Axel Remote Management

Administration Software for Axel Terminals and Office Servers

April 2004 - Ref.: AxRME-5

The reproduction of this material, in part or whole, is strictly prohibited. For additional information, please contact:

A ≻ E ∟ 14 Avenue du Québec Bât. K2 - BP 728 91962 Courtabœuf cedex - FRANCE Tel.: 33 1.69.28.27.27 Fax: 33 1.69.28.82.04 Email: info@axel.com

The information in this document is subject to change without notice. AXEL assumes no responsibility for any errors that may appear in this document.

All trademarks and registered trademarks are the property of their respective holders.

© - 2003-2004 - AXEL - All Rights Reserved.

WARNING

This documentation describes the Axel administration software. It is assumed that the reader is familiar with the Axel hardware. For more information please consult the User's Manuals. (from www.axel.com).

TABLE of CONTENTS

| 1 - INTRODUCTION | 1 |
|--|----------|
| 2 - INSTALLATION / REMOVAL OF THE SOFTWARE | 3 |
| 2.1 - PREREQUISITES | 4 |
| 2.2 - UPGRADING | 4 |
| 2.3 - INSTALLATION | 4 |
| 2.4 - REMOVAL | 7 |
| 3 - LAUNCHING AND USING | 8 |
| 3.1 - BASIC FUNCTIONS | 10 |
| 3.1.1 - Get Terminal Information | 11 |
| 3.1.2 - Obtaining Network Statistics of the Terminal | 13 |
| 3.1.3 - Obtaining the configuration of the terminal | 15 |
| 3.1.4 - Rebooting the Terminal | 17 |
| 3.1.5 - Configuring Terminals | 19 |
| 3.1.6 - Downloading Firmware | 22 |
| 3.1.7 - Reloading Factory Settings | 24 |
| 3.2 - ACCESSING THE TERMINAL INTERACTIVE SET-UP | 25 |
| 3.2.1 - Telnet Protocol (AX3000 and AX4000) | 25 |
| 3.2.2 - COM Port (AX4000 only) | |
| 3.3 - THE TERMINAL DATABASE | |
| 3.3.1 - Manually Editing Database | 27 |
| 3.3.2 - Adding Terminals by Scanning the Network | |
| 3.3.3 - Adding Terminals from Another Database | |
| | |
| 3.4 - MANAGEMENT OF COMMAND FILE | |
| 3.4.1 - Creation of the command file | |
| | |
| 3.5 - ASSIGNING IP ADDRESSES | |
| 2.5.2 Patch Operation | |
| | |
| | 31 27 |
| 3.6.2 - Satting the BOOTP Server | |
| | |

| 3.6.3 - Running BOOTP and Downloading the Firmware | |
|--|----|
| 3.6.4 - Advanced Settings of the BOOTP Server | |
| 3.7 - TUNING AXRM | 40 |
| 3.7.1 - The Network | 40 |
| 3.7.2 - The Default Folders | 41 |
| 3.7.3 - The Terminal Database | 42 |
| 3.7.4 - AxRM Password | 43 |
| 3.7.5 - Using a Third Party Telnet Client | 43 |
| ΔΡΡΕΝΠΙΧ | 45 |
| | |
| A.1 - TCP/IP COMMANDS USED | 46 |
| A.2 - FORMAT OF THE COMMAND FILE | 47 |
| A.3 - FORMAT OF THE DATABASE FILE | 49 |
| A.4 - REGISTRY VARIABLES | 50 |

- 1 -INTRODUCTION

AXEL

This chapter introduces the main features of the AxRM Software.

The AxRM software allows system administrators to manage and configure Axel TCP/IP products remotely over a network. The remote Axel device is selected by its IP address or network name. (The software can also assign an IP address to a newly installed terminal that has not had an IP address set)

AxRM is an abbreviation for Axel Remote Management software.

AxRM is used for:

- obtaining hardware and firmware revision levels,
- obtaining Ethernet and serial line configuration,
- obtaining network and device statistics,
- obtaining set-up configuration,
- rebooting the peripheral,
- remotely configuring a peripheral,
- downloading firmware,
- reloading factory settings.
- entering the interactive set-up via a telnet client.

It is also possible:

- to build and manage a terminal database,
- to compile a list (batch) of commands to run consecutively,
- to download a firmware though BOOTP,
- to set IP addresses by using the device's MAC address.

This document covers:

- Installation / Removal of AxRM,
- Launching and Using,
- Appendices.

- 2 -INSTALLATION / REMOVAL OF THE SOFTWARE

<u>Axel</u>

This chapter gives details of installation and removal procedures.

2.1 - PREREQUISITES

AxRM is certified for Windows (95, 98, NT, 2000 and XP).

(Certain advanced functions are only supported by Windows NT, 2000 or XP)

2.2 - UPGRADING

If AxRM is already installed on the Windows machine it is imperative to remove before loading a newer version. (see chapter 2.4).

2.3 - INSTALLATION

Decompress the file 'AxRM.zip'.

To start the installation, double click on the file 'setup.exe' and follow the instructions.

AXEL

The following window is shown:

| 1 | axRM Setup | × |
|---|--|---|
| | Welcome to the axRM installation program. |] |
| | Setup cannot install system files or update shared files if they are in use. Before proceeding, we recommend that you close any applications you may be running. | |
| | OK Exit Setup | |

Click on **[OK]** to continue.

| 🛃 axRM Setup | | × |
|------------------------|--|-------------------------|
| Begin the installation | by clicking the button below. | |
| | Click this button to install axRM software to th irrectory. | e specified destination |
| Directory: | | |
| C:\Program Files\axR | M), | Change Directory |
| | Exit Setup | |

To continue installation, click on the computer icon. (Or to change the installation directory click on **[Change Directory]**).

| 🔀 axRM - Choose Program Group | × |
|---|---|
| Setup will add items to the group shown in the Program Group box. You can enter a new group name or select one from the Existing Groups list. | |
| Program Group: | |
| Axel Tools | |
| Existing Groups: | |
| Accessoires | |
| Axel Tools | |
| ConWare | |
| GIF Movie Gear | |
| Microsoft Web Publishing WebZIP | |
| TODEN | |
| | |
| | |
| Continue | |

The following window shows directories where AxRM can be installed:

The default program group is "Axel Tools". Click on **[Continue]** to accept and continue the installation.

The installation is completed after the files have finished copying:

| axRM Setup | × |
|--------------------------------------|----|
| axRM Setup was completed successfull | y. |
| ОК | |

In the event of difficulties: Depending on the configuration and the version of Windows, it may be necessary to install a DLL file. In this case please contact AXEL

(You will need to download the file MSVBVM60.DLL and copy it into the system folder. (%SystemRoot%).

2.4 - REMOVAL

To remove the software use "Add/Remove program" (in the Window's Control panel). Click on **[Modify/Remove]**:



The following Window confirms AxRM has been successfully removed:



- 3 -LAUNCHING AND USING

This chapter describes the use and functionality of the AxRM software.

To launch AxRM, select [START] \rightarrow [Axel tools] \rightarrow [Axel Remote Management].

If AxRM is password-protected (see Chapter 3.7.4), the following dialog box is displayed:

| Axii Password Protection | _ _ X |
|--------------------------|--------------|
| AxRM is passwor | d protected |
| Enter the password: | |
| Cancel | ОК |

Enter the password to continue.

The main console window is displayed:

| Remote Commande | Interactive Set. In | | |
|---------------------------|---------------------|------|-------------|
| | Intelactive Secop | | |
| Name or IP Address | | Ping | |
| Commanda | | | |
| GET TERMINAL INFORMATION | AI . | | |
| C GET TERMINAL NETWORK ST | IATS. | | |
| C GET TERMINAL CONFIGURAT | ION | | |
| C REBOOT | | | |
| C SEND TERMINAL CONFIGURA | TION | | |
| C FIRMWARE DOWNLOAD | | | |
| C SET FACTORY SETTINGS | | | |
| | | | RUN COMMAND |
| atus/Help | | | |
| | | | |
| | A.L | 1 | |

Note: In this manual the device will simply be referred to as "terminal" – The IP address or name may be used.

3.1 - BASIC FUNCTIONS

To access the basic functions click the "Remote Commands" tab.

Then enter the name or IP address of the terminal to be accessed in the field "Name or IP Address".

Notes:

- multiple IP addresses or names can be entered. Use a space as separator.

- <F2> or the [...] button (at the right of "Name or IP Address") allows the device to be selected through a database (see chapter 3.3).

After entering "Name or IP Address" other fields and buttons are enabled.

The [Ping] button confirms the target terminal is accessible.

The **"Password"** field allows a password to be entered if the terminal is password protected. Entering the password is mandatory for certain commands if a password has been set for the terminal.

Commands are selected by clicking on the corresponding button. Once selected options for that command are enabled.

[Run Command] initiates the command selected.

The **"Status/Help"** field provides various information about the command being run.

The **[Advanced Functions]** allows other functions to be run (terminal database, batch files, etc.). For more information, see Chapter 3.3 and beyond.

The **[Help]** button (or <F1>) displays available function keys.

Detailed information for each command follows:

3.1.1 - Get Terminal Information

This option obtains the following information:

- the "MAC Address" (or Ethernet Address)
- the serial number
- the hardware and firmware revision

| Axel Remote Management ¥1.4.0 | | | _ 0 |
|--|--------------------|---------------|----------|
| Remote Commands | nteractive Set-Up | | |
| Axel Device | | | |
| Name or IP Address 192.168.0 | 01.243 | Ping | |
| Password (optional) | | | |
| | | | |
| C CET TERMINAL INFORMATION | Output to a file | | |
| GET TERMINAL INFORMATION | File to store info | | |
| O GET TERMINAL NETWORK STATS. | | | |
| | | | |
| O GET TERMINAL CONFIGURATION | | | |
| C REBOOT | | | |
| | | | |
| SEND TERMINAL CONFIDENTION | | | |
| FIRMWARE DOWNLOAD | | | |
| C SET FACTORY SETTINGS | | | |
| | | | |
| | | DU | |
| | | RUN | |
| | | | |
| tatus/Help | | | |
| his option will get the hardwar | e and firmware inf | ormation from | n the |
| levice selected. This data is es ile from Axel support. | sential when reque | sting a new | firmware |
| | | | |
| | | | |
| | | | |
| Help | Advanced Functions | | Exit |

Click on "Get Terminal Information". The following window is displayed:

Information is displayed in the "Status/Help" window whilst the command runs.

To direct this information into a file, tick the **"Output to a file"** option and choose a name for the file in the **"File to store info."** field.

Note: the button [...] can be used to select the location for this file.

Here is an example of the command:

| xel Remote Management ¥1.4.0 | | | |
|---|---------------------|------|-------------|
| Remote Commands Inte | eractive Set-Up | | |
| Axel Device | | | |
| Name or IP Address 192.168.1.2 | 43 | Ping | |
| Password (optional) | | | |
| - Commands | | | |
| GET TERMINAL INFORMATION | Output to a file | | |
| C GET TERMINAL NETWORK STATS. | File to store info. | | |
| C GET TERMINAL CONFIGURATION | | | |
| C REBOOT | | | |
| SEND TERMINAL CONFIGURATION | | | |
| FIRMWARE DOWNLOAD | | | |
| C SET FACTORY SETTINGS | | | |
| | | | RUN COMMAND |
| atus/Help | | | |
| AC Address : 00:A0:34:0B:00:07 erial Number: 1211M7500007 ersion : FK16-BV31a/TCP.FR.(erminal database updated. | D303e:RDP54STD | | |
| | | | |
| 11-1- | | 1 | 5 .3 |

Note: the MAC address and serial number are not obtainable when

- AxRM is run from Windows 95 and 98 (due to the limited functions of arp within these operating systems).
- Or the terminal is not on the same LAN as the AxRM machine

The terminal database is automatically updated (message "Terminal database updated") if the database auto-update function is enabled (see Chapter 3.7.2).

3.1.2 - Obtaining Network Statistics of the Terminal

The AxRM software enables network information to be viewed and/or saved in a file.

| Axel Remote Management ¥1.4 | .0 | | |
|--|---|-----------------------|-----------|
| Remote Commands | Interactive Set-Up |] | |
| Axel Device Name or IP Address Password (optional) | 192.168.1.243 | Ping | |
| Commands C GET TERMINAL INFORMATIC GET TERMINAL NETWORK S G GET TERMINAL CONFIGURA C REBOOT C SEND TERMINAL CONFIGUR C FIRMWARE DOWNLOAD C SET FACTORY SETTINGS | IN TATS: Output to a file File to store stats. ATION | | |
| atus/Help his option will get netwo | ork information and stat | RUN istics from th | N COMMAND |
| | | | ; |

Click on "Get Terminal Network Stats.". The following window is displayed:

After launching the command statistics are displayed in a new window.

To save this information in a file tick **"Output to a file"** and enter the file name in the field **"File to store stats."**.

Note: the button [...] can be used to select the location of the file.

AXEL

Here is an example of the output of this command. (displayed in a new window):

| 📅 Display Inform | ation | | | | | | _ 🗆 × |
|--|---|--------------------------------|-------------------------------|---------------------------------|----------------|-----------|----------|
| | STATISTICS | | | | | | |
| ETHERNET : Correct Fra Output 179 Errors Mem-Ovfl O ther Infor Hw-Ints 611891 ARP/RARF : | STATISTICS mes Input 1055447 Q-Ovfl 0 mation Unk-Type 52195 STATISTICS | Bad-Hdr O | Bad-Crc O | Noise O | O-Timeout O | Cols O | Bad-Size |
| ARP Frames Corr-Frms 36554 RARP Frames Corr-Frms 0 | Bad-len O Bad-len O | Bad-Type O Bad-Type O | Rcv-Req 7 Rcv-Answ 0 | Rov-Answ 48 Sent-Req 0 | Sent-Req 48 | | × |
| SAVE A | AS | | | | | | CLOSE |

Click on [CLOSE] to shut this window or click on [SAVE AS...] for save in a file.

3.1.3 - Obtaining the configuration of the terminal

The AxRM software lets the terminal configuration be viewed and/or saved.

| Axel Remote Management ¥ | 1.4.0 | 2 |
|--------------------------|--|------------|
| Remote Commands | Interactive Set-Up | |
| - Axel Device | | |
| Name or IP Address | 192,168,1,243 Ping | |
| Password (optional) | | |
| Commands | | |
| C GET TERMINAL INFORMA | TION | |
| C GET TERMINAL NETWOR | K STATS. | |
| | Dutput to a file | |
| C GET TERMINAL CONFIGU | RATIUN File to store the set-up | |
| C REBOOT | Full set-up 🔽 | |
| SEND TERMINAL CONFIG | URATION | |
| C FIRMWARE DOWNLOAD | | |
| SET FACTORY SETTINGS | | |
| | RU | N COMMAND |
| latus/Halo | | |
| This option will got th | a creatific device estur information for | the |
| device selected and opt | ionally save it in a file. This 'master | ' file can |
| then be downloaded into | the same or other devices. | |
| | | - |
| | | |
| Help | Advanced Functions | Exit |

Click on "Get Terminal Configuration". The following window is displayed:

After launching the command the configuration is displayed in a new window.

To save this information in a file, tick **"Output to a file"** and enter the name of the file in the field **"File to store the set-up."**.

Note: the button [...] can be used to select the location of the file.

If **"Full set-up"** is ticked (default) the complete terminal set-up is saved, if not commented out (#) parameters are not recorded – resulting in a smaller file.

<u>Axel</u>

Here is an example of the output of this command (displayed in a new window):



Click on [CLOSE] to close or [SAVE AS...] to save in a file.

3.1.4 - Rebooting the Terminal

The AxRM software:

- performs a hard reboot (equivalent to power cycling the terminal).
- resets a terminal resource (individual sessions, serial or parallel port).

| 👯 Axel Remote Management V | 1.4.0 | _ [] > |
|--|--|-----------|
| Remote Commands | Interactive Set-Up | |
| - Axel Device | | |
| Name or IP Address | 192.168.1.243 Ping | |
| Password (optional) | | |
| Commands | | |
| C GET TERMINAL INFORMA | TION | |
| C GET TERMINAL NETWOR | IK STATS. | |
| C GET TERMINAL CONFIGL | RATION | |
| • REBOOT | Resource to reboot The Device 💌 | |
| C SEND TERMINAL CONFIG | URATION | |
| C FIRMWARE DOWNLOAD | | |
| SET FACTORY SETTINGS | | |
| | RUNC | |
| Status/Help | | |
| This option reboots the to ensure the user has | device, session or port specified. It is shutdown all applications before rebooting | advised 🔺 |
| | | |
| Help | Advanced Functions | Exit |

Click on "Reboot". The following window is displayed:

Choose from the list "Resource to reboot":

- "The device": reboots the whole terminal.
- "Session 1" to "Session 8": re-initializes terminal sessions
- "Aux1 port", "Aux2 port" and "Parallel port": re-initializes auxiliary ports of the AX3000
- "Channel 1" to "Channel 8": re-initializes the serial ports of an Office Server AX4000.

Note: if the terminal is protected by a password, the password must be entered in the password field.

AXEL

Here is an example of this command:

| 🚟 Axel Remote Management V | /1.4.0 | |
|---|-------------------------------|-------------|
| Remote Commands | Interactive Set-Up | |
| Axel Device | | |
| Name or IP Address | 192.168.1.243 Ping | |
| Password (optional) | MMM | |
| Commands | | |
| C GET TERMINAL INFORMA | ATION | |
| GET TERMINAL NETWOR | RK STATS. | |
| C GET TERMINAL CONFIGU | IRATION | |
| REBOOT | Resource to reboot The Device | • |
| SEND TERMINAL CONFIG | URATION | |
| FIRMWARE DOWNLOAD | | |
| SET FACTORY SETTINGS | ; | |
| | | RUN COMMAND |
| Status/Help | | |
| Reboot in progress Waiting for 192.168.1.2 OK | 43 being rebooted | <u>_</u> |
| | | y |
| Help | Advanced Functions | Exit |

Note: after the command "reboot" is issued AxRM automatically verifies that the terminal is available.

3.1.5 - Configuring Terminals

AxRM lets the set-up configuration be uploaded from one terminal to a 'template' file. This 'template' file can then be modified as necessary and applied to other terminals – making configuration of multiple terminals extremely easy. See chapter 3.1.3 for details of obtaining the set-up information.

Note: for more information on the format of this set-up text file, please see the *Users Manual* for AX3000 or Office Server AX4000.

| 🎇 Axel Remote Management ¥ | 1.4.0 | <u>_ ×</u> |
|--|---|-----------------|
| Remote Commands | Interactive Set-Up | |
| - Axel Device | | |
| Name or IP Address | 192.168.1.243 Ping | |
| Password (optional) | XXXX | |
| Commands | | |
| C GET TERMINAL INFORMA | TION | |
| C GET TERMINAL NETWOR | K STATS. | |
| C GET TERMINAL CONFIGU | RATION | |
| C REBOOT | | |
| C SEND TERMINAL CONFIG | URATION Set-up file | |
| FIRMWARE DOWNLOAD | Reboot after command 🔽 | |
| SET FACTORY SETTINGS | | |
| This Option Can Permanen | tly Change the Terminals Behavior | RUN COMMAND |
| Status/Help | | |
| This option will set the | e device settings. Please specify the | e set-up file 🔺 |
| to upload. (A previously be used). Reboot the dev | y obtained 'Get Terminal Configuration vice to make changes take effect. | on' file can |
| | | v |
| | | |
| Help | Advanced Functions | Exit |

Click on "Send Terminal Configuration". The following window is displayed:

The name of the set-up file must be entered in the field "Set-up file".

Note: the button [...] can be used to select the location of the file.

If **"Reboot after command"** is ticked (default), the terminal will automatically reboot after the configuration is sent. This is necessary to make changes effective.

Note: if the terminal is password protected, it is imperative to enter the password in the field "Password".

AXEL

Here is an example of the execution of this command:

| Axel Remote Management V | /1.4.0 | |
|--------------------------|------------------------------------|-------------|
| Remote Commands | Interactive Set-Up | |
| - Axel Device | | |
| Name or IP Address | 192.168.1.243 Ping | |
| Password (optional) | XXXX | |
| Commands | | |
| C GET TERMINAL INFORM | ATION | |
| C GET TERMINAL NETWOR | RK STATS. | |
| C GET TERMINAL CONFIGU | JRATION | |
| C REBOOT | | |
| SEND TERMINAL CONFIG | SURATION Set-up file D:\setup\ | axel1.txt |
| C FIRMWARE DOWNLOAD | Reboot after command 🔽 | |
| C SET FACTORY SETTINGS | 3 | |
| This Option Can Permane | ntly Change the Terminals Behavior | RUN COMMAND |
| Status/Help | | |
| Store set-up in progres | 5 | <u>^</u> |
| Reboot in progress | | |
| Waiting for 192.168.1.2 | 43 being rebooted | |
| UK | | ~ |
| | | |
| Help | Advanced Functions | Exit |

3.1.6 - Downloading Firmware

AxRM is used to change the terminal's firmware. (TFTP protocol is used).

Click on "Firmware Download". The following window is displayed:

| Remote Commands Interactive Set-Up Axel Device Name or IP Address 1921681.243 Password (optional) Ping Password (optional) Ping Commands Ping Commands GET TERMINAL INFORMATION GET TERMINAL CONFIGURATION GET TERMINAL CONFIGURATION REBOOT Preserve target terminal config. SEND TERMINAL CONFIGURATION Firmware filename Use native TFTP IV FIRMWARE DOWNLOAD TFTP IP address 1921681.12 SET FACTORY SETTINGS Remote router IP (optional) This Option Can Permanently Change the Terminals Behavior RUN COMMAND atus/Help lease specify firmware file to download. Ensure the FK number of the firmware of the device - found above by 'Get all the information'. Before download would new firmware we recommend you be all the information given in 'Get Terminal Information' for the arget device. | xel Remote Management \ | | |
|---|--|--|----------|
| Axel Device Name or IP Address 1921681.243 Ping Password (optional) Commands GET TERMINAL INFORMATION GET TERMINAL NETWORK STATS. GET TERMINAL CONFIGURATION REBOOT REBOOT FIRMWARE DOWNLOAD FITTOR STATUS Remote router IP (optional) This Option Can Permanently Change the Terminals Behavior RUN COMMAND atus/Hep Lease specify firmware file to download. Ensure the FK number of the Gerware file matches the FK number of the device – found above by 'Get erminal Information'. Before download. Ensure the FK number of the Gerware file matches the FK number of the device – found above by 'Get erminal Information'. Before download in 'Get Terminal Information' for the arget device. | Remote Commands | Interactive Set-Up | |
| Name or IP Address 1921681.243 Ping Password (optional) Commands GET TERMINAL INFORMATION GET TERMINAL NETWORK STATS. GET TERMINAL CONFIGURATION REBOOT REBOOT SEND TERMINAL CONFIGURATION Firmware filename Use native TFTP G FIRMWARE DOW/NLOAD TFTP IP address 1921681.12 This Option Can Permanently Change the Terminals Behavior RUN COMMAND atus/Hep Lease specify firmware file to download. Ensure the FK number of the Germanal Information'. Before download. Ensure the FK number of the Germanal Information'. Before download. Ensure the FK number of the Germanal Information'. Before download. Information' for the Germanal Informati | Axel Device | | |
| Password (optional) Commands GET TERMINAL INFORMATION GET TERMINAL NETWORK STATS. GET TERMINAL CONFIGURATION REBOOT SEND TERMINAL CONFIGURATION Firmware filename Use native TFTP F FIRMWARE DOWNLOAD TFTP IP address III2:168:1.12 SET FACTORY SETTINGS Remote router IP (optional) This Option Can Permanently Change the Terminals Behavior RUN COMMAND atus/Help tease specify firmware file to download. Ensure the FK number of the traware file matches the FK number of the device - found above by 'Get raminal Information'. Before download. Ensure the FK number of the traware file matches the FK number of the device - found above by 'Get raminal Information'. Before download. Ensure the FK number of the traware file matches the FK number of the device - found above by 'Get raminal Information' for the tray of the information given in 'Get Terminal Information' for the tray of the information is a state of the information' for the tray of the information is a state of the information' for the tray of the information is a state of the information' for the tray of the information is a state of the information' for the tray of the information is a state of the information' for the tray of the information is a state of the information' for the tray of the information is a state of the information is a state of the information' for the tray of the information is a state of the information' for the tray of the information is a state of the information' for the tray of the information is a state of the information' for the tray of the information is a state of the information' for the tray of the information is a state of the information' for the tray of the information is a state of the information' for the tray of the information is a state of the information is | Name or IP Address | 192.168.1.243 Ping | |
| Commands Commands C GET TERMINAL INFORMATION GET TERMINAL NETWORK STATS. GET TERMINAL CONFIGURATION REBOOT SEND TERMINAL CONFIGURATION Firmware filename Use native TFTP ✓ FIRMWARE DOW/NLOAD TFTP IP address II321681.12 SET FACTORY SETTINGS Remote router IP (optional) This Option Can Permanently Change the Terminals Behavior RUN COMMAND atus/Hep Lease specify firmware file to download. Ensure the FK number of the firmware file matches the FK number of the device – forware above by 'Get arminal Information'. Before download. Ensure the FK number of the firmware file matches the FK number of the device – forware accommend you bete all the information given in 'Get Terminal Information' for the arget device. | Password (optional) | | |
| GET TERMINAL INFORMATION GET TERMINAL NETWORK STATS. GET TERMINAL CONFIGURATION REBOOT Preserve target terminal config. SEND TERMINAL CONFIGURATION Firmware filename Use native TFTP ▼ FIRMWARE DOWNLOAD TFTP IP address 1921681.12 SET FACTORY SETTINGS Remote router IP (optional) This Option Can Permanently Change the Terminals Behavior RUN COMMAND Aus/Help Lease specify firmware file to download. Ensure the FK number of the ferrimant Information'. Before download. Ensure the FK number of the device - found above by 'Get remainal Information' for the arget device. | Commands | | |
| C GET TERMINAL NETWORK STATS. C GET TERMINAL CONFIGURATION C REBOOT Preserve target terminal config C SEND TERMINAL CONFIGURATION Firmware filename Use native TFTP ♥ FIRMWARE DOWNLOAD TFTP I♥ SET FACTORY SETTINGS Remote router IP (optional) This Option Can Permanently Change the Terminals Behavior RUN COMMAND atus/Help tease specify firmware file to download. Ensure the FK number of the traware file matches the FK number of the device - found above by 'Get rmminal Information'. Before download information' for the array the information given in 'Get Terminal Information' for the array terminal Information' for the | C GET TERMINAL INFORM | ATION | |
| C GET TERMINAL CONFIGURATION C GET TERMINAL CONFIGURATION C REBOOT SEND TERMINAL CONFIGURATION Firmware filename Use native TFTP F FIRMWARE DOWNLOAD TFTPIP address 192168.1.12 C SET FACTORY SETTINGS Remote router IP (optional) This Option Can Permanently Change the Terminals Behavior RUN COMMAND Aus/Help ease specify firmware file to download. Ensure the FK number of the remainal Information'. Before download in the device - found above by 'Get remainal Information'. Before download in the device - found above by 'Get remainal Information'. Before download in the device - found above by 'Get remainal Information' for the reget device. | C GET TERMINAL NETWOR | łk stats. | |
| C REBOOT Preserve target terminal config. ✓ SEND TERMINAL CONFIGURATION Firmware filename Use native TFTP ✓ FIRMWARE DOWNLOAD TFTP I ✓ FIRMWARE DOWNLOAD TFTP I address 192:168.1.12 SET FACTORY SETTINGS Remote router IP (optional) This Option Can Permanently Change the Terminals Behavior RUN COMMAND Baus/Help ease specify firmware file to download. Ensure the FK number of the raware file matches the FK number of the device - found above by 'Get raminal Information'. Before downloading new firmware we recommend you te all the information given in 'Get Terminal Information' for the arget device. | C GET TERMINAL CONFIGU | JRATION | |
| C SEND TERMINAL CONFIGURATION Firmware filename Use native FTFP F FIRMWARE DOWNLOAD TFTP IP address 192.168.1.12 C SET FACTORY SETTINGS Remote router IP (optional) This Option Can Permanently Change the Terminals Behavior RUN COMMAND atus/Hep ease specify firmware file to download. Ensure the FK number of the ruware file matches the FK number of the device - found above by 'Get ruminal Information'. Before download in the information' for the ruget device. | O REBOOT | Preserve target 💌 | |
| Use native IFITP V FIRMWARE DOWNLOAD TFTP IP address [192.168.1.12 C SET FACTORY SETTINGS Remote router IP (optional) This Option Can Permanently Change the Terminals Behavior RUN COMMAND atus/Hep ease specify firmware file to download. Ensure the FK number of the ruware file matches the FK number of the device - found above by 'Get ruminal Information'. Before downloading new firmware we recommend you the all the information given in 'Get Terminal Information' for the rrget device. | SEND TERMINAL CONFIG | URATION Firmware filename | |
| C SET FACTORY SETTINGS Remote router IP (optional) This Option Can Permanently Change the Terminals Behavior RUN COMMAND stus/Help sease specify firmware file to download. Ensure the FK number of the r.mware file matches the FK number of the device - found above by 'Get r.mware file matches the FK number of the device - found above by 'Get r.mware file and the downloading new firmware we recommend you te all the information given in 'Get Terminal Information' for the r.get device. | FIRMWARE DOWNLOAD | Use native TFTP V TFTP IP address 192.168.1.12 | |
| This Option Can Permanently Change the Terminals Behavior RUN COMMAND Aus/Help ease specify firmware file to download. Ensure the FK number of the raware file matches the FK number of the device - found above by 'Get raminal Information'. Before downloading new firmware we recommend you te all the information given in 'Get Terminal Information' for the rget device. | SET FACTORY SETTING: | Remote router IP (optional) | |
| HUN CUMMAND sus/Hep ease specify firmware file to download. Ensure the FK number of the rmware file matches the FK number of the device - found above by 'Get rminal Information'. Before downloading new firmware we recommend you te all the information given in 'Get Terminal Information' for the urget device. | This Option Can Permane | ntly Change the Terminals Behavior | |
| sus/Hep ease specify firmware file to download. Ensure the FK number of the rmware file matches the FK number of the device - found above by 'Get rminal Information'. Before downloading new firmware we recommend you te all the information given in 'Get Terminal Information' for the arget device. | | HON COMMAND | <u> </u> |
| sus/Hep ease specify firmware file to download. Ensure the FK number of the rmware file matches the FK number of the device - found above by 'Get rminal Information'. Before downloading new firmware we recommend you te all the information given in 'Get Terminal Information' for the urget device. | | | |
| ease specify firmware file to download. Ensure the FK number of the rmware file matches the FK number of the device - found above by 'Get rminnal Information'. Before downloading new firmware we recommend you the all the information given in 'Get Terminal Information' for the arget device. | atus/Help | | |
| erminal Information'. Before downloading new firmware we recommend you te all the information given in 'Get Terminal Information' for the arget device. | lease specify firmware Irmware file matches t | : file to download. Ensure the FK number of the the FK number of the device - found above by 'Get | |
| ste all the information given in "Let lerminal information" for the arget device. | erminal Information'. | Before downloading new firmware we recommend you | |
| | ote all the informatio arget device. | w given in 'Get lerminal information' for the | |
| | | | _ |
| Holp Advanced Exections Exit | Hab | Advanced Exections | |

The name of the firmware file must be entered in the field **"Firmware filename"**. (Call Axel for latest firmware files)

Note: the button [...] can be used to select the location of the file.

The AxRM software has an embedded TFTP server that is used by default. However the **"Use native TFTP"** box can be un-ticked if you wish to use another machine as a TFTP server. Once un-ticked you will be prompted for the IP address of the TFTP server (and possible router).

When downloading new firmware the terminal's set-up information is over written and lost. By ticking **"Preserve target terminal config."** the original set-up is saved before the download, and re-applied after new firmware is installed:

This is done be AxRM batching together the following commands.

- Get Terminal Configuration,
- Firmware Download,
- Send Terminal Configuration,
- Reboot.

Note: if the terminal is password protected, it is imperative to enter the password in the "Password" field.

Here is an example of the command:

| AXEL ADM | Axel Remote Management ¥1 | .4.0 | | | |
|------------------|---|------------------------------|--------------------------------------|-------------------|------|
| $\left[\right]$ | Remote Commands | Inte | eractive Set-Up | 7 | |
| | Axel Device | | | | |
| | Name or IP Address | 192.168.1.2 | 43 | Ping | |
| | Password (optional) | | | | |
| | Commands | | | | |
| | GET TERMINAL INFORMATION OF THE SECOND SECONDO SECONDO SECOND SECONDO SECONDOS | FION | | | |
| | C GET TERMINAL NETWORI | < STATS. | | | |
| | C GET TERMINAL CONFIGUR | RATION | | | |
| | C REBOOT | | Preserve target terminal config. | V | |
| | SEND TERMINAL CONFIGU SEND TERMINAL CONFIGU | JRATION | Firmware filename Use native TFTP | D:\firm\0303e\FK1 | 5.TC |
| | FIRMWARE DOWNLOAD | | TFTP IP address | 192.168.1.12 | |
| | SET FACTORY SETTINGS | Remo | ote router IP (optional) | | |
| | This Option Can Permanen | tly Change t | he Terminals Beha | vior RUN | |
| _ S | itatus/Help | | | | |
| I | Reboot in progress Vaiting for 192.168.1.24 | 3 being r | ebooted | | |
| | ж | | | | |
| | FRIG-BV3Ia/TCP.FR.U3U3e: Ferminal database update | id. | | | - |
| | Help | A | dvanced Functions | 1 | Exit |
| | Natus/Help Reboot in progress Jaiting for 192.168.1.24 DK FK16-BV31a/TCP.FR.0303e Ferminal database update Help | 3 being r RDP54STD ed. | ebooted |] | Exit |

Note: the terminal database is automatically updated, if the database autoupdate function is enabled (see Chapter 3.7.2).

3.1.7 - Reloading Factory Settings

AxRM can also be used the reset the terminal back to factory default values.

| 🗱 Axel Remote Management ¥1.4.0 | . 🗆 > |
|--|-------|
| Remote Commands Interactive Set-Up | |
| - Axel Device | |
| Name or IP Address 132.168.1.243 Ping | |
| Password (optional) | |
| Commands | |
| C GET TERMINAL INFORMATION | |
| C GET TERMINAL NETWORK STATS. | |
| C GET TERMINAL CONFIGURATION | |
| C REBOOT | |
| C SEND TERMINAL CONFIGURATION | |
| C FIRMWARE DOWNLOAD | |
| © SET FACTORY SETTINGS Reset also IP address ☑ | |
| This Option Can Permanently Change the Terminals Behavior RUN COMMANI | |
| Status/Help | |
| This option will reset all the device parameters (including the IP address). | A |
| Help Advanced Functions Exit | |

Click on "Set Factory Settings". The following window is displayed:

Uncheck "Reset also IP address" if the IP address is to be retained.

Note: this operation is done by sending a set-up file containing only the RESET_CMOS command.

3.2 - ACCESSING THE TERMINAL INTERACTIVE SET-UP

To 'log-on' to the terminal to interactively set-up click on **"Interactive Set-Up"** tab.

The following information is displayed:

| Homoto Commando | Interactive Set-Up |] |
|--|--------------------|-----------------------|
| Connection | | |
| Connection | | |
| Network connection to target (teinet) C. Sacial association to AV4000 | | 4096 |
| Serial connection to AX4000 | | |
| Display | | |
| Font Size Medium 💌 | | |
| | | Enter the Avel Cet Up |
| | | Erner me Axer berop |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| us/Help | | |
| us/Help | | |
| us/Help | | |
| tus/Help | | |

3.2.1 - Telnet Protocol (AX3000 and AX4000)

The interactive set-up of terminals (only M75) and Office Servers uses the telnet protocol.

Note: this function can be disabled or customized within the terminal/server. For more information, read the *User's Manual* of the related product.

To open a "telnet set-up" session to an Axel device: - Select the telnet connection type,

AXEL

- Enter the IP address or the name of the Axel terminal (use the [...] button to browse the Axel database),
- Enter the set-up TCP port (default 4096),
- Select the font size,
- Click the [Enter the Axel Set-Up] button.

A window containing the terminal set-up is displayed.

Note: AxRM provides an embedded telnet client which is designed specifically for Axel set-up. A third party telnet client can be used but would need to be configured within the AxRM tunings (see Chapter 3.7.5).

3.2.2 - COM Port (AX4000 only)

The AX4000 interactive set-up can be also accessed via a serial RS232 connection.

To open a "serial set-up" session do the following:

- Use a serial cable to connect the Office Server with the Windows machine.
- Select the "Serial connection to AX4000" type,
- Select the Windows COM port,
- Select the font size,
- Click the [Enter the Axel Set-Up] button.

An empty window is displayed. Push the "Admin Mode" switch (located on the AX4000 rear panel). The main menu of the AX4000 set-up is displayed.

3.3 - THE TERMINAL DATABASE

AxRM supports a terminal database containing for each entry:

- the terminal name or IP address,
- the serial number,
- the hardware/firmware revision,
- the date of the last update of this entry,
- a group: a free character string (which allows the database to be sorted)
- a comment.

To access the database control box, click the button **[Advanced Functions]** and select the **"Manage the Device Database"** option (or press <F3>):

| 🎆 Axel De | evice DataBa | se | | | | × |
|-----------|--------------|---------------|--------------------------------|------------------|------------|------------------|
| | | | | | | |
| IP or Na | ne 🔽 | Serial Number | Hardware/Firmware | Group | Entry Date | New Device |
| 192.16 | 8.001.022 | 1211M7500018 | FK16-BV31a/TCP.FR.386P:RDP5&V | administration | 07/01/200 | |
| 192.16 | 8.001.023 | 1211M7500017 | FK16-BV31a/TCP.FR.386P:RDP5&V | administration | 05/04/200 | Edit Device |
| 192.16 | 8.001.024 | 1211M7500016 | FK16-BV31a/TCP.FR.386P:RDP5&V | administration | 05/04/200 | |
| 192.16 | 8.001.220 | 1211M7500004 | FK16-BV31a/TCP.FR.386P:RDP5&V | | 05/04/200 | Datata Davian |
| 192.16 | 8.001.222 | 1211M7500004 | FK16-BV31a/TCP.FR.0303c:VNC&S | | 09/02/200 | Delete Device |
| 192.16 | 8.001.241 | 1211M7500004 | FK16-BV31a/TCP.FR.386P:RDP5&V | development | 05/04/200 | |
| 192.16 | 8.001.242 | 0508M5500017 | FK11-BV13a/TCP.FR.0303d3:I32&V | development | 05/04/200 | Properties |
| 192.16 | 8.001.243 | 1211M7500007 | FK16-BV31a/TCP.FR.0303e:RDP5& | development | 05/04/200 | |
| 192.16 | 8.001.244 | 141175B00016 | FK16-BV31a/TCP.FR.386P:RDP5&V | development | 05/04/200 | Update Device |
| 192.16 | 8.001.248 | 0508M5500017 | FK5-BV12a/TCP.FR.0303d:STD | | 01/03/200 | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| • | | | | | Þ | |
| | | | | | | Discard and Exit |
| | Network Sc. | an | Undate Database Merge | another Database | | |
| | NOUNDIN DO | | meige | | | Save and Evit |
| | | | | | | |

3.3.1 - Manually Editing Database

To add a terminal click the [New Device] button:

| Add a Device | |
|-----------------------------|-----|
| IP Addr. or Name | |
| Serial Number | |
| Group (usefull for sorting) | |
| Comments | |
| CANCEL | OK. |

Note: only the name or the IP address is mandatory. Other fields can be left blank and can be filled later (**[Edit Device]** button).

To remove the selected entry click the [Delete Device] button.

To display information about the selected entry click the [Properties] button:



The **[Device Update]** button runs a "Get Terminal Information" function. This allows the database to be synchronized. In addition, this function updates the "Hardware/Firmware" field.

3.3.2 - Adding Terminals by Scanning the Network

The **[Network Scan]** button allows terminal to be automatically discovered by scanning the network:

| Discovering | Axel Devices by 9 | icanning the Netwo | ʻk | <u>_ X</u> |
|-------------|-------------------|--------------------|---------------|--|
| IP Range: | Start: | En En | | |
| | Sc | san Network | | |
| IP or Name | Status | Serial Number | Hardware/Firm | Clear this List Filter: All Devices Alive only Axel Only |
| | U; | date Database | | Close |

First, fill the "IP Range" fields.

Then, click the **[Scan Network]** button to run the scan. The discovered IP devices are displayed in real time during the scan.

AXEL

During a scan the following field are displayed:

- "IP or Name": by default, the IP address is displayed. But, if the "resolve name" function is enabled (see Chapter 3.7.5), AxRM tries to retrieve the name of this device. If a such name exists, this name is displayed.
- "Status":
 - **Not Alive**: the target IP address is unreachable (ping command)
 - Not Axel: the target IP address is not an Axel terminal (no response to a "Get Terminal Information" command)
 - Axel Device: the target IP address is an Axel terminal
- "Serial Number": this field is updated only if the terminal is an "Axel Device" and if this terminal <u>belongs to the same network</u> as AxRM.
- "Hardware/Firmware": this field is always updated for an "Axel Device".

During (or after) the scan process the output can be filtered using the "Filter" section.

The button [Clear this List] allows the list to be cleared.

Note: multiple scans can be performed to browse multiple IP ranges.

If at least one "Axel Device" is found, the **[Update Database]** button is enabled. Click this button to add the "Axel Device" entries to the current database.

3.3.3 - Adding Terminals from Another Database

The button **[Merge Another Database]** allows terminals from another database to be added to the current database. (For example when a terminal database is created with another AxRM machine located on a remote network).

3.3.4 - Synchronizing the Database

The button **[Update Database]** runs, for each terminal database entry, a "Get Terminal Information" function. This function updates the "Hardware/Firmware" field.

3.4 - MANAGEMENT OF COMMAND FILE

The AxRM software lets a batch of commands be launched on one or several terminals.

These commands and their parameters are saved in a 'command file'. Execution of this batch file generates a log file.

3.4.1 - Creation of the command file

To access the batch file editor, click the button **[Advanced Functions]** and select first the **"Batch File"** option then the **"Batch File Editor"** option (or press <F4>).

The following dialog box is displayed:

| Batch File Editor | | | | | × |
|--------------------|---------|----------------|------------------|---------------------|---|
| Load a Batch File | | Save this File | | Save as | |
| NewBatchFile.txt | | | | | |
| # Name or IP Addr. | Command | | Additional Infor | nation | |
| | | | | | ~ |
| | | | | | |
| | | | | | _ |
| | | | | | |
| | | | | | |
| | | | | | V |
| • | | | | • | |
| Add a Command | | Edit a Command | [| Jelete a Command | 1 |
| | | | | | 1 |
| Copy this Command | | | Cle | ar the Command List | |
| | | | | | |
| | | | | Exit | |

Note: a text editor can also be used to create the command file. (Word, vi, notepad, etc.). For more information on the format of this file see appendix A.2.

The **[Load a Batch File]** button allows an existing command file to be loaded. The filename is displayed above the command list area.

To add a command, click the **[Add a Command]** Button. First select the command to be added within a menu (reboot, get set-up, get configuration, etc.). Then the command parameters are entered through a dialog box. For example:

To add a command, click the **[Add a Command]** Button. Two types of commands can be added:

- a scheduler command: it allows to wait a starting time. For example:

| 🛲 Edit a Batch Command | _ 🗆 🗙 |
|-----------------------------------|--------|
| SCHEDULER | |
| Time to start next command: 23:00 | |
| ОК | Cancel |

- an administration command. For example:

| 🚟 Add a Batch Command | |
|---------------------------|-------------|
| FIRMWA | RE DOWNLOAD |
| | |
| Name or IP Address: | |
| Password: | |
| Perserve Target Settings: | v |
| Firmware file: | |
| Native TFTP server: | v |
| TFTP IP Address: | |
| Remote IP Routeur: | |
| OK. | Cancel |

Note: the "Name or IP address" is the only required parameter.

For example, this is the main dialog box after a batch file had been loaded or commands had been added:

| 🚟 Batch File Editor | | 2 | < |
|----------------------------|------------------|------------------------|----|
| Load a Batch File | Save this File | Save as | |
| NewBatchFile.txt | | | |
| # Command | Name or IP Addr. | Additional Information | |
| 1 SCHEDULER | | 23:00 | |
| 2 GET TERMINAL INFORMATION | 192.168.1.248 | Dutput to display | |
| 4 BEBOOT | 192.168.1.200 | device | |
| | | | |
| | | | |
| | | | |
| | | × | |
| 1 | | | |
| | | | |
| Add a Command | Edit a Command | Delete a Command | |
| | | | |
| Copy this Command | | Clear the Command List | |
| | | | |
| | | Exit | I. |
| | | | 1 |

Within the command list, the available operations are the following:

- Selecting a command: use the mouse or the arrow keys.
- Modifying the command parameters: click the **[Edit a Command]** button to edit the current command (or press the <Enter> key or double-click the command to be edited).
- Copying the current command (i.e: adding a new command with the same parameters except the "Name or IP address"): click the **[Copy a Command]** button.
- Deleting the current command: click the **[Delete a Command]** button (or press the <Delete> key).
- Deleting all the commands: click the [Clear the Command List] button.

To save the batch file click the **[Save this File]** button. To save the file with a different name, click the **[Save as...]** button.

3.4.2 - Execution of the command file

To access the batch file editor, click the button **[Advanced Functions]** and select first the **"Batch File"** option then the **"Run a Batch File"** option.

The following dialog box is displayed:

| 🎆 Batch Co | mmands | | | |
|------------|--------|--------------------|---|------|
| Batch File | | | | |
| Log File | | | | |
| | | RUN THE BATCH FILE | | |
| Status | | | _ | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | lose |

The name of the command file must be entered in the "Batch file" field.

The name of the log file must be entered in the field "Log file".

Note: [...] selects an alternative file location.

Click the button [Run the Batch File] to run the command file.

The current command and parameters are displayed in the $\ensuremath{\textit{Status}}$ zone. For example:

| Batch Co | mmands | <u>_ ×</u> |
|-----------------------------|---|----------------|
| Batch File Log File | d:NempNbatch.txt | |
| | RUN THE BATCH FILE | |
| Status ******* Target | ************************************** | **** |
| Save/Re: TFTP set | : D: (Firm(0210e(FRII.10F.A.0210e.SID store: no sver : native | í |
| Passwor(| acer: none 1 : | |
| | | Close |

Note: the status of the command is shown in the **"Status/Help"** window. After running all the commands a log file is generated showing any errors.



3.5 - ASSIGNING IP ADDRESSES

Most AxRM functions require the terminal to already have an IP address.

If the terminal does not have an IP address (i.e. a brand new terminal or the address is unknown), it is possible to set an IP address remotely using either the terminal's serial number or MAC address.

Note: the serial number and MAC address are written on the base of the unit and on the outside of the shipping box.

IMPORTANT: This function will not work if:

- The terminal and the Windows machine are not on the same LAN (because routers require IP addresses).
- The firmware of the terminal does not support this function. Firmware 0303a (or higher) for terminals AX3000 and 9926a (or higher) for the Office Server AX4000. (Approximately products shipped after April 2003)

3.5.1 - Set Manually

To access the control box, click the button **[Advanced Functions]** and select the **"Set an IP address to a device"** then **"Set Manually"** option (or press <F6>):

| AXIL Set IP Address | | | |
|--|-------------------|--|--|
| Warning: This function works only within a LAN. When a gateway (i.e router) is used, this function is not supported. | | | |
| IP Address to Set | | | |
| 192.168.1.241 | | | |
| 🔽 Use the native ARP su | apport | | |
| Axel Device Identifica | tion | | |
| C Serial Number | | | |
| C MAC Address 00: | A0:34 | | |
| SET THIS IP ADDRES | SS TO THIS DEVICE | | |
| Status | | | |
| | Close | | |

First - Enter new and non-conflicting IP address for the terminal.

Second - Select the method to identify the terminal (serial number or MAC Ethernet address).

Click the button **[Set this IP Address To this Device]** to assign the IP address to the terminal.

After several seconds, the terminal will assume the new IP address and the window below is shown.

| Set IP Address | <u>_ ×</u> | |
|---|--|--------------|
| Warning: This function works only When a gateway (i.e rou function is not supported | u within a LAN. uter) is used, this d. | |
| | axRM | × |
| IP Address to Set | OK, Axel device is c | orrectly set |
| 192.168.1.243 | | |
| ✓ Use the native ARP support | ОК | |
| Axel Device Identification | | |
| Serial Number 0508M55000 | 017 | |
| C MAC Address 00:A0:34:00 | :00:11 | |
| SET THIS IP ADDRESS TO TH | HIS DEVICE | |
| Status Setting 00:A0:34:00:00:11 as 192:168. | 1.243: try #6 | |
| | Close | |

Important: after having accepted the new IP address, the terminal is automatically rebooted.

Note for Windows 95 and 98 only: AxRM contains an embedded ARP command, but this can conflict with the ARP command in older Windows 95/98 systems. For these environments the 'Native Arp' must be disabled. This will force the Windows ARP command to be used.

3.5.2 - Batch Operation

Note: this function is not available under Windows 95 and 98.

a) Batch File Creation

A text editor is required to create the batch file. (Word, vi, notepad, etc.).

For this batch file the following rules must be applied:

- The first line is a header (see example below).
- A valid line is first the terminal ID (serial number or MAC address), then the equal symbol (=), then the IP address.
- Lines beginning by a hash (#) are ignored.

Batch file example:

```
AxRM IP BATCH V1.0
### First Terminal
00:A0:34:0B:00:02=192.168.1.245
### Second Terminal
00000M7500034=192.168.1.241
```

b) Execution of a Batch File

To access the control box, click the button **[Advanced Functions]** and select the **"Set an IP address to a device"** then **"Batch File"** option (or press <F7>):

| 🔠 Setting | IP Adresses through a Batch File | × |
|------------|----------------------------------|---|
| Batch File | | |
| Log File | | |
| | RUN THE BATCH FILE | |
| Status | | |
| | | |
| | | |
| | | |
| | Close | |

The name of the command file must be entered in the "Batch file" field.

The name of the log file must be entered in the field "Log file".

Note: [...] selects an alternative file location.

Click the button [Run the Batch File] to run the command file.

The current command and parameters are displayed in the **Status** zone.

After running all the commands a log file is generated showing any errors.

3.6 - USING BOOTP TO DOWNLOAD A FIRMWARE

3.6.1 - Overview

For certain Axel products, during the firmware downloading process, the current firmware is deleted, than the new firmware is transferred across the network by TFTP.

If an occurrence interrupts the transfer the terminal is left in a state where the new firmware download failed and is not loaded and the old firmware has been deleted.

In this eventuality the Axel terminal is programmed to use a low level bootp emergency procedure to find and load new firmware.

Bootp requests are broadcasted by the terminal, which when received by a bootp server start the download procedure. The parameters required are IP address to give terminal, IP address of TFTP server and the firmware filename.

With this information, the Axel product sends a TFTP request to get a valid firmware. If the TFTP server and the firmware are available the firmware is downloaded.

3.6.2 - Setting the BOOTP Server

To access the bootp control box, click the button **[Advanced Functions]** and select the **"Repair a Device by BOOTP"** option:

| and Anna Bootp Server | | <u>_0×</u> |
|---|---------------|------------|
| Axel Device Identification | | |
| C Serial Number | | |
| C MAC Address | ST | ART BOOTP |
| Given Parameters | | |
| Axel IP address | | |
| Firmware Filename | | Options >> |
| Status Click [START BOOTP] to run the bootp server, then pov | ver cycle Axe | l terminal |
| | | CLOSE |

First, select the method to identify the terminal (serial number or MAC Ethernet address)

Second; fill the two requested parameters: the terminal IP address and the firmware filename.

IN this case, AxRM acts as both BOOTP server and a TFTP server. If this is not the case see Chapter 3.6.4.

3.6.3 - Running BOOTP and Downloading the Firmware

When the required parameters are entered, the **[START BOOTP]** is enabled. Click it to run the BOOTP server:

| Bootp Server | | _ 🗆 × |
|------------------------------------|--------------------------|----------------|
| Axel Device Identi | fication | |
| Serial Number | 0911M6500001 | |
| C MAC Address | 00:A0:34:07:00:01 | STOP BOOTP |
| Given Parameters | | |
| Axel IP address | 192.168.1.241 | |
| Firmware Filename | D:\firm\0303a4\FK14.TCP. | Options >> |
| Status Listening on 192.168.1.1 | 2:67 | |
| | | CLOSE |

AxRM is now listening for incoming BOOTP requests.

Note: to stop the BOOTP server click the same button (the button label is now **[STOP BOOTP]**).

To force a faulty Axel terminal to run BOOTP requests, power-cycled it.

If the terminal identification is correct, the BOOTP server sends required firmware to the terminal

3.6.4 - Advanced Settings of the BOOTP Server

The button **[Options >>]** of the BOOTP dialog box allows more parameters to be displayed:

| Bootp Server | | _ 🗆 × |
|----------------------------------|--|------------|
| Axel Device Identi | fication | |
| C Serial Number | | 1 |
| C MAC Address | START | BOOTP |
| Given Parameters | | |
| Axel IP address | | |
| Firmware Filename | | Options << |
| Native TFTP Server | N | |
| TFTP Server IP | | |
| Remote router IP (optional) | | |
| Status Click [START BOOTP] to | o run the bootp server, then power cycle Axel term | inal |
| | | CLOSE |

Using a TFTP server different than AxRM

Un-tick the **"Native TFTP Server"** parameter and fill the "TFTP Server IP" parameter.

The terminal and AxRM are not on the same LAN

Fill the **"Remote Router IP"** with the IP address of the router on the terminal side.



3.7 - TUNING AXRM

To access the tuning control box, click the button **[Advanced Functions]** and select the **"Tunings"** option (or press <F12>).

3.7.1 - The Network

Click the "Network" tab to access the network settings:

| AXEL ADM | AxRM Tunings | | | | _ 🗆 × |
|-------------|--------------------------------|----------------------|---|----------------|---------------|
| | Network Default Fol | ders Y | Database | Password | Telnet Set-Up |
| | Windows Server Settings: | | | | |
| | Network Interface | 192. | 168.1.12 | | |
| | Local RSH Port Base | 1024 | 4 | | |
| | Prompt me when AxRM dete At | ects nev utomatic | w/alternative IP addro ally use new IP addro | ess 🔽 ess 🗖 | |
| | Discover over the Network: | | | | |
| | Ping Time-out (ms) | 300 | | | |
| | Try to Resolve Names | | | | |
| | | | | | |
| | Discard and Exit | | | | Save Settings |

a) Windows Server Settings

The IP address of the Windows network interface must be known. ("Network Interface" parameter).

Note: by default the PC's first **"Network Interface"** IP address is selected. If more than one network interface is available this parameter must be modified manually so AxRM is connected to the same NIC/LAN as the terminal network.

Each time AxRM is run, the "Network Interface" value is compared with the current Windows IP address. If these addresses are different, the AxRM behavior depends on the "Prompt me when AxRM detects new/alternative IP address" value:

- **checked**: a warning message is displayed. The operator must select if the former IP address is overwritten by the new one.

- unchecked: the former IP address is overwritten by the new one if "Automatically use new IP address" is checked.

Note: if the Windows IP address is given by DHCP, set AxRM to automatically use the new IP address. This will prevent a warning message being displayed each time AxRM is run.

The AxRM administration commands are RSH-based. For an RSH command a local TCP port must be reserved. The **"Local RSH Port Base"** is the first value used by AxRM to find a free TCP port. This parameter can be modified in the event of a firewall preventing an RSH connection.

b) Scanning the Network

The two network scan parameters are:

- **the ping timer command**. To know if a target IP is available, a ping command is run. The ping timer (when the IP address is not responding) can have a significant impact for a large IP range scan.
- the name resolution. When a target IP address is valid, AxRM can try to resolve the name. The time needed by a name resolution operation depends on the DNS server settings (and can have a significant impact for a large IP range scan). So the name resolution function is disabled by default.

3.7.2 - The Default Folders

Click the "Default Folder" tab to access these settings:

| AxRM Tunings | | | | |
|---------------------|-----------------|----------|----------|---------------|
| Network | Default Folders | Database | Password | Telnet Set-Up |
| AxRM Default Fo | olders: | | | |
| Firmware Files | D:\firm | | | 1 |
| Set-Up Files | D:\setup | | | |
| Info or Stat. Files | D:\temp | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| Discard and Exit | | | | Save Settings |

Three default folders are available:

- Firmware Files,
- Set-Up Files,

- Info or Stat. Files.

3.7.3 - The Terminal Database

Click the "Database" tab to access these settings:

| AxRM Tunings | _ 🗆 × |
|---|---------------|
| Network Default Folders Database Password | Telnet Set-Up |
| Axel Device Database: | |
| Filename C:\WINNT\axeldatabase.ax | |
| Use a Database Lock File 📁 | |
| Auto Update on "GET INFO" 🔽 | |
| | |
| | |
| | |
| | |
| | |
| Discard and Exit | Save Settings |

The database parameters are:

- the filename (by default: %SystemRoot%\axeldatabase.axd).
- Use a Database Lock File. This function prevents two AxRM utilities working on the same database file (to avoid database inconsistencies or data loss). When this function is enabled, a lock file is used. (the lock file name is the database filename ended by ".lock". The default lock file is "%SystemRoot%\axeldatabase.axd.lock").
- **the auto-update function**. When this function is enabled, the database is automatically updated when a "Get Terminal Info" command is run.

3.7.4 - AxRM Password

Click the "Password" tab to access these settings:

| AXEL ADM | AxRM Tunings | | | | _ 🗆 × |
|-------------|------------------|---------------------|----------|----------|---------------|
| | Network | Default Folders | Database | Password | Telnet Set-Up |
| | AxRM Passwore | d Protection: | | | |
| | Enable | password protection | | | |
| | | Enter password | | | |
| | | Re-enter password | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | Discard and Exit | | | | Save Settings |

If required, AxRM can be password protected. To set a password, tick the **"Use a password"** parameter and enter twice the password.

The password will be asked the next time AxRM is run.

3.7.5 - Using a Third Party Telnet Client

Click the **"Telnet Set-Up"** tab to access the telnet client settings (for accessing the Axel interactive set-up, see Chapter 3.2):

| AXU ADM | AxRM Tunings | | | | |
|------------|---|---------------------|----------------|----------|---------------|
| | Network | Default Folders | Database | Password | Telnet Set-Up |
| | Entering an Ax | el Device Set-Up tl | hrough Telnet: | | |
| | Use a Third Part | yTelnet 🕅 | | | |
| | Telne | t Command | | | |
| | Tel | net Options | | | |
| | Substitution variables can be included into the telnet option string: - %host% is the IP address of the Axel device - %port% is the Set-Up TCP Port Example: Telnet Command: 'c:\winnt\system32\telnet.exe' Telnet Option: 'khost% %port%' | | | r. | |
| | Discard and Exit | | | | Save Settings |

If a third party client is used (instead of the native AxRM one), check the box "Use a Third Party Telnet" and enter the following information:

- **Telnet Command**: enter the pathname and the name of the telnet client. The **[...]** button allows to disk to be browsed).
- **Telnet Options**: enter the telnet client parameters. The **%host%** and **%port%** substitutions variables allows the Axel IP address and the set-up TCP port to be encoded.

Prerequisite of a third party telnet client:

- ANSI emulation (with color support)
- TERM value: ansi
- Screen size: 80x25
- scrolling mode disabled

Note for using the Microsoft telnet client: as the scrolling mode can not be disabled with this telnet client, the DOS box size must be set to 80 columns and **26 rows**.

APPENDIX

This Appendix gives information for administrators who wish to learn more about the abilities and internal workings of the AxRM Software.

A.1 - TCP/IP COMMANDS USED

Various standard TCP/IP commands are embedded in the AxRM Software (rsh, arp, tftp and ping). Depending on your operating system these commands may also be included in Windows.

The AxRM software uses 'rsh' to send proprietary terminal commands to the Axel device. These commands are described in the *Users Manual* of the terminal / Office Server.

The following table describes each AxRM command and the equivalent generic TCP/IP command that could be issued from the command prompt.

| Commands AxRM | Commands TCP/IP |
|-----------------------------|---|
| Get Terminal Information | For the firmware/hardware: rsh axname ax_version For the Ethernet address and the serial number arp -a |
| Get Terminal Network Stats. | rsh axname ax_getstat |
| Get Terminal Configuration | For full set-up info: rsh axname setup_get > file For partial set-up: rsh axname setup_get_lite > file |

<u>Axel</u>

| Reboot | rsh axname ax_reboot [passwd] [resource] |
|-----------------------------|---|
| Send Terminal Configuration | To send the set-up: rsh axname setup_send [passwd] < file To reboot automatically: rsh axname ax_reboot [passwd] |
| Firmware Download | To obtain and save current set-up: rsh axname setup_get > file To download firmware: rsh axname ax_download [passwd] [File] [TFTP] [Router] To send the saved set-up: rsh axname setup_send [passwd] < file To reboot automatically: rsh axname ax_reboot [passwd] |
| Set Factory Settings | To send the set-up containing RESET_CMOS: rsh axname setup_send [passwd] < file To reboot automatically: rsh axname ax_reboot [passwd] |
| Set IP address | To modify the arp table: arp -s axname MACaddr And to force IP address: ping axname |

A.2 - FORMAT OF THE COMMAND FILE

The format of the command file must adhere to the following rules:

- The first line of the file must be "AXEL REMOTE MANAGEMENT V1.0".
- All lines beginning with # are comments and are not interpreted.
- Uncommented lines must be of the format ACTION=VALUE.
- The contents of the file are not case sensitive.
- Spaces are mandatory between where indicated

The options for ACTIONs are:

- **COMMAND**: available commands are:
 - REBOOT, GET INFO, GET STATS, GET SET-UP, SEND SET-UP and DOWNLOAD.
 - SCHEDULER
- **IP ADDR**: IP address (or name) of the terminal
- **FILENAME**: name of the file required by the command (set-up file, firmware file...).
- **PASSWORD**: password.
- **RESOURCE**: keyword describing the resource to be initialized. Options are: device, sessX, aux1, aux2, parallel, chX (X is appropriate number)
- TFTP IP: name of TFTP server
- ROUTER IP: name of the router
- NATIVE TFTP: to select or de-select the native TFTP server: (Y or N)
- REBOOT: to select or de-select terminal reboot: (Y or N)
- **PRESERVE**: to select or de-select preserving the configuration during firmware download: (Y or N)
- FULL SET-UP: to select or de-select requesting full set-up: (Y or N)
- STARTING TIME: the time for the starting time

Here are some examples:

- COMMAND=GET INFO: IP ADDR, FILENAME
- COMMAND=GET STATS: IP ADDR, FILENAME
- COMMAND=GET SET-UP: IP ADDR, FILENAME, FULL SET-UP
- **COMMAND=REBOOT**: IP ADDR, PASSWORD and RESOURCE
- **COMMAND=SEND SET-UP**: IP ADDR, PASSWORD, FILENAME and REBOOT
- **COMMAND=DOWNLOAD**: IP ADDR, PASSWORD, FILENAME, PRESERVE, NATIVE TFTP, TFTP IP and ROUTER IP
- COMMAND=SCHEDULER: STARTING TIME

<u>Axel</u>

Example:

```
AXEL REMOTE MANAGEMENT V1.0
###############
#COMMAND 1
################
COMMAND=GET SET-UP
IP ADDR=192.168.1.249
FILENAME =D:\temp\setup9.txt
################
#COMMAND 2
###############
COMMAND=DOWNLOAD
IP ADDR=192.168.1.250
NATIVE TFTP=Y
FILENAME =D:\firm\0210e\FK11.TCP.XX.0303a.STD
PASSWORD=pwd
PRESERVE=Y
###############
#COMMAND 3
################
COMMAND=GET INFO
IP ADDR=192.168.1.250
```

A.3 - FORMAT OF THE DATABASE FILE

The format of the database file must adhere to the following rules:

- The first line of the file must be "AXEL DATABASE V1.1".
- All lines beginning with # are comments and are not interpreted.
- Uncommented lines must contain the following fields (a comma is used as separator):
 - IP address,
 - Serial Number,
 - Ethernet Address,
 - Firmware/Hardware revision,

- date and time of the last modification,
- group,
- comment.

Note: if the file header is "AXEL DATABASE V1.0", the group field is not present.

A.4 - REGISTRY VARIABLES

AxRM uses the Windows "registry" to store internal variables. These variables, stored in **HKEY_LOCAL_MACHINE\SOFTWARE\Axel\AxRM**, are:

- **DBAutoUpdate**: enabling or not the auto-update function.
- **DBFile**: terminal database filename.
- **DontNotifyChangeIP**: displaying or not a warning message when the Windows IP address had been modified.
- FirmwareFolder: default folder for firmware files.
- InfoStatFolder: default folder for information/statistics files.
- **IPAutoUpdate**: automatically updating (or not) HostIP when the Windows IP address had been modified.
- LocaIRSHPort: base for finding a free RSH TCP port.
- SetupFolder: default folder for set-up files.
- HostIP: Windows IP address.
- Passwd: AxRM password (encrypted).
- **ScanPingTimeOut**: timer for the network scan ping command
- ScanResolveName: enabling or not the name resolution function.
- **TelnetThirdParty**: using or not a third party telnet client.
- TelnetCommand: pathname and name of the telnet client.
- **TelnetOption**: telnet client parameters.

Note: we strongly advise to not modify the registry yourself.

14 Avenue of the Quebec Bât. K2 - BP 728 91962 Courtabœuf cedex - FRANCE Tel.: 01.69.28.27.27 - Fax: 01.69.28.82.04 - Email: info@axel.fr