



## IBM Embedded Speech Technology to Drive Pioneer In-Car Navigation System

ARMONK, NY -- (MARKET WIRE) -- June 29, 2006 -- IBM today announced that Pioneer Electronics (USA) Inc. has chosen IBM Embedded ViaVoice software to speech-enable its AVIC-Z1 award-winning aftermarket navigation system that delivers information, entertainment and convenience to drivers.

IBM Embedded ViaVoice software provides speech recognition and text-to-speech conversion technologies helping to allow drivers to keep their eyes on the road and hands on the wheel while accessing directions, information and entertainment. IBM deploys voice-enabled telematics solutions with specialized speech algorithms created by scientists from IBM's Research Labs, offering the strength of IBM Embedded ViaVoice's speech technology and automotive telematics solutions.

"Speech recognition is at the beginning of a tidal wave in cars," said Karen Rubin, director of product planning and marketing for navigation, Pioneer Electronics (USA) Inc. "Drivers can now enter destinations, search for points of interest, and access their music on the built-in hard drive using their voices."

Software and electronics comprise a rapidly growing percentage of innovation and differentiation in cars today. IBM's integrated, open-standards-based software and telematics solutions are increasingly allowing access to real-time data to benefit customers virtually wherever they are. IBM's advanced software and telematics solutions featuring IBM Embedded ViaVoice deliver IBM speech technology to mobile devices that include smart phones, handheld personal digital assistants (PDAs) and automobile components.

The Pioneer AVIC-Z1 system can be installed in almost any vehicle, most vehicles with a double din opening, and is currently the only aftermarket unit available in the U.S. that features a voice recognition system for navigation destination entry and audio track search, together with text-to-speech voice guidance of street names. The AVIC-Z1 won CNET Best of Show in the Car Technology category at the International Consumer Electronics Show in January 2006.

"Pioneer chose IBM Embedded ViaVoice as its source for voice technology because of its proven quality and high performance on embedded platforms used in real world environments," said Pioneer's Rubin. "The combination of Pioneer's conversational voice search capability and IBM's Embedded ViaVoice helps provide AVIC-Z1 customers with an unprecedented user experience."



[\(Click here for details\)](#)  
[IBM Embedded ViaVoice speech recognition software helps deliver directions, information and entertainment to drivers in Pioneer's AVIC-Z1 navigation system which can be installed in almost any vehicle](#)

The AVIC-Z1 also uses the IBM Embedded ViaVoice text-to-speech (TTS) engine and phonetic data from geographic content supplier Tele Atlas, which can increase the quality of speech technology used in map-based applications by providing more precise pronunciations of location and directional information. For example, the system will pronounce, "turn right onto La Jolla Street" with an "H" sound for the "J" in Jolla and "Y" sound for the double "L," helping to greatly improve its assistance ability.

The AVIC-Z1's advanced voice recognition has a large vocabulary, allowing it to understand a broad array of spoken commands. Drivers can search for destinations by saying a command, like "go to Los Angeles International Airport," without having to specify the action, such as "Points of Interest Search," or category of the destination, such as "airport." Full address searches can also be done by naming the city, street, and house number allowing drivers to use alternative words for the same command, such as "go to" or "search," instead of "destination."

Using a 30-gigabyte hard drive, the AVIC-Z1 uses the Tele Atlas map database to offer dynamic route guidance, detailed mapping and valuable road information that crosses the entire United States and Canada. In some areas of the country, navigation includes lane information, letting the driver know specifically which lane to be in for the next turn. Almost 11 million points of interest help make it easy to find gas stations, restaurants, stores and other business listings.

Voice commands for audio-visual sources and other attachments like Bluetooth wireless technology-enabled cellular phones are just as easy. Drivers can directly access the built-in music library, which is 10GB of the hard drive allocated to ripping and storing a personalized music collection of their CDs. Contents of the music library can be accessed by simply saying the artist name, song title, genre or album title. Similarly, customers can wirelessly access their Bluetooth-enabled phones to place a phone call, and to speak hands free through the built-in microphone on the AVIC-Z1 and speakers on the vehicle (optional accessory required for Bluetooth).

"We're leveraging IBM's leading voice-enabled telematics technology in additional markets including consumer electronics and service provider solutions, enterprise solutions, and set top box/digital media solutions," said Jim Holland, Product Line Manager Embedded Speech, IBM Software Group. "IBM has an industry leading quality track record and we work closely with our customers to integrate our technology into their solutions. We view Pioneer's selection of IBM Embedded ViaVoice for the AVIC-Z1 as an excellent example of what can be done when the technology from the right companies are combined to bring innovative solutions to the market."

"Our agreement with IBM and Pioneer puts us at the forefront of delivering highly accurate and advanced digital geographic content for next generation voice-enabled mapping applications," said Tele Atlas Global Product Marketing Vice President, Basak Ozer.

The companies' telematics offerings will leverage technologies within IBM Embedded ViaVoice and Pioneer's AVIC-Z1. The IBM Embedded ViaVoice provides highly accurate and reliable speech recognition, while the AVIC-Z1 enables conversational search and navigation of media, traffic and other digital content from devices used in the car or mobile phone.

The technology is available to automakers and the consumer aftermarket immediately. AVIC-Z1 Suggested price: \$2250

To find a local retailer go to: <http://www.pioneerelectronics.com>

## About IBM

For more information about IBM, go to: [www.ibm.com](http://www.ibm.com). For more information about IBM Embedded ViaVoice, go to: [http://www-306.ibm.com/software/pervasive/embedded\\_viavoice\\_enterprise/](http://www-306.ibm.com/software/pervasive/embedded_viavoice_enterprise/)

## About Pioneer

Pioneer Electronics (USA) Inc. is headquartered in Long Beach, Calif., and its U.S. Web address is [www.pioneerelectronics.com](http://www.pioneerelectronics.com). Its parent company, Pioneer Corporation, is a leader in optical disc technology and a preeminent manufacturer of high-performance audio, video and computer equipment for the home, car and business markets. The company focuses on four core business domains including Blu-ray Disc, display technologies, navigation, Digital Network Entertainment™ and components.

## About Tele Atlas

Founded in 1984, Tele Atlas delivers the digital maps and dynamic location content that powers the world's most essential geographic solutions. The information is the foundation for a wide range of personal and in-car navigation systems, mobile and Internet map applications that help GPS system users find the places, products and services they need, wherever they are. Tele Atlas also works with business partners who deliver critical applications for emergency, business fleet and infrastructure services. The company employs 2,300 full-time staff and contract cartographers at offices in 20 countries around the world and uses a sophisticated network of thousands of sources to regularly update its maps. Tele Atlas is listed on the Frankfurt Stock Exchange (TA6) and on Euronext Amsterdam (TA). For more information, visit [www.teleatlas.com/](http://www.teleatlas.com/).

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