

the personal desire of an official or employee. These items fall into the category of "luxury items" since they do not contribute to the fulfillment of missions normally assigned to Federal agencies.

Subpart 101-26.3—Procurement of GSA Stock Items

Section 101-26.301-1 is revised as follows:

§ 101-26.301-1 Similar items.

(a) Agencies required to procure, exclusively, items listed in the GSA Stock Catalog shall utilize such items in lieu of procuring similar items from other sources when the GSA items will adequately serve the required functional end-use purpose.

(b) When an agency determines that items available from GSA stock will not serve the required functional end-use purpose of the item proposed to be procured, a request to waive the requirement to use this source shall be submitted to GSA for consideration in accordance with the provisions of § 101-26.100-2.

Subpart 101-26.4—Purchase of Items From Federal Supply Schedule Contracts

Section 101-26.401-3 is revised as follows:

§ 101-26.401-3 Similar items.

(a) Agencies required to use Federal Supply Schedule contracts shall obtain needed items from this source in lieu of procuring similar items from other sources when the Federal Supply Schedule item will adequately serve the required functional end-use purpose. This is not applicable where procurement (1) does not exceed the amount set forth in the "Small Requirements" provision, (2) is to be effected under the "Urgent Requirements" provision, or (3) is for delivery outside the geographical area specified in the scope of contract provision.

(b) When an agency determines that items available from Federal Supply Schedule contracts will not serve the required functional end-use purpose of the item proposed to be procured, a request to waive the requirement to use this source shall be submitted to GSA for consideration in accordance with the provision of § 101-26.100-2.

Section 101-26.401-4 is amended as follows:

§ 101-26.401-4 Exceptions to mandatory use.

(f) [Deleted]

(Sec. 205(c) 63 Stat. 390; 40 U.S.C. 486(c))

Effective date. This regulation is effective upon publication in the FEDERAL REGISTER (8-31-71).

Dated August 24, 1971.

ROBERT L. KUNZIG,
Administrator of General Services.
[FR Doc.71-12716 Filed 8-30-71;8:49 am]

PART 101-26—PROCUREMENT SOURCES AND PROGRAMS

Establishing Policy on Adjusting Quantities Requisitioned

A policy is established to permit GSA a reasonable degree of latitude in adjusting quantities requisitioned to conform to the applicable bulk/shipping container pack.

The table of contents for Part 101-26 is amended by the addition of the following new entry:

Sec.
101-26.312 Adjusting quantities requisitioned.

Subpart 101-26.3—Procurement of GSA Stock Items

Section 101-26.312 is added as follows:

§ 101-26.312 Adjusting quantities requisitioned.

Quantities on requisitions may be adjusted, upward or downward, to allow GSA to ship the entire quantity from bulk stocks. Adjustments will be limited to 10 percent of the quantity requisitioned or \$5, whichever will permit the greater adjustment potential. Such adjustments will be made only when shipment of the exact quantity requisitioned would result in a mixture of one or more full shipping containers (as originally received from GSA suppliers), and a lesser quantity repackaged by GSA. Requisitions for quantities less than one full shipping container generally will not be adjusted (upward). Agencies may use advice code 2D, "Do not adjust," to preclude adjustment by GSA of requisitioned quantities. However, use of advice code 2D shall be limited to those cases where space and fund limitations or shelf-life considerations make it uneconomical for the user to accept more than the quantity requisitioned.

(Sec. 205(c) 63 Stat. 390; 40 U.S.C. 486(c))

Effective date. This regulation is effective upon publication in the FEDERAL REGISTER (8-31-71).

Dated: August 24, 1971.

ROBERT L. KUNZIG,
Administrator of General Services.
[FR Doc.71-12714 Filed 8-30-71;8:49 am]

Title 43—PUBLIC LANDS: INTERIOR

Chapter II—Bureau of Land Management, Department of the Interior

[Circular No. 2312]

PART 2720—PUBLIC SALE—PUBLIC LAND SALE ACT

Expiration of Authority

The purpose of this amendment is to delete the regulations which implemented the Public Land Sale Act of September 19, 1964, as amended (43

U.S.C. 1421-1427). That Act expired on December 23, 1970. Part 2720 is being deleted in its entirety. The regulations contained therein will be applied to sales initiated under the regulations prior to December 23, 1970, and which, in accordance with section 7 of the Act may still be completed. No other substantive changes are intended.

It is the policy of the Department of the Interior to give notice of proposed rule making and to invite the public to participate in rule making except where such participation would be impracticable, unnecessary or contrary to the public interest and a specific finding to this effect is published with the rules or regulations (36 F.R. 8336, May 4, 1971). Public participation is unnecessary in this case since the amendment simply removes provisions from the regulations where the legal effect has expired by operation of law.

Part 2720 of Chapter II, Title 43 of the Code of Federal Regulations is deleted in its entirety.

Effective date: August 31, 1971.

W. T. PECORA,
Acting Secretary of the Interior,
August 24, 1971.

[FR Doc.71-12699 Filed 8-30-71;8:46 am]

Title 47—TELECOMMUNICATIONS

Chapter I—Federal Communications Commission

[Docket No. 18931; FCC 71-848]

PART 2—FREQUENCY ALLOCATION AND RADIO TREATY MATTERS: GENERAL RULES AND REGULATIONS

PART 87—AVIATION SERVICES

Channel Spacing To Provide Additional Frequencies

Report and order. In the matter of amendment of Parts 2 and 87 of the rules to provide additional frequencies in the 128.825-132.025 MHz band by permitting the use of 25 kHz channel spacing, Docket No. 18931, RM-1507.

1. The Commission on August 7, 1970, released a combined Notice of Proposed Rule Making and Notice of Inquiry in the above-entitled proceeding. The notice was published in the FEDERAL REGISTER (35 F.R. 1277) on August 12, 1970, and provided for filing comments and reply comments. The time allowed for filing comments and reply comments has expired. The notice was in response to a petition for rule making (RM 1507), filed by Aeronautical Radio, Inc. (ARINC), proposing that the number of frequencies in the 128-132 MHz band be doubled by permitting the use of 25 kHz channel spacing rather than the 50 kHz now authorized, and that 6A9 emission be authorized in that band.

2. The Commission proposed rules in accordance with the ARINC request to provide for 25 kHz channel spacing. With

respect to the use of 6A9 emission, however, we did not believe that ARINC had furnished sufficient specific information for proper evaluation. We, therefore, did not propose the use of 6A9 emission, but issued a Notice of Inquiry on this aspect of the petition.

3. In response to the notices, comments were filed by Aircraft Owners and Pilots Association (AOPA), In-Flight Devices Corp. (IFD), Collins Radio Co. (Collins) and ARINC. All commentators either expressly concur in, or do not object to, the proposed 25 kHz channel spacing. AOPA supports a footnote provision in the proposed rule change to permit the continued use of 50 kHz equipment for 5 years asserting that this will provide a reasonable time period to accommodate smaller airlines and larger general aviation aircraft that utilize ARINC's services and the 5-year period will permit an orderly transition to more sophisticated airborne equipment without undue hardship. AOPA states, however, it does not want 25 kHz spacing for airline operational purposes to establish a precedent which will later be applicable to, and work a hardship on, general aviation, operating in the aeronautical band other than 128-132 MHz by requiring the use of more sophisticated equipment. IFD contends that 25 kHz channel spacing as proposed should be accompanied by a substantial tightening of the frequency tolerance of aviation ground stations to minimize adjacent channel interference. IFD asserts that if the tolerance in the rules were changed to 0.0005 percent for ground stations, adjacent channel interference would be minimized. IFD requests that no action be taken to split channels without concurrent action to require a more stringent frequency tolerance for the ground stations.

4. Collins generally supports the proposal to provide for 25 kHz channels and says the Commission should proceed to adopt the proposed rule changes. Collins also furnished information concerning the feasibility of field modification of 50 kHz equipment to operate on 25 kHz channels. Collins states that it is one of the major manufacturers of aeronautical radio communications equipment affected by the rule changes proposed in this proceeding. The Company explains that current production transmitters and receivers are designed for operation in a 25 kHz environment and that the equipment can, at the option of the users, be converted from 50 kHz to 25 kHz operation by a simple field modification at an estimated cost of \$400 including parts and labor. Collins states there are a number of earlier transmitters and receivers still in wide use by aircraft that employ the ARINC networks and other stations operating in the 128-132 MHz band and that about 10,000 sets manufactured by Collins could be modified for 25 kHz channel operation for about \$1,000 each; and that about another 10,000 units used mostly by business aircraft and costing about \$2,500, made in 1962 and earlier could not economically be modified and would have to be declared obsolete, except that they would continue to be satis-

factory for operation on 50 kHz channels in the balance of the aeronautical 118-136 MHz band. Additionally, Collins discusses the need for careful consideration of the acceptable frequency tolerance of both transmitters and receivers for airborne and ground stations operating in the 128-132 MHz band. Finally, Collins proposes that as a consequence of the adoption of this proposed rule change, that all ground station transmitters, government and nongovernment, employed in the band 118-136 MHz be required to meet 0.003 percent frequency tolerance within 1 year to insure compatibility with aircraft receivers designed for operation with a 25 kHz channel capability. With respect to ARINC's request for authority to use an emission for data link operations, Collins agrees that the designator 6A9 is too imprecise but that the Commission should adopt rules or policy governing the regular use of data link systems, as a separate matter, as early as may be appropriate.

5. ARINC supports the rule changes providing for 25 kHz channels as proposed in our notice but urges the Commission not to specify any date for the termination of the use of equipment designed to operate on 50 kHz channels. ARINC asserts that whereas aircraft currently being delivered to domestic airlines are configured to operate with 25 kHz interleaved channels, many domestic and foreign flag aircraft still in use do not have this capability, and that reasonable time should be afforded to amortize this investment. With respect to the use of an emission for data link operations, ARINC furnished additional specific technical information in response to the Notice of Inquiry and urges the Commission to proceed to amend the rules to authorize an emission as herein-after discussed.

6. The comment of AOPA that the rule changes proposed in this proceeding should not set a precedent that will adversely affect general aviation operating in other aeronautical bands is not a valid argument for not making necessary rule changes as proposed in this docket for the frequencies used by enroute stations. We cannot refuse to adopt changes in our rules needed now because such action may establish a precedent that, conjecturally, may later have adverse effects beyond the scope of this proceeding. If we later propose, as a result of a petition for rule making, or on our own motion, to extend the 25 kHz channels to other than the 128-132 MHz aeronautical bands, this will be undertaken through our usual rule making proceedings with advance public notice and provision for the filing of comments by the public and interested parties.

7. The concern expressed as to the suitability of our present frequency tolerances for ground and aircraft transmitters operating with 25 kHz channel spacing is noted. However, these frequency tolerances are not a factor which is decisively applicable to this proceeding or sufficient reason to deny ARINC authority to operate now with 25 kHz channel spacing. The question of the suitability

of our present frequency tolerances for 25 kHz channel spacing was considered by us in 1964 in Docket 14452. That Docket was a part 87 rule making proceeding to implement certain requirements of the 1959 Geneva Radio Regulations regarding frequencies, frequency stability and definitions. After exhaustive study and review of technical information and consideration of 274 comments filed in response to the Notice of Proposed Rule Making released in that proceeding, we conclude, in part, that "A 0.005 percent tolerance for ground and aircraft transmitters, together with suitable receivers, will allow for an unrestricted use of 50 kc/s channel spacing and may permit use of 25 kc/s channeling" and that "A 0.003 percent tolerance for all equipment is, of all the alternatives, the most favorable to extensive use of 25 kc/s channel spacing" (paragraph 9 (b) and (d), second report and order, adopted July 29, 1964). Although, as indicated above, we found the 0.003 percent tolerance for all equipment to be the most favorable to extensive use of 25 kc/s channeling, we compromised then in order to ease the economic impact on the aircraft licensee and specified in the rules a frequency tolerance of 0.003 percent for ground stations and 0.005 percent for aircraft stations taking into consideration that the 0.005 percent tolerance would also permit the use of 25 kc/s channeling.¹ Thus, we believe tolerances contained in our rules will not prevent ARINC from instituting the 25 kHz channel operation as requested.

8. We have noted ARINC's comment that additional time, beyond the 5-year period specified in the Notice of Proposed Rule Making, should be allowed to phase out the use of 50 kHz channel equipment to permit amortization of equipment investment by some domestic and foreign carriers. A study of type acceptance data in Commission files for many aircraft station communication transmitter types has shown that only a small percentage of those presently type accepted fail to meet a 25 kHz occupied bandwidth limit, and we believe most of those which fail to meet this limit are not types normally used by scheduled air carriers. Therefore, we have not specified a cutoff date as originally proposed, inasmuch as few transmitters not meeting the 25 kHz limit are expected to be operated in the 128.825-132.000 MHz band. (Licensees may find that performance characteristics of the receiver, rather than the associated transmitter, are the deciding factor in whether any particular item of aircraft equipment must be replaced or modified to operate in a 25 kHz channel spacing environment. The Commission's

¹At the time of the release of the NPRM in this proceeding, our rules contained a typographical error. The allowable frequency tolerance for aircraft stations in § 87.65(a) (5) was incorrectly shown as 0.003 percent rather than 0.005 percent as specified in our report and order adopted July 29, 1964, in Docket No. 14452. That error was corrected by Transmittal Sheet No. 3 to Volume V of the rules and regulations January 1970 Edition.

rules do not specify performance characteristics for receivers in aircraft stations, other than the radiation limits and certification thereto in part 15.) Instead of the cutoff date originally proposed, the rules herein adopted require that all transmitters type accepted for use in this band on or after February 1, 1972 meet the 25 kHz authorized bandwidth limit and permit use of transmitters type accepted for use in this band prior to that date until further notice.

9. In response to Notice of Inquiry concerning ARINC's request for new emission authorization for data link service, only ARINC commented and urged that the Commission proceed to authorize such an emission. In support of this, ARINC furnished technical information entitled Voice and Data Communications in the Aeronautical Service, compiled by Nathan D. Steele, Jr., and dated September 14, 1970. Additionally, ARINC asserts as follows:

*** ARINC is currently testing the various candidate systems, and the final decision as to which system, or systems, will be implemented has not been made. Probably two systems will be used—one for the domestic environment where high signal-to-noise ratios are encountered and a separate system for ARINC's extended range VHF overocean environment where the signal-to-noise ratios are significantly lower.

Implementation of any of these systems will not in any way derogate the voice communications system now employed. The voice bandwidth compatible techniques (audio phase shift keying, audio frequency shift keying, carrier phase shift keying, and carrier frequency shift keying) can either be assigned discrete channels in any given area or multiplexed on top of the voice carrier. The audio receiving equipment on board the aircraft will only produce the audio bandwidth and reception will not be derogated by the existence of higher order signals. The pulse duration modulation (PDM) technique will be used to transmit both analogue voice signal and digital data and during transition separate channels for 6A3 and PDM emission will be maintained. The advantages of data link are twofold. First, data link transmits information at a vastly improved rate over voice with the same bandwidth. Second, it will permit the utilization of more of the 25 kHz channel than presently occupied by a single voice channel. The voice bandwidth compatible techniques will be multiplexed on top of existing voice signals thereby permitting the use of 12 kHz, not including guardbands. Similarly, the PDM technique will transmit data and voice on a 13 kHz bandwidth.

10. We believe that the additional information submitted by ARINC on the purpose, need and characteristics of the emission desired for data link service is now adequate to justify a rule change to authorize such an emission.

11. Accordingly, it is ordered, That pursuant to the authority contained in sections 4(i) and 303(b) (g) and (r) of the Communications Act, as amended, our rules are amended effective October 5, 1971, as set forth below. It is further ordered, That this proceeding is hereby terminated.

(Secs. 4, 303, 48, Stat. as amended, 1066, 1082; 47 U.S.C. 154, 303)

Adopted: August 18, 1971.

Released: August 23, 1971.

FEDERAL COMMUNICATIONS

COMMISSION,

[SEAL] BEN F. WAPLE,
Secretary.

§ 2.106 [Amended]

1. Section 2.106 is amended by changing the footnote reference in column 10 for the frequency band 128.825-132 MHz from NG34 to NG67, and a new footnote is added to read as follows:

NG67. The spacing between frequency assignments in this band shall be 25 kHz. The first and last assignable frequencies are those indicated in column 10.

2. In § 87.67(b)(1), the table is amended by adding A9 as a new class of emission and by adding footnotes 5 and 6 in the column for authorized bandwidth above 50 MHz for A3 and A9 emission, respectively, to read as follows:

§ 87.67 Types of emission.

Class of emission	Emission designator	Authorized bandwidth		
		Below 50 MHz	Above 50 MHz	Frequency deviation
		Kilohertz	Kilohertz	Kilohertz
A3	6A3	8.0	* 50	
A3J	3A3J	4.0		
A9	13A9		* 25	
F1	1.7F1	1.7		

* In the band 128.825-132.000 MHz, the authorized bandwidth is 25 kHz. The 25 kHz limit applies to all transmitters type accepted for use in this band on or after Feb. 1, 1972. Transmitters type accepted for use in this band prior to Feb. 1, 1972, will continue to be subject to the 50 kHz limit until further notice.

* This emission is authorized only for audio phase and frequency shift keying and carrier phase and frequency shift keying for digital data link purposes in the 128.825-132.000 MHz band when the channel on which the signal is transmitted is not used for voice communications. Or, if voice communication the emission is authorized, as specified herein, provided it is multiplexed on the voice carrier without derogation to voice or other higher order signals.

3. In § 87.295, the frequencies listed in paragraph (b) are amended to read:

§ 87.295 Continental U.S. (excluding Alaska).

(b)	MHz	MHz
	128.850	129.250
	128.875	129.275
	128.900	129.300
	128.925	129.325
	128.950	129.350
	128.975	129.375
	129.000	129.400
	129.025	129.425
	129.050	129.450
	129.075	129.475
	129.100	129.500
	129.125	129.525
	129.150	129.550
	129.175	129.575
	129.200	129.600
	129.225	129.625

* Commissioner H. Rex Lee absent.

MHz	MHz
129.650	130.850
129.675	130.875
129.700	130.900
129.725	130.925
129.750	130.950
129.775	130.975
129.800	131.000
129.825	131.025
129.850	131.050
129.875	131.075
129.900	131.100
129.925	131.125
129.950	131.150
129.975	131.175
130.000	131.200
130.025	131.225
130.050	131.250
130.075	131.275
130.100	131.300
130.125	131.325
130.150	131.350
130.175	131.375
130.200	131.400
130.225	131.425
130.250	131.450
130.275	131.475
130.300	131.500
130.325	131.525
130.350	131.550
130.375	131.575
130.400	131.600
130.425	131.625
130.450	131.650
130.475	131.675
130.500	131.700
130.525	131.725
130.550	131.750
130.575	131.775
130.600	131.800
130.625	131.825
130.650	131.850
130.675	131.875
130.700	131.900
130.725	131.925
130.750	131.950
130.775	131.975
130.800	132.000
130.825	

[FR Doc. 71-12530 Filed 8-30-71; 8:45 am]

[Docket No. 18425; FCC 71-879]

PART 73—RADIO BROADCAST SERVICES

Operation of VHF and UHF TV Broadcast Stations by Remote Control

Second Report and Order. In the matter of amendment of Part 73, Subpart E of the Commission's rules and regulations governing television broadcast stations concerning the operation of VHF and UHF television broadcast stations by remote control; RM-1340.

1. On March 17, 1971, the Commission adopted amendments of its rules governing the remote control of television broadcast stations. On the same date, it issued a Further Notice of Proposed Rule Making (FCC 71-286) in the same docket, soliciting comments concerning the requirements of paragraph (f) of § 73.676 of the amended rules, which reads as follows:

Suitable test signals generated at the remote control point shall be transmitted in the vertical interval pursuant to § 73.682(a) (21). These signals shall be received and observed at the remote control point for the purpose of verifying that the entire system is so adjusted and operated that the visual modulation envelope meets the requirements of the Commission's rules.

A note appended to this rule suspended its effectiveness pending a determination of the characteristics and manner of use of such test signals. It was the purpose of the further notice to obtain information on which any necessary or desirable amplification of the rule may be based.

2. The Commission requested interested parties to comment on all aspects of the matter, and particularly on the following points:

(1) The characteristics of specific test signals which could most usefully be employed.

(2) Whether the rules should specify the duration of transmission of each of selected test signals, or specify a composite test signal.

(3) Whether the rules should set the levels for test signal transmissions.

(4) The times at which the test signals should be transmitted.

(5) Whether the same test signals should accompany monochrome and color transmissions.

(6) Whether the rules should specify the line or lines to be occupied by the test signals.

As extended by order of April 28, 1971, the deadlines for filing comments and reply comments in this proceeding were May 17, 1971 and May 28, 1971, respectively. The matter is, accordingly, ready for decision.

3. The following parties filed timely comments:

Electronic Industries Association (EIA).
Channel 3, Inc. (KVDO-TV, Salem, Oreg.).
KRGV-TV.
Screen Gems Stations, Inc.
Spantronics Engineering, Inc.
Kaiser Broadcasting Corp.
American Broadcasting Cos., Inc. (ABC).
Leake TV, Inc.
Columbia Broadcasting System, Inc. (CBS).
National Association of Broadcasters (NAB).
Forward Communications Corp.
National Broadcasting Co., Inc. (NBC).
Tektronix, Inc.

No reply comments were filed. All comments have been fully considered in arriving at a decision in this matter.

4. All parties favor the requirement that test signals be generated and transmitted in the vertical interval; it is the general opinion that this offers a potentially effective means for monitoring and maintaining the quality of the transmitted signal. There is also a rather general consensus that such test transmissions should be confined to lines 18 and 19; several parties point out that line 17 is being considered for occupation by test signals accompanying programs intended for international distribution (Docket 18505), while present efforts to develop a vertical interval reference (VIR) signal, which would be inserted at the source of a color program, look toward the dedication of line 20 to this purpose. Lines earlier than 17 might be suitable for such test signals, but it remains to be demonstrated that earlier lines can be used without adversely af-

fecting the performance of too large a percentage of receivers now in the hands of the general public.

5. Beyond these two points, there is little agreement. Many of those commenting are of the opinion that decisions on the test signals to be employed, the levels at which they are transmitted (as long as they meet the requirements of § 73.682(a)(13) or the rules), and the duration and frequency of transmission should be left to the discretion of each licensee. These parties hold that little purpose would be served by requiring the continuous transmission of test signals; conditions in the transmitter and associated equipment do not change with such rapidity as to require continuous surveillance. In any event, where the observation of test signals indicated the desirability of transmitter adjustment, in most cases corrective measures could not be taken at the remote control point, or prior to the next maintenance period. Others suggest that test signal observations be required a minimum number of times during the day, perhaps at the time meter readings were logged; observations could be made at such other times as a licensee might deem desirable.

6. NAB, NBC, and CBS, in particular, while looking toward the possibility of the standardization of test signals and requirements for their observation at some future time, maintain that extensive field tests should be conducted prior to the adoption of definitive rules governing their transmission and use. Furthermore, each separately urges that such signals not be used by the Commission in the enforcement of its rules, and in any case should not be relied on for this purpose when they are observed at other than the remote control point.

7. Noting that VITS signals have been used successfully for a number of years for monitoring the performance of network lines, these parties urge that there are a number of factors which militate against their successful employment for the evaluation of transmitter performance. CBS lists these factors as follows:

(1) The introduction of distortion in the demodulation of the transmitter output signal to provide a baseband signal for observation on waveform monitor or vectorscope.

(2) Multipath distortions which may attend off-the-air observations.

(3) Variations in the VITS with changes in the average picture level of the program.

(4) Many transmitters react differently to vertical interval transmissions than to program material.

8. CBS points out that certain of the test signals which we suggest as appropriate for vertical interval transmission (multiburst, color bars) might be used (if received without distortion) to demonstrate compliance with specific requirements of the Commission's rules.

Other signals mentioned are useful in evaluating signal characteristics which are vital for proper color transmissions, but for which the Commission has established no standards. The transmission of such signals would not be necessary to demonstrate that "the visual modulation envelope meets the requirements of the Commission's rules."

9. CBS foresees the development of test signals other than those in general use, having greater potential virtues than conventional signals. It suggests that that only minimum requirements should be set now for test signal transmissions, to allow for innovation and to permit broadcasters to gain experience in utilizing these signals. Therefore, it offers that the rules should impose maximum levels only, and require that test signals include elements of reference white and reference black. The other characteristics of such signals, and the time and duration of their transmission should be left entirely to the discretion of the broadcaster.

10. Three parties are of the opinion that specific test signals should be adopted, ABC, EIA, and Tektronix, Inc. They make specific proposals to this end. ABC offers for adoption without modification its "Omni-Vit", a composite signal occupying one line in one field, which it has employed over a period of 2 years in testing the network lines between its stations in New York, Chicago, and Washington. The signal consists of a five-riser staircase, subcarrier modulated in phase with the color burst, with the peak amplitude of the upper tread subcarrier extending to 110 IRE units, a sine squared 20T pulse, and a half line pulse at 100 IRE unit level.

11. EIA proposes a "package" of test signals, specifically, multiburst with white flag, to be transmitted at 40 IRE unit level and 60 IRE unit peak to peak amplitude on field 1 at line 18, color bars with white and black level indicators on line 18, field 2, and a composite signal, normally transmitted in both fields of line 19.¹ The composite signal consists of a five-riser staircase, 2T and 12.5T sine squared pulses, and a bar at reference white of 18 us duration. For color transmissions, the staircase and 12.5T pulse are modulated with a color subcarrier in phase with the color burst. EIA recommends the retention of subcarrier modulation during monochrome program transmission, even though, in this

¹ EIA suggests that line 19, field 2, may, on occasion, be employed for transmission of special test signals chosen by the licensee, or, in more general practice, would carry the composite signal, but inserted at the transmitter input. Several of the parties have noted the desirability of providing for test signals at the transmitter input, so that the performance of transmitter and STL equipment may be separately evaluated.

case, the subcarrier is not controlled by the incoming signal.²

12. In the EIA proposal, the absolute and relative levels of the components of each test signal, and the levels of each signal relative to other signals have been adjusted to minimize the interaction of one signal with another, the effect of the test signal transmission on program material, to permit accurate measurements in the presence of noise, and to avoid the more serious effects of quadrature distortion which may result when the test signals are demodulated to baseband.

13. The filing of Tektronix, Inc., supports the EIA proposal, and elaborates on the technical details and the application of the various test signals.

14. After full consideration of all of the views of the parties, we have decided to adopt rules which require the transmission of vertical interval test signals essentially as proposed by EIA.

15. While we do not question the usefulness of the "Omni-Vit" for its present purpose, we think the EIA signal package, tailored specifically for transmitter surveillance and with the problems of off-the-air reception in mind, is more appropriate for use with remotely controlled broadcast transmissions.

16. The transmission and frequent observation of appropriate test signals in the vertical interval during regular operation we believe, and most parties agree, can contribute importantly to high quality picture transmission, especially when the picture is in color. We are convinced that the adoption of standards for such test signals is the best means for promoting their effective use for the following reasons:

(1) Standardization will make for the maximum simplicity in test signal generating and encoding apparatus, and facilitate automatic operation of such equipment.

(2) It is important that test signals transmitted in the vertical interval simultaneously with program material, and observed off-the-air, have appropriate absolute and relative levels, both to limit the possibility of interference with program material and to minimize the effects of distortion and noise involved in the monitoring process. This objective can most easily be achieved through a standardization of the test signals.

(3) Standardization will encourage the regular use and reliance on test signal observations.

17. EIA proposes the integrated use of recognized test signals; the majority of television engineers are fully familiar with the use and interpretation of these

signals. By adopting such a standardized "package" we do not intend to preclude the development and use of special signals which, CBS suggests, may prove to be more generally useful than some of the recognized test signals. Stations may employ such signals in the vertical interval at such times as the standard signal is not being transmitted, or transmit such signals on field 2 of line 19 simultaneously with the standard signal, if the average picture level (APL) of the special signal is adjusted to approximate the APL of the test signal on field 1.

18. At least a part of the reluctance of NAB and other parties to concur in the establishment of specific vertical interval test signals at this time, and, perhaps, to any specific schedule for the transmission of these signals, may stem from an apprehension that the Commission intends to use the results of off-the-air monitoring of these signals in the enforcement of its rules. The language of § 73.676(f) may be responsible partially for this apprehension.

19. We have no such intention. We fully realize that these signals may be subject to distortion in demodulation, and to multipath effects, particularly when observed from other than the remote control point. We will not undertake to hold a licensee responsible for transmissions which off-the-air monitoring of test signals might indicate to be faulty in the absence of substantiating on-the-site observations and measurements.

20. On the other hand, we do not believe that the possibility of such distortion substantially lessens the utility of vertical interval test signals as a means by which a licensee can maintain effective surveillance of system performance. At the fixed location of the remote control point, multipath distortion may be minimized by the proper selection, siting and orientation of the receiving antenna. Demodulators of recent design normally incorporate features, which, in one way or another, increase, prior to demodulation, the effective level of the picture carrier relative to components in the color subcarrier region for the purpose of minimizing quadrature distortion. As we stated in the first report and order in this proceeding, we expect extreme care will be exercised in the design and installation of off-the-air monitoring equipment, and that a state-of-the-art demodulator will be employed. Such residual distortions as may occur, we expect, may be recognized and provided for in the periodic calibration of the remote monitors against monitors at the transmitter, which is required by our rules. In any event, the immediate purpose of the test signals is to permit the detection of changes occurring in the operation of the transmitting system which may have adverse effects on the transmitted picture. Such changes should be manifested as changes in the characteristics of the test signals from those observed at the remote control point when the system is properly adjusted, rather than as departures from the ideal configuration of such signals.

21. Similarly, we are of the opinion that, to the extent that vertical interval test signals emitted by some transmitters may not fully reflect the performance of the transmitter in picture transmission, the differences experienced may be provided for by appropriate calibration procedures (e.g., by a comparison of the test signals transmitted full field against the vertical interval transmissions).

22. All broadcast transmitters not exempted from the requirement by statute are required to be under the continuous surveillance of licensed operators. Thus, even though our rules require the reading and logging of specific parameters only at stated intervals, this represents but a periodic verification of such surveillance; the operator, of course, is responsible for departures from proper transmitter operation occurring at any time, not just at the times log entries are required. So that he may fully discharge this responsibility, the facilities for observing presently specified transmitter parameters are made continuously available to the operator.

23. Vertical interval test signals offer the broadcaster a new and, we believe, highly effective means for supervising the performance of his television system on a continuous basis. However, if the potentialities of test signal transmissions are to be fully exploited, the operator must have a capability for observing the test signals at any time during the daily operation of the television broadcast station. We have no reason to believe that the provision of test signals on a continuous basis would impose an undue burden on the broadcaster.

24. The appended rules therefor, require such continuous test signal transmission. While the logging of test signal observations are required only every half hour, the test signals are available for observation at such other times as may be necessary or desirable.

25. Signals of specified characteristics, originated at the remote control point are to be inserted on line 18, fields 1 and 2, and line 19, field 1. Normally, the composite signal specified for field 1, line 19, would also be inserted in field 2 of this line at the remote control point. However, the rules permit the optional insertion of the composite signal on field 2 at the transmitter input, or, subject to certain safeguards, the employment of line 19, field 2 for the transmission of test signals chosen by the station licensee.

26. The characteristics of the required test signals are established by charts included in the rules by an amendment hereby made of § 73.699. The values specified are nominal; no tolerances will be set at this time. The pertinent levels of the components of these signals are specified at the point of signal insertion in units on the IRE standard scale, a method of measurement in general use throughout the industry which is appropriate and convenient to apply in test signal specification. However, since this scale has not been utilized or recognized

² Certain of these signals are modified somewhat from their familiar configuration: The highest frequency of the multiburst signal is set at 4.1 MHz rather than the more usual 4.2 MHz, to insure its inclusion in the visual passband; a sine wave 12.5T modulated signal is proposed, rather than a 20T signal, since its frequency spectrum conforms more closely to that of the chrominance signal in the NTSC system than does the spectrum of the 20T.

previously in our rules, we are amending § 73.681 to include a definition of the term IRE standard scale.

27. Since the lines chosen for locally generated vertical interval transmission are the same as those utilized by the networks for test transmissions, the facilities utilized by each network-connected station must include provision for erasing the network test signals before insertion of locally generated signals.² We expect there will be available a single generator or simple combination of apparatus which will perform this function and generate all of the required test signals for direct insertion in the designated lines without a separate encoder, and which will require a minimum of manipulation by the user. Pending the general availability of suitable apparatus, we are suspending the applicability of the test signal requirement until April 1, 1972.

28. While not pertinent to the subject matter of the further notice, EIA, in its comment in this proceeding has called our attention to an inconsistency created in our adoption by the first report and order of § 73.682(a)(23)(vi), which sets the permissible aural transmitter output noise level for operation with telemetry signals for remote observation multiplexed on the aural carrier. EIA points out that maximum noise level permitted on the main carrier, 60 decibels below the level corresponding to 100 percent modulation of the main carrier, is lower than the permissible level for FM noise specified for the aural transmitter without multiplexing, pursuant to § 73.687(b)(4) and (5).

29. It suggests that the permissible FM and AM output noise levels for multiplex operation should be the same as those specified for regular operation, and should be established by reference to § 73.687(b)(4) and (5). It offers an amendment of § 73.682(a)(23)(vi) for this purpose.

30. We agree that EIA's point is well taken, and we will avail ourselves of this opportunity to amend § 73.682(a)(23)(vi) essentially in accordance with its suggestion, viz: "Multiplexing of the aural carrier shall not result in transmitting system output noise levels exceeding those specified in § 73.687(b)(4) and (5)."

31. Accordingly, it is ordered, Effective October 5, 1971, that part 73 of the rules and regulations is amended as set forth below.

32. Authority for the adoption of these rule amendments is found in sections 4(i) and 303(r) of the Communications Act of 1934, as amended.

33. It is further ordered, That this proceeding is terminated.

(Secs. 4, 303, 48 Stat., as amended, 1066, 1082; 47 U.S.C. 154, 303)

² Even when network test signals are not present, erasing facilities should be employed to remove excessive noise before the specified lines are locally utilized.

Adopted: August 18, 1971.

Released: August 24, 1971.

FEDERAL COMMUNICATIONS COMMISSION,⁴

[SEAL] BEN F. WAPLE,
Secretary.

1. Section 73.671 is amended to add new paragraph (a)(3)(iii).

§ 73.671 Operating log.

(a) * * *

(3) * * *

(iii) For remote control operation, the results of observations of vertical interval test signal transmissions (see § 73.676(f)).

2. Section 73.676(f) is amended to read as follows, including the substitution of a new Note amending the effective date of this paragraph.

§ 73.676 Remote control operation.

(f) Test signals shall be generated and inserted in the vertical interval of the visual signal at the remote control point, and shall be observed at the remote control point after extraction from the radio frequency signal at the output of the transmitter. Normally, the radiated signal is utilized after off-the-air reception, but the signal may be obtained by coupling to the output circuit of the transmitter at the point where the radio frequency signal enters the antenna transmission line.

(1) The required test signals, and the place of insertion in the vertical interval shall be as follows:

(i) Multiburst, on field 1, line 18 (see Figure 13 of § 73.699).

(ii) Color bars, on field 2, line 18 (see Figure 14 of § 73.699). During monochrome transmission chrominance information shall not be included in this test signal.

(iii) Composite signal, on field 1, line 19 (see Figure 15 of § 73.699).

(iv) Generally, a composite signal of characteristics identical to those prescribed in subdivision (iii) of this subparagraph, shall be inserted on field 2, line 19, at the remote control point. However, to permit a separate determination to be made of the effects of the transmitter and the studio transmitter link on system performance, the composite signal on field 2, line 19 may be inserted at the transmitter input. Alternatively, in lieu of the composite signal, a licensee may insert any suitable test signal on field 2 of line 19, either at the remote control point or at the transmitter. When such signals are transmitted at the same time as program material and/or the required test signals, the characteristics of the licensee-selected signals shall be such as to minimize the possibility that their transmission will result in interference with the required test signals, or in

⁴ Commissioners H. Rex Lee and Wells absent.

degradation of the picture or sound signals.

Figures 6 and 7 of § 73.699 identify the numbered lines and fields referred to in this subparagraph.

(2) The required test signals shall be transmitted continuously during all periods of regular station operation.

(3) The required test signals shall be observed immediately after commencement of operation, and subsequently thereafter with intervals between successive observations not exceeding one-half hour. More frequent observations shall be made as necessary to insure proper performance of the transmitter and associated equipment.

(4) The date and time of each observation of the test signals shall be entered in the operating log, together with notations as to the results of these observations.

(5) Any signals or noise already existing on lines 18 and 19 (e.g., network test signals), shall be erased prior to the insertion in the vertical interval of locally generated test signals.

NOTE: Paragraph (f) of § 73.676 shall not become effective until April 1, 1972, by which time the equipment necessary for the generation and vertical interval insertion of the required test signals should be generally available.

3. Section 73.681 is amended by inserting the following definition in alphabetical order to read as follows:

§ 73.681 Definitions.

IRE standard scale. A linear scale for measuring, in IRE units, the relative amplitudes of the components of a television signal from a zero reference at blanking level, with picture information falling in the positive, and synchronizing information in the negative domain.

NOTE: When a carrier is amplitude modulated by a television signal in accordance with § 73.682, the relationship of the IRE standard scale to the conventional measure of modulation is as follows:

Level	IRE standard scale (units)	Modulation percentage
Zero carrier.....	120	0
Reference white.....	100	12.5
Blanking.....	0	75
Synchronizing peaks (maximum carrier level).....	-40	100

4. Section 73.682(a)(23)(vi) is amended to read as follows:

§ 73.682 Transmission standards.

(a) * * *

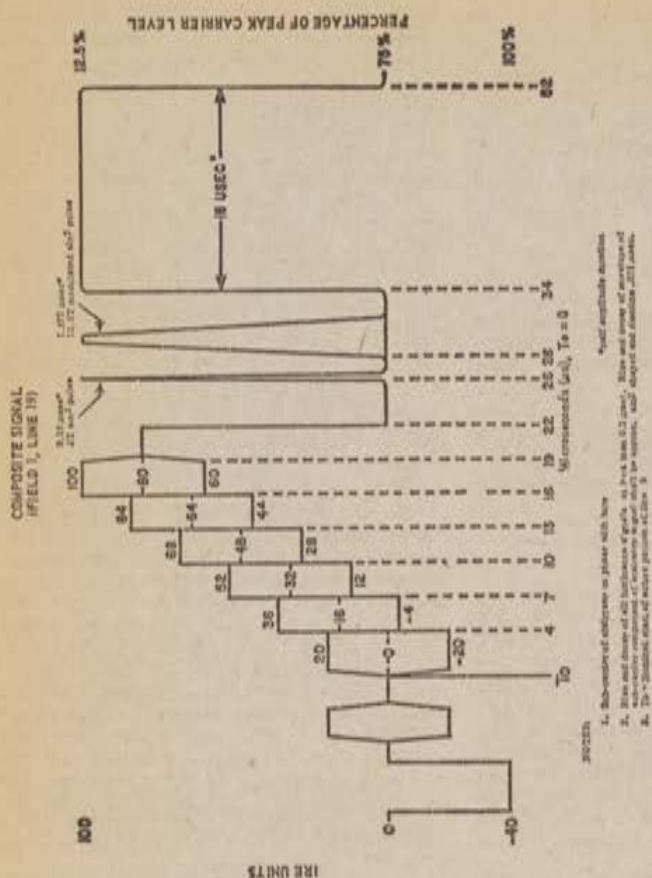
(23) * * *

(vi) Multiplexing of the aural carrier shall not result in transmitting system output noise levels exceeding those specified in § 73.687(b)(4) and (5).

§ 73.699 [Amended]

5. Section 73.699 is amended by adding the following charts:

Multiburst test signal, Figure 13.
Color bar test signal, Figure 14.
Composite test signal, Figure 15.



Title 49—TRANSPORTATION

Chapter V—National Highway Traffic Safety Administration, Department of Transportation

[Docket 69-23, Notice 3]

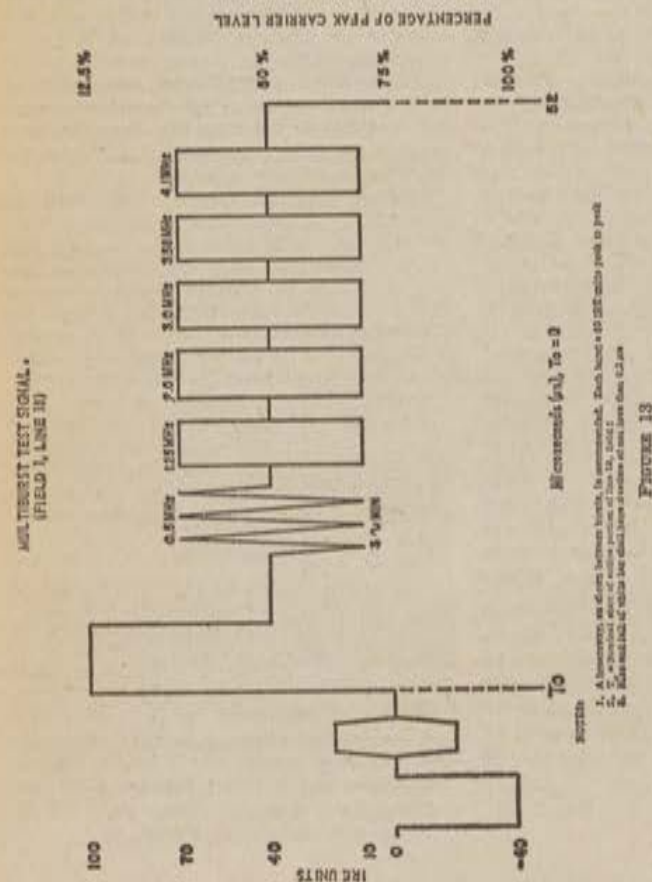
PART 571—FEDERAL MOTOR VEHICLE SAFETY STANDARDS

Seat Belt Assemblies; Reconsideration and Amendment

The purpose of this notice is to respond to petitions filed pursuant to § 553.35 of Title 49, Code of Federal Regulations, requesting reconsideration of various amendments to Motor Vehicle Safety Standard No. 209, Seat Belt Assemblies, that were published March 10, 1971 (36 F.R. 4607). The petitions are granted in part and denied in part. Requests not expressly discussed in this notice should be considered denied.

1. One of the results of the March 10 amendments was that as of September 1, 1971, the standard would have become a vehicle standard as well as an equipment standard, i.e., vehicles manufactured after the effective date would have had to have equipment conforming to the new requirements. The amendments relating to emergency-locking retractors are such, however, that with normal production tolerances it would be difficult to manufacture retractors that conform to the currently applicable requirements so that they would also conform to the post-September 1 requirements, and vice versa. This creates an awkward situation, in which retractors supplied to vehicle manufacturers for use on September 1 would have to be made on September 1 and not before.

The vehicle aspect of the standard is therefore being deleted, and the date on which the amended requirements become mandatory is postponed to January 1, 1972, to coincide with the effective date



COLOR BAR TEST SIGNAL (FIELD 2, LINE 18)

