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1. Requirements for Network Installation on 840D

Knowledge of the installation of Windows95 hardware (network card) and software (TCP/IP protocol drivers) drivers; TCP/IP network knowledge.

Hardware requirements:

- MMC103 with
 - At least 2 MB free hard disk capacity
 - PCI/ISA adapter / ISA adapter
 - Ethernet card, (3COM Etherlink III (3C509B) Combo (ISA) or 3COM 3C905C-TX (PCI) recommended)

or PCU 50 with version 6.x

Temporarily for the installation:

- Floppy drive or PC/PG with Interlink parallel to MMC103
- MF2 keyboard with PS/2 connector (Mini-DIN connector).
- Mouse (serial) is recommended if you do not have experience of operating Windows 95 alone with the keyboard.

Software requirements on the MMC103:

- Windows 95
- MMC standard software, version 4.03.xx - V5.x
- Driver software for the network card (always use the up-to-date drivers of the manufacturer; otherwise, problems can occur with the network card.)

Important note:

Within the scope of the following network installation and configuration, changes were made in the Windows95 Registry.

In order that these changes are also available in the standard MMC103 environment, the procedure "Save the registry entries made in the MMC 103 environment during the network installation and configuration as follows:" as specified at the end of these instructions. This must be done after EACH installation or configuration has been completed (sconfig.exe, network, etc.) so that these changes are also available in the standard MMC 103 environment.

If this is forgotten, then the modified parameters will NOT be available in the MMC103 environment!

Technische Aenderungen vorbehalten.

2. Installing the Network

The PCU 50 is supplied with a network connection, so that you must only follow steps 2.4 and 2.5 for it.

Before installing the network card, switch off the MMC103. Observe the installation instructions of the network card manufacturer if you are not using a 3COM Etherlink III card!

The Ethernet board recommended above is an ISA bus card that you can plug into either of the ISA slots. This description shows the installation of the network card by using the 3COM 3C509B Combo on the MMC 103 software 4.4 as an example.

2.1. Enable IRQ 11 for the 3C509 ISA network card in BIOS

On booting, press CTRL + ALT + ESC to enter the BIOS setup.
Use the down arrow key to go to menu item "PNP/PCI Configuration".
Use the up/down arrow keys to set to Legacy ISA under IRQ=11.
Save your settings.

2.2. Configuring the 3COM Etherlink III COMBO Ethernet board

You must now reboot the MMC103.
While the system is booting and after the message "Starting Windows 95 ..." quickly press the **number 6 key** on the NC keyboard.
Choose **3 DOS Shell**
passwd: enter your password
The system now starts an MS-DOS shell.

Insert the disk containing V 5.0 or higher of the driver in the floppy disk drive.
Enter **a:\INSTALL** with a local floppy disk drive.
Choose **Y=Agree to License**
Press **[ENTER]** to continue
Choose **Configuration/Diagnostic/Troubleshooting**
Choose **Configuration and Diagnostic Program**
The system automatically detects the adapter and you can configure it as follows:

Choose **Install -> Configure Adapter**
In the dialog, make the following settings:
Choose I/O Base Address: **300h**
The subsequent IRQ setting is important because IRQ 10 is already assigned.
Choose Interrupt Request Level: **11**
Choose Boot PROM: **Disabled**
Transceiver Type: **Depending on the connection cable you are using**
Example: On-Board TP (RJ45)
You must not use "Auto select", since it can result in problems!
Choose Network Driver Optimization: **Windows or OS/2 Client**
Choose Maximum Modem Speed: **9600 Baud**
Choose Plug and Play Capability: **Disabled**
Choose Full Duplex: **Disabled**
Click on **OK**. The configuration is now stored to the Etherlink III.
Press **ESC** three times to quit the program

SIEMENS

Choose **exit** to leave the DOS shell.

Choose **4 Start Windows (Service Mode)**

passwd: enter your password

Choose **2 Windows (Changing Environment for MMC2)**; Windows now starts normally and you can carry out the actions in the next few sections.

2.3 Installing drivers for the 3COM Etherlink III COMBO Ethernet board

In **Start** (CTRL+ESC) -> **Settings** -> **Control Panel/Return/** -> **Network** -> **Add** -> **Adapter** -> **Add/Return/**

Insert the disk labeled 3COM EtherDisk for Etherlink III Adapter V5.0 or higher if you haven't already done so.

Choose **Have Disk**

In Copy Manufacturer's files from: enter **A:** and click on **OK**

Choose '3Com EtherLink III (3C509/3C509b) in ISA mode' and click on **OK**.

Now the necessary files are copied from the disk and you are returned to the configuration window.

Choose "**3Com EtherLink III (3C509/3C509b) in ISA mode**" and, under Properties, select the **Resources** register by pressing the tabulator and then the cursor keys.

Choose Configuration type: **Basic Configuration 0** in I/O address range, enter **300 - 30F** and acknowledge by selecting **OK** twice.

When you are prompted to "Please insert the disk labeled 'Windows 95 CD-ROM', and then click OK.", click on **OK**.

In "Copy files from:" in the dialog box that is displayed after this, enter **C:\W95INST** and click on **OK**.

When you are prompted "Do you want to keep this file?" always respond by clicking on **Yes**.

Click on **Finish**.

Important: When the system prompts you "Do you want to shut down your computer now?", click on No.

Restart Windows 95 to Activate the Network Driver.

Exit Windows by means of Start (CTRL+ESC)-> Shut Down and respond to the prompt Shut down the computer? By clicking on Yes.

The system issues the following prompt:

Save Windows Environment for next MMC Start [Y,N]?

Enter **Y** (Yes).

Do you want to Backup your old Environment [Y,N]?

Enter **Y** (Yes).

Choose **2 Windows** (Changing Environment for MMC2)

Now wait until Windows 95 is restarted with the network now active.

If the system displays a window reading "Enter Network Password", proceed as follows:

User name: e.g.: otto

Password: e.g.: RETURN for no password

Confirm new password: e.g.: RETURN

2.4. Installing TCP/IP

After installing the drivers for the network card, you must install the TCP/IP protocol driver.
In the Control Panel folder, start the Network program.
The network dialog contains the Configuration register; click on the Add button here.

In the Choose Network Component Type list box, choose the Protocol line and then click on Add.
The system displays the Network Protocols dialog box; in the Manufacturers list, choose the Microsoft line. On the right hand side of the list, the system now displays other entries; choose the TCP/IP line in this list and then click on the OK button.

In the TCP/IP Properties dialog, you must fill in the IP Address tab.
Choose item Specify an IP address and enter the IP address and the subnet mask in the appropriate fields.

Your network administrator will give you the IP address for your MMC and also tell you the subnet mask that you have to enter.

Exit the configuration program.

Important: When the system prompts you "Do you want to shut down your computer now?", click on No.

2.5 Mapping Windows Network Drives

For some applications (e.g. SINDSNC, SINCOM), it can be necessary to share a network drive on a server (host) with the 840D.

Exit Windows by means of Start (CTRL+ESC)-> Shut Down and respond to the prompt Shut down the computer? By clicking on Yes.

The system issues the following prompt:

Save Windows Environment for next MMC Start [Y,N]?

Enter **Y** (Yes).

Do you want to Backup your old Environment [Y,N]?

Enter **Y** (Yes).

Now wait until Windows 95 is restarted with the network now active.

At the "Enter Network Password" prompt, log on as described above.

In a menu-driven dialog, you can now map the network drive that is **shared on the host:**

Call the Windows Explorer by means of Start (CTRL+ESC)-> Programs -> Windows Explorer

Under Tools, choose Map Network Drive

Enter:

Drive: e.g.: E:

Path: e.g.: \\DNCSERVER\C (\Name of the server\
shared path)

Important: You must check the **reconnect at logon box!**

This ensures that the system automatically reconnects the shared drives when the MMC103 is started.

Click on **OK** to confirm.

You must now be able to use the Explorer to access drive E: on the server's hard disk.

2.6 Switching off the Password Inquiry when Starting MMC103

The following points must be checked and configured on the MMC 103:

WINDOWS 95 can only be started without password, if NO user profiles are activated. You must deactivate the user profiles in the menu under START(CTRL+ESC) - SETTINGS - CONTROL PANEL - PASSWORDS, within the USER PROFILES tab.

Here, activate the following "All Users of the PC use the same preferences and desktop settings".

In order to bypass the WINDOWS 95 password prompt, please proceed as follows:

1. Select PROPERTIES in the menu FILE (via ALT + F) under START(CTRL+ESC) -> PROGRAMS -> WINDOWS EXPLORER -> NETWORK NEIGHBOURHOOD.
2. Select the option "Windows Logon" under "Primary Network Logon" of the CONFIGURATION tab, and confirm it by pressing "OK".
3. Please enter "NO" when being asked "Do you want to restart your computer now".
4. Now click in the menu on START - SETTINGS - CONTROL PANEL - PASSWORD.
5. Here you click on the button "Change Windows Password", and then on "OK".
6. Please enter your current WINDOWS 95 password under "Old password" in the following dialog box. Leave the lines "New password:" and "Confirm new password:" empty. Then confirm by pressing "OK".

Now, you will not be prompted any more to enter a WINDOWS 95 password when the MMC103 runs up.

2.7 Testing the TCP/IP network connection

Use the Ping program in order to verify whether your network card and the TCP/IP protocol are working properly. All you need is the IP address of the computer with which you want your control to communicate. To start the Ping program, open a DOS console and enter Ping followed by the IP address. You should get something like the following messages after having pressed the Return key:

Pinging 180.212.26.200 with 32 bytes of data:

```
Reply from 180.212.26.200: bytes=32 time=1ms TTL=255
Reply from 180.212.26.200: bytes=32 time<10ms TTL=255
Reply from 180.212.26.200: bytes=32 time=1ms TTL=255
Reply from 180.212.26.200: bytes=32 time=1ms TTL=255
```

In case of error you should get the following result:

Pinging 180.212.28.23 with 32 bytes of data:

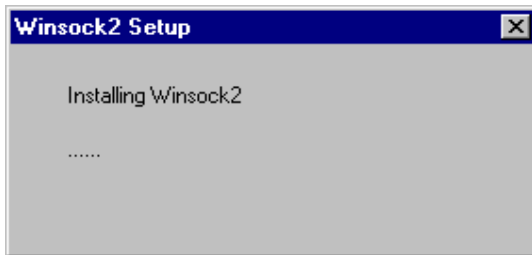
```
Reply from 180.212.260.1: Destination host unreachable.
```

Note: For this test, the network cable must be connected to the network card.
If your network card is working properly, you can now install the other software components.

2.8 Installing the Winsock2 update

After having verified the TCP/IP connection, you should now install the Winsock2 patch for TCP/IP. This will only be necessary when you use an MMC version < V05.02.07. The patch is already integrated in the MMC103 from V05.02.07.

To install the patch, you can either copy the file <cdrom>:\winsock2\ws2update.exe to a floppy disk and then start it on the MMC, or you can start it directly from the CD-ROM. The following window is displayed after you started the file.



When the installation was finished successfully, the following screen form is displayed.



You can now confirm it by pressing OK and reboot the MMC103 as usual:

Exit Windows 95 via Start (CTRL+ESC)-> Shut Down-> Shut down the computer?->Yes.

You are prompted as follows:

Save Windows Environment for next MMC Start [Y,N]?

Enter Y (Yes).

Do you want to Backup your old Environment [Y,N]?

Enter Y (Yes).

Select 2 Windows (Changing Environment for MMC2)

The MMC will now start with the new winsock2 update for TCP/IP.

2.9 Installation for MMC versions V4.3.x and V5.x

Only the booting and shutdown processes of the MMC103 will be different when installing the network under MMC versions other than V4.4.

V4.3.x:

When booting the MMC103 in the service mode,
2 Windows (Changing INI-Files for MMC2) is displayed instead of
2 Windows (Changing Environment for MMC2)
and must be selected here.

In V4.3x, the selection "Do you want to Backup your old Environment [Y,N]?" changes to 2 Overwrite your last saved Windows Environment with the current one!

V5.x:

The MMC103 must also be shut down via Start - Shutdown. However, no select menus are displayed via the backup mode any more, but the MMC103 will shut down without further entries.

2.10 Installation for PCU versions V6.x (PCU/OP012 with Windows NT)

After Power ON, a select menu is displayed showing the entry SINUMERIK and a second empty menu item below it. Select the second menu item by using the down arrow and press the return key. Then select number **4 Start Windows NT (Service Mode)** from the appearing service menu. Select number **1 Standard Windows NT** in the following menu. The computer will then reboot and the menu with the entry SINUMERIK will be displayed again. This time, however, you must not make any entries, but wait for a dialog with the headline **You want to enter the SINUMERIK Desktop...** . Now enter the password and press the button SINUMERIK Desktop. The TCP/IP protocol driver and link to the Windows network drive will then be installed as under Windows 95.