

# **TOSHIBA**

TOSHIBA Bar Code Printer

## **B-EX Series**

# **Network Specification**

First Edition: April 1, 2011

**TOSHIBA TEC CORPORATION**

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## 1. SCOPE

This specification applies to the network for the B-EX series industrial sophisticated general-purpose barcode label printers (hereinafter referred to as the B-EX series).

## 2. GENERAL DESCRIPTION

With the standard wired LAN module and the optional wireless LAN module, the B-EX series can connect the printer to the host via TCP/IP.

## 3. SUPPORTED PROTOCOL

TCP/IP

		Specifications
Protocol	Physical Layer	802.3 (wired), 802.11b/g (wireless)
	Data Link Layer	CSMA/CD (wired), CSMA/CA (wireless)
	Network Layer	IP, ICMP, ARP
	Transport Layer	TCP, UDP
	Application Layer	SOCKET, LPR, FTP server, Web server, POP3 client, SMTP client, SNMP agent, DHCP client and WINS client

## 4. NETWORK SPECIFICATIONS

### 4.1 PROTOCOL

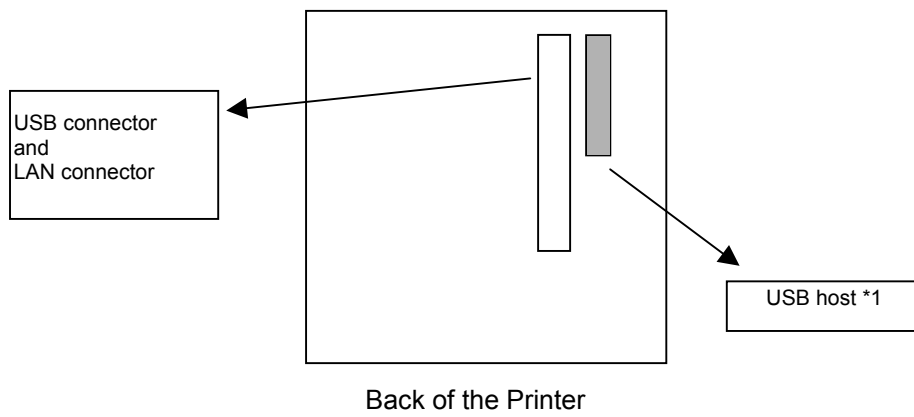
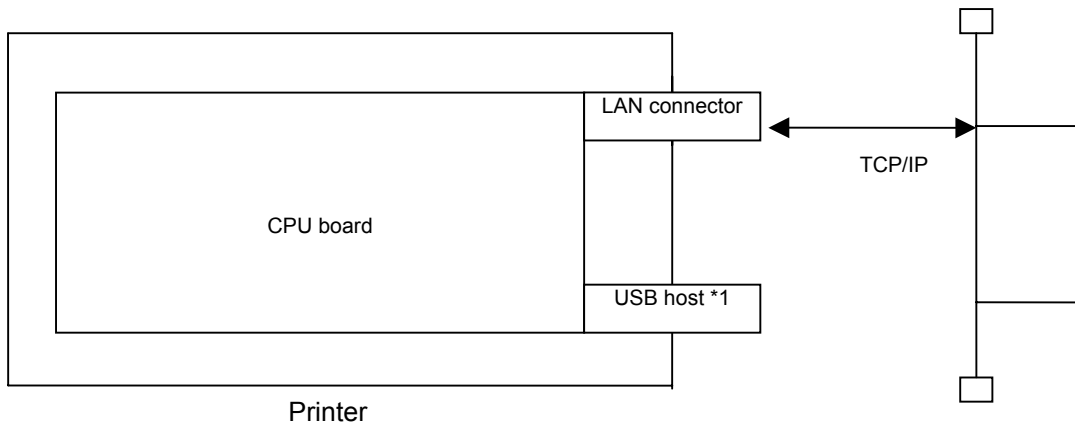
This printer has the functions of the LPR server, socket communication server, FTP server, mail transmission/reception (POP3/SMTP), HTTP server (Web printer), DHCP client, WINS client and security (wireless LAN only) as specified in the network specifications.

### 4.2 RESTRICTIONS

The printer does not receive large amounts of broadcast packets in normal operation. Therefore, when the printer receives a large amount of packets due to improper wiring of the network, an error may appear.

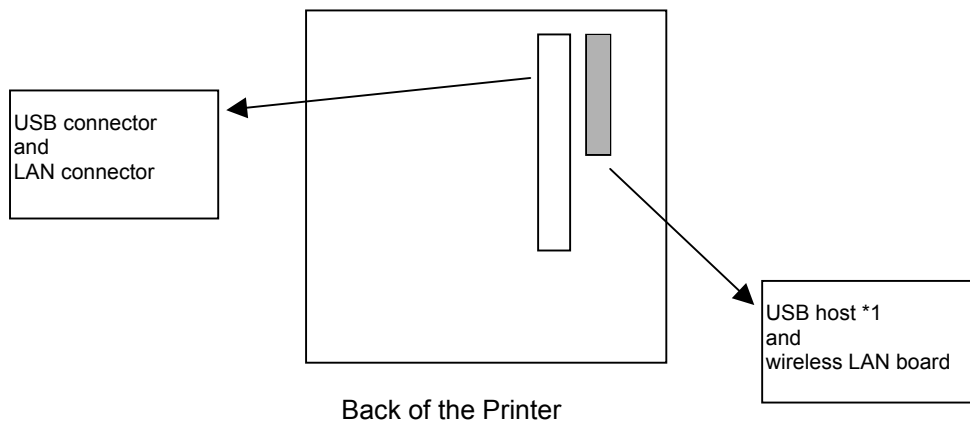
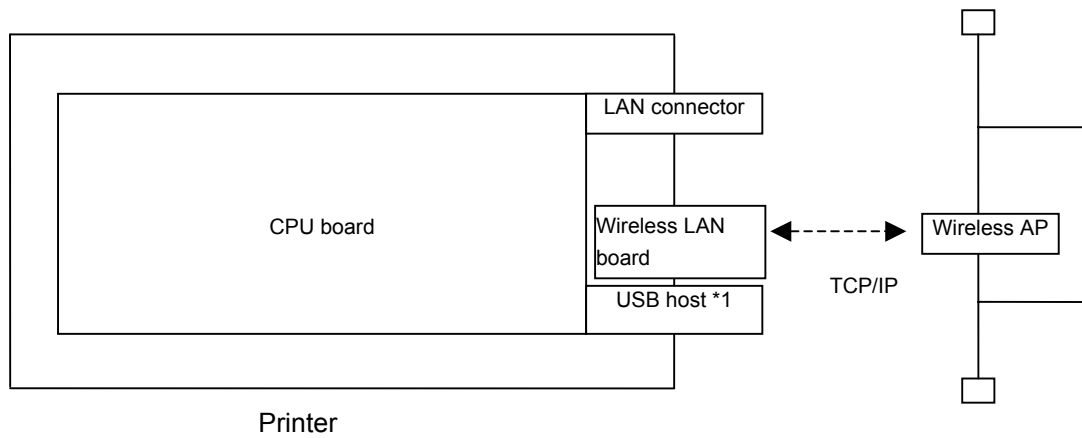
## 5. CONNECTION DIAGRAM

### 5.1 WIRED LAN



*\*1: The USB host is used in the functions of the Web printer, e-mail transmission/reception and FTP when the use of external memory is specified for the Web printer function.*

## 5.2 WIRELESS LAN



*\*1: The USB host is used in the functions of the Web printer, e-mail transmission/reception and FTP when the use of external memory is specified for the Web printer function.*

## 6. SETTINGS

### 6.1 LISTS OF NETWORK PARAMETERS AND DEFAULT VALUES

Wireless LAN parameters and default values are listed below.

In the “System Mode” column, “Yes” indicates the parameter can be changed in B-EX’s system mode and “No” indicates the parameter cannot be changed in B-EX’s system mode.

For more information, see the Key Operation Specification.

Category	Parameter Name	Value	Default Value	System Mode
	Network Function	Disabled/Auto/Wired/Wireless	Auto	Yes
	Host Name	xxxxxxx... (max. 32 bytes)	None (Null (0x00) x 32)	Yes
DHCP	DHCP ID	xxxxxxx... (max. 64 bytes)	None (Null (0x00) x 64)	Yes
	DHCP Client	Disable/Enabled	Disabled	Yes
TCP/IP	IP Address	xxx.xxx.xxx.xxx (000 to 255)	192.168.10.20	Yes
	Subnet Mask	xxx.xxx.xxx.xxx (000 to 255)	255.255.255.0	Yes
	Default Gateway	xxx.xxx.xxx.xxx (000 to 255)	0.0.0.0	Yes
WINS	WINS	Disable/Enabled (STATIC)/Enabled (DHCP)	Disabled	Yes
	WINS Server	xxx.xxx.xxx.xxx (000 to 255)	0.0.0.0	Yes
LPR	LPR	Disable/Enabled	Disabled	Yes
Socket Communication	Socket Communication	Disable/Enabled	Enabled	Yes
	Socket Communication Port	00000 to 65535 *1	08000	Yes
Wireless LAN	Wireless Connection Mode	Adhoc/Infrastructure	Infrastructure	Yes
	b/g Selection	11b, 11g, 11b/g	11b/g	Yes
	ESSID	xxxxxxx... (max. 32 bytes) Case-sensitive	“TOSHIBATEC”	No
	Country Code	Chapter 8 SE Setting Function See Country Code/Country Name in [List of Available Channels by Country]	JPN (When DBCS is in Japanese.) BEL (When DBCS is in other than Japanese.)	No
	Beacon Transmission Interval	00000 to 99999 (msec)	1000	No
	ANY SSID	OFF ON: Priority AP not available ON: Priority AP only ON: Other than priority AP available	OFF	No
	Priority AP1	xxxxxxx... (12 bytes HEX) *2	None (Null (0x00) x 12)	No
	Priority AP2	xxxxxxx... (12 bytes HEX)	None (Null (0x00) x 12)	No
	Priority AP3	xxxxxxx... (12 bytes HEX)	None (Null (0x00) x 12)	No
	Priority AP4	xxxxxxx... (12 bytes HEX)	None (Null (0x00) x 12)	No
	Priority AP5	xxxxxxx...(12bytes HEX)	None (Null (0x00) x 12)	No

Category	Parameter Name	Value	Default Value	System Mode
	Roaming Threshold	00 to 99 Originally, the threshold is expressed in negative numbers but not set in negative numbers.	70	No
802.11b	Channel	01 to 14	1	Yes
	Transmission rate	11Mbps/5.5Mbps/2Mbps/1Mbps	11Mbps	Yes
802.11g	Channel	01 to 13	1	Yes
	Transmission rate	54Mbps/48Mbps/36Mbps 24Mbps/18Mbps/12Mbps 9Mbps/6Mbps/11Mbps/5.5Mbps 2Mbps/1Mbps	54Mbps	Yes
802.11b/g	b/g Encryption	Disabled/WEP40/WEP128/AES TKIP	Disabled	Yes
WPA	WPA Authentication Method	Disabled/WPA/WPA-PSK/WPA2 WPA2-PSK	Disabled	Yes
WEP	WEP Authentication Method	Disabled//Open System/Shared Key	Disabled	Yes
	Default Key	1 to 4	1	Yes
	Size/Key #1	Disabled/64 bits/128 bits	Disabled	No
	Size/Key #2	Disabled/64 bits/128 bits	Disabled	No
	Size/Key #3	Disabled/64 bits/128 bits	Disabled	No
	Size/Key #4	Disabled/64 bits/128 bits	Disabled	No
	WPA Encryption Key	8 to 64 single-byte alphanumeric characters	(Null (0x00) x 64)	No
	Authentication Method	Disabled/EAP-TLS/PEAP EAP-TTLS/EAP-FAST EAP-MD5, LEAP	Disabled	Yes
	Authentication Username	xxxxxxx (max. 32 bytes)	None (Null (0x00) x 32)	No
	Authentication Password	xxxxxxx (max. 32 bytes)	None (Null (0x00) x 32)	No
802.1X Function	IEEE802.1X	Disable/Enabled	Disabled	Yes
POWER SAVE	Wireless LAN Power Save Function	Disable/Enabled	Disabled	Yes

*\*1: When the port number is set to 21, 80 or 515, the printer does not properly operate. (The port numbers from 0 to 1023 are not generally used.)*

*\*2: ANY SSID and priority AP functions are available only when the printer starts up.*



## 6.2 FACTORY DEFAULT VALUE

Except for IP Address, Gateway, Subnet Mask and Socket Port numbers, all module factory default values for wireless LAN parameters are the same as module default values.

## 6.3 DESCRIPTION OF WIRELESS LAN PARAMETERS

A description of each parameter is listed below.

Parameter Name	Description
IP Address	Sets the IP address of the module.
Gateway IP Address	Sets the IP address of the default gateway.
Subnet Mask	Sets the subnet mask.
LPR Communication	Specifies whether to enable or disable LPR communication.
Socket Communication	Specifies whether to enable or disable socket communication.
Socket Communication Port	Specifies the port number for socket communication.
DHCP	Specifies whether to enable or disable DHCP protocol.
DHCP ID	Specifies the client ID to notify the DHCP server using the DHCP protocol. If the value of the null character is specified, the MAC address is used.
Host Name	Specifies the character string of the host name to be notified to the host using the DHCP or WINS protocol. If the value of the null character is specified, the MAC address is used.
WINS	Specifies whether to enable or disable WINS protocol. If ON (STATIC) is selected, the WINS server specified by the WINS server parameter is used. If ON (DHCP) is selected, the WINS server specified by the DHCP server parameter is used.
WINS Server	Sets the WINS server address when the WINS parameter is set to ON (STATIC). If the WINS parameter is set to ON (STATIC), this parameter is ignored.
ESS ID	Sets the ESS ID.
Connection Mode	Sets the connection mode to Adhoc or Infrastructure.
11 b/g Setting	Selects to use 11b or 11g as a wireless LAN standard.
Channel	Selects a channel used for Adhoc communication.
Authentication Method	Specifies the authentication method.
WEP	Sets whether or not to use WEP.
SEND KEY	Selects the key number used for transmission.
WEP Key #1	Specifies WEPKEY #1.
WEP Key #2	Specifies WEPKEY #2.
WEP Key #3	Specifies WEPKEY #3.
WEP Key #4	Specifies WEPKEY #4.
Security Mode	Specifies the security mode.
User Name	Specifies the username used in security mode.
Password	Specifies the password used in security mode.
Country Setting	Selects a country. Items not specified by the user.
Wireless LAN Power Save Function	Specifies whether to enable or disable the power save function.

## 6.4 PARAMETER SETTING TOOL

The network parameters can be set using the "B-EX setting tool."

For more information on the operation, see the "B-EX Printer Setting Tool Operation Specification."

## 7. PROTOCOLS AND SETTINGS

### 7.1 SOCKET COMMUNICATION

Using the socket communication protocol, the host device can send print data to the printer.  
This bi-directional socket communication also allows the host device to receive the printer status.

#### 7.1.1 Required Settings

LAN/WLAN	Other than Disabled
IP Address	Any
Subnet Mask	Any
Gateway	Any
Socket	Enabled
Port number	Any

#### 7.1.2 Communication Procedures

- (1) Socket connection is made from the client PC to the printer using the port number set in the printer.
- (2) Printer commands are sent from the client PC to the printer.
- (3) When automatic status response is enabled in the printer, the printer returns a status to the client PC.

**NOTES:**

1. For more information on status response from the printer, see Section "8 STATUS" in the *External Equipment Interface Specification*.
2. For the parameter to specify whether to enable or disable automatic status response, see the sections describing the *Issue and Feed commands in the External Equipment Interface Specification*.

#### 7.1.3 Communication Specifications

The printer can be connected with several clients at the same time. While data processing starts between the printer and client, the printer does not accept subsequent data from other connected clients until the on-going data processing is completed.

When being connected with several clients, the printer returns a status only to the earliest connected client.

## 7.2. LPR COMMUNICATION

Using the LPR communication protocol, the host device can send print data to the printer.

### 7.2.1 Required Settings

LAN/WLAN	Other than Disabled
LPR	Enabled
IP Address	Any
Subnet Mask	Any
Gateway	Any

### 7.2.2 Operation

On power-up, when the LAN function is enabled, the printer runs a printer daemon task.

## 7.3 WEB PRINTER

When the following conditions are met, the printer allows checking its status, printing labels, browsing or changing the settings and downloading firmware on the PC browser.

This is called Web printer function.

### 7.3.1 Required Settings

Web Printer	Other than Disabled
LAN/WLAN	Other than Disabled
IP Address	Any
Subnet Mask	Any
Gateway	Any

### 7.3.2 Preparation

- Environment where a wired LAN or wireless LAN connection is established
- XML ROM file including the Web printer settings or USB host board (option) and USB storage device
- Files to be displayed on the browser (\*.htm, \*.asp)  
TOSHIBA TEC provides the sample display files (\*.htm, \*.asp). These files (\*.htm, \*.asp) contain the following files.

Default.htm

Headsens.htm

Mentctr.htm

Pmenu.htm

Prt\_sts.htm

Psensor.htm

Ribbon.htm

Screen.htm

Temper.htm

File.asp

Pdown.asp

String.asp

llogin.htm

Params.htm

Spooler.htm

Overseae.htm (English version only)

In addition, the sample display files contain graphics files and JavaScript files.

### 7.3.3 Web Printer Specifications

The sample display files (\*.htm, \*.asp) are used to explain the Web printer specifications.

### 7.3.3.1 Preparation (When using internal memory)

- (1) An XML ROM including Web printer settings needs to be created to operate the Web printer function with the internal memory. The following steps are used to create the XML ROM.
  - ① Create a folder named "HTML."
  - ② Copy the display files (\*.htm, \*.asp) to "HTML."
  - ③ Create a ROM for the "HTML" directory data by using the XML ROM Creation Tool.
- (2) Download the created XML ROM to the printer with the Printer Setting Tool.
- (3) Enable the Web printer function in system mode. For more information on the operation procedure, see the Key Operation Specification.

### 7.3.3.2 Preparation (When using external memory)

- (1) The HTML file needs to be installed on the USB storage device to operate the Web printer function. The following steps are used to install the HTML file.
  - ① Connect the USB storage device to the USB connector on the PC.
  - ② After the USB storage device is recognized and a driver is assigned, create a folder named "HTML" in the root and a folder named "TMP" under "HTML."
  - ③ Copy the display files (\*.htm, \*.asp) to "HTML."  
The "TMP" folder is used to temporarily store files.
  - ④ Remove the USB storage device in the state where it is safe to remove the USB storage device.  
The FTP function can be also used to install similar files. For more information on the FTP function, see Section 8.4 FTP Server.
- (2) Connect the USB storage device to the UCB connector on the optional printer USB host board.
- (3) Enable the Web printer function in system mode. For more information on the operation procedure, see the Key Operation Specification.

Note: After copying the display file (\*.htm) to the USB storage device, check the attribute of the file and remove the attribute if the file is read only.

(If the file is read only, the Web function does not properly work.)

Note: When the "HTML" folder is not found, the printer starts looking for the "SX-HTML" folder. When the "SX\_HTML" folder is found, rename and use it.

### 7.3.3.3 Startup

Start up the browser on the PC (JavaScript-enabled browser such as Internet Explorer) to connect to the printer.

The HTML folder is a root directory and either of the following addresses applies.

<http://Printer IP address/>

or

<http://Printer IP address/default.htm>



#### 7.3.3.4 Printer Status View

Select "PRINTER STATUS" in the menu on the left of the window.

(1) PRINTER STATUS: Indicates the printer status. (The display is updated every 3 seconds.)

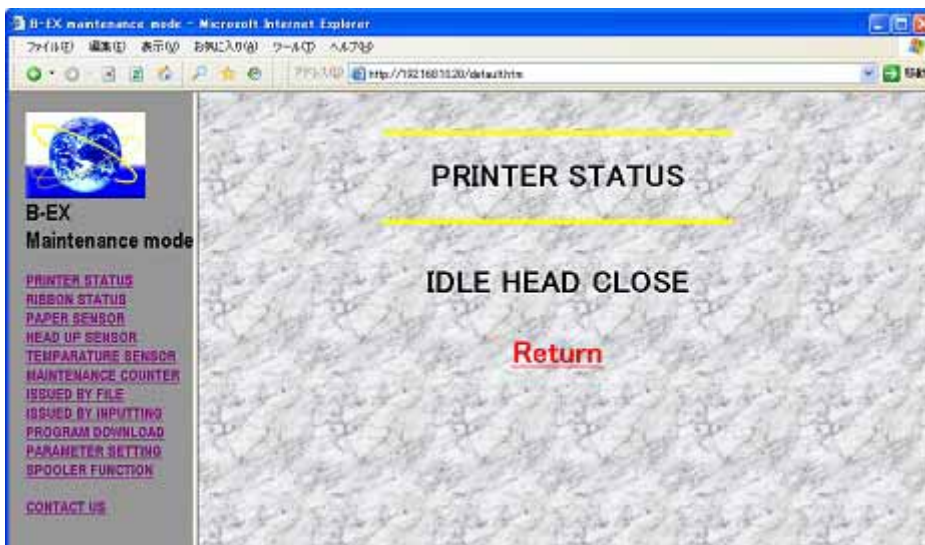
- IDLE HEAD CLOSE (The printer is in an idle state, and the print head is closed.)
- IDLE HEAD OPEN (The printer is in an idle state, and the print head is opened.)
- PRINTER WORKING (The printer is in operation.)
- WAITING FOR PEEL OFF (The label is waiting for being stripped.)
- SYNTAX ERROR (A command syntax error occurs.)
- COMMUNICATION ERROR (A communication error occurs.)
- PAPER JAM (A paper jam occurs.)
- CUTTER ERROR (A cutter error occurs.)
- NO PAPER (The printer runs out of paper.)
- NO RIBBON (The printer runs out of ribbon.)
- HEAD OPEN ERROR (A head open error occurs.)
- THERMAL HEAD ERROR (A broken dots error occurs.)
- EXCESS HEAD TEMPERATURE (The print head temperature is excessively high.)
- RIBBON ERROR (A ribbon error occurs.)
- REWINDER OVERFLOW (A rewinder overflow occurs.)
- SAVING (The printer is in save mode.)
- MEMORY WRITE ERR (A write error occurs.)
- FORMAT ERROR (An erase error occurs.)
- MEMORY FULL (The remaining space is not sufficient.)

- (2) RIBBON STATUS: Indicates the length of ribbon used. (The display is updated every 3 seconds.)
- RIBBON 1/8 (Approximately 1/8 of the total length of ribbon is used.)
  - RIBBON 2/8 (Approximately 2/8 of the total length of ribbon is used.)
  - :
  - RIBBON 7/8 (Approximately 7/8 of the total length of ribbon is used.)
  - RIBBON 8/8 (Approximately 8/8 of the total length of ribbon is used.)
- (3) PAPER SENSOR: Indicates levels of paper sensors. (The display is updated every 3 seconds.)
- TRANSMISSIVE SENSOR: \*.\*V (Input level of the transmissive sensor: 0.0 V to 5.0 V)
  - REFLECTIVE SENSOR: \*.\*V (Input level of the reflective sensor: 0.0 V to 5.0 V)
- (4) HEAD UP SENSOR: Indicates the head up sensor status. (The display is updated every 3 seconds.)
- HEAD CLOSE (The print head is closed.)
  - HEAD OPEN (The print head is opened.)
- (5) TEMPERATURE SENSOR: Indicates the temperature sensor status. (The display is updated every 3 seconds.)
- HEAD TEMPERATURE: \*\* °C (Print head temperature)
  - OUTSIDE TEMPERATURE: \*\* °C (Outside air temperature)
- (6) MAINTENANCE COUNTER: Indicates the values for various counters such as the label distance covered. (The display is updated every 3 seconds.)
- TOTAL FEED: \*.\* km (Total label distance covered)
  - FEED: \*.\* km (Label distance covered)
  - PRINT: \*.\* km (Print distance)
  - CUT COUNT: \*\*\*\* (Cut count)
  - HEAD UP/DOWN COUNT: \*\*\*\* (Head up/down count)
  - RIBBON WORK TIME: \*\*h (Ribbon motor drive time)
  - RIBBON WORK TIME: \*\*h (Head-up solenoid drive time)
  - RS-232C ERROR COUNT: \*\*\*\* (RS-232C communication error count)
  - SYSTEM ERROR COUNT: \*\*\*\* (System error count)
  - POWER FAILURE COUNT: \*\*\*\* (Momentary power interruption count)

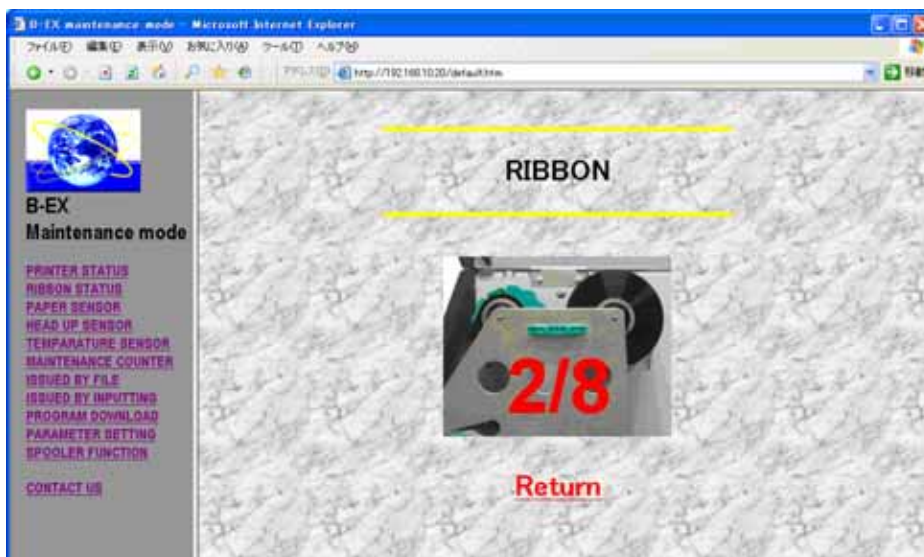
An example for each status display is shown below.

[Display Examples]

PRINTER STATUS (IDLE HEAD CLOSE)

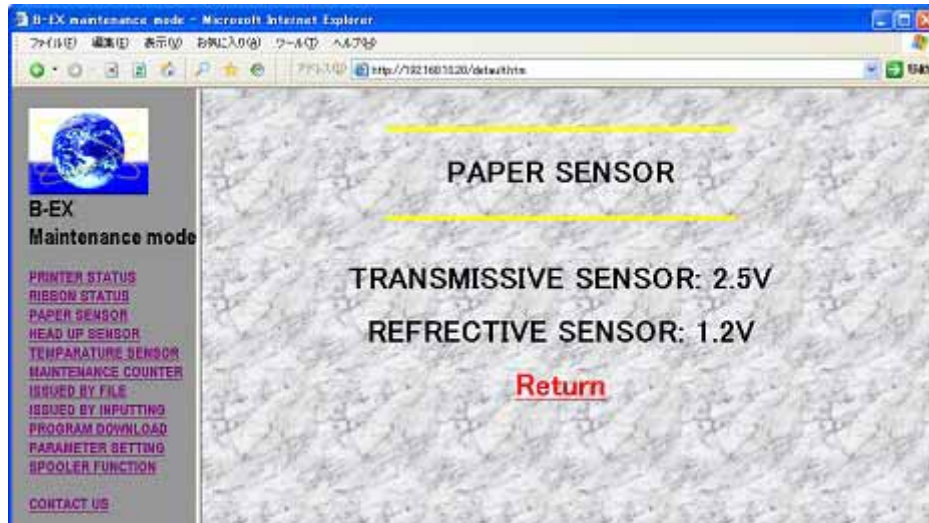


RIBBON STATUS (RIBBON 2/8)

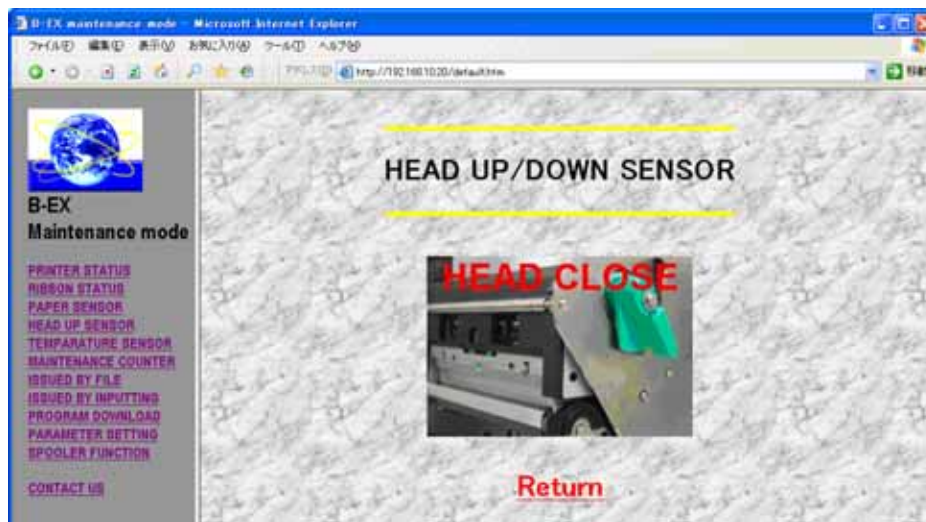




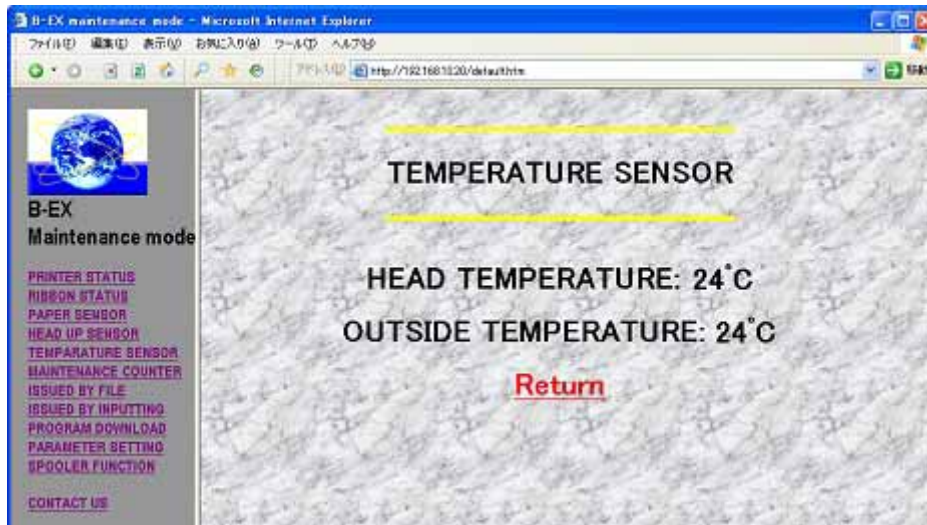
PAPER SENSOR (Transmissive sensor: 2.5 V, Reflective sensor: 1.2 V)



HEAD UP SENSOR (CLOSE)



TEMPERATURE SENSOR (Print head temperature: 24 °C, Outside temperature: 24 °C)

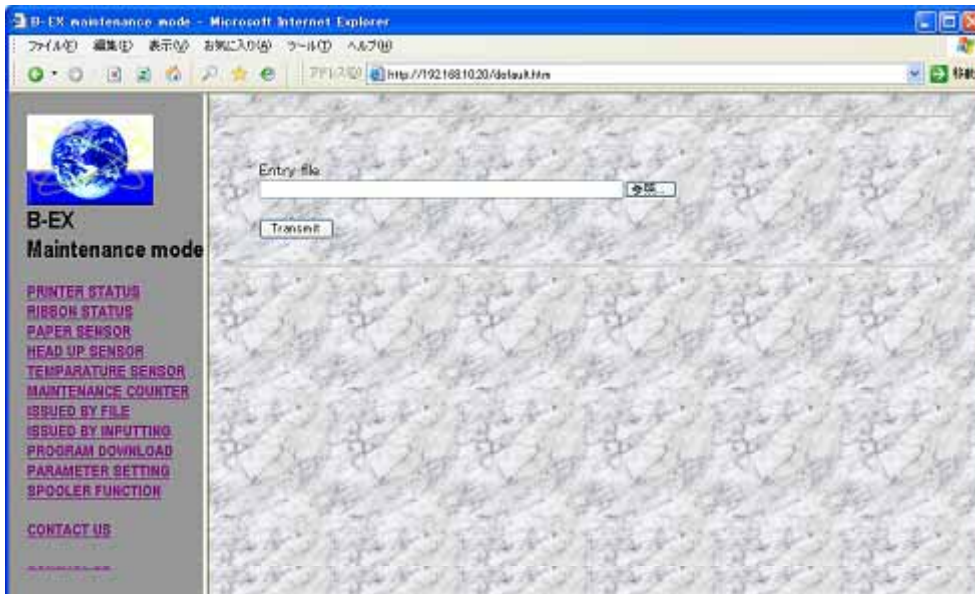


MAINTENANCE COUNTER



### 7.3.3.5 Label Printing

(1) Select "ISSUED BY FILE" in the menu on the left of the window.



Select a file to send and click "Transmit."

The file to send is a text file with a command. If the print command is included in this file, printing is carried out.

Note: This function is not available when the use of the internal memory is specified for the Web printer.

Note: Since temporary files are created on the USB storage device, the amount of space needs to be equal to the size of files to be sent to the USB storage device or greater.

(2) Select "ISSUED BY INPUTTING" in the menu on the left of the window.

**Issuing Delivery Form**

Destination Code: 4-1      Payment method: Pay in advance

Reference No.: 000 - 1221283      Quantity: 1

Name of product: B-EX

**Consignee**

Address: Hespiotonda, Hama-cho, Shizuoka-ku, TOKYO, JAP

Consignee: TOSHIBA TEC CORP  
Barcode System

TEL: 03-\*\*-\*\*\*\*

Shipping date: 01 Year 1 Month Date

**Consignor**

Address: Ohita, Izunokuni-shi, Shizuoka, JAPAN

Consignor: TOSHIBA TEC CORP  
Ohito

TEL: 0558-\*\*-\*\*\*\*

Reception desk: Ohito      TEL: 0558-\*\*-\*\*\*\*

Comments: Precision machine

Issue

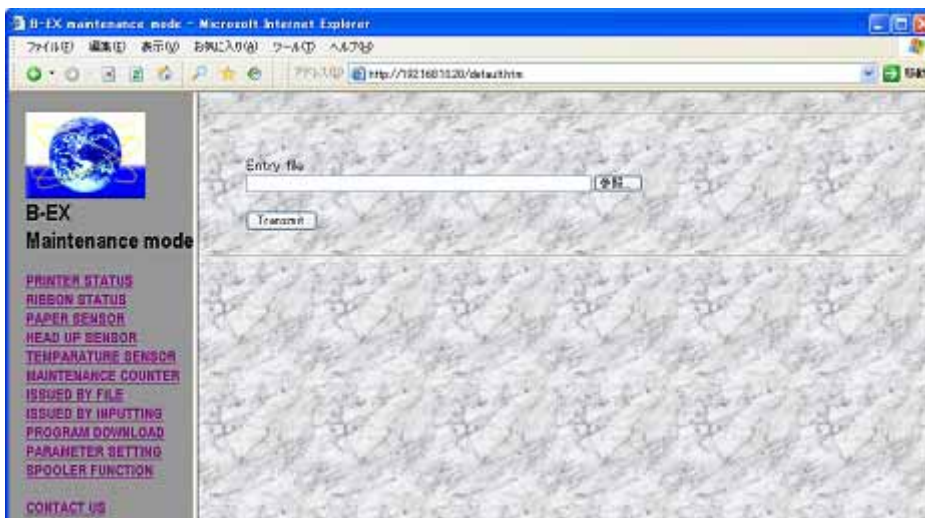
Enter necessary information and click [Issue] to print labels in the specified format.

Note: This function is not available when the use of the internal memory is specified for the Web printer.

Note: Since temporary files are created on the USB storage device, the amount of space needs to be equal to the size of files to be sent to the USB storage device or greater.

### 7.3.3.6 Firmware Downloading

Select "PROGRAM DOWNLOAD" in the menu on the left of the window.



Select a firmware file to download and click "Transmit."

The firmware file to send needs to be in the same format as the one to be sent by the program downloader (for USB).

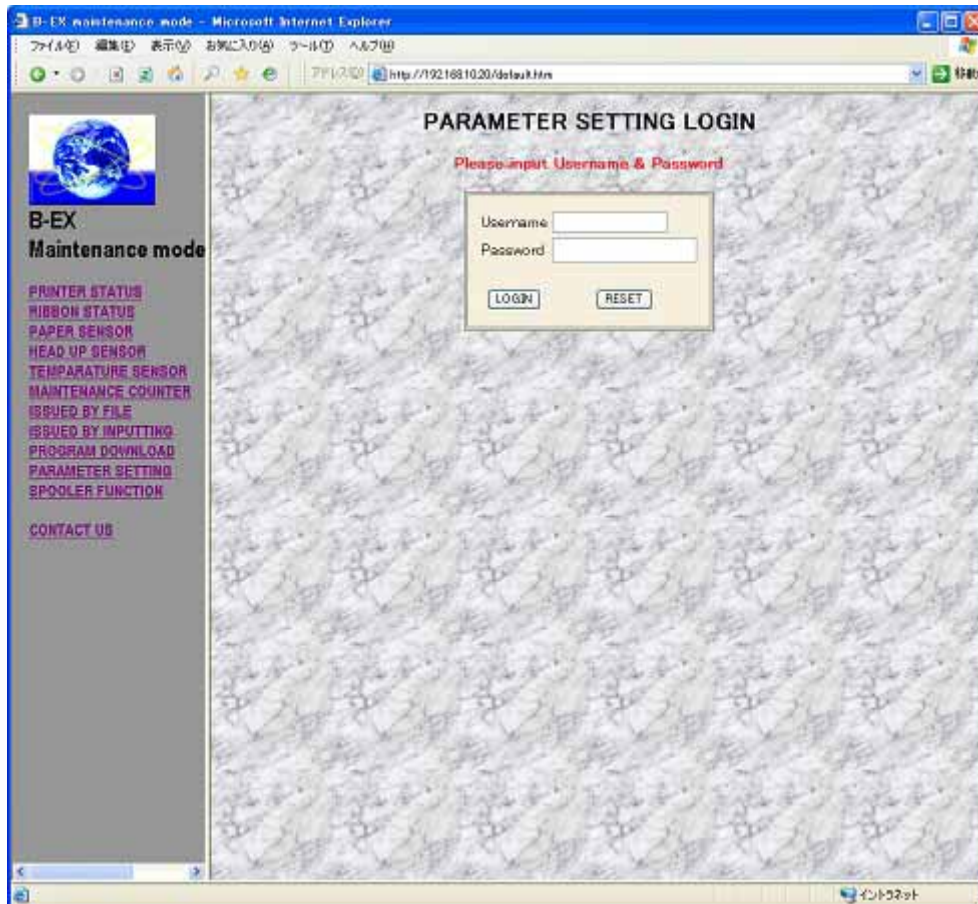
When the contents of the firmware file are not correct, cannot be properly read or written, "FORMAT ERROR" appears on the LCD screen and the program will not be downloaded.

Note: This function is not available when the use of the internal memory is specified for the Web printer.

Note: Since temporary files are created on the USB storage device, the amount of space needs to be equal to the size of files to be sent to the USB storage device or greater.

### 7.3.3.7 Parameter Change

Select "PARAMETER SETTING" in the menu on the left of the window.



When you enter your username and password on the login screen and successfully authenticated, the parameter settings screen appears.

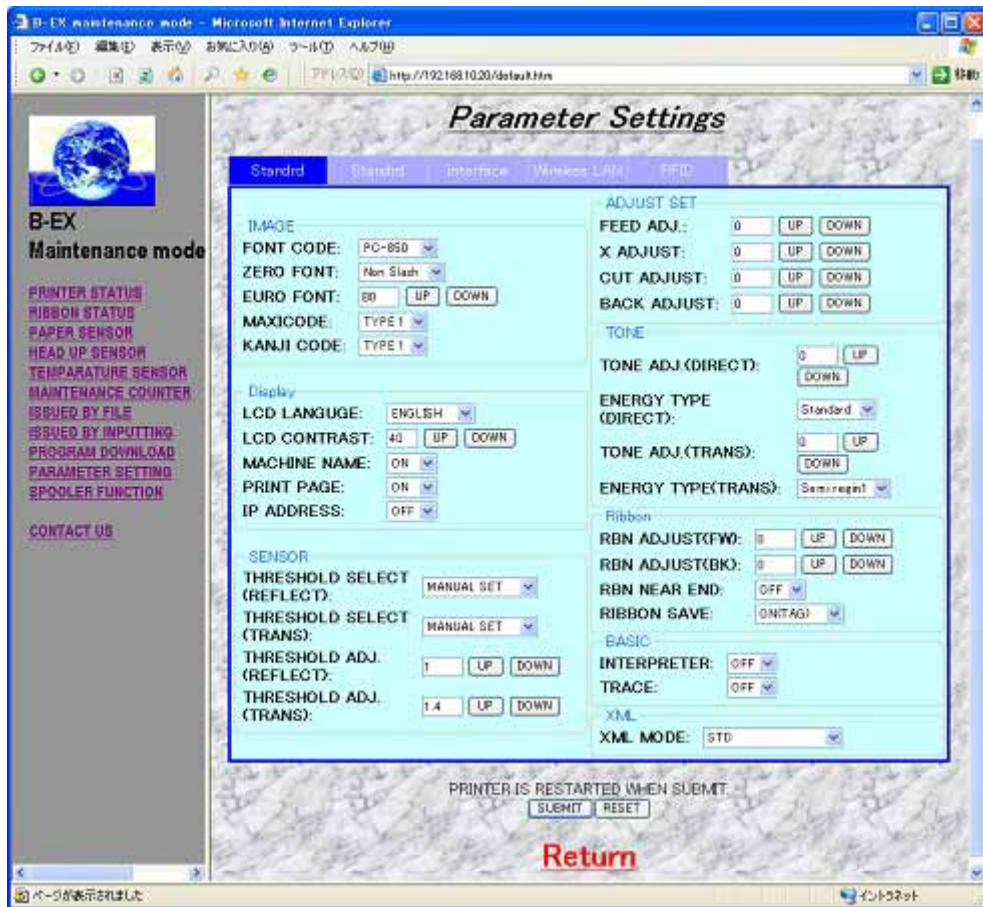
The username and password need to be the ones for the administrator described in `\pass\pass.txt (/ATA0/PASS/PASS.TXT)`.

For the method of describing password files, see Section 8.4.3 FTP Server Specifications.

The current parameter settings are displayed.

To change the settings, change parameters on the browser, and then click [SUBMIT].

The printer is then restarted to make the changes take effect.



Note: Use only 1-byte characters when manually entering a value.

### 7.3.3.8 Print Job Management Function

#### (1) Print Job Management Function

It is a function to display files saved in a given folder in the printer as print jobs on the browser, and command to issue, delete, reissue, issue all or delete all print jobs from the browser.

With the FTP function or e-mail function, print jobs can be saved in the printer.

Three types of print jobs are available, immediate print job, stored print job and data transfer complete job. Immediate print jobs are printed as soon as they are saved in the printer. Stored print jobs are not printed until a print command is sent from the browser after they are saved in the printer. When print data transfer is complete, both jobs are saved as data transfer complete jobs in the printer.

#### (2) Preparation

① Create three folders to save print jobs in the printer.

- PRTDATA folder (to save immediate print jobs)  
When using the internal memory: /RAM0/  
When using the external memory: /ATA0/PRTDATA
- PRTPOOL folder (to save stored print jobs)  
When using the internal memory: /RAM0/  
When using the external memory: /PRTPOOL
- PRTEND folder (to save data transfer complete jobs)  
When using the internal memory: /RAM0/  
When using the external memory: /PRTEND

② Describe time intervals to update the print job management screen in the setting file.

Save the setting file as http.ini in the "http" folder on the USB storage device or in the "http" folder on the XML ROM.

The method of describing this setting file is stated as follows:

- Time intervals to update the print job management screen

Format
--------

 INTERVAL=5

Set time intervals (seconds) to update the print job management screen.

The intervals can be set from 0 to 32767 (approximately nine hours).

Setting File Example

\\http\http.ini (/ATA0/HTTP/HTTP.INI)

Command line starting with #

*INTERVAL=5*

In this case, update the print job management screen every five seconds.

Note: When the http folder or http.ini does not exist on the USB storage device, update the print job management screen every five seconds.

Note: When the interval value is set to 0, the print job management screen is not updated.



### (3) Operation

The printer performs the following operations.

- ① Monitors the PRTRDATA folder all the time, saves a file stored in the PRTRDATA folder as an immediate print job, and performs the following steps as soon as the file is saved.
  1. Transfers print data.
  2. After print data transfer is complete, deletes the file from the PRTRDATA folder and saves it as a data transfer complete job in the PRRTEND folder.

When several files exist in the PRTRDATA folder, repeats the above steps 1. and 2. to transfer print data in sequence.
- ② When a command to delete the immediate print job is received from the printer's homepage, deletes the file from the PRTRDATA folder.
- ③ Saves the file stored in the PRTRPOOL folder as a stored print job, and stores it until a command to print the file is received from the printer's homepage. When the command to print the file is received, deletes the file from the PRTRPOOL folder, saves it as an immediate print job in the PRTRDATA folder and performs Step ① to print it.
- ④ When a command to delete the stored print job is received from the printer's homepage, deletes the file from the PRTRPOOL folder.
- ⑤ Saves the file stored in the PRRTEND folder as a data transfer complete job. When a command to reprint the file is received, deletes the file from the PRRTEND folder, saves it as an immediate print job in the PRTRDATA folder and performs Step ① to print it.
- ⑥ When a command to delete the data transfer completed job is received from the printer's homepage, deletes the file from the PRRTEND folder.
- ⑦ When a command to print all files is received, deletes all file in the PRTRPOOL folder, saves them as immediate print jobs in the PRTRDATA folder and performs Step ① to print them.
- ⑧ When a command to delete all files is received from the printer's homepage, deletes all files from the PRTRPOOL and PRRTEND folders.
- ⑨ Updates the print job management screen every number of seconds specified in the http.ini file. Displays the printer status, remaining print data transfer count, available space in the printer (or on the USB storage device when using the external memory, or RAM disk when using the internal memory,) print jobs, [All Issue] and [All Delete] buttons.

### (4) Method of saving print jobs

To save an immediate print job, write the file in the PRTRDATA folder in the printer.

To save a stored print job, write the file in the PRTRPOOL folder in the printer.

Note: Use English one-byte characters for the print job name (file name).

Note: Use a maximum of eight characters for the print job name (file name) and three-character extension (see Section 8.3) format.

Note: When the same file name as the one already saved is used as a print job name, it is overwritten.

- Saving via FTP

To save an immediate print job by connecting the printer via FTP, copy the file in the PRTDATA folder in the printer.

To save a stored print job, copy the file in the PRTPPOOL folder in the printer.

For more information on the FTP function, see Section 8.4 FTP Server.

- Saving via e-mail

Attach the file you want to save as a job, specify the printer's e-mail address as a destination and send e-mail to the printer.

To save the file as an immediate print job, "PRTDATA" needs to be contained in the subject.

To save the file as a stored print job, "PRTPPOOL" needs to be contained in the subject.

For more information on the e-mail function, see Section 8.5 E-mail Function.

Note: Use English one-byte characters for "PRTDATA" and "PRTPPOOL" contained in the subject.

Note: When a subject other than the above is specified, as soon as receiving the e-mail, the printer prints the contents of the attached file and does not save the file as a print job in the printer.

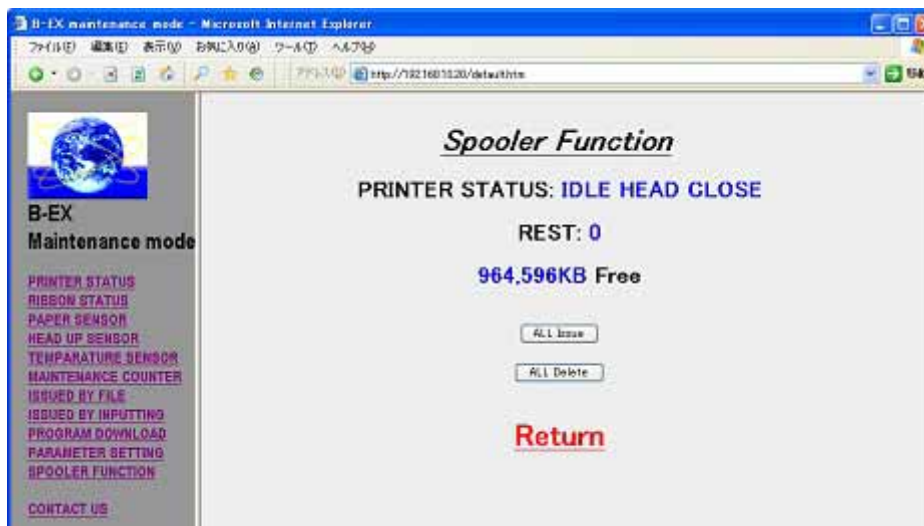
Note: When a print job is saved via e-mail, since temporary files are created in the printer, the amount of space needs to be at least four times the size of files to be sent to the printer. When the printer does not have sufficient space, it does not receive the e-mail, so that the e-mail is not deleted from the server.

(5) Print job management screen

Select "SPOOLER FUNCTION" in the menu on the left of the window.

[Display Example]

PRINT JOB MANAGEMENT SCREEN



"PRINTER STATUS:" indicates the current printer status, "REST:" indicates the remaining print data count, and "\*\*\*,\*\*\*KB Free" indicates the available space in the printer.

In this case, the printer is in an idle state, the remaining print data transfer count is 0 and the available space in the printer is 964,600 KB.

Print jobs are indicated underneath.

Job (file) names, job statuses, Issue, Reissue and Delete buttons are arranged from left to right. The job when data transfer is in process, which is saved in the PRTDATA folder or for which an issue command is sent, is shown at the top. The print job stored, which is saved in the PRTPOOL folder, is shown the next. The data transfer complete job, which is saved in the PRTEND folder, is shown at the bottom.

Job statuses show "Spooling" for the job when data transfer is in process, "Unissued Data" for the print job stored, and "Data Transfer Complete" for the job when data transfer is complete.

[All Issue] is a button to print all stored print jobs, and [All Delete] is a button to delete all stored print jobs and data transfer complete jobs.

## (6) Operation Example

By clicking [Delete] for DATA01.TXT on the display example, DATA01.TXT is deleted.

By clicking [Issue] for DATA02.TXT on the display example, print data for DATA02.TXT is transferred (Job Status: Spooling). When the transfer is complete, DATA02.TXT becomes a data transfer complete job (Job Status: Data Transfer Complete).

By clicking [Delete] for DATA02.TXT on the display example, DATA02.TXT is deleted.

By clicking [Reissue] for DATA04.TXT on the display example, print data for DATA04.TXT is transferred (Job Status: Spooling). When the transfer is complete, DATA04.TXT becomes a data transfer complete job again (Job Status: Data Transfer Complete).

By clicking [Delete] for DATA04.TXT on the display example, DATA04.TXT is deleted.

By clicking [All Issue], all stored print jobs are printed, thus, print data for DATA02.TXT and DATA01.TXT are printed on the display example.

Print data for DATA02.TXT and DATA01.TXT are transferred in sequence (Job Status: Spooling). When the transfer is complete, DATA02.TXT and DATA03.TXT become data transfer complete jobs (Job Status: Data Transfer Complete). In this way, when several stored print jobs are present, by clicking [All Issue], print data for stored print jobs are transferred in sequence (Job Status: Spooling). Jobs when the data transfer is complete become data transfer complete jobs in sequence (Job Status: Data Transfer Complete).

By clicking [All Delete], all stored print jobs and data transfer complete jobs are deleted. On the display example, all four jobs are deleted.

When print jobs are saved in the PRTDATA folder, the job status shows "Spooling" as soon as the jobs are saved.

When print jobs are saved in the PRTPOOL folder, the job status shows "Unissued Data" as soon as the jobs are saved as stored print jobs.

Note: The following may occur depending on the screen update timing because the printer updates the print job management screen every number of seconds specified in the http.ini file.

- The job status does not change to "Spooling" but directly to "Data Transfer Complete."
- Even when print data transfer is complete, the job status does not change to "Data Transfer Complete" but remains "Spooling."

Note: The information on the print job management screen may not be updated because the printer updates the print job management screen every number of seconds specified in the http.ini file. In this case, the printer may not properly operate because corresponding files are not provided even by clicking the button on the browser.

The following show an example when the printer does not properly operate.

Example:

Ten seconds are specified in the http.ini file, and the print data (DATA.TXT) file is saved in the PRTPOOL folder.

The print job management screen is updated. DATA.TXT is displayed as a stored print job. (Since ten seconds are specified in the http.ini file, the print job management screen is not updated in ten seconds.)

DATA.TXT in the PRTPOOL folder is deleted by FTP for ten seconds before the print job management screen is updated. In such case, DATA.TXT is displayed as a stored print job because the print job management screen has not been updated.

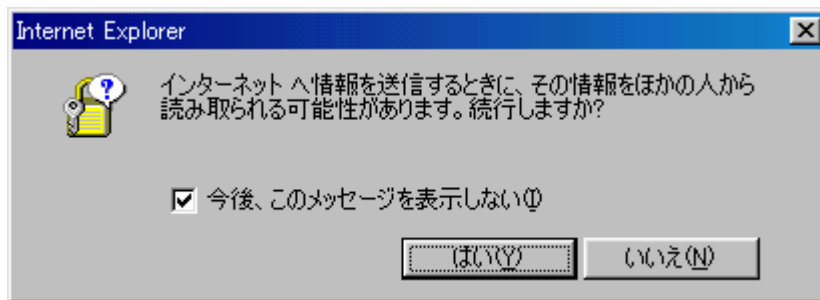
Immediately after that, even when a print command is sent on the print job management screen for ten seconds before the print job management screen is updated, no file is present or printed.

To specify longer seconds in the http.ini file, the aforementioned problem may occur. Therefore, it is preferable to manually update the information to click the button on the browser.

Note: If the Internet Explorer security is set to high, the printer may not properly operate.

Example:

The following dialog box appears by clicking the button on the print job management screen.



### 7.3.4 HTML File Change

The sample display files can be edited and customized. However, the leading area of each file (upper than Please do not change above script) is not allowed to change.

Example: Prt\_sts.htm

```
<META HTTP-EQUIV="Refresh" CONTENT="3">
<META HTTP-EQUIV="Pragma" CONTENT="no-cache">
<SCRIPT LANGUAGE="JAVASCRIPT">
<!--
sts= 1; ←----- sts value can be rewritten according to the printer.
// -->
</SCRIPT>
<! sts = 1 : idle head close           >
<! sts = 2 : idle head open           >
<! sts = 3 : printer working          >
<! sts = 4 : pause                    >
<! sts = 5 : wait for peel off        >
<! sts = 6 : syntax error             >
<! sts = 7 : communication error      >
<! sts = 8 : paper jam                >
<! sts = 9 : cutter error             >
<! sts = 10 : no label                >
<! sts = 11 : no ribbon               >
<! sts = 12 : head open error         >
<! sts = 13 : thermal head error      >
<! sts = 14 : excess head temperature >
<! sts = 15 : ribbon error            >
<! sts = 16 : rewinder overflow       >
<! sts = 17 : saving mode             >
<! sts = 18 : flash write error       >
<! sts = 19 : flash erase error       >
<! sts = 20 : flash memory full       >
<!------- Please do not change above script ----->
<TITLE> idle head down </TITLE>
</HEAD>
<BODY>
<BODY LINK="#0000ff" VLINK="#800080" BACKGROUND="Image19.jpg">
<BR>
<HR SIZE="5"WIDTH="50%"ALIGN="center"COLOR="YELLOW">
<P>
<CENTER>
<H1>PRINTER STATUS</H1>
</CENTER>
<HR SIZE="5"WIDTH="50%"ALIGN="center"COLOR="YELLOW">
<P>
<BR>
<CENTER>
<H1>
```

Not allowed to change

```
<SCRIPT LANGUAGE="JAVASCRIPT">
<!--
if (sts == 1){
pstatus = "IDLE HEAD CLOSE";
}
if (sts == 2){
pstatus = "IDLE HEAD OPEN";
}
if (sts == 3){
pstatus = "PRINTER WORKING";
}
if (sts == 4){
pstatus = "PRINTER PAUSE";
}
if (sts == 5){
pstatus = "WAITING FOR PEEL OFF";
}
if (sts == 6){
pstatus = "SYNTAX ERROR";
}
if (sts == 7){
pstatus = "COMMUNICATION ERROR";
}
if (sts == 8){
pstatus = "PAPER JAM";
}
if (sts == 9){
pstatus = "CUTTER ERROR";
}
if (sts == 10){
pstatus = "NO PAPER";
}
if (sts == 11){
pstatus = "NO RIBBON";
}
if (sts == 12){
pstatus = "HEAD OPEN ERROR";
}
if (sts == 13){
pstatus = "THERMAL HEAD ERROR";
}
if (sts == 14){
pstatus = "EXCESS HEAD TEMPERATURE";
}
if (sts == 15){
pstatus = "RIBBON ERROR";
}
if (sts == 16){
pstatus = "REWINDER OVERFLOW";
}
}
```

```

if (sts == 17){
pstatus = "FLASH SAVE MODE";
}
if (sts == 18){
pstatus = "FLASH WRITE ERROR";
}
if (sts == 19){
pstatus = "FLASH ERASE ERROR";
}
if (sts == 20){
pstatus = "FLASH MEMORY FULL";
}
document.write(pstatus);
// -->
</SCRIPT>

</H1>
</CENTER>
<P>
<BR>
<A HREF="default.htm"target="_top">
<B><FONT COLOR="#FF0000"><H1><P ALIGN="center">Return</P></H1></FONT></B>
</A>
</BODY>
</HTML>

```

In addition, descriptions to be sent in binary mode contained in files for label printing and firmware downloading (\*.asp) are not allowed to change.

Example: File.asp

```

<HTML><HEAD><TITLE>Issue by file transmission</TITLE></HEAD>
<BODY LINK="#0000ff" VLINK="#800080" BACKGROUND="Image19.jpg">
  <HR>
  <BLOCKQUOTE>
  <BR>
  <FORM action=/form/formFile method=POST ENCTYPE=multipart/form-data>
  Entry file<BR> Binary mode set
  <INPUT NAME="filename" TYPE="file" SIZE=70><P>
  <INPUT TYPE="submit" VALUE="Transmit"><P>
  </FORM>
  </BLOCKQUOTE>
  <HR>
</BODY></HTML>

```



## 7.4 FTP SERVER

It is a function to allow files in the printer to be written via FTP (File Transfer Protocol) as the standard protocol.

User authority is divided into two types. Users who have the authority as administrators can read and write all files, however, users who have the authority as users are restricted to access files.

By sending a printer command file via FTP, you can save print jobs in the printer.

The accessible directories are RAM disk (/RAM0/) and USB storage (/ATA0/.)

### 7.4.1 Required Settings

LAN	Other than Disabled
IP Address	Any
Subnet Mask	Any
Gateway	Any

### 7.4.2 Preparation

- Environment where a wired LAN or wireless LAN connection is established
- XML ROM including the password information or USB host board (option) and USB storage device
- Password file \pass\pass.txt (/ATA0/PASS/PASS.TXT)

### 7.4.3 FTP Server Specifications

#### 7.4.3.1 Preparation

To establish FTP connection from the host to the printer, username and password need to be entered. These username and password need to be saved as a password file on the XML ROM or the USB storage device.

When the Web printer function is disabled or the use of the internal memory is specified, the password file in the XML ROM is used.

When the use of the external memory is specified, the password file on the USB storage device is used.

Save the password file as pass.txt in the "pass" folder on the USB storage device.

The method of describing this password file is stated as follows:

- Password of the user who has the authority as an administrator

**Format** ADMINUSR=root,ADMINPASS=barcode

Set ADMINUSR as a username and ADMINPASS as a password.

Maximum 15 characters for the username and 10 characters for the password can be used.

- Password of the user who has the authority as a user

**Format** USR=toshiba,PASS=tec

Set USR as a username and PASS as a password.

Users who have the authority as administrators can access all files including pass.txt on the USB storage device. On the other hand, users who have the authority as user can only access folders other than the folders of HTML, HTTP, PASS, MAIL, XML, SA\_HTM, and CERT.

Maximum 15 characters for the username and 10 characters for the password can be used.

Note: When the "pass" folder or pass.txt does not exist, you are accessed as a user who has the authority as a user.

#### 7.4.3.2 Access

Use the username and password included in pass.txt to log in from the client to the printer. The directory to access the printer is /RAM0/ in the case of the RAM disk, or /ATA0/ in the case of the USB storage device.

#### 7.4.3.3 Saving Print Jobs

When a file is transferred to the PRTDATA folder (when using the internal memory: /RAM0/PRTDATA, and when using the external memory: /ATA0/PRTDATA), an immediate print job can be saved. When a file is transferred to the PRTPool folder (when using the internal memory: /RAM0/PRTPool, and when using the external memory: /ATA0/PRTPool), a stored print job can be saved.

For more information on the Print Job Management function, see Section 8.3.3.7.

Note: When the same file name as the one already saved is used as a print job name, it is overwritten.

Root directory (/RAM0: internal memory, /ATA0: external memory)

#### 7.4.4 Setting File Example

(1) \pass\pass.txt (/ATA0/PASS/PASS.TXT)  
Command line starting with #  
*ADMINUSR=root,ADMINPASS=barcode*  
*ADMINUSR=tec,ADMINPASS=taro*  
*USR=suzuki,PASS=abcxyz*  
*USR=test,PASS=abcdef*

### 7.5 E-MAIL FUNCTION

The built-in function, which automatically sends and receives e-mail, can notify the host of the printer status by e-mail, issue a print command and save print jobs by sending the printer command embedded in the e-mail, which was sent from the host to the printer.

The SMTP protocol is used for the e-mail sending function of the printer and the POP3 protocol is used for the e-mail receiving function of the printer.

An e-mail server, which supports SMTP and POP3 protocols, is required where the printer can be accessed via LAN.

#### 7.5.1 Required Settings

LAN/WLAN	Other than Disabled
IP Address	Any
Subnet Mask	Any
Gateway	Any

#### 7.5.2 Preparation

- Environment where a wired LAN or wireless LAN connection is established
- XML ROM including the e-mail function settings or USB host board (option) and USB storage device
- E-mail send data setting file \mail\smtp.ini (/ATA0/MAIL/SMTP.INI)
- E-mail receive data setting file \mail\pop3.ini (/ATA0/MAIL/POP3.INI)
- E-mail send message text e.g. \mail\text\sts00.txt (/ATA0/MAIL/TEXT/STS00.TXT)
- Host e-mail server (supporting SMTP and POP3)

Note: When the Web printer function is disabled or the use of the internal memory is specified, the setting files in the XML ROM are used.

When the use of the external memory is specified, the setting files on the USB storage device are used.

## 7.5.3 E-mail Sending Specifications

### 7.5.3.1 Preparation

(1) Save the printer account number in the e-mail server.  
(2) Describe setting information required to send e-mail in the setting file.  
Save the setting file as smtp.ini in the "mail" folder on the XML ROM or the USB storage device.  
The method of describing this setting file is stated as follows:

- Setting the IP address of the e-mail server

**Format** HOST\_IP=123.456.789.012

Set the IP address of the e-mail server.

- E-mail address of the printer

**Format** FROM\_USR=[bex@foo.toshibatec.co.jp](mailto:bex@foo.toshibatec.co.jp)

Set the e-mail address of the printer.

A maximum of 256 characters can be used.

- SMTP protocol port

**Format** PORT=25

Select the port used for the SMTP protocol.

Normally use Port 25.

- Setting the status reply

**Format** RESMAIL=1

With this parameter set to 1, when a print command is sent to the printer by e-mail, a print completion status is automatically returned to the sender of the e-mail.

- Setting an e-mail destination address by status

Whether to enable or disable e-mail transmission, and e-mail destination and message text can be set depending on the type of status.

**Format** ENABLEaa=1

When 1 is set, the e-mail transmission is enabled. When 0 is set, it is disabled.

**Format** TO\_USERaa=[foo@foo.toshibatec.co.jp](mailto:foo@foo.toshibatec.co.jp)

Select an e-mail destination address. Specify multiple users, which are separated by delimiters (,).

A maximum of 20 items and a maximum of 1,000 characters can be used.

**Format** TEXT\_BODYaa=/ATA0/MAIL/TEXT/STS00.TXT

Use a file to specify the location of the e-mail message text.

The above-mentioned formats are used. "aa" is a numeric value between 00 and 54 and has the following meanings.

- 00 Head close
- 01 Head open
- 06 Command error
- 07 Serial port error
- 11 Paper jam
- 12 Cutter error
- 13 No paper
- 14 No ribbon
- 15 Feed while head open

17 Head error  
18 Head temp error  
21 Ribbon sensor error  
22 Rewinder full  
40 Issue complete  
41 Feed complete  
50 Flash write error  
51 Flash format error  
54 Flash full

e.g. ENABLE00=1

[TO\\_USR00=abc@foo.toshibatec.co.jp](mailto:abc@foo.toshibatec.co.jp)  
TEXT\_BODY00=/ATA0/MAIL/TEXT/STS00.TXT

Note: When the internal memory is used, the "/ATA0/" in the TEXT\_BODYaa is automatically replaced with "/RAM0/."

(3) When TEXT\_BODYaa is specified in the setting file, its file is required.

However, when the specified file does not exist, a status notification message is automatically generated and sent. When SUBJECT:????? is specified as the 1st line, ????? will be the subject of the e-mail to be sent.

e.g. /ATA0/MAIL/TEXT/STS00.TXT  
SUBJECT:Head Close  
Head Close

### 7.5.3.2 Operation

When the printer undergoes its status changes, it automatically sends status information to the destination by e-mail in accordance with the SMTP.INI settings.

When the printer undergoes its status changes while printing the print command received by e-mail and RESMAIL for SMTP.INI is set to 1, it also sends status information to the e-mail sender.

Note: When a command is issued by e-mail, multiple print commands are included in one file, only one status is returned, thus, it is preferable to include one print command in each file.

Note: When a command is issued by e-mail, multiple files attached are sent in one e-mail, status information is returned the same number as the number of attached files.

### 7.5.3.3 Setting File Example

(1) \mail\smtp.ini (/ATA0/MAIL/SMTP.INI)

```
Command line starting with #
# IP address of mail server
HOST_IP=123.456.789.012
# mail address of B-EX printer
FROM_USR=bcpbexa@foo.toshibatec.co.jp
# SMTP port default=25
PORT=25
# Send back response mail to sender
RESMAIL=1
# Head close
ENABLE00=1
TO_USR00=abc@foo.toshibatec.co.jp
TEXT_BODY00=/ATA0/MAIL/TEXT/STS00.TXT
# Head open
ENABLE01=1
```

TO\_USR01=abc@foo.toshibatec.co.jp  
TEXT\_BODY01=/ATA0/MAIL/TEXT/STS01.TXT  
# Command error  
ENABLE06=1  
TO\_USR06=abc@foo.toshibatec.co.jp  
TEXT\_BODY06=/ATA0/MAIL/TEXT/STS06.TXT  
# Serial port error  
ENABLE07=1  
TO\_USR07=abc@foo.toshibatec.co.jp  
TEXT\_BODY07=/ATA0/MAIL/TEXT/STS07.TXT  
# Paper jam  
ENABLE11=1  
TO\_USR11=abc@foo.toshibatec.co.jp  
TEXT\_BODY11=/ATA0/MAIL/TEXT/STS11.TXT  
# Cutter error  
ENABLE12=1  
TO\_USR12=abc@foo.toshibatec.co.jp  
TEXT\_BODY12=/ATA0/MAIL/TEXT/STS12.TXT  
# No paper  
ENABLE13=1  
TO\_USR13=abc@foo.toshibatec.co.jp  
TEXT\_BODY13=/ATA0/MAIL/TEXT/STS13.TXT  
# No ribbon  
ENABLE14=1  
TO\_USR14=abc@foo.toshibatec.co.jp  
TEXT\_BODY14=/ATA0/MAIL/TEXT/STS14.TXT  
# Feed while head open  
ENABLE15=1  
TO\_USR15=abc@foo.toshibatec.co.jp  
TEXT\_BODY15=/ATA0/MAIL/TEXT/STS15.TXT  
# Head error  
ENABLE17=1  
TO\_USR17=abc@foo.toshibatec.co.jp  
TEXT\_BODY17=/ATA0/MAIL/TEXT/STS17.TXT  
# Head temp error  
ENABLE18=1  
TO\_USR18=abc@foo.toshibatec.co.jp  
TEXT\_BODY18=/ATA0/MAIL/TEXT/STS18.TXT  
# Ribbon sensor error  
ENABLE21=1  
TO\_USR21=abc@foo.toshibatec.co.jp  
TEXT\_BODY21=/ATA0/MAIL/TEXT/STS21.TXT  
# Rewinder full  
ENABLE22=1  
TO\_USR22=abc@foo.toshibatec.co.jp  
TEXT\_BODY22=/ATA0/MAIL/TEXT/STS22.TXT  
# Issue complete  
ENABLE40=1  
TO\_USR40=abc@foo.toshibatec.co.jp  
TEXT\_BODY40=/ATA0/MAIL/TEXT/STS40.TXT

```
# Feed complete
ENABLE41=1
TO_USR41=abc@foo.toshibatec.co.jp
TEXT_BODY41=/ATA0/MAIL/TEXT/STS41.TXT
# Flash write error
ENABLE50=1
TO_USR50=abc@foo.toshibatec.co.jp
TEXT_BODY50=/ATA0/MAIL/TEXT/STS50.TXT
# Flash format error
ENABLE51=1
TO_USR51=abc@foo.toshibatec.co.jp
TEXT_BODY51=/ATA0/MAIL/TEXT/STS51.TXT
# Flash full
ENABLE54=1
TO_USR54=abc@foo.toshibatec.co.jp
TEXT_BODY54=/ATA0/MAIL/TEXT/STS54.TXT
```

```
(2) \mail\text\sts00.txt (/ATA0/MAIL/TEXT/STS00.TXT)
SUBJECT:Head Close
Head Close
Status No.00
```

## 7.5.4 E-mail Receiving Specifications

### 7.5.4.1 Preparation

(1) Save the printer account number in the e-mail server.  
(2) Describe setting information required to receive e-mail in the setting file.  
Save the setting file as pop3.ini in the "mail" folder on the XML ROM or the USB storage device.  
The method of describing this setting file is stated as follows:

- Setting the IP address of the e-mail server

**Format** HOST\_IP=123.456.789.012

Set the IP address of the e-mail server.

- POP3 protocol port

**Format** PORT=110

Select the port used for the POP3 protocol.  
Normally use Port 110.

- E-mail account of the printer

**Format** USER=bex

Set the e-mail address of the printer.  
A maximum of 300 bytes can be used.

- E-mail account password of the printer

**Format** PASSWORD=barcode

Set the e-mail address password of the printer.

A maximum of 300 bytes can be used.

- E-mail check interval

CHECKINTERVAL=10

Set time intervals (seconds) to check e-mail.

The intervals can be set from 0 to 42, 949 and 672 (approximately 12,000 hours).

#### 7.5.4.2 Operation

The printer connects to the e-mail server at constant time intervals to check e-mail in accordance with the e-mail check interval settings. The printer receives e-mail destined for the printer.

When files are attached to e-mail, the printer restores and sends each attached file, which does not contain "PRTDATA" or "PRTPOOL" in the subject, as a printer command. When "PRTDATA" or "PRTPOOL" is contained in the subject, the printer saves each attached file as a print job.

When no file is attached, the e-mail is issued as a printer command.

For more information on saving print jobs, see Section 10.6.

**Note:** A line feed code may be automatically inserted into an e-mail message depending on the e-mail software, however, when a line feed is inserted between commands, the printer does not properly operate.

**Note:** Three types of encode system corresponding to attached files are Base64, Quoted Printable and 7 bits.

**Note:** When a command is issued by e-mail, use {} to control commands because NUL data may be automatically deleted depending on the e-mail software.

**Note:** When the e-mail transmission software is in html format, the printer does not properly operate.

**Note:** When a command is issued or a print job is saved via e-mail, since temporary files are created in the printer, the amount of space needs to be at least four times the size of files to be sent to the USB storage device. When the printer does not have sufficient space, the printer does not receive the e-mail, so that the e-mail is not deleted from the server.

#### 7.5.4.3 Setting File Example

(1) \mail\pop3.ini (/ATA0/MAIL/POP3.INI)

```

Command line starting with #
# IP address of mail server
HOST_IP=123.456.789.012
# SMTP port default=110
PORT=110
# User name
USER= bcpbexa
# Password
PASSWORD= barcode
# Check Mail Every (sec.)
CHECKINTERVAL= 10

```



#### **7.5.4.4 Saving Print Jobs**

When an immediate print job is saved, the desired file to be saved is attached to an e-mail message and the e-mail, which contains "PRTDATA" in the subject, is sent to the printer, the printer saves the attached file as an immediate print job.

When a stored print job is saved, the desired file to be saved is attached to an e-mail message and the e-mail, which contains "PRTPPOOL" in the subject, is sent to the printer, the printer saves the attached file as a stored print job.

For more information on the Print Job Management function, see Section 8.3.3.7.

Note: Use English one-byte characters for "PRTDATA" and "PRTPPOOL" contained in the subject.

Note: When a subject other than the above is specified, as soon as receiving the e-mail, the printer prints the contents of the attached file and does not save the file as a print job on the USB storage device.

Note: When the same file name as the one already saved is used as a print job name, it is overwritten.

Note: To contain "PRTDATA" or "PRTPPOOL" in the subject, always describe "PRTDATA" or "PRTPPOOL" at the beginning of the subject.

## 7.6 DHCP CLIENT FUNCTION

It is a function to dynamically obtain the IP address, which is usually specified in the printer, from the DHCP server when the printer starts up.

When this function is used, an IP address does not need to be set in system mode.

### 7.6.1 Required Settings

LAN/WLAN	Other than Disabled
IP Address	Any
Subnet Mask	Any
Gateway	Any
DHCP	Enabled
DHCP ID	Any
DHCP HOST NAME	Any

### 7.6.2 DHCP Client Specifications

#### (1) Lease period

The default lease period is 30 minutes. If the lease period is not specified on the DHCP server, the lease period is set to 30 minutes.

Just before the lease period is expired, the printer automatically extends the lease period.

#### (2) Startup time

It takes approximately 30 seconds to obtain the lease from the DHCP server. Therefore, when the DHCP client function is used, it takes approximately 30 seconds for the printer to start up, after the printer is powered on.

The timeout to obtain the lease is approximately 2 minutes. If the lease cannot be obtained from the DHCP server within 2 minutes, the printer starts up 2 minutes later.

#### (3) Operation in the case of a failure to obtain the lease

If the lease cannot be obtained when the printer starts up, the IP address is changed to 0.0.0.0, disabling network communications.

An attempt to obtain the lease from the DHCP server is made approximately every 30 seconds. Once the lease is obtained, the IP address is set, enabling network communications.

#### (4) DHCP ID

The DHCP ID can be set by the parameter set command.

The DHCP ID can be used to check which IP address is leased to which client on the DHCP server.

If the DHCP ID is not set, the server is notified of the MAC address as the DHCP ID.

The DHCP ID can set 64-byte binary data, however, "FFH (in hex)" cannot be used since it is recognized as an end-of-data character.

If the first byte of the DHCP ID is set to "FFH (in hex)", it is assumed that the DHCP ID has not been set and the MAC address of the printer is set as DHCP ID, enabling communications.

#### (5) DHCP HOST NAME

The DHCP HOST NAME can be set by the parameter set command.

The interaction between the DHCP server and the DNS server enables communications with the printer, to which an IP address is dynamically assigned as the host name specified.

If the DHCP HOST NAME is not set (no characters are specified), the MAC address of the printer is used as the DHCP HOST NAME.

### 7.6.3 Setting of DHCP Server

Windows2003 Server

Scope settings (Properties)

① General

The screenshot shows the 'Scope [157.69.25.0] barcode-test.localのプロパティ' dialog box with the '全般' (General) tab selected. The 'DNS' and '詳細設定' (Advanced) tabs are also visible. The 'スコープ' (Scope) folder icon is shown. The 'スコープ名 (S):' field contains 'barcode-test.local'. The '開始 IP アドレス (S):' field contains '157 . 69 . 25 . 100'. The '終了 IP アドレス (E):' field contains '157 . 69 . 25 . 220'. The 'サブネット マスク:' field contains '255 . 255 . 255 . 0' and the '長さ:' field contains '24'. Under the 'DHCP クライアントのリース期間' (DHCP Client Lease Duration) section, the '期間 (L):' (Duration) radio button is selected. The '日 (D):' (Days) spinner is set to '1', the '時間 (Q):' (Hours) spinner is set to '0', and the '分 (M):' (Minutes) spinner is set to '5'. The '無制限 (U)' (Unlimited) radio button is unselected. The '説明 (R):' (Description) field is empty. At the bottom, there are 'OK', 'キャンセル' (Cancel), and '適用 (A)' (Apply) buttons.

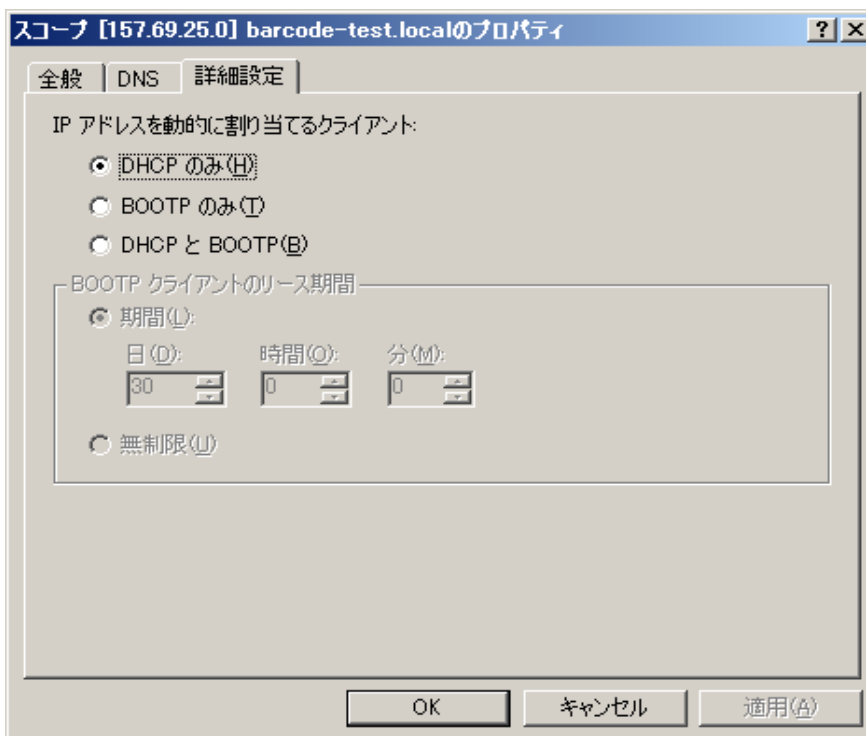
② DNS

The screenshot shows the same 'Scope [157.69.25.0] barcode-test.localのプロパティ' dialog box, but with the 'DNS' tab selected. The '全般' (General) and '詳細設定' (Advanced) tabs are also visible. The text reads: 'DHCP クライアントのホスト (A) およびポインタ (PTR) レコードを持つ権限のある DNS サーバーを自動的に更新するように DHCP サーバーをセットアップすることができます。' (You can set up the DHCP server so that it automatically updates DNS servers that have the authority to update host (A) and pointer (PTR) records for DHCP clients.) Below this, there are three checked options: 

- 以下の設定に基づいて、DNS 動的更新を有効にする (E) (Based on the following settings, enable DNS dynamic updates (E))
  - DHCP クライアントから要求があったときにのみ DNS の A および PTR レコードを動的に更新する (D) (Only dynamically update DNS A and PTR records when requested by DHCP clients (D))
  - DNS の A および PTR レコードを常に動的に更新する (W) (Always dynamically update DNS A and PTR records (W))
- リースが削除されたときに、A および PTR レコードを廃棄する (P) (When a lease is deleted, discard A and PTR records (P))
- 更新を要求しない DHCP クライアント (例: Windows NT 4.0 を実行しているクライアント) の DNS の A および PTR レコードを動的に更新する (N) (Dynamically update DNS A and PTR records for DHCP clients that do not request updates (e.g., Windows NT 4.0 clients) (N))

At the bottom, there are 'OK', 'キャンセル' (Cancel), and '適用 (A)' (Apply) buttons.

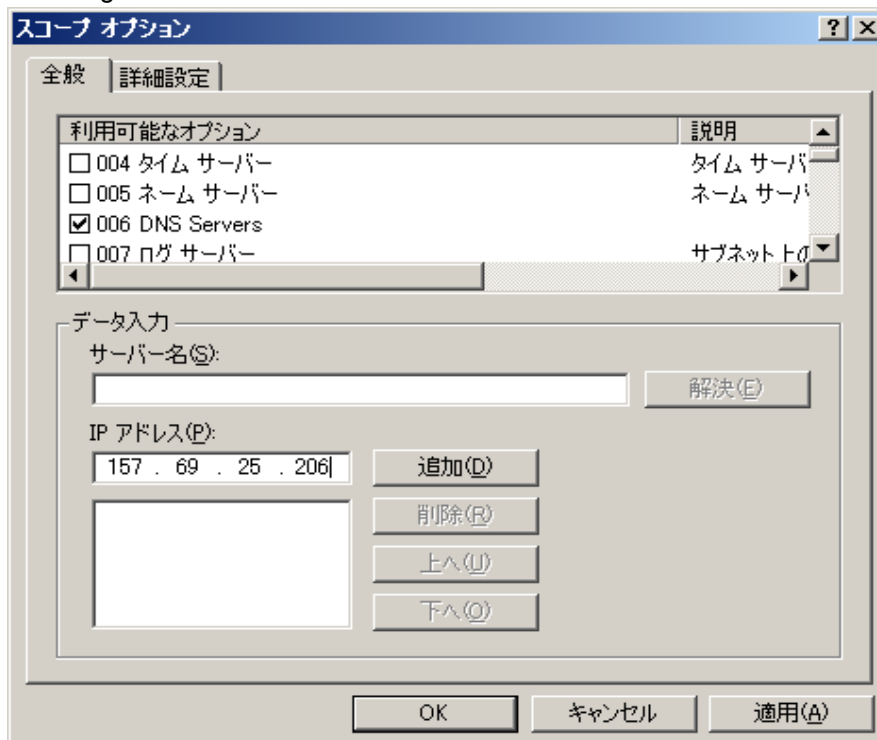
### ③ Advanced



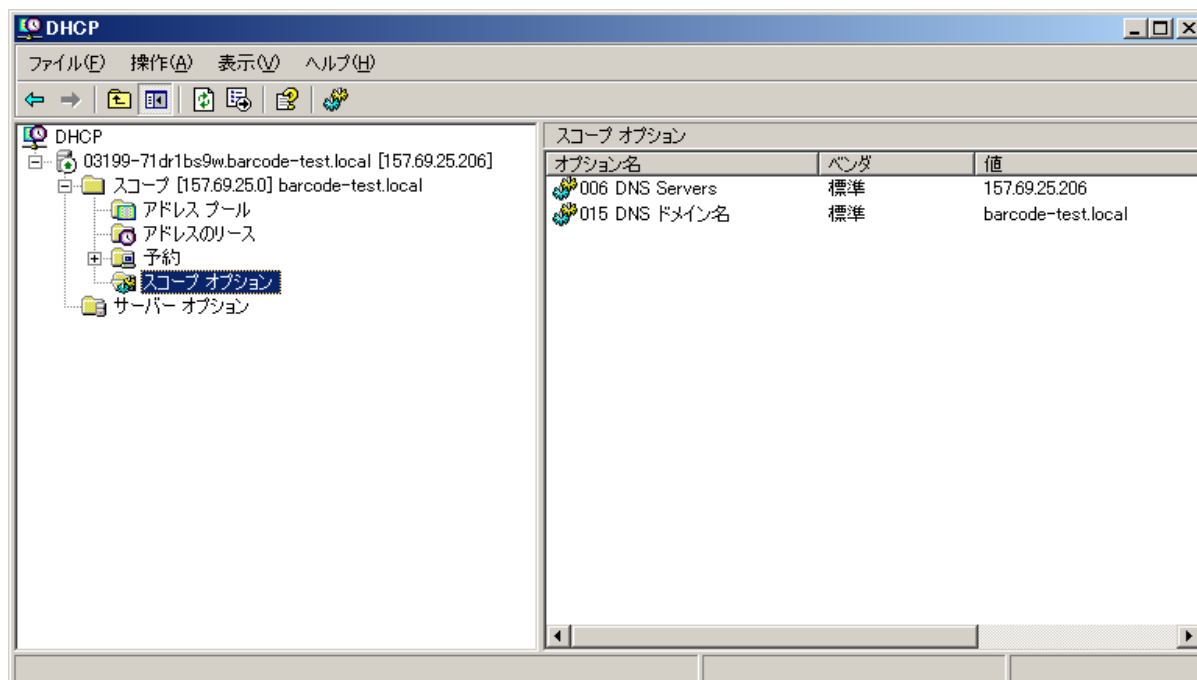
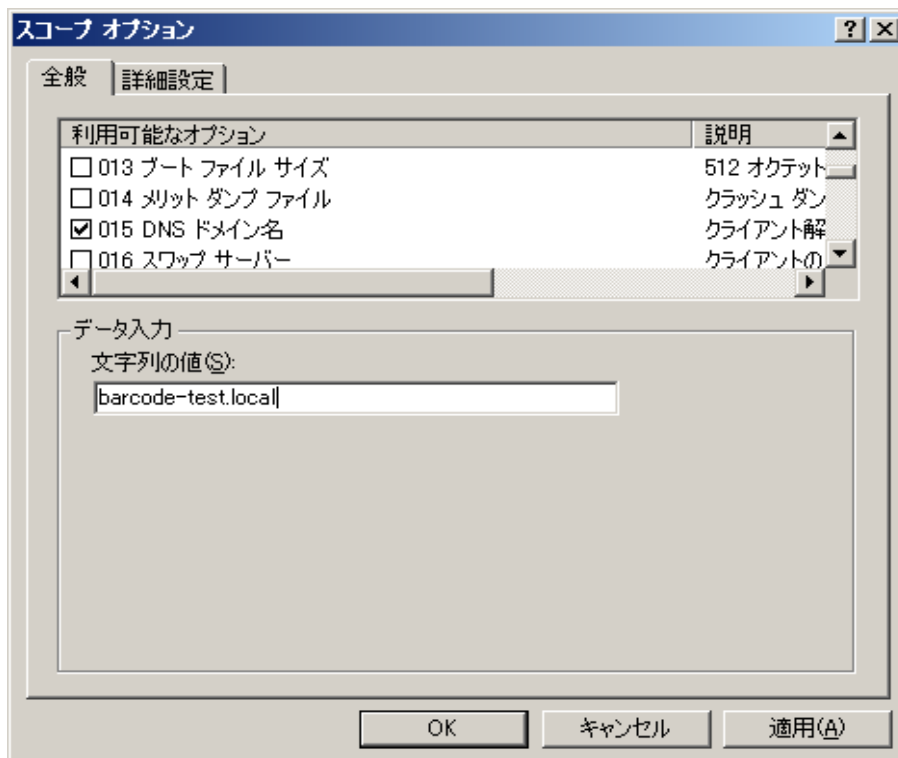
## 7.6.4 Scope Options Settings

Make additional settings: DNS Server IP Address and DNS Server Domain Name. Unless these settings are made, the DNS server cannot forward queries or backward queries for the domain names.

### ① Setting of DNS Server IP Address



② Setting of DNS Domain Name



## 7.7 WINS PROTOCOL

Using the WINS protocol, the printer IP address and host name table can be saved in the WINS server. By inquiring of the WINS server, the host device can obtain the printer IP address from the printer host name.

Setting parameters

WINS: Set to Enabled or DHCP.

If WINS is set to Enabled, save the IP address and host name table in the WINS server of which IP address is set as WINS IP.

If WINS is set to DHCP, save the IP address and host name table on the WINS server, which is notified by the DHCP server.

To select DHCP, the DHCP client function needs to be enabled. (See Section "7.7 DHCP Client Function.")

WINS IP: Set an IP address of the WINS server.

If DHCP is selected for WINS, the WINS IP is ignored.

## 8. WIRELESS LAN INTERFACE

With the optional wireless LAN board installed, the B-EX series can connect the printer to the host via TCP/IP.

Then, the same network function as the one when the normal LAN cable is connected.

### 8.1 WIRELESS CONNECTION SETTING

A wireless LAN connection can be established, enabling wireless communications using the "B-EX setting tool."

#### 8.1.1 Required Settings

LAN/WLAN	Auto or Wireless
11 b/g Setting	Any *1
ESSID	Any
11b channel	Any if Adhoc is selected *2
11b baud rate	Any if Adhoc is selected
11g channel	Any if Adhoc is selected *2
11g baud rate	Any if Adhoc is selected

\*1 If Adhoc is selected, 11b. or 11g. needs to be clearly specified. (11 b/g cannot be set.)

\*2 If an IBSS network is established, 11b and 11g channels are enabled.

(For more information on the operation, see the "B-EX Printer Setting Tool Operation Specification.")

### 8.2 ENCRYPTION SETTING

Encryption can be set using the B-EX setting tool, enabling WEP, TKIP, and AES encryption communications through the encryption protocol.

WEP authentication options are Disabled, Open or Shared Key.

WPA authentication options are Disabled, WPA, WPA-PSK, WPA2 or WPA2-PSK.

#### 8.2.1 Required Settings

Encryption Method	Any
WEP Authentication Method	Any
WPA Authentication Method	Any
Default Key	Any if WEP is selected
WEP #1 Size	Any if WEP is selected
WEP #1 Key	Any if WEP is selected
WEP #2 Size	Any if WEP is selected
WEP #2 Key	Any if WEP is selected
WEP #3 Size	Any if WEP is selected
WEP #3 Key	Any if WEP is selected
WEP #4 Size	Any if WEP is selected
WEP #4 Key	Any if WEP is selected
WPA Encryption Key	Any if WPA-PSK or WPA2-PSK is selected

\* For the settings required for the combination of encryption and supplicant, see Section 8.7 PARAMETER SETTING.

## 8.3 AUTHENTICATION SETTING (SUPPLICANT)

Encryption can be set using the B-EX setting tool, enabling wireless communications through the authentication protocol.

Supplicant options are Disabled, EAP-TLS, PEAP, EAP-TTLS, EAP-FAST, EAP-MD5 or LEAP.

Additional settings may be required depending on the supplicant.

### 8.3.1 Required Settings

Authentication Method	Any
802.1X Function	Any
Authentication Username	Any
Authentication Password	Any
Authentication File	For more information, see Section 9.8.

Usernames are case-sensitive, however, some of them may not be case-sensitive for authentication, depending on the RADIUS server.

\* For the settings required for the combination of encryption and supplicant, see Section 8.7 PARAMETER SETTING.

### 8.3.2 Certificate

Certificates may be required depending on the supplicant. (See Section 8.7 PARAMETER SETTING.)

Certificate files include:

- Root CA certificate file
- Client certificate file
- Client key file
- Pass phrase file
- Random file

The B-EX supports X.509-type pem (BASE64) file as an authentication file.

#### 8.3.2.1 How to Obtain Certificate

Certificates are issued by the certification authority. For examples of obtaining certificates, see the examples in Section 8.8 HOW TO CREATE AUTHENTICATE FILE.

#### 8.3.2.2 How to Edit Certificate

The B-EX supports X.509-type pem (BASE64) file as an authentication file. If a certificate file is not in pem format, the file needs to be converted to pem format.

For examples of editing certificates, see the examples in Section 8.8 HOW TO CREATE AUTHENTICATE FILE.

#### 8.3.2.3 How to Install Certificate

As the password for TLS authentication, a password, which is set in the B-EX or for the authentication file, is selected and used by the RADIUS server.

Each certificate is installed using the B-EX setting tool. For more information, see the "B-EX Printer Setting Tool Operation Specification."



## 8.4 SE SETTING FUNCTION

Parameters, which are set only for manufacturing and services, can be changed when parameters are set using the "B-EX setting tool." It requires no changes by the user.

It is applied when the country code is set.

For more information on the operation, see the "B-EX Printer Setting Tool Operation Specification."

#### 8.4.1 List of Available Channels by Country

Country Code	Country Name	11b Available Channel	11g Available Channel
392	Japan	1-14	1-13
840	U.S.	1-11	1-11
124	Canada	1-11	1-11
036	Commonwealth of Australia	1-13	1-13
554	New Zealand	1-13	1-13
484	the United Mexican States	1-11	1-11
710	South African Republic	1-13	1-13
156	People's Republic of China	1-13	1-13
344	Hong Kong	1-13	1-13
158	Taiwan	1-11	1-11
410	Republic of Korea	1-13	1-13
056	Kingdom of Belgium	1-13	1-13
528	the Netherlands (the Kingdom of the Netherlands)	1-13	1-13
442	Grand Duchy of Luxembourg	1-13	1-13
250	the France Republic	1-13	1-13
380	the Italian Republic	1-13	1-13
276	Federal Republic of Germany	1-13	1-13
208	Kingdom of Denmark	1-13	1-13
372	Ireland	1-13	1-13
826	UK	1-13	1-13
300	Republic of Greece	1-13	1-13
724	Spain (España)	1-13	1-13
620	Portuguese Republic	1-13	1-13
040	the Republic of Austria	1-13	1-13
246	Republic of Finland	1-13	1-13
752	Kingdom of Sweden	1-13	1-13
203	Czech Republic	1-13	1-13
233	Republic of Estonia	1-13	1-13
196	the Republic of Cyprus	1-13	1-13
428	Republic of Latvia	1-13	1-13
440	Republic of Lithuania	1-13	1-13
348	Republic of Hungary	1-13	1-13
470	Republic of Malta	1-13	1-13
616	the Republic of Poland	1-13	1-13
705	Republic of Slovenia	1-13	1-13
703	Slovak Republic	1-13	1-13
100	Republic of Bulgaria	1-13	1-13
642	Romania	1-13	1-13
578	Kingdom of Norway	1-13	1-13
438	Principality of Liechtenstein	1-13	1-13
352	Republic of Iceland	1-13	1-13
756	Swiss Confederation	1-13	1-13

If a country code other than the above is selected, the printer operates according to the settings for Japan.

## 8.5. REFERENCE TO PARAMETERS USING HTTP FUNCTION

When “http://[printer IP address]” is entered on the Web browser to access a printer, the printer homepage can be accessed.

On the Web page, Connection (wireless connection information), Reception (reception information) and Transmission (transmission information) tabs are provided, allowing the user to refer to the parameters on each page.

\* When the Web printer function is enabled, the Web printer screen appears but no wireless LAN parameter screen does.

### 8.5.1 Required Settings

LAN/WLAN	Auto or Wireless
Web Printer	Disabled
IP Address	Any
Subnet Mask	Any
Gateway	Any

HTML files need to be downloaded in advance.

Display files are downloaded at the factory default.

Only when a wireless LAN connection is established, these files are available.

### 8.5.2 Preparation

TOSHIBA TEC provides the following files:

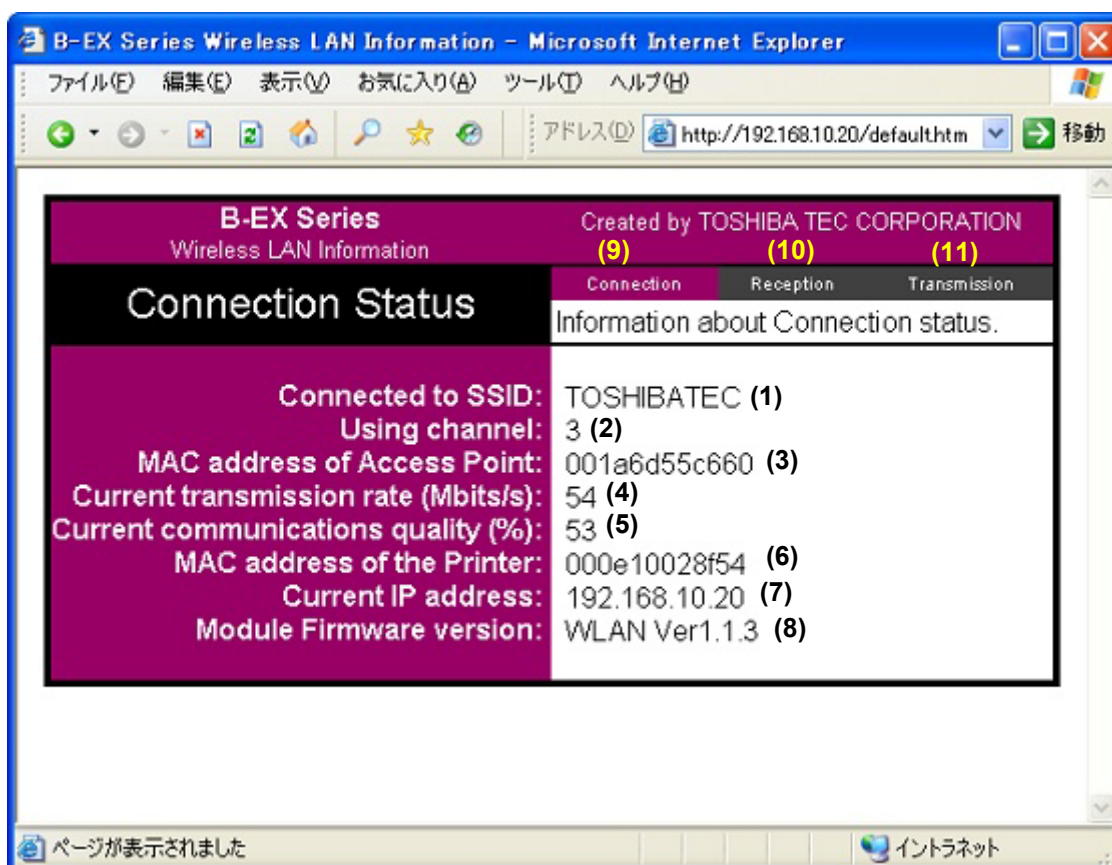
- Files to be displayed on the browser (\*.BIN)
- Sample display files (\*.BIN)

The display files are updated every three seconds, however, they may not be automatically updated depending on the behavior of the browser. Once the update fails due to the influence of the communication environment, subsequent automatic updates are disabled. In that case, latest information is displayed by manually updating the files.

(1) Connection (wireless connection information) page

It helps the user to refer to the current wireless connection status of the printer.

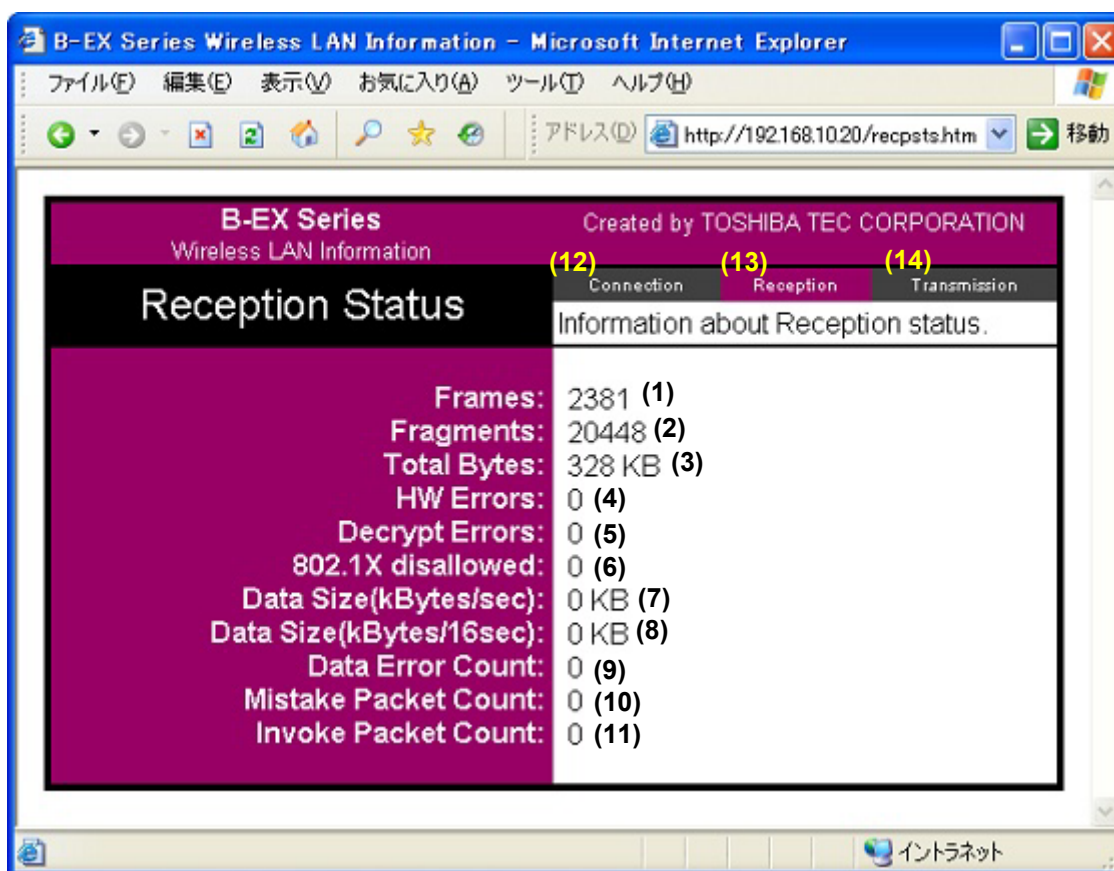
- |   |   |
|---|---|
| (1) Connected to SSID                   | : ESSID currently in use  |
| (2) Using channel                       | : Channel currently in use  |
| (3) MAC address of Access Point         | : MAC address of the access point currently connected                                   |
| (4) Current transmission rate (Mbits/s) | : Current connection link speed   |
| (5) Current communications quality(%)   | : Radio intensity   |
| (6) MAC address of the Printer          | : MAC address of the wireless LAN module  |
| (7) Current IP address                  | : IP address currently running (If DHCP is enabled, the leased IP address s displayed.) |
| (8) Module Firmware version             | : Version of wireless LAN module firmware   |
| (9) Connection                          | : Opens the Connection information screen.  |
| (10) Reception                          | : Opens the Reception information screen.   |
| )                                       |   |
| (11) Transmission                       | : Opens the Transmission information screen.  |
| )                                       |   |



(2) Reception (reception information) page

It helps the user to refer to the wireless reception status of the printer. These values are obtained after the printer is turned on or reset.

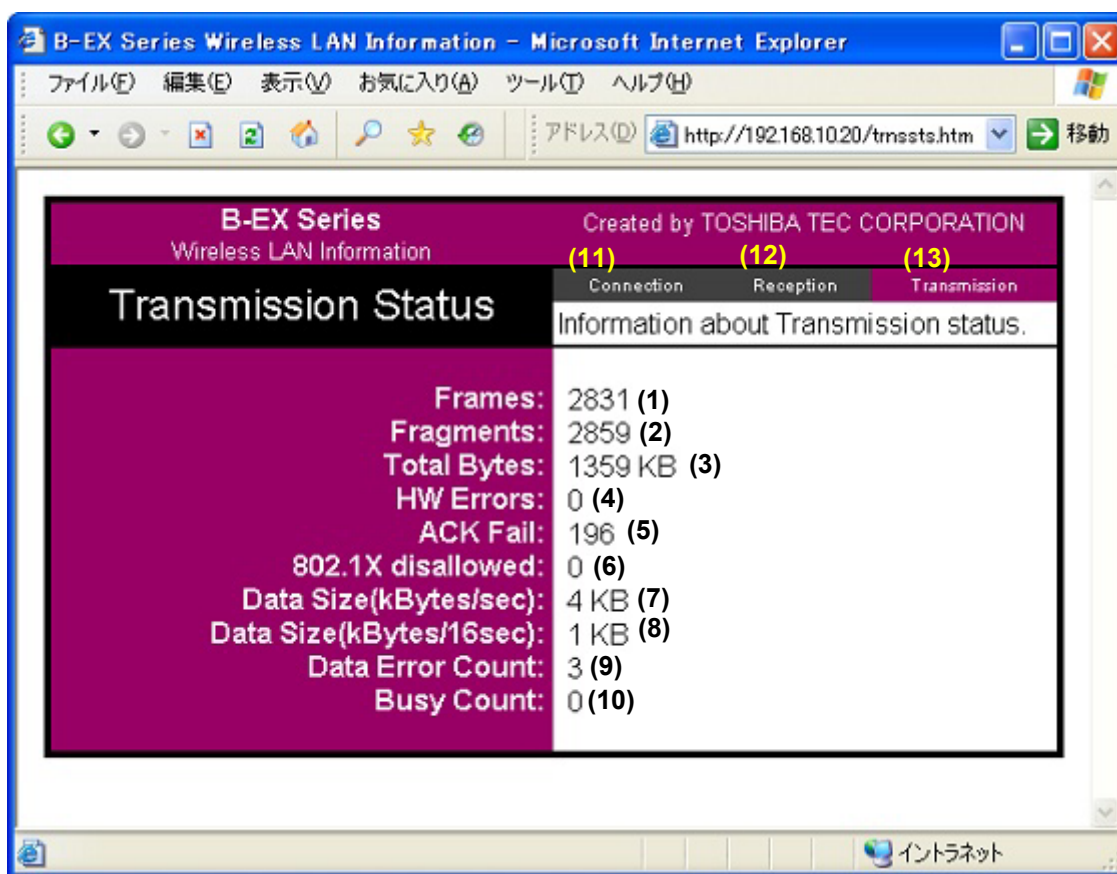
- |                              |   |
|------------------------------|---|
| (1) Frames                   | : Total number of received frames                           |
| (2) Fragments                | : Number of fragmented frames for reception                 |
| (3) Total Bytes              | : Total bytes of received data                              |
| (4) HW Errors                | : Number of SDIO card errors for reception                  |
| (5) Decrypt Errors           | : Total number of errors for decryption of received packets |
| (6) 802.1X disallowed        | : Total number of packets received and discarded of         |
| (7) Data Size (kBytes/sec)   | : Measured received data size per second                    |
| (8) Data Size (kBytes/16sec) | : Measured received data size per 16 seconds                |
| (9) Data Error Count         | : Reception error count                                     |
| (10) Mistake Packet Count    | : Count of packets received and discarded of                |
| )                            |   |
| (11) Invoke Packet Count     | : Invalid packet count                                      |
| )                            |   |
| (12) Connection              | : Opens the Connection information screen.                  |
| )                            |   |
| (13) Reception               | : Opens the Reception information screen.                   |
| )                            |   |
| (14) Transmission            | : Opens the Transmission information screen.                |
| )                            |   |



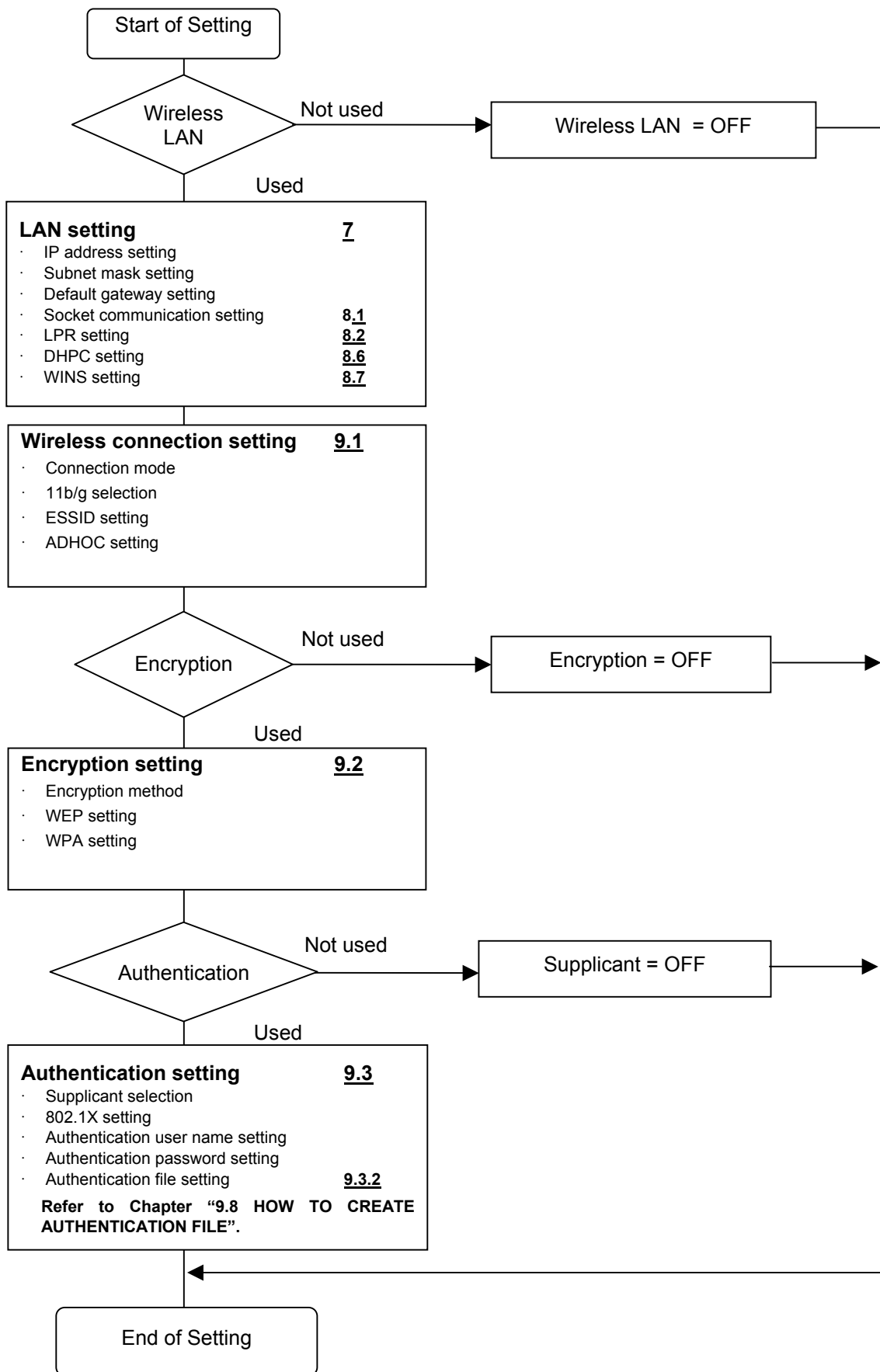
(3) Transmission (transmission information) page

It helps the user to refer to the wireless transmission status of the printer. These values are obtained after the printer is turned on or reset.

- |                              |  |
|------------------------------|--|
| (1) Frames                   | : Total number of transmitted frames                   |
| (2) Fragments                | : Number of fragmented frames for transmission         |
| (3) Total Bytes              | : Total bytes of transmitted data                      |
| (4) HW Errors                | : Number of SDIO card errors for transmission          |
| (5) ACK Fail                 | : Number of times when ACK response was not sent       |
| (6) 802.1X disallowed        | : Total number of packets transmitted and discarded of |
| (7) Data Size (kBytes/sec)   | : Measured transmitted data size per second            |
| (8) Data Size (kBytes/16sec) | : Measured transmitted data size per 16 seconds        |
| (9) Data Error Count         | : Transmission error count                             |
| (10) Busy Count              | : Transmission busy count                              |
| )                            |  |
| (11) Connection              | : Opens the Connection information screen.             |
| )                            |  |
| (12) Reception               | : Opens the Reception information screen.              |
| )                            |  |
| (13) Transmission            | : Opens the Transmission information screen.           |
| )                            |  |



## 8.6 WIRELESS LAN SETTING PROCEDURE FLOW



## 8.7. PARAMETER SETTING

Parameters required for security and associated settings supported by wireless LAN

Attachment A: Security and Associated Settings Supported by Wireless LAN															
Supported Security Settings							Settings Required by Setting Tool								
Connection Mode	Encryption	WPA	Authentication Method	Supplicant	Internal Authentication Method	PAC provisioning Method	Username	Password	Internal Authentication Method	Root CA	Client Certificate Client Key Pass phrase Random	PAC Provisioning Method	PAC file/File Password	WEP Key/Index	PSK
ADHOC	OFF	OFF	OPEN SYSTEM	OFF											
ADHOC	WEP40/140	OFF	OPEN SYSTEM	OFF										YES	
INFRA	OFF	OFF	OPEN SYSTEM	OFF											
INFRA	WEP40/140	OFF	OPEN SYSTEM	OFF										YES	
INFRA	WEP40/140	OFF	SHARED KEY	OFF										YES	
INFRA	TKIP	WPA-PSK	OPEN SYSTEM	OFF											YES
INFRA	AES	WPA2-PSK	OPEN SYSTEM	OFF											YES
INFRA	WEP40/140	OFF	OPEN SYSTEM	TLS			YES*1	-		YES	YES			-	
INFRA	WEP40/140	OFF	OPEN SYSTEM	TLS	MSCHAPV2/MD5		YES	YES	-	YES	-			-	
INFRA	WEP40/140	OFF	OPEN SYSTEM	LEAP			YES	YES		-	-			-	
INFRA	WEP40/140	OFF	OPEN SYSTEM	PEAP	MSCHAPV2		YES	YES	-	YES	-			-	
INFRA	WEP40/140	OFF	OPEN SYSTEM	MO6			YES	YES		-	-			YES	
INFRA	WEP40/140	OFF	SHARED KEY	MO6			YES	YES		-	-			YES	
INFRA	WEP40/140	OFF	OPEN SYSTEM	EAP-FAST	MSCHAPV2	AUTO	YES	YES	MSCHAPV2	-	-	AUTO	-	-	
INFRA	WEP40/140	OFF	OPEN SYSTEM	EAP-FAST	MSCHAPV2	MANUAL	YES	YES	MSCHAPV2	-	-	MANUAL	YES	-	
INFRA	WEP40/140	OFF	OPEN SYSTEM	EAP-FAST	GTC	MANUAL	YES	YES	GTC	-	-	MANUAL	YES	-	
INFRA	WEP40/140	OFF	NETWORK EAP	LEAP			YES	YES		-	-			-	
INFRA	TKIP	WPA	OPEN SYSTEM	TLS			YES*1	-		YES	YES				
INFRA	TKIP	WPA	OPEN SYSTEM	TLS	MSCHAPV2/MD5		YES	YES	-	YES	-				
INFRA	TKIP	WPA	OPEN SYSTEM	LEAP			YES	YES		-	-				
INFRA	TKIP	WPA	OPEN SYSTEM	PEAP	MSCHAPV2		YES	YES	-	YES	-				
INFRA	TKIP	WPA	OPEN SYSTEM	EAP-FAST	MSCHAPV2	AUTO	YES	YES	MSCHAPV2	-	-	AUTO	-		
INFRA	TKIP	WPA	OPEN SYSTEM	EAP-FAST	MSCHAPV2	MANUAL	YES	YES	MSCHAPV2	-	-	MANUAL	YES		
INFRA	TKIP	WPA	OPEN SYSTEM	EAP-FAST	GTC	MANUAL	YES	YES	GTC	-	-	MANUAL	YES		
INFRA	TKIP	WPA	NETWORK EAP	LEAP			YES	YES		-	-				
INFRA	AES	WPA2	OPEN SYSTEM	TLS			YES*1	-		YES	YES				
INFRA	AES	WPA2	OPEN SYSTEM	TLS	MSCHAPV2/MD5		YES	YES	-	YES	-				
INFRA	AES	WPA2	OPEN SYSTEM	LEAP			YES	YES		-	-				
INFRA	AES	WPA2	OPEN SYSTEM	PEAP	MSCHAPV2		YES	YES	-	YES	-				
INFRA	AES	WPA2	OPEN SYSTEM	EAP-FAST	MSCHAPV2	AUTO	YES	YES	MSCHAPV2	-	-	AUTO	-		
INFRA	AES	WPA2	OPEN SYSTEM	EAP-FAST	MSCHAPV2	MANUAL	YES	YES	MSCHAPV2	-	-	MANUAL	YES		
INFRA	AES	WPA2	OPEN SYSTEM	EAP-FAST	GTC	MANUAL	YES	YES	GTC	-	-	MANUAL	YES		
INFRA	AES	WPA2	NETWORK EAP	LEAP			YES	YES		-	-				

Yes: Setting required

No: No setting required

Gray area: Not related to set item (No setting required)

\*1: Same value as that in the subject of client certificate required depending on the system



## 8.8. HOW TO CREATE AUTHENTICATION FILE

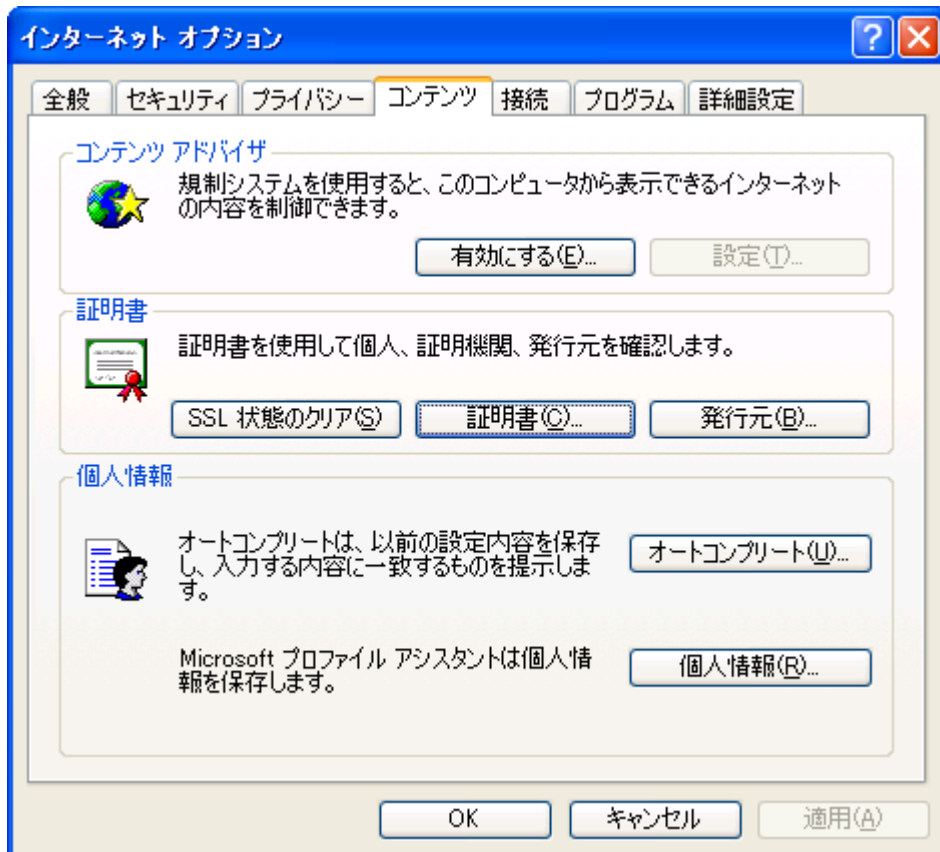
This chapter explains the method of obtaining a root CA certificate file (in pem format), client certificate file (in pem format), client key file (in pem format), pass phrase file and random file.

The B-EX supports X.509-type pem (BASE64) file as an authentication file. If a certificate issued by the certification authority is not in pem format, the file needs to be converted to pem format using a command such as OpenSSL for Windows.

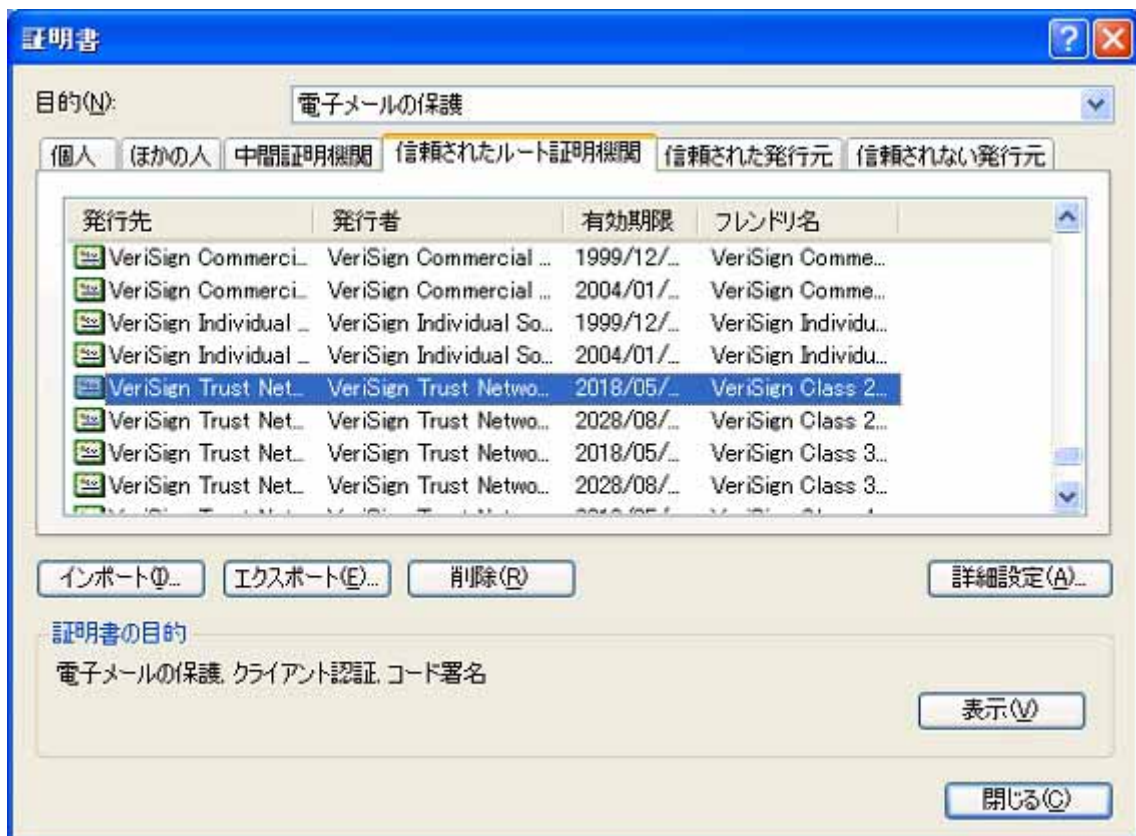
### 8.8.1 Root CA Certificate

This section explains the method of converting a certificate issued by a Root CA preinstalled on Windows, as an example.

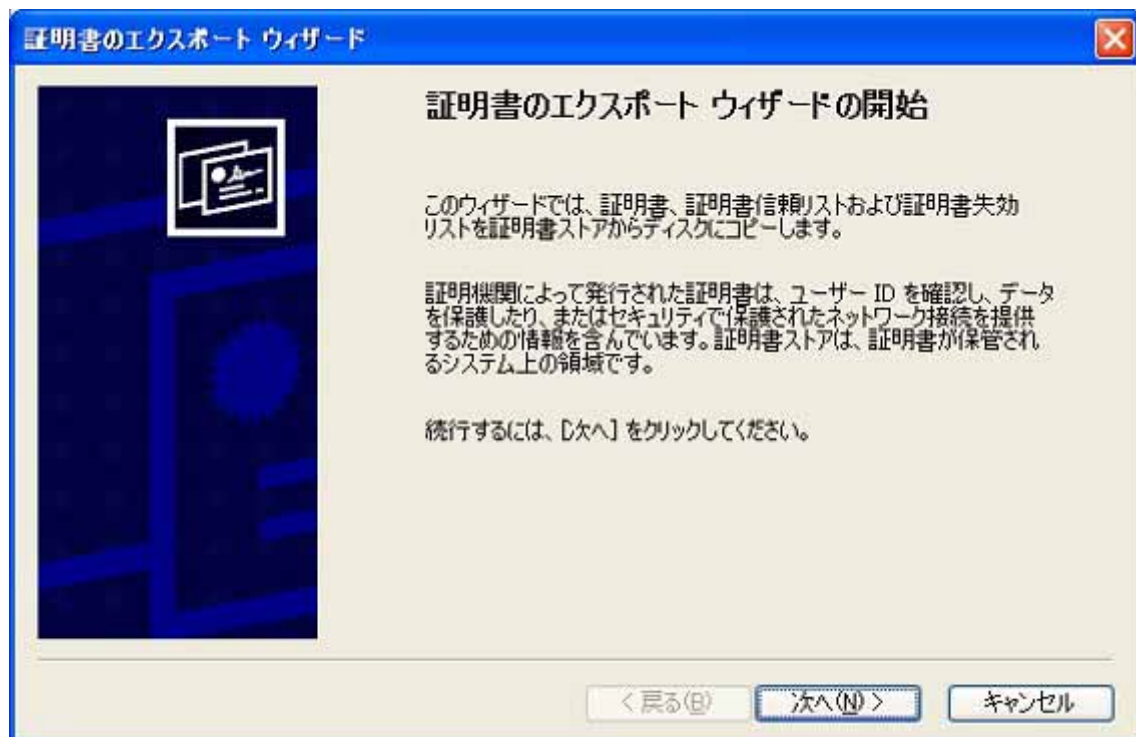
1. Open the Internet Explorer and select [Tools], then [Internet Options]. On the Internet Properties screen, click [Content] and then [Certificates...].



2. Select the Root CA to convert and then click [Export...].



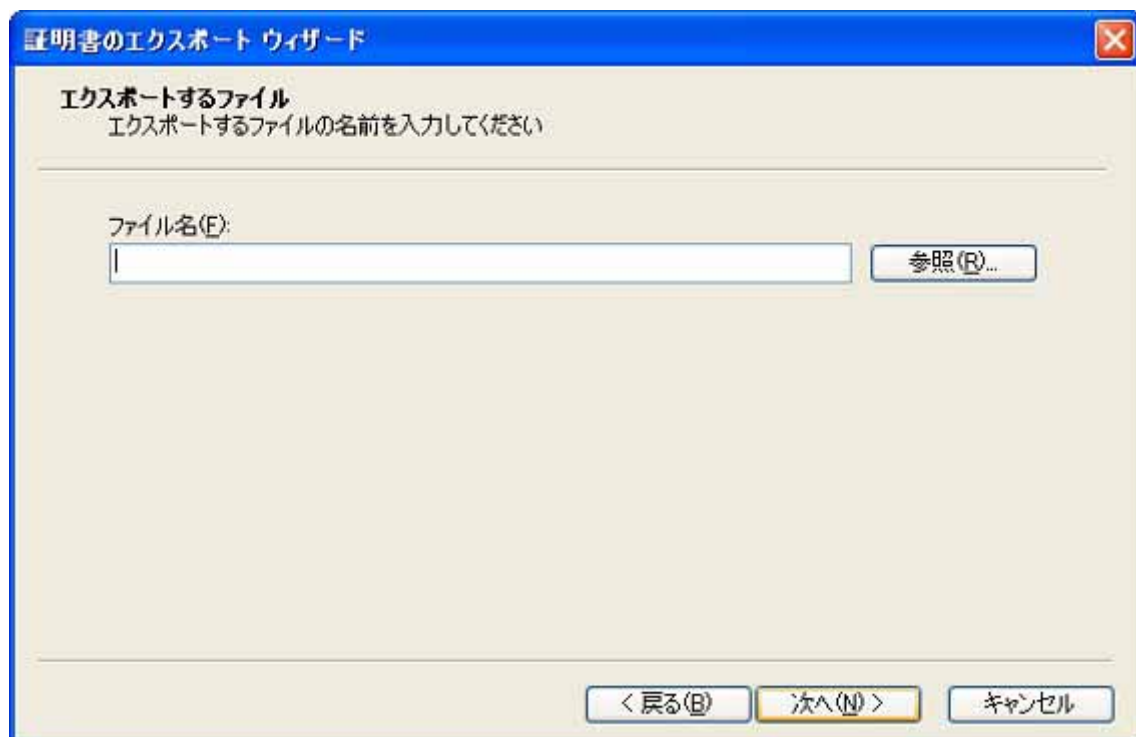
3. On the Certificate Export Wizard screen, click [Next].



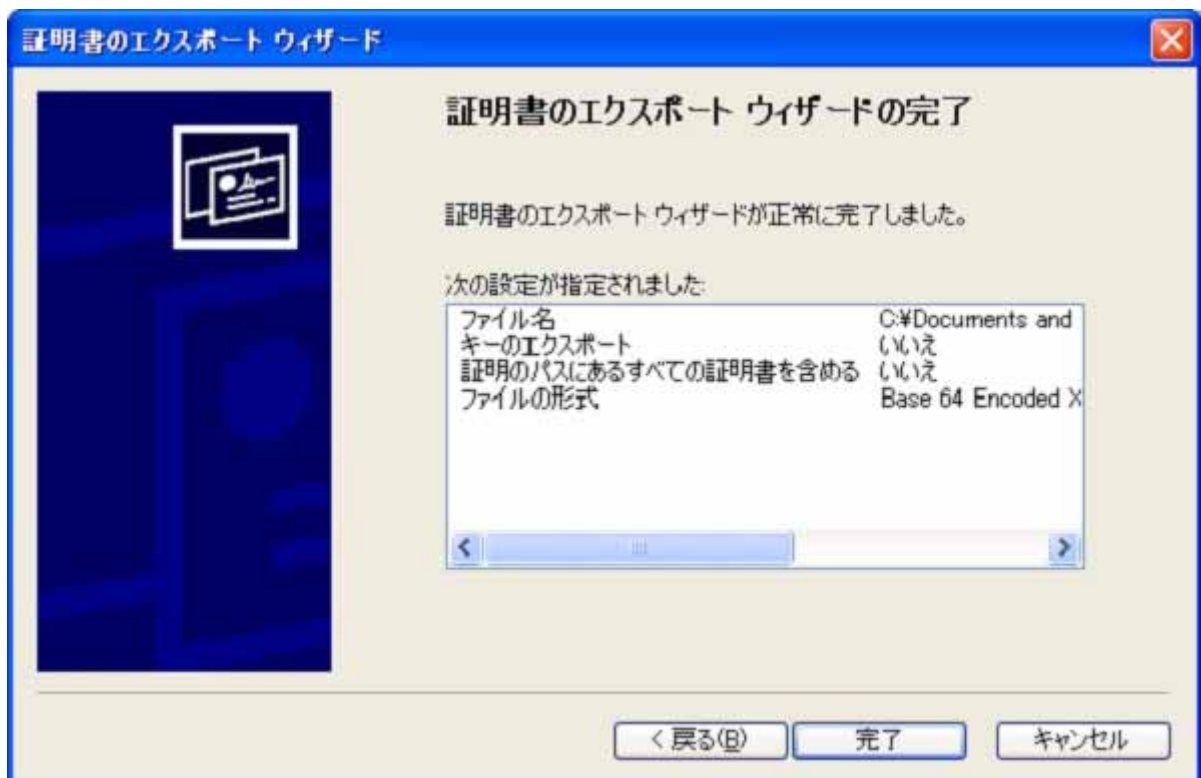
4. To export a base64 encoded certificate, select [Base 64 encoded X.509 (CER)] and then click [Next].



5. Enter a name of the file to be exported, and then click [Next].



6. Export of the certificate file has been successfully completed. The file exported through the above-mentioned steps is a Root CA certificate file.



## 8.8.2 How to Obtain Certificate

The following steps are required to obtain a client certificate. After obtaining the certificate, create a pem file in accordance with the method of converting client certificates.

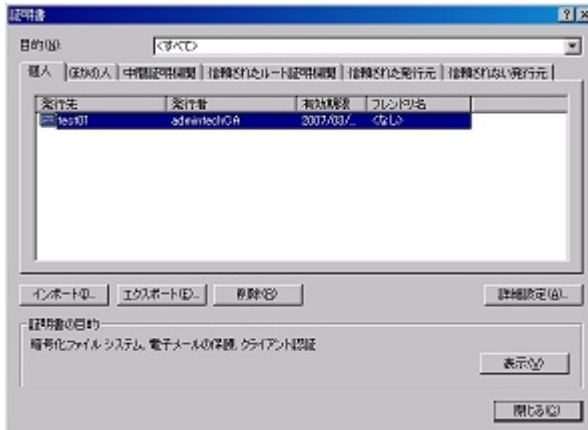
This section explains the method of converting certificates, which have been installed on Windows, as an example. (If a client certificate is in PKCS#12 format, start converting the client certificate by skipping this section.)

When the format of the client certificate is uncertain, the certificate may be installed on Windows by double-clicking the certificate. The certificate has been properly imported, allowing it to be converted in accordance with the steps below.

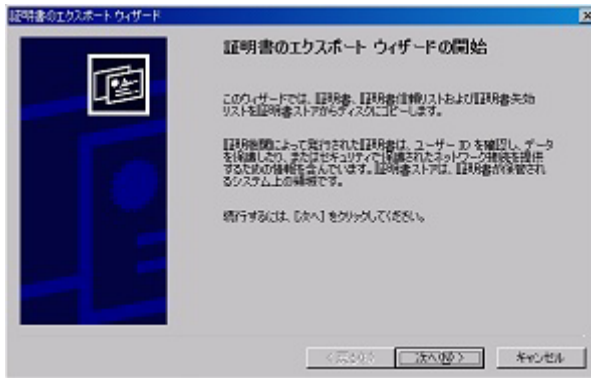
1. Open the Internet Explorer and select [Tools], then [Internet Options]. On the Internet Properties screen, click [Content] and then [Certificates...].



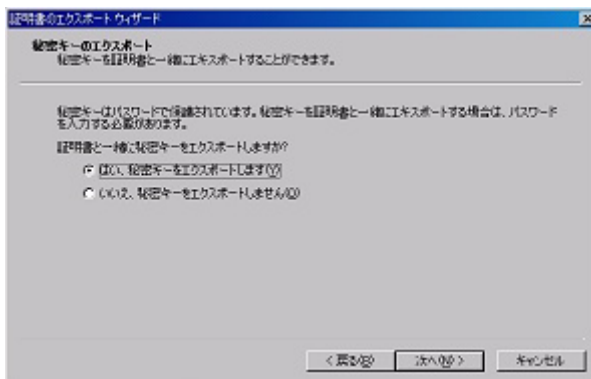
2. Select an installed client certificate then click [Export...].



3. On the Certificate Export Wizard screen, click on the [Next] button.



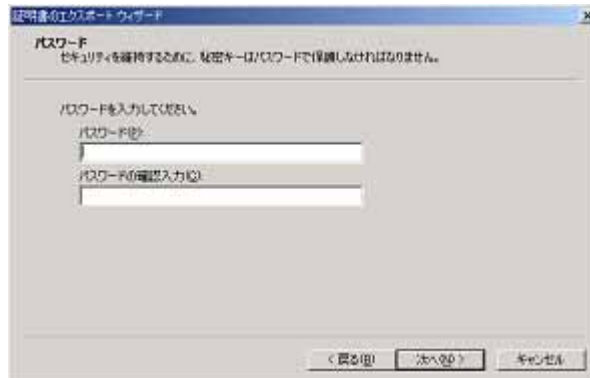
4. Select [Yes, export the private key] and then click [Next].



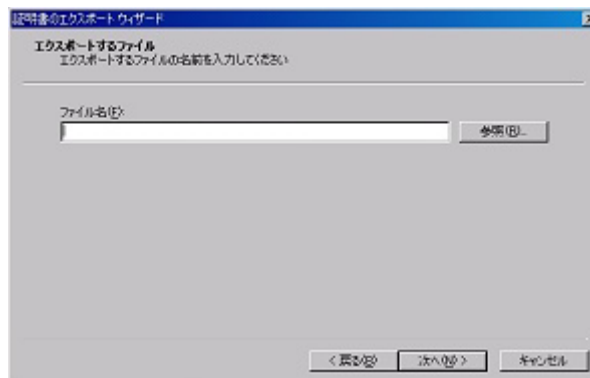
5. Remove the check from [Enable strong protection (requires IE 5.0, NT 4.0 SP4 or above)] and then click [Next].



6. Enter a password, which is required to convert a file to PEM format and other purposes.



7. Enter a name of the file to be exported, then click on the [Next] button.



8. Export of the client certificate file in pfx format has been successfully completed. Click [Finish].

### 8.8.2.1 Conversion of Client Certificate

This section explains the method of converting a client certificate in pkcs12 format exported from IAS on Windows, as an example. OpenSSL 0.9.8n was used.

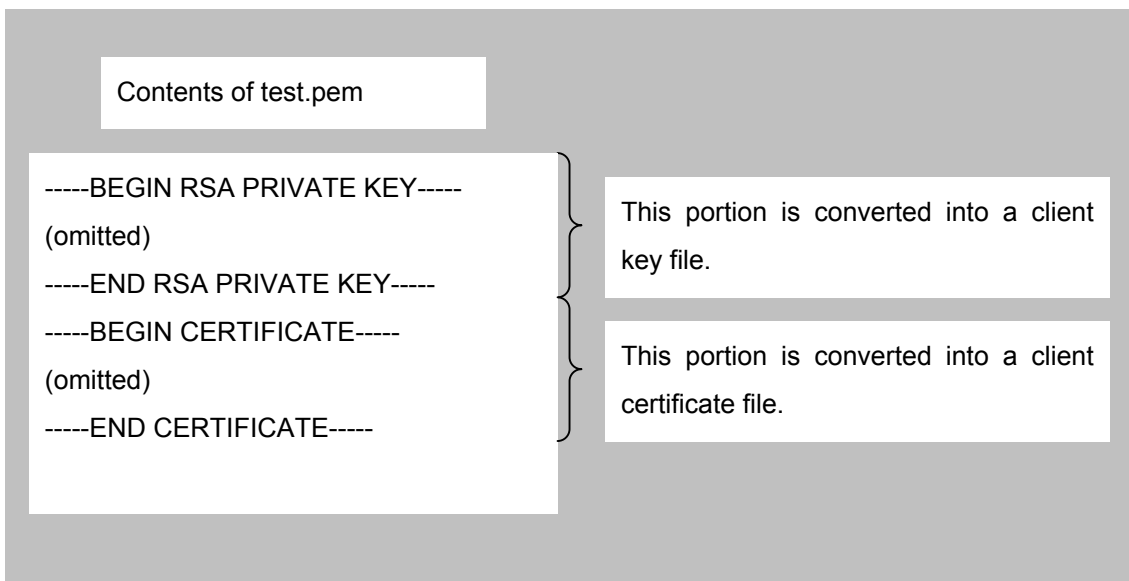
1. Convert pfx certificate to pem format.

Install the freeware OpenSSL (<http://www.openssl.org/>) and execute the following command:  
openssl pkcs12 -clcerts -in test.pfx -out test.pem

\* The above command sample requires conversion of test.pfx, however, the file exported as a client certificate file needs to be specified for conversion.

2. Convert test.pem into client certificate file and client key file.

Divide the file into different portions (CERTIFICATE/RSA PRIVATE KEY) using the text editor and save each of them.



### 8.8.3 Pass Phrase File

Specify a pass phrase for a client certificate key file.

### 8.8.4 Random File

This file can contain anything. (The file size must be 300 bytes or less due to system limitation.)



## **9. INSTRUCTIONS AND DIRECTIONS FOR USE OF NETWORK FUNCTION**

### **9.1 USB STORAGE DEVICE DATA PROTECTION**

- Pause the printer, make sure the Online LED is off, and then power off the printer.

If the printer is powered off while the printer is writing to a file, with the network function (FTP, HTTPD and e-mail) using the USB storage device, the system file on the USB storage device may be corrupted and data may be lost.

Therefore, the printer needs to be powered off when it is not accessing any file.

When [Pause] is pressed to place the printer in the pause state, the Online LED is off and the printer does not access files until the Online LED is on later.

### **9.2 AVAILABLE USB STORAGE DEVICE**

With the Web printer function, when the available space on the USB storage device is insufficient, an error message appears after a print job is sent. When the available space reaches zero bytes, CGI does not operate and an error message appears indicating no web page can be displayed on the web browser. (No error message may appear depending on the Web browser settings.)

Since [Delete] for Print Job Management function is disabled, the FTP function is used to delete a file on the USB storage device.

### **9.3 COPYING FILE TO USB STORAGE DEVICE**

The computer with the USB connector is used to read and write files to the USB storage device used on the printer, however, when the USB storage device where the files were written is viewed on the printer, corrupted files may be found depending on the model. In this case, the FTP function of the printer is required to read and write files.