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Assignment of alphabetic letters to digits on standard telephone keypad arrays

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Foreword

This draft European Telecommunication Standard (ETS) has been produced by the Human Factors (HF) Technical Committee of the European Telecommunications Standards Institute (ETSI), and is now submitted for the Unified Approval Procedure phase of the ETSI standards approval procedure.

Proposed transposition dates	
Date of latest announcement of this ETS (doa):	3 months after ETSI publication
Date of latest publication of new National Standard or endorsement of this ETS (dop/e):	6 months after doa
Date of withdrawal of any conflicting National Standard (dow):	6 months after doa

Introduction

This ETS was prepared by TC-HF in response to a request from the 20th ETSI Technical Assembly.

ITU-T and ISO/IEC have adopted an assignment of letters to digits that corresponds to that shown in figure 1 in clause 4 (See ITU-T Recommendation E.161 [5] and ISO/IEC 9995-8 [4]). In the interests of maximising global standardisation, ETSI will also adopt this same assignment. This further convergence of standards should encourage manufacturers to use the standard immediately in the manufacture of telecommunication terminals using the standard telephone keypad array.

Many existing telephone and other terminals will have assignments of letters to digits that differ from that specified in this standard. In particular, some assignments exist which conform with national standards to facilitate text telephony. Before introducing telecommunications services that assume the assignment specified in the present standard, the consequences of errors arising from the use of non-compliant terminals should be carefully considered.

For a limited user group, where it is known that all terminals using the service will have the ETSI assignment of letters to digits, it will be possible to introduce services that use alphabetic input without further delay.

The standard assignment of letters to digits can also serve as an aide-memoire for individual users who wish to associate telephone numbers or codes with letters or words.

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1 Scope

This ETS defines the assignment of alphabetic letters to digits on standard telephone keypad arrays. The assignment of characters with diacritical marks, e.g. á, å, ç, ë, ñ, etc. on the standard telephone keypad array, or the assignment of other non-Latin character sets is outside the scope of this ETS.

This ETS applies to all terminals, public and private, that assign alphabetic letters to standard telephone keypad arrays. The standard can be applied to keypad arrays provided in hardware form (e.g. as push button keys) or software form (e.g. as soft keys on a visual display)

This ETS does not apply to terminals specifically intended to support text telephony.

2 Normative references

This ETS incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this ETS only when incorporated in it by amendment or revision. For undated references the latest edition of the publication applies.

[1]   ETS 300 511: "European digital cellular telecommunications system (Phase 2); Man-Machine Interface (MMI) of the Mobile Station (MS) (GSM 02.30)".

[2]   ETR 116 (1994): "Human Factors (HF); Human factors guidelines for ISDN Terminal equipment design".

[3]   ETSI DTR/HF-02009 [1]: "Human Factors (HF); Characteristics of telephone keypads, requirements of elderly and disabled people".

[4]   ISO/IEC 9995-8: "Information Technology - Keyboard layouts for text and office systems - Part 8: Allocation of letters to the keys of a numeric keypad".

[5]   ITU-T Recommendation E.161: "Arrangement of figures, letters and symbols on telephones and other devices that can be used for gaining access to a telephone network".

3 Definitions, symbols and abbreviations

3.1 Definitions

For the purposes of this ETS, the following definitions apply:

standard telephone keypad array: standard 4 x 3 array for the numeric keys 0-9 and the symbol keys star (*) and square (#). See ITU-T Recommendation E.161 [5].

push button keys: physical control input devices where a push action, usually by the user's finger, signals an input. See also ETR 116, clause 5, page 166, Design Guideline on "Pushbuttons" [2].

soft keys: physical or software displayed keys, the functions of which are determined by the application software currently running on the terminal. See also ETR 116, clause 5, page 88, Design Guideline on "Control Key Dialogues" [2].

3.2 Symbols

For the purposes of this ETS, the following symbols apply:

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[1]   This document is expected to be publicly available by the time the present ETS is submitted for vote.

*	The Star on the standard telephone keypad array, see ITU-T Recommendation E.161 [5]. Also known as the asterisk.
#	The Square on the standard telephone keypad array, see ITU-T Recommendation E.161 [5]. Also known as the hash, sharp, or number sign.

3.3 Abbreviations

For the purposes of this ETS, the following abbreviations apply:

ETS	European Telecommunication Standard
ETSI	European Telecommunications Standards Institute
IEC	International Electrotechnical Committee
ISO	International Organisation for Standardization
ITU-T	International Telecommunications Union - Telecommunication Standardization Sector
TC-HF	Technical Committee "Human Factors"

4 Assignment of alphabetic letters to digits

Alphabetic letters shall be assigned to digits on standard telephone keypad arrays according to the pattern defined in figure 1:

1	ABC 2	DEF 3
GHI 4	JKL 5	MNO 6
PQRS 7	TUV 8	WXYZ 9
*	0	#

Figure 1: Assignment of alphabetic letters to digits in a standard telephone keypad array

This assignment of letters to digits is harmonized with ETS 300 511 (GSM 02.30) [1], ITU-T Recommendation E.161 [5] and ISO/IEC 9995-8 [4].

Information on characteristics of the standard telephone keypad array affected by including alphabetic letters is provided in annex A.

Annex A (informative):   Characteristics of the standard telephone keypad array

A.1   Legibility of characters

The legibility of the numeric digits should not be impaired by the introduction of alphabetic letters to telephone keypad arrays.

The size and style of the digits and alphabetic characters used within a standard telephone keypad array should comply with the recommendations included in the relevant clauses (see Character Displays, Labels and Telephone Keypads) of ETR 116 [2].

A.2   Size of keys

The relative key size and dimensions of interkey spacing within a standard telephone keypad array should not be compromised by the introduction of alphabetic letters.

The size of the individual keys and the dimensions of the interkey spacing used in standard telephone keypad arrays should comply with the relevant clauses (see Keys and Pushbuttons) of ETR 116 [2] and the recommendations included in DTR/HF-02009 [3], when they are intended for finger activation (as against, for example, mouse pointer activation).

History

Document history			
January 1996	Unified Approval Procedure	UAP 43:	1996-02-05 to 1996-05-31