



## **Utrustning för informationsbehandling – Immunitet mot elektromagnetiska störningar – Gränsvärden och mätmetoder**

*Information technology equipment –*

*Immunity characteristics –*

*Limits and methods of measurement*

Som svensk standard gäller europastandarden EN 55024:1998. Den svenska standarden innehåller den officiella engelska språkversionen av EN 55024:1998.

### **Nationellt förord**

Europastandarden EN 55024:1998

består av:

- **europastandardens ikraftsättningsdokument**, utarbetat inom CENELEC
- **CISPR 24, First edition, 1997 - Information technology equipment - Immunity characteristics - Limits and methods of measurement**

utarbetad inom International Electrotechnical Commission, IEC.



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ICS 33.100

Descriptors: Data processing equipment, telecommunication terminals, facsimile equipment, photocopying machines, printers, cash registers, vending machines, local area networks, electromagnetic immunity, radio disturbances, electrostatic discharge tests, characteristics, measurements, limits

English version

**Information technology equipment - Immunity characteristics  
Limits and methods of measurement  
(CISPR 24:1997, modified)**

Appareils de traitement de l'information  
Caractéristiques d'immunité  
Limites et méthodes de mesure  
(CISPR 24:1997, modifiée)

Einrichtungen der Informationstechnik  
Störfestigkeitseigenschaften  
Grenzwerte und Prüfverfahren  
(CISPR 24:1997, modifiziert)

This European Standard was approved by CENELEC on 1998-08-01. 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

The text of the International Standard CISPR 24:1997, prepared by CISPR SC G, Interference relating to information technology equipment, together with common modifications prepared by SC 210A, EMC Products, of Technical Committee CENELEC TC 210, EMC, was submitted to the Unique Acceptance Procedure and was approved by CENELEC as EN 55024 on 1998-08-01.

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) 1999-02-01
- latest date by which the national standards conflicting  
with the EN have to be withdrawn (dow) 2001-07-01

Annexes designated "normative" are part of the body of the standard.  
In this standard, annexes A, B, C, D, E, F, G and ZA are normative.  
Annex ZA has been added by CENELEC.

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## Annex ZA (normative)

### Normative references to international publications with their corresponding European publications

This European Standard 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 European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

NOTE: When an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60050(161)	1990	International Electrotechnical Vocabulary (IEV) - Chapter 161: Electromagnetic compatibility	-	-
IEC 60318	1970	An IEC artificial ear, of the wide band type, for the calibration of earphones used in audiometry	-	-
IEC 61000-4-2	1995	Electromagnetic compatibility (EMC) Part 4: Testing and measurement techniques -- Section 2: Electrostatic discharge immunity test	EN 61000-4-2	1995
IEC 61000-4-3 (mod)	1995	Section 3: Radiated, radio-frequency, electromagnetic field immunity test	EN 61000-4-3	1996
IEC 61000-4-4	1995	Section 4: Electrical fast transient/burst immunity test	EN 61000-4-4	1995
IEC 61000-4-5	1995	Section 5: Surge immunity test	EN 61000-4-5	1995
IEC 61000-4-6	1996	Section 6: Immunity to conducted disturbances, induced by radio-frequency fields	EN 61000-4-6	1996
IEC 61000-4-8	1993	Section 8: Power frequency magnetic field immunity test	EN 61000-4-8	1993
IEC 61000-4-11	1994	Section 11: Voltage dips, short interruptions and voltage variations immunity tests	EN 61000-4-11	1994
CISPR 22 (mod)	1997	Information technology equipment - Radio disturbance characteristics - Limits and methods of measurement	EN 55022	1998
ISO 9241-3	1992	Ergonomic requirements for office work with visual display terminals (VDTs) Part 3: Visual display requirements	-	-

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
ITU-T Recommendation I.241.1		Telephony	-	-
ITU-T Recommendation I.411		Integrated service digital network (ISDN) - User network interfaces	-	-

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## INFORMATION TECHNOLOGY EQUIPMENT – IMMUNITY CHARACTERISTICS – LIMITS AND METHODS OF MEASUREMENT

### 1 Scope and object

This CISPR publication applies to information technology equipment (ITE) as defined in CISPR 22.

Procedures are defined for the measurement of ITE and limits are specified which are developed for ITE and within the frequency range from 0 Hz to 400 GHz.

The object of this publication is to establish requirements which will provide an adequate level of intrinsic immunity so that the equipment will operate as intended in its environment.

For exceptional environmental conditions, special mitigation measures may be required.

Owing to testing and performance assessment considerations, some tests are specified in defined frequency bands or at selected frequencies. Equipment which fulfils the requirements at these frequencies is deemed to fulfil the requirements in the entire frequency range from 0 Hz to 400 GHz for electromagnetic phenomena.

The object of this publication is to define the immunity test requirements for equipment defined in the scope in relation to continuous and transient, conducted and radiated disturbances, including electrostatic discharges (ESD).

The test requirements are specified for each port considered.

#### NOTES

1 Safety considerations are not covered in this publication.

2 In special cases, situations will arise where the level of disturbance may exceed the levels specified in this publication, for example where a hand-held transmitter is used in proximity to an equipment. In these instances special mitigation measures may have to be employed.

### 2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this International Standard. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the publication referred to applies. Members of ISO and IEC maintain registers of currently valid International Standards.

IEC 60050(161): 1990, *International Electrotechnical Vocabulary (IEV) – Chapter 161: Electromagnetic compatibility*

IEC 60318: 1970, *An IEC artificial ear, of the wideband type, for the calibration of earphones used in audiometry*



IEC 61000-4-2: 1995, *Electromagnetic compatibility (EMC) – Part 4: Testing and measurement techniques – Section 2: Electrostatic discharge immunity test – Basic EMC Publication*

IEC 61000-4-3: 1995, *Electromagnetic compatibility (EMC) – Part 4: Testing and measurement techniques – Section 3: Radiated, radio-frequency, electromagnetic field immunity test – Basic EMC Publication*

IEC 61000-4-4: 1995, *Electromagnetic compatibility (EMC) – Part 4: Testing and measurement techniques – Section 4: Electrical fast transient/burst immunity test – Basic EMC Publication*

IEC 61000-4-5: 1995, *Electromagnetic compatibility (EMC) – Part 4: Testing and measurement techniques – Section 5: Surge immunity tests – Basic EMC Standard*

IEC 61000-4-6: 1996, *Electromagnetic compatibility (EMC) – Part 4: Testing and measurement techniques – Section 6: Immunity to conducted disturbances, induced by radio-frequency fields*

IEC 61000-4-8: 1993, *Electromagnetic compatibility (EMC) – Part 4: Testing and measurement techniques – Section 8: Power frequency magnetic field immunity test*

IEC 61000-4-11: 1994, *Electromagnetic compatibility (EMC) – Part 4: Testing and measurement techniques – Section 11: Voltage dips, short interruptions and voltage variations immunity tests*

CISPR 22: 1997, *Information technology equipment – Radio disturbance characteristics – Limits and methods of measurement*

ISO 9241-3: 1992, *Ergonomic requirements for office work with visual display terminals (VDTs) – Part 3: Visual display requirements*

ITU-T Recommendation I.241.1: *Telephony*

ITU-T Recommendation I.411: *Integrated service digital network (ISDN) user network interfaces*

ITU-T Recommendation K.15: *Protection of high capacity transmission systems against overvoltages and HF-disturbances*

ITU-T Recommendation K.17: *Tests on power fed repeaters using solid state devices in order to check the arrangements for protection from external interferences*

ITU-T Recommendation K.20: *Resistibility of telecommunication switching equipment to overvoltages and overcurrents*

ITU-T Recommendation K.21: *Resistibility of subscribers' terminals to overvoltages and overcurrents*

ITU-T Recommendation K.22: *Overvoltage resistibility of equipment connected to an ISDN T/S bus*, Blue Book, Volume IX, November 1988

