Panasonic

Administrator Guide

SIP Cordless Phone

Model No. KX-TGP500/KX-TGP550
KX-TGP551 (PHV exclusive model)

Thank you for purchasing a Panasonic product.
Please read this guide before using the unit and save it for future reference.

Document Version: 2012-03

Introduction

This Administrator Guide provides detailed information on the configuration and management of this unit. This Administrator Guide is available on the Panasonic Web site at:
http://panasonic.net/pcc/support/sipphone/

Audience

This Administrator Guide contains explanations about the installation, maintenance, and management of the unit and is aimed at network administrators and phone system dealers.
Technical descriptions are included in this guide. Prior knowledge of networking and VoIP (Voice over Internet Protocol) is required.

Related Documentation

Related documentation includes the Quick Guide and the User Guide. Refer to these guides when needed.

- **Quick Guide:** Explains basic information about the installation and operation of the unit. This guide is provided with the unit or on the Panasonic Web site at:
  http://panasonic.net/pcc/support/sipphone/
- **User Guide:** Explains necessary information for end users to operate and customize the unit. This guide is provided on the Panasonic Web site at:
  http://panasonic.net/pcc/support/sipphone/

Technical Support

When technical support is required, contact your phone system dealer.

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NOTES

- The screen shots shown in this guide are provided for reference only, and may differ from the screens displayed on your PC.
- The languages of messages displayed on the unit may differ depending on the country/area of use.

Table of Contents

Section 1

Initial Setup

This section provides an overview of the setup procedures for the unit.

1.1 Setup

1.1.1 Factory Defaults

Many of the settings for this unit have been configured before the unit ships.
Where possible, these settings are configured with the optimum or most common values for the setting. For example, the port number of the SIP (Session Initiation Protocol) server is set to "5060".
However, many of the settings, such as the address of the SIP server or the phone number, have not been pre-configured, and they must be modified depending on the usage environment. If the port number of the SIP server is not "5060", the value of this setting must be changed.
This unit thus will not function properly using only the factory default settings. The settings for each feature must be configured according to the environment in which the unit is used.

1.1.2 Language Selection for the Unit

You can change the language used on the LCD. Because the language settings for the LCD of the base unit and handsets are not synchronized, you must set the languages individually for the base unit and each handset.
In addition, various settings can be configured by using the Web user interface on a PC connected on the same network (→ see **Section 3 Web User Interface Programming**). You can select the language for the Web user interface. You must set the language setting for the Web user interface separately from that of the base unit and handsets.
The available languages may differ depending on the country/area of use.

Note

- To select the display language for the base unit or handsets, refer to the User Guide on the Panasonic Web site (→ see **Introduction**).
- To select the display language for the Web user interface, see **3.5.1 Web Language**.

1.1.3 Basic Network Setup

This section describes the basic network settings that you must configure before you can use the unit on your network.
You must configure the following network settings:

- TCP/IP settings (DHCP [Dynamic Host Configuration Protocol] or static IP address assignment)
- DNS server settings

TCP/IP Settings (DHCP or Static IP Address Assignment)

A unique IP address must be assigned to the unit so that it can communicate on the network. How you assign an IP address depends on your network environment. This unit supports the following 2 methods for assigning an IP address:

Obtaining an IP Address Automatically from a DHCP Server

You can configure the unit to automatically obtain its IP address when it starts up from a DHCP server running on your network. With this method, the system can efficiently manage a limited number of IP addresses. Note that the IP address assigned to the unit may vary every time the unit is started up.
For details about the DHCP server, consult your network administrator.

Using a Static IP Address Specified by Your Network Administrator

If IP addresses for network devices are specified individually by your network administrator, you will need to manually configure settings such as the IP address, subnet mask, default gateway, and DNS servers from either the base unit or one of the handsets.
For details about the required network settings, consult your network administrator.

DNS Server Settings

You can configure the unit to use 2 DNS servers: a primary DNS server and a secondary DNS server. If you set both DNS servers, the primary DNS server receives priority over the secondary DNS server. If the primary DNS server returns no reply, the secondary DNS server will be used.
For details about configuring the DNS server settings using the base unit and handsets, or using the Web user interface, see **Configuring the Network Settings of the Unit** in this section.

DNS Priority Using Configuration File

The setting for DNS server(s) may be configured using the configuration files by your phone system dealer (→ see "**DNS1_ADDR**" and "**DNS2_ADDR**" in **4.4.2 DNS Settings**).

- If the DNS server addresses specified in the configuration file (→ see "**DNS_PRIORITY**" in **4.4.2 DNS Settings**) are given priority, the unit first sends its requests to those DNS servers. If a match is not found, the unit then sends its request to the DNS servers that were specified by the DHCP server, or the primary/secondary DNS servers that were specified on the unit or via the Web user interface.
- If the DNS servers that were specified by the DHCP server, or the primary/secondary DNS servers that were specified on the unit or via the Web user interface are given priority, the unit first sends its requests to those DNS servers. If a match is not found, the unit then sends its request to the DNS servers that were specified using the configuration file.

Configuring the Network Settings of the Unit

The following procedures explain how to change the network settings via each interface.
For details about the individual network settings that can be configured via the base unit and handsets, or using the Web user interface, refer to the Quick Guide on the Panasonic Web site (→ see **Introduction**) or see **3.4.1 Basic Network Settings**.

Configuring Settings from the Base Unit (KX-TGP55x only)/Handset

To configure network settings automatically

In cases when buttons/soft key icons are shown in English alphabet

1. **Base unit: [MENU]** (middle soft key) → **[#][5][0][0]**
   Handset: [MENU] (center of joystick) → **[#][5][0][0]**
2. **[▼]/[▲]:** Select "**On**" for DHCP → **[SAVE]**
3. **[▼]/[▲]:** Select "**Automatic**" for DNS → **[SAVE]**
   - Select "**Manual**" to enter the addresses for DNS1 (primary DNS server) and, if necessary, DNS2 (secondary DNS server) manually → **[SAVE]**
4. **Base unit: [EXIT]**
   Handset: [OFF]

In cases when buttons/soft key icons are shown in symbols/pictures

1. **Base unit:** (middle soft key) → **[#][5][0][0]**
   Handset: (center of joystick) → **[#][5][0][0]**
2. **[▼]/[▲]:** Select "`On`" for DHCP → **OK**
3. **[▼]/[▲]:** Select "`Automatic`" for DNS → **OK**
   - Select "`Manual`" to enter the addresses for DNS1 (primary DNS server) and, if necessary, DNS2 (secondary DNS server) manually → **OK**
4. **Base unit: [↩]**
   Handset: [✆]

To configure network settings manually

In cases when buttons/soft key icons are shown in English alphabet

1. **Base unit: [MENU]** (middle soft key) → **[#][5][0][0]**
   Handset: [MENU] (center of joystick) → **[#][5][0][0]**
2. **[▼]/[▲]:** Select "`Off`" for DHCP → **[SAVE]**
3. **Base unit: [EXIT]**
   Handset: [OFF]
4. **Base unit: [MENU]** (middle soft key) → **[#][5][0][1]**
   Handset: [MENU] (center of joystick) → **[#][5][0][1]**
5. **[▼]/[▲]:** Enter the IP address, subnet mask, default gateway, DNS1 (primary DNS server), and, if necessary, DNS2 (secondary DNS server) → **[SAVE]**
6. **Base unit: [EXIT]**
   Handset: [OFF]

In cases when buttons/soft key icons are shown in symbols/pictures

1. **Base unit:** (middle soft key) → **[#][5][0][0]**
   Handset: (center of joystick) → **[#][5][0][0]**
2. **[▼]/[▲]:** Select "`Off`" for DHCP → **OK**
3. **Base unit: [↩]**
   Handset: [✆]
4. **Base unit:** (middle soft key) → **[#][5][0][1]**
   Handset: (center of joystick) → **[#][5][0][1]**
5. **[▼]/[▲]:** Enter the IP address, subnet mask, default gateway, DNS1 (primary DNS server), and, if necessary, DNS2 (secondary DNS server) → **OK**
6. **Base unit: [↩]**
   Handset: [✆]

Configuring Settings from the Web User Interface

To configure network settings automatically

1. Click the **[Network]** tab, and then click **[Basic Network Settings]**.
2. Select **[DHCP]** for **[Connection Mode]**.
3. Enter a host name in **[Host Name]**.
4. Select **[Receive DNS server address automatically]** for **[Domain Name Server]**.
   - Select **[Use the following settings]** for **[Domain Name Server]** to enter the address for primary and secondary DNS servers manually.

To configure network settings manually

1. Click the **[Network]** tab, and then click **[Basic Network Settings]**.
2. Select **[Static]** for **[Connection Mode]**.
3. Enter an IP address in **[Static IP Address]**.
4. Enter the subnet mask in **[Subnet Mask]**.
5. Enter a default gateway address in **[Default Gateway]**.
6. Enter the address for the primary DNS server in **[DNS1]**.
7. If necessary, enter the address for the secondary DNS server in **[DNS2]**.

Note

- If your phone system dealer does not allow you these settings, you cannot change them even though the unit shows the setting menu. Contact your phone system dealer for further information.
- If you select "**On**" for DHCP on the unit, or you select **[DHCP]** for **[Connection Mode]** in the Web user interface, all the settings concerning static connection will be ignored, even if they have been specified.
- If you select "**On**" for DHCP and "**Automatic**" for DNS on the unit, or you select **[DHCP]** for **[Connection Mode]** and **[Receive DNS server address automatically]** for **[Domain Name Server]** in the Web user interface, the DNS server settings (DNS1 and DNS2) will be ignored, even if they have been specified.

1.1.4 Overview of Programming

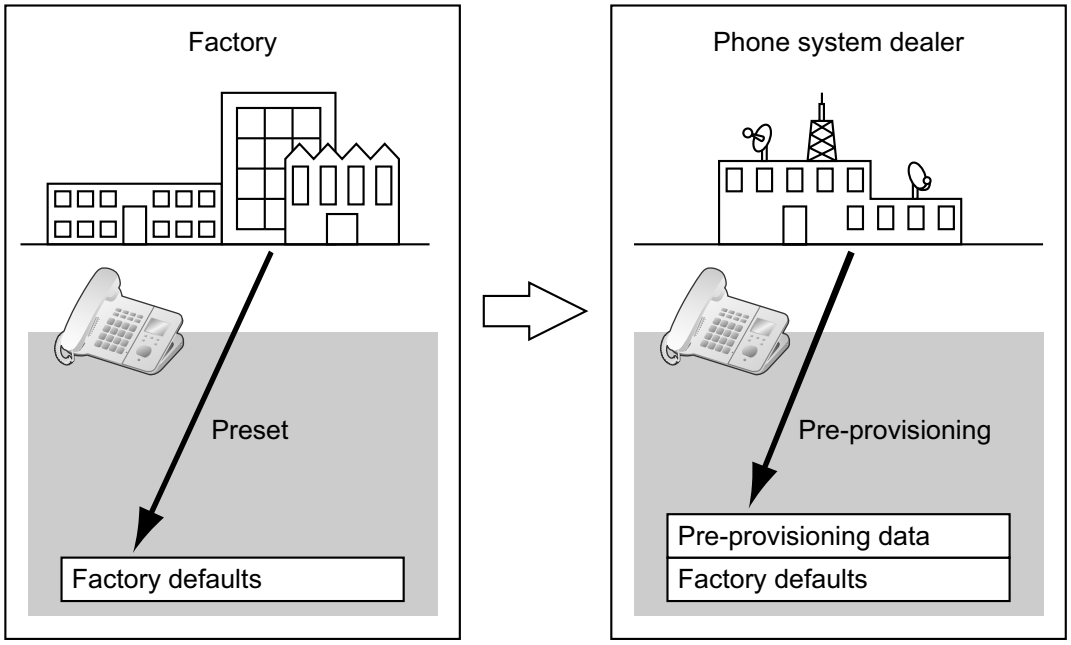
You can specify various settings beforehand by creating configuration files. This is called "pre-provisioning". Once you have created the configuration files, which contain the pre-configured settings, the unit can then download the files from a server on the Internet and configure its own settings. This is called "provisioning". In addition, you can also configure the settings manually. To configure them manually, use the Web user interface on a PC that is connected to the same network as the unit (Web user interface programming), or perform setting operations on the unit (phone user interface programming).

1.1.5 Pre-provisioning

1.1.5.1 What is Pre-provisioning?

To perform pre-provisioning, you must set the IP address of a TFTP server to the DHCP server option 66 so that the unit can acquire the TFTP server address. When the unit starts up and no configuration has been applied, it will automatically acquire the address of the TFTP server and download the configuration file. For details about the configuration file, see **1.1.6.3 Configuration File**.

For details about the settings that can be configured with the configuration files and how to specify the settings, see **Section 4 Configuration File Programming**.



Pre-provisioning can aid the installation process by allowing phone system dealers to configure beforehand the minimum settings required to operate the unit.
For example, phone system dealers can store on the TFTP server a configuration file that contains only the URL of a server where another configuration file is stored. This second configuration file contains settings configured specifically for the usage environment of the user. The user will be able to start using the unit by just connecting it to the network.

Pre-provisioning is performed only once after the unit has been shipped. Once any configuration (such as pre-provisioning, provisioning, or Web user interface programming) has been applied, pre-provisioning will not be performed again.
Note that the settings configured by pre-provisioning cannot be restored once it has been performed. If you want to restore them, consult your phone system dealer.

Although pre-provisioning is often used to specify the location of the configuration files for provisioning, you can configure any of the settings through pre-provisioning. The unit can be made fully operational by configuring settings through pre-provisioning.

1.1.5.2 Pre-provisioning when Setting Static IP Addresses

To perform pre-provisioning, the unit needs to acquire the TFTP server address from option 66 on a DHCP server. Therefore, pre-provisioning cannot be performed if you use static IP addressing on your network. If you use static IP addressing and want to perform pre-provisioning, construct a small, separate network and connect a DHCP and TFTP server to that network.
In addition, if option 66 of the DHCP server cannot be set, or if you are unauthorized to change this setting, perform pre-provisioning on the separate network, and then connect the unit to the actual network.

1.1.5.3 Server for Pre-provisioning

The DHCP server and TFTP server play important roles in performing pre-provisioning. This section explains their purposes, uses, and brief descriptions.

Server	Purpose	Description
DHCP server	Used to provide the address of a TFTP server, set in option 66 of the DHCP server, to units that have not been configured yet.	In option 66 of the DHCP server, specify the IP address or FQDN (Fully Qualified Domain Name) of the TFTP server. For details, refer to the documentation for your DHCP server. **Note** • The maximum length of FQDN text is 64 bytes.
TFTP server	Used to store configuration files, and is set as the access point for downloading them automatically.	The unit will download the configuration file "(model name).cfg" stored in the root directory of the TFTP server. For example, if the model name is KX-TGP500B01, the unit will download the configuration file "/KX-TGP500B01.cfg".

DHCP and TFTP servers may be supplied with your operating system, provided through commercial services, and are also distributed freely on the Internet. Use a server setup that best matches your environment. When installing and setting up the DHCP server and TFTP server, refer to the documentation supplied with the product. For details about connecting servers to the network and managing them, consult your network administrator.

1.1.5.4 Pre-provisioning Setting Example

This section gives an example of how to perform pre-provisioning.

Assumptions

Item	Description/Setting
TFTP server address	192.168.0.130
Distribution directory of TFTP server	/tftproot
Model name of the unit	KX-TGP500B01
MAC address of the unit	0080F0123456
Provisioning server name (where the configuration file used for provisioning is to be stored)	provisioning.example.com
Distribution directory of the provisioning server	/Panasonic
File name of the configuration file used for provisioning	Config0080F0123456.cfg
URL of the configuration file used for provisioning	http://provisioning.example.com/Panasonic/Config0080F0123456.cfg

Prior Settings

Item	Description/Setting
DHCP server option 66	192.168.0.130
IP address range assigned by DHCP server	192.168.0.16 to 192.168.0.63
File name of the configuration file used for pre-provisioning	KX-TGP500B01.cfg
URL of the configuration file used for provisioning that is entered in the configuration file	**CFG_STANDARD_FILE_PATH="http://provisioning.example.com/Panasonic/Config{MAC}.cfg"** **Note** • "{MAC}" is replaced by the MAC address of the unit. (e.g., "0080F0123456")
Stored location of the configuration file on the TFTP server	Configuration file "KX-TGP500B01.cfg" is stored in the directory "/tftproot".

To set up the server for pre-provisioning

1. Start up the DHCP server and TFTP server, and configure the settings as specified above.
2. Connect the unit to the network, and turn the power on.
   a. The IP address "192.168.0.16" is assigned to the unit by the DHCP server.
   b. The unit acquires the TFTP server address "192.168.0.130" from the DHCP server using DHCP server option 66.
   c. The unit downloads the configuration file for pre-provisioning from the TFTP server: tftp://192.168.0.130/KX-TGP500B01.cfg
   d. The URL of the server where the configuration file for provisioning is stored (provisioning server) is set to the unit: http://provisioning.example.com/Panasonic/Config{MAC}.cfg
   e. When pre-provisioning has completed successfully, the status LED lights in the following order: Red → Green → Orange → Red → …
3. When the status LED lights as described in step **e**, turn off the unit's power.
   The unit will restart automatically depending on the configuration file programming (→ see "**OPTION66_REBOOT**" in **4.3.5 Provisioning Settings**).
   When the unit is distributed to end users and started up in real circumstances, provisioning will be performed correctly.

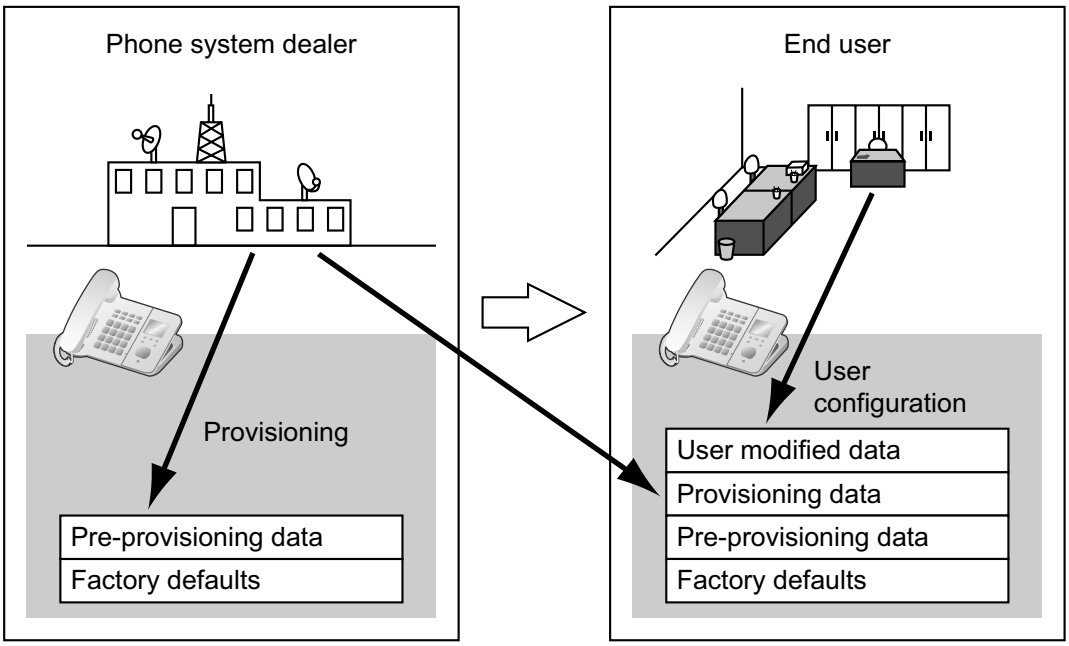
Note

- This example describes the case when only one unit is connected. However, multiple units can be configured through the same procedure without changing any settings, because the MAC address is specified by the {MAC} macro.

1.1.6 Provisioning

1.1.6.1 What is Provisioning?

After pre-provisioning has been performed (→ see **1.1.5 Pre-provisioning**), you can set up the unit automatically by downloading the configuration file stored on the provisioning server into the unit. This is called "provisioning".



1.1.6.2 Protocols for Provisioning

Provisioning can be performed over HTTP, HTTPS, FTP, and TFTP. The protocol you should use differs depending on how you will perform provisioning. Normally, HTTP, HTTPS, or FTP is used for provisioning. If you are transmitting encrypted configuration files, it is recommended that you use HTTP. If you are transmitting unencrypted configuration files, it is recommended that you use HTTPS. You may not be able to use FTP depending on the conditions of the network router or the network to be used.

1.1.6.3 Configuration File

This section gives concrete examples of the functions of the configuration file and how to manage it.
The configuration file is a text file that contains the various settings that are necessary for operating the unit. The files are normally stored on a server maintained by your phone system dealer, and will be downloaded to the units as required. All configurable settings can be specified in the configuration file. You can ignore settings that already have the desired values. Only change parameters as necessary.
For details about setting parameters and their descriptions, see **Section 4 Configuration File Programming** and **Section 8 Configuration File Examples**.

Using 3 Types of Configuration Files

The unit can download up to 3 configuration files. One way to take advantage of this is by classifying the configuration files into the following 3 types:

Type	Usage
Master configuration file	Configure settings that are common to all units, such as the SIP server address, and the IP addresses of the DNS and NTP (Network Time Protocol) servers managed by your phone system dealer. This configuration file is used by all the units. Example of the configuration file's URL: http://prov.example.com/Panasonic/ConfigCommon.cfg
Product configuration file	Configure settings that are required for a particular model, such as the default setting of the privacy mode. This configuration file is used by all the units that have the same model name. The same number of configuration files as models being used on the network are stored on the provisioning server, and units with the same model name download the corresponding configuration file. Example of the configuration file's URL: http://prov.example.com/Panasonic/Config{MODEL}.cfg **Note** • When a unit requests the configuration file, "{MODEL}" is replaced by the model name of the unit.
Standard configuration file	Configure settings that are unique to each unit, such as the phone number, user ID, password, etc. The same number of configuration files as units are stored on the provisioning server, and each unit downloads the corresponding standard configuration file. Example of the configuration file's URL: http://prov.example.com/Panasonic/Config{MAC}.cfg **Note** • When a unit requests the configuration file, "{MAC}" is replaced by the MAC address of the unit.

Depending on the situation, you can use all 3 types of configuration files, and can also use only a standard configuration file.
The above example shows only one possible way to use configuration files. Depending on the requirements of your phone system dealer, there are a number of ways to use configuration files effectively.

Using 2 Types of Configuration Files

The following table shows an example of using 2 types of configuration files: a master configuration file to configure settings common to all units, and product configuration files to configure settings common to particular groups.

Using Product Configuration Files According to the Position Groups

You can use product configuration files for different groups or for multiple users within the same group.

Department Name	URL of Product Configuration File
Sales	http://prov.example.com/Panasonic/ConfigSales.cfg

Department Name	URL of Product Configuration File
Planning	http://prov.example.com/Panasonic/ConfigPlanning.cfg

1.1.6.4 Downloading Configuration Files

A unit downloads configuration files when it starts up, at regular intervals, and when directed to do so by the server. In addition, you can prohibit units from downloading the configuration files. For details about the settings, see **3.8.3 Provisioning Maintenance** and **4.3.5 Provisioning Settings**.

Download Timing	Explanation
Startup	The configuration files are downloaded when the unit starts up.
At regular intervals	The configuration files are downloaded periodically under the following conditions: • In the configuration file: – Add the line, **CFG_CYCLIC="Y"**. – Set an interval (minutes) by specifying "**CFG_CYCLIC_INTVL**". • In the Web user interface: – Click the **[Maintenance]** tab, click **[Provisioning Maintenance]**, and then select **[Yes]** for **[Cyclic Auto Resync]**. – Enter an interval (minutes) in **[Resync Interval]**. **Note** • The interval may be determined by your phone system dealer. A maximum of 28 days (4 weeks) can be set on the unit. • If any valid value other than an empty string is specified for "**CFG_RESYNC_TIME**" in **4.3.5 Provisioning Settings** in the configuration file, the unit downloads the configuration files at the fixed time, not at regular intervals.
When directed	When a setting needs to be changed immediately, units can be directed to download the configuration files by sending them a NOTIFY message that includes a special event from the SIP server. • In the configuration file: – Specify the special event text in "**CFG_RESYNC_FROM_SIP**". • In the Web user interface: – Click the **[Maintenance]** tab, click **[Provisioning Maintenance]**, and then enter the special event text in **[Header Value for Resync Event]**. Generally, "check-sync" or "resync" is set as the special event text.

Download Timing	Explanation
None (prohibited)	If you want to prohibit units from changing their settings by downloading configuration files, you can enable this function from the Web user interface. The following operations will be prohibited: – Pre-provisioning – Provisioning at startup – Provisioning at regular intervals – Provisioning by sending a NOTIFY message • In the configuration file: – Add the line, **`PROVISION_ENABLE="N"`**. • In the Web user interface: – Click the **[Maintenance]** tab, click **[Provisioning Maintenance]**, and then select **[No]** for **[Enable Provisioning]**. • To enable provisioning again, in the Web user interface – Click the **[Maintenance]** tab, click **[Provisioning Maintenance]**, and then select **[Yes]** for **[Enable Provisioning]**.

1.1.6.5 Provisioning Server Setting Example

This section gives an example of how to set up the units and provisioning server when configuring 2 units with configuration files. The standard configuration files and the master configuration file are used in this example.

Conditions

Item	Description/Setting
Provisioning server FQDN	prov.example.com
Units' MAC addresses	• 0080F0111111 • 0080F0222222
URL of the configuration files	Configure the following 2 settings either by pre-provisioning or through the Web user interface. The values of both settings must be the same. • **`CFG_STANDARD_FILE_PATH="http://prov.example.com/Panasonic/Config{MAC}.cfg"`** • **`CFG_MASTER_FILE_PATH="http://prov.example.com/Panasonic/ConfigCommon.cfg"`**
Directory on the provisioning server containing the configuration files	Create the "Panasonic" directory just under the HTTP root directory of the provisioning server.
File name of configuration files	Store the following configuration files in the "Panasonic" directory. • Contains the common settings for the 2 units: – ConfigCommon.cfg • Contains the settings unique to each unit: – Config0080F0111111.cfg – Config0080F0222222.cfg

To set up the provisioning server

1. Connect the units to the network, and turn them on.
   a. The unit with the MAC address 0080F0111111 accesses the following URLs:
   http://prov.example.com/Panasonic/ConfigCommon.cfg

http://prov.example.com/Panasonic/Config0080F0111111.cfg

b. The unit with the MAC address 0080F0222222 accesses the following URLs:
http://prov.example.com/Panasonic/ConfigCommon.cfg
http://prov.example.com/Panasonic/Config0080F0222222.cfg

Example Provisioning Direction from the Server

The following figure shows an example NOTIFY message from the server, directing the units to perform provisioning. The text "check-sync" is specified for "**CFG_RESYNC_FROM_SIP**".

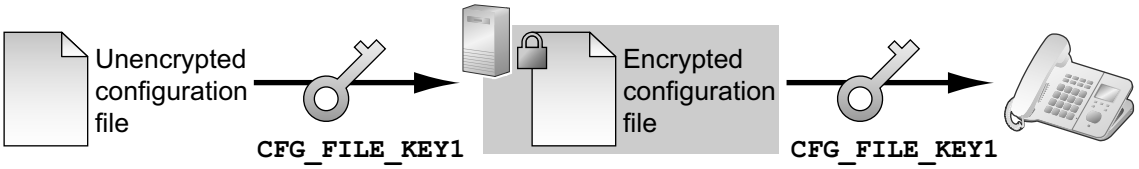
```
NOTIFY sip:1234567890@sip.example.com SIP/2.0
Via: SIP/2.0/UDP xxx.xxx.xxx.xxx:5060;branch=abcdef-ghijkl
From: sip:prov@sip.example.com
To: sip:1234567890@sip.example.com
Date: Thu, 1 Jan 2009 01:01:01 GMT
Call-ID: 123456-1234567912345678
CSeq: 1 NOTIFY
Contact: sip:xxx.xxx.xxx.xxx:5060
Event: check-sync
Content-Length: 0
```

1.1.6.6 Encryption

Secure Provisioning Methods

In order to perform provisioning securely, there are 2 methods for transferring configuration files securely between the unit and the server.
Which method is used depends on the environment and equipment available from the phone system.

Method 1: Transferring Encrypted Configuration Files



To use this method, an encryption key is required to encrypt and decrypt the configuration files. A preset encryption key unique to each unit, an encryption key set by your phone system dealer, etc., is used for the encryption. When the unit downloads an encrypted configuration file, it will decrypt the file using the same encryption key, and then configure the settings automatically.

Method 2: Transferring Configuration Files Using HTTPS

This method uses SSL, which is commonly used on the Internet, to transfer configuration files between the unit and server. For more secure communication, you can use a root certificate.

Notice

- To avoid redundant data transfer over the network, important data, such as the encryption key used to encrypt the configuration files and the root certificate for SSL, should be configured through pre-provisioning as much as possible.
- It is recommended that you encrypt the data in order to keep the communication secure when transferring configuration files.
  However, if you are using the units within a secure environment, such as within an intranet, it is not necessary to encrypt the data.

To decrypt configuration files, the unit uses the encryption key registered to it beforehand. The unit determines the encryption status by checking the extension of the downloaded configuration file.
For details about encrypting configuration files, contact the appropriate person in your organization.

Extension of Configuration File	Configuration File Parameters Used for Decrypting
".e1c"	**CFG_FILE_KEY1**
".e2c"	**CFG_FILE_KEY2**
".e3c"	**CFG_FILE_KEY3**
Other than ".e1c", ".e2c", and ".e3c"	Processed as unencrypted configuration files. The extension ".cfg" should be used for unencrypted configuration files.

Comparison of the 2 Methods

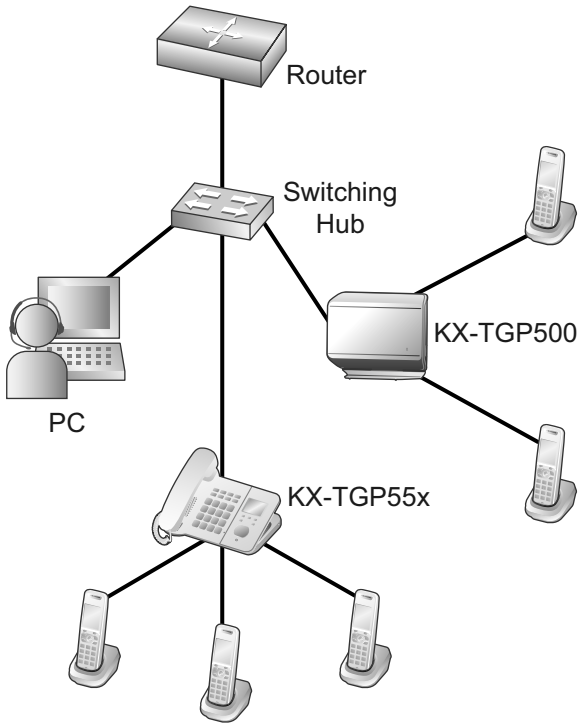
The following table compares the characteristics for the 2 transfer methods.

	Transferring Encrypted Configuration Files	Transferring Configuration Files Using HTTPS
Provisioning server load	Light	Heavy (The server encrypts data for each transmission.)
Operation load	Necessary to encrypt data beforehand.	Unnecessary to encrypt data beforehand.
Management of configuration files	Files must be decrypted and re-encrypted for maintenance.	It is easy to manage files because they are not encrypted on the server.
Security of data on the server when operating	High	Low (Configuration files are readable by anyone with access to the server.)

Moreover, there is another method: configuration files are not encrypted while stored on the server, and then, using the encryption key registered to the unit beforehand, they are encrypted when they are transferred. This method is particularly useful when several units are configured to download a common configuration file using different encryption keys. However, as when downloading an unencrypted configuration file using HTTPS, the server will be heavily burdened when transferring configuration files.

1.1.7 Web User Interface Programming

After connecting the unit to your network, you can configure the unit's settings by accessing the Web user interface from a PC connected to the same network. For details, see **Section 3 Web User Interface Programming**.



1.1.7.1 Password for Web User Interface Programming

To program the unit via the Web user interface, a login account is required. There are 2 types of accounts, and each has different access privileges.

- **User:** User accounts are for use by end users. Users can change the settings that are specific to the unit.
- **Administrator:** Administrator accounts are for use by administrators to manage the system configuration. Administrators can change all the settings, including the network settings, in addition to the settings that can be changed from a User account.

A separate password is assigned to each account.
For details, see **Access Levels (IDs and Passwords)** in **3.2.1 Before Accessing the Web User Interface**.

Notice

- You should manage the passwords carefully, and change them regularly.

1.1.7.2 Changing the Language for Web User Interface Programming

When accessing the unit via the Web user interface on a PC connected to the same network, various menus and settings are displayed. You can change the language used for displaying these setting items. Because the language setting for the Web user interface is not synchronized with those of the base unit or handsets, you must set the languages for each independently.
The available languages may differ depending on the country/area of use.
For details, see **3.5.1 Web Language**.

1.1.8 Phone User Interface Programming

You can change the settings directly from the unit.
For details about the operations, refer to the User Guide on the Panasonic Web site (→ see **Introduction**).
For details about additional features available with direct commands, see **Section 2 Phone User Interface Programming**.

1.1.8.1 Changing the Language for Phone User Interface Programming

You can change the language used on the LCD. Because the language settings for the LCD of the base unit and handsets are not synchronized, you must set the languages individually for the base unit and each handset. The available languages may differ depending on the country/area of use.
For details about changing the setting, refer to the User Guide on the Panasonic Web site (→ see **Introduction**).

1.1.9 Priority of Setting Methods

The same settings can be configured by different configuration methods: provisioning, Web user interface programming, etc. This section explains which value is applied when the same setting is specified by multiple methods.
The following table shows the priority with which settings from each method are applied (lower numbers indicate higher priority):

Setting Order	Priority	Setting Method
1	4	The factory default settings for the unit
2	3	Pre-provisioning with the configuration file
3	2–3	Provisioning with the master configuration file
	2–2	Provisioning with the product configuration file
	2–1	Provisioning with the standard configuration file
4	1	Settings configured from the Web user interface or the phone user interface

According to the table, settings configured later override previous settings (i.e., settings listed lower in the table have a higher priority).
If different values are specified for the same setting by the master configuration file and Web user interface programming, the value specified from the Web user interface is applied. This is because values specified from the Web user interface have a higher priority.
For settings configured from the Web user interface and the phone user interface, the value specified most recently receives priority.

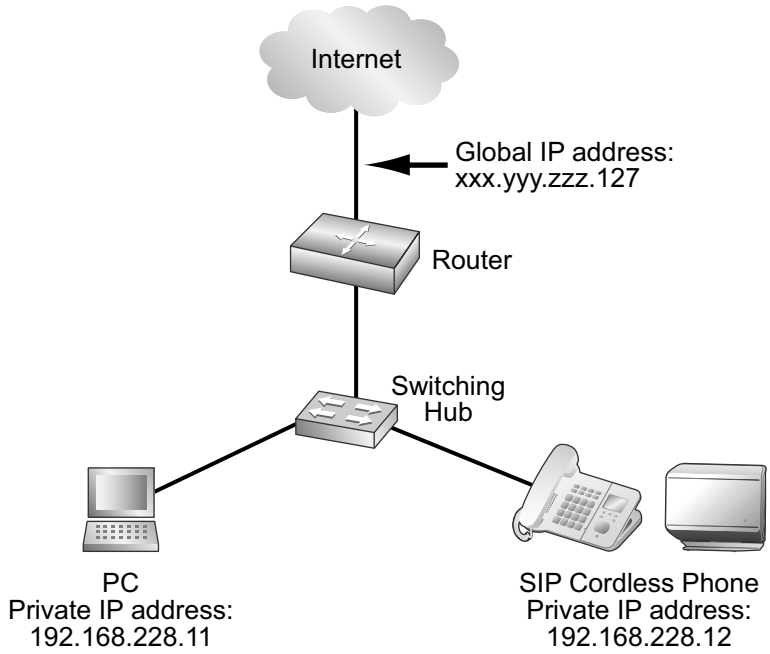
1.1.10 Other Network Settings

1.1.10.1 Firewall and Router Setup

When the unit is connected to a network that is protected by a firewall and/or router, you need to configure the firewall and/or router so that they do not block communication from the IP address and port number used by the unit.

1.1.10.2 NAT (Network Address Translation) Setup

This section provides information about configuring a router that uses NAT.



If the unit is connected to a network that uses a NAT router and a private IP address is assigned to each terminal on the network, depending on your phone system's setup, you might need to configure the unit and router so as to use NAT Traversal techniques.
If your phone system dealer provides an outbound proxy service that supports NAT Traversal, you need only to set the IP address of the SIP outbound proxy server to the unit—no other settings are necessary. However, depending on the phone system of the outbound proxy service, no setting may be necessary because private IP addresses are automatically translated into global IP addresses by the outbound proxy server. For details about the outbound proxy service, consult your phone system dealer.
When TCP is used to transport the SIP messages, you must always configure the devices for NAT Traversal.

To configure NAT Traversal, you must have the following information:

- The global IP address of the router.
- The port numbers you will specify for **[Source Port]** and **[External RTP Port]** through the Web user interface, so that you can configure the appropriate port forwarding settings.

Note

- Because the IP address of the router needs to be set in the unit, the IP address must be static.

SIP Setup

It might be necessary to manually set the router's global IP address and reception port number in the unit. In addition, it might also be necessary to configure the port forwarding settings of the router so that packets sent from an outside network are sent to the unit. These settings are required for each individual line. For details about Web user interface programming, see **3.4.5 Static NAPT Settings** and **3.6.2.5 SIP Source Port**.

To set the router's external (global) IP address and reception port number in the unit

1. In the Web user interface, click the **[Network]** tab, click **[Static NAPT Settings]**, and then enter the router's global IP address in **[Global IP Address]**.
2. Select **[Yes]** for **[Enable Global IP Address Usage per Line]** for each line.
   - Select **[No]** to disable the setting for the line.
3. Click the **[VoIP]** tab, click **[SIP Settings [Line 1]–[Line 8]]**, and then enter the router's source port numbers (forwarded port numbers, which are the same as the numbers of the WAN and LAN ports set on the router) in **[Source Port]**.

RTP (Real-time Transport Protocol) Setup

If the unit is connected to a network that uses a NAT router and a private IP address is assigned to each terminal on the network, you must configure the RTP function for the unit and router so that the units can perform voice transmission between each other using a peer-to-peer connection.
However, if your phone system supports the SBC (Session Border Controller) function, it is not necessary to configure these settings.
For details about the SBC function, consult your phone system dealer.
For details about Web user interface programming, see **3.4.5 Static NAPT Settings**.

To configure the RTP function on the unit

1. In the Web user interface, click the **[Network]** tab, click **[Static NAPT Settings]**, and then enter the router's global IP address in **[Global IP Address]**.
2. In **[External RTP Port]**, enter the router's source port numbers (forwarded port numbers).

Note

- Specify a unique value for each of the 3 ports.

Router Setup

When configuring the port forwarding function, specify the router's reception port number as the unit's port number.
Port forwarding should be configured for the ports specified in **[Source Port]** (→ see **SIP Setup** in this section) and **[External RTP Port]** (→ see **RTP (Real-time Transport Protocol) Setup** in this section).
Set the same port number for the source port and destination port, and set the unit's private IP address as the destination address.
Because the unit's private IP address will have to be set in the router's port forwarding configuration again if it is changed, set a static IP address to the unit, or configure the router so that the same IP address is always assigned to the unit if IP addresses are assigned by a DHCP server.
For details about how to configure the router, refer to the documentation for the router.
Because the port forwarding settings depend on the user's network environment, they cannot be programmed using configuration files.

1.1.10.3 Global Address Detection

The global IP address is a unique IP address that is assigned to a particular terminal. If the global IP address assigned to the firewall or the router is changed, the unit will not be able to communicate.
If the global IP addresses of these terminals are assigned by a DHCP server in the higher level network where they are connected, the IP address may differ each time the unit transmits data.
The Global Address Detection feature detects the current global IP address and, if the IP address has changed, sets it automatically to the SIP server. There are 2 methods, using STUN (Simple Traversal of UDP through

NATs) or SIP messages, to perform this feature. For details about specifying this setting through the Web user interface, see **3.4.4 Global Address Detection**.

To set Global Address Detection

1. In the Web user interface, click the **[Network]** tab, click **[Global Address Detection]**, and then select **[STUN]** for **[Detection Method]**.
   - Select **[SIP]** for **[Detection Method]** to perform Global Address Detection by sending SIP messages.
2. Enter the desired detection interval (seconds) in **[Detection Interval]**.
   - When you select **[SIP]** for **[Detection Method]**, the value "0" disables detection and a value other than "0" enables detection.
3. If you selected **[STUN]** for **[Detection Method]**, enter the STUN server address (IP address or FQDN) in **[STUN Server Address]**.
4. If you selected **[STUN]** for **[Detection Method]**, enter the port number used by the STUN server in **[STUN Server Port]**.

Note

- For details about server information, consult your network administrator.

1.2 Reset and Firmware Update

1.2.1 Reset

1.2.1.1 Resetting the Network Settings (IP Reset)

Performing IP Reset from the phone user interface (→ see **2.1.4 IP Reset**) restores the basic network settings made through phone user interface programming or Web user interface programming to their factory defaults. If the unit is unable to connect to the network after changing network settings, you can restore the network settings to their factory defaults by performing IP Reset, and then try configuring the settings again. Settings such as the phonebook data, are not cleared by this feature.
The following settings will be reset to their factory defaults:

- DHCP setting (restored to "DHCP on")
- Settings related to static IP addressing (the values for static IP address, subnet mask, default gateway, DNS1, and DNS2 are cleared)
- DNS settings for DHCP connection (cleared)
- PHY settings (speed and duplex mode of the either LAN or PC port are restored to "automatic")
- VLAN (Virtual Local Area Network) settings (disabled)
- Terminal number settings (restored to "automatic")

Notice

- After performing IP Reset, the unit will restart automatically. To avoid problems, it is recommended that you save your settings before performing IP Reset.

Note

- If these settings (with the exception of PHY settings and terminal number settings) were made through Web user interface programming, the set values made through Web user interface programming remain effective, even if you perform IP Reset. To reset these settings to their factory defaults, perform Reset Web Settings from the Web user interface again.

- If these settings (with the exception of PHY settings and terminal number settings) were made through configuration file programming, the set values made through configuration file programming remain effective, even if you perform Reset Web Settings.

1.2.1.2 Resetting the Settings Made through the Web User Interface (Reset Web Settings)

Performing Reset Web Settings from the Web user interface (→ see **3.8.4 Reset to Defaults**) resets the settings made through the Web user interface to their default values.
When you use this feature, the unit will return to the status just after performing the most recent provisioning or pre-provisioning.

Notice

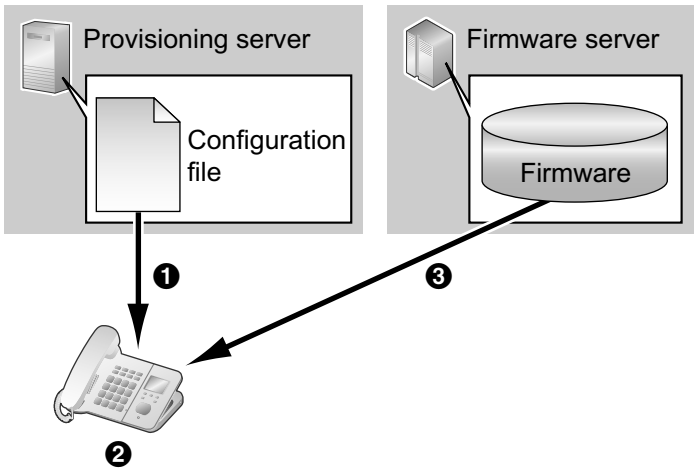
- After performing Reset Web Settings, the base unit will restart automatically. To avoid problems, it is recommended that you save your settings before performing Reset Web Settings.

Note

- The settings configured through the phone user interface only will not be reset. However, settings that can be configured through both the phone user interface and Web user interface will be reset.

1.2.2 Firmware Update

You can update the unit's firmware to improve the unit's operation. You can configure the unit so that it automatically downloads the new firmware file from a specified location. The firmware update will be executed when the unit is restarted.
For details, see **Section 6 Firmware Update**.



❶ Download
❷ Check for update
❸ Firmware download and update

Section 2

Phone User Interface Programming

This section explains how to configure the unit by entering direct commands through the phone user interface.

2.1 Phone User Interface Programming

This section provides information about the features that can be configured directly from the base unit or handsets, but that are not mentioned in the User Guide.
To enter direct commands, use the keys and soft keys on the base unit (KX-TGP55x only) or handset.
For details about the other available features, settings and key operations on the phone user interface, refer to the User Guide on the Panasonic Web site (→ see **Introduction**).

2.1.1 Phone User Interface Feature List and Direct Commands

The following table shows additional features programmable with direct commands. These commands are hidden from end users.

Direct Command	Feature			Ref.
[#][5][3][0]	`Speed/Duplex`	`LAN port`		Page 36
		`PC port`[*1]		
	`VLAN setting`[*1][*2]	`Enable VLAN`		Page 37
		`IP Phone`	`VLAN ID`	
			`Priority`	
		`PC`	`VLAN ID`	
			`Priority`	
[#][7][3][0]	IP Reset[*3]			Page 38
[#][7][3][1]	`Terminal No.`			Page 39
[#][7][3][9]	Reset Web ID/Password[*3]			Page 40

[*1] Available for KX-TGP55x only.
[*2] If your phone system dealer does not allow you these settings, you cannot change them even though the unit shows the setting menu. Contact your phone system dealer for further information.
[*3] Not displayed on the LCD of the unit.

2.1.2 Speed/Duplex Settings

You can select the connection mode (combination of link speed and duplex mode) of the LAN port and PC port (KX-TGP55x only). You can select from the following values:

- `Auto` (default)
- `10M/Full`
- `10M/Half`
- `100M/Full`
- `100M/Half`

For details about configuring the speed/duplex setting from the Web user interface, see **3.4.2.1 Link Speed/ Duplex Mode**.

To set the link speed and duplex mode

In cases when buttons/soft key icons are shown in English alphabet

1. **Base unit: [MENU]** (middle soft key) → **[#][5][3][0]**
   Handset: [MENU] (center of joystick) → **[#][5][3][0]**
   - For KX-TGP500 users: go to step **4**.
2. **[▼]/[▲]:** Select "**Speed/Duplex**" → **[SELECT]**
3. **[▼]/[▲]:** Select "**LAN port**" or "**PC port**" → **[SELECT]**
4. **[▼]/[▲]:** Select the desired option → **[SAVE]**
5. **Base unit: [EXIT]**
   Handset: [OFF]

In cases when buttons/soft key icons are shown in symbols/pictures

1. **Base unit:** (middle soft key) → **[#][5][3][0]**
   Handset: (center of joystick) → **[#][5][3][0]**
   - For KX-TGP500 users: go to step **4**.
2. **[▼]/[▲]:** Select "**Speed/Duplex**" → **OK**
3. **[▼]/[▲]:** Select "**LAN port**" or "**PC port**" → **OK**
4. **[▼]/[▲]:** Select the desired option → **OK**
5. **Base unit: [ ]**
   Handset: [ ]

Note

- After you have finished configuring the settings, the base unit will restart automatically once the base unit or handset returns to idle.
- For KX-TGP500 users: only the LAN port setting is available because the unit does not have a PC port.

2.1.3 VLAN Settings (KX-TGP55x only)

You can change the VLAN settings for the unit and for the PC. The default setting for "**Enable VLAN**" is "**No**".
For details about configuring VLAN settings from the Web user interface, see **3.4.2.2 VLAN Settings**.

To enable VLAN settings

In cases when buttons/soft key icons are shown in English alphabet

1. **Base unit: [MENU]** (middle soft key) → **[#][5][3][0]**
   Handset: [MENU] (center of joystick) → **[#][5][3][0]**
2. **[▼]/[▲]:** Select "**VLAN setting**" → **[SELECT]**
3. **[▼]/[▲]:** Select "**Enable VLAN**" → **[SELECT]**
4. **[▼]/[▲]:** Select "**Yes**" → **[SAVE]**
   - Select "**No**" to disable VLAN settings.
5. **Base unit: [EXIT]**
   Handset: [OFF]

In cases when buttons/soft key icons are shown in symbols/pictures

1. **Base unit:** (middle soft key) → **[#][5][3][0]**
   Handset: (center of joystick) → **[#][5][3][0]**
2. **[▼]/[▲]:** Select "**VLAN setting**" → **OK**

3. **[▼]/[▲]:** Select "**Enable VLAN**" → **OK**
4. **[▼]/[▲]:** Select "**Yes**" → **OK**
   - Select "**No**" to disable VLAN settings.
5. **Base unit: [↪]**
   Handset: [📞]

To set VLAN for IP Phone/PC

In cases when buttons/soft key icons are shown in English alphabet

1. **Base unit: [MENU]** (middle soft key) → **[#][5][3][0]**
   Handset: [MENU] (center of joystick) → **[#][5][3][0]**
2. **[▼]/[▲]:** Select "**VLAN setting**" → **[SELECT]**
3. **[▼]/[▲]:** Select "**IP Phone**" or "**PC**" → **[SELECT]**
4. **[▼]/[▲]:** Select "**VLAN ID**" → **[SELECT]**
5. Use the dial keys to enter the VLAN ID (1–4094).
6. **[SAVE]**
7. **[▼]/[▲]:** Select "**Priority**" → **[SELECT]**
8. Use the dial keys to enter the priority value (0–7 [7: highest priority]).
9. **[SAVE]**
10. **Base unit: [EXIT]**
    Handset: [OFF]

In cases when buttons/soft key icons are shown in symbols/pictures

1. **Base unit:**  (middle soft key) → **[#][5][3][0]**
   Handset:  (center of joystick) → **[#][5][3][0]**
2. **[▼]/[▲]:** Select "**VLAN setting**" → **OK**
3. **[▼]/[▲]:** Select "**IP Phone**" or "**PC**" → **OK**
4. **[▼]/[▲]:** Select "**VLAN ID**" → **OK**
5. Use the dial keys to enter the VLAN ID (1–4094).
6. **OK**
7. **[▼]/[▲]:** Select "**Priority**" → **OK**
8. Use the dial keys to enter the priority value (0–7 [7: highest priority]).
9. **OK**
10. **Base unit: [↪]**
    Handset: [📞]

Note

- After you have finished configuring the settings, the base unit will restart automatically once the base unit or handset returns to idle.

2.1.4 IP Reset

IP Reset returns the basic network settings to their factory defaults. You can perform this operation from the base unit or one of the handsets.
The following settings will be reset to their factory defaults:

- DHCP setting (restored to "DHCP on")
- Settings related to static IP addressing (the values for static IP address, subnet mask, default gateway, DNS1, and DNS2 are cleared)
- DNS settings for DHCP connection (cleared)

- PHY settings (speed and duplex mode of the either LAN or PC port are restored to "automatic")
- VLAN settings (disabled)
- Terminal number settings (restored to "automatic")

To perform IP Reset

In cases when buttons/soft key icons are shown in English alphabet

1. **Base unit: [MENU]** (middle soft key) → **[#][7][3][0]**
   Handset: [MENU] (center of joystick) → **[#][7][3][0]**
2. **[▼]/[▲]:** Select "**Yes**" → **[SELECT]**
   The settings are returned to their factory defaults, and the base unit will restart.

In cases when buttons/soft key icons are shown in symbols/pictures

1. **Base unit:** (middle soft key) → **[#][7][3][0]**
   Handset: (center of joystick) → **[#][7][3][0]**
2. **[▼]/[▲]:** Select "**Yes**" → **OK**
   The settings are returned to their factory defaults, and the base unit will restart.

Notice

- Once you press **[#][7][3][0]**, IP Reset is performed immediately and without asking for confirmation, regardless of the communication status. As a result, the base unit is disconnected from the IP network immediately.

Note

- If these settings (with the exception of PHY settings and terminal number settings) were made through Web user interface programming, the set values made through Web user interface programming remain effective, even if you perform IP Reset. To reset these settings to their factory defaults, perform Reset Web Settings from the Web user interface again.
- If these settings (with the exception of PHY settings and terminal number settings) were made through configuration file programming, the set values made through configuration file programming remain effective, even if you perform Reset Web Settings.

2.1.5 Terminal Number Settings

You can select the terminal number of the unit that you are using from "**Terminal 1**"–"**Terminal 9**", and "**Auto**". The default setting is "**Auto**". "**Auto**" does not assign a fixed terminal number to the unit.
If multiple units try to access the same router simultaneously, errors can occur. Assigning a terminal number 1 to 9 to each of the units may prevent such errors.

To assign a terminal number to the unit

In cases when buttons/soft key icons are shown in English alphabet

1. **Base unit: [MENU]** (middle soft key) → **[#][7][3][1]**
   Handset: [MENU] (center of joystick) → **[#][7][3][1]**
2. **[▼]/[▲]:** Select the desired terminal number ("**Auto**", "**Terminal 1**"–"**Terminal 9**") → **[SAVE]**
3. **Base unit: [EXIT]**
   Handset: [OFF]

In cases when buttons/soft key icons are shown in symbols/pictures

1. **Base unit:** (middle soft key) → **[#][7][3][1]**
   Handset: (center of joystick) → **[#][7][3][1]**

2. **[▼]/[▲]:** Select the desired terminal number ("**Auto**", "**Terminal 1**"–"**Terminal 9**") → **OK**
3. **Base unit: [⇔]**
   Handset: [📞]

2.1.6 Reset Web ID/Password

Reset Web ID/Password resets all the IDs and passwords required for users and administrators to access the Web user interface (→ see **Access Levels (IDs and Passwords)** in **3.2.1 Before Accessing the Web User Interface**) to their factory defaults. You can perform this operation from the base unit or one of the handsets.

To perform Reset Web ID/Password

In cases when buttons/soft key icons are shown in English alphabet

1. **Base unit: [MENU]** (middle soft key) → **[#][7][3][9]**
   Handset: [MENU] (center of joystick) → **[#][7][3][9]**
2. **[▼]/[▲]:** Select "**Yes**" → **[SELECT]**
   All the IDs and passwords are reset, and the base unit will restart.

In cases when buttons/soft key icons are shown in symbols/pictures

1. **Base unit:** [▦] (middle soft key) → **[#][7][3][9]**
   Handset: [▦] (center of joystick) → **[#][7][3][9]**
2. **[▼]/[▲]:** Select "**Yes**" → **OK**
   All the IDs and passwords are reset, and the base unit will restart.

Notice

- Once you press **[#][7][3][9]**, Reset Web ID/Password is performed immediately and without asking for confirmation, regardless of the communication status. As a result, the base unit is disconnected from the IP network immediately. For security reasons, it is recommended that the passwords are set again immediately (→ see **3.5.2 Administrator Password** or **3.5.3 Change User Password**).

2.1.7 HTTP Authentication Settings

To set Authentication ID

In cases when buttons/soft key icons are shown in English alphabet

1. **Handset: [MENU]** (center of joystick)
2. **[▼]/[▲]:** Select "**IP Service**" → **[SELECT]**
3. **[▼]/[▲]:** Select "**Call Features**" → **[SELECT]**
4. **[▼]/[▲]:** Select "**Settings**" → **[SELECT]**
5. **[▼]/[▲]:** Select "**Authentication**" → **[SELECT]**
6. **[▼]/[▲]:** Select "**ID**" → **[SELECT]**
7. Enter the Authentication ID (16 characters max.).
8. **[SAVE]**

In cases when buttons/soft key icons are shown in symbols/pictures

1. **Handset:** [▦] (center of joystick)
2. **[▼]/[▲]:** Select "**IP Service**" → **OK**
3. **[▼]/[▲]:** Select **Call Features** → **OK**
4. **[▼]/[▲]:** Select "**Settings**" → **OK**

5. **[▼]/[▲]:** Select "**Authentication**" → **OK**
6. **[▼]/[▲]:** Select "**ID**" → **OK**
7. Enter the Authentication ID (16 characters max.).
8. **OK**

To set Authentication Password

In cases when buttons/soft key icons are shown in English alphabet

1. **Handset: [MENU]** (center of joystick)
2. **[▼]/[▲]:** Select "**IP Service**" → **[SELECT]**
3. **[▼]/[▲]:** Select "**Call Features**" → **[SELECT]**
4. **[▼]/[▲]:** Select "**Settings**" → **[SELECT]**
5. **[▼]/[▲]:** Select "**Authentication**" → **[SELECT]**
6. **[▼]/[▲]:** Select "**Password**" → **[SELECT]**
7. Enter the Authentication Password (16 characters max.).
8. **[SAVE]**

In cases when buttons/soft key icons are shown in symbols/pictures

1. **Handset:**  (center of joystick)
2. **[▼]/[▲]:** Select "**IP Service**" → **OK**
3. **[▼]/[▲]:** Select **Call Features** → **OK**
4. **[▼]/[▲]:** Select "**Settings**" → **OK**
5. **[▼]/[▲]:** Select "**Authentication**" → **OK**
6. **[▼]/[▲]:** Select "**Password**" → **OK**
7. Enter the Authentication Password (16 characters max.).
8. **OK**

Notice

- After these parameters are set, phone will reboot automatically.
- If you set above-mentioned ID or password by WEB User Interface, this menu is not displayed (→ see **3.4.3.2 HTTP Authentication**).

2.1.7 HTTP Authentication Settings

Section 3

Web User Interface Programming

This section provides information about the settings available in the Web user interface.

3.1 Web User Interface Setting List

The following tables show all the settings that you can configure from the Web user interface and the access levels. For details about each setting, see the reference pages listed.

Status

Menu Item	Section Title	Setting	Access Level[*1]		Ref.
			U	A	
Version Information	Version Information	Model	✓	✓	Page 61
		Operating BANK	✓	✓	Page 61
		IPL Version	✓	✓	Page 61
		Firmware Version	✓	✓	Page 61
Network Status	Network Status	MAC Address	✓	✓	Page 62
		Ethernet Link Status (LAN Port)	✓	✓	Page 62
		Ethernet Link Status (PC Port)	✓	✓	Page 62
		Connection Mode	✓	✓	Page 63
		IP Address	✓	✓	Page 63
		Subnet Mask	✓	✓	Page 63
		Default Gateway	✓	✓	Page 63
		DNS1	✓	✓	Page 63
		DNS2	✓	✓	Page 64
VoIP Status	VoIP Status	Line No.	✓	✓	Page 64
		Phone Number	✓	✓	Page 64
		VoIP Status	✓	✓	Page 65

[*1] The access levels are abbreviated as follows:
U: User; A: Administrator
A check mark indicates that the setting is available for that access level.

Network

Menu Item	Section Title	Setting	Access Level[*1]		Ref.
			U	A	
Basic Network Settings	Connection Mode	Connection Mode[*2]	✓[*3]	✓	Page 66
	DHCP Settings	Host Name[*4]		✓	Page 66
		Domain Name Server[*2]	✓[*3]	✓	Page 67
	Static Settings	Static IP Address[*2]	✓[*3]	✓	Page 67
		Subnet Mask[*2]	✓[*3]	✓	Page 68
		Default Gateway[*2]	✓[*3]	✓	Page 68
		DNS1[*2]	✓[*3]	✓	Page 68
		DNS2[*2]	✓[*3]	✓	Page 69
Ethernet Port Settings	Link Speed/Duplex Mode	LAN Port[*5]		✓	Page 69
		PC Port[*5]		✓	Page 70
	VLAN Settings	Enable VLAN[*2]		✓	Page 70
		IP Phone	–	–	–
		VLAN ID[*2]		✓	Page 70
		Priority[*2]		✓	Page 71
		PC	–	–	–
		VLAN ID[*2]		✓	Page 71
		Priority[*2]		✓	Page 71
HTTP Client Settings	HTTP Client Settings	HTTP Version[*4]		✓	Page 72
		HTTP User Agent[*4]		✓	Page 72
	HTTP Authentication	Authentication ID	✓	✓	Page 73
		Authentication Password	✓	✓	Page 73
	Proxy Server Settings	Enable Proxy		✓	Page 73
		Proxy Server Address		✓	Page 73
		Proxy Server Port		✓	Page 74
Global Address Detection	Global Address Detection	Detection Method		✓	Page 74
		Detection Interval		✓	Page 75
	STUN Server	STUN Server Address[*4]		✓	Page 75
		STUN Server Port[*4]		✓	Page 75

Menu Item	Section Title	Setting	Access Level[*1]		Ref.
			U	A	
Static NAPT Settings	Global IP Address	Global IP Address		✓	Page 76
	Enable Global IP Address Usage per Line	Line 1–Line 8		✓	Page 76
	External RTP Port	Channel 1–3		✓	Page 77

[*1] The access levels are abbreviated as follows:
U: User; A: Administrator
A check mark indicates that the setting is available for that access level.
[*2] This setting can also be configured through other programming methods (phone user interface programming or configuration file programming).
[*3] If your phone system dealer allows you these settings, you can see the setting menu. Contact your phone system dealer for further information.
[*4] This setting can also be configured through configuration file programming.
[*5] This setting can also be configured through phone user interface programming.

System

Menu Item	Section Title	Setting	Access Level[*1]		Ref.
			U	A	
Web Language	Web Language	Language	✓	✓	Page 78
Administrator Password	Change Administrator Password	New Password[*2]		✓	Page 78
		Confirm New Password[*2]		✓	Page 79
Change User Password	Change User Password	New Password[*2]	✓	✓	Page 79
		Confirm New Password[*2]	✓	✓	Page 80
Web Server Settings	Web Server Settings	Web Server Port		✓	Page 80
		Port Close Timer		✓	Page 81

Menu Item	Section Title	Setting	Access Level[*1]		Ref.
			U	A	
Time Adjust Settings	Synchronization	Enable Synchronization by NTP	✓[*3]	✓	Page 82
		Synchronization Interval[*2]	✓[*3]	✓	Page 82
	Time Server	NTP Server Address[*2]	✓[*3]	✓	Page 82
	Time Zone	Time Zone[*2]	✓[*3]	✓	Page 82
	Daylight Saving Time (Summer Time)	Enable DST (Enable Summer Time)[*2]	✓[*3]	✓	Page 83
		DST Offset (Summer Time Offset)[*2]	✓[*3]	✓	Page 83
	Start Day and Time of DST (Start Day and Time of Summer Time)	Month[*2]	✓[*3]	✓	Page 83
		Day of Week[*2]	✓[*3]	✓	Page 83
		Time[*2]	✓[*3]	✓	Page 84
	End Day and Time of DST (End Day and Time of Summer Time)	Month[*2]	✓[*3]	✓	Page 84
		Day of Week[*2]	✓[*3]	✓	Page 85
		Time[*2]	✓[*3]	✓	Page 86

[*1] The access levels are abbreviated as follows:
U: User; A: Administrator
A check mark indicates that the setting is available for that access level.

[*2] This setting can also be configured through configuration file programming.

[*3] If your phone system dealer allows you these settings, you can see the setting menu. Contact your phone system dealer for further information.

VoIP

Menu Item	Section Title	Setting	Access Level[*1]		Ref.
			U	A	
SIP Settings	SIP Setting	SIP User Agent[*2]		✓	Page 86
	Transport Protocol for SIP	Transport Protocol[*2]		✓	Page 87

Menu Item	Section Title	Setting	Access Level[*1]		Ref.
			U	A	
SIP Settings [Line 1]–[Line 8]	Phone Number	Phone Number[*2]		✓	Page 88
		Line ID[*2]		✓	Page 89
	SIP Server	Registrar Server Address[*2]		✓	Page 89
		Registrar Server Port[*2]		✓	Page 89
		Proxy Server Address[*2]		✓	Page 89
		Proxy Server Port[*2]		✓	Page 89
		Presence Server Address[*2]		✓	Page 90
		Presence Server Port[*2]		✓	Page 90
	Outbound Proxy Server	Outbound Proxy Server Address[*2]		✓	Page 90
		Outbound Proxy Server Port[*2]		✓	Page 90
	SIP Service Domain	Service Domain[*2]		✓	Page 91
	SIP Source Port	Source Port[*2]		✓	Page 91
	SIP Authentication	Authentication ID[*2]		✓	Page 91
		Authentication Password[*2]		✓	Page 92
	DNS	Enable DNS SRV lookup[*2]		✓	Page 92
		SRV lookup Prefix for UDP[*2]		✓	Page 92
		SRV lookup Prefix for TCP[*2]		✓	Page 93
	Timer Settings	T1 Timer[*2]		✓	Page 93
		T2 Timer[*2]		✓	Page 93
		INVITE Retry Count[*2]		✓	Page 93
		Non-INVITE Retry Count[*2]		✓	Page 94
	Quality of Service (QoS)	SIP Packet QoS (DSCP)[*2]		✓	Page 94
	SIP extensions	Supports 100rel (RFC 3262)[*2]		✓	Page 95
		Supports Session Timer (RFC 4028)[*2]		✓	Page 95
	Keep Alive	Keep Alive Interval[*2]		✓	Page 95
	Security	Enable SSAF (SIP Source Address Filter)[*2]		✓	Page 96
VoIP Settings	RTP Settings	RTP Packet Time[*2]		✓	Page 96
		Minimum RTP Port Number[*2]		✓	Page 97
		Maximum RTP Port Number[*2]		✓	Page 97

Menu Item	Section Title	Setting	Access Level[*1]		Ref.
			U	A	
VoIP Settings [Line 1]–[Line 8]	Quality of Service (QoS)	RTP Packet QoS (DSCP)[*2]		✓	Page 98
	Statistical Information	RTCP Interval[*2]		✓	Page 99
	Jitter Buffer	Maximum Delay[*2]		✓	Page 99
		Minimum Delay[*2]		✓	Page 100
		Initial Delay[*2]		✓	Page 100
	DTMF	DTMF Type[*2]		✓	Page 100
		Telephone-event Payload Type[*2]		✓	Page 101
	Call Hold	Supports RFC 2543 (c=0.0.0.0)[*2]		✓	Page 101
	CODEC Settings	First CODEC[*2]		✓	Page 101
		Second CODEC[*2]		✓	Page 102
		Third CODEC[*2]		✓	Page 102
		Fourth CODEC[*2]		✓	Page 103
		Fifth CODEC[*2]		✓	Page 103

[*1] The access levels are abbreviated as follows:
U: User; A: Administrator
A check mark indicates that the setting is available for that access level.
[*2] This setting can also be configured through configuration file programming.

Telephone

Menu Item	Section Title	Setting	Access Level[*1]		Ref.
			U	A	
Multi Number Settings	Grouping Handset/ Handset selection for receiving calls	Line No.[*2]	✓[*3]	✓	Page 105
		Phone Number[*2]	✓[*3]	✓	Page 105
		Handset No.[*2]	✓[*3]	✓	Page 106
		Base[*2]	✓[*3]	✓	Page 106
	Handset and Line No. selection for making calls	Handset No.[*2]	✓[*3]	✓	Page 106
		Base[*2]	✓[*3]	✓	Page 106
		Line No.[*2]	✓[*3]	✓	Page 107
		Default[*2]	✓[*3]	✓	Page 107

Menu Item	Section Title	Setting	Access Level[*1]		Ref.
			U	A	
Call Control	Call Control	Send SUBSCRIBE to Voice Mail Server[*2]		✓	Page 108
		Conference Server Address[*2]		✓	Page 108
		Inter-digit Timeout[*2]		✓	Page 108
	Emergency Call Phone Numbers	1–5[*2]		✓	Page 109
	Call Rejection Phone Numbers	1–30	✓	✓	Page 109
Call Control [Line 1]–[Line 8]	Call Control	Display Name[*2]	✓	✓	Page 110
		Enable Privacy Mode[*2]		✓	Page 110
		Voice Mail Access Number[*2]		✓	Page 111
		Enable Shared Call[*2]		✓	Page 111
		Unique ID of Shared Call[*2]		✓	Page 112
		Synchronize Do Not Disturb and Call Forward[*2]		✓	Page 112
	Dial Plan	Dial Plan[*2]		✓	Page 112
		Call Even If Dial Plan Does Not Match[*2]		✓	Page 113
	Call Features	Block Caller ID	✓	✓	Page 113
		Block Anonymous Call	✓	✓	Page 113
		Do Not Disturb	✓	✓	Page 114
	Call Forward	Unconditional	–	–	–
		Enable Call Forward	✓	✓	Page 114
		Phone Number	✓	✓	Page 115
		Busy	–	–	–
		Enable Call Forward	✓	✓	Page 115
		Phone Number	✓	✓	Page 116
		No Answer	–	–	–
		Enable Call Forward	✓	✓	Page 116
		Phone Number	✓	✓	Page 117
		Ring Count	✓	✓	Page 117

Menu Item	Section Title	Setting	Access Level[*1]		Ref.
			U	A	
Tone Settings	Dial Tone	Tone Frequencies[*2]		✓	Page 118
		Tone Timings[*2]		✓	Page 118
	Busy Tone	Tone Frequencies[*2]		✓	Page 119
		Tone Timings[*2]		✓	Page 119
	Ringing Tone	Tone Frequencies[*2]		✓	Page 119
		Tone Timings[*2]		✓	Page 120
	Stutter Tone	Tone Frequencies[*2]		✓	Page 120
		Tone Timings[*2]		✓	Page 120
	Reorder Tone	Tone Frequencies[*2]		✓	Page 120
		Tone Timings[*2]		✓	Page 121
	Howler Tone	Tone Frequencies[*2]		✓	Page 121
		Tone Timings[*2]		✓	Page 121
		Start Time[*2]		✓	Page 121
Import Phonebook	Import Phonebook	Handset (or Base Unit)	✓	✓	Page 122
		File Name	✓	✓	Page 122
Export Phonebook	Export Phonebook	Handset (or Base Unit)	✓	✓	Page 123

[*1] The access levels are abbreviated as follows:
U: User; A: Administrator
A check mark indicates that the setting is available for that access level.

[*2] This setting can also be configured through configuration file programming.

[*3] If your phone system dealer allows you these settings, you can see the setting menu. Contact your phone system dealer for further information.

Maintenance

Menu Item	Section Title	Setting	Access Level[*1]		Ref.
			U	A	
Firmware Maintenance	Firmware Maintenance	Enable Firmware Update[*2]		✓	Page 124
		Update Type[*2]		✓	Page 124
		Firmware File URL[*2]		✓	Page 125
Local Firmware Update	Local Firmware Update	Encryption		✓	Page 125
		File Name		✓	Page 126

Menu Item	Section Title	Setting	Access Level[*1]		Ref.
			U	A	
Provisioning Maintenance	Provisioning Maintenance	Enable Provisioning[*2]		✓	Page 126
		Standard File URL[*2]		✓	Page 127
		Product File URL[*2]		✓	Page 127
		Master File URL[*2]		✓	Page 127
		Cyclic Auto Resync[*2]		✓	Page 128
		Resync Interval[*2]		✓	Page 128
		Header Value for Resync Event[*2]		✓	Page 128
Reset to Defaults	–	–		✓	Page 128
Restart	–	–		✓	Page 129

[*1] The access levels are abbreviated as follows:
U: User; A: Administrator
A check mark indicates that the setting is available for that access level.
[*2] This setting can also be configured through configuration file programming.

3.2 Programming Instructions

3.2.1 Before Accessing the Web User Interface

Recommended Environment

This unit supports the following specifications:

HTTP Version	HTTP/1.0 (RFC 1945), HTTP/1.1 (RFC 2616)
Authentication Method	Digest (or Basic)

The Web user interface will operate correctly in the following environments:

Operating System	Microsoft® Windows® XP or Windows Vista® operating system
Web Browser	Internet Explorer® 6.0 (Windows XP only), Internet Explorer 7.0, or Internet Explorer 8.0 internet browser
Language (recommended)	English

Opening/Closing the Web Port

To access the Web user interface, you must open the unit's Web port beforehand. For details, refer to the User Guide on the Panasonic Web site (→ see **Introduction**).

Configuring Settings from the Base Unit (KX-TGP55x only)/Handset

To open the unit's Web port

In cases when buttons/soft key icons are shown in English alphabet

1. **Base unit: [MENU]** (middle soft key) → **[#][5][3][4]**
   Handset: [MENU] (center of joystick) → **[#][5][3][4]**
2. **[▼]/[▲]:** Select "On" for "**Embedded web**" → **[SAVE]**
3. **Base unit: [EXIT]**
   Handset: [OFF]

In cases when buttons/soft key icons are shown in symbols/pictures

1. **Base unit:** (middle soft key) → **[#][5][3][4]**
   Handset: (center of joystick) → **[#][5][3][4]**
2. **[▼]/[▲]:** Select "On" for "**Embedded web**" → **OK**
3. **Base unit: [ ]**
   Handset: [ ]

To close the unit's Web port

In cases when buttons/soft key icons are shown in English alphabet

1. **Base unit: [MENU]** (middle soft key) → **[#][5][3][4]**
   Handset: [MENU] (center of joystick) → **[#][5][3][4]**
2. **[▼]/[▲]:** Select "Off" for "**Embedded web**" → **[SAVE]**
3. **Base unit: [EXIT]**
   Handset: [OFF]

In cases when buttons/soft key icons are shown in symbols/pictures

1. **Base unit:** (middle soft key) → **[#][5][3][4]**
   Handset: (center of joystick) → **[#][5][3][4]**
2. **[▼]/[▲]:** Select "Off" for "**Embedded web**" → **OK**
3. **Base unit: [ ]**
   Handset: [ ]

Configuring Settings from the Web User Interface

To close the unit's Web port

1. In the Web user interface, click **[Web Port Close]**.
2. Click **OK**.

Note

- The Web port of the unit will be closed automatically in the following conditions:
  - The port close timer configured through the Web user interface expires (→ see **[Port Close Timer]** in **3.5.4.1 Web Server Settings**).
  - 3 consecutive unsuccessful login attempts occur.

Access Levels (IDs and Passwords)

2 accounts with different access privileges are provided for accessing the Web user interface: User and Administrator. Each account has its own ID and password, which are required to log in to the Web user interface.

Account	Target User	ID (default)	Password (default)	Password Restrictions
User	End users	user	-blank- (NULL)	• When logged in as User, you can change the password for the User account (→ see **3.5.3 Change User Password**). • The password can consist of 6 to 16 ASCII characters (case-sensitive) (→ see **Entering Characters** in **3.2.2 Accessing the Web User Interface**).
Administrator	Network administrators, etc.	admin	adminpass	• When logged in as Administrator, you can change the password for both the User and Administrator accounts (→ see **3.5.2 Administrator Password**). • The password can consist of 6 to 16 ASCII characters (case-sensitive) (→ see **Entering Characters** in **3.2.2 Accessing the Web User Interface**).

Notice

- Only one account can be logged in to the Web user interface at a time. If you try to access the Web user interface while someone is logged in, you will be denied access.
- You cannot log in to the Web user interface even under the same account as someone who is already logged in.
- The user password is required to change the settings.
- The IDs can be changed through configuration file programming (→ see "**ADMIN_ID**" and "**USER_ID**" in **4.3.1 Login Account Settings**).
- You can reset the account IDs and passwords to their factory default settings by performing Reset Web ID/Password from the base unit or one of the handsets. For details, see **2.1.6 Reset Web ID/ Password**.

3.2.2 Accessing the Web User Interface

The unit can be configured from the Web user interface.

To access the Web user interface

1. Open your Web browser, and then enter "http://" followed by the unit's IP address into the address field of your browser.

   Note

   - To determine the unit's IP address, perform the following operations on the base unit (KX-TGP55x only) or handset:

     In cases when buttons/soft key icons are shown in English alphabet

     1. **Base unit: [MENU]** (middle soft key) → **[#][5][0][1]**
        Handset: [MENU] (center of joystick) → **[#][5][0][1]**
     2. **Base unit: [EXIT]**
        Handset: [OFF]

     In cases when buttons/soft key icons are shown in symbols/pictures

     1. **Base unit:**  (middle soft key) → **[#][5][0][1]**
        Handset:  (center of joystick) → **[#][5][0][1]**
     2. **Base unit: [**  **]**
        Handset: [ **]**

2. For authentication, enter your ID (username) and password, and then click **OK**.

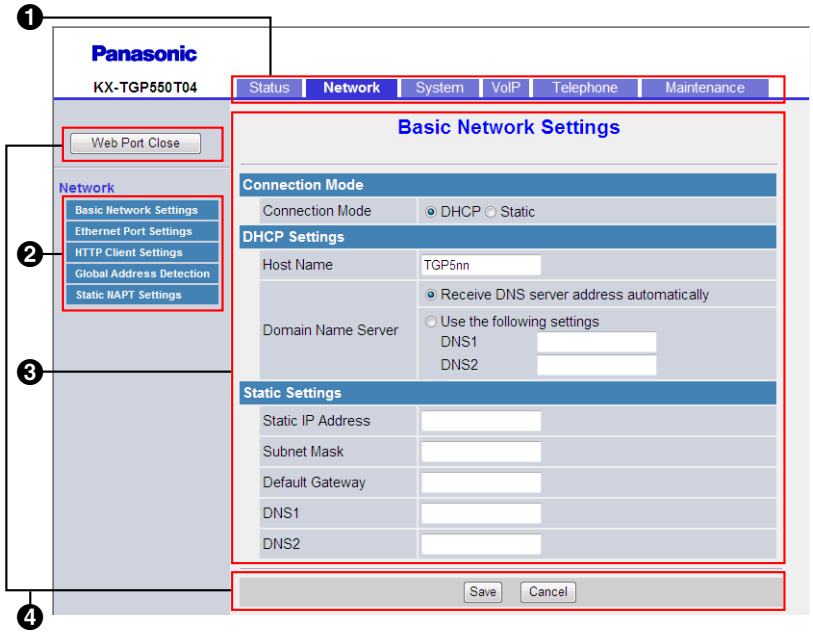
   Notice

   - The default ID for the User account is "user", and the default password is blank. The ID cannot be changed from the Web user interface, but it can be changed through configuration file programming.
   - When you log in as User to the Web user interface for the first time, the **[Change User Password]** screen (→ see **3.5.3 Change User Password**) will be displayed. Enter a new password, and then perform authentication again with the new password to log in to the Web user interface.
   - The default ID for the Administrator account is "admin", and the default password is "adminpass". The ID cannot be changed from the Web user interface, but it can be changed through configuration file programming.

3. The Web user interface window is displayed. Configure the settings for the unit as desired.
4. You can log out from the Web user interface at any time by clicking **[Web Port Close]**.

Controls on the Window

The Web user interface window contains various controls for navigating and configuring settings. The following figure shows the controls that are displayed on the **[Basic Network Settings]** screen as an example:



Note

- The screen shots shown are taken from the Web user interface of the KX-TGP550T04, so the model name may differ from that shown on your PC.
- Actual default values may vary depending on your phone system dealer.
- When you log in to the Web user interface with the User account, the languages of messages displayed on the configuration screen may differ depending on the country/area of use.

❶ **Tabs**

Tabs are the top categories for classifying settings. When you click a tab, the corresponding menu items and the configuration screen of the first menu item appear. There are 6 tabs for the Administrator account and 4 tabs for the User account. For details about the account types, see **Access Levels (IDs and Passwords)** in this section.

❷ **Menu**

The menu displays the sub-categories of the selected tab.

❸ **Configuration Screen**

Clicking a menu displays the corresponding configuration screen, which contains the actual settings, grouped into sections. For details, see **3.3 Status** to **3.8.5 Restart**.

❹ **Buttons**

The following standard buttons are displayed in the Web user interface:

Button	Function
Web Port Close	Closes the Web port of the unit and logs you out of the Web user interface after a confirmation message is displayed.
Save	Applies changes and displays a result message (→ see **Result Messages** in this section).
Cancel	Discards changes. The settings on the current screen will return to the values they had before being changed.

Button	Function
Refresh	Updates the status information displayed on the screen. This button is displayed in the upper-right area of the **[Network Status]** and **[VoIP Status]** screens.

Entering Characters

In the Web user interface, when specifying a name, message, password, or other text item, you can enter any of the ASCII characters displayed in the following table with a white background.

	00	01	02	03	04	05	06	07	08	09	0A	0B	0C	0D	0E	0F
20	SP	!	"	#	$	%	&	'	(	)	*	+	,	-	.	/
30	0	1	2	3	4	5	6	7	8	9	:	;	<	=	>	?
40	@	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
50	P	Q	R	S	T	U	V	W	X	Y	Z	[	\	]	^	_
60	`	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o
70	p	q	r	s	t	u	v	w	x	y	z	{	|	}	~	

However, there are additional limitations for certain types of fields as follows:

- Number field
  - You may only enter a sequence of numeric characters.
  - You cannot leave the field empty.
- IP Address field
  - You can enter the IP address using dotted-decimal notation (i.e., "n.n.n.n" where n=0–255).
  - You cannot enter invalid IP addresses, for example, "0.0.0.0", "255.255.255.255", or "127.0.0.1".
- FQDN field
  - The field cannot contain ", &, ', <, >, or trailing spaces.
  - You can enter the IP address using dotted-decimal notation (i.e., "n.n.n.n" where n=0–255).
  - You cannot enter invalid IP addresses, for example, "0.0.0.0", "255.255.255.255", or "127.0.0.1".
- Authentication ID/Password field
  - The field cannot contain ", &, ', :, <, >, or space.
  - The length of user password and administrator password must be from 6 to 16 characters.
- Display Name field (→ see **[Display Name]** in **3.7.3.1 Call Control**)
  - This is the only field in which you can enter Unicode characters.

Result Messages

When you click **[Save]** after changing the settings on the current configuration screen, one of the following messages will appear in the upper-left area of the current configuration screen:

Result Message	Description	Applicable Screens
Complete	The operation has successfully completed.	All screens except **3.7.6 Export Phonebook**
Failed (Parameter Error)	The operation failed because: • Some specified values are out of range or invalid.	All screens
Failed (Memory Access Failure)	The operation failed because: • Access error to the flash memory occurred while reading or writing the data.	All screens
Failed (Transfer Failure)*1	The operation failed because: • A network error occurred during the data transmission.	All screens
Failed (Busy)	The operation failed because: • The base unit or handset is in an operation that accesses the flash memory of the base unit.	All screens
	• When attempting to import/export the phonebook data, the base unit (KX-TGP55x only) or handset is on a call. • While transferring the phonebook data, a call arrived at the base unit (KX-TGP55x only) or handset. • When attempting to import/export the phonebook data, a menu operation that communicates with the base unit is being performed on the target handset.	**3.7.5 Import Phonebook** **3.7.6 Export Phonebook**
	• When updating the firmware, the base unit or handset is on a call.	**3.8.2 Local Firmware Update**

Result Message	Description	Applicable Screens
Failed (Canceled)	The operation failed because: • While transferring the phonebook data, – The following key was pressed on the handset. **In cases when buttons/soft key icons are shown in English alphabet** **[OFF]** **In cases when buttons/soft key icons are shown in symbols/ pictures** **[ ]** – IP Reset was performed on the base unit (KX-TGP55x only) or handset.	**3.7.5 Import Phonebook**
	• While transferring the firmware file, IP Reset was performed on the base unit (KX-TGP55x only) or handset.	**3.8.2 Local Firmware Update**
	• While transferring the phonebook data, – The following key was pressed on the base unit (KX-TGP55x only) or handset. **In cases when buttons/soft key icons are shown in English alphabet** **Base unit: [EXIT]** **Handset: [OFF]** **In cases when buttons/soft key icons are shown in symbols/ pictures** **Base unit: [ ]** **Handset: [ ]** – IP Reset was performed on the base unit (KX-TGP55x only) or handset.	**3.7.6 Export Phonebook**
	• While transferring the phonebook data, the connection with the base unit (KX-TGP55x only) or handset was interrupted.	**3.7.5 Import Phonebook** **3.7.6 Export Phonebook**
Failed (Invalid File)	The operation failed because: • The imported UTF-16 text file has an invalid BOM (Byte-order Mark).	**3.7.5 Import Phonebook**
	• The firmware file is corrupted or invalid.	**3.8.2 Local Firmware Update**

Result Message	Description	Applicable Screens
Failed (File Size Error)	The operation failed because: • The size of the imported phonebook is too large.	**3.7.5 Import Phonebook**
	• The size of the firmware file is insufficient.	**3.8.2 Local Firmware Update**
Failed (No Handset, or Busy)	The operation failed because: • When attempting to import/export the phonebook data, the handset had not been registered yet, or the connection with the base unit (KX-TGP55x only) or handset has been disconnected. • When attempting to import/export the phonebook data, a menu operation was being performed on the handset, preventing communication with the base unit.	**3.7.5 Import Phonebook** **3.7.6 Export Phonebook**
Memory Full	The operation failed because: • When attempting to import the phonebook data, the total number of phonebook entries, including the existing entries, exceeds the limit (of up to 100 entries).	**3.7.5 Import Phonebook**
No Data	The operation failed because: • The imported phonebook file contains no valid phonebook entries.	**3.7.5 Import Phonebook**
	• No phonebook entry is registered in the export source base unit (KX-TGP55x only) or handset.	**3.7.6 Export Phonebook**

*1 "Failed (Transfer Failure)" may not be displayed depending on your Web browser.

Notice

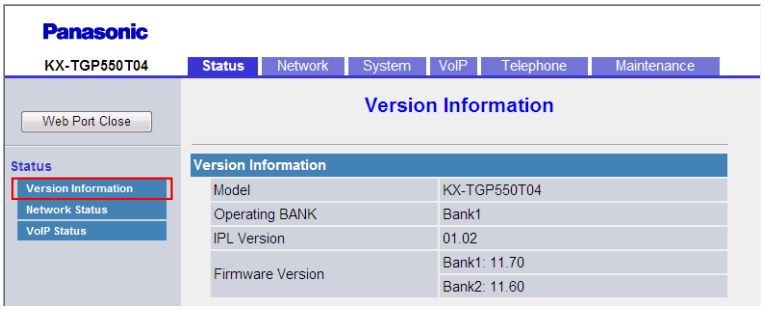
- Do not click the navigation buttons of your Web browser or open a new window to display the screen. Otherwise, an error ("403 Forbidden") will occur when you click **[Save]**.

3.3 Status

This section provides detailed descriptions about all the settings classified under the **[Status]** tab.

3.3.1 Version Information

This screen allows you to view the current version information such as the model number and the firmware version of the unit.



3.3.1.1 Version Information

Model

Description	Indicates the model number of the unit (reference only).
Value Range	Model number
Default Value	Current model number

Operating BANK

Description	Indicates the storage area of the firmware that is currently operating (reference only).
Value Range	• Bank1 • Bank2
Default Value	Not applicable.

IPL Version

Description	Indicates the version of the IPL (Initial Program Load) that runs when starting the unit (reference only).
Value Range	IPL version ("nn.nn" [n=0–9])
Default Value	Current IPL version

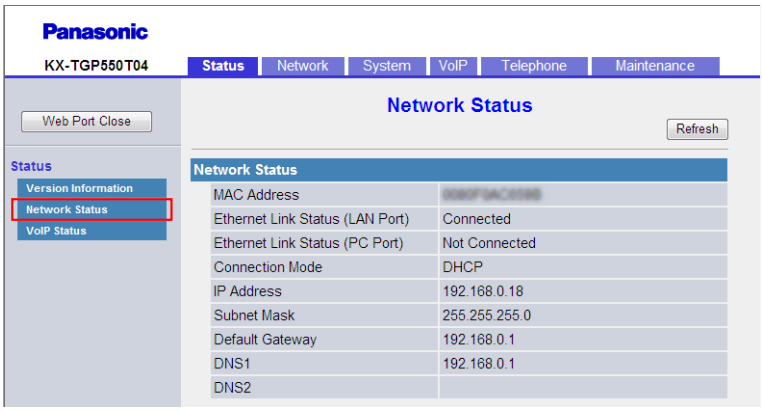
Firmware Version

Description	Indicates the version of the firmware that is currently installed on the unit (reference only).
Value Range	Bank1 (Bank2): Firmware version ("nn.nn" [n=0–9])

Default Value	Current firmware version

3.3.2 Network Status

This screen allows you to view the current network information of the unit, such as the MAC address, IP address, Ethernet port status, etc.
Clicking **[Refresh]** updates the information displayed on the screen.



3.3.2.1 Network Status

MAC Address

Description	Indicates the MAC address of the unit (reference only).
Value Range	Not applicable.
Default Value	Default MAC address (example: 0080F0ABCDEF)

Ethernet Link Status (LAN Port)

Description	Indicates the current connection status of the Ethernet LAN port (reference only).
Value Range	• Connected • Not connected
Default Value	Not applicable.

Ethernet Link Status (PC Port) (KX-TGP55x only)

Description	Indicates the current connection status of the Ethernet PC port (reference only).
Value Range	• Connected • Not connected
Default Value	Not applicable.

Connection Mode

Description	Indicates whether the IP address of the unit is assigned automatically (DHCP) or manually (static) (reference only).
Value Range	• DHCP • Static
Default Value	Not applicable.

IP Address

Description	Indicates the currently assigned IP address of the unit (reference only).
Value Range	IP address
Default Value	Current IP address

Subnet Mask

Description	Indicates the specified subnet mask for the unit (reference only).
Value Range	Subnet mask
Default Value	Current subnet mask

Default Gateway

Description	Indicates the specified IP address of the default gateway for the network (reference only). **Note** • If the default gateway address is not specified, this field will be left blank.
Value Range	IP address of the default gateway
Default Value	Not applicable.

DNS1

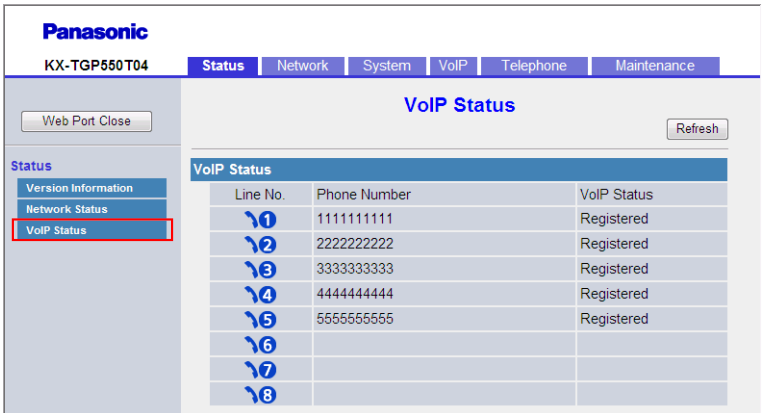
Description	Indicates the specified IP address of the primary DNS server (reference only). **Note** • If the primary DNS server address is not specified, this field will be left blank.
Value Range	IP address of the primary DNS server
Default Value	Not applicable.

DNS2

Description	Indicates the specified IP address of the secondary DNS server (reference only). **Note** • If the secondary DNS server address is not specified, this field will be left blank.
Value Range	IP address of the secondary DNS server
Default Value	Not applicable.

3.3.3 VoIP Status

This screen allows you to view the current VoIP status of each line's unit.
Clicking **[Refresh]** updates the information displayed on the screen.



3.3.3.1 VoIP Status

Line No.

Description	Indicates the line number (1–8) to which a phone number is assigned (reference only).
Value Range	Line 1–Line 8
Default Value	Not applicable.

Phone Number

Description	Indicates the currently assigned phone numbers (reference only). **Note** • The corresponding field is blank if a line has not yet been leased or if the unit has not been configured.
Value Range	Max. 24 digits

Default Value	Not applicable.

VoIP Status

Description	Indicates the current VoIP status of each line (reference only).
Value Range	• Registered: The unit has been registered to the SIP server, and the line can be used. • Registering: The unit is being registered to the SIP server, and the line cannot be used. • Blank: The line has not been leased, or the unit has not been configured yet. **Note** • Immediately after starting up the unit, the phone numbers of the lines will be displayed, but the status of the line may not be displayed because the unit is still being registered to the SIP server. To display the status, wait about 30 to 60 seconds, and then click **[Refresh]** to obtain updated status information.
Default Value	Not applicable.

3.4 Network

This section provides detailed descriptions about all the settings classified under the **[Network]** tab.

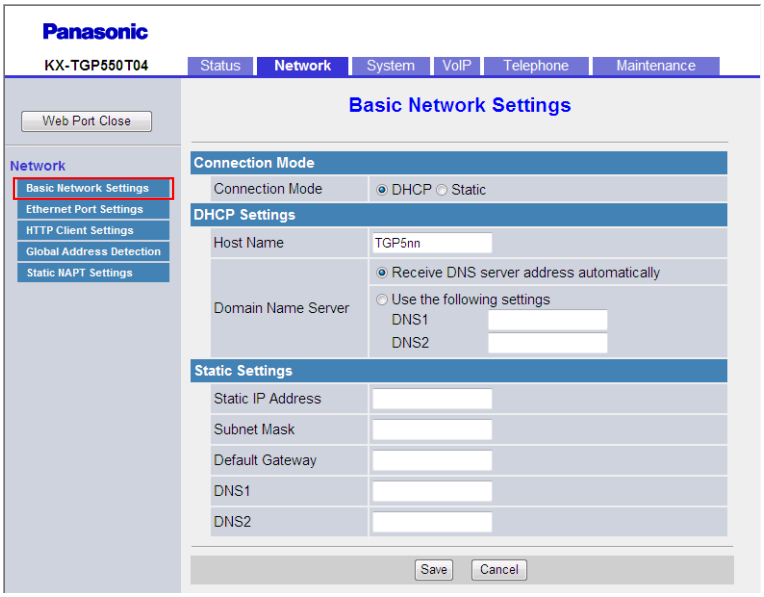
3.4.1 Basic Network Settings

This screen allows you to change basic network settings such as whether to use a DHCP server, and the IP address of the unit.

Note

- Changes to the settings on this screen are applied when the message "Complete" appears after clicking **[Save]**. Because the IP address of the unit will probably be changed if you change these settings, you will not be able to continue using the Web user interface. To continue configuring the unit from the Web user interface, log in to the Web user interface again after confirming the newly assigned IP address of the unit using the phone user interface. In addition, if the IP address of the PC from which you try to access the Web user interface has been changed, close the Web port once by selecting "**Off**" for

"**Embedded web**" on the base unit (KX-TGP55x only) or handset (→ see **Opening/Closing the Web Port** in **3.2.1 Before Accessing the Web User Interface**).



3.4.1.1 Connection Mode

Connection Mode

Description	Selects whether to assign the IP address automatically (DHCP) or manually (static).
Value Range	• DHCP • Static
Default Value	DHCP
Phone User Interface Reference	Configuring Settings from the Base Unit (KX-TGP55x only)/Handset (Page 17)
Configuration File Reference	CONNECTION_TYPE (Page 157)

3.4.1.2 DHCP Settings

Host Name

Description	Specifies the host name for the unit to send to the DHCP server. **Note** • This setting is available only when **[Connection Mode]** is set to **[DHCP]**.
Value Range	Max. 63 characters **Note** • You cannot leave this field empty.

Default Value	Model number (example: TGP5nn)
Configuration File Reference	HOST_NAME (Page 158)

Domain Name Server

Description	Selects whether to receive DNS server addresses automatically or to assign a DNS server addresses (up to 2) manually. **Note** • This setting is available only when **[Connection Mode]** is set to **[DHCP]**.
Value Range	• Receive DNS server address automatically • Use the following settings – DNS1 – DNS2 **Note** • If you select **[Use the following settings]**, specify the IP address(es) of the primary and, if necessary, secondary DNS server(s) manually. The permissible values are: Max. 15 characters ("n.n.n.n" [n=0–255], except "0.0.0.0", "255.255.255.255", "127.0.0.1", etc.)
Default Value	Receive DNS server address automatically
Phone User Interface Reference	Configuring Settings from the Base Unit (KX-TGP55x only)/Handset (Page 17)
Configuration File Reference	DHCP_DNS_ENABLE (Page 158)

3.4.1.3 Static Settings

Static IP Address

Description	Specifies the IP address for the unit. **Note** • This setting is available only when **[Connection Mode]** is set to **[Static]**.
Value Range	Max. 15 characters ("n.n.n.n" [n=0–255], except "0.0.0.0", "255.255.255.255", "127.0.0.1", etc.)
Default Value	Not stored.
Phone User Interface Reference	Configuring Settings from the Base Unit (KX-TGP55x only)/Handset (Page 17)
Configuration File Reference	STATIC_IP_ADDRESS (Page 158)

Subnet Mask

Description	Specifies the subnet mask for the unit. **Note** • This setting is available only when **[Connection Mode]** is set to **[Static]**.
Value Range	Max. 15 characters ("n.n.n.n" [n=0–255], except "0.0.0.0", "255.255.255.255", "127.0.0.1", etc.)
Default Value	Not stored.
Phone User Interface Reference	Configuring Settings from the Base Unit (KX-TGP55x only)/Handset (Page 17)
Configuration File Reference	STATIC_SUBNET (Page 159)

Default Gateway

Description	Specifies the IP address of the default gateway for the network where the unit is connected. **Note** • This setting is available only when **[Connection Mode]** is set to **[Static]**.
Value Range	Max. 15 characters ("n.n.n.n" [n=0–255], except "0.0.0.0", "255.255.255.255", "127.0.0.1", etc.)
Default Value	Not stored.
Phone User Interface Reference	Configuring Settings from the Base Unit (KX-TGP55x only)/Handset (Page 17)
Configuration File Reference	STATIC_GATEWAY (Page 159)

DNS1

Description	Specifies the IP address of the primary DNS server. **Note** • This setting is available only when **[Connection Mode]** is set to **[Static]**.
Value Range	Max. 15 characters ("n.n.n.n" [n=0–255], except "0.0.0.0", "255.255.255.255", "127.0.0.1", etc.)
Default Value	Not stored.
Phone User Interface Reference	Configuring Settings from the Base Unit (KX-TGP55x only)/Handset (Page 17)
Configuration File Reference	USER_DNS1_ADDR (Page 160)

DNS2

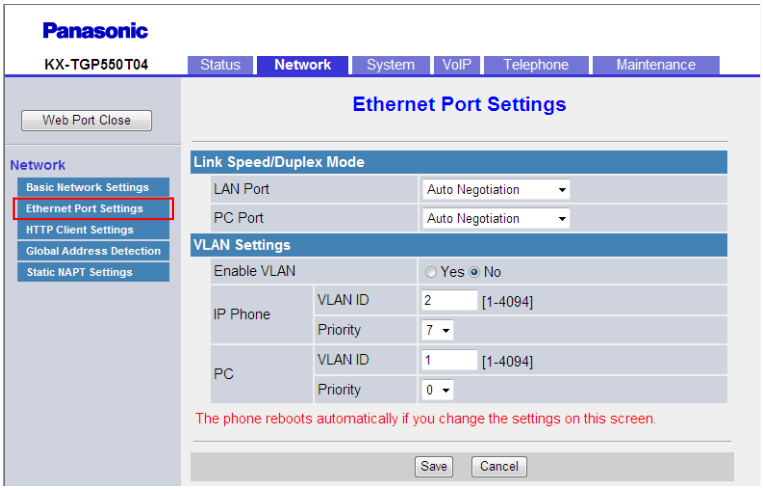
Description	Specifies the IP address of the secondary DNS server. **Note** • This setting is available only when **[Connection Mode]** is set to **[Static]**.
Value Range	Max. 15 characters ("n.n.n.n" [n=0–255], except "0.0.0.0", "255.255.255.255", "127.0.0.1", etc.)
Default Value	Not stored.
Phone User Interface Reference	Configuring Settings from the Base Unit (KX-TGP55x only)/Handset (Page 17)
Configuration File Reference	USER_DNS2_ADDR (Page 160)

3.4.2 Ethernet Port Settings

This screen allows you to change the connection mode of the Ethernet ports and the VLAN settings.

Note

- When you change the settings on this screen and click **[Save]**, after the message "Complete" has been displayed, the base unit will restart automatically with the new settings applied. If a unit is on a call when "Complete" has been displayed, the base unit will restart after the unit returns to idle.
- Incorrect settings may cause a network failure. In such a case, you cannot access the Web user interface anymore. To access it again, you need to correct the speed/duplex settings (→ see **2.1.2 Speed/Duplex Settings**) or perform IP Reset (→ see **2.1.4 IP Reset**) through phone user interface programming.



3.4.2.1 Link Speed/Duplex Mode

LAN Port

Description	Selects the connection mode (link speed and duplex mode) of the LAN port.

Value Range	• Auto Negotiation • 100 Mbps/Full Duplex • 100 Mbps/Half Duplex • 10 Mbps/Full Duplex • 10 Mbps/Half Duplex
Default Value	Auto Negotiation
Phone User Interface Reference	2.1.2 Speed/Duplex Settings (Page 36)

PC Port (KX-TGP55x only)

Description	Selects the connection mode (link speed and duplex mode) of the PC port.
Value Range	• Auto Negotiation • 100 Mbps/Full Duplex • 100 Mbps/Half Duplex • 10 Mbps/Full Duplex • 10 Mbps/Half Duplex
Default Value	Auto Negotiation
Phone User Interface Reference	2.1.2 Speed/Duplex Settings (Page 36)

3.4.2.2 VLAN Settings

Enable VLAN

Description	Selects whether to use the VLAN feature to perform VoIP communication securely.
Value Range	• Yes • No
Default Value	No
Phone User Interface Reference	2.1.3 VLAN Settings (KX-TGP55x only) (Page 37)
Configuration File Reference	VLAN_ENABLE (Page 162)

IP Phone (VLAN ID)

Description	Specifies the VLAN ID for this unit.
Value Range	1–4094
Default Value	2
Phone User Interface Reference	2.1.3 VLAN Settings (KX-TGP55x only) (Page 37)

Configuration File Reference	VLAN_ID_IP_PHONE (Page 162)

IP Phone (Priority)

Description	Selects the priority number for the unit.
Value Range	0–7
Default Value	7
Phone User Interface Reference	2.1.3 VLAN Settings (KX-TGP55x only) (Page 37)
Configuration File Reference	VLAN_PRI_IP_PHONE (Page 162)

PC (VLAN ID) (KX-TGP55x only)

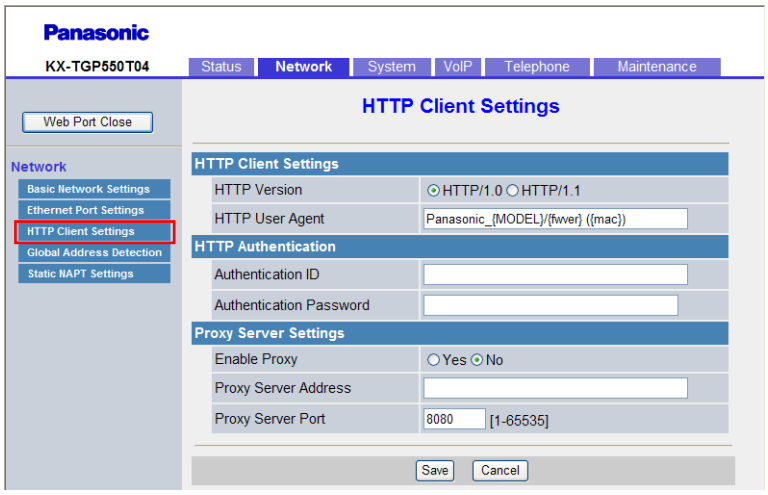
Description	Specifies the VLAN ID for the PC.
Value Range	1–4094
Default Value	1
Phone User Interface Reference	2.1.3 VLAN Settings (KX-TGP55x only) (Page 37)
Configuration File Reference	VLAN_ID_PC (KX-TGP55x only) (Page 163)

PC (Priority) (KX-TGP55x only)

Description	Selects the priority number for the PC.
Value Range	0–7
Default Value	0
Phone User Interface Reference	2.1.3 VLAN Settings (KX-TGP55x only) (Page 37)
Configuration File Reference	VLAN_PRI_PC (KX-TGP55x only) (Page 163)

3.4.3 HTTP Client Settings

This screen allows you to change the HTTP client settings for the unit in order to access the HTTP server of your phone system and download configuration files.



3.4.3.1 HTTP Client Settings

HTTP Version

Description	Selects which version of the HTTP protocol to use for HTTP communication.
Value Range	• HTTP/1.0 • HTTP/1.1 **Note** • For this unit, it is strongly recommended that you select **[HTTP/1.0]**. However, if the HTTP server does not function well with HTTP/1.0, try changing the setting **[HTTP/1.1]**.
Default Value	HTTP/1.0
Configuration File Reference	HTTP_VER (Page 164)

HTTP User Agent

Description	Specifies the text string to send as the user agent in the header of HTTP requests.

Value Range	Max. 40 characters **Note** • You cannot leave this field empty. • If "{mac}" is included in this field, it will be replaced with the unit's MAC address in lower-case. • If "{MAC}" is included in this field, it will be replaced with the unit's MAC address in upper-case. • If "{MODEL}" is included in this field, it will be replaced with the unit's model name. • If "{fwver}" is included in this field, it will be replaced with the firmware version of the unit.
Default Value	Panasonic_{MODEL}/{fwver} ({mac})
Configuration File Reference	HTTP_USER_AGENT (Page 164)

3.4.3.2 HTTP Authentication

Authentication ID

Description	Specifies the authentication ID required to access the HTTP server.
Value Range	Max. 64 characters (except ", &, ', :, <, >, and space)
Default Value	Not stored.

Authentication Password

Description	Specifies the authentication password used to access the HTTP server.
Value Range	Max. 64 characters (except ", &, ', :, <, >, and space)
Default Value	Not stored.

3.4.3.3 Proxy Server Settings

Enable Proxy

Description	Selects whether to use the proxy server.
Value Range	• Yes • No
Default Value	No

Proxy Server Address

Description	Specifies the IP address or FQDN of the proxy server.

Value Range	Max. 127 characters **Note** • You cannot leave this field empty if **[Enable Proxy]** is set to **[Yes]**.
Default Value	Not stored.

Proxy Server Port

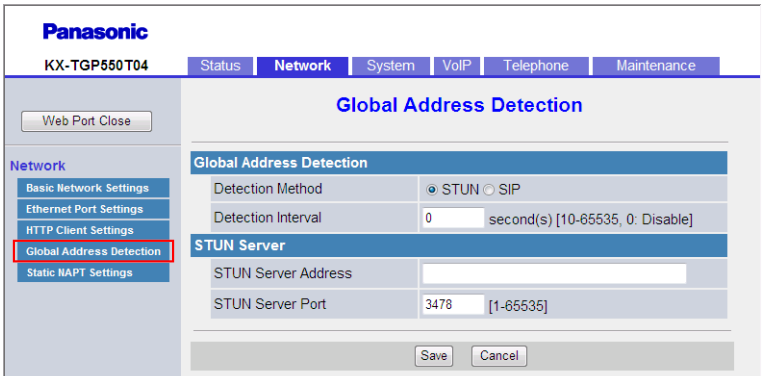
Description	Specifies the port number of the proxy server.
Value Range	1–65535
Default Value	8080

3.4.4 Global Address Detection

This screen allows you to configure the Global Address Detection feature and STUN server settings. The global IP address of the network the unit is connected to will be detected periodically. If the global IP address has changed, the new address will be registered to the SIP server.

Note

- If the unit is connected directly to the Internet, or the network global address is static (i.e., does not change), you do not need to configure Global Address Detection.



3.4.4.1 Global Address Detection

Detection Method

Description	Selects the method to use for detecting the global IP address.
Value Range	• STUN • SIP
Default Value	STUN

Detection Interval

Description	Specifies the interval, in seconds, to wait between attempts to detect the global IP address.
Value Range	0, 10–65535 (0: Disable) **Note** • When **[Detection Method]** is set to **[SIP]**, the value "0" disables detection and a value other than "0" enables detection.
Default Value	0

3.4.4.2 STUN Server

STUN Server Address

Description	Specifies the IP address or FQDN of the STUN server.
Value Range	Max. 127 characters
Default Value	Not stored.
Configuration File Reference	STUN_SERV_ADDR (Page 166)

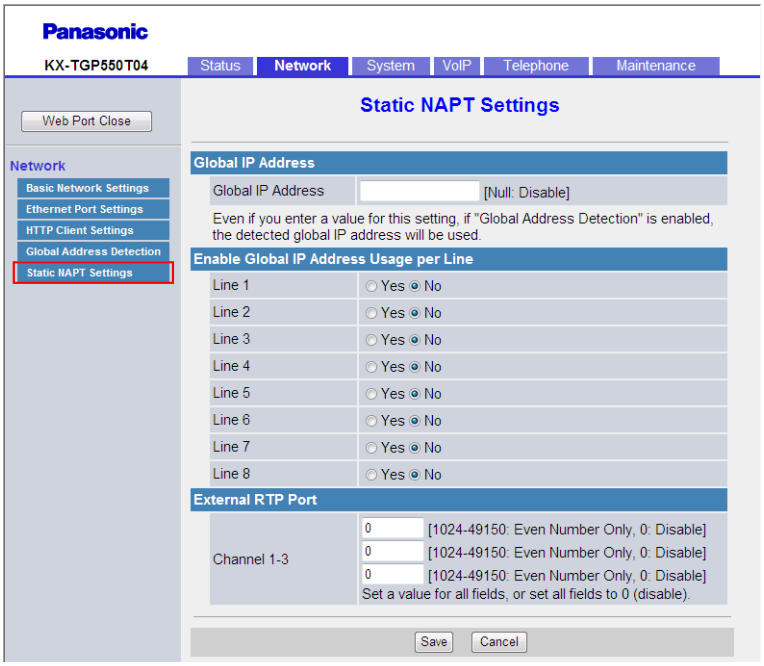
STUN Server Port

Description	Specifies the port number of the STUN server.
Value Range	1–65535
Default Value	3478
Configuration File Reference	STUN_SERV_PORT (Page 167)

3.4.5 Static NAPT Settings

This screen allows you to configure the NAPT (Network Address Port Translation) settings. If the unit is connected behind a router that uses NAT/NAPT to translate private IP addresses, global IP addresses, VoIP

packets might be blocked by the router, depending on the SIP server. To avoid this problem, this setting is required. For details, see **1.1.10.2 NAT (Network Address Translation) Setup**.



3.4.5.1 Global IP Address

Global IP Address

Description	Specifies the global IP address of your network. **Note** • You must enter a value in this field if at least 1 of **[Line 1]**–**[Line 8]** is set to **[Yes]**, or when port numbers are specified in **[Channel 1–3]**. • The global IP address will reflect SIP messages and RTP packets.
Value Range	IP address in dotted-decimal notation ("n.n.n.n" [n=0-255])
Default Value	Not stored.

3.4.5.2 Enable Global IP Address Usage per Line

Line 1–Line 8

Description	Selects whether to enable the NAT Traversal feature for each line.
Value Range	• Yes • No
Default Value	No

3.4.5.3 External RTP Port

Channel 1–3

Description	Specifies the external RTP port number used for voice communication for each channel.
Value Range	0, 1024–49150 (0: Disable, even number only) **Note** • Each channel must be set to a unique port number, and all port numbers must be an even number. • You cannot specify here the same port number as any of the port numbers specified for the individual lines in **[Source Port]** in **3.6.2.5 SIP Source Port**. In addition, you cannot specify a port number that is 1 less than a port number specified in **[Source Port]** if the source port number is an odd number. • All 3 channels must be set to either enable or disable at the same time.
Default Value	0

3.5 System

This section provides detailed descriptions about all the settings classified under the **[System]** tab.

3.5.1 Web Language

This screen allows you to select the language used for the Web user interface. The language setting is only applicable when you log in to the Web user interface as User.

Note

- If you change the language while logged in to the Web user interface with the User account, the language will be changed after the message "Complete" is displayed. If you are logged in with the Administrator account, the language will be changed when a user logs in to the Web user interface as User.
- The language used for the Web user interface for the Administrator account is always English.
- The language used for the handsets (or the base unit [KX-TGP55x only]) remains unchanged even if the language for the Web user interface is changed.

3.5.1.1 Web Language

Language

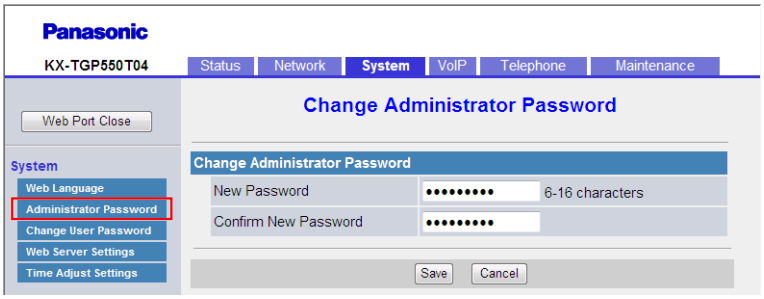
Description	Selects the language used for the Web user interface when logged in with the User account.
Value Range	• English (US) • English (UK) • Other languages **Note** • The available languages may differ depending on the country/area of use.
Default Value	English (US) English (UK) **Note** • The default is one of these, depending on the country/area of use.

3.5.2 Administrator Password

This screen allows you to change the password used to authenticate the Administrator account when logging in to the Web user interface.

Note

- For security reasons, the characters entered for the password are masked by special characters, which differ depending on the Web browser.
- After you change the administrator password, the next time you access the Web user interface, the authentication dialog box appears. 2 consecutive login failures will result in an error ("401 Unauthorized"). This restriction only applies the first time you attempt to log in after changing the password. In all other circumstances, an error occurs after 3 unsuccessful login attempts.



3.5.2.1 Change Administrator Password

New Password

Description	Specifies the password to use to authenticate the Administrator account when logging in to the Web user interface.

Value Range	6–16 characters (except ", &, ', :, <, >, and space)
Default Value	adminpass
Configuration File Reference	ADMIN_PASS (Page 141)

Confirm New Password

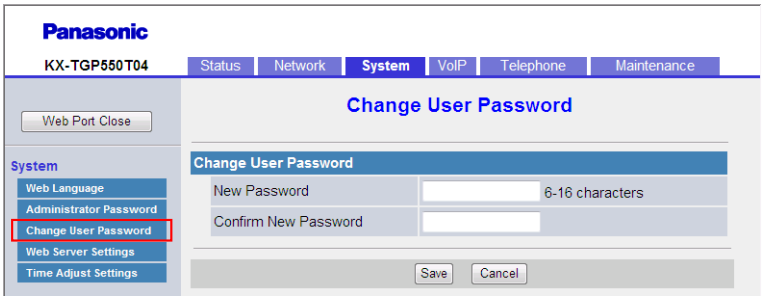
Description	Specifies the same password that you entered in **[New Password]** for confirmation.
Value Range	6–16 characters (except ", &, ', :, <, >, and space) **Note** • This value must be the same as the value entered in **[New Password]**.
Default Value	adminpass
Configuration File Reference	ADMIN_PASS (Page 141)

3.5.3 Change User Password

This screen allows you to change the password used to authenticate the User account when logging in to the Web user interface.

Note

- For security reasons, the characters entered for the password are masked by special characters, which differ depending on the Web browser.
- After you change the user password, the next time you access the Web user interface, the authentication dialog box appears. 2 consecutive login failures will result in an error ("401 Unauthorized"). This restriction only applies the first time you attempt to log in after changing the password. In all other circumstances, an error occurs after 3 unsuccessful login attempts.



3.5.3.1 Change User Password

New Password

Description	Specifies the password to use to authenticate the User account when logging in to the Web user interface.
Value Range	6–16 characters (except ", &, ', :, <, >, and space)

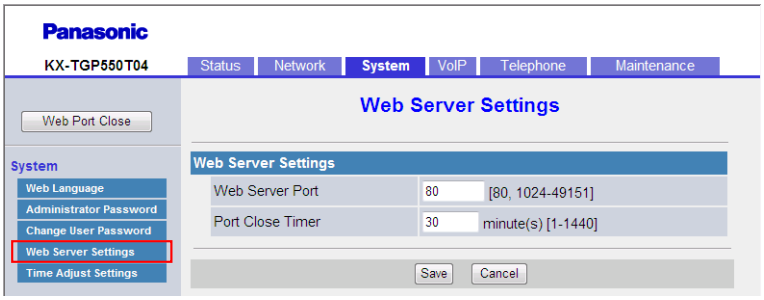
Default Value	Not stored. **Note** • When a user logs in to the Web user interface for the first time, after clicking **OK** on the authentication dialog box, the **[Change User Password]** screen is displayed automatically to make the user set a password.
Configuration File Reference	USER_PASS (Page 142)

Confirm New Password

Description	Specifies the same password that you entered in **[New Password]** for confirmation.
Value Range	6–16 characters (except ", &, ', :, <, >, and space) **Note** • This value must be the same as the value entered in **[New Password]**.
Default Value	Not stored.
Configuration File Reference	USER_PASS (Page 142)

3.5.4 Web Server Settings

This screen allows you to change the Web server settings.



3.5.4.1 Web Server Settings

Web Server Port

Description	Specifies the port number used by the Web server.
Value Range	80, 1024–49151 **Note** • You cannot specify here the same port number as any of the port numbers specified for the individual lines in **[Source Port]** in **3.6.2.5 SIP Source Port**.

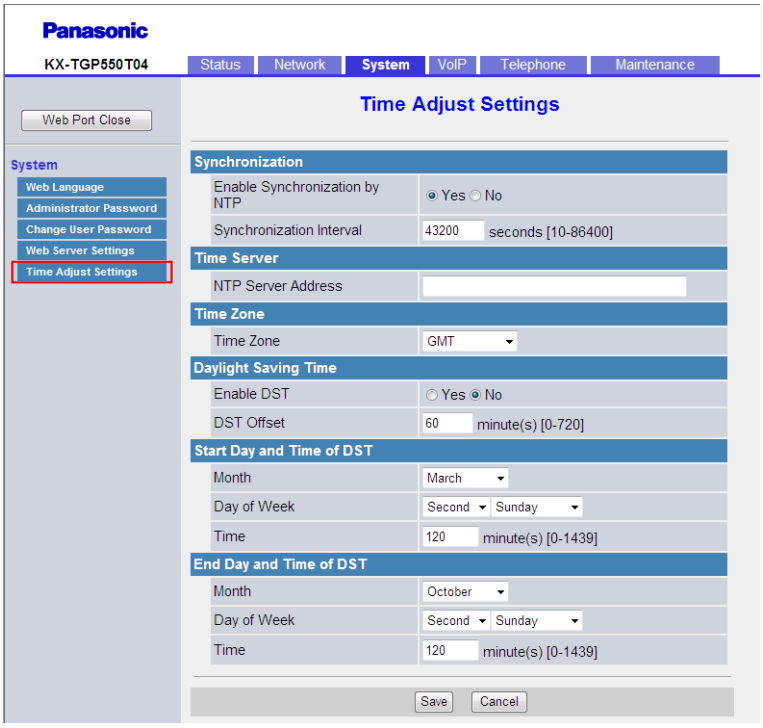
Default Value	80 **Note** • When you change the default value of the port number to a value other than "80", such as "8080", enter the URL for accessing the Web user interface using the following format: "http://192.168.0.100:8080/" (192.168.0.100: IP address of the unit)

Port Close Timer

Description	Specifies the length of time, in minutes, to keep the Web port open when there has been no communication between the unit and the PC. If the specified length of time elapses without any communication, the Web port closes automatically. Communication is detected when you click a tab, menu item, the **[Save]** button, or by reloading the application or pressing the F5 key.
Value Range	1–1440
Default Value	30

3.5.5 Time Adjust Settings

This screen allows you to enable automatic clock adjustment using an NTP server and configure the settings for DST (Daylight Saving Time), also known as Summer Time.



3.5.5.1 Synchronization

Enable Synchronization by NTP

Description	Selects whether to enable the unit to automatically adjust its clock according to the time information provided by an NTP server.
Value Range	• Yes • No **Note** • Even if you select **[Yes]**, this feature will not function properly if the NTP server address setting is invalid.
Default Value	Yes

Synchronization Interval

Description	Specifies the interval, in seconds, between synchronizations with the NTP server.
Value Range	10–86400
Default Value	43200
Configuration File Reference	TIME_QUERY_INTVL (Page 166)

3.5.5.2 Time Server

NTP Server Address

Description	Specifies the IP address or FQDN of the NTP server.
Value Range	Max. 127 characters
Default Value	Not stored.
Configuration File Reference	NTP_ADDR (Page 166)

3.5.5.3 Time Zone

Time Zone

Description	Selects your time zone.
Value Range	GMT -12:00–GMT +13:00
Default Value	GMT
Configuration File Reference	TIME_ZONE (Page 142)

3.5.5.4 Daylight Saving Time (Summer Time)

Enable DST (Enable Summer Time)

Description	Selects whether to enable DST (Summer Time).
Value Range	• Yes • No
Default Value	No
Configuration File Reference	DST_ENABLE (Page 143)

DST Offset (Summer Time Offset)

Description	Specifies the amount of time, in minutes, to change the time when **[Enable DST (Enable Summer Time)]** is set to **[Yes]**.
Value Range	0–720
Default Value	60
Configuration File Reference	DST_OFFSET (Page 143)

3.5.5.5 Start Day and Time of DST (Start Day and Time of Summer Time)

Month

Description	Selects the month in which DST (Summer Time) starts.
Value Range	• January • February • March • April • May • June • July • August • September • October • November • December
Default Value	March
Configuration File Reference	DST_START_MONTH (Page 144)

Day of Week

Using the 2 following settings, specify on which day of the selected month DST (Summer Time) starts. For example, to specify the second Sunday, select **[Second]** and **[Sunday]**.

Description	Selects the number of the week on which DST (Summer Time) starts.
Value Range	• First • Second • Third • Fourth • Last
Default Value	Second
Configuration File Reference	DST_START_ORDINAL_DAY (Page 144)

Description	Selects the day of the week on which DST (Summer Time) starts.
Value Range	• Sunday • Monday • Tuesday • Wednesday • Thursday • Friday • Saturday
Default Value	Sunday
Configuration File Reference	DST_START_DAY_OF_WEEK (Page 144)

Time

Description	Specifies the start time of DST (Summer Time) in minutes after 12:00 AM.
Value Range	0–1439
Default Value	120
Configuration File Reference	DST_START_TIME (Page 145)

3.5.5.6 End Day and Time of DST (End Day and Time of Summer Time)

Month

Description	Selects the month in which DST (Summer Time) ends.

Value Range	• January • February • March • April • May • June • July • August • September • October • November • December
Default Value	October
Configuration File Reference	DST_STOP_MONTH (Page 145)

Day of Week

Using the 2 following settings, specify on which day of the selected month DST (Summer Time) ends. For example, to specify the second Sunday, select **[Second]** and **[Sunday]**.

Description	Selects the number of the week on which DST (Summer Time) ends.
Value Range	• First • Second • Third • Fourth • Last
Default Value	Second
Configuration File Reference	DST_STOP_ORDINAL_DAY (Page 145)

Description	Selects the day of the week on which DST (Summer Time) ends.
Value Range	• Sunday • Monday • Tuesday • Wednesday • Thursday • Friday • Saturday
Default Value	Sunday
Configuration File Reference	DST_STOP_DAY_OF_WEEK (Page 145)

Time

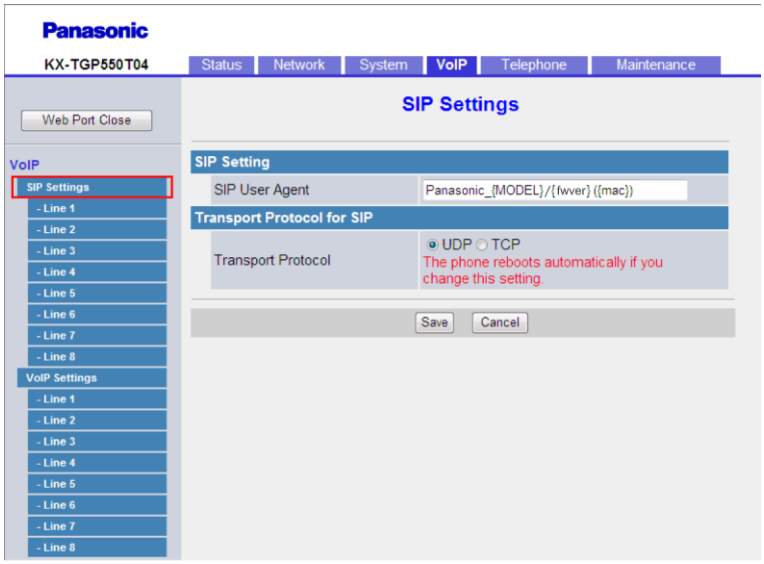
Description	Specifies the end time of DST (Summer Time) in minutes after 12:00 AM.
Value Range	0–1439
Default Value	120
Configuration File Reference	DST_STOP_TIME (Page 146)

3.6 VoIP

This section provides detailed descriptions about all the settings classified under the **[VoIP]** tab.

3.6.1 SIP Settings

This screen allows you to change the SIP settings that are common to all lines.



3.6.1.1 SIP Setting

SIP User Agent

Description	Specifies the text string to send as the user agent in the headers of SIP messages.

Value Range	Max. 40 characters **Note** • You cannot leave this field empty. • If "{mac}" is included in this field, it will be replaced with the unit's MAC address in lower-case. • If "{MAC}" is included in this field, it will be replaced with the unit's MAC address in upper-case. • If "{MODEL}" is included in this field, it will be replaced with the unit's model name. • If "{fwver}" is included in this field, it will be replaced with the firmware version of the unit.
Default Value	Panasonic_{MODEL}/{fwver} ({mac})
Configuration File Reference	SIP_USER_AGENT (Page 188)

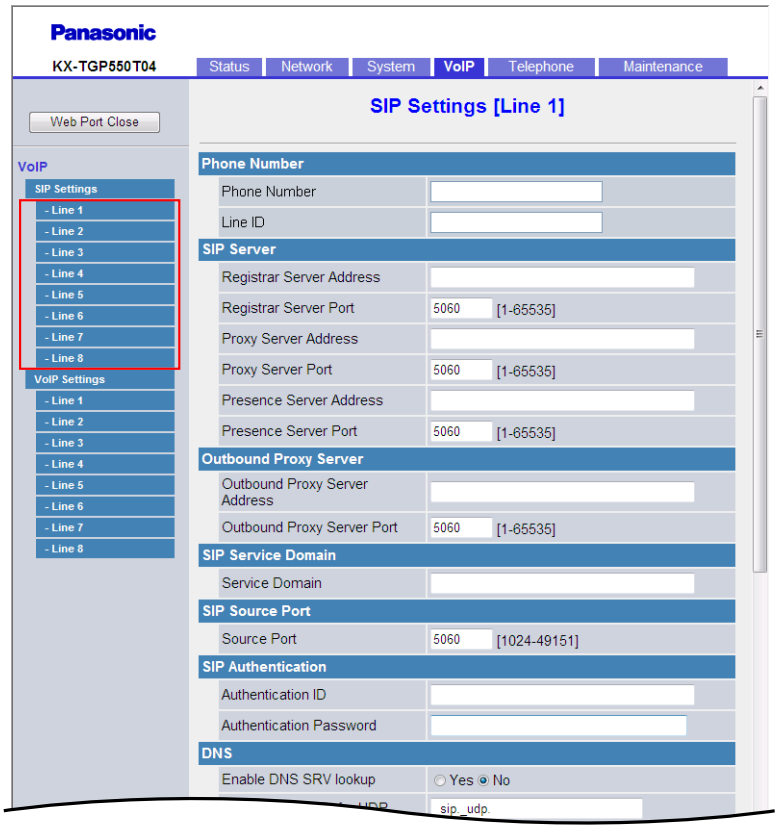
3.6.1.2 Transport Protocol for SIP

Transport Protocol

Description	Selects which transport layer protocol to use for sending SIP packets. **Note** • If you change this setting, the unit will restart automatically once the message "Complete" appears. If the unit is on a call, it will restart after it returns to idle.
Value Range	• UDP • TCP
Default Value	UDP
Configuration File Reference	SIP_TRANSPORT_[1–8] (Page 203)

3.6.2 SIP Settings [Line 1]–[Line 8]

This screen allows you to change the SIP settings that are specific to each line.



3.6.2.1 Phone Number

Phone Number

Description	Specifies the phone number to use as the user ID required for registration to the SIP registrar server. **Note** • When you use characters that are not allowed for this setting, you must specify this setting and then **[Line ID]**.
Value Range	Max. 24 characters (consisting of 0–9, *, and #) **Note** • No other characters are allowed.
Default Value	Not stored.
Configuration File Reference	PHONE_NUMBER_[1–8] (Page 206)

Line ID

Description	Specifies the unique ID used by the SIP registrar server. **Note** • When you use characters that are not allowed for **[Phone Number]**, you must specify **[Phone Number]** and then this setting.
Value Range	Max. 24 characters (except @)
Default Value	Not stored.
Configuration File Reference	LINE_ID_[1–8] (Page 206)

3.6.2.2 SIP Server

Registrar Server Address

Description	Specifies the IP address or FQDN of the SIP registrar server.
Value Range	Max. 127 characters
Default Value	Not stored.
Configuration File Reference	SIP_RGSTR_ADDR_[1–8] (Page 190)

Registrar Server Port

Description	Specifies the port number to use for communication with the SIP registrar server.
Value Range	1–65535
Default Value	5060
Configuration File Reference	SIP_RGSTR_PORT_[1–8] (Page 190)

Proxy Server Address

Description	Specifies the IP address or FQDN of the SIP proxy server.
Value Range	Max. 127 characters
Default Value	Not stored.
Configuration File Reference	SIP_PRXY_ADDR_[1–8] (Page 189)

Proxy Server Port

Description	Specifies the port number to use for communication with the SIP proxy server.

Value Range	1–65535
Default Value	5060
Configuration File Reference	SIP_PRXY_PORT_[1–8] (Page 190)

Presence Server Address

Description	Specifies the IP address or FQDN of the SIP presence server.
Value Range	Max. 127 characters
Default Value	Not stored.
Configuration File Reference	SIP_PRSNC_ADDR_[1–8] (Page 198)

Presence Server Port

Description	Specifies the port number to use for communication with the SIP presence server.
Value Range	1–65535
Default Value	5060
Configuration File Reference	SIP_PRSNC_PORT_[1–8] (Page 199)

3.6.2.3 Outbound Proxy Server

Outbound Proxy Server Address

Description	Specifies the IP address or FQDN of the SIP outbound proxy server.
Value Range	Max. 127 characters
Default Value	Not stored.
Configuration File Reference	SIP_OUTPROXY_ADDR_[1–8] (Page 203)

Outbound Proxy Server Port

Description	Specifies the port number to use for communication with the SIP outbound proxy server.
Value Range	1–65535
Default Value	5060
Configuration File Reference	SIP_OUTPROXY_PORT_[1–8] (Page 203)

3.6.2.4 SIP Service Domain

Service Domain

Description	Specifies the domain name provided by your phone system dealer. The domain name is the part of the SIP URI that comes after the "@" symbol.
Value Range	Max. 127 characters
Default Value	Not stored.
Configuration File Reference	SIP_SVCDOMAIN_[1–8] (Page 190)

3.6.2.5 SIP Source Port

Source Port

Description	Specifies the source port number used by the unit for SIP communication.
Value Range	1024–49151 **Note** • You cannot specify here the same port number as any of the port numbers in **[Channel 1–3]** in **3.4.5.3 External RTP Port** (if they are configured). In addition, you cannot specify a port number that is 1 greater than a port number specified in **[Channel 1–3]**. • The SIP port number for each line must be unique. • You cannot specify the same port number as the port number specified in **[Web Server Port]** in **3.5.4.1 Web Server Settings**.
Default Value	5060 (for Line 1) 5070 (for Line 2) 5080 (for Line 3) 5090 (for Line 4) 5100 (for Line 5) 5110 (for Line 6) 5120 (for Line 7) 5130 (for Line 8)
Configuration File Reference	SIP_SRC_PORT_[1–8] (Page 189)

3.6.2.6 SIP Authentication

Authentication ID

Description	Specifies the authentication ID required to access the SIP server.
Value Range	Max. 64 characters (except ", &, ', :, <, >, and space)
Default Value	Not stored.

Configuration File Reference	SIP_AUTHID_[1–8] (Page 188)

Authentication Password

Description	Specifies the authentication password used to access the SIP server.
Value Range	Max. 64 characters (except ", &, ', :, <, >, and space)
Default Value	Not stored.
Configuration File Reference	SIP_PASS_[1–8] (Page 189)

3.6.2.7 DNS

Enable DNS SRV lookup

Description	Selects whether to request the DNS server to translate domain names into IP addresses using the SRV record.
Value Range	• Yes • No **Note** • If you select **[Yes]**, the unit will perform a DNS SRV lookup for a SIP registrar server, SIP proxy server, SIP outbound proxy server, or SIP presence server. If you select **[No]**, the unit will not perform a DNS SRV lookup for a SIP registrar server, SIP proxy server, SIP outbound proxy server, or SIP presence server.
Default Value	Yes
Configuration File Reference	SIP_DNSSRV_ENA_[1–8] (Page 196)

SRV lookup Prefix for UDP

Description	Specifies a prefix to add to the domain name when performing a DNS SRV lookup using UDP. **Note** • This setting is available only when **[Enable DNS SRV lookup]** is set to **[Yes]**.
Value Range	Max. 32 characters
Default Value	_sip._udp.
Configuration File Reference	SIP_UDP_SRV_PREFIX_[1–8] (Page 197)

SRV lookup Prefix for TCP

Description	Specifies a prefix to add to the domain name when performing a DNS SRV lookup using TCP. **Note** • This setting is available only when **[Enable DNS SRV lookup]** is set to **[Yes]**.
Value Range	Max. 32 characters
Default Value	_sip._tcp.
Configuration File Reference	SIP_TCP_SRV_PREFIX_[1–8] (Page 197)

3.6.2.8 Timer Settings

T1 Timer

Description	Selects the default interval, in milliseconds, between transmissions of SIP messages. For details, refer to RFC 3261.
Value Range	• 250 • 500 • 1000 • 2000 • 4000
Default Value	500
Configuration File Reference	SIP_TIMER_T1_[1–8] (Page 194)

T2 Timer

Description	Selects the maximum interval, in seconds, between transmissions of SIP messages. For details, refer to RFC 3261.
Value Range	• 2 • 4 • 8 • 16 • 32
Default Value	4
Configuration File Reference	SIP_TIMER_T2_[1–8] (Page 195)

INVITE Retry Count

Description	Selects the number of times that INVITE requests are retransmitted when no reply is received from the server.
Value Range	1–6

Default Value	6
Configuration File Reference	INVITE_RTXN_[1–8] (Page 195)

Non-INVITE Retry Count

Description	Selects the number of times that non-INVITE requests (general SIP messages) are retransmitted when no reply is received from the server.
Value Range	1–10
Default Value	10
Configuration File Reference	OTHER_RTXN_[1–8] (Page 195)

3.6.2.9 Quality of Service (QoS)

SIP Packet QoS (DSCP)

Description	Selects the DSCP (Differentiated Services Code Point) level of DiffServ applied to SIP packets.
Value Range	• Best Effort (default) (000 000) • AF11 (Class1/Level Low) (001 010) • AF12 (Class1/Level Medium) (001 100) • AF13 (Class1/Level High) (001 110) • AF21 (Class2/Level Low) (010 010) • AF22 (Class2/Level Medium) (010 100) • AF23 (Class2/Level High) (010 110) • AF31 (Class3/Level Low) (011 010) • AF32 (Class3/Level Medium) (011 100) • AF33 (Class3/Level High) (011 110) • AF41 (Class4/Level Low) (100 010) • AF42 (Class4/Level Medium) (100 100) • AF43 (Class4/Level High) (100 110) • CS1 (Class1) (001 000) • CS2 (Class2) (010 000) • CS3 (Class3) (011 000) • CS4 (Class4) (100 000) • CS5 (Class5) (101 000) • CS6 (Class6) (110 000) • CS7 (Class7) (111 000) • EF (Expedited Forwarding) (101 110)
Default Value	Best Effort (default) (000 000)
Configuration File Reference	TOS_SIP_[1–8] (Page 192)

3.6.2.10 SIP extensions

Supports 100rel (RFC 3262)

Description	Selects whether to add the option tag 100rel to the "Supported" header of the INVITE message. For details, refer to RFC 3262.
Value Range	• Yes • No **Note** • If you select **[Yes]**, the Reliability of Provisional Responses function will be enabled. The option tag 100rel will be added to the "Supported" header of the INVITE message and to the "Require" header of the "1xx" provisional message. If you select **[No]**, the option tag 100rel will not be used.
Default Value	No
Configuration File Reference	SIP_100REL_ENABLE_[1–8] (Page 198)

Supports Session Timer (RFC 4028)

Description	Specifies the length of time, in seconds, that the unit waits before terminating SIP sessions when no reply to repeated requests is received. For details, refer to RFC 4028.
Value Range	0, 60–65535 (0: Disable)
Default Value	0
Configuration File Reference	SIP_SESSION_TIME_[1–8] (Page 191)

3.6.2.11 Keep Alive

Keep Alive Interval

Description	Specifies the interval, in seconds, between transmissions of the Keep Alive packet to the unit in order to maintain the NAT binding information. **Note** • This setting is available only when **[Transport Protocol]** is set to **[UDP]**.
Value Range	0, 10–300 (0: Disable)
Default Value	0
Configuration File Reference	PORT_PUNCH_INTVL_[1–8] (Page 200)

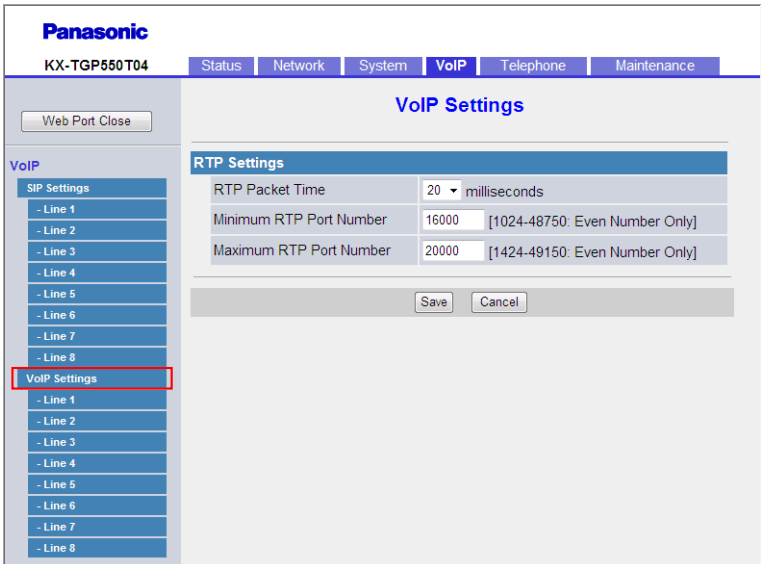
3.6.2.12 Security

Enable SSAF (SIP Source Address Filter)

Description	Selects whether to enable SSAF (SIP Source Address Filter) for the SIP servers (registrar server, proxy server, and presence server).
Value Range	• Yes • No **Note** • If you select **[Yes]**, the unit receives SIP messages only from the source addresses stored in the SIP servers (registrar server, proxy server, and presence server), and not from other addresses. However, if **[Outbound Proxy Server Address]** in **3.6.2.3 Outbound Proxy Server** is specified, the unit also receives SIP messages from the source address stored in the SIP outbound proxy server.
Default Value	No
Configuration File Reference	SIP_DETECT_SSAF_[1–8] (Page 205)

3.6.3 VoIP Settings

This screen allows you to change the VoIP settings that are common to all lines.



3.6.3.1 RTP Settings

RTP Packet Time

Description	Selects the interval, in milliseconds, between transmissions of RTP packets.

Value Range	• 20 • 30 • 40
Default Value	20
Configuration File Reference	RTP_PTIME (Page 183)

Minimum RTP Port Number

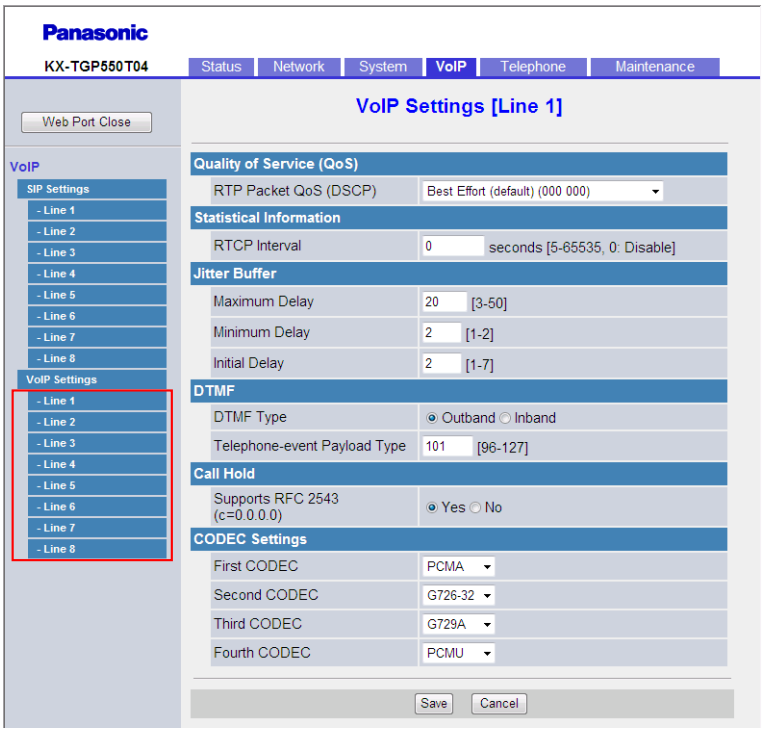
Description	Specifies the lowest port number that the unit will use for RTP packets. **Note** • If port numbers are specified in **[Channel 1–3]** in **3.4.5.3 External RTP Port**, this setting is ignored and the corresponding external RTP port is enabled.
Value Range	1024–48750 (even number only) **Note** • The value for this setting must be less than or equal to "**[Maximum RTP Port Number]** - 400".
Default Value	16000
Configuration File Reference	RTP_PORT_MIN (Page 183)

Maximum RTP Port Number

Description	Specifies the highest port number that the unit will use for RTP packets. **Note** • If port numbers are specified in **[Channel 1–3]** in **3.4.5.3 External RTP Port**, this setting is ignored and the corresponding external RTP port is enabled.
Value Range	1424–49150 (even number only) **Note** • The value for this setting must be greater than or equal to "**[Minimum RTP Port Number]** + 400".
Default Value	20000
Configuration File Reference	RTP_PORT_MAX (Page 183)

3.6.4 VoIP Settings [Line 1]–[Line 8]

This screen allows you to change the VoIP settings that are specific to each line.



3.6.4.1 Quality of Service (QoS)

RTP Packet QoS (DSCP)

Description	Selects the DSCP level of DiffServ applied to RTP packets.

Value Range	• Best Effort (default) (000 000) • AF11 (Class1/Level Low) (001 010) • AF12 (Class1/Level Medium) (001 100) • AF13 (Class1/Level High) (001 110) • AF21 (Class2/Level Low) (010 010) • AF22 (Class2/Level Medium) (010 100) • AF23 (Class2/Level High) (010 110) • AF31 (Class3/Level Low) (011 010) • AF32 (Class3/Level Medium) (011 100) • AF33 (Class3/Level High) (011 110) • AF41 (Class4/Level Low) (100 010) • AF42 (Class4/Level Medium) (100 100) • AF43 (Class4/Level High) (100 110) • CS1 (Class1) (001 000) • CS2 (Class2) (010 000) • CS3 (Class3) (011 000) • CS4 (Class4) (100 000) • CS5 (Class5) (101 000) • CS6 (Class6) (110 000) • CS7 (Class7) (111 000) • EF (Expedited Forwarding) (101 110)
Default Value	Best Effort (default) (000 000)
Configuration File Reference	TOS_RTP_[1–8] (Page 180)

3.6.4.2 Statistical Information

RTCP Interval

Description	Specifies the interval, in seconds, between RTCP packets.
Value Range	0, 5–65535 (0: Disable)
Default Value	0
Configuration File Reference	RTCP_INTVL_[1–8] (Page 181)

3.6.4.3 Jitter Buffer

Maximum Delay

Description	Specifies the maximum delay, in 10-millisecond units, of the jitter buffer.

Value Range	3–50 (× 10 ms) **Note** • This setting is subject to the following conditions: – This value must be greater than **[Initial Delay]** – This value must be greater than **[Minimum Delay]** – **[Initial Delay]** must be greater than or equal to **[Minimum Delay]**
Default Value	20 (× 10 ms)
Configuration File Reference	MAX_DELAY_[1–8] (Page 181)

Minimum Delay

Description	Specifies the minimum delay, in 10-millisecond units, of the jitter buffer.
Value Range	1 or 2 (× 10 ms) **Note** • This setting is subject to the following conditions: – This value must be less than or equal to **[Initial Delay]** – This value must be less than **[Maximum Delay]** – **[Maximum Delay]** must be greater than **[Initial Delay]**
Default Value	2 (× 10 ms)
Configuration File Reference	MIN_DELAY_[1–8] (Page 182)

Initial Delay

Description	Specifies the initial delay, in 10-millisecond units, of the jitter buffer.
Value Range	1–7 (× 10 ms) **Note** • This setting is subject to the following conditions: – This value must be greater than or equal to **[Minimum Delay]** – This value must be less than **[Maximum Delay]**
Default Value	2 (× 10 ms)
Configuration File Reference	NOM_DELAY_[1–8] (Page 182)

3.6.4.4 DTMF

DTMF Type

Description	Selects the method for transmitting DTMF (Dual Tone Multi-Frequency) tones.

Value Range	• Outband • Inband **Note** • If you select **[Outband]**, DTMF tones will be sent through SDP (Session Description Protocol), compliant with RFC 2833. If you select **[Inband]**, DTMF tones will be encoded in the RTP stream.
Default Value	Outband
Configuration File Reference	OUTBANDDTMF_[1–8] (Page 184)

Telephone-event Payload Type

Description	Specifies the RFC 2833 payload type for DTMF tones. **Note** • This setting is available only when **[DTMF Type]** is set to **[Outband]**.
Value Range	96–127
Default Value	101
Configuration File Reference	TELEVENT_PTYPE_[1–8] (Page 184)

3.6.4.5 Call Hold

Supports RFC 2543 (c=0.0.0.0)

Description	Selects whether to enable the RFC 2543 Call Hold feature on this line.
Value Range	• Yes • No **Note** • If you select **[Yes]**, the "c=0.0.0.0" syntax will be set in SDP when sending a re-INVITE message to hold the call. If you select **[No]**, the "c=x.x.x.x" syntax will be set in SDP.
Default Value	Yes
Configuration File Reference	RFC2543_HOLD_ENABLE_[1–8] (Page 185)

3.6.4.6 CODEC Settings

First CODEC

Description	Selects which codec to assign the highest priority to.

Value Range	• G722 • PCMA (G.711 A-law) • G726-32 (G.726 [32k]) • G729A • PCMU (G.711 µ-law) **Note** • You can select each codec on once within **[CODEC Settings]**. • A maximum of 5 priorities can be assigned. If only 4 codecs are specified in a configuration file, you will be able to select from only 4 codecs, and **[Fifth CODEC]** will be disabled. • The codec selections that are displayed may vary depending on the unit or the operating environment.
Default Value	G722
Configuration File Reference	SDP_CODEC[0–4]_[1–8] (Page 177)

Second CODEC

Description	Selects the codec to assign the second highest priority to.
Value Range	• G722 • PCMA (G.711 A-law) • G726-32 (G.726 [32k]) • G729A • PCMU (G.711 µ-law) **Note** • You can select each codec on once within **[CODEC Settings]**. • A maximum of 5 priorities can be assigned. If only 4 codecs are specified in a configuration file, you will be able to select from only 4 codecs, and **[Fifth CODEC]** will be disabled. • The codec selections that are displayed may vary depending on the unit or the operating environment.
Default Value	PCMA
Configuration File Reference	SDP_CODEC[0–4]_[1–8] (Page 177)

Third CODEC

Description	Selects the codec to assign the third highest priority to.

Value Range	• G722 • PCMA (G.711 A-law) • G726-32 (G.726 [32k]) • G729A • PCMU (G.711 µ-law) **Note** • You can select each codec on once within **[CODEC Settings]**. • A maximum of 5 priorities can be assigned. If only 4 codecs are specified in a configuration file, you will be able to select from only 4 codecs, and **[Fifth CODEC]** will be disabled. • The codec selections that are displayed may vary depending on the unit or the operating environment.
Default Value	G726-32
Configuration File Reference	SDP_CODEC[0–4]_[1–8] (Page 177)

Fourth CODEC

Description	Selects the codec to assign the 4th highest priority to.
Value Range	• G722 • PCMA (G.711 A-law) • G726-32 (G.726 [32k]) • G729A • PCMU (G.711 µ-law) **Note** • You can select each codec on once within **[CODEC Settings]**. • A maximum of 5 priorities can be assigned. If only 4 codecs are specified in a configuration file, you will be able to select from only 4 codecs, and **[Fifth CODEC]** will be disabled. • The codec selections that are displayed may vary depending on the unit or the operating environment.
Default Value	G729A
Configuration File Reference	SDP_CODEC[0–4]_[1–8] (Page 177)

Fifth CODEC

Description	Selects the codec to assign the lowest priority to.

Value Range	• G722 • PCMA (G.711 A-law) • G726-32 (G.726 [32k]) • G729A • PCMU (G.711 μ-law) **Note** • You can select each codec on once within **[CODEC Settings]**. • A maximum of 5 priorities can be assigned. If only 4 codecs are specified in a configuration file, you will be able to select from only 4 codecs, and **[Fifth CODEC]** will be disabled. • The codec selections that are displayed may vary depending on the unit or the operating environment.
Default Value	PCMU
Configuration File Reference	SDP_CODEC[0–4]_[1–8] (Page 177)

3.7 Telephone

This section provides detailed descriptions about all the settings classified under the **[Telephone]** tab.

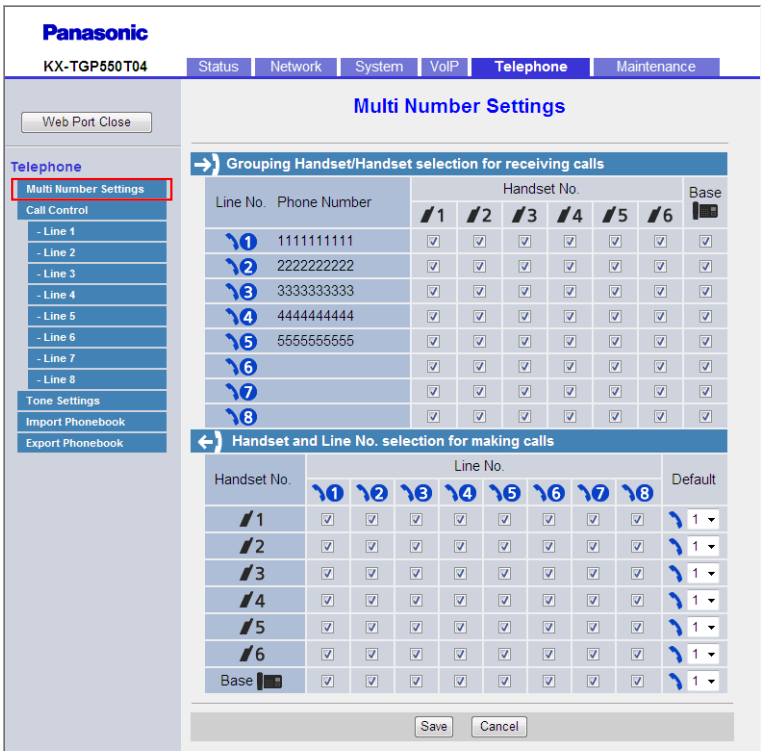
3.7.1 Multi Number Settings

This screen allows you to assign phone numbers for incoming and outgoing calls to the base unit (KX-TGP55x only) and handsets.
A maximum of 8 phone numbers can be assigned for each unit. A maximum of 6 handsets can be registered to the base unit. For details, see **5.1 Line Settings for Base Unit and Handset**.

Note

- You can configure these settings even in the following cases:
  – The line has not been leased, or the unit has not been configured yet.

– The handset has not been registered yet, or the connection with the base unit (KX-TGP55x only) or handset has been disconnected.



3.7.1.1 Grouping Handset/Handset selection for receiving calls

Line No.

Description	Indicates the line number (1–8) to which a phone number is assigned (reference only).
Value Range	Line 1–Line 8
Default Value	Not applicable.
Configuration File Reference	INCOMING_CALL_GROUP_[1–8] (Page 168)

Phone Number

Description	Indicates the currently assigned phone numbers (reference only). **Note** • The corresponding field is blank if a line has not yet been leased or if the unit has not been configured.
Value Range	Max. 24 digits
Default Value	Not applicable.
Configuration File Reference	INCOMING_CALL_GROUP_[1–8] (Page 168)

Handset No.

Description	Selects the handsets (1–6) that calls will arrive at for each line.
Value Range	Selected, Not selected **Note** • You cannot clear all the check boxes including **[Base (KX-TGP55x only)]**.
Default Value	Selected (all)
Configuration File Reference	INCOMING_CALL_GROUP_[1–8] (Page 168)

Base (KX-TGP55x only)

Description	Selects whether calls arrive at the base unit for each line.
Value Range	Selected, Not selected **Note** • You cannot clear all the check boxes including **[Handset No.]**.
Default Value	Selected (all)
Configuration File Reference	INCOMING_CALL_GROUP_[1–8] (Page 168)

3.7.1.2 Handset and Line No. selection for making calls

Handset No.

Description	Indicates the handsets (1–6) that can be used to make a call (reference only).
Value Range	Not applicable.
Default Value	Not applicable.
Configuration File Reference	OUTGOING_CALL_LINE_HS[1–6] (Page 169)

Base (KX-TGP55x only)

Description	Indicates the base unit that can be used to make a call (reference only).
Value Range	Not applicable.
Default Value	Not applicable.
Configuration File Reference	OUTGOING_CALL_LINE_BS (Page 169)

Line No.

Description	Selects which lines (1–8) can be seized when going off-hook to make a call for the base unit and each handset.
Value Range	Selected, Not selected **Note** • If you clear all the check boxes for the base unit and the handsets, calls cannot be made from either the base unit or the handsets.
Default Value	Selected (all)
Configuration File Reference	• OUTGOING_CALL_LINE_HS[1–6] (Page 169) • OUTGOING_CALL_LINE_BS (Page 169)

Default

Description	Selects which line to seize automatically when going off-hook to make a call for the base unit and each handset. **Note** • If the line selected as **[Default]** is not selected as a line that can be seized for the corresponding base unit or handset in **[Line No.]**, the unit cannot make a call.
Value Range	1–8
Default Value	1
Configuration File Reference	• DEFAULT_LINE_SELECT_HS[1–6] (Page 170) • DEFAULT_LINE_SELECT_BS (Page 170)

3.7.2 Call Control

This screen allows you to configure various call features that are common to all lines.

3.7.2.1 Call Control

Send SUBSCRIBE to Voice Mail Server

Description	Selects whether to send the SUBSCRIBE request to a voice mail server. **Note** • Your phone system must support voice mail.
Value Range	• Yes • No
Default Value	No
Configuration File Reference	VM_SUBSCRIBE_ENABLE (Page 172)

Conference Server Address

Description	Specifies the URI for a conference server, which consists of a user part, the "@" symbol, and a host part, for example, "conference@example.com". **Note** • Availability depends on your phone system.
Value Range	Max. 127 characters
Default Value	Not stored.
Configuration File Reference	CONFERENCE_SERVER_ADDRESS (Page 171)

Inter-digit Timeout

Description	Specifies the length of time, in seconds, within which subsequent digits of a dial number must be dialed. When this timer expires after the last key was pressed, dialing will start.
Value Range	3–10
Default Value	5
Configuration File Reference	INTDIGIT_TIM (Page 172)

3.7.2.2 Emergency Call Phone Numbers

1–5

Description	Specifies the phone numbers used for making emergency calls. A user can dial any of the specified phone numbers at any time regardless of any restrictions imposed on the unit. A maximum of 5 phone numbers can be specified. **Note** • When a phone number is specified here, it will be prioritized over the setting specified in **[Dial Plan]** in **3.7.3.2 Dial Plan**.
Value Range	Max. 24 characters
Default Value	Not stored.
Configuration File Reference	EMERGENCY_CALL[1–5] (Page 171)

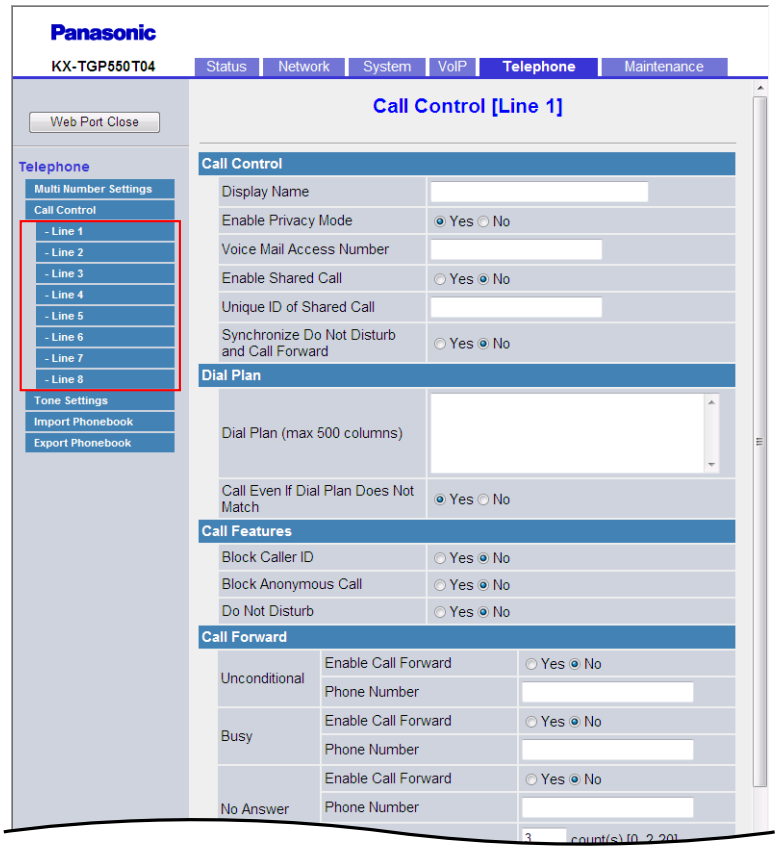
3.7.2.3 Call Rejection Phone Numbers

1–30

Description	Specifies the phone numbers to reject incoming calls from. A maximum of 30 phone numbers can be specified. **Note** • You can also configure this setting through the phone user interface. If these settings are changed through the phone user interface while being changed through the Web user interface, the settings made through the phone user interface will be overwritten by the settings made through the Web user interface.
Value Range	Max. 24 characters **Note** • Even if you specify nonconsecutive fields (e.g., fields 1, 5, and 30), they will be rearranged into consecutive fields after you save the settings (i.e., 1, 2, and 3).
Default Value	Not stored.

3.7.3 Call Control [Line 1]–[Line 8]

This screen allows you to configure various call features that are specific to each line.



3.7.3.1 Call Control

Display Name

Description	Specifies the name to display as the caller on the other party's phone when you make a call.
Value Range	Max. 16 characters **Note** • You can use Unicode characters for this setting.
Default Value	Not stored.
Configuration File Reference	DISPLAY_NAME_[1–8] (Page 207)

Enable Privacy Mode

Description	Selects whether to enable privacy mode, which prohibits another handset or base unit from barging in on a conversation.

Value Range	• Yes • No **Note** • If you select **[Yes]**, the conversation cannot be interrupted by another handset or base unit. If you select **[No]**, the conversation can be interrupted by another handset or base unit.
Default Value	Yes
Configuration File Reference	PRIVACY_MODE_[1–8] (Page 188)

Voice Mail Access Number

Description	Specifies the phone number used to access the voice mail server. **Note** • Your phone system must support voice mail.
Value Range	Max. 24 characters (consisting of 0–9, *, and #) **Note** • No other characters are allowed.
Default Value	Not stored.
Configuration File Reference	VM_NUMBER_[1–8] (Page 185)

Enable Shared Call

Description	Selects whether to enable the Shared Call feature of the SIP server, which is used to share one line among the units. **Note** • You cannot set both **[Enable Shared Call]** and **[Synchronize Do Not Disturb and Call Forward]** to **[Yes]** at the same time. • Availability depends on your phone system.
Value Range	• Yes • No **Note** • If you select **[Yes]**, the SIP server will control the line by using a shared-call signaling method. If you select **[No]**, the SIP server will control the line by using a standard signaling method.
Default Value	No
Configuration File Reference	SHARED_CALL_ENABLE_[1–8] (Page 186)

Unique ID of Shared Call

Description	Specifies the unique ID used by the SIP server when **[Enable Shared Call]** is set to **[Yes]**.
Value Range	Max. 24 characters
Default Value	Not stored.
Configuration File Reference	SHARED_USER_ID_[1–8] (Page 187)

Synchronize Do Not Disturb and Call Forward

Description	Selects whether to synchronize the Do Not Disturb and Call Forward settings, configured via the Web user interface or phone user interface, between the unit and the portal server that is provided by your phone system dealer. **Note** • Even if you select **[Yes]**, this feature may not function properly if your phone system does not support it. Before you configure this setting, consult your phone system dealer. • You cannot set both **[Enable Shared Call]** and **[Synchronize Do Not Disturb and Call Forward]** to **[Yes]** at the same time.
Value Range	• Yes • No
Default Value	No
Configuration File Reference	SYNCHRONIZATION_ENABLE_[1–8] (Page 187)

3.7.3.2 Dial Plan

Dial Plan

Description	Specifies a dial format, such as specific phone numbers, that control which numbers can be dialed or how to handle the call when making a call. For details, see **5.3 Dial Plan**.
Value Range	Max. 500 characters **Note** • Entering more than 500 characters in this field causes an error and the previous value remains effective.
Default Value	Not stored.
Configuration File Reference	DIAL_PLAN_[1–8] (Page 185)

Call Even If Dial Plan Does Not Match

Description	Selects whether to make a call even if the dialed number does not match any of the dial formats specified in **[Dial Plan]**.
Value Range	• Yes • No **Note** • If you select **[Yes]**, calls will be made even if the dialed number does not match the dial formats specified in **[Dial Plan]** (i.e., dial plan filtering is disabled). If you select **[No]**, calls will not be made if the dialed number does not match one of the dial formats specified in **[Dial Plan]** (i.e., dial plan filtering is enabled).
Default Value	Yes
Configuration File Reference	DIAL_PLAN_NOT_MATCH_ENABLE_[1–8] (Page 186)

3.7.3.3 Call Features

Block Caller ID

Description	Selects whether to make calls without transmitting the phone number to the called party. **Note** • Availability depends on your phone system.
Value Range	• Yes • No
Default Value	No

Block Anonymous Call

Description	Selects whether to reject incoming calls that do not show the caller's number.
Value Range	• Yes • No
Default Value	No

Do Not Disturb

Description	Selects whether to enable the Do Not Disturb feature for incoming calls. **Note** • If Do Not Disturb has been enabled on the server, the server rejects incoming calls and the unit does not receive any calls, even if you have selected **[No]** for this setting. • If you change this setting when **[Synchronize Do Not Disturb and Call Forward]** is set to **[Yes]**, the change to this setting is not immediately applied on this screen. In this case, reload the screen to confirm that the change is applied.
Value Range	• Yes • No
Default Value	No

3.7.3.4 Call Forward

Unconditional (Enable Call Forward)

Description	Selects whether to forward all incoming calls to a specified destination. **Note** • If Do Not Disturb has been enabled on the server, the server rejects incoming calls and the unit does not receive any calls, even if you have selected **[Yes]** for this setting. • If you have selected **[Yes]** for this setting and Call Forward has been enabled on the server, but the forwarding destinations differ, incoming calls are forwarded to the destination set on the server. • If Call Forward has been enabled on the server, incoming calls are forwarded to the destination set on the server, even if you have selected **[No]** for this setting. • You can synchronize the Do Not Disturb and Call Forward settings from the Web user interface (→ see **[Synchronize Do Not Disturb and Call Forward]** in **3.7.3.1 Call Control**) or through configuration file programming (→ see "**SYNCHRONIZATION_ENABLE_[1–8]**" in **4.7.1 Call Control Settings**). • If you change this setting when **[Synchronize Do Not Disturb and Call Forward]** is set to **[Yes]**, the change to this setting is not immediately applied on this screen. In this case, reload the screen to confirm that the change is applied.
Value Range	• Yes • No
Default Value	No

Unconditional (Phone Number)

Description	Specifies the phone number of the destination to forward all incoming calls to. **Note** • If you change this setting when **[Synchronize Do Not Disturb and Call Forward]** is set to **[Yes]**, the change to this setting is not immediately applied on this screen. In this case, reload the screen to confirm that the change is applied.
Value Range	Max. 24 characters **Note** • You cannot leave this field empty if **[Unconditional (Enable Call Forward)]** is set to **[Yes]**.
Default Value	Not stored.

Busy (Enable Call Forward)

Description	Selects whether to forward incoming calls to a specified destination when the line is in use. **Note** • If Do Not Disturb has been enabled on the server, the server rejects incoming calls and the unit does not receive any calls, even if you have selected **[Yes]** for this setting. • If you have selected **[Yes]** for this setting and Call Forward has been enabled on the server, but the forwarding destinations differ, incoming calls are forwarded to the destination set on the server. • If Call Forward has been enabled on the server, incoming calls are forwarded to the destination set on the server, even if you have selected **[No]** for this setting. • You can synchronize the Do Not Disturb and Call Forward settings from the Web user interface (→ see **[Synchronize Do Not Disturb and Call Forward]** in **3.7.3.1 Call Control**) or through configuration file programming (→ see "**SYNCHRONIZATION_ENABLE_[1–8]**" in **4.7.1 Call Control Settings**). • If you change this setting when **[Synchronize Do Not Disturb and Call Forward]** is set to **[Yes]**, the change to this setting is not immediately applied on this screen. In this case, reload the screen to confirm that the change is applied.
Value Range	• Yes • No
Default Value	No

Busy (Phone Number)

Description	Specifies the phone number of the destination to forward calls to when the line is in use. **Note** • If you change this setting when **[Synchronize Do Not Disturb and Call Forward]** is set to **[Yes]**, the change to this setting is not immediately applied on this screen. In this case, reload the screen to confirm that the change is applied.
Value Range	Max. 24 characters **Note** • You cannot leave this field empty if **[Busy (Enable Call Forward)]** is set to **[Yes]**.
Default Value	Not stored.

No Answer (Enable Call Forward)

Description	Selects whether to forward incoming calls to a specified destination when a call is not answered after it has rung a specified number of times. **Note** • If Do Not Disturb has been enabled on the server, the server rejects incoming calls and the unit does not receive any calls, even if you have selected **[Yes]** for this setting. • If you have selected **[Yes]** for this setting and Call Forward has been enabled on the server, but the forwarding destinations differ, incoming calls are forwarded to the destination set on the server. • If Call Forward has been enabled on the server, incoming calls are forwarded to the destination set on the server, even if you have selected **[No]** for this setting. • You can synchronize the Do Not Disturb and Call Forward from the Web user interface (→ see **[Synchronize Do Not Disturb and Call Forward]** in **3.7.3.1 Call Control**) or through configuration file programming (→ see "**SYNCHRONIZATION_ENABLE_[1-8]**" in **4.7.1 Call Control Settings**). • If you change this setting when **[Synchronize Do Not Disturb and Call Forward]** is set to **[Yes]**, the change to this setting is not immediately applied on this screen. In this case, reload the screen to confirm that the change is applied.
Value Range	• Yes • No
Default Value	No

No Answer (Phone Number)

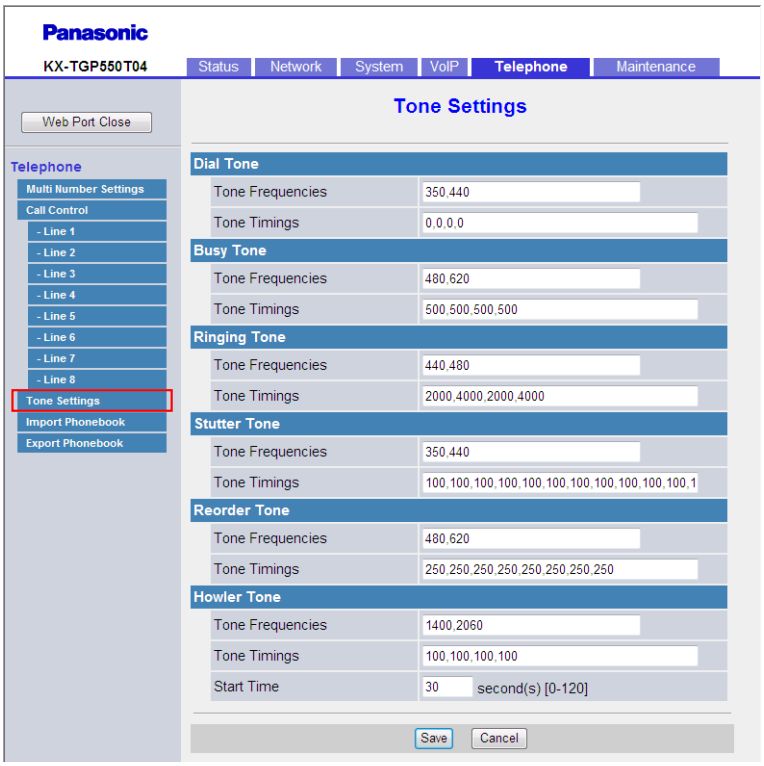
Description	Specifies the phone number of the destination to forward calls to when a call is not answered after it has rung a specified number of times. **Note** • If you change this setting when **[Synchronize Do Not Disturb and Call Forward]** is set to **[Yes]**, the change to this setting is not immediately applied on this screen. In this case, reload the screen to confirm that the change is applied.
Value Range	Max. 24 characters **Note** • You cannot leave this field empty if **[No Answer (Enable Call Forward)]** is set to **[Yes]**.
Default Value	Not stored.

No Answer (Ring Count)

Description	Specifies the number of times that an incoming call rings until the call is forwarded. **Note** • If you change this setting when **[Synchronize Do Not Disturb and Call Forward]** is set to **[Yes]**, the change to this setting is not immediately applied on this screen. In this case, reload the screen to confirm that the change is applied.
Value Range	0, 2–20 (0: No ring)
Default Value	3

3.7.4 Tone Settings

This screen allows you to configure the dual-tone frequencies and ring tone patterns of each tone.



3.7.4.1 Dial Tone

Tone Frequencies

Description	Specifies the dual-tone frequencies, in hertz, of dial tones using 2 whole numbers separated by a comma.
Value Range	0, 200–1000 (0: No tone) **Note** • If the value for this setting is "350,440", the unit will use a mixed signal of a 350 Hz tone and a 440 Hz tone.
Default Value	350,440
Configuration File Reference	DIAL_TONE_FRQ (Page 172)

Tone Timings

Description	Specifies the pattern, in milliseconds, of dial tones using 4 whole numbers (on 1, off 1, on 2, off 2) separated by commas.

Value Range	0–5000 (0: Infinite time) **Note** • The unit will play the tone for the duration of the first value, stop it for the duration of the second value, play it for the duration of the third value, and then stop it for the duration of the last value. The whole sequence will then repeat. For example, if the value for this setting is "100,100,0,0", the unit will play the tone for 100 ms, stop it for 100 ms, and then play it continuously.
Default Value	0,0,0,0 (The unit plays the dial tone continuously.)
Configuration File Reference	DIAL_TONE_TIMING (Page 173)

3.7.4.2 Busy Tone

Tone Frequencies

Description	Specifies the dual-tone frequencies, in hertz, of busy tones using 2 whole numbers separated by a comma.
Value Range	0, 200–1000 (0: No tone)
Default Value	480,620
Configuration File Reference	BUSY_TONE_FRQ (Page 173)

Tone Timings

Description	Specifies the pattern, in milliseconds, of busy tones using 4 whole numbers (on 1, off 1, on 2, off 2) separated by commas.
Value Range	0–5000 (0: Infinite time)
Default Value	500,500,500,500
Configuration File Reference	BUSY_TONE_TIMING (Page 173)

3.7.4.3 Ringing Tone

Tone Frequencies

Description	Specifies the dual-tone frequencies, in hertz, of ringback tones using 2 whole numbers separated by a comma.
Value Range	0, 200–1000 (0: No tone)
Default Value	440,480
Configuration File Reference	RINGING_TONE_FRQ (Page 174)

Tone Timings

Description	Specifies the pattern, in milliseconds, of ringback tones using 4 whole numbers (on 1, off 1, on 2, off 2) separated by commas.
Value Range	0–5000 (0: Infinite time)
Default Value	2000,4000,2000,4000
Configuration File Reference	RINGING_TONE_TIMING (Page 174)

3.7.4.4 Stutter Tone

Tone Frequencies

Description	Specifies the dual-tone frequencies, in hertz, of stutter dial tones to notify that a voice mail is waiting, using 2 whole numbers separated by a comma.
Value Range	0, 200–1000 (0: No tone)
Default Value	350,440
Configuration File Reference	STT_TONE_FRQ (Page 174)

Tone Timings

Description	Specifies the pattern, in milliseconds, of stutter dial tones to notify that a voice mail is waiting, using 22 whole numbers (on 1, off 1, on 2, off 2, …, on 11, off 11) separated by commas.
Value Range	0–5000 (0: Infinite time)
Default Value	100,100,100,100,100,100,100,100,100,100,100,100,100,100,100,100,100,100,100,100,100,100,0,0
Configuration File Reference	STT_TONE_TIMING (Page 174)

3.7.4.5 Reorder Tone

Tone Frequencies

Description	Specifies the dual-tone frequencies, in hertz, of reorder tones using 2 whole numbers separated by a comma.
Value Range	0, 200–1000 (0: No tone)
Default Value	480,620
Configuration File Reference	REORDER_TONE_FRQ (Page 175)

Tone Timings

Description	Specifies the pattern, in milliseconds, of reorder tones using 8 whole numbers (on 1, off 1, on 2, off 2, on 3, off 3, on 4, off 4) separated by commas.
Value Range	0–5000 (0: Infinite time)
Default Value	250,250,250,250,250,250,250,250
Configuration File Reference	REORDER_TONE_TIMING (Page 175)

3.7.4.6 Howler Tone

Tone Frequencies

Description	Specifies the dual-tone frequencies, in hertz, of howler tones (i.e., alarm tones) using 2 whole numbers separated by a comma.
Value Range	0, 200–3000 (0: No tone)
Default Value	1400,2060
Configuration File Reference	HOWLER_TONE_FRQ (Page 175)

Tone Timings

Description	Specifies the pattern, in milliseconds, of howler tones (i.e., alarm tones) using 4 whole numbers (on 1, off 1, on 2, off 2) separated by commas.
Value Range	0–5000 (0: Infinite time)
Default Value	100,100,100,100
Configuration File Reference	HOWLER_TONE_TIMING (Page 175)

Start Time

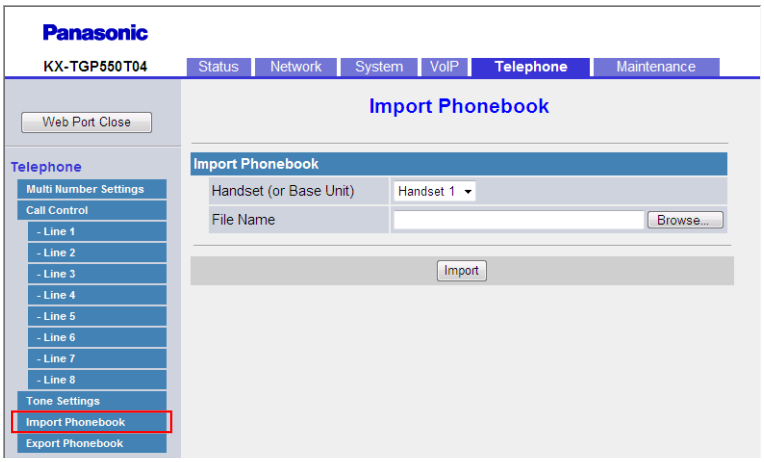
Description	Specifies the length of time, in seconds, that busy or reorder tones play until they switch to howler tones.
Value Range	0–120 (0: Disable)
Default Value	30
Configuration File Reference	HOWLER_START_TIME (Page 176)

3.7.5 Import Phonebook

This screen allows you to import phonebook data from a PC to the specified unit. For details, see **5.2.1 Import/ Export Operation**.

Note

- If the existing phonebook data has an entry with the same name and phone number as an imported entry, the imported entry is not added as a new entry. The import is still successful, and the message "Complete" will be displayed.
- When you begin transferring the phonebook data, the "Now Processing File Data" screen is displayed, and the screen is periodically reloaded. Depending on your Web browser, the screen might not reload automatically, and you will need to click the text "HERE" before the timer expires in order for the import operation to function properly.



3.7.5.1 Import Phonebook

Handset (or Base Unit)

Description	Selects the handset or base unit to import the phonebook entries to.
Value Range	• Handset 1 • Handset 2 • Handset 3 • Handset 4 • Handset 5 • Handset 6 • Base Unit (KX-TGP55x only)
Default Value	Handset 1

File Name

Description	Specifies the path of the TSV (Tab-separated Value) file to import from the PC.
Value Range	No limitation **Note** • There are no limitations for the field entry. However, it is recommended that paths of less than 256 characters be used: longer paths may cause longer data transfer times and result in an internal error.

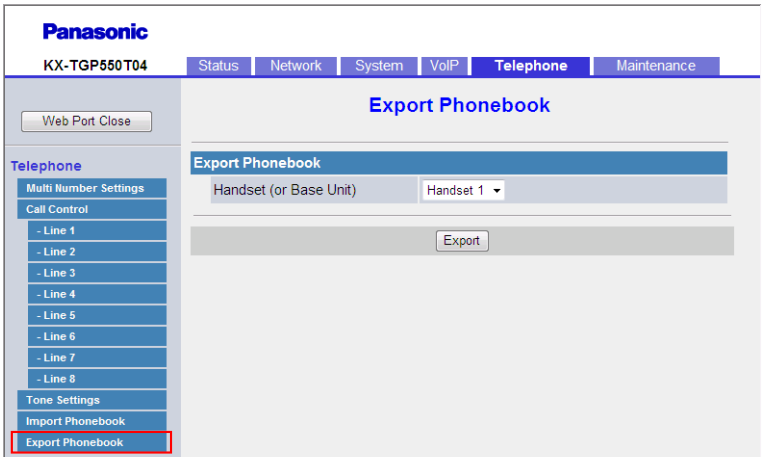
Default Value	Not stored.

3.7.6 Export Phonebook

This screen allows you to save the phonebook data stored in the unit as a TSV file on a PC. For details, see **5.2.1 Import/Export Operation**.

Note

- When you begin transferring the phonebook data, the "Now Processing File Data" screen is displayed, and the screen is periodically reloaded. Click the text "HERE" in the message to display the **[Export Phonebook]** screen again. If you do not, the "Now Processing File Data" screen remains displayed even if the export is complete. Depending on your Web browser, the screen might not reload automatically, and you will need to click the text "HERE" before the timer expires in order for the export operation to function properly.
- Depending on the security settings of your Web browser, pop-up menus might be blocked at the time of export. The security warning window may be displayed on another screen even if the **Pop-up Blocker** settings are set to enable, and the file may not be exported successfully. In this case, try the export operation again or disable the **Pop-up Blocker** feature of your Web browser.



3.7.6.1 Export Phonebook

Handset (or Base Unit)

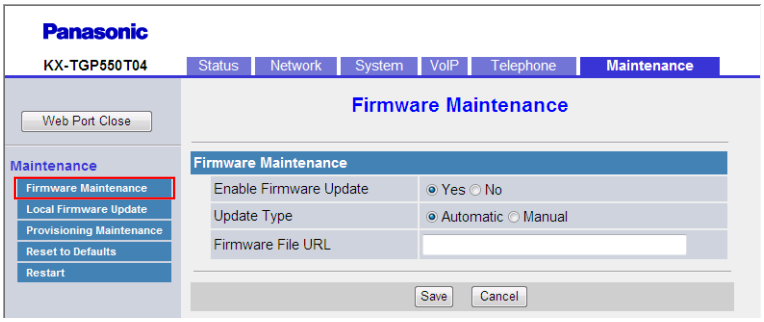
Description	Selects the handset or base unit to export the phonebook data from.
Value Range	• Handset 1 • Handset 2 • Handset 3 • Handset 4 • Handset 5 • Handset 6 • Base Unit (KX-TGP55x only)
Default Value	Handset 1

3.8 Maintenance

This section provides detailed descriptions about all the settings classified under the **[Maintenance]** tab.

3.8.1 Firmware Maintenance

This screen allows you to perform firmware updates automatically or manually.



3.8.1.1 Firmware Maintenance

Enable Firmware Update

Description	Selects whether to perform firmware updates when the unit detects a newer version of firmware. **Note** • Changing this setting may require restarting the unit. • Local firmware updates from the Web user interface (→ see **3.8.2 Local Firmware Update**) can be performed regardless of this setting.
Value Range	• Yes • No
Default Value	Yes
Configuration File Reference	FIRM_UPGRADE_ENABLE (Page 148)

Update Type

Description	Selects whether to display a confirmation message asking the user to perform a firmware update (manual) or perform the firmware update without asking the user (automatic) when the unit detects a newer version of firmware. **Note** • This setting is available only when **[Enable Firmware Update]** is set to **[Yes]**. • Changing this setting may require restarting the unit.

Value Range	• Automatic • Manual
Default Value	Automatic
Configuration File Reference	FIRM_UPGRADE_AUTO (Page 149)

Firmware File URL

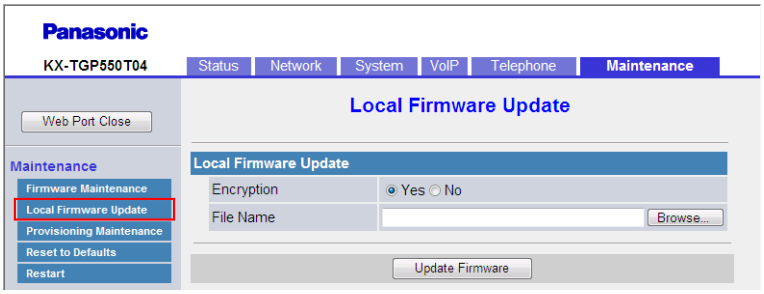
Description	Specifies the URL where the firmware file is stored. **Note** • This setting is available only when **[Enable Firmware Update]** is set to **[Yes]**. • Changing this setting may require restarting the unit.
Value Range	Max. 255 characters
Default Value	Not stored.
Configuration File Reference	FIRM_FILE_PATH (Page 149)

3.8.2 Local Firmware Update

This screen allows you to manually update the unit's firmware from a PC by clicking **[Update Firmware]**.

Note

- After the firmware has been successfully updated, the base unit will restart automatically.



3.8.2.1 Local Firmware Update Encryption

Description	Selects whether the firmware files are encrypted or not.
Value Range	• Yes • No
Default Value	Yes

File Name

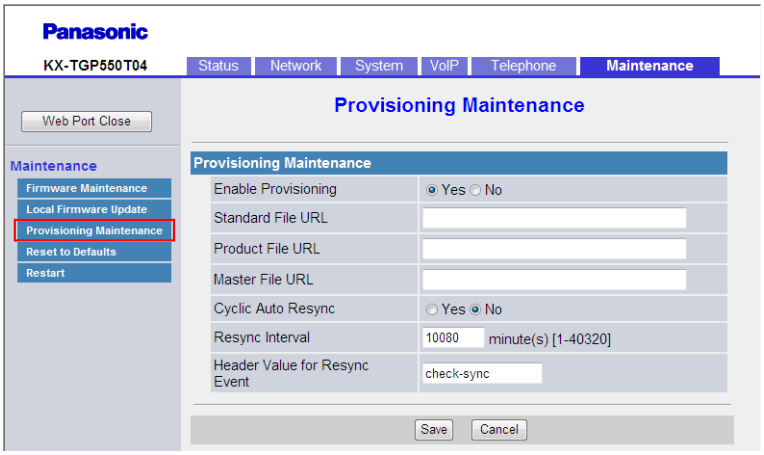
Description	Specifies the path of the firmware file to be imported.
Value Range	No limitation **Note** • There are no limitations for the field entry. However, it is recommended that paths of less than 256 characters be used: longer paths may cause longer data transfer times and result in an internal error.
Default Value	Not stored.

3.8.3 Provisioning Maintenance

This screen allows you to change the provisioning setup to download the configuration files from the provisioning server of your phone system.

Note

- Each unit can accept up to 3 configuration files. For details about provisioning, see **1.1.6 Provisioning**.



3.8.3.1 Provisioning Maintenance

Enable Provisioning

Description	Selects whether the unit is automatically configured by downloading the configuration files from the provisioning server of your phone system.
Value Range	• Yes • No
Default Value	Yes
Configuration File Reference	PROVISION_ENABLE (Page 151)

Standard File URL

Description	Specifies the URL of the standard configuration file, which is used when every unit needs different settings. **Note** • When you change this setting, set **[Enable Provisioning]** to **[Yes]** at the same time.
Value Range	Max. 255 characters
Default Value	Not stored. **Note** • The URL specified by your phone system dealer may be preset in the unit.
Configuration File Reference	CFG_STANDARD_FILE_PATH (Page 151)

Product File URL

Description	Specifies the URL of the product configuration file, which is used when all units with the same model number need the same settings. **Note** • When you change this setting, set **[Enable Provisioning]** to **[Yes]** at the same time.
Value Range	Max. 255 characters
Default Value	Not stored. **Note** • The URL specified by your phone system dealer may be preset in the unit.
Configuration File Reference	CFG_PRODUCT_FILE_PATH (Page 152)

Master File URL

Description	Specifies the URL of the master configuration file, which is used when all units need the same settings. **Note** • When you change this setting, set **[Enable Provisioning]** to **[Yes]** at the same time.
Value Range	Max. 255 characters
Default Value	Not stored. **Note** • The URL specified by your phone system dealer may be preset in the unit.

Configuration File Reference	CFG_MASTER_FILE_PATH (Page 153)

Cyclic Auto Resync

Description	Selects whether the unit periodically checks for updates of configuration files.
Value Range	• Yes • No
Default Value	No
Configuration File Reference	CFG_CYCLIC (Page 155)

Resync Interval

Description	Specifies the interval, in minutes, between periodic checks for updates of the configuration files.
Value Range	1–40320
Default Value	10080
Configuration File Reference	CFG_CYCLIC_INTVL (Page 156)

Header Value for Resync Event

Description	Specifies the value of the "Event" header sent from the SIP server to the unit so that the unit can access the configuration files on the provisioning server.
Value Range	Max. 15 characters **Note** • If the value for this setting is any value other than an empty string (typically "check-sync" or "resync" is set), the unit will access the configuration files on the provisioning server when the SIP server sends an event to notify the unit. If the value for this setting is an empty string, the unit will not access the configuration files on the provisioning server even if the unit receives a synchronization notification of an event.
Default Value	check-sync
Configuration File Reference	CFG_RESYNC_FROM_SIP (Page 157)

3.8.4 Reset to Defaults

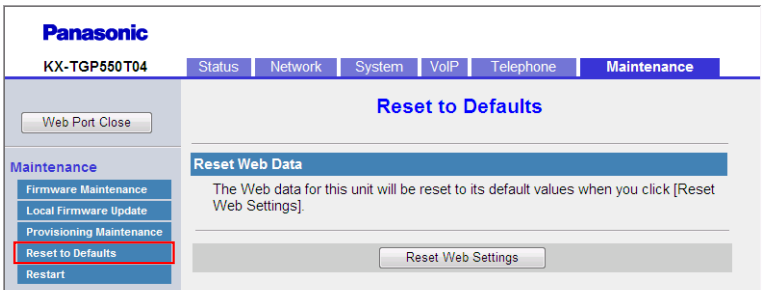
This screen allows you to reset the settings made through the Web user interface to their default values by clicking **[Reset Web Settings]**. After you click this button, a dialog box is displayed, asking whether you want to reset the settings. Click **OK** to reset, or **Cancel** not to. For details about the reset, see **1.2.1.2 Resetting the Settings Made through the Web User Interface (Reset Web Settings)**.

Notice

- After resetting the settings, the base unit will restart even if it is being accessed through the phone user interface, or on calls.

Note

- If you have changed the default password for the Administrator account and successfully reset the settings (the message "Complete" is displayed), the next time you access the Web user interface, the authentication dialog box appears.

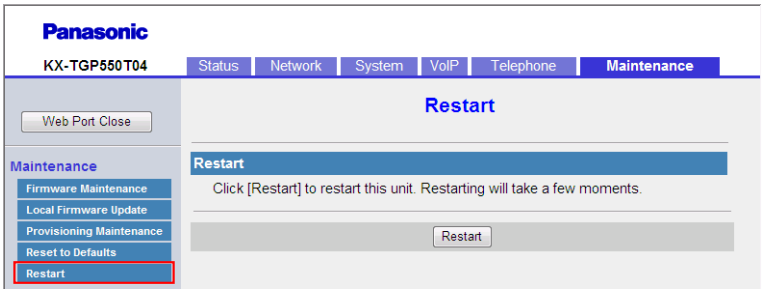


3.8.5 Restart

This screen allows you to restart the base unit by clicking **[Restart]**. After you click this button, a dialog box is displayed, asking whether you want to restart the base unit. Click **OK** to perform a restart, or **Cancel** not to.

Notice

- The base unit will restart even if it is being accessed through the phone user interface, or on calls.



3.8.5 Restart

Section 4

Configuration File Programming

This section provides information about the configuration parameters used in the configuration files.

4.1 Configuration File Parameter List

The following tables show all the parameters that can be programmed using configuration file programming. For details about each parameter, see the reference pages listed.

System Settings

Category	Parameter Name	Ref.
Login Account Settings	ADMIN_ID	Page 141
	ADMIN_PASS*1	Page 141
	USER_ID	Page 142
	USER_PASS*1	Page 142
System Time Settings	TIME_ZONE*1	Page 142
	DST_ENABLE*1	Page 143
	DST_OFFSET*1	Page 143
	DST_START_MONTH*1	Page 144
	DST_START_ORDINAL_DAY*1	Page 144
	DST_START_DAY_OF_WEEK*1	Page 144
	DST_START_TIME*1	Page 145
	DST_STOP_MONTH*1	Page 145
	DST_STOP_ORDINAL_DAY*1	Page 145
	DST_STOP_DAY_OF_WEEK*1	Page 145
	DST_STOP_TIME*1	Page 146
Syslog Settings	SYSLOG_EVENT_SIP	Page 146
	SYSLOG_EVENT_CFG	Page 147
	SYSLOG_EVENT_VOIP	Page 147
	SYSLOG_EVENT_TEL	Page 147
	SYSLOG_ADDR	Page 147
	SYSLOG_PORT	Page 148
	SYSLOG_RTPSMLY_INTVL_[1-8]	Page 148
Firmware Update Settings	FIRM_UPGRADE_ENABLE*1	Page 148
	FIRM_VER_EUDECT	Page 148
	FIRM_VER_USDECT	Page 149
	FIRM_UPGRADE_AUTO*1	Page 149
	FIRM_FILE_PATH*1	Page 149

Category	Parameter Name	Ref.
Provisioning Settings	OPTION66_ENABLE	Page 150
	OPTION66_REBOOT	Page 151
	PROVISION_ENABLE*1	Page 151
	CFG_STANDARD_FILE_PATH*1	Page 151
	CFG_PRODUCT_FILE_PATH*1	Page 152
	CFG_MASTER_FILE_PATH*1	Page 153
	CFG_FILE_KEY1	Page 154
	CFG_FILE_KEY2	Page 155
	CFG_FILE_KEY3	Page 155
	CFG_FILE_KEY_LENGTH	Page 155
	CFG_CYCLIC*1	Page 155
	CFG_CYCLIC_INTVL*1	Page 156
	CFG_RTRY_INTVL	Page 156
	CFG_RESYNC_TIME	Page 156
	CFG_RESYNC_FROM_SIP*1	Page 157

*1 This setting can also be configured through the Web user interface.

Network Settings

Category	Parameter Name	Ref.
IP Settings	CONNECTION_TYPE*1	Page 157
	HOST_NAME*2	Page 158
	DHCP_DNS_ENABLE*1	Page 158
	STATIC_IP_ADDRESS*1	Page 158
	STATIC_SUBNET*1	Page 159
	STATIC_GATEWAY*1	Page 159
	USER_DNS1_ADDR*1	Page 160
	USER_DNS2_ADDR*1	Page 160
DNS Settings	DNS_QRY_PRLL	Page 160
	DNS_PRIORITY	Page 161
	DNS1_ADDR	Page 161
	DNS2_ADDR	Page 161

Category	Parameter Name	Ref.
Ethernet Port Settings	VLAN_ENABLE*1	Page 162
	VLAN_ID_IP_PHONE*1	Page 162
	VLAN_PRI_IP_PHONE*1	Page 162
	VLAN_ID_PC*1	Page 163
	VLAN_PRI_PC*1	Page 163
HTTP Settings	HTTPD_PORTOPEN_AUTO	Page 163
	HTTP_VER*2	Page 164
	HTTP_USER_AGENT*2	Page 164
	HTTP_SSL_VERIFY	Page 165
	CFG_ROOT_CERTIFICATE_PATH	Page 165
Time Adjust Settings	NTP_ADDR*2	Page 166
	TIME_SYNC_INTVL	Page 166
	TIME_QUERY_INTVL*2	Page 166
STUN Settings	STUN_SERV_ADDR*2	Page 166
	STUN_SERV_PORT*2	Page 167
	STUN_2NDSERV_ADDR	Page 167
	STUN_2NDSERV_PORT	Page 167
Miscellaneous Network Settings	NW_SETTING_ENABLE	Page 167
	CUSTOM_WEB_PAGE	Page 168

*1 This setting can also be configured through other programming methods (phone user interface programming or Web user interface programming).
*2 This setting can also be configured through the Web user interface.

Telephone Settings

Category	Parameter Name	Ref.
Multi Number Settings	INCOMING_CALL_GROUP_[1-8]*1	Page 168
	OUTGOING_CALL_LINE_HS[1-6]*1	Page 169
	OUTGOING_CALL_LINE_BS*1	Page 169
	DEFAULT_LINE_SELECT_HS[1-6]*1	Page 170
	DEFAULT_LINE_SELECT_BS*1	Page 170

Category	Parameter Name	Ref.
Call Control Settings	CONFERENCE_SERVER_ADDRESS*1	Page 171
	EMERGENCY_CALL[1-5]*1	Page 171
	FIRSTDIGIT_TIM	Page 172
	INTDIGIT_TIM*1	Page 172
	VM_SUBSCRIBE_ENABLE*1	Page 172
Tone Settings	DIAL_TONE_FRQ*1	Page 172
	DIAL_TONE_TIMING*1	Page 173
	BUSY_TONE_FRQ*1	Page 173
	BUSY_TONE_TIMING*1	Page 173
	RINGING_TONE_FRQ*1	Page 174
	RINGING_TONE_TIMING*1	Page 174
	STT_TONE_FRQ*1	Page 174
	STT_TONE_TIMING*1	Page 174
	REORDER_TONE_FRQ*1	Page 175
	REORDER_TONE_TIMING*1	Page 175
	HOWLER_TONE_FRQ*1	Page 175
	HOWLER_TONE_TIMING*1	Page 175
	HOWLER_START_TIME*1	Page 176
	BELL_CORE_PATTERN1_TIMING	Page 176
	BELL_CORE_PATTERN2_TIMING	Page 176
	BELL_CORE_PATTERN3_TIMING	Page 176
	BELL_CORE_PATTERN4_TIMING	Page 177
	BELL_CORE_PATTERN5_TIMING	Page 177

*1 This setting can also be configured through the Web user interface.

VoIP Settings

Category	Parameter Name	Ref.
Codec Settings	SDP_CODEC[0-4]_[1-8]*1	Page 177
	SDP_CKRTE[0-4]_[1-8]	Page 178
	SDP_PARAM[0-4]_[1-8]	Page 178
	SDP_PTYPE[0-4]_[1-8]	Page 178
	CODEC_G711_REQ	Page 179
	CODEC_G729_PARAM	Page 179
RTP Settings	TOS_RTP_[1-8]*1	Page 180
	RTCP_INTVL_[1-8]*1	Page 181
	MAX_DELAY_[1-8]*1	Page 181
	MIN_DELAY_[1-8]*1	Page 182
	NOM_DELAY_[1-8]*1	Page 182
	RTP_PORT_MIN*1	Page 183
	RTP_PORT_MAX*1	Page 183
	RTP_PTIME*1	Page 183
Miscellaneous VoIP Settings	OUTBANDDTMF_[1-8]*1	Page 184
	OUTBANDDTMF_VOL	Page 184
	TELEVENT_PTYPE_[1-8]*1	Page 184
	RFC2543_HOLD_ENABLE_[1-8]*1	Page 185

*1 This setting can also be configured through the Web user interface.

Line Settings

Category	Parameter Name	Ref.
Call Control Settings	VM_NUMBER_[1-8]*1	Page 185
	DIAL_PLAN_[1-8]*1	Page 185
	DIAL_PLAN_NOT_MATCH_ENABLE_[1-8]*1	Page 186
	SHARED_CALL_ENABLE_[1-8]*1	Page 186
	SHARED_USER_ID_[1-8]*1	Page 187
	SYNCHRONIZATION_ENABLE_[1-8]*1	Page 187
	PRIVACY_MODE_[1-8]*1	Page 188
SIP Settings	SIP_USER_AGENT*1	Page 188
	SIP_AUTHID_[1-8]*1	Page 188

Category	Parameter Name	Ref.
	SIP_PASS_[1-8]*1	Page 189
	SIP_SRC_PORT_[1-8]*1	Page 189
	SIP_PRXY_ADDR_[1-8]*1	Page 189
	SIP_PRXY_PORT_[1-8]*1	Page 190
	SIP_RGSTR_ADDR_[1-8]*1	Page 190
	SIP_RGSTR_PORT_[1-8]*1	Page 190
	SIP_SVCDOMAIN_[1-8]*1	Page 190
	REG_EXPIRE_TIME_[1-8]	Page 191
	REG_INTERVAL_RATE_[1-8]	Page 191
	SIP_SESSION_TIME_[1-8]*1	Page 191
	TOS_SIP_[1-8]*1	Page 192
	SIP_2NDPROXY_ADDR_[1-8]	Page 193
	SIP_2NDPROXY_PORT_[1-8]	Page 194
	SIP_2NDRGSTR_ADDR_[1-8]	Page 194
	SIP_2NDRGSTR_PORT_[1-8]	Page 194
	SIP_TIMER_T1_[1-8]*1	Page 194
	SIP_TIMER_T2_[1-8]*1	Page 195
	INVITE_RTXN_[1-8]*1	Page 195
	OTHER_RTXN_[1-8]*1	Page 195
	SIP_FOVR_NORSP_[1-8]	Page 196
	SIP_FOVR_MAX_[1-8]	Page 196
	SIP_DNSSRV_ENA_[1-8]*1	Page 196
	SIP_UDP_SRV_PREFIX_[1-8]*1	Page 197
	SIP_TCP_SRV_PREFIX_[1-8]*1	Page 197
	SIP_100REL_ENABLE_[1-8]*1	Page 198
	SIP_18X_RTX_INTVL_[1-8]	Page 198
	SIP_PRSNC_ADDR_[1-8]*1	Page 198
	SIP_PRSNC_PORT_[1-8]*1	Page 199
	SIP_2NDPRSNC_ADDR_[1-8]	Page 199
	SIP_2NDPRSNC_PORT_[1-8]	Page 199
	USE_DEL_REG_OPEN_[1-8]	Page 199
	USE_DEL_REG_CLOSE_[1-8]	Page 200
	PORT_PUNCH_INTVL_[1-8]*1	Page 200

Category	Parameter Name	Ref.
	SIP_SUBS_EXPIRE_[1-8]	Page 200
	SUB_RTX_INTVL_[1-8]	Page 201
	REG_RTX_INTVL_[1-8]	Page 201
	SIP_P_PREFERRED_ID_[1-8]	Page 201
	SIP_PRIVACY_[1-8]	Page 202
	ADD_USER_PHONE_[1-8]	Page 202
	SDP_USER_ID_[1-8]	Page 202
	SUB_INTERVAL_RATE_[1-8]	Page 202
	SIP_OUTPROXY_ADDR_[1-8]*1	Page 203
	SIP_OUTPROXY_PORT_[1-8]*1	Page 203
	SIP_TRANSPORT_[1-8]*1	Page 203
	SIP_ANM_DISPNAME_[1-8]	Page 204
	SIP_ANM_USERNAME_[1-8]	Page 204
	SIP_ANM_HOSTNAME_[1-8]	Page 204
	SIP_DETECT_SSAF_[1-8]*1	Page 205
	SIP_RCV_DET_HEADER_[1-8]	Page 205
	SIP_CONTACT_ON_ACK_[1-8]	Page 206
	PHONE_NUMBER_[1-8]*1	Page 206
	LINE_ID_[1-8]*1	Page 206
	DISPLAY_NAME_[1-8]*1	Page 207
	INTERNATIONAL_ACCESS_CODE	Page 207
	SIP_REQURI_PORT_[1-8]	Page 207
	SIP_ADD_RPORT_[1-8]	Page 208
	SIP_SESSION_METHOD_[1-8]	Page 208
	VOICE_MESSAGE_AVAILABLE	Page 208

*1 This setting can also be configured through the Web user interface.

4.2 General Information on the Configuration Files

4.2.1 Configuration File Specifications

The specifications of the configuration files are as follows:

File Format

The configuration file is in plain text format.

File Size

The maximum size of a configuration file is 32,768 bytes. Regardless of the number of configuration files, the total size of the configuration files must be 32,768 bytes or less.

Lines in Configuration Files

A configuration file consists of a sequence of lines, with the following conditions:

- Each line must end with "<CR><LF>".
- The maximum length of a line is 537 bytes including "<CR><LF>".
- The following lines are ignored:
  - Lines that exceed the limit of 537 bytes
  - Empty lines
  - Comment lines that start with "**#**"
- Configuration files must start with a comment line containing the following designated character sequence (28 bytes):
  # PCC Standard Format File #
  The hexadecimal notation of this sequence is:
  23 20 50 43 43 20 53 74 61 6E 64 61 72 64 20 46
  6F 72 6D 61 74 20 46 69 6C 65 20 22
- To prevent the designated character sequence being altered by chance, it is recommended that the configuration file starts with the comment line shown below:
  # PCC Standard Format File # DO NOT CHANGE THIS LINE!
- Configuration files must end with an empty line.
- Each parameter line is written in the form of XXX="yyy" (XXX: parameter name, yyy: parameter value). The value must be enclosed by double quotation marks.
- A parameter line written over multiple lines is not allowed. It will cause an error on the configuration file, resulting in invalid provisioning.

Configuration Parameters

- Both the KX-TGP500 and KX-TGP55x support multiple telephone lines. For some parameters, the value for each line must be specified independently. A parameter name with the suffix "**_1**" is the parameter for line 1; "**_2**" for line 2, and so on.
  Examples of setting the line (phone number) for accessing a voice mail server:
  "**VM_NUMBER_1**": for line 1,
  "**VM_NUMBER_2**": for line 2, …,
  "**VM_NUMBER_8**": for line 8
- The maximum length of a parameter name is 32 characters.
- The maximum length of a parameter value is 500 characters excluding double quotation marks.
- No space characters are allowed in the line except when the value includes a space character(s).
  Example:
  DISPLAY_NAME_1="John Smith" (valid)
  DISPLAY_NAME_1 = "John Smith" (invalid)
- Some parameter values can be specified as "empty" to set the parameter values to empty.
  Example:
  NTP_ADDR=""
- The parameters have no order.
- If the same parameter is specified in a configuration file more than once, the value specified first is applied.
- All configurable settings can be specified in the configuration file. You can ignore settings that already have the desired values. Only change parameters as necessary.

Note

- For examples of configuration files, see **Section 8 Configuration File Examples**.

4.2.2 Configuration File Parameters

The information on each parameter that can be written in a configuration file is shown in the tables below. The information includes parameter name (as the title of the table), value format, description, permitted value range, default value of each parameter, phone user interface reference, and Web user interface reference.

Parameter Name

This is the system-predefined parameter name and cannot be changed.

Value Format

Each parameter value is categorized into Integer, Boolean, or String. Some parameters require a composite form such as "Comma-separated Integer" or "Comma-separated String".

- **Integer**: a numerical value, described as a sequence of numerical characters, optionally preceded by a "-" (minus)
  An empty string is not allowed.
- **Boolean**: "**Y**" or "**N**"
- **String**: sequence of alphanumerical characters
  For details about available characters, see **4.2.3 Characters Available for String Values**.
- **Comma-separated Integer**: a list of integers, separated by commas
  No space characters are allowed.
- **Comma-separated String**: a list of strings, separated by commas
  No space characters are allowed.

Description

Describes the details of the parameter.

Value Range

Indicates the permitted value range of the parameter.

Default Value

Indicates the factory default value of the parameter.
Actual default values may vary depending on your phone system dealer.

Phone User Interface Reference

Provides the reference page of the corresponding parameter in phone user interface programming.

Web User Interface Reference

Provides the reference page of the corresponding parameter in Web user interface programming.

4.2.3 Characters Available for String Values

Unless noted otherwise in "Value Range", only ASCII characters can be used for parameter values. Unicode characters can also be used in some parameter values.

Available ASCII characters are shown on a white background in the following table:

	00	01	02	03	04	05	06	07	08	09	0A	0B	0C	0D	0E	0F
20	SP	!	"	#	$	%	&	'	(	)	*	+	,	-	.	/
30	0	1	2	3	4	5	6	7	8	9	:	;	<	=	>	?
40	@	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
50	P	Q	R	S	T	U	V	W	X	Y	Z	[	\	]	^	_
60	`	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o
70	p	q	r	s	t	u	v	w	x	y	z	{	|	}	~	

4.3 System Settings

4.3.1 Login Account Settings

ADMIN_ID

Value Format	String
Description	Specifies the account ID used to access the Web user interface with the Administrator account.
Value Range	Max. 16 characters (except ", &, ', :, <, >, and space) **Note** • An empty string is not allowed.
Default Value	admin

ADMIN_PASS

Value Format	String
Description	Specifies the password to use to authenticate the Administrator account when logging in to the Web user interface.
Value Range	6–16 characters (except ", &, ', :, <, >, and space)
Default Value	adminpass
Web User Interface Reference	• New Password (Page 78) • Confirm New Password (Page 79)

USER_ID

Value Format	String
Description	Specifies the account ID used to access the Web user interface with the User account.
Value Range	Max. 16 characters (except ", &, ', :, <, >, and space) **Note** • An empty string is not allowed.
Default Value	user

USER_PASS

Value Format	String
Description	Specifies the password to use to authenticate the User account when logging in to the Web user interface.
Value Range	6–16 characters (except ", &, ', :, <, >, and space)
Default Value	Empty string (only before a user accesses the Web user interface for the first time)
Web User Interface Reference	• New Password (Page 79) • Confirm New Password (Page 80)

4.3.2 System Time Settings

TIME_ZONE

Value Format	Integer
Description	Specifies the offset of local standard time from UTC (GMT), in minutes.

Value Range	-720–780 **Note** • Only the following values are available: -720 (GMT -12:00), -660 (GMT -11:00), -600 (GMT -10:00), -540 (GMT -09:00), -480 (GMT -08:00), -420 (GMT -07:00), -360 (GMT -06:00), -300 (GMT -05:00), -240 (GMT -04:00), -210 (GMT -03:30), -180 (GMT -03:00), -120 (GMT -02:00), -60 (GMT -01:00), 0 (GMT), 60 (GMT +01:00), 120 (GMT +02:00), 180 (GMT +03:00), 210 (GMT +03:30), 240 (GMT +04:00), 270 (GMT +04:30), 300 (GMT +05:00), 330 (GMT +05:30), 345 (GMT +05:45), 360 (GMT +06:00), 390 (GMT +06:30), 420 (GMT +07:00), 480 (GMT +08:00), 540 (GMT +09:00), 570 (GMT +09:30), 600 (GMT +10:00), 660 (GMT +11:00), 720 (GMT +12:00), 780 (GMT +13:00) • If your location is west of Greenwich (0 [GMT]), the value should be minus. For example, the value for New York City, U.S.A. is "-300" (Eastern Standard Time being 5 hours behind GMT).
Default Value	0
Web User Interface Reference	Time Zone (Page 82)

DST_ENABLE

Value Format	Boolean
Description	Specifies whether to enable DST (Summer Time).
Value Range	• **Y** (Enable DST [Summer Time]) • **N** (Disable DST [Summer Time])
Default Value	**N**
Web User Interface Reference	Enable DST (Enable Summer Time) (Page 83)

DST_OFFSET

Value Format	Integer
Description	Specifies the amount of time, in minutes, to change the time when "**DST_ENABLE**" is set to "**Y**".
Value Range	0–720 **Note** • This parameter is usually set to "60".
Default Value	60
Web User Interface Reference	DST Offset (Summer Time Offset) (Page 83)

DST_START_MONTH

Value Format	Integer
Description	Specifies the month in which DST (Summer Time) starts.
Value Range	1–12
Default Value	3
Web User Interface Reference	Month (Page 83)

DST_START_ORDINAL_DAY

Value Format	Integer
Description	Specifies the number of the week on which DST (Summer Time) starts. The actual start day is specified in "**DST_START_DAY_OF_WEEK**". For example, to specify the second Sunday, specify "2" in this parameter, and "0" in the next parameter.
Value Range	1–5 – 1: the first week of the month – 2: the second week of the month – 3: the third week of the month – 4: the fourth week of the month – 5: the fifth week of the month
Default Value	2
Web User Interface Reference	Day of Week (Page 83)

DST_START_DAY_OF_WEEK

Value Format	Integer
Description	Specifies the day of the week on which DST (Summer Time) starts.
Value Range	0–6 – 0: Sunday – 1: Monday – 2: Tuesday – 3: Wednesday – 4: Thursday – 5: Friday – 6: Saturday
Default Value	0
Web User Interface Reference	Day of Week (Page 83)

DST_START_TIME

Value Format	Integer
Description	Specifies the start time of DST (Summer Time) in minutes after 12:00 AM.
Value Range	0–1439
Default Value	120
Web User Interface Reference	Time (Page 84)

DST_STOP_MONTH

Value Format	Integer
Description	Specifies the month in which DST (Summer Time) ends.
Value Range	1–12
Default Value	10
Web User Interface Reference	Month (Page 84)

DST_STOP_ORDINAL_DAY

Value Format	Integer
Description	Specifies the number of the week on which DST (Summer Time) ends. The actual end day is specified in "**DST_STOP_DAY_OF_WEEK**". For example, to specify the second Sunday, specify "2" in this parameter, and "0" in the next parameter.
Value Range	1–5 – 1: the first week of the month – 2: the second week of the month – 3: the third week of the month – 4: the fourth week of the month – 5: the fifth week of the month
Default Value	2
Web User Interface Reference	Day of Week (Page 85)

DST_STOP_DAY_OF_WEEK

Value Format	Integer
Description	Specifies the day of the week on which DST (Summer Time) ends.

Value Range	0–6 – 0: Sunday – 1: Monday – 2: Tuesday – 3: Wednesday – 4: Thursday – 5: Friday – 6: Saturday
Default Value	0
Web User Interface Reference	Day of Week (Page 85)

DST_STOP_TIME

Value Format	Integer
Description	Specifies the end time of DST (Summer Time) in minutes after 12:00 AM.
Value Range	0–1439
Default Value	120
Web User Interface Reference	Time (Page 86)

4.3.3 Syslog Settings

SYSLOG_EVENT_SIP

Value Format	Integer
Description	Specifies which SIP-related syslog events are sent to the syslog server. **Note** • If the level of the event is higher than or equal to the set value, the log is sent to the syslog server. • This setting is not applicable for the current version. No logs will be sent to the syslog server, even if values "1–6" are specified.
Value Range	0–6 – 0: no logs sent – 1: emergency (highest) – 2: alert – 3: critical – 4: error – 5: warning – 6: information (lowest)
Default Value	0

SYSLOG_EVENT_CFG

Value Format	Integer
Description	Specifies the threshold of syslog events regarding configuration. **Note** • This setting is not applicable for the current version. No logs will be sent to the syslog server, even if values "1–6" are specified.
Value Range	0–6
Default Value	0

SYSLOG_EVENT_VOIP

Value Format	Integer
Description	Specifies the threshold of syslog events regarding VoIP operation. **Note** • This setting is not applicable for the current version. No logs will be sent to the syslog server, even if values "1–6" are specified.
Value Range	0–6
Default Value	0

SYSLOG_EVENT_TEL

Value Format	Integer
Description	Specifies the threshold of syslog events regarding telephone functions. **Note** • This setting is not applicable for the current version. No logs will be sent to the syslog server, even if values "1–6" are specified.
Value Range	0–6
Default Value	0

SYSLOG_ADDR

Value Format	String
Description	Specifies the IP address or FQDN of the syslog server.
Value Range	Max. 127 characters (IP address in dotted-decimal notation or FQDN)
Default Value	Empty string

SYSLOG_PORT

Value Format	Integer
Description	Specifies the port number of the syslog server.
Value Range	1–65535
Default Value	514

SYSLOG_RTPSMLY_INTVL_[1–8]

Parameter Name Example	**SYSLOG_RTPSMLY_INTVL_1**, **SYSLOG_RTPSMLY_INTVL_2**, …, **SYSLOG_RTPSMLY_INTVL_8**
Value Format	Integer
Description	Specifies the interval, in seconds, to send summarized information of RTP packets to the syslog server.
Value Range	0, 5–65535 (0: No information sent)
Default Value	20

4.3.4 Firmware Update Settings

FIRM_UPGRADE_ENABLE

Value Format	Boolean
Description	Specifies whether to perform firmware updates when the unit detects a newer version of firmware. **Note** • Changing this setting may require restarting the unit. • Local firmware updates from the Web user interface (→ see **3.8.2 Local Firmware Update**) can be performed regardless of this setting.
Value Range	• **Y** (Enable firmware updates) • **N** (Disable firmware updates)
Default Value	**Y**
Web User Interface Reference	Enable Firmware Update (Page 124)

FIRM_VER_EUDECT

Value Format	String

Description	Specifies the firmware version of the DECT system. **Note** • DECT is a widely used cordless phone system in Europe. • Changing this setting may require restarting the unit.
Value Range	Max. 5 characters ("nn.nn" [n=0–9])
Default Value	00.00

FIRM_VER_USDECT

Value Format	String
Description	Specifies the firmware version of the DECT 6.0 system. **Note** • DECT 6.0 is a widely used cordless phone system in North America. • Changing this setting may require restarting the unit.
Value Range	Max. 5 characters ("nn.nn" [n=0–9])
Default Value	00.00

FIRM_UPGRADE_AUTO

Value Format	Boolean
Description	Specifies whether to display a confirmation message asking the user to perform a firmware update (manual) or perform the firmware update without asking the user (automatic) when the unit detects a newer version of firmware. **Note** • This setting is available only when "**FIRM_UPGRADE_ENABLE**" is set to "**Y**". • Changing this setting may require restarting the unit.
Value Range	• **Y** (Enable automatic firmware update) • **N** (Disable automatic firmware update)
Default Value	**Y**
Web User Interface Reference	Update Type (Page 124)

FIRM_FILE_PATH

Value Format	String

Description	Specifies the URL where the firmware file is stored. **Note** • This setting is available only when "**FIRM_UPGRADE_ENABLE**" is set to "**Y**". • Changing this setting may require restarting the unit.
Value Range	Max. 255 characters **Note** • The format must be RFC 1738 compliant, as follows: "<schema>://<user>:<password>@<host>:<port>/<url-path>". – "<user>" must be less than 64 characters. – "<password>" must be less than 64 characters. – "<user>:<password>@" may be empty. – The total of "<schema>://" and "<host>:<port>/<url-path>" must be less than 128 characters. – ":<port>" can be omitted if you do not need to specify the port number. • If "{mac}" is included in this URL, it will be replaced with the unit's MAC address in lower-case. • If "{MAC}" is included in this URL, it will be replaced with the unit's MAC address in upper-case. • If "{MODEL}" is included in this URL, it will be replaced with the unit's model name. • If "{fwver}" is included in this URL, it will be replaced with either "**FIRM_VER_EUDECT**" or "**FIRM_VER_USDECT**" depending on the system. Note that this rule differs from other parameters such as "**SIP_USER_AGENT**".
Default Value	Empty string
Web User Interface Reference	Firmware File URL (Page 125)

4.3.5 Provisioning Settings

OPTION66_ENABLE

Value Format	Boolean
Description	Specifies whether to enable the unit to look for option 66 to receive the TFTP server address or FQDN from the DHCP server. **Note** • The unit will try to download configuration files through the TFTP server, the IP address or FQDN of which is specified in the option number 66 field.
Value Range	• **Y** (Enable option 66) • **N** (Disable option 66)
Default Value	**Y**

OPTION66_REBOOT

Value Format	Boolean
Description	Specifies whether the unit restarts automatically after pre-provisioning has completed successfully using DHCP server option 66. For details, see **1.1.5.4 Pre-provisioning Setting Example**.
Value Range	• **Y** (Restart automatically) • **N** (Do not restart automatically)
Default Value	**N**

PROVISION_ENABLE

Value Format	Boolean
Description	Specifies whether the unit is automatically configured by downloading the configuration files from the provisioning server of your phone system.
Value Range	• **Y** (Enable configuration file download) • **N** (Disable configuration file download)
Default Value	**Y**
Web User Interface Reference	Enable Provisioning (Page 126)

CFG_STANDARD_FILE_PATH

Value Format	String
Description	Specifies the URL of the standard configuration file, which is used when every unit needs different settings. **Note** • When you change this setting, set "**PROVISION_ENABLE**" to "**Y**" at the same time.

Value Range	Max. 255 characters **Note** • The format must be RFC 1738 compliant, as follows: "<schema>://<user>:<password>@<host>:<port>/<url-path>" – "<user>" must be less than 64 characters. – "<password>" must be less than 64 characters. – "<user>:<password>@" may be empty. – The total of "<schema>://" and "<host>:<port>/<url-path>" must be less than 128 characters. – ":<port>" can be omitted if you do not need to specify the port number. • If "{mac}" is included in this URL, it will be replaced with the unit's MAC address in lower-case. • If "{MAC}" is included in this URL, it will be replaced with the unit's MAC address in upper-case. • If "{MODEL}" is included in this URL, it will be replaced with the unit's model name. • If "{fwver}" is included in this URL, it will be replaced with the unit's firmware version. • If this URL ends with "/" (slash), "Config{mac}.cfg" is automatically added at the end of the URL. For example, **`CFG_STANDARD_FILE_PATH="http://host/dir/"`** becomes **`CFG_STANDARD_FILE_PATH="http://host/dir/Config{mac}.cfg"`**.
Default Value	Empty string **Note** • The URL specified by your phone system dealer may be preset in the unit.
Web User Interface Reference	Standard File URL (Page 127)

CFG_PRODUCT_FILE_PATH

Value Format	String
Description	Specifies the URL of the product configuration file, which is used when all units with the same model number need the same settings. **Note** • When you change this setting, set "**`PROVISION_ENABLE`**" to "**`Y`**" at the same time.

Value Range	Max. 255 characters **Note** • The format must be RFC 1738 compliant, as follows: "<schema>://<user>:<password>@<host>:<port>/<url-path>" – "<user>" must be less than 64 characters. – "<password>" must be less than 64 characters. – "<user>:<password>@" may be empty. – The total of "<schema>://" and "<host>:<port>/<url-path>" must be less than 128 characters. – ":<port>" can be omitted if you do not need to specify the port number. • If "{mac}" is included in this URL, it will be replaced with the unit's MAC address in lower-case. • If "{MAC}" is included in this URL, it will be replaced with the unit's MAC address in upper-case. • If "{MODEL}" is included in this URL, it will be replaced with the unit's model name. • If "{fwver}" is included in this URL, it will be replaced with the unit's firmware version. • If this URL ends with "/" (slash), "{MODEL}.cfg" is automatically added at the end of the URL. For example, **`CFG_PRODUCT_FILE_PATH="http://host/dir/"`** becomes **`CFG_PRODUCT_FILE_PATH="http://host/dir/{MODEL}.cfg"`**.
Default Value	Empty string **Note** • The URL specified by your phone system dealer may be preset in the unit.
Web User Interface Reference	Product File URL (Page 127)

CFG_MASTER_FILE_PATH

Value Format	String
Description	Specifies the URL of the master configuration file, which is used when all units need the same settings. **Note** • When you change this setting, set "**`PROVISION_ENABLE`**" to "**`Y`**" at the same time.

Value Range	Max. 255 characters **Note** • The format must be RFC 1738 compliant, as follows: "<schema>://<user>:<password>@<host>:<port>/<url-path>" – "<user>" must be less than 64 characters. – "<password>" must be less than 64 characters. – "<user>:<password>@" may be empty. – The total of "<schema>://" and "<host>:<port>/<url-path>" must be less than 128 characters. – ":<port>" can be omitted if you do not need to specify the port number. • If "{mac}" is included in this URL, it will be replaced with the unit's MAC address in lower-case. • If "{MAC}" is included in this URL, it will be replaced with the unit's MAC address in upper-case. • If "{MODEL}" is included in this URL, it will be replaced with the unit's model name. • If "{fwver}" is included in this URL, it will be replaced with the unit's firmware version. • If this URL ends with "/" (slash), "sip.cfg" is automatically added at the end of the URL. For example, **CFG_MASTER_FILE_PATH="http://host/dir/"** becomes **CFG_MASTER_FILE_PATH="http://host/dir/sip.cfg"**.
Default Value	Empty string **Note** • The URL specified by your phone system dealer may be preset in the unit.
Web User Interface Reference	Master File URL (Page 127)

CFG_FILE_KEY1

Value Format	String
Description	Specifies the encryption key (password) used to decrypt configuration files. **Note** • If the extension of the configuration file is ".e1c", the configuration file will be decrypted using this key.
Value Range	32-byte characters **Note** • If an empty string is set for this parameter, decryption with this value is disabled.
Default Value	A unique value is preset to each unit.

CFG_FILE_KEY2

Value Format	String
Description	Specifies the encryption key (password) used to decrypt configuration files. **Note** • If the extension of the configuration file is ".e2c", the configuration file will be decrypted using this key.
Value Range	32-byte characters **Note** • If an empty string is set for this parameter, decryption with this value is disabled.
Default Value	Empty string

CFG_FILE_KEY3

Value Format	String
Description	Specifies the encryption key (password) used to decrypt configuration files. **Note** • If the extension of the configuration file is ".e3c", the configuration file will be decrypted using this key.
Value Range	32-byte characters **Note** • If an empty string is set for this parameter, decryption with this value is disabled.
Default Value	Empty string

CFG_FILE_KEY_LENGTH

Value Format	Integer
Description	Specifies the key lengths in bits used to decrypt configuration files.
Value Range	• 128 • 192 • 256
Default Value	128

CFG_CYCLIC

Value Format	Boolean

Description	Specifies whether the unit periodically checks for updates of configuration files.
Value Range	• **Y** (Enable periodic synchronization of configuration files) • **N** (Disable periodic synchronization of configuration files)
Default Value	**N**
Web User Interface Reference	Cyclic Auto Resync (Page 128)

CFG_CYCLIC_INTVL

Value Format	Integer
Description	Specifies the interval, in minutes, between periodic checks for updates of the configuration files.
Value Range	1–40320
Default Value	10080
Web User Interface Reference	Resync Interval (Page 128)

CFG_RTRY_INTVL

Value Format	Integer
Description	Specifies the period of time, in minutes, that the unit will retry checking for an update of the configuration files after a configuration file access error has occurred. **Note** • This setting is available only when "**CFG_CYCLIC**" is set to "**Y**".
Value Range	1–1440
Default Value	30

CFG_RESYNC_TIME

Value Format	String
Description	Specifies the time (hour:minute) that the unit checks for updates of configuration files.

Value Range	00:00–23:59 **Note** • If the value for this setting is any valid value other than an empty string, the unit downloads the configuration files at the fixed time, and the settings specified in "**CFG_CYCLIC**", "**CFG_CYCLIC_INTVL**", and "**CFG_RTRY_INTVL**" are disabled. • If the value for this setting is an empty string, downloading the configuration files at the fixed time are disabled.
Default Value	Empty string

CFG_RESYNC_FROM_SIP

Value Format	String
Description	Specifies the value of the "Event" header sent from the SIP server to the unit so that the unit can access the configuration files on the provisioning server.
Value Range	Max. 15 characters **Note** • If the value for this setting is any value other than an empty string (typically "check-sync" or "resync" is set), the unit will access the configuration files on the provisioning server when the SIP server sends an event to notify the unit. • If the value for this setting is an empty string, the unit will not access the configuration files on the provisioning server even if the unit receives a synchronization notification of an event.
Default Value	check-sync
Web User Interface Reference	Header Value for Resync Event (Page 128)

4.4 Network Settings

4.4.1 IP Settings

CONNECTION_TYPE

Value Format	Integer
Description	Specifies whether to assign the IP address automatically (DHCP) or manually (static). **Note** • This setting is available only when "**NW_SETTING_ENABLE**" is set to "**N**".

Value Range	• 1 (DHCP) • 0 (Static)
Default Value	1
Phone User Interface Reference	Configuring Settings from the Base Unit (KX-TGP55x only)/Handset (Page 17)
Web User Interface Reference	Connection Mode (Page 66)

HOST_NAME

Value Format	String
Description	Specifies the host name for the unit to send to the DHCP server. **Note** • This setting is available only when "**CONNECTION_TYPE**" is set to "1".
Value Range	Max. 63 characters **Note** • An empty string is not allowed.
Default Value	Model number (example: TGP5nn)
Web User Interface Reference	Host Name (Page 66)

DHCP_DNS_ENABLE

Value Format	Boolean
Description	Specifies whether to receive DNS server addresses automatically or to assign a DNS server addresses (up to 2) manually. **Note** • This setting is available only when "**CONNECTION_TYPE**" is set to "1" and when "**NW_SETTING_ENABLE**" is set to "**N**".
Value Range	• **Y** (Use "**USER_DNS1_ADDR**" or, "**USER_DNS1_ADDR**" and "**USER_DNS2_ADDR**") • **N** (Receive DNS server address automatically)
Default Value	**N**
Phone User Interface Reference	Configuring Settings from the Base Unit (KX-TGP55x only)/Handset (Page 17)
Web User Interface Reference	Domain Name Server (Page 67)

STATIC_IP_ADDRESS

Value Format	String

Description	Specifies the IP address for the unit. **Note** • This setting is available only when "**CONNECTION_TYPE**" is set to "0" and when "**NW_SETTING_ENABLE**" is set to "**N**". • When you specify this parameter, you must specify "**STATIC_SUBNET**" together in a configuration file.
Value Range	IP address in dotted-decimal notation
Default Value	Empty string
Phone User Interface Reference	Configuring Settings from the Base Unit (KX-TGP55x only)/Handset (Page 17)
Web User Interface Reference	Static IP Address (Page 67)

STATIC_SUBNET

Value Format	String
Description	Specifies the subnet mask for the unit. **Note** • This setting is available only when "**CONNECTION_TYPE**" is set to "0" and when "**NW_SETTING_ENABLE**" is set to "**N**". • When you specify this parameter, you must specify "**STATIC_IP_ADDRESS**" together in a configuration file.
Value Range	IP address in dotted-decimal notation
Default Value	Empty string
Phone User Interface Reference	Configuring Settings from the Base Unit (KX-TGP55x only)/Handset (Page 17)
Web User Interface Reference	Subnet Mask (Page 68)

STATIC_GATEWAY

Value Format	String
Description	Specifies the IP address of the default gateway for the network where the unit is connected. **Note** • This setting is available only when "**CONNECTION_TYPE**" is set to "0" and when "**NW_SETTING_ENABLE**" is set to "**N**". • When you specify this parameter, you must specify "**STATIC_IP_ADDRESS**" and "**STATIC_SUBNET**" together in a configuration file.
Value Range	IP address in dotted-decimal notation
Default Value	Empty string

Phone User Interface Reference	Configuring Settings from the Base Unit (KX-TGP55x only)/Handset (Page 17)
Web User Interface Reference	Default Gateway (Page 68)

USER_DNS1_ADDR

Value Format	String
Description	Specifies the IP address of the primary DNS server. **Note** • This setting is available only when "**CONNECTION_TYPE**" is set to "0" and when "**NW_SETTING_ENABLE**" is set to "**N**".
Value Range	IP address in dotted-decimal notation
Default Value	Empty string
Phone User Interface Reference	Configuring Settings from the Base Unit (KX-TGP55x only)/Handset (Page 17)
Web User Interface Reference	DNS1 (Page 68)

USER_DNS2_ADDR

Value Format	String
Description	Specifies the IP address of the secondary DNS server. **Note** • This setting is available only when "**CONNECTION_TYPE**" is set to "0" and when "**NW_SETTING_ENABLE**" is set to "**N**".
Value Range	IP address in dotted-decimal notation
Default Value	Empty string
Phone User Interface Reference	Configuring Settings from the Base Unit (KX-TGP55x only)/Handset (Page 17)
Web User Interface Reference	DNS2 (Page 69)

4.4.2 DNS Settings

DNS_QRY_PRLL

Value Format	Boolean
Description	Specifies the DNS query method as parallel or sequential.

Value Range	• **Y** (Parallel) • **N** (Sequential) **Note** • If set to "**Y**", the unit sends out all DNS queries at the same time. The first DNS reply will be accepted and used by the unit. • If set to "**N**", the unit sends DNS queries sequentially. The unit sends a request to the DNS server with the highest priority for a preprogrammed time period (5 seconds). When the timer expires, the unit sends a request to the DNS server with the second priority.
Default Value	**Y**

DNS_PRIORITY

Value Format	Boolean
Description	Specifies the priority of the DNS server.
Value Range	• **Y** ("**DNS1_ADDR**" and "**DNS2_ADDR**" have first priority.) • **N** ("**DNS1_ADDR**" and "**DNS2_ADDR**" have no priority.) **Note** • If set to "**Y**", the DNS servers specified in "**DNS1_ADDR**" and "**DNS2_ADDR**" will be queried first. If the queries fail, the DNS server specified by the user (DHCP or static) will be queried. • If set to "**N**", the DNS server specified by the user (DHCP or static) will be queried first. If the query fails, the DNS servers specified in "**DNS1_ADDR**" and "**DNS2_ADDR**" will be queried.
Default Value	**N**

DNS1_ADDR

Value Format	String
Description	Specifies the IP address of the primary DNS server for your phone system dealer.
Value Range	IP address in dotted-decimal notation
Default Value	Empty string

DNS2_ADDR

Value Format	String
Description	Specifies the IP address of the secondary DNS server for your phone system dealer.
Value Range	IP address in dotted-decimal notation

Default Value	Empty string

4.4.3 Ethernet Port Settings

VLAN_ENABLE

Value Format	Boolean
Description	Specifies whether to use the VLAN feature to perform VoIP communication securely. **Note** • This setting is available only when "**NW_SETTING_ENABLE**" is set to "**N**".
Value Range	• **Y** (Enable) • **N** (Disable)
Default Value	**N**
Phone User Interface Reference	2.1.3 VLAN Settings (KX-TGP55x only) (Page 37)
Web User Interface Reference	Enable VLAN (Page 70)

VLAN_ID_IP_PHONE

Value Format	Integer
Description	Specifies the VLAN ID for this unit. **Note** • This setting is available only when "**NW_SETTING_ENABLE**" is set to "**N**".
Value Range	1–4094
Default Value	2
Phone User Interface Reference	2.1.3 VLAN Settings (KX-TGP55x only) (Page 37)
Web User Interface Reference	IP Phone (VLAN ID) (Page 70)

VLAN_PRI_IP_PHONE

Value Format	Integer
Description	Specifies the priority number for the unit. **Note** • This setting is available only when "**NW_SETTING_ENABLE**" is set to "**N**".

Value Range	0–7
Default Value	7
Phone User Interface Reference	2.1.3 VLAN Settings (KX-TGP55x only) (Page 37)
Web User Interface Reference	IP Phone (Priority) (Page 71)

VLAN_ID_PC (KX-TGP55x only)

Value Format	Integer
Description	Specifies the VLAN ID for the PC. **Note** • This setting is available only when "**NW_SETTING_ENABLE**" is set to "**N**".
Value Range	1–4094
Default Value	1
Phone User Interface Reference	2.1.3 VLAN Settings (KX-TGP55x only) (Page 37)
Web User Interface Reference	PC (VLAN ID) (KX-TGP55x only) (Page 71)

VLAN_PRI_PC (KX-TGP55x only)

Value Format	Integer
Description	Specifies the priority number for the PC. **Note** • This setting is available only when "**NW_SETTING_ENABLE**" is set to "**N**".
Value Range	0–7
Default Value	0
Phone User Interface Reference	2.1.3 VLAN Settings (KX-TGP55x only) (Page 37)
Web User Interface Reference	PC (Priority) (KX-TGP55x only) (Page 71)

4.4.4 HTTP Settings

HTTPD_PORTOPEN_AUTO

Value Format	Boolean
Description	Specifies whether the unit's Web port is always open.

Value Range	• **Y** (Web port is always open) • **N** (Web port is closed [can be opened temporarily through phone user interface programming]) **Notice** • If you want to set to "**Y**", please fully recognize the possibility of unauthorized access to the unit through the Web user interface and change this setting at your own risk. In addition, please take full security measures for connecting to an external network and control all passwords for logging in to the Web user interface.
Default Value	**N**

HTTP_VER

Value Format	Integer
Description	Specifies which version of the HTTP protocol to use for HTTP communication.
Value Range	• 1 (Use HTTP 1.0) • 0 (Use HTTP 1.1) **Note** • For this unit, it is strongly recommended that you specify "1" for this setting. However, if the HTTP server does not function well with HTTP 1.0, try changing the setting "0".
Default Value	1
Web User Interface Reference	HTTP Version (Page 72)

HTTP_USER_AGENT

Value Format	String
Description	Specifies the text string to send as the user agent in the header of HTTP requests.
Value Range	Max. 40 characters **Note** • An empty string is not allowed. • If "{mac}" is included in this parameter, it will be replaced with the unit's MAC address in lower-case. • If "{MAC}" is included in this parameter, it will be replaced with the unit's MAC address in upper-case. • If "{MODEL}" is included in this parameter, it will be replaced with the unit's model name. • If "{fwver}" is included in this parameter, it will be replaced with the firmware version of the unit.
Default Value	Panasonic_{MODEL}/{fwver} ({mac})

Web User Interface Reference	HTTP User Agent (Page 72)

HTTP_SSL_VERIFY

Value Format	Integer
Description	Specifies whether to enable the verification of the root certificate.
Value Range	• 0 (No verification of root certificate) • 1 (Simple verification of root certificate) • 2 (Precise verification of root certificate) **Note** • If set to "0", the verification of the root certificate is disabled. • If set to "1", the verification of the root certificate is enabled. In this case, the validity of the certificate's date, certificate's chain, and the confirmation of the root certificate will be verified. • If set to "2", precise certificate verification is enabled. In this case, the validity of the server name will be verified in addition to the items verified when "1" is set.
Default Value	0

CFG_ROOT_CERTIFICATE_PATH

Value Format	String
Description	Specifies the URI of the root certificate. **Note** • Changing this setting may require restarting the unit.
Value Range	Max. 255 characters **Note** • The format must be RFC 1738 compliant, as follows: "<schema>://<user>:<password>@<host>:<port>/<url-path>" – "<user>" must be less than 64 characters. – "<password>" must be less than 64 characters. – "<user>:<password>@" may be empty. – The total of "<schema>://" and "<host>:<port>/<url-path>" must be less than 128 characters. – ":<port>" can be omitted if you do not need to specify the port number.
Default Value	Empty string

4.4.5 Time Adjust Settings

NTP_ADDR

Value Format	String
Description	Specifies the IP address or FQDN of the NTP server.
Value Range	Max. 127 characters (IP address in dotted-decimal notation or FQDN)
Default Value	Empty string
Web User Interface Reference	NTP Server Address (Page 82)

TIME_SYNC_INTVL

Value Format	Integer
Description	Specifies the interval, in seconds, to resynchronize after having detected no reply from the NTP server.
Value Range	10–86400
Default Value	60

TIME_QUERY_INTVL

Value Format	Integer
Description	Specifies the interval, in seconds, between synchronizations with the NTP server.
Value Range	10–86400
Default Value	43200
Web User Interface Reference	Synchronization Interval (Page 82)

4.4.6 STUN Settings

STUN_SERV_ADDR

Value Format	String
Description	Specifies the IP address or FQDN of the STUN server.
Value Range	Max. 127 characters (IP address in dotted-decimal notation or FQDN)
Default Value	Empty string
Web User Interface Reference	STUN Server Address (Page 75)

STUN_SERV_PORT

Value Format	Integer
Description	Specifies the port number of the STUN server.
Value Range	1–65535
Default Value	3478
Web User Interface Reference	STUN Server Port (Page 75)

STUN_2NDSERV_ADDR

Value Format	String
Description	Specifies the IP address of the secondary STUN server. **Note** • This setting is available only when "**STUN_SERV_ADDR**" is specified in IP address notation.
Value Range	IP address in dotted-decimal notation
Default Value	Empty string

STUN_2NDSERV_PORT

Value Format	Integer
Description	Specifies the port number of the secondary STUN server.
Value Range	1–65535
Default Value	3478

4.4.7 Miscellaneous Network Settings

NW_SETTING_ENABLE

Value Format	Boolean
Description	Specifies whether to enable the network settings from the base unit and handsets. **Note** • If you change this setting to "**N**" when the network settings (with the exception of "**HOST_NAME**") in **4.4.1 IP Settings** have been made through Web user interface programming, clear these settings once by performing Reset Web Settings from the Web user interface, and then change this setting to "**N**".

Value Range	• `Y` (Enable network settings) • `N` (Disable network settings)
Default Value	`Y`

CUSTOM_WEB_PAGE

Value Format	Integer
Description	Specifies whether to enable the settings in **3.4.1 Basic Network Settings**, **3.5.5 Time Adjust Settings**, and **3.7.1 Multi Number Settings** from the Web user interface when logged in with the User account.
Value Range	0–7
Default Value	0

Value	Basic Network Settings	Time Adjust Settings	Multi Number Settings
0	Enable	Enable	Disable
1	Disable	Enable	Disable
2	Enable	Disable	Disable
3	Disable	Disable	Disable
4	Enable	Enable	Enable
5	Disable	Enable	Enable
6	Enable	Disable	Enable
7	Disable	Disable	Enable

4.5 Telephone Settings

4.5.1 Multi Number Settings

INCOMING_CALL_GROUP_[1–8]

Parameter Name Example	`INCOMING_CALL_GROUP_1`, `INCOMING_CALL_GROUP_2`, …, `INCOMING_CALL_GROUP_8`
Value Format	Comma-separated Integer

Description	Specifies the handsets (1–6) and the base unit (KX-TGP55x only) that calls will arrive at, using 7 whole numbers (0 or 1) separated by commas.
Value Range	• 0 (Disable) • 1 (Enable) **Note** • The format must be "x,x,x,x,x,x,y" (x: handsets 1 to 6 starting from the left, y: base unit). • You cannot set all the values for the handsets and the base unit (KX-TGP55x only) to "0" in this format.
Default Value	1,1,1,1,1,1,1
Web User Interface Reference	• Line No. (Page 105) • Phone Number (Page 105) • Handset No. (Page 106) • Base (KX-TGP55x only) (Page 106)

OUTGOING_CALL_LINE_HS[1–6]

Parameter Name Example	`OUTGOING_CALL_LINE_HS1`, `OUTGOING_CALL_LINE_HS2`, …, `OUTGOING_CALL_LINE_HS6`
Value Format	Comma-separated Integer
Description	Specifies which lines (1–8) can be seized when going off-hook to make a call for each handset, using 8 whole numbers (0 or 1) separated by commas.
Value Range	• 0 (Disable) • 1 (Enable) **Note** • The format must be "x,x,x,x,x,x,x,x" (x: line numbers 1 to 8 starting from the left). • If you set all the values for the lines to "0" in this format, calls cannot be made from the handsets.
Default Value	1,1,1,1,1,1,1,1
Web User Interface Reference	• Handset No. (Page 106) • Line No. (Page 107)

OUTGOING_CALL_LINE_BS

Value Format	Comma-separated Integer
Description	Specifies which lines (1–8) can be seized when going off-hook to make a call for the base unit, using 8 whole numbers (0 or 1) separated by commas.

Value Range	• 0 (Disable) • 1 (Enable) **Note** • The format must be "x,x,x,x,x,x,x,x" (x: line numbers 1 to 8 starting from the left). • If you set all the values for the lines to "0" in this format, calls cannot be made from the base unit.
Default Value	1,1,1,1,1,1,1,1
Web User Interface Reference	• Base (KX-TGP55x only) (Page 106) • Line No. (Page 107)

DEFAULT_LINE_SELECT_HS[1–6]

Parameter Name Example	**DEFAULT_LINE_SELECT_HS1**, **DEFAULT_LINE_SELECT_HS2**, …, **DEFAULT_LINE_SELECT_HS6**
Value Format	Comma-separated Integer
Description	Specifies which lines (1–8) to seize automatically when going off-hook to make a call for each handset, using 8 whole numbers (0 or 1) separated by commas.
Value Range	• 0 (Disable) • 1 (Enable) **Note** • The format must be "x,x,x,x,x,x,x,x" (x: line numbers 1 to 8 starting from the left). • "1" must be specified only once as a line that can be seized automatically when going off-hook in this format. • If the line specified in this parameter is not specified as a line that can be seized for the corresponding handset in "**OUTGOING_CALL_LINE_HS[1–6]**", the handset cannot make a call.
Default Value	1,0,0,0,0,0,0,0
Web User Interface Reference	Default (Page 107)

DEFAULT_LINE_SELECT_BS

Value Format	Comma-separated Integer
Description	Specifies which lines (1–8) to seize automatically when going off-hook to make a call for the base unit, using 8 whole numbers (0 or 1) separated by commas.

Value Range	• 0 (Disable) • 1 (Enable) **Note** • The format must be "x,x,x,x,x,x,x,x" (x: line numbers 1 to 8 starting from the left). • "1" must be specified only once as a line that can be seized automatically when going off-hook in this format. • If the line specified in this parameter is not specified as a line that can be seized for the base unit in "**OUTGOING_CALL_LINE_BS**", the base unit cannot make a call.
Default Value	1,0,0,0,0,0,0,0
Web User Interface Reference	Default (Page 107)

4.5.2 Call Control Settings

CONFERENCE_SERVER_ADDRESS

Value Format	String
Description	Specifies the URI for a conference server, which consists of a user part, the "@" symbol, and a host part, for example, "conference@example.com". **Note** • Availability depends on your phone system.
Value Range	Max. 127 characters
Default Value	Empty string
Web User Interface Reference	Conference Server Address (Page 108)

EMERGENCY_CALL[1–5]

Parameter Name Example	**EMERGENCY_CALL1**, **EMERGENCY_CALL2**, **EMERGENCY_CALL3**, **EMERGENCY_CALL4**, **EMERGENCY_CALL5**
Value Format	String
Description	Specifies the phone numbers used for making emergency calls. A user can dial any of the specified phone numbers at any time regardless of any restrictions imposed on the unit. A maximum of 5 phone numbers can be specified. **Note** • When a phone number is specified here, it will be prioritized over the setting specified in "**DIAL_PLAN_[1–8]**" in **4.7.1 Call Control Settings**.
Value Range	Max. 24 characters

Default Value	Empty string
Web User Interface Reference	1–5 (Page 109)

FIRSTDIGIT_TIM

Value Format	Integer
Description	Specifies the length of time, in seconds, within which the first digits of a dial number must be dialed. When this timer expires, the unit will play a busy tone.
Value Range	10–600
Default Value	30

INTDIGIT_TIM

Value Format	Integer
Description	Specifies the length of time, in seconds, within which subsequent digits of a dial number must be dialed. When this timer expires after the last key was pressed, dialing will start.
Value Range	3–10
Default Value	5
Web User Interface Reference	Inter-digit Timeout (Page 108)

VM_SUBSCRIBE_ENABLE

Value Format	Boolean
Description	Specifies whether to send the SUBSCRIBE request to a voice mail server. **Note** • Your phone system must support voice mail.
Value Range	• **Y** (Send the SUBSCRIBE request) • **N** (Do not send the SUBSCRIBE request)
Default Value	**N**
Web User Interface Reference	Send SUBSCRIBE to Voice Mail Server (Page 108)

4.5.3 Tone Settings

DIAL_TONE_FRQ

Value Format	Comma-separated Integer

Description	Specifies the dual-tone frequencies, in hertz, of dial tones using 2 whole numbers separated by a comma.
Value Range	0, 200–1000 (0: No tone) **Note** • If the value for this setting is "350,440", the unit will use a mixed signal of a 350 Hz tone and a 440 Hz tone.
Default Value	350,440
Web User Interface Reference	Tone Frequencies (Page 118)

DIAL_TONE_TIMING

Value Format	Comma-separated Integer
Description	Specifies the pattern, in milliseconds, of dial tones using 4 whole numbers (on 1, off 1, on 2, off 2) separated by commas.
Value Range	0–5000 (0: Infinite time) **Note** • The unit will play the tone for the duration of the first value, stop it for the duration of the second value, play it for the duration of the third value, and then stop it for the duration of the last value. The whole sequence will then repeat. For example, if the value for this setting is "100,100,0,0", the unit will play the tone for 100 ms, stop it for 100 ms, and then play it continuously.
Default Value	0,0,0,0 (The unit plays the dial tone continuously.)
Web User Interface Reference	Tone Timings (Page 118)

BUSY_TONE_FRQ

Value Format	Comma-separated Integer
Description	Specifies the dual-tone frequencies, in hertz, of busy tones using 2 whole numbers separated by a comma.
Value Range	0, 200–1000 (0: No tone)
Default Value	480,620
Web User Interface Reference	Tone Frequencies (Page 119)

BUSY_TONE_TIMING

Value Format	Comma-separated Integer
Description	Specifies the pattern, in milliseconds, of busy tones using 4 whole numbers (on 1, off 1, on 2, off 2) separated by commas.
Value Range	0–5000 (0: Infinite time)

Default Value	500,500,500,500
Web User Interface Reference	Tone Timings (Page 119)

RINGING_TONE_FRQ

Value Format	Comma-separated Integer
Description	Specifies the dual-tone frequencies, in hertz, of ringback tones using 2 whole numbers separated by a comma.
Value Range	0, 200–1000 (0: No tone)
Default Value	440,480
Web User Interface Reference	Tone Frequencies (Page 119)

RINGING_TONE_TIMING

Value Format	Comma-separated Integer
Description	Specifies the pattern, in milliseconds, of ringback tones using 4 whole numbers (on 1, off 1, on 2, off 2) separated by commas.
Value Range	0–5000 (0: Infinite time)
Default Value	2000,4000,2000,4000
Web User Interface Reference	Tone Timings (Page 120)

STT_TONE_FRQ

Value Format	Comma-separated Integer
Description	Specifies the dual-tone frequencies, in hertz, of stutter dial tones to notify that a voice mail is waiting, using 2 whole numbers separated by a comma.
Value Range	0, 200–1000 (0: No tone)
Default Value	350,440
Web User Interface Reference	Tone Frequencies (Page 120)

STT_TONE_TIMING

Value Format	Comma-separated Integer
Description	Specifies the pattern, in milliseconds, of stutter dial tones to notify that a voice mail is waiting, using 22 whole numbers (on 1, off 1, on 2, off 2, …, on 11, off 11) separated by commas.
Value Range	0–5000 (0: Infinite time)

Default Value	100,100,100,100,100,100,100,100,100,100,100,100,100,100,100,100,100,100,100,100,100,100,100,0,0
Web User Interface Reference	Tone Timings (Page 120)

REORDER_TONE_FRQ

Value Format	Comma-separated Integer
Description	Specifies the dual-tone frequencies, in hertz, of reorder tones using 2 whole numbers separated by a comma.
Value Range	0, 200–1000 (0: No tone)
Default Value	480,620
Web User Interface Reference	Tone Frequencies (Page 120)

REORDER_TONE_TIMING

Value Format	Comma-separated Integer
Description	Specifies the pattern, in milliseconds, of reorder tones using 8 whole numbers (on 1, off 1, on 2, off 2, on 3, off 3, on 4, off 4) separated by commas.
Value Range	0–5000 (0: Infinite time)
Default Value	250,250,250,250,250,250,250,250
Web User Interface Reference	Tone Timings (Page 121)

HOWLER_TONE_FRQ

Value Format	Comma-separated Integer
Description	Specifies the dual-tone frequencies, in hertz, of howler tones (i.e., alarm tones) using 2 whole numbers separated by a comma.
Value Range	0, 200–3000 (0: No tone)
Default Value	1400,2060
Web User Interface Reference	Tone Frequencies (Page 121)

HOWLER_TONE_TIMING

Value Format	Comma-separated Integer
Description	Specifies the pattern, in milliseconds, of howler tones (i.e., alarm tones) using 4 whole numbers (on 1, off 1, on 2, off 2) separated by commas.
Value Range	0–5000 (0: Infinite time)
Default Value	100,100,100,100

Web User Interface Reference	Tone Timings (Page 121)

HOWLER_START_TIME

Value Format	Integer
Description	Specifies the length of time, in seconds, that busy or reorder tones play until they switch to howler tones.
Value Range	0–120 (0: Disable)
Default Value	30
Web User Interface Reference	Start Time (Page 121)

BELL_CORE_PATTERN1_TIMING

Value Format	Comma-separated Integer
Description	Specifies the cadence, in milliseconds, of pattern ID 1, described in the LSSGR, GR-506-CORE, "Signaling for Analog Interfaces" section 14, using 2 whole numbers separated by a comma.
Value Range	0–5000 (0: Infinite time)
Default Value	2000,4000

BELL_CORE_PATTERN2_TIMING

Value Format	Comma-separated Integer
Description	Specifies the cadence, in milliseconds, of pattern ID 2, described in the LSSGR, GR-506-CORE, "Signaling for Analog Interfaces" section 14, using 4 whole numbers separated by commas.
Value Range	0–5000 (0: Infinite time)
Default Value	800,400,800,4000

BELL_CORE_PATTERN3_TIMING

Value Format	Comma-separated Integer
Description	Specifies the cadence, in milliseconds, of pattern ID 3, described in the LSSGR, GR-506-CORE, "Signaling for Analog Interfaces" section 14, using 6 whole numbers separated by commas.
Value Range	0–5000 (0: Infinite time)
Default Value	400,200,400,200,800,4000

BELL_CORE_PATTERN4_TIMING

Value Format	Comma-separated Integer
Description	Specifies the cadence, in milliseconds, of pattern ID 4, described in the LSSGR, GR-506-CORE, "Signaling for Analog Interfaces" section 14, using 6 whole numbers separated by commas.
Value Range	0–5000 (0: Infinite time)
Default Value	300,200,1000,200,300,4000

BELL_CORE_PATTERN5_TIMING

Value Format	Integer
Description	Specifies the cadence, in milliseconds, of pattern ID 5, described in the LSSGR, GR-506-CORE, "Signaling for Analog Interfaces" section 14.
Value Range	0–5000 (0: Infinite time)
Default Value	500

4.6 VoIP Settings

4.6.1 Codec Settings

SDP_CODEC[0–4]_[1–8]

Parameter Name Example	**SDP_CODEC0_1**, **SDP_CODEC0_2**, …, **SDP_CODEC0_8**, **SDP_CODEC1_1**, **SDP_CODEC1_2**, …, **SDP_CODEC1_8**, …, **SDP_CODEC4_1**, **SDP_CODEC4_2**, …, **SDP_CODEC4_8**
Value Format	String
Description	Specifies the 1st to 5th priority (from 0–4) codec to be used for each line (from 1–8) with "**SDP_CODECx_y**" (x: priority, y: line number).
Value Range	Max. 32 characters – G722 – PCMA (G.711 A-law) – G726-32 (G.726 [32k]) – G729A – PCMU (G.711 µ-law) – Empty string
Default Value	G722 (for **SDP_CODEC0_1** to **SDP_CODEC0_8**) PCMA (for **SDP_CODEC1_1** to **SDP_CODEC1_8**) G726-32 (for **SDP_CODEC2_1** to **SDP_CODEC2_8**) G729A (for **SDP_CODEC3_1** to **SDP_CODEC3_8**) PCMU (for **SDP_CODEC4_1** to **SDP_CODEC4_8**)

Web User Interface Reference	• First CODEC (Page 101) • Second CODEC (Page 102) • Third CODEC (Page 102) • Fourth CODEC (Page 103) • Fifth CODEC (Page 103)

SDP_CKRTE[0–4]_[1–8]

Parameter Name Example	**SDP_CKRTE0_1**, **SDP_CKRTE0_2**, …, **SDP_CKRTE0_8**, **SDP_CKRTE1_1**, **SDP_CKRTE1_2**, …, **SDP_CKRTE1_8**, …, **SDP_CKRTE4_1**, **SDP_CKRTE4_2**, …, **SDP_CKRTE4_8**
Value Format	Integer
Description	Specifies the sampling rate with "**SDP_CKRTEx_y**" for the corresponding encoding name specified by "**SDP_CODECx_y**" (x: priority, y: line number).
Value Range	0, 8000, or 16000 (0: Unused SDP, 8000 or 16000: Available SDPs) **Note** • The value "16000" is valid only for the G722 codec.
Default Value	8000

SDP_PARAM[0–4]_[1–8]

Parameter Name Example	**SDP_PARAM0_1**, **SDP_PARAM0_2**, …, **SDP_PARAM0_8**, **SDP_PARAM1_1**, **SDP_PARAM1_2**, …, **SDP_PARAM1_8**, …, **SDP_PARAM4_1**, **SDP_PARAM4_2**, …, **SDP_PARAM4_8**
Value Format	Integer
Description	Specifies the number of audio channels with "**SDP_PARAMx_y**" for the corresponding encoding name specified by "**SDP_CODECx_y**" (x: priority, y: line number). **Note** • For the current version, only the value "0" is supported.
Value Range	0, 1–255 (0: No parameter specification, 1–255: Audio channels)
Default Value	0

SDP_PTYPE[0–4]_[1–8]

Parameter Name Example	**SDP_PTYPE0_1**, **SDP_PTYPE0_2**, …, **SDP_PTYPE0_8**, **SDP_PTYPE1_1**, **SDP_PTYPE1_2**, …, **SDP_PTYPE1_8**, …, **SDP_PTYPE4_1**, **SDP_PTYPE4_2**, …, **SDP_PTYPE4_8**
Value Format	Integer

Description	Specifies the payload type number with "**SDP_PTYPEx_y**" for the corresponding encoding name specified by "**SDP_CODECx_y**" (x: priority, y: line number).
Value Range	0–127, 255 **Note** • If an empty string is set for "**SDP_CODECx_y**", "255" must be set as the value for the corresponding "**SDP_PTYPEx_y**".
Default Value	9 (for **SDP_PTYPE0_1** to **SDP_PTYPE0_8**) 8 (for **SDP_PTYPE1_1** to **SDP_PTYPE1_8**) 2 (for **SDP_PTYPE2_1** to **SDP_PTYPE2_8**) 18 (for **SDP_PTYPE3_1** to **SDP_PTYPE3_8**) 0 (for **SDP_PTYPE4_1** to **SDP_PTYPE4_8**)

CODEC_G711_REQ

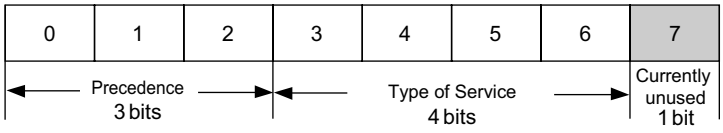
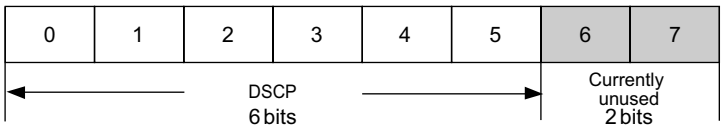
Value Format	Integer
Description	Specifies whether to set "**PCMU**" as a codec selection automatically when "**SDP_CODECx_y**" (x: priority, y: line number) is set to any codec selection other than "**PCMU**". **Note** • Changing this setting may require restarting the unit.
Value Range	• 0 (Do not set "**PCMU**") • 1 (Set "**PCMU**")
Default Value	1

CODEC_G729_PARAM

Value Format	Integer
Description	Specifies whether to add an attribute line, "a=fmtp:18 annexb=no", to SDP when "**SDP_CODECx_y**" (x: priority, y: line number) is set to "**G729A**". **Note** • Changing this setting may require restarting the unit.
Value Range	• 0 (Do not add "a=fmtp:18 annexb=no") • 1 (Add "a=fmtp:18 annexb=no")
Default Value	0

4.6.2 RTP Settings

TOS_RTP_[1–8]

Parameter Name Example	**TOS_RTP_1**, **TOS_RTP_2**, …, **TOS_RTP_8**
Value Format	Integer
Description	Specifies the value to be stored in the ToS (Type of Service) field in the IP header of RTP packets as a DSCP for DiffServ. **Note** • The structures of the ToS/DS field in an IP header are shown below. **ToS field**  **DS field**  The ToS field consists of a 3-bit precedence, a 4-bit type of service, and a 1-bit unused field. The DS filed consists of a 6-bit DSCP and a 2-bit unused field.

Value Range	0–255 **Note** • Because the 6-bit DSCP values (i.e., "xxx 000" where "x"="0" or "1") in the DS field are converted to the 8-bit DSCP values (i.e., "xxx 000 00"), you must specify here the fourfold decimal value for 2 bits shifted left. The following listing shows the DSCP level of DiffServ and the corresponding decimal value to be specified in this parameter. – Best Effort (default) (000 000 00): 0 – AF11 (DSCP 10) (001 010 00): 40 – AF12 (DSCP 12) (001 100 00): 48 – AF13 (DSCP 14) (001 110 00): 56 – AF21 (DSCP 18) (010 010 00): 72 – AF22 (DSCP 20) (010 100 00): 80 – AF23 (DSCP 22) (010 110 00): 88 – AF31 (DSCP 26) (011 010 00): 104 – AF32 (DSCP 28) (011 100 00): 112 – AF33 (DSCP 30) (011 110 00): 120 – AF41 (DSCP 34) (100 010 00): 136 – AF42 (DSCP 36) (100 100 00): 144 – AF43 (DSCP 38) (100 110 00): 152 – CS1 (ToS 1) (001 000 00): 32 – CS2 (ToS 2) (010 000 00): 64 – CS3 (ToS 3) (011 000 00): 96 – CS4 (ToS 4) (100 000 00): 128 – CS5 (ToS 5) (101 000 00): 160 – CS6 (ToS 6) (110 000 00): 192 – CS7 (ToS 7) (111 000 00): 224 – EF (Expedited Forwarding) (DSCP 46) (101 110 00): 184
Default Value	0
Web User Interface Reference	RTP Packet QoS (DSCP) (Page 98)

RTCP_INTVL_[1–8]

Parameter Name Example	**RTCP_INTVL_1**, **RTCP_INTVL_2**, …, **RTCP_INTVL_8**
Value Format	Integer
Description	Specifies the interval, in seconds, between RTCP packets.
Value Range	0, 5–65535 (0: Disable)
Default Value	0
Web User Interface Reference	RTCP Interval (Page 99)

MAX_DELAY_[1–8]

Parameter Name Example	**MAX_DELAY_1**, **MAX_DELAY_2**, …, **MAX_DELAY_8**

Value Format	Integer
Description	Specifies the maximum delay, in 10-millisecond units, of the jitter buffer.
Value Range	3–50 (× 10 ms) **Note** • This setting is subject to the following conditions: – This value must be greater than "**NOM_DELAY**" – This value must be greater than "**MIN_DELAY**" – "**NOM_DELAY**" must be greater than or equal to "**MIN_DELAY**"
Default Value	20
Web User Interface Reference	Maximum Delay (Page 99)

MIN_DELAY_[1–8]

Parameter Name Example	**MIN_DELAY_1**, **MIN_DELAY_2**, …, **MIN_DELAY_8**
Value Format	Integer
Description	Specifies the minimum delay, in 10-millisecond units, of the jitter buffer.
Value Range	1 or 2 (× 10 ms) **Note** • This setting is subject to the following conditions: – This value must be less than or equal to "**NOM_DELAY**" – This value must be less than "**MAX_DELAY**" – "**MAX_DELAY**" must be greater than "**NOM_DELAY**"
Default Value	2
Web User Interface Reference	Minimum Delay (Page 100)

NOM_DELAY_[1–8]

Parameter Name Example	**NOM_DELAY_1**, **NOM_DELAY_2**, …, **NOM_DELAY_8**
Value Format	Integer
Description	Specifies the initial delay, in 10-millisecond units, of the jitter buffer.
Value Range	1–7 (× 10 ms) **Note** • This setting is subject to the following conditions: – This value must be greater than or equal to "**MIN_DELAY**" – This value must be less than "**MAX_DELAY**"
Default Value	2
Web User Interface Reference	Initial Delay (Page 100)

RTP_PORT_MIN

Value Format	Integer
Description	Specifies the lowest port number that the unit will use for RTP packets. **Note** • If port numbers are specified in **[Channel 1–3]** in **3.4.5.3 External RTP Port** in the Web user interface, this setting is ignored and the corresponding external RTP port is enabled.
Value Range	1024–48750 (even number only) **Note** • The value for this setting must be less than or equal to "**RTP_PORT_MAX**" - 400.
Default Value	16000
Web User Interface Reference	Minimum RTP Port Number (Page 97)

RTP_PORT_MAX

Value Format	Integer
Description	Specifies the highest port number that the unit will use for RTP packets. **Note** • If port numbers are specified in **[Channel 1–3]** in **3.4.5.3 External RTP Port** in the Web user interface, this setting is ignored and the corresponding external RTP port is enabled.
Value Range	1424–49150 (even number only) **Note** • The value for this setting must be greater than or equal to "**RTP_PORT_MIN**" + 400.
Default Value	20000
Web User Interface Reference	Maximum RTP Port Number (Page 97)

RTP_PTIME

Value Format	Integer
Description	Specifies the interval, in milliseconds, between transmissions of RTP packets.
Value Range	• 20 • 30 • 40

Default Value	20
Web User Interface Reference	RTP Packet Time (Page 96)

4.6.3 Miscellaneous VoIP Settings

OUTBANDDTMF_[1–8]

Parameter Name Example	**OUTBANDDTMF_1**, **OUTBANDDTMF_2**, …, **OUTBANDDTMF_8**
Value Format	Boolean
Description	Specifies the method for transmitting DTMF tones.
Value Range	• **Y** (Outband [use telephone-event]) • **N** (Inband) **Note** • If set to "**Y**", DTMF tones will be sent through SDP, compliant with RFC 2833. • If set to "**N**", DTMF tones will be encoded in the RTP stream.
Default Value	**Y**
Web User Interface Reference	DTMF Type (Page 100)

OUTBANDDTMF_VOL

Value Format	Integer
Description	Specifies the volume (in decibels [dB]) of the DTMF tone using RFC 2833.
Value Range	-63–0
Default Value	-5

TELEVENT_PTYPE_[1–8]

Parameter Name Example	**TELEVENT_PTYPE_1**, **TELEVENT_PTYPE_2**, …, **TELEVENT_PTYPE_8**
Value Format	Integer
Description	Specifies the RFC 2833 payload type for DTMF tones. **Note** • This setting is available only when "**OUTBANDDTMF_[1–8]**" is set to "**Y**".
Value Range	96–127
Default Value	101

Web User Interface Reference	Telephone-event Payload Type (Page 101)

RFC2543_HOLD_ENABLE_[1–8]

Parameter Name Example	**RFC2543_HOLD_ENABLE_1**, **RFC2543_HOLD_ENABLE_2**, …, **RFC2543_HOLD_ENABLE_8**
Value Format	Boolean
Description	Specifies whether to enable the RFC 2543 Call Hold feature on this line.
Value Range	• **Y** (Enable RFC 2543 Call Hold) • **N** (Disable RFC 2543 Call Hold) **Note** • If set to "**Y**", the "c=0.0.0.0" syntax will be set in SDP when sending a re-INVITE message to hold the call. • If set to "**N**", the "c=x.x.x.x" syntax will be set in SDP.
Default Value	**Y**
Web User Interface Reference	Supports RFC 2543 (c=0.0.0.0) (Page 101)

4.7 Line Settings

4.7.1 Call Control Settings

VM_NUMBER_[1–8]

Parameter Name Example	**VM_NUMBER_1**, **VM_NUMBER_2**, …, **VM_NUMBER_8**
Value Format	String
Description	Specifies the phone number used to access the voice mail server. **Note** • Your phone system must support voice mail.
Value Range	Max. 24 characters (consisting of 0–9, *, and #) **Note** • No other characters are allowed.
Default Value	Empty string
Web User Interface Reference	Voice Mail Access Number (Page 111)

DIAL_PLAN_[1–8]

Parameter Name Example	**DIAL_PLAN_1**, **DIAL_PLAN_2**, …, **DIAL_PLAN_8**

Value Format	String
Description	Specifies a dial format, such as specific phone numbers, that control which numbers can be dialed or how to handle the call when making a call. For details, see **5.3 Dial Plan**.
Value Range	Max. 500 characters
Default Value	Empty string
Web User Interface Reference	Dial Plan (Page 112)

DIAL_PLAN_NOT_MATCH_ENABLE_[1–8]

Parameter Name Example	**DIAL_PLAN_NOT_MATCH_ENABLE_1**, **DIAL_PLAN_NOT_MATCH_ENABLE_2**, …, **DIAL_PLAN_NOT_MATCH_ENABLE_8**
Value Format	Boolean
Description	Specifies whether to enable dial plan filtering so that a call is not made when the dialed number does not match any of the dial formats specified in "**DIAL_PLAN_[1–8]**".
Value Range	• **Y** (Enable dial plan filtering) • **N** (Disable dial plan filtering) **Note** • If set to "**Y**", the dialed number will not be sent to the line when the number dialed by the user does not match any of the dial formats specified in the dial plan. • If set to "**N**", the dialed number will be sent to the line, even if the number dialed by the user does not match any of the dial formats specified in the dial plan.
Default Value	**N**
Web User Interface Reference	Call Even If Dial Plan Does Not Match (Page 113)

SHARED_CALL_ENABLE_[1–8]

Parameter Name Example	**SHARED_CALL_ENABLE_1**, **SHARED_CALL_ENABLE_2**, …, **SHARED_CALL_ENABLE_8**
Value Format	Boolean
Description	Specifies whether to enable the Shared Call feature of the SIP server, which is used to share one line among the units. **Note** • You cannot set both "**SHARED_CALL_ENABLE_[1–8]**" and "**SYNCHRONIZATION_ENABLE_[1–8]**" to "**Y**" at the same time. • Availability depends on your phone system.

Value Range	• **Y** (Enable shared call) • **N** (Disable shared call) **Note** • If set to "**Y**", the SIP server will control the line by using a shared-call signaling method. • If set to "**N**", the SIP server will control the line by using a standard signaling method.
Default Value	**N**
Web User Interface Reference	Enable Shared Call (Page 111)

SHARED_USER_ID_[1–8]

Parameter Name Example	**SHARED_USER_ID_1**, **SHARED_USER_ID_2**, …, **SHARED_USER_ID_8**
Value Format	String
Description	Specifies the unique ID used by the SIP server when "**SHARED_CALL_ENABLE_[1–8]**" is set to "**Y**".
Value Range	Max. 24 characters
Default Value	Empty string
Web User Interface Reference	Unique ID of Shared Call (Page 112)

SYNCHRONIZATION_ENABLE_[1–8]

Parameter Name Example	**SYNCHRONIZATION_ENABLE_1**, **SYNCHRONIZATION_ENABLE_2**, …, **SYNCHRONIZATION_ENABLE_8**
Value Format	Boolean
Description	Specifies whether to synchronize the Do Not Disturb and Call Forward settings, configured via the Web user interface or phone user interface, between the unit and the portal server that is provided by your phone system dealer. **Note** • Even if you specify "**Y**", this feature may not function properly if your phone system does not support it. Before you configure this setting, consult your phone system dealer. • You cannot set both "**SHARED_CALL_ENABLE_[1–8]**" and "**SYNCHRONIZATION_ENABLE_[1–8]**" to "**Y**" at the same time.
Value Range	• **Y** (Enable Do Not Disturb/Call Forward synchronization) • **N** (Disable Do Not Disturb/Call Forward synchronization)
Default Value	**N**
Web User Interface Reference	Synchronize Do Not Disturb and Call Forward (Page 112)

PRIVACY_MODE_[1–8]

Parameter Name Example	**PRIVACY_MODE_1**, **PRIVACY_MODE_2**, …, **PRIVACY_MODE_8**
Value Format	Boolean
Description	Specifies whether to enable privacy mode, which prohibits another handset or base unit from barging in on a conversation.
Value Range	• **Y** (Enable privacy mode) • **N** (Disable privacy mode) **Note** • If set to "**Y**", the conversation cannot be interrupted by another handset or base unit. • If set to "**N**", the conversation can be interrupted by another handset or base unit.
Default Value	**Y**
Web User Interface Reference	Enable Privacy Mode (Page 110)

4.7.2 SIP Settings

SIP_USER_AGENT

Value Format	String
Description	Specifies the text string to send as the user agent in the headers of SIP messages.
Value Range	Max. 40 characters **Note** • An empty string is not allowed. • If "{mac}" is included in this parameter, it will be replaced with the unit's MAC address in lower-case. • If "{MAC}" is included in this parameter, it will be replaced with the unit's MAC address in upper-case. • If "{MODEL}" is included in this parameter, it will be replaced with the unit's model name. • If "{fwver}" is included in this parameter, it will be replaced with the firmware version of the unit.
Default Value	Panasonic_{MODEL}/{fwver} ({mac})
Web User Interface Reference	SIP User Agent (Page 86)

SIP_AUTHID_[1–8]

Parameter Name Example	**SIP_AUTHID_1**, **SIP_AUTHID_2**, …, **SIP_AUTHID_8**
Value Format	String

Description	Specifies the authentication ID required to access the SIP server.
Value Range	Max. 64 characters (except ", &, ', :, <, >, and space)
Default Value	Empty string
Web User Interface Reference	Authentication ID (Page 91)

SIP_PASS_[1–8]

Parameter Name Example	**SIP_PASS_1**, **SIP_PASS_2**, …, **SIP_PASS_8**
Value Format	String
Description	Specifies the authentication password used to access the SIP server.
Value Range	Max. 64 characters (except ", &, ', :, <, >, and space)
Default Value	Empty string
Web User Interface Reference	Authentication Password (Page 92)

SIP_SRC_PORT_[1–8]

Parameter Name Example	**SIP_SRC_PORT_1**, **SIP_SRC_PORT_2**, …, **SIP_SRC_PORT_8**
Value Format	Integer
Description	Specifies the source port number used by the unit for SIP communication.
Value Range	1024–49151 **Note** • The SIP port number for each line must be unique.
Default Value	5060 (for **SIP_SRC_PORT_1**) 5070 (for **SIP_SRC_PORT_2**) 5080 (for **SIP_SRC_PORT_3**) 5090 (for **SIP_SRC_PORT_4**) 5100 (for **SIP_SRC_PORT_5**) 5110 (for **SIP_SRC_PORT_6**) 5120 (for **SIP_SRC_PORT_7**) 5130 (for **SIP_SRC_PORT_8**)
Web User Interface Reference	Source Port (Page 91)

SIP_PRXY_ADDR_[1–8]

Parameter Name Example	**SIP_PRXY_ADDR_1**, **SIP_PRXY_ADDR_2**, …, **SIP_PRXY_ADDR_8**
Value Format	String
Description	Specifies the IP address or FQDN of the SIP proxy server.

Value Range	Max. 127 characters (IP address in dotted-decimal notation or FQDN)
Default Value	Empty string
Web User Interface Reference	Proxy Server Address (Page 89)

SIP_PRXY_PORT_[1–8]

Parameter Name Example	**SIP_PRXY_PORT_1**, **SIP_PRXY_PORT_2**, …, **SIP_PRXY_PORT_8**
Value Format	Integer
Description	Specifies the port number to use for communication with the SIP proxy server.
Value Range	1–65535
Default Value	5060
Web User Interface Reference	Proxy Server Port (Page 89)

SIP_RGSTR_ADDR_[1–8]

Parameter Name Example	**SIP_RGSTR_ADDR_1**, **SIP_RGSTR_ADDR_2**, …, **SIP_RGSTR_ADDR_8**
Value Format	String
Description	Specifies the IP address or FQDN of the SIP registrar server.
Value Range	Max. 127 characters (IP address in dotted-decimal notation or FQDN)
Default Value	Empty string
Web User Interface Reference	Registrar Server Address (Page 89)

SIP_RGSTR_PORT_[1–8]

Parameter Name Example	**SIP_RGSTR_PORT_1**, **SIP_RGSTR_PORT_2**, …, **SIP_RGSTR_PORT_8**
Value Format	Integer
Description	Specifies the port number to use for communication with the SIP registrar server.
Value Range	1–65535
Default Value	5060
Web User Interface Reference	Registrar Server Port (Page 89)

SIP_SVCDOMAIN_[1–8]

Parameter Name Example	**SIP_SVCDOMAIN_1**, **SIP_SVCDOMAIN_2**, …, **SIP_SVCDOMAIN_8**

Value Format	String
Description	Specifies the domain name provided by your phone system dealer. The domain name is the part of the SIP URI that comes after the "@" symbol.
Value Range	Max. 127 characters
Default Value	Empty string
Web User Interface Reference	Service Domain (Page 91)

REG_EXPIRE_TIME_[1–8]

Parameter Name Example	**REG_EXPIRE_TIME_1**, **REG_EXPIRE_TIME_2**, …, **REG_EXPIRE_TIME_8**
Value Format	Integer
Description	Specifies the length of time, in seconds, that the registration remains valid. This value is set in the "Expires" header of the REGISTER request.
Value Range	1–4294967295
Default Value	3600

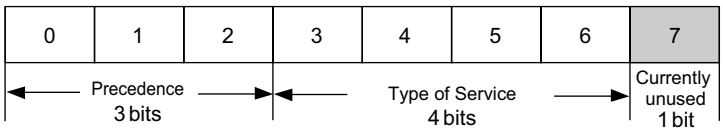
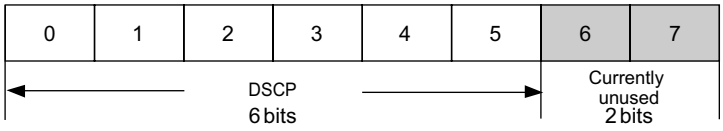
REG_INTERVAL_RATE_[1–8]

Parameter Name Example	**REG_INTERVAL_RATE_1**, **REG_INTERVAL_RATE_2**, …, **REG_INTERVAL_RATE_8**
Value Format	Integer
Description	Specifies the percentage of the "expires" value after which to refresh registration by sending a new REGISTER message in the same dialog.
Value Range	1–100
Default Value	90

SIP_SESSION_TIME_[1–8]

Parameter Name Example	**SIP_SESSION_TIME_1**, **SIP_SESSION_TIME_2**, …, **SIP_SESSION_TIME_8**
Value Format	Integer
Description	Specifies the length of time, in seconds, that the unit waits before terminating SIP sessions when no reply to repeated requests is received. For details, refer to RFC 4028.
Value Range	0, 60–65535 (0: Disable)
Default Value	0
Web User Interface Reference	Supports Session Timer (RFC 4028) (Page 95)

TOS_SIP_[1–8]

Parameter Name Example	`TOS_SIP_1`, `TOS_SIP_2`, …, `TOS_SIP_8`
Value Format	Integer
Description	Specifies the value to be stored in the ToS field in the IP header of SIP messages. **Note** • The structures of the ToS/DS field in an IP header are shown below. **ToS field**  **DS field**  The ToS field consists of a 3-bit precedence, a 4-bit type of service, and a 1-bit unused field. The DS filed consists of a 6-bit DSCP and a 2-bit unused field.

Value Range	0–255 **Note** • Because the 6-bit DSCP values (i.e., "xxx 000" where "x"="0" or "1") in the DS field are converted to the 8-bit DSCP values (i.e., "xxx 000 00"), you must specify here the fourfold decimal value for 2 bits shifted left. The following listing shows the DSCP level of DiffServ and the corresponding decimal value to be specified in this parameter. – Best Effort (default) (000 000 00): 0 – AF11 (DSCP 10) (001 010 00): 40 – AF12 (DSCP 12) (001 100 00): 48 – AF13 (DSCP 14) (001 110 00): 56 – AF21 (DSCP 18) (010 010 00): 72 – AF22 (DSCP 20) (010 100 00): 80 – AF23 (DSCP 22) (010 110 00): 88 – AF31 (DSCP 26) (011 010 00): 104 – AF32 (DSCP 28) (011 100 00): 112 – AF33 (DSCP 30) (011 110 00): 120 – AF41 (DSCP 34) (100 010 00): 136 – AF42 (DSCP 36) (100 100 00): 144 – AF43 (DSCP 38) (100 110 00): 152 – CS1 (ToS 1) (001 000 00): 32 – CS2 (ToS 2) (010 000 00): 64 – CS3 (ToS 3) (011 000 00): 96 – CS4 (ToS 4) (100 000 00): 128 – CS5 (ToS 5) (101 000 00): 160 – CS6 (ToS 6) (110 000 00): 192 – CS7 (ToS 7) (111 000 00): 224 – EF (Expedited Forwarding) (DSCP 46) (101 110 00): 184
Default Value	0
Web User Interface Reference	SIP Packet QoS (DSCP) (Page 94)

SIP_2NDPROXY_ADDR_[1–8]

Parameter Name Example	**SIP_2NDPROXY_ADDR_1**, **SIP_2NDPROXY_ADDR_2**, …, **SIP_2NDPROXY_ADDR_8**
Value Format	String
Description	Specifies the IP address of the secondary SIP proxy server. **Note** • This setting is available only when "**SIP_PRXY_ADDR_[1–8]**" is specified in IP address notation.
Value Range	IP address in dotted-decimal notation
Default Value	Empty string

SIP_2NDPROXY_PORT_[1–8]

Parameter Name Example	**SIP_2NDPROXY_PORT_1**, **SIP_2NDPROXY_PORT_2**, …, **SIP_2NDPROXY_PORT_8**
Value Format	Integer
Description	Specifies the port number to use for communication with the secondary SIP proxy server.
Value Range	1–65535
Default Value	5060

SIP_2NDRGSTR_ADDR_[1–8]

Parameter Name Example	**SIP_2NDRGSTR_ADDR_1**, **SIP_2NDRGSTR_ADDR_2**, …, **SIP_2NDRGSTR_ADDR_8**
Value Format	String
Description	Specifies the IP address of the secondary SIP registrar server. **Note** • This setting is available only when "**SIP_RGSTR_ADDR_[1–8]**" is specified in IP address notation.
Value Range	IP address in dotted-decimal notation
Default Value	Empty string

SIP_2NDRGSTR_PORT_[1–8]

Parameter Name Example	**SIP_2NDRGSTR_PORT_1**, **SIP_2NDRGSTR_PORT_2**, …, **SIP_2NDRGSTR_PORT_8**
Value Format	Integer
Description	Specifies the port number to use for communication with the secondary SIP registrar server.
Value Range	1–65535
Default Value	5060

SIP_TIMER_T1_[1–8]

Parameter Name Example	**SIP_TIMER_T1_1**, **SIP_TIMER_T1_2**, …, **SIP_TIMER_T1_8**
Value Format	Integer
Description	Specifies the default interval, in milliseconds, between transmissions of SIP messages. For details, refer to RFC 3261.

Value Range	• 250 • 500 • 1000 • 2000 • 4000
Default Value	500
Web User Interface Reference	T1 Timer (Page 93)

SIP_TIMER_T2_[1–8]

Parameter Name Example	`SIP_TIMER_T2_1`, `SIP_TIMER_T2_2`, …, `SIP_TIMER_T2_8`
Value Format	Integer
Description	Specifies the maximum interval, in seconds, between transmissions of SIP messages. For details, refer to RFC 3261.
Value Range	• 2 • 4 • 8 • 16 • 32
Default Value	4
Web User Interface Reference	T2 Timer (Page 93)

INVITE_RTXN_[1–8]

Parameter Name Example	`INVITE_RTXN_1`, `INVITE_RTXN_2`, …, `INVITE_RTXN_8`
Value Format	Integer
Description	Specifies the number of times that INVITE requests are retransmitted when no reply is received from the server.
Value Range	1–6
Default Value	6
Web User Interface Reference	INVITE Retry Count (Page 93)

OTHER_RTXN_[1–8]

Parameter Name Example	`OTHER_RTXN_1`, `OTHER_RTXN_2`, …, `OTHER_RTXN_8`
Value Format	Integer
Description	Specifies the number of times that non-INVITE requests (general SIP messages) are retransmitted when no reply is received from the server.
Value Range	1–10

Default Value	10
Web User Interface Reference	Non-INVITE Retry Count (Page 94)

SIP_FOVR_NORSP_[1–8]

Parameter Name Example	**SIP_FOVR_NORSP_1**, **SIP_FOVR_NORSP_2**, …, **SIP_FOVR_NORSP_8**
Value Format	Boolean
Description	Specifies whether to perform the fail-over process when the unit detects that the SIP server is not replying to SIP message.
Value Range	• **Y** (Enable fail-over) • **N** (Disable fail-over) **Note** • If set to "**Y**", the unit will try to use the other SIP servers via the DNS SRV and A records. • If set to "**N**", the unit will not try to use the other SIP servers.
Default Value	**Y**

SIP_FOVR_MAX_[1–8]

Parameter Name Example	**SIP_FOVR_MAX_1**, **SIP_FOVR_MAX_2**, …, **SIP_FOVR_MAX_8**
Value Format	Integer
Description	Specifies the maximum number of servers (including the first [normal] server) used in the fail-over process.
Value Range	1–4
Default Value	2

SIP_DNSSRV_ENA_[1–8]

Parameter Name Example	**SIP_DNSSRV_ENA_1**, **SIP_DNSSRV_ENA_2**, …, **SIP_DNSSRV_ENA_8**
Value Format	Boolean
Description	Specifies whether to request the DNS server to translate domain names into IP addresses using the SRV record.

Value Range	• **Y** (Enable DNS SRV lookup) • **N** (Disable DNS SRV lookup) **Note** • If set to "**Y**", the unit will perform a DNS SRV lookup for a SIP registrar server, SIP proxy server, SIP outbound proxy server, or SIP presence server. • If set to "**N**", the unit will not perform a DNS SRV lookup for a SIP registrar server, SIP proxy server, SIP outbound proxy server, or SIP presence server.
Default Value	**Y**
Web User Interface Reference	Enable DNS SRV lookup (Page 92)

SIP_UDP_SRV_PREFIX_[1–8]

Parameter Name Example	**SIP_UDP_SRV_PREFIX_1**, **SIP_UDP_SRV_PREFIX_2**, …, **SIP_UDP_SRV_PREFIX_8**
Value Format	String
Description	Specifies a prefix to add to the domain name when performing a DNS SRV lookup using UDP. **Note** • This setting is available only when "**SIP_DNSSRV_ENA_[1–8]**" is set to "**Y**".
Value Range	Max. 32 characters
Default Value	_sip._udp.
Web User Interface Reference	SRV lookup Prefix for UDP (Page 92)

SIP_TCP_SRV_PREFIX_[1–8]

Parameter Name Example	**SIP_TCP_SRV_PREFIX_1**, **SIP_TCP_SRV_PREFIX_2**, …, **SIP_TCP_SRV_PREFIX_8**
Value Format	String
Description	Specifies a prefix to add to the domain name when performing a DNS SRV lookup using TCP. **Note** • This setting is available only when "**SIP_DNSSRV_ENA_[1–8]**" is set to "**Y**".
Value Range	Max. 32 characters
Default Value	_sip._tcp.
Web User Interface Reference	SRV lookup Prefix for TCP (Page 93)

SIP_100REL_ENABLE_[1–8]

Parameter Name Example	**SIP_100REL_ENABLE_1**, **SIP_100REL_ENABLE_2**, …, **SIP_100REL_ENABLE_8**
Value Format	Boolean
Description	Specifies whether to add the option tag 100rel to the "Supported" header of the INVITE message. For details, refer to RFC 3262.
Value Range	• **Y** (Enable 100rel function) • **N** (Disable 100rel function) **Note** • If set to "**Y**", the Reliability of Provisional Responses function will be enabled. The option tag 100rel will be added to the "Supported" header of the INVITE message and to the "Require" header of the "1xx" provisional message. • If set to "**N**", the option tag 100rel will not be used.
Default Value	**N**
Web User Interface Reference	Supports 100rel (RFC 3262) (Page 95)

SIP_18X_RTX_INTVL_[1–8]

Parameter Name Example	**SIP_18X_RTX_INTVL_1**, **SIP_18X_RTX_INTVL_2**, …, **SIP_18X_RTX_INTVL_8**
Value Format	Integer
Description	Specifies the retransmission interval, in seconds, for "18x" responses.
Value Range	0, 1–600 (0: Disable)
Default Value	0

SIP_PRSNC_ADDR_[1–8]

Parameter Name Example	**SIP_PRSNC_ADDR_1**, **SIP_PRSNC_ADDR_2**, …, **SIP_PRSNC_ADDR_8**
Value Format	String
Description	Specifies the IP address or FQDN of the SIP presence server.
Value Range	Max. 127 characters (IP address in dotted-decimal notation or FQDN)
Default Value	Empty string
Web User Interface Reference	Presence Server Address (Page 90)

SIP_PRSNC_PORT_[1–8]

Parameter Name Example	**SIP_PRSNC_PORT_1**, **SIP_PRSNC_PORT_2**, …, **SIP_PRSNC_PORT_8**
Value Format	Integer
Description	Specifies the port number to use for communication with the SIP presence server.
Value Range	1–65535
Default Value	5060
Web User Interface Reference	Presence Server Port (Page 90)

SIP_2NDPRSNC_ADDR_[1–8]

Parameter Name Example	**SIP_2NDPRSNC_ADDR_1**, **SIP_2NDPRSNC_ADDR_2**, …, **SIP_2NDPRSNC_ADDR_8**
Value Format	String
Description	Specifies the IP address of the secondary presence server. **Note** • This setting is available only when "**SIP_PRSNC_ADDR_[1–8]**" is specified in IP address notation.
Value Range	IP address in dotted-decimal notation
Default Value	Empty string

SIP_2NDPRSNC_PORT_[1–8]

Parameter Name Example	**SIP_2NDPRSNC_PORT_1**, **SIP_2NDPRSNC_PORT_2**, …, **SIP_2NDPRSNC_PORT_8**
Value Format	Integer
Description	Specifies the port number to use for communication with the secondary SIP presence server.
Value Range	1–65535
Default Value	5060

USE_DEL_REG_OPEN_[1–8]

Parameter Name Example	**USE_DEL_REG_OPEN_1**, **USE_DEL_REG_OPEN_2**, …, **USE_DEL_REG_OPEN_8**
Value Format	Boolean

Description	Specifies whether to enable cancelation before registration when, for example, the unit is turned on.
Value Range	• **Y** (Enable cancelation before registration) • **N** (Disable cancelation before registration)
Default Value	**N**

USE_DEL_REG_CLOSE_[1–8]

Parameter Name Example	**USE_DEL_REG_CLOSE_1**, **USE_DEL_REG_CLOSE_2**, …, **USE_DEL_REG_CLOSE_8**
Value Format	Boolean
Description	Specifies whether to enable the cancelation of registration before the SIP function shuts down when, for example, the configuration has changed.
Value Range	• **Y** (Enable registration cancelation before shutting down) • **N** (Disable registration cancelation before shutting down) **Note** • If set to "**Y**", registration cancelation is enabled. • If set to "**N**", registration cancelation is disabled even when the SIP stack is shutting down.
Default Value	**N**

PORT_PUNCH_INTVL_[1–8]

Parameter Name Example	**PORT_PUNCH_INTVL_1**, **PORT_PUNCH_INTVL_2**, …, **PORT_PUNCH_INTVL_8**
Value Format	Integer
Description	Specifies the interval, in seconds, between transmissions of the Keep Alive packet to the unit in order to maintain the NAT binding information. **Note** • This setting is available only when "**SIP_TRANSPORT_[1–8]**" is set to "0" for UDP.
Value Range	0, 10–300 (0: Disable)
Default Value	0
Web User Interface Reference	Keep Alive Interval (Page 95)

SIP_SUBS_EXPIRE_[1–8]

Parameter Name Example	**SIP_SUBS_EXPIRE_1**, **SIP_SUBS_EXPIRE_2**, …, **SIP_SUBS_EXPIRE_8**

Value Format	Integer
Description	Specifies the length of time, in seconds, that the subscription remains valid. This value is set in the "Expires" header of the SUBSCRIBE request.
Value Range	1–4294967295
Default Value	3600

SUB_RTX_INTVL_[1–8]

Parameter Name Example	**SUB_RTX_INTVL_1**, **SUB_RTX_INTVL_2**, …, **SUB_RTX_INTVL_8**
Value Format	Integer
Description	Specifies the interval, in seconds, between transmissions of SUBSCRIBE requests when a subscription results in failure (server no reply or error reply).
Value Range	10–86400
Default Value	10

REG_RTX_INTVL_[1–8]

Parameter Name Example	**REG_RTX_INTVL_1**, **REG_RTX_INTVL_2**, …, **REG_RTX_INTVL_8**
Value Format	Integer
Description	Specifies the interval, in seconds, between transmissions of the REGISTER request when a registration results in failure (server no reply or error reply).
Value Range	10–86400
Default Value	10

SIP_P_PREFERRED_ID_[1–8]

Parameter Name Example	**SIP_P_PREFERRED_ID_1**, **SIP_P_PREFERRED_ID_2**, …, **SIP_P_PREFERRED_ID_8**
Value Format	Boolean
Description	Specifies whether to add the "P-Preferred-Identity" header to SIP messages.
Value Range	• **Y** (Add the "P-Preferred-Identity" header) • **N** (Do not add the "P-Preferred-Identity" header)
Default Value	**N**

SIP_PRIVACY_[1–8]

Parameter Name Example	**SIP_PRIVACY_1**, **SIP_PRIVACY_2**, …, **SIP_PRIVACY_8**
Value Format	Boolean
Description	Specifies whether to add the "Privacy" header to SIP messages.
Value Range	• **Y** (Add the "Privacy" header) • **N** (Do not add the "Privacy" header)
Default Value	**N**

ADD_USER_PHONE_[1–8]

Parameter Name Example	**ADD_USER_PHONE_1**, **ADD_USER_PHONE_2**, …, **ADD_USER_PHONE_8**
Value Format	Boolean
Description	Specifies whether to add "user=phone" to the SIP URI in SIP messages.
Value Range	• **Y** (Add "user=phone") • **N** (Do not add "user=phone") **Note** • SIP URI example: – "**sip:1111@tokyo.example.com;user=phone**", when set to "**Y**" – "**sip:1111@tokyo.example.com**", when set to "**N**"
Default Value	**N**

SDP_USER_ID_[1–8]

Parameter Name Example	**SDP_USER_ID_1**, **SDP_USER_ID_2**, …, **SDP_USER_ID_8**
Value Format	String
Description	Specifies the user ID used in the "o=" line field of SDP.
Value Range	Max. 32 characters (except ", &, ', :, <, >, and space)
Default Value	-

SUB_INTERVAL_RATE_[1–8]

Parameter Name Example	**SUB_INTERVAL_RATE_1**, **SUB_INTERVAL_RATE_2**, …, **SUB_INTERVAL_RATE_8**
Value Format	Integer

Description	Specifies the percentage of the "expires" value after which to refresh subscriptions by sending a new SUBSCRIBE message in the same dialog.
Value Range	1–100
Default Value	90

SIP_OUTPROXY_ADDR_[1–8]

Parameter Name Example	**SIP_OUTPROXY_ADDR_1**, **SIP_OUTPROXY_ADDR_2**, …, **SIP_OUTPROXY_ADDR_8**
Value Format	String
Description	Specifies the IP address or FQDN of the SIP outbound proxy server.
Value Range	Max. 127 characters (IP address in dotted-decimal notation or FQDN)
Default Value	Empty string
Web User Interface Reference	Outbound Proxy Server Address (Page 90)

SIP_OUTPROXY_PORT_[1–8]

Parameter Name Example	**SIP_OUTPROXY_PORT_1**, **SIP_OUTPROXY_PORT_2**, …, **SIP_OUTPROXY_PORT_8**
Value Format	Integer
Description	Specifies the port number to use for communication with the SIP outbound proxy server.
Value Range	1–65535
Default Value	5060
Web User Interface Reference	Outbound Proxy Server Port (Page 90)

SIP_TRANSPORT_[1–8]

Parameter Name Example	**SIP_TRANSPORT_1**, **SIP_TRANSPORT_2**, …, **SIP_TRANSPORT_8**
Value Format	Integer
Description	Specifies which transport layer protocol to use for sending SIP packets. **Note** • Changing this setting may require restarting the unit.

Value Range	• 0 (UDP) • 1 (TCP) **Note** • All the parameters from "**SIP_TRANSPORT_1**" to "**SIP_TRANSPORT_8**" must have the same value.
Default Value	0
Web User Interface Reference	Transport Protocol (Page 87)

SIP_ANM_DISPNAME_[1–8]

Parameter Name Example	**SIP_ANM_DISPNAME_1**, **SIP_ANM_DISPNAME_2**, …, **SIP_ANM_DISPNAME_8**
Value Format	Integer
Description	Specifies the text string to set as the display name in the "From" header when making anonymous calls.
Value Range	• 0 (Use normal display name) • 1 (Use "Anonymous" for display name) • 2 (Do not send a display name)
Default Value	1

SIP_ANM_USERNAME_[1–8]

Parameter Name Example	**SIP_ANM_USERNAME_1**, **SIP_ANM_USERNAME_2**, …, **SIP_ANM_USERNAME_8**
Value Format	Integer
Description	Specifies the text string to set as the user name in the "From" header when making anonymous calls.
Value Range	• 0 (Use normal user name) • 1 (Use "anonymous" for user name) • 2 (Do not send a user name)
Default Value	0

SIP_ANM_HOSTNAME_[1–8]

Parameter Name Example	**SIP_ANM_HOSTNAME_1**, **SIP_ANM_HOSTNAME_2**, …, **SIP_ANM_HOSTNAME_8**
Value Format	Boolean
Description	Specifies whether to set an anonymous host name in the "From" header when making anonymous calls.

Value Range	• **Y** (Use "anonymous.invalid" for host name) • **N** (Use normal host name)
Default Value	**N**

SIP_DETECT_SSAF_[1–8]

Parameter Name Example	**SIP_DETECT_SSAF_1**, **SIP_DETECT_SSAF_2**, …, **SIP_DETECT_SSAF_8**
Value Format	Boolean
Description	Specifies whether to enable SSAF for the SIP servers (registrar server, proxy server, and presence server).
Value Range	• **Y** (Enable SSAF) • **N** (Disable SSAF) **Note** • If set to "**Y**", the unit receives SIP messages only from the source addresses stored in the SIP servers (registrar server, proxy server, and presence server), and not from other addresses. However, if "**SIP_OUTPROXY_ADDR_[1–8]**" in **4.7.2 SIP Settings** is specified, the unit also receives SIP messages from the source address stored in the SIP outbound proxy server.
Default Value	**N**
Web User Interface Reference	Enable SSAF (SIP Source Address Filter) (Page 96)

SIP_RCV_DET_HEADER_[1–8]

Parameter Name Example	**SIP_RCV_DET_HEADER_1**, **SIP_RCV_DET_HEADER_2**, …, **SIP_RCV_DET_HEADER_8**
Value Format	Boolean
Description	Specifies whether to check the username part of the SIP URI in the "To" header when receiving the INVITE message with an incorrect target SIP URI.
Value Range	• **Y** (Enable username check) • **N** (Disable username check) **Note** • If set to "**Y**", the unit will return an error reply when it receives the INVITE message with an incorrect target SIP URI. • If set to "**N**", the unit will not check the username part of the SIP URI in the "To" header.
Default Value	**N**

SIP_CONTACT_ON_ACK_[1–8]

Parameter Name Example	**SIP_CONTACT_ON_ACK_1**, **SIP_CONTACT_ON_ACK_2**, …, **SIP_CONTACT_ON_ACK_8**
Value Format	Boolean
Description	Specifies whether to add the "Contact" header to SIP ACK message.
Value Range	• **Y** (Add the "Contact" header) • **N** (Do not add the "Contact" header)
Default Value	**N**

PHONE_NUMBER_[1–8]

Parameter Name Example	**PHONE_NUMBER_1**, **PHONE_NUMBER_2**, …, **PHONE_NUMBER_8**
Value Format	String
Description	Specifies the phone number to use as the user ID required for registration to the SIP registrar server. **Note** • When you use characters that are not allowed for this setting, you must specify this setting and then "**LINE_ID_[1–8]**".
Value Range	Max. 24 characters (consisting of 0–9, *, and #) **Note** • No other characters are allowed.
Default Value	Empty string
Web User Interface Reference	Phone Number (Page 88)

LINE_ID_[1–8]

Parameter Name Example	**LINE_ID_1**, **LINE_ID_2**, …, **LINE_ID_8**
Value Format	String
Description	Specifies the unique ID used by the SIP registrar server. **Note** • When you use characters that are not allowed for "**PHONE_NUMBER_[1–8]**", you must specify "**PHONE_NUMBER_[1–8]**" and then this setting.
Value Range	Max. 24 characters (except @)
Default Value	Empty string
Web User Interface Reference	Line ID (Page 89)

DISPLAY_NAME_[1–8]

Parameter Name Example	**DISPLAY_NAME_1**, **DISPLAY_NAME_2**, …, **DISPLAY_NAME_8**
Value Format	String
Description	Specifies the name to display as the caller on the other party's phone when you make a call.
Value Range	Max. 16 characters **Note** • You can use Unicode characters for this setting.
Default Value	Empty string
Web User Interface Reference	Display Name (Page 110)

INTERNATIONAL_ACCESS_CODE

Value Format	String
Description	Specifies the number to be shown in the place of the first "+" symbol when the phone number for incoming international calls contains "+".
Value Range	Max. 8 characters (consisting of 0–9, *, and #) **Note** • No other characters are allowed.
Default Value	Empty string ("+" is deleted)

SIP_REQURI_PORT_[1–8]

Parameter Name Example	**SIP_REQURI_PORT_1**, **SIP_REQURI_PORT_2**, …, **SIP_REQURI_PORT_8**
Value Format	Boolean
Description	Specifies whether to add the port parameter to Request-Line in the initial SIP request.
Value Range	• **Y** (Add the port parameter) • **N** (Do not add the port parameter) **Note** • Request-Line (Request-URI of REGISTER) example: – "**Request-Line: REGISTER sip: 192.168.0.10:5060 SIP/2.0**", when set to "**Y**" – "**Request-Line: REGISTER sip:192.168.0.10 SIP/2.0**", when set to "**N**"
Default Value	**Y**

SIP_ADD_RPORT_[1–8]

Parameter Name Example	**SIP_ADD_RPORT_1**, **SIP_ADD_RPORT_2**, …, **SIP_ADD_RPORT_8**
Value Format	Boolean
Description	Specifies whether to add the "rport" parameter to the "Via" header of SIP messages.
Value Range	• **Y** (Add the "rport" parameter) • **N** (Do not add the "rport" parameter) **Note** • "Via" header example: – "**Via: SIP/2.0/UDP 192.168.0.10:5060;branch=abc;rport**", when set to "**Y**" – "**Via: SIP/2.0/UDP 192.168.0.10:5060;branch=abc**", when set to "**N**"
Default Value	**N**

SIP_SESSION_METHOD_[1–8]

Parameter Name Example	**SIP_SESSION_METHOD_1**, **SIP_SESSION_METHOD_2**, …, **SIP_SESSION_METHOD_8**
Value Format	Integer
Description	Specifies which SIP request method to use for SIP session refresh requests.
Value Range	• 0 (Use the re-INVITE request method) • 1 (Use the UPDATE request method) • 2 (Use either the UPDATE or re-INVITE request method [UPDATE takes priority over re-INVITE])
Default Value	0

VOICE_MESSAGE_AVAILABLE

Value Format	Boolean
Description	Selects how the existence of voice messages is determined when a "Messages-Waiting: yes" message is received.
Value Range	• **Y** (Determines that voice messages exist when "Messages-Waiting: yes" is received with a "Voice-Message" line included.) • **N** (Determines that voice messages exist when "Messages-Waiting: yes" is received even without a "Voice-Message" line included.)

Default Value	**Y**

4.7.2 SIP Settings

Section 5

Useful Telephone Functions

This section explains phone number settings for the base unit or handsets, dial plan, and phonebook import/ export function.

5.1 Line Settings for Base Unit and Handset

5.1.1 Multi Number Settings

A unit can be used with a single base unit and 6 handsets.
You can assign a maximum of 8 different phone numbers for the base unit (KX-TGP55x only) and handsets. Each available phone number (line) can be assigned to the base unit and handsets as desired to handle incoming and outgoing calls.

Programming Example 1

The following programming example shows a configuration where the base unit and handsets have their own phone numbers, and the base unit and handsets also share a common phone number.
You can program this table using Web user interface programming (→ see **3.7.1.1 Grouping Handset/ Handset selection for receiving calls**).
For details about configuring these settings by configuration file programming, see **4.5.1 Multi Number Settings**.

[Grouping Handset/Handset selection for receiving calls]

Line No.	Phone Number	Handset No.						Base
		1	2	3	4	5	6	
1	1111	✓						
2	2222		✓					
3	3333			✓				
4	4444				✓			
5	5555					✓		
6	6666						✓	
7	7777							✓
8	8888	✓	✓	✓	✓	✓	✓	✓

Case 1:

A call dialed to "1111" will be received by handset 1.

Case 2:

A call dialed to "2222" will be received by handset 2.

Case 3:

A call dialed to "8888" will be received by the base unit and handsets 1–6.

Programming Example 2

The following programming example shows a configuration where handsets 1–3 dial with lines 1–3, respectively. Each handset uses the line set in **[Default]** by default.
You can program this table using Web user interface programming (→ see **3.7.1.2 Handset and Line No. selection for making calls**).
For details about configuring these settings by configuration file programming, see **4.5.1 Multi Number Settings**.

[Handset and Line No. selection for making calls]

Handset No.	Line No.								Default
	1	2	3	4	5	6	7	8	
1	✓	✓	✓						1
2	✓	✓	✓						2
3	✓	✓	✓						3
4									
5									
6									
Base									

Case 1:

When a user goes off-hook with handset 1, line 1 is seized and dialed by default. Line 2 and line 3 can also be seized and dialed.

Case 2:

When a user goes off-hook with handset 2, line 2 is seized and dialed by default. Line 1 and line 3 can also be seized and dialed.

Case 3:

When a user goes off-hook with handset 3, line 3 is seized and dialed by default. Line 1 and line 2 can also be seized and dialed.

Note

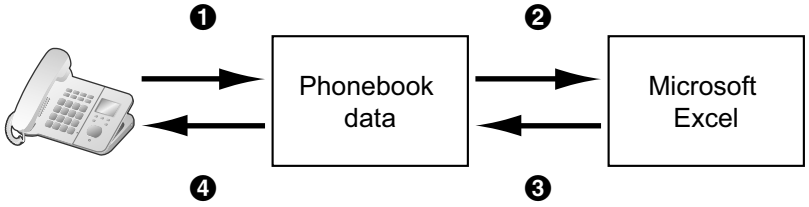
- You can make a call with one of the phone numbers other than the default phone number. For details about the operations, refer to the User Guide or Quick Guide on the Panasonic Web site (→ see **Introduction**).

5.2 Phonebook Import and Export

This section explains how to import and export phonebook data. Phonebook data of the unit includes names and phone numbers.
Phonebook data on the unit can be exported, edited with editor tools, and imported again. In addition, phonebook data created with other software can be imported into the unit.
You can use the phonebook import and export functions as follows.

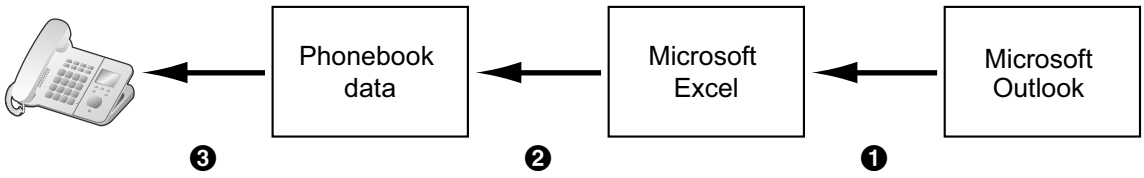
Editing Phonebook Data on a PC

The phonebook data stored on the unit can be edited using a program such as Microsoft Excel® spreadsheet software. For details about the operation, see **5.2.2 Editing with Microsoft Excel**.
You can export the phonebook data to the PC, edit the exported file using appropriate software, and then import it into the unit.



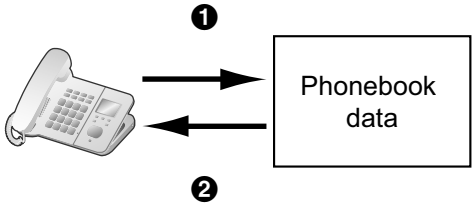
Importing Address Book Data from a PC

You can import address book data stored in programs, such as Microsoft Outlook® messaging and collaboration client, into the unit.
First, export address book data from the e-mail software to a program such as Microsoft Excel, edit it as necessary, and then import the exported data into the unit.
For details about the operation, see **5.2.3 Exporting Data from Microsoft Outlook**.



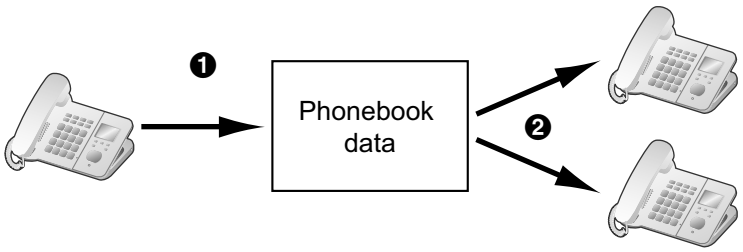
Backing up Phonebook Data

You can export the phonebook data from the unit to a PC and keep the file as a backup in case of data loss or for use when exchanging the base unit or handset.

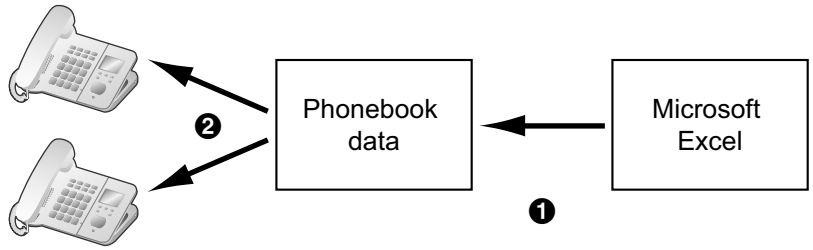


Importing the Same Phonebook Data to the Base Unit, Handset, or Another Unit

You can export the phonebook data created on a unit to a PC, and then import it into other base units, handsets, or another unit.



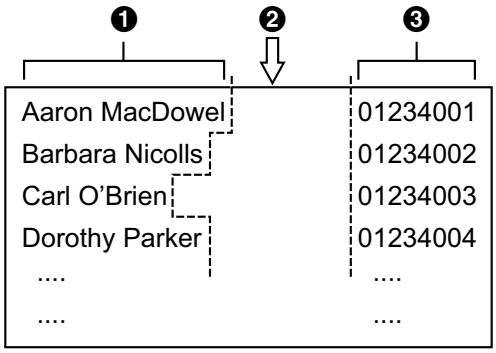
You can also import phonebook data created on a PC to other base units, handsets, or another unit.



Import/Export File Format

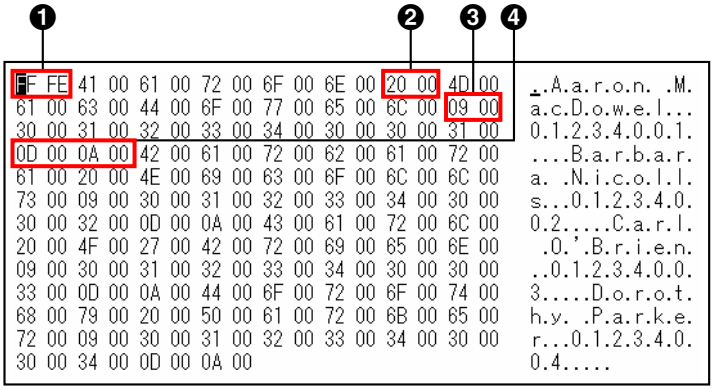
The file format used for importing and exporting the phonebook data is "TSV". When importing or exporting using Microsoft Excel, "CSV (Comma-separated Value)" is generally used as the file format.
A phonebook entry in the unit has only 2 fields: one for the name and one for the phone number. An entry in the phonebook data is represented in text as "name <TAB> phone number <line break>". Any data after the phone number is ignored.
The text data can be edited using any text editing software that supports UTF-16 encoding with a BOM and little endian byte ordering. When you save the text file, it must be saved using the same format, or the text might become garbled.

Phonebook Data in Text Format



❶ Name
❷ Tab
❸ Phone number

Phonebook Data in Binary Format



❶ BOM
❷ Space between the first name and last name
❸ Tab
❹ Line feed

5.2.1 Import/Export Operation

The following procedures explain how to import phonebook data to units, and how to export phonebook data from units to a PC through the Web user interface.
For details about the settings, see **3.7.5 Import Phonebook** or **3.7.6 Export Phonebook**.

To import phonebook data

1. Click the **[Telephone]** tab, and then click **[Import Phonebook]**.
2. In **[Import Phonebook]**, select the base unit (KX-TGP55x only) or the handset that you want to import data into.
3. In **[File Name]**, enter the full path to the file that you want to import, or click **Browse** to select the phonebook data file that you want to import.
4. Click **[Import]**.

To export the phonebook data

1. Click the **[Telephone]** tab, and then click **[Export Phonebook]**.
2. In **[Export Phonebook]**, select the base unit (KX-TGP55x only) or the handset that you want to export data from.
3. Click **[Export]**.
4. On the "Now Processing File Data" screen, click the text "HERE" in the displayed message, or wait until **File Download** window appears.

   Note

   - Depending on the security settings of your Web browser, pop-up menus might be blocked. If the file cannot be exported successfully, try the export operation again or change the security settings of your Web browser.
5. Click **Save** on **File Download** window.
6. On the **Save As** window, select a folder to save the exported phonebook data to, enter the file name in **File name**, select **TSV File** for **Save as type**, and click **Save**.
   If the file is downloaded successfully, the **Download complete** window appears.
7. Click **Close**.
8. To exit the operation, click the text "HERE" in the displayed message.
   The **[Export Phonebook]** screen returns.

Note

- Make sure that the import source or target unit (base unit or handset) is in standby mode.
- The import source or target unit (base unit or handset) must be specified at the time of import/export. The imported data is added to the existing phonebook data.
  - If the existing phonebook data has an entry with the same name as the imported entry but the phone number is different, the imported entry is added as a new entry.
  - If the existing phonebook data has an entry with the same name and phone number as an imported entry, the entry is not added.
- The phonebook for a unit has the following limitations:
  - A maximum of 100 phonebook entries can be stored in the base unit (KX-TGP55x only) and each of the handsets. If the base unit or handset already has phonebook data, it accepts up to the 100th entry, including the existing entries. The rest of the entries will not be imported, and the message "Memory Full" is displayed on the unit.
  - The name can contain up to 16 characters.
  - The phone number can contain up to 32 digits.
  - Phonebook entries exceeding the characters or digits limits cannot be imported properly.
- If the export is interrupted by an operation on the base unit (KX-TGP55x only) or handset, only the data that has been successfully exported before the interruption is exported to a file.

5.2.2 Editing with Microsoft Excel

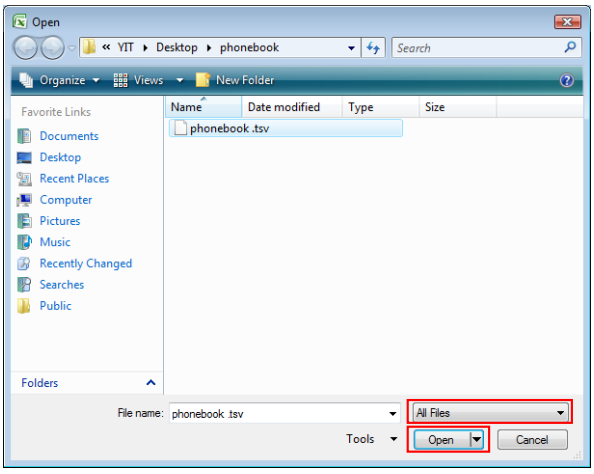
You can edit exported phonebook data on a PC with software such as Microsoft Excel. You can then import the phonebook data into units.

To open the phonebook data on a PC

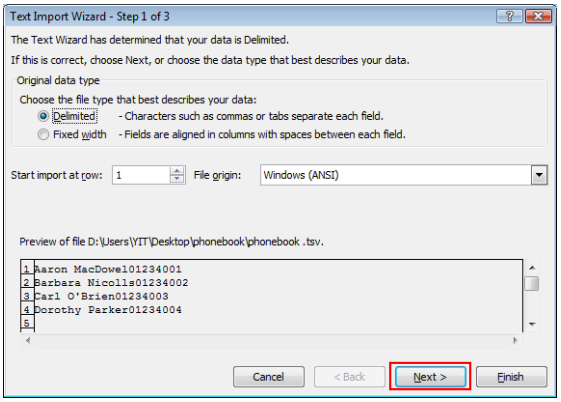
1. Open Microsoft Excel.
2. Click **Office Button**, and then **Open**.

   Note

   - Make sure to open a TSV file in this procedure. If you change the extension of a TSV file to ".csv", the file will open by simply double-clicking it. However, the character encoding of the file might not be recognized properly, resulting in garbled characters, or the phone numbers might be recognized as numbers, resulting in data alteration.
3. Select **All Files** for the file type, select the exported phonebook data file, and click **Open**.



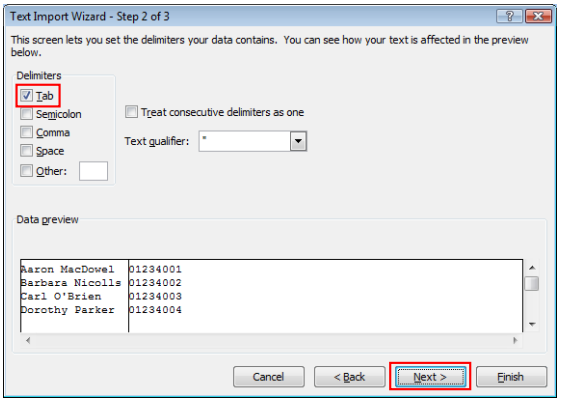
4. On the **Text Import Wizard - Step 1 of 3** window, click **Next**.



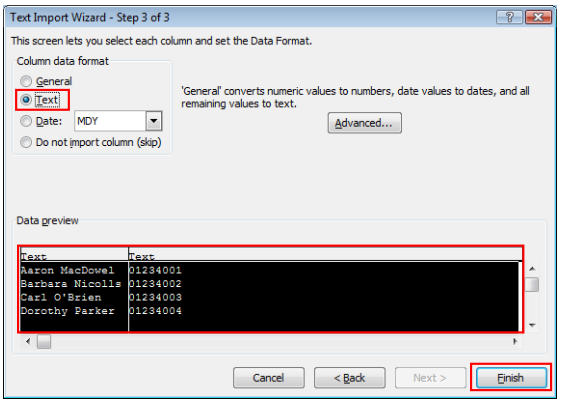
Note

- Regardless of what is selected for **File origin**, the file will be processed normally if the format is appropriate.

5. On the **Text Import Wizard - Step 2 of 3** window, select **Tab** for **Delimiters**, and then click **Next**.



6. On the **Text Import Wizard - Step 3 of 3** window, select all columns in **Data preview**, select **Text** in **Column data format**, and then click **Finish**.
The TSV file will be opened.



Note

- Phone numbers must be treated as text strings. Otherwise, a "0" at the beginning of a phone number might disappear when exported.

To save the phonebook data for importing to the unit

1. After editing the phonebook entries, click **Office Button**, and then **Save As**.
2. Enter a file name in **File name**, and select **Unicode Text** in **Save as type**.
   The file will be saved in UTF-16 little endian with a BOM. Fields will be separated by tabs.
3. Click **Save**.
   A message warning you about file compatibility will be displayed.
4. Click **Yes**.
   The file will be saved as a Unicode text file, with the fields separated by tabs.

Note

- The procedure may vary depending on the software version of Microsoft Excel. Therefore, files exported and imported between the unit and Microsoft Excel are not always compatible with each other.

5.2.3 Exporting Data from Microsoft Outlook

You can export address book data stored in programs such as Microsoft Outlook, and then edit the exported data with a program such as Microsoft Excel in order to import it to the unit.

To export the Microsoft Outlook address book data

1. In Microsoft Outlook, click **File**, and then click **Import and Export**.
2. Select **Export to a file**, and click **Next**.
3. Select **Tab Separated Values (Windows)**, and click **Next**.
4. Select **Contacts**, and click **Next**.
5. Click **Browse**, select a folder, and then enter the file name to export the data to.
6. Click **OK**.
7. On the **Export to a File** window, click **Next**.
8. Click **Map Custom Fields**.
9. Clear all items in the **To** list by clicking **Clear Map**. Then, drag only **Last Name** and **Business Phone** from the **From** list to the **To** list, and click **OK**.
10. On the **Export to a File** window, click **Finish**.
    The data will be exported.

Note

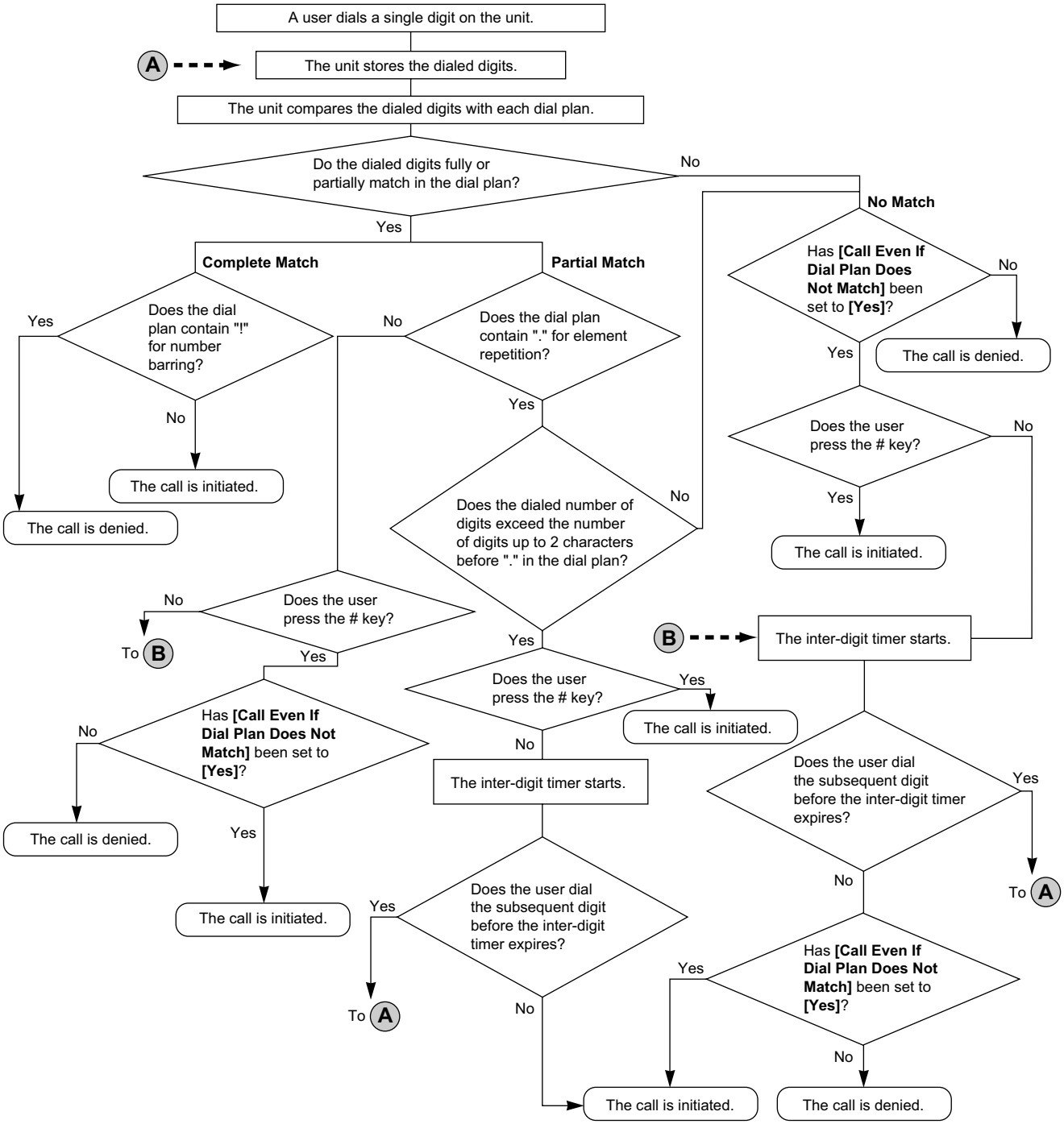
- You can export data from Microsoft Outlook Express by using a similar procedure. It is also possible to export data from other applications that are compatible with Microsoft Excel.
- You can open the exported file in Microsoft Excel, and then import it to the unit. For details, see **5.2.2 Editing with Microsoft Excel**.
- First and middle names are not exported using this procedure. You can export all necessary items and edit the entry before importing them to the unit.
- In the file exported from Microsoft Outlook, fields are separated by tabs and encoded using the default character encoding for your operating system.

5.3 Dial Plan

The dial plan settings control how numbers dialed by the user are transmitted over the network. Dial plan settings can be configured on a per-line basis. These settings can be programmed either through the Web user interface (→ see **3.7.3.2 Dial Plan**) or by configuration file programming (→ see **4.7.1 Call Control Settings**).

[Dial Plan Flowchart]

When a user dials a single digit on a unit, the following sequence of events begins.



5.3.1 Dial Plan Settings

To set Dial Plan

1. In the Web user interface, click the **[Telephone]** tab, and then click **[Call Control [Line 1]–[Line 8]]**.
2. In **[Dial Plan]**, enter the desired dial format.
   The dial plan settings can be configured for each line separately.

For details about available characters for the dial format, see **Available Values for the Dial Plan Field** in this section.

3. Select **[Yes]** or **[No]** for **[Call Even If Dial Plan Does Not Match]**.
   - If you select **[Yes]**, the call will be made even if the user dials a phone number that does not match the dial format in **[Dial Plan]**.
   - If you select **[No]**, the call will be made only if the user dials a phone number that matches the dial format in **[Dial Plan]**.

Note

- For details about configuring these settings by configuration file programming, see "`DIAL_PLAN_[1-8]`" and "`DIAL_PLAN_NOT_MATCH_ENABLE_[1-8]`" in **4.7.1 Call Control Settings**.

Available Values for the Dial Plan Field

The following table explains which characters you can use in the dial format, and what the characters mean.

Element	Available Value	Description
String	0–9, [, -,], <, :, >, *, #, !, S, s, X, x, ., |	You can enter dial plan descriptions using a combination of the characters listed as available values.
Digit	0–9, *, #	**Example: "123"** If the dialed phone number is "123", the call is made immediately.
Wildcard	X, x	**Example: "12xxxxx"** If the dialed phone number is "12" followed by any 5-digit number, the call is made immediately.
Range	[ ]	**Example: "[123]"** If the dialed phone number is either one of "1", "2", or "3", the call is made immediately.
Subrange	-	**Example: "[1-5]"** If the dialed phone number is "1", "2", "3", "4", or "5", the call is made immediately. • A subrange is only valid for single-digit numbers. For example, "[4-9]" is valid, but "[12-21]" is invalid.
Repeat	.	**Example: "1."** If the dialed phone number is "1" followed by zero or more "1"s (e.g., "11", "111"), the call is made.
Substitution	<(before):(after)>	**Example: "<101:9999>"** If the dialed phone number is "101", "101" is replaced by "9999", and then the call is made immediately.
Timer	S, s (second)	**Example: "1x.S2"** If the dialed phone number begins with "1", the call is made after a lapse of 2 seconds. • The number (0–9) followed by "S" or "s" shows the duration in seconds until the call is made.
Reject	!	**Example: "123xxx!"** If the dialed phone number is "123" followed by 3 digits, the call is not made.

Element	Available Value	Description
Alternation	|	**Example: "1xxxx|2xxx"** If the dialed phone number is "1" followed by 4 digits, or "2" followed by 3 digits, the call is made immediately. You can use this element to specify multiple numbers.

Note

- You can enter up to 500 characters in **[Dial Plan]**.
- You can assign up to 20 dial plans separated by "|" in **[Dial Plan]**.
- You can assign up to 32 digits per dial plan in **[Dial Plan]**.
- After the user completes dialing, the unit immediately sends all the dialed digits if **[Call Even If Dial Plan Does Not Match]** is set to **[Yes]** in the Web user interface or if "**DIAL_PLAN_NOT_MATCH_ENABLE_[1-8]**" is set to "**N**" in a configuration file. The unit recognizes the end of dialing as follows:
  - The inter-digit timer expires (→ see **[Inter-digit Timeout]** in **3.7.2.1 Call Control** in the Web user interface or "**INTDIGIT_TIM**" in **4.5.2 Call Control Settings** in the configuration file).
  - The user presses the # key.
  - The call is initiated after going off-hook (pre-dial).

Dial Plan Example

The following example shows dial plans containing character sequences separated by "|".
Example: "[2346789]11|01[2-9]xx.|[2-9]xxxxxxxxx"

Complete Match:

Example: "**[2346789]11**|01[2-9]xx.|[2-9]xxxxxxxxx"

- If the dialed phone number is "211", "911" and so on, the call is made immediately.

Example: "[2346789]11|01[2-9]xx.|**[2-9]xxxxxxxxx**"

- If the dialed phone number is "2123456789", "5987654321" and so on, the call is made immediately.

Partial Match (when the dial plan contains "."):

Example: "[2346789]11|**01[2-9]xx.**|[2-9]xxxxxxxxx"

- If the dialed phone number is "01254", "012556" and so on, the call is made after the inter-digit timer expires.
- If the dialed phone number is "01254#", "012556#" and so on, the call is made immediately.

Partial Match (when the dial plan does not contain "."):

Example: "**[2346789]11**|01[2-9]xx.|[2-9]xxxxxxxxx"

- If the dialed phone number is "21", "91" and so on when **[Call Even If Dial Plan Does Not Match]** is set to **[Yes]**, the call is made after the inter-digit timer expires.
- If the dialed phone number is "21#", "91#" and so on when **[Call Even If Dial Plan Does Not Match]** is set to **[Yes]**, the call is made immediately.
- If the dialed phone number is "21", "91" and so on when **[Call Even If Dial Plan Does Not Match]** is set to **[No]**, the call is denied after the inter-digit timer expires.
- If the dialed phone number is "21#", "91#" and so on when **[Call Even If Dial Plan Does Not Match]** is set to **[No]**, the call is denied.

Example: "[2346789]11|01[2-9]xx.|**[2-9]xxxxxxxxx**"

- If the dialed phone number is "21234567", "598765432" and so on when **[Call Even If Dial Plan Does Not Match]** is set to **[Yes]**, the call is made after the inter-digit timer expires.

- If the dialed phone number is "21234567#", "598765432#" and so on when **[Call Even If Dial Plan Does Not Match]** is set to **[Yes]**, the call is made immediately.
- If the dialed phone number is "21234567", "598765432" and so on when **[Call Even If Dial Plan Does Not Match]** is set to **[No]**, the call is denied after the inter-digit timer expires.
- If the dialed phone number is "21234567#", "598765432#" and so on when **[Call Even If Dial Plan Does Not Match]** is set to **[No]**, the call is denied.

No Match:

Example: "[2346789]11|01[2-9]xx.|[2-9]xxxxxxxxx"

- If the dialed phone number is "0011", "1011" and so on when **[Call Even If Dial Plan Does Not Match]** is set to **[Yes]**, the call is made after the inter-digit timer expires.
- If the dialed phone number is "0011#", "1011#" and so on when **[Call Even If Dial Plan Does Not Match]** is set to **[Yes]**, the call is made immediately.
- If the dialed phone number is "0011", "1011" and so on when **[Call Even If Dial Plan Does Not Match]** is set to **[No]**, the call is denied.

5.3.1 Dial Plan Settings

Section 6

Firmware Update

This section explains how to update the firmware of the unit.

6.1 Firmware Server Setup

No special server is necessary for the firmware update. You can use an HTTP, HTTPS, FTP, or TFTP server as the firmware server by simply setting its URL.

6.2 Firmware Update Settings

Firmware updates are provided by the manufacturer when necessary.
The firmware update will be executed by setting the corresponding parameters using configuration file programming (→ see **4.3.4 Firmware Update Settings**) or Web user interface programming (→ see **3.8.1 Firmware Maintenance**). The following shows the parameters and the setting procedures:

Firmware Update Enable/Disable

- In a configuration file, add the line, **`FIRM_UPGRADE_ENABLE="Y"`**.
- In the Web user interface, click the **[Maintenance]** tab, click **[Firmware Maintenance]**, and then select **[Yes]** for **[Enable Firmware Update]**.

Firmware Version Number for Europe Model

- In a configuration file, specify the new version number of the Europe model in "**`FIRM_VER_EUDECT`**".

Firmware Version Number for North America Model

- In a configuration file, specify the new version number of the North America model in "**`FIRM_VER_USDECT`**".

Automatic Update

- In a configuration file, add the line, **`FIRM_UPGRADE_AUTO="Y"`**.
- In the Web user interface, click the **[Maintenance]** tab, click **[Firmware Maintenance]**, and then select **[Automatic]** for **[Update Type]**.

Firmware Server URL

- In a configuration file, specify the URL in "**`FIRM_FILE_PATH`**".
- In the Web user interface, click the **[Maintenance]** tab, click **[Firmware Maintenance]**, and then enter the URL in **[Firmware File URL]**.

Configuration Parameter Example

By setting the parameters as shown in the following example, the unit will automatically download the firmware file from the specified URL, "http://firm.example.com/firm/EUDECT01.05.fw", and perform the update operation if the currently used firmware version is older than 01.05.

Example

```
FIRM_UPGRADE_ENABLE="Y"
FIRM_VER_EUDECT="01.05"
# FIRM_VER_USDECT # not needed for EU-DECT phone
FIRM_UPGRADE_AUTO="Y"
FIRM_FILE_PATH="http://firm.example.com/firm/EUDECT01.05.fw"
```

6.3 Executing Firmware Update

After configuring the firmware update settings in the configuration file, the firmware will be updated when the configuration file is downloaded.
The firmware update will be performed only when a newer version of the firmware file (i.e., one that has a larger version number) than the firmware currently used is specified in the downloaded configuration file.
If the firmware update settings are properly configured in the configuration file, the firmware update will be executed when the unit is restarted. You can restart the unit to execute firmware update immediately.
For details about downloading configuration files, see **1.1.6.4 Downloading Configuration Files**.

6.4 Local Firmware Update

When an updated version of the firmware is provided on a Web site or other means, you can perform the firmware update manually using Web user interface programming.
For details about the local firmware update, see **3.8.2 Local Firmware Update**.

To manually update the firmware

1. In the Web user interface, click the **[Maintenance]** tab, and then click **[Local Firmware Update]**.
2. Click **Browse**, select the folder where the firmware file is stored, and specify the firmware file on your PC.
3. Click **[Update Firmware]**.

Section 7
Troubleshooting

This section provides information about troubleshooting.

7.1 Troubleshooting

If you still have difficulties after following the instructions in this section, disconnect the base unit's AC adaptor, then reconnect the base unit's AC adaptor. Remove the batteries from the handset, and then insert the batteries into the handset again.

General Use

Problem	Cause/Solution
I cannot hear a dial tone.	• Confirm that the Ethernet cable is properly connected. For details, refer to the Quick Guide on the Panasonic Web site (→ see **Introduction**). • Network settings may not be correct. • Many installation issues can be resolved by resetting all the equipment. First, shut down your modem, router, hub, base unit, and PC. Then turn the devices back on, one at a time, in this order: modem, router, hub, base unit, PC. • If you cannot access Internet Web pages using your PC, check to see if your phone system is having connection issues in your area. • Check the VoIP status in the Web user interface and confirm that each line is registered properly (→ see **To check the setting status in the Web user interface** in this section). • Check that the SIP server address, URLs of the configuration files, encryption key, and other required settings are correct. • Check the firewall and port forwarding settings on the router (→ see **1.1.10 Other Network Settings**). • For details about the settings, consult your network administrator or phone system dealer.

STATUS Indicator (in cases when buttons/soft key icons are shown in English alphabet) or Indicator (in cases when buttons/soft key icons are shown in symbols/pictures)

Problem	Cause/Solution
The STATUS indicator or indicator continues flashing in amber.	• An IP address may not have been acquired or the static IP address is not appropriate. Check the unit's IP address: **In cases when buttons/soft key icons are shown in English alphabet** **Base unit (KX-TGP55x only):** **[MENU]** (middle soft key) → **[#][5][0][1]** **Handset:** **[MENU]** (center of joystick) → **[#][5][0][1]** **In cases when buttons/soft key icons are shown in symbols/pictures** **Base unit (KX-TGP55x only):** (middle soft key) → **[#][5][0][1]** **Handset:** (center of joystick) → **[#][5][0][1]** It is recommended to perform the following. – If necessary, change the unit's static IP address. – If an IP address was not acquired, check your network devices' (router, modem, etc.) connections. If the connections are made properly but the problem persists, check your network devices' (router, modem, etc.) settings. • Many installation issues can be resolved by resetting all the equipment. First, shut down your modem, router, hub, base unit, and PC. Then turn the devices back on, one at a time, in this order: modem, router, hub, base unit, PC. • If you cannot access Internet Web pages using your PC, check to see if your phone system is having connection issues in your area. • Check the VoIP status in the Web user interface and confirm that each line is registered properly (→ see **To check the setting status in the Web user interface** in this section). Even when one line fails to register, the indicator will flash in amber. • Check that the SIP server address, URLs of the configuration files, encryption key, and other required settings are correct. • Check the firewall and port forwarding settings on the router (→ see **1.1.10 Other Network Settings**). • For details about settings, consult your network administrator or phone system dealer.
The STATUS indicator or indicator flashes in amber rapidly although the IP address was acquired.	• Unplug the unit's AC adaptor to reset the unit, then reconnect the AC adaptor. If the STATUS indicator or indicator is still flashing in amber rapidly, there may be a problem with the base unit hardware. Contact your phone system dealer.

Problem	Cause/Solution
The STATUS indicator or  indicator lights in amber although the Ethernet cable is connected properly.	• The unit's IP address may conflict with the IP addresses of other devices on your local network. Check the unit's static IP address: **In cases when buttons/soft key icons are shown in English alphabet** **Base unit (KX-TGP55x only):** **[MENU]** (middle soft key) → **[#][5][0][1]** **Handset:** **[MENU]** (center of joystick) → **[#][5][0][1]** **In cases when buttons/soft key icons are shown in symbols/pictures** **Base unit (KX-TGP55x only):**  (middle soft key) → **[#][5][0][1]** **Handset:**  (center of joystick) → **[#][5][0][1]** Then check the IP addresses of the other devices on your local network. If necessary, change the unit's static IP address.

Making/Answering Calls, Intercom

Problem	Cause/Solution
The handset does not ring.	• The ringer volume is turned off. Adjust the ringer volume. For details about the operations, refer to the User Guide on the Panasonic Web site (→ see **Introduction**). • Check the VoIP status in the Web user interface and confirm that each line is registered properly (→ see **To check the setting status in the Web user interface** in this section). • Check that the SIP server address, URLs of the configuration files, encryption key, and other required settings are correct. • Check the firewall and port forwarding settings on the router (→ see **1.1.10 Other Network Settings**). • Check **[Multi Number Settings]** in the **[Telephone]** tab in the Web user interface (→ see **3.7.1 Multi Number Settings**). • Check **[Call Control]** for each line in the **[Telephone]** tab in the Web user interface. – If **[Do Not Disturb]** is set to **[Yes]**, the base unit or handset does not receive calls (→ see **3.7.3.3 Call Features**). – If **[Unconditional (Enable Call Forward)]** is set to **[Yes]**, the base unit or handset does not receive calls (→ see **3.7.3.4 Call Forward**). – If **[Block Anonymous Call]** is set to **[Yes]**, the base unit or handset does not receive anonymous calls (→ see **3.7.3.3 Call Features**). • Check that **[Do Not Disturb]**, **[Enable Call Forward]**, and **[Block Anonymous Call]** are not controlled by your phone system. • If 3 calls are being handled by the base unit and/or handsets simultaneously, a new call cannot be received and the unit will not ring. • For details about settings, consult your network administrator or phone system dealer.

Problem	Cause/Solution
The base unit (KX-TGP55x only) does not ring.	• The ringer volume is turned off. Adjust the ringer volume. For details about the operations, refer to the User Guide on the Panasonic Web site (→ see **Introduction**). • Check the VoIP status in the Web user interface and confirm that each line is registered properly (→ see **To check the setting status in the Web user interface** in this section). • Check that the SIP server address, URLs of the configuration files, encryption key, and other required settings are correct. • Check the firewall and port forwarding settings on the router (→ see **1.1.10 Other Network Settings**). • Check **[Multi Number Settings]** in the **[Telephone]** tab in the Web user interface (→ see **3.7.1 Multi Number Settings**). • Check **[Call Control]** for each line in the **[Telephone]** tab in the Web user interface. – If **[Do Not Disturb]** is set to **[Yes]**, the base unit or handset does not receive calls (→ see **3.7.3.3 Call Features**). – If **[Unconditional (Enable Call Forward)]** is set to **[Yes]**, the base unit or handset does not receive calls (→ see **3.7.3.4 Call Forward**). – If **[Block Anonymous Call]** is set to **[Yes]**, the base unit or handset does not receive anonymous calls (→ see **3.7.3.3 Call Features**). • Check that **[Do Not Disturb]**, **[Enable Call Forward]**, and **[Block Anonymous Call]** are not controlled by your phone system. • If 3 calls are being handled by the base unit and/or handsets simultaneously, a new call cannot be received and the unit will not ring. • For details about settings, consult your network administrator or phone system dealer.

Problem	Cause/Solution
I cannot make a call.	• Check if the STATUS indicator or indicator is lit in green. If it is not lit in green, refer to the User Guide on the Panasonic Web site (→ see **Introduction**). • You cannot make a call while the base unit is downloading the firmware update. Wait until the STATUS indicator or indicator stops flashing and changes to steady green. • The handset is too far from the base unit. Move closer and try again. • Check the VoIP status in the Web user interface and confirm that each line is registered properly (→ see **To check the setting status in the Web user interface** in this section). • Check that the SIP server address, URLs of the configuration files, encryption key, and other required settings are correct. • Check the firewall and port forwarding settings on the router (→ see **1.1.10 Other Network Settings**). • Check **[Multi Number Settings]** in the **[Telephone]** tab in the Web user interface (→ see **3.7.1 Multi Number Settings**). • If 3 calls are being handled by the base unit and/or handsets simultaneously, a new call cannot be made from the unit. • For details about settings, consult your network administrator or phone system dealer.

Password for Web User Interface Programming

Problem	Cause/Solution
I have lost the login password of the Web user interface for the Administrator or User account.	• Reset the password from the base unit or one of the handsets. The passwords for both Administrator and User will be reset (→ see **2.1.6 Reset Web ID/Password**). For security reasons, it is recommended that the passwords are set again immediately (→ see **3.5.2 Administrator Password** or **3.5.3 Change User Password**).

Time

Problem	Cause/Solution
The time is not correct.	• Adjust the date and time of the unit. For details about the operations, refer to the User Guide on the Panasonic Web site (→ see **Introduction**). • In the Web user interface, you can set NTP synchronization and DST (Summer Time) control to adjust the time automatically (→ see **3.5.5 Time Adjust Settings**). • If the time is still incorrect even after setting NTP synchronization, check the firewall and port forwarding settings on the router (→ see **1.1.10 Other Network Settings**).

Checking the Status of the Unit

You can check the status of the unit by using Web user interface programming (→ see **3.3.2 Network Status** and **3.3.3 VoIP Status**) or by looking at system logs (→ see **4.3.3 Syslog Settings**) sent from the unit.

To check the setting status in the Web user interface

1. Click the **[Status]** tab, and then click **[Network Status]** to check the network settings.
2. Check the status displayed.
3. Click **[VoIP Status]** to check the VoIP settings.
4. Check the status displayed.

To send the system logs of specified events to the syslog server

1. Set the following parameters to specify your PC (Windows, Linux® operating system, etc.) as the syslog server:
   – **SYSLOG_ADDR**: Specifies the IP address or FQDN of the syslog server.
   – **SYSLOG_PORT**: Specifies the port number of the syslog server.
2. Set the following parameters to log specific events:
   – **SYSLOG_EVENT_SIP**[*1]: Logs SIP-related syslog events.
   – **SYSLOG_EVENT_CFG**[*1]: Logs syslog events regarding configuration.
   – **SYSLOG_EVENT_VOIP**[*1]: Logs syslog events regarding VoIP operation.
   – **SYSLOG_EVENT_TEL**[*1]: Logs syslog events regarding telephone functions.

[*1] In this version of the unit, this system log will not be sent.

Section 8

Configuration File Examples

This section provides examples of the configuration files.

8.1 Simplified Example of the Configuration File

The following listing shows an example of a simple configuration file.
For the programming instructions and allowable characters, see **4.2 General Information on the Configuration Files**.

Simplified Example

```
# PCC Standard Format File # DO NOT CHANGE THIS LINE!
# This is a simplified sample configuration file.

##############################################################
# Configuration Setting #
##############################################################

# URL of this configuration file
CFG_STANDARD_FILE_PATH="http://config.example.com/0123456789AB.cfg"

##############################################################
# SIP Settings #
# Suffix "_1" indicates this parameter is for "line 1". #
##############################################################

# IP Address or FQDN of SIP registrar server, proxy server
SIP_RGSTR_ADDR_1="registrar.example.com"
SIP_PRXY_ADDR_1="proxy.example.com"
# IP Address or FQDN of SIP presence server
SIP_PRSNC_ADDR_1="presenceserver.example.com"

# Enables DNS SRV lookup
SIP_DNSSRV_ENA_1="Y"

# ID, password for SIP authentication
SIP_AUTHID_1="SIP_User"
SIP_PASS_1="SIP_Password"

# Some Timer Settings #
# Expiration time of SIP registration; "1 hour"
REG_EXPIRE_TIME_1="3600"
# Disables SIP Session Timer (RFC 4028)
SIP_SESSION_TIME_1="0"

# SIP phone number
PHONE_NUMBER_1="1234567890"
# Caller ID passed to opposite party
DISPLAY_NAME_1="1234567890"

##############################################################
# VoIP Setting #
##############################################################

# DTMF will be sent through SDP, according to RFC 2833
```

```
OUTBANDDTMF_1="Y"

############################################################
# Call Control Settings #
############################################################

# Enables subscription to the Voice Mail server
VM_SUBSCRIBE_ENABLE="Y"

# Shared Call Settings
SHARED_CALL_ENABLE_1="Y"
SHARED_USER_ID_1="1234567890a"

# Disables Do Not Disturb, Call Forward synchronization.
SYNCHRONIZATION_ENABLE_1="N"
```

8.2 Comprehensive Example of the Configuration File

The following listing shows an example of a comprehensive configuration file. In this example, settings with the same values as the default settings are also shown. If the setting already has the desired value, changing or specifying a value is unnecessary, and the setting can be omitted.

Comprehensive Example

```
# PCC Standard Format File # DO NOT CHANGE THIS LINE!

############################################################
# This is a sample configuration file. #
# Most of the parameters below are just default values... #
############################################################

############################################################
# System Settings #
############################################################
## Login Account Settings
ADMIN_ID="Jones"
ADMIN_PASS="HCeDUg4GqqDF9Jpl"
USER_ID="Smith"
USER_PASS="lhQ8B5hqoHgOlaAu"

## System Time Settings
TIME_ZONE="-300"
DST_ENABLE="Y"
DST_OFFSET="60"
DST_START_MONTH="3"
DST_START_ORDINAL_DAY="2"
DST_START_DAY_OF_WEEK="0"
DST_START_TIME="120"
DST_STOP_MONTH="11"
DST_STOP_ORDINAL_DAY="1"
```

```
DST_STOP_DAY_OF_WEEK="0"
DST_STOP_TIME="120"

## Syslog Settings
SYSLOG_EVENT_SIP="0"
SYSLOG_EVENT_CFG="0"
SYSLOG_EVENT_VOIP="0"
SYSLOG_EVENT_TEL="0"
SYSLOG_ADDR="logserver.example.com"
SYSLOG_PORT="514"
SYSLOG_RTPSMLY_INTVL_1="20"

## Firmware Update Settings
FIRM_UPGRADE_ENABLE="Y"
# FIRM_VER_EUDECT # not needed for US-DECT phone
FIRM_VER_USDECT="01.01"
FIRM_UPGRADE_AUTO="Y"
FIRM_FILE_PATH="http://firmserver.example.com/{MODEL}.fw"

## Provisioning Settings
OPTION66_ENABLE="Y"
OPTION66_REBOOT="N"
PROVISION_ENABLE="Y"
CFG_STANDARD_FILE_PATH="http://provisioning.example.com/Config{mac}.cfg"
CFG_PRODUCT_FILE_PATH=""
CFG_MASTER_FILE_PATH="http://provisioning.example.com/ConfigCommon.cfg"
# CFG_FILE_KEY1="" # Not to overwrite factory default key
CFG_FILE_KEY2=""
CFG_FILE_KEY3=""
CFG_FILE_KEY_LENGTH="128"
CFG_CYCLIC="N"
CFG_CYCLIC_INTVL="10080"
CFG_RTRY_INTVL="30"
CFG_RESYNC_TIME=""
CFG_RESYNC_FROM_SIP="check-sync"

################################################################
# Network Settings #
################################################################
## IP Settings
CONNECTION_TYPE="1"
HOST_NAME="TGP550"
DHCP_DNS_ENABLE="N"
STATIC_IP_ADDRESS=""
STATIC_SUBNET=""
STATIC_GATEWAY=""
USER_DNS1_ADDR=""
USER_DNS2_ADDR=""

## DNS Settings
DNS_QRY_PRLL="Y"
DNS_PRIORITY="N"
DNS1_ADDR=""
DNS2_ADDR=""
```

```
## Ethernet Port Settings
VLAN_ENABLE="N"
VLAN_ID_IP_PHONE="2"
VLAN_PRI_IP_PHONE="7"
VLAN_ID_PC="1"
VLAN_PRI_PC="0"

## HTTP Settings
HTTPD_PORTOPEN_AUTO="N"
HTTP_VER="1"
HTTP_USER_AGENT="Panasonic_{MODEL}/{fwver} ({mac})"
HTTP_SSL_VERIFY="0"
CFG_ROOT_CERTIFICATE_PATH=""

## Time Adjust Settings
NTP_ADDR="ntp.example.com"
TIME_SYNC_INTVL="60"
TIME_QUERY_INTVL="43200"

## STUN Settings
STUN_SERV_ADDR="stun.example.com"
STUN_SERV_PORT="3478"
STUN_2NDSERV_ADDR=""
STUN_2NDSERV_PORT="3478"

## Miscellaneous Network Settings
NW_SETTING_ENABLE="Y"
CUSTOM_WEB_PAGE="0"

################################################################
# Telephone Settings #
################################################################
## Multi Number Settings
INCOMING_CALL_GROUP_1="1,1,1,1,1,1,1"
OUTGOING_CALL_LINE_HS1="1,1,1,1,1,1,1,1"
OUTGOING_CALL_LINE_HS2="1,1,1,1,1,1,1,1"
OUTGOING_CALL_LINE_HS3="1,1,1,1,1,1,1,1"
OUTGOING_CALL_LINE_HS4="1,1,1,1,1,1,1,1"
OUTGOING_CALL_LINE_HS5="1,1,1,1,1,1,1,1"
OUTGOING_CALL_LINE_HS6="1,1,1,1,1,1,1,1"
OUTGOING_CALL_LINE_BS="1,1,1,1,1,1,1,1"
DEFAULT_LINE_SELECT_HS1="1,0,0,0,0,0,0,0"
DEFAULT_LINE_SELECT_HS2="1,0,0,0,0,0,0,0"
DEFAULT_LINE_SELECT_HS3="1,0,0,0,0,0,0,0"
DEFAULT_LINE_SELECT_HS4="1,0,0,0,0,0,0,0"
DEFAULT_LINE_SELECT_HS5="1,0,0,0,0,0,0,0"
DEFAULT_LINE_SELECT_HS6="1,0,0,0,0,0,0,0"
DEFAULT_LINE_SELECT_BS="1,0,0,0,0,0,0,0"

## Call Control Settings
CONFERENCE_SERVER_ADDRESS="conference@example.com"
EMERGENCY_CALL1="911"
EMERGENCY_CALL2=""
EMERGENCY_CALL3=""
EMERGENCY_CALL4=""
```

```
EMERGENCY_CALL5=""
FIRSTDIGIT_TIM="30"
INTDIGIT_TIM="5"
VM_SUBSCRIBE_ENABLE="Y"

## Tone Settings
DIAL_TONE_FRQ="350,440"
DIAL_TONE_TIMING="0,0,0,0"
BUSY_TONE_FRQ="480,620"
BUSY_TONE_TIMING="500,500,500,500"
RINGING_TONE_FRQ="440,480"
RINGING_TONE_TIMING="2000,4000,2000,4000"
STT_TONE_FRQ="350,440"
STT_TONE_TIMING="100,100,100,100,100,100,100,100,100,100,100,100,100,100,100,
100,100,100,100,100,0,0"
REORDER_TONE_FRQ="480,620"
REORDER_TONE_TIMING="250,250,250,250,250,250,250,250"
HOWLER_TONE_FRQ="1400,2060"
HOWLER_TONE_TIMING="100,100,100,100"
HOWLER_START_TIME="30"

BELL_CORE_PATTERN1_TIMING="2000,4000"
BELL_CORE_PATTERN2_TIMING="800,400,800,4000"
BELL_CORE_PATTERN3_TIMING="400,200,400,200,800,4000"
BELL_CORE_PATTERN4_TIMING="300,200,1000,200,300,4000"
BELL_CORE_PATTERN5_TIMING="500"

################################################################
# VoIP Settings #
################################################################
## Codec Settings
SDP_CODEC0_1="G722"
SDP_CODEC1_1="PCMA"
SDP_CODEC2_1="G726-32"
SDP_CODEC3_1="G729A"
SDP_CODEC4_1="PCMU"
SDP_CKRTE0_1="8000"
SDP_CKRTE1_1="8000"
SDP_CKRTE2_1="8000"
SDP_CKRTE3_1="8000"
SDP_CKRTE4_1="8000"
SDP_PARAM0_1="0"
SDP_PARAM1_1="0"
SDP_PARAM2_1="0"
SDP_PARAM3_1="0"
SDP_PARAM4_1="0"
SDP_PTYPE0_1="9"
SDP_PTYPE1_1="8"
SDP_PTYPE2_1="2"
SDP_PTYPE3_1="18"
SDP_PTYPE4_1="0"
CODEC_G711_REQ="1"
CODEC_G729_PARAM="0"

## RTP Settings
```

```
TOS_RTP_1="0"
RTCP_INTVL_1="0"
MAX_DELAY_1="20"
MIN_DELAY_1="2"
NOM_DELAY_1="2"
RTP_PORT_MIN="16000"
RTP_PORT_MAX="20000"
RTP_PTIME="20"

## Miscellaneous VoIP Settings
OUTBANDDTMF_1="Y"
OUTBANDDTMF_VOL="-5"
TELEVENT_PTYPE_1="101"
RFC2543_HOLD_ENABLE_1="Y"

################################################################
# Line Settings #
################################################################
## Call Control Settings
VM_NUMBER_1=""
DIAL_PLAN_1="<:0111>[2-9]xxxxxxxxS0|<:011>1[2-9]xxxxxxxxS0"
DIAL_PLAN_NOT_MATCH_ENABLE_1="N"
SHARED_CALL_ENABLE_1="Y"
SHARED_USER_ID_1="1234567890a"
SYNCHRONIZATION_ENABLE_1="N"
PRIVACY_MODE_1="Y"

## SIP Settings
SIP_USER_AGENT="Panasonic_{MODEL}/{fwver} ({mac})"
SIP_AUTHID_1="SIP1234567890"
SIP_PASS_1="APDs8S2ja0afAMO72"
SIP_SRC_PORT_1="5060"
SIP_PRXY_ADDR_1="proxy.example.com"
SIP_PRXY_PORT_1="5060"
SIP_RGSTR_ADDR_1="registrar.example.com"
SIP_RGSTR_PORT_1="5060"
SIP_SVCDOMAIN_1="example.com"
REG_EXPIRE_TIME_1="3600"
REG_INTERVAL_RATE_1="90"
SIP_SESSION_TIME_1="0"
TOS_SIP_1="0"
SIP_2NDPROXY_ADDR_1=""
SIP_2NDPROXY_PORT_1="5060"
SIP_2NDRGSTR_ADDR_1=""
SIP_2NDRGSTR_PORT_1="5060"
SIP_TIMER_T1_1="500"
SIP_TIMER_T2_1="4"
INVITE_RTXN_1="6"
OTHER_RTXN_1="10"
SIP_FOVR_NORSP_1="Y"
SIP_FOVR_MAX_1="2"
SIP_DNSSRV_ENA_1="Y"
SIP_UDP_SRV_PREFIX_1="_sip._udp."
SIP_TCP_SRV_PREFIX_1="_sip._tcp."
SIP_100REL_ENABLE_1="N"
```

```
SIP_18X_RTX_INTVL_1="0"
SIP_PRSNC_ADDR_1="presenceserver.example.com"
SIP_PRSNC_PORT_1="5060"
SIP_2NDPRSNC_ADDR_1=""
SIP_2NDPRSNC_PORT_1="5060"
USE_DEL_REG_OPEN_1="N"
USE_DEL_REG_CLOSE_1="N"
PORT_PUNCH_INTVL_1="0"
SIP_SUBS_EXPIRE_1="3600"
SUB_RTX_INTVL_1="10"
REG_RTX_INTVL_1="10"
SIP_P_PREFERRED_ID_1="N"
SIP_PRIVACY_1="N"
ADD_USER_PHONE_1="N"
SDP_USER_ID_1="-"
SUB_INTERVAL_RATE_1="90"
SIP_OUTPROXY_ADDR_1=""
SIP_OUTPROXY_PORT_1="5060"
SIP_TRANSPORT_1="0"
SIP_ANM_DISPNAME_1="1"
SIP_ANM_USERNAME_1="0"
SIP_ANM_HOSTNAME_1="N"
SIP_DETECT_SSAF_1="N"
SIP_RCV_DET_HEADER_1="N"
SIP_CONTACT_ON_ACK_1="N"
PHONE_NUMBER_1="1234567890"
LINE_ID_1=""
DISPLAY_NAME_1="1234567890"
INTERNATIONAL_ACCESS_CODE=""
SIP_REQURI_PORT_1="Y"
SIP_ADD_RPORT_1="N"
SIP_SESSION_METHOD_1="0"
VOICE_MESSAGE_AVAILABLE="Y"

#-----------------------------------------------------------#
# Settings for line 2 #
#-----------------------------------------------------------#

##############################################################
# System Settings #
##############################################################
## Syslog Settings
SYSLOG_RTPSMLY_INTVL_2="20"

##############################################################
# Telephone Settings #
##############################################################
## Multi Number Settings
INCOMING_CALL_GROUP_2="1,1,1,1,1,1,1"

##############################################################
# VoIP Settings #
##############################################################
## Codec Settings
SDP_CODEC0_2="G722"
```

```
SDP_CODEC1_2="PCMA"
SDP_CODEC2_2="G726-32"
SDP_CODEC3_2="G729A"
SDP_CODEC4_2="PCMU"
SDP_CKRTE0_2="8000"
SDP_CKRTE1_2="8000"
SDP_CKRTE2_2="8000"
SDP_CKRTE3_2="8000"
SDP_CKRTE4_2="8000"
SDP_PARAM0_2="0"
SDP_PARAM1_2="0"
SDP_PARAM2_2="0"
SDP_PARAM3_2="0"
SDP_PARAM4_2="0"
SDP_PTYPE0_2="9"
SDP_PTYPE1_2="8"
SDP_PTYPE2_2="2"
SDP_PTYPE3_2="18"
SDP_PTYPE4_2="0"

## RTP Settings
TOS_RTP_2="0"
RTCP_INTVL_2="0"
MAX_DELAY_2="20"
MIN_DELAY_2="2"
NOM_DELAY_2="2"

## Miscellaneous VoIP Settings
OUTBANDDTMF_2="Y"
TELEVENT_PTYPE_2="101"
RFC2543_HOLD_ENABLE_2="Y"

################################################################
# Line Settings #
################################################################
## Call Control Settings
VM_NUMBER_2=""
DIAL_PLAN_2="<:0111>[2-9]xxxxxxxxS0|<:011>1[2-9]xxxxxxxxS0"
DIAL_PLAN_NOT_MATCH_ENABLE_2="N"
SHARED_CALL_ENABLE_2="Y"
SHARED_USER_ID_2="1234567891a"
SYNCHRONIZATION_ENABLE_2="N"
PRIVACY_MODE_2="Y"

## SIP Settings
SIP_AUTHID_2="SIP1234567891"
SIP_PASS_2="J8uajAHFK3AHFSAla"
SIP_SRC_PORT_2="5070"
SIP_PRXY_ADDR_2="proxy.example.com"
SIP_PRXY_PORT_2="5060"
SIP_RGSTR_ADDR_2="registrar.example.com"
SIP_RGSTR_PORT_2="5060"
SIP_SVCDOMAIN_2="example.com"
REG_EXPIRE_TIME_2="3600"
REG_INTERVAL_RATE_2="90"
```

```
SIP_SESSION_TIME_2="0"
TOS_SIP_2="0"
SIP_2NDPROXY_ADDR_2=""
SIP_2NDPROXY_PORT_2="5060"
SIP_2NDRGSTR_ADDR_2=""
SIP_2NDRGSTR_PORT_2="5060"
SIP_TIMER_T1_2="500"
SIP_TIMER_T2_2="4"
INVITE_RTXN_2="6"
OTHER_RTXN_2="10"
SIP_FOVR_NORSP_2="Y"
SIP_FOVR_MAX_2="2"
SIP_DNSSRV_ENA_2="Y"
SIP_UDP_SRV_PREFIX_2="_sip._udp."
SIP_TCP_SRV_PREFIX_2="_sip._tcp."
SIP_100REL_ENABLE_2="N"
SIP_18X_RTX_INTVL_2="0"
SIP_PRSNC_ADDR_2="presenceserver.example.com"
SIP_PRSNC_PORT_2="5060"
SIP_2NDPRSNC_ADDR_2=""
SIP_2NDPRSNC_PORT_2="5060"
USE_DEL_REG_OPEN_2="N"
USE_DEL_REG_CLOSE_2="N"
PORT_PUNCH_INTVL_2="0"
SIP_SUBS_EXPIRE_2="3600"
SUB_RTX_INTVL_2="10"
REG_RTX_INTVL_2="10"
SIP_P_PREFERRED_ID_2="N"
SIP_PRIVACY_2="N"
ADD_USER_PHONE_2="N"
SDP_USER_ID_2="-"
SUB_INTERVAL_RATE_2="90"
SIP_OUTPROXY_ADDR_2=""
SIP_OUTPROXY_PORT_2="5060"
SIP_TRANSPORT_2="0"
SIP_ANM_DISPNAME_2="1"
SIP_ANM_USERNAME_2="0"
SIP_ANM_HOSTNAME_2="N"
SIP_DETECT_SSAF_2="N"
SIP_RCV_DET_HEADER_2="N"
SIP_CONTACT_ON_ACK_2="N"
PHONE_NUMBER_2="1234567891"
LINE_ID_2=""
DISPLAY_NAME_2="1234567891"
SIP_REQURI_PORT_2="Y"
SIP_ADD_RPORT_2="N"
SIP_SESSION_METHOD_2="0"

#-----------------------------------------------------------#
# Settings for line 3 to 8 follows... #
#-----------------------------------------------------------#
```

8.2.1 Codec Settings for G729A only

By specifying the configuration parameters as shown in the following example, you can use only "G729A" for line 1 as the codec settings.

Example

```
SDP_CODEC0_1="G729A"
SDP_CODEC1_1=""
SDP_CODEC2_1=""
SDP_CODEC3_1=""
SDP_CODEC4_1=""
SDP_PTYPE0_1="18"
SDP_PTYPE1_1="255"
SDP_PTYPE2_1="255"
SDP_PTYPE3_1="255"
SDP_PTYPE4_1="255"
CODEC_G711_REQ="0"
```

Note

- If you use only "G729A" for lines 2–8, specify the same settings by changing the suffix "_1" to "_2"–"_8".
- This listing shows the parameters required for setting "G729A" only. For details about the other settings, see **8.2 Comprehensive Example of the Configuration File**.

8.3 Example with Incorrect Descriptions

The following listing shows an example of a configuration file that contains incorrect formatting:

❶ An improper description is entered in the first line. A configuration file must start with the designated character sequence "**# PCC Standard Format File #**".
❷ Comment lines start in the middle of the lines.
❸ Space characters are inserted in the middle of the setting line.
❹ Comment lines begin with characters other than "**#**".
❺ A specified value is not in the range allowed for that setting.

Incorrect Example

```
# This is a simplified sample configuration file.

############################################################
# Configuration Setting #
############################################################

CFG_STANDARD_FILE_PATH="http://config.example.com/0123456789AB.cfg"
                                        # URL of this configuration file

############################################################
# SIP Settings #
# Suffix "_1" indicates this parameter is for "line 1". #
############################################################

SIP_RGSTR_ADDR_1="registrar.example.com" # IP Address or FQDN of SIP registrar server
SIP_PRXY_ADDR_1="proxy.example.com"      # IP Address or FQDN of proxy server

# Enables DNS SRV lookup
SIP_DNSSRV_ENA_1="Y"

# ID, password for SIP authentication
SIP_AUTHID_1 = "SIP_User"
SIP_PASS_1 = "SIP_Password"

# Some Timer Settings #
# Expiration time of SIP registration; "1 hour"
REG_EXPIRE_TIME_1="3600"
# Disables SIP Session Timer (RFC 4028)
SIP_SESSION_TIME_1="0"
```

```
// SIP phone number
PHONE_NUMBER_1="1234567890"
# Caller ID passed to opposite party
DISPLAY_NAME_1="1234567890"

/*
 * VoIP Setting
 */

# DTMF will be sent through SDP, according to RFC 2833
OUTBANDDTMF_1="Y"

################################################################
# Call Control Settings #
################################################################

# Enables subscription to the Voice Mail server
VM_SUBSCRIBE_ENABLE="Yes"

# Shared Call Settings
SHARED_CALL_ENABLE_1="Y"
SHARED_USER_ID_1="1234567890a"

# Disables Do Not Disturb, Call Forward synchronization.
SYNCHRONIZATION_ENABLE_1="N"
```

❹

❺

Section 9

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Section 10
Appendix

10.1 Revision History

10.1.1 KX-TGP500/KX-TGP550 Software File Version 12.04/22.04 or later

New Contents

- 3.6.2.1 Phone Number
  Phone Number
  Line ID
- 4.7.2 SIP Settings
  SIP_RCV_DET_HEADER_[1–8]
  PHONE_NUMBER_[1–8]
  LINE_ID_[1–8]

10.1.2 KX-TGP500/KX-TGP550 Software File Version 12.06/22.06 or later

New Contents

- 4.5.1 Multi Number Settings
  INCOMING_CALL_GROUP_[1–8]
  OUTGOING_CALL_LINE_HS[1–6]
  OUTGOING_CALL_LINE_BS
  DEFAULT_LINE_SELECT_HS[1–6]
  DEFAULT_LINE_SELECT_BS

10.1.3 KX-TGP500/KX-TGP550 Software File Version 12.10/22.10 or later

New Contents

- 4.3.5 Provisioning Settings
  OPTION66_REBOOT
- 4.4.4 HTTP Settings
  HTTPD_PORTOPEN_AUTO
- 4.6.3 Miscellaneous VoIP Settings
  OUTBANDDTMF_VOL
- 4.7.2 SIP Settings
  SIP_CONTACT_ON_ACK_[1–8]

10.1.4 KX-TGP551 Software File Version 12.12 or later

Beginning with this version, the KX-TGP551 is supported.

10.1.5 KX-TGP500/KX-TGP550 Software File Version 12.17/22.17 or later

New Contents

- 3.4.3.2 HTTP Authentication
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- 4.7.2 SIP Settings
  SIP_REQURI_PORT_[1–8]
  SIP_ADD_RPORT_[1–8]
  SIP_SESSION_METHOD_[1–8]

10.1.6 KX-TGP500/KX-TGP550 Software File Version 12.29/22.29 or later

New Contents

- 4.7.2 SIP Settings
  VOICE_MESSAGE_AVAILABLE

10.1.7 KX-TGP500/KX-TGP550 Software File Version 12.53/22.53 or later

New Contents

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10.1.7 KX-TGP500/KX-TGP550 Software File Version 12.53/22.53 or later

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