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TeleWeb application –

Part 1:
General description

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INTERNATIONAL ELECTROTECHNICAL COMMISSION
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TELEWEB APPLICATION –

Part 1: General description

FOREWORD

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International Standard IEC 62298-1 has been prepared by IEC technical committee 100: Audio, video and multimedia systems and equipment.

This standard cancels and replaces IEC/PAS 62298 published in 2002.

This first edition constitutes a technical revision.

The text of this standard is based on the following documents:

FDIS	Report on voting
100/922/FDIS	100/960/RVD

Full information on the voting for the approval of this standard can be found in the report on voting indicated in the above table.

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

IEC 62298 consists of the following parts, under the general title *TeleWeb application*:

Part 1: General description

Part 2: Delivery methods

Part 3: Superteletext profile

Part 4: Hyperteletext profile (in preparation)

The committee has decided that the contents of this publication will remain unchanged until the maintenance result date indicated on the IEC web site under http://webstore.iec.ch in the data related to the specific publication. At this date, the publication will be

- reconfirmed;
- withdrawn;
- replaced by a revised edition, or
- amended.

A bilingual version of this publication may be issued at a later date.

INTRODUCTION

TeleWeb delivers World Wide Web-style content to the TV environment, giving the viewer an enhanced television experience. It can be seen as the successor to Teletext. TeleWeb is not restricted to the TV environment and can be deployed equally effectively in areas like DAB, DRM, and home automation.

This standard gives a general overview of the TeleWeb application.

TELEWEB APPLICATION –

Part 1: General description

1   Scope

This part of IEC 62298 gives a general overview of the TeleWeb application that allows Web-style text and graphics to be broadcast to, and displayed by, suitable decoders.

TeleWeb services can be broadcast in a number of different ways, for example, VBI, DVB, DAB, etc., and to a variety of decoder types, for example, TVs, portable decoders, PCs, etc. These transmission protocols are described separately.

2   Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 62297 (all parts), *Trigger messages for broadcast applications*

IEC 62298 (all parts), *TeleWeb application*

ETSI EN 300 231, *Television systems; Specification of the domestic video Programme Delivery Control (PDC) system*

ETSI EN 300 468, *Digital Video Broadcasting (DVB); Specification for Service Information (SI) in DVB systems*

ETSI EN 300 707, *Electronic Programme Guide (EPG); Protocol for a TV Guide using electronic data transmission*

ITU-R BT 1379-1:2004, *Safe areas of wide-screen 16:9 and standard 4:3 aspect ratio productions to achieve a common format during a transition period to wide-screen 16:9 broadcasting*

3   Terms, definitions and abbreviations

3.1   Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1.1
button
part of the user interface that enables the viewer to select a page or trigger an event, etc. It may not necessarily exist as a physical button on a remote control handset

3.1.2
Independent Data Line (IDL)
stand-alone Teletext packet containing both control and application data, which does not form part of a Teletext page. The packet address is either 30 or 31

3.1.3
semi-standby
standby mode, currently known in the TV world, in which the small-signal part of the set is powered to support acquisition and signal processing. The picture tube, audio power amplifiers and other large-signal parts are not powered. To the user the set appears to be switched off

3.2   Abbreviations

DAB   Digital Audio Broadcasting

DRM   Digital Radio Mondiale

DSM-CC   Digital Storage Media Command and Control

DVB   Digital Video Broadcasting

EPG   Electronic Program Guide

ETSI   European Telecommunication Standard Institute

GIF   Graphics Interchange Format

HTML   Hyper Text Mark-up Language

IDL   Independent Data Line

JPEG   Joint Picture Experts Group

MPEG   Moving Picture Experts Group

OSI   Open System Interconnection

RGB   Red Green Blue

URL   Uniform Resource Locator

VBI   Vertical Blanking Interval

4   General description of TeleWeb

4.1   Aims

The aim of TeleWeb is to deliver World Wide Web-style content to the living room TV to give the viewer an enhanced television experience. A TeleWeb service broadcasts data files containing text and high-definition graphics to suitable decoders. The data transmitted can be closely linked to events within the accompanying TV programmes, or can be more general in nature to emulate a traditional, but higher definition, Superteletext service.

It is intended that TV-based decoders be implemented in a cost-effective manner without recourse to the technology normally associated with personal computers. In part, this is achieved by limiting the number of different types of multimedia data that can be used within a service. By careful design of the user interface, decoder manufacturers will be able to offer easy-to-use equipment for accessing TeleWeb services without requiring the consumer to be computer-literate. In addition, they will be able to customize their products to differentiate them from those of their competitors.

The encoding and transmission scheme is designed to be as efficient and robust as possible consistent with conveying potentially large data files via a unidirectional channel or bi-directional channel with a low or high data rate.

For example, TeleWeb data can be broadcast via Teletext packets using existing infrastructures. The TeleWeb data stream can be encoded into independent data packets that can be transmitted with minimal interference to existing Teletext services. In many instances, it will be possible to recover otherwise wasted Teletext transmission capacity, and the effect on existing services will be negligible.

It is possible to carry multiple services from different service providers on the same television channel. The fast transmission of services on analogue TV channels where there is no accompanying video component is also possible.

Two TeleWeb profiles are defined:

a) a first profile for Superteletext;

b) a second profile for Interactive applications.

Second-profile decoders shall provide backward compatibility with Superteletext decoders.

4.2   Overview

A database of files is broadcast, some or all of which are captured and stored by a decoder. Certain files may be broadcast repetitively; others may be transmitted only once when they contain real-time updates or are linked to events in the accompanying TV programme. Each file has a set of attributes to define the file name, file type and other parameters as required. One of these is the theme or content description. This allows a decoder to be programmed to receive only specific information or to exclude certain categories. This is useful where the volume of data transmitted exceeds the storage capacity available in the decoder.

On selecting a TeleWeb service, the viewer is first presented with the home page of the service. Navigation to other pages is via embedded links. It is possible that there may be more than one TeleWeb service on a given channel. Therefore, each service includes additional information to allow a menu of available services to be presented to the user. The user interface is at the discretion of the decoder manufacturer, as is the provision of "bookmark" and "history" browser features.

4.3   OSI seven-layer model

Figure 1 shows an OSI-style seven-layer model for TeleWeb when broadcast via different delivery systems.

Layer 7: Application	Superteletext service				
Layer 6: Presentation	HTML, Text, graphics and data files				
Layer 5: Session	File attributes				
Layer 4: Transport	DSM-CC	DSM-CC	DSM-CC	Delivery methods for radio	Delivery methods for IP
Layer 3: Network	IDL	IDL	DSM-CC		
Layer 2: Link	Teletext	MPEG	MPEG		
Layer 1: Physical	VBI	DVB	DVB		

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Figure 1 – OSI-style seven-layer model for different delivery systems

5   Documentation structure

IEC 62298-1 describes the general principles and application profiles of TeleWeb and outlines the display and control models on which the other parts are based. Services can be delivered via a variety of methods as described in IEC 62298-2. IEC 62298-3 specifies the TeleWeb Superteletext profile and IEC 62298-4 describes the TeleWeb Hyperteletext profile.

A graphical overview of the documentation structure is given in Figure 2.