

**DT900 Series F/W Upgrade Procedure  
to STD-SIP firmware**

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# DT900 Series F/W Upgrade Procedure to STD-SIP firmware

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# Introduction

From v2.5.0.0 the firmware of DT900 series were encrypted.

Because of this, DT900 after v2.5.0.0 is unable to change the firmware from NEC-SIP to STD-SIP directly on 3C.

This document is designed to describe the function of changing the firmware manually.

## Audience

This document is intended for installation technician or maintenance personnel who configure the Telephony Server and terminal. The procedure described in this document is administrative level and are not intended for end users of the terminal.

## Target Terminal Models and Target Firmware Versions

The following table shows the target terminal models and the target firmware versions that require a firmware upgrade.

- DT900 Series

Table 1. Target Terminal Models and Target Firmware Versions

Terminal Type	Model	Description	Firmware Version
DT900 Series	ITK-6D/6DG/12D/12DG-( )	<ul style="list-style-type: none"><li>• 6/12-button terminal equipped with LCD</li><li>• Full duplex speakerphone</li><li>• Available in black and white</li></ul>	V2.5.0.0 or later
	ITK-8LCX/8LCG/32LCG-( )	<ul style="list-style-type: none"><li>• Self-Labeling LCD (8 line keys are available(virtual))</li><li>• Full duplex speakerphone</li><li>• Available in black and white</li></ul>	
	ITK-8TCGX/32TCG-( )	<ul style="list-style-type: none"><li>• 8/32-button terminal equipped with Touch Panel</li><li>• Gigabit Ethernet</li><li>• Full duplex speakerphone</li><li>• Available in black and white</li></ul>	

# Firmware Download

## Download Method

Terminal firmware is required to be upgraded by the following procedure:

1. Change the firmware from encrypted version to non-encrypted version.
2. Connect to 3C.

## Download File

To upgrade the terminal firmware, files of the following firmware version are required.

- For DT900 Series
  - Relay Firmware
    - \* This firmware version you need depends on what version you have downloaded and what version you want to download. See Table 3 for details.

Depending on the model in use, the following file(s) are required.

Table 2. Firmware file name by model

Model	Terminal Type	Download File
ITK-6D/6DG/12D/12DG-( )	DT920 (6/12-button terminal)	itkisipe.tgz
ITK-8LCX/8LCG/32LCG-( )	DT920 (Self-Labeling terminal)	itkisipcc.tgz
ITK-24CG-( )	DT930 (24-button terminal equipped with Color LCD)	itkisipvc.tgz
ITK-8TCGX/32TCG-( )	DT930 (Touch Panel terminal)	itkisiptc.tgz

Table 3. Relay firmware version required for download the target firmware

Downloaded Firmware Version	Download Target Firmware Version	Relay Firmware Version
V2.4.0.0 or earlier	V5.3.4.0 or earlier	None (It can be downloaded directly)
	V5.3.4.1 or later	None (It can be downloaded directly)
V2.5.0.0 or V2.5.1.0	V5.3.4.0 or earlier	V2.4.0.98
	V5.3.4.1 or later	V2.5.2.98
V2.5.2.0 or later	V5.3.4.0 or earlier	Restrict (*Note)
	V5.3.4.1 or later	V2.5.2.98

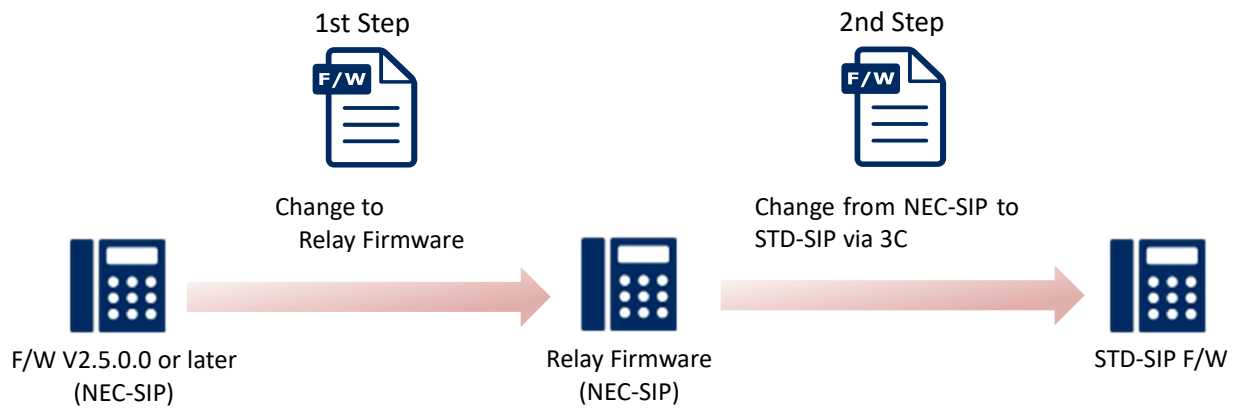
Note: Versions earlier than V5.3.4.0 cannot be downloaded from firmware later than 2.5.2.0 for security reasons.

# Overview of Firmware Upgrade

Firmware upgrade is carried out in the following two steps.

- 1: Upgrade to Relay Firmware (\*)
- 2: Upgrade to firmware to STD-SIP version

\* See Table 3 on page 2 for relay firmware.



# Firmware Upgrade Procedures

The main firmware upgrade procedures are as follows.

## First Step

This section explains the firmware upgrade procedure to Relay Firmware (\*).

Two kinds of firmware download procedures are described below:

- Download by terminal
- Download by IP Phone Manager

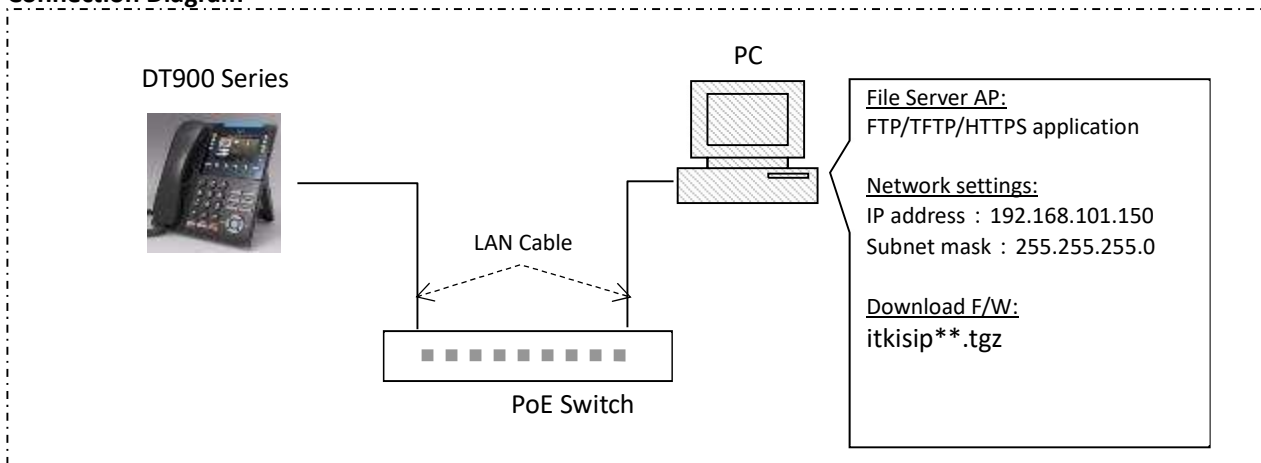
\* See Table 3 on page 2 for relay firmware.

[1] Download by terminal

**Equipment**

Number	Item	Quantity	Note
1.	PoE Switch	1	"AC-RD" or "AC-2RD" UNIT
2.	LAN cable	2	CAT5 straight cable
3.	PC	1	
4.	FTP or TFTP or HTTPS Server PC Application	1	Install to PC.
5.	Itkisp**.tgz	1	Relay Firmware (See Table 3 on page 2 for the version to download.)

**Connection Diagram**





## Download Procedure by operating phone

Step	process No.	Action	Check point
Power on Start & Menu	1	Power supply -> Push 「Menu」 after the transition from the [Starting...] Screen.	CD: Login (Enter ID/Password)
Login Menu	2	Push Softkey 「Set」	Enter position [Password]
	3	Push 「6」 「6」 「3」 「3」 「2」 「2」 「2」 「OK」	[LCD] 1. Network Settings 2. SIP Settings 3. Maintenance Settings
	4	Push 「1」	[LCD] 1. DHCP Mode 2. IP Address 3. Default Gateway
Set DHCP	5	Push 「1」	[LCD] DHCP mode select 1. Disable 2. Enable
	6	Push 「1」 -> Softkey 「OK」	[LCD] 1. DHCP Mode 2. IP Address 3. Default Gateway
	7	Select 「EXIT」	[LCD] 1. Network Settings 2. SIP Settings 3. Maintenance Settings
	8	Push 「1」	[LCD] 1. DHCP Mode 2. IP Address 3. Default Gateway
	9	Push 「2」	[LCD] IP address enter screen
Set [IP Address]	10	Push 「1」 「9」 「2」 「1」 「6」 「8」 「1」 「0」 「1」 「1」 「5」 「9」	[LCD] [IP Address]  192.168.101.159
	11	Push Softkey 「OK」	[LCD] 1. DHCP Mode 2. IP Address 3. Default Gateway
	12	Push 「4」	[LCD] Subnet Mask enter screen
Set [Subnet Mask]	13	Push 「2」 「5」 「5」 「2」 「5」 「5」 「2」 「5」 「5」 「0」	[LCD] [Subnet Mask]  255.255.255.0
	14	Push Softkey 「OK」	[LCD] 4. Subnet Mask

			5. DNS Address 6. Advanced Settings
	15	Push Softkey 「EXIT」	[LCD] 1. Network Settings 2. SIP Settings 3. Maintenance Settings
	16	Push 「3」 「1」 「2」	[LCD] Download Address / Download Address enter screen
Set [Download Server Address]	17	Push 「1」 「9」 「2」 「1」 「6」 「8」 「1」 「0」 「1」 「1」 「5」 「0」	[LCD] [Download Address]  192.168.101.150
	18	Push Softkey 「OK」	[LCD] 1. Download Files 2. Download Address 3. Protocol
	19	Push 「3」	[LCD] Protocol select screen 1. FTP 2. TFTP 3. HTTPS
Select [Protocol]	20	To use FTP: Push 「1」 To use TFTP: Push 「2」 To use HTTPS: Push 「3」	
Reboot(1)	21	Push Softkey「OK」 「Exit」 「Exit」 「Save」	Phone is rebooting.
	22	Reboot and 15 seconds after -> Push 「Menu」 after [SIP Server Not Found].	LCD: Login (Enter ID/Password)
	23	Push Softkey 「Set」	Enter position [Password]
	24	Push 「6」 「6」 「3」 「3」 「2」 「2」 「2」 「OK」	[LCD] 1. Network Settings 2. SIP Settings 3. Maintenance Settings
	25	Push 「3」 「1」 「1」 「1」	[LCD] [Boot & Program] Input a file name. Itkisip**.tgz
Execute Download	26	Push Softkey 「Exec」	[LCD] Message [Downloading...] -> [Saving...]
	27	After... (about 30 seconds)	[LCD] Message [Download Complete!]
Reboot(2)	28	Push Softkey 「Exit」	ITK is rebooting.
	29	Power supply -> Push 「Menu」 after the transition from the [Starting...] Screen.	LCD: Login (Enter ID/Password)
	30	Push Softkey 「Set」	Enter position [Password]
	31	Push 「6」 「6」 「3」 「3」 「2」 「2」 「2」 「OK」	[LCD] 1. Network Settings 2. SIP Settings 3. Maintenance Settings

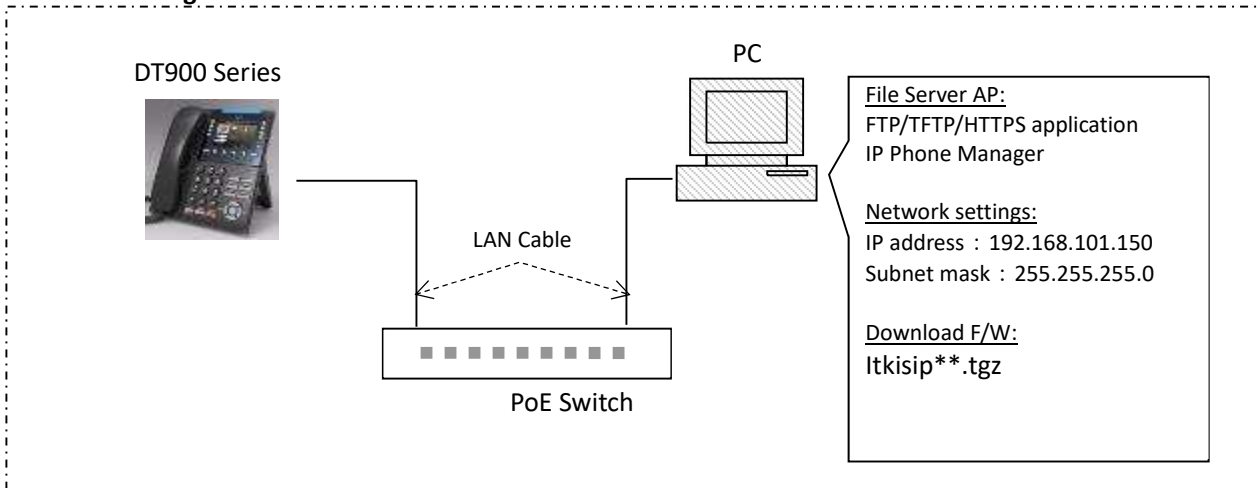
Check F/W version	32	Push 「5」 -> Softkey「↓」-> Softkey「↓」	[LCD] <b>Downloaded F/W Version</b> is displayed. [Terminal Information] Firmware Version *.*.*
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[2] Download by IP Phone Manager

**Equipment**

Number	Item	Quantity	Note
1.	PoE Switch	1	"AC-RD" or "AC-2RD" UNIT
2.	LAN cable	2	CAT5 straight cable
3.	PC	1	
4.	FTP or TFTP or HTTPS Server PC Application	1	Install to PC.
5.	ltkisip**.tgz	1	Relay Firmware (See Table 3 on page 2 for the version to download.)
6.	IP Phone Manager application after v8.10.0.0	1	Install to PC.

**Connection Diagram**



## Download Procedure by IP Phone Manager

### Search Terminal

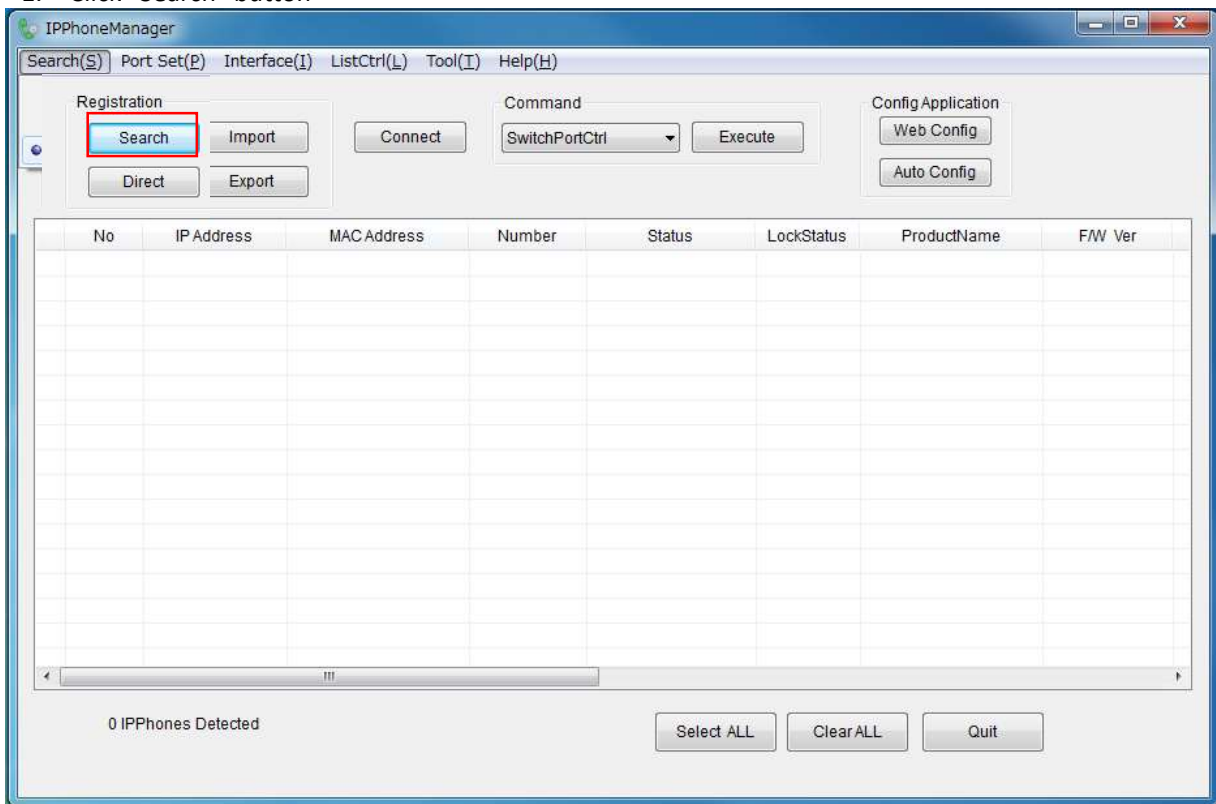
Begin searching for terminal.

There are 2 ways to search for terminals.

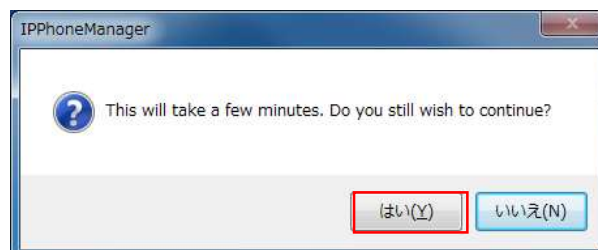
1. Searching terminal on same segment.
  - In this case please see "(1) Searching the terminal on the network"
2. Searching terminal "Direct" by specifying the IP address of a terminal in another segment.
  - In this case, please refer to "(2) Searching the terminal directly".

(1) Searching the terminal on the network

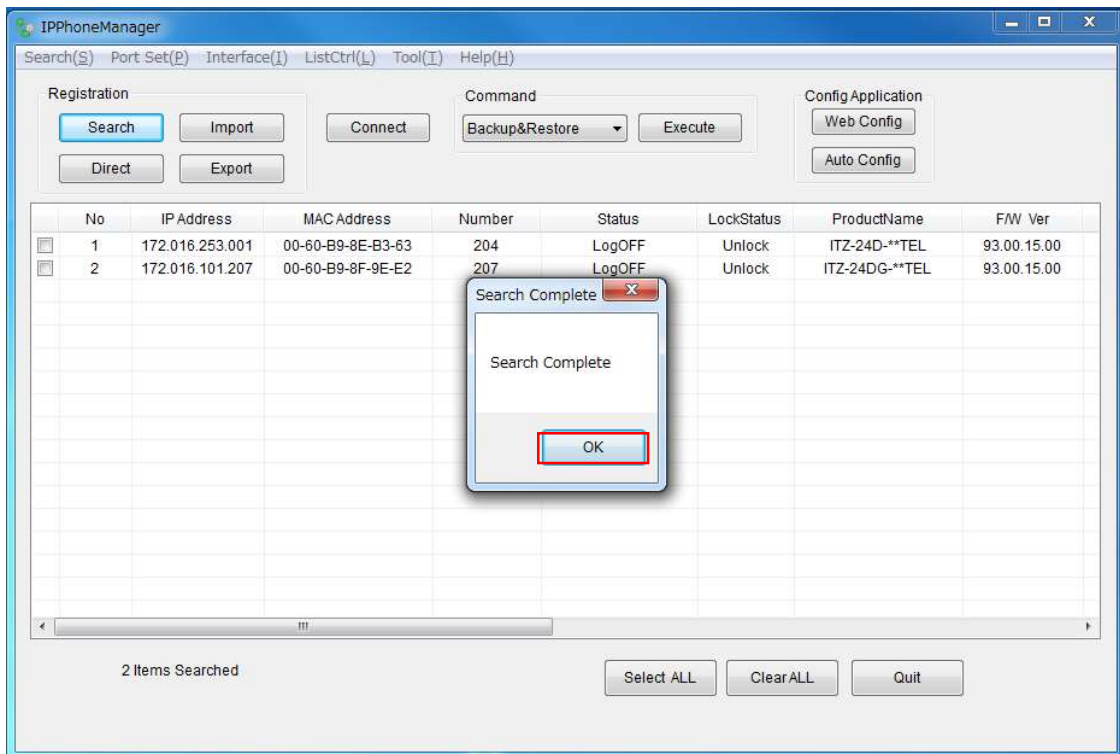
1. Click "Search" button



2. Click "Yes" when display shows "This will take a few minutes. Do you still wish to continue?".

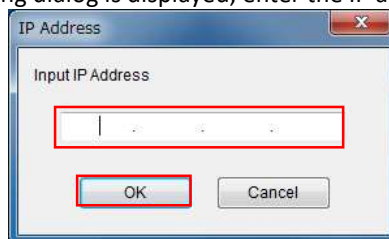


- The connected terminals on the network are searched and the responded terminals are added to the list.  
When the "Search Complete" screen appears, click "OK".



## (2) Searching the terminal directly

If the IP address of the IP terminal is known in advance, it is possible to search directly. By clicking the Direct button, the following dialog is displayed, enter the IP address of the IP terminal and click "ok".



It can also be used to search again for terminals added to the list on the main screen in advance. If it is required to search again, select the IP terminal required to search again in the list, and press the "Direct" button.

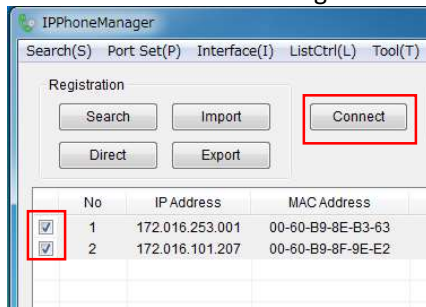
If it is required to add both terminals in the same segment and terminals in another segment to the list, first research the requirements and then add terminal information for another segment using Direct. When searching for terminals in another segment using Direct, you must set a default gateway in advance on the PC using IP Phone Manager.

※ Because the terminal may not be able to be Searched depending on the communication state of the network and the specifications of the PC, it is recommended to obtain information on the terminal currently connected from the main device if possible.

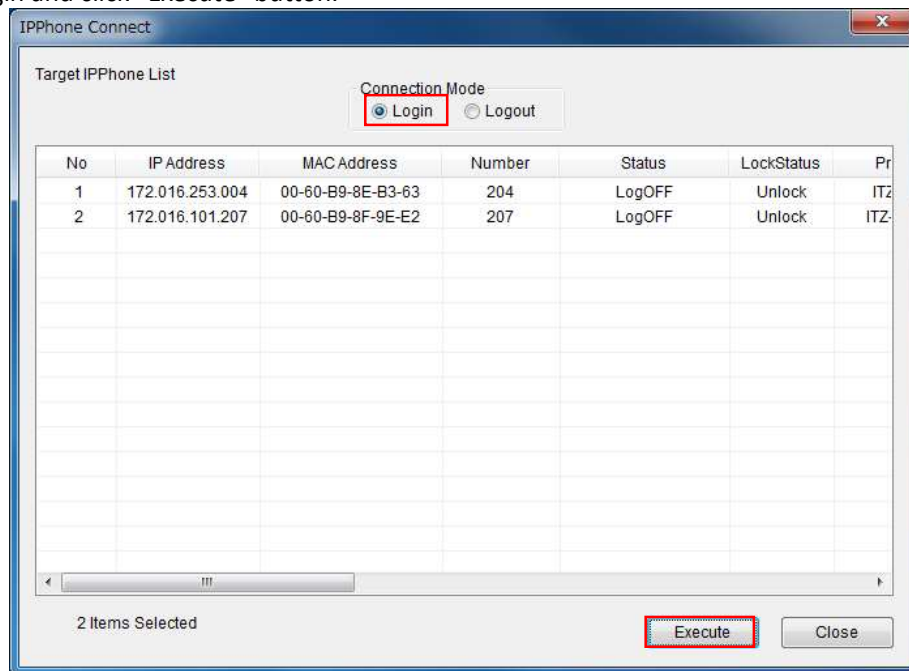
If you have obtained information from the primary device and have not been added to the list, use Direct to add terminals that have not been added.

## Connect

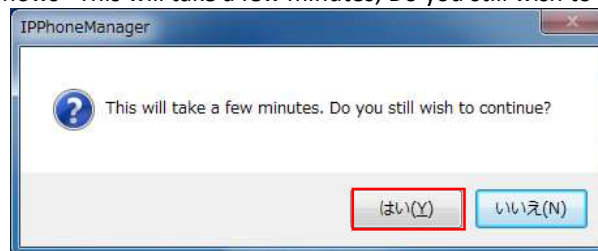
Select the terminal to change firmware and click “Connect” button.



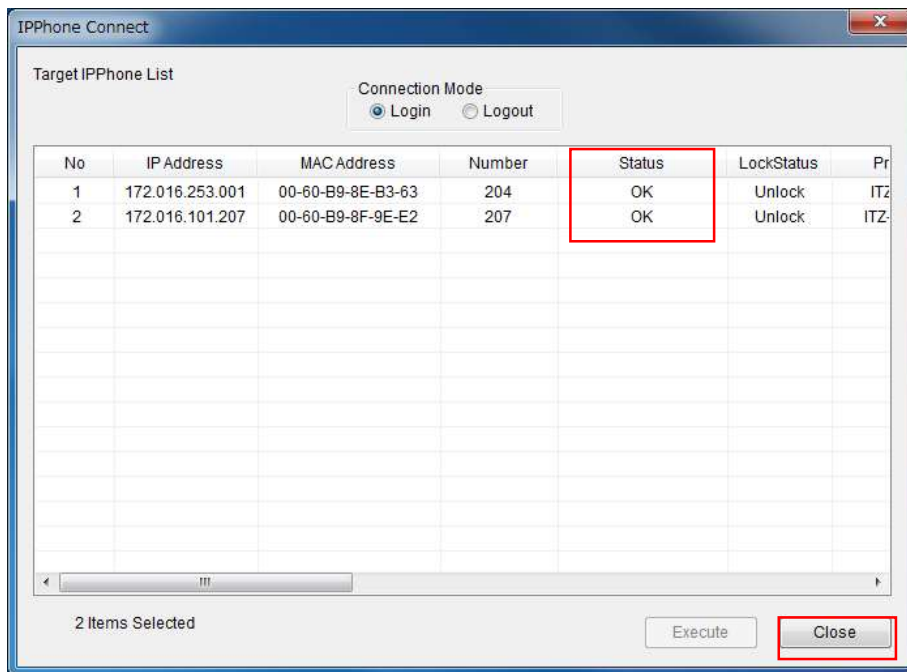
Check “Login” and click “Execute” button.



Click “Yes” when display shows “This will take a few minutes, Do you still wish to continue?”.



Wait for a response for approx. 1-15 seconds and click the "Close" button when enabled.

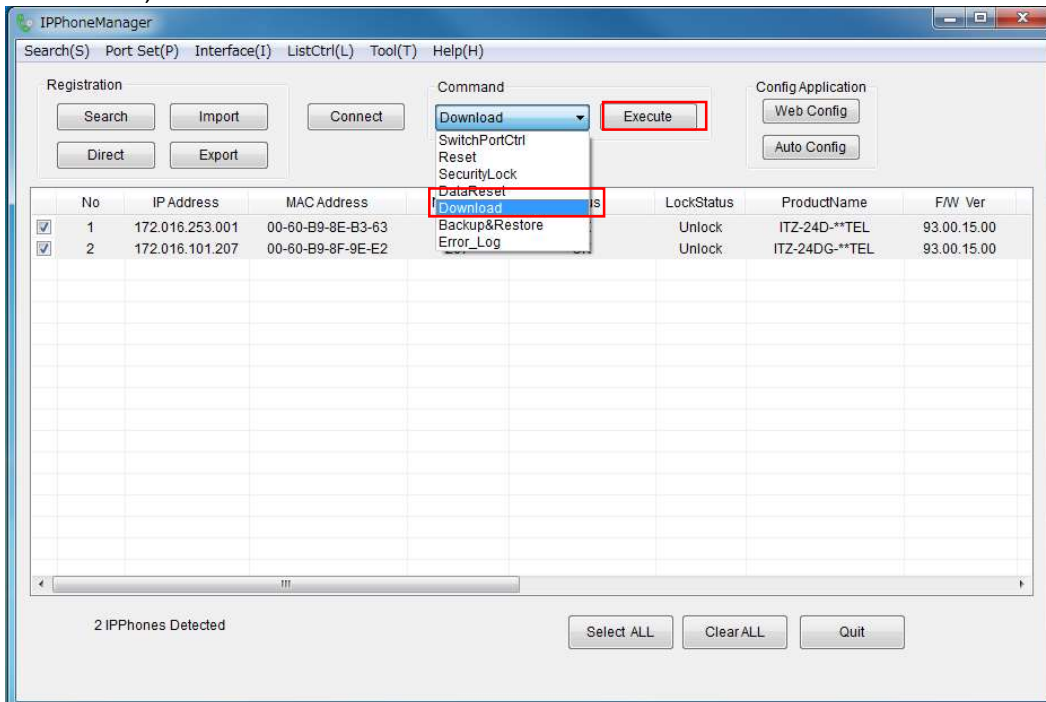




## Download

Download the F/W or data to the IP terminal.

To download, select "Download" in the Command frame and click "Execute".



On the "Download" screen, select the specified server of the File Server frame, and enter the IP address or FQDN of the specified server. In the Directory field, enter the relative path from the root folder of the file storage folder on the server.

If an FTP server or HTTPS server is selected, enter the data for user authentication. In the "User" field, enter the user name of the authenticated user and the password of the authenticated user in the "Password" field. Then click on the "Select ALL" button and click the "Download" button.

No	IP Address	MAC Address	Number	F/W Ver	ProductName	
<input checked="" type="checkbox"/>	1	172.016.253.001	00-60-B9-8E-B3-63	204	93.00.15.00	ITZ-24D-**-TEL
<input checked="" type="checkbox"/>	2	172.016.101.207	00-60-B9-8F-9E-E2	207	93.00.15.00	ITZ-24DG-**-TEL

On the File Download screen, click Execute.

When display shows "This will take a few minutes, Do you still wish to continue?", Click "Yes".

はい(Y) いいえ(N)

Firmware download and saving the file will be performed automatically.  
Note: this make take several minutes.

The screenshot shows a 'File Download' dialog box with a table titled 'Target IPPhone List'. The table has six columns: IP Address, MAC Address, Number, Status, ProductName, and F/A. Two rows are visible, both with a status of 'Downloading'. A red box highlights the 'Status' column for both rows. Below the table, there is a progress bar for '2 Items Selected' showing 'Downloading' at 100%. There are also indicators for 'Failed 0', 'Saving 0%', and 'Complete 0%'. Buttons for 'Execute', 'Cancel', and 'Close' are present at the bottom right.

IP Address	MAC Address	Number	Status	ProductName	F/A
172.016.253.001	00-60-B9-8E-B3-63	204	Downloading	ITZ-24D-**TEL	93.0
172.016.101.207	00-60-B9-8F-9E-E2	207	Downloading	ITZ-24DG-**TEL	93.0

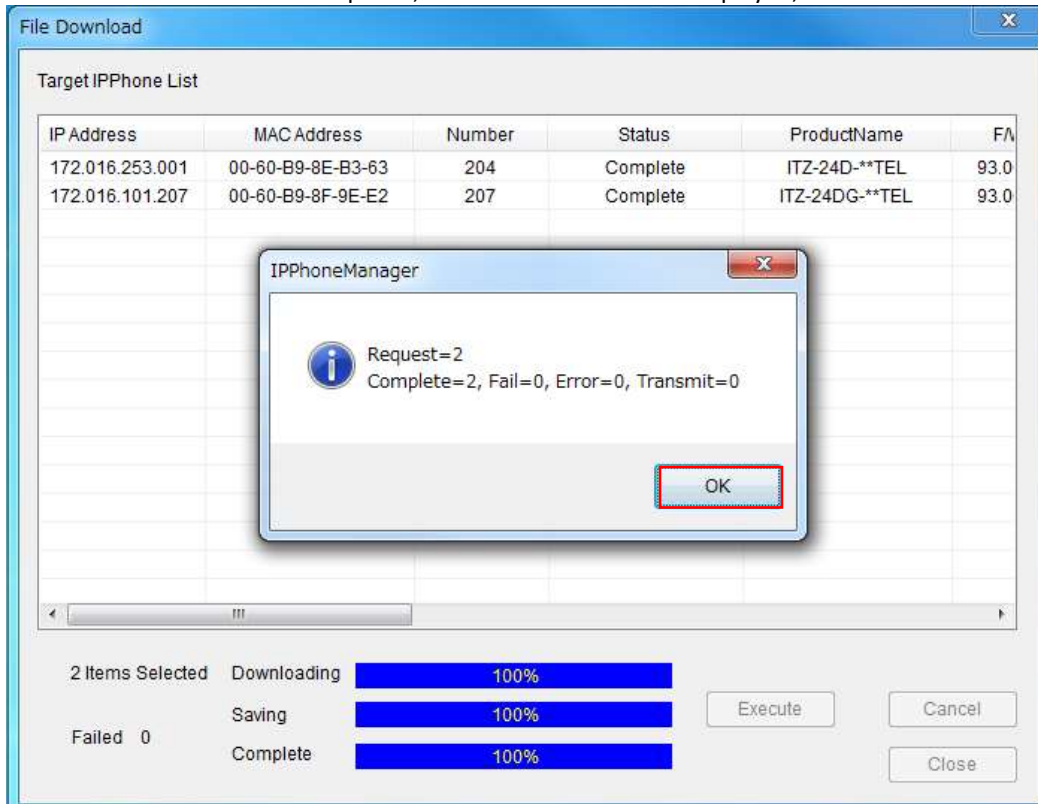
2 Items Selected    Downloading    100%

Failed 0    Saving    0%

Complete    0%

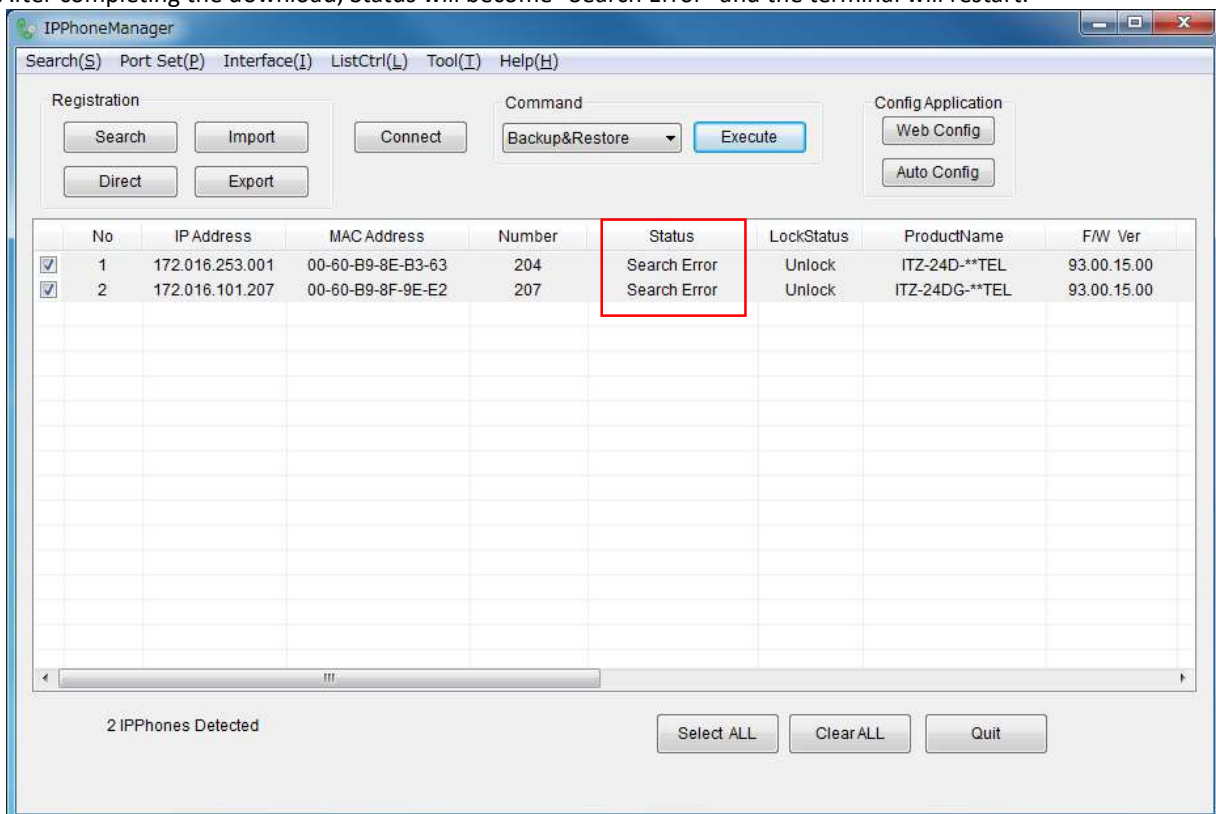
Execute    Cancel    Close

When the Status of all terminals is "Complete", the result screen will be displayed, click "OK".

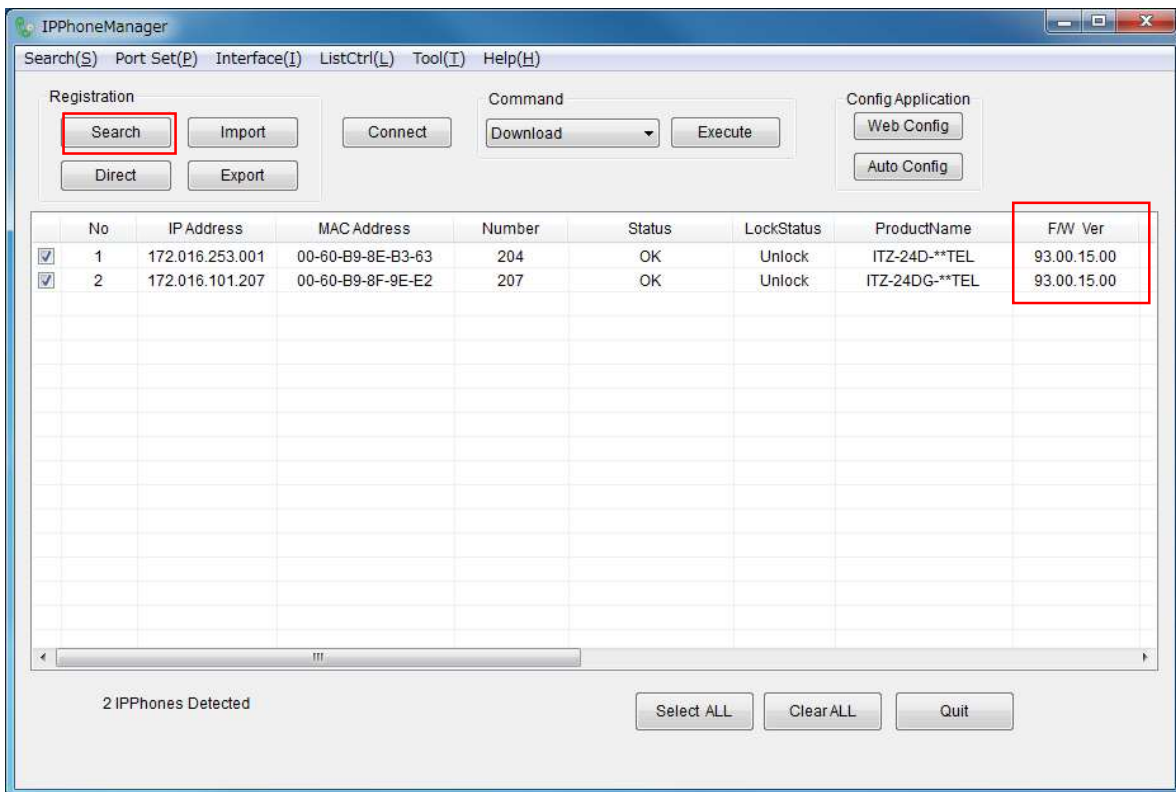


Click "Close" button to close the window.

After completing the download, Status will become "Search Error" and the terminal will restart.



Wait for your device to restart and click the "Search" button again.  
After searching, the current firmware version is displayed.



## Second Step

After changing to Relay Firmware, connect to 3C same as before.  
The firmware of the phone will be changed from NEC-SIP to STD-SIP by 3C automatically.

