

Claim 1
[a] An audio device integration system comprising:
[b] a first connector electrically connectable to a car stereo;
[c] a second connector electrically connectable to an after-market audio device external to the car stereo;
[d] a third connector electrically connectable to one or more auxiliary input sources external to the car stereo and the after-market audio device;
[e] an interface connected between said first and second electrical connectors for channeling audio signals to the car stereo from the after-market audio device,
[f] said interface including a microcontroller in electrical communication with said first and second electrical connectors, said microcontroller pre-programmed to execute:
[g] a first pre-programmed code portion for remotely controlling the after-market audio device using the car stereo by receiving a control command from the car stereo through said first connector in a format incompatible with the after-market audio device,
[h] processing the received control command into a formatted command compatible with the after-market audio device,
[i] and transmitting the formatted command to the after-market audio device through said second connector for execution by the after-market audio device;
[j] a second pre-programmed code portion for receiving data from the after-market audio device through said second connector in a format incompatible with the car stereo, processing the received data into formatted data compatible with the car stereo,
[k] and transmitting the formatted data to the car stereo through said first connector for display by the car stereo; and
[l] a third pre-programmed code portion for switching to one or more auxiliary input sources connected to said third electrical connector.
Claim 2
The apparatus of claim 1, wherein the car stereo further comprises an Original Equipment Manufacturer (OEM) car stereo connected to said first electrical connector.
Claim 4
The apparatus of claim 1, wherein the after-market audio device further comprises a CD player, CD changer, MP3 player, Digital Audio Broadcast (DAB) receiver, or satellite receiver connected to said second electrical connector.
Claim 5
The apparatus of claim 1, wherein said interface further comprises a plug-and-play mode for automatically detecting a device type of the after-market audio device connected to said second electrical connector and integrating the after-market audio device based upon the device type.

Claim 6
The apparatus of claim 1, wherein said interface generates a device presence signal for maintaining the car stereo in a state responsive to processed data and audio signals.
Claim 7
The apparatus of claim 1, wherein said second pre-programmed code portion processes data generated by the after-market audio device including track and time information.
Claim 8
The apparatus of claim 1, wherein said second pre-programmed code portion processes data generated by the after-market audio device including song title and artist information.
Claim 10
The apparatus of claim 1, wherein said interface processes video information generated by the after-market audio device.
Claim 13
The apparatus of claim 1, wherein commands are input by a user using one or more control buttons or presets on the car stereo
Claim 14
The apparatus of claim 1, wherein audio signals from the one or more auxiliary input sources are selectively channeled to the car stereo by said interface.
Claim 23
The apparatus of claim 1, further comprising a bus connection established between the after-market audio device and said interface.
Claim 24
The apparatus of claim 23, wherein the bus connection comprises a Universal Serial Bus (USB) connection.
Claim 44
[a] An apparatus for docking a portable device or integration with a car stereo comprising:
[b] a storage area remote from a car stereo for storing the portable device;
[c] a docking portion within the storage area for communicating and physically mating with the portable device;
[d] a data port in communication with the docking portion, the data port connectable with a device for integrating the portable device with the car stereo;
[e] And an interface connected to said data port and to the car stereo, said interface channeling audio from the portable device to the car stereo

[f] said interface including a microcontroller in electrical communication with the portable device through said data port and the car stereo, said microcontroller pre-programmed to execute

[g] first program code for remotely controlling the portable device using the car stereo by processing control commands generated by the car stereo in a format incompatible with the portable device

[h] into formatted control commands compatible with the portable device, and dispatching formatted control commands to the portable device for execution thereby

Claim 47

The apparatus of claim 44, wherein the data port comprises an RS-232 or Universal Serial Bus (USB) port.

Claim 57

[a] An audio device integration system comprising:

[b] a first electrical connector connectable to a car stereo;

[c] a second electrical connector connectable to a portable MP3 player external to the car stereo

[d] an interface connected between said first and second electrical connectors for transmitting audio from a portable MP3 player to a car stereo,

[e] said interface including a microcontroller in electrical communication with said first and second electrical connectors, said microcontroller pre-programmed to execute:

[f] a first pre-programmed code portion for generating a device presence signal and transmitting the signal to the car stereo to maintain the car stereo in an operational state; and

[g] a second pre-programmed code portion for remotely controlling the MP3 player using the car stereo by receiving a control command from the car stereo through said first electrical connector in a format incompatible with the MP3 player,

[h] processing the control command into a formatted control command compatible with the MP3 player,

[i] and transmitting the formatted control command to the MP3 player through said second electrical connector for execution by the MP3 player.

Claim 58

The apparatus of claim 57, wherein the car stereo further comprises an Original Equipment Manufacturer (OEM) car stereo connected to the first electrical connector.

Claim 60

[a] The system of claim limitation 57, wherein said microcontroller is pre-programmed to execute a third code portion for receiving data from the MP3 player in a format incompatible with the car stereo,

[b] processing received data into formatted data compatible with the car stereo, and
[c] transmitting formatted data to the car stereo for display thereby.
Claim 61
The apparatus of claim 60, wherein said third code portion processes data generated by the MP3 player including track and time information.
Claim 62
The apparatus of claim 60, wherein said third code portion processes data generated by the MP3 player including song title and artist information.
Claim 63
The apparatus of claim 60, wherein commands are input by a user using one or more control buttons or presets on the car stereo.
Claim 64
The apparatus of claim 57, further comprising a bus connection established between the MP3 player and said interface.
Claim 65
The apparatus of claim 64, wherein the bus connection comprises a Universal Serial Bus (USB) connection.
Claim 86
[a] A device for integrating video information for use with a car stereo, comprising:
[b] a first electrical connector connectable to a car stereo;
[c] a second electrical connector connectable to an after-market video device external to the car stereo;
[d] an interface connected between said first and second electrical connectors for transmitting video information from the after-market video device to the car stereo,
[e] the interface including a microcontroller in electrical communication with said first and second electrical connectors, said microcontroller pre-programmed to execute:
[f] a first pre-programmed code portion for generating a device presence signal and transmitting the signal to the car stereo through said first electrical connector to maintain the car stereo in an operational state responsive to signals generated by the after-market audio device.
Claim 88
The apparatus of claim 86, further comprising a bus connection established between the video device and said interface.
Claim 89
The apparatus of claim 88, wherein the bus connection comprises a Universal Serial Bus (USB) connection.
Claim 90
[a] The apparatus of claim 86, wherein said microcontroller is pre-programmed to

execute a second code portion for receiving a control signal from the car stereo in a format incompatible with the video device,

[b] processing a received control signal into a formatted control signal compatible with the video device, and

[c] transmitting the formatted control signal to the video device for execution thereby.

Claim 91

[a] The apparatus of claim 90, wherein said microcontroller is pre-programmed to execute a third code portion for receiving data from the video device incompatible with the car stereo,

[b] processing received data into formatted data compatible with the car stereo, and

[c] transmitting formatted data to the car stereo for display thereon.

Claim 92

[a] An audio device integration system comprising:

[b] a car stereo;

[c] a portable audio device external to the car stereo;

[d] an interface connected between the car stereo and the portable audio device,

[e] the interface including a microcontroller preprogrammed to execute:

[f] first pre-programmed means for generating a device presence signal and transmitting the signal to the car stereo to maintain the car stereo in an operational state;

[g] second pre-programmed means for remotely controlling the portable audio device using the car stereo by receiving a control command from the car stereo in a format incompatible with the portable audio device,

[h] processing the control command into a formatted control command compatible with the portable audio device, and

[i] transmitting the formatted control command to the portable audio device for execution thereby; and

[j] means for transmitting audio from the portable audio device to the car stereo.

Claim 94

The apparatus of claim 92, wherein the portable audio device comprises a portable MP3 player.

Claim 97

The apparatus of claim 92, wherein the second electrical connector comprises further comprising a bus connection established between the portable audio device and said interface.

Claim 98

The apparatus of claim 97, wherein the bus connection comprises a Universal Serial Bus (USB) connection.