26. EasyPrinter

This chapter explains the setup steps of EasyPrinter.

26.1.   Overview

EasyPrinter is a Win32 application and can only run on MS Windows 7 SP1 / 8 / 10. It enables HMI to output screen hardcopies to a remote PC via Ethernet. The following explains how to use EasyPrinter.
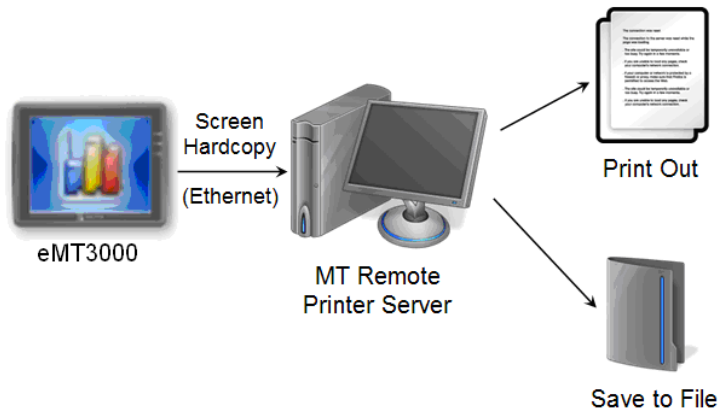

Here are some advantages of using EasyPrinter:
● EasyPrinter provides two modes of hardcopy output: [Print Out] and [Save to File]. Users can use either or both modes.
● Since EasyPrinter runs on MS Windows system, it supports most of the printers available on the market.
● Multiple HMIs can share one printer so users don't have to prepare printers for each HMI.

Additionally, EasyPrinter can also be a backup server. Users can use Backup objects on HMI to copy history files such as Data Sampling records and Event Log to a remote PC via Ethernet. Please see the following illustration:
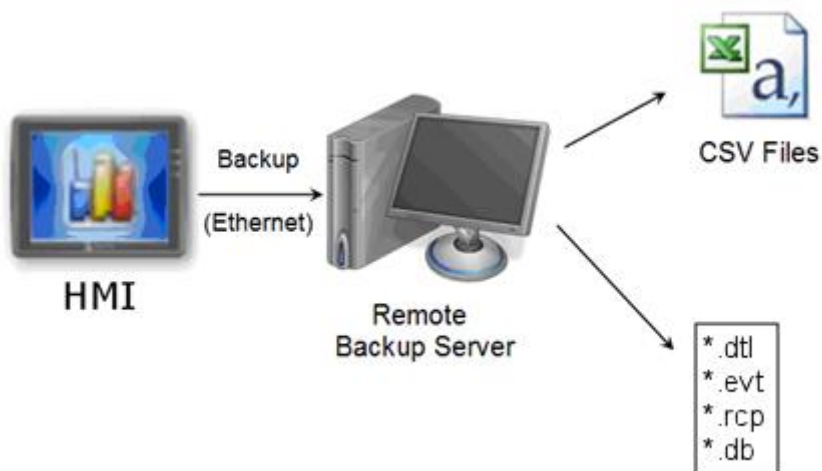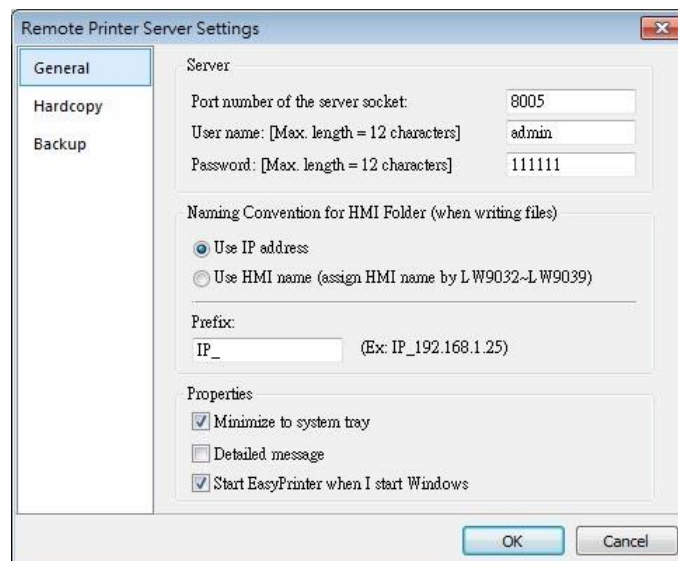
26.2.   Using EasyPrinter as a Printer Server
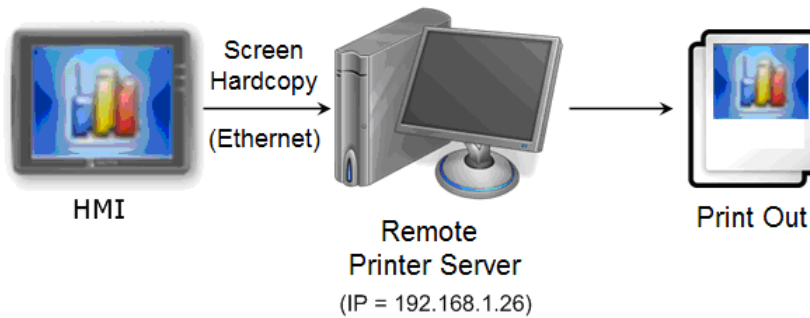
Users can make screen hardcopies with a Function Key object. The hardcopies will be transferred to the Remote Printer Server via Ethernet and then printed out.

26.2.1.   Setup Procedure in EasyPrinter

In EasyPrinter's main menu, select [Options] » [Settings] and the following dialog box appears:

1.   Select [General] on the left hand side.
2.   In [Server], set [Port number of the server socket] to "8005", [User name] to "admin" and [Password] to "111111". (These are default values.)
3.   In [Naming Convention for HMI Folder], select [Use IP address] and enter "IP_" in the [Prefix] field.
4.   In [Properties], select [Minimize to system tray] check box. Select [Start EasyPrinter when I start Windows] if necessary.

Set the print out location.
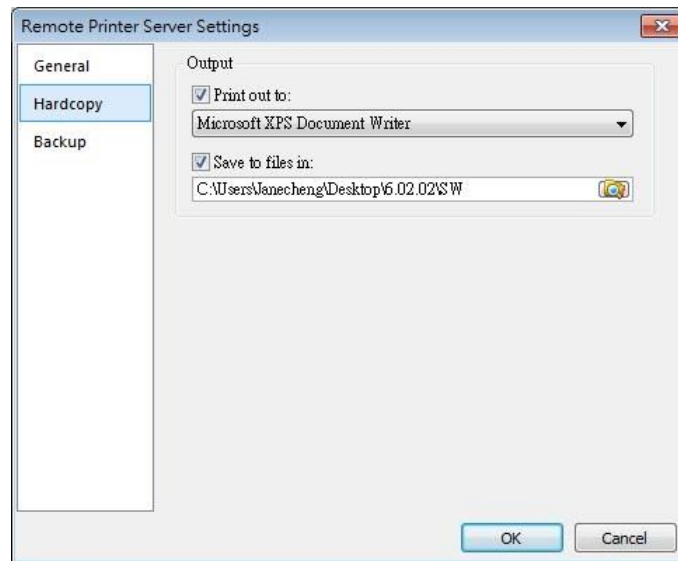
1. Select [Hardcopy] on the left hand side.
2. Under [Output] select [Print out to] and choose a printer as the output device for screen hardcopies. (The printer shown in the image above is an example; please select an actual printer located in your network environment.)
3. Select [Save to files in:] and browse for the directory to save the hardcopy file.
4. Click [OK] to confirm the settings.
5. In EasyPrinter main menu select [File] » [Enable Output] to output any incoming print request.

26.2.2. Setup Procedure in EasyBuilder Pro

The setting procedure of EasyPrinter in EasyBuilder Pro:
1. Open a new project or an existing project in EasyBuilder Pro.
2. In EasyBuilder Pro main menu select [Home] » [System Parameters] » [Printer/Backup Server] and select [Use Remote Printer/Backup Server] check box.
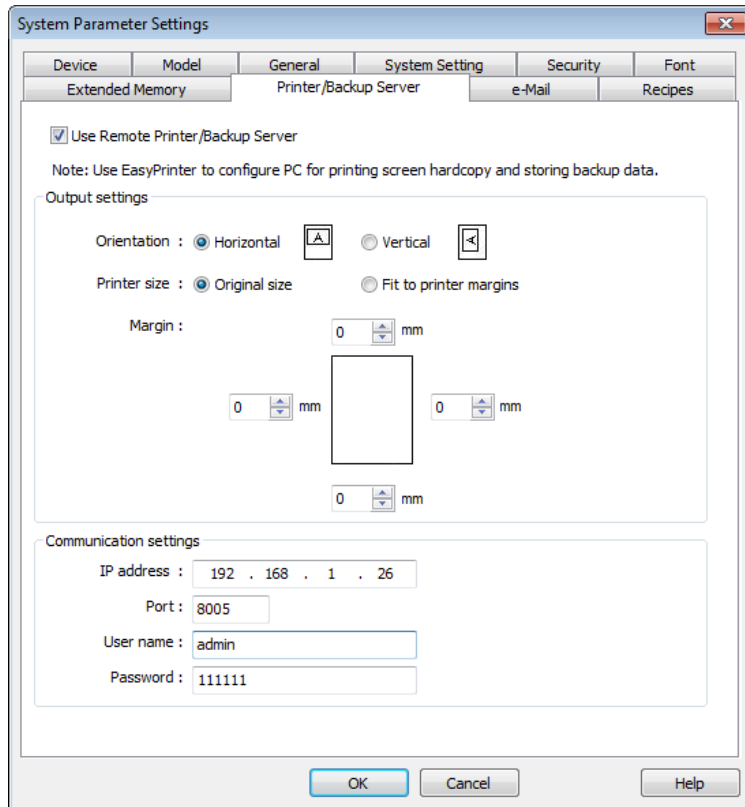
3. Under [Output settings] set appropriate values for left / top / right / bottom margins. (The margins are all set to 15mm in the example.)

4. Under [Communication settings] fill in the [IP address] of the printer server according to the settings in EasyPrinter. Set [Port] to "8005", [User name] to "admin" and [Password] to "111111".

5. Click [OK].

6. In EasyBuilder Pro main menu select [Objects] » [Button], select [Function Key], select [Screen hardcopy] and set [Printer] to [MT Remote Printer/Backup Server].
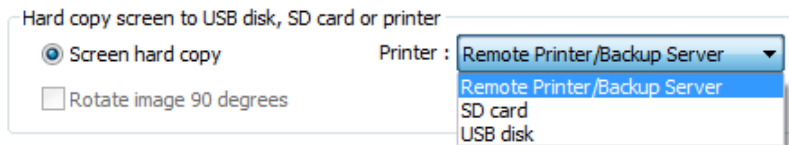
7. Place the Function Key object in the common window (window no. 4) so that screen hardcopies can be captured anytime when needed.

8. Compile and download the project to HMI. Press the Function Key object on the screen to make a screen hardcopy.

✎Note

■ A PLC Control object can also be used to make screen hardcopies.
■ Alarm information cannot be printed via EasyPrinter.
■ EasyPrinter can only communicate with HMI via Ethernet. Please check that the HMI has appropriate network settings.

26.3. Using EasyPrinter as a Backup Sever
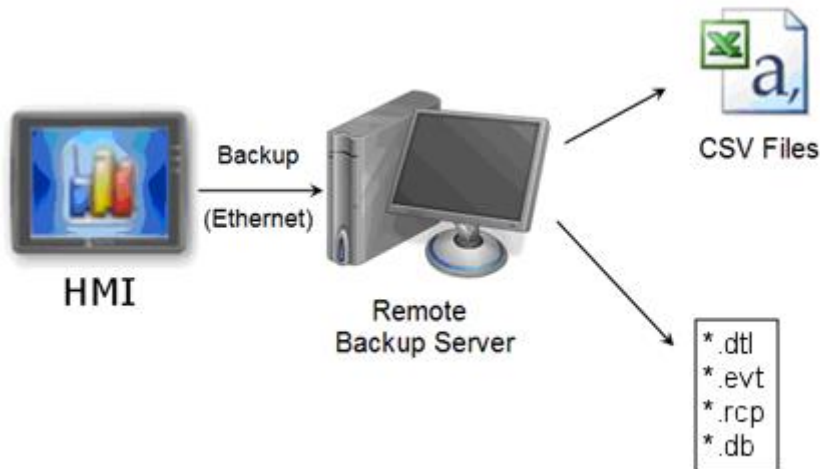
Backup objects can upload historical data and Operation Log to remote backup server.

26.3.1. Setup Procedure in EasyPrinter

In EasyPrinter's main menu, select [Objects] » [Settings] and the following dialog box will appear:
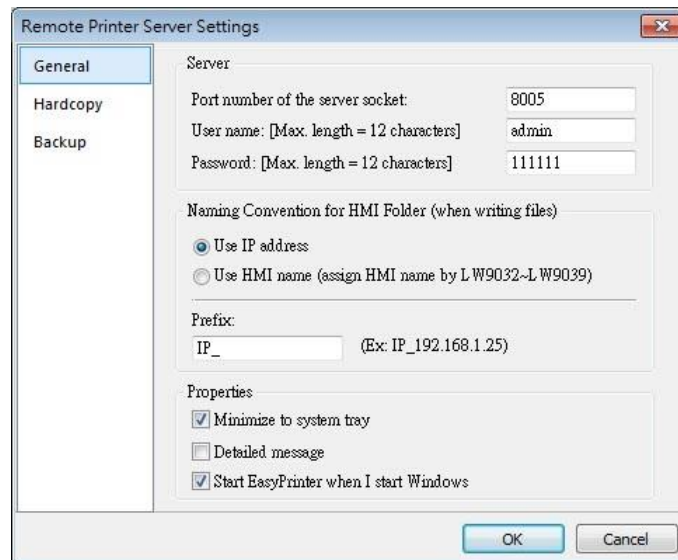
1. Select [General] on the left hand side.
2. Under [Server] set [Port number of the server socket] to "8005", [User name] to "admin" and [Password] to "111111". (These are default values.)
3. Under [Naming Convention for HMI Folder] select [Use IP address] and enter "IP_" in the [Prefix] field.
4. Under [Properties] select [Minimize to system tray]. Select [Start EasyPrinter when I start

Windows] if necessary.

Set the backup location.
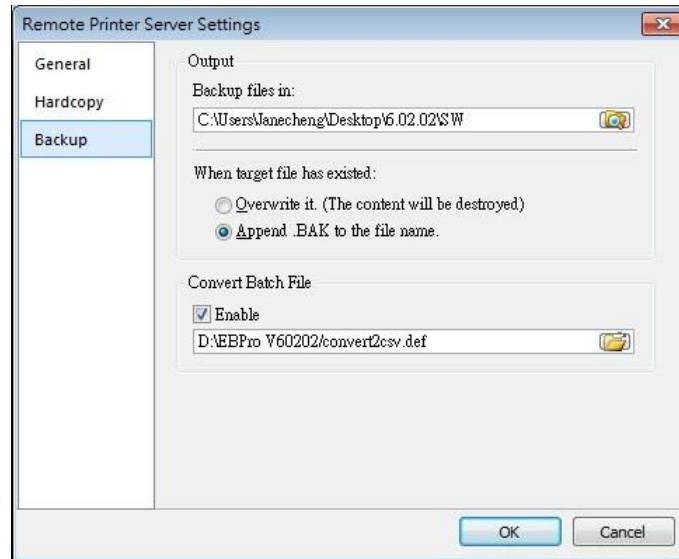
1. Select [Backup] on the left.
2. Under [Output] click the 📷 button to browse and select a storage directory of the incoming history files.
3. Click [OK] to confirm the settings.
4. In the main menu, select [File] » [Enable Output] to backup data in the selected directory.

26.3.2.   Setup Procedure in EasyBuilder Pro

The setup procedure of EasyPrinter in EasyBuilder Pro:
1. Open a new project or an existing project in EasyBuilder Pro.
2. In EasyBuilder Pro's main menu, select [Home] » [System Parameters] » [Printer/Backup Server] and select the [Use Remote Printer/Backup Server] check box.
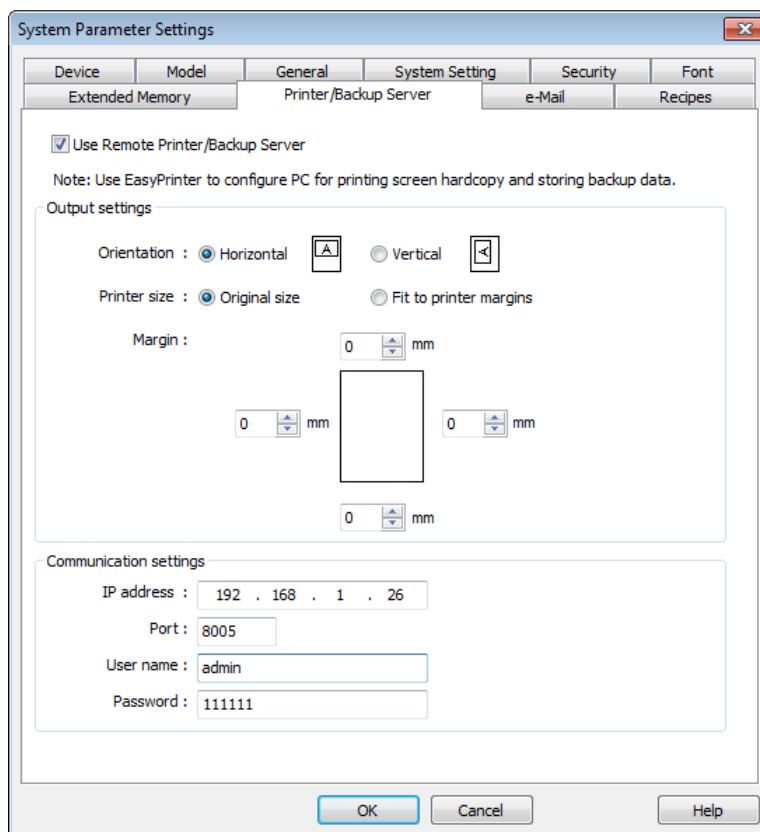
3.   Under [Communication settings] fill in the [IP address] of the printer server according to the settings in EasyPrinter. Set the [Port] to "8005", [User name] to "admin" and [Password] to "111111". (Note: These are default values.)

4.   Click [OK].

Create a Backup object.

1.   In EasyBuilder Pro's main menu, select [Data/History] » [Backup] and the following dialog box appears:
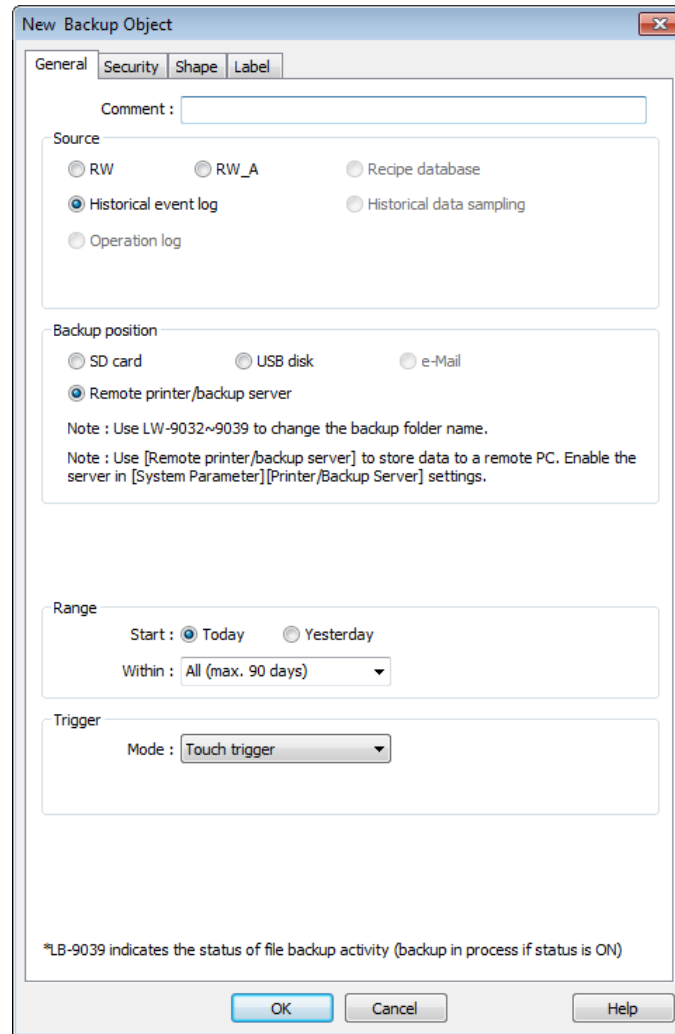
2. Under [Source] select [Historical event log] (or [RW], [RW_A] if needed.)

3. Under [Backup position] select [Remote printer/backup server].

4. Under [Range] select [Today] and [All] (or other options if needed.)

5. Under [Trigger] select [Touch trigger].

6. Click [OK].

7. Place the [Backup] object in the common window (window no. 4), and users will be able to make backups anytime when needed.

8. Compile and download the project to HMI. Press the Backup object on the screen to make a backup of the history data.

Note

■ The Backup object can also be triggered by a bit address.

■ Users can arrange a Scheduler object, which turns a bit ON at the end of a week, to trigger the Backup object to automatically back up all history data.

26.4.   EasyPrinter Operation Guide

The following introduces the interface and operation of EasyPrinter.

26.4.1.   EasyPrinter Managing Window
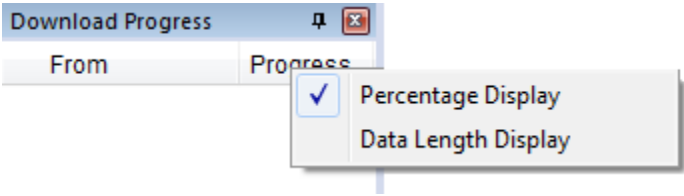
EasyPrinter main menu is divided into 5 parts as shown in the following figure:
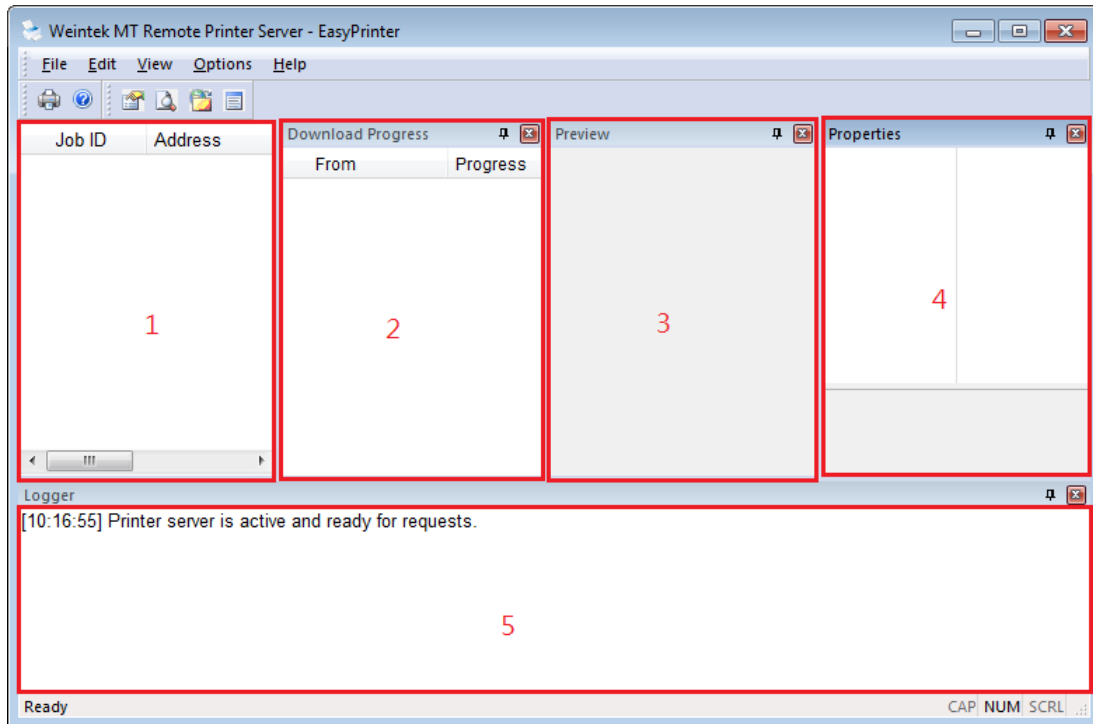
Area	Name	Description
1	Job List	Lists all incoming tasks, such as screen hardcopy and backup requests.
2	Download Progress	Shows the download progress of incoming requests.
3	Preview	Shows the preview image of the screen hardcopy task selected from [Job List].
4	Properties	Shows the information about the task selected from [Job List].
5	Logger	Shows the time and message information of events such as incoming request, incorrect password, etc.

26.4.2. Operation Guide

The following describes the function of EasyPrinter menu items.

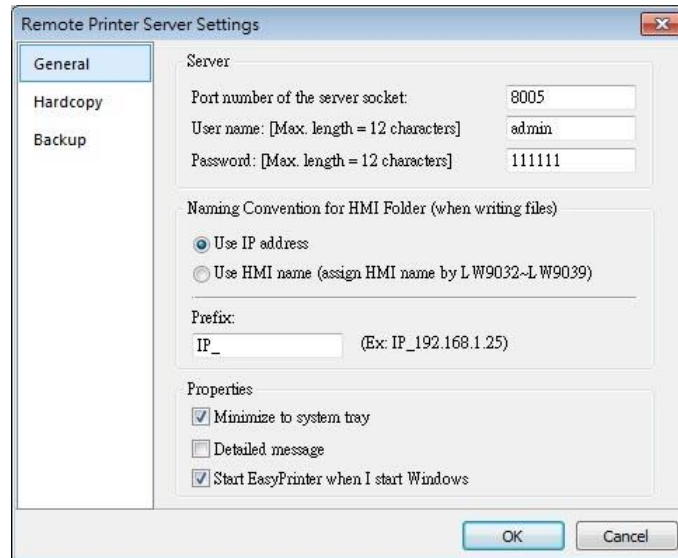| Menu	Description
File	**Enable Output** If selected, EasyPrinter processes the tasks one by one, otherwise, EasyPrinter stores the tasks in memory.
Edit	**Edit** Edits screen hardcopy by setting [Orientation], [Scaling] and [Margins]. **Delete** Deletes the selected tasks permanently. **Select All** Selects all tasks from [Job List].
View	**Properties Bar** Shows or hide the Property Window. **Preview Bar** Shows or hide the Preview Window. **Download Bar** In [Download Progress] Window, the mode to display download progress can be set by clicking the header of the [progress] column as shown in the following figure: **Logger Bar** EasyPrinter can reserve up to 10,000 messages in Message Window. If a new message comes in, the oldest message will be deleted.
Options	Please see the following page.

📝Note

■ EasyPrinter can only reserve up to 128 MB of task data in memory. If the memory is full, any request coming in afterwards will be rejected. Users must either operate [Enable Output] or delete some tasks to make room for new tasks.

- The backup task is not editable.
- [Edit] is available only when a task is selected.
- [Delete] is available when at least one task is selected.

The following is the detail for [Options] » [Settings]

- In General Tab:

Setting	Description
Server	**Port number of the server socket**
	Sets the Ethernet port number to connect the HMI. Range: 1 ~ 65535. Default: 8005.
	User name / Password
	Sets the user name and password to let only authorized HMIs send requests to EasyPrinter.
Naming Convention for HMI Folder	EasyPrinter uses different folders to store files (e.g. hardcopy bitmap files, backup files) from different HMI. There are two ways to name the folders:
	Use IP address
	EasyPrinter names the folder as [Prefix] + [IP address] after the HMI at this IP address sends request.
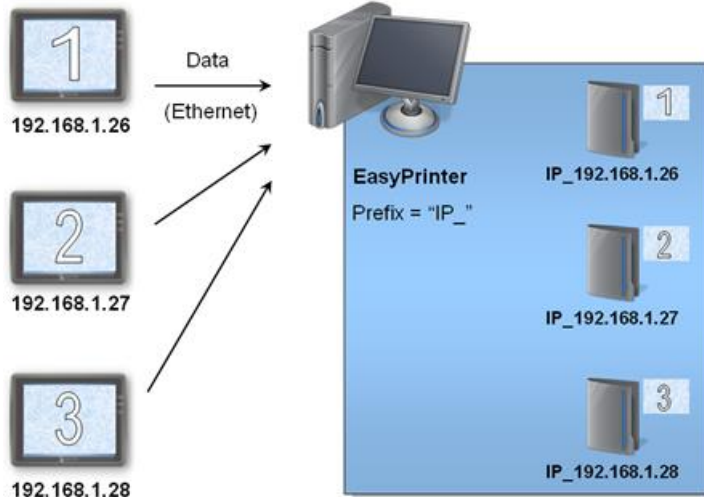
Use HMI name

EasyPrinter names the folder in [Prefix] + [HMI name] after the HMI this name indicates sends request.

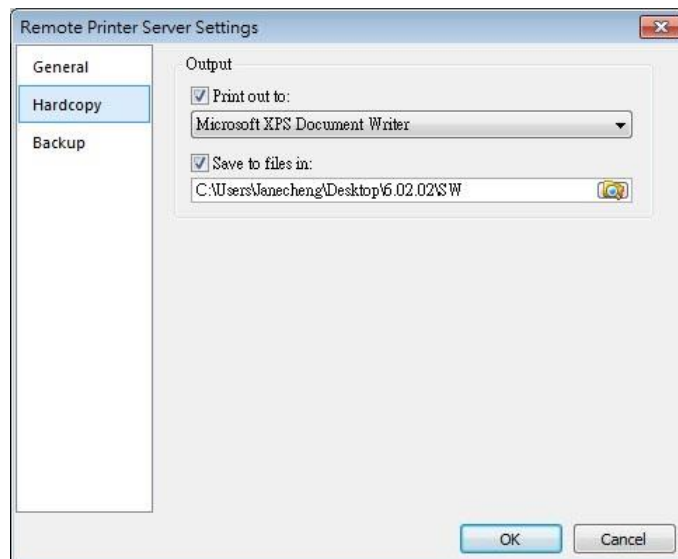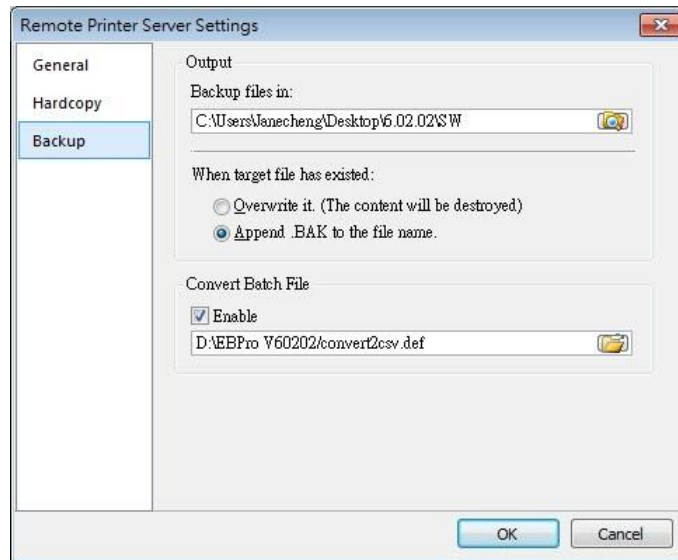|	
Properties	**Minimize to system tray**
	If this check box is selected, the EasyPrinter shortcut icon will be placed in the system tray in PC. Double click the on icon in system tray to open EasyPrinter.
	Detailed message
	Select this check box to display more detailed messages about events in the message window.
	Start EasyPrinter when I start Windows
	Select this check box to automatically run EasyPrinter when Windows starts.

● In Hardcopy Tab:

Setting	Description
Output	**Print out to**
	EasyPrinter prints out the hardcopy result with the specified printers.
	Save to files in
	EasyPrinter converts the hardcopy result into a bitmap file and saves it in the specified directory. The bitmap files are found at:
	[Specified Path] \ [HMI Folder] \ yymmdd_hhmm.bmp
	For example, when a hardcopy request is given at 17:35:00, 12/Jan/2009, the bitmap file will be named "090112_1735.bmp". And if there is another bitmap file generated within the same minute, it will be named "090112_1735_01.bmp" and so on.

● In Backup Tab:

Setting	Description
Output	**Backup files in:**
	EasyPrinter stores the backup files to the specified path.
	The upper directory is the same:
	[*Specified Path*] \ [*HMI Name*] or [*IP address*]
	The lower directory:
	● For Event Log files:
	\ eventlog\ EL_yyyymmdd.evt
	● For Data Sampling files:
	\ datalog \ [*File name of the Data Sampling*] \ yyyymmdd.dtl

	● For Recipe files:
	\ recipe \ recipe.rcp or recipe_a.rcp
	● For Recipe Database:
	\ recipe \ recipe.db
	● For Operation Log:
	\ operationlog\ operationlog.db
Convert Batch File	Select [Enable] to convert the selected history file to .csv or .xls (Excel) format of Convert Batch Files.

Note

■ System registers LW-9032 to LW-9039 can be used to specify HMI name.

■ When closing EasyPrinter, the following dialog will appear.
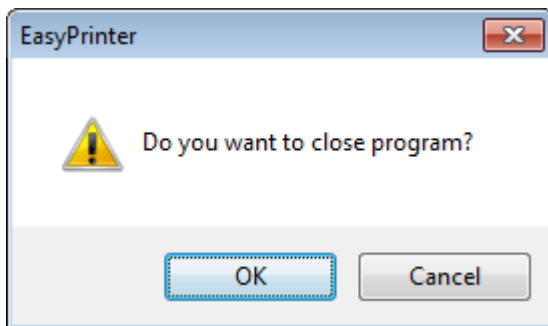
26.5. Convert Batch File

EasyPrinter provides a conversion tool to convert the uploaded Data Sampling and Event Log history files to .csv files automatically. To do so, please select [Enable] under [Convert Batch File] to make EasyPrinter convert the history files.

In the following illustration, the conversion is actually executed by EasyConverter. EasyPrinter simply follows the criteria in Convert Batch File and activates EasyConverter with proper arguments to achieve the conversion.

Convert Batch File + EasyConverter
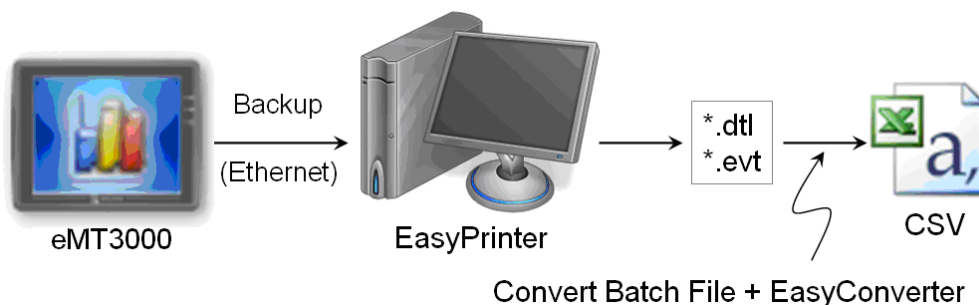
Note

■ EasyConverter is another Win32 application that converts history data into .csv or MS

Excel .xls files. Users can find it in the EasyBuilder Pro installation directory.

■ Users requesting this function must ensure EasyPrinter and EasyConverter are placed in the same directory.

26.5.1. The Default Value of Convert Batch File

The following is the default Convert Batch File: convert2csv.def

Listing 1. Default Convert Batch File

```
1: "dtl", "EasyConverter /c $( Pathname)"
2: "evt", "EasyConverter /c $( Pathname)"
```

There are two lines in the file. Each line has two arguments separated by a comma and forms a criterion of how to process a specific type of files. The first argument stands for the extension name of the file type to be processed. The second argument stands for the command to be executed in console mode. Please note that "$(Pathname)" is a key word to inform EasyPrinter to replace it with the real name of the converted backup file. For example, if a Data Sampling history file named 20090112.dtl is uploaded and stored, EasyPrinter will send out the following command to a console window:

```
1: EasyConverter /c 20090112.dtl
```

A file named 20090112.csv is created.

The criteria of the default Convert Batch File:

1. Convert all Data Sampling history files (.dtl) into .csv files.
2. Convert all Event Log history files (.evt) into .csv files.

Note

■ "$(Pathname)" in the second argument stands for the full path name of the file. In the previous case, EasyPrinter replaces it with:
[Specified Path] \ [HMI Folder] \ [datalog] \ [Folder name of the Data-Sampling object] \ 20090112.dtl

■ EasyPrinter interprets the Convert Batch File in line basis, that is, each line forms a criterion.

■ Any two arguments should be separated by a comma.

■ Every argument should be put in double quotes.

■ Do not put any comma inside an argument.

■ Supported parameters for batch file: $(PathName), $(HmiName), and $(IP) which stand for file path, HMI name, and HMI IP address.

■ When [Start EasyPrinter when I start Windows] option is selected, please add in the file path where EasyConverter is placed, which is usually the EBPro installation directory in

your PC, as shown below.

1: "dtl", "C:\EBPro\EasyConverter /c $(Pathname)"
2: "evt", "C:\EBPro\EasyConverter /c $(Pathname)"

☞ For more information, see "25 Easy Converter".

26.5.2.   Specialized Criteria

The specialized criterion are needed when:

● Upload file to a specific HMI, see listing 2.

● Identify the HMI by HMI name, see listing 3.

● Process differently to different Data Sampling, see listing 4.

(This can only be used for Data Sampling file with the file name "voltage".)

The 3rd argument ("*") indicates this criterion accepts the Data Sampling files that meet the criterion from any HMI. Users can also change the 3rd argument to "192.168.1.26", "192.168.1.*", or HMI name, etc. for narrowing the range of the target HMI.

Listing 2. Specialized Criterion for the HMI IP: 192.168.1.26

1: "dtl", "EasyConverter /c $(Pathname)", "192.168.1.26"

Listing 3. Specialized Criterion for HMI name: Weintek_01

1: "dtl", "EasyConverter /c $(Pathname)", "Weintek_01"

Listing 4. Specialized Creterion for Data Sampling file name: Voltage

1: "dtl", "EasyConverter /s Voltage.lgs $(Pathname)", "*", "Voltage"

26.5.3.   The Format of a Convert Batch File

The following explains the arguments in a criterion.

File Type	Command (line)	HMI IP / Name	Condition 1	Condition 2

● File Type

This argument specifies the extension name of the uploaded file in this criterion.

(e.g. ".dtl" for Data Sampling history files, ".evt" for Event Log history files)

● Command (line)

The command EasyPrinter sends to a console window if the uploaded file meets the criterion.

● HMI IP / Name

This argument specifies the HMI that meets the criterion.

● Condition 1

This argument specifies the folder name of the Data Sampling files that meet the criterion.

This is not effective to other format of files.
● Condition 2
Not used (Reserved for future use).

26.5.4.   The Order of Examining Criterion

EasyPrinter examines criterion in descending order every time a file is uploaded. Once the file meets a criterion, it stops the examination and starts over for the next file. Therefore, users should place the criterion with a wider range downward in the Convert Batch File and place the more specific criteria upward. For example:

"evt", "EasyConverter /c $(Pathname)"
"dtl", "EasyConverter /c $(Pathname)"
"dtl", "EasyConverter /c $(Pathname)", "192.168.1.26"
"dtl", "EasyConverter /c $(Pathname)", "my_HMI_01"
"dtl", "EasyConverter /c $(Pathname)", "my_HMI_02"
"dtl", "EasyConverter /s Voltage.lgs $(Pathname)", "*", "Voltage"

The correct order of examination would be: (from bottom to top)
"dtl", "EasyConverter /s Voltage.lgs $(Pathname)", "*", "Voltage"
"dtl", "EasyConverter /c $(Pathname)", "my_HMI_02"
"dtl", "EasyConverter /c $(Pathname)", "my_HMI_01"
"dtl", "EasyConverter /c $(Pathname)", "192.168.1.26"
"dtl", "EasyConverter /c $(Pathname)"
"evt", "EasyConverter /c $(Pathname)"