

**Network Adapter**

***NetMan 101 / 102***

**Installation and operation manual**

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Thank you for purchasing the product by our company.

To reach the maximum utilization of our product in operation, we advise you to read this manual thoroughly, prior to this product installation and operation.

Specifications and technical data in this manual are as up-to-date as possible. With regards to perpetual improvement of our products, the producer reserves the right to changes without prior notice, and takes no responsibility for casual aberrations not included or presented here.

# **I. OUTLINE**

## **I. 1. What is SNMP ?**

With nowadays market environment using computer networks which become larger and more complex, it is important to protect precious and confidential information and data. Your computer systems connected to an uninterruptible power supply prevents from any data loss in case of electricity outage. And what you need is a reliable equipment for monitoring and control over each UPS within your computer system.

To monitor critical or operational states there is a standard network protocol for network management - Simple Network Management Protocol (SNMP). This protocol is a part of IP protocols set even when there are solutions based on other network protocols (IPX, etc.).

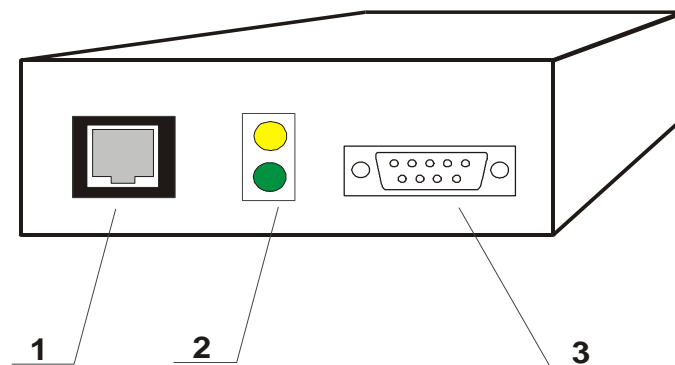
A PC or workstation supported by your UPS may perform the critical function that cannot be canceled by the provided network station monitoring. Or, your UPS may support peripheral accessories and not the PC or workstation that has the ability, with suitable software, to monitor the UPS directly via a serial interface network solution for monitoring and control of the UPS.

### ***Management Information Base ( MIB )***

MIB (Management Information Base) is a virtual structure used for communication between a NMS and SNMP Agent. MIB consists of OIDs (Object Identifiers) that label the variables which can be controlled and monitored by a NMS (Network Management Station).

## I. 2. What is Network Adapter?

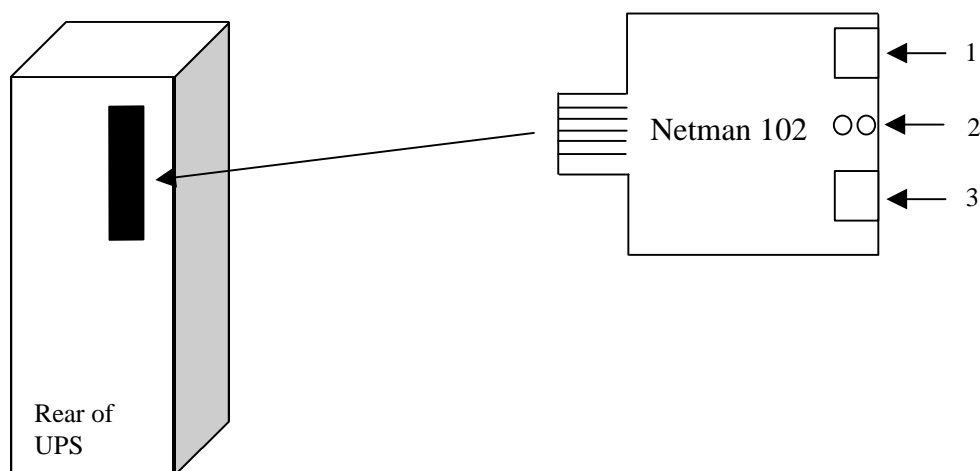
The Network Adapter enables the network management of UPS units or other equipment. Adapter is supplied with basic accessories that can be completed according to individual customer`s needs and requirements. In *Figure 1* you see the Network Adapter (NETMAN101 version), in *Figure 2* there is an example of connection between Network Adapter Netman 102 and UPS; this device is an electronic card to insert directly into UPS slot (for Ups Models supporting that), but functionality is exactly the same of NETMAN101: in this manual everything explained about NETMAN101 is the same for NETMAN102.



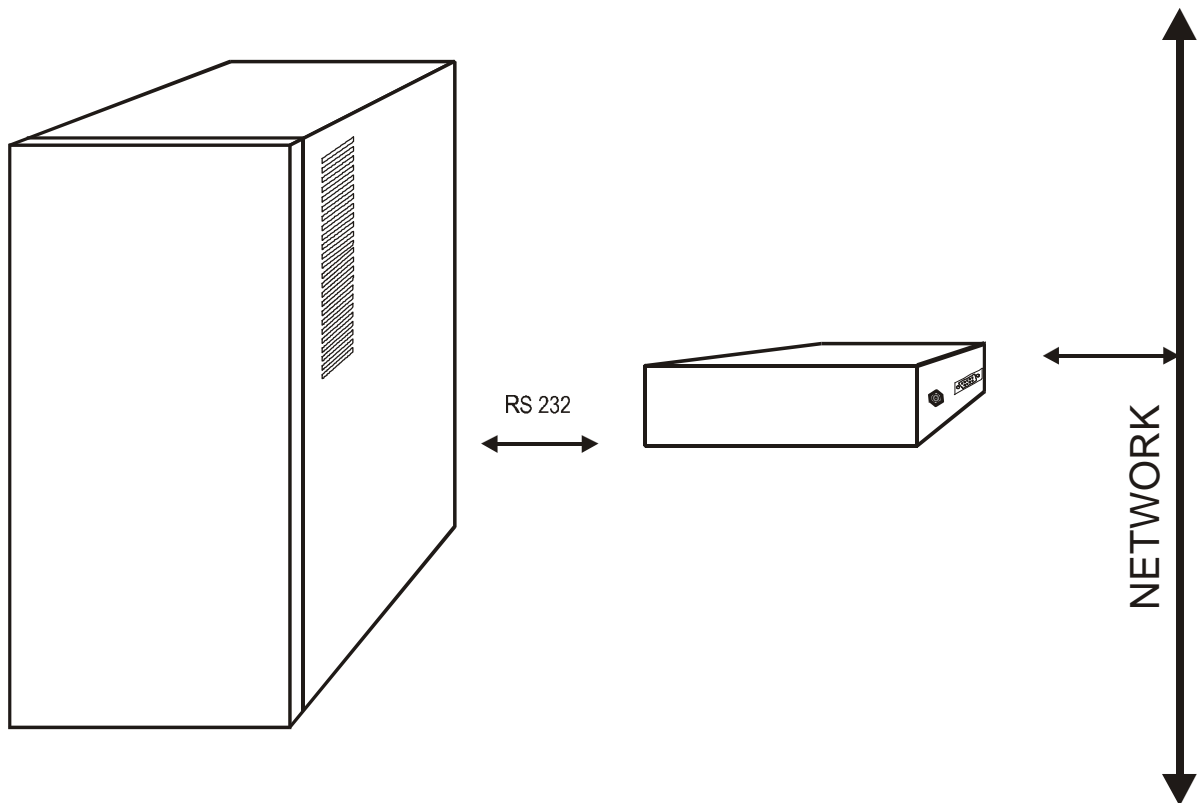
*Fig. 1 Network Adapter NetMan 101*

Description of controls and connectors :

1. UTP ethernet lan
2. Signaling LED's for network activity
3. Terminal connect to configure adapter



*Fig.2 Network adapter Netman 102*



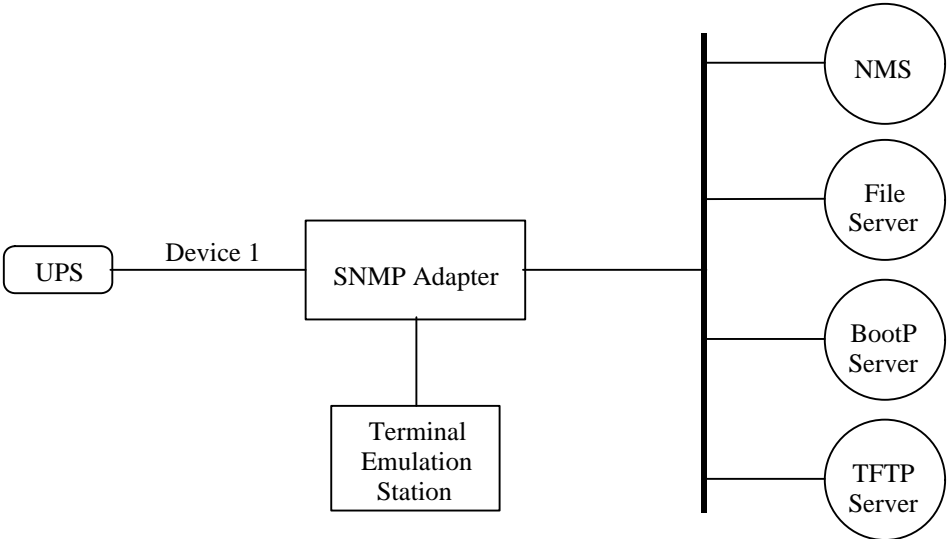
*Fig. 3 Connecting Network Adapter NetMan 101 to an UPS*

Adapter connects to the twisted-pair Ethernet (10 base T) network via RJ-45 connector.

Adapter communicates with a NMS via the Ethernet network. Adapter includes SNMP agent that implements Management Information Base (MIB) and, at the same time, communicates with the UPS via a serial interface, and thus creates a data interconnection between the systems.

Network Management Stations (NMS) can receive critical states of the UPS (traps) and are able to monitor the important data about the UPS, for example input and output voltages, battery status, etc. Moreover, the set of SNMP commands can remotely activate various instructions for the UPS and control the supply of power from the UPS to the connected load. For example it supports a remote restart of connected equipment.

Network Adapter is a device working with Simple Network Management Protocol (SNMP), and it includes all necessary hardware and firmware, that enable the unit to control the equipment of any network regardless of its typology. It can also be configured for other equipment that can be controlled via RS 232 connection. In *Figure 3* you see an example of connecting Network Adapter to the network.



*Fig. 3 Connecting Network Adapter to the network.*

Network adapter was designed after a careful consideration of needs of wide range of network environments. As a result it offers network management with several supports :

- \* Universality and flexibility
- \* Network Interface Card (NIC) slot provides the Network Adapter, via a manufacture-configured interface, to Ethernet.

User-configured parameters are stored in the Network Adapter’s nonvolatile memory. Configuration can be updated via RS-232 port via a terminal.

Some proceeds in this Manual utilize specific parts of the Network Adapter. Before you start working under these proceeds, make familiar with the Adapter's specific parts. In *Figure 4* you see the Adapter and its main parts.

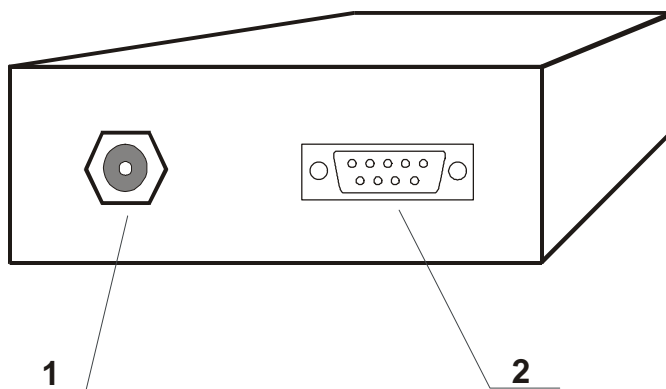


Fig. 4 Main parts of Network Adapter NetMan 101 for Ethernet

Description of controls and connectors :

1. Power cord connector 12V DC (connect the AC/DC adapter)
2. Port to connect to UPS via serial line

### I. 3 Package content

The Network Adapter package contains the following items :

- Network Adapter
- AC/DC adapter
- Installation and operation manual for Network Adapter is inside floppy disk in PDF format
- Installation diskette in MS- DOS format, labeled *SNMP MIB*
- RS-232 cable for connecting to the terminal (Terminal Emulation Station)

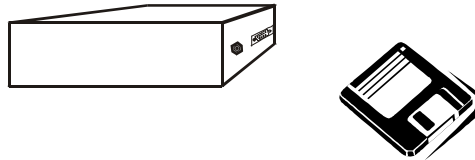
### I. 4 System requirements

Before you begin to install Network Adapter, make sure to have the following parts:

- items given in article I.3 Package content
- possibility to create network connection
- Network Management Station (NMS) based on SNMP, to verify the installation
- terminal (Terminal Emulation Station) with RS-232 and terminal emulation software for SNMP Agent configuration. This terminal can be a PC or other computer capable of activating the terminal emulation software with X-modem protocol. It must be capable of

connection to Network Adapter via RS-232 connection. Terminal emulation software can be either Windows Terminal or any similar software pack.

- equipment cooperating with Network Adapter, in this case an UPS.
- following values :
  - IP address and network mask of Network Adapter for the given network
  - IP address of a NMS for sending traps
  - community definitions for Network Adapter
  - IP address of gateway/router



*Figure 5. Network Adapter package content.*

### **Additional installation requirements**

To install the adapter to Ethernet (10BaseT) network you need a UTP or STP cable with RJ 45 plugs.

When everything necessary for installation is ready and you are familiar with the main adapter parts, you can configure your adapter for your computer system.

## I. 5 Specifications

### Electrical characteristics

*Input:* Nominal input voltage :

- direct connection : 12V DC

Maximum input current : 0,3 A

*Output :*

1 x RS 232 TERMINAL

1 x RS 232 / UPS CONNECTION

1 x ETHERNET 10BaseT

Interference down to the limit R02 according to technologic standard STN 34 2860

### Dimensions and weight

Dimensions : width 77 mm

height 28 mm

depth 158 mm

Weight : 300 g

Covering : IP20

### Environmental conditions

Operational temperature : + 5° C to + 40° C

Storing temperature : - 5° C to + 50° C

Relative operational humidity : max. 80%

Relative storing humidity : max. 90%

Environment dustiness : The volume of dust particles in the air should not exceed 0,75 kg/m<sup>3</sup>

### **Network adapter**

- connectable to any network architecture
- equipment can be connected via RS-232
- equipment can be any product supported by Network Adapter
- configurable from terminal

### **SNMP Agent**

- offers SNMP protocol for connection to a NMS
- communicates with the NMS via UDP/IP protocol
- enables the NMS to control MIB OID`s
- signals critical states of connected equipment (traps) to the NMS.

### **Terminal Emulation Station (TES)**

- a PC or workstation with RS-232 interface, and terminal emulation software for Network Adapter configuration
- the system can either be a PC-compatible computer or any computer software with X-modem protocol, and which can be connected to Network Adapter via RS-232.
- terminal emulation software can be, for example, Windows Terminal or any similar terminal emulating the software pack
- enables configuration and testing of Network Adapter
- enables direct communication with connected equipment

### **NIC Driver**

- provides software connection to specific NIC
- enables to configure NIC
- enables to receive data via NIC
- enables to send data via NIC
- provides (*Packet Driver*) services for Network Adapter

### **Network Interface Subsystem**

- provides UDP/IP services for Network Adapter

## II. INSTALLATION AND CONFIGURATION

### II. 1. Connecting the equipment

#### II. 1. 1. Adapter configuration

Adapter must be configured before it is used. Adapter contains own configuration software and it can be configured locally only.

#### **Adapter configuration**

Adapter contains a configuration software that can be accessed by connecting the Adapter to computer with running emulation software (TES). When configuration is complete, disconnect the Adapter from the terminal and install it to your network.

To use the built-in software for Network Adapter configuration you need a terminal with RS-232 serial port, or a PC with terminal emulation software for example Windows Terminal. Set the serial link to 9600 baud, No parity, 8 data bits, 1 stop bit.

**NOTE** : Configuration software is always activated with this setting, even you change the adapter`s serial configuration

Connecting the adapter to terminal and starting the configuration software :

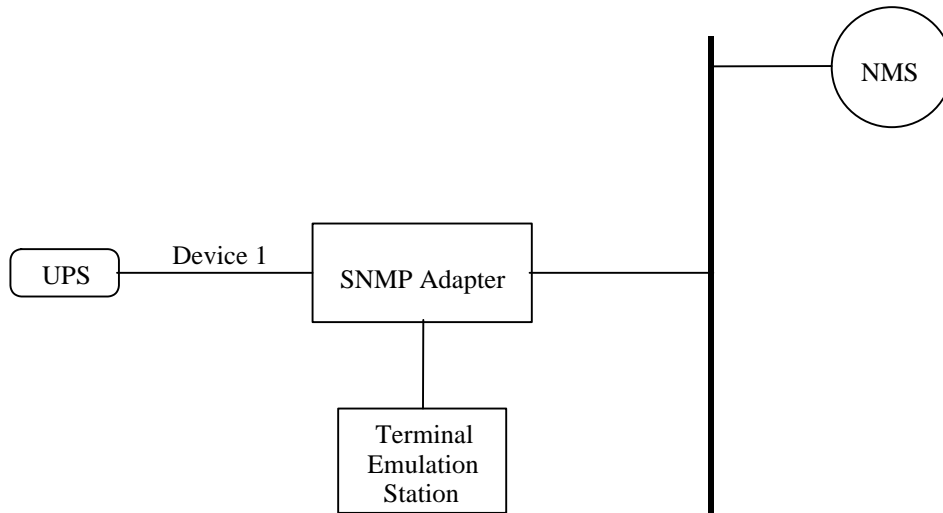
1. Connect the serial cable to the Network Adapter`s configuration port and to the serial port on terminal
2. Connect power supply for Network Adapter
3. Wait for 5 to 10 seconds, then press Enter and the main configuration menu is displayed

If the main configuration menu is not displayed, interrupt power supply to Network Adapter and repeat steps 2 and 3. If the main configuration menu is still not displayed, check the following conditions :

- check the communication settings on the terminal you are using. It must be set to 9600 baud, No parity, 8 data bits, 1 stop bit
- if the serial link configuration is correct, check the cables and plugs
- repeat steps 3 and 4. If the main configuration menu is not displayed even after these steps, please, contact the factory or your distributor for help.

### ***II. 1. 2. Hardware set-up***

The figure below shows the simplest hardware configuration of Network Adapter.



*Network Interface Card (NIC) configuration.*

#### **Connecting the Network Adapter NETMAN 101**

1. Use the UPS cable to connect the Network Adapter to the UPS via RS-232 interface.
2. Connect the Network Adapter to the power supply and the power-supply to the mains or into an UPS.

#### **Connecting the Network Adapter NETMAN 102**

1. Turn off the UPS.
2. Remove the slot box cover and insert the NETMAN 102.
3. Close the slot box with the cover and turn on the UPS.

### ***II. 1. 3. Software set-up***

#### **Network Management Station (NMS) Configuration**

Each NMS has its own user interface. In this part you find general instructions how to configure a NMS for connecting to Network Adapter. For details, see the User Manual to the NMS. The configuration instructions for some types of NMSs is in Supplement III.2

#### *Adding the Network Adapter to the NMS configuration*

Inform the NMS of the presence of Network Adapter by entering the Network Adapter`s IP address in NMS configuration.

#### *Recompiling the MIB on the NMS station*

Create a SNMP control of MIB on the NMS station. This operation will place MIB to the NMS of MIB database.

#### *Activation of critical states (traps) on NMS*

Make sure to have activated critical states (traps) on the NMS.

## **II. 2. Main configuration menu of Network Adapter**

When a terminal is connected to the Adapter`s configuration port and the Adapter is switched on, several reports are displayed (after having inserted default password: *password*):

:

```
<<<<<----->>>>>
<<<<<  Main Menu  >>>>>
<<<<<----->>>>>
```

1. *Set the IP Address, Gateway Address & MIB System Group.*
2. *Set Trap Receivers.*
3. *Set SNMP Communities.*
4. *Additional Setup Screen.*
5. *Set UPS Protocols.*
6. *Save Configuration.*
7. *Restore Configuration.*

*Choose a Number =>*

When the terminal is connect to SNMP adapter, and after you press ENTER, the menu of options is displayed enabling the user to see the adapter`s configuration and watch its actual state.

## **II. 3. Description of options**

### **General rules of work with the software :**

This menu communicates with you in the English language only. The menu options are selected by writing the corresponding number and pressing ENTER. You can make correction of the entered values by pressing Backspace. If you agree with the actual value of a variable, just press Enter and the value will not be changed. If you do not agree, write a new value. In

most cases, the screen displays information of possible values for the given variable. In case of an incorrect value, an error report is displayed.

When you want to erase the text issue, enter at least one space as the value. When you want to erase the numeral or address issue, enter zero as the value.

### ***II. 3. 1. Network Configuration (menu 1)***

```
<<<<<----->>>>>
<<<<< IP Address, Gateway Address & MIB System Group >>>>>
<<<<<----->>>>>
```

*Serial NO: 00:02:63:00:00:01*

*Local Address: 192.168.2.190*

*Gateway Address: 0.0.0.0*

*Network Id: 255.255.255.0*

*sysContact: Henry*

*sysName: snmpAdapter*

*sysLocation: Rome*

#### ***COMMANDS:***

- 1. Set the IP address.*
- 2. Set the Gateway.*
- 3. Set the Netmask.*
- 4. Set sysContact.*
- 5. Set sysName.*
- 6. Set sysLocation.*
- 0. Return to previous menu.*

*Enter Command =>*

Here you can see and change basic parameters for correct connection of Adapter to the computer network and the adapter's monitoring. Important parameters are (others are only to give an identification to the device):

### **SNMP MAC address (Serial NO)**

Here is displayed the unique hardware address. It is assigned by IEEE and it cannot be altered or otherwise changed.

### **SNMP IP address**

Write the IP address assigned to the Adapter. To change the IP address, use the format *aaa.bbb.ccc.ddd*, where *aaa*, *bbb*, *ccc* and *ddd* are numbers from 0 to 255. If you write a number outside this interval, the software reconverts the number to a value from the interval 0 to 255. If you do not know the IP address, call your system administrator.

### **Mask IP address (network mask - Netmask)**

Write a network mask for the adapter. To change the network mask (*Netmask*) address, use the format *aaa.bbb.ccc.ddd*, where *aaa*, *bbb*, *ccc* and *ddd* are numbers from the interval 0 to 255. If you write a number outside the interval, the software reconverts the number to a value from the interval 0 to 255. If your local network is divided into sub-networks, make sure to have the value set (for example, 255.255.0.0).

### **Router IP address (gateway)**

Define the gateway address. The gateway is a predefined termination for all packets not addressed to the local network. Use the format *aaa.bbb.ccc.ddd*, where *aaa*, *bbb*, *ccc* and *ddd* are numbers from the interval 0 to 255. If you write a number outside the interval 0 to 255, the software reconverts the number to a value from the interval. If the gateway is not used, enter zero value (0).

### **II. 3. 2. Trap receivers (menu 2)**

```
<<<<<----->>>>>
<<<<< Trap Receivers >>>>>
<<<<<----->>>>>
```

*Receiver 1 IpAddress: 192.168.2.33*

*Receiver 2 IpAddress: 192.168.2.37*

*Receiver 3 IpAddress: 0.0.0.0*

*Receiver 4 IpAddress: 0.0.0.0*

*Receiver 5 IpAddress: 0.0.0.0*

*COMMANDS:*

1. *Set Receiver 1 IpAddress.*
2. *Set Receiver 2 IpAddress.*
3. *Set Receiver 3 IpAddress.*
4. *Set Receiver 4 IpAddress.*
5. *Set Receiver 5 IpAddress.*
0. *Return to previous menu.*

*Enter Command =>*

These are the snmp managers to which you want Device will send traps

### ***II. 3. 3. Set SNMP communities (menu 3)***

```
<<<<<----->>>>>
<<<<< SNMP Communities >>>>>
<<<<<----->>>>>
```

*Get Community: public*

*Set Community: private*

*COMMANDS:*

1. *Set GetCommunity.*
2. *Set SetCommunity.*
0. *Return to previous menu.*

*Enter Command =>*

#### **Get community**

This command changes the name of community used by SNMP manager to perform GET operations. Write up to 16 alphanumeric characters to specify the get-community.

#### **Set community**

This command changes the name of community used by SNMP manager to perform SET operations. Write up to 16 alphanumeric characters to specify the set-community.

### **II. 3. 4. Additional Setup Screen.(menu 4)**

```
<<<<<----->>>>>
<<<<<   Additional Setup Screen   >>>>>
<<<<<----->>>>>
```

COMMANDS:

1. Set Password.
0. Return to previous menu.

Enter Command =>

To set a different password from the default one

### **II. 3. 5. Set UPS Protocols (menu 5)**

```
<<<<<----->>>>>
<<<<<   UPS Protocols   >>>>>
<<<<<----->>>>>
```

UPS PRTK Code: HTSER11201XX

UPS address: 25

NetMan address: 25

COMMANDS:

1. Set UPS PRTK Code (See label on therear side of the UPS.)
2. Set UPS address.
3. Set NetMan address.
0. Return to previous menu.

Enter Command =>

In this menu, select the type and communication parameters of the monitored UPS.

You will find all data you need to insert here correct entries on the UPS label: look for *PRTK*. code. First 5 chars in code are device type, 7<sup>th</sup> and 8<sup>th</sup> chars are bit rate to insert with submenu 1. For example if you read „PRTK. HTSER21201XX“ you will have to set number 2 (HTSER) in submenu 2 and 12 in submenu 1.

### ***II. 3. 6. Save configuration (menu 6)***

To save configuration

### ***II. 3. 7. Restore Configuration (menu 7)***

To restore previous saved configuration

The Network Adapter's configuration is complete, altered or changed values are stored in FLASH ROM and the software for SNMP agent is initialized. For reconfiguration, terminate the SNMP agent software or restart the network Adapter.

## **II. 4 Testing and verifying the installation**

Verification of the basic physical address of Network Adapter:

From the NMS, perform Ping on the IP address assigned to Network Adapter.

SNMP Get :

From the NMS, perform SNMP Get from MIB OID controller.

SNMP Set :

From the NMS, perform SNMP Set on MIB OID controller.

SNMP Trap:

From Network Adapter, emulate Trap to the NMS. One of the ways how to do it is to simulate a drop-out.

## III. SUPPLEMENTS

### III. 1. Glossary of technical terms

In this glossary are found the technical terms concerning the NETMAN 101/102 Network Adapter and brief definitions of these terms.

**Agent** - an SNMP application in network elements (hosts). These protocol applications are responsible for conducting the network controlling functions required by the network manager from the NMS.

**Boot P Server** - (Boot Protocol) - host language providing services for Boot Protocol. This enables the hosts, that do not know their IP address, to learn the address from the net.

**Ethernet** - a local computer network technology created by Xerox Corporation.

**Flash EPROM** - (Erasable Programmable read-only Memory) - a memory chip in which the stored data can be changed by program and the data remain stored even after electricity outage.

**Gateway** - a computer connected to several nets and directory packets between them. The packets can be of various higher-level protocols.

**IP** - Internet Protocol - a standard TCP/IP protocol defining an IP datagram as a unit of information passing through the network.

**IP address** - a 32-bit address given to TCP/IP network users. It is assigned for connecting the host to the network. IP address consists of a net part and a host part.

**MIB** - Management Information Base - a database (setting the variables) supported by Network Adapter

**NMS** - Network Management Station - a station which monitors SNMP equipment.

**NIC** - Network Interface Card - a hardware interface for connection to the network

**OID** - Object Identifier - variables defined in MIB

**RS-232** - data transfer specification for serial connection between the equipment and the computer.

**Router** - controls the network operation between various networks or their segments, according to the target IP address. The protocols of higher levels must be the same, network environments can differ.

**SNMP** - Simple Network Management Protocol - a standard protocol used to monitor the equipment, gateways and networks. SNMP defines setting the simple operations, that can be

done at OID from MIB controlled by monitoring Agent. It uses a UDP/IP transport layer to transmit the objects between Agent and the NMS.

**TCP/IP** - Transmission Control Protocol / Internet Protocol - a name for combined TCP and IP protocols

**TES** - Terminal Emulation Station - a computer with a software emulating a simple terminal.

**UDP/IP** - User Datagram Protocol/Internet Protocol - a standard TCP/IP protocol. Enables data transmission between applications run by various users. UDP uses IP to deliver data

**UPS** - Uninterruptible Power Supply

## **III. 2. Using various NMS**

Network Adapter is a device that can work in many types of networks and can be controlled by various NMSs.

Shown here is the description of how to configure some of the most used NMSs for Network Adapter. We hereby do not attempt to present an exhausting description or propose to prefer specific NMS to other NMS. As well, this is not intended to be a comparison of the given NMS.

We suppose that the user has a basic knowledge of NMS as such. With respect to the fact that SNMP is a world-wide standard, other NMS can also be used without any problems.

The MIB diskette is in DOS format. If you want to use an operational system not able to read DOS format files, call factory or your distributor for help.

## ***Novel NetWare Services Manager 1.0 (NSM)***

### **Control of adapter`s host address (ping) :**

From the main NMS menu select *Fault* and then *Test Connectivity*. In *Test Connectivity Dialog Box, Insert*, enter the IP address into *IP Address Box* and press *Test*. If the adapter responds, *Status Box* reports the result, otherwise it indicates that the response from IP address has not been received.

### **Installation of MIB controller on the NMS :**

Copy the MIB from the diskette to the directory / nms / snmpmibs / current. From main NMS menu, select *Tools* and then *SNMP Alarm Integrator*. From *Dialog Box* go to sub-directory / nms / snmpmibs / current and complete all MIB. This enables the NMS to receive critical states (traps) sent by Network Adapter.

### **Connecting the *Network Adapter Object* to *Management Map* :**

The NMS will search Network Adapter and in the meantime will connect it to its *Management Map*.

### **Reading the OID controllers :**

To see and read the controller data stored in MIB OID, you need to set *MIB Profiles*. These profiles enable to adjust various OID configurations you might want to see due to their relationship.

From the main NMS menu, select *Tools* and then *SNMP MIB Browser*. In *Dialog Box* create new profiles and record them under names. Here you can define how often the Network Adapter will select the given profile, to which *SNMP Community* it will be applied, and which OID or *OID groups* will be selected. You also have to give an IP address to the Network Adapter. By pressing OK you start the process.

## **Setting the OID controllers**

See article “Reading the OID controllers“ to learn how to set profile browsing. If you wish to change the value of OID, stop the selection process by clicking on the red icon. Select the OID to be changed, press ENTER, write a new value, close the *Dialog Box* and click on the *Hand icon* to enter the new value to Network Adapter. Click on the green icon to restart the selection process.

For detailed information about NSM see *NetWare Services Manager User`s Guide* and *NetWare Management Map User`s Guide*.

## **Novel NMS or Novel ManageWise**

### **Checking the host address (ping) of the adapter :**

From main NMS menu, select *Fault* and then *Test Connectivity*. In *Test Connectivity Dialog Box*, *Insert* insert IP address to *IP Address Box* and press *Test*. If the adapter responds, *Status Box* reports the result. Otherwise, *Status Box* indicates that the response from IP address has not been received.

### **Installing MIB controller on the NMS :**

Copy the MIB from diskette to directory */ nms / snmpmibs / current*.

From main NMS menu select *Tools* and then *SNMP MIB Compiler*. Compile MIB in this directory to NMS. This enables the NMS to receive critical states sent by Network Adapter.

### **Connecting the Network Adapter Object to Management Map :**

NMS will search Network Adapter and, in the meantime, will connect it to its *Management Map*.

### **Reading the OID controllers :**

From main NMS menu, select *Tools* and then *SNMP MIB Browser*. In *Dialog Box* create new profiles and record them under names. Here you can define how often the Network Adapter will select the given profile, to which *SNMP Community* it will be applied, and which *OID* or *OID groups* will be selected. You also have to give an IP address to the Network Adapter. By pressing OK you start the process.

## ***HP Open View Network Node Manager 3.0 (NNM)***

### **Installing the MIB controller on the NMS :**

Copy the MIB from diskette to directory */usr/OV/snmp\_mibs*. In NNM select the option menu *Options : / load / unload MIB`s : SNMP...*, then select *Load*, select *MIB* and press *Close*.

### **Connecting the Network Adapter Object to Management Map**

Select *submap* and then select *Edit : Add Object*. Select a suitable type from the group of objects. With the middle button on the mouse move the generally used symbol *subclass* of the controller to *submap* and then write the name for the object in *Selection and Label fields* from dialog box *Add Object*.

### **Reading the OID controllers :**

From the menu, select *Monitor : MIB Values : Browse MIB : SNMP*. Then see the information on Network Adapter or on controllers by moving to MIB.

### **Setting the OID controllers**

From the menu, select *Monitor : MIB values : Browse MIB : SNMP*. Select the variable MIB to be changed and click on it. Write a new value and click on *Set Click on Start Query* to display the changes. For more detailed information on NNM see *HP Open View Network Manager User`s Guide*.

## **SunConnect SunNet Manager 2.0 (SNM)**

### **Installing the MIB controllers on the NMS :**

Copy the MIB to a directory specified by key-word *na.snmp.schemas* in directory */usr/snm/snm/conf*. Usually, it is */usr/snm/agents*.

Perform *mib2schema* on MIB. This will create corresponding files *xxx.mib.oid*, *xxx.mib.schema* and *xxx.mib.traps*.

In the box of SNM control panel select *File/Load*. Click on *xxx.mib.schema* and click on *Load*. Activate the new shell box. Go to directory */usr/snm/agents* and perform *build\_oid*. Finally, open *xxx.mib.traps* to the file specified by the key-word *na.snmp-trap.default* in

directory /usr/snm/snm.conf. Usually, it is /var/adm/snm/snmp.traps. Now, SNM will understand error reports from Network Adapter.

### **Connecting the Network Adapter Object to Management Map :**

There are three ways how to connect it :

connect it to *submap*, where there is an associate controller for Network Adapter

connect it to *subview* from an associate controller and it will take the state of a controller

connect it to *cloud* or to an independent browsing from the controller. It is the place where all controllers can be resident.

Write *submap* in which the controller will be placed. With the right button on the mouse select *Edit / Create / Component / lanbox*. This will add a controller and *Properties dialog box* is displayed. Write the name of Network Adapter so as it is in */etc/hosts* or in the name of the server.

Write *SNMP RdCommunity*

Write *SNMP WrCommunity*

Select the requested MIB. Choose a colour for it. Finally, before you can use the above created glyph, you must create an managed device view. Select *relevant submap* and with the first mouse button select *Edit / Create / view / subnet*. Key in the view name. Now copy and paste the glyph into the managed device view.

### **Reading the OID controllers**

Select the controller glyph with the right button on the mouse and select *Quick Dum /xxx-MIB* and then one of the MIB groups. A box will be displayed, showing the frame display of the group.

**Setting the OID controllers :**

Select the controller glyph with the right button on the mouse. Now, select *Set Request / xxx-MIB /<OID name>*.

Application *Set Tool* will be displayed. Click on Get button to enter the actual values. Select a new value by clicking on New Value and then by clicking on the Set button. To browse the changed values, click again on the Get button. For more detailed information about SNMP, see *SunNet Manager User`s Guide*.