
Series Z	Languages and general software aspects for telecommunication systems