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

In the Matter of )  
 )  
Amendment of Sections 73.682 )  
and 73.699 of the Commission's )  
Rules for Enhanced Closed-Captioning )  
Service and Ghost-Cancelling Signal )

MM Docket No. 92-305

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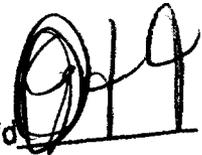
MAR - 1 1993

To: The Commission MAIL STOP 1170

COMMENTS OF THE NATIONAL CAPTIONING INSTITUTE, INC.  
FEDERAL COMMUNICATIONS COMMISSION  
OFFICE OF THE SECRETARY

1. The National Captioning Institute, Inc. ("NCI") hereby submits its comments in response to the Commission's proposed amendments to its rules to provide for enhanced closed-captioning service and the transmission of a ghost-cancelling signal as contained in the Commission's Notice of Proposed Rule Making in MM Docket No. 92-305 that appeared in 58 Fed. Reg. 3004 on January 7, 1993.

2. NCI is a nonprofit corporation created by Congress in 1979 and is the leading organization providing captioning services to the television industry and creating closed caption technology to ensure maximum television access for people with impaired hearing and for others. Since 1980, NCI's related achievements have included the development of numerous caption creation systems and six generations of closed caption decoding equipment, including a low cost LSI chip that meets all FCC requirements pertaining to the Television Decoder Circuitry Act of 1990.

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3. NCI supports the Commission's proposal to have all of line 21, field 2 available to transmit captions, text, and extended data service data. NCI also supports the Commission's proposal to give line 21, field 2 captions priority, but the proposed rule should be clarified ensure line 21, field 2 captions, and related text, have meaningful priority in the presence of extended data service ("EDS") data. Additionally, compliance with a line 21, field 2 rule would be made easier if the final rule defined "captions", "text", and "extended data service."

**NCI Supports the Commission's Proposal to  
Make Line 21, Field 2 Available for Captions,  
Text, and Extended Data Service Data.**

4. NCI shares the Commission's belief that opening line 21, field 2 will, as the Commission states, serve the public interest. NCI particularly shares the Commission's belief that line 21, field 2 captions will enhance closed captioning for people with impaired hearing and other users of closed captioning services.

**The Commission's Proposed Rule Needs to Provide  
a Way to Determine Whether Line 21, Field 2  
Captions Are Given Meaningful Priority.**

5. In response to the Commission's request for comments on "any unforeseen or overlooked problems" governing line 21, field 2's use, the Commission should be aware that with today's technology, the addition of EDS data to already existing line 21,

field 2 captions is likely to offset the timing at which these captions were intended to be displayed with their associated television program ("appear time").<sup>1/</sup>

6. Although the Commission looks forward to offering a second set of captions, the proposed rule, if adopted, would have an ironic effect of permitting a broadcaster to use EDS even though the insertion of EDS data could significantly offset the appear times of line 21, field 2 captions. This is the case because the proposed rule permits a broadcaster to provide "additional text and extended data service" on a "on a space available basis" without any qualification on the effect of the presence or insertion of EDS data on a line 21, field 2 caption's appear time.

7. To assist the Commission in expeditiously adopting rules that would provide an effective means for consumers to receive usable line 21, field 2 captions, NCI urges the Commission to consider adopting the text NCI offers in the attached Appendix. The suggested text directly addresses appear time and prohibits delay caused by the presence of data not being used to deliver captions.

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<sup>1/</sup> The timing will be offset because of the method through which line 21 encoder manufacturers have considered to insert extended data service data. NCI understands encoder manufacturers are presently trying to resolve this timing issue. Not resolving this matter could lead to unintended results such as a speaker being halfway completed with his or her line before the associated line 21, field 2 caption appears.

**The Commission's Proposed Rule Needs to Make Allowances  
for Advances in Captioning Services.**

8. Another "unforeseen or overlooked problem" the proposed rule presents is it gives priority only to line 21, field 2 captions. NCI believes text service also should be given priority and that priority would be over EDS data, but not line 21, field 2 captions. NCI expects that captioned programs will be accompanied with captioning-related text services such as instructional materials for educators' use in classrooms. Access to this information would be vital and should have priority over EDS data. Accordingly, the priority order would be line 21, field 2 captions, then text, then EDS data as suggested in the text of NCI's proposed rule that appears in the attached Appendix.

**The Commission's Final Rule Should Provide Interested  
Parties with the Means to Discuss Significant  
Offsets of Line 21, Field 2 Captions.**

9. In response to the Commission's request for comments on the specific rule changes, NCI believes compliance with the line 21, field 2 caption "priority rule" will be aided if interested parties can accurately identify, and thereby intelligently discuss, what is a "caption" what is "text" and what is "extended data service." The proposed rule is unclear in this definitional matter, and the Commission should consider defining "caption", "text", and "extended data service" as suggested in NCI's proposed rule that appears in the attached Appendix.

10. The Commission should particularly note that NCI suggests replacing "additional text" with the term "text." A caption is not a form of "text" as the proposed rule's use of the term "additional text" would imply. Instead, a caption is a written/graphic representation of a given portion of a television program's aural information that appears simultaneously or, as close as possible, with the aural information's transmission to the viewer. "Text", on the other hand, is information that may or may not be related to a given television program's aural information, but is intended to be displayed as written information on a television screen in more or less real time as it is transmitted.

**The Commission Should Ensure that Text Information  
Remains Available on Line 21, Field 1.**

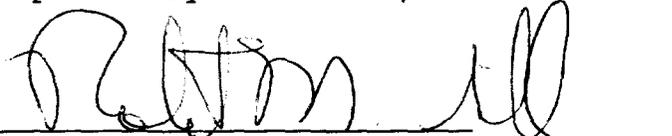
11. Also in response to the Commission's request for comments on the specific rule changes, NCI notes that the proposed rule would permit text to appear on line 21, field 2 on a space available basis, but is silent on whether text may appear on line 21, field 1 on a space available basis. Since line 21, field 1 is currently being used to transmit text on line 21, field 1 "on a space available" basis without any effect on the appear time for line 21, field 1 captions, the Commission should ensure its new rule continues to permit this practice especially since many of the Television Decoder Circuitry Act-compliant television sets will, and NCI's TeleCaption™ decoders can, display line 21, field 1 text. Additionally, the rules should

limit EDS to field 2 so as not to interfere with present captioning and text services, which use and need all the capacity of line 21, field 1 and will suffer in quality if other services are added to line 21, field 1.

**Conclusion**

12. The Commission's adoption of NCI's suggested rules for this proceeding will ensure that expanded availability of captioning and the inclusion of additional services on line 21, field two can all coexist for everyone's intended benefit.

Respectfully submitted,



Robert M. Silber  
Corporate Attorney  
National Captioning Institute, Inc.  
5203 Leesburg Pike, 15th Floor  
Falls Church, VA 22041  
(703) 998-2460

March 1, 1993

## APPENDIX

- (22) (i) Line 21, in each field, may be used for the transmission of a program-related data signal which, when decoded, provides captions. On a space available basis, line 21, in both fields, may be used to transmit text. On a space available basis, extended data service may be provided only on line 21, field 2. All line 21 data signals shall conform to the format described in Figure 16 of Section 73.699 and may be transmitted during all periods of regular operation.

Note: The signals on Fields 1 and 2 shall be distinct data streams, for example, to supply captions in different languages or at different reading levels.

- (A) As used in this Section 73.682: the term "caption" means a visual depiction of information simultaneously being provided on the audio portion of a television signal; "text" means written information that is not a caption that is displayed in real time; and "extended data service" means any data other than captions or text.
- (B) The presence of any text service in a signal shall not noticeably offset the time in which any line 21 caption is to appear with its associated aural information.
- (C) The presence of any extended data service in a signal shall not noticeably offset the time in which any line 21 caption is to appear with its associated aural information or in which line 21, field 2 text appears.
- (D) A decoder test signal consisting of data representing a repeated series of alphanumeric characters may be transmitted at times when no caption is being transmitted.
- (E) The data signal shall be coded using a non-return-to zero (NRZ) format and shall employ standard ASCII 7 bit plus an eighth bit added to each character to provide odd parity for error detection.

Note: For more information on data formats and specific data packets, see EIA-608, "Line 21 Data Services for NTSC," available from the Electronics Industry Association.