Center, 445 12th Street, SW., Room CY–A257).''

PART 73—RADIO BROADCAST SERVICES

23. The authority citation for Part 73 continues to read as follows:

Authority: 47 U.S.C. 154, 303, 334 and 336.

§ 73.622   [Amended]

24. Section 73.622(c) is amended by removing the words ''1919 M St., NW., Dockets Branch (Room 239)'' and adding, in their place, the words ''Room CY–C203, 445 12th Street, SW., Reference Information Center''.

§ 73.623   [Amended]

25. Section 73.623(c)(2) is amended by removing the words ''1919 M St., NW., Dockets Branch (Room 239)'' and adding in their place, the words ''Room CY–C203, 445 12th Street, SW., Reference Information Center''.

§ 73.682   [Amended]

26. Section 73.682 (a)(21)(iv) is amended by removing the words ''Commission's Office of Engineering and Technology, Technical Standards Branch, 2025 M Street, NW'' and adding, in their place, the words ''FCC Warehouse, 9300 East Hampton Drive, Capitol Heights, MD 20743''.

27. Section 73.682 (d) is amended by removing the words '' 1919 M Street, NW.,'' and adding, in their place, the words ''445 12th Street, SW.''

PART 74—EXPERIMENTAL RADIO, AUXILLARY, SPECIAL BROADCAST AND OTHER PROGRAM DISTRIBUTIONAL SERVICES

28. The authority citation for Part 74 continues to read as follows:

Authority: 47 U.S.C. 154, 303, 307, and 554.

§ 74.705   [Amended]

29. Section 74.705 (e) is amended by removing the words ''1919 M St., NW., Dockets Branch (Room 239)'' and adding, in their place, the words ''CY–C203, 445 12th Street, SW., Reference Information Center''.

§ 74.701   [Amended]

30. Section 74.707 (e) is amended by removing the words ''1919 M St., NW., Dockets Branch (Room 239)'' and adding, in their place, the words ''Room CY–C203, 445 12th Street, SW., Reference Information Center''.

PART 87—AVIATION SERVICES

31. The authority citation for Part 87 continues to read as follows:

Authority: Sections 4(i), 11, 303(g), 303(r), and 332(c)(7) of the Communications Act of 1934, as amended, 47 U.S.C. 154(i), 161, 303(g), 303(r), 332(c)(7).

§ 87.199   [Amended]

32. Section 87.199(a) is amended by removing the words ''1919 M Street NW'' and adding, in their place, the words ''445 12th Street, SW.''

PART 90—PRIVATE LAND MOBILE SERVICES

33. The authority citation for Part 90 continues to read as follows:

Authority: 47 U.S.C. 154, 303, 307, and 554.

§ 90.7   [Amended]

34. In Section 90.7, the definition of *EA-based or EA license,* is amended by removing the words ''Wireless Telecommunications Bureau public reference room, Room 5608, 2025 M St., NW.,'' and adding, in their place the words ''Reference Information Center (Room CY–A257), 445 12th Street, SW.,''

35. In Section 90.7, the definition of *MTA-based license or MTA license,* is amended by removing the words ''Wireless Telecommunications Bureau public reference room, Room 628, 1919 M St., NW.,'' and adding, in their place the words ''Reference Information Center (Room CY–A257), 445 12th Street, SW.,''

36. In Section 90.7, the definition of *900 MHz SMR MTA-based license or MTA license* is, amended by removing the words ''Office of Engineering Technology's Technical Information Center, room 7317, 2025 M St., NW.,'' and adding, in their place the words ''Reference Information Center (Room CY–A257), 445 12th Street, SW.,''

[FR Doc. 00–25094 Filed 9–28–00; 8:45 am]
BILLING CODE 6712–01–P

FEDERAL COMMUNICATIONS COMMISSION

47 CFR Part 15

[ET Docket No. 99–231, FCC 00–312]

Spread Spectrum Devices

AGENCY: Federal Communications Commission.
ACTION: Final rule; correction.

SUMMARY: This document corrects the effective date of the final rule which

was published in the **Federal Register** of September 25, 2000 (65 FR 57557), regarding the Commission's rules for frequency hopping spread spectrum devices. The **DATES** section of the final is corrected as set forth below.

DATES: Effective October 25, 2000.

FOR FURTHER INFORMATION CONTACT: Neal L. McNeil, Office of Engineering and Technology, (202) 418–2408, TTY (202) 418–2989, e-mail: mcneil@fcc.gov.

SUPPLEMENTARY INFORMATION: As originally published, the **Federal Register** had an erroneous effective date. This document corrects that error.

Federal Communications Commission.

Magalie Roman Salas,
Secretary.

[FR Doc. 00–25015 Filed 9–28–00; 8:45 am]
BILLING CODE 6712–01–U

FEDERAL COMMUNICATIONS COMMISSION

47 CFR Parts 15 and 79

[ET Docket 99–254; FCC 00–259]

Closed Captioning Requirements for Digital Television Receivers

AGENCY: Federal Communications Commission.
ACTION: Final rule.

SUMMARY: This document adopt technical standards for the display of closed captions on digital television (DTV) receivers. The Commission also requires the inclusion of closed captioning decoder circuitry in DTV receivers. The requirements contained herein will help ensure access to digital programming for people with disabilities. This action is taken to fulfill the Commission's obligations contained in the Television Decoder Circuitry Act of 1990.

DATES: Effective October 30, 2000. The incorporation by reference of certain publications in this rule is approved by the Director of the Federal Register as of October 30, 2000.

Compliance Date: July 1, 2002.

FOR FURTHER INFORMATION CONTACT: Neal L. McNeil, Office of Engineering and Technology, (202) 418–2408, TTY (202) 418–2989, e-mail: nmcneil@fcc.gov.

SUPPLEMENTARY INFORMATION: This is a summary of the Commission's *Report and Order,* ET Docket 99–254, FCC 00–259, adopted July 21, 2000 and released July 31, 2000. The full text of this document is available for inspection and copying during regular business hours in the FCC Reference Center, (Room TW–A306) 445 12th Street SW.,

Washington, DC. The complete text of this document also may be purchased from the Commission's duplication contractor, International Transcription Service, Inc., (202) 857–3800, 1231 20th Street, NW., Washington, DC 20036.

Summary of Report and Order

1. By this action, the Commission amends Part 15 of its rules to adopt technical standards for the display of closed captions on digital television (DTV) receivers. The Television Decoder Circuitry Act of 1990 ("TDCA") requires generally that television receivers contain circuitry to decode and display closed captioning. See Public Law 101–431, 104 Stat. 960 (1990) (codified at 47 U.S.C. 303(u), 330(b)).

2. The TDCA requires that "apparatus designed to receive television pictures broadcast simultaneously with sound be equipped with built-in decoder circuitry designed to display closed-captioned television transmissions when such apparatus is manufactured in the United States or imported for use in the United States, and its television picture screen is 13 inches or greater in size." See Communications Act of 1934, as amended, 47 U.S.C. 303(u). The TDCA further states that "[a]s new technology is developed, the Commission shall take such action as the Commission determines appropriate to ensure that closed-captioning service continues to be available to consumers." See 47 U.S.C. 330(b). The Commission adopted rules to implement the provisions of the TDCA in 1991. The rules, in § 15.119, provide standards for the display of closed captioned text on analog television receivers, the only receivers in use at that time. See 47 CFR 15.119. The introduction of digital broadcasting now requires the Commission to update its rules to fulfill its continuing obligations under the TDCA.

3. The Commission's DTV proceeding incorporated an industry approved transmission standard for DTV broadcasts into its rules. *See Fourth Report and Order* in MM Docket 87–268, FCC 96–493, 62 FR 14006 (1997), and 47 CFR 73.682(d). The standard included a data stream reserved for closed captioning information, however, specific instructions for implementing closed captioning services for digital television were not included. The Electronic Industries Alliance (EIA) has since adopted a standard, EIA–708, which provides guidelines for encoder and decoder manufacturers as well as caption providers to implement closed captioning services with digital television technology. In the *Notice of Proposed Rulemaking* (NPRM), ET Docket No. 99–254, 64 FR 41897

(August 1999), in this proceeding the Commission proposed to adopt a minimum set of technical standards for closed caption decoder circuitry for digital television receivers in accordance with Section 9 of EIA–708 and to require the inclusion of such decoder circuitry in digital television receivers.

4. In response to the NPRM, sixteen parties filed comments. Thirty-four parties filed reply comments. Commenters included advocacy groups, manufacturers of consumer electronic equipment, trade organizations representing broadcast and cable interests, private citizens, and caption service providers. Based on the comments received, this adopts the requirement of Section 9 of EIA–708, with the following modifications:

Decoder Operation

• Decoders must support the standard, large, and small caption sizes and must allow the caption provider to choose a size and allow the viewer to choose an alternative size.

• Decoders must support the display of eight fonts. Caption providers may specify 1 of these 8 font styles to be used to write caption text. Decoders must include the ability for consumers to choose among the eight fonts. The decoder must display the font chosen by the caption provider unless the viewer chooses a different font.

• Decoders must implement the same 8 character background colors as those that Section 9 requires be implemented for character foreground (white, black, red, green, blue, yellow, magenta and cyan).

• Decoders must implement options for altering the appearance of caption character edges.

• Decoders must display the color chosen by the caption provider, and must allow viewers to override the foreground and/or background color chosen by the caption provider and select alternate colors.

• Decoders must be capable of decoding and processing data for the six standard services, but information from only one service need be displayed at a given time.

• Decoders must include an option that permits a viewer to choose a setting that will display captions as intended by the caption provider (a default). Decoders must also include an option that allows a viewer's chosen settings to remain until the viewer chooses to alter these settings, including during periods when the television is turned off.

• Cable providers and other multichannel video programming distributors must transmit captions in a

format that will be understandable to this decoder circuitry in digital cable television sets when transmitting programming to digital television devices.

Covered Devices

• All digital television receivers with picture screens in the 4:3 aspect ratio measuring at least 13 inches diagonally, digital television receivers with picture screens in the 16:9 aspect ratio measuring 7.8 inches or larger vertically (this size corresponds to the vertical height of an analog receiver with a 13 inch diagonal), and all DTV tuners, shipped in interstate commerce or manufactured in the United States must comply with the minimum decoder requirements we are adopting here.

• The rules apply to DTV tuners whether or not they are marketed with display screens.

• Converter boxes used to display digital programming on analog receivers must deliver the encoded "analog" caption information to the attached analog receiver.

Compliance Dates

• Manufacturers must begin to include DTV closed caption functionality in DTV devices in accordance with the rules adopted in the Order by July 1, 2002.

• As provided for in the Commission's rules establishing requirements for the closed captioning of video programming adopted in a 1997 Order, programming prepared or formatted for display on digital television receivers before the date that digital television decoders are required to be included in digital television devices is considered "pre-rule" programming. As stated above, this order establishes that date as July 1, 2002. Therefore, programming prepared or formatted for display on digital television after that date will be considered new programming. The existing rules require an increasing amount of captioned new programming over an eight-year transition period with 100% of all new nonexempt programming required to be captioned by January 1, 2006.

Final Regulatory Flexibility Analysis

5. As required by the Regulatory Flexibility Act ("RFA"),[1] an Initial Regulatory Flexibility Analysis ("IRFA") was incorporated into the

[1] See 5 U.S.C. 603. The RFA, see 5 U.S.C. 601 et seq., has been amended by the Contract With America Advancement Act of 1996, Public Law 104–121, 110 Stat. 847 (1996) (CWAAA). Title II of the CWAAA is the Small Business Regulatory Enforcement Fairness Act of 1996 (SBREFA).

Notice of Proposed Rule Making ("NPRM") in this docket, ET Docket 99–254.[2] The Commission sought written public comment on the proposals in the NPRM, including comment on the IRFA. The Final Regulatory Flexibility Analysis ("FRFA") in this Report and Order conforms to the RFA.[3]

A. Need for, and Objectives of, the Report and Order

6. This Report and Order amends the Commission's rules to adopt technical standards for the display of closed captions on digital television ("DTV") receivers. In 1990, Congress passed the Television Decoder Circuitry Act ("TDCA").[4] The TDCA requires that any apparatus designed to receive television broadcast signals, manufactured or imported for use in the United States, must be able to display closed captioned information if its television screen is 33 centimeters (13 inches) or larger. The TDCA also instructs the Commission to ensure that closed captioning service continues to be available to consumers as new video technology is developed. The introduction of digital broadcasting requires the Commission to update its rules to fulfill its continuing obligations under the TDCA.

B. Summary of Significant Issues Raised by Public Comments in Response to the IRFA

7. No comments were filed in response to the IRFA or specifically regarding small entities.

C. Description and Estimate of the Number of Small Entities to Which the Rules Will Apply

8. The RFA directs agencies to provide a description of, and, where feasible, an estimate of the number of small entities that may be affected by the proposed rules, if adopted.[5] The RFA generally defines the term "small entity" as having the same meaning as the terms "small business," "small organization," and "small governmental jurisdictions." In addition, the term "small business" has the same meaning as the term "small business concern" under the Small Business Act, 15 U.S.C. 632, unless the Commission has developed one or more definitions that are appropriate to its activities.[6] A "small business concern" is one that: (1) is independently owned and operated; (2) is not dominant in its field of

operation; and (3) meets any additional criteria established by the Small Business Administration ("SBA").[7]

9. *Television Equipment Manufacturers.* According to the SBA's regulations, television equipment manufacturers must have 750 or fewer employees in order to qualify as a small business concern.[8] Census Bureau data indicates that there are 858 U.S. companies that manufacture radio and television broadcasting and communications equipment, and that 778 of these firms have fewer than 750 employees and would be classified as small entities.[9] The Census Bureau category is very broad, and specific figures are not available as to how many of these firms are manufacturers of television equipment. However, we believe that many of the companies that manufacture television equipment may qualify as small entities.

10. *Multichannel Video Programming Distributors ("MVPDs").* The SBA has developed a definition of small entities for cable and other pay television services under Standard Industrial Classification 4841 (SIC 4841), which covers subscription television services, which includes all such companies with annual gross revenues of $11 million or less.[10] This definition includes cable systems operators, closed circuit television services, direct broadcast satellite services, multipoint distribution systems, satellite master antenna systems and subscription television services. According to the Census Bureau, there were 1,423 such cable and other pay television services generating less than $11 million in revenue that were in operation for at least one year at the end of 1992.[11] The following provides a more precise estimate for the affected MVPD services individually.

11. *Cable Services or Systems.* The Commission has developed, with SBA's approval, its own definition of a "small cable company" and "small system" for the purposes of rate regulation. Under the Commission's rules, a "small cable company," is one serving fewer than

400,000 subscribers nationwide.[12] Based on our most recent information, we estimate that there were 1,439 cable companies that qualified as small cable companies at the end of 1995.[13] Since then, some of those companies may have grown to serve over 400,000 subscribers, and others may have been involved in transactions that caused them to be combined with other cable companies. Consequently, we estimate that there are fewer than 1,439 small entity cable companies. The Commission's rules also define a "small system," for the purposes of cable rate regulation, as a cable system with 15,000 or fewer subscribers.[14] We do not request nor do we collect information concerning cable systems serving 15,000 or fewer subscribers and thus are unable to estimate at this time the number of small cable systems nationwide.

12. The Communications Act also contains a definition of a "small cable operator," which is "a cable operator that, directly or through an affiliate, serves in the aggregate fewer than 1 percent of all subscribers in the United States and is not affiliated with any entity or entities whose gross annual revenues in the aggregate exceed $250,000,000."[15] The Commission has determined that there are 61,700,000 subscribers in the United States. Therefore, we found that an operator serving fewer than 617,000 subscribers is deemed a small operator, if its annual revenues, when combined with the total annual revenues of all of its affiliates, do not exceed $250 million in the aggregate.[16] Based on available data, we find that the number of cable operators serving 617,000 subscribers or less totals 1,450.[17] Although it seems certain that some of these cable system operators are affiliated with entities whose gross annual revenues exceed $250,000,000, we are unable at this time to estimate with greater precision the number of cable system operators that would qualify as small cable operators under the definition in the Communications Act. Furthermore, of those cable system operators that may qualify as small

[2] See ET Docket 99–254, FCC 99–180, 64 FR 41897 (1999).

[3] See 5 U.S.C. 604.

[4] Public Law 101–431, 104 Stat. 960 (1990) (codified at 47 U.S.C. 303(u), 303(b)).

[5] 5 U.S.C. 603(b)(3).

[6] *See* 5 U.S.C. 601(3).

[7] 15 U.S.C. 632.

[8] 13 CFR 121.201, (SIC) Code 3663.

[9] U.S. Department of Commerce, *1992 Census Transportation, Communications, and Utilities,* SIC Code 3663 (issued May 1995).

[10] 13 CFR 121.201.

[11] 1992 Census, *supra,* at Firm Size 1–123. *See Implementation of Sections of the Cable Telecommunications Consumer Protection and Competition Act of 1992, Rate Regulation and Cable Pricing Flexibility,* MM Docket No. 92–266 and CS Docket No. 96–157, Memorandum Opinion and Order and Notice of Proposed Rule Making, 61 FR 45356, August 29, 1996.

[12] 47 CFR 76.901(e). The Commission developed this definition based on its determinations that a small cable company is one with annual revenues of $100 million or less. *Implementation of Sections of the 1992 Cable Act: Rate Regulation,* MM Docket Nos. 92–266 & 93–215, Sixth Report and Order and Eleventh Order on Reconsideration, 60 FR 35854, July 12, 1995.

[13] Paul Kagan Associates, Inc., *Cable TV Investor,* Feb. 29, 1996 (based on figures for Dec. 30, 1995).

[14] 47 CFR 76.901(c).

[15] 47 U.S.C. 543(m)(2).

[16] 47 CFR 76.1403(b).

[17] Paul Kagan Associates, Inc., *Cable TV Investor,* Feb. 29, 1996 (based on figures for Dec. 30, 1995).

cable operators, only those that deliver digital cable programming would be affected by our rules. According to General Instrument Corporation, approximately 1,000 headends are currently delivering digital video signals. It is uncertain how many of these 1,000 cable operators fall under the definition of a small cable company based on the Commission's rules or the Communications Act, but in any event the number would be no greater than 1,000.

13. *Direct Broadcast Satellite ("DBS") Service.* The SBA includes DBS service in its classification of cable and other pay television services. Therefore, a small DBS service is defined as a company generating $11 million or less in annual receipts.[18] As of November 1999, there were four DBS licensees, one of which was not in operation. Providing DBS service requires a great investment of capital to build, launch, and operate satellite systems. Typically, small businesses do not have the financial ability to become DBS licensees because of the high implementation costs associated with launching satellites. Most recent industry statistics suggest that the revenue attributed to DBS subscribers for EchoStar was $682.8 million for the year of 1998 and $1.55 billion for DirecTV. We do not have similar revenue information for the third operating licensee, Dominion Video Satellite, Inc. However, we do not believe that any DBS licensees could be categorized as a small business.

14. *Home Satellite Dish ("HSD") Service.* The market for HSD service is difficult to quantify. HSD owners have access to more than 500 channels of programming placed on C-band satellites by programmers for receipt and distribution by MVPDs, of which 350 channels are scrambled and approximately 150 channels are unscrambled.[19] To receive scrambled channels, an HSD owner must purchase an integrated receiver-decoder from an equipment dealer and pay a subscription fee to an HSD programming packager. Thus, those HSD users that subscribe to a programming package are similar to consumers that subscribe to cable and other pay television services. Accordingly, it appears that the definition of small entity under SIC 4841 (i.e., all such companies generating

$11 million or less in annual receipts [20]) would be applicable to this service.

15. According to the most recently available information, there are approximately 20 to 25 program packagers nationwide offering packages of scrambled programming to retail consumers. As of June 1999, these program packagers provide subscriptions to approximately 1,783,411 subscribers nationwide.[21] This is an average of about 90,000 subscribers per program packager. This is substantially smaller than the 400,000 subscribers used in the Commission's definition of a small multiple system operator ("MSO"). Furthermore, because this is an average, it is likely that some program packagers may be substantially smaller. Therefore, this Report and Order could affect all 25 program packagers.

D. Description of Projected Reporting, Record Keeping and Other Compliance Requirements

16. The Commission's rules require television receivers to be verified for compliance with applicable FCC technical requirements. *See* 47 CFR 15.101, 15.117, and 2.951, *et seq.* Documentation concerning the verification must be kept by the manufacturer or importer. The rules adopted in this proceeding require that digital television receivers comply with industry-developed standards for closed captioning display. However, testing regarding closed captioning display is not necessary because compliance with the industry-developed standards, and the associated Commission rules, can be determined easily during the equipment design process. The Commission may, of course, ask manufacturers and importers to document upon occasion how a particular television receiver or computer system complies with the closed captioning display requirements. This should be a nominal request, requiring no specific expertise or knowledge, and should be accomplished in a very brief amount of time.

E. Steps Taken To Minimize Significant Economic Impact on Small Entities, and Significant Alternatives Considered

17. The RFA requires an agency to describe any significant alternatives that it has considered in reaching its proposed approach, which may include the following four alternatives (among others): (1) the establishment of

differing compliance or reporting requirements or timetables that take into account the resources available to small entities; (2) the clarification, consolidation, or simplification of compliance or reporting requirements under the rule for small entities; (3) the use of performance, rather than design, standards; and (4) an exemption from coverage of the rule, or any part thereof, for small entities. 5 U.S.C. 603(c).

18. Some commenters representing cable operators and cable equipment manufacturers are concerned that adoption of the proposals in the NPRM will render many cable boxes obsolete.

They state that the boxes that are used to receive digital cable programming are unable to process EIA–708 data. These boxes only read closed captioning data which has been delivered through a cable system pursuant to the Society of Cable Telecommunications Engineers ("SCTE") standard DVS–157.[22] Many cable boxes that only receive caption data delivered via DVS–157 are already in customer's homes and are being used to view digital cable programming on analog televisions.

19. Cable commenters propose that the Commission adopt rules that would require that digital closed captioning information be delivered in the DVS–157 format and would require that digital televisions ("DTVs") contain decoder circuitry that responds to DVS–157. Alternatively, they state that the Commission could consider a "dual carriage" requirement wherein broadcasters would deliver captions in both the EIA–708 format and the DVS–157 format. The third option they suggest is that the Commission detail which advanced features are required, such as support for multiple character colors, and let manufacturers design receivers to accomplish these features using existing captioning standards and the digital television's built-in graphic processing capabilities.

20. We disagree with these suggested alternatives to the proposed rules. We note that the comments and replies in this proceeding express an overwhelming support for adoption of the EIA–708 standard. Although commenters have raised some concerns regarding the amount of EIA–708 to include in our rules, most were in favor of adopting at least portions of the standard. Adoption of EIA–708 will supply manufacturers with a uniform set of rules to follow in providing closed captioning capability. Furthermore,

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[18] 13 CFR 121.201.

[19] See Annual Assessment of the Stations of Competition in Markets for the Delivery of Video Programming, CS Docket No. 97–141, Fourth Annual Report, 63 FR 10222, March 2, 1998.

[20] 13 CFR 121.201.

[21] See Annual Assessment of the Stations of Competition in Markets for the Delivery of Video Programming, CS Docket No. 99–230, Sixth Annual Report, 64 FR 36013, July 2, 1999.

[22] General Instruments developed DVS–157 in 1992–1993 as a means for delivering NTSC captioning data (formatted pursuant to industry standard EIA–608) within digital video signals.

EIA–708 is the logical choice for delivering closed caption information to digital television receivers because DTVs have been designed to receive programming formatted pursuant to the digital television transmission standard, ATSC A/53. The transmission standard reserves a data stream for the delivery of caption information. EIA–708 was developed to fill that reserved space. In the NPRM the Commission proposed that manufacturers comply with the regulations within one year. However, to minimize the impact on businesses, including small entities, we have provided two years in order to comply.

21. We note that SCTE, which is currently drafting its Digital Cable Network Interface Standard, has delayed modifying the closed captioning requirements in that standard, pending FCC action in this proceeding. SCTE notes that, ''Some have proposed that the references to the current practice of using DVS–157 to transport captions be removed. They want to be able to build portable receiving devices compatible with these specifications without the support to decode captions carried in the DVS–157 format.'' [23] Therefore, it appears that the industry is already working to resolve this standards issue.

22. The Commission will send a copy of the Report and Order, including this FRFA, in a report to be sent to Congress pursuant to SBREFA. In addition, the Commission will send a copy of the Report and Order, including FRFA, to the Chief Counsel for Advocacy of the SBA.

List of Subjects in 47 CFR Parts 15 and 79

Communications equipment, Closed captioning, Incorporation by reference, Television.

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[23] SCTE DVS/335, ''Report of DVS/313 Drafting Group on Outstanding Issues of DVS 313 Revision 1'', April 27, 2000.

Federal Communications Commission.

Magalie Roman Salas,
Secretary.

Rule Changes

For the reasons discussed in the preamble, the Federal Communications Commission amends 47 CFR parts 15 and 79 as follows:

PART 15—RADIO FREQUENCY DEVICES

The authority citation for part 15 is revised to read as follows:

Authority: 47 U.S.C. 154, 302, 303, 304, 307, 330, and 544A.

1. Section 15.119, the section heading is revised to read as follows:

§ 15.119   Closed caption decoder requirements for analog television receivers.

*   *   *   *   *

2. A new § 15.122 is added to read as follows:

§ 15.122   Closed caption decoder requirements for digital television receivers and converter boxes.

(a)(1) Effective July 1, 2002, all digital television receivers with picture screens in the 4:3 aspect ratio with picture screens measuring 13 inches or larger diagonally, all digital television receivers with picture screens in the 16:9 aspect ratio measuring 7.8 inches or larger vertically and all separately sold DTV tuners shipped in interstate commerce or manufactured in the United States shall comply with the provisions of this section.

Note to paragraph (a)(1): This paragraph places no restrictions on the shipping or sale of digital television receivers that were manufactured before July 1, 2002.

(2) Effective July 1, 2002, DTV converter boxes that allow digitally transmitted television signals to be displayed on analog receivers shall pass available analog caption information to the attached receiver in a form recognizable by that receiver's built-in caption decoder circuitry.

Note to paragraph (a)(2): This paragraph places no restrictions on the shipping or sale of DTV converter boxes that were manufactured before July 1, 2002.

(b) Digital television receivers and tuners must be capable of decoding closed captioning information that is delivered pursuant to the industry standard EIA–708–B, ''Digital Television (DTV) Closed Captioning,'' Electronic Industries Alliance (December, 1999). This incorporation by reference was approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Digital television manufacturers may wish to view EIA–708–B in its entirety. Copies of EIA–708–B may be obtained from: Global Engineering Documents, 15 Inverness Way East, Englewood, CO 80112–5704, *http://www.global.ihs.com/* . Copies of EIA–708–B may be inspected during regular business hours at the following locations: Federal Communications Commission, 445 12th Street, SW., Washington, DC 20554, or the Office of the Federal Register, 800 N. Capitol Street, NW., Suite 700, Washington, DC.

(c) *Services.* (1) Decoders must be capable of decoding and processing data for the six standard services, Caption Service #1 through Caption Service #6.

(2) Decoders that rely on Program and System Information Protocol data to implement closed captioning functions must be capable of decoding and processing the Caption Service Directory data. Such decoders must be capable of decoding all Caption Channel Block Headers consisting of Standard Service Headers, Extended Service Block Headers, and Null Block headers. However, decoding of the data is required only for Standard Service Blocks (Service IDs <-6), and then only if the characters for the corresponding language are supported. The decoders must be able to display the directory for services 1 through 6.

(d) *Code space organization.* (1) Decoders must support Code Space C0, G0, C1, and G1 in their entirety.

		C 0		G 0						C 1		G 1					
B7-b4		0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
b3-b0	0	NUL	EXT1	SP	0	@	P	`	p	CW0	SPA	NBS	°	À	Ð	à	ð
	1			!	1	A	Q	a	q	CW1	SPC	¡	±	Á	Ñ	á	ñ
	2			"	2	B	R	b	r	CW2	SPL	¢	²	Â	Ò	â	ò
	3	ETX		#	3	C	S	c	s	CW3		£	³	Ã	Ó	ã	ó
	4			$	4	D	T	d	t	CW4		¤	´	Ä	Ô	ä	ô
	5			%	5	E	U	e	u	CW5		¥	µ	Å	Õ	å	õ
	6			&	6	F	V	f	v	CW6		¦	¶	Æ	Ö	æ	ö
	7			'	7	G	W	g	w	CW7	SWA	§	·	Ç	×	ç	÷
	8	BS	P16	(	8	H	X	h	x	CLW	DF0	¨	¸	È	Ø	è	ø
	9			)	9	I	Y	i	y	DSW	DF1	©	¹	É	Ù	é	ù
	A			*	:	J	Z	j	z	HDW	DF2	ª	º	Ê	Ú	ê	ú
	B			+	;	K	[	k	{	TGW	DF3	«	»	Ë	Û	ë	û
	C	FF		,	<	L	\	l	|	DLW	DF4	¬	¼	Ì	Ü	ì	ü
	D	CR		-	=	M	]	m	}	DLY	DF5		½	Í	Ý	í	ý
	E	HCR		.	>	N	^	n	~	DLC	DF6	®	¾	Î	Þ	î	þ
	F			/	?	O	_	o	♪	RST	DF7	¯	¿	Ï	ß	ï	ÿ
	0			TSP								[cc]					
	1			NBTSP	'												
	2				'												
	3				"												
	4				"												
	5			...													
	6								⅛								
	7								⅜								
	8								⅝								
	9				™				⅞								
	A			Š	š				⌐								
	B								⌐								
	C			Œ	œ				⌐								
	D				SM				—								
	E								⌐								
	F			Ÿ					⌐								
		C 2		G 2						C 3		G 3					

Table 1 DTVCC Code Set Mapping

(2) The following characters within code space G2 must be supported:

(i) Transparent space (TSP).

(ii) Non-breaking transparent space (NBTSP).

(iii) Solid block ( ).

(iv) Trademark symbol (™).

(v) Latin-1 characters (S, Œ, s, Œ, Y).

(3) The substitutions in Table 2 are to be made if a decoder does not support the remaining G2 characters.

TABLE 2.—G2 CHARACTER SUBSTITUTION TABLE

G2 Character	Substitute with
Open single quote ('), G2 char code 0×31	G0 single quote ('), char code 0×27
Close single quote ('), G2 char code 0×32	G0 single quote ('), char code 0×27
Open double quote ("), G2 char code 0×33	G0 double quote ("), char code 0×22
Close double quote ("), G2 char code 0×34	G0 double quote ("), char code 0×22
Bold bullet (•), G2 char code 0×35	G1 bullet (•), char code 0×B7
Elipsis (. . .), G2 char code 0×25	G0 underscore ( ), char code 0×5F
One-eighth (⅛), G2 char code 0×76	G0 percent sign (%), char code 0×25
Three-eighths (⅜), G2 char code 0×77	G0 percent sign (%), char code 0×25

TABLE 2.—G2 CHARACTER SUBSTITUTION TABLE—Continued

G2 Character	Substitute with
Five-eighths (⅝), G2 char code 0×78	G0 percent sign (%), char code 0×25
Seven-eighths (⅞), G2 char code 0×79	G0 percent sign (%), char code 0×25
Vertical border (│), G2 char code 0×7A	G0 stroke (│), char code 0×7C
Upper-right border (┐), G2 char code 0×7B	G0 dash (-), char code 0×2D
Lower-left border (└), G2 char code 0×7C	G0 dash (-), char code 0×2D
Horizontal border (—), G2 char code 0×7D	G0 dash (-), char code 0×2D
Lower-right border (┘), G2 char code 0×7E	G0 dash (-), char code 0×2D
Upper-left border (┌), G2 char code 0×7F	G0 dash (-), char code 0×2D

(4) Support for code spaces C2, C3, and G3 is optional. All unsupported graphic symbols in the G3 code space are to be substituted with the G0 underscore character (   ), char code 0×5F.

(e) *Screen coordinates.* Table 3 specifies the screen coordinate resolutions and limits for anchor point positioning in 4:3 and 16:9 display formats, and the number of characters per row.

TABLE 3.—SCREEN COORDINATE RESOLUTIONS AND LIMITS

Screen aspect ratio	Maximum anchor position resolution	Minimum anchor position resolution	Maximum displayed rows	Maximum characters per row
4:3	75v × 160h	15v × 32h	4	32
16:9	75v × 210h	15v × 42h	4	42
Other	75v × (5 × H)	15v × H*	4	[1]

[1] H = 32 × (the width of the screen in relation to a 4:3 display). For example, the 16:9 format is ⅓ wider than a 4:3 display; thus, H = 32 * ⁴⁄₃ = 42.667, or 42.

(1) This means that the minimum grid resolution for a 4:3 aspect ratio instrument is 15 vertical positions × 32 horizontal positions. This minimum grid resolution for 16:9 ratio instrument is 15 vertical positions × 42 horizontal positions. These minimum grid sizes are to cover the entire safe-title area of the corresponding screen.

(2) The minimum coordinates equate to a ⅕ reduction in the maximum horizontal and vertical grid resolution coordinates. Caption providers are to use the maximum coordinate system values when specifying anchor point positions. Decoders using the minimum resolution are to divide the provided horizontal and vertical screen coordinates by 5 to derive the equivalent minimum coordinates.

(3) Any caption targeted for both 4:3 and 16:9 instruments is limited to 32 contiguous characters per row. If a caption is received by a 4:3 instrument that is targeted for a 16:9 display only, or requires a window width greater than 32 characters, then the caption may be completely disregarded by the decoder. 16:9 instruments should be able to process and display captions intended for 4:3 displays, providing all other minimum recommendations are met.

(4) If the resulting size of any window is larger than the safe title area for the corresponding display's aspect ratio, then this window will be completely disregarded.

(f) *Caption windows.* (1) Decoders need to display no more than 4 rows of captions on the screen at any given time, regardless of the number of windows displayed. This implies that no more than 4 windows can be displayed at any given time (with each having only one caption row). However, decoders should maintain storage to support a minimum total of 8 rows of captions. This storage is needed for the worst-case support of a displayed window with 4 rows of captioning and a non-displayed window which is buffering the incoming rows for the next 4-row caption. As implied above, the maximum number of windows that may be displayed at any one time by a minimum decoder implementation is 4. If more than 4 windows are defined in the caption stream, the decoder may disregard the youngest and lowest priority window definition(s). Caption providers must be aware of this limitation, and either restrict the total number of windows used or accept that some windows will not be displayed.

(2) Decoders do not need to support overlapped windows. If a window overlaps another window, the overlapped window need not be displayed by the decoder.

(3) At a minimum, decoders will assume that all windows have rows and columns "locked". This implies that if a decoder implements the SMALL pen-size, then word-"un"wrapping, when shrinking captions, need not be

implemented. Also, if a decoder implements the LARGE pen size, then word wrapping (when enlarging captions) need not be implemented.

(4) Whenever possible, the receiver should render embedded carriage returns as line breaks, since these carriage returns indicate an important aspect of the caption's formatting as determined by the service provider. However, it may sometimes be necessary for the receiver to ignore embedded line breaks. For example, if a caption is to appear in a larger font, and if its window's rows and/or columns are unlocked, the rows of text may need to become longer or shorter to fit within the allocated space. Such automatic reformatting of a caption is known as "word wrap." If decoders support word-wrapping, it must be implemented as follows:

(i) The receiver should follow standard typographic practice when implementing word wrap. Potential breaking points (word-wrapping points) are indicated by the space character (20h) and by the hyphen character (2Dh).

(ii) If a row is to be broken at a space, the receiver should remove the space from the caption display. If a row is to be broken after a hyphen, the hyphen should be retained.

(iii) If an embedded return is to be removed, it should usually be replaced with a space. However, if the character to the left of the embedded return is a

hyphen, the embedded return should be removed but NOT replaced with a space.

(iv) This specification does not include optional hyphens, nor does it provide for any form of automatic hyphenation. No non-breaking hyphen is defined. The non-breaking space (A0h in the G1 code set) and the non-breaking transparent space (21h in the G2 code set) should not be considered as potential line breaks.

(v) If a single word exceeds the length of a row, the word should be placed at the start of a new row, broken at the character following the last character that fits on the row, and continued with further breaks if needed.

(g) *Window text painting.* (1) All decoders should implement ''left'', ''right'', and ''center'' caption-text justification. Implementation of ''full'' justification is optional. If ''full'' justification is not implemented, fully justified captions should be treated as though they are ''left'' justified.

(i) For ''left'' justification, decoders should display any portion of a received row of text when it is received. For ''center'', ''right'', and ''full'' justification, decoders may display any

portion of a received row of text when it is received, or may delay display of a received row of text until reception of a row completion indicator. A row completion indicator is defined as receipt of a CR, ETX or any other command, except SetPenColor, SetPenAttributes, or SetPenLocation where the pen relocation is within the same row.

(ii) Receipt of a character for a displayed row which already contains text with ''center'', ''right'' or ''full'' justification will cause the row to be cleared prior to the display of the newly received character and any subsequent characters. Receipt of a justification command which changes the last received justification for a given window will cause the window to be cleared.

(2) At a minimum, decoders must support LEFT_TO_RIGHT printing.

(3) At a minimum, decoders must support BOTTOM_TO_TOP scrolling. For windows sharing the same horizontal scan lines on the display, scrolling may be disabled.

(4) At a minimum, decoders must support the same recommended

practices for scroll rate as is provided for NTSC closed-captioning.

(5) At a minimum, decoders must support the same recommended practices for smooth scrolling as is provided for NTSC closed-captioning.

(6) At a minimum, decoders must implement the ''snap'' window display effect. If the window ''fade'' and ''wipe'' effects are not implemented, then the decoder will ''snap'' all windows when they are to be displayed, and the ''effect speed'' parameter is ignored.

(h) *Window colors and borders.* At a minimum, decoders must implement borderless windows with solid, black backgrounds (i.e., border type = NONE, fill color = (0,0,0), fill opacity = SOLID), and borderless transparent windows (i.e., border type = NONE, fill opacity = TRANSPARENT).

(i) *Predefined window and pen styles.* Predefined Window Style and Pen Style ID's may be provided in the DefineWindow command. At a minimum, decoders should implement Predefined Window Attribute Style 1 and Predefined Pen Attribute Style 1, as shown in Table 4 and Table 5, respectively.

TABLE 4.—PREDEFINED WINDOW STYLE ID'S

Style ID #	Justify	Print direction	Scroll direction	Word wrap	Display effect	Effect direction	Effect speed	Fill color	Fill opacity	Border type	Border color	Usage
1	Left	Left-to-right	Bottom-to-top	No	Snap	n/a	n/a	(0,0,0) Black.	Solid	None	n/a	NTSC Style PopUp Captions
2	Left	Left-to-right	Bottom-to-top	No	Snap	n/a	n/a	n/a	Transparent.	None	n/a	PopUp Captions w/o Black Background
3	Cntr	Left-to-right	Bottom-to-top	No	Snap	n/a	n/a	(0,0,0) Black.	Solid	None	n/a	NTSC Style Centered PopUp Captions
4	Left	Left-to-right	Bottom-to-top	Yes	Snap	n/a	n/a	(0,0,0) Black.	Solid	None	n/a	NTSC Style RollUp Captions
5	Left	Left-to-right	Bottom-to-top	Yes	Snap	n/a	n/a	n/a	Transparent.	None	n/a	RollUp Captions w/o Black Background
6	Cntr	Left-to-right	Bottom-to-top	Yes	Snap	n/a	n/a	(0,0,0) Black.	Solid	None	n/a	NTSC Style Centered RollUp Captions
7	Left	Top-to-bottom	Right-to-left	No	Snap	n/a	n/a	(0,0,0) Black.	Solid	None	n/a	Ticker Tape

TABLE 5.—PREDEFINED PEN STYLE ID'S

Predefined style ID	Pen size	Font style	Offset	Italics	Underline	Edge type	Foregrnd color	Foregrnd opacity	Backgrnd color	Backgrnd opacity	Edge color	Usage
1	Stndr	0	Normal	No	No	None	(2,2,2) White.	Solid	(0,0,0) Black.	Solid	n/a	Default NTSC Style*
2	Stndr	1	Normal	No	No	None	(2,2,2) White.	Solid	(0,0,0) White.	Solid	n/a	NTSC Style* Mono w/Serif
3	Stndr	2	Normal	No	No	None	(2,2,2) White.	Solid	(0,0,0) Black.	Solid	n/a	NTSC Style* Prop w/ Serif
4	Stndr	3	Normal	No	No	None	(2,2,2) White.	Solid	(0,0,0) Black.	Solid	n/a	NTSC Style* Mono w/o Serif
5	Stndr	4	Normal	No	No	None	(2,2,2) White.	Solid	(0,0,0) Black.	Solid	n/a	NTSC Style* Prop w/o Serif
6	Stndr	3	Normal	No	No	Unifrm	(2,2,2) White.	Solid	n/a	Transparent	(0,0,0) Black.	Mono w/o Serif, Bordered Text, No BG
7	Stndr	4	Normal	No	No	Unifrm	(2,2,2) White.	Solid	n/a	Transparent	(0,0,0) Black.	Prop. w/o Serif, Bordered Text, No BG

*"NTSC Style"—White Text on Black Background

(j) *Pen size.* (1) Decoders must support the standard, large, and small pen sizes and must allow the caption provider to choose a pen size and allow the viewer to choose an alternative size. The STANDARD pen size should be implemented such that the height of the tallest character in any implemented font is no taller than $\frac{1}{15}$ of the height of the safe-title area, and the width of the widest character is no wider than $\frac{1}{32}$ of the width of the safe-title area for 4:3 displays and $\frac{1}{42}$ of the safe-title area width for 16:9 displays.

(2) The LARGE pen size should be implemented such that the width of the widest character in any implemented font is no wider than $\frac{1}{32}$ of the safe-title area for 16:9 displays. This recommendation allows for captions to grow to a LARGE pen size without having to reformat the caption since no caption will have more than 32 characters per row.

(k) *Font styles.* (1) Decoders must support the eight fonts listed below. Caption providers may specify 1 of these 8 font styles to be used to write caption text. The styles specified in the ''font style'' parameter of the SetPenAttributes command are numbered from 0 through 7. The following is a list of the 8 required font styles. For information purposes only, each font style references one or more popular fonts which embody the characteristics of the style:

(i) 0—Default (undefined)

(ii) 1—Monospaced with serifs (similar to Courier)

(iii) 2—Proportionally spaced with serifs (similar to Times New Roman)

(iv) 3—Monospaced without serifs (similar to Helvetica Monospaced)

(v) 4—Proportionally spaced without serifs (similar to Arial and Swiss)

(vi) 5—Casual font type (similar to Dom and Impress)

(vii) 6—Cursive font type (similar to Coronet and Marigold)

(viii) 7—Small capitals (similar to Engravers Gothic)

(2) Font styles may be implemented in any typeface which the decoder manufacturer deems to be a readable rendition of the font style, and need not be in the exact typefaces given in the example above. Decoders must include the ability for consumers to choose among the eight fonts. The decoder must display the font chosen by the caption provider unless the viewer chooses a different font.

(l) *Character offsetting.* Decoders need not implement the character offsetting (*i.e.,* subscript and superscript) pen attributes.

(m) *Pen styles.* At a minimum, decoders must implement normal, italic, and underline pen styles.

(n) *Foreground color and opacity.* (1) At a minimum, decoders must implement transparent, translucent, solid and flashing character foreground type attributes.

(2) At a minimum, decoders must implement the following character foreground colors: white, black, red, green, blue, yellow, magenta and cyan.

(3) Caption providers may specify the color/opacity. Decoders must include the ability for consumers to choose among the color/opacity options. The decoder must display the color/opacity chosen by the caption provider unless the viewer chooses otherwise.

(o) *Background color and opacity.* (1) Decoders must implement the following background colors: white, black, red, green, blue, yellow, magenta and cyan. It is recommended that this background is extended beyond the character foreground to a degree that the foreground is separated from the underlying video by a sufficient number of background pixels to insure the foreground is separated from the background.

(2) Decoders must implement transparent, translucent, solid and flashing background type attributes. Caption providers may specify the color/opacity. Decoders must include the ability for consumers to choose among the color/opacity options. The decoder must display the color/opacity chosen by the caption provider unless the viewer chooses otherwise.

(p) Character edges. Decoders must implement separate edge color and type attribute control.

(q) Color representation. (1) At a minimum, decoders must support the 8 colors listed in Table 6.

TABLE 6.—MINIMUM COLOR LIST TABLE

Color	Red	Green	Blue
Black	0	0	0
White	2	2	2
Red	2	0	0
Green	0	2	0
Blue	0	0	2
Yellow	2	2	0
Magenta	2	0	2
Cyan	0	2	2

(2)(i) When a decoder supporting this Minimum Color List receives an RGB value not in the list, it will map the received value to one of the values in the list via the following algorithm:

(A) All one (1) values are to be changed to 0.

(B) All two (2) values are to remain unchanged.

(C) All three (3) values are to be changed to 2.

(ii) For example, the RGB value (1,2,3) will be mapped to (0,2,2), (3,3,3) will be mapped to (2,2,2) and (1,1,1) will be mapped to (0,0,0).

(3) Table 7 is an alternative minimum color list table supporting 22 colors.

TABLE 7.—ALTERNATIVE MINIMUM COLOR LIST TABLE

Color	Red	Green	Blue
Black	0	0	0
Gray	1	1	1
White	2	2	2
Bright White	3	3	3
Dark Red	1	0	0
Red	2	0	0
Bright Red	3	0	0
Dark Green	0	1	0
Green	0	2	0
Bright Green	0	3	0
Dark Blue	0	0	1
Blue	0	0	2
Bright Blue	0	0	3
Dark Yellow	1	1	0
Yellow	2	2	0
Bright Yellow	3	3	0
Dark Magenta ...	1	0	1
Magenta	2	0	2
Bright Magenta	3	0	3
Dark Cyan	0	1	1
Cyan	0	2	2
Bright Cyan	0	3	3

(i) When a decoder supporting the Alternative Minimum Color List in Table 7 receives an RGB value not in the list (i.e., an RGB value whose non-zero elements are not the same value), it will map the received value to one of the values in the list via the following algorithm:

(A) For RGB values with all elements non-zero and different—e.g., (1,2,3), (3,2,1), and (2,1,3), the 1 value will be changed to 0, the 2 value will remain unchanged, and the 3 value will be changed to 2.

(B) For RGB values with all elements non-zero and with two common elements—e.g. (3,1,3), (2,1,2), and (2,2,3), if the common elements are 3 and the uncommon one is 1, then the 1 elements is changed to 0; e.g. (3,1,3) → (3,0,3). If the common elements are 1 and the uncommon element is 3, then the 1 elements are changed to 0, and the 3 element is changed to 2; e.g. (1,3,1) → (0,2,0). In all other cases, the uncommon element is changed to the common value; e.g., (2,2,3) → (2,2,2), (1,2,1) → (1,1,1), and (3,2,3) → (3,3,3).

(ii) All decoders not supporting either one of the two color lists described above, must support the full 64 possible RGB color value combinations.

(r) *Character rendition considerations.* In NTSC Closed Captioning, decoders were required to insert leading and trailing spaces on each caption row. There were two reasons for this requirement:

(1) To provide a buffer so that the first and last characters of a caption row do not fall outside the safe title area, and

(2) To provide a black border on each side of a character so that the ''white'' leading pixels of the first character on a row and the trailing ''white'' pixels of the last character on a row do not bleed into the underlying video.

(i) Since caption windows are required to reside in the safe title area of the DTV screen, reason 1 (above) is not applicable to DTVCC captions.

(ii) The attributes available in the SetPenAttributes command for character rendition (e.g., character background and edge attributes) provide unlimited flexibility to the caption provider when describing caption text in an ideal decoder implementation. However, manufacturers need not implement all pen attributes. Thus it is recommended that no matter what the level of implementation, decoder manufacturers should take into account the readability of all caption text against a variety of all video backgrounds, and should implement some automatic character delineation when the individual control of character foreground, background and edge is not supported.

(s) *Service synchronization.* Service Input Buffers must be at least 128 bytes in size. Caption providers must keep this lower limit in mind when following Delay commands with other commands and window text. In other words, no more than 128 bytes of DTVCC commands and text should be transmitted (encoded) before a pending Delay command's delay interval expires.

(t) *Settings.* Decoders must include an option that permits a viewer to choose a setting that will display captions as intended by the caption provider (a default). Decoders must also include an option that allows a viewer's chosen settings to remain until the viewer chooses to alter these settings, including periods when the television is turned off.

PART 79—CLOSED CAPTIONING OF VIDEO PROGRAMMING

1. The authority citation for part 79 continues to read as follows:

Authority: 47 U.S.C. 613.

2. Section 79.1 is amended by revising paragraphs (a)(4) and (c) to read as follows:

§ 79.1   Closed captionng of video programming.

(a) * * *

(1) *Closed captioning.* The visual display of the audio portion of video programming pursuant to the technical specifications set forth in part 15 of this chapter.

*   *   *   *   *

(c) *Obligation to pass through captions of already captioned programs.* All video programming distributors shall deliver all programming received from the video programming owner or other origination source containing closed captioning to receiving television households with the original closed captioning data intact in a format that can be recovered and displayed by decoders meeting the standards of part 15 of this chapter unless such programming is recaptioned or the captions are reformatted by the programming distributor.

*   *   *   *   *

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FEDERAL COMMUNICATIONS COMMISSION

47 CFR Part 20

[PR Docket No. 94–54; FCC 00–251]

Interconnection and Resale Obligations Pertaining to Commercial Mobile Radio Services

AGENCY: Federal Communications Commission.

ACTION: Final rule.

SUMMARY: The Federal Communications Commission (the Commission) previously required certain providers of Commercial Mobile Radio Services (CMRS) to provide ''manual'' roaming service upon reasonable request to any subscriber. In this document, the Commission modifies the scope of the ''manual'' roaming rule to apply only to CMRS providers that offer real-time two-way switched voice or data service that is interconnected with the public switched network using an in-network switching facility. Additionally, the Commission revises the scope to extend to cellular and broadband PCS providers. Also, the Commission extends the rule to cover data-only services as well as voice services. Finally, the Commission terminates its consideration in this docket of issues relating to ''automatic'' roaming and the potential sunset of the ''manual'' roaming rule.

DATES: Effective November 28, 2000.

FOR FURTHER INFORMATION CONTACT: For further information, contact Paul Murray, Wireless Telecommunications Bureau, at (202) 418–0688; additional information concerning the information collections contained in this document contact Judy Boley at (202) 418–0214, or via the Internet at jboley@fcc.gov.

SUPPLEMENTARY INFORMATION: This *Memorandum Opinion & Order (MO&O)* in PR Docket No. 93–144, adopted August 2, 2000, and released August 4, 2000, is available for inspection and copying during normal business hours in the FCC Reference Center, 445 Twelfth Street, SW., Washington DC. The complete text may be purchased from the Commission's copy contractor, International Transcription Service, Inc., 1231 20th Street, NW., Washington DC 20036 (202) 857–3800.

Synopsis of Memorandum Opinion and Order

I. Introduction

1. Roaming occurs when the subscriber of one CMRS provider utilizes the facilities of another CMRS provider with which the subscriber has no direct pre-existing service or financial relationship to place an outgoing call, to receive an incoming call, or to continue an in-progress call. Roaming service can be provided through a variety of technical and contractual arrangements.

2. In 1996, we determined in the *Second Report and Order and Third Notice of Proposed Rulemaking (''Second Report and Order''),* 11 FCC Rcd 9462 (1996), published 61 FR 44026 (Aug. 27, 1996), that the availability of roaming on broadband wireless networks was important to the development of nationwide, ubiquitous, and competitive wireless voice telecommunications, and that market forces alone might not be sufficient to cause roaming to become widely available during the period in which systems to provide these services were being built. Accordingly, we ordered that our then-existing ''manual'' roaming rule requiring cellular carriers to serve individual roamers, 47 CFR 22.901, be extended to include other CMRS providers, both broadband PCS and ''covered'' SMR, that offer comparable competitive telephony services so long as the roamer's handset is technically capable of accessing their services.

II. Summary of the Memorandum Opinion and Order on Reconsideration

3. In this order we consider three petitions for reconsideration and/or clarification of the ''manual'' roaming