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August 29, 1994

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FEDERAL COMMUNICATIONS COMMISSION  
OFFICE OF SECRETARY

BY HAND

Mr. William F. Caton, Acting Secretary  
Federal Communications Commission  
1919 M Street, N.W., Room 222  
Washington, D.C. 20554

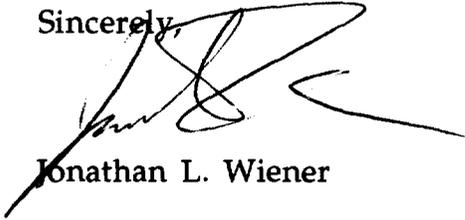
Re: GN Docket 93-252 (Implementation of Sections  
3(n) and 332 of the Communications Act)  
Ex parte Presentation

Dear Mr. Secretary:

On Monday, August 29, 1994, on behalf of RAM Mobile Data USA Limited Partnership ("RMD"), the enclosed materials were provided to Ralph Haller, Chief of the Private Radio Bureau. The materials address RMD's concerns regarding the fate of 900 MHz SMR Phase II licensing in the above proceeding.

An original and a copy of these materials are being provided for the public record, in accordance with Section 1.1206 of the Commission's Rules. If there are any questions in this regard, please contact the undersigned.

Sincerely,

  
Jonathan L. Wiener

cc: Mr. Ralph Haller

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BRIEFING PAPER

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FCC'S DECISION REGARDING 900 MHz SMR  
PHASE II LICENSING IN GN DOCKET 93-252

AUG 29 1994

FEDERAL COMMUNICATIONS COMMISSION  
OFFICE OF SECRETARY

**I. THE FCC'S DECISION REGARDING 900 MHz SMR PHASE II LICENSING COULD DESTROY EXISTING WIDE-AREA SYSTEMS ALREADY OPERATING ON THESE FREQUENCIES.**

Over the past five years, pursuant to FCC authorization and encouragement, RMD has constructed and operated the nation's first commercial, nationwide two-way digital mobile data communications network.<sup>1</sup> Today service is already provided from over 850 sites with coverage of over two thirds of the nation's population, and nationwide system construction is still ongoing. RMD has immediate plans for an additional 200 sites in the next year and one half, with further construction and coverage contemplated in the future to respond to and serve demand for this nationwide service. Over \$475 million has been invested in this project; with another \$90 million earmarked for additional construction through 1996.

On August 9, 1994, however, the FCC announced a decision that, from what can be gleaned from the FCC's News Release, threatens to destroy the viability of RMD's existing operation and prevent the modification and growth of the network that is necessary for its long term survival. The News Release suggests that the 900 MHz frequencies on which RMD already is operating may be auctioned. Although the News Release states that existing licensees "generally" should be permitted to continue operating under their current authorizations, it is not clear that essential "secondary" channel authorizations will be protected.

The FCC has allowed only one primary site designation for each channel on which RMD has been licensed within a Designated Filing Area or "DFA."<sup>2</sup> Re-use

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<sup>1</sup> In April 1989, the FCC authorized RMD (then AMDC) to construct a nationwide two-way mobile data communications network.

<sup>2</sup> A major underlying problem of the entire process is that the FCC never intended DFAs to comprise full market areas. Instead, they were narrowly defined geographic areas on a map drawn essentially for regulatory convenience so that initial Phase I licensing could proceed more quickly, with each individual authorization separated by at least 70 miles. Systems also were initially authorized and were contemplated as operating at single sites, without frequency reuse (footnote continued on next page)

of that channel within the DFA is, therefore deemed secondary by the FCC, but is essential to the operation of a wide-area network.<sup>3</sup> Such secondary channels are used to extend or intensify coverage. They allow the most efficient use of very limited SMR spectrum, which would not otherwise be adequate to support customer requirements. In major urban areas, RMD's system could not function without such frequency reuse. Secondary channel licensing has also been employed for several years, with the Commission's blessing, to extend coverage to areas outside of DFAs, which is essential for RMD's nationwide system.<sup>4</sup>

Above and beyond the issue of protection of all primary and secondary channels, the Commission's decision threatens to freeze RMD's operation at its existing sites. Lacking the ability to grow and expand on already licensed frequencies, RMD would not be able to operate, change and expand system parameters in response to customer requirements — an essential feature of wide-area service providers.

The FCC's decision appears to give little weight to the investment that already has been made by RMD and others in constructing wide-area systems. It fails to devise a licensing process that is in accordance with and completes Phase I licensing, which has for so long been delayed. This auction proposal is not for spectrum or

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(a mode of operation that was sufficient for dispatch-type services, which then predominated SMRs, but not for the kind of innovative wide-area mobile data digital network developed by RMD and embraced by the Commission). Phase II licensing intended to complete the market areas and, as its advantages were realized, to institutionalize wide-area use, was supposed to follow shortly after Phase I, but did not. Instead, for almost eight years, 900 MHz SMR licensees have been caught in a kind of regulatory no man's land. The FCC has solicited comments from the public on Phase II on no fewer than three separate occasions and had established a complete record supporting the rights of incumbents to expand long before it received auction authority from Congress.

<sup>3</sup> Secondary sites are not protected from interference from other systems and are required to cease operating if they interfere with the primary operations of other systems. Because up to now the FCC authorized primary operations only within the DFAs and because of the mileage separation of the DFAs, secondary operation on a system's already licensed frequencies has proceeded without difficulty.

<sup>4</sup> The Commission has recognized that the construction of secondary sites has been a necessary response by wide area systems that has served the public interest during the long period in which the Commission has delayed more comprehensive Phase II licensing. Over a year ago, the Commission stated: "Licensees constructing secondary sites have pursued the only avenue available to them in attempting to satisfy perceived demand for wide area service within and around the DFAs. Such licensees have attempted to fulfill the Commission's desire that areas in need of expected service do, in fact, receive service." First Report and Order and Further Notice of Proposed Rulemaking, PR Docket 89-553, 8 FCC Rcd. 1469, 1480 (1993).

markets previously unlicensed as to which new entrants and incumbents might make equal use, but bits and pieces of a licensing jigsaw puzzle that, for RMD, would require it to purchase each and every piece of the remaining puzzle on frequencies on which it has already built or else lose the efficacy of its entire network.

An auction process under which interstitial areas that could not be used to create a viable wide-area system would be licensed separately from other already licensed and constructed facilities on the same frequencies in the same MTA contradicts the goal of licensing these frequencies on a wide-area basis. These frequencies may well be sought by those whose competitive interests would be served by thwarting any effective wide-area service in 900 MHz SMR frequencies in the region.<sup>5</sup>

**II. NECESSARY PROTECTION FOR THE ABILITY OF EXISTING WIDE-AREA SYSTEMS TO CONVERT THEIR LICENSES TO MTA-WIDE-AREA AUTHORIZATIONS COULD STILL BE CREATED WITHIN THE GENERAL FRAMEWORK OF THE DECISION ANNOUNCED BY THE COMMISSION.**

As much as RMD is concerned with the direction to which the FCC appears to be headed, RMD believes that it would be possible, within the general framework of what the Commission has announced, to devise a plan that allows wide-area systems, such as RMD, to complete their wide-area networks, while at the same time allowing for much of the spectrum to be made available to new entrants on an auction basis. RMD suggests the following:

- (1) All primary and secondary channels licensed as of August 9, 1994, should be protected. In each MTA, incumbent licensees should be allowed to convert their licenses to a wide-area license within an area defined by the aggregate contour of the co-channel protection areas of their primary and secondary channels. Within this wide-area licensed area, addition and modification of sites and changes in channelization plans would be permitted.

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<sup>5</sup> The Commission can still auction 900 MHz SMR ten channel blocks that have been returned to the Commission (in a majority of the DFAs, more than one-half of the ten channel blocks originally licensed by the Commission were taken back by the Commission for failure to construct), while not auctioning frequencies in MTAs on which wide area systems already operate.

- (2) If the aggregate coverage area defined in (1) covers an area of the MTA that encompasses more than 25% of the population of that MTA, the nature of the licensee's existing system would be deemed as an MTA wide-area system and the licensee would be permitted to convert its licensed authorizations into an MTA wide-area license, with rights to add, modify, etc., as available to other wide-area MTA licensees.

NB: In addition to being a fair measure of initial wide-area implementation, the 25% is relevant to the extent that the Commission employs a 75% ultimate population coverage requirement (after ten years of construction) for the MTA, as it has for narrowband PCS.<sup>6</sup> If a new entrant would be precluded from achieving 75% population coverage on the ten channel blocks in question, there is no basis for granting such an entity a wide-area MTA license on those frequencies. Accordingly, no mutual exclusivity would exist among applicants who would be capable of developing a wide-area network that could cover the MTA. When mutual exclusivity does not exist, the law does not permit auctions.

- (3) In limited instances in which more than one incumbent has 25% coverage in the same MTA and on the same ten-channel block and each seeks to expand, the incumbents would be required to frequency coordinate for future expansion on co-channel frequencies within the MTA; if they could not agree, the two incumbents would bid against each other for expansion rights.
- (4) Incumbent licenses who convert their licenses to MTA wide-area would be subject to an ultimate coverage requirement, over time, of 75% of the MTA population, as would new MTA wide-area licensees.

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<sup>6</sup> The narrowband PCS rules have an alternative test of 50% geographic coverage, but such an area coverage test would not make sense if it does not include major population centers, as would be the case on 900 MHz SMR systems on frequencies in which systems have already been built by and licensed to others in the major urban DFA areas.

- (5) Ten channel blocks which: (i) have been returned to the Commission, (ii) are licensed to systems that do not already have 25% coverage, or (iii) for which the incumbent licensee does not elect to convert to MTA licensing would all be available for new entry, subject to auction.

Beyond the particulars of this or any Phase II proposal, Phase II licensing of 900 MHz SMR frequencies must proceed with fair consideration of the investment in innovative wide-area service and infrastructure that already has been made.

Those who have built systems at 900 MHz have taken tremendous risks to develop innovative systems and services that in most locations, at least until recently, the Commission could not give away because of the difficulties of creating a viable service in such limited spectrum on narrowband frequencies. In some markets like Oklahoma City and Columbus, of the twenty ten-channel license blocks to be awarded, RMD was the only one to be constructed.

Licensees of wide-area systems are not speculators. They have real systems with real requirements for expansion. They also have real customers who expect and demand that their service provider continue to build out the network. RMD cannot tell its customers that its existing system is all that there is or will be (much less say that even some existing service will be lost).

**PROBLEMS WITH THE FCC'S 900 MHz SMR PHASE II  
AND HOW TO FIX THEM**

- The FCC has continually encouraged RMD and others to construct wide area SMR systems, and spend hundred of millions of dollars, with the prospect of the Phase II solution that would allow SMRs to protect and build out nationwide from their original 46 sites (Designated Filing Areas, or DFAs).
- The FCC's decision announced August 9, 1994 regarding 900 MHz SMR Phase II licensing could destroy existing wide-area systems.

1) The decision does not seem to give sufficient importance to protecting a system's existing secondary sites (which were built with the Commission's blessing during this long period of delay), and does not make clear that a system can continue to expand as necessary within an MTA for which it holds a DFA license.

2) The decision appears to apply auctions broadly, which is not appropriate for existing system build-out

—the interstitial sites could not be used to create a viable system, but could be acquired by those whose competitive interests would be served by thwarting any effective wide-area service in 900 MHz SMR frequencies in the region. These licenses are not "mutually exclusive" licenses because only one system can effectively use the spectrum.

—licenses for a 10 channel block of frequencies in a DFA/MTA (there are 20 such blocks available) cannot be put on the market because once a licensee has built 25% population coverage or more (as RMD has in almost all cases), the 75% population coverage requirements for wide area systems could not be met by any other licensee.

—Phase II for existing licensees is inextricably linked to their original licenses, and thus should not be subject to the new competitive bidding authority.

- **SOLUTION** 900 MHz SMR DFA licensees should be permitted to expand their systems (and protect existing "secondary" sites) to the new MTA boundaries, without being subject to auction, similar to the rights that the FCC has given to private carrier paging licensees.
- The Congressional mandate "to avoid mutual exclusivity" by the application of "threshold qualifications, service regulations, and other means" is satisfied.
- There will still be opportunity for auction: because so many licenses were returned to the Commission, new entry is permitted in almost all areas on currently unlicensed frequencies.

# **RAM Mobile Data USA**

## **Fact Sheet**

### **August 24, 1994**

Total Investment: over \$475 million

Total Employees: 499

Total Number of States  
Where RAM Operates Today: 43 plus Washington, D.C.

#### **Major Customers:**

##### **Public Safety**

Washington D.C. Police  
CRIS (Cuyahoga Regional  
Information System)  
REAS (Region Justice  
Information Service)  
Wake County, N.C. Police  
California Highway Patrol

##### **Field Service**

GE Consumer Services  
NCS (National Computer  
Systems)  
Southwest Gas  
Kodak (Being Implemented)  
Unisys (Being Implemented)

##### **Transportation**

Conrail  
Guaranteed Overnight Delivery  
Trenaus  
Roadway Global Air

##### **Wireless Credit Card**

##### **Verification**

MasterCard  
Datawave Vending

##### **Financial Services**

U.S. Equity Management  
(Stock trading)

##### **Wireless E-mail**

Boston Edison  
BASF  
Chevron  
Morrison's Restaurants  
General Services  
Administration

#### **Service or Product Offerings:**

RAM operates a nationwide wireless packet data network offering a variety of mobile data services. RAM has coverage in over 7500 cities and towns, representing 90% of the urban population.

RAM's mobile data service provides wireless access to virtually any computer application or information services. It enables mobile employees to access and exchange critical information anywhere, anytime within RAM's coverage area.

RAM Mobile Data provides wireless computer access to the "Information Highway" over its nationwide network. Information services that can be accessed via RAM include companies such as America On Line and Compuserv.

The service pricing is based on the number of characters in the message. The prices range from 3 cents for a short one line message to approximately 36 cents for a whole page of information. RAM also offers unlimited messaging for wireless e-mail for a flat \$135.00 per month.

# DISTRICT

## WEEKLY

# Police Cruise Into the Future With Squad Car Computers

By Ruben Castaneda  
Washington Post Staff Writer

Continuing its cruise into the 21st century, the D.C. police department is installing computers in its marked squad cars.

Late last month, the department began installing mobile data computers in squad cars in the 5th Police District, which covers most of Northeast Washington west of the Anacostia River.

To date, 22 cars have been equipped with the computers, which feature a small screen, keyboard and a pen that can be used in place of the keyboard.

Each computer costs \$3,000, police officials said.

With the computers in their cars, officers can check law enforcement records, accessing information about people and vehicles that previously had to be relayed from headquarters. That should reduce the time drivers would have to wait at sobriety checkpoints and police roadblocks, Police Chief Fred Thomas said.

Officers with computers in their cruisers also can exchange messages over their terminals with officers in other cars that are computer-equipped, avoiding the use of police radios. The computer mail could thwart the efforts of some criminals who buy police scanners to try to monitor police activity.

"It'll put criminals out of the eavesdropping business," said Inspector Maralyn Hershey, commander of the com-

munications division. Thomas said he plans to have computers in each of the department's marked squad cars by next summer. The computers will be paid for primarily with seized drug money, he said.

The computers are part of the chief's efforts to modernize a department that has been considered by some of its own officials as being technologically backward compared with other big-city police agencies.

"If our police officers are to continue to do the effective jobs they are doing, they need the technology available throughout the rest of the country," Mayor Sharon Pratt Kelly said.

Last year, the department received 1.6 million calls for service, including reports of shots being fired, drug dealing and domestic arguments, false burglar alarms and requests to assist people unconscious on the street who turned out to be drunk.

Patrol officers responded to about 700,000 of those calls, Thomas said. Having computers in cars will allow the department to dispatch officers more effectively and efficiently, Thomas said.

The computer system, which was designed by Infotech International and uses a wireless data communications service designed by Woodbridge-based RAM Mobile Data, will be upgraded next month to give officers even more options.

One new feature will enable officers dispatched to an

See COMPUTER, Page 2, Col. 4

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## COMPUTER, From Page 1

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address to call up information on previous police activity at that location. Such histories could give officers an indication of the level of danger they may have to deal with before they approach the premises, Thomas said.

Patrol supervisors also will be able to use their computers to monitor what officers are doing and send them where they are needed most, Thomas said.

Eventually, the squad car computers will be able to generate images of police mug shots and fingerprints, Thomas said.

The computers are the latest in a series of technological advances made by the department in its effort to fight crime.

Among the other improvements:

- A computer system for detectives who investigate homicides, nonfatal assaults, robberies and police corruption. This system allows detectives to establish connections between suspects, victims, witnesses and different crimes. By punching into the computer file of a criminal, a detective might find that that person had once assaulted someone who was later killed, information that could provide valuable leads, investigators said.

Until the computer system was installed in the last two months, detectives relied primarily on battered typewriters, paper files and their own memories.

- A device that, according to its inventor, measures stress in a person's voice and indicates whether that person is being truthful. The device, a voice analyzer, has been used by homicide detectives to arrest dozens of slaying suspects since September.

By the end of June, detectives had

obtained 17 confessions with the device. Dozens of other witnesses changed their stories and provided information that led to arrests after detectives told them the voice analyzer indicated they were lying.

- Sophisticated ballistics equipment

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*“If our police officers are to continue to do the effective jobs they are doing, they need the technology available throughout the rest of the country.”*

—Mayor Sharon Pratt Kelly

provided at no cost to the department by the FBI and the Bureau of Alcohol, Tobacco and Firearms. These computers match shell casings and bullets recovered at crime scenes to casings and bullets picked up at other scenes.

This equipment has helped ballistics experts match dozens of casings and bullets from different crime scenes. Such information can connect a suspect to different crimes, investigators said. Until the equipment became available in the last two years, D.C. ballistics experts studied casings and bullets solely by sight.

- Officials have begun to install voice mail in the seven police district headquarters. Until recent years, many of the phones were rotary.