

**Electromagnetic compatibility -
Product family standard for audio, video, audio-visual and entertainment
lighting control apparatus for professional use -
Part 2: Immunity**

Compatibilité électromagnétique -
Norme de famille de produits pour les
appareils à usage professionnel audio,
vidéo, audiovisuels et de commande de
lumière pour spectacles -
Partie 2: Immunité

Elektromagnetische Verträglichkeit -
Produktfamilienorm für Audio-, Video-
und audiovisuelle Einrichtungen sowie für
Studio-Lichtsteuereinrichtungen für
professionellen Einsatz -
Teil 2: Störfestigkeit

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CENELEC

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

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Foreword

This Interpretation Sheet to the European Standard EN 55103-2:2009 was prepared by the Interpretation Panel of the CLC/TC 210, "Electromagnetic compatibility (EMC)".

Text of IS1 to EN 55103-2:2009

The enquiry refers to the Note to B.1 in the 2009 edition. The interpretation is also valid for the Note to B.1.2 of the 1996 edition

The relevant text of the 2009 edition is:

Annex B (normativ) - **Methods of measurement of common mode immunity for balanced signal and control ports intended to be connected to cables whose total length according to the manufacturer's specification may exceed 10 m; 50 Hz to 10 kHz**

B.1 Introduction

This annex defines two test methods required to test the low frequency common mode immunity performance of various types of balanced signal and control ports. The purpose of these test methods is to measure the immunity to specific test signals, not to measure the common mode rejection ratio which is specified in functional standards, for example, EN 60268. In configuration 1, capacitive coupling of an interfering signal is simulated, whilst in configuration 2, magnetic coupling is employed.

The types of signal and control ports are defined as follows:

- BP 1** Balanced audio input ports excluding those intended for direct connection to PSTN or similar lines.
- BP 2** Simple balanced control ports (for example switch position detectors).
- BP 3** Balanced video, data input or control ports (for example RS 422 or RS 485) excluding those intended to be directly connected to PSTN or similar lines.
- BP 4** Balanced input ports intended for direct connection to PSTN or similar lines.

NOTE This annex does not define a test method for ports categorised as BP4. Reference should be made to the appropriate ETSI or CENELEC standard.

Question:

When the Note was included in the 1996 edition, the work in ETSI was not completed, so no specific reference could be made. The wording carried over into the 2009 edition was not challenged by any National Committee at the enquiry stage.

Please provide clarification of the Note.

Interpretation:

Further information is now available. ETSI chose to make a recommendation (EG 201 188) on this subject, rather than a standard, but it is permitted for an EN to make a normative reference to an EG if there is no reasonable alternative.

Subclause 9.2 of ETSI EG 201 188 specifies the LCL (Longitudinal Conversion Loss):

9.2 Balance about earth

The balance about earth at the NTP (Network Termination Point), measured as Longitudinal Conversion Loss, should not be less than the values given in Table 4 (the higher value applies at the transition frequency):

Table 4- Balance about earth requirements

Frequency [Hz]	Requirement [dB]
50	40
200 -600	40
600-3 800	46

NOTE 1 It is recognized that this requirement may be difficult to measure at the NTP. It should be interpreted as a design target for the equipment delivering the NTP (where it can be measured), and also in the choice of cable (the copper pairs of the cable should have a sufficiently high balance).

NOTE 2 These values are taken from ITU-T Recommendation Q.552, except that the frequency range has been extended to accommodate voice band data applications.

ITU-T Recommendation Q.552 defines the method of measurement, which is suitable for the extended frequency range specified in the EG.

Validity:

This interpretation remains valid until an amendment or updated standard dealing with this issue is published by CENELEC.