Requirement Object Index

Telcordia™ Technologies

Performance from Experience

Television Special Access and Local Channel Service - Transmission Parameter Limits and Interface Combinations

Telcordia Technologies Generic Requirements
GR-338-ILR
Issue 1A, July 1996

Comments Requested (See Preface)

An SAIC Company

Television Special Access and Local Channel Service - Transmission Parameter Limits and Interface Combinations

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If further information regarding technical content is required, please contact:

Roberta Rentko, Manager
DSL Loop Quality Service
Telcordia
331 Newman Springs Road, Room 2Z-417
Red Bank, New Jersey 07701-5699
1+ 732.758.4001 (phone)
1+ 732.758.4435 (fax)
rrentko@telcordia.com

For general information about this or any other Telcordia documents, please contact:

Telcordia Customer Service
8 Corporate Place, Room 3A-184
Piscataway, NJ 08854-4156
+1 800.521.2673 (USA and Canada)
+1 732.699.5800 (worldwide)
+1 732.336.2559 (FAX)
http://telecom-info.telcordia.com

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Preface

Comments and Issues List Report Mechanism

Telcordia encourages and welcomes nonproprietary comments on the content and presentation of GR material and will accept subscribers' comments throughout the life of the GR. Telcordia will review and respond directly to subscribers, and as appropriate, may periodically compile issues derived from such comments or from technology changes, along with status or proposed resolutions, and publish them in the form of a GR Issues List Report. Telcordia will respond to all comments, whether directly to the submitter or through the Issues List Report.

In the Telcordia view, not all comments submitted need become issues requiring subscriber/industry review, nor may they be germane or suitable to the Telcordia proposed generic requirements. The Issues List Report (ILR) is not intended to specifically identify comment submitters by name or company. It reflects a distillation and compilation of all appropriate comments that address specific technical issues having an impact on the requirements as originally presented in the GR, and, that in the Telcordia view, need further subscriber/industry review. The ILR may also contain suggested editorial or clarification changes or corrections.

The Issues List Report will automatically be provided to all subscribers of this GR. It is intended to be the means to convey information about the status of the technical requirements and to open dialog on any proposed changes before such changes are finalized. Subscribers are encouraged to comment after reviewing the Issues List Report. When appropriate, significant changes or additional material may also be released as Revisions to the GR-CORE. The initial or baseline GR-CORE, the most current Issues List Report, and any published Revisions constitute the most up-to-date version of these proposed generic requirements. As necessary, the entire package may be reissued to incorporate all changes. Notification will be released in the Telcordia DIGEST announcing Issues List Reports, Revisions, or planned complete reissues.

Formatting Comments

To facilitate review of and response to your comments, Telcordia would appreciate your use of the following format:

A. Identify the GR #, Issue #, and Date.

B. Identify comments by citing the corresponding Section, Paragraph, Requirement, or Issue ID number(s) used in the GR or in the Issues List Report, and group comments within these headers:

    1. General/Overall Comments

    2. Major Business Issues/Concerns

1. Specific Technical Comments
2. Implementation Queries/Concerns
3. Administrative/Editorial Comments
4. Miscellaneous Comments.

C. Provide a contact person in your company for comment clarification.

Where and When to Submit Comments

While comments are welcome at any time, release of Issues List Reports or Revisions may depend upon either the extent and complexity of comments submitted and/or the Telcordia planned schedule for such releases.

Please send comments to:

Telcordia - GR-338-ILR
Daniel Wirth
Telcordia Technologies
3 Corporate Place, Room 2L-252
Piscataway, New Jersey 08854-4199
Phone: (732) 699-4066
Fax: (732) 336-6225
Email: dwirth@telcordia.com

1 Summary Report of Non-Closed Issues

Issue ID	Brief Description	Status	Last Modified
338-1	Removal of Active Device(s) reference from technical specifications. (p. 2-2)	Open	06/06/96
338-2	Proposed description of a Video Hub Service for TV1/TV2, to be added to Section 2.2 of GR-338-CORE. (p. 2-4)	Open	07/16/96

2 Full Report of Non-Closed Issues

This section provides a more detailed description of the current set of open issues related to the generic requirements described in GR-338-CORE for Television Special Access and Local Channel Services - Transmission Parameter Limits and Interface Combinations, that have been currently identified. These issues appear in ascending numerical order based on the issue ID.

The listing is not assumed to be complete and is expected to evolve over time as work on television transmission special access and local channel services progresses within the industry and its standards organizations. This document is intended to address television transmission and associated transport within the analog domain. As technological changes occur, new issues will be identified, current issues will be resolved, and additional criteria will be defined. The text associated with each issue assumes knowledge on the part of the reader of requirements for television transmission special access and local channel services, transmission parameter limits and interface combinations.

ISSUE ID: 338-1 **CREATION DATE:** 03/11/96

BRIEF: Removal of Active Device(s) reference from technical specifications.

STATUS: Open **LAST MODIFIED:** 06/06/96

AREAS OF IMPACT: The reference "Active Device(s)" should be removed from the technical specifications and the general statement in Section 4 of GR-338-CORE.

DESCRIPTION:

Television transmission parameter limits of System M - NTSC are unique to high quality analog television transport services, and should not be made less stringent by adding the term "Active Device(s)" in the technical specifications. The reference should be removed from the specifications of Section 4, along with the associated wording in the general statement. The document should simply revert back to the original wording of the (TR) specifications; TR-TSV-000338 (same title), August 1993. This decision is based on the precedent that television transport services TV1 and TV2 are unique to the high quality analog television transmission (System M-NTSC), and should be met unconditionally, when promised to a customer.

The original intent of placing the *Active Device(s)* statement into the GR was to consider examples of TV1 & TV2 service that could not be provided on a single point-to-point facility, less than 20 miles. However, it has been determined by the Video Services Project Team (VSPT)[1] that this is a design capability or planning issue that should be kept separate from the requirements of these unique services. TV1 & TV2 requirements should not be compromised, made conditional or less stringent as a result of inadequate facility arrangements or capabilities. If facilities are not available (geographically or otherwise) to meet TV1 & TV2 acceptable limits of service, then providing an alternate quality grade of video service is recommended, e.g., TV3 (see GR-2904-CORE for service description).

PROPOSAL(S):

The proposal is to remove the reference *Active Device(s)* from the technical specifications of Section 4 of GR-338-CORE.

IMPACT ON REQUIREMENTS:

Until further notice, route miles (actual analog facility miles) shall determine the acceptance limits of technical specifications of TV1 & TV2. The term *Active Device(s)* in the technical specifications of Section 4 shall be removed, to include associated charts, tables, and figures. Removing this term restores requirements to services that have been traditionally provided.

The General Statement under Section 4 (4.1) shall replace the existing paragraph (from TR-TSV-000338, August 1993) to read as follows:

1. The Video Services Project Team (VSPT) is a national advisory group to Telcordia. It is composed of funding representatives from the Regional Bell Operating Companies (RBOCs) and Affiliates, who shall determine the final disposition of open issues in this ILR, and GR-338-CORE.

The following specifications are presented to describe the Television Special Access and Local Channel Services, and associated audio channels, that may be offered by the LECs to the Interexchange carriers (ICs) or other customers. These services are wideband services suitable for one-way transmission of a standard 525-line/60-field, System M-NTSC video signal and associated audio signal(s) between customer premises. Note that the term "Route Miles" refers to actual analog facility miles, not billing miles.

RESOLUTION DATE:

September 25, 1996

RESPONSIBLE SME(S): Dan Wirth

DOCUMENT(S) IMPACTED:

GR-338-CORE (also proprietary document BR 318-015-125, managed separately from this ILR)

RELATED ISSUE(S):

ILR 338 Issue # 338-2: Video Hub Service.

ISSUE ID: 338-2 **CREATION DATE:** 05/18/96

BRIEF: Proposed description of a Video Hub Service for TV1/TV2, to be added to Section 2.2 of GR-338-CORE.

STATUS: Open **LAST MODIFIED:** 07/16/96

AREAS OF IMPACT: Bridging & Switching of TV1/TV2 Video Hub Services.

DESCRIPTION:

A "Video Hub Service" for TV1/TV2 provides bridging and switching (or patching) of one-way television transpory [point-to-point] originating or terminating at a telephone company (telco) location. A "hub" location is defined as a centralized connecting facility, e.g., a central office with a switch. In reference to video hub services for TV1/TV2, the telco *Video Hub* is also referred to as a Television Operating Center (TOC); where these services are usually terminated.

Interconnection of video hub services is accomplished by bridging or switching together receive and transmit circuits by a video routing switch; or by manual patching techniques. Multipoint bridging or switching functions are usually accessible through a video routing switch or distribution amplifier. See Section 3.2 for Network Channel (NC) option codes.

PROPOSAL(S):

Add the description of a video hub service for TV1/TV2, the impact on requirements, pointers to standards, and recommendations as shown - to Section 2.2 of GR-338-CORE.

IMPACT ON REQUIREMENTS:

The video transport service provider and end-user/customer should recognize that an analog video routing switch is an *active device*, interconnecting other active devices (transmit/receive equipment) where the video and associated audio signal may degrade to some degree. This is a result of power summation incidents that accumulate in the transmission path, when active devices are introduced to the circuit. This transmission phenomenon is called *degradation accumulation*, which can be mathematically calculated (see ANSI EIA/TIA standards reference below).

The following gives an example of how degradation accumulation occurs:

> The television signal on a receive TV1 Hub Service (segment 1) is demodulated to a baseband 0 TLP and assigned a port position ("Source") on the telco video hub switch. The transmit TVl Hub Service (segment 2) is also at a baseband 0 TLP and assigned a port position ("Destination") on the video switch. Each segment is said "to be in the switch" at the baseband 0 TLP [no/minimal insertion gain/loss, and each channel has been equalized as flat as possible]. On command, the video switch interconnects segments 1 & 2.
>
> In this example, when segments I & 2 are interconnected, degradation accumulation is summed into the transmission path of the overall signal. The active devices in this scenario include all electrically powered analog equipment

at the video hub location: the switching facility, the receiving equipment of segment 1, and the transmitting equipment of segment 2.

The recommended method for providing a video hub service for TV1/TV2 is to deploy each transmit or receive segment, as a self-standing service to a 0 TLP (Zero Test Level Point) at the video hub. Each segment shall individually meet its warranted performance objectives (TV1/TV2), as it is installed/turned-up. The performance of the cascade, via interconnection of multiple segments, is *not* explicitly warranted. If each potential cascade was warranted, the number of combinations (and test labor) increases rapidly. For example, a hub with ten input segments (of varying quality to various customers) having the potential to interconnect with ten output segments (of varying quality to various customers) results in 100 cascades that would need to be tested. By not warranting the cascades, only the 20 segments need to be acceptance tested, which is standard procedure with segment turnup (i.e., no additional labor in acceptance testing cascades, that may never be requested). If a switch is involved, its functionality (i.e., its ability to interconnect any input port to any output port) and interconnection quality are usually tested during installation of the switch. Cascade testing is typically accomplished during maintenance activities, upon customer complaint of gross degradation. However, individual hub services that are switched (or patched) on customer request, should be accepted by the customer prior to selling the service.

Where major media service events are anticipated, consultation with the customer on end-to-end service requests and switching arrangements is recommended.

For information and guidelines on allocation of degradation limits to video systems, see ANSI EIA/TIA Standard, *Electrical Performance for Television Transmission Systems,* RS 250C (Appendix, Supplemental Information, Section 3 & 4; and Section 5 of the standard) February, 1990; specifically, Section 4.1, Guidelines for Analog Systems, and Table 4, Rates of Degradation Accumulation of Analog Performance Parameters (video and audio).

RESOLUTION DATE:

September 25, 1996

RESPONSIBLE SME(S): Dan Wirth

DOCUMENT(S) IMPACTED:

GR-338-CORE. There are similar relationships to GR-2904-CORE and the Telcordia author/SME will be contacted.

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