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March 23, 1999

Mr. Julius Knapp,
Chief, Policy & Rules Division
Office of Engineering and Technology
Federal Communications Commission
The Portals
445 Twelfth Street, S.W.
Washington, D.C. 20024

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Re: Ex Parte Presentation
CC Docket No. 94-102

Dear Mr. Knapp:

During our meeting on Thursday, February 25, 1999, we were invited to submit proposed language for a Commission order which will give the consumer the option of deciding between staying on the preferred system or switching to the strongest signal when 911 is dialed. The attached item, which is entitled "911 System Selection Process," is respectfully submitted as our response to that invitation.

The Commission has found that the *public interest* requires access to 911 over the wireless system "that will provide the quickest and most reliable and accurate response."¹ Improved access to 911 is also a matter of *consumer interest*. "[A]s many as 80% to 90% of wireless users bought their phones for safety reasons."² You noted that CTIA contends there are benefits to having the user remain on the preferred side. We proposed a compromise which would retain the call on the preferred side if so long as a "good" channel of communication (-80Dbm) is available on that side when 911 is called. ("Strongest/Adequate Signal"). However, CTIA wants to keep the emergency call on the preferred system even if a poor or unusable channel of communication is provided ("Automatic A/B Roaming") contending that there are certain vagaries of radio propagation and possibilities of call blockages which would thereby be

¹ Report and Order and Further Notice of Proposed Rulemaking, CC Docket 94-102, June 12, 1996.
¶145.

² *Telephony*, October 21, 1996.

avoided. We believe that we have shown that these arguments are entirely without merit³ and that Automatic A/B Roaming does not meet the public interest requirement that access to 911 be provided over the channel of communication that will provide the “most reliable and accurate response.” In contrast, Strongest Signal clearly meets the Commission’s public interest standard.

Turning then to a discussion of the task that you put to us, it is clear that placing the option of selecting between Strongest Signal and Automatic A/B Roaming in the hands of the “marketplace” will mean that consumers do not have a choice. This is because the carriers are the dominate force in the equipment market due to the fact that they purchase over half of the handsets manufactured. This market power can easily be used to determine the safety features manufacturers will offer on handsets and the carrier’s economic incentive is to select the alternative which limits the number of 911 calls; e.g., Automatic A/B Roaming. There is no countervailing market force. Thus, in order to have consumer choice, the ability to select between alternatives must be built into the handset.

Neither Strongest Signal nor Automatic A/B Roaming contemplates changes to the basic operation of the cellular system. With Strongest Signal the handset will scan all 42 forward control channels instead of just the 21 proposed by CTIA in Automatic A/B Roaming. Both of the methodologies employed by Strongest/Adequate Signal and Automatic A/B Roaming operate within the frame work of the existing standards. All that is required is a software change in the handset to enable it to use a different selection process when 911 is dialed. The *911 System Selection Process* proposal effectively combines these alternatives to give the consumer a range of choices, which includes staying on the preferred side up to the point where the preferred channels are no longer predicted to provide even a poor channel of communications. This is the

³ CTIA has contended that Strongest Signal’s scanning of the strongest forward control channels will not necessary give the caller the best voice channel. However, this argument predates the Automatic A/B Roaming proposal which also scans and selects the strongest preferred control channel because that is how the cellular system is designed and works. If by reason of some variation in propagation or other anomalous event, a call is sent to the wrong cell site, the system will self correct and hand the call off to a base station with a stronger signal.

The “all channels busy” problem is also one which is part of the system as presently constituted. When a surge in 911 calls occurs in the same sector of a cell, an artificial busy is created at the cell site which will give the *nth* caller to 911 a busy signal even though radio channels are available. Even after the call is connected to the landline system the caller may be given an artificial busy at the 911 Tandem. This is to prevent the PSAP from being flooded with calls reporting the same accident. By creating these artificial busy signals, a call to 911 which is reporting a different emergency may be blocked. This is an unintended consequence of the current system design but it is deemed to be an acceptable risk based on the probabilities of such an event occurring. The probabilities of encountering a system busy in an emergency are greatly reduced as you travel out of the urban areas. This is because there is no shortage of spectrum outside of the urban core area and there is a relatively low traffic volume in suburban and rural areas. In sum, the “busy” problem can reasonably be expected to occur in urban core areas where the *de facto* rule is that chocking off 911 calls is an acceptable risk because the probabilities are that such calls are reporting the same accident and will not substantially add to the information in the possession of the PSAP. Changing sides in this situation is unlikely to alter the outcome. The probabilities of a system busy in suburban and rural areas are so low that it is unlikely to be a factor.

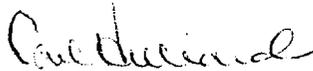
functional equivalent of Automatic A/B Roaming without the lock-in problem. The *911 System Selection Process* can be implemented with a trivial change to the handset software which can be available to consumers within *six months* from the effective date of a Commission decision.

Finally, our intent in proposing the broad language in the *911 System Selection Process* is to keep the door open to new and better technologies as and if they may appear. For example, we understand that Motorola has mentioned a network solution which would measure the strength of the uplink signal from the Mobile Station and select the base station from either the A or B side which is best able to handle the 911 call. This solution would require a change in standards, modifications to the network, a communication link between the A side MTSO and the B side MTSO and elaborate handset software modifications. While this proposal appears to be years away, it may eventually supplant the handset solution that we have proposed.

In sum, respectfully, the only "advantage" of Automatic A/B Roaming is that it will connect fewer 911 calls which reduce the number of nonrevenue minutes and the possibility of litigation for negligence. This is an advantage for the carrier but operates to the detriment of the consumer and is contrary to the public interest. Like the mandatory use of seat belts, we think that the public interest considerations require the Commission to mandate Strongest Signal. Anything less simply opens the door to continued injury and death which could be avoided by access to the most reliable channel of communication to 911. However, we acknowledge the substantial consumer interest in safety and believe that an *informed* consumer with an *easy to implement choice* would choose Strongest Signal anyway. Even so, we are very concerned that the wireless industry will create barriers to keep consumers from using the Strongest Signal aspect of the *911 System Selection Process* just as they have obstructed the use of A and B preferred.⁴ We ask the Commission to require a notice inside of the handset battery case and on the display screen to combat this potential problem but we worry that such notice may not be enough to properly inform users.

Please let me know if you have further questions or require additional information.

Sincerely,



Carl Hilliard

⁴ Virtually all handsets are programmed by the carrier as either A only or B only. The information provided to consumers in the manufacturer's handbook explaining how to reprogram handsets is often hard to find and/or understand. We have filed a copy of AirTouch's newsletter which advises that if it is necessary to reprogram the handset to communicate in an emergency the user should immediately thereafter reprogram back to B only to avoid cross-talk, noise, etc. Pure scare tactics. We have also demonstrated the difficulty in going through the reprogramming process.

cc: Commission

Mr. Ari Fitzgerald, Legal Advisor to Chairman Kennard

Wireless Telecommunications Bureau

Mr. John Cimko, Chief, Policy Division

Mr. Ron Netro, Senior Engineer, Policy Division

Mr. Marty Liebman, Engineer, Policy Division

Office of Engineering and Technology

Mr. Jim Schlichting, Deputy Chief

Ms. Karen Rackley, Chief, Technical Rules Branch, Policy and Rules Division

Office of the Secretary

Ms. Magalie Roman Salas, Secretary

911 System Selection Process. Each time that a cellular call to 911 is originated by any Mobile Station then operating in an analog mode, the Mobile Station shall disregard any programmed system selection criteria if the preferred access channel signal strength measured at the handset is less than -80Dbm (the "threshold signal") and shall select and release the call over the access channel which provides the highest probability of reliably connecting the call [to the 911 dispatcher] without regard to whether such channel is provided by the A or B side cellular system. The user shall be able to manually reduce the threshold signal level setting in increments of not more than 4Db to a minimum of -100Dbm. The manufacturer shall affix a sticker inside of the battery case of each Mobile Station informing the user how to change the threshold signal level and shall add a message to the Mobile Station screen display to show the current 911 system selection in terms easily understood by the user.