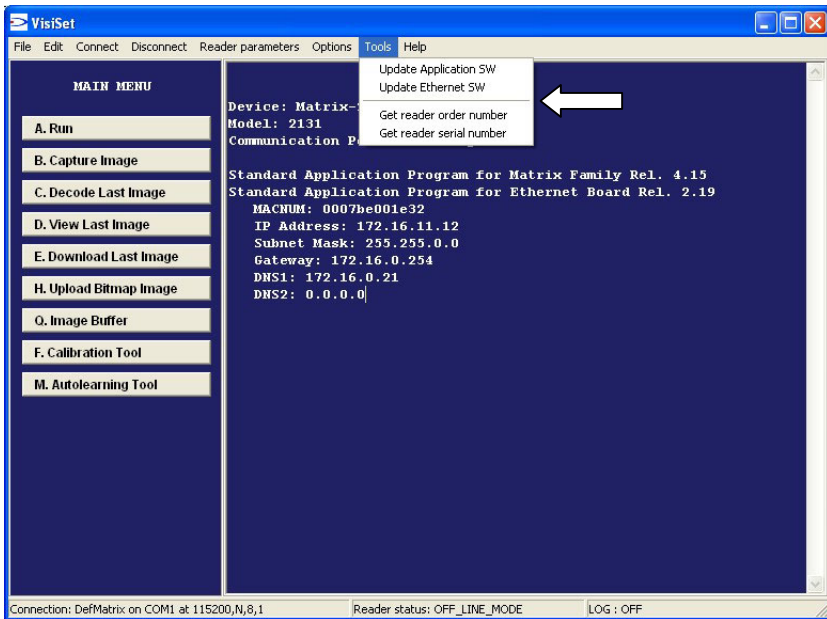



## UPGRADING MATRIX FAMILY SOFTWARE

This document describes how to upgrade the Matrix reader's software using either VisiSet™ configuration tool or a standard Terminal (e.g. HyperTerminal).

Loader menu available on VisiSet™ allows upgrading Matrix reader's application software and Ethernet software. Refer to the following paragraph for the complete procedure.



**Figure 1 - VisiSet™ Tools menu**



*If it is not possible to get in contact with the reader using VisiSet™ configuration tool you can refer to paragraph "Using Standard Terminal".*

**NOTE**

## **USING VISISET™ TOOLS MENU**

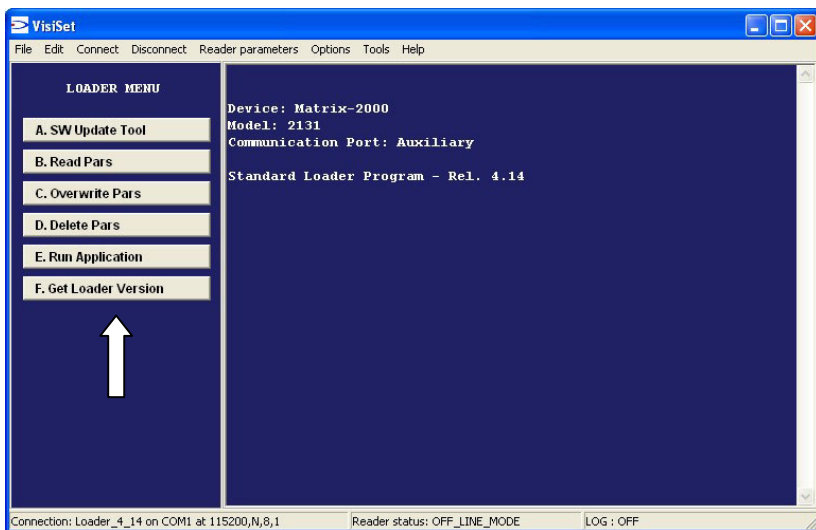
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The Matrix Family Loader is a simple, menu-driven interface embedded on the reader that examines and updates the reader's Flash memory.

When using the Loader, you transfer .BIN files to the reader via the Auxiliary serial port and execute the file. These .BIN files automatically update the appropriate section of flash memory.

### **Upgrade Application Software**

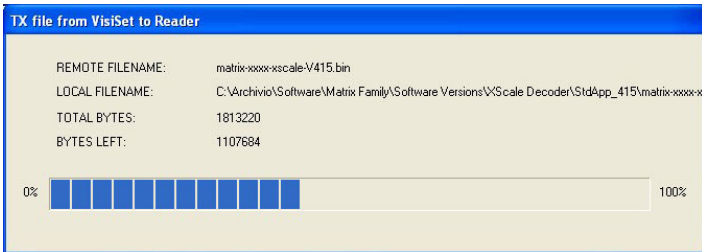
1. Install the APD (Application Program Disk) files in a directory on your PC;
2. Connect the Auxiliary port of the Matrix reader to a PC and run VisiSet™ configuration tool;
3. Select **Connect** option to get in contact with the Matrix reader;
4. Select **Update Application SW** option from **Tools** menu ⇒ Loader menu will be displayed (refer to Figure 2);



**Figure 2 - VisiSet™ Loader menu**

5. Select option **A. SW Update Tool** to update reader application program and FPGA program;
6. Select the appropriate .BIN file and start downloading ⇒ VisiSet™ automatically performs downloading of Application and FPGA program files;

7. Wait until the file(s) are transmitted to the reader and then transferred to the Flash memory;



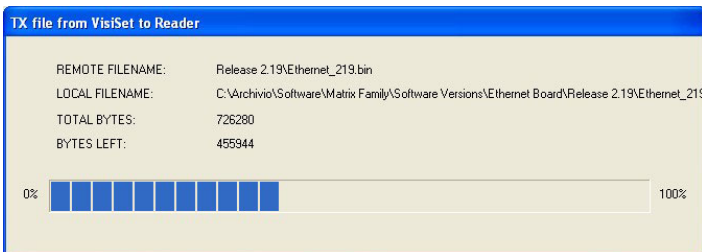
**Figure 3 - Transmission File window**

8. Select **D. Delete Pars** option to erase the parameters area;
9. Select **E. Run Application** option and power off the reader.

Now the reader is ready to be powered again and connected through VisiSet<sup>TM</sup>.

## Upgrade Ethernet Software

1. Install the APD (Application Program Disk) files in a directory on your PC;
2. Connect the Auxiliary port of the Matrix reader to a PC and run VisiSet<sup>TM</sup> configuration tool;
3. Select **Connect** option to get in contact with the Matrix reader;
4. Select **Update Ethernet SW** option from **Tools** menu;
5. Select the appropriate .BIN file and start downloading ⇒ VisiSet<sup>TM</sup> automatically performs downloading of Ethernet program file;
6. Wait until the file is transmitted to the reader;



**Figure 4 - Transmission File window**

- Wait until the file is transferred to the Flash memory of the Ethernet board; this operation requires few minutes (refer to Figure 5).

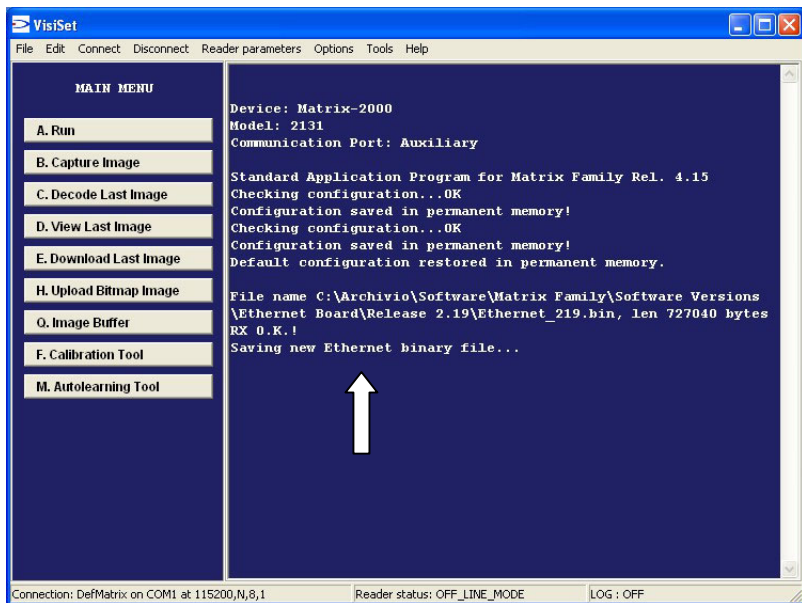



Figure 5 - Ethernet File saving

- Power off the reader.

Now the reader is ready to be powered again and connected through VisiSet™.



**NOTE** *ETHERNET.BIN file was written to Ethernet board at the Datalogic factory when your reader was assembled. There is no specific need to re-write this Flash memory. Use the tool to upgrade the Ethernet board only when instructed to do so.*

## USING STANDARD TERMINAL

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1. Install the APD (Application Program Disk) files in a directory on your PC;
2. Connect the Auxiliary port of the Matrix reader to a PC and run a connection with HyperTerminal using the following settings:

Baud Rate: 115.200

Data Bit: 8

Parity: None

Stop Bit: 1

Flow Control: None

3. Start connection with Matrix reader powered off and keep on pressing ENTER;
4. Power on Matrix reader and keep on pressing ENTER for at least 10 seconds;
5. Stop when you see the "MTR" string on your terminal and then press SPACE;
6. The following menu is displayed:

LOADER MENU

SW Update Tool (press A)

Read Pars (press B)

Overwrite Pars (press C)

Delete Pars (press D)

Run Application (press E)

Get Loader Version (press F)

7. Press **A** to download a .BIN file: the following message is displayed:

Get Application program.

Start transfer ... CC

8. Select **Send File** command from the **Transfer** menu;

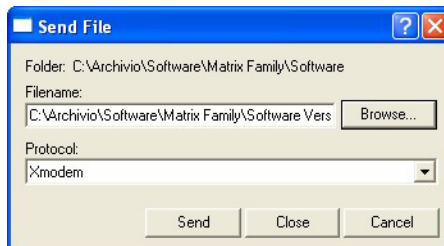
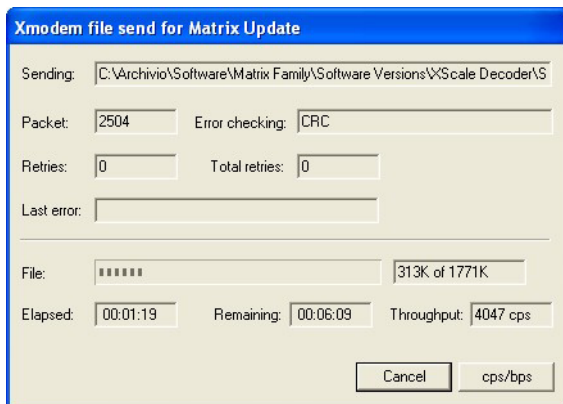


Figure 6 - Send File window

9. Browse for the appropriate .BIN file, select **Xmodem** as the protocol and then start downloading (refer to Figure 6). If this operation fails for timeout, the procedure can be repeated in the same session.
10. Wait until the file(s) are transmitted to the reader and then transferred to the Flash memory;




**Figure 7 - Xmodem File Send window**

11. When the downloading is over, the following message is displayed:

Image Written in Flash  
 Image Header Written in Flash  
 OK -> Application Download Completed!

12. Press **D** to erase the parameters area;
13. Press **E** and power off the reader.

Now the reader is ready to be powered again and connected through VisiSet™.




*The above procedure can be useful when it is not possible to get in contact with the reader using VisiSet™. Using a standard terminal it is possible to unlock the device overwriting the Application program area or erasing the parameters area.*

**NOTE**

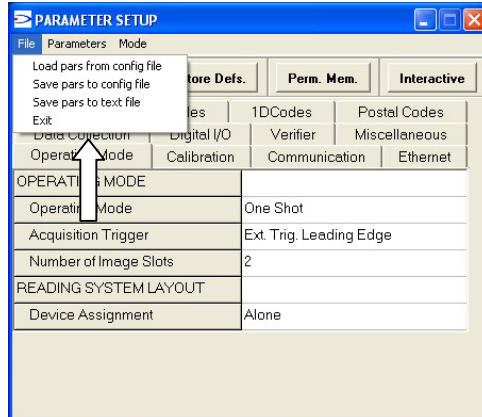
## CONFIGURATION FILES COMPATIBILITY

Compatibility with reader configuration files ( .INI files) based on previous application program versions is guarantee using the new VisiSet™ configuration tool v. 3.12 or later.



**NOTE** *The compatibility is complete (except for the not existing parameters) for application program version 3.00 or later. For previous versions the photometry parameters (Internal Lighting Mode, Exposure Time, Gain, Offset, ..) are not compatible due to the hardware differences.*

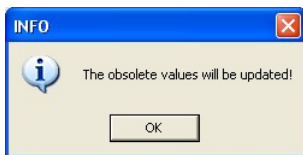
1. Connect the Auxiliary port of the Matrix reader to a PC and run VisiSet™ configuration tool;
2. Select **Connect** option to get in contact with the Matrix reader;
3. Select **Get Pars From Temporary Memory** option from **Reader Parameters** menu ⇒ Parameter Setup window will be displayed (refer to Figure 8);



**Figure 8 - Parameters Setup window**


4. Select **Load Pars From Config File** option from **File** menu and Browse for the previously saved .INI file ⇒ INFO window will be displayed (refer to Figure 9);
5. Select **Send Pars To Reader (Permanent Memory)** option from **Parameters** menu ⇒ the updated configuration will be saved in the permanent memory of the reader.

6. Close the Parameter Setup window (the parameter configuration alignment is performed by the reader and not by the configuration tool!);
7. Select **Get Pars From Temporary Memory** option from **Reader Parameters** menu ⇒ the updated configuration will be displayed.



**Figure 9 - INFO window**

Now the reader is ready to be powered again and connected through VisiSet™.

 <b>NOTE</b>	<p><i>The not existing and the not compatible parameters (e.g. photometry parameters for old Matrix-2000™ reader models) will be restored to the default value.</i></p>
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