

Chapter 3

Carputer

3.1 Overview

Carputer is nothing but the combination of CAR and COMPUTER; it has acquired the name since a computer is sitting inside a car dashboard. The device is very small and slim such that it can be easily seated in the slot available in car dashboard. The Carputer whole setup is shown in Figure 2 below.

It has two units includes a computer unit and a 7 inch LCD display. The 7 inch display screen slides out when the system is switched ON. The below unit has the main board and all computer hardware's that were inherited from Mini PC and Laptop technology. The monitor unit has provisions to connect antenna for the purpose of TV and Radio. Both the units have its separate remote controls.

The Power supply of the whole system is connected to the car battery via 12V AC converter. The Infra red receiver shown in below figure is connected to a 9 pin serial port in the computer unit or via an USB adapter. It has a small credit card size remote control which is very easy to handle the software. The remote control acts as a remote mouse. Each and every accessories of the product will be briefly discussed in further sections.



Figure 2: Carputer Setup

The Front view of the whole setup when the system is not functioning is shown in Figure 3.



Figure 3: Carputer Setup Front view

3.2 Technology

3.2.1 Power Supply

The whole system is connected to the car battery via a 12 Volt AC converter shown in the below Figure 4. The converter takes the power from the car battery. Then it converts and feeds to the computer unit. The display unit takes the power from the computer unit via TV out port.



Figure 4: Power Supply (12V AC Converter)

3.2.2 Display Unit

The Display unit is a 7 inch LCD screen slides outside when the system is switched ON. It has its own integrated TV and Radio circuit which can be used with the help of an antenna. The PC output can also be connected to the display unit via TV out cable. Depends on the requirements, the customer can switch from PC operations to Radio or TV with the help of its respective remote control. Below Figure 5 shows the full view of the display unit.

The display unit can also be connected to a CD changer for Music entertainment. It has various switches to change the CD's from the CD changer also possible to change CDs from remote control. The small LCD display below the screen on the front panel shows the information about the radio frequency, TV channel information, Timer, CD and Track numbers. It has separate buttons for mute control, volume control, and a knob to search frequency for radio and TV. Backside of the unit has provisions to connect antenna, and to receive output from the computer.



Figure 5: “7 inch” LCD Display Unit

3.2.3 Computer Unit

The below figure 6 shows the PC Unit. It contains the main motherboard chipset with 256MB DDR RAM and 40 GB laptop hard disk. The processor can be varied depends on the customers requirements. The PC has no keyboard or mouse connected; the whole PC operations can be done via PC-DVD Creative Infra PC remote control will be discussed in detail later.

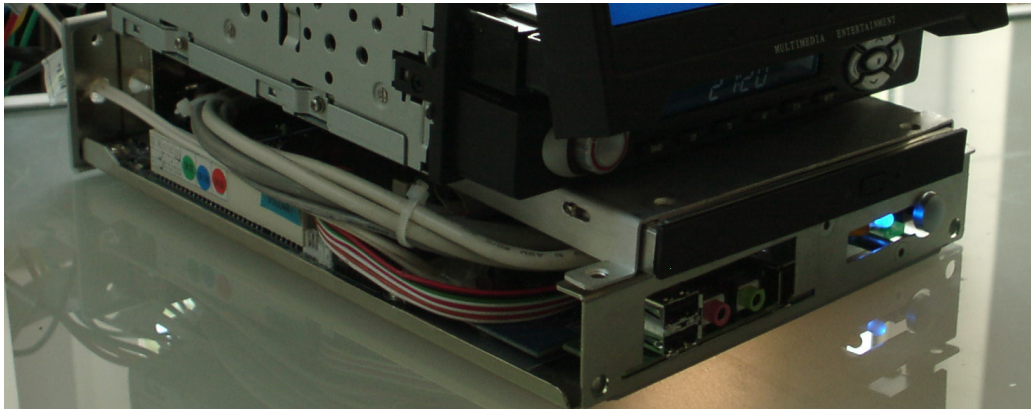


Figure 6: PC Unit

The power supply of the computer is 12 V taken from the CAR battery and connected via an AC adapter. Various display units on the back seat and various game controls are also possible via USB ports available. The PC display has been brought to the LCD screen via TV out cable.

3.2.4 Remote Control

This credit card sized remote control by Creative Labs is one of the most versatile remote controls that you can acquire for your PC. With this remote control, you can not only control a wide array of software programs, but also other popular multimedia player programs such as Microsoft Media Player and Winamp. This remote control can also act as a remote mouse! Installation and setup is simple, it simply plugs into any available standard 9-pin serial port or via USB adapter. This remote control includes Remote Selector software, which not only enables you to be able to use this remote control with a wide array of programs, but it also works with all versions of Microsoft Windows! Due to its huge advantage the mouse and keyboard of the PC has been replaced by this Creative Infra remote Control [1]. It is shown in the Figure 7.



Figure 7: Creative Infra PC-DVD Remote Control

The general features includes,

- Credit card size multimedia remote control
- Acts as a remote mouse
- Great Windows compatibility
- Receiver unit plugs into standard 9-pin serial port also via USB adapter.

It is compatible with all the below mentioned software with the help of its decoder card,

- ATI MultiMedia Center
- Chromatic Research Mpact2
- CineMaster Software Engine
- CoolDVD
- Creative Encore Dxr2
- Creative Encore Dxr3
- Creative PlayCenter
- Creative PlayCenter 2
- LuxSonor LS-220 (Creative Labs CT7160 Inlay Decoder Card)
- Microsoft Media Player
- Microsoft Media Player 7
- PowerDVD (may not work with PowerDVD XP)
- RealMagic Hollywood +
- RealMagic XCard
- WinAmp 2.x (May not work with WinAmp 3)
- WinDVD

The below figure 8 shows the Creative Infra PC-DVD remote control receiving unit. The Infra receiver has a 9-pin serial port should be connected to COM1 or COM4 port. It is also compatible with USB-SERIAL port adapter.



Figure 8: Infra PC-DVD Remote Receiver Unit.

The receiving unit's requirements are

- 9-pin serial port (COM1-COM4) or USB-Serial Adapter.
- Windows 95/98/ME/NT4/2000/XP
- Supported multimedia decoder or software
- CD-ROM drive for driver and software installation

3.3 Advantages

The main goal of the Carputer project is to implement ***GPS Navigation, DVD, Music and Video Player*** in Car.

Comparatively with the present GPS Navigation available in the market, the Carputer is cost effective with all the media entertainment system with its own software controlled by a remote control. Surfing Internet is also possible with a wireless LAN wherever hot spot is available.

Customer can avail various above said media entertainment along with TV and RADIO with a separate remote control for an affordable price.