

EMINENT



MANUAL

**EM4558 - 300N Wireless ADSL2/2+ Modem
router (Analog)**

WWW.EMINENT-ONLINE.COM

EM4558 - 300N Wireless ADSL2/2+ Modem router (Analog)

Warnings and points of attention

Due to laws, directives and regulations set out by the European Parliament, this device could be subject to limitations concerning its use in certain European member states. In certain European member states the use of this product could be prohibited. More information regarding this warning can be found in the Declaration of Conformity on the last page of this document!

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1.0 Introduction

Congratulations with the purchase of this high-quality Eminent product! This product has undergone extensive testing by Eminent's technical experts. Should you experience any problems with this product, you are covered by a five-year Eminent warranty. Please keep this manual and the receipt in a safe place.

Register your product now on www.eminent-online.com and receive product updates!

1.1 Functions and features

The Eminent EM4558 is a blistering fast wireless ADSL2+ modemrouter with speeds up to 300Mbps! Without an effort you can setup a stable and fast wireless network by using the unique installation wizard on CD-rom. Thanks to the three antennas of the EM4558, you are assured of an optimal wireless range. Do you also have computers without a wireless adapter? Don't worry! The EM4558 gives you the opportunity to connect your computers using the wired connection, while your other computers are connected wirelessly. Thanks to the presence of all modern security techniques, your wireless network is completely secured! Are you using the EM4558 in combination with the EM4554 wireless N adapter? Then use WPS to secure your wireless network with one press on the button.

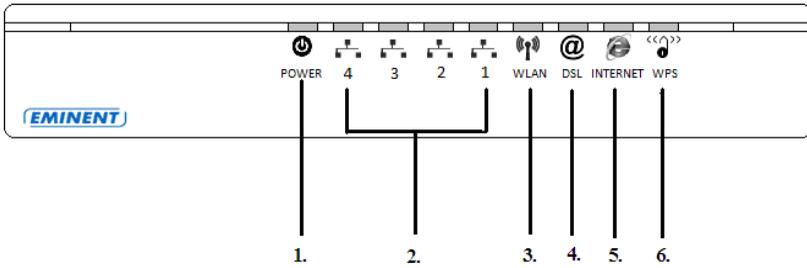
1.2 Packaging contents

The following parts need to be present:

- EM4558 300N wireless ADSL2+ modem router
- Power supply
- Network cable
- CD-rom with Wizard
- User manual

1.3 Explanation of the front

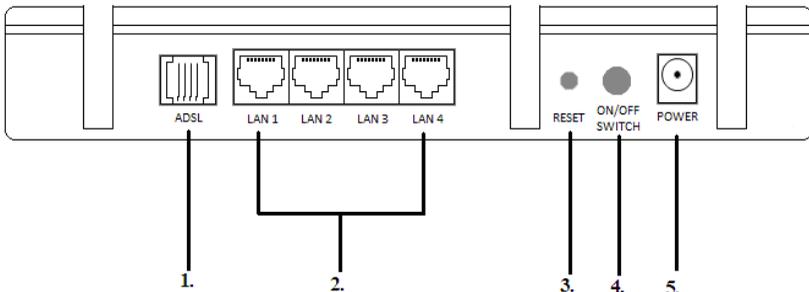
The EM4558 has several LED's at the front. Below you will see a display of these LED's and the explanations of these LED's.



1. **POWER:** Will be lit when the power supply is connected.
2. **LAN:** These LED's will be lit when there is network cable connected to the corresponding ports.
3. **WLAN:** Will blink when the modem has finished booting and the wireless network is active.
4. **DSL:** Will be lit when an ADSL connection has been established.
5. **INTERNET:** Will be lit when an internet connection with your provider has been established.
6. **WPS:** Will blink when a WPS connection is being established.

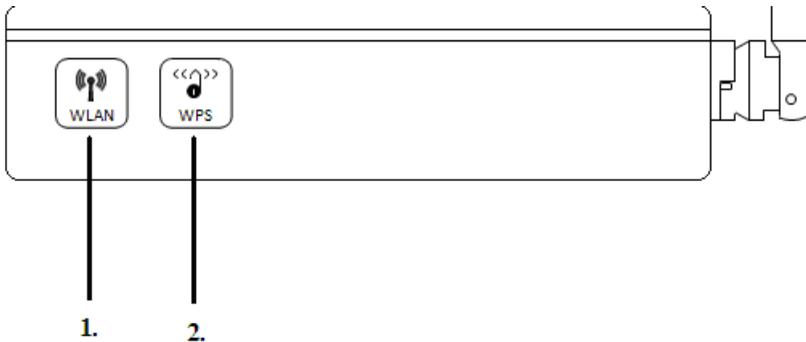
1.4 Explanation of the back

At the back of the housing, the EM4558 has several connections. You will find a display of these connections and the explanation of the connections below.



1. **ADSL:** Connection for your telephone cable.
2. **LAN 1 t/m 4:** Network connections for UTP network cables.
3. **RESET:** Reset button. Using this button you can reset the EM4558 to factory defaults.
4. **ON/OFF :** On/Off switch for the EM4558.
5. **POWER:** Connection for the power supply.

1.5 Explanation of the side of the EM4558



1. **WLAN:** WLAN button: Used to disable the broadcast of the wireless signal.
2. **WPS:** WPS button. Use this button to secure the wireless network using WPS. Only applicable when using WPS adapters.

2.0 Installation using the wizard

The easiest way to install the EM4558 is by using the installation wizard, as described in this chapter. This wizard allows you to setup your modem for your internet provider, give your wireless network a name and secure your wireless network. If you do not want to make use of the installation wizard on the supplied CD-ROM, you can continue with chapter 3.

1. Turn on your computer.
2. Place the CD-ROM in your computer's CD-ROM or DVD-player.
3. The software will start automatically.
4. Choose 'Configure my router'.
5. Follow the steps shown on screen until the installation has finished. You now have a working internet connection.

3.0 Manual installation

For the manual installation of the EM4558 it is important that your internet browser and your network are configured correctly. These settings are correctly configured by default.

3.1 Connecting the EM4558

1. Turn off your computer.

2. Connect the EM4558 to a wall outlet using the supplied power supply.
3. Connect the telephone cable to the 'ADSL' port of the EM4558.
4. Connect the other side of this telephone cable to the ADSL splitter (not supplied).
5. Connect the network cable to one of the four 'Lan' ports of the EM4558.
6. Connect the other end of this network cable to the network adapter of your computer.
7. Press the 'ON/OFF' switch on the EM4558 once.

Is my EM4558 correctly connected to the power grid? Verify whether the 'POWER' LED is on.

Is my network connection correctly connected? Turn on your computer and verify whether the corresponding 'LAN' LED is on. Also, the LED on your computer's network adapter needs to be on.

3.2 Logging in to the EM4558

In order to manually set the EM4558 for an internet connection, you have to make a connection with the EM4558 first. You can make a connection with the EM4558 using the following procedure.

1. Turn on your computer.
2. Open your web browser (For example: Internet Explorer, Netscape or Firefox).
3. Type 'http://192.168.1.1' in the address bar.
4. Press the 'Enter' key or click 'Go to'.
5. Type 'admin' in the 'Username' field (Attention! This field is capital letter sensitive).
6. Type 'admin' in the 'Password' field (Attention! This field is capital letter sensitive).
7. Click 'OK'.
8. The opening screen will be shown.

3.3 Configuration for KPN related providers (KPN, Planet, XS4ALL)

1. Click 'Quick Start'.
2. Click 'RUN WIZARD'.
3. Click 'NEXT'.
4. Now you now have to set a new password for the modem router itself. Fill in the new password at the 'New Password' field.
5. Confirm this new password at the 'Confirm Password' field.
6. Click 'NEXT'.
7. Select 'PPPoE/PPPoA'.
8. Click 'NEXT'.

9. Fill in your ADSL username at the 'Username' field. Bear in mind that in some cases, a provider demands you to use an extension behind your username. Refer to the documentation the ISP has provided you.
10. Fill in the ADSL password at the 'Password' field.
11. Fill in '8' at 'VPI'.
12. Fill in '48' at 'VCI'.
13. Select 'PPPoA Vc-Mux' at 'Connection Type'.
14. Click 'NEXT'.
15. Click 'NEXT'.
16. The modem will save the settings. Perhaps you have to login again with your newly chosen password, set at step 4 and 5.
17. Click 'CLOSE' to close the screen.
18. The modem will automatically obtain a connection with your provider. It can take up to a few minutes to connect with your provider the first time.

Write down the new password to be able to change the settings in the future:

User Name: admin

New Password: _____

3.4 Configuration for DHCP providers (Tele2, BabyXL, Online Family)

Hint: Refer to the 'Frequently asked questions' section to obtain more information about the mostly used 'VPI' and 'VCI' values.

1. Click 'Quick Start'.
2. Click 'RUN WIZARD'.
3. Click 'NEXT'.
4. Now you now have to set a new password for the modem router itself. Fill in the new password at the 'New Password' field.
5. Confirm this new password at the 'Confirm Password' field.
6. Click 'NEXT'.
7. Select 'Dynamic IP Address'.
8. Click 'NEXT'.
9. Fill in the 'VPI' number used by your provider at 'VPI'.
10. Fill in the 'VCI' number used by your provider at 'VCI'.
11. Select '1483 Bridged IP LLC' at 'Connection Type'.
12. Click 'NEXT'.
13. Click 'NEXT'.
14. The modem will save the settings. Perhaps you have to login again with your newly chosen password, set at step 4 and 5.
15. Click 'CLOSE' to close the screen.

- The modem will automatically obtain a connection with your provider. It can take up to a few minutes to connect with your provider the first time.

Hint: If you have already made a provider configuration, and you want to add a new provider configuration, there is no need to remove your old connection. The moment 'Quick Start' will be used again, the old connection will be overwritten automatically.

4.0 Manually setup and secure the wireless network

Because everyone can receive a network's wireless signal, we recommend you to secure your wireless network. There are several security methods available. To use one of the methods, it is very important that each wireless adapter must support this wireless security form. We recommend you to use the strongest level of wireless security: WPA2 (Wi-Fi Protected Access).

4.1 Using the installation wizard to setup and secure a wireless network

- Turn on your computer.
- Place the CD-rom in your computer's CD-rom or DVD-player.
- The software will start automatically.
- Choose 'Configure wireless security'.
- Follow the steps shown on screen until the wizard has finished

4.2 Manually setup and configure the wireless network

- Open your web browser (For example: Internet Explorer, Netscape or Firefox).
- Type 'http://192.168.1.1' in the address bar.
- Press the 'enter' button or click 'Go to'.
- Type 'admin' in the 'Username' field (Attention! This field is capital letter sensitive).
- Type the password in the 'Password' field (Attention! This field is capital letter sensitive).

WPA(2) is supported from Windows XP and up. This type of security cannot be used on older Windows versions, unless the used wireless card has explicit WPA(2) support for these Windows systems. If you do not have Windows XP, Windows Vista or Windows 7, or the correct software, continue with chapter 4.3.

4.3 WPA2 security (recommended)

- Click 'Network Setup'.
- Click 'Wireless'.

3. You can change the name of your wireless network at the 'SSID' field. After settings up another name, this name will be seen as a wireless network.
4. Click at the field behind the 'Authentication Type' and select 'WPA2-PSK'.
5. Click at the field behind 'Pre-Shared Key'. Fill in a password which contains at least 8 characters, with a maximum of 63 characters.
6. Click 'SAVE' to save the data.

**Write down the security type and the chosen password:*

WPA2

Password: _____

4.4 WPA security

1. Click 'Network Setup'.
2. Click 'Wireless'.
3. You can change the name of your wireless network at the 'SSID' field. After settings up another name, this name will be seen as a wireless network.
4. Click at the field behind the 'Authentication Type' and select 'WPA-PSK'.
5. Click at the field behind 'Pre-Shared Key'. Fill in a password which contains at least 8 characters, with a maximum of 63 characters.
6. Click 'SAVE' to save the data.

**Write down the security type and the chosen password:*

WPA-PSK

Password: _____

4.5 WEP security

1. Click 'Network Setup'.
2. Click 'Wireless'.
3. You can change the name of your wireless network at the 'SSID' field. After settings up another name, this name will be seen as a wireless network.
4. Click at the field behind the 'Authentication Type' and select 'WEP-64Bits' or 'WEP-128Bits'.
5. Click at the field behind 'Key#1'. In case of 'WEP-64Bits' you have to fill in a password which contains exactly 10 characters, or, in case of 'WEP-128Bits' you have to fill in a password which contains exactly 26 characters.

Note: In case you are using WEP security: You can only use the letters A till F and numbers.

**Write down the security type and the chosen password:*

WEP64

WEP128

Password: _____

Note: In case you are working wirelessly already: The connection will be terminated the moment the security has been set in the EM4558 (WPA(2), WEP) and not yet in your wireless adapter. The moment you have set the security in wireless card too, the connection will be established again. How to reconnect will be explained in the next chapter.

5.0 Setting up the wireless network on your computer

Now you have secured your wireless network, you have to setup the wireless network on your computer with the same security too. Before you begin, you have to disconnect the network cable attached to your computer. Windows XP, Windows Vista and Windows 7 are the mostly used operating systems at the moment. In the following chapters we will explain how to setup a wireless network using Windows XP, Windows Vista and Windows 7.

5.1 Setting up a wireless network using Windows XP

Use the following steps to setup a wireless network using Windows XP:

1. Click 'Start'.
2. Go to 'Control Panel'.
3. Select 'Network connections'.
4. If correct, you will see your wireless adapter. Click your wireless adapter with the right mouse button.
5. Now choose 'View available wireless networks'. A list with available wireless networks will be shown.
6. Select in the list your own wireless network.
7. Choose 'Connect', after which Windows ask to fill in a security key.
8. Fill in the security key and confirm this security key. Click 'Connect'.
9. If you filled in your security key correctly, your computer will establish a connection with the EM4558.
10. You are now able to go online.

5.2 Setting up a wireless network using Windows Vista

Use the following steps to setup a wireless network using Windows Vista:

1. Click 'Start'.
2. Click 'Control panel'.
3. Click 'Network and Internet'.
4. Click 'Network and Sharing centre'.
5. Click 'Manage Wireless Networks' at the left side of the screen.
6. Click 'Add'.
7. Choose 'Add a wireless network within range of this computer'. The computer will start to search for wireless networks.
8. Choose your own network.
9. Click 'Connect'.
10. A notification will be shown on screen: 'Type the network security key or passphrase for your network'. Fill in your security key.
11. Choose 'Connect'. If you filled in your security key correctly, your computer will establish a connection with the EM4558.
12. Windows will ask to save and automatically start this connection. You are now able to go online.

5.3 Setting up a wireless network using Windows 7

1. Click 'Start'.
2. Click 'Network and Sharing centre'.
3. Click 'Manage Wireless Networks' at the left side of the screen.
4. Click 'Add'.
5. Choose 'Add a wireless network within range of this computer'. The computer will start to search for wireless networks.
6. Choose your own network.
7. Click 'Connect'.
8. A notification will be shown on screen: 'Type the network security key or passphrase for your network'. Fill in your security key.
9. Choose 'Connect'. If you filled in your security key correctly, your computer will establish a connection with the EM4558.
10. Windows will ask to save and automatically start this connection. You are now able to go online.

6.0 Securing your network using WPS

Do you have a wireless adapter with WPS function? In that case, securing your wireless network has never been so easy! In the following example we will explain the use of WPS in combination with the EM4554 wireless N USB adapter.

1. Make sure the EM4558 is completely started and that the EM4554 is correctly installed.
2. Right-click the green 'R', or the red 'R', in case there is not yet a network connection.
3. Select 'Use RaConfig as Configuration Utility'.
4. Right-click the green 'R', or the red 'R' again and choose 'Launch Config Utility'.
5. The softwareprogram 'RaUI' will be shown.
6. Click 'WPS'.
7. Press for about 2 seconds the 'WPS' button at the side of the EM4558.
8. The WPS LED on the EM4558 will start to blink. This is normal.
9. Then press for about 3 seconds the 'WPS' button of the EM4554.
10. The EM4554 will start searching for the EM4558.
11. The EM4554 and the EM4558 both agree to use a security key. As soon this process is done, you will get the notification 'Get WPS profile successful'.
12. The 'WPS' LED on the EM4558 will turn off.

Hint: If you are using another WPS adapter which has no WPS button: Follow step 6 till 8. Afterwards press the 'Get PBC' button to be able to establish a WPS connection after all.

7.0 Control your internet connection

If you want extra security besides the already existing WPA(2) or WEP security, you can add 'Wireless MAC Address Control'. A MAC address is a unique code, or identifier, provided to almost every network adapter. MAC Address control allows you to grant certain network product access to your network. All other users will be denied access. So, if using your own 'Wireless MAC Address, no one besides you can access your network wirelessly.

In most cases a MAC Address can be found on a sticker placed on the network product itself. You can also retrieve the MAC Address yourself by following the next steps.

1. Click 'Start'.
2. Click 'Run'.
3. Type 'CMD'.
4. Press the 'Enter' key.
5. Type 'ipconfig /all'.
6. Press the 'Enter' key.
7. Lookup the name of your network adapter.

The 'Physical Address' is the MAC Address.

7.1 Wireless MAC Address Filter

1. Open your web browser (For example: Internet Explorer, Netscape or Firefox).
2. Type 'http://192.168.1.1' in the address bar.
3. Press the 'Enter' key on your keyboard or click 'Go to'.
4. Type 'admin' in the 'Username' field (Attention! This field is capital letter sensitive).
5. Type your password in the 'Password' field (Attention! This field is capital letter sensitive).
6. Click 'Network Setup'.
7. Click 'Wireless'.
8. Go to 'Wireless MAC Address Filter'.
9. Place a mark at 'Activated'.
10. Go to the 'Action' field and select 'Allow Association'.
11. Go the 'Mac Address#1' field and fill in the MAC address of your wireless adapter.
12. Click 'SAVE' to save the settings.
13. If you want other network devices grant 'Access' to your network, then repeat the steps above and fill in the specific MAC Addresses. MAC Addresses which are not filled in do not gain access.

Do you want specific wireless MAC Addresses to be blocked? Then choose 'Deny Association' to deny the selected MAC Address access.

7.2 Blocking websites using URL Filtering

1. Open your web browser (For example: Internet Explorer, Netscape or Firefox).
2. Type 'http://192.168.1.1' in the address bar.
3. Press the 'Enter' key on your keyboard or click 'Go to'.
4. Type 'admin' in the 'Username' field (Attention! This field is capital letter sensitive).

5. Type your password in the 'Password' field (Attention! This field is capital letter sensitive).
6. Click 'Access Management'.
7. Click 'Filter'.
8. Choose 'URL Filter' at the 'Filter Type Selection' field.
9. Behind 'Activate', click 'Yes'.
10. 'URL Index' is set to '1' by default. If you have not set anything yet, you can choose '1'. If rule '1' is already added, select '2', etc.
11. Fill in the name of the website which may not be visited behind 'URL:', for example: 'www.thiswebsiteisprohibited.com'.
12. Click 'SAVE' to save the settings. In the table at the bottom of the page, the new rule will be added.

8.0 Opening ports (Port Forwarding)

The EM4558 has an advanced firewall. If you are using programs with a UPnP function, you do not have to open ports in this firewall. In that case, the program will communicate with the EM4558 which ports needs to be opened. This process is done automatically. UPnP is enabled by default. However, sometimes you do need to open ports in the firewall, in order to let specific programs function properly or grant these programs internet access. In the following steps we will explain how to open ports in the EM4558's firewall. We will use port numbers 5000 till 5010 as example. But as a reminder: Find out, using the documentation of the program, which ports numbers must be used.

1. Open your web browser (For example: Internet Explorer, Netscape or Firefox).
2. Type 'http://192.168.1.1' in the address bar.
3. Press the 'Enter' key or click 'Go to'.
4. Type 'admin' in the 'Username' field (Attention! This field is capital letter sensitive).
5. Type your password in the 'Password' field (Attention! This field is capital letter sensitive).
6. Click 'Advanced Setup'.
7. Click 'NAT'.
8. Click 'Virtual Server'.
9. 'Rule Index' is set to '1' by default. If you have not set anything yet, you can choose '1'. If rule '1' is already added, select '2', etc
10. Fill in the program's name at 'Application'.
11. Fill in whether the program uses the 'TCP' or 'UDP' protocol at the 'Protocol' field. Are you not sure, then select 'All'.
12. You can fill in the first port number at 'Start Port Number'. In our example the first port number is '5000'.
13. Fill in the last or end port number at 'End Port Number'. In our example this is port number '5010'.

14. Fill in the computer's IP-Address at 'Local IP Address'. For example: Fill in '192.168.1.9'. Also see the frequently asked questions for more information about IP-Addresses.
15. Click 'SAVE' to save the settings. In the table at the bottom of the page, the date will be added.

9.0 Frequently asked questions

Q: I receive the message 'The IP address of the network adapter is incorrect'. What can I do?

A: This message appears when the computer did not receive a correct IP address from the router. Make sure all cables are correctly connected. If necessary, reset the EM4558 and try again. It is recommended that you configure the router using a cabled connection (not wireless). When the cabled connection is working properly you can setup the wireless connection as explained in this manual.

Q: How can I find my IP-Address?

A: Steps for Windows XP, Vista and Windows 7:

1. Click 'Start'.
2. Go to 'run' or 'search programs and files'.
3. Type: 'cmd'.
4. Press the 'Enter' key or click 'OK'.
5. Fill in: 'ipconfig'.
6. Press the 'Enter' key again.
7. You will now see the IP-Address. This is your network adapter's IP-Address.

Q: I have to fill in the VPI and VCI values to establish a DHCP connection. I have no idea which settings to use and my provider can not or is not willing to provide me this data. Now what?

A: Eminent has the mostly used VPI and VCI values for a DHCP connection written down (usable for the Netherlands):

<u>Name Provider:</u>	<u>VPI/VCI:</u>
Tele2 Family	0/32
BabyXL/Telfort	0/34
BBned/Tele2 Super	0/35
Online Family	8/35

Q: How can I reset the modem to factory defaults?

A: Use the following steps to reset the EM4558:

1. Turn on the modem and wait until it has finished starting.

2. Now press the little reset button besides the ON/OFF button on the back of the modem with a paperclip for about 10 seconds.
3. The modem has now been reset and has been set back to factory defaults.

Q: My wireless signal is weak or very unstable. What can be the cause?

A: Place the modem on another location and check if the wireless signal is received any better. Preferably, place the modem on an open spot. A mains box for example, is a very bad location for a wireless product.

A: You can change the channel, as an attempt to improve the signal. Changing the channel can be done using the following steps:

1. Open your web browser (For example: Internet Explorer, Netscape or Firefox).
2. Type 'http://192.168.1.1' in de address bar.
3. Press the 'Enter' key or click 'Go to'.
4. Type 'admin' in the 'Username' field (Attention! This field is capital letter sensitive).
5. Type your password in the 'Password' field (Attention! This field is capital letter sensitive).
6. Click 'Network Setup'.
7. Click 'Wireless'.
8. Choose another channel. For example '03' at the 'Channel' field.
9. Click 'SAVE'.

Q: My computer does not support WPA2. Which security type do I have to use?

A: WPA2 is the strongest possible security type. If you are not able to use WPA2, we advise the use of the WPA.

Q: I am not able to use a wireless computer at the moment. Can I disable the wireless functions of the EM4558?

A: By pressing the 'WLAN' button at the side of the EM4558 for about 2 seconds, you can disable the wireless function. The EM4558 stops broadcasting at that moment and the 'WLAN' LED will go out. Press the 'WLAN' button again for about 2 seconds to enable the wireless functions again. The moment the 'WLAN' LED starts to blink again, the EM4558 is broadcasting again.

Q: I have one computer which is not able to gain internet access, while the other computers do have internet access. What can cause this problem?

A: Most probably the settings of the web browser are not correct. You can use the following link to Eminent's Advanced Manual' . The problems should be solved using this document:

<http://www.eminent-online.com/tipsenuitleg/>

10.0 Service and support

This users manual has been carefully written by Eminent's technical experts. If you have problems installing or using the product, please fill out the support form at the website www.eminent-online.com/support.

Warranty conditions

The five-year Eminent warranty applies to all Eminent products unless mentioned otherwise before or during the moment of purchase. When having bought a second-hand Eminent product the remaining period of warranty is measured from the moment of purchase by the product's first owner.

The Eminent warranty applies to all Eminent products and parts inextricably connected to and/or mounted on the main product. Power supply adapters, batteries, antennas and all other products not integrated in or directly connected to the main product and/or products of which, without reasonable doubt, can be assumed that wear and tear show a different pattern than the main product are not covered by the Eminent warranty. Products are not covered by the Eminent warranty when subjected to incorrect/improper use, external influences and/or when opened by parties other than Eminent.

Declaration of Conformity

To ensure your safety and compliance of the product with the directives and laws created by the European Commission you can obtain a copy of the Declaration of Conformity concerning your product by sending an e-mail message to: info@eminent-online.com. You can also send a letter to:

Eminent Computer Supplies
P.O. Box 276
6160 AG Geleen
The Netherlands

Clearly state 'Declaration of Conformity' and the article code of the product of which you would like to obtain a copy of the Declaration of Conformity.



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