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

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Federal Communications Commission
Office of the Secretary

In the Matter of	)	
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Advanced Television Systems and Their Impact on the Existing Television Broadcast Service	)	
	)	
Review of Technical and Operational Requirements: Part 73-E, Television Broadcast Stations	)	MM Docket No. 87-268 RM-5811
	)	
Reevalution of the UHF Television Channel and Distance Separation Requirements of Part 73 of the Commission's Rules	)	

To: The Commission

REPLY COMMENTS OF RADIO TELECOM AND TECHNOLOGY, INC.

1. Radio Telecom and Technology, Inc. ("RTT") hereby submits its reply comments in the above-captioned proceeding. RTT filed initial comments calling the Commission's attention to the potential for many advanced uses of the television spectrum for diverse purposes, not limited to the sharper pictures and sound known as "high definition television." RTT mentioned its own invention "T-NET" as one example of a new advancement which can immediately offer the public two-way interactive television and an independent bidirectional wireless data system. T-NET can ultimately offer voice transmission and relief from some pressures of land mobile spectrum crowding as well. Because T-NET is synchronized with the signal of a local first adjacent television channel, its benefits are available without any displacement of or interference to any existing television station or technical system and without precluding more intensive use of the television spectrum for advanced television systems ("ATV").

2. The established television broadcast and receiver manufacturing interests reacted as might be expected to the Notice of Inquiry, arguing for more time to develop ATV and a freezing of the status quo until further research is completed. Although not all of the comments were unanimous, the principal points made were these:

(a) An ATV system should be compatible with NTSC television, to assure the smoothest possible transition to ATV.

(b) There should be a single technical standard and avoidance of the need for multimode receivers.

(c) The smallest amount of bandwidth should be used consistent with adequate quality -- preferably only 6 MHz if possible.

(d) All existing TV stations should be acommodated, including making available additional spectrum to every station if a bandwidth of more than 6 MHz is adopted, and the reach of each station's signal should not be reduced.

(e) There remains enough uncertainty about the amount of bandwidth needed for ATV and the vulnerability of possible new ATV systems to interference that no additional or changed use of existing TV spectrum should be permitted at this time. This approach precludes any new land mobile sharing, other non-broadcast uses of TV spectrum, and relaxation of NTSC standards.

3. These views of the broadcast "establishment" are too narrow and will not maximize the benefits which can and should accrue to the public from use of the public airwaves. There is merit to the ideas of preserving future options and assuring a smooth transition to a new set of TV standards.1/ However, it is inexcusable to

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1/ A single technical standard has significant benefits in allowing equipment manufacturers to implement economies of scale and establishing a known environment in which developers of ancillary services such as T-NET can work.

deny the public any new enhancements or benefits while further ATV research and development is conducted.[2]

4. Commenters who do not have an economic stake in the status quo and whose only interest is analyzing how the public may benefit the most took a broader view. For example, the comments of W. Russell Neuman of the Massachusetts Institute of Technology discussed the enormous possibilities for enhancements of all kinds in the radio art. Professor Neuman noted that as enhancements are invented, a balance will have to be struck between increased diversity of services and increased quality of existing services.[3] He also cited interactivity -- exactly the enhancement provided by T-NET -- as an important element in the future of television. Professor Neuman does not stand alone in envisioning the potential fruits of the creative minds of men. The Commission's job is to open the door to realization of these dreams, not to impose freezes, choke invention, and perhaps leave the United States to fall behind the rest of the world.

5. Nothing in the initial comments RTT has reviewed undermines the basic points made in RTT's initial comments:

(a) Inventions are created by inventors, not by advisory committees or task forces. The only way we will ever know what can really be done with the spectrum is to let anyone with a good idea try it out. The trial must extend beyond experimentation and include the real world market place.[4]

2/ Indeed, Section 7 of the Communications Act requires the Commission to act positively to allow the public to benefit from new technologies.

3/ Whether this balance is struck by regulatory authorities or the market place is a separate issue which does not obviate the point that choices will have to be made.

4/ Operation under Experimental (Part 5) licenses, which the Commission has authorized RTT to do, is only a first and a preliminary step toward proving the merits of a new technology. Only when full scale operation is permitted can the free market place turn thumbs up or down on an invention.

(b) There is no need to freeze technology to achieve the goal of a smooth transition to a new system or to avoid the proliferation of systems which burden the public with the need to acquire multimode or multiple receivers. NTSC technical standards can be relaxed enough to allow T-NET and other inventions to enter the market and to stand or fall on their merits while still prohibiting the abandonment of basic TV service. TV Stations may be required to continue to broadcast picture and sound receivable without perceptible degradation on conventional NTSC receivers without precluding additional non-standard services like T-NET, which, because they are synchronized with the conventional NTSC signal, do not impair or otherwise affect conventional reception. In other words, a relaxation of the NTSC standard can be implemented immediately, with resulting important benefits, without any loss in traditional service and without any required expense or inconvenience to the public.5/ The public need not face a proliferation of basic broadcast formats, and receiver manufacturers need not fear the public wrath.6/

(c) No matter what ATV system is ultimately adopted, and regardless of whether that system(s) is/are more or less immune to adjacent channel and taboo interference than NTSC, there will always be some spectrum which is not fully usable for full power broadcasting, at least as long as any conventional NTSC receivers are in use. Because of its extremely low power level and synchronization with a local full power station, T-NET can use that spectrum. Thus the immediate implementation of T-NET will pose no danger to any future ATV development.

5/ Limiting the relaxation to low power television, as suggested by Cosmopolitan Broadcasting Corporation is unnecessary and unwarranted at least in the case of services like T-NET, which do not displace NTSC service and thus do not require conventional broadcasters to make an "either/or" choice.

6/ See, e.g., the concerns expressed in the comments of North American Phillips and the comments of the G.E. Consumer Electronics Business.

(d) Even in the unlikely event that sometime far in the future ATV uses every single Hertz of broadcast spectrum to the exclusion of all else, that is no reason to defer the immediate introduction of T-NET. Some station licensees may find T-NET more desirable than a spectrum hungry future ATV system. If so, they should be free to choose T-NET. And if they choose ATV, so be it. Thus will the free market place decree T-NET's fate one way or the other. Meanwhile, there is a need and an opportunity for new service today, which is being frustrated by unnecessary rigidity in the Commission's technical standards.

6. Every time a new technology comes along, the Commission struggles with questions of spectrum allocation and technical standards. T-NET offers the benefits of new invention without those problems. Certainly, RTT could file a new petition for rule making and ask the Commission to expend scarce resources trudging through the procedures of a new docket.7/ But why should that be necessary for a service which can thrive and prosper without the adoption of technical standards and without a new spectrum allocation? All that is needed is permission for each television station to radiate in the first adjacent channel without exceeding the level that the station may already unintentionally radiate consistent with the out-of-band limits of Section 73.687(a)(1) of the Rules.8/ Once the Commission controls the radiation to this extent, thus protecting distant co-channel stations operating on the local adjacent channel, it can confidently rely on the self-interest of the host TV station to avoid any local interference whatsoever.

7/ Despite the burdens of a separate docket, RTT may soon be forced to try that route. This ATV proceeding is RTT's second attempt (the first being Gen. Docket 85-172) to introduce its new non-interfering and non-displacing technology based on proposals explicitly advanced by the Commission in an NPRM or NOI. So far, success has been elusive, perhaps because of the political complications surrounding the two dockets, notwithstanding the fact that Section 7 of the Communications Act requires the Commission to act on proposals for new technologies within one year. RTT may ultimately, though reluctantly, conclude that only by demanding its own file and docket numbers will it be able to achieve results under the statute.

8/ See RTT's initial comments in this proceeding at Paragraph 21. It should be noted that the idea of relaxing NTSC standards has already been proposed by the Commission in the Notice. It did not originate with RTT, although RTT heartily endorses it.

7. T-NET is as close as one can come to the ideal of "something for nothing." But while the Commission groans under the weight of high level broadcaster political pressure to do nothing while inventors scramble to invent ATV and executives figure out how much they are willing to spend to implement it and when, the inventors at RTT sit separated by regulatory "prison bars" from the market place and face slow but sure economic strangulation. If the Commission lets that happen, American ingenuity will go unrewarded and be discouraged, and the American public will lose a beneficial use of the spectrum which it is the Commission's statutory job to encourage.

8. Thus RTT once again urges the Commission to act now to open the door to its non-interfering T-NET service. By this summer at the latest, when the Commission has received the first round of comments in this proceeding and the initial report of its ATV Advisory Committee, the Commission should adopt a limited relaxation of NTSC technical standards to allow broadcasters to use first adjacent channel spectrum on a non-interfering basis, as described in RTT's initial comments and in Paragraph 6 of this reply.9/

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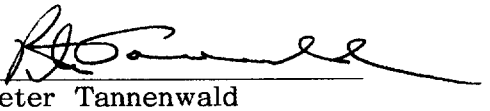
Respectfully submitted,



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9/ Copies of these Reply Comments have been mailed to each of the parties whose initial comments RTT has been able to obtain, and courtesy copies have been delivered to several members of the Commission's Staff.