

Before the
Federal Communications Commission
Washington, D.C. 20554

GEN. Docket No. 89-295

In the Matter of

Amendment of Parts 2 and 87 of
Commission's Rules to permit the
Aviation Services to use frequencies
in the 136-137 MHz band. RM-6620
RM-6649

REPORT AND ORDER
(Proceeding Terminated)

Adopted: June 14, 1990;

Released: July 5, 1990

By the Commission:

I. INTRODUCTION

1. This Report and Order amends Parts 2 and 87 of the Commission's Rules, 47 C.F.R. Parts 2 and 87, to permit stations in the aviation services to use certain frequencies in the 136-137 MHz band. This action is taken to conform our Rules with the Final Acts of the 1979 World Administrative Radio Conference (1979 WARC), the Final Acts of the 1987 World Administrative Radio Conference for the Mobile Services (WARC Mob-87) and to address two petitions. One petition (RM-6620) was filed by Aeronautical Radio, Inc. (ARINC)¹ and the other (RM-6649) by the American Petroleum Institute (API).²

II. BACKGROUND

2. On June 28, 1989, the Commission released a *Notice of Proposed Rule Making (Notice)*, 4 FCC Rcd 5224 (1989), proposing to amend Parts 2 and 87 of the Commission's Rules, to permit stations in the aviation services to use certain frequencies in the 136-137 MHz band. At that time, frequencies in the 136-137 MHz band were allocated to the Space Operation (Space-to-Earth), Meteorological-Satellite (Space-to-Earth) and Space Research (Space-to-Earth) Services on a primary basis, and Fixed and Mobile Services, except Aeronautical Mobile (R) Service,³ on a secondary basis. The 1979 WARC reallocated the 136-137 MHz band to the Aeronautical Mobile (R) Service⁴ on a primary basis, effective January 2, 1990, and reduced all services that were using the band on a primary basis to secondary status.⁵ Additionally, the WARC Mob-87 specified the following:⁶

(a) Requested administrations to refrain from authorizing new assignments in the 136-137 MHz band, starting January 1, 1990, in services that are authorized on a secondary basis;

(b) Recommended that administrations cease operation of stations of the other services to which the band is allocated on a secondary basis when Aeronautical Mobile (R) Service stations come into operation; and

(c) Recommended that a future competent world administrative radio conference consider the deletion of all secondary allocations from the 136-137 MHz band.

3. The two petitions were filed by ARINC and API. In its petition, ARINC stated that domestic air passenger boardings increased from 254 million in 1978 to more than 415 million in 1987. Further, it pointed out that recent studies indicate that channels in the aeronautical enroute service 128-132 MHz band are normally fully assigned and are experiencing peak channel utilization of 61 percent resulting in queues of approximately 35 seconds. ARINC conceded that other aviation services are also experiencing channel congestion and may need additional spectrum. It believed that consideration should be given to other aviation services provided that their additional needs are appropriately justified. Although ARINC's petition asked that the entire 136-137 MHz band be made available for aeronautical enroute communications, it modified its position in its reply comments and requested that thirty of the available forty channels be made available for enroute communications. Further, ARINC recommended that the current agreement between the United States and Canada concerning the assignment of aeronautical enroute channels in the 128-132 MHz band⁷ be extended to the 136-137 MHz band.

4. The Federal Aviation Administration (FAA) filed comments opposing the assignment of the entire 136-137 MHz band for aeronautical enroute services. The FAA argued that this scarce spectrum resource should be made available for assignment to other aviation services, such as the aeronautical advisory service (unicom), automatic terminal information service (ATIS), automatic weather observation service (AWOS) and air traffic control services. The FAA pointed out that the growth of the aviation industry referenced by ARINC has resulted in frequency congestion in all aviation radio services and that air carrier aircraft, the primary beneficiaries of aeronautical enroute services, are only a small percentage of the total United States aircraft population. In reference to ARINC's reply comments, the FAA modified its position and recommended that ten channels be made available for aeronautical enroute services and the remaining thirty channels allotted to other aviation services.⁸

5. API stated that its members and service contractors use 700 to 850 helicopters in the Gulf of Mexico to ferry personnel and materials between offshore facilities and land-based offices and support depots. API pointed out that the helicopter community uses digital data transmissions to relay position information back to headquarters. It contended that this flight following system enhances safety and decreases insurance costs. In addition, API stated that extensive use of this system may enable the industry to develop an air traffic management system to help prevent accidents, such as mid-air collisions that may occur when two helicopters are approaching the same platform simultaneously. Therefore, API requested the Commission to allot 10 channels in the 136-137 MHz band for enroute digital communications for helicopters

operating along the Gulf of Mexico and to restrict any other assignment of these channels within 180 miles of the Gulf coast.

III. PROPOSAL

6. In the *Notice* we noted that the forty channels in the 136-137 MHz band cannot fully satisfy the recommendations of all participating parties in this proceeding. As a compromise, we proposed to allot twelve channels to the aeronautical enroute services, eight channels for special purpose aeronautical enroute operations, fifteen channels to general aviation⁹ for services such as AWOS, ATIS, air-to-air corridor advisory and airport control tower communications and temporarily reserve five channels for future unicom or AWOS operations. The twenty aeronautical enroute channels were located in the upper half of the 136-137 MHz band and included eight channels for special purpose enroute services such as the helicopter following system API supported. The fifteen channels allotted for general aviation use and the five reserved channels were located in the lower half of the band. We also proposed that frequency assignments on the forty channels would be based on 25 kHz spacing, that frequency coordination of the eight special enroute channels would be performed by the Commission and that operation on these channels would not be subject to the "one aeronautical enroute station licensee per location" restriction contained in § 87.261 of the Rules, 47 C.F.R. § 87.261.

7. Although the 136-137 MHz band is allocated for non-Government use, we noted that many aviation services such as ATIS, AWOS and airport control tower services may be provided by either Government (FAA) or non-Government facilities at any given location. Therefore, we proposed to revise footnote US244 to the Table of Frequency Allocations in Part 2 of the Rules, 47 C.F.R. Part 2, to allow the FAA to access on a shared basis the fifteen channels proposed for the general aviation uses discussed above.

8. Additionally, we pointed out that the use of the 136-137 MHz band will be subject to a channeling arrangement between the United States and Canada. For the purposes of the *Notice*, however, we assumed that the channeling arrangement for the 136-137 MHz band would be similar to the 1962 Agreement for the 128-132 MHz band. Based on this assumption, we proposed specific frequencies and a channeling arrangement in Appendices A and B of the *Notice*.

IV. COMMENTS

9. Comments were filed by ARINC, Aircraft Owners and Pilots Association (AOPA), API, Honeywell, Inc. (Honeywell), Telesis Airborne Group, Inc. (Telesis), The State of California Telecommunications Division (The State of California) and The State of Michigan Department of Transportation (The State of Michigan). Reply comments were filed by ARINC, API, FAA, Helicopter Safety Advisory Conference (HSAC) and National Business Aircraft Association, Inc. (NBAA). Late comments were filed by AOPA, Experimental Aircraft Association (EAA) and FAA.

10. All commenters support the use of the 136-137 MHz band by the aviation community. Many commenters, however, suggest that the channel distribution proposed in the *Notice* be revised. The distribution of

these 40 channels to accommodate the growing needs of the aviation community is the central issue in this proceeding. For ease of discussion, we have divided our summary of the comments and analysis of the issues into several subissues. Each subissue, however, is sensitive to the others because of the limited number of channels, the increasing communications needs of the various sectors of the aviation community and the need to coordinate the use of this spectrum with Canada.

11. *Enroute channels*: The FAA supports the proposal for the allotment of twelve aeronautical enroute channels. ARINC, on the other hand, believes that the number of channels proposed in the *Notice* for enroute operations should be increased. It argues that (1) the Commission failed to recognize that the aeronautical enroute services experience frequency congestion even though they use their allotted frequencies efficiently, (2) part of the frequency congestion problem in general aviation is caused by use of 100 kHz and 50 kHz channels instead of more spectrally efficient 25 kHz channels and (3) the air carriers have a greater need for additional frequencies because their projected growth is greater than the projected growth of general aviation. To support its argument ARINC provides data showing the projected growth of air carrier flights, the number of enroute ground stations assigned per channel versus the number of ground stations assigned per channel for general aviation services and the crowding of general aviation ground stations on the 100 kHz channels. In its summary, ARINC urges the Commission to allot the lowest eighteen channels in the 136-137 MHz band to general aviation, the next four channels to special purpose aeronautical services for private aircraft and the topmost 18 channels to traditional aeronautical enroute services. ARINC comments at i, ii and 7-15.

12. Telesis¹⁰ opposes the allotment of any channels for traditional aeronautical enroute service as requested by ARINC. Rather, Telesis supports allotting twenty channels, instead of the proposed eight, for special purpose enroute channels. Telesis questions ARINC's channel use calculations by alleging that ARINC has no viable means to actually measure activity on the entire 128-132 MHz band. Further, Telesis notes that voice traffic has fallen off on some ARINC staffed air-ground enroute communication networks while other voice networks staffed by Eastern Airlines employees handle more contacts on the same number of channels. In essence, Telesis argues that it is inappropriate that one entity control the majority of aeronautical enroute services.¹¹ Telesis comments at 1-2.

13. ARINC sharply disagrees with Telesis's views. ARINC reiterates that it is a not-for-profit communications company wholly owned and operated by the civil aviation industry it supports, and that it provides the aviation industry with air-ground voice and data communications over domestic and international air routes without discrimination. ARINC notes that the aviation industry has committed almost \$30 million, plus the cost of equipping aircraft, to establish a single, spectrally efficient, nationwide data system that has become the *de facto* worldwide standard. ARINC states that its data system handles 2200 aircraft and 3.3 million messages per month with 99.97 percent availability at critical locations. ARINC points out that the purpose of aeronautical enroute service is to provide operational control communications along domestic and international routes for the safe, economical and efficient operation of aircraft.¹²

ARINC views Telesis's suggestion that 20 channels be made available for special enroute users as an attempt to commercialize the enroute spectrum. ARINC reply comments at 8-10.

14. In response to Telesis's comments regarding the difference in the loading of voice networks staffed by Eastern Airline's employees and others staffed by ARINC employees, ARINC states that this reflects the migration of routine voice traffic from voice to a more efficient cost effective data system by most air carriers. It notes Eastern Airlines has not yet implemented a data communications system. Concerning Telesis's questioning of its ability to measure channel utilization, ARINC points out that it requires monthly ground station activity reports from each user and has conducted off-the-air monitoring of all enroute channels in the most congested areas, such as New York, Dallas-Fort Worth and Los Angeles. ARINC argues that Telesis's recommendation that no traditional aeronautical enroute channels be allotted from the 136-137 MHz band should be rejected as inconsistent with the needs and desires of the aviation industry and the public interest. ARINC reply comments at 12-14.

15. *Special purpose enroute channels.* API, FAA, HSAC,¹³ and Telesis support the proposal to provide eight channels to accommodate special purpose enroute services such as a Gulf Coast helicopter flight following system. API suggests that by rule or policy we reserve these eight channels for helicopter flight systems within 180 miles of the Gulf of Mexico. API argues that this would be consistent with other decisions where the primary motivating use is protected for a period of time.¹⁴ API states that although the industry is developing such a flight following system, the parameters have not been finalized. Further, API notes that because any party seeking to use such a helicopter flight following system must ensure compatibility with the system, the proposed exemption from the cooperative use provisions of Section 87.261(b) is unnecessary. API comments at 2, 4 and 5. As discussed above, Telesis also argues that the proposed eight special purpose channels be expanded to twenty. Telesis comments at 2.

16. ARINC contends that spectrum efficiency would be best served if helicopter requirements were met through traditional enroute services, *i.e.*, with ARINC functioning as the central spectrum coordinator. Nevertheless, ARINC acknowledges that it may be appropriate to make some channels available to the Gulf Coast helicopter community and other general aviation users. ARINC argues that only four channels should be reserved for such purposes. ARINC notes that it is able to provide nationwide data communications to approximately 2,200 aircraft using only two channels. ARINC comments at 15-17, and reply comments at 5-8.

17. In response to ARINC, API states that ARINC's data systems would not be more efficient for Gulf Coast helicopter operations because the regional air traffic density is approximately six times greater than that of the air carrier fleet, and that the hazardous nature of Gulf of Mexico helicopter operations requires more frequent reports. API also argues that the operating costs of ARINC's system are excessive. Further, API notes that ARINC did not provide any rationale for the allotment of four channels as opposed to the eight channels proposed. API reply comments at 2-4 and 7-9.

18. *General aviation channels.* AOPA opposes the proposal to allot 25 kHz channels in the 136-137 MHz band for the general aviation community. Rather, AOPA

requests that aeronautical enroute services be moved to the 136-137 MHz band and that the current aeronautical enroute channels in the 128-132 MHz band be reallocated for general aviation purposes. AOPA states that 43 percent of the general aviation fleet (approximately 93,000 aircraft) is equipped with older radios that are unable to tune 25 kHz spaced channels. This older equipment has 360 channels (50 kHz spaced channels) or 180 channels (100 kHz spaced channels) rather than the 720 channels (25 kHz spaced channels) required in newer aviation radios.¹⁵ AOPA argues that such a reallocation would permit this portion of the general aviation fleet to continue to use the older equipment and thus avoid the unnecessary burden of buying new radio equipment. AOPA estimates that the average equipment replacement and installation cost is \$2,500 per aircraft (two radios per aircraft) or a total of \$232,500,000. Further, AOPA indicates that many commercial air carriers are equipped to accommodate the new band and that those that are not can pass the expense on to their customers. AOPA comments at 1-2.

19. EAA, NBAA, the State of California Telecommunications Division and the State of Michigan Department of Transportation support AOPA's recommendation. Although the FAA supports the proposed allotment, it notes that there is merit in the concept of exchanging frequency assignments to accommodate general aviation. The FAA states that it will attempt to reassign certain air traffic control (ATC) functions to the 136-137 MHz band in order to make more channels in the 118-136 MHz band available to general aviation services. FAA reply comments at 1.

20. ARINC opposes AOPA's recommendation. ARINC argues that the AOPA comments dwell on the conversion cost of the general aviation aircraft and trivialize the economic impact to the commercial air transport industry, corporate aviation and the FAA for implementing the new channels in the 136-137 MHz band. ARINC states that there are approximately 12,000 ground stations operated by ARINC and the FAA. Each aeronautical enroute ground station transceiver costs approximately \$4,000. Additionally, ARINC notes that without accounting for installation and lost flight time, the total cost for the equipment alone is approximately \$18,000 per transport aircraft. On the other hand, the cost to replace the equipment of a general aviation aircraft is only about \$2,500. ARINC comments 15-17.

21. Further, ARINC contends that AOPA's recommendation would undermine efficient spectrum utilization in the aviation services, and penalize the air carrier industry for implementing 25 kHz channelization and taking the lead in beginning to equip aircraft with radios capable of operating in the 136-137 MHz band. ARINC notes that general aviation use of 25 kHz compatible equipment would allow the FAA to increase the number of channel assignments by 130 percent. These "new" channels, ARINC believes, would improve ATC efficiency and air safety. According to ARINC, AOPA's recommendation is an attempt to continue to delay the long overdue transition to 25 kHz channels by shifting all the economic burden and inconvenience to the air carrier industry without any offsetting benefits. Accordingly, ARINC contends the plan suggested by AOPA should be rejected as inconsistent with the public interest. ARINC comments 15 through 21. ARINC also argues that there is not sufficient justification for the proposal to reserve five

channels in the 136-137 MHz band for future general aviation users because of the low usage levels of existing 25 kHz channels.

V. DISCUSSION

22. *Enroute channels.* In the *Notice* we recognized the increasing congestion on existing aeronautical enroute channels and proposed to allot twelve channels for aeronautical enroute services. ARINC, however, has demonstrated that during peak traffic periods enroute communications regularly reach unacceptable levels of channel occupancy in major hub airport areas such as New York, Chicago, Dallas-Fort Worth, and Los Angeles. Projected industry growth will continue to aggravate the situation. Further, the FAA requires air carrier aircraft to maintain reliable enroute communications with the appropriate dispatch office.¹⁶

23. In view of the comments discussed above, we conclude that our proposal to provide twelve channels for aeronautical enroute services should be modified. Accordingly, except in the Gulf of Mexico Region, we are allotting twenty channels for aeronautical enroute services. The additional eight channels should alleviate current congestion problems in major hub airport areas and provide spectrum for industry growth. No specific uses were suggested for the eight proposed special purpose enroute channels other than for helicopter flight following systems in the Gulf of Mexico. Therefore, within 180 miles of the shoreline of the Gulf of Mexico, twelve channels as proposed are allotted for traditional aeronautical enroute services.

24. Telesis's recommendation for twenty special purpose enroute channels apparently reflects its desire to change the structure of the enroute service and eliminate ARINC's role as the central industry enroute spectrum manager. The structure of the aeronautical enroute service, however, is beyond the scope of this proceeding. This proceeding is limited to allotting forty channels in the 136-137 MHz band for use in the aviation services.

25. *Special purpose enroute channels.* The *Notice* proposed to make eight channels available for special purpose enroute services such as the helicopter flight following system proposed by API for the Gulf of Mexico. API supported the proposal and asked that we protect these channels for a helicopter flight following system within 180 miles of the coast of the Gulf of Mexico for a period of five years. The FAA, HSAC and Telesis supported API's request. In addition, Telesis requested that twenty channels be allotted for special purpose enroute operations. ARINC, while acknowledging that there may be a need for special purpose enroute services in the Gulf of Mexico contended that only four channels are needed.

26. We conclude that eight channels should be allotted for special purpose enroute services such as a helicopter flight following system in the Gulf of Mexico. The commenters generally agree that the unique and hazardous helicopter operations in the Gulf of Mexico require special consideration. Although some of the commenters disagreed over the appropriate number of such channels, we believe that eight channels as proposed will provide sufficient spectrum to satisfy this requirement in the Gulf of Mexico Region. Because no other special purpose enroute uses were identified and because ARINC demonstrated a need for additional enroute channels as discussed above, this allotment of the eight special pur-

pose channels is limited to an area bounded by a line 288km (180 miles) inland from the shoreline of the Gulf of Mexico.¹⁷

27. API requested that these eight special purpose enroute channels be reserved for assignment to helicopter flight following systems for five years. We will reserve these eight channels in the Gulf of Mexico Region for this purpose through December 31, 1993. We believe this is a reasonable amount of time for API and the helicopter community to complete its planning and file an application. We note, however, that we do not intend to routinely license all eight channels at each location. The number of channels assigned will depend on the showing of need presented in the application. API also commented that the proposed exemption from the requirement of Section 87.261(b) to provide enroute service to any aircraft station licensee who makes cooperative arrangements for the operation, maintenance and liability of the station, is unnecessary. API argues that any flight following system for the Gulf of Mexico must be a cooperative use system. We concur and, therefore, are removing this exemption from the final rules.

28. *General aviation channels.* In the *Notice* we proposed to allot fifteen channels for general aviation uses such as AWOS, ATIS, control tower and advisory communications. AOPA opposed this allotment because many of its members would have to buy new radios or modify current radios to use channels in the 136-137 MHz band. Instead, AOPA requested that aeronautical enroute channel assignments be moved to the 136-137 MHz band and that the 128-132 MHz band be made available for assignments for general aviation uses. ARINC strongly objected to AOPA's recommendation. ARINC argued that AOPA trivializes the substantial economic burden on the U.S. air carriers, undermines efficient spectrum utilization, and attempts to delay the long overdue transition to 25 kHz channels in the aviation service.

29. We conclude that the proposed allotment of fifteen channels, with five additional channels held in reserve, for general aviation uses represents a fair compromise among the competing aviation interests. It is supported by FAA. AOPA's counter-proposal, as pointed out by ARINC, represents an inefficient use of scarce spectrum. Implicit in AOPA's counter-proposal is the assumption that the FAA and the Commission would continue to assign only 50 and 100 kHz spaced channels for general aviation use. The FAA, however, is continuing to implement 25 kHz spaced channels into the National Airspace System in the 118-136 MHz band.¹⁸ The Commission began the transition to 25 kHz channel spacing in 1971 and has continued to implement 25 kHz channels as the need for new radio services and frequency congestion problems have arisen.¹⁹ Because the available aeronautical spectrum is finite and because frequency congestion problems and requirements for new aviation radio services continue to grow, inevitably, as a minimum, general aviation aircraft that need to utilize the air traffic control system must equip with 25 kHz channel radios. Further, because the 136-137 MHz band represents the only "new" spectrum in the entire very high frequency (VHF) band, growth will have to be accommodated in this band. The segment of the general aviation community that will require access to communications services, particularly in congested metropolitan areas, will need to equip their aircraft appropriately.

30. The FAA and the Commission, however, are attempting to minimize the impact on the general aviation community by implementing 25 kHz channel assignments over time as available 100 or 50 kHz spaced channels are no longer sufficient to satisfy communications requirements. The same approach is planned for the implementation of channels in the 136-137 MHz band. AOPA cannot argue that new channels are unnecessary and offer no benefits for the general aviation community, and then on the other hand be heard to argue that other aviation users be moved to provide general aviation with additional spectrum. AOPA's counter-proposal would be inequitable and inefficient. Accordingly, we are allotting fifteen channels in the 136-137 MHz band and reserving another five channels in this band for general aviation uses as proposed.

31. *US / Canadian coordination.* Both ARINC and the FAA made several recommendations concerning the procedures for coordination of channel assignments in the 136-137 MHz band with Canada. The FAA's recommendation would make all the spectrum allotted for general aviation available to both the U.S. and Canada. Under this concept the FAA would coordinate all channels allotted for general aviation use directly with Canada and vice versa. This approach is consistent with current FAA procedures used in the coordination of ATC frequency assignments with Canada. Further, initial indications are that Canada supports this arrangement. Accordingly, we have modified Appendix B to reflect the proposed sharing arrangement which we will discuss with Canada. ARINC suggested certain changes to the 1962 Canadian Coordination Agreement. Such changes are beyond the scope of this proceeding.

VI. CONCLUSION

32. For the reasons stated above, we are amending Parts 2 and 87 of the Rules to make thirty-five channels in the 136-137 MHz band available for assignment to aeronautical stations. Twenty channels are allotted to aeronautical enroute services. Eight of these twenty channels, however, are allotted for special purpose enroute services in the Gulf of Mexico Region. These eight channels will be held in reserve for assignment to helicopter flight following systems through 1993. Another fifteen channels are allotted for general aviation uses such as AWOS, ATIS, control tower and advisory communications. The FAA is authorized to use these channels on a shared basis for such general aviation purposes. Finally, five channels are temporarily held in reserve for future general aviation services.

VII. PAPERWORK REDUCTION ACT STATEMENT

33. The decision contained herein has been analyzed with respect to the Paperwork Reduction Act of 1980 and found to contain no new or modified form, information collection or record keeping, labeling, disclosure, or record retention requirements; and will not increase or decrease the burden hours imposed on the public.

VIII. ORDERING CLAUSES

34. Accordingly, IT IS ORDERED that pursuant to the authority contained in Sections 4(i), 303(g) and (r) of the Communications Act of 1934, as amended, 47 U.S.C. §§ 154(i), 303(g) and (r) Parts 2 and 87 of the Commission's Rules ARE AMENDED as set forth in the Appendix below.

35. IT IS FURTHER ORDERED that this Report and Order will be effective on August 17, 1990.

36. IT IS FURTHER ORDERED that a copy of this Report and Order shall be sent to the Chief Counsel for Advocacy of the Small Business Administration.

37. IT IS FURTHER ORDERED that this proceeding IS TERMINATED.

FEDERAL COMMUNICATIONS COMMISSION

Donna R. Searcy
Secretary

APPENDIX A

Parts 2 and 87 of Chapter I Title 47 of the Code of Federal Regulations are amended as follows:

A: Part 2 - FREQUENCY ALLOCATIONS AND RADIO TREATY MATTERS: GENERAL RULES AND REGULATIONS.

1. The authority citation for Part 2 continues to read as follows:

AUTHORITY: Sec. 4, 302, 303, 307, 48. Stat. 1066, 1082, as amended; 47 U. S. C. 154, 302, 303, 307, unless otherwise noted.

2. In Section 2.106, United States footnote US244 is revised to read as follows:

§ 2. 106 Table of Frequency Allocations.

* * * * *

UNITED STATES (US) FOOTNOTES

* * * * *

US244 The band 136.000-137.000 MHz is allocated to the non-Government aeronautical mobile (R) service on a primary basis, and is subject to pertinent international treaties and agreements. The frequencies 136.000 MHz, 136.025 MHz, 136.050 MHz, 136.075 MHz, 136.125 MHz, 136.150 MHz, 136.175 MHz, 136.225 MHz, 136.250 MHz, 136.300 MHz, 136.325 MHz, 136.350 MHz, 136.400 MHz, 136.425 MHz and 136.450 MHz are available on a shared basis to the Federal Aviation Administration for air traffic control purposes, such as automatic weather observation services (AWOS), automatic terminal information services

(ATIS) and airport control tower communications. Stations licensed prior to January 2, 1990, using the 136-137 MHz band for space operation (space-to-earth), meteorological-satellite service (space-to-earth) and the space research service (space-to-earth) may continue to use this band on a secondary basis to aeronautical mobile (R) service stations. No new assignments will be made to stations in the above space services.

B. PART 87 - AVIATION SERVICES

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

AUTHORITY: 48 Stat. 1066, 1082, as amended; 47 U. S. C. 154, 303, unless otherwise noted. Interpret or apply 48 Stat. 1064 - 1068, 1081 - 1105, as amended; 47 U. S. C. 151 - 156, 301 - 609.

2. In Section 87.137, paragraph (a), Footnote 5 is amended by revising the first sentence to read as follows:

(a) * * *

This emission may be authorized for audio frequency shift keying and phase shift keying for digital data links on any frequency listed in §§ 87.263(a)(1), (a)(3) or (a)(5). * * *

3. In Section 87.173, the frequency table in paragraph (b) is amended by adding the following four columnar entries in frequency numerical order to read as follows:

(b) * * *

Frequency or Frequency Band	Subpart	Class of Station	Remarks
136.000-136.075 MHz	O, S	MA, FAC, FAW	Air traffic control operations
136.100 MHz			Reserved for future unicom or AWOS
136.125-136.175	O, S	MA, FAC, FAW	Air traffic control operations
136.200 MHz			Reserved for future unicom or AWOS
136.225-	O, S	MA, FAC,	Air traffic

136.250 MHz		FAW	control operations
136.275 MHz			Reserved for future unicom or AWOS
136.300-136.350 MHz	O, S	MA, FAC, FAW	Air traffic control operations
136.375 MHz			Reserved for future unicom or AWOS
136.400-136.450 MHz	O, S	MA, FAC, FAW	Air traffic control operations
136.475 MHz			Reserved for future unicom or AWOS
136.500-136.600 MHz	I	MA, FAE	Domestic VHF
136.625 MHz	I	MA, FAE	Domestic VHF
136.650 MHz	I	MA, FAE	Domestic VHF
136.675 MHz	I	MA, FAE	Domestic VHF
136.700 MHz	I	MA, FAE	Domestic VHF
136.725 MHz	I	MA, FAE	Domestic VHF
136.750 MHz	I	MA, FAE	Domestic VHF
136.775 MHz	I	MA, FAE	Domestic VHF
136.800 MHz	I	MA, FAE	Domestic VHF
136.850 MHz	I	MA, FAE	Domestic VHF
136.875 MHz	I	MA, FAE	Domestic VHF
136.900 MHz	I	MA, FAE	Domestic VHF
136.925 MHz	I	MA, FAE	Domestic VHF
136.950 MHz	I	MA, FAE	Domestic VHF
136.975 MHz	I	MA, FAE	Domestic VHF

4. In Section 87.263, paragraph (a)(1) is revised, a new paragraph (a)(5) is added and paragraph (c) is revised to read as follows:

§ 87. 263 Frequencies.

(a) * * *

(1) The frequencies in the 128.825-132.000 MHz band and the frequencies 136.500 MHz, 136.525 MHz, 136.550 MHz, 136.575 MHz, 136.600 MHz, 136.650 MHz, 136.700 MHz, 136.750 MHz, 136.800 MHz, 136.850 MHz, 136.900 MHz and 136.950 MHz are available to serve domestic

routes. The frequencies 136.625 MHz, 136.675 MHz, 136.725 MHz, 136.775 MHz, 136.825 MHz, 136.875 MHz, 136.925 MHz and 136.975 MHz are also available to enroute stations located at least 288 km (180 miles) from the Gulf of Mexico shoreline (outside the Gulf of Mexico Region). Frequency assignments are based on 25 kHz spacing. Use of these frequencies must be compatible with existing operations and must be in accordance with pertinent international treaties and agreements.

(5) The frequencies 136.625 MHz, 136.675 MHz, 136.725 MHz, 136.775 MHz, 136.825 MHz, 136.875 MHz, 136.925 MHz and 136.975 MHz are available in the Gulf of Mexico Region to serve domestic routes over the Gulf of Mexico and adjacent coastal areas. Assignments of these eight frequencies in the Gulf of Mexico Region are not subject to the conditions contained in Section 87.261(c) and paragraph (a)(2) of this Section. Frequency assignments are based on 25 kHz spacing. Use of these frequencies must be compatible with existing operations and must be in accordance with pertinent international treaties and agreements. For the purpose of this paragraph, the Gulf of Mexico Region is defined as an area bounded on the east, north and west by a line 288 km (180 miles) inland from the Gulf of Mexico shoreline.

(c) *International VHF service.* Frequencies in the 128.825-132.000 and 136.000-137.000 MHz bands are available to enroute stations serving international flight operations. Frequency assignments are based on 25 kHz channel spacing. Proposed operations must be compatible with existing operations in the band.

5. In Section 87.421, the introductory text is revised to read as follows:

§ 87. 421 Frequencies.

The Commission will assign VHF frequencies after coordination with the FAA. The following frequencies are available to control towers. Channel spacing is 25 kHz.

118.000-121.400 MHz	136.000-136.075 MHz
121.600-121.925 MHz	136.125-136.175 MHz
123.600-128.800 MHz	136.225-136.250 MHz
132.025-135.975 MHz	136.300-136.350 MHz
	136.400-136.450 MHz

APPENDIX B

U. S. A. / Canada Channeling Arrangement for 136 - 137 MHz Band

Freq. MHz	WITHIN APPROPRIATE COORDINATION ZONE		BEYOND APPROPRIATE COORDINATION ZONE	
	U.S.A.	CANADA	U.S.A.	CANADA
136.000	X (F)	X	X (F)	X
136.025	X (F)	X	X (F)	X
136.050	X (F)	X	X (F)	X
136.075	X (F)	X	X (F)	X
136.100	X (R)	X	X (R)	X
136.125	X (F)	X	X (F)	X
136.150	X (F)	X	X (F)	X
136.175	X (F)	X	X (F)	X
136.200	X (R)	X	X (R)	X
136.225	X (F)	X	X (F)	X
136.250	X (F)	X	X (F)	X
136.275	X (R)	X	X (R)	X
136.300	X (F)	X	X (F)	X
136.325	X (F)	X	X (F)	X
136.350	X (F)	X	X (F)	X
136.375	X (R)	X	X (R)	X
136.400	X (F)	X	X (F)	X
136.425	X (F)	X	X (F)	X
136.450	X (F)	X	X (F)	X
136.475	X (R)	X	X (R)	X
136.500	X (A)	X	X (A)	X
136.525	X (A)	X	X (A)	X
136.550	X (A)	X	X (A)	X
136.575		X	X (A)	X
136.600	X (A)	X	X (A)	X
136.625	X (A)	X	X (B)	X
136.650	X (A)	X	X (A)	X
136.675		X	X (B)	X
136.700	X (A)	X (A)	X (B)	X
136.725	X (A)	X	X (B)	X
136.750	X (A)	X	X (A)	X
136.775		X	X (B)	X
136.800	X (A)	X (A)	X (B)	X
136.825	X (A)	X	X (B)	X
136.850	X (A)	X	X (A)	X
136.875		X	X (B)	X
136.900	X (A)	X	X (A)	X
136.925	X (A)	X	X (B)	X
136.950	X (A)	X	X (A)	X
136.975		X	X (B)	X

Notes: 1. Letter in parenthesis indicates usage as follows:

(A) Enroute communications in accordance with § 87.261 of the Rules.

(B) Enroute communications in accordance with § 87.261 except as noted in § 87.263(a)(5) of the Rules.

(F) Available to the Government (FAA)/non-Government entities for air traffic control purposes, such as, automatic weather observation services (AWOS), automatic terminal information services (ATIS) and airport control tower communications.

(R) Reserved.

2. Frequencies primarily allocated for U.S. or Canadian use may be assigned to either U.S. or Canadian stations within the appropriate frequency coordination zones following frequency coordination. Outside the coordination

zones; all frequencies may be assigned without prior coordination, as indicated in the column titled "Beyond Appropriate Coordination Zone".

3. The frequencies 136.000 MHz through 136.475 MHz allocated for air traffic control (ATC) purposes shall be shared by the United States and Canada on an equal basis without prejudging the needs of either Government.

4. When applicable, the frequencies 136.000 MHz through 136.475 MHz will be coordinated on the basis of required technical data and coordination zones as established in the October 24, 1962, agreement entitled "TELECOMMUNICATIONS-Coordination and Use of Radio Frequencies Above 30 Megacycles per Second" between the United States of America and Canada and any subsequent revisions thereto (U.S.A./Canada agreement).

5. When applicable, the frequencies 136.500 MHz through 136.975 MHz will be coordinated on the basis of a U.S.A./Canada agreement. The frequency coordination zones for co-channel assignments are:

Type of Station	Altitude Level (feet)	Coordination Zone (n.m.)
Ramp	Ground level	50
Helicopter	0 to 2,000	150
Low level	0 to 10,000	250
Mid level	0 to 20,000	400
High level	Over 20,000	600

FOOTNOTES

¹ ARINC is a communications company established to coordinate and provide aeronautical enroute telecommunication services and facilities to the aviation industry. More specifically, it provides air-to-ground and ground-to-air communications for the regularity and efficiency of flight and the safety of aircraft, i.e., communications regarding fuel, weather, aircraft performance, position reports and other essential services. ARINC's principal stockholders and principal customers are the United States scheduled airlines. A number of corporate and general aviation operators also own shares in ARINC. ARINC provides its services to all aircraft operators, including foreign airlines and business and private aircraft, on a not-for-profit, cost sharing, basis.

² API is a national association representing approximately 200 companies and more than 5,000 individual members engaged in the exploration, production, refining, marketing and transportation of petroleum products and natural gas.

³ The Aeronautical Mobile (R) Service is defined as follows: "An aeronautical mobile service reserved for communications relating to safety and regularity of flight, primarily along national or international civil air routes." See Final Acts of the World Administrative Radio Conference for the Mobile Services (WARC Mob-87) No. 34A (Geneva 1987).

⁴ In the United States, after January 1, 1990, the frequencies in the 136-137 MHz band are allocated for non-Government aeronautical mobile (R) operations. See Section 2.106 of the Commission's Rules, 47 C.F.R. § 2.106, and National Telecommunications and Information Administration (NTIA), *Manual of Regulations and Procedures for Federal Radio Frequency Management* § 4.1.3 (rev. ed. 1989).

⁵ See Final Acts of WARC Mob-87 (Geneva, 1987).

⁶ See Resolution No. 408 of the Final Acts of WARC Mob-87 (Geneva 1987).

⁷ See Agreement on Telecommunication: Coordination and Use of Radio Frequencies Above 30 Megacycles per Second, Oct. 24, 1962, United States-Canada, T.I.A.S. No. 5205. Pending revision of the Agreement, in 1977, the Commission and Canada's Department of Communications agreed on interim procedures for assignments in the 128-132 MHz band. See also Letter from Richard E. Wiley, Chairman to Mr. M.F. Yalden, Deputy Minister of Communications (Sept. 27, 1977) (transmitting U.S.A./Canada Interim Channelling Arrangement for the Mobile(R)/(Enroute) Service Utilizing 25 kHz Channels for the Band 128.8125-132.0125 MHz).

⁸ See Letter from Gerald J. Markey, Manager, Spectrum Engineering Division, FAA to Robert McNamara, Chief, Special Services Division, FCC (Feb. 28, 1989).

⁹ General aviation consists of all aircraft other than scheduled air carrier and military aircraft.

¹⁰ Telesis supplies aeronautical communications products and services to the aviation industry.

¹¹ 47 C.F.R. § 87.261(c) provides that only one aeronautical enroute licensee will be authorized in any one location. For a discussion of aeronautical enroute service and the role of ARINC see Report and Order, PR Docket No. 80-243, 87 F.C.C. 2d 382 (1981).

¹² See 47 C.F.R. § 87.261(a).

¹³ HSAC is an industry group comprised of 80 company members representing major oil companies, helicopter operators and manufacturers. Every branch of the Armed Services also participates in the organization.

¹⁴ API states that this concept is consistent with other allotment decisions including the 800 MHz "slow growth" channel allotment for public safety, Report and Order, PR Docket No. 79-191, 45 Fed. Reg. 81204 (1980), and the 900 MHz Power Service Multiple Address System channels, Second Report and Order, SS Docket No. 79-18, 47 Fed. Reg. 6869 (1982).

¹⁵ Transmitters operating in the 117.975-136 MHz band type accepted after January 1, 1974, must have 25 kHz spaced channels. See 47 C.F.R. § 87.137(e) note 3.

¹⁶ See 14 C.F.R. §§ 121.99, 121.125, and 135.79.

¹⁷ The mileage limited is based on the 150 mile coordination zone for helicopter operations specified in Appendix B and the assumption that base stations will be located within 30 miles of the shoreline.

¹⁸ See, Implementation of 25 kHz channel spacing requiring airbourne 720 channel radios in the VHF air traffic control communications band in the Airspace Below 18,000 feet, 49 Fed. Reg. 20772 (1984). The FAA first announced its intention to implement 25 kHz channels for general aviation aircraft in 1973, 38 Fed. Reg. 29 29077 (1973).

¹⁹ See Docket No. 18531, 31 FCC 2d 193 (1971) and PR Docket No. 87-214 3 FCC Rcd 4171 (1988).