

ATAAB ADVISORY NOTE

TRAC Analogue Type Approval Advisory Board

ATAAB Advisory Note Number: AN 06

Subject: Adding a second test-point to the test of the resistance to earth.

APPLICABILITY

This note is applicable for Terminal Equipment intended for connection to the German, Greek, Portuguese and Spanish Public Switched Telephone Networks, in addition to:

" CTR 21" (When published)

NOTE: Until CTR 21 is available, reference should be made to ETSI document prTBR 21 (Sept 1997) or, when it is available, to TBR 21.

Appendix to this Advisory Note:

A: Additional requirements and tests for attachment to the PSTN in Germany, Greece and Portugal.

In consideration of the following:

- One wire of the line in the network is connected to earth at the switch. The resistance to earth of the other wire is therefore the resistance between the two wires.
- The ringing signal is up to 63 VDC plus up to 75 VAC.
- A resistance of less than 100 k Ω can cause ring tripping.
- Ring tripping can occur, when the resistance to earth is less than 100 k Ω .
- For correct inter-working between the TE and the PSTN in the Germany, Greece and Portugal, the resistance to Earth at 150 V has to be more than 100 k Ω

ATAAB advises the following:

To the test of the resistance to earth, there shall be added a new test-point.

To ensure inter-working with the Public Switched Telephone Network in Germany, Greece and Portugal, the TE shall, in addition to the requirements of CTR 21, comply with the requirements found in Appendix A of this Advisory Note.

It is the responsibility of the supplier to provide information for users as to whether the Terminal Equipment complies with the additional requirements for the Public Switched Telephone Network specified in this Advisory Note for Germany, Greece and Portugal.

Appendix A also specifies the method to assess compliance with the additional requirement, including reference to the additional tests to be performed to dynamically assess compliance with the additional requirements.

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Appendix A

to

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A.1 INTRODUCTION

Terminal equipment approved to CTR 21 may not inter-work properly with the Public Switched Telephone Network in Germany, Greece and Portugal.

This Appendix specifies requirements to which a TE shall comply, in addition to the requirements of CTR 21 in order to ensure inter-working with the Public Switched Telephone Network in Germany, Greece and Portugal. It also specifies the method to assess compliance with these additional requirements, including reference to additional tests to be performed to dynamically assess compliance with the additional requirements.

A.2 NORMATIVE REFERENCES

[1] CTR 21; Terminal Equipment (TE). Attachment requirements for pan-European approval for connection to the analogue Public Switched Telephone Networks (PSTNs) of TE (excluding TE supporting the voice Telephony Service) in which network addressing, if provided, is by means of Dual Tone Multi-Frequency (DTMF) signalling.

NOTE: This document makes reference to CTR 21. Until CTR 21 is available, reference should be made to the base ETSI documents prTBR 21 (Sept 1997) or, when it is available, to TBR 21.

A.3 REQUIREMENTS and ASSOCIATED TESTS

NOTE: The following requirements are in addition to the requirements of CTR 21 Clause 4.4.4 and the associated tests in Clause A.4.4.4. The changes introduced by this Advisory Note extend the resistance-to-earth-testing to a second test-point at 150 V DC (Value ≥ 100 k Ω).

A.3.1 Resistance to earth (Requirement - Based on CTR 21: Clause 4.4.4)

Justification: 91/263/EEC, Article 4(f); Interworking with the PSTN is assured by requiring the TE to present a sufficiently high DC resistance to earth in the quiescent state to prevent the malfunction of network call control equipment. The PSTN in Germany, Greece and Portugal may not be capable of accepting a resistance to earth less than 100 k Ω at 150 V DC.

Requirement: Where the supplier's instructions state that a connection to earth is intended, the DC resistance between earth and each line terminal of the TE in quiescent states shall be not less than 10 MW when tested at 100 V DC and not less than 100 k Ω when tested at 150 V DC.

Test: The test shall be conducted according to A.3.2

A.3.2 Resistance to earth (Test - based on CTR 21: Clause A.4.4.4)

Requirement: Subclause A.3.1

Purpose: To avoid a resistance to earth less than 10 MW at 100 V DC and less than 100 k Ω at 150 V DC.

Measurement principle:

Preamble: Set the TE in quiescent state.

Test state: Quiescent state.

Test configuration:

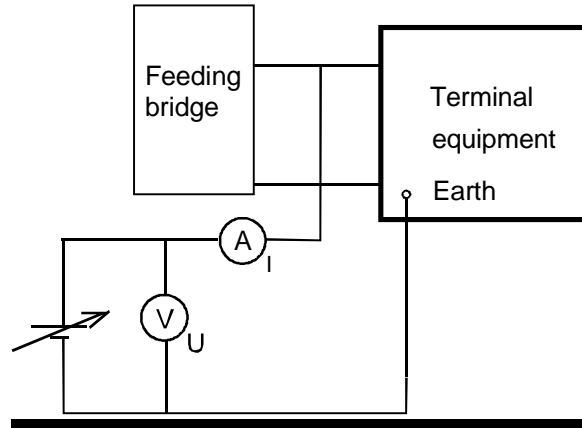


Figure A.7

DC feeding arrangement: Feed voltage: 50 V. Feed resistance: 230 Ω.

Measurement points: U = 100 V DC.
 U = 150 V DC.

Measurement execution:

Apply test voltage U between one of the line terminals and the earth connection point or points specified by the supplier's instructions for at least 30 s before measuring current I. The test shall be carried out both line terminals and for both polarities of the applied test voltages and applied feeding voltage.

Formal processing: Resistance to earth (R) = U / I.

Verdict: If R is greater than or equal to 10 MΩ at U = 100 V DC and if R is greater than or equal to 100 kΩ at U = 150 V DC then Pass; else Fail.

Guidance: None.

A.3.3 Requirements Table (CTR-RT)

The requirements table of CTR 21, Annex B is still applicable.