

TM-T88VI/ TM-T88VI-iHUB WebConfig API User's Manual

Overview

Describes an overview of WebConfig API.

Web API Specification

Describes the web API specification.

Reference

Describes how to refer to and change setting values.

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About this Manual

Aim of the Manual

The aim of this manual is to provide development engineers with the necessary information to develop applications to set and refer to the WebConfig API for the TM-T88VI and the TM-T88VI-iHUB.

Manual Content

The manual is made up of the following sections:

- Chapter 1 [Overview](#)
- Chapter 2 [Web API Specification](#)
- Chapter 3 [Reference](#)

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Overview

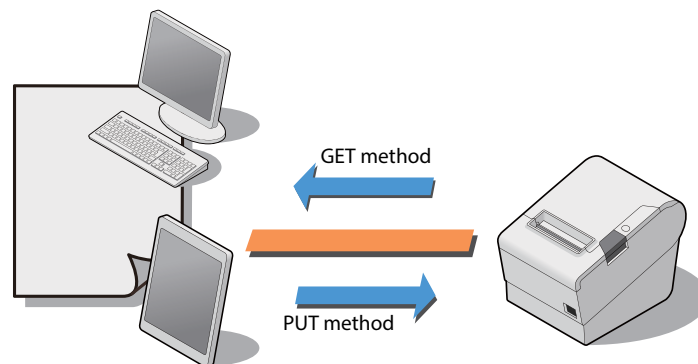
Overview of WebConfig API

WebConfig API is an API used to configure TM printers via the web. It is mainly used after being incorporated into customer applications.

It uses the GET and PUT methods defined in HTTP to retrieve and modify setting values over HTTPS.

The JSON data format is used.

The PUT method is used to modify settings, and these settings are applied after the printer is reset.



Supported printers

- TM-T88VI Firmware Ver.40.02 ESC/POS or later
- TM-T88VI-iHUB

Support functions

Functions supported by the WebConfigAPI are as follows.

- TM intelligent function

Not supported functions:

- Customize Value
- Memory Switches
- Network settings

Interface

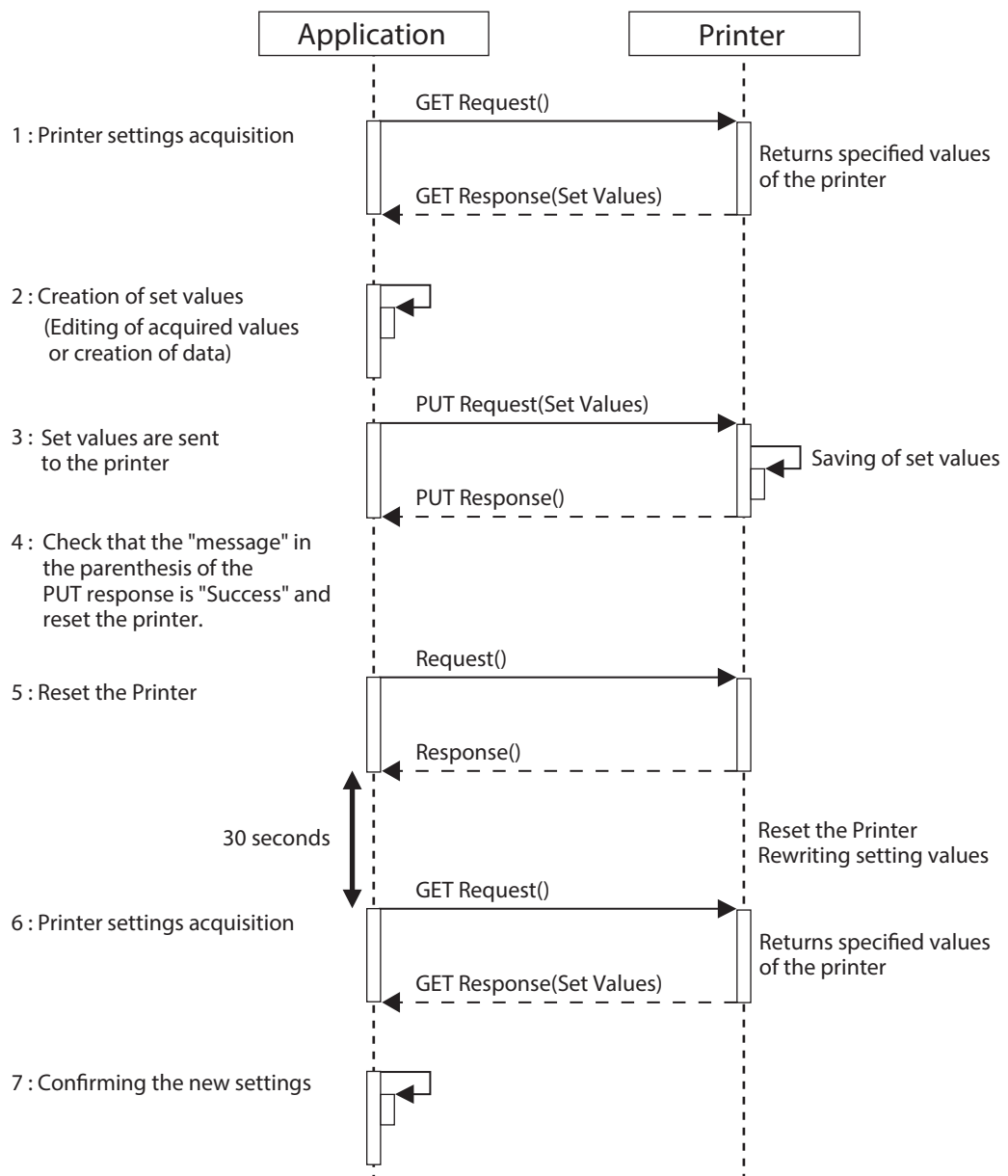
- Wired LAN
- Wireless LAN

Usage Instructions

Acquisition and Configuration of Setting Values

This section explains the system sequence and each element needed in order to acquire set values from printers and specify the settings by using the WebConfig API.

Acquisition and Configuration of Setting Values



Acquisition of settings from the printer

Firstly the settings from the printer are acquired. This is done using the following URLs:

- Used to acquire all data:
`https://<Printer's IP address>/webconfig/api/v1/webconfig.cgi`
- Used to acquire a specific key:
`https://<Printer's IP address>/webconfig/api/v1/webconfig.cgi?keyname=<keyname1>,<keyname2>...`

The setting values are included in the body of the response.

Creation of setting values

Creation of each key value to configure the printer.

There are two setting methods: You can specify only the value of the specified key or you can edit the JSON data acquired by using the GET method.

- Specify only the value of the specified key.
Specify the key and value, see ["Reference" on page 23](#).
- Edit JSON data acquired from the printer.

For example:

Acquisition JSON data

```
...
"StatusNotification": {
  "Active": "OFF",
  "ID": "",
  "Interval": "5",
  "Name": "",
  "Password": "(Not registered)",
  "Url": "",
  "UseProxy": "OFF",
  "UseServerAuthentication": "OFF",
  "UseUrlEncode": "ON"
...
}
"message": "Success"
},
...
```

Edit data

```
...
"StatusNotification": {
  "Active": "ON",
  "ID": "",
  "Interval": "5",
  "Name": "PJ9F000156",
  "Url": "http://statusnotificationserver.test/test.php",
  "UseProxy": "OFF",
  "UseServerAuthentication": "OFF",
  "UseUrlEncode": "ON"
...
}
"message": "Success"
},
...
```

Settings are Sent to the Printer

The specified JSON data is sent to the printer by the PUT method.

`https://<Printer's IP address>/webconfig/api/v1/webconfig.cgi`

JSON data is added as a PUT parameter.



The setting values included in the PUT method response, are simply a copy of the setting values that were sent. They are not the final values of the state after setting is complete.

Reset the Printer

Simply sending setting values to the printer does not change actual values on the printer. The printer needs to be reset for changes to be applied. After acquiring a PUT method response, the printer is reset in order to apply any changes.

`https://<Printer's IP address>/webconfig/api/v1/reset.cgi`

Sent using the GET method and there are no parameters.

Printer settings acquisition

After resetting the printer, check that settings have been acquired from the printer and the settings procedure has been completed normally.

It takes approximately 30 seconds for the printer to reset. When 30 seconds has passed after resetting the printer, the settings are then acquired from the printer.

- Acquire all data

`https://<Printer's IP address>/webconfig/api/v1/webconfig.cgi`

- Acquire a specific key

`https://<Printer's IP address>/webconfig/api/v1/webconfig.cgi?keyname=<keyname1>,<keyname2>...`

The setting values are included in the body of the response. The JSON data format is used.

Confirming the new settings

Compare the values for each key set in the printer and the JSON set values acquired from the printer, and check that they have been properly revised.

Digest authentication

You need Digest authentication to communicate with the printer.

The default ID and Password are ID: `epson`, Pass: `epson` and are the same as the administrator for Network settings.

Restrictions

Manual uploading of web content (.zip files) and certificate files are not possible. In order to upload these, it is necessary to use an uploading program, or upload using the TM-T88VI Utility.

Web API Specification

URL of CGI

- Getting or changing the settings:
https://<Printer's IP address>/webconfig/api/v1/webconfig.cgi
- Printer reset:
https://<Printer's IP address>/webconfig/api/v1/reset.cgi

HTTP Method

- GET: Acquires setting values
 - PUT: Updates setting values
- Other methods such as OPTIONS and HEAD are also supported.

Response

The following content is included in the response.

Response Header

Header	HTTP Method				Description
	GET	PUT	HEAD	OPTIO NS	Value
Content-Type:	●	●	●	●	-
					application/json; charset=utf-8
Access-Control-Allow-Origin:	●	●	●	●	Specify "*" in the header for permitting cross-domain communication if communication sources are not limited.
					*
Access-Control-Allow-Methods:	●	●	●	●	Communicates the allowable methods of cross-domain communication.
					PUT, GET, OPTIONS, HEAD
Access-Control-Allow-Headers:	●	●	●	●	Communicates the allowable request headers of cross-domain communication.
					Content-Type, Content-Length, Authorization

Header	HTTP Method				Description
	GET	PUT	HEAD	OPTIONS	Value
X-Content-Type-Options:	●	●	●	●	Prevents the browser from identifying JSON data as data other than JSON data. (Requires Internet Explorer 8 or later)
					nosniff
X-XSS-protection:	●	●	●	●	Enables the browser XSS filter function.
					1; mode=block
X-Frame-Options:	●	●	●	●	Prevents clickjacking attacks. Capable of preventing script execution of frames and iframes.
					deny
Content-Security-Policy:	●	●	●	●	Detects and mitigates well known types of attacks including cross-site scripting (XSS) and data injection attacks.
					default-src 'none'
WWW-Authenticate:	●	●	●	●	Although digest authentication is necessary, this is specified if there is no authentication information or authentication fails (such as when the password is incorrect). It is not specified when digest authentication is completed normally.
					Digest realm="<IP address>"; nonce="xx"; qop="auth"

Response Body

HTTP Method	Description
GET	The setting values are returned from the printer. For details of these return values, see "GET method" on page 16 .
PUT	The request body is returned. These are not the setting values acquired from the printer. For details of these return values, see "PUT method" on page 17 .

Request

Transmission Capacity

The maximum request message (Request Header and Request Body) capacity is 65533 bytes.

Request Header

Please specify as follows.

Header	Description
Content-Type:	application/json; charset=utf-8
Authorization:	Digest username="epson" realm="ByPassword" nonce="xxxxxxxxxxxxxxxxxxxxxxxxxxxx", qop="auth" ,,,,,,

Request Body

HTTP Method	Description
GET	Acquires the current setting values from the printer. For details of these set values, see "GET method" on page 16 .
PUT	Contains the values to configure the printer. For details of these set values, see "PUT method" on page 17 .

Parameter

GET method

GET method: Acquires the current setting values.

GET Parameter	Response (status)	Response (body)	Description
<ul style="list-style-type: none"> If acquiring all set values: No GET parameters If acquiring a specific setting value: Specifies a keyname by the GET parameter. [format] keyname=<JSON keyname you want to get> If acquiring multiple setting values: Separating with commas multiple keynames in GET parameter. [format] keyname=<keyname1>,<keyname2>... 	200 OK	{ "Setting" : <JSON object for the setting item specified in the key> "message": "Success", }	Settings acquired successfully. Reply consists only of the object of the specified key if the keyname is specified.
	503 Service Unavailable	{ "Setting" : {}, "message": "Cannot communicate with the printer : The other host interface may hold the communication", }	Could not get permission to communicate via port 9100. Communication was not possible because printer is being used.
	500 Internal Server Error	{ "Setting" : {}, "message": "Failed to get the settings" }	Failed to acquire settings.
	500 Internal Server Error	{ "message": "Failed: No enough memory" }	Failed due to insufficient memory. Repair is necessary if the problem occurs even after restarting the printer.
	400 Bad Request	{ "Setting" : {}, "message": "Specified key is not exist" }	Failed to acquire settings. Keyname % not present in JSON data of keyname=% specified values. A keyname not found in the setting value JSON data has been specified.
	400 Bad Request	{ "message": "Invalid Parameter" }	Parameter other than "keyname" is present.
	401 Authentication Required	As authentication is carried out by lighttpd, the response body is returned by lighttpd.	Authentication information is required.

If multiple keys are specified for keyname, "Success" is returned when the specified value for a single keyname is acquired even though several keyname cannot be acquired due to some error. Check each key value accordingly.

Value exists: Setting value was acquired.

No value: Setting value could not be acquired due to improper keyname.

PUT method

PUT method: Updates setting values.

PUT Parameter	Response (status)	Response (body)	Description
<p>Specifies several set of keyname and value by the following way.</p> <pre>[format] { "Setting" : { <keyname1 you want to modify> : <value you want to set>, <keyname2 you want to modify> : <value you want to set>, ... , } }</pre> <ul style="list-style-type: none"> You need to specify keyname and value in the prescribed manner as described at "Reference" on page 23. Any characters in PUT parameter must be escaped as described at "Escape Sequence" on page 19. 	200 OK	{ "Setting" : <JSON object for the setting item specified in the key> "message": "Success", }	Updating was successful. Refer to "Reset the Printer" on page 11 .
	413 Request Entity Too Large	{ "message": "Request Entity Too Large" }	Data is excessively large. For the maximum size of "Setting" parameters (after URL decoding), refer to "Transmission Capacity" on page 15 .
	500 Internal Server Error	{ "message": "Failed to update the settings" }	Failed to update settings.
	500 Internal Server Error	{ "message": "Failed: No enough memory" }	Failed due to insufficient memory. Repair is necessary if the problem occurs even after restarting the printer.
	503 Service Unavailable	{ "message": "Cannot communicate with the printer : The other host interface may hold the communication" }	Could not get permission to communicate via port 9100. Communication was not possible because printer is being used.
	401 Authentication Required	As authentication is carried out by lighttpd, the response body is returned by lighttpd.	Parameter other than "Setting" is present.
	400 Bad Request	{ "message": "Invalid Parameter" }	"Setting" not found.
	400 Bad Request	{ "message": "Invalid Parameter" }	Parameter other than "Setting" is present.
	400 Bad Request	{ "message": "Setting values should be JSON object" }	Setting values are not in the JSON format.

PUT Parameter	Response (status)	Response (body)	Description
	400 Bad Request	{ "message": "Special characters must be escaped" }	Invalid JSON escape.

When Using a Prohibited Method

"405 Method Not Allowed" or "403 Forbidden" is returned as the response (status).

Characters

Character Code

UTF-8

Escape Sequence

According to the JSON RFC (Request for Comments), the setting character string transmitted by PUT must use the following escape sequences.

This also applies to the JSON character string acquired using GET.

Escape notation	Original character	Description
\"	"	Double quotation
\\	\	Back slash
\b	-	Back space
\f		New page
\n		New line
\r		Line feed
\t		Tab

Escape is not used for uXXXX (hexadecimal character strings) in Japanese, etc.

Passwords

To ensure security, all passwords are hashed. They are displayed as follows:

- When registered: (Registered)
- When not registered: (Not registered)

“Registered” and “Not Registered” cannot be used as a password.

When registering/changing a password, please replace the (Registered) or (Not registered) string with the desired password.

Operation specifications

Printer Response Time

Response is within 10 seconds.

Example of Request and Response

Here is an example of acquiring the StatusNotification and ServerDirectPrint settings.

Example of modification of StatusNotification and ServerDirectPrint settings.

GET request example (key specification)

- Request

Request Header

```
GET /webconfig/api/v1/webconfig.cgi?keyname=StatusNotification,ServerDirectPrint HTTP/1.1
Host: <Host name or IP address>
Authorization: Digest username="epson", realm="ByPassword", nonce="", uri="/webconfig/api/v1/webconfig.cgi",
response="f708199215ba938f85ae77c373c192c2", opaque=""
```

Request Body is none

- Response

Response Header

```
HTTP/1.1 200 OK
Access-Control-Allow-Origin: *
Access-Control-Allow-Methods: PUT, GET, OPTIONS, HEADER
Access-Control-Allow-Headers: Content-Type, Content-Length, Authorization
Content-Type: application/json; charset=utf-8
X-Content-Type-Options: nosniff
X-XSS-protection: "1; mode=block"
X-Frame-Options: deny
Content-Security-Policy: default-src 'none'
Connection: close
Transfer-Encoding: chunked
Date: Wed, 09 Nov 2016 07:46:22 GMT
Server: lighttpd
```

Response Body

```
{
  "Setting": {
    "ServerDirectPrint": {
      "Active": "OFF",
      "CutReserveTimeout": "2",
      "ID": "",
      "Interval1": "5",
      "Interval2": "5",
      "Interval3": "5",
      "Name": "ECCN905633",
      "Password": "(Not registered)",
      "Url1": "",
      "Url2": "",
      "Url3": "",
      "UseProxy": "OFF",
      "UseServerAuthentication": "OFF",
      "UseUrlEncode": "ON"
    },
    "StatusNotification": {
      "Active": "OFF",
      "ID": "",
      "Interval": "5",
      "Name": "ECCN905633",
      "Password": "(Not registered)",
      "Url": "",
      "UseProxy": "OFF",
      "UseServerAuthentication": "OFF",
      "UseUrlEncode": "ON"
    }
  },
  "message": "Success"
}
```

PUT request example (key specification)

• Request

Request Header

```
PUT /webconfig/api/v1/webconfig.cgi HTTP/1.1
<Host name or IP address>
Authorization: Digest username="epson", realm="ByPassword", nonce="", uri="/webconfig/api/v1/webconfig.cgi",
response="0a3e57cca43d8221d942d13aeb377658", opaque=""
Content-Type: application/json
```

Response Body

```
{
  "Setting": {
    "ServerDirectPrint": {
      "Active": "OFF",
      "CutReserveTimeout": "2",
      "ID": "",
      "Interval1": "5",
      "Interval2": "5",
      "Interval3": "5",
      "Name": "ECCN905633",
      "Url1": "",
      "Url2": "",
      "Url3": "",
      "UseProxy": "OFF",
      "UseServerAuthentication": "OFF",
      "UseUrlEncode": "ON"
    },
    "StatusNotification": {
      "Active": "OFF",
      "ID": "",
      "Interval": "5",
      "Name": "ECCN905633",
      "Url": "",
      "UseProxy": "OFF",
      "UseServerAuthentication": "OFF",
      "UseUrlEncode": "ON"
    }
  }
}
```

- Response

Response Header

```
HTTP/1.1 200 OK
Access-Control-Allow-Origin: *
Access-Control-Allow-Methods: PUT, GET, OPTIONS, HEADER
Access-Control-Allow-Headers: Content-Type, Content-Length, Authorization
Content-Type: application/json; charset=utf-8
X-Content-Type-Options: nosniff
X-XSS-protection: "1; mode=block"
X-Frame-Options: deny
Content-Security-Policy: default-src 'none'
Connection: close
Transfer-Encoding: chunked
Date: Wed, 09 Nov 2016 07:46:22 GMT
Server: lighttpd
```

Response Body

```
{
  "Setting": {
    "ServerDirectPrint": {
      "Active": "OFF",
      "CutReserveTimeout": "2",
      "ID": "",
      "Interval1": "5",
      "Interval2": "5",
      "Interval3": "5",
      "Name": "ECCN905633",
      "Password": "(Not registered)",
      "Url1": "",
      "Url2": "",
      "Url3": "",
      "UseProxy": "OFF",
      "UseServerAuthentication": "OFF",
      "UseUrlEncode": "ON"
    },
    "StatusNotification": {
      "Active": "OFF",
      "ID": "",
      "Interval": "5",
      "Name": "ECCN905633",
      "Password": "(Not registered)",
      "Url": "",
      "UseProxy": "OFF",
      "UseServerAuthentication": "OFF",
      "UseUrlEncode": "ON"
    }
  },
  "message": "Success : Please confirm by get again and You need to reset the printer to apply settings."
}
```

Reference

This chapter explains items that can be acquired from the printer, as well as items and values that can be set.

When using GET, this is included in the response body.

When using PUT, this is included in the request body.

Here it is possible to describe only the items to be set, and use items included in the GET response body for creation.

*: Not supported by TM-T88VI.

Key 1	Key 2	Key 3	Key 4	Description
				Value
ePOS-Print				ePOS-Print setting
	Active			Sets to whether to enable or disable ePOS-Print. When using the following functions, it is necessary to set the value of this key to "ON". <ul style="list-style-type: none"> • Server Direct Print • ePOS-Device * • Print Forwarding • Status Notification • Device Data Notification *
				"OFF", "ON"
ePOS-Device *				ePOS-Device setting
	Active			Sets to whether to enable or disable ePOS-Device. When using the following functions, it is necessary to set the value of this key to "ON". <ul style="list-style-type: none"> • Device Data Notification
				"OFF", "ON"
OFSC-Print				Not used
	Active			-

Key 1	Key 2	Key 3	Key 4	Description
				Value
Printer List				List of ePOS-Print, ePOS-Device *, Server Direct Print, and Device Data Notification * output destination printers.
Printer1				Setting for the TM-T88VI/ TM-T88VI-iHUB.
DeviceID				The ID for identifying the printer.
				Device ID specified for "local_printer" or the printer. String with a length of 1 to 30 characters. Characters that can be used are single-byte alphanumeric characters (0 to 9, a to z, A to Z), "_", "!", and "-". There must not be any duplicate string for another DeviceID.
IPAddress				The ID for identifying the printer.
				"127.0.0.1"
ModelName				Specify the printer model name.
				"TM-T88VI"
Printer2 to Printer21				Network printer
DeviceID				The ID for identifying the printer.
				String with a length of 1 to 30 characters. Characters that can be used are single-byte alphanumeric characters (0 to 9, a to z, A to Z), "_", "!", and "-". There must not be any duplicate string for another DeviceID.
IPAddress				The IP address for identifying the printer.
				String in IPv4 address format. %A: 1 to 223 %B: 0 to 255 %C: 0 to 255 %D: 0 to 254 There must not be any duplicate IPAddress for another device.
ModelName				Specify the printer model name.
				Model name string (For support printers, refer to the Technical Reference Guide of the printer)
KeyInputDevice *				Key input device
KeyboardLayout				Specify the keyboard layout for the key input device.
				"US", "JP", "DE", "FR", "IR", "ES", "GB"

Key 1	Key 2	Key 3	Key 4	Description	
				Value	
KeyInputDeviceList *	KeyInputDevice1 to KeyInputDevice5			Key input device list	
				Key input device	
				DeviceID	Specify the ID for identifying the key input device.
				Empty string or string with 1 to 30 characters. Characters that can be used are single-byte alphanumeric characters (0 to 9, a to z, A to Z), "_", ":", and "-". There must not be any duplicate string for another DeviceID.	
				VendorName	Specify the vendor name of the key input devices.
				String with a length of 0 to 30 characters.	
				ProductName	Specify the product name of the key input devices.
				String with a length of 0 to 30 characters.	
				VID	Specify the USB Vendor ID for identifying the key input device.
				"0x0000" to "0xFFFF"	
				PID	Specify the USB Product ID for identifying the key input device.
				"0x0000" to "0xFFFF"	
				ControlScript	Specify the control script of the key input devices.
				<ul style="list-style-type: none"> String with 1 to 255 ASCII characters. "Keyboard_Generic.js" (When controlling as a keyboard) "Scanner_Generic.js" (When controlling as a barcode scanner) 	
InterfaceNumber	Specify the USB interface number for identifying the key input device.				
"0" to "255"					

Key 1	Key 2	Key 3	Key 4	Description
				Value
			SerialCommunicationDeviceList *	Serial communication device list
			SerialCommunicationDevice1 to SerialCommunicationDevice5	Serial communication device
			DeviceID	Specify the ID for identifying the serial communication device.
				1 or more to 30 or less characters. Characters that can be used are single-byte alphanumeric characters (0 to 9, a to z, A to Z), "_", ".", and "-". There must not be any duplicate string for another DeviceID. The device ID for the device connected to a serial connector is "local_serial" (you cannot change this ID).
			VendorName	Specify the USB serial conversion cable vendor name.
				0 or more to 30 or less characters.
			ProductName	Specify the USB serial conversion cable product name.
				0 or more to 30 or less characters.
			VID	Specify the USB serial conversion cable USB vendor ID.
				Empty string if the device is connected to the printer's serial connector. Specify the cable VID within the range from XXX to YYY in the case of a USB serial conversion cable.
			PID	Specify the USB serial conversion cable USB product ID.
				Empty string if the device is connected to the printer's serial connector. Specify the cable PID within the range from XXX to YYY in the case of a USB serial conversion cable.
			ControlScript	Specify the control script of serial communication devices.
				String with 1 to 255 ASCII characters.
			BaudRate	Specify the baud rate.
				"2400", "4800", "9600", "19200", "38400", "57600", "115200"
			DataBit	Specify the data bit.
				"7", "8"

Key 1	Key 2	Key 3	Key 4	Description
				Value
		Parity		Specify the parity. "None", "Odd", "Even"
		StopBit		Specify the stop bit. "1", "1.5", "2"
		FlowControl		Specify the flow control. "None", "Hardware", "XOnXOff"
		InterfaceNumber		Specify the interface number. "0" to "255"
		DefaultDeviceControlScriptList *		This is the device control script embedded in the printer. It can be referenced but not specified.
		DeviceControlScript1		Specify the device control script.
		FileName		Specify the file name. Keyboard_Generic.js
		DeviceType		Specify the device type. type_keyboard
		DeviceGroup		Specify the device group. group_hid
		DeviceControlScript2		Specify the device control script.
		FileName		Specify the file name. Keyboard_MID_QM128A_RAA.js
		DeviceType		Specify the device type. type_keyboard
		DeviceGroup		Specify the device group. group_hid
		DeviceControlScript3		Specify the device control script.
		FileName		Specify the file name. MSR_V3TU_FK.js
		DeviceType		Specify the device type. type_msr
		DeviceGroup		Specify the device group. group_hid

Key 1	Key 2	Key 3	Key 4	Description	
				Value	
	DeviceControlScript4	FileName		Specify the device control script.	
				Scanner_Generic.js	
		DeviceType		Specify the device type.	
				type_scanner	
		DeviceGroup		Specify the device group.	
				group_hid	
		DeviceControlScript5	FileName		Specify the device control script.
					CashChanger_RT_200RAD_200.js
	DeviceType			Specify the device type.	
				type_cash_changer	
	DeviceGroup			Specify the device group.	
				group_serial	
	DeviceControlScript6		FileName		Specify the device control script.
					SimpleSerial_Generic.js
		DeviceType		Specify the device type.	
				type_simple_serial	
		DeviceGroup		Specify the device group.	
				group_serial	
		DeviceControlScript7 to DeviceControlScript10	FileName		Specify the device control script.
					-
DeviceType			Specify the device type.		
			-		
DeviceGroup			Specify the device group.		
			-		

Key 1	Key 2	Key 3	Key 4	Description
				Value
ProxyInfo				<p>Proxy settings.</p> <p>It is necessary to specify "ON" for this setting if the following functions are "ON".</p> <ul style="list-style-type: none"> • UseProxy of ServerDirectPrint • UseProxy of StatusNotification • UseProxy of WebContentsUpdater
	Url	Specify the proxy server URL.		
		<p>The communication destination server URL string.</p> <p>Empty string or string not exceeding 2043 characters that starts with "http://" or "https://".</p> <p>Single-byte alphanumeric characters (0 to 9, a to z, A to Z), "_", "-", ".", "/", "!", "~", "*", "(", ")", "[", "]", ";", "?", ":", "@", "&"; "=", "\$", "!", "%", "# and "+".</p>		
	Port	Specify the proxy server port number.		
		"0" to "65535"		
	ID	Specify the proxy server authentication ID.		
<p>Empty string or string with 1 to 30 characters.</p> <p>Characters that can be used are single-byte alphanumeric characters (0 to 9, a to z, A to Z), "_", "." and "-".</p>				
Password	Specify the proxy server authentication password.			
	<p>Empty string or string with 1 to 30 characters.</p> <p>Characters that can be used are single-byte alphanumeric characters (0 to 9, a to z, A to Z), "_", "." and "-".</p> <p>The following cannot be specified.</p> <p>"Registered", "Not Registered"</p>			
ServerDirectPrint				Server direct print settings.
	Active	Specify whether server direct printing is enabled/disabled.		
		"OFF", "ON"		
	Name	Specify the ID for identifying the communication source (identification information transmitted to the server).		
		<p>Empty string or string with 1 to 30 characters.</p> <p>Characters that can be used are single-byte alphanumeric characters (0 to 9, a to z, A to Z), "_", "." and "-".</p> <p>The printer serial number is used for "Name" when the initial value or an empty string is specified. It is left empty if the printer serial number is not set.</p>		
ID	Specify the Digest authentication ID.			
	<p>Empty string or string with 1 to 30 characters.</p> <p>Characters that can be used are single-byte alphanumeric characters (0 to 9, a to z, A to Z), "_", "." and "-".</p>			

Key 1	Key 2	Key 3	Key 4	Description	
				Value	
	Password			Specify the Digest authentication Password.	
				Empty string or string with 1 to 30 characters. Characters that can be used are single-byte alphanumeric characters (0 to 9, a to z, A to Z), "_", "!" and "-". The following cannot be specified. "Registered", "Not Registered"	
	Url1 to Url3				Specifies whether to enable or disable the Server 1 to Server 3.
					The communication destination server URL string. Empty string or string not exceeding 2043 characters that starts with "http://" or "https://". Single-byte alphanumeric characters (0 to 9, a to z, A to Z), "_", "-", ".", "/", "!", "~", "*", "(", ")", "[", "]", ";", "?", ":", "@", "&", "=", "\$", "%", "# and "+".
	Interval1 to Interval3				Specifies whether to enable or disable the Server 1 to Server 3.
					"0" to "86400"
	UseServerAuthentication				Specify whether server authentication (HTTPS) is used.
					"OFF", "ON"
	UseProxy				Specify whether a proxy is used.
					"OFF", "ON" When this setting is "ON", is it necessary to specify "ProxyInfo".
	UseUrlEncode				Specify whether a URL encode is used.
					"OFF", "ON"
	CutReserveTimeout				Not used
					-

Key 1	Key 2	Key 3	Key 4	Description	
				Value	
StatusNotification	Active			Status notification settings.	
				Specify whether status notification is enabled/disabled. "OFF", "ON"	
	Name				Specify the ID for identifying the communication source (identification information transmitted to the server). Empty string or string with 1 to 30 characters. Characters that can be used are single-byte alphanumeric characters (0 to 9, a to z, A to Z), "_", "" and "-". The printer serial number is used for "Name" when the initial value or an empty string is specified. It is left empty if the printer serial number is not set.
					ID
	Password				Designates the password used for Digest authentication. Empty string or string with 1 to 30 characters. Characters that can be used are single-byte alphanumeric characters (0 to 9, a to z, A to Z), "_", "" and "-". The following cannot be specified. "Registered", "Not Registered"
					Url
	Interval				Specify the server data transmission interval time. "0" to "86400"
					UseServerAuthentication
	UseProxy				Specify whether a proxy is used. "OFF", "ON" When this setting is "ON", is it necessary to specify "ProxyInfo".
					UseUrlEncode

Key 1	Key 2	Key 3	Key 4	Description
				Value
PrintForwarding				Print forwarding settings.
PrintForwarding				Specify whether the print forwarding and spooling functions are enabled/disabled.
				"OFF", "ON w/cut", "ON w/o cut"
PrintMessage				Specify whether the print message during forwarding is enabled/disabled.
				"OFF", "ON"
AlertMessage				Specify the message to be printed during forwarding.
				Character string of 255 bytes or less. Although it is possible to specify a multi-byte character string (single/double-byte), the string should have UTF-8 encoding.
MessageAttrs				Specify the attribute values of forwarding message text decoration.
				Specify the combination of bit flags shown in the following pattern as a hexadecimal character string. (Maximum value when all specified: 0x003F) 0x0000: No text decoration 0x0001: Bold 0x0002: Underline 0x0004: Horizontal double-size characters 0x0008: Vertical double-size characters 0x0010: Black and white negative 0x0020: Inverted printed characters When the first character is "0", data is acquired as octal number. When it is "0x", it is a hexadecimal number. Otherwise it is a decimal number.
MessagePosition				Specify the forwarding message print timing.
				"Too", "Bottom"
RetryCount				Specify the retry count when a print error occurs.
				"0" to "60"
RetryInterval				Specify the retry interval when a print error occurs.
				"0" to "60"

Key 1	Key 2	Key 3	Key 4	Description
				Value
	CandidateList			List of candidate printers for forwarding.
		Candidate1 to Candidate21		Printers for forwarding.
			Primary	Specify the device ID for the first candidate printer in the list. Please specify the device ID registered in the "DeviceID PrinterList". String with a length of 1 to 30 characters. Characters that can be used are single-byte alphanumeric characters (0 to 9, a to z, A to Z), "_", ".", and "-". Device ID other than the reserved device ID of the display (local_display). This must not be a duplicate of another primary device ID.
			Secondary	Specify the device ID for the secondary candidate printer in the list. Empty string or string with 1 to 30 characters. Characters that can be used are single-byte alphanumeric characters (0 to 9, a to z, A to Z), "_", ".", and "-". Device ID other than the reserved device ID of the display (local_display).
			Tertiary	Specify the device ID for the tertiary candidate printer in the list. Empty string or string with 1 to 30 characters. Characters that can be used are single-byte alphanumeric characters (0 to 9, a to z, A to Z), "_", ".", and "-". Device ID other than the reserved device ID of the display (local_display).
	DeviceDataNotification *			Device data notification settings.
	Active			Specify whether device data notification is enabled/disabled. "OFF", "ON"
	Name			Specify the ID for identifying the communication source (identification information transmitted to the server). Empty string or string with 1 to 30 characters. Characters that can be used are single-byte alphanumeric characters (0 to 9, a to z, A to Z), "_", ".", and "-". The printer serial number is used for "Name" when the initial value or an empty string is specified. It is left empty if the printer serial number is not set.
	ID			Specify the Digest authentication ID. Empty string or string with 1 to 30 characters. Characters that can be used are single-byte alphanumeric characters (0 to 9, a to z, A to Z), "_", ".", and "-".

Key 1	Key 2	Key 3	Key 4	Description	
				Value	
	Password			Designates the password used for Digest authentication.	
				Empty string or string with 1 to 30 characters. Characters that can be used are single-byte alphanumeric characters (0 to 9, a to z, A to Z), "_", "." and "-". The following cannot be specified. "Registered", "Not Registered"	
	Url				Specify the URL of Web contents that are automatically updated.
					The communication destination server URL string. Empty string or string not exceeding 2043 characters that starts with "http://" or "https://". Single-byte alphanumeric characters (0 to 9, a to z, A to Z), "_", "-", ".", "/", "!", "~", "*", "(", ")", "[", "]", ";", "?", ":", "@", "&"; "=", "\$", "%", "# and "+".
	UseServerAuthentication				Specify whether a server authentication (HTTPS) is used.
					"OFF", "ON"
	UseProxy				Specify whether a proxy is used.
					"OFF", "ON" When this setting is "ON", is it necessary to specify "ProxyInfo".
	UseUrlEncode				Specify whether a URL encode is used.
					"OFF", "ON"
	BoxID				Specify the ID of the communication box used by the Device Data Notification function.
					Empty string or string with 1 to 30 characters. Characters that can be used are single-byte alphanumeric characters (0 to 9, a to z, A to Z), "_", "." and "-".
DataNotificationDeviceList *				List of devices subject to Device Data Notification.	
	DataNotificationDevice1 to DataNotificationDevice20			Specify the devices subject to Device Data Notification.	
		DeviceID		Specifies the device ID.	
				Empty string or string with 1 to 30 characters. Characters that can be used are single-byte alphanumeric characters (0 to 9, a to z, A to Z), "_", "." and "-". ID of device specified in the Printer, Key input device or Serial communication device, or "local_display".	

Key 1	Key 2	Key 3	Key 4	Description
				Value
WebContentsUpdater				Web content automatic update settings.
	Active			Specify whether the web content automatic update function is enabled/disabled.
				"OFF", "ON"
	Name			Specify the ID for identifying the communication source (identification information sent to the server).
				Empty string or string with 1 to 30 characters. Characters that can be used are single-byte alphanumeric characters (0 to 9, a to z, A to Z), "_", ".", and "-". The printer serial number is used for "Name" when the initial value or an empty string is specified. It is left empty if the printer serial number is not set.
	ID			Specify the Digest authentication ID.
				Empty string or string with 1 to 30 characters. Characters that can be used are single-byte alphanumeric characters (0 to 9, a to z, A to Z), "_", ".", and "-".
	Password			Specify the Digest authentication password.
				Empty string or string with 1 to 30 characters. Characters that can be used are single-byte alphanumeric characters (0 to 9, a to z, A to Z), "_", ".", and "-". The following cannot be specified. "Registered", "Not Registered"
	Url			Specify the URL for web content to be automatically updated.
				The communication destination server URL string. Empty string or string not exceeding 2043 characters that starts with "http://" or "https://". Single-byte alphanumeric characters (0 to 9, a to z, A to Z), "_", "-", ".", ":", ";", "~", "*", "(", ")", "[", "]", ":", "?", ":", "@", "&", "=", "\$", "!", "%", "#", and "+".
	UseServerAuthentication			Specify whether server authentication (HTTPS) is used.
		When this setting is "ON", a server authentication certificate must be registered. "OFF", "ON"		
UseProxy			Specify whether a proxy is used.	
			When this setting is "ON", a server authentication certificate must be registered. "OFF", "ON"	

Key 1	Key 2	Key 3	Key 4	Description		
				Value		
	Schedule			Depending on the content of this setting, it is necessary to specify the following: <ul style="list-style-type: none"> Hourly: TimeInterval Daily: Hour, Minute Weekly: Week, Hour, Minute Monthly: Day, Hour, Minute 		
				"Hourly", "Daily", "Weekly", "Monthly"		
	TimeInterval				The time interval is specified in hours when "Schedule" is set to "Hourly".	
					"1" to "23"	
	Week				Specify the particular day of the week to perform the update when "Schedule" is set to "Weekly".	
					"Sunday", "Monday", "Tuesday", "Wednesday", "Thursday", "Friday", "Saturday"	
	Day				Specify the particular day of the week to perform the update when "Schedule" is set to "Monthly".	
					"1" to "31"	
	Hour				Specify the particular hour to perform the update.	
					"0" to "23"	
	Minute				Specify the particular minute to perform the update.	
					"0" to "59"	
	LastResult				Acquire the results of the last WebContents update.	
					TimeStamp	Acquire the date and time of the last WebContents update.
						Example: "Wed Jul 8 16:03:58 2015" "-." is returned when an update has not been performed.
					UpdateDate	Acquire the date and time when the automatic update was last performed.
						Example: "Wed Jul 8 16:03:58 2015" "-." is returned when an update has not been performed.
UpdateStatus					Acquire the results when the automatic update was last performed.	
	0: Update completed normally 1: Completed normally: Not updated because latest version already 2: Has never been updated Negative value: Abnormal termination					

Key 1	Key 2	Key 3	Key 4	Description
				Value
PHP				PHP time difference settings.
	TimeDifference			Time difference settings. The TimeZone setting is given precedence when XXX has been already set, or when this setting and TimeZone are transmitted simultaneously. Enter "" (empty string) for "TimeZone" if using this setting.
				"-12" to "+14"
	TimeZone			Specify the PHP timezone. A TimeDifference value of "0" is returned when this setting is enabled. This setting and TimeDifference cannot be defined simultaneously.
		"UTC", "America/Los_Angeles" etc. (Operates using UTC (no time difference) if an invalid value is specified.)		
DocumentPath				Specify the Web document path. Specify the WebConfigPath and UserWebAppPath by using the following combinations. WebConfigPath = "\\ UserWebAppPath = "\webapp" or WebConfigPath = "\PrinterConfigurationPage" UserWebAppPath = "\
	WebConfigPath			Specify the WebConfig path.
				"\ "\PrinterConfigurationPage"
	UserWebAppPath			Specify the user web application path.
		"\ "\webapp"		

