

Mobile Entertainment in the 21st Century.

Neo Car Audio
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Mobile Media in 1950

- At one time the idea of a record player in the car made a lot of sense – So much that Chrysler decided to offer a special record player with some vehicles, and Columbia Records agreed to produce content for it.

After pursuing the idea for years, everyone involved temporarily gave up and decided to wait for a better technology, cars and records were not a good match.



Mobile Media Today



- Not much has changed in the world of mobile entertainment since the Highway Hi-fi was introduced in 1955.

Over the years records have evolved into many different formats and despite their numerous shortcomings CD's are the replacement of choice.

Today people still struggle to cram fragile discs into the dash of their vehicles, just as they have for the past half century. Telematics will provide real change.

A New Beginning

- Although maps got the job done everyone had a hard time folding them while driving. Technology has given us digital maps, now with voice navigation to replace the back seat driver.



The Connected Car



- The vibrant color screen and the advanced computer technology found in today's navigation systems will soon provide a new connected platform for multimedia content.

General Overview

- Audio/Video Content
 - Streaming and stored content will provide limitless entertainment.
- Smart GPS
 - Connected GPS navigation will integrate traffic and speed data for faster travel.
- Video and Data Recording
 - Rear view and night vision cameras, with black box recording.
- Cell Phone/PDA Synchronization
 - Phones and PDA's can be linked to download pictures, GPS history, contact info, and more.

Audio/Video Content

- Apple iTunes and others are offering hundreds of thousands of songs from major music companies including BMG, EMI, Sony, Universal, and Warner Bros. to anyone who is willing to spend 99 cents.

With others following Apples lead the internet is poised to replace music stores in the future.

This foundation built for online music sales will serve as a content delivery system in "connected" cars of the future.

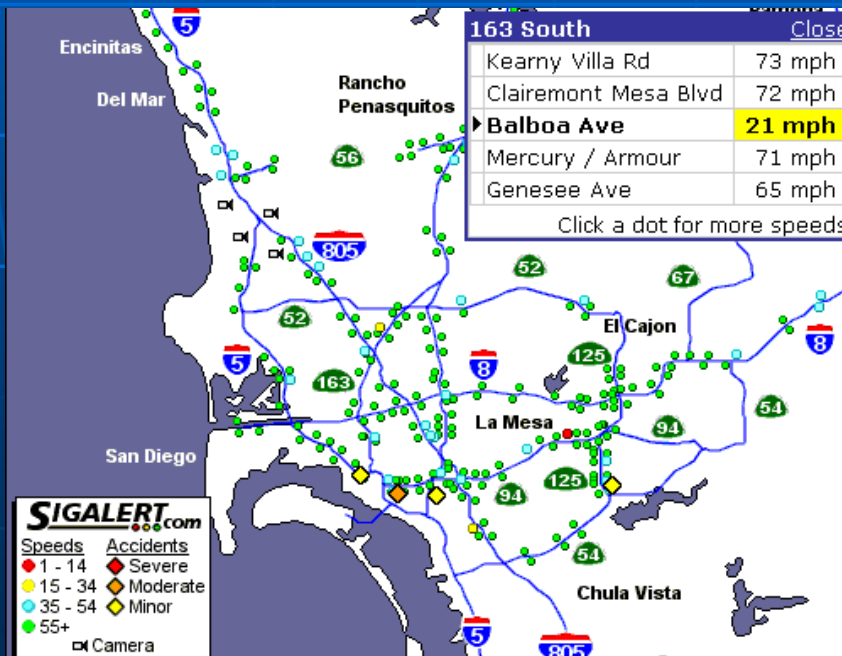
With a high power CPU multiple streams of audio exist, rear seat passengers can now select their own music or videos to enjoy.



Smart GPS



- GPS combined with streaming data means interactive directions and estimated arrival times based on live traffic information.
- Microsoft and others provide a wealth of information such as gas pricing, detailed highway radar information, live video feeds, and much more.
- Location history will allow users to name a given point and return to it at any time. History can be downloaded from cellular phones, which also log GPS data.
- The ability to follow another Smart GPS enabled vehicle, or even provide navigation directly to a cellular phone user (e911 GPS mandated in all cell phones 2005).



Video and Data Recording



- Rear view cameras are becoming increasingly popular, and some new vehicles also use front view cameras for night vision. Car PC's have the ability to record these video streams, as well as log important data such as speed prior to an accident.

Armed with this data drivers will be able to prove their case in court should an accident occur. The number of hit-and-runs will decrease, and overall safety in vehicles will increase. Insurance companies are likely to offer discounts to drivers with the system in place, much like a car alarm.

Airplanes have used black boxes for years, cars have now caught up.

Phone/PDA/Portable Sync

- With phones and PDA's able to capture and store data, vehicles provide the perfect mobile hub to sync with for data storage.

GPS information stored inside phones of the future will provide a "history" of previous locations. This data is synched with the vehicles navigation system will provide directions to past locations.

With the ability to store a massive audio and video database vehicles become the hub for portable music and video devices – content is easily sent to portable devices upon leaving the vehicle.



The Past and The Future

Old Technology

- Large boards performed a single function, no option to expand.
- Different board for each function, limited connectivity between boards.
- Limited space within vehicles prevented many features from existing in a mobile environment.
- One audio stream forces everyone to listen to the same thing.
- Cost prevented any advanced features from existing, innovation meant making an existing feature a little better.

Nano-ITX

- Ultra small form factor with unlimited expandability options.
- Single board provides all functions, directly connected using software.
- Functionality and physical space are no longer linked – the same board performs any number of functions.
- Multiple audio streams allow each passenger to select their own entertainment.
- Cost no longer prohibits advanced features from existing, one single board means one low cost.

Nano-ITX Brings The Future Today



- CarPlayer SP is a completely upgradeable, scalable, sinkable software platform for audio/video playback, GPS navigation, and other functions outlined in this presentation.
- The Nano ITX platform combined with six years of software development means everything presented today will exist within six months time.
- Partners such as Microsoft, NavTech, VIA, and X10 help tremendously by providing key components for the CarPlayer SP system.
- The CarPlayer SP system will be offered by numerous Car PC manufacturers, combined with the Nano-ITX format it is a turn-key solution. For information visit www.carplayer.com