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Office of the Secretary

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

93-268

In the Matter of)
)
Petition to Amend Part 68 of the)
Commission's Rules to Include Terminal)
Equipment Connected to Public Switched)
Digital Service)

RM-6147

[Signature]

COMMENTS

American Telephone and Telegraph Company ("AT&T") respectfully submits the following Comments in response to the Petition of the Ameritech Operating Companies ("Ameritech"), filed October 26, 1987, to amend Part 68 of the Commission's rules to include terminal equipment connected to the public switched network ("PSN") for public switched digital service.

1. Ameritech's Petition proposes that the Commission amend Part 68 of its rules to make it applicable to terminal equipment connected to the PSN for public switched digital service ("PSDS"). In this service, customers establish end-to-end connections through the ordinary analog facilities of the PSN, then, through their terminal equipment, switch to a parallel digital network over which they receive their PSDS services. PSDS services operate at 56 kilobits per second ("kbps") and will support services at various rates up to 56 kpbs.

2. AT&T supports Ameritech's Petition. The proposed rules are necessary to assure that PSDS terminal equipment will not harm the network, whether operating in the digital or analog mode, and to assure that manufacturers will know the network characteristics to which they must design their PSDS terminal equipment.

3. Ameritech has thoroughly and correctly identified the various rules which are necessary to achieve its objectives. Thus, AT&T offers a few minor, mostly editorial, suggestions as follows:

(a) We recommend that the rules include a definition of PSDS service. This would help readers understand the service to which the rules are directed. Ameritech's pleading provides adequate material from which to formulate such definition.

(b) Proposed rule Section 68.308(h)(3)(ii), Table IVB, should designate a pulse height within a range of voltage, e.g., 2.2 to 3.0 volts (cf. Table IVA), rather than the single voltage, 2.3 volts. Manufacturers cannot feasibly design to a specific voltage; equipment will normally operate within a narrow range of the objective voltage.

(c) Proposed Section 68.308(h)(3)(i) says "[t]he pulse repetition rate shall be a maximum of 144,000 pulses per second or 160,000 pulses per second within \pm 5 pulses per second depending on the technology utilized by the

telephone company in the serving central office." A standard of either 144,000 or 160,000 pulses does not give the manufacturer guidance as to the standard to which he must design his equipment. The reader could more easily understand the proposed rules if they stated the standards for each technology in a separate subsection rather than combining the standards for both into a single rule.

(d) We note slight discrepancies in the text of proposed rule Section 68.3, sentences 3-5, defining "PSDS Loop Simulator Circuit," as compared with the current definition of "Loop Simulator Circuit," sentences 4-6. We assume that the proposed rule does not intend any changes in the meaning of the parallel texts.

(e) Revise the following sections to read:

Section 68.2(a)(9):

"Of all terminal equipment to Public Switched Digital Service (PSDS)."*

Section 68.308(b)(1):

"Limitations at the interface on internal signal[s] sources not intended for Network Control Signalling . . ."

Section 68.308(b)(2):

"Limitations on [of] Internal Signal Sources . . ."

* Underlining indicates new material; brackets indicate proposed deletions.

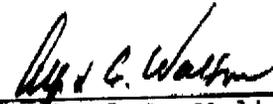
Section 68.310(1), third sentence:

"The metallic determination . . . shall be
135 [1035] ohms . . ."

Respectfully submitted,

AMERICAN TELEPHONE AND TELEGRAPH COMPANY

By



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Dated: December 9, 1987

3.4 LONGITUDINAL BALANCE AT "U" REFERENCE POINT

3.4.1 REQUIREMENT

Terminal equipment intended to connect to ISDN access at the "U" reference point shall comply with the following requirements:

3.4.1.1 BASIC RATE ACCESS (BRA)

The longitudinal balance at the network interface shall equal or exceed the minimum values shown in Figure 3.4(a) at all frequencies as specified, under all reasonable applications of earth ground to the terminal equipment. Longitudinal balance is defined as:

$$20 \log (V_m/V_l)$$

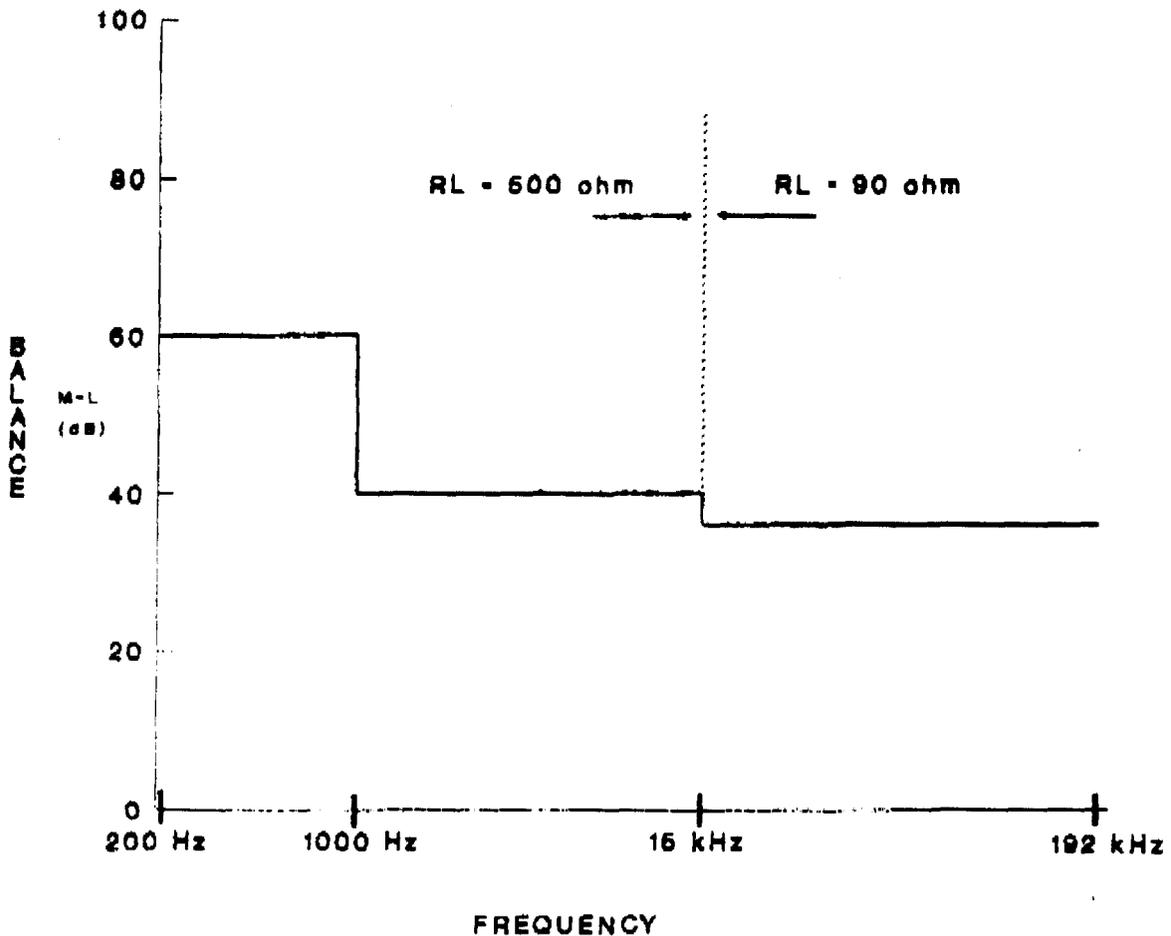


FIGURE 3.4(a)
LONGITUDINAL BALANCE REQUIREMENT FOR
BASIC RATE ACCESS (BRA) AT THE
'U' REFERANCE POINT

3.4.1.2 PRIMARY RATE ACCESS (PRA)

The longitudinal balance at the network interface shall equal or exceed the minimum values shown in Figure 3.4(b) at all frequencies as specified, under all reasonable applications of earth ground to the terminal equipment. Longitudinal balance is defined as:

$$20 \log (V_m/V_l)$$

For the purpose of this Section 1.544 Mbps = 1.544 Mhz.

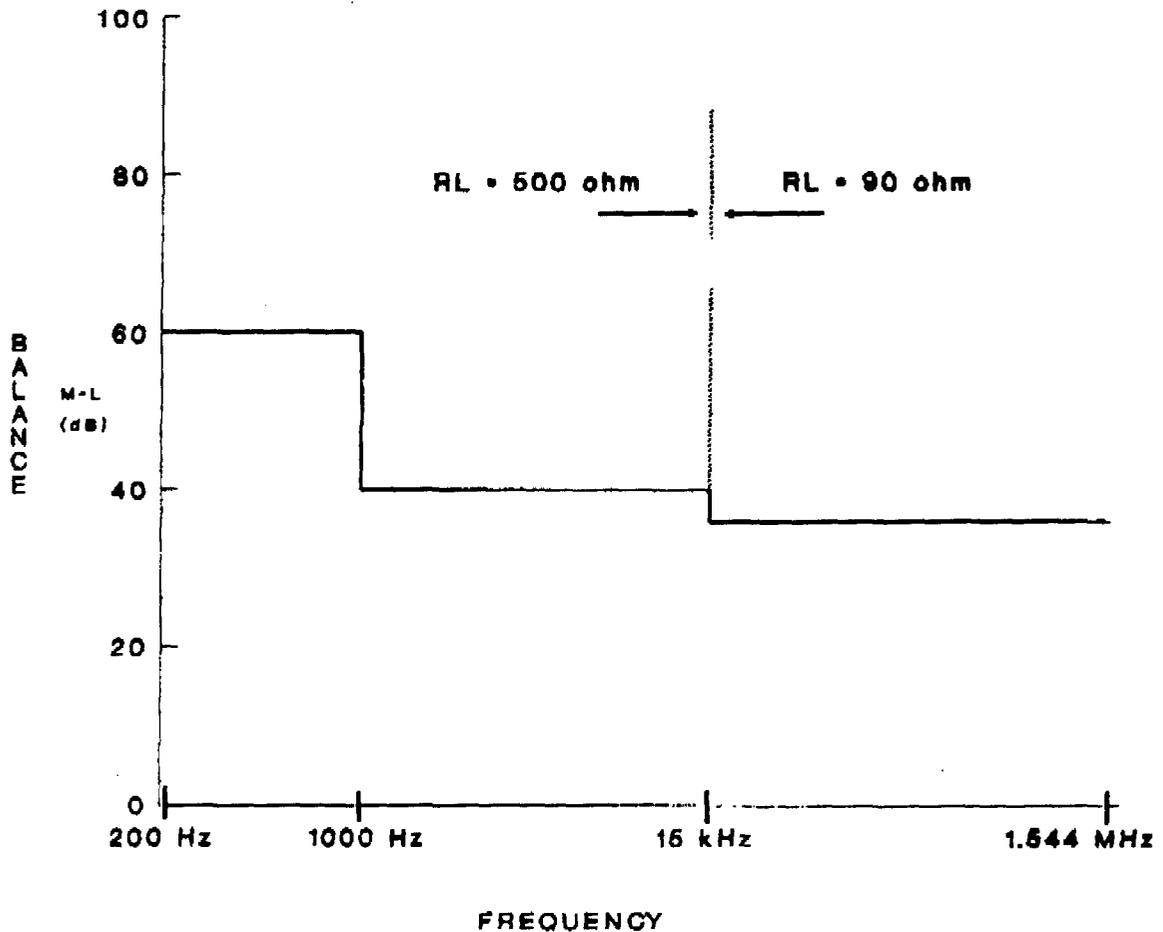


FIGURE 3.4(b)
 LONGITUDINAL BALANCE REQUIREMENT FOR
 PRIMARY RATE ACCESS (PRA) AT THE
 "U" REFERENCE POINT

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ATTACHMENT 6

PART 68 RULE APPLICATIONS

(1) REN Marking and Registration

It is TR41.9's view that manufacturers can always optionally list an REN value greater than what is actually measured and reported. This should satisfy Marstech's request.

- (2) The 18 dB requirement for the 3995-4005 Hz band in 68.308 (c)(1) applies for all internal sources, except network control signaling. A DTMF source can be used for data entry in today's environment. Thus, we recommend that unless it can be shown that the DTMF source has only network control signaling applications, then the 18 dB requirement relative to the inband power applies. A properly operating DTMF network control source should not have any difficulty with this requirement. As for a mixture of voice and DTMF, it is not clear to us how this situation occurs; in general, the acoustic input is suppressed during the operation of the DTMF pad.