TOSHIBA

TOSHIBA Barcode Printer

BX400/600 Series

Network Specification

0.0 Edition: July, 2024

Table of Contents

1. SCOPE

This specification applies to the network for the BX400 series and the BX600 series industrial sophisticated general-purpose barcode label printers.

2. GENERAL DESCRIPTION

With the standard wired LAN module and the optional wireless LAN module, the BX400 and BX600 series can connect the printer to the host via TCP/IP.

3. SUPPORTED PROTOCOL

Wired LAN

Standard		Complying with IEEE802.3
Protocol	Physical Layer	10BASE-T, 100BASE-TX Auto negotiation 10/100Mbps Full/Half Duplex
	Data Link Layer	CSMA/CD
	Network Layer	IPv4, IPv6, ICMP, ARP
	Transport Layer	TCP, UDP
	Application Layer	Server: LPR, Socket, HTTP, FTP, IPP Client: POP3, SMTP, DHCP Agent: SNMPv2, SNMPv3

Wireless LAN

Standard		IEEE802.11a/b/g/n (2.4GHz/5.0GHz)
Connection mode		Infrastructure mode, AP mode
Security		IEEE802.11i
	Encryption	WEP (64bit), TKIP (WPA), AES (WPA2)
	Authentication	PSK, PEAP (v0), TLS, TTLS, EAP-FAST (v0)
Protocol	Network Layer	IPv4, ICMP, ARP
	Transport Layer	TCP, UDP
	Application Layer	Server: LPR, Socket, DHCP (AP mode) Client: DHCP (Infrastructure mode) Agent: SNMPv2

Supported protocol

- LPR
- RAW Port9100
- IPP
- IPv4/IPv6
- DHCP
- HTTP
- SMTP Client
- POP3 Client
- FTP Server
- SNMP v1/v2/v3
- SSL/TLS
- SNTP

Non-supported protocol

- DNS/DDNS
- WINS (Windows Internet Naming Service)
- LLMNR (Link-Local Multicast Name Resolution)
- SMB
- SMTP Server
- POP3 Server
- LDAP Client
- Bonjour
- Syslog
- IPX/SPX
- NetWare
- AppleTalk
- VNC
- SLP (Service Location Protocol)

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 Utility), DHCP client, WINS client, security (wireless LAN only) and SNMPv2 agent as specified in the network specifications.
Wireless LAN supports the following protocols as network specifications.

- Data communication related functions: LPR server (LPD), TCP socket communication server
- IP address related functions: DHCP (client / server)
- Security-related function: WPA/WPA2 Enterprise (EAP authentication)
  * Wireless LAN Infrastructure mode only.

4.2 Restrictions

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

LPR server function, socket communication server function, FTP server function, mail transmission / reception function (POP3 / SMTP), HTTP server (Web Utility) function
With these functions, if the printer IP address is changed during communication (DHCP updating or setting from the tool), or if the connection is cut off due to restarting of the printer, the communication content is not guaranteed.

4.3 Operation of Wireless LAN Non-connection

When the wireless LAN board is installed and the connection mode is set to Infrastructure after setting the network function to auto or wireless, the printer automatically connects to the wireless LAN access point during the system startup.
When connection to the access point has failed, active scanning to retry the reconnection is carried out.

4.4 Operation of Wireless LAN Buffer Full

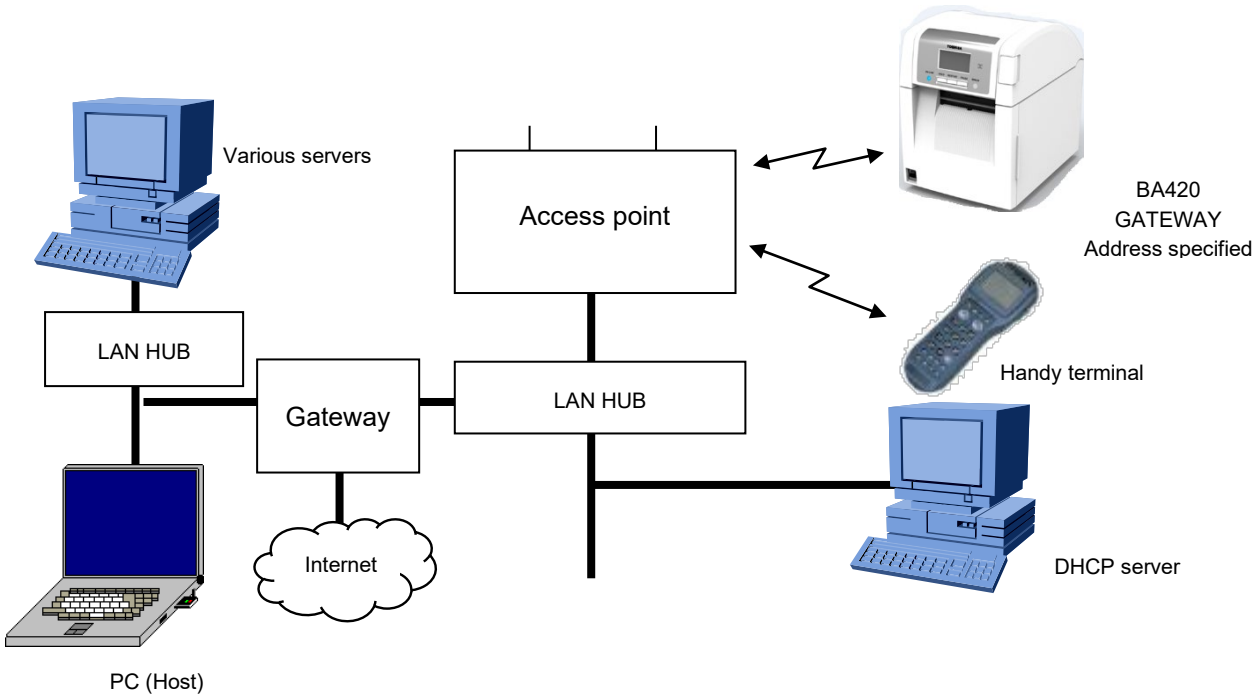
When the printer is buffer full due to TCP socket communication or LPR communication, the following functions will be stopped until its status is cleared.

1. TCP socket server connection
2. LPR server
3. Getting the connection information (e.g.: BSSID, radio field strength)
4. Getting the network information (e.g.: IP address, subnet mask, default gateway)
5. Monitoring disconnection (including roaming)

4.5 Wireless LAN Configuration Example

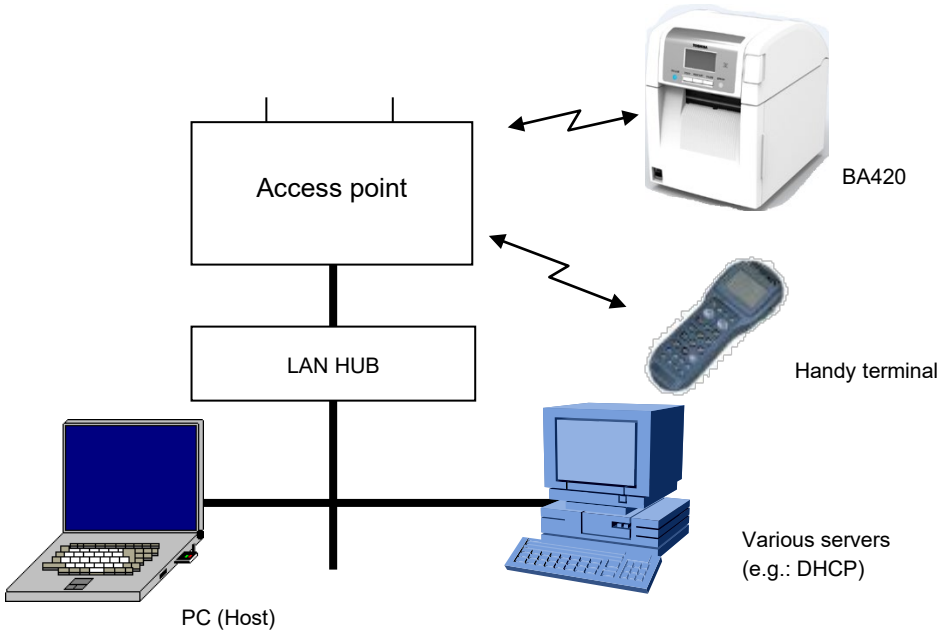
4.5.1 Different networks through the gateway

Communicating with each device via an access point and a gateway



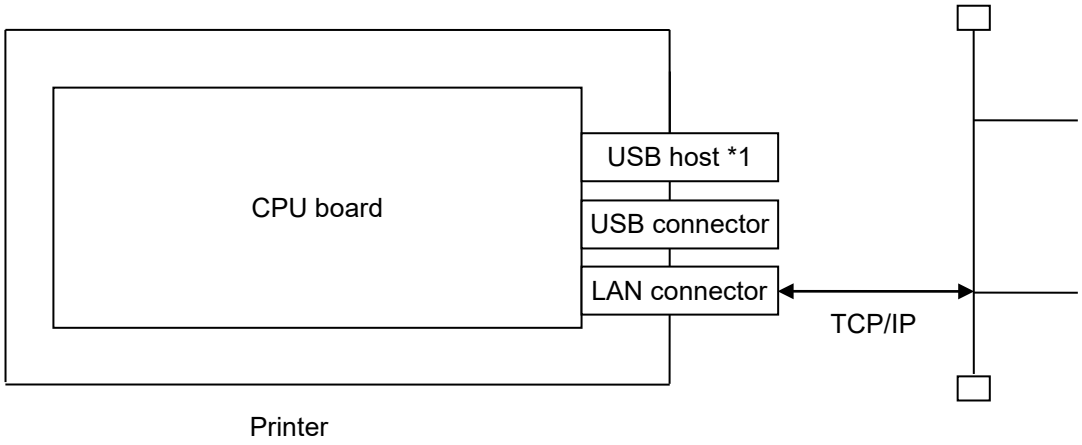
4.5.2 Same network

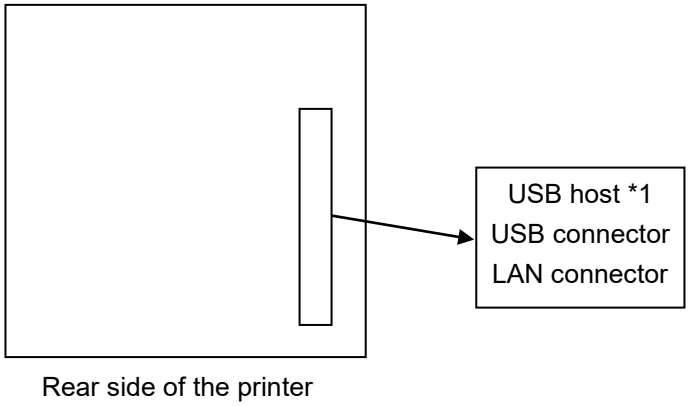
Communicating with each device via an access point



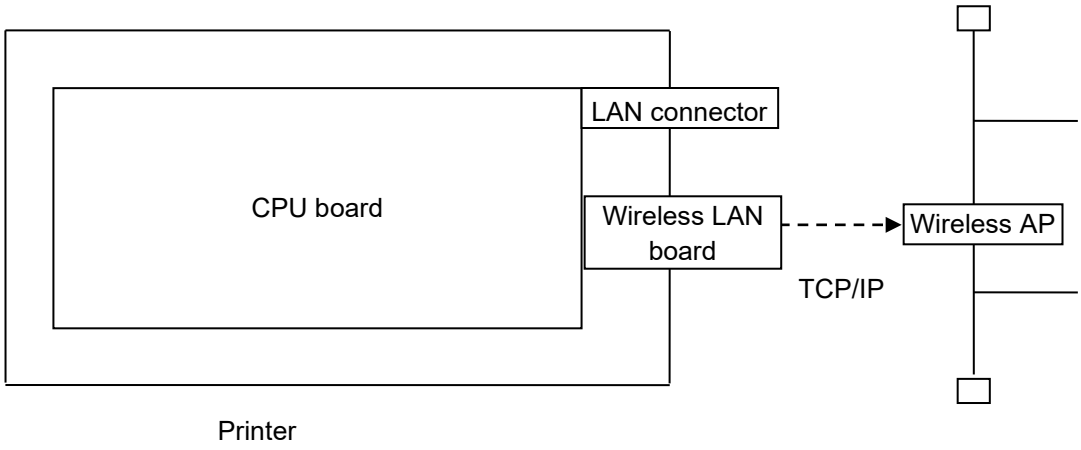
5. CONNECTION DIAGRAM

5.1 Wired LAN





5.2 Wireless LAN



6. SETTINGS

6.1 Lists of the 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 the system mode of the printer and “No” indicates the parameter cannot be changed in this mode.
For more information, see the Key Operation Specification and Web Utility Specification.

Category	Parameter Name	Value	Default Value	System Mode
	Network Function	Disable/Auto/Wired/Wireless	Auto	Yes
	Host Name	xxxxxxxx... (Max. 32 bytes) * Wireless LAN: Max. 30 bytes	Decimal value of the last 3 bytes of MFP+MAC address (The last 3 bytes of the MAC address are changed from 0xB55EA to 11886249.)	Yes
DHCP	DHCP ID	0x01+MAC address * Wired LAN only	0x01+MAC address (fixed)	No
	DHCP Client	Disable/Enable	Disable	Yes
TCP/IP v4	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
TCP/IP v6	Enable IPv6	Disable/Enable	Enable	No
	LLMNR	Disable/Enable	Enable	No
	Link Local Address	String (Max 24 bytes)	N/A	No
	Address Mode	Manual/Stateless/Stateful	Stateful	No
	Manual: IP Address	String (Max 24 bytes)	N/A	No
	Manual: Prefix Length	0 to 128	0	No
	Manual: Gateway	String (Max 24 bytes)	N/A	No
	Manual: Use DHCPv6 Options	Disable/Enable	Disable	No
	Stateless: Use DHCPv6 IPAddress (M Flag)	Disable/Enable	Enable	No
	Stateless: Use DHCPv6 Options enable (O Flag)	False/True	Enable	No
	Stateless: FQDN enable	False/True	False	No
	Stateless: FQDN server update	Client/Server	Server	No
	Stateful: UseDHCPv6 IPAddress	Disable/Enable	Enable	No
	Stateful: Use DHCPv6 Options	False/True	Enable	No
	Stateful: FQDN enable	False/True	False	No
	Stateful: FQDN update method	Client/Server	Server	No
	Stateful: IPAddress	String (Max 24 bytes)	N/A	No
	Stateful: IPAddress Prefix	0 to 128	0	No
	Stateful: IPAddress Gateway	String (Max 24 bytes)	N/A	No
LPR	LPR	Disable/Enable	Enable	Yes
Socket Communication	Socket Communication	Disable/Enable	Enable	Yes
	Socket Communication Port	00000 to 65535 *1	09100	Yes

*1: If 21, 80, or 515 is specified as the port number, the operation will not proceed normally. (Ports 0 to 1023 are not generally used.) Moreover, if the same port number is specified for each setting, the operation will not occur properly.

For the information about the wireless LAN, refer to the Wireless LAN Specification.

6.2 Factory Default Values

The factory default values for the wireless LAN parameter is the Infrastructure Mode.

6.3 Description of the Wireless LAN Parameters

The description of each parameter is listed below.

Parameter Name	Description
Network Function	Switches between the wired and wireless LAN use from “Disable”, “Auto”, “Wired” or “Wireless”. When “Auto” is selected while the wireless LAN module is installed, communication is performed by the wireless LAN.
Host Name	Specifies the character string of the host name to be notified to the host using the DHCP protocol. If the value of the null character is specified, the MAC address is used.
DHCP ID	Specifies the client ID to be notified to the DHCP server using the DHCP protocol. If the value of the null character is specified, the MAC address is used.
DHCP Client	Specifies whether to enable or disable the DHCP protocol.
IP Address	Sets the IP address of the module.
Subnet Mask	Sets the subnet mask.
Default Gateway	Sets the IP address of the default gateway.
Enable IPv6	Specifies whether to enable or disable the IPv6 protocol.
LLMNR	Specifies whether to enable or disable the LLMNR.
Link Local Address	Displays the unique IP address for IPv6 automatically created.
Address Mode	Specifies the IPv6 address setting method. Manual: Sets the IPv6 address manually. Only 1 address can be set. Stateless: Automatically obtains the IPv6 address (stateless address) notified from a router. Stateful: Automatically obtains the IPv6 address (stateful address) notified from a DHCPv6 server.
Manual: IP Address	Enters an IP address of the printer.
Manual: Prefix Length	Enters a IPv6 prefix length. Range: 0 to 128
Manual: Gateway	Enters an address of the default gateway. Range: 1:0:0:0:0:0:0:0 to ffff:ffff:ffff:ffff:ffff:ffff:ffff:ffff
Manual: Use DHCPv6 Options	Uses optional information such as an IPv6 address of a DNS server notified from a DHCPv6 server.
Stateless: Use DHCPv6 IPAddress (M Flag)	Obtains the IPv6 address notified from an IPv6 server in the stateless network environment.
Stateless: Use DHCPv6 Options enable (O Flag)	Uses optional information such as an IPv6 address of a DNS server notified from a DHCPv6 server in the stateless network environment.
Stateless: FQDN enable	Specifies the FQDN option when the use of the DHCPv6 is enabled to obtain the IP address.
Stateless FQDN server update	Specifies the updating method from [Server] or [Client] when an FQDN option is selected.
Stateless IPAddress	Displays the stateless address. Up to 7 IPv6 addresses can be maintained.
Stateful: UseDHCPv6 IPAddress	Uses an IPv6 address notified from a DHCPv6 server.
Stateful: Use DHCPv6 Options	Uses optional information such as an IPv6 address of a DNS server other than the ones notified from a DHCPv6 server.

Parameter Name	Description
Stateful: FQDN enable	Specifies the FQDN option when the use of the DHCPv6 is enabled to obtain the IP address.
Stateful: FQDN update method	Specifies the updating method from [Server] or [Client] when an FQDN option is selected.
Stateful: IPAddress	Displays the obtained stateful address.
Stateful: IPAddress Prefix	Displays the obtained prefix length.
Stateful: IPAddress Gateway	Displays the obtained gateway.
Socket communication	Specifies whether to enable or disable the socket communication.
Socket communication port	Specifies the port number of the socket communication.
LPR	Specifies whether to enable or disable the LPR communication.
Band selection	Specifies the frequency band in the wireless LAN communication.

For the information about the wireless LAN, refer to the Wireless LAN Specification.

6.4 Parameter Setting Tool

The network parameters can be set using the Web Utility.
The items which are specified by using the setting files can also be set using the Web Utility. Due to this, accessing to the setting files by users is prohibited.

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 Disable
IP Address	Any
Subnet Mask	Any
Gateway	Any
Socket	Enable
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 an automatic status response is enabled in the printer, its status is returned to the client PC.

***NOTES*:**

1 For more information on the 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 the automatic status response, see the sections describing "5.7 the Issue and Feed commands" in the External Equipment Interface Specification.

7.1.3 Communication specifications

The printer can be connected with several client PCs at the same time. While the data processing starts between the printer and the client, the printer does not accept subsequent data from other connected clients until the ongoing data processing is completed.
When it is connected with several clients, the printer returns a status only to the earliest connected client.
The printer performs a connection test for a connection that has been absent from the communication packets for more than 120 minutes, and forcibly disconnects the connection.

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 Disable
LPR	Enable
IP Address	Any
Subnet Mask	Any
Gateway	Any

7.2.2 Operation

When the power is turned on, and the LAN function and the LPR function are enabled, the printer runs a printer daemon task.

7.2.3 Communication specifications

For the LPR communication, only one connection is supported.
If a new connection is requested while the printer already has a connection in communication, the printer accepts this request; however, immediately disconnects it without doing any data transmission.

7.3 Web Utility

The printer allows the checking of its status, printing labels, browsing or changing the settings and downloading firmware on the PC browser.
This is called the Web Utility function.
This function can be accessed by the connection of the wired LAN, wireless LAN or USB.
For details, refer to the Web Utility Specification.

7.4 FTP Server

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

* The print job registration function is not available for A-BRID. (This is the function to register print jobs and execute them from the Web Utility.)

The directory to which registered users can access is /application/sharedfolder.
The usage purpose of the FTP server from the outside is limited to the embedded applications. (This is used to pass the data from the outside to the embedded applications.)

7.4.1 Required settings

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

7.4.2 Preparation

- Environment where a wired LAN or wireless LAN connection is established
- FTP setting from the Web Utility

7.4.3 FTP server specifications

7.4.3.1 Preparation

To establish an FTP connection from the host to the printer, the user name and password need to be entered. The user name and password need to be saved by using the Web Utility.

7.4.3.2 Access

Use the user name and password specified by using the Web Utility to log in from the client device to the printer. The directory to access the printer is /application/sharedfolder.

7.4.3.3 Passive mode switch message

When the data transfer mode is changed to the passive mode by a PASV command sent from the client, the following message is sent to the client:
In this case, the printer IP address is 192.168.10.20 and the port No. is 1024:

• 227 Entering Passive Mode（192,168,10,20,4,0）

7.4.4 FTP server settings

The following items can be set from the Web Utility.

1) FTP server	Enable or Disable	Default: Disable
2) SSL/TLS	Enable or Disable	Default: Disable
3) Port Number	0 to 65535	Default: 21
4) SSL/TLS Port Number	0 to 65535	Default: 990
5) Access User		

7.5 E-mail Function

The built-in function, which automatically sends and receives e-mail, can notify the host of the printer status in this manner and issue a print command by sending the printer command embedded in the e-mail, which was dispatched 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.

* The print job registration function is not available for A-BRID. (The is the function to register print jobs and execute them from the Web Utility.)

7.5.1 Required settings

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

7.5.2 Preparation

- Environment where a wired LAN or wireless LAN connection is established
- External e-mail server (supporting SMTP and POP3)

7.5.3 E-mail sending specifications

7.5.3.1 Preparation

(1) Save the printer account number in the e-mail server.
(2) Specify the setting information required to send e-mail from the Web Utility.

SMTP client settings and default values list

	A-BRID BCP	Default value	Web Utility	Panel
SMTP client	Enable/Disable	Disable	Yes	No
SSL/TLS usage	Disable (fixed)	Disable	No	No
SSL/TLS	Disable (fixed)	Disable	No	No
SMTP server address	IP Address or FQDN Up to 128 characters with letters of the alphabets and the symbols other than ”=”, “;”,” #”,”\”.	Blank	Yes	No
POP Before SMTP	Disable (fixed)	Disable	No	No
Authentication	Login (fixed)	Login	No	No
Login name	64 characters	Blank	Yes	No
Password	64 characters	Blank	Yes	No
Max. capacity of e-mail transmission	Internal fixed value	2 MB	No	No
Port number	1 to 65535	25	Yes	No
Connection timeout	Internal fixed value	30 seconds	No	No
Status return	Enable/Disable	Disable	Yes	No

*1 To specify an SMTP server by using FQDN, it is necessary to install the DNS server and enable its setting.

- Status to be notified

Status	Error Code
00 Head close	
01 Head open	E203
06 Command error	4413
07 Serial port error	3001, 3002, 3003
11 Paper jam	E001, E002, E003, E004, E010, E011, E012
12 Cutter error	C200, C201
13 No paper	E100
14 No ribbon	E110
15 Feed while head open	E202
17 Head error	C001, C002
18 Head temp error	C010, C102, C103
21 Ribbon sensor error	C100, C101, C102, C103
22 Rewinder full	E500
40 Issue complete	
41 Feed complete	
50 Flash write error	2001 to 2023
51 Flash format error	2101 to 2123
54 Flash full	2201 to 2223

- Setting for each status

  The following items are deployed as the notification settings by the Web Utility.
  You can specify whether to enable or disable the e-mail sending for each status type.

  1) E-mail address for returning the status
     The following 3 addresses can be registered.
     Default: Blank
     Range: Up to 192 characters
     Notify administrator at Email Address 1
     Notify administrator at Email Address 2
     Notify administrator at Email Address 3
  2) E-mail destination, subject and body text settings for each status
     E-mail destination:
     Upon selecting the check box, you can specify whether to enable or disable the sending for each status.
     An e-mail is sent to the registered 3 e-mail destinations.
     E-mail subject:
     An e-mail subject registered in the printer is sent for each status.
     (No change or customization is possible for each printer.)
     This is localized in accordance with the language specified for the LCD of the printer.
     E-mail body text:
     The date (if the RTC setting is enabled), machine name, Web Utility address and message for an error are described.

Date:	2022-11-22 14:42
	* If the RTC or NTP setting is enabled.
Machine name:	TOSHIBA BX4 x x X-X http://157.69.166.247/
Message:	An e-mail body text registered in the printer is sent for each status.
	(No change or customization is possible for each printer.)

     This is localized in accordance with the language specified for the LCD of the printer.
  3) Enabling/disabling setting of each status

Head close	Enable / Disable
Head open	Enable / Disable
Command error	Enable / Disable
Serial port error	Enable / Disable
Paper jam	Enable / Disable
Cutter error	Enable / Disable
No paper	Enable / Disable
No ribbon	Enable / Disable
Feed while head open	Enable / Disable
Head error	Enable / Disable
Head temp error	Enable / Disable
Ribbon sensor error	Enable / Disable
Rewinder full	Enable / Disable
Issue complete	Enable / Disable
Feed complete	Enable / Disable
Flash write error	Enable / Disable
Flash format error	Enable / Disable
Flash full	Enable / Disable

7.5.3.2 Operation

1) Status automatic notification

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

2) Status notification of e-mail receiving printing

When the printer undergoes its status changes while printing the print command received by e-mail and the status returning setting is enabled, it also sends status information to the e-mail sender.

Notes:

1. 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.
2. When a command is issued by e-mail, multiple files attached are sent in one e-mail, status information is returned in the same number as that of the attached files.
3. If a command error has occurred in the printer, the status is notified only when high-speed resetting is specified.

7.5.4 E-mail receiving specifications

7.5.4.1 Preparation

(1) Save the printer account number in the e-mail server.
(2) Specify the setting information required to receive e-mail from the Web Utility.

Web Utility settings and default values list

	MFP	A-BRID BCP	Default value	Web Utility	Panel
POP3 client	Enable/Disable	Enable/Disable	Disable	Yes	No
SSL/TLS usage	Disabled All certifications are accepted by using the registered CA certification.			Yes	No
POP3 server address	xxx.xxx.xxx.xxx IP address or FQDN *1	xxx.xxx.xxx.xxx	Blank	Yes	No
Authentication	Disable/Kerberos/ NTLMSPA		Disable		No
Login type	Auto/POP3/APOP				
Login name	64 characters	64 characters	Blank	Yes	No
Password	64 characters	64 characters	Blank	Yes	No
Polling rate	0 to 4096 minutes	0 to 42,949,672 seconds	10	Yes	No
Port number	1 to 65535	110 (fixed)	110	No	
SSL/TLS port number	1 to 65535	995 (fixed)	25	No	No
Connection timeout	1 to 180 seconds	Internal fixed value	30 seconds	No	No

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 the e-mail destined for the printer.
When files are attached to e-mail, the printer restores them and executes them as the commands for the printer. When no file is attached, the e-mail is executed as a printer command. The print job registration function is not available.
Notes:

1. 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 operate properly.
2. The three types of encoding systems corresponding to the attached files are Base64, Quoted Printable and 7 bits.
3. When the commands are issued by the e-mail, use {|} to control them because NUL data may be automatically deleted depending on the e-mail software.
4. When the e-mail transmission software is in the html format, the printer does not operate properly.
5. When a print job is issued by an e-mail, the size of the attachment may exceed that which the printer can receive. This depends on the size of the file. If that happens, the e-mail may not be received.
6. Printing of the attachment file is carried out only the TPCL command and the Z Mode command. Other emulation languages are not supported.

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 the system mode.

7.6.1 Required settings

LAN/WLAN	Other than Disable
IP Address	Any
Subnet Mask	Any
Gateway	Any
DHCP	Any
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 has expired, the printer automatically extends it.

(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 has its power turned 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.
The DHCP ID is automatically created by “0x01+MAC address”.

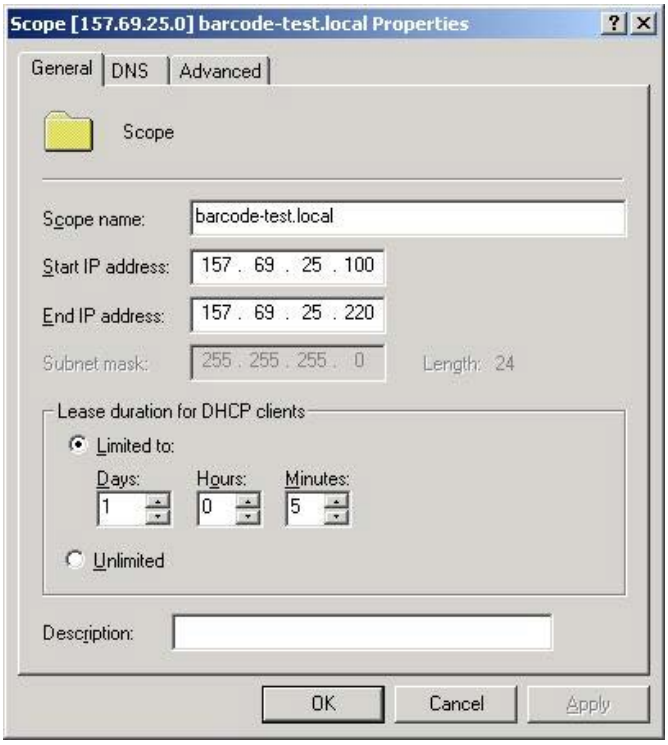
(5) DHCP HOST NAME
The HOST NAME can be set by the parameter set command.
The interaction between the DHCP server and the DNS server enables communications with the printer, to which an IP address is dynamically assigned as the host name specified.
The Host Name setting is used for the DHCP HOST NAME. The Host Name is automatically created as the default value.
Default value: Decimal value of the last 3 bytes of MFP+MAC address
(The last 3 bytes of the MAC address are changed from 0xB55EA to 11886249.)

7.6.3 Setting of a DHCP server

Windows2003 Server

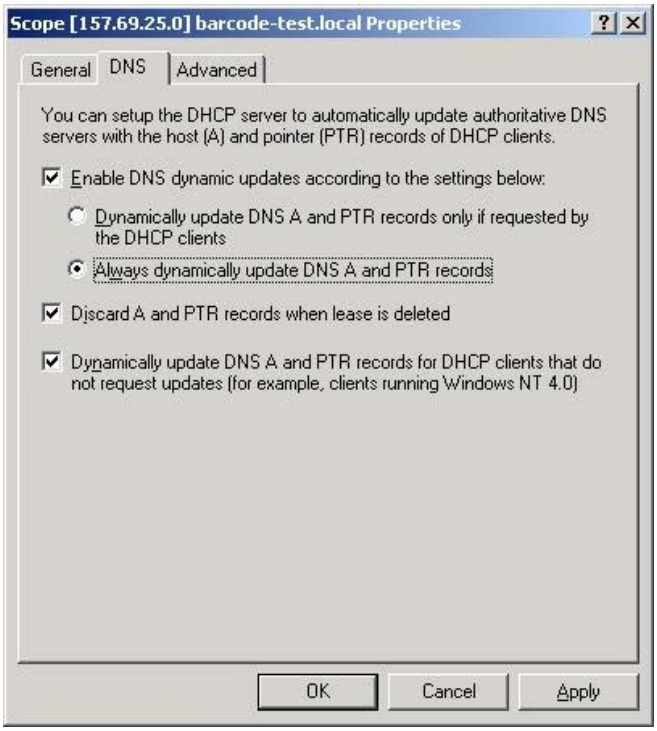
Scope settings (Properties)

① General



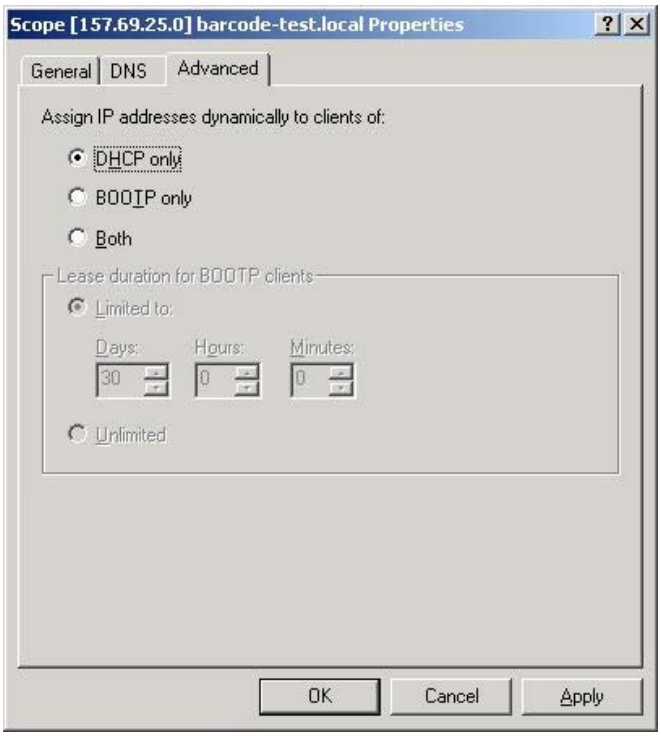
Set the IP address range and lease period.

② DNS



Select the [Enable DNS dynamic updates according to the settings below] check box and then [Always dynamically update DNS A and PTR records].

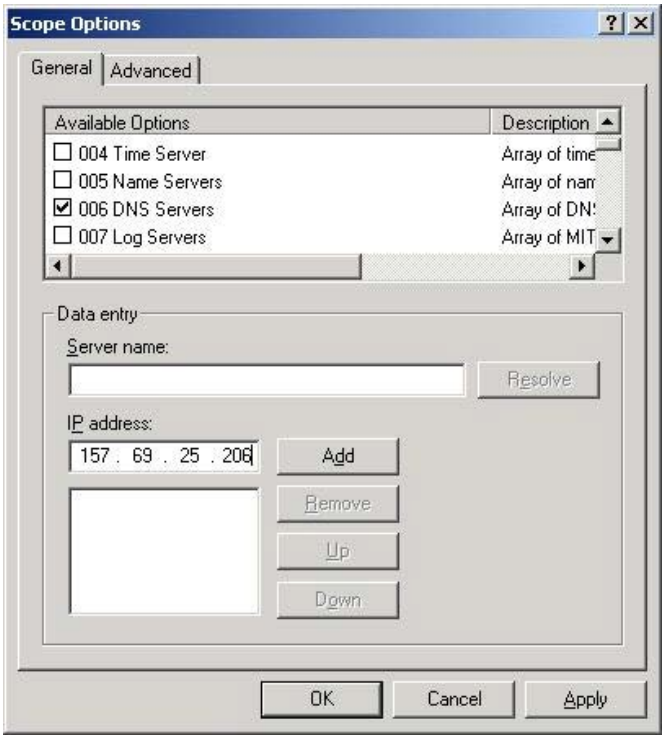
③ Advanced



7.6.4 Scope options settings

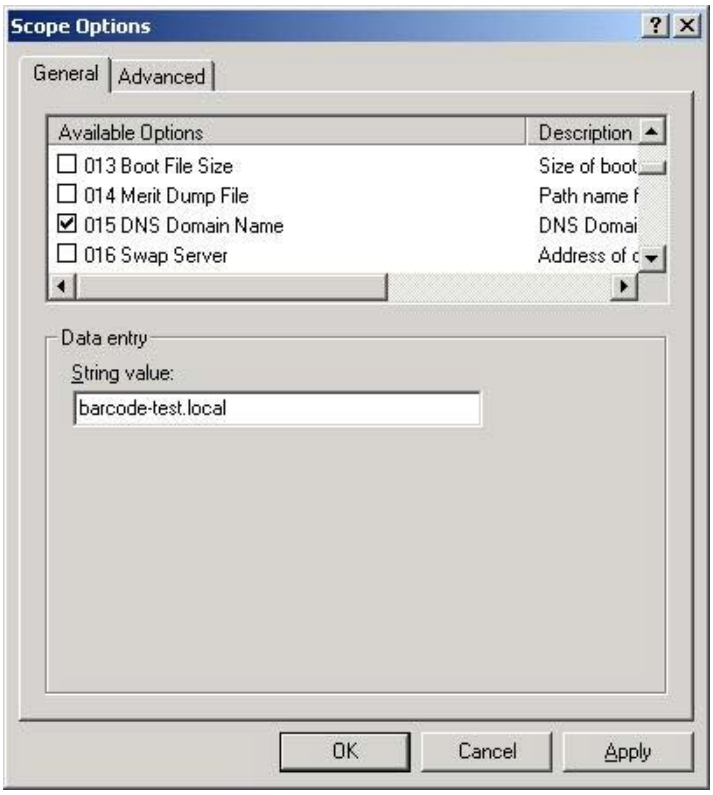
Make additional settings: DNS Server IP Address and DNS Server Domain Name. Unless these settings are made, the DNS server cannot forward queries or backward queries for the domain names.

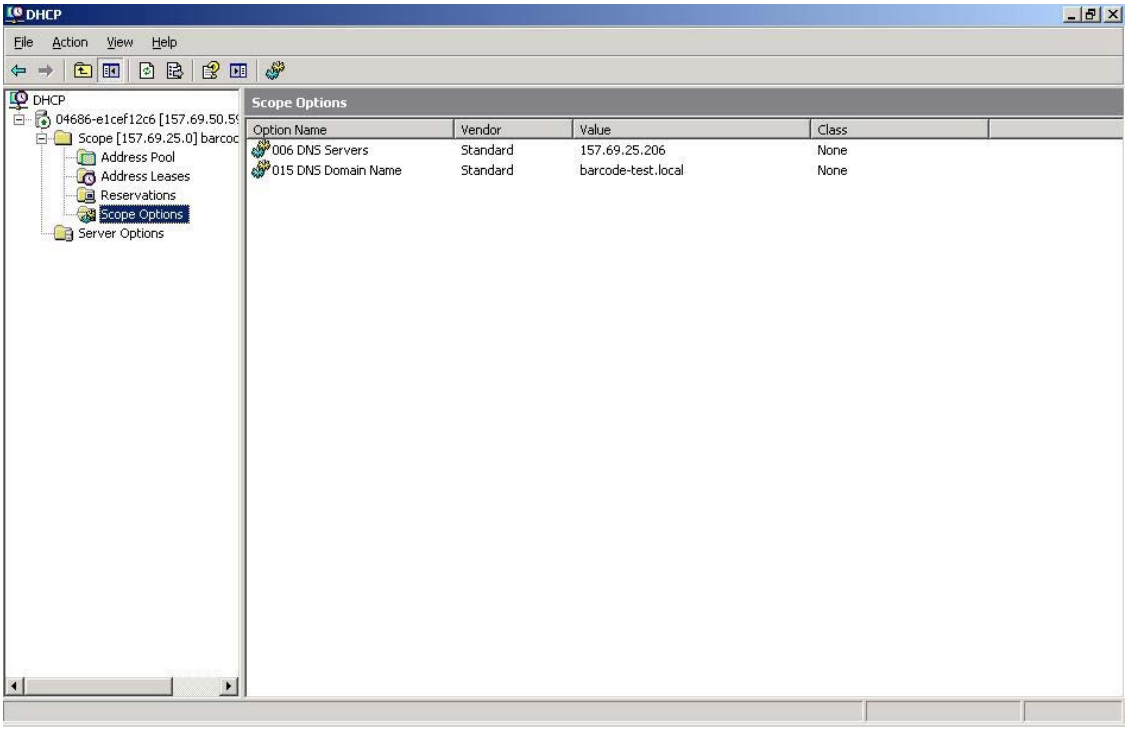
① DNS server IP address setting



Enter the IP address of the DNS server and click [Add].

② DNS domain name setting



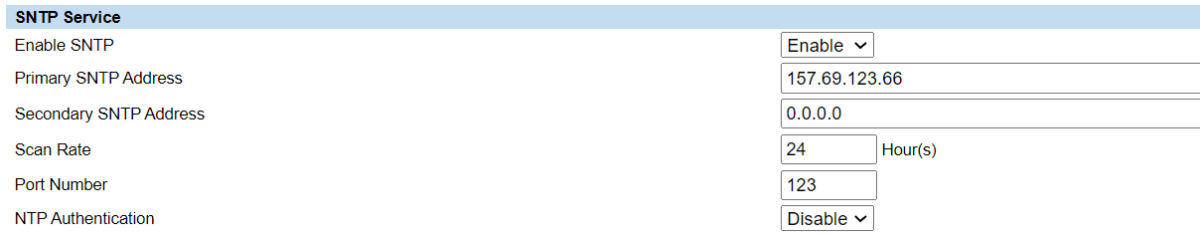


7.7 SNTP

A-BRID has an SNTP protocol which specifies the time via a network.

7.7.1 Required settings

The required settings for SNTP can be specified from the Web Utility.



Setting items

1) Enable SNTP — Default: Disable
2) Primary SNTP Address
3) Secondary SNTP Address
4) Scan Rate — Default: 24 (hours)
5) Port Number — Default: 123
6) NTP Authentication — When this is enabled, the following items are also required to be set.

Key ID — NTP authentication key
Password — NET authentication password

7.7.2 Operation

When SNTP is enabled, the current time is obtained from an SNTP time server to specify the time when the printer is started up or at the time of the interval specified to Scan Rate.
This function is available regardless of whether the RTC option is installed or not.

When the connection to the SNTP time server has failed even if SNTP is enabled, a connection error is saved in Message Log with “0xD501:SNTP Server”.

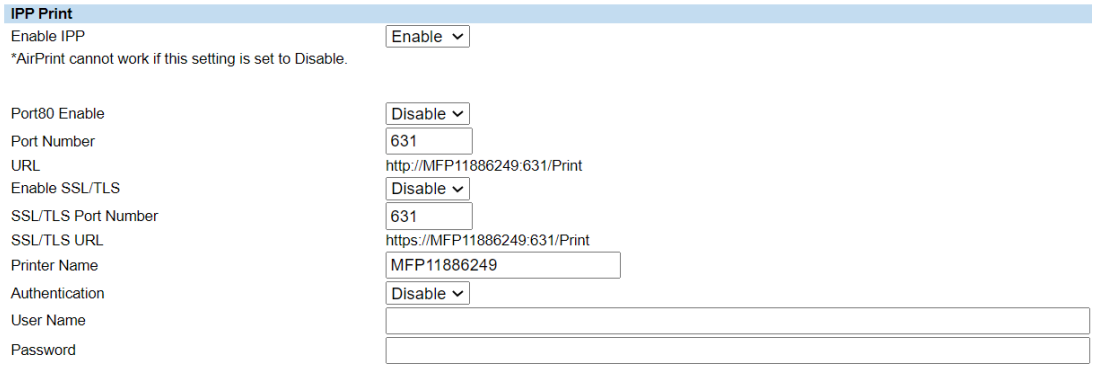
Moreover, when the SNTP setting is changed, a change error is saved in Message Log with “0x7184:Security Setting”.

When the connection to the SNTP time server has failed even if SNTP is enabled, the time in the RTC option is applied if it is installed. If no RTC option is installed, the time is not set.

7.8 IPP Communication

When the IPP setting is enabled, the IPP printing service becomes available.

7.8.1 Required settings



1) Enable IPP Service

Specifies to enable or disable the IPP printing service.

Default: Enable

2) Port80 Enable

Specifies to enable or disable Port 80 for the IPP printing. Usually, Port 631 is used for the IPP accessing. Therefore, users are required to specify the IPP port to URL. (e.g.: http://<IP address or DNS name>:631/Print)

When this option is enabled, the IPP accessing via Port 80, standard port for the HTTP accessing, is permitted and thus it is no longer necessary to specify the port number of the IPP port. (e.g.: http://<IP address or DNS name>/Print)

Default: Disable

3) Port Number

Enters the port number to be used for the IPP printing. Usually, “631” (default value) is used.

Default: 631

Range: 1 to 65535

The same port number as that for the following settings cannot be used.

After changing such a port number, specify the appropriate one.

HTTP/primary port number

HTTP/secondary port number

HTTP/SSL port number

IPP printing/SSL port number

4) URL

Displays the URL for the IPP printing. This cannot be changed. Users are required to set this URL as a print port when the IPP printing is set up in a printer driver.

5) Enable SSL/TLS

Specifies whether to enable or disable the IPP printing using SSL.

Default: Disable

6) SSL Port Number

Enters the port number to be used when SSL is enabled. Usually, “443” (default value) is used.

Default: 443

Range: 1 to 65535

7) SSL URL

Displays the URL for the IPP printing using SSL. This cannot be changed. Users are required to set this URL as a print port when the IPP printing is set up in a printer driver.

8) Printer Name

Enters a printer name used for the IPP printing. Up to 127 characters with letters of the alphabet and symbols (except for = ; # \) can be entered.
Default: MFP name

9) Authentication

Specifies whether to perform authentication when a queue is created in a printer. When this option is enabled, the user name and password are required when the IPP printing port is created.

Disable: Disables the authentication.
Basic: Enables the authentication.

When the IPP printing is performed from a macOS printer driver (PPD), set “Disable”.
The Basic authentication is not supported by a macOS printer driver (PPD).

10) User Name

When the authentication is enabled, enters a user name used for the authentication. Users are required to enter this user name when the IPP queue is created. Up to 127 characters with letters of the alphabet and symbols (except for = ; # \) can be entered.

11) Password

Enters a password used for the authentication. Users are required to enter this password when the IPP queue is created. Up to 127 characters with letters of the alphabet and symbols (except for = ; # \) can be entered.
Default: password

7.8.2 Operation

When the IPP communication is enabled, printing using an IPP protocol becomes available.

8. WIRELESS LAN SUPPORTED PROTOCOL AND SETTINGS

For details, refer to the Wireless LAN Specification.

Toshiba Tec Corporation

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