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Priority Branch
International Bureau

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

In the Matter of)
MOTOROLA SATELLITE SYSTEMS, INC.)
Application for Authority to Construct,)
Launch and Operate a Non-Geostationary)
Orbit (NGSO) Satellite System in the)
Fixed-Satellite Service (FSS))

File Nos. 157-SAT-P/LA-96(72)
19-SAT-AMEND-96

To the Chief, International Bureau:

REPLY TO OPPOSITION

Advanced Radio Telecom Corporation ("ART"), by its attorneys and pursuant to Section 25.154(d) of the Commission's Rules, 47 C.F.R. § 25.154(d), and *Public Notice*, Report No. SPB-89, DA 97-1551, released July 22, 1997,¹ respectfully submits this Reply to the Consolidated Opposition and Reply ("Opposition") filed by Motorola Satellite Systems, Inc. ("Motorola") on September 16, 1997, with regard to, *inter alia*, the Petition to Deny ("Petition") the above-captioned filed by ART on August 21, 1997.

The Motorola Opposition is largely devoid of substance as it related to the issues raised and arguments presented in the ART Petition, and does not persuade ART to rethink those issues or amend its arguments. Similarly, it ought not dissuade the Bureau from reaching the conclusions and taking the actions advocated in the Petition. However, Motorola offers several mis-characterizations in the Petition which ART is compelled to

¹ At the request of Motorola, in a letter dated August 29, 1997, Thomas Tycz, Chief of the Satellite and Radiocommunications Division of the FCC's International Bureau, extended to September 30, 1997, the deadline for replies to any Motorola opposition to a petitions to deny the above-captioned Application.

correct herein so that the record in this proceeding will accurately reflect reality. Additionally, ART must challenge several other assertions offered by Motorola in the Opposition.

I. ART DOES *NOT* SEEK TO LIMIT OR ELIMINATE THE DEVELOPMENT OF SATELLITE OPERATIONS IN THE 40 GHZ BAND, BUT MERELY TO PROTECT ITS EXISTING TERRESTRIAL SYSTEM

Without being specific, Motorola impugns the motives and integrity of ART and the other petitioners in this proceeding by asserting that “several of the petitioners seek to limit or eliminate the promise of satellite operations in these bands.” Opposition at 5. Although ART believed that it made its motivation and intentions very clear in the Petition, as well as in the numerous other filings, presentations and meetings related to this Application and the affected spectrum bands over the past 18 months, in light of the statement by Motorola, it perhaps bears repeating one more time -- while ART takes no position on the amount of “promise” offered by satellite operations in the 40 GHz band, ART categorically does *not* seek to limit or eliminate the development of satellite operations in the band, but merely strives to protect its existing terrestrial system from the development of other telecommunications systems in its frequency bands that would threaten its very existence and its continued growth and success.

II. ART HAS ACTED IN AS GOOD FAITH AS ANY INVOLVED PARTY IN ASSESSING AND ADDRESSING INTERFERENCE CONCERNS BETWEEN THE FIXED AND FIXED-SATELLITE SERVICES, HAS *NEVER* STONE-WALLED THIS ISSUE, AND MAINTAINS IN GOOD FAITH THAT THERE ARE *VERY REAL* PROBLEMS WITH FREQUENCY SHARING BETWEEN THESE SERVICES

Motorola again questions the motives and actions of ART and the other petitioners by asserting, without support, that the Fixed Service (“FS”) licensees have failed to make “a good faith effort to resolve interference concerns,” and have provided Motorola with “a virtual stone wall in its repeated efforts to work out sharing solutions with the FS industry.” Opposition at 19. Indeed, Motorola accuses the petitioners of failing to provide new technical arguments as to why sharing is unworkable and high-

density satellite systems like M-Star should be licenses in other, separate frequency bands. Motorola complains that the arguments are “timeworn” and that “these pleadings simply repeat the arguments made by these parties numerous times before.” Opposition at ii, 17.

It is certainly true that ART and many of the other petitioners have presented the essence of the arguments raised in their petitioners before. ART, for one, has raised these arguments at every appropriate forum for the past 18 months, and will continue to raise these arguments at all appropriate fora in the future until these issues are resolved. In this, we are unapologetic. Moreover, this assertion by Motorola fails to acknowledge that these issues have been repeatedly raised by ART and others in collateral proceedings, but that it was not until the filing of the Petition that ART had an opportunity to raise these issues specifically with regard to the Commission’s consideration of the grant of Motorola’s M-Star proposal.²

The sharing issues that have been repeated raised *are the issues that need to be resolved*. Motorola utterly fails to acknowledge and accept that the 38 GHz FS industry -- supported by the 38 GHz FS equipment manufacturing industry -- has not been able to find, in good faith, a viable way for the high-density FS and FSS services to share spectrum at 40 GHz. No arguments raised or information offered by Motorola or any of the other proponents of 40 GHz FSS to date have resolved the issues or lessened ART’s concern. Nor can ART foresee any new information or argument being raised that would provide a workable solution. The Bureau is by now well-aware of the nature of the sharing issues and arguments raised by ART and the other 38 GHz FS companies -- and

² The same arguments will *again* be presented, with regard to the Hughes “Expressway” FSS application, the TRW 40 GHz FSS application, and any other 40 GHz FSS proposal which may be filed that raises similar sharing issues, if and when those applications are placed on FCC public notice and an opportunity is given to file petitions to deny those applications.

why the concerns of the terrestrial licensees are warranted -- and they do not need repeating here.³

Contrary to the assertion of Motorola, ART is willing to compromise, but not when the “compromises” proposed to date threaten its viability as a service provider (and in ART’s opinion the viability of the FSS services as well). As the Bureau knows, ART and the others have struggled, unsuccessfully, to find a solution that is workable for everyone.

III. FSS SPECTRUM IS FAR FROM “LIMITED” AND WOULD HAVE GREATER USABILITY UNDER A BAND SEGMENTATION ARRANGEMENT

Motorola pleads with the Bureau not to decrease what it characterizes as the “limited amount of FSS spectrum allocated for global satellite operations.” Opposition at 4. Contrary to this assertion however, FSS spectrum allocations are far from limited. Under the current U.S. Table of Allocations, FS is allocated a total of just over 39 GHz of spectrum up through 100 GHz. FSS, Mobile-Satellite Service, and Broadcasting-Satellite Service combined are allocated a total of about 58 GHz, with the majority of this spectrum -- almost 33 GHz -- allocated to FSS.

Of the 5900 MHz allocated to FSS between 36 and 51.4 GHz, 4000 MHz is allocated for uplinks, but only 1900 MHz is allocated for corresponding downlinks. As a result, under current allocations this 5900 MHz of *allocated* spectrum results in only 3800 MHz of *usable* paired frequencies, with the remaining 2100 MHz being unusable for two-way services. Furthermore, of this 5900 MHz of FSS spectrum, 5400 MHz -- or 92 percent -- is co-primarily allocated to FS. (This 5400 MHz of shared spectrum amounts to

³ Motorola is correct in its assertion that the Commission has not yet finally concluded that sharing in the 40 GHz band will not work and should be avoided. Motorola fails to acknowledge, however, that the Commission has tentatively reached this conclusion in its Band Plan Rulemaking (*see* note 6, *infra*), or that segmentation was implemented in the similarly-contested and problematic 28 GHz band.

16.5 percent of all FSS spectrum up to 100 GHz.) As a result, the “usability” of this 92 percent of the FSS-allocated spectrum in the relevant bands is “compromised” through potential sharing conflicts with terrestrial services, which already have a headstart of several years.⁴

With band segmentation as proposed by the FCC, FSS will be allocated less spectrum overall -- 4000 MHz (as opposed to 5900 MHz) -- but an equal amount of spectrum, 2000 MHz, will be allocated for uplink and downlink channels. Importantly, none of the FSS spectrum will be shared with terrestrial services (assuming the FCC does not implement its nearly universally-opposed “underlay” scheme).⁵ As a result, while FSS would experience an overall reduction in allocated spectrum (but of less than six percent) under band segmentation (and FS spectrum would be reduced by 3.5 percent), *none* of the FSS spectrum will be shared with terrestrial services (as opposed to the 92 percent today). Thus, fully *100 percent* of the FSS spectrum will be free of increasing compromise in the years ahead from high-density terrestrial applications. The reality, then, is that band segmentation would allow FSS (and FS) to utilize its allocated spectrum much more efficiently, and experience a *net gain in usable spectrum* as a result.⁶

⁴ For FS, 6400 of the 9200 MHz of the spectrum allocated to the service between 36 and 51.4 GHz (or 70 percent) is currently shared with satellite services (or 16.4 percent of the total FS spectrum up to 100 GHz). As a result, the usability of this 70 percent of the FS-allocated spectrum in the relevant bands is similarly compromised through potential sharing conflicts with satellite services.

⁵ FS also would be allocated less spectrum overall on a primary basis --7800 GHz -- but only 1000 MHz would be shared with satellite services.

⁶ See generally 47 C.F.R. Part 2; *Notice of Proposed Rulemaking in Allocation and Designation of Spectrum for Fixed-Satellite Services in the 37.5-38.5 GHz, 40.5-41.5 GHz, and 48.2-50.2 GHz Frequency Bands; Allocation of Spectrum to Upgrade Fixed and Mobile Allocations in the 40.5-42.5 GHz Frequency Band, Allocation of Spectrum in the 46.9-47.0 GHz Frequency Band for Wireless Services; and Allocation of Spectrum in the 37.0-38.0 GHz and 40.0-40.5 GHz for Government Operations*, IB Docket No. 97-95,

IV. THE INTEREST SHOWN IN THE 40 GHZ BAND FOR FSS SHOULD NOT BE CONSTRUED AS "NEED" OR ASSUMED TO TRANSLATE INTO ACTUAL USE

Motorola asserts that the Commission "significantly underestimated the need for domestic FSS allocations," and argues further that its assertion "will most likely be vindicated when the Commission receives additional FSS applications." Opposition at 11. The Bureau should not, however, draw any firm conclusions regarding the "need" for FSS spectrum at 40 GHz simply from the filing of applications for the spectrum. As the Bureau is well-aware, the world currently suffers from an epidemic of what have come to be known as "paper satellites" -- *i.e.*, satellite systems that are applied for, and for which international coordination is requested, but which ultimately are never constructed, launched and operated. Indeed, the upcoming 1997 World Radiocommunications Conference will address this issue, primarily as a result of ITU-R Resolution 18, and the United States is currently working to prepare the U.S. position on this issue and its resolution. In light of this situation in the satellite industry, it would be risky for the Bureau to conclude, simply from the filing of multiple satellite applications, that there is real need or interest in developing the spectrum.

If the Bureau does engage in an assessment of the "need" for FSS spectrum, and its corresponding "need" for FSS systems using the spectrum, based on the applications filed, then it must also engage in an assessment of how *efficiently and effectively* proposed systems will use the *huge* amounts of spectrum requested that, to date, have been the hallmark of the 40 GHz FSS applications. In addition, the Bureau would be remiss if it did not look at the other recent satellite licensing rounds -- especially the K_a-band licensing -- to determine the degree to which satellite "needs" are adequately being

addressed and thereby to assess the "need" for 40 GHz satellite allocations in light of the larger satellite system development environment that exists today.⁷

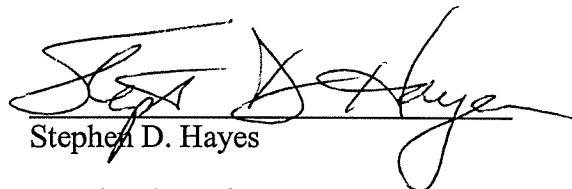
V. CONCLUSION

For all of the foregoing reasons, as well as the rationale offered in its original Petition, ART reiterates its request that the Bureau deny, in relevant part specified in the Petition, the Application of Motorola for authority to construct, launch and operate the proposed M-Star NGSO FSS system.

Respectfully submitted,

ADVANCED RADIO TELECOM CORP.

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September 30, 1997

⁷ See the Reply Comment of the Telecommunications Industry Association in the Band Plan Rulemaking, at pp. 19-22, 27-28, which elucidate this issue quite well.

CERTIFICATE OF SERVICE

I, Vinton M. Davis, hereby certify that I have on this 30th day of September, 1997, caused copies of the foregoing "Reply to Opposition" to be delivered via regular mail, postage prepaid (except as indicated below), to the following persons:

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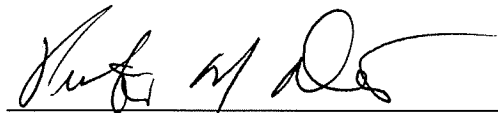
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