



ATIS-060026.2010(S2020)

Network End POTS Splitter Requirements

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American National Standard for Telecommunications

NETWORK END POTS SPLITTER REQUIREMENTS

Alliance for Telecommunications Industry Solutions

Approved May 11, 2010

American National Standards Institute, Inc.

Abstract

This Standard is for Network Equipment Facility Splitters. These splitters are used by service providers to protect voice-grade services when high-speed digital services (e.g., ADSL, ADSL2plus, VDSL, and VDSL2) are deployed on the same copper pair. The Network End POTS Splitter is used on the network side of the local loop. This document describes the electrical characteristics of the network end POTS splitters that function to sufficiently reduce the DSL signal impact on the line card, and permit legacy plain ordinary telephone service (POTS) communication. These requirements support several types of DSL signal transmission. Also included in this standard are descriptions of test methods to ascertain compliance and minimize ambiguity of the intent of these requirements.

FOREWORD

The information contained in this Foreword is not part of this American National Standard (ANS) and has not been processed in accordance with ANSI's requirements for an ANS. As such, this Foreword may contain material that has not been subjected to public review or a consensus process. In addition, it does not contain requirements necessary for conformance to the Standard.

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ANSI guidelines specify two categories of requirements: mandatory and recommendation. The mandatory requirements are designated by the word *shall* and recommendations by the word *should*. Where both a mandatory requirement and a recommendation are specified for the same criterion, the recommendation represents a goal currently identifiable as having distinct compatibility or performance advantages.

Suggestions for improvement of this document are welcome. They should be sent to the Alliance for Telecommunications Industry Solutions, COAST/STEP t, 1200 G Street NW, Suite 500, Washington, DC 20005.

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American National Standard for Telecommunications –

Network End POTS Splitter Requirements

1 SCOPE, PURPOSE, & APPLICATION

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The physical environment of the device is not described in this document. In order to minimize product restrictions and maximize choice of equipment configurations, the physical attributes, safety issues and configurations are not specified. Service providers should specify these items in order to accommodate a variety of equipment configurations, installations, central office and remote terminal environments.

The network end POTS splitters defined in this document may be used to facilitate the deployment of various DSL technologies over a metallic facility that is also being used to provide POTS (plain ordinary telephone service) by means of the PSTN (public switched telephone network).

This technical requirement document specifies the electrical characteristics of several network equipment facility splitters. This document builds on ATIS-06000413.2009 [1] Annex E ITU-T G.992.3 [2] for ADSL2, ITU-T G.992.5 [3] for ADSL2plus, ITU-T G.993.2 [4] for VDSL2 and contributions from NIPP-NAI.

This document has been written to help ensure the proper interfacing and inter-working of DSL and the PSTN equipment at the central office.

1.1 Scope

This standard defines a minimal set of electrical requirements for a network end POTS splitter, often referred to as a central office (CO) POTS Splitter. The parameters defined include terminations, frequencies, testing, test signatures, dc characteristics, voice-band characteristics, attenuation, envelope delay distortion, impedance, longitudinal balance, and metallic balance. Additional features and performance characteristics may be included in a network end POTS splitter; however such features and performance characteristics are beyond the scope of this document.

1.2 Purpose

This standard is intended to facilitate the provisioning of various digital subscriber line (DSL) technologies and voice-band services over the same loop. The document is written broadly to permit the splitter to be used for current DSL technologies and potential new DSL technologies that use the same frequency spectra.

1.3 Other Considerations

Network systems apply various electrical signals to the subscriber loop for the purpose of network maintenance and alerting the customer of an incoming call. These signals vary considerably in amplitude and can reach values of ± 200 Vdc for maintenance functions and 276.2 volts peak for alerting signals. When these signals are applied to an access line that also has a Network End POTS