

# ATAAB ADVISORY NOTE

## TRAC Analogue Type Approval Advisory Board

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ATAAB Advisory Note Number: AN07rev001

Date: 1998-02-27

**Subject:** Requirement regarding the Liberation of loop condition by the TE in the event of power failure.

### APPLICABILITY

This note is applicable for Terminal Equipment intended for connection to the German, Norwegian, 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 TBR 21.

#### Appendices to this Advisory Note:

A: Additional requirements and tests for attachment to the German, Norwegian, Portuguese and Spanish PSTN

**In consideration of the following:**

- TE with external power supply, either in quiescent or loop state, might not be able to continue operation when that power supply is interrupted, or is out of its guaranteed limits.
  
- If the external power supply is interrupted or is out of its guaranteed limits, and the TE is in quiescent state, it should not initiate any function which is not able to terminate correctly with the external power supply interrupted.
  
- If the external power supply is interrupted or is out of its guaranteed limits, and the TE is in loop state, it should revert to quiescent state.
  
- If the TE is not able to revert to quiescent state in the presence of power failure, it might cause unjustified billing and/or unnecessary occupation of network resources.

**ATAAB advises the following:**

When in quiescent condition, Terminal Equipment connected to the Spanish, Portuguese, German and Norwegian PSTN and powered by external power supply (power supplies other than the PSTN itself), shall not initiate any function that is not able to terminate correctly with the power supply interrupted.

When in loop condition, Terminal Equipment connected to the Spanish and Norwegian PSTN and powered by external power supply (power supplies other than the PSTN itself), shall be able to revert to quiescent condition if that power supply is interrupted or is outside the limits necessary to permit the Terminal Equipment to continue to be compliant with CTR21.

TE approved to CTR 21 and intended for connection to the Spanish Portuguese, Norwegian and German Public Switched Telephone Network, shall, in addition to the requirements of CTR21, comply with the requirements found in Appendix A to 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 Spanish Portuguese, Norwegian and German Public Switched Telephone Network specified in this Advisory Note.

Appendix A also specifies the tests to assess compliance with this additional requirement.

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### Annex A (Normative)

to

ATAAB Advisory Note Number: AN07rev001

**Date:** 1997-02-27

**Subject:** Requirement regarding the Liberation of loop condition by the TE in the event of power failure

## A.1 INTRODUCTION

In the event of power failure, Terminal Equipment, approved to CTR21, requiring power from a supply other than the PSTN, may not work properly when connected to the German, Norwegian, Portuguese and Spanish Public Switched Telephone Network and in quiescent condition shall not initiate any function, which is not able to terminate correctly with its power supply interrupted.

In the event of power failure, Terminal Equipment, approved to CTR21, requiring power from a supply other than the PSTN, may not work properly when connected to the German, Norwegian, Portuguese and Spanish Public Switched Telephone Network and TE in loop condition shall be able to revert to quiescent condition when the power supply is outside the limits necessary to permit the Terminal Equipment to remain compliant with CTR21.

This Appendix specifies requirements to which a TE shall comply, in addition to the requirements of CTR 21 to demonstrate that the TE reverts to quiescent condition in the event of power failure.

It also specifies the method to assess compliance with these additional requirements.

## A.2 NORMATIVE REFERENCES

- [1] CTR21: 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 CTR21. Until CTR 21 is available, reference should be made to TBR21.

## A.3 REQUIREMENTS AND ASSOCIATED TESTS

NOTE: The following requirements are in addition to the requirements of CTR 21 Clause 4.9 and its' associated tests in A.4.9.

### A.3.1 Liberation of Loop condition by the TE in the event of power failure (Requirement)

This requirement applies to TE that requires power from supplies other than the PSTN in order to interwork with the PSTN.

**Justification:** 91/263/EEC, Article 4(f); Interworking with the PSTN is assured by requiring a TE that is unable to continue to comply with TBR 21 in the event of power failure to revert to the quiescent condition, thus avoiding unnecessary billing and occupation of network resources.

**Requirement:** A TE with external power supply shall revert to quiescent condition whenever that external power supply is interrupted or is outside the limits necessary to permit the Terminal Equipment to continue to be compliant with CTR21, within a time interval of 30s from the power interruption. Compliance shall be checked by the tests outlined in section A.3.2

### A.3.2 Liberation of Loop condition by the TE in the event of power failure (Test)

**Requirement: A.3.1**

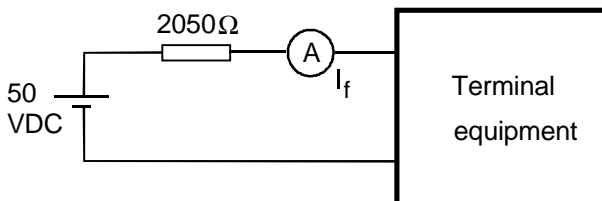
**Purpose:** To verify that the TE, that has external power supply, reverts to its quiescent condition whenever that external power supply is interrupted or is outside the limits necessary to permit the Terminal Equipment to continue to be compliant with CTR21.

**Measurement principle:**

**Preamble:** Set the TE in loop state and make sure that the TE is powered with its external power supply according to the instructions manual.

**Test state:** Loop state

**Test configuration:**



**Figure A.3.1: Change to quiescent condition in the event of power failure**

**DC feeding arrangements:** Feed voltage = 50 V. Feed resistance: 2 050 Ω.

**Measurement points:** Loss of power supply in loop condition

**Measurement execution:** Set the TE in its loop condition and power it with the external power supply in accordance with the instructions for use. After the TE has been in loop condition for 2s, disable the external power supply and then check:

a) whether the TE has reverted to its quiescent state, according to requirement 4.9, by monitoring the DC current up to 30s after the power supply has been interrupted

or

b) whether the TE still continues operation, remaining in loop condition, by monitoring the DC current up to the minimum time necessary to achieve the function being performed by the TE at the moment of the power interruption, in accordance with the instructions for use.

**Formal processing:** None

**Verdict:** If the TE changes to its quiescent state according to requirement 4.9 within a time interval of 30s from the power interruption, or the TE keeps its loop state for the minimum time necessary to achieve the function that is performed at the moment of the interruption, according to the instructions for use, then Pass; else Fail.

**Guidance:** If the TE comes with a separate power adaptor, interrupt the power at the mains.

If the TE has a user battery, then remove the battery.

If the TE is capable of different kinds of operation, this test should be performed with the most power-consuming operation.