



National Standards Authority of Ireland

STANDARD

I.S. EN 50083-5:2001

ICS 33.060.40

**CABLE NETWORKS FOR TELEVISION
SIGNALS, SOUND SIGNALS AND
INTERACTIVE SERVICES
PART 5: HEADEND EQUIPMENT**

National Standards
Authority of Ireland
Dublin 9
Ireland

Tel: (01) 807 3800
Fax: (01) 807 3838

*This Irish Standard was
published under the authority
of the National Standards
Authority of Ireland
and comes into effect on:*

June 15, 2001

**NO COPYING WITHOUT NSAI
PERMISSION EXCEPT AS
PERMITTED BY COPYRIGHT
LAW**

© NSAI 2001

Price Code P

Údarás um Chaighdeán Náisiúnta na hÉireann

EUROPEAN STANDARD

EN 50083-5

NORME EUROPÉENNE

EUROPÄISCHE NORM

March 2001

ICS 33.060.40

Supersedes EN 50083-5:1994

English version

**Cable networks for television signals, sound signals and
interactive services
Part 5: Headend equipment**

Réseaux de distribution par câbles
pour signaux de télévision, signaux
de radiodiffusion sonore et services
interactifs
Partie 5: Matériels de tête de réseau

Kabelnetze für Fernsehsignale,
Tonsignale und interaktive Dienste
Teil 5: Geräte für Kopfstellen

This European Standard was approved by CENELEC on 1998-01-01. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CENELEC member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the Central Secretariat has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

CENELEC

European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

Central Secretariat: rue de Stassart 35, B - 1050 Brussels

Foreword

This European Standard was prepared by CENELEC Technical Committee TC 209, "Cable networks for television signals, sound signals and interactive services" on the basis of EN 50083-5:1994 and the first amendment to EN 50083-5.

The text of this first amendment was submitted to the Unique Acceptance Procedure and was approved by CENELEC on 1998-01-01 with the request to prepare a second edition of EN 50083-5, by incorporating this amendment into the European Standard EN 50083-5:1994.

The following dates were fixed:

- latest date by which the EN has to be implemented
at national level by publication of an identical
national standard or by endorsement (dop) 2001-10-01
- latest date by which the national standards conflicting
with the EN have to be withdrawn (dow) 2001-10-01

Annexes designated "normative" are part of the body of the standard.

Annexes designated "informative" are given for information only.

In this standard, annexes A, B and D are normative and annexes C and E are informative.

Contents

	Page
1 Scope.....	4
1.1 General.....	4
1.2 Specific scope of this part 5.....	4
2 Normative references	7
3 Terms, definitions, symbols and abbreviations	8
3.1 Terms and definitions.....	8
3.2 Symbols.....	11
3.3 Abbreviation.....	12
4 Methods of measurement.....	13
4.1 Single-channel intermodulation	13
4.2 Three-carrier intermodulation measurement	14
4.3 Two carrier intermodulation measurements for second and third order products.....	15
4.4 Carrier-to-spurious signal ratio at the output	16
4.5 Television carrier-to-noise ratio	18
4.6 Differential gain and phase for PAL/SECAM signals.....	22
4.7 Group delay variation	26
4.8 2T-pulse response, K-factor.....	27
4.9 Chrominance-luminance delay inequalities (20T-pulse method)	28
4.10 Luminance non-linearity	30
4.11 Intermodulation distortion (FM stereo radio).....	30
4.12 Decoding margin (Teletext).....	31
4.13 Hum modulation of carrier.....	33
5 Performance requirements and recommendations.....	36
5.1 Safety	36
5.2 Electromagnetic compability	36
5.3 Environmental.....	36
5.4 Marking.....	36
5.5 Mean time operation between failure (MTBF)	37
6 Signal requirements	37
6.1 Indoor units	37
6.2 Outdoor units	40
7 Data publication requirements.....	40
7.1 General.....	40
7.2 Indoor units - TV (AM and FM).....	41
7.3 Indoor units - FM radio.....	45
7.4 Outdoor units	46
 Annex A (normative)	
Definition of the specified test frequency range for return loss and noise figure	48
Annex B (normative)	
Audio connector	49
Annex C (informative)	
Selectivity diagram for adjacent channel transmission	50
Annex D (normative)	
Special national conditions	54
Annex E (informative)	
Measurement errors which occur due to mismatched equipment....	55

1 Scope

1.1 General

Standards of EN 50083 series deal with cable networks for television signals, sound signals and interactive services including equipment, systems and installations

- for headend reception, processing and distribution of television and sound signals and their associated data signals and
- for processing, interfacing and transmitting all kinds of signals for interactive services

using all applicable transmission media.

All kinds of networks like

- CATV-networks,
- MATV-networks and SMATV-networks,
- Individual receiving networks

and all kinds of equipment, systems and installations installed in such networks, are within this scope.

The extent of this standardization work is from the antennas, special signal source inputs to the headend or other interface points to the network up to the system outlet or the terminal input, where no system outlet exists.

The standardization of any user terminals (i.e. tuners, receivers, decoders, multimedia terminals etc.) as well as of any coaxial and optical cables and accessories therefor is excluded.

1.2 Specific scope of this part 5

This standard defines the characteristics of equipment used in the headends of terrestrial broadcast and satellite receiving systems (without satellite outdoor units and without those broadband amplifiers in the headend as described in EN 50083-3). The satellite outdoor units for FSS are described in standard ETS 300 158, for BSS in standard ETS 300 249. Test methods for both types (FSS and BSS) of satellite outdoor units are laid down in ETS 300 457.

This standard

- covers the frequency range 5 MHz to 3000 MHz;
- identifies performance requirements for certain parameters;
- lays down data publication requirements for certain parameters;
- stipulates methods of measurements;
- introduces minimum requirements defining quality grades (Q-grades).

As far as possible this standard only deals with the interfaces between headend equipment and only explains the function of the equipment if this is necessary to support the description of the interfaces.

Coder, transcoder, encrypter, decrypter etc. are not described in this standard. If such equipment are used in headends, the relevant parameters for RF, video, audio and data interfaces have to be met.

According to the definitions in clause 3 the headends are divided into the following three quality grades:

Grade 1: local headend / remote headend

Grade 2: hub headend

Grade 3: MATV headend / individual reception headend

This is a free preview. Purchase the entire publication at the link below:

[Product Page](#)

-
- Looking for additional Standards? Visit Intertek Inform Infostore
 - Learn about LexConnect, All Jurisdictions, Standards referenced in Australian legislation
-