



INTERNATIONAL TELECOMMUNICATION UNION

**ITU-T**

TELECOMMUNICATION  
STANDARDIZATION SECTOR  
OF ITU

**S.8**

(03/93)

**TELEGRAPHY**

**ALPHABETICAL TELEGRAPH TERMINAL  
EQUIPMENT**

---

**INTERCONTINENTAL STANDARDIZATION  
OF THE MODULATION RATE  
OF START-STOP APPARATUS AND  
OF THE USE OF COMBINATION No. 4  
IN FIGURE-SHIFT**

**ITU-T Recommendation S.8**

(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 S.8 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 Similarly, in this reform process, the CCIR and the IFRB have been replaced by the Radiocommunication Sector.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.

© ITU 1994

All rights reserved. No part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from the ITU.

**Recommendation S.8**

**INTERCONTINENTAL STANDARDIZATION OF THE MODULATION RATE  
OF START-STOP APPARATUS AND OF THE USE  
OF COMBINATION No. 4 IN FIGURE-SHIFT**

*(former CCIT Recommendations C.5 and C.11, Arnhem, 1953,  
modified at Helsinki, 1993)*

The CCITT,

*considering*

- (a) that the standardized modulation rate recommended for start-stop apparatus employed in international (including intercontinental) service is 50 bauds, in accordance with Recommendation S.3;
- (b) that there are nevertheless certain areas (notably in the USA) in which a different modulation rate for start-stop apparatus is employed;
- (c) that, even though it is recognized that universal adoption of a standardized modulation rate would be advantageous in the intercontinental service, it is not possible at present to secure universal adoption of a standard;
- (d) that it is essential to do everything possible to facilitate the establishment of intercontinental services, notwithstanding differences in modulation rates that may exist between the start-stop apparatus employed;
- (e) that there are in existence methods, employing automatic storage equipment in the circuit, that enable start-stop apparatus having different modulation rates to interwork;
- (f) that, furthermore, on certain intercontinental circuits, e.g. radio circuits, the employment of special forms of synchronous equipment in association with storage equipment is sometimes essential and is already in use in the intercontinental sections of start-stop circuits,

*unanimously declares the view*

- (1) that, when it is necessary in the intercontinental service to operate between start-stop apparatus having a modulation rate of 50 bauds and start-stop apparatus having a non-standard modulation rate, then conversion equipment, for example automatic storage and retransmission equipment must be inserted in the international circuits concerned in a manner to be agreed bilaterally between the Administrations and/or recognized operating agencies concerned;

*considering*

- (g) that the use of different signs or functions for combination No. 4 in the figure case of International Telegraph Alphabet No. 2 on start-stop apparatus having to work together in the same system leads to operational difficulties that ultimately amount to rendering the use of this combination impossible;
- (h) that the use of this combination to operate the answer-back unit, by allowing the caller to check the connection and the satisfactory working of his correspondent's apparatus, results in a considerable reduction in the time of establishing the communication, thereby facilitating operation of the service,

*unanimously declares the view*

- (2) that the sequence of signal figure-shift D (combinations Nos. 30 and 4) of International Telegraph Alphabet No. 2 should be reserved exclusively, both in international service and in intercontinental service, for operating the answer-back unit;
- (3) that, in intercontinental service, when apparatus not permitting the use of the answer-back unit is being operated, the methods of using the sequence of signals combinations Nos. 30 and 4, should be the subject of bilateral agreement between the Administrations and/or recognized operating agencies concerned.