**Low Power Network with Server and 5 Client computers**

**Part list**

* 1. 6 pcs. low power computers (black aluminum profiles), of which
  2. 5 client computers labelled *user1…user5*
  3. 1 server computer
  4. 5 pcs. 15” full HD displays
  5. 1 pc. 8 port Gigabit Ethernet switch “Netgear”
  6. 1 pc. AC/DC power supply “Meanwell”
  7. input: 110V to 240V AC on cable with EU-style connector
  8. output: 12V DC two miniature power strips
  9. Ethernet network cables
  10. 5 pcs. approx. 1m
  11. 1 pc. approx. 0.5m
  12. DC power cables (red/black leads)
  13. 5 pcs. approx. 1.8m
  14. 1 pc. approx. 0.5m
  15. 5 pcs. wireless keyboards (each with one AA battery preinstalled)
  16. 5 pcs. wireless mice (each with one AA battery preinstalled, USB transmitter located in battery compartment)

**Installation instructions**

1. Set up displays: connect the HDMI cable to client computer
2. Set up client network: connect a long cable (green) from the rear of each client computer to the switch
3. Set up server network: connect the short cable (green) from the rear of the server computer to the switch
4. 12V power for client computers, long red/black cables:
   1. connect the white connector to one of the white miniature power strips on the power supply. Observe connector shape to avoid forcing the wrong polarity
   2. connect one black round connector each to a client computer and a display
5. 12V power for switch and server computer, short red/black cable:
   1. connect white connector to power supply. Observe shape to avoid forcing incorrect polarity
   2. connect one black round connector each to a client computer and a display
6. Set up client wireless mice and keyboards:
   1. If present, remove the protective paper strip from the keyboard battery compartment
   2. Open the mouse battery compartment to pull out the USB wireless transmitter and plug it into one of the black front USB port
   3. Important: Mice, keyboards and USB wireless transmitters are numbered. Only items with the same identification number will work together
7. In normal operation, the server does not need to be connected to a display, a keyboard and a mouse. This is only required to set up an Internet connection for the first time. Only the server requires a WLAN connection; if it is established, it will automatically be shared via the Ethernet cabling with all client computers.
8. 12V DC Power supply (aluminum box “Meanwell”): plug in to AC power, preferably using a working uninterruptible power supply and/or power conditioner.

**Short Operation Instructions**

1. 12V Power Supply

The system is designed to provide electricity to the following devices:

* 1 server computer (no display, keyboard or mouse attached)
* 1 gigabit network switch
* 5 client computers (each with display, keyboard and mouse)

Under no circumstances must other devices be attached to the 12V power system!

2. Server computer

The computer installation depends on a special server computer which stores all data on its internal solid state storage. It also provides the start-up drives for the client computers. Therefore, it is important that it is kept safe from manipulation. If the server computer does not work, the entire system cannot function.

Keep the connections tidy and take special care that the server computer does not accidentally lose power. Only power down the server via the front panel button (see 9. below), not by removing DC or AC power.

3. Powering up the system

* Make sure that all power cables are securely attached
* Push the small button on the front panel of the server
* After the small blue indicator lamp has lit up, wait for 30 seconds
* Now, start up any client computer using its front panel button

4. User logon to a client computer

After powering on a client computer, it takes up to a minute to reach the blue logon screen:

* Username: type the user name indicated on the front plate (user1...userX)
* Password: type exactly the same user name again (same as above)

5. Working with the client-server system

All software can be accessed from the application menu in the upper left corner. Microsoft Office applications can be started by double clicking on the appropriate icons on the desktop. Allow a few seconds time for the applications to start. Avoid impatiently starting the same application repeatedly.

Please note that Internet-related applications can only be used meaningfully when a connection is available. The exception is the Wikipedia icon which also works without an active connection because it points to mid-2016 offline copy of the English stored on the server computers’ solid state disk.

7. Storing and accessing files

All files stored on the desktop and other user folders are only visible and accessible to the user who logged in to the client computer. Files can alternatively be stored to a locally attached USB stick or to the common files share.

Storing files on USB sticks can be slow depending on the quality of the stick. It is often preferable to save files on the Desktop first, and copy them to the USB stick later.

To store and access files shared by all users, double-click on the Common Files icon on the desktop. Enter the same username as password and “remember for this session only”. Keep in mind that double-clicking on files in the common files share will open them in LibreOffice even though they were created in a Microsoft Office application. Opening files from this file share can be achieved by using the “Open” menu in shared Microsoft Windows applications.

8. Powering down a client computer

After finishing work on a client computer, it can be powered down by shortly pushing the front panel button. Select "Shut down" on the menu that appears there and the PC will power down in a few seconds. Alternatively, the “shut down” option in the Applications menu can be used.

9. Powering down the server computer

To shut down the server computer (after all clients have been powered down) just push the front panel button for a short moment. Do not push the button again until the before the blue indicator light has gone out.