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FEDERAL COMMUNICATIONS COMMISSION  
OFFICE OF SECRETARY

September 23, 1996

William F. Caton, Secretary  
Federal Communications Commission  
1919 M Street, NW, Room 222  
Washington, DC 20554

**EX PARTE PRESENTATION**

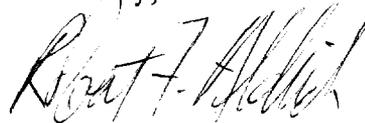
Re: Revision of the Commission's Rules to Ensure Compatibility With  
Enhanced 911 Emergency Calling Systems, CC Docket No. 94-102

Dear Mr. Caton:

Pursuant to the Commission's rules on ex parte presentations, 47 CFR §1.1206(a), we hereby submit information on behalf of the Multi-Media Telecommunications Association ("MMTA") in the above-referenced docket.

On September 19-20, 1996, the following individuals participated, on behalf of MMTA, in the Commission's ex parte meeting to address wireline issues in this docket: Robert Aldrich of this law firm, attorney for the MMTA; Dick Bucci, Comdial Corporation; Glenn Hays, Mitel, Inc.; and John Needham, Mitel Corporation. The matters discussed are described in the enclosed material.

Sincerely,



Robert F. Aldrich

RFA/nw  
Enclosures  
cc: Geri Matisse  
Anne Bisese  
Greg Cooke  
Alan Thomas

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MULTI-MEDIA TELECOMMUNICATIONS ASSOCIATION (MMTA)

CC DOCKET NO. 94-102

EX PARTE MEETING

September 19-20, 1996

Washington, D.C.

Presentation by John Needham  
Manager Systems Design and Standards  
Mitel Corporation

Thank you for this opportunity to present Mitel Corporation's views on the matter of providing Enhanced 911 capability on multi-line telephone equipment. Mitel is an international telecommunications company with World headquarters in Ottawa, Canada. Mitel Corporation designs and manufactures NAFTA certified equipment including PBX's in all line sizes from very small to very large. I am therefore addressing this issue from the perspective of a designer and manufacturer. Glenn Hays from Mitel, Inc., our U.S. subsidiary will follow with the perspective of marketing, sales and distribution.

1. First, I think everyone will agree that if the goal is to achieve broad acceptance and deployment of Enhanced 911 capability on multi-line telephone equipment the cost of providing that service is an important factor.

2. National standards for Enhanced 911 equipment where needed will help achieve the economies of scale necessary to help address the high cost of compliance.

3. Industry has been a good corporate citizen as it has been active over the past few years and consensus has been reached in some areas. The TIA has issued TSB 103 a useful guideline on the issues associated with providing E-911 and some proposed solutions for implementation. Committee TIE1 has issued an analog interface standard ANSI T1.411 and I understand this interface is tariffed and available across the country. A digital solution is still needed but work has started.

It is my view that the digital solution should be ISDN and it must be part of the national ISDN platform. Regional solutions or manufacturer specific implementations will not help, they will hinder the process.

We have only to look at the slow deployment of ISDN and the high cost of ISDN terminal equipment to see the results of multiple proprietary solutions on what should be a universal reasonably priced service.

4. The worse possible situation if a low cost solution is desired is multiple implementations requiring different equipment, different documentation and different training. It is in everyone's best interest it seems to me to obtain the maximum safety for the minimum cost to society. Uniform National Equipment Standards are important! But they are only one piece of the puzzle.

5. At least as, or probably more important is: which users under what conditions are required to provide Enhanced 911 and what is the criteria for determining compliance. Uniform requirements clearly articulated would be a giant step forward. A natural and very important fallout from well defined user requirements will be the responsibilities of the installers and maintainers of the multi-line telephone system. Unless these are all defined and understood, there will be resistance to the deployment of Enhanced 911. Simple, well understood guidelines will encourage voluntary

compliance. Finally, while I have talked about the importance of uniform national equipment and user requirements the most important point is the criteria for determining compliance.

If the ability to determine the physical location of the caller with reasonable accuracy is the essence of the Enhanced 911, the vast majority of small systems and many of the medium and large ones are already compliant. The users of these systems already have market driven solutions such as local response systems and these should be encouraged. Users who already have a solution or are already compliant, should not be required to purchase additional equipment or services such as DID that are not required because of fear that they do not meet the regulations. It is axiomatic, I suppose, that we'll see more effective voluntary compliance if we produce an easy to understand and implement regulation that encourages voluntary compliance so that people do not look for loopholes.

**SUMMARY:**

- National Equipment Standards are important
- Which users under what conditions are required to provide Enhanced 911 and what is the criteria for determining compliance. Uniform requirements clearly articulated would be a giant step forward!

**MULTI-MEDIA TELECOMMUNICATIONS ASSOCIATION (MMTA)**

**CC DOCKET NO. 94-102**

**EX PARTE MEETING**

**September 19-20, 1996**

**Washington, D.C.**

- GENERAL PRINCIPLES
  - RULES SHOULD MINIMIZE UNNECESSARY COSTS
  - RULES SHOULD BE CONSISTENT WITH PART 68 PHILOSOPHY OF FREE INTERCONNECTION
  - COVERAGE SHOULD FOCUS ON SETTINGS WITH CLEAREST NEED FOR MORE PRECISE LOCATION ID
  - FCC PROPOSAL INVOLVES MAJOR CHANGE IN TECHNOLOGY AND HUMAN BEHAVIOR
  - CLEARLY DEFINED, WORKABLE REQUIREMENTS ARE NEEDED TO PROVIDE CERTAINTY, ENCOURAGE FULL COMPLIANCE
  - UNIFORMITY IS CRITICAL TO PROMOTE CERTAINTY AND MINIMIZE IMPLEMENTATION COSTS

- MMTA PROPOSALS
  - GENERAL EXEMPTION FOR SYSTEMS BELOW 200 STATIONS
  - ADEQUATE LEAD TIME FOR MANUFACTURERS
  - GRANDFATHERING OF EXISTING EQUIPMENT
  - LOCATION IDENTIFICATION PROCEDURE MUST BE CLEARLY DEFINED
  - INCONSISTENT OR MORE BURDENSOME STATE RULES MUST BE PREEMPTED

## BUSINESS TELEPHONE SYSTEM MARKET SEGMENTS

<u>System Size</u> <u>(Number of Stations)</u>	<u>(Number of Systems Sold Annually)</u>
1 - 24	180,000 - 200,000
25 - 50	50,000 - 60,000
50 - 100	35,000 - 40,000
100 - 400	5,000 - 10,000
400+	1,000 - 2,000
<hr/>	
	~ 300,000

SOURCE: MULTI-MEDIA TELECOMMUNICATIONS ASSOCIATION,  
1995 TELECOMMUNICATIONS MARKET REVIEW AND FORECAST

## COST ISSUES

- COST OF ADJUNCT "SOLUTIONS" (\$15,000 - \$30,000/SYSTEM) IS PROHIBITIVE FOR SMALL SYSTEMS
- MANUFACTURERS REQUIRE LEAD TIME TO BUILD IN STATION ID CAPABILITY
- CAMA TRUNKS: HIGH COSTS, OLD TECHNOLOGY
- DATABASE ADMINISTRATION COSTS
- INCLUDING SMALLER SYSTEMS ADDS ENORMOUSLY TO COMPLIANCE COSTS
- RETROFITTING INVOLVES EVEN FAR GREATER COSTS

**TESTIMONY OF COMDIAL CORPORATION  
IN REGARD TO THE TRANSMISSION OF STATION IDENTIFICATION  
INFORMATION TO PUBLIC SAFETY ANSWERING POINTS FROM  
MULTILINE TELEPHONE SYSTEMS**

Thank you for the opportunity to present Comdial's position on the matter of transmitting station identification information to Enhanced 911 (E-911) Public Safety Answering points (PSAPs) from multiline telephone systems. Let me begin by explaining that Comdial Corporation designs and manufactures small to medium-sized business telecommunications systems, as well as certain software products. All engineering, manufacturing, and administration is conducted from the Company's headquarters facility in Charlottesville, Virginia. The Company's products are used by businesses, governments, and nonprofit organizations. Comdial's systems serve applications requiring from four to 400 telephones, with the typical installation requiring 40 or fewer telephones. Comdial is a publicly traded company, with 1995 sales of \$94.8 million. As of year-end, 1995, the Company had 849 full-time employees. Comdial is one of only two companies headquartered in the United States which also designs and manufactures their small business communications products in the United States.

I am Director of Corporate Communications at Comdial Corporation and have been employed with Comdial since 1986. I have been employed by manufacturers of business telecommunications systems for over twenty years, and have a Master's Degree in Business Administration from Case-Western Reserve University. Through my experience in the industry I have gained a good working knowledge of significant technology trends and the size and complexion of the marketplace for small to medium-sized business telephone systems. In addition, I also serve as a Board Member for the MultiMedia Telecommunications Association (MMTA), a national trade organization representing the interests of telecommunications equipment providers and distributors.

We recognize that modern E-911 services and systems rely on the Automatic Number Identification (ANI) feature to transmit CESID to Public Safety Answering Points. However, when 911 calls are originated from an MLTS the ANI delivered to the PSAP will be the main billing number of the firm or organization, or possibly the number that was seized. It will not be the calling party's extension number. Further, MLTS's have not been designed to transmit extension numbers to the network on ordinary calls, for the simple reason that the public network generally does not accept the transmission of such information. Delivery of the extension number generally requires specialized equipment and requires the caller to subscribe to special Centralized Automatic Message Accounting, or "CAMA," trunks.

Before the Commission reaches conclusions on how to best address these potential problems, we would like to bring some matters to the Commission's attention which we hope will be helpful and constructive.

### **1. Need for uniform Targeted Regulations**

First, on behalf of Comdial Corporation I wish to express our support of the FCC's initiative to establish national uniformity for the transmission of Callers Emergency Service Identification, or CESID, from Multi-Line Telecommunications Systems (MLTS).

We believe that national uniformity is essential for manufacturers to provide consistent product performance in a cost-effective manner. Further, uniformity must mean precisely that. If individual states pass legislation that deviates from Commission rules, it will greatly complicate the ability of Comdial and its thousands of independent dealers to properly deliver, install, maintain, and service the equipment designed to comply with both Commission and state requirements. For example, in our case, telecommunications hardware is shipped to stocking distributors who in turn sell to independent dealers. We don't normally know where the equipment has been shipped and installed. If we had to alter our distribution practices in order to

direct the delivery of different versions of equipment to different states, it would largely mitigate many of the economic and competitive advantages of Comdial's method of distribution.

## **2. Cost of Compliance**

Inasmuch as the business or organization using a key or hybrid system is likely to be quite small, cost factors become very important. Today, the standardized method for accurately and consistently transmitting calling station information is through the purchase of adjunct devices which terminate CAMA trunks. Much of the cost of these devices is fixed. Thus, on a per-station basis, the smaller the system, the more costly it is on a per-station basis to implement station identification. We estimate that the cost of acquiring and installing the adjunct equipment to accommodate CAMA trunks could easily be \$15,000 or more for a small business. This is in addition to the cost of the business telephone system itself. In addition, some key systems cannot be successfully adapted to function with adjunct devices and CAMA trunks.

As well, the cost of CAMA trunks is not insignificant for a small business. Installation costs are in the neighborhood of \$500 - \$1,000 per trunk and the monthly recurring charges run about \$100 per month for each trunk..

In addition, the small business owner will have to create and maintain a data base consistent with NENA/APCO requirements. This is an additional and continuous expense, even for the small business. It may require investments in computer hardware and software, plus the time of an individual to update the data base with every new employee or change of telephone extensions.

Finally, there will be expenses to train users on how to maintain these data bases.

There are about 2.7 million key, hybrid, and PBX systems installed in the United States. If all were required to add adjunct units and only one CAMA trunk, the economic cost to U.S.

businesses could be in excess of 40 billion dollars. If we were only adding this capability to new switching systems shipped, the cost would still be approximately 5 billion dollars.

### **3. How great is the need?**

While all parties can agree on the importance of providing top-quality emergency services through Enhanced-911 services, in view of the substantial economic costs to small businesses, we have to seriously examine the cost-benefit equation. It has been reported that in the state of Washington, only 1.8% of 911 calls originated behind PBXs and only 0.34% of these calls posed a problem in identifying the location of the caller. There are no statistics in the record regarding the number of 911 calls originating from key/hybrid systems or the percentage of those calls that posed problems in identifying the caller.

### **4. Standards**

Manufacturers cannot produce equipment compliant with new E-911 requirements until these requirements are clearly defined for the various classes of business switching equipment, and industry-wide technical standards for implementation have been defined and accepted. Much work still needs to be done before these standards are fully adopted by the industry. Further, uniform regulations should be adopted by the FCC. From the time regulations are established by the FCC, and published as an addendum to Part 68 user requirements, manufacturers will require at least 18 months to develop new telephone systems or add-on devices compliant with these standards. See Exhibit One. In this regard, the most important of the uniform regulations or guidelines that remain to be addressed are those governing user requirements.

## **5. Technology**

At this time, CAMA trunks and costly adjunct devices are the only immediate solutions for passing the calling party's telephone number and extension number through a multiline business telephone system to an E 9-1-1 Public Safety Answering Point. However, with the rapid advances in technology in the telecommunications industry there may eventually be other less costly solutions. For example, Integrated Services Digital Network, or ISDN (Primary Rate Interface) has the ability to transmit station identification information. However, ISDN is not yet in common use, especially for small businesses. And at this time, the cost for the digital telephone switching equipment required to terminate ISDN lines is much greater than the cost of standard "plain vanilla" telephone systems commonly favored by small retail shops, restaurants, and personal service businesses which have little need for high-speed, high capacity networks or switching systems.

We would caution the Commission against setting requirements so stringent and specific that it may serve to retard the development of innovative solutions not yet envisioned. Nor should the Commission issue rules that would force the market to adopt network based solutions, with the consequent effect of producing economic harm to telecommunications equipment producers such as Comdial and artificially depressing demand for premise-based systems that meet customer needs.

## **6. Reaction Time**

We believe that any new nationwide compliance standards that effect the design of business telephone systems should be implemented over a time schedule that allows manufacturers sufficient time to react to the decision. We suggest a minimum of 18 months from the date of the rulemaking (see Exhibit One). If new compliance rules are issued on a national basis, manufacturers and importers of business switching systems could not rely on third party adjunct devices for compliance, as issues beyond their control, such as the availability, cost, and quality

of such units then becomes critical to the ability of equipment vendors to successfully market their products. Manufacturers and importers would have to redesign their telephone systems to embed the capability of transmitting station identification data in the CPE. These new switches would also have to have expanded memory capacity to maintain the data bases and some simple technology for users to update these data bases.

## **7. Embedded Base**

The vast majority of businesses and nonprofit offices are small. Government reports indicate that about 90 percent of all business establishments have 20 employees or fewer. According to MMTA, as reported in their publication 1996 MultiMedia Telecommunications Market Review And Forecast, there were 23,000 PBX systems and 266,000 key/hybrid systems shipped in 1995. In other words, there are 10 times more key/hybrid systems shipped than PBX systems. MMTA also reports that there are about 2.7 million key systems installed in the U.S. and over 23,000 PBXs - virtually none of which are currently equipped to transmit CESID. At this time, it would be a practical and economic impossibility to retrofit all these telephone systems. We strongly recommend that the installed base be exempted from retrofit requirements through a grandfather clause.

## **Conclusion**

In conclusion, we believe that the cost of providing special trunks and special CPE to deliver the CESID from small switching systems outweighs the incremental gain in public safety. Foremost, we believe the Commission should adopt a targeted approach that focuses regulation on those settings where the need for station identification is worth the high cost. In general, the risk of inaccurate information being transmitted from a small business establishment under the current system has not been shown to be significant. First, the distress caller will very likely be an adult - an employee or customer, who can communicate the address or location of the establishment. Second, even if only the listed directory number is transmitted, in a small business

Comdial Corporation  
Richard P. Bucci  
September 19, 1996

or organization it would not be difficult for the emergency service provider to locate the source of the distress.

We propose that new rules regarding E-911 standards and compliance be limited to larger switching systems. The MMTA supports the dividing line of 200 installed telephone instruments as a convenient and meaningful break point. Of course, there should be exemptions based on the type of establishment. In a multi-location environment, for example, the Commission may determine that the new rules will apply.

We also recommend that a time frame of at least 18 months be imposed to allow manufacturers to develop the products needed to accommodate the new rules.

Finally, we believe that any new rules be applied to new installations only, not the large installed base. The installed base as of the effective date should be exempted under a grandfather clause.

Exhibit One

**Manufacturer Development Schedule**

<b>Requirement Defined</b>	<b>FCC Part 68 Revised &amp; Approved</b>	<b>Equipment Designs Changed</b>	<b>Compliance Evaluations Implemented</b>	<b>Implementation Begins for Products</b>
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**We are here!**