

I n t e r n a t i o n a l T e l e c o m m u n i c a t i o n U n i o n

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SERIES V: DATA COMMUNICATION OVER THE
TELEPHONE NETWORK

Control procedures

Asynchronous serial command interface for assistive and multi-functional communication devices

Recommendation ITU-T V.254



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Recommendation ITU-T V.254

Asynchronous serial command interface for assistive and multi-functional communication devices

Summary

Recommendation ITU-T V.254 is applicable to the interconnection of multi-functional communication devices (such as mobile phones) with devices intended to provide assistive capabilities for those communication devices. It defines a range of serial binary commands that comply to the format and general rules of Recommendation ITU-T V.250 via a range of suitable interfaces.

History

Edition	Recommendation	Approval	Study Group
1.0	ITU-T V.254	2010-09-13	16

FOREWORD

The International Telecommunication Union (ITU) is the United Nations specialized agency in the field of telecommunications, information and communication technologies (ICTs). The ITU Telecommunication Standardization Sector (ITU-T) is a permanent organ of ITU. 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 Assembly (WTSA), which meets every four years, establishes the topics for study by the ITU-T study groups which, in turn, produce Recommendations on these topics.

The approval of ITU-T Recommendations is covered by the procedure laid down in WTSA Resolution 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.

Compliance with this Recommendation is voluntary. However, the Recommendation may contain certain mandatory provisions (to ensure, e.g., interoperability or applicability) and compliance with the Recommendation is achieved when all of these mandatory provisions are met. The words "shall" or some other obligatory language such as "must" and the negative equivalents are used to express requirements. The use of such words does not suggest that compliance with the Recommendation is required of any party.

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As of the date of approval of this Recommendation, ITU had not received notice of intellectual property, protected by patents, which may be required to implement this Recommendation. However, implementers are cautioned that this may not represent the latest information and are therefore strongly urged to consult the TSB patent database at <http://www.itu.int/ITU-T/ipr/>.

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Recommendation ITU-T V.254

Asynchronous serial command interface for assistive and multi-functional communication devices

1 Scope

This Recommendation builds upon the current asynchronous DCE control in [ITU-T V.250] to include command protocols that support the interfacing of assistive controlling devices with communication devices over a range of suitable serial binary data interfaces.

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 editions indicated were valid. All Recommendations and other references are subject to revision; 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. The reference to a document within this Recommendation does not give it, as a stand-alone document, the status of a Recommendation.

[ITU-T V.250] Recommendation ITU-T V.250 (2003), *Serial asynchronous automatic dialling and control*.

[ETSI TS 127 007] ETSI TS 127 007 V9.4.0 (2010), *Digital cellular telecommunications system (Phase 2+); Universal Mobile Telecommunications System (UMTS); LTE; AT command set for User Equipment (UE)*.

[ISO 639-1] ISO 639-1 (2002), *Codes for the representation of names of languages – Part 1: Alpha-2 code*.

[ISO 639-2] ISO 639-2 (1998), *Codes for the representation of names of languages – Part 2: Alpha-3 code*.

[ISO/IEC 24751-2] ISO/IEC 24751-2 (2008), *Information technology - Individualized adaptability and accessibility in e-learning, education and training – Part 2: "Access for all" personal needs and preferences for digital delivery*.

3 Definitions

3.1 Terms defined elsewhere

None.

3.2 Terms defined in this Recommendation

This Recommendation defines the following terms:

3.2.1 assistive technology device: Device used by a person with disabilities to prevent, compensate, relieve or neutralize any resulting handicap and that has the ability to interface to an ICT device.

NOTE – The term "external device" is used for either a mobile external device or an assistive technology device.

3.2.2 object exchange protocol: Protocol for the exchange of data objects between devices.

4 Abbreviations and acronyms

This Recommendation uses the following abbreviations and acronyms:

AT	Attention
IrDA	Infrared Data Association
MMS	Multimedia Messaging Service
OBEX	Object Exchange
SMS	Short Message Service
USB	Universal Serial Bus

5 Conventions on error codes

Refer to clause 9.2 of [ETSI TS 127 007] for general information on the use of error codes in assistive devices.

6 Assistive device commands

Some communication devices provide users with a variety of applications (e.g., games, navigation and location tracking, photograph manipulation, currency conversion) either built-in when purchased, or added later. The use of application functionality at a content and information level is beyond the scope of this Recommendation, but all applications should provide input, output and control functionality that is usable by all users.

The following clauses define ITU-T V.250-like commands that allow assistive devices to interact with multi-functional communication devices over a serial binary data interface.

6.1 Calendar

The following sets of commands allow users to be able to use a calendar function on a multi-functional communication device, including reading and writing calendar objects.

6.1.1 Read vCalendar

Execute syntax: **+CCALR=<begin date>, <end date>**

Description: This command causes the reading of vCalendar information within the parameters specified.

The results are the vCalendar objects between the **<begin date>**, and **<end date>**. There can be any number of calendar objects.

Defined values: None.

Result codes: **<vCalendar>,<vCalendar>,<vCalendar>,...,<vCalendar> OK**
+CCALR ERROR: <error code>

Read syntax: Same as the Execute syntax.

Test syntax: **+CCALR=?**

If the functionality is supported, the response is **<begin date>, <end date>**

Implementation: Calendar information is transferred using the vCalendar format.