



SLOVENSKI STANDARD
SIST ETS 300 294 E3:2003

01-december-2003

HY'Yj]n]`g_]g]ghYa]`EG][bU]nUW]UfK GGLdf]`y]fc_cnUg`cbg_]`* &) !j fgh] b]h'Yj]n]`

Television systems; 625-line television Wide Screen Signalling (WSS)

iTeh STANDARD PREVIEW
(standards.iteh.ai)

Ta slovenski standard je istoveten z: ETS 300 294 Edition 3

[SIST ETS 300 294 E3:2003](https://standards.iteh.ai/catalog/standards/sist/057dde0d-86da-4f2f-8131-cbc155b22d40/sist-ets-300-294-e3-2003)

<https://standards.iteh.ai/catalog/standards/sist/057dde0d-86da-4f2f-8131-cbc155b22d40/sist-ets-300-294-e3-2003>

ICS:

33.160.25	Televizijski sprejemniki	Television receivers
33.170	Televizijska in radijska difuzija	Television and radio broadcasting

SIST ETS 300 294 E3:2003

en

iTeh STANDARD PREVIEW
(standards.iteh.ai)

SIST ETS 300 294 E3:2003

<https://standards.iteh.ai/catalog/standards/sist/057dde0d-86da-4f2f-8131-cbc155b22d40/sist-ets-300-294-e3-2003>



EUROPEAN
TELECOMMUNICATION
STANDARD

ETS 300 294

September 1997

Third Edition

Source: EBU/CENELEC/ETSI-JTC

Reference: RE/JTC-00WSS-1

ICS: 33.020

Key words: Wide screen, signalling, analogue, TV

European Broadcasting Union  Union Européenne de Radio-Télévision
(standards.iteh.ai)

Television Systems;
<https://standards.iteh.ai/catalog/standards/sist/057dde0d-86da-42f8131-cbc155b1-229-11eb-8000-0244ac113000>
625-line television

Wide Screen Signalling (WSS)

ETSI

European Telecommunications Standards Institute

ETSI Secretariat

Postal address: F-06921 Sophia Antipolis CEDEX - FRANCE

Office address: 650 Route des Lucioles - Sophia Antipolis - Valbonne - FRANCE

X.400: c=fr, a=atlas, p=etsi, s=secretariat - **Internet:** secretariat@etsi.fr

Tel.: +33 4 92 94 42 00 - Fax: +33 4 93 65 47 16

Copyright Notification: No part may be reproduced except as authorized by written permission. The copyright and the foregoing restriction extend to reproduction in all media.

© European Telecommunications Standards Institute 1997.

© European Broadcasting Union 1997.

All rights reserved.

iTeh STANDARD PREVIEW (standards.iteh.ai)

[SIST ETS 300 294 E3:2003](https://standards.iteh.ai/catalog/standards/sist/057dde0d-86da-4f2f-8131-cbc155b22d40/sist-ets-300-294-e3-2003)

<https://standards.iteh.ai/catalog/standards/sist/057dde0d-86da-4f2f-8131-cbc155b22d40/sist-ets-300-294-e3-2003>

Contents

Foreword	5
Introduction	5
1 Scope	7
2 Normative reference.....	7
3 Definition, symbols and abbreviations	7
3.1 Definition	7
3.2 Symbols and abbreviations.....	7
4 Requirements	8
4.1 Line code	8
4.1.1 Position.....	8
4.1.2 Clock frequency.....	8
4.1.3 Pulse shape.....	9
4.1.4 Signal amplitude.....	9
4.1.5 Modulation coding	9
4.1.6 Preamble	10
4.1.7 Data bits	10
4.1.8 Odd parity bit.....	10
4.2 Information content of data bits	12
4.2.1 Data group 1.....	12
4.2.1.1 Aspect ratio.....	12
4.2.2 Data group 2, enhanced services.....	13
4.2.2.1 Film bit.....	13
4.2.2.2 Colour coding bit.....	13
4.2.2.3 Helper bit.....	13
4.2.2.4 Bit b ₇	13
4.2.3 Data group 3, subtitles	14
4.2.3.1 Subtitles within Teletext bit	14
4.2.3.2 Subtitling mode	14
4.2.4 Data group 4, others.....	14
4.2.4.1 Surround sound bit	14
4.2.4.2 Copyright information.....	15
Annex A (informative): Rules of operation	16
A.1 Receiver display formats	16
A.2 Subtitling.....	17
A.3 Procedure in absence of signalling	17
Annex B (informative): Recommendations	18
B.1 Low pass pre-filtering	18
B.2 Response time on a change in the received signalling information	18

Annex C (informative): Guidelines	19
C.1 Copyright information.....	19
History	20

iTeh STANDARD PREVIEW
(standards.iteh.ai)

[SIST ETS 300 294 E3:2003](https://standards.iteh.ai/catalog/standards/sist/057dde0d-86da-4f2f-8131-cbc155b22d40/sist-ets-300-294-e3-2003)

<https://standards.iteh.ai/catalog/standards/sist/057dde0d-86da-4f2f-8131-cbc155b22d40/sist-ets-300-294-e3-2003>

Foreword

This third edition European Telecommunication Standard (ETS) has been produced by the Joint Technical Committee (JTC) of the European Broadcasting Union (EBU), Comité Européen de Normalisation ELECTrotechnique (CENELEC) and the European Telecommunications Standards Institute (ETSI).

NOTE: The EBU/ETSI JTC was established in 1990 to co-ordinate the drafting of standards in the specific field of broadcasting and related fields. Since 1995 the JTC became a tripartite body by including in the Memorandum of Understanding also CENELEC, which is responsible for the standardization of radio and television receivers. The EBU is a professional association of broadcasting organizations whose work includes the co-ordination of its members' activities in the technical, legal, programme-making and programme-exchange domains. The EBU has active members in about 60 countries in the European broadcasting area; its headquarters is in Geneva *.

* European Broadcasting Union
Code Postal 67
CH-1218 GRAND SACONNEX (Geneva)
Switzerland

Tel: +41 22 717 21 11
Fax: +41 22 717 24 81

Transposition dates	
Date of adoption:	5 September 1997
Date of latest announcement of this ETS (doa):	31 December 1997
Date of latest publication of new National Standard or endorsement of this ETS (dop/e):	30 June 1998
Date of withdrawal of any conflicting National Standard (dow):	30 June 1998

Introduction

For a smooth introduction of new television services with a 16:9 display aspect ratio in PAL and SECAM standards, it is necessary to signal the aspect ratio used together with some switching information to the television receiver. The receiver should be capable of reacting automatically to this information by displaying the video information in a specified aspect ratio. This signalling is to be considered separately from the type of system used, but it should allow transmission of system related switching information as well.

This ETS permits the later allocation of additional switching information, related to the introduction of enhanced television services.

This ETS is applicable for 625-line PAL and SECAM television systems, but there is potential to adopt it to other standards as well.

Blank page

iTeh STANDARD PREVIEW
(standards.iteh.ai)

[SIST ETS 300 294 E3:2003](https://standards.iteh.ai/catalog/standards/sist/057dde0d-86da-4f2f-8131-cbc155b22d40/sist-ets-300-294-e3-2003)

<https://standards.iteh.ai/catalog/standards/sist/057dde0d-86da-4f2f-8131-cbc155b22d40/sist-ets-300-294-e3-2003>

1 Scope

This third edition European Telecommunication Standard (ETS) is applicable to 625-line PAL and SECAM systems in use, in case, where wide screen signalling is required by the broadcasters.

It specifies the wide screen signalling information, the coding and the way of incorporating the coded information into a 625-line system.

The wide screen signalling information contains information on the aspect ratio range of the transmitted signal and its position, on the position of the subtitles and on the camera/film mode. Furthermore signalling for EDTV and for surround sound is included. Some bits are reserved for future use.

This ETS specifies the transmitted signal. Annex A gives the rules of operation for the minimum requirements for receiver display formats as well as for subtitling. Annex B gives recommendations. Annex C gives a guideline for copyright information.

2 Normative reference

This ETS incorporates by dated and undated reference, provisions from another publication. This normative reference is cited at the appropriate places in the text and the publication is 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 referred to applies.

- [1] EBU Recommendation R62 (1990): "Recommendation dominant field for 625-line 50 Hz processing".

3 Definition, symbols and abbreviations

3.1 Definition

For the purposes of this ETS, the following definition applies:

<https://standards.iteh.ai/catalog/standards/sist/057dde0d-86da-42f-8131-9c55c0c51600/ets-300-294-e3>

letterbox operation: Is the use of a picture format with an aspect ratio greater than 1,33, in such a way that empty (black) lines are added to conform to a 4:3 transmission format.

3.2 Symbols and abbreviations

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

0_h	falling sync edge
a	aspect ratio
EDTV	Enhanced Definition TeleVision
F_s	clock frequency
LSB	Least Significant Bit
MSB	Most Significant Bit
NRZ	Non-Return-to-Zero
PAL	Phase Alternation Line (Colour TV-System)
SECAM	Sequentielle Couleur Avec Memoire (French Colour-TV System)
T_d	data bit period
T_s	sampling period
WSS	Wide Screen Signalling

4 Requirements

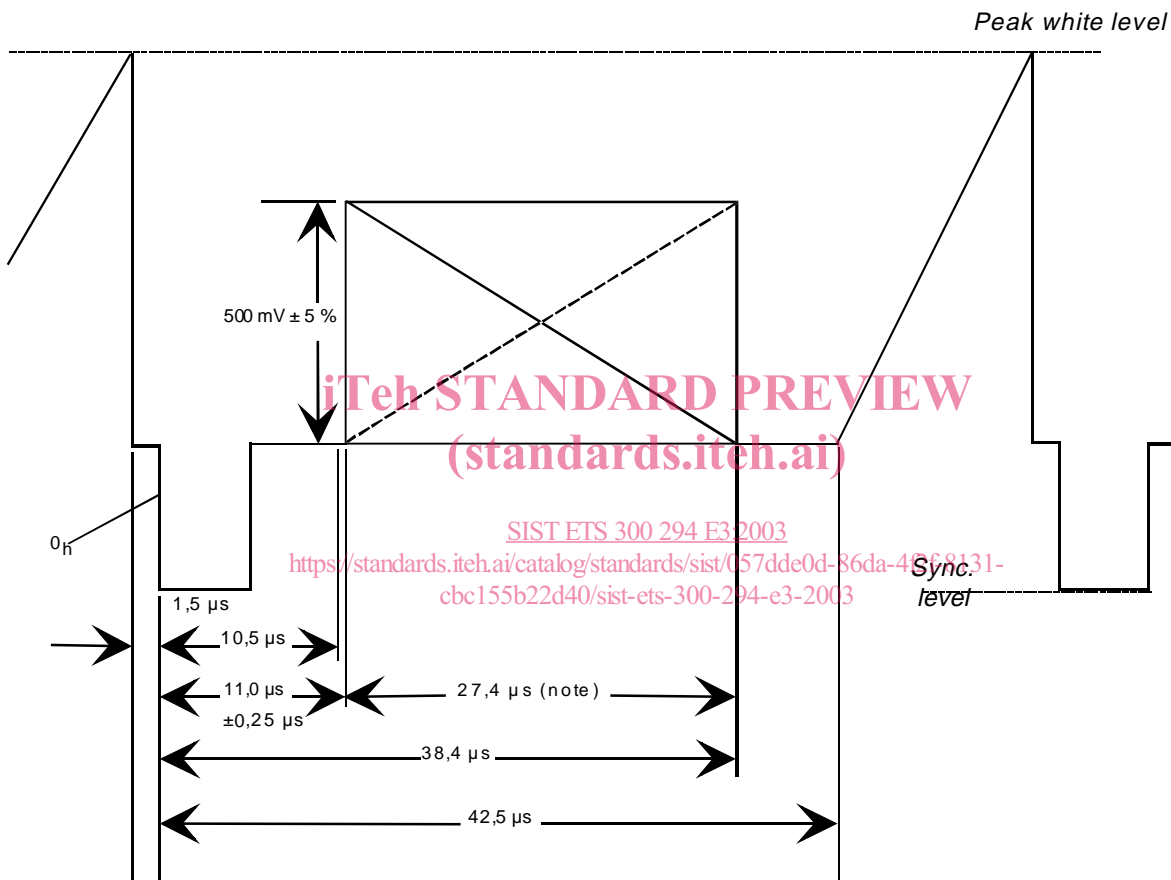
4.1 Line code

The following subclauses specify the line code of the Wide Screen Signalling (WSS).

4.1.1 Position

The signalling bits shall be transmitted as a data burst in the first part of line 23.

The position of the beginning of the Wide Screen Signalling bits shall be $11,0 \pm 0,25 \mu\text{s}$ from 0h of the horizontal sync, as indicated in figure 1. This figure is intended to illustrate the position of the signalling bits in line 23. For the purpose of commonality between PAL and SECAM, the colour burst and chrominance sub-carrier are not shown.



NOTE: For optimum decoder performance, it is recommended that this period is free from other signals.

Figure 1: Position of status bit signalling in line 23

In each frame line 23 shall be occupied with the WSS.

4.1.2 Clock frequency

The clock frequency shall be:

$$F_s = 5 \text{ MHz } (\pm 1 \times 10^{-4});$$

The period shall be:

$$T_s = 200 \text{ ns.}$$

4.1.3 Pulse shape

The pulse shaping function $h(\tau)$ shall be approximately a sine square:

$$h(\tau) \approx \begin{cases} \frac{2}{T_2} \sin^2 \left(\frac{\pi\tau}{2T_s} + \frac{\pi}{2} \right) & |\tau| \leq T_s \\ 0 & \text{elsewhere} \end{cases}$$

The half amplitude pulse duration shall be: 200 ns \pm 10 ns.

4.1.4 Signal amplitude

The signal amplitude with respect to a maximum video signal amplitude of 700 mV shall be:

$$0,5 \text{ V} \pm 5 \%$$

4.1.5 Modulation coding

Bi-phase coding shall be used in accordance with figure 2.

Duration of one data bit: T_d

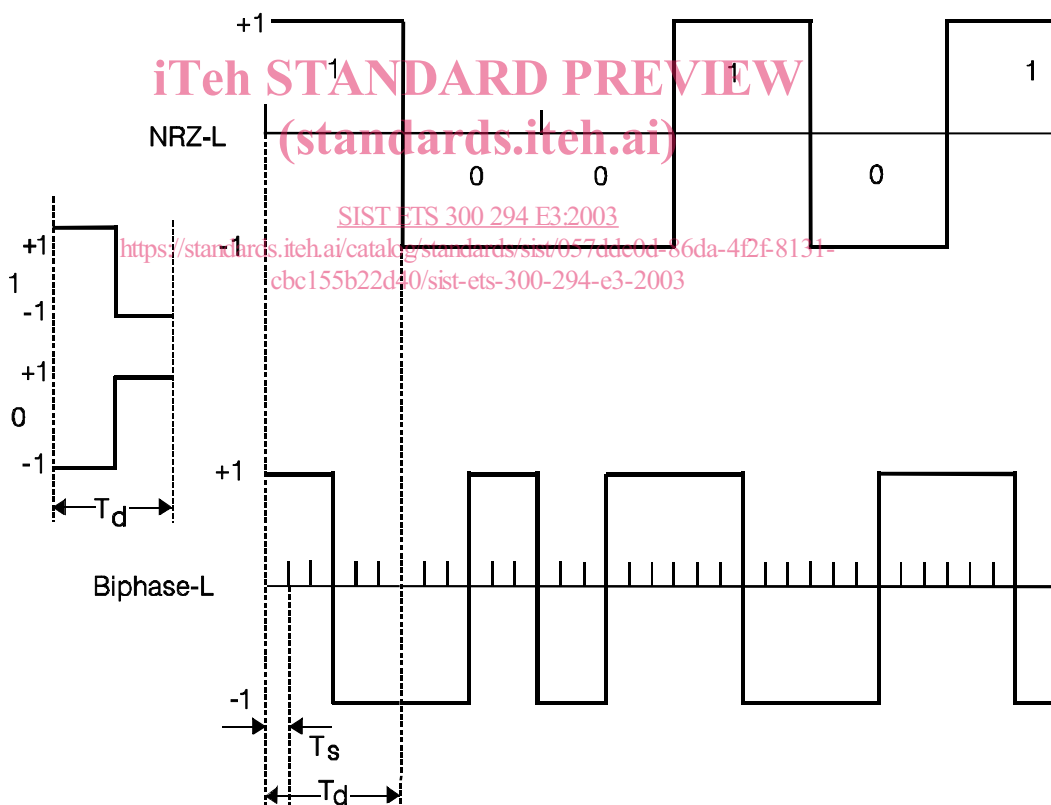


Figure 2: Example of bi-phase-L coding

The data bits shall be inserted in bi-phase-L, in which one data bit period equals 2×3 clock periods, whereby:

$$T_d = 6T_s$$