INTERNATIONAL TELECOMMUNICATION UNION

ITU-T

TELECOMMUNICATION
STANDARDIZATION SECTOR
OF ITU

E.456

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SERIES E: OVERALL NETWORK OPERATION, TELEPHONE SERVICE, SERVICE OPERATION AND HUMAN FACTORS

Quality of service, network management and traffic engineering – Network management – Checking the quality of the international telephone service

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Test transaction for facsimile transmission performance

ITU-T Recommendation E.456

(Previously CCITT Recommendation)

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ITU-T RECOMMENDATION E.456

TEST TRANSACTION FOR FACSIMILE TRANSMISSION PERFORMANCE

Summary

This Recommendation specifies a test transaction for use in other E-Series Recommendations that can help benchmark performance of transmission networks with respect to Group 3 facsimile. A test transaction composed of three pages of Recommendation T.22 Test Chart No. 4 is recommended.

Source

ITU-T Recommendation E.456 was revised by ITU-T Study Group 2 (1997-2000) and was approved under the WTSC Resolution No. 1 procedure on the 9th of March 1998.

FOREWORD

ITU (International Telecommunication Union) is the United Nations Specialized Agency in the field of telecommunications. The ITU Telecommunication Standardization Sector (ITU-T) is a permanent organ of the ITU. 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, establishes the topics for study by the ITU-T Study Groups which, in their turn, produce Recommendations on these topics.

The approval of Recommendations by the Members of the ITU-T is covered by the procedure laid down in WTSC Resolution No. 1.

In some areas of information technology which fall within ITU-T's purview, the necessary standards are prepared on a collaborative basis with ISO and IEC.

NOTE

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

INTELLECTUAL PROPERTY RIGHTS

The ITU draws attention to the possibility that the practice or implementation of this Recommendation may involve the use of a claimed Intellectual Property Right. The ITU takes no position concerning the evidence, validity or applicability of claimed Intellectual Property Rights, whether asserted by ITU members or others outside of the Recommendation development process.

As of the date of approval of this Recommendation, the ITU had not received notice of intellectual property, protected by patents, which may be required to implement this Recommendation. However, implementors are cautioned that this may not represent the latest information and are therefore strongly urged to consult the TSB patent database.

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Recommendation E.456

TEST TRANSACTION FOR FACSIMILE TRANSMISSION PERFORMANCE

(revised in 1998)

1 Introduction

The purpose of this Recommendation is to specify a test transaction for use in other E-Series Recommendations that can help benchmark performance of transmission networks with respect to Group 3 facsimile. It will permit comparisons with objective requirements as well as comparisons between measurements made by independent Administrations.

The basis for this Recommendation was an examination of facsimile caller behaviour on a worldwide scale.

2 References

The following ITU-T Recommendations and other references contain provisions which, through reference in this text, constitute provisions of this Recommendation. At the time of publication, the edition indicated were valid. All Recommendations and other references are subject to revision; all users of this Recommendation are therefore encouraged to investigate the possibility of applying the most recent edition of the Recommendations and other references listed below. A list of the currently valid ITU-T Recommendations is regularly published.

– ITU-T Recommendation E.450 (1993), *Facsimile quality of service on PSTN – General aspects.*

– ITU-T Recommendation E.451 (1993), *Facsimile call cut-off performance.*

– ITU-T Recommendation E.452 (1993), *Facsimile modem speed reductions and transaction times.*

– ITU-T Recommendation E.453 (1994), *Facsimile image quality as corrupted by transmission-induced scan line errors.*

– ITU-T Recommendation E.454 (1996), *Transmission performance metrics based on Error Correction Mode (ECM) facsimile.*

– ITU-T Recommendation E.457 (1996), *Facsimile measurement methodologies.*

– ITU-T Recommendation E.458 (1996), *Figure of merit for facsimile transmission performance.*

– ITU-T Recommendation T.4 (1996), *Standardization of Group 3 facsimile apparatus for document transmission.*

– CCITT Recommendation T.6 (1988), *Facsimile coding schemes and coding control functions for Group 4 facsimile apparatus.*

– ITU-T Recommendation T.22 (1993), *Standardized test charts for document facsimile transmission.*

– ITU-T Recommendation T.30 (1996), *Procedures for document facsimile transmission in the general switched telephone network.*

3 Specification of the test transaction

This clause defines the test transaction in terms of its size in pages, page composition and other important parameters (see Table 1).

The test transaction size was selected to retain a manageable size, and present a call of reasonable duration. It is possible to complete a three-page call in approximately 180 seconds when the specifications in Table 1 are met. The range of average pages per transaction based on measurements on international facsimile calls is between two and three pages.

Table 1/E.456 – Size, form and parameter settings for the test transaction

Parameter	Value
Test page	T.22 No. 4
Transaction size	3 pages
Resolution	Standard (Note)
Minimum scan line length	20 ms for non-ECM, 0 ms for ECM
Scan line encoding method	Modified Huffman (1-D)
NOTE – Recommendation T.4 Optional higher resolution (7.7 lines/mm), Modified READ (2-D) coding and Modified READ (Recommendation T.6) are options for special studies.	

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