

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

In the Matter of the Application of

NEWCOMB File No. 1251-DSE-MP/L-95  
COMMUNICATIONS, INC. Call Sign E920586

For Modification of its Interim  
Authority in the 1610-1626.5 MHz  
Frequency Band to Add an  
Outbound Link in the 3700-  
4200 MHz Frequency Band

### ORDER AND AUTHORIZATION

Adopted: February 2, 1996; Released: February 5, 1996

By the Chief, International Bureau and the Chief, Office  
of Engineering and Technology:

#### I. INTRODUCTION

1. With this order, we grant the request of Newcomb Communications, Inc. (Newcomb) to add an outbound transmission link in the 3700-4200 MHz frequency band, allowing Newcomb to provide two-way radio-determination satellite service (RDSS) to mobile users throughout the continental United States, Alaska and adjoining territorial waters and airspace. This will permit the public to receive services that would not otherwise be available.

2. Newcomb's mobile user units transmit in the 1610-1626.5 MHz band to RDSS packages on-board GE American Communications' Spacenet-3 fixed-satellite at 87° W.L.. This band is allocated to RDSS and the mobile-satellite service (MSS) on a co-primary basis. By this application, Newcomb requests a waiver of the Table of Frequency Allocations (Table), 47 C.F.R. § 2.106, to permit its mobile terminals to receive transmissions from Spacenet-3 in the 3700-4200 MHz band allocated domestically to the fixed-satellite service, fixed service<sup>1</sup> and mobile service on a primary basis. This modification enables Newcomb to provide two-way radiolocation and messaging services to land, aeronautical and maritime users via mobile user units equipped with GPS receivers or other external navigation aids. The application was placed on public notice on July 5, 1995. Loral/QUALCOMM Partnership, L.P. (LQP) filed comments.

#### II. BACKGROUND

3. In 1986, GE American Communications (GE Americom), formerly GTE Spacenet Corporation,<sup>2</sup> was authorized to incorporate RDSS packages on-board GSTAR-3 and Spacenet-3 fixed-satellites to provide space segment capacity for its customer, Geostar Positioning Corporation (Geostar), until Geostar's dedicated three-satellite RDSS system was implemented.<sup>3</sup> Geostar declared bankruptcy in February 1991. Its dedicated system was never built and operations using the GE Americom satellites were suspended.

4. In May 1993, Newcomb was authorized to construct and operate 10,000 mobile units to provide one-way radiolocation and messaging services to its customers via transmit-only mobile earth terminals accessing the RDSS packages on Spacenet-3 and GSTAR-3.<sup>4</sup> The Commission found that this would permit the public to receive services that would not otherwise be available. However, the Commission was in the process of authorizing an MSS/RDSS satellite service in the same bands and could not permit Newcomb's operations to affect the operations of any licensed MSS/RDSS system. Thus, Newcomb's authorization was conditioned to expire on the date on which a regularly licensed MSS/RDSS provider in the 1610-1626.5 MHz band launches its first satellite.

5. In March 1995, Mobile Datacom Corporation (MDC) was granted authority to construct and operate up to 10,000 mobile units capable of transmitting in the 1610-1626.5 MHz frequency band and receiving in the 3700-4200 MHz frequency band. MDC was granted a waiver of the Table, 47 C.F.R. § 2.106, provided it would not cause unacceptable interference into any other service authorized to use the 3700-4200 MHz band and subject to any interference from any of these other services. Conditions were also placed on MDC's authorization to protect licensed MSS/RDSS users in the 1610-1626.5 MHz frequency band. In its modification application, Newcomb requests authority similar to that granted to MDC.

6. LQP, a licensed MSS/RDSS provider, filed comments requesting that Newcomb's modified authorization contain the same conditions as Newcomb's existing license, *i.e.*, Newcomb's authorization will terminate upon launch of the first satellite by a MSS/RDSS licensed provider in the 1610-1626.5 MHz frequency band.

#### III. DISCUSSION

7. We find that the addition of a satellite transmission link in the 3700-4200 MHz frequency band allowing Newcomb to provide vital safety related needs for communications back to the mobile terminals, as requested by Newcomb's users and prospective users, is in the public interest. Thus, we grant Newcomb a waiver of the Table of Frequency Allocations, 47 C.F.R. § 2.106, to permit satellite-to-mobile unit links in the 3700-4200 MHz frequency band subject to the condition that these transmissions may

<sup>1</sup> In 1993, the 3700-4200 MHz band was one of the five bands authorized for use by fixed microwave licensees relocating from the 1850-1990, 2110-2150, and 2160-2200 MHz frequency bands. See *Redevelopment of Spectrum to Encourage Innovation in the Use of New Telecommunications Technologies*, 8 F.C.C. Rcd. 6495 (1993).

<sup>2</sup> GTE Spacenet Corporation was purchased by GE American Communications in 1994.

<sup>3</sup> *GTE Spacenet Corporation*, 1 F.C.C. Rcd. 1163 (Com. Car. Bur. 1986); *GTE Spacenet Corporation*, Mimeo No. 5175 (Com. Car. Bur. 1986).

<sup>4</sup> *Newcomb Communication, Inc.*, 8 F.C.C. Rcd. 3631 (Com. Car. Bur. 1993) (Newcomb Order).

not cause unacceptable interference into any other service authorized to use the band and the condition that Newcomb must accept any interference from any of these other services.

8. Newcomb argues that space segment facilities are not available in the 2483.5-2500 MHz frequency band allocated to the RDSS downlink and a waiver of the Table permitting RDSS operations in the 3700-4200 MHz frequency band allocated domestically to the fixed-satellite, fixed and mobile services is necessary. Newcomb also states that use of frequencies in the 3700-4200 MHz band will not adversely affect any current or authorized licensees or users of the band. Technical studies performed by Geostar Positioning Corporation show that the operation of a RDSS downlink in the 3700-4200 MHz band will not increase the interference caused to allocated services. We believe this conclusion is still valid. Additionally, RDSS transmissions in the 3700-4200 MHz band must adhere to the power flux density limits contained in Section 25.208(a) of the Commission's Rules, 47 C.F.R. §25.208(a).<sup>5</sup> Thus, the Commission previously found that a two-way radiolocation and messaging system such as that requested by Newcomb in this modification application serves the public interest.<sup>6</sup> Newcomb's request is similar. Furthermore, the Commission decided in the *Newcomb Order* and the *MDC Order* that allowing temporary use of existing orbital resources may permit the public to receive services that would not otherwise be available.

9. Newcomb is required to terminate operations immediately if such operations interfere with those of any other allocated service operating in the 1610-1626.5 MHz band or in adjacent bands. Newcomb may not interfere with the radioastronomy service, which operates on a co-primary basis in the 1610.6-1613.8 MHz band and must observe the large protection areas around the 16 radioastronomy observatories in the United States. Further, Newcomb will be required to adhere to any national or international out-of-band emission standards that may be incorporated in the Commission's rules to protect the Global Navigation Satellite System (GNSS).<sup>7</sup> To protect GPS from interference from uplink transmissions in the 1610-1626.5 MHz band, the Commission has adopted out-of-band emission limits for mobile facilities operating in that band. Specifically, out-of-band emissions may not exceed an e.i.r.p. density of -70 dBW/MHz averaged over any 20 millisecond period in

any portion of the 1574.397-1576.443 MHz band. For any discrete spurious emissions in the same band (i.e., bandwidth less than 600 Hz), the user transceiver e.i.r.p. density may not exceed -80 dBW.<sup>8</sup> RTCA SC 159 Working Group 6, created to assess interference to the GNSS, is also studying out-of-band emission limits on MSS operations necessary to protect GLONASS operations. Until the RTCA's final report is complete and new standards are adopted we will require Newcomb to adhere to the e.i.r.p. limits contained in Section 25.213(b) of the Commissions Rules and to terminate interfering operations immediately upon notification by the Commission or by the National Telecommunications and Information Administration.

10. Grant of this application is not intended to affect adversely the rights of the MSS/RDSS licensees in the 1610-1626.5 MHz frequency band.<sup>9</sup> In its comments, LQP requests that Newcomb's modified authorization terminate upon launch of the first satellite by a MSS/RDSS licensed provider in the 1610-1626.5 MHz frequency band and that the conditions imposed upon Newcomb's modified authorization include the conditions on the existing authorization. We agree with LQP. Thus, the conditions on Newcomb's existing license, including those intended to protect MSS/RDSS licensees, remain in effect. Newcomb is granted authority to operate its mobile units only until an MSS/RDSS licensed provider in the 1610-1626.5 MHz frequency band has launched its first satellite. This event is likely to occur within the next year or two. Any request for authority to operate after this date will be considered only if Newcomb can conclusively demonstrate that its operations will not interfere with licensed MSS/RDSS operations in the band or if all operating MSS/RDSS system licensees have agreed to Newcomb's operations. Further, to facilitate any termination of service that may be required, we require Newcomb to maintain a record of the platforms on which each mobile unit is installed, specifying whether the terminals are used for land, maritime, or aeronautical service and specifying the name, address, and telephone number of the customer. We will also require Newcomb to inform its customers that service is being provided pursuant to a grant of interim authority and that service will terminate upon the launch of a regularly licensed MSS/RDSS satellite.<sup>10</sup> Finally, because operations are on an interim basis only, Newcomb is limited to the construction and operation of 10,000 units.

<sup>5</sup> Downlink analog video transmissions in the band 3700-4200 MHz shall be transmitted only on a center frequency of 3700+20N MHz, where N=1 to 24. The corresponding uplink frequency shall be 2225 MHz higher. 47 C.F.R. §25.211(a).

<sup>6</sup> See *Geostar Positioning Corporation*, 4 F.C.C. Rcd. 4538 (1989). The Commission concluded that the public interest would be served by allowing transmissions in the 3700-4200 MHz band from a fixed satellite to Geostar's RDSS units if those transmissions are not likely to cause harmful interference into authorized services. See also *Mobile Datacom Corporation*, 10 F.C.C. Rcd. 4552 (Int'l. Bur. 1995) (*MDC Order*).

<sup>7</sup> See Memorandum of Understanding between the FCC, the National Telecommunications and Information Administration (NTIA), and the Federal Aviation Administration (FAA) Addressing Out-of-Band Emission Requirements for the Mobile-Satellite Service, dated November 18, 1994.

<sup>8</sup> *Amendment of the Commission's Rules to Establish Rules and Policies Pertaining to a Mobile Satellite Service in the 1610-1626.5/2483.5-2500 MHz Frequency Bands*, 9 F.C.C. Rcd. 5936 (1994) at para. 130. 47 C.F.R. § 25.213(b).

<sup>9</sup> *Motorola Satellite Communication, Inc., LQP and TRW Inc.*

were granted licenses to operate MSS/RDSS systems in the 1610-1626.5/2483.5-2500 MHz band on January 31, 1995. *Motorola Satellite Communication, Inc.*, 10 F.C.C. Rcd. 2268 (Int'l. Bur. 1995); *Loral/QUALCOMM Partnership, L.P.*, 10 F.C.C. Rcd. 2333 (Int'l. Bur. 1995); *TRW Inc.*, 10 F.C.C. Rcd. 2263 (Int'l. Bur. 1995). The Commission found that applicants Constellation Communications, Inc. and Mobile Communications Holdings, Inc. required additional time to establish financial qualifications and deferred further consideration of their applications until January 1996. *Constellation Communications, Inc.*, 10 F.C.C. Rcd. 2258 (Int'l. Bur. 1995); *Mobile Communications Holdings, Inc.*, 10 F.C.C. Rcd. 2274 (Int'l. Bur. 1995). The remaining applicant, American Mobile Satellite Corporation, deferred its financial showing until January 1996.

<sup>10</sup> In this regard, MSS/RDSS licensees in the 1610-1626.5 MHz frequency band should notify Newcomb, as well as MDC, upon receipt of any confirmed launch dates and upon actual launch of the first satellite in the system.

11. Because we have licensed three MSS/RDSS systems in the 1610-1626.5 MHz band<sup>11</sup> and expect service to be initiated in the next year or two, we believe it appropriate to require Newcomb to implement additional safeguards not contained in the *Newcomb Order*. Specifically, to ensure that mobile users do not transmit after the required termination date, Newcomb must deploy receivers/transceivers that may be remotely deactivated through the use of the 3700-4200 MHz outbound link or must develop other suitable arrangements to ensure that transmissions are deactivated on a timely basis. We have imposed similar requirements on other temporary systems.<sup>12</sup> To the extent that U.S. government users are relying on Newcomb's service for vital safety related needs, we assume that the provision of Newcomb's service in the 1610-1626.5/3700-4200 MHz bands is ancillary to the provision of service in bands more appropriate for critical safety services.

#### IV. CONCLUSION AND ORDERING CLAUSES

12. We find that the public interest, convenience and necessity will be served by allowing Newcomb to provide its proposed two-way position location and ancillary data services on a temporary basis. We recognize that dedicated MSS/RDSS satellites in the 1610-1626.5 MHz band may be brought into service before GSTAR-3 and Spacenet-3 are retired, and place Newcomb on notice that, in this event, it will be required to terminate operations even if the two satellites have not exhausted their operational capacity.

13. Accordingly, pursuant to Section 309 of the Communications Act, 47 U.S.C. § 309, and Section 0.261 of the Commission's rules, 47 C.F.R. § 0.261, IT IS ORDERED that Application File No. 1251-DSE-MP/L-95 IS GRANTED as set forth above and that Newcomb IS AUTHORIZED to modify its authorization to construct 10,000 mobile units and to operate the units in the 1610-1626.5 MHz band in the contiguous United States, Alaska, and adjoining territorial waters and airspace via the GSTAR-3 and Spacenet-3 satellites as specified in its application and subject to the following conditions:

(a) This authorization will terminate on the date on which a regularly licensed MSS/RDSS provider in the 1610-1626.5 MHz band launches its first satellite; and

(b) no harmful interference shall be caused to any other allocated service in the 1610-1626.5 MHz band, and operation by Newcomb Communications, Inc. in this band shall cease immediately upon notification of interference; and

(c) Newcomb Communications, Inc. must comply with the e.i.r.p. limits in Section 25.213(b) of the Commission's Rules, 47 C.F.R. § 25.213(b); no harmful interference shall be caused to Global Positioning System receivers, or Global Orbiting Navigation Satellite System receivers, when used as part of the Global Navigation Satellite System, and operation by Newcomb Communications, Inc. shall cease immediately upon notification of interference by the Commission or by the National Telecommunications and Information Administration; and

(d) maritime operations may not commence until the Department of State informs the Commission that the U.S. has fulfilled its obligations under Article 8 of the INMARSAT convention.

14. IT IS FURTHER ORDERED that Newcomb's request for interim waiver of the Table of Frequency Allocations, 47 C.F.R. § 2.106, IS GRANTED to permit use of the 3700-4200 MHz frequency band for outbound channels subject to the conditions that Newcomb may not cause unacceptable interference into any other service authorized to use this band and must accept any interference from any allocated services operating in this frequency band.

15. IT IS FURTHER ORDERED that Newcomb's satellite transmissions in the 3700-4200 MHz band must adhere to the power flux density limits contained in Section 25.208(a) of the Commission's Rules, 47 C.F.R. §25.208(a).

16. IT IS FURTHER ORDERED that Newcomb Communications, Inc. shall file with the Commission annually the number of terminal units constructed within that year, specifying whether the terminals are used for land, maritime or aeronautical service.

17. IT IS FURTHER ORDERED that Newcomb Communications, Inc. shall maintain a record of the platforms on which each terminal unit is installed, and shall include the name, address, and telephone number of each customer.

18. IT IS FURTHER ORDERED that Newcomb Communications, Inc. is required to inform its customers that service is being provided pursuant to a grant of interim authority and that service will terminate on the date on which a regularly licensed MSS/RDSS provider in the 1610-1626.5 MHz band launches its first satellite.

19. IT IS FURTHER ORDERED that Newcomb Communications, Inc. must deploy transceivers capable of remote deactivation, or institute an appropriate procedure for timely deactivation to ensure service is terminated as specified in paragraph 13(a), above.

20. Newcomb Communications, Inc. is afforded thirty days to decline this authorization as conditioned. Failure to respond within this period will constitute formal acceptance of the authorization as conditioned.

#### FEDERAL COMMUNICATIONS COMMISSION

Scott Blake Harris  
Chief, International Bureau

Richard J. Smith  
Chief, Office of Engineering and Technology

<sup>11</sup> *Supra*, note 9.

<sup>12</sup> *See MDC Order*.