

Studio Commander

**Application Notes
Version 1.1**



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Introduction to Digital Home

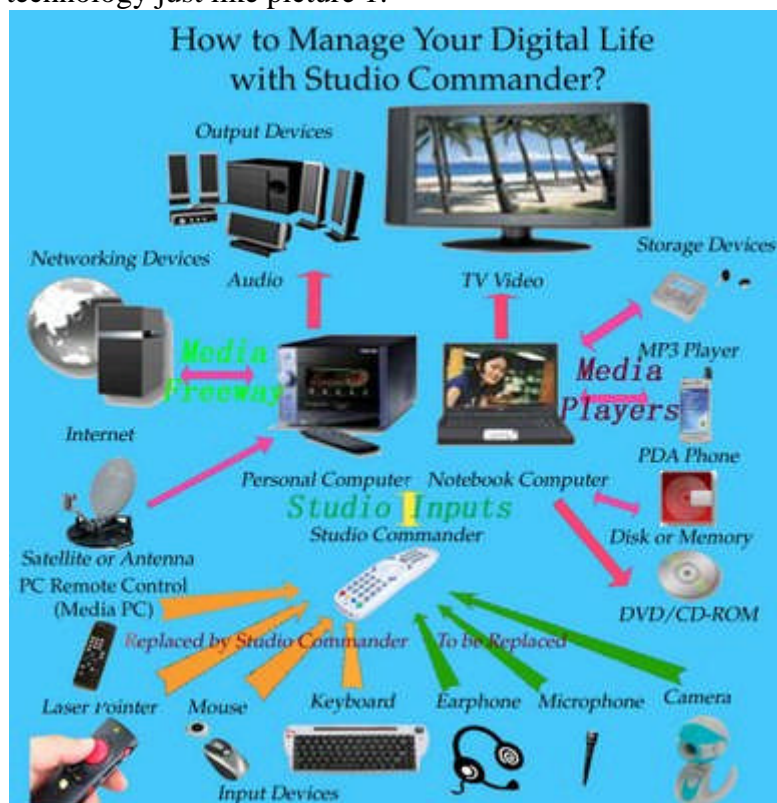
Have you ever heard of this term "Digital Home". Do you know that how many important technologies will be involved? Now, this blog will be dedicated to provide a series of articles for this topic. It will help you to get out of the fog and get into the fun for the digital home.

Chapter 1: Signal flow for a digital Home

The so-called digital home, to be short, is to use the digital signal processing technology to handle all of the home entertainment issues. Digital signal processing technology has been around for many years. It has shown its capability to prevail over the old analog world. First, you got a computer system. Then, you got some networking devices. Now, you are heading forward the digital home entertainment stage. In addition to the new features brought up by the digital technology, the most important thing is that digital home will make your life much more convenient than before. Right here, let me describe some of the advantages:

- (1) easiness for storage,
- (2) convenience for sharing,
- (3) Portable,
- (4) Reusable technology,
- (5) VLSI design capability, that will bring down the system cost much more.

The future digital home will be built upon a computer. This computer will be the center for the digital technology just like picture 1:



Picture 1: Signal flow for digital home.

The digital technology surrounding the computer can be classified as the following four categories: input, output, networking and storage.

The output devices include the LCD TV, Plasma TV

The networking device can be any networking equipment or device to realize the broadband connection.

The storage device can be the hard disk, flash memory or any other technology.

The last one, and often so easy to be forgotten, is the input technology. The author invented the Studio Commander technology that will solve all of the input problem at one shot. Just keep reading and you will see.

Studio Commander

Chapter 2 Studio Commander and Studio Input Software

In the digital home environment, the most important work to do is the digitization of all multimedia signals. When all of the contents are highly digital, what will happen next would be the integration of technologies. The input technology for Digital home is the same.

To meet the requirements for the middle range distance (about 10 ft. to 30 ft.), the input technology has to have the following features:

- (1) Wireless,
- (2) No angle problem,
- (3) Simple,
- (4) Expandable,
- (5) Reliable,
- (6) Comfortable on pricing,

We invented the Studio Commander and Studio Input technology to satisfy all of these requirements. When both of these technologies are in use, the future framework for digital home will be easily seen.

For the application side, this new system must be able to meet the following application needs:

- (1) Home Theater,
- (2) Business presentation,
- (3) Gaming,
- (4) Email,
- (5) TV watching and Video watching,
- (6) Music,
- (7) Home Education through Internet.

A input device needs to have all of these features. How could we achieve that?

This will become an important puzzle for the research at Charisma Communication to solve.

Brochure

<http://www.charisma-usa.com>
(Charisma Co., Inc.)

- Multilingual Input Support
- Windows XP/ACE/Vista, Linux

- Mouse, Presenter, Media Control, and Input Keypad 4-in-1
- Personal Computer Plug and Play (USB Plug and Play)



Business Presentation

Chapter 3 Business presentation

In this chapter, we will be showing you how business presentation can be done with Studio Commander. That means to use Studio Commander as your business laser presenter.

The so-called business presentation can normally be classified as the following three categories:

- (1) Small Group discussion (<15 people)
- (2) Small class (>10 people and < 50 people)
- (3) Big Auditorium (> 50 people)

At the big auditorium environment, the distance between the speaker and computer could be very long. Therefore, it may require a presenter with RF Link which can support more than 50 meters (150 ft.). Besides, the speaker may have to carry the presenter for a very long time. Small form factor will also be a very important issue. In real application, the number of keys has been designed to be very few. Just like in the Figure 1:



Figure 1: a RF presenter.

In the small class or small group discussion environment. The speaker could stand within 30ft (10 meter) distance from the computer. Therefore, RF or IR link could both work. Functionally speaking, this may require many more features. In U.S., the laser product has also need to be certified by FDA.

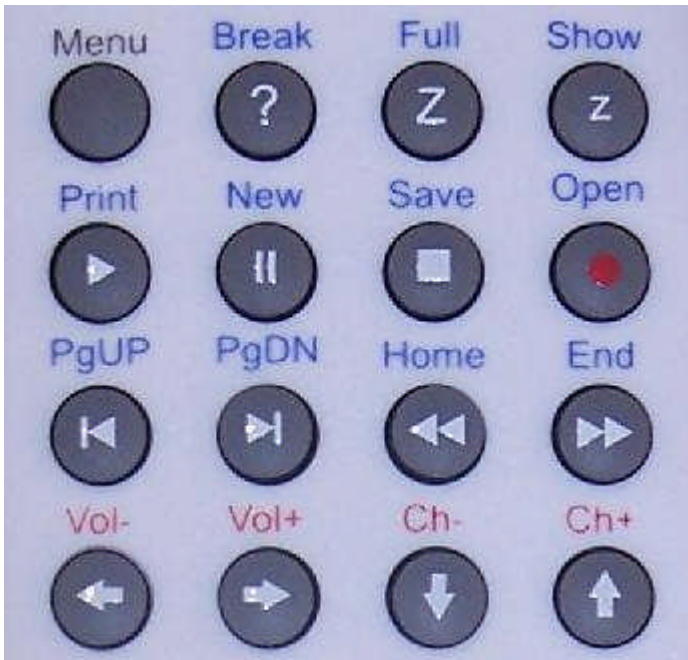
With the support by Microsoft Powerpoint tool, the following instruction set is very important:

- (1) Play, Show slides(F5)
 - (2) ESC, to quit
 - (3) Left, Right, Page UP, Page Down, UP, DOWN<
 - (4) Right Click for Mouse.
- (1), (2),(3)'s importance is very obvious. For (4), it is also very important when you need to change your presentation schedule and jump to a specific slide. The Studio Commander has PC mode and Media mode. With any help from any software or device driver, user may press the PC mode (Blue key, for keyboard mode) to go into the use of presenter.



After that, you may use mouse to click on a specific power point file. Then, press Show key to start the presentation. (If you have Studio Input software, you may also keep your software at Media mode, and press the play key to start the presentation.) The show key is the same as the F5 key for normal Keyboard.

Then, you can do your presentation by using up/down, page up/page down to control powerpoint software. When you are done, you may press ESC to finish the presentation to quit.



If during the presentation, you need to jump to a specific page, you may use right click for mouse and choose navigation (go to), then pick the specific slide that you need.

Besides, if you need the New, Open, Save and other file operations, this presenter, has

given you the features that other presenter can never provide you.



If you have Studio Input software installed, you may use media mode to control powerpoint as well.

From the introduction above, you should discover that Studio Commander is more robust than any other presenter in the market right now. It is perfectly suitable for small class or small group discussion use.

Digital Photo Frame

Chapter 4: Digital Photo Frame

Under any directory that has the .jpg, .gif or .tif file, you may use microsoft's picture & FAX viewer to use your personal computer as a digital photo frame. Use Studio Commander, you can directly control the picture and FAX viewer just like power point presenter to view all of you pictures. This is giving you the functions of a digital frame.

Under microsoft's picture & FAX viewer software, the following instruction set is very important:

- (1) Full Screen (F11),
- (2) Esc, to quit,
- (3) Left, Right, Page Up, Page Down, UP, DOWN
- (4) Right mouse click.

For Studio Commander, there are PC mode and Media mode. Without support of any software or any driver, user may click the blue key for PC mode (keyboard mode),



Then use mouse and right click to open a picture file with Microsoft picture & FAX viewer. Then, press the FULL key, you should be able to see the picture in Full screen mode. Then, you may use the UP/DOWN, left/right, or page UP/Page down to control the software. Besides, you may move your cursor to the right upper corner or bottom middle to see a play control panel. With that play control panel, you may keep the slide show in progress or being stopped.



PC mode and Media Mode

Chapter 5 PC mode and Media mode

The Studio Commander's hardware have two modes, PC mode and Media mode. PC mode is used for keyboard, or text input or other PC file operations. Media mode is for the multimedia application control.

If you do not have the Studio Input software installed, these two modes are two code pages.

The media mode is reserved for Media player for Microsoft. The PC mode is reserved for Powerpoint and Picture & FAX viewer. For other application program, the support is less strong.

When the Studio Input software is stalled, the PC mode becomes a keyboard input mode. You may input any text in any language using this mode. The Media mode becomes the multimedia application mode. You may control any software to achieve your functions.

When Studio Input first started, the software will be in PC mode (Numerical input). The numerical input is considered to be the standby mode for Studio Input. That means, you may enter any text or any command using normal keyboard in this mode without feeling there is any difference from your normal keyboard without Studio Input. When you click the PC mode again, the system will start to rotate into several language. Each time you press the blue key once, the system will choose an active language. You may set the active or inactive by using the Keymap editor and System setting tool provide in the same package of Studio Input.

Once you are in the English input mode, there will be a small "en" letter at the right bottom tray of the system. This means lowercase English input mode. You may change the input mode to leading upper case which will show "En" and uppercase which will show "EN" by pressing the mode ("*") key. The leading uppercase is for the input of a word which has leading capital letter. The uppercase will return all uppercase for you.

Once you are done with input, you may click the ESC key or the cross button at the upper right corner of the software to finish the input process.

The small keyboard icon on the IME is reserved for you to open and close the software keypad.

The software keypad is useful for you to enter the letters without using the keypad on your remote unit, if you are not used to it.

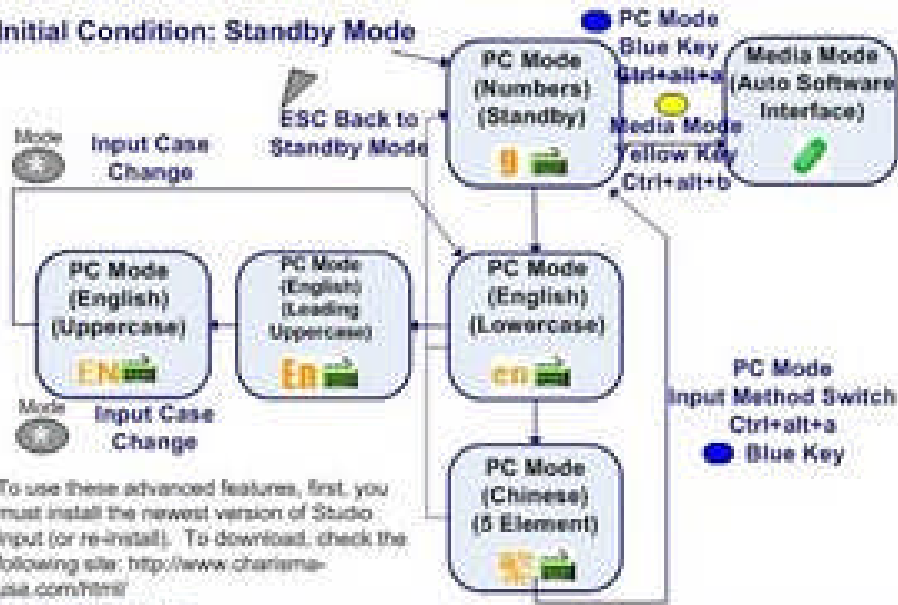
The question mark will give you the help pages.

If you click on the blue key again, the system will rotate into several input languages. Finally, it will return back to number mode (numerical mode or standby mode).

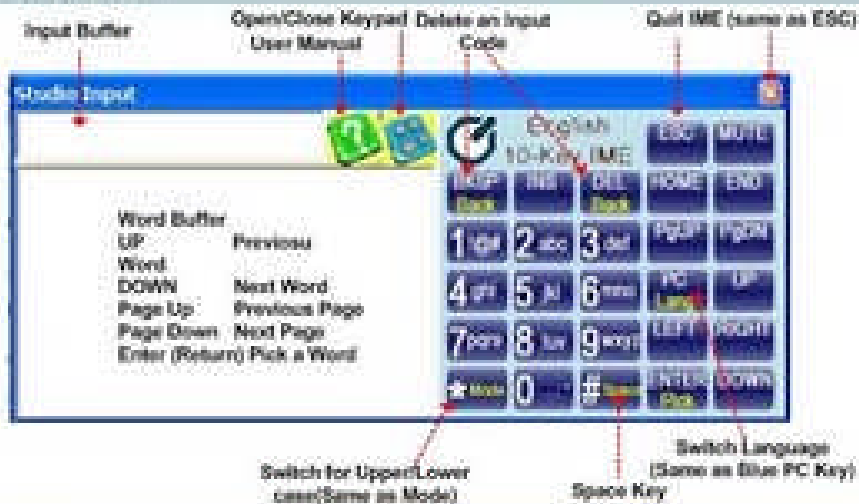


Studio Input Modes

Initial Condition: Standby Mode



To use these advanced features, first, you must install the newest version of Studio Input (or re-install). To download, check the following site: http://www.charisma-use.com/html/main_download.htm



Web Browsing

Chapter 6 Web Browsing

Web browsing has been a very important task for modern life. It is more clear to use big screen to watch the web page than using a small screen. Therefore, if you got a big LCD tv, or plasma TV, there are very suitable for web-browsing.

The digital contents are a lot. We provide a software called Media Freeway which may help you to get to the digital content you need much faster.

<http://www.charisma-usa.com/html/downloads/mediafreeway/mediafreeway.exe>

This media freeway will give links to News, Video download, photo sharing, TV links, maps, music, game, radio, and many other important data from the internet. The traditional way of broadcasting and advertisement is now passing away. People are embracing this new, faster, cheaper, cleaner way of sharing information through internet.

The newest LCD TV, and plasma TV are now compatible with your personal computer. They start to provide the VGA, DVI, or HDMI interface, you may just use some cable or some converter to help yourself to hook up the computer with the new digital TV. To use the digital TV as your monitor.

Normally, you just need to change the video source of your TV to PC mode or VGA mode, that will make your TV become a monitor of your computer. This monitor is super big and will give you some viewing experience that you never feel before.

Studio Commander will make you use the internet information just using the signal input device. You will no longer need your keyboard, mouse, or remote control. To browse and control the webpages. You may do the following:

(1) choose PC mode

Without support of any software or driver, you may connect your Studio Commander to the USB port. Then, you have completed the installation. That's right, it is so simple. The receiver is as below:



After that, you will see your mouse to be moving if you move the trackball and its right and left keys.



After that, you may press the blue key for PC mode. Then, the whole Studio Commander and Studio Input software is controlled in PC mode. All of the keys will function according to the blue key prints. The up/down, left, right key will function in PC mode as well.

You may now use the Page UP, Page DOWN, UP, DOWN to scroll your web pages. If the width of the webpage is too wide, you may also use left and right arrow key to scroll the web page for right and left scrolling.



If you need to drag and drop some data, you may use one finger to press on the left key of the mouse (L) and then, use another finger to move the trackball to finish the drag and drop feature.

If you need to type number, the number key will be able to do it.



If you need to input text in different languages, you may need to download the Studio Input software from us.

The download site is:

http://www.charisma-usa.com/html/main_download.htm

We provide more than 10 different Input method editor (IME) for different language. The input method is very easy. Just to type one number for each letter. Then, pick up the word you need. You will get familiar with the input method real soon. We will cover the IME at some later chapter.

The IME also give you some of the partial words such as

http://
www
.com
.exe

and many cyberword or cyber partial words.

Media Player Control for Home Theater

Chapter 7: Digital Home Theater using your Computer

Digital Home theater has become a new application for PC. The so-called digital home theater include the acquisition of digital contents, management, playback and recording. Right here, we will first cover about how to download the digital contents. Then, we will cover the playback of the media files.

The home theater based on personal computer is now very possible. Generally speaking, personal computer may process (1) TV signal (NTSC, PAL) with help of some add-on card, (2) Digital video (mpg, ram,), (3) digital photo (.jpg, .gif,), (4) radio, (5) digital music (MP3, ...) (6) Digital Game (Flash game, programs), (7) text file.

Computer may pre-record, store, sort, backup, sharing, delete, download, edit, and modify the digital contents. All of these needs to be completed with software.

For the Multimedia media software, there are two major categories: (1) digital home software package, (2) functional software. For the first category, it is designed to have the full control of the computer. That means they are trying to control all of the data on the computer. The typical software in this category are:

- (1) Microsoft MCE/Vista
- (2) Yahoo Go (Previously Meedio)
- (3) Arcsoft Total Media
- (4) Media Portal

Most of the software in this category are free. Some of them may need you to pay. The quality of the software is typically inferior compared to the functional media players.

For the related information and download site:

http://www.charisma-usa.com/html/main_mediaplayer.htm

For the second category, the functional multimedia players. They are much more professional and they are often, better than integrated multimedia center software. Their function may even be better than the hardware players. For example, the DVD players are better than the DVD player hardware. It give you more controllability and quality equalizer feature. The typical software are:

- (1) Real Player,
- (2) iTunes/Quick Time,
- (3) Power DVD,
- (4) Yahoo Music Engine,
- (5) Photoshop Album,
- (6) Microsoft media player,

For the related information and download site, you may check:
http://www.charisma-usa.com/html/main_mediaplayer.htm

For the time being, to use personal computer as the home entertainment center, there are several issues:

- (1) cooling fan could be too noisy,
- (2) signal remote control is needed,
- (3) size for the computer is too huge,
- (4) Microsoft O.S. is too huge.

Even though some of these are true, we do believe these issue will soon be taken care of.

Next, we will be discussing how to use Studio Commander to control the softwares. For Studio Commander, there are two modes: PC mode and Media mode. The PC mode is for text input. The media mode is for multimedia application control.



When the blue PC mode key is pressed. Studio Commander is set to PC mode, All of the keys are defined as the blue key prints. When the yellow Media mode key is pressed, Studio Commander is set to Media mode. All of the keys are defined as the yellow key prints or red key prints. For all the black (or white) key prints, it means it is shared between PC mode and Media mode.





PC mode is used for text input. In this chapter, we will be focused on Media mode. Without help of any software, C5032 Studio Commander, has its media mode defined the same as the media player of Microsoft. Its only difference is that Pause is actually new (control+N). In Media player, Pause is defined for the same key as Play.

The current hardware is defined based on Media player version 10. If you are using version 11, you may need to download some patch file and use it with Studio Input software:

Patch for v11 for Studio Input:

http://charisma-usa.com/html/main_download_patch.htm

Patch for V10 for Studio Input:

http://charisma-usa.com/html/main_download_patch.htm

To download Studio Input software:

http://www.charisma-usa.com/html/main_download.htm

In Studio Input, you may set the Studio Input as Media mode, Studio Input will automatically switch the keymap for you. That means, you do not need to remember the hardkey of the software, you just need to press "Play". Then, no matter which software you are using, you will all get the "Play" function. Most of the software are actually using different hot-key setting, Studio Input's media mode help you to overcome the gap. If you find a new software that is not in our support list, please Email us at: sales@charisma-usa.com

Or, you may use Studio Input's Keypap Editor to add a new keymap for your application.

If you do not need Media mode to auto-switch the keymap for you, you may click the blue PC mode key to switch into PC mode. That will give you the Standby mode. In that mode, your computer will be the same as there is no Studio Input software. The standby mode indicator is as



To download Studio Input:

http://www.charisma-usa.com/html/main_download.htm

For the download of digital contents, we will provide explanation for the text input in some next blog page.

Digital Home Theater - Digital Content Download

Chapter 8 Digital Content

Download, Sharing and Storage are the main advantage for digital home theater. The analog home theater will be less convenient. For the quality of the media file, digital file are much better and much more stable. In this chapter, we will be focused on how to download the digital contents.

The so-called digital contents can be downloaded from the following channels:

- (1) Digital TV system (ATSC, DVB-T, DVB-H)
- (2) Digital Satellite
- (3) CD, VCD, DVD, FVD,
- (4) Video Streaming on IP
- (5) Flash memory and harddisk
- (6) Music/Video Downloads

These various digital contents. In application, there are quite many different. For the future digital home entertainment center which is based on your personal computer. All of these technology can be integrated together. The format can be interchangeable. Thus, the technical background required for users will be much less.

Even though there are quite many manufacturer, most of them are based on their own business purpose. A lot of business are no longer eager to provide capital to do research. Therefore, in order to integrate more technology together, it will need the end-user to purchase the new technology product many more time. So that, the inventor can keep on inventing new technology.

For current personal computer, ATSC and DVB-T signal can be obtained by using Tuner with some add-on card to you PC or you may get the tuner with USB connector. After you connect it to you computer, video streaming can be brought in through internet to your personal computer PC. Digital Satellite can be connected to you PC through some HDMI interface.

If you read in the signal through CD or Memory, it is even much more easier.

There are some issue for the quality of the hardware. The Personal computer is not designed to provide high quality audio and video playback. It is targeted at the low end market. Besides, because Microsoft has the total control of the O.S. There are not so many software developer than before. This has greatly limit the invention for the advances of these technology.

If you want to get the video streaming over internet, there are many web-site with many stations. You may check the following links:

<http://tv.charisma-usa.com>

You may just click on the country you favor to get the free TV station from that country. (Some of the country does not support free TV at all). If you have some good TV link, you may email us at sales@charisma-usa.com We will add them unto our web-site as soon as possible.

In addition to that, there are also many hardware manufacturer. They invented new video streaming hardware to convert the TV signal onto computer IP doamin. One of the famous examples is the Slingbox from Slingmedia:

<http://www.slingmedia.com/indexa.php>

Slingbox may allow you to watch TV of one nation from another country. For example, you may watch TV program in India from United State. As long as you connected Slingbox at one TV at India and connect the slingbox on to internet, then you can start to use Sling Player to watch the Indian program at United State. Similar method can be applied to all different countries. As long as your upload speed at India is over 256Kb/s. Typically speaking, 512kb/s will be btter for such application.

As a user of Slingbox for more than a year, its quality has been much better than other internet TV. Slingbox can be fully controlled by Studio Commander.

Other than these standard TV station, there are Youtube, Google Video and many other new video streaming source. You may download choose to watch those video clips from

<http://video.google.com/>
<http://www.youtube.com/>

After introduction to IP Video Streaming, I am now going to talk about the video and music download. So far, the legal issues for video download is really a mess. Therefore, before you download the data, you have better check you legal rights and responsibility first.

For Video download, there are many softwares. The most popular ones are Bit Torrent, emule, edonkey, DSL, It is hard to say which is more convenient and which is more stable. It is up to you for your own research.

<http://video.charisma-usa.com>

There is one major difference betewen Video download and Video Streaming. Video download may allow you to share your digital contents with your friend. On the other hand, video streaming is hard to share with your friend. Normally, video download will give you a video signal of better quality as well. However, it may take a longer time.

Before download, you may need to input the name of the video name onto a video search

Engine. For example, at

bit@china

<http://www.btchina.net/>

website, you may download the video just like Google. In order to facilitate such input, we invented the Studio Input software and the related input methods to help you to do that.

To input the text, first, you need to use the blue key to set your studio commander at PC mode. At this mode, you will see the following mode indicator:



The keyboard indicate PC mode, the 9 indicate the numerical input(or Bypass Mode).



After you press the blue key for the second time, you will be in the English input mode. Then, a mode indicator "en" will be shown. This means lowercase input for English. If you press the star key, the system will rotate between en, En, EN for the lowercase, leading uppercase and uppercase of English text input. For English input, you just need to remember that, there is only one key for each English letter. a,b,c are all 2. d,e,f are all 3, They key location is the same as your phone.



enEnEN

For example, if you want to enter the phrase:

computer

You may enter
26678837

That means c=2, o=6, m=6, p=7, u=8, t=8, e=3, r=7. After entering these letters, you can use enter key to pick up the letter, or you may use mouse click to pick up the letter. If a word is more than 9 key such as the word "conversation", only the first 9 key will make sense in this input system.

After you finish the input function, just press the blue PC key until you reach the 9 mode. Or, you may use the ESC key to jump to the 9 mode directly. In 9 mode, the Studio Input software has no function. It is used as a standby mode.



Digital Home Theater - Radio, Photo and Game

Chapter 9 Radio, Photo and Game

In this chapter, we are focused on the radio, music, photo and game using computer as your digital home theater center.

Internet is a far-reaching tool for the access of digital contents. Besides Video streaming, radio, music, photo, game, animation are very important to be accessed from internet. In this chapter, we will be showing you how radio, music, photo and game can be downloaded and played with Studio Commander.

First, Let's look at radio stations. For United States and many other countries, there is a important web-site called Radio Locator. The web-site is:

<http://www.radio-locator.com/>

On this web-site, you may provide the ZIP code and find the related radio stations at the ZIP code area. You may also reach radio station of any country using that web-site. For example, you may click Taiwan and look for International Cummunity Radio Taiwan (ICRT) using this web-site. After clicking it, free radio will be streamed to your computer.

In addition to that, if you are in United Kingdom, you may click on the Virgin Radio at

<http://www.virginradio.co.uk/>

If you want to look at the free radio station, you may try:

<http://radio.charisma-usa.com/>

If you have any good radio station click, you are welcome to send the URL to [Email: sales@charisma-usa.com](mailto:sales@charisma-usa.com)

Second, we will be discussing the download of digital music, such as MP3 Music. Music download is the main form of podcasting. There are several famous software, web-site, software and hardware and music content combination. The following software are often used.

- (1) iTune,
- (2) Yahoo Music Engine,
- (3) Real Player,
- (4) KKBOX,
- (5) TT Player

The Music downloaded are usually in MP3 or WMA format. Hardware are iPod, iRiver, and many other MP3 Players.

Studio Commander and its corresponding Studio Input software provide you to search and download the content using computer at the home entertainment center environment. If you have you PC as your home entertainment center, you may use Studio Input software to input the title of the music and, then, download the music file from internet to your computer. In this situation, your PC becomes your personal Jukebox. You may later share the music file with your friend or copy the music file to your iPod or any other hardware platforms.

The related music content sites can be found at

<http://music.charisma-usa.com>

After download, you may use Studio Commander with Studio Input to control Media player and other software to play the music. Since Studio Input software give you the flexibility to control the music file without memorizing the hot keys. It is the best companion for your entertainment center.

Third, you may use your personal computer as a digital photo frame. The control of digital photo frame has been introduced at a previous chapter. Right here, we will be discussing the upload, sharing and printing using Studio Commander and its related links by Media Freeway software. The photo site can be found:

<http://photo.charisma-usa.com>

Take Target's web-site as an example, it provide you the capability to upload the photo, sharing with friend and direct links to send the photo for printing.

Forth, Game and animation is also a very important resource on the internet. You may find the web-site for this category at ,

<http://game.charisma-usa.com>

After downloading the contents, you may use keymap editor to program the user interface to control that specific game. As for the Keymap editor, you may have to consult its user manual.

In summary, if you want to get all of these link at no cost, just install our Media Freeway software from:

<http://www.charisma-usa.com/html/downloads/mediafreeway/mediafreeway.exe>

If you have any good links, please send email to us at sales@charisma-usa.com