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ITU-T

TELECOMMUNICATION
STANDARDIZATION SECTOR
OF ITU

U.202

(03/93)

TELEGRAPH SWITCHING INTERNATIONAL TELEX SERVICE

TECHNICAL REQUIREMENTS TO BE MET IN PROVIDING THE INTERNATIONAL TELEX SERVICE WITHIN AN INTEGRATED SERVICES DIGITAL NETWORK

ITU-T Recommendation U.202

(Previously "CCITT Recommendation")

FOREWORD

The ITU Telecommunication Standardization Sector (ITU-T) is a permanent organ of the International Telecommunication Union. The ITU-T is responsible for studying technical, operating and tariff questions and issuing Recommendations on them with a view to standardizing telecommunications on a worldwide basis.

The World Telecommunication Standardization Conference (WTSC), which meets every four years, established the topics for study by the ITU-T Study Groups which, in their turn, produce Recommendations on these topics.

ITU-T Recommendation U.202 was revised by the ITU-T Study Group IX (1988-1993) and was approved by the WTSC (Helsinki, March 1-12, 1993).

NOTES

1 As a consequence of a reform process within the International Telecommunication Union (ITU), the CCITT ceased to exist as of 28 February 1993. In its place, the ITU Telecommunication Standardization Sector (ITU-T) was created as of 1 March 1993. Similarly, in this reform process, the CCIR and the IFRB have been replaced by the Radiocommunication Sector.

In order not to delay publication of this Recommendation, no change has been made in the text to references containing the acronyms "CCITT, CCIR or IFRB" or their associated entities such as Plenary Assembly, Secretariat, etc. Future editions of this Recommendation will contain the proper terminology related to the new ITU structure.

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

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INTRODUCTION

Recognizing that some Administrations have implemented, or plan to implement, integrated services digital networks (ISDN) in accordance with I-Series Recommendations, there may be economic and operational benefits to be gained if the international telex service was also supported within the ISDN environment. Accordingly, the provisions of this Recommendation should be followed whenever the ISDN is used to support the international telex service.

Recommendation U.202

TECHNICAL REQUIREMENTS TO BE MET IN PROVIDING THE INTERNATIONAL TELEX SERVICE WITHIN AN INTEGRATED SERVICES DIGITAL NETWORK

(Melbourne, 1988; revised at Helsinki, 1993)

Scope

This Recommendation is structured in three parts, as follows:

- Part I: General considerations applicable to all configurations
- Part II: Use of the B-channel of the ISDN in circuit mode for the provision of the international telex service
- Part III: Use of the D-channel for the provision of the international telex service

This Recommendation lays down general principles to be followed and outlines configuration models for the provision of the international telex service in the ISDN environment. It is assumed throughout this Recommendation that the service and operational provisions in respect of the international telex service, as detailed in Recommendations F.59 and F.60, are maintained in all identified configurations.

The specification of the interface between the telex terminal and terminal adaptor within the ISDN is outside the scope of this Recommendation.

PART I – GENERAL CONSIDERATIONS APPLICABLE TO ALL CONFIGURATIONS

1 General principles

- i) The service principles and basic characteristics of the international telex service, detailed in Recommendations F.59 and F.60, must be applied and maintained end-to-end.
- ii) No burden shall be placed on existing telex networks in setting up telex connections to telex terminals connected to the ISDN and accordingly single-stage call set-up shall be employed in either direction.
- iii) The plan for telex destination codes contained in Recommendation F.69 shall be applied in sending telex calls towards an ISDN which supports the international telex service from an existing telex network in another country which has not implemented an ISDN environment.
- iv) Accordingly, ISDN-based telex terminals should be assigned a telex number which is part of the national telex numbering plan. However, an integrated numbering plan may be employed in national implementations provided the maximum number of digits required to address an ISDN-based subscriber across the international telex network does not exceed 12 in accordance with the U-Series signalling Recommendations.
- v) The technical requirements in relation to subscriber-to-subscriber performance, permissible distortion levels, and signal transfer delay, as specified in Recommendations R.58, R.58 *bis*, and U.8 shall be met in all cases.
- vi) A telex terminal connected to an ISDN should respond to a received WRU signal by transmitting its answerback sequence formatted in accordance with Recommendation F.60 with a maximum delay of 600 ms from receipt of the second start element within the WRU signal, in accordance with Recommendation S.6.



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2 Quality of Service objectives

In accordance with the provisions of the F-Series Recommendations, and in particular Recommendations F.59 and F.60, the Quality of Service objectives, as defined in the referenced Recommendations and as perceived by subscribers of the international telex service, shall be met in all configurations where the international telex service is provided in the ISDN environment. Accordingly, telex subscribers connected to an ISDN and participating in the international telex service shall see no degradation in the Quality of Service which they would experience if connected to a dedicated telex network. Conversely, telex subscribers connected to a dedicated telex network shall see no degradation in their Quality of Service when sending telex messages to ISDN-based telex subscribers across international boundaries.

3 Configuration models

Several configuration models may be developed by each Administration (or ROA), depending on the extent to which the telex service is integrated into the ISDN. These models range from minimum integration to maximum integration as described below.

3.1 Minimum integration

The minimum degree of integration is where the ISDN is used only as a means of connecting terminals to a serving exchange, with all switching occurring within the telex network.

In this configuration, the link between the terminal and the telex network is therefore equivalent to a subscriber line built across the ISDN.

This method requires the availability both of a telex network and an ISDN. An ISDN subscriber should normally be able to use it to connect his telex, although there may also be telex subscribers, who do not subscribe to the ISDN and who are connected by the usual means.

If either of the two countries X or Y use minimum integration of telex into ISDN, the link between those countries for international telex calls can only be established over the international network (see Figure 1).

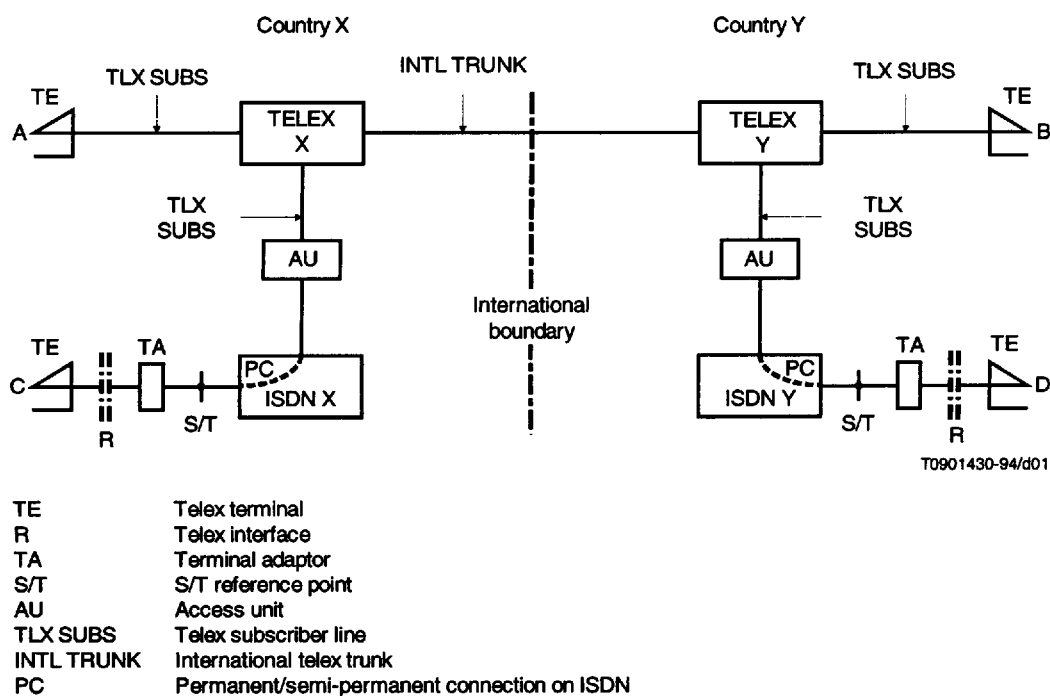


FIGURE 1/U.202
Minimum integration model

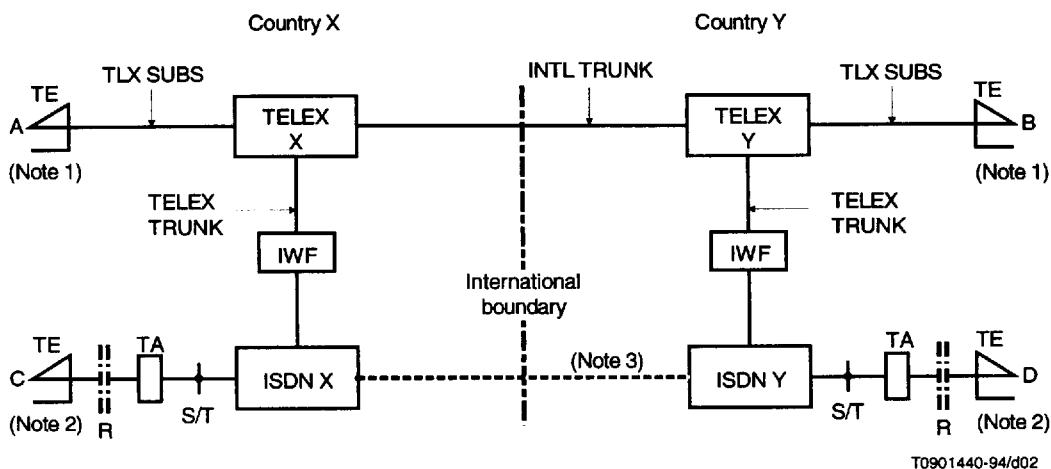
3.2 Maximum integration

More complex configuration models might be considered where the switching is also integrated within the ISDN, to a greater or lesser extent.

In these types of configuration, the link-up between the ISDN and the telex network will be at circuit level.

In the extreme case, an Administration might consider replacing its telex network with an ISDN, to which all telex subscribers would be connected. In this case, the technical means should be provided for applying the telex service's own call establishment and connection procedures not normally available in the ISDN.

If the two countries X and Y use both maximum integration (see Figure 2), the link between them for a telex call can be established either over the international telex network or by interconnection of their ISDNs. This last possibility must be agreed bilaterally.



NOTES

- For calls originated from the telex network (e.g. A to C or B to C), the destination telex network should be able to route calls intended for telex subscribers within the ISDN to the IWF. The IWF will perform the address validation and translation if necessary. The actual number assignment is a national matter.
- For calls originated by telex terminals within the ISDN (e.g. C to A or C to B), the ISDN should route these calls to the national IWF. This may imply the use of escape code sequences before time "T", or other means as appropriate. (Concept of time "T" is defined in Study Group II's Recommendation E.165.)
- Interconnection of ISDNs to support the telex service should be agreed bilaterally.

FIGURE 2/U.202
Maximum integration model