Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
Access to Telecommunications Equipment and Services by Persons With Disabilities	)	Docket No. _____
	)	
	)	

PETITION FOR RULEMAKING BY THE TELECOMMUNICATIONS INDUSTRY ASSOCIATION

TELECOMMUNICATIONS INDUSTRY ASSOCIATION

Danielle Coffey
Vice President, Government Affairs

Mark Uncapher
Director, Regulatory and Government Affairs

Brian Scarpelli
Manager, Government Affairs

TELECOMMUNICATIONS INDUSTRY ASSOCIATION
10 G Street N.E.
Suite 550
Washington, D.C. 20002
(202) 346-3240

Its Attorneys

October 25, 2012

Table of Contents

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)
	)
Access to Telecommunications Equipment and Services by Persons With Disabilities	) Docket No. _____
	)
	)

PETITION FOR RULEMAKING BY THE TELECOMMUNICATIONS INDUSTRY ASSOCIATION

Pursuant to Section 1.401 of the Commission's rules,[1] the Telecommunications Industry Association ("TIA") urges the Federal Communications Commission ("Commission" or "FCC") to take an important step towards improving the access and experience of hard-of-hearing users of terminal equipment ("TE") by undertaking a rulemaking to update references in Part 68 of the Commission's rules to TIA standards which set hearing aid compatibility ("HAC") volume control requirements. As detailed below, given the benefits that hard-of-hearing consumers would experience and the increased regulatory certainty that would result, along with the Commission's related focus of late on increased access for disabled communities' access to emergency services, it is appropriate to act on our request as soon as possible.

[1] 47 C.F.R. § 1.401.

I. INTRODUCTION AND SUMMARY

TIA represents the global information and communications technology ("ICT") industry through standards development, advocacy, tradeshows, business opportunities, market intelligence and world-wide environmental regulatory analysis. Its hundreds of member companies manufacture or supply the products and services used in the provision of broadband and broadband-enabled applications. Since 1924, TIA has enhanced the business environment for broadband, mobile wireless, information technology, networks, cable, satellite and unified communications. TIA's standards committees create consensus-based voluntary standards for numerous facets of the ICT industry.

TIA's TR-41 Engineering Committee (User Premises Telecommunications Requirements)[2] develops voluntary standards for telecommunications TE and systems, specifically those used for voice services, integrated voice and data services, and Internet protocol ("IP") applications. Together with its three subcommittees and their working groups, the committee develops performance and interface criteria for equipment, systems and private networks, as well as the information necessary to ensure their proper interworking with each other, with public networks, with IP telephony infrastructures and with carrier-provided private-line services. In addition, TR-41 develops criteria for preventing harm to the telephone network, which becomes mandatory when adopted by the Administrative Council for Terminal

[2] TIA publishes an annual report that includes the latest actions taken by each respective TIA engineering committee, including TR-41, toward the development of standards for the advancement of global communications. *See* TIA, 2011-2012 Standards & Technology Annual Report (rel. Apr. 2012) at 9-10, *available at* http://www.tiaonline.org/standards/about/documents/STAR_2011-2012.pdf.

Attachments ("ACTA").[3] The committee is also engaged in providing input on product safety issues, identifying environmental considerations for user premises equipment and addressing the administrative aspects of product approval processes. TIA is accredited by the American National Standards Institute ("ANSI").

Current Part 68 rules reference HAC volume control requirements in two TIA standards that have since been updated multiple times. The latest versions are moving to a new and improved method of measuring amplification, called Conversational Gain, a more rational and intuitive way to measure telephone speech amplification than currently-referenced Receive Objective Loudness Rating ("ROLR") requirements, that will result in a more consistent experience of amplified gain level for hard-of-hearing consumers who purchase terminal equipment. Updating Part 68, as recommended by TIA, would also be consistent with actions being considered by Industry Canada.

TIA has completed its work on a single Conversational Gain standard for analog and digital telephones that can be referenced in Part 68, and is working to create an addendum to the associated Telecommunications Systems Bulletin for showing compliance with the Part 68 rules to include test procedures for Conversational Gain. While we believe the concept of Conversational Gain can be applied to a wide range of audio products for the transmission and/or reproduction of speech, we make clear that the current standards and this proposal are intended to govern wireline telephone equipment only.

---

[3] The ACTA was formed in 2001 through the co-sponsorship and support of the Alliance for Telecommunications Industry Solutions ("ATIS") and TIA by Commission mandate with the mission to (1) adopt technical criteria for terminal equipment to prevent network harms through the act of publishing such criteria developed by the ANSI-accredited Standards Development Organizations ("SDOs"); and (2) establish and maintain database(s) of equipment approved as compliant with the technical criteria. *See In the Matter of 2000 Biennial Regulatory Review of Part 68 of the Commission's Rules and Regulations*, CC Docket No. 99-216, Report and Order, FCC 00-400 (rel. Dec. 21, 2000) ("Part 68 R&O"). *See also* ACTA, *About ACTA*, *available at* http://www.part68.org/aboutMain.aspx (last visited Jul. 5, 2012).

We request that the Commission issue a Notice of Proposed Rulemaking ("NPRM") to revise relevant Part 68 references to the most recent TIA standard as quickly as possible. This would primarily benefit hearing disabled consumers by providing a more consistent experience of amplified gain level. This would also provide regulatory certainty for TE manufacturers who seek to comply with Part 68.

II. BACKGROUND

A. Current Part 68 Hearing Aid Compatibility Requirements for Terminal Equipment

Part 68 of the Commission's rules govern the connection of TE to the telephone network. While responsibility for most of the technical requirements in Part 68 was turned over to industry in 2000,[4] the HAC volume control gain requirements for TE were retained in Part 68. The rules specify that gain is measured in terms of the change in ROLR level, and refers to two TIA standards which specify ROLR measurements: ANSI/EIA-470-A-1987 (Telephone Instruments With Loop Signaling) for analog TE, and ANSI/EIA/TIA-579-1991 (Acoustic-To-Digital and Digital-To-Acoustic Transmission Requirements for ISDN Terminals) for digital TE.[5] Under the current rules, a 12 decibel ("dB") gain relative to normal unamplified levels is required for both analog and digital telephones, while an automatic reset of the TE is required when the gain exceeds 18 dB.[6] The normal unamplified level must also meet ROLR requirements specified in these two outdated standards.[7] The Commission last incorporated by reference TIA's standards covering analog and digital HAC volume control requirements in 1996,[8] and has not updated the references since.

---

4 *See* Part 68 R&O.

5 *See* 47 C.F.R. § 68.317.

6 *See* 47 C.F.R. § 68.317(a) and (c) (addressing analog and digital, respectively).

7 *See Id.*

8 *See In the Matter of Access to Telecommunications Equipment and Services by Persons with Disabilities*, Report and Order, CC Dkt. No. 87-124, FCC 96-285, 11 FCC Rcd 8249, 8278-79 (July 3, 1996) ("TE HAC R&O").

The ANSI/EIA-470-A-1987 performance standard for analog telephones has been revised twice, with the second revision also having been amended once. Another revision, to be published as ANSI/TIA-470.110-D, is currently in progress. The ANSI/EIA/TIA-579-1991 performance standard for digital telephones was revised once and then replaced by a different standard, which has since been revised twice. A new revision of this replacement standard, to be published as ANSI/TIA-810-C, is also currently in process.

The changes due to the multiple revisions of the above standards cover a wide range of topics related to voice transmission performance. Among those specific to receive volume control has been a change from the IEC-318 coupler (artificial ear), which is only appropriate for a diminishing number of telephones with handsets that can be seated on the coupler without leakage, to the use of a Head and Torso Simulator (HATS) with an artificial ear incorporating a human pinna simulator that is appropriate for all types of handsets. There has also been a change from specifying receive loudness in terms of Receive Objective Loudness Rating (ROLR) as specified in IEEE Std 661-1979 (R1988) to the use of Receive Loudness Rating (RLR) as specified in ITU-T Recommendation P.79. The revisions currently in progress will use the HATS artificial ear but will change to Conversational Gain for the receive volume control measure.

A major driving force in industry's decision to move from the use of the IEC-318 coupler to HATS for receive measurements is that HATS provides a much better measure of the sound actually heard by the user of the telephone. It takes into account the fact that telephone receivers do not form a seal against the ear of the user in real-life situations. As a consequence, manufacturers have generally found they must modify the receive frequency response of their products in order to meet the response shape templates in the revised standards that call for use

of HATS. The net result is a perceived improvement in sound quality delivered to the user. Avoiding the dichotomy of having to make receive measurements using the old IEC-318 coupler for Part 68 compliance, but wanting their products to comply with revised industry standards using HATS, will aid manufacturers in providing better sound quality for all individuals, including those who require volume control gain to compensate for hearing loss.

A major drawback to the FCC referencing the new ANSI/TIA-470.110-D and ANSI/TIA-810-C standards currently in development is that they will continue to address a wide range of voice transmission performance requirements, most of which are not related to receive volume control. It is for this reason that TIA has chosen to develop the new ANSI/TIA-4965 standard, *Receive Volume Control Requirements for Digital and Analog Wireline Terminals*,[9] and is proposing it to the FCC for adoption as the defining standard for the HAC volume control requirements. Because of its singular focus, the need to revise and update this new standard is expected to be much less than for the other broad category performance standards. However, when incorporating it by reference into Part 68, the Commission should do so in a manner that allows the standard to be updated if found necessary without going through additional rulemaking.

[9] *See* http://global.ihs.com/search_res.cfm?RID=TIA&INPUT_DOC_NUMBER=ANSI/TIA-4965.

B. Hearing Aid Compatibility Standards Referenced in Part 68 Have Been Updated to Use Conversational Gain, an Improved Way to Measure Gain

Based on feedback from consumers during the Hearing Loss Association of America ("HLAA") National Conventions from 2005-2007, it was determined that there existed unexpected divergences between the amount of telephone amplification many consumers with hearing loss believed they needed and the actual amount of amplification they required. In response, TIA's TR-41 undertook an examination of a sampling of telephones on the market that were advertised as providing above average amplification. From this study it was determined that the consumers' assumption that all TE manufacturers measured amplification the same way was incorrect. This led TIA to consider changing the receive amplification measurements in TIA's standards for analog and digital telephones to the Conversational Gain method.[10]

Under the Conversational Gain measurement, 0 dB means that the voice heard from the telephone sounds as loud as a face-to-face conversation in which the participants are 1 meter apart. This measurement is based on the Institute of Electrical and Electronics Engineers' ("IEEE") determination that 0 dB Conversational Gain is equivalent to 64 dB sound pressure level ("dBSPL") in each ear. [11] Therefore, the 0 dB Conversational Gain = 64 dBPSL equivalence applies to speakerphones. However, when listening with only one ear, a sound must be 6 dB louder in order to be perceived at the same level as a sound that is heard with both ears, making the appropriate equivalence for a telephone being held to the ear 0 dB Conversational

---

[10] *See* Ex Parte Letter from Brian Scarpelli, TIA to Marlene H. Dortch, Secretary, FCC, CC Docket No 93-268, CG Docket No. 10-266 (dated Aug. 26, 2012).

[11] *See* IEEE 269-2010, *IEEE Standard Methods for Measuring Transmission Performance of Analog and Digital Telephone Sets, Handsets, and Headsets, available at* http://standards.ieee.org/findstds/standard/269-2010.html

Gain = 70 dBPSL.

As noted previously, the TIA standards referenced in Part 68 HAC requirements have been updated multiple times since the original versions were referenced in the Commission's rules. The latest versions of TIA standards for analog[12] and digital[13] are shifting the way gain is measured to Conversational Gain. This will also be reflected in new TIA wideband telephone standards.[14] However, TIA felt it would be more appropriate for regulatory purposes to have just one standard addressing Conversational Gain and created ANSI/TIA-4965 to meet this need for all types of wireline telephones. We should note that numerous consultations were made with hearing loss researchers during the development of the Conversational Gain concept for use in these standards and that well-received presentations on the subject have been made to the hearing loss community. In addition, the TIA Telecommunications Systems Bulletin TSB-31-D (Telephone Terminal Equipment Rationale and Measurement Guidelines for U.S. Network Protection), which provides suggested testing methods for showing compliance with Part 68, is currently being amended to include Conversational Gain.

Measuring amplification using Conversational Gain translates to a naturally intuitive reference, where, for example, 20 dB of Conversational Gain means that a consumer will hear a voice 20 dB louder than if having a face-to-face conversation at a distance of 1 meter. A normal unamplified telephone (e.g., the Western Electric 500-type telephone with a G-type handset having a screw-on ear cap from the 1960s) actually provides 6 dB of Conversational Gain. That is, the output of these older telephones was 6 dB louder than a face-to-face conversation at a

[12] For analog telephones, the latest version will be ANSI/TIA-470.110-D.

[13] For narrowband digital telephones, the latest version will be ANSI/TIA-810-C.

[14] The most recent TIA wideband telephone standard is TIA-920.110-A-2011.

distance of 1 meter. Therefore, the new standard requires a minimum of 18 dB Conversational Gain (which is equivalent to the current requirement of 12 dB above normal unamplified level), and requires an automatic reset if Conversational Gain is greater than 24 dB (which is equivalent to the current requirement of 18 dB). Under the new standard, there is no need to specify output at the normal unamplified level because the new requirement is an absolute (not relative) value based on an assumed 6 dB of Conversational Gain at the normal unamplified level. The new standard thus closes a loophole that currently allows for a normal unamplified level to be biased towards the lower end of the specification in order to more easily meet the 12 dB gain requirement.[15]

III. DISCUSSION

C. The Commission Should Move to Implement Part 68 HAC Standards, and Ensure They Remain Current

We ask the Commission to issue a NPRM proposing to update Part 68 references to TIA standards. In this effort, we urge the Commission to (1) ensure that the updated requirements are implemented in a reasonable and flexible manner by allowing for a two-year phase-in period before compliance, (2) continue to engage the TE industry so that there is awareness of future

[15] For example, the ANSI/EIA-470-A-1987 standard for analog telephones specifies that the ROLR on an average length telephone line, represented by a 9 kft loop of 26 gauge cable, be between 40 and 55 dB, with the larger number representing lower loudness level. While other constraints will generally prevent a manufacturer from going to the 55 dB ROLR extreme, it would be possible to bias the design so the loudness for the normal unamplified level is somewhat closer to that value than the 48 dB ROLR mean value also identified in the standard.

updates and changes to standards incorporated by reference into the Commission's rules, and (3) respond to the industry's request to heighten enforcement of Part 68 rules generally.

First, we urge the Commission to adopt a two-year phase-in period before TE compliance is required with these standards. We believe that this will provide ample time for the design, engineering, and marketing needs of TE manufacturers who are not already using TIA's new standards to phase in compliance with them. The changes from ROLR to Conversational Gain are not purely administrative and will affect product cycles for TE manufacturers. In particular, some manufacturers may need to obtain Head and Torso Simulators (HATS) in order to make the prescribed measurements, or make arrangements for the testing with third party test houses that may themselves have to update their test equipment. As they do so, some are likely to discover the improvements they can make in the sound quality delivered to all users by modifying the receive frequency response of their products.

In addition, while TIA members have substantial test data demonstrating the new 18 dB Conversational Gain requirement is equivalent to the old ROLR-based 12 dB of gain requirement for products whose unamplified gain levels are near the nominal values specified in the currently referenced standards, manufacturers will need to confirm that their particular products meet the new requirement and, in some cases, might have to tweak their designs slightly. Of course, any manufacturers having products designed with their normal unamplified level biased towards the lower end of the currently allowed limits for that requirement will likely need to add additional gain in their designs in order to meet the new requirement. Two years would be ample time to anticipate and redesign products as needed, change printed materials, and to allow for an orderly phasing out of existing telephones that do not use the new standard. We also urge the Commission to make clear that TE certified before or during this two-year

period should be allowed to certify under the older version of the relevant volume control standard, and that only once this phase-in period has expired should all newly-certified TE be held to the new versions of the relevant TIA volume control standard.

Second, we urge the Commission to continue engaging the TE industry through the ACTA as well as participate in TR-41 to ensure that the standards developed related to HAC for TE can reflect any concerns the Commission may have. Because it is ANSI-accredited, TIA's process guarantees that any organization or individual – including a Federal agency – has the opportunity to engage in the process and work with other stakeholders to shape the standard as needed.[16] For example, the Commission could engage in the development of the related TSB that TR-41 is developing. The Commission should affirm that the Wireline Competition Bureau ("WCB") and Office of Engineering and Technology ("OET") chiefs have the authority to revise references to the volume control standards for terminal equipment to account for further iterations of the standard when such changes are administrative in nature, i.e. would not have a substantive effect on manufacturers complying with the new standards.[17]

[16] *See, e.g.*, Comments of TIA, CC Docket No. 94-102, WC Docket No. 05-196, PS Docket No. 07-114, PS Docket No. 10-255 (filed Jul. 5, 2012) at 22-24.

[17] We note that our understanding is that, because of the change from ROLR to Conversational Gain, the Commission considers the update proposed in this Petition for Rulemaking to be "substantive," as opposed to "administrative." We strongly urge the Commission to allow for further iterations of Conversational Gain standards to be updated by WCB and OET as administrative updates in order to avoid a recurrence of the circumstances that led to TIA's TE volume control standards referenced in the Commission's regulations to be multiple versions out of date.

D. Updating Part 68 to Reflect Improvements Made to Hearing Aid Compatibility Standards is in the Public Interest

We believe that updating the references to TIA's HAC standards in Part 68 would improve the ability of consumers to purchase the TE they need, increase access for hard-of-hearing TE users to emergency services, and, for industry, would promote regulatory and market certainty. For these reasons, we believe that the Commission should quickly issue a NPRM consistent with the recommendations contained in this petition.

1. Improved Consumer Ability to Compare Terminal Equipment

The Commission long ago stated its belief that volume control requirements are a very important part of making access to telecommunications more accessible for a significant portion of the population, especially "hearing aid wearers and others with hearing impairments."[18] As noted above, the Conversational Gain method is an improvement on ROLR. Conversational Gain is not only more intuitive and easily understood by consumers, but it also permits the determination of the absolute dBSPL needed with increased ease over the ROLR method because a consumer only needs to add 64 dB or 70 dB (depending, respectively, on whether both ears or one ear are hearing the audio) to the Conversational Gain. This heightened ease of determination will allow consumers to determine if mass-market telephones are capable of meeting their volume control needs or if they require specialized high amplification telephones. Updating the standards referenced in the Commission's rules would also provide consumers with a more consistent experience of the amplified gain level by closing the loophole that currently

[18] TE HAC R&O at 8278-79.

allows for a normal unamplified level to be biased towards the lower end of the specification in order to more easily meet the gain requirement.

2. Improved Access to Emergency Services for Hard-of-Hearing Consumers

Enhanced and improved access to emergency services has, of late, been a focal issue for both Congress and the Commission. For example, Congress has passed the Twenty-First Century Communications and Video Accessibility Act of 2010 ("CVAA"),[19] requiring the Commission to create a Federal advisory committee to examine policies and practices for the purpose of achieving equal access to emergency services by individuals with disabilities,[20] among others. More recently, Congress enacted the Next Generation 911 Advancement Act of 2012 as a part of the Middle Class Tax Relief and Job Creation Act of 2012.[21] While focusing on E911 and next generation improvements for ways to reach emergency services, this law included the significant finding that "ensuring 9-1-1 access for all citizens includes improving access to 9-1-1 systems for the deaf, hard of hearing, deaf-blind, and individuals with speech disabilities…".[22]

The Commission has also long ago stated that volume control telephones "minim[ize] the risk that persons with hearing disabilities will be unable to access the telephone network in the event of an emergency."[23] While the effort to improve access to enhanced 9-1-1 ("E911") is

---

19 Pub. L. No. 111-260, signed into law on October 8, 2010.

20 *Id.* at § 106(a).

21 Middle Class Tax Relief and Job Creation Act of 2012, Pub. L. No. 112-96 (2012), Title VI, Subtitle E.

22 *Id.* at Section 2(5).

23 In the Matter of Access to Telecommunications Equipment and Services by Persons with Disabilities, Order on Reconsideration, CC Dkt. No. 87-124, FCC 97-242, (July 11, 1997), ¶4.

clearly a laudable goal and is fully supported by TIA,[24] we urge the Commission not to let hard-of-hearing populations who rely on readily available TE to reach emergency services be left by the wayside, especially when this can easily be effected by the Commission updating standards which have already been agreed upon by stakeholders and finalized. Many older Americans, including those with hearing conditions, continue to rely on TE to connect to emergency services.[25] By updating the references in Part 68, this population and others who may need TE to reach emergency services would have increased and improved access to the telephone network, and a better ability to get help from the authorities in times of need.

3. Increased Market Certainty and Fairness for Manufacturers of Terminal Equipment

The industry that manufactures and markets TE would also benefit from the Commission updating references to TIA's HAC standards in Part 68. The feasibility and necessity of any new benchmarks should reflect input from manufacturers and service providers that have had experience in deploying products and services under the current standards.[26] Because of the ANSI-accredited process which TIA follows, we believe these updated standards reflect this

---

[24] *See, e.g.*,Comments of TIA, PS Docket No. 10–255 (Feb. 28, 2011).

[25] For example, calculations based on available data from Nielsen and the U.S. Census Bureau as of 2009 would put the total number of households utilizing a landline telephone at approximately 90,246,436. *See* U.S. Census Bureau, *State & County QuickFacts*, *available at* http://quickfacts.census.gov/qfd/states/00000.html (last visited Aug. 14, 2012) (estimating the number of American households at 114,235,996 for the time frame of 2006-2010); *see also* The Nielsen Company, *Study: More Cellular-only Homes as Americans Expand Mobile Media Usage*, *available at* http://blog.nielsen.com/nielsenwire/online_mobile/study-more-cellular-only-homes-as-americans-expand-mobile-media-usage/ (last visited Aug. 14, 2012) (estimating that 21% of American households had "cut the cord," moving to using a cellular phone only, in 2009). While we understand the continuing trend of "cord-cutting" that has been occurring in the United States, we submit that the number of American households currently using landline telephones remains substantial today.

[26] *See, e.g.*, Comments of TIA, WT Docket No. 10-254 (filed Feb. 14, 2011) at 4.

need. TIA supports the use of voluntary, consensus-oriented standards in compliance regulations because this policy spurs investment and innovation by reducing uncertainty and creating a vibrant marketplace for TE products and technologies. Furthermore, updating the outdated references to the ANSI/TIA-4965 standard will reflect stakeholder consensus and help level the playing field for industry members who manufacture and market TE.[27] This requested update would also lend to harmonization across agencies, such as the United States Architectural and Transportation Barriers and Compliance Board,[28] and internationally, such as the Canadian HAC requirements, as Industry Canada is currently considering updating their references to TIA standards in CS-03.[29]

[27] We also believe that a Commission clarification that interconnected VoIP phones are a subset of the digital telephones covered by § 68.317 would provide increased certainty and fairness to TE market participants. The ANSI/TIA-4965 standard being proposed for adoption by this petition includes test procedures for VoIP telephones.

[28] *See* Joint Comments of TIA and CTIA – The Wireless Association to the United States Architectural and Transportation Barriers and Compliance Board ("Access Board"), Docket No. 2010-1 (filed Jun. 21, 2010) at Appendix. In this filing, TIA/CTIA recommended that Conversational Gain be considered as the method of measurement for volume gain for Wireline devices. The Access Board has yet to complete its Section 508 Standards and Section 255 Guidelines refresh.

[29] *See* Industry Canada, CS-03 - Compliance Specification, Issue 9, *available at* http://www.ic.gc.ca/eic/site/smt-gst.nsf/eng/sf01590.html.

IV. CONCLUSION

Consistent with the recommendations above, we urge the Commission to undertake a rulemaking as soon as possible to update references to TIA standards in Part 68 of the Commission's rules.

Respectfully submitted,

TELECOMMUNICATIONS INDUSTRY ASSOCIATION

By: */s/ Danielle Coffey*

Danielle Coffey
Vice President, Government Affairs

Mark Uncapher
Director, Regulatory and Government Affairs

Brian Scarpelli
Manager, Government Affairs

TELECOMMUNICATIONS INDUSTRY ASSOCIATION
10 G Street N.E.
Suite 550
Washington, D.C. 20002
(202) 346-3240

October 25, 2012

Appendix A: TIA Proposed Edits to Relevant Portions of 47 C.F.R. § 68.317

Part 68 (Section 68.317) of Title 47 of the Code of Federal Regulations is amended by adding new paragraphs (a) and (i) through (l); and re-designating paragraphs (a) through (g) to become (b) through (h) to read as follows:

Title 47: Telecommunication
PART 68—CONNECTION OF TERMINAL EQUIPMENT TO THE TELEPHONE NETWORK
Subpart D—Conditions for Terminal Equipment Approval

§ 68.317 Hearing aid compatibility volume control: technical standards.

(a) Until [insert date that is two years after publication in the Federal Register], analog and digital telephones may be approved by complying with the Commission's volume control gain requirements using either:

(1) the Receive Objective Loudness Rating (ROLR) method described in the relevant paragraphs (b) through (h) of this section: or

(2) the Conversational Gain method described in paragraphs (i) through (l) of this section.

After [insert date that is two years after publication in the Federal Register], analog and digital telephones may only be approved by complying with the Conversational Gain volume control requirements described in paragraphs (i) through (l) of this section. Telephones that are approved by complying with the ROLR method before [insert date that is two years after publication in the Federal Register] do not need to be retested using the Conversational Gain method.

(b) An analog telephone complies with the Commission's volume control requirements if the telephone is equipped with a receive volume control that provides, through the receiver in the handset or headset of the telephone, 12 dB of gain minimum and up to 18 dB of gain maximum, when measured in terms of Receive Objective Loudness Rating (ROLR), as defined in paragraph 4.1.2 of ANSI/EIA-470-A-1987 (Telephone Instruments With Loop Signaling). The 12 dB of gain minimum must be achieved without significant clipping of the test signal. The telephone also shall comply with the upper and lower limits for ROLR given in table 4.4 of ANSI/EIA-470-A-1987 when the receive volume control is set to its normal unamplified level.

Deleted: a

Note to paragraph (b):
Paragraph 4.1.2 of ANSI/EIA-470-A-1987 identifies several characteristics related to the receive response of a telephone. It is only the normal unamplified ROLR level and the change in ROLR as a function of the volume control setting that are relevant to the specification of volume control as required by this section.

Deleted: a

…

(h) These incorporations by reference of paragraph 4.1.2 (including table 4.4) of American National Standards Institute (ANSI) Standard ANSI/EIA-470-A-1987 and paragraph 4.3.2 of ANSI/EIA/TIA-579-1991 were approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Copies of these publications may be purchased from the American National Standards Institute (ANSI), Sales Department, 11 West 42nd Street, 13th Floor, New York, NY 10036, (212) 642-4900. Copies also may be inspected during normal business hours at the following locations: Consumer and Governmental Affairs Bureau, Reference Information Center, Federal Communications Commission, 445 12th Street, SW, Washington, DC 20554; and the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202-741-6030, or go to:*http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html.*

Deleted: g

(i) An analog or digital telephone complies with the Commission's volume control requirements if it is equipped with a receive volume control that provides, through the receiver in the handset or headset of the telephone, 18 dB of Conversational Gain minimum and up to 24 dB of Conversational Gain maximum when measured as described in ANSI/TIA-4965-2012 (Telecommunications – Telephone Terminal Equipment –Receive Volume Control Requirements for Digital and Analog Wireline Telephones). The 18 dB of Conversational Gain minimum must be achieved without significant clipping of the speech signal used for testing.

(j) The 24 dB of Conversational Gain maximum may be exceeded provided the amplified receive capability automatically resets to a level less than 24 dB of Conversational Gain when the telephone is caused to pass through a proper on-hook transition in order to minimize the likelihood of damage to individuals with normal hearing.

(k) The incorporation by reference of ANSI/TIA-4965-2012 was approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR Part 51. This standard is incorporated as it exists on the date of the approval, and notice of any change in this standard will be published in the Federal Register. A copy of the standard may be inspected at [insert location within the FCC where the standard may be inspected]. A copy of this standard may also be purchased from http://global.ihs.com/.

(l) [Insert appropriate text for delegation of authority to amend §68.317 to refer to latest version of ANSI/TIA-4965 in a manner similar to that provided in 47 CFR 20.19 regarding updates to ANSI C63.19.]