



FreeTW
the Tele-Web-Viewer

Monitors & Computers

Still less "computer" increasingly "television"

The "mission" of the FreeTW project is to reach an hybrid TV-Web-PC, which everyone can use, as easy as a television, but powerful as a real PC.

Decoders and DVD players always show limitations compared to Windows and need a lot of "packages", "cards" and remote controls...

This is what would happen using decoders.



And this is a FreeTW system.



the notebook disappears behind the monitor and you should see only three things ...

How to organize your home network

The best situation is having an ADSL line with at least 2 mega bit per second bandwidth and a WiFi modem-router serving, via radiowaves, the notebook in the living room and, via LAN or via radio, the



drinking five hundred water glasses (mobile phone), about one hundred liters, immediate and sure death...

Which monitor is appropriate ?

It should be a monitor or a monitor-TV, not a pureTV, i.e. it must have the input VGA or HDMI or DVI to connect the computer. (almost all the recent TVs have the right inputs available)



important because usually
you'll find it too bright. Instead the contrast should be at least 5000 : 1 otherwise the images will be a little blurred.

Response time is not a main feature in watching TV, it is only a value that the constructors use to differentiate their product showing better technical characteristics.

The really important characteristics are the contrast, the visual angle and especially the brand. If the monitor has a good brand (Samsung is working well) renders more brightly and comfortably than an "ACME" monitor.

If your TV has not the audio managing it's Ok the same because the internal monitor speakers are worse than any entry level audio system for computers, maybe a 2+1 costing 30 Euro only.

How much does the full system cost ?

It depends on the dimensions and quality of the monitor, about from five hundred to one thousand Euro. With 1000 Euro you could buy an excellent Samsung 26 inches (600 Euro new), a good used notebook on eBay (350 Euro – almost new) and 50 Euro in accessories (remote control, microphone and installation).

If you proceed to bigger monitor dimensions, thirty inches and more, the cost for the monitor makes the other costs irrelevant.

Don't bother about having an always switched on computer. If you have a big monitor the notebook consumption will become irrelevant. In any case a classical television set with a cathodic tube was really more energy hungry.

Which computer to choose ?

Do not absolutely use a professional computer like a "Tower", "Minitower" or "Desktop" because they are full of fans and **there isn't any way to keep them really silent**. Some people plays with water cooled systems and some others put them under oil but it's not advisable to do that...

To run FreeTV in your living room watching movies, pictures, WebTVs and listen to the mp3 files it is advisable every notebook five years old or more recent.

The ideal computer is a notebook with half exhausted batteries and maybe a display with a lot of dead pixels, scratched or semi defective too. On eBay you can buy them with a little cash.

Pay attention however to the following aspects :

- it must have an original licenced XP or Vista operating system (it's not important having the installation CD, it's enough the OEM sticker of the O.S. to reinstall it, perhaps asking the registration by phone to the Microsoft Help Desk to have all the future Microsoft upgrades free of charge)
- it must have the mains power supply (check the right input voltage)
- it must be working – warranted into the auction description
- it must have the connector for the external monitor (usually a VGA with 15 pins)
- it must have **a processor of medium speed**, less than 1.5 Giga (1500 MHz) is a little bit poor but over 2.5 giga (2500 MHz) is too much because in that case it will produce **heat and noise** with its fan.
- the best choice is a "Celeron" (less heating than Pentium) with 1800 Mhz speed. If it is an HP (Compaq) it is a nice choice because they are robust, easy to be repaired and very silent
- it is a good thing if the WiFi is integrated so we could connect to Internet without cables and maybe retain the movies onto a huge HardDisk inside a professional computer, managing eMule downloads, put in another room with its noisy fans.
- every WiFi is good, 811-B or 811-G is the same, because to reproduce the movies the bandwidth needed is 1 to 2 mega bit at most and the worse WiFi can reach five megabits per second.
- if the WiFi is missing you could however use the WiFi USB adaptors that work well and cost about twenty Euro.
- it is better that the BlueTooth is missing, it will heat and consumes current without be useful.
- the hard disk should be big enough, maybe 100 or 200 gigabyte so you could copy into it a lot of movies or mp3 but, if we find a good computer with low price with a tiny HardDisk (maybe a 40 mega) you could use it the same with an external USB hard disk that you can detach every time you would.
- the right RAM quantity is 512 mega byte to 1 giga byte. My hint is to use 512 mega to speedup the suspension and the resuming of the computer (about 15 seconds with 512 mega rising to 25 seconds with 1 gigabyte)

A notebook with these characteristics could be found on eBay, easily, for about 200 Euro. Sometimes you can find one of them with an half damaged display, costing less than 100 Euro.

To use a ASUS EE-Box with FreeTW

This tiny PC includes many features perfect for FreeTW, is fairly c
will find “used on eBay” for less than 150 euros.



ASUS EE-Box characteristics

Processor: Intel® ATOM N270 (1.6 GHz)
System: Windows XP Home
Memory: 1GB DDR2
Hard disk: 80/160GB HDD
Chipset: Intel® 945GSE
Connections: WiFi 802.11bgn - Gigabit LAN
Special features: Card reader 5 in 1 - 4x USB 2.0 - Output DVI-I
Dimensions: 223 x 178 x 16 mm (excluding the base)
Accessories: Keyboard and mouse USB
Price: € 249 (IVA included) (80 GB version)
Little – like a book
Energy saving 90% - only 20W
Minimum noise - only 26 decibel



Low power

The Eee Box also utilizes Green Design and is made with only earth-friendly materials for reduced CO2 emissions; and conforms to stringent RoHS and WEEE standards.

Just 7 Seconds* from Boot up to Internet

Users can easily access the Internet, manage pictures, or communicate over IM/Skype just 7 seconds* after boot up.

Work, Play and WATCH

The Eee Box is the perfect choice for enjoying Internet TV. With an IPTV player, thousands of programs are freely available – allowing users to personalize and watch lists of TV shows with ease.

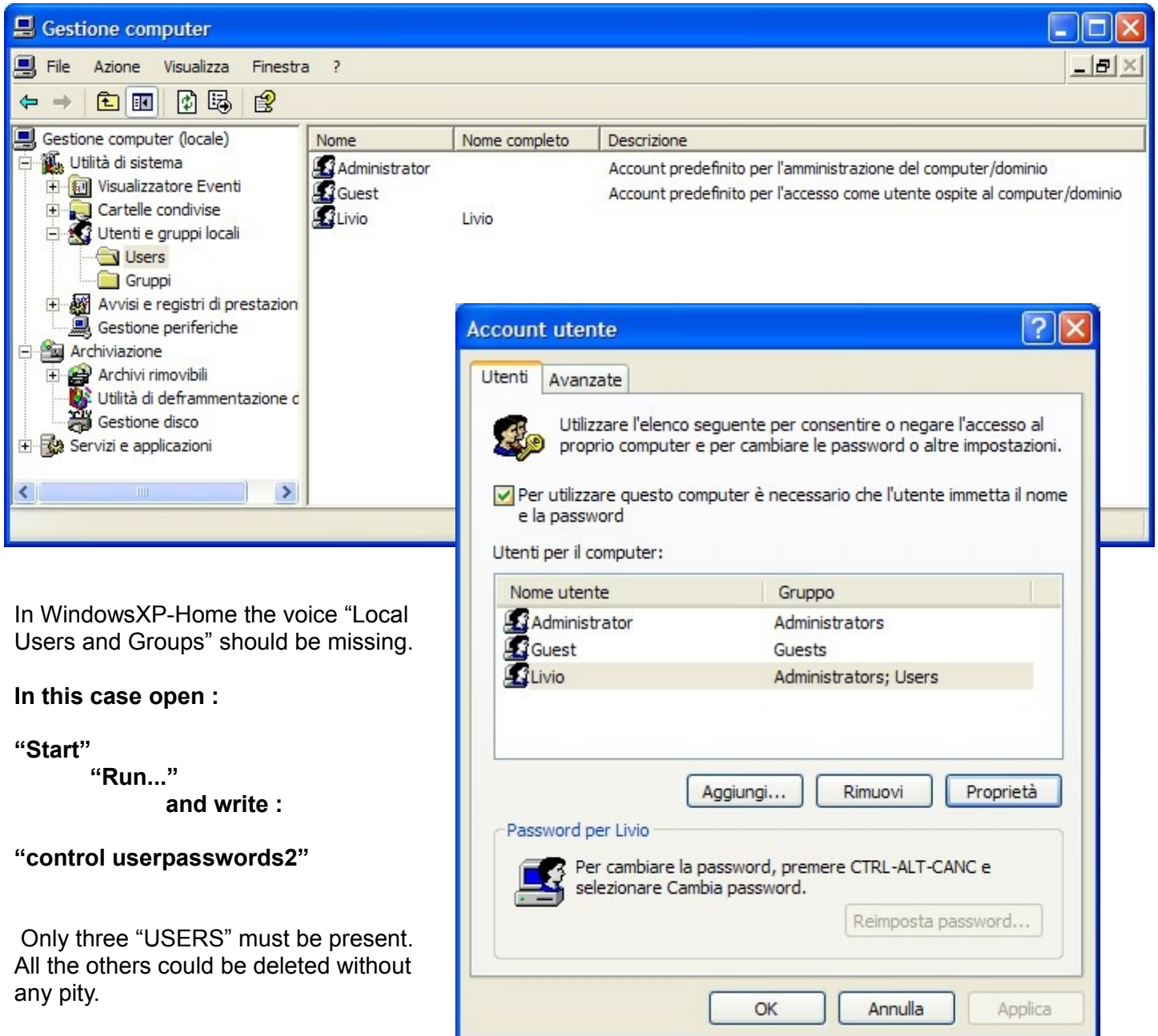
http://www.asus.com/news_show.aspx?id=11854

<http://www.asus-event.it/asusdealer/wheretobuy/pricelist.asp>

Starting WindowsXP without : "To start, click on the user name"

For a living room application it is boring having to choose the user on every restart. Then you should setup your computer in the following way.

Open "Control Panel"
"Administrative Tools"
"Computer Management"
"Local Users and Groups"
"Users"



In WindowsXP-Home the voice "Local Users and Groups" should be missing.

In this case open :

"Start"
"Run..."
and write :

"control userpasswords2"

Only three "USERS" must be present.
All the others could be deleted without any pity.

It should also be possible to change the user name (in the case it is, for example, "Unknown user")

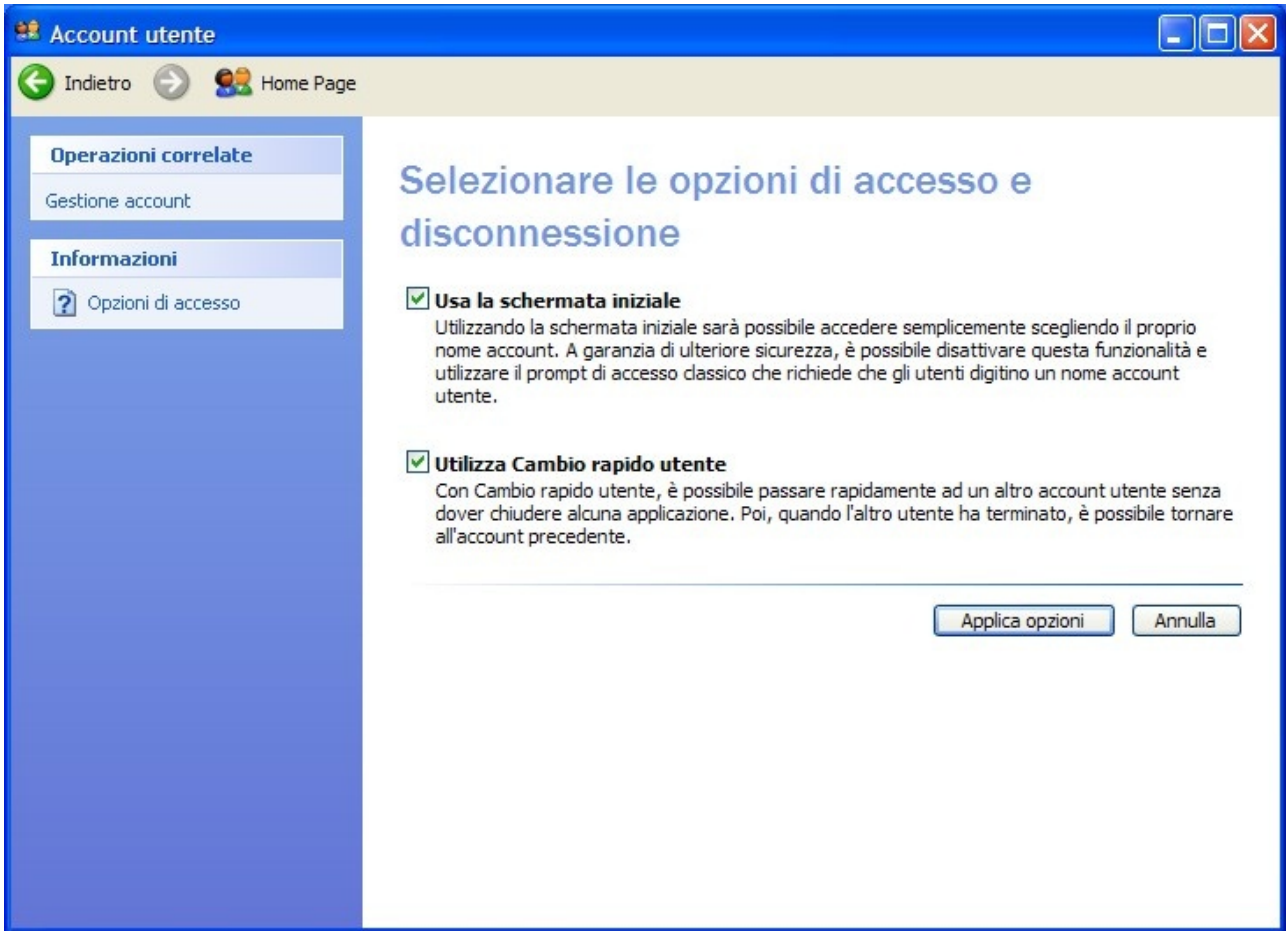
In any case please empty all passwords otherwise then a password will be asked and so it would be worse than before.

Then please open :

“Control Panel”

“User Accounts”

“Change the way users log on or off”



Deselect only the second checkbox : “Use Fast User Switching” then hit “Apply Options” and exit.

The setup should be complete. Try to “Stand-by and Restart” / “Turn-off and Restart” and check that Windows will restart without asking anything.

With Windows Vista I was not yet succesful to find the right setup; as soon as I will find the correct way I will tell you how I did.

Shut down the TV

If you use the "Stand by" the computer shuts down almost immediately and will restart in less than twenty seconds. With Windows Vista instead it is better to use the "hibernation" because the "stand by" continues to sink some current (in fact a very little).

If you are using the "FreeTW" application you don't have to close it because it can be suspended and restarted in every situation and it will restart without any errors from the exact point where it was before, in the middle of a movie too.

Almost all the remote controls have a suspension button but if you like to have a desktop shortcut you could use the following procedure:

Mouse right click onto the Desktop

- New
- Shortcut
- write `%windir%\system32\rundll32.exe PowrProf.dll , SetSuspendState`
(please respect the space after "exe" and after the comma)

Hit "Next"

- write " Suspend"

Hit "OK"

Whenever the suspension is not enabled (only with Window

Open the "Control Panel"

- "Power Options"
- Activate the "Enable hibernation"

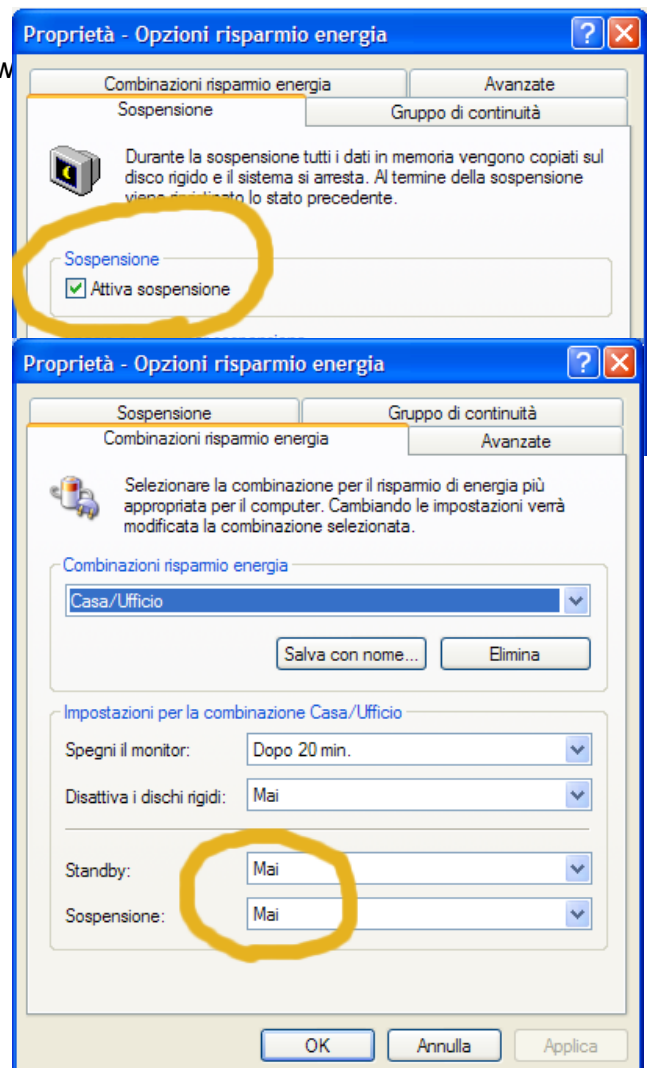
Hit "OK"

It could be nice to check the energy saving settings and to put "Never" on "System standby" and "System hibernate" to avoid their unneeded intervention.

For the same reasons it is nice to disable the screen-saver.

Choosing "Advanced" please select "Do not intervene" into the term "When the cover is closed" so that you can leave your notebook closed and active.

Into the Advanced tab, select "Stand by" in the combobox "When I press the power button on my computer" so that you could quickly shut down and restart your notebook with the main button.



Power on the TV

It should be useful (and really ecological) a device able to give up the power to the monitor and to the notebook power supply when you hit the red suspension button onto your remote control.

The same device should be capable to power on again all the FreeTW system to have a behaviour similar to that of a television set (the consumption being in standby would be near zero, an hundredth of the standby of a classic television set) .

Using "standby" and the right amount of RAM (512 mega byte) all could be restarted in 15 seconds, the time needed to sit down, shut off the room lights. The presence of a PC is really hidden.

To do so I'm investigating a way to awake the notebook from the standby, maybe using the LAN connector... but this seems not working with all the notebook models.

Whenever the FreeTW users will support me and will sustain the future improvements, the development of this device will be priority.



This is not an example to be followed, instead.