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

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Foreword

This ETSI Technical Report (ETR) has been produced by the Equipment Engineering (EE) Technical Committee of the European Telecommunications Standards Institute (ETSI).

ETRs are informative documents resulting from ETSI studies which are not appropriate for European Telecommunication Standard (ETS) or Interim European Telecommunication Standard (I-ETS) status.

This ETR sets out a common basis for test and disconnection connectors and rack/cabinet alarm display colours, it is based on previous work contained in CEPT T/L 02-05 [1].

An illustrative figure of interconnect definitions is given in Clause 6.

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1 Scope

This ETSI Technical Report (ETR) applies to all telecommunication equipment forming part of a public telecommunication network installed either on public telecommunication operators' sites, or in the premises of operators' customers.

The aim of this ETR is to facilitate the operation and maintenance of equipment obtained from various sources by:

- limiting the variety of coaxial and non-coaxial connectors for test and disconnection points;
- specifying the colours used for the display of rack/cabinet alarms.

2 References

For the purposes of this ETR, the following references apply:

- [1] CEPT T/L 02-05 (Cannes 1983, révisée à Nice 1985 et à Copenhague 1987): "Connecteurs pour points de mesure et de coupure, Affichage d'alarmes".
- [2] CECC 22230: "Sectional specification: Radio frequency coaxial connectors. Series 1, 0/2, 3".
- [3] CECC 22240: "Sectional specification: Radio frequency coaxial connectors. Series 1, 6/5, 6".
- [4] EN 122 300: "Sectional specification: Radio frequency coaxial connectors - Series SMZ" (to become CECC 22300).
- [5] IEC 73 and IEC 73 Amd 1: "Coding of indicating devices and actuators by colours and supplementary means".
- [6] IEC 130-12: "Connectors for frequencies below 3 MHz. Part 12: Link and test connectors".
- [7] IEC 169-4: "Radio-frequency connectors. Part 4: R.F. coaxial connectors with inner diameter of outer conductor 16 mm (0.63 in) with screw lock. Characteristic impedance 50 ohms (Type 7-16)".
- [8] IEC 169-15: "Radio-frequency connectors. Part 15: R.F. coaxial connectors with inner diameter of outer conductor 4.13 mm (0.163 in) with screw coupling - Characteristic impedance 50 ohms (Type SMA)".
- [9] IEC 169-16: "Radio-frequency connectors. Part 16: R.F. coaxial connectors with inner diameter of outer conductor 7 mm (0.276 in) with screw coupling - Characteristic impedance 50 ohms (75 ohms) (Type N)".
- [10] IEC 807-2: "Rectangular connectors for frequencies below 3 MHz. Part 2: Detail specification for a range of connectors with round contacts. Fixed solder types".

3 Definitions and abbreviations

3.1 Definitions

For the purposes of this ETR, the following definitions apply:

Test or monitor point connector: a connector for accessing the system without interrupting the flow of traffic signals. Typically the test or monitor point connector has good physical accessibility.

Disconnection point connector: this connector provides a means of interrupting traffic signals for maintenance purposes (e.g. U-link, jack plug or socket).

NOTE: These definitions are represented in figure 1.

3.2 Abbreviations

For the purposes of this ETR, the following abbreviation applies:

RF Radio Frequency

4 Connector types

4.1 Radio Frequency (RF) coaxial connectors for test and disconnection points

Connectors should be chosen from the following, with the female connector mounted on the equipment:

- 1, 0/2, 3 mm connector as specified in CECC 22230 [2];
- 1, 6/5, 6 mm connector as specified in CECC 22240 [3];
- RF coaxial connector series SMZ as specified in EN 122 300 [4].

The RF coaxial connectors specified in IEC 169-15 [8], IEC 169-16 [9], IEC 169-4 [7], referred to as type SMA, type N and type 7-16 connectors, are used as test points and disconnection points for radio relay transmission systems and mobile radio systems.

4.2 Non-coaxial connectors for test and disconnection points

Connectors should be chosen from the following:

- two, three, four and six way connectors according to IEC 130-12 [6], with the female connector mounted on the equipment;
- connectors specified in IEC 807-2 [10] referred to as D sub connectors.

5 Colour of rack/cabinet alarm displays

The trend on equipment is towards remote network management and the elimination of alarms at equipment level.

Where alarms are used, a general approach has been defined as far as the choice and use of colours for lights is concerned, based on levels of maintenance dependent on alarm classification.

The colours red, yellow and green should be used as follows:

- a red light is an alarm indicating the need or potential need for urgent action. In the latter case, the decision can be left up to the maintenance personnel;
- yellow is used for other types of alarm, and also for alarm memory (i.e. a reminder that work is still being carried out on the equipment which triggered the alarm);
- in normal operation, all the lights are off. In exceptional cases a green light is used to indicate the equipment is operational.

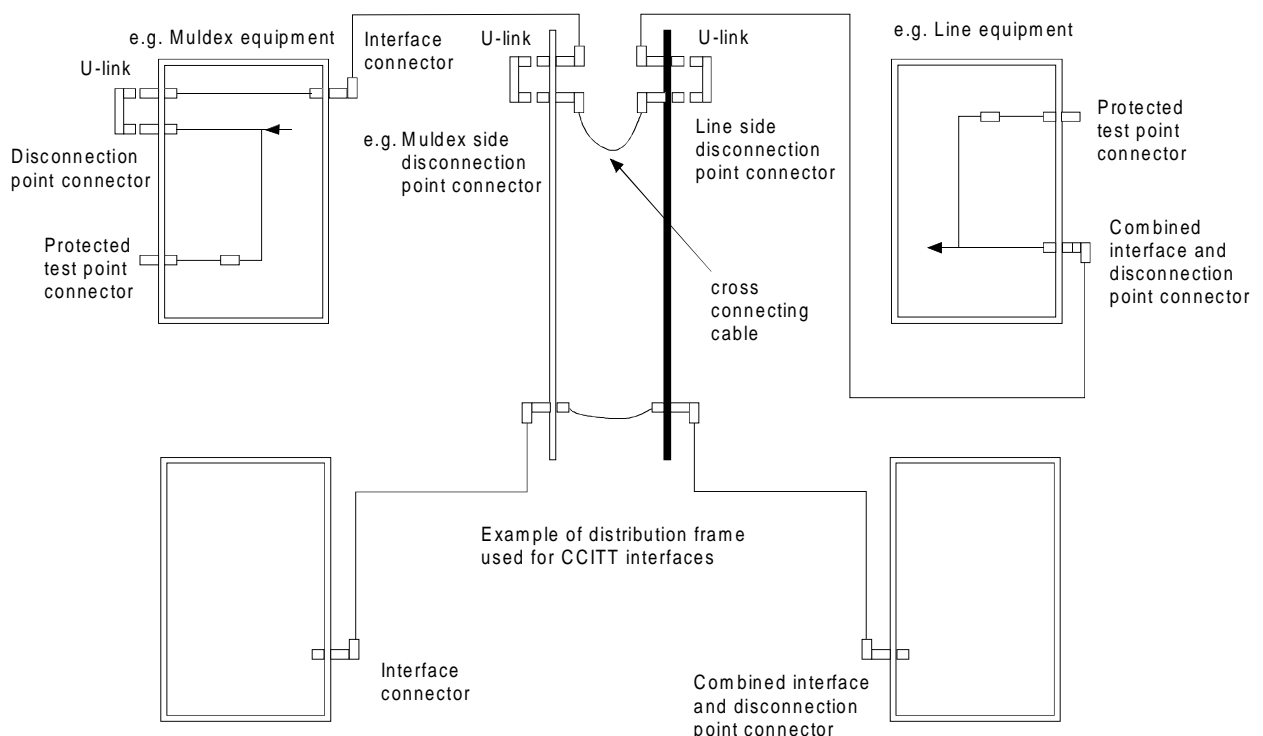
Other colours may be used for special purposes. In this case, reference should be made to IEC 73 [5].

The rack/cabinet lights should be sufficiently large, in particular they should be noticeably larger and more visible than the lamps fitted to the equipment casing or plug-in units themselves.

It is not currently considered necessary to recommend the shape, size and position of these lights.

As a general rule, flashing lights should not be used for rack/cabinet alarm displays.

6 Illustrative figure



NOTE: This figure shows interconnect principles and does not infer front or rear access.

Figure 1: Interconnect definitions

History

Document history	
October 1994	First Edition
February 1996	Converted into Adobe Acrobat Portable Document Format (PDF)