



UNIVERGE Soft Client SP350

Regular mode

VPCC mode

Operations and Maintenance Manual (Software Version 5)

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NEC Corporation, IT Network Global Solutions Division
5-7-1 Shiba Minato-ku Tokyo 108-0001, Japan
Telephone: +81-3-3798-8713

Preface

Thank you for choosing our PC-based telephony application "UNIVERGE Soft Client SP350" (hereinafter called "SP350").

SP350 is an application that realizes phone functions on your PC. All phone operations can be performed just by clicking buttons on PC screens with the mouse, so you can make timely responses to incoming calls received while you are using other applications.

This manual describes configuration procedures required for using SP350 Regular mode or VPCC mode. If you use Microsoft Office Communicator mode, or IBM Sametime mode, refer to the Operational Management Manual for Softphone Plug-In mode.

Please read through this manual before use for your understanding and proper use of SP350.

"VPCC" is an abbreviation for "Virtual PC Center".

Manual Organization

Chapter 1 SP350 Setup Procedure

This section describes the SP350 setup procedure.

Chapter 2 SP350 Maintenance Settings

This section describes the SP350 maintenance configuration and PC configuration.

Chapter 3 Starting or Ending SP350

This section describes how to start or end SP350.

Chapter 4 Setting of directory service in information search

This section describes the Setting of directory service in information search

Appendix Procedure for hiding the NEC Logos on the Panels

Restrictions/Use Conditions on SP350 (common to all servers)

■ Restrictions/Use Conditions According to Operating Environment (such as PC, or OS)

(1) When using Windows XP service pack 1

- About Firewall in Windows XP Service Pack1 or earlier
In Windows XP Service Pack1, Softphone cannot normally be used when the Windows firewall function is enabled. In this case, refer to "3.5 About the firewall in Windows XP Service Pack 1 or earlier".
- When Windows XP Service Pack2 is applied
When Windows Service Pack2 is applied, Softphone may not normally be used. In this case, refer to "3.4 Windows XP Service Pack2".

(2) When using Windows Vista/Windows 7

- About Restrictions on ToS
Only four levels of ToS of SP350 are supported in Windows Vista and Windows 7. Because of this, the relationships between the ToS settings of the Communication server and ToS of SP350 are as shown below.

[ToS Value Correspondence Table in Windows Vista and Windows 7]

ToS Settings of Communication Server		ToS of SP350
IP PRECEDENCE *1	DIFFSERV	
No registration	No registration	0xA0 / 0xE0 *2
0 to 1	0 to 15	0x00
2 to 3	16 to 31	0x20
4 to 5	32 to 47	0xA0
6 to 7	48 to 63	0xE0

*1: Each bit of low delay, wide band, high reliability and low cost cannot be used during IP PRECEDENCE selection.

*2: These are the default values of voice/control.

(3) About Network

- About address acquisition from DHCP server
The IP Telephony Server address cannot be acquired from the DHCP server.
- When using SP350 Regular mode in a VPN (Virtual Private Network)
Basically the proper NIC (Network Interface) and IP address are selected for SP350, but this selection may not normally be done depending on the PC environment.

To address this problem, select the following information in "Devices" through "User Settings":

NIC (Network Interface): Name of an NIC installed as hardware

IP address: IP address through which data can be exchanged with the server

- When using SP350 VPCC mode in VPN (Virtual Private Network)
When using SP350 in a VPN (Virtual Private Network), basically, appropriate NIC (Network Interface Card)/IP address are selected for SP350. However, they may not be selected normally depending on the combination of the thin client terminal type and the VPN type. For more information, please refer to the restrictions on each terminal.
Depending on the types of VPN and thin client terminal, the processing load of VPN encryption performed on the terminal may be high, causing voice quality to deteriorate. Especially, when screen refresh is performed, apparent voice gap may occur. For more information, please refer to the restrictions on each terminal.

(4) About display of characters

When the font size for display is set to other than "Normal", characters for Softphone may not be displayed normally. Windows DPI is required to be set to normal size (96DPI).

To confirm or change DPI setting, right-click on an empty area on your Windows desktop, and go to [Properties]→ [Display Properties] or [Personalize]. The procedures for each Windows version are described below.

- For Windows 7

Click [Personalize]→ [Display]. Select [Smaller-100%].

- For Windows Vista

Click [Personalization]→[Adjust font size (DPI)]. Select [Default scale (96DPI)].

- For Windows XP

Go to [Display Properties]→[Settings]→[Advanced]→[General]. In DPI setting, select [Normal size (96DPI)].

- For Windows 2000

Go to [Display Properties]→[Settings]→[Advanced]→[General]. In font size setting, select [Smaller font]. DPI

(5) Restrictions applied during a virus scan or downloading

When a virus scan or downloading is executed on a PC in which SP350 is installed, the ringtone or voice in a call may break up due to a decrease in OS processing time.

(6) About collaboration with external applications

SP350 cannot be used for collaboration with 64-bit applications, such as 64-bit Outlook2010. Because the COM interface of SP350 does not support 64-bit applications.

■Restrictions/Use Conditions on Communication Server

(1) General Conditions

- The MAC authentication is not supported.
- "Speaker" needs to be registered to a function key when changes are made to the default function key assignment.

(2) About line data registration

Except when another handset for collaboration is used and when SP350 is registered as the ACD terminal, the prime line needs to be the same as "My Line".

When another handset for collaboration is used, the line of that handset needs to be set as the prime line, and when SP350 is registered as the ACD terminal, the ACD line needs to be set as the prime line.

(3) About registration as ACD terminal

- Another handset for collaboration cannot be used.
- "Release" needs to be assigned to a function key.

■ Restrictions/Use Conditions on SP350

(1) Note on migration (upgrade) from DtermSP30

- The Dterm SP30 Regular mode is automatically upgraded to the SP350 Regular mode, and the Dterm SP30 VPCC mode is automatically upgraded to SP350 VPCC mode.

(2) Notes on version migration (upgrade)

- The switchover of the SP350 Regular mode and the SP350 Softphone Plug-In mode requires reinstallation of the software. To migrate to the Regular mode in the environment where the Softphone Plug-In mode is installed, uninstall the software and then reinstall it as the Regular mode.
- The switchover of the SP350 Regular mode and the SP350 VPCC mode requires reinstallation of the software. To migrate to the VPCC mode in the environment where the Regular mode is installed, uninstall the software and then reinstall it as the VPCC mode.
- The switchover of the SP350 SV8500 mode (including VPCC mode) and the SP350 SV8300 mode (including VPCC mode) requires reinstallation of the software. To migrate to the SV8300 mode (including VPCC mode) in the environment where the SV8500 mode (including VPCC mode) is installed, uninstall the software and then reinstall it as the SV8300 mode.

(3) Restrictions on use of 1-/2-digit extension numbers in the system

The following two services cannot be used:

- Incoming/ Outgoing Log
- Caller Information Panel

(4) When using the Hold service

- A call on hold may be disconnected during the hold cancellation operation depending on the timing.
- To place a call on exclusive hold, right-click the [Hold] button on the [Action] screen and select [Exclusive Hold] while you are on the phone.

(5) When using the IM function

- To send an IM to an ACD terminal, specify the My Line as the destination. For other than ACD terminal, specify the prime line.

(6) When using Chat function

- If the other party of the chat is an ACD terminal, specify the My Line as the other party number. For other than ACD terminal, specify the prime line.
- When using Data Conference between multiple offices, set the numbering plan correctly (Local office code/The maximum number of digits for extension number (within local office)) in SP350 maintenance setting. For a local office code, register the data with an access code included.
- Up to 10 chats (2-Party Chat and Conference Chat in which you are invited) can be performed at the same time. Conference Chat in which you are an organizer is not included in this number. You can always initiate one Conference Chat.

(7) About "Online" status display (Presence display)

- When referencing "Online" status, the Presence server is accessed with the prime line number. Do not set the same prime line number in two or more SP350 implementations.

(8) About incoming/outgoing log

- In a transfer operation, the call history screen of the terminal to which a call is transferred does not display the number of the terminal from which a call is transferred.
- In this case, SP350 may fail to redial recently dialed numbers.

(9) About call recording in PCs

- Depending on the other party, call recording may be unavailable with the "Recording" button disabled.
- Depending on the other party, the hold tone output when the other party has placed the call on hold may be recorded.

(10) About mail collaboration function

- The MS-Outlook mail collaboration function does not work on Microsoft Outlook 2000.

(11) When using a USB handset

- When off-hook and on-hook operations are repeated on the handset consecutively, the handset may go on-hook and SP350 may go off-hook. In this case, take the handset off-hook slowly again, and then put it on-hook.

(12) When using VPCC mode

- The voice mail function cannot be used.
- To use PC recording, a thin client terminal that supports PC recording is required. For availability of PC recording, please refer to the specification/restrictions of each terminal.
- The codec type that can be used for PC recording differs according to the thin client terminal. For available codec types, please refer to the specification/restrictions of each terminal.
- In PC recording, there is a slight delay until recording is actually started because a recording start instruction is issued from Softphone to the thin client terminal via network. Therefore, the beginning of a talk may be cut off when recording is started. The delay generated is generally "{network delay between terminal and virtual PC} x 2 + several tens of ms."
- RTP from the thin client terminal to the virtual PC used for PC recording is excluded from SIP encryption. Even if SIP encryption is enabled, voice recorded on the PC will be transmitted from the terminal to the virtual PC without encryption.
- Whether or not a USB handset can be used on the thin client terminal differs according to the terminal type. For availability of USB handsets, please refer to the specification/restrictions of each terminal.
- The hot swap of a USB handset may not be supported depending on the operating system installed on the thin client terminal. For availability of the hot swap of USB handsets, please refer to the specification/restrictions of each terminal.

(13) About voice codec

- The voice quality of G.722 and AMR-WB is effective when a wideband-compliant audio device is used. UTR-1W-1(BK), and HW251N+DA45 are recommended.

(14) When using a terminal for collaboration with Softphone

- A sound device having playback and recording functions is also required when utilizing a handset for collaboration with Softphone.
- When you switch the handset for collaboration with Softphone to the one connected to the PC and use the handset for collaboration for a call, the following services are not available:
 - Services during a call, such as hold and forwarding using SP350
- While you are in a call using the handset for collaboration, if you end the SP350 only, "call duration" is not displayed in SP350 Incoming Log/Outgoing Log.

(15) When using a Data Conference

When using Data Conference between multiple offices, set the numbering plan correctly (Local office code/The maximum number of digits for extension number (within local office)) in SP350 maintenance setting. For a local office code, register the data with an access code included.

Operating Environment for Communication Server (SV8500)

The following constraints are applied when implementing SP350 on UNIVERGE SV8500, or UNIVERGE SV7000.

■ Restrictions/ Use Conditions According to Operating Environment (such as PC, or OS)

- (1) Coexistence with other application
 - SP350 cannot be used with Windows MAT.

■ Restrictions/ Use Conditions and Office Data Registration on IP Telephony Server

- (1) Required version of IP telephony server
 - UNIVERGE SV8500, UNIVERGE SV7000 (R24 or later) or UNIVERGE NEAX2400 IPX with SIP-BOX(R24 or later) is required to use SP350.
- (2) Mandatory configuration
 - Set the following office data:
ADKS LKP=3 ("32 Line/ Function keys")
AKYD FKY 142: Logout
- (3) About interface language change
 - To display characters in English except for data and time, the multi-language display function of the IP telephony server needs to select English for SP350.
- (4) When using the caller number ringtone identification function
 - To use the caller number ringtone identification function by setting "Incoming Sound Patterns" on SP350 contact, configure the office data so that the ringtone sounds upon incoming call to the prime line.

AKYD RG (Ringing information on each of multiple lines)
- (5) Use of the Call Forwarding Panel
 - To use Call Forwarding Panel, the following function keys need to be registered:

AKYD FKY 1: Call Forwarding-Busy
2: Call Forwarding-All Calls
22: Call Forwarding-Don't answer
148: Call Forwarding –Logout
- (6) When using "Collaboration when unavailable" during use of Presence display
 - To set "Collaboration when unavailable (DND (Do Not Disturb)/ Call Forwarding-All Calls)" through "User Settings" on SP350, the following function keys need to be registered:

AKYD FKY 50: DND (Do Not Disturb)
2: Call Forwarding-All Calls

(7) When using Answer Preset

- To use Answer Preset, the following function key needs to be registered: (when changes are made to the default function key assignment)

AKYD FKY 28: Answer

(8) When using data conferences

- Set the following office data:
Set bit 2 of ASYDL SYS1 INDEX:863 to "1" (to enable the other-party information read function).
- Data conference service is not available when SP350 is operated under SR-MGC.

(9) When using Voice Mail system (UMS)

- Set the following office data:
Set bit 5 of ASYD SYS1 INDEX: 435 to "1" (not to display the line lamp for message waiting).
* Since the default setting is "0", be sure to change this setting when using UMS.
- To enable the "Recording" button on an extension, the following three function keys need to be registered:

AKYD FKY 66: Recording
69: End
73: Listening

- To enable the functions displayed by right-clicking the "Recording" key on SP350, the following function keys need to be registered:

AKYD FKY 67: After Recording
71: Cancel

(10) When using Name Display

- Set the following office data:
Set the bit 1 of ASYD SYS1 INDEX: 241 to "1" (16-digit display).
* Since the default setting is "0", be sure to change this setting.

(11) Use in a Fusion environment

- Use of SP350 is supported in a Fusion environment. However, if extensions have logical numbers of nine (9) or more digits, the incoming/outgoing log from/to those extensions may not be displayed correctly.
- Display of nine (9) or more digits is enabled by setting bit 0 of ASYDL SYS1 INDEX: 672 to "1" (middle display position of logical number); however, 8-digit display is applied to extensions for which Name Display is set.
- In an environment where ping message reception is disabled, the "Visitor Display" button will not blink even when the home node of the FCCS cluster is restored.

(12) About ringtone

Even if the ringtone pattern is changed from the standard pattern by the office data, the change is not effective for SP350. (Only standard ringtone pattern is provided to SP350).

(13) About SP350 registration as ACD terminal

- It is required to set ACD line to a prime line.
- "Release" is required to be assigned to a function key.
- In order to acquire calling party information of incoming call to ACD (for accurate incoming logs), it is required to set the received ANI number to be displayed first as ACD incoming call identification that is displayed on the agent terminal when receiving or answering an incoming call to ACD

■ **Restrictions/Use Conditions on SP350**

(1) Operation upon change of key data on IP Telephony Server

- When a change is made to key data settings on the side of IP Telephony Server during SP350 operation, a reset operation is applied to the SP350.

(2) When using hold service

- When the group holding call is picked up by using the USB hand set, it is necessary to press the corresponding group hold button after taking the handset off-hook.

(3) Multi Party Conference

- A conference system (VS-32 or 8-party Conference Trunk) is required to support SP350 data conference (up to 8-party).
Without a VS-32 or 8-party Conference Trunk, the number of participants supported in a data conference will depend on the PBX:-
 - Up to 2-party data conference can be supported in a pure IP system.
 - Up to 3-party data conference can be supported in a Hybrid (IP and TDM) system.

(4) Automatic Idle Return

- SP350 cannot automatically be placed in on-hook state upon origination or forwarding if the other party is restricted or the busy tone is heard.

(5) When using HandsetConfig

- For the keys set by HandsetConfig, the corresponding function keys also need to be registered on the side of IP Telephony Server except Mute, Volume adjustment (large), and Volume adjustment (small).

(6) About speech coding system (Regular mode)

- This version supports the following payload types
G.711 μ -law, G.711A-law, G.729a, G.722, AMR-NB (*1), AMR-WB (*1), G.711 μ -law redundant, G.711A-law redundant, G.729a redundant, G.722 redundant, AMR-NB redundant (*1), AMR-WB redundant (*1)
(*1) This version does not support both automatic and manual bit rate change to AMR-NB/AMR-WB codec.
- This version supports payload sizes of 20 msec and 40 msec.

(7) About speech coding system (VPCC mode)

- This version supports the following payload types (VPCC mode)

G.711 μ -law, G.711A-law, G.729a

- This version supports payload sizes of 20 msec and 40 msec.

(8) Using SP350 as ACD terminal

- To use the silent monitoring function, UNIVERGE SV8500 (S5 or later) is required.
- Call origination using the following functions is possible after capturing a line for ordinal call. Outgoing/Incoming call history, redial, list of Input histories, phone book presence display panel, drag and drop from other applications, selecting phone number to call on other applications, right-click menu of text on I.E, and search results
- The function key “selecting handset” and “selecting headset” icons cannot be used.
- To perform the automatic answer function, “Speaker” key is required to be enabled (lit in red). On SP350, the “Speaker key” automatically becomes enabled when “Automatic/Manual” key is lit.
- In order to acquire calling party information of incoming call to ACD (for accurate incoming logs), it is required to set the received ANI number to be displayed first as ACD incoming call identification that is displayed on the agent terminal when receiving or answering an incoming call to ACD
- To use the presence function on ACD terminal, OW5000 (R5-Ph2 or later) is required as a presence server.
- When using ACD presence, all SP350 in the system is required to be R5 or later.
- On the terminal which ACD presence is set to enable (presentity side), the presence icon on the status notification area is not displayed.
- On the terminal which ACD presence is set to enable (presentity side), the following functions related to the presence cannot be used.
 - Collaboration function when leaving seat (DND setting/Call Forwarding-All Calls)
 - Setting of reason for leaving seat
 - Automatic leaving seat
- When the terminals other than SP350 views the status of the SP350 on which ACD presence is set to enable, detail information for each ACD call and ordinary call cannot be confirmed. Only the main status can be confirmed.
- When a PC recording is performed, the beep sound is normally provided in accordance with SP350 setting, but, when it is performed during ACD monitoring, the beep sound is not provided. However, when a PC monitoring is performed while monitoring against the call in the legacy Fusion system, the beep sound is provided only to the SP350 of the supervisor. (The agent and the customer don't hear the beep sound). And the voice of the supervisor is recorded in PC recording on the supervisor's terminal but the agent and the customer don't hear the voice.
- Popup Numberpad is provided when pressing the OAI keys. It is displayed regardless of the lamp status. It is displayed by clicking the OAI keys on the SP350 screen only, and not displayed by other operations, such as using handset.
- When the SP350 of the supervisor operates hold/release hold during ACD monitoring, a new outgoing log may be created in the Call History of the supervisor.

(9) Using Data Conference

- When using Data Conference in VPCC mode, Video sending is not supported.

(10) About Camp-On

- When setting Camp-on via DTI Netfusing-CCIS over IP from SP350, the indication lamp for incoming call blinks but ringtone is not provided on Camp-On call.

Operating Environment for Communication Server (SV8300)

There are the following restrictions on the implementation of SP350 in UNIVERGE SV8300.

■ Restrictions/Use Conditions and Office Data Registration on IP Telephony Server

(1) Required version of IP telephony server

UNIVERGE SV8300 (R4 or later) is required to use SP350.

(2) Mandatory configuration

Set the following office data:

CM12YY=24 2nd data 0 (24 variable function buttons + 8 one-touch buttons)
CM90 Data F0B39: DtermIP station logout

(3) About the ringtone

If the Ring tone identification pattern is changed from the standard pattern in office data settings, it will become impossible to use the function to change the ring tone in user settings.

(4) When using the caller number ringtone identification function

- To use the caller number ringtone identification function by setting “Incoming Sound Patterns” on SP350 contact, configure the office data so that the ringtone sounds upon incoming call to the prime line.

CM90 YY=01: 1 (Sound the ringer)

- If this function is used, the specified Wav file will be replayed after normal short incoming sound is generated.

(5) Simplified subline answering

- To answer by going off hook when using the recommended handset, it is necessary to set up ringing pickup.

CM12YY=07, X-XXXXXXXX, XX, CM15YYY=082, XX, 2nd (permit)
CM90YY=01, 1st, 2nd (ring)

(6) Using the Call forwarding panel

- To use Call forwarding Panel, the following function keys need to be registered:

CM90 data F0010: Call Forwarding-All Calls
F0012: Call Forwarding-Don't answer/Busy
F0016: Call Forwarding-Don't answer

If “F0012: Call Forwarding-Don't answer/Busy ” is set, “F0016: Call Forwarding –Don't answer.” must not be set.

If “F0012: Call Forwarding-Don't answer/Busy” is registered, setting and clearing are performed by Call Forwarding- Busy. Call Forwarding-Logout cannot be used.

(7) When using "Collaboration when unavailable" during use of Presence display

- To set "Collaboration when unavailable (DND (Do Not Disturb)/ Call Forwarding-All Calls)" through "User Settings" on SP350, the following function keys need to be registered:

CM90 data F0022: DND Set/Reset
F0010: Call Forwarding-All Calls

(8) To use UM8000 as voice mail

- Set the following office data:
Set CM08>140 to "1" (Do not display message arrival on a variable function button of a multi-function phone) (Do not use as a message arrival indicator lamp)).
* The default is "1."
- To enable the "Recording" button on an extension that uses UM8000, it is necessary to register all of the following three function keys.

CM90 data YY=00 F1091: Start recording
F1094: Finish recording
F1098: VM access

■ **Restriction/ Use Conditions on SP350**

(1) VPCC mode

- The VPCC mode cannot be used in UNIVERGE SV8300.

(2) Operation upon change of key data on Communication Server

- If key data settings are changed on the communication server side while running SP350, manually restart SP350 to accept the changes. If not restarted, key data will not take effect.

(3) Softkey service function

- Because SP350 does not have softkeys, the following service functions provided only with the softkeys of SV8300 cannot be used.

[1] Referencing the electronic phonebook (scroll directory) on the communication server

[2] Referencing/deleting call origination/termination history and registering to the phonebook saved on the communication server

[3] The following softkey functions during call recording when using UM8000.

- 1) Suspend/Restart Function to temporarily stop recording and resume recording
- 2) Re-record Function to erase the currently recording message and start new message recording
- 3) Erase Function to erase the currently recording message without hanging up
- 4) Quick Function to designate the currently recording message as an urgent message or restore it to a regular message by pressing again
- 5) After call recording
- 6) Pocket bell calling
- 7) Calling

Note Start recording, stop recording, change destination box and others not listed above can be used by function key operation.

(4) Multi Party Conference

- To conduct multi party conference (including data conference), it is necessary to set up multi-party conference call in the built-in conference trunk.
For more details, please refer to the page of multi-party conference call in the SV8300 Reference Manual.

(5) About Automatic Idle Return setting on SP350

- SP350 cannot automatically be placed in on-hook state upon origination or forwarding if the other party is restricted or the busy tone is heard.
- The automatic idle return function does not work during PS collaboration.

(6) When using a terminal for collaboration with Softphone

- Only PS phones can be used as linked phones.
- While talking on linked PS phones, the following functions cannot be used.
- Services while on a call, such as disconnecting, holding and forwarding (including voice mail service) via Softphone operation

(7) About speech coding system

- This version supports the following payload types
G.711μ-law, G.711A-law, G.729a, G.722
- This version supports payload sizes of 20 msec and 40 msec.

(8) Using SP350 as ACD terminal

- SP350 cannot be used as an ACD terminal in SV8300.

UNIVERGE Soft Client SP350
Regular mode
VPCC mode

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Chapter 1 SP350 Setup Procedure

This chapter describes the SP350 setup procedure.

- PC operating environment
- Peripheral equipments (voice communication devices)
- Peripheral equipments (video camera)
- Network environment
- SP350 installation method

1.1 PC operating environment

1.1.1 Regular mode

To install SP350 regular mode, the following operating environments are required.

On the PC other than normal one (such as Panel PC, or tablet PC), OS (such as Linux, MAC or OS), or special edition (Embedded) that does not fulfill the conditions described in the table below, SP350 cannot be used

Item	Operating environment
PC	NEC PC98-NX series or IBM-PC/AT compatible
OS	Windows 7 SP1 (64bit)(32bit) Ultimate, Enterprise, Professional (Note 1) Windows Vista SP2 (32bit) (Note 1) Windows XP SP3 (Note 2) / 2000 SP4 * DirectX version 8.1 or later is required.
Memory (Note 3)	Windows 7 Installation space: 1 GB or more Free space: 128 MB or more (Note 4) Windows Vista Installation space: 512 MB or more (Recommended: 1 GB or more) Free space: 128 MB or more (Note 4) Windows XP/2000 Installation space: 256 MB or more (Recommended: 512 MB or more) Free space: 128 MB or more (Note 4) When using in a data conference: Installation space: 512 MB or more (Recommended: 1 GB or more) Free space (without video conference): 256 MB or more (Note 4) Free space (with video conference): 384 MB or more (Note 4)
CPU	Windows 7 Pentium III 1 GHz or more Windows XP/2000/Vista Pentium III 800 MHz or more (Recommended: Pentium III 1 GHz or more) When using in a data conference: Desktop PC: Pentium4 2 GHz or more Laptop PC: Pentium 1 GHz or more
HDD	Free space: 150 MB or more (Note 5)

Notes:

- (1) The Administrator authority is required when installing or upgrading the software.
The operation on the native mode (Windows XP Mode/ Windows Virtual PC) or compatible mode is not guaranteed.
When Windows7 64 bit is used, SP350 runs on WOW64.
- (2) Windows XP Professional x64 Edition cannot be used.
- (3) Save memory space recommended by Microsoft per OS.
- (4) Memory free space is the difference between "total commit charge" and "total physical memory" in the task manager.

- (5) Spaces for phone recording/voicemail are not included in the spaces shown above.
- When using the phone recording or voice mail function, the recorded voice is saved as a sound file (.wav format). The file size for phone recording would be approximately 960 KB per minute for a PCM format (sound quality: PCM16 bit/8 kHz monaural), or approximately 95 KB per minute for a GSM6.1 format (sound quality: GSM6.1 8 kHz monaural). Prepare your hard disk considering spaces to save those voice recording files.

The following software is required to be installed to PC.

Software name	Version	Remarks
DirectX	Ver9.0c or later	In the case of unapplied PC: Installation is required (included in the SP350 main program)
Microsoft XML	Ver4.0 or later	(This software is installed at the same time of SP350 main program installation.)
Microsoft.Net Framework	Ver2.0 or 3.0 or 3.5 or 4.0 (Note 1)	(This software is installed at the same time of SP350 main program installation.)
VC Runtime	VC7.0/8.0	(This software is installed at the same time of SP350 main program installation.)
SkyPDF for SoftPhone	Ver1.0 or later	(This software is installed at the same time of SP350 main program installation.)
Adobe Flash Player	Ver9.0 or later	Please obtain a copy of Adobe Flash Player for Microsoft Internet Explorer from Adobe Systems web site or other download location which posts Adobe Flash Player. Installation of the application should be done after the SP350 has been completed.

Note 1: Ver 4.0 is only for Windows 7.

Note: To share or save documents in a data conference, Microsoft Office (2000/XP/2003/2007 /2010) is required to be installed to your PC.

The following Microsoft Office software is required depending on the file format of documents to be shared.

- Text : Word
- PowerPoint : PowerPoint
- Excel : Excel
- Word : Word

1.1.2 VPCC mode

The VPCC mode cannot be used in UNIVERGE SV8300.

To install SP350 VPCC mode, the following operating environments are required.

On the PC other than normal one (such as Panel PC, or tablet PC), OS (such as Linux, MAC or OS), or special edition (Embedded) which does not fulfill the conditions described in the table below, SP350 cannot be used.

Operating environment	
Thin client terminal	US100, US110 or US60 (Note 1) Remote Desktop Connection (32bit) terminal (hereinafter written as RDC terminal) (Note 2)
Virtual PC server	Express 5800/VPCC Virtual PC server (My virtual PC type)
OS (Virtual PC server)	Windows 7 SP1 (64bit) (32bit) Ultimate, Enterprise, Professional (Note 3) Windows Vista SP2 (32bit) (Note 3) Windows XP Professional SP3 (Note 4) * DirectX version 8.1 or later is required.
Memory (Note 6) (Virtual PC server)	When US100, US110 or US60 is used Windows 7 Installation space: 1 GB or more Free space: 128 MB or more (Note 7) Windows Vista Installation space: 512 MB or more (Recommended: 1 GB or more) Free space: 128 MB or more (Note 7) Windows XP Installation space: 256 MB or more (Recommended: 512 MB or more) Free space: 128 MB or more (Note 7) When using in a data conference: Installation space: 1 GB or more (Recommended: 1 GB or more) Free space (without video conference): 256 MB or more (Note 7) Free space (with video conference): 384 MB or more (Note 7)
HDD (Virtual PC server)	Free space: 150MB or more (Note 8)

Note:

- (1) In US100/US110, the firmware corresponding to the telephone call is necessary.
US60 cannot support the voice call in the hand set.
- (2) On Remote Desktop Connection terminal, the dedicated license software SP350 SV LICENSE for VPCC is required to be installed.
- (3) The Administrator authority is required when installing or upgrading the software.
The operation on the native mode (Windows XP Mode/ Windows Virtual PC) or compatible mode is not guaranteed. When Windows 7 64 bit is used, SP350 runs on WOW64.
- (4) Windows XP Professional x64 Edition cannot be used
- (5) Save memory space recommended by Microsoft per OS.
- (6) Memory free space is the difference between "total commit charge" and "total physical memory" in the task manager.

(7) Spaces for phone recording/voicemail are not included in the spaces shown above.

When using the phone recording or voice mail function, the recorded voice is saved as a sound file (.wav format). The file size for phone recording would be approximately 480 KB per minute for a PCM format (G.711/8 kHz monaural), or approximately 95 KB per minute for a GSM6.1 format (sound quality: GSM6.1 8 kHz monaural).

Prepare your hard disk considering spaces to save those voice recording files.

The following software is required to be installed to PC (Virtual PC) .

Software name	Version	Remarks
DirectX	Ver9.0c or later	When this software is not installed: Installation is required (included in the SP350 main program) About install method, refer to "2.6 About Direx version".
Microsoft XML	Ver4.0 or later	(This software is installed at the same time of SP350 main program installation.)
Microsoft .Net Framework	Ver2.0 or 3.0 or 3.5or 4.0 (*1)	(This software is installed at the same time of SP350 main program installation.)
VC Runtime	VC7.0/8.0	(This software is installed at the same time of SP350 main program installation.)
SkyPDF for SoftPhone	Ver1.0 or later	(This software is installed at the same time of SP350 main program installation.)
Adobe Flash Player	Ver9.0 or later	Please obtain a copy of Adobe Flash Player for Microsoft Internet Explorer from Adobe Systems web site or other download location which posts Adobe Flash Player. Installation of the application should be done after the SP350 has been completed.

* 1: Ver 4.0 is only for Windows 7.

1.2 Peripheral equipment (voice communication devices)

1.2.1 Regular mode

A USB handset, headset or collaborated terminal is required for voice communications.

Note that one unused USB port is required on the PC to use the USB handset or USB headset. Connect the USB handset or USB headset directly to this port. Do not connect via USB-HUB.

Note: When using the USB handset or USB headset in combination with a USB camera, connecting the USB port close to that of USB camera may impact the voice sounds.

In such a case, connect those devices with a distance as far as possible between USB ports.

Equipment	Item Name	Off-hook detection	Support OS			
			Windows7 (NOTE 8)	Windows Vista	Windows XP	Windows 2000
USB handset	UTR-1W-1(BK) (NOTE1) FW version 5.0 or later	Available	×	×	×	×
	UTR-1W-1(BK) (NOTE1) Before FW version 5.0		×	×	×	×
	UTR-1-1RS(BK) (NOTE1) (NOTE2)		—	×	×	×
	UTR-1-1(BK) (NOTE1) (NOTE2)		—	×	×	×
USB headset	·Voyager510-USB	N.A. (NOTE 5)	×	×	×	×
	·VoyagerPro-UC		×	×	×	×
	·SAVI-GO		×	×	×	×
	·HW251N+DA45R USB HEADSET	—	×	×	×	×
	·HW251N+DA45 USB HEADSET		×	×	×	×
	·HW251N+DA40R USB HEADSET		×	×	×	×
	·H251N+DA40 USB HEADSET		×	×	×	×
	·DSP400 HEADSET-NE (NOTE 3)		—	×	×	×
Mobile phone	— (NOTE 6)	—	×	×	×	×
Fixed phone	— (NOTE 7)	—	×	×	×	×

Note

- (1) The device that can be connected to the headset connector is HW251N-U10P.
- (2) Upgrade from SP30 is supported.
- (3) A firmware upgrade is required.
- (4) The USB Bluetooth adaptor is necessary.
- (5) The call control button of the headset cannot be used.
- (6) The SV8300 only supports PS (PHS/PCS) for collaboration.
- (7) The SV8300 does not support Fixed phone collaboration.
- (8) This is common to 32bit and 64bit.

1.2.2 VPCC mode (When using US110/US100/US60)

Either the handset or the headset is necessary as the equipment for the call.
They don't depend on the OS on virtual PC.

Equipment	Item Name	Off-hook detection	Thin client terminal		
			US110	US100	US60
handset	USHST A-A	N.A.	×	×	—
headset	・P251N-U10P ・HW251N-A10	N.A.	×	×	—
USB handset	UTR-1W-1(BK)	Available	×	—	—
Mobile phone	-	-	×	×	×
Fixed phone	-	-	×	×	×

You can get the latest information at the following Web site.

<http://www.nec.co.jp/apex/sp350/>

Described in "Specification/Operating conditions" in "About SP350"

1.3 Peripheral equipment (video camera)

The information is described in "Specification/Operating conditions" in "About SP350".

Note: In the case of VPCC mode, Video transmission is not available.

1.4 Network environment

1.4.1 Regular mode

The IP telephony server UNIVERGE SV8500, UNIVERGE SV7000 (R24 or later), UNIVERGE NEAX 2400 IPX with SIP BOX (R24 or later) or UNIVERGE SV8300(R4 or later) is required for using SP350.

If you use a firewall on currently using network, set IP address and unblock the port in advance to enable voice communication and applications in accordance with the following table.

[Ports to be unblocked for use through firewall]

SP350		Unblock direction	The other equipment
Port item	Protocol		
Port number for call control	UDP	Bidirectional ←→	SV8500/SV7000 /SV8300(VoIP server) Presence server
Port number for voice data (RTP)	UDP	Bidirectional ←→	IP-PAD
		Bidirectional ←→	IP terminal
Port number for voice data +1 (RTCP)	UDP	Bidirectional ←→	IP-PAD
		Bidirectional ←→	IP terminal
Application Port number for collaboration control Video port number	UDP	Bidirectional ←→	SP350
Port number for control (for data conference)	TCP	Bidirectional ←→	SP350

Notes:

- (1) For IP address of UNIVERGE SV8500 (or UNIVERGE SV7000/UNIVERGE NEAX 2400 IPX/SV8300), contact the installation technician.
- (2) VoIP server is the IP telephony server.

1.4.2 VPCC mode

If a firewall is used on the network you are using, set up the IP address and port release in advance according to the table below so that voice communication and applications can be used.

[Firewall Port Number Release Table]

SP350			Direction of Release	Counterpart Device
Device	Port Item	Protocol		
VPC side	Port number for call control	UDP	Bidirectional ↔	SV8500/SV7000/IPX (VoIP server) presence server
	Port number for call control	UDP	Bidirectional ↔	US100, US110, US60
	Port for PC recording (*)	UDP	Receiving direction ←	US110
	Port number for application collaboration control Video port number	UDP	Bidirectional ↔	SP350
	Port number for control (Data conference)	TCP	Bidirectional ↔	SP350
US100 /US110 /US60 /RDC terminal side	Port number for call control	UDP	Bidirectional ↔	VPC
	Port number for voice data (RTP)	UDP	Bidirectional ↔	IP-PAD
			Bidirectional ↔	Each IP terminal
	Port number for voice data+1 (RTCP)	UDP	Bidirectional ↔	IP-PAD
			Bidirectional ↔	Each IP terminal
	Port for PC recording (RTP) (*)	UDP	Sending direction →	VPC that is running SP350

- * The same port number for call control may be selected on the VPC side and the US100/S110/US60/RDC terminal side.
- * Regarding the IP addresses of UNIVERGE SV8500, UNIVERGE SV7000 or IP-PAD, please inquire the person in charge of construction.
- * The VoIP server denotes the Communication server.
- * The port for PC recording is acquired within the range of port numbers for voice data on both the VPC side and US110 side.

1.5 Methods of SP350 installation

There are three ways to set the SP350 environment as shown below.

The following part describes the operations for maintenance person and the operations for user in each method.

- When a maintenance person performs the environment settings (issued Setup.exe is used without change)
Refer to "1.5.1 Environment settings performed by a maintenance person" in Chapter 1.
- To perform the environment settings using configuration file (issued Setup.exe is used without change)
Refer to "1.5.2 Environment settings using configuration file" in Chapter 1.
- To perform environment settings automatically using installation file (the installation file is created by a maintenance person)
Refer to "1.5.3 Automatic environment settings using installation file" in Chapter 1.

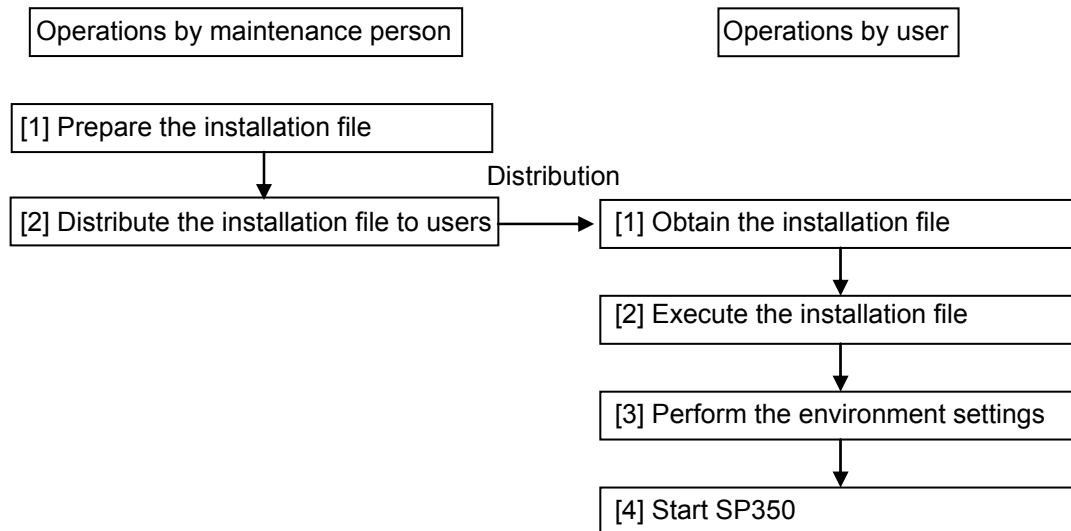
[Environment setting method and workload]

Environment setting method	Workload of maintenance person	Workload of user
Environment settings by user	Light  Heavy 	Heavy  Light 
Environment settings by configuration file		
Automatic environment settings at installation		

1.5.1 Environment settings performed by a maintenance person

1.5.1.1 Work flow before use

Work flow before using SP350 is shown below.



1.5.1.2 Operations by maintenance person

The procedure to the point of an installation file distribution to user by maintenance person is described below.

Step1. Prepare the installation file (Setup.exe) under the CD's root directory.

Step2. Distribute the installation file obtained in Step1 (Setup.exe) to user.

1.5.1.3 Operations by user

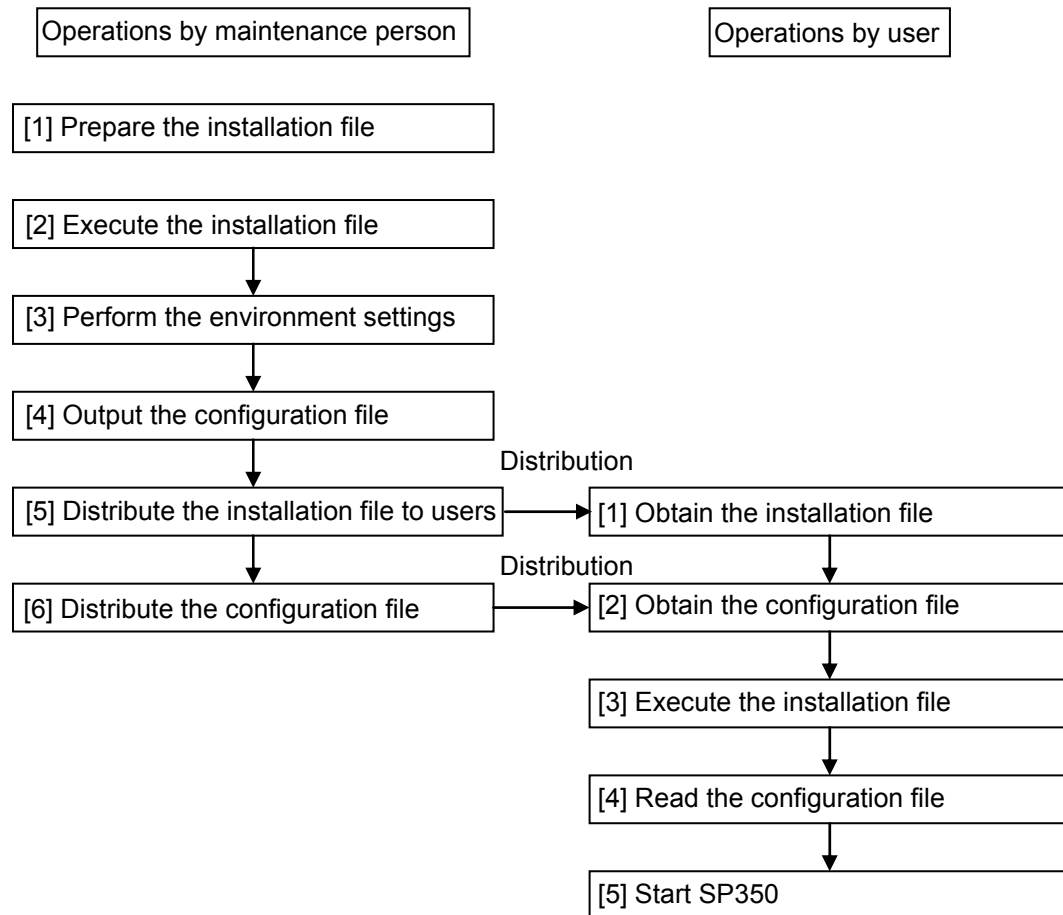
The following describes user's work operations required to start SP350.

- Step1. Obtain the installation file (Setup.exe) from the maintenance person.
- Step2. Execute the installation file.
For the installation procedure, refer to "1.7 Initial installation" in Chapter 1.
- Step3. Activate the SP350 maintenance setting function to perform the environment settings.
For the use of the maintenance setting function, refer to "Chapter 2 SP350 Maintenance Settings".
- Step4. Start SP350.
For the starting procedure and use of SP350, refer to the User Guide (*).
(*) Start from [Start]>[All Programs]>[UNIVERGE Soft Client SP350]>[SP350 User Guide]

1.5.2 Environment settings using configuration file

1.5.2.1 Work flow before use

The following describes the work flow before use.



1.5.2.2 Operations by maintenance person

The following describes the work flow before distributing an installation file to user.

- Step1. Prepare the installation file (Setup.exe) under the CD's root directory.
- Step2. Execute the installation file to install SP350 to the maintenance person's PC.
For the installation procedure, refer to "1.7 Initial installation" in Chapter 1.
- Step3. Activate the SP350 maintenance setting function to perform the environment settings.
For the use of the maintenance setting function, refer to "Chapter 2 SP350 Maintenance Settings".
- Step4. Output the configuration file (the setting information, which has been set in Step3 using the maintenance setting function, to a file).
For the file output procedure of the setting information, refer to "Chapter 2 SP350 Maintenance Settings".
- Step5. Distribute the installation file obtained in Step1 (Setup.exe) to user.
- Step6. Distribute the configuration file which has been output in Step4 to user.

1.5.2.3 Operations by user

The following describes user's work operations required to start SP350.

- Step1. Obtain an installation file (Setup.exe) from the maintenance person.
- Step2. Obtain the configuration file from the maintenance person.
- Step3. Execute the installation file to perform the installation.
For the installation procedure, refer to "1.7 Initial installation" in Chapter 1.
- Step4. Using the maintenance setting function, read the configuration file obtained from the maintenance person.
For the use of the maintenance setting function and how to read the file, refer to "Chapter 2 SP350 Maintenance Settings".
- Step5. Start SP350.
For the starting procedure and use of SP350, refer to the User Guide (*).
(*) Start from [Start]>[All Programs]>[UNIVERGE Soft Client SP350]>
[SP350 User Guide]

1.5.3 Automatic environment and data conference settings using installation file

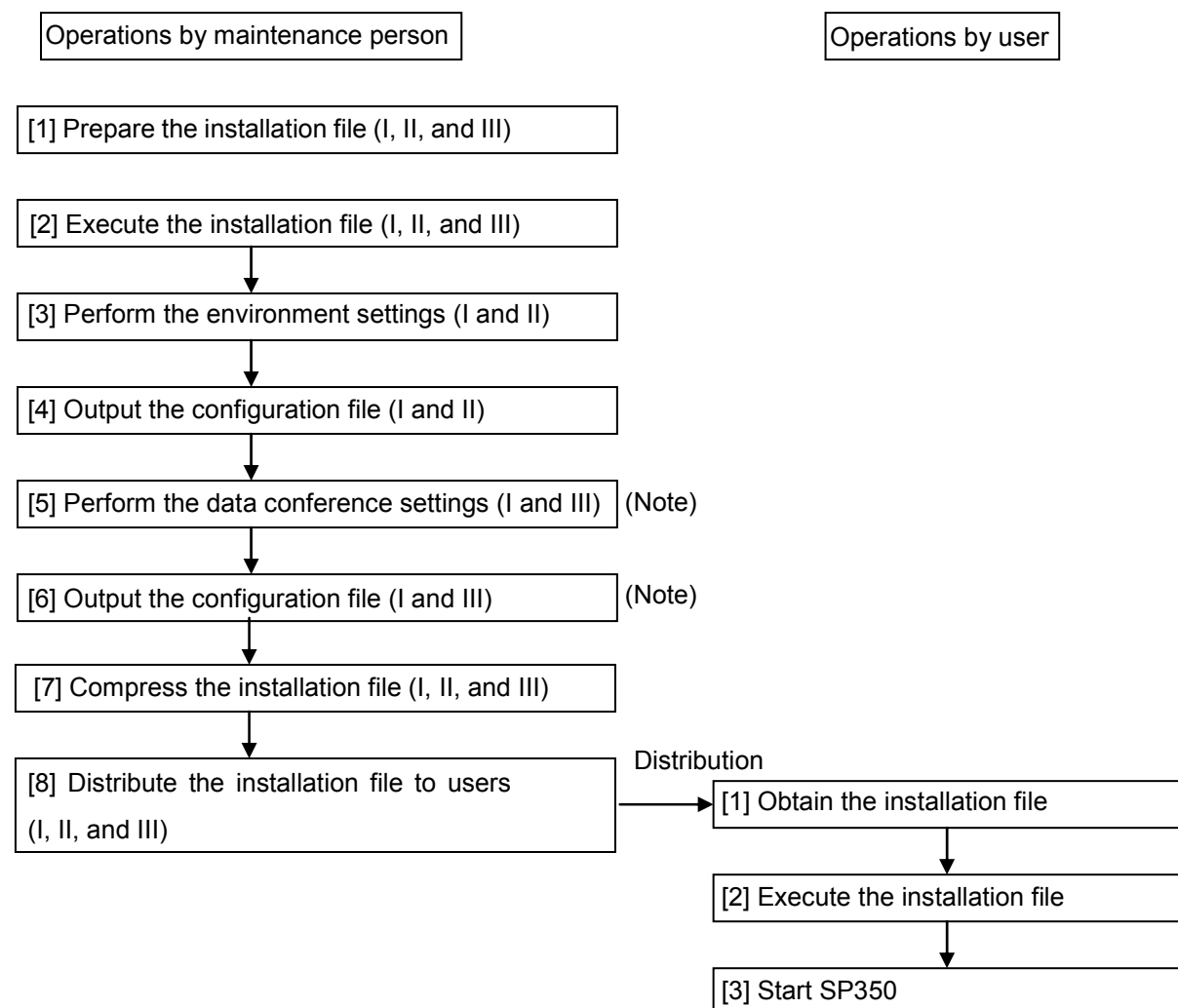
1.5.3.1 Work flow before use

The following three patterns are available for automatic environment and data conference settings using installation file.

- I : Both "environment settings" and "data conference settings" are automated using installation file.
- II : Only "environment settings" are automated using installation file.
- III : Only "data conference settings" are automated using installation file.

The work flow before use varies depending on the work for I to III by maintenance person.

Work flow before using SP350 is shown below.



Note: This work is required when data conference settings are customized. It can be omitted if they are not customized.

1.5.3.2 Data to be distributed for automation

When environment settings and data conference settings are automated using installation file, data that can be distributed are as follows.

Automation Target	Data to be Distributed	
Environment settings	• Data to be set by the maintenance setting • Network setting • System setting • Security setting • Audio setting	
Data conference settings	• Data to be set by the "Tool" menu (Note 1) • Data to be set by the "View" menu (Note 1) • Data conference screen data	
	Screen	• Coordinate on the upper left corner (Note 2) • Width (Note 2) • Height (Note 2) • Status
	Proportion of the pane	• Horizontal direction • Vertical direction
	Chat screen	• Position (Note 2) • Width (Note 2) • Height (Note 2) • Status

(Note 1) The following functions are not distributed.

- Automatic save destination path for the communication board
- Automatic save destination path for the chat

(Note 2) These items may not be reflected depending on the resolution.

1.5.3.3 Operations by maintenance person

The procedure to the point of an installation file distribution to user by maintenance person is described below.

Perform the work according to the installation patterns I to III.

Step1. Prepare the installation file. (I, II, and III)

Prepare the following 10 files for installation under the "install" directory in the CD.

- data1.cab
- data1.hdr
- data2.cab
- ISSetup.dll
- layout.bin
- setup.exe
- setup.ini
- setup.inx
- Ver.dat
- _Setup.dll

Step2. Execute the installation file. (I, II, and III)

Execute "Setup.exe", which is one of the obtained 10 files for installation, to install SP350 to the maintenance person's PC.

Step3. Activate the SP350 maintenance setting function (environment setting tool) to perform the environment settings. (I and II)

For the use of the maintenance setting function, refer to "Chapter 2 SP350 Maintenance Settings". Also, after SP350 starts, set information regarding the SP350 operation on the user setting screen.

Step4. Output the configuration file for environment settings. (I and II)

Output the information, which has been set using the maintenance setting function in Step3, to a file. Save this information with the file name of "SP350AutoConf.ini". Otherwise, the environment setting cannot be performed automatically. For the procedure of outputting the setting information, refer to "2.3.5.2 Export" in Chapter 2.

Step5. Activate the data conference to perform the data conference settings by following "How to Use a Data Conference" - "Starting a Data Conference" in the UNIVERGE Soft Client SP350 User Guide. (I and III)

For how to set the data conference settings, refer to "How to Use a Data Conference" - "How to Use Various Settings" in the UNIVERGE Soft Client SP350 User Guide.

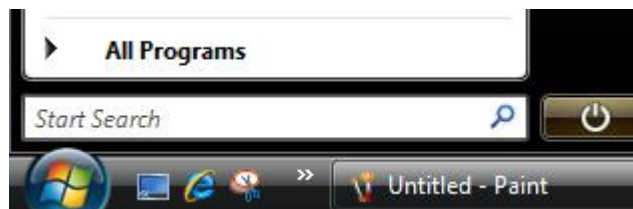
Step6. Output the configuration file for data conference settings. (I and III)

After setting various types of information for the data conference, output the information, which has been set in Step5 to a file using the import/export function. Save this information with the file name of "SP350DataMeetingAutoConf.xml". Otherwise, the data conference setting cannot be performed automatically. For the procedure of outputting the setting information, refer to "Import/Export" - "Using Import" in the UNIVERGE Soft Client SP350 User Guide.

Step7. Create the installation file with the environment or data conference settings. (I, II, and III)
Create an installation file to distribute to user (Setup.exe).

The following sub-steps describe how to compress the file using IExpress which is included in Windows.

Sub-Step7-1 Click [Start Search] in the [Start] menu.

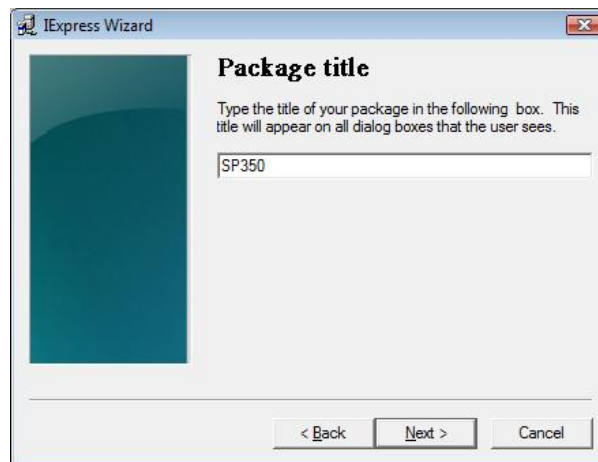


Sub-Step7-2 Enter "IExpress" in the [Start Search] field and press the Enter key to start IExpress Wizard.

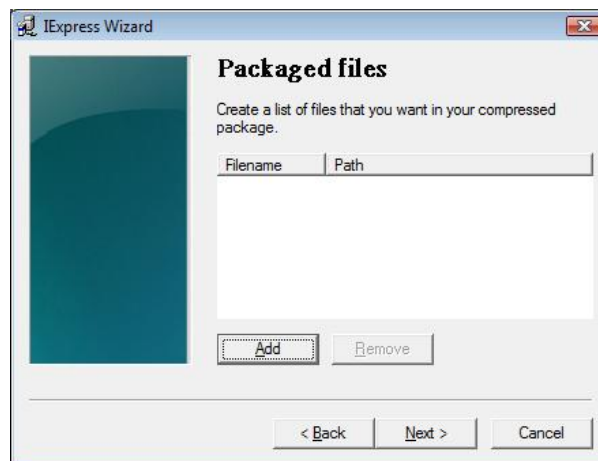
The following screen appears.



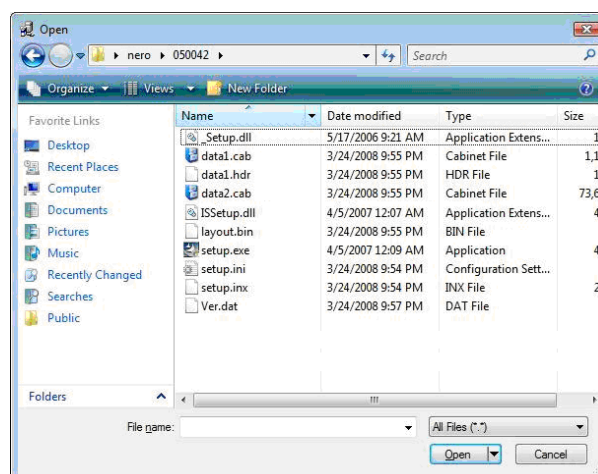
Sub-Step7-3 Click [Next] in the "Welcome to IExpress 2.0" screen until the "Package title" screen appears.



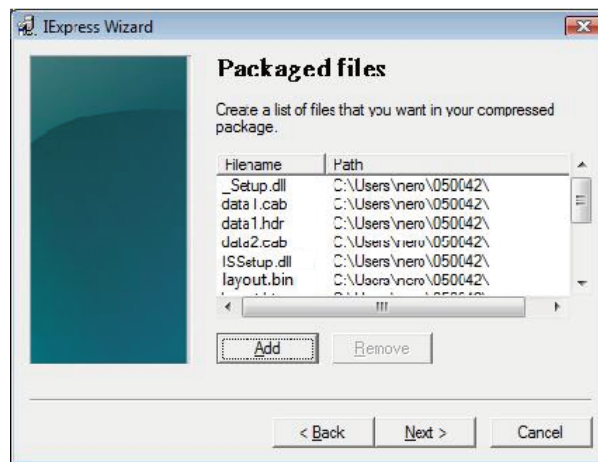
Sub-Step7-4 Enter "SP350" and click [Next] until the following screen appears.



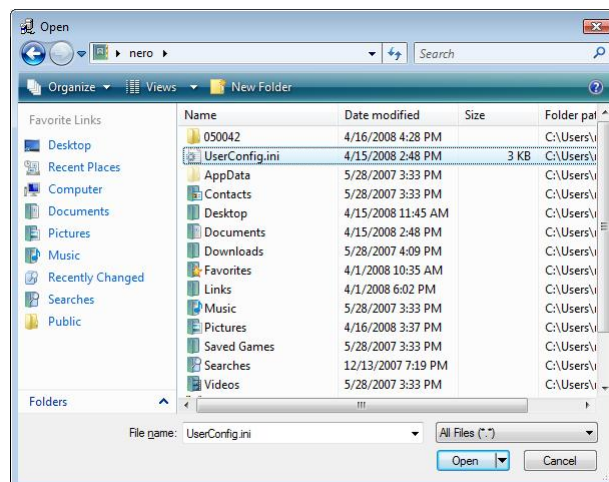
Sub-Step7-5 Click [Add] on the "Package files" screen. The following screen appears.



Sub-Step7-6 Select all the installation files (10 files) prepared in Step1 and click [Open].
The following screen appears.



Sub-Step7-7 Confirm that all 10 files are listed, and click [Add] again.
The following screen appears.

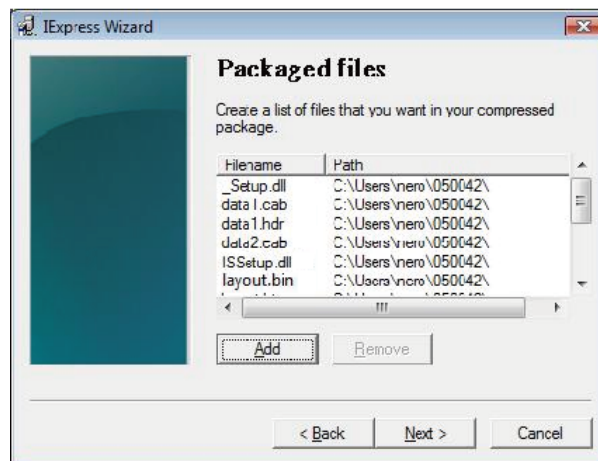


Sub-Step7-8 Select the configuration file for environment settings or for data conference settings output in Step4 or Step6 and click [Open].

Notes:

- (1) The configuration file for environment settings (ini format) exported with the maintenance setting function or the configuration file for data conference settings (xml format) exported with the import/export function can be used for the simple installation.
- (2) The relationship between the files to be added in this step and the installation patterns are as follows.
 - I : Configuration file for environment settings and configuration file for data conference settings
 - II : Only configuration file for environment settings
 - III : Only configuration file for data conference settings

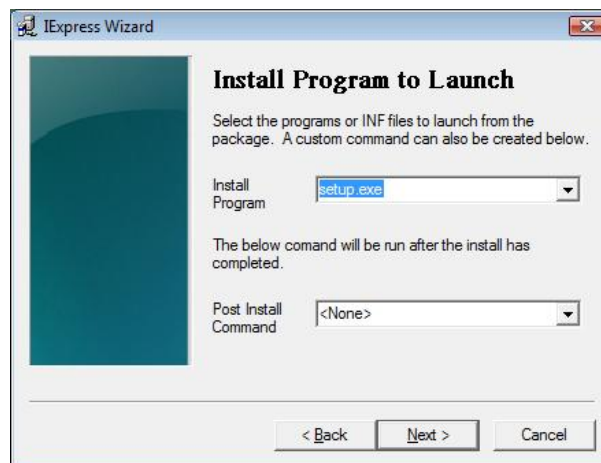
The following screen appears.



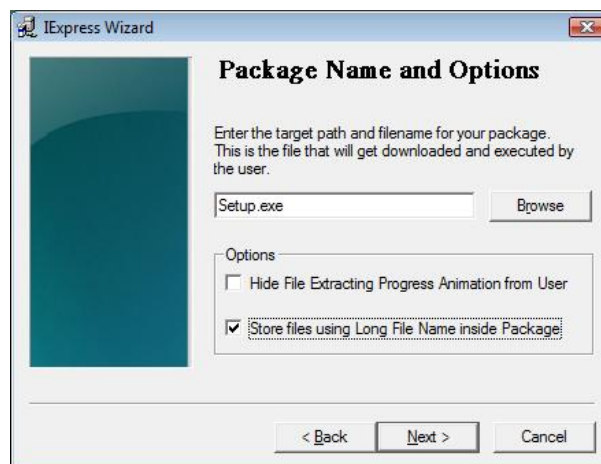
Sub-Step7-9 Confirm that all the file names selected in Sub-Step7-6 and Sub-Step7-8 are listed. Click [Next] until the "Installation Program to Launch" screen appears.

Note: File names to be displayed in the list box are as follows.

- data1.cab
 - data1.hdr
 - data2.cab
 - ISSetup.dll
 - layout.bin
 - setup.exe
 - setup.ini
 - setup.inx
 - Ver.dat
 - _Setup.dll
- Installation files
-
- SP350AutoConf.ini
(added in the case of I and II)
 - SP350DataMeetingAutoConf.xml
(added in the case of I and III)
- Configuration file configuration
file for environment settings
- Configuration file configuration
file for data conference settings



Sub-Step7-10 Select "Setup.exe" in [Install Program]. ([Post Install Command] should be "None" (default).) Then click [Next] until the "Package Name and Options" screen appears.

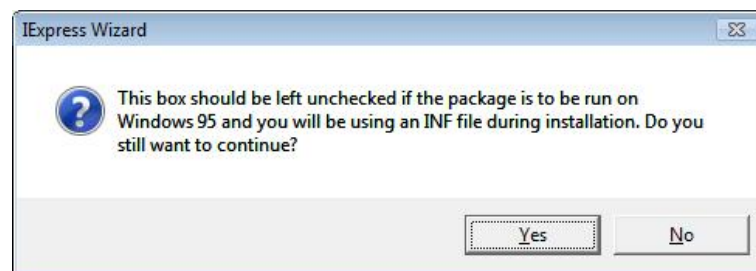


Sub-Step7-11 Enter "Setup.exe" and check the "Store files using Long File Name inside Package".

Note: The destination of the compressed installation program to output varies depending on the specification in the input field.

- When entering only "Setup.exe":
c:\Users\<login name for windows> (Vista or Windows 7)
c:\Documents and Setting\<login name for windows> (other)
- When clicking [Browse] to specify a destination folder, or entering a file name with full-qualified path:
Under the specified folder (folder under the input path)

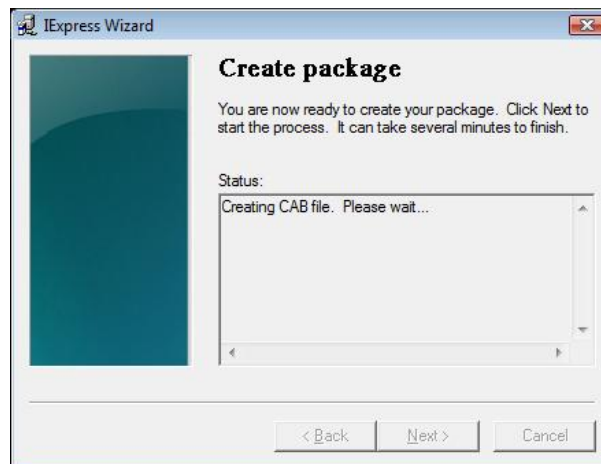
The following screen appears.



Sub-Step7-12 Click [Yes] on the confirmation dialog. Then, click [Next] until the "Save Self Extraction Directive" screen appears.

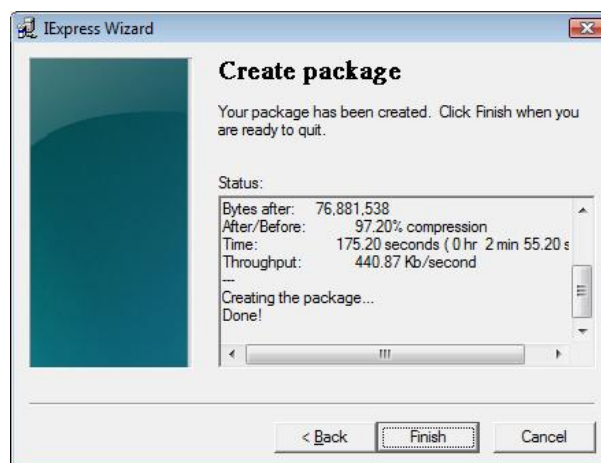


Sub-Step7-13 Select "Don't save". Then click [Next] until the "Create package" screen appears.



Indicating the command prompt screen starts compressing the installation program.

Sub-Step7-14 Wait until the following screen appears.



Sub-Step7-15 Click [Finish].

Note: The destination of the compressed installation program to output varies depending on the specification in the input field on Sub-Step7-11.

- When entering only "Setup.exe":
c:\Users\<login name for windows> (Vista or Windows 7)
c:\Documents and Setting\<login name for windows> (other)
- When clicking [Browse] to specify a destination folder, or entering a file name with full-qualified path:
Under the specified folder (folder under the input path)

- Step8. Distribution of the installation file (Setup.exe) to user. (I, II, and III)
Distribute the file created in Step7 to user.
- Step9. Output the configuration file for environment settings. (III and when the environment settings are performed by the configuration file for environment settings)
Activate the maintenance setting function to output the configuration file for environment settings.
For the procedure of outputting the setting information, refer to "Chapter 2 SP350 Maintenance Settings".
- Step10. Distribution of the configuration file for environment settings to user. (III and when the environment settings are performed by the configuration file for environment settings)
Distribute the configuration file for environment settings output in Step9 to user.

1.5.3.4 Operations by user

The operations to be performed by user to start SP350 are described below.

For the installation pattern I or II

Step1. Obtain the installation file (Setup.exe) from the maintenance person.

Step2. Execute the installation file

Perform the installation using the obtained installation file (Setup.exe). For the installation procedure, refer to "1.7 Initial installation" in Chapter 1.

Step3. Start SP350.

For the starting procedure and use of SP350, refer to the User Guide (*).

(*) Start from [Start]>[All Programs]>[UNIVERGE Soft Client SP350]>
[SP350 User Guide]

For the installation pattern III

When the environment settings are performed by a user

Refer to "1.5.1.3 Operations by User".

When the environment settings are performed using the configuration file for environment settings

Refer to "1.5.2.3 Operations by User".

1.6 Installation

To install SP350, perform the following procedure.

Perform the installation with the Administrator authority.

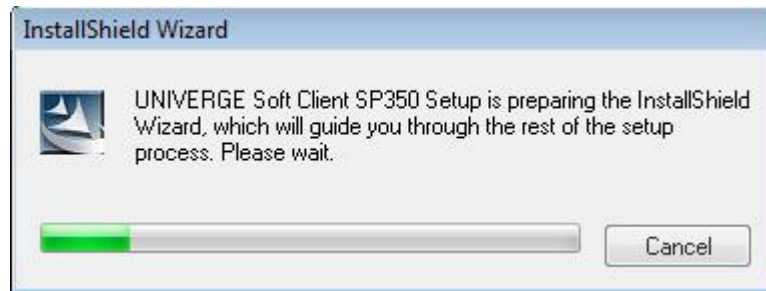
Note that the Domain Administrator authority is required in a domain environment.

Note: If the screen operation stops during the installation, another screen may be hidden behind the screen. In such a case, press the Windows key to check the taskbar.

1.7 Initial installation

To install SP350, perform the following procedure. For the initial installation, you can download an installation file for SP350 in your hard disk first and then install the program.

- Step1. Download the SP350 installation file (Setup.exe) to your hard disk, or prepare the CD-ROM containing the installation file for SP350.
- Step2. Start the installation file for SP350 (Setup.exe).
A dialog appears to indicate the wizard is been prepared.

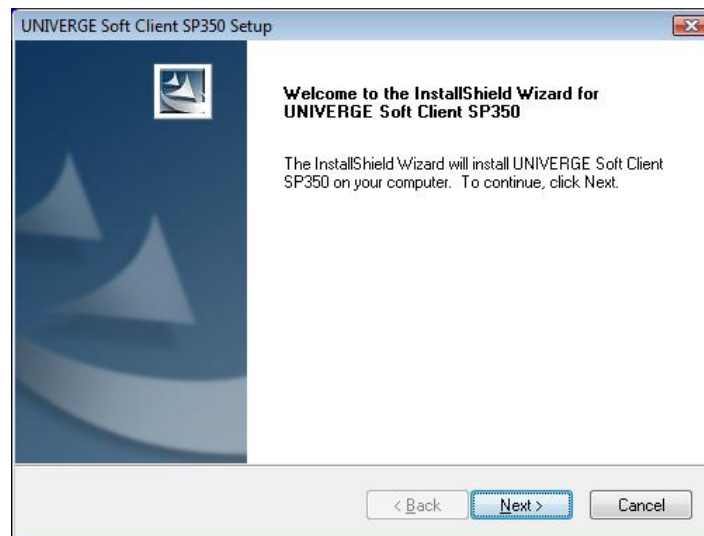


Note: If you use Windows Vista or Windows 7, the user account controlling screen appears after SP350 installation file (Setup.exe) starts. Clicking [continue] shows a dialog indicating that the wizard is been prepared.

- Step3 When the wizard preparation is completed, a screen to select an interface language for Softphone operations appears.



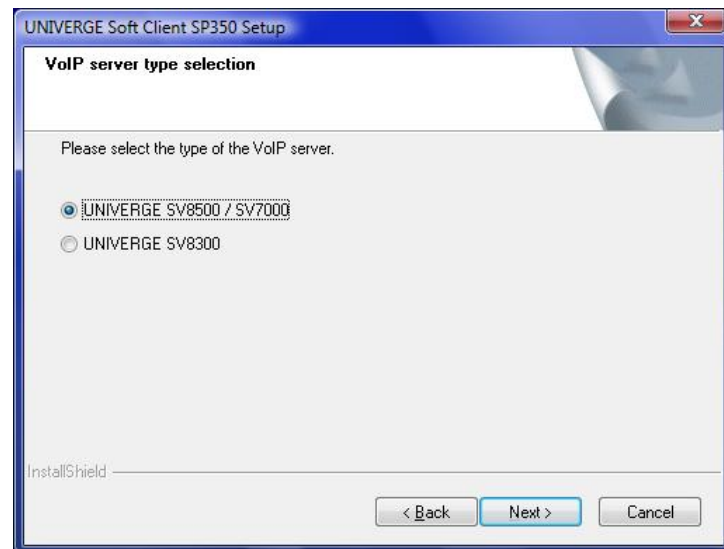
- Step4. Select "English" and click [OK].
The wizard startup dialog appears.



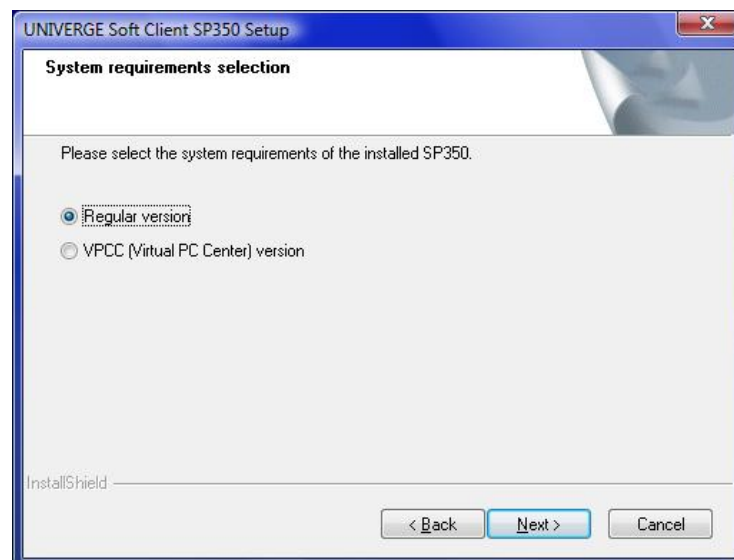
- Step5. Click [Next].
The "License Agreement" screen appears.
Please read the Software License Agreement.
If you accept all items, select "I accept the terms of the license agreement" and Click [Next].



- Step6. The "VoIP server type selection" screen appears.
Select your VoIP server type and click [Next].



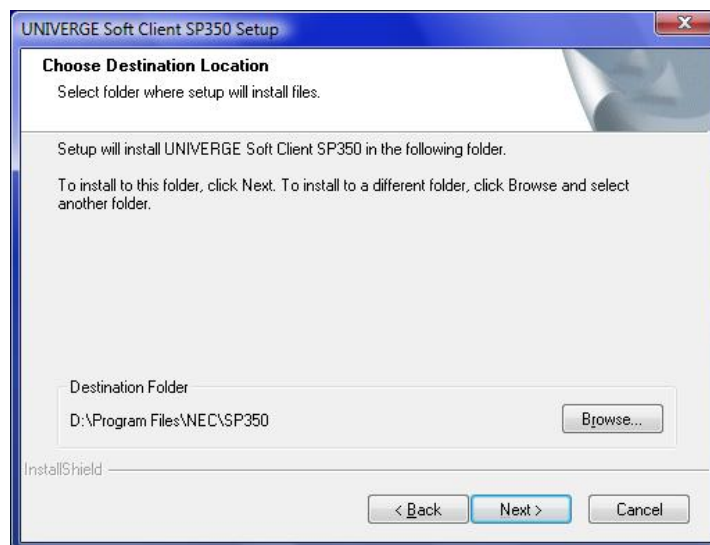
- Step7. If you select "UNIVERGE SV8500/SV7000",
The "System requirements selection" screen appears.
Select an operating environment that meets your usage.
If you select "UNIVERGE SV8300", skip to Step8
Select your system requirements and click [Next].



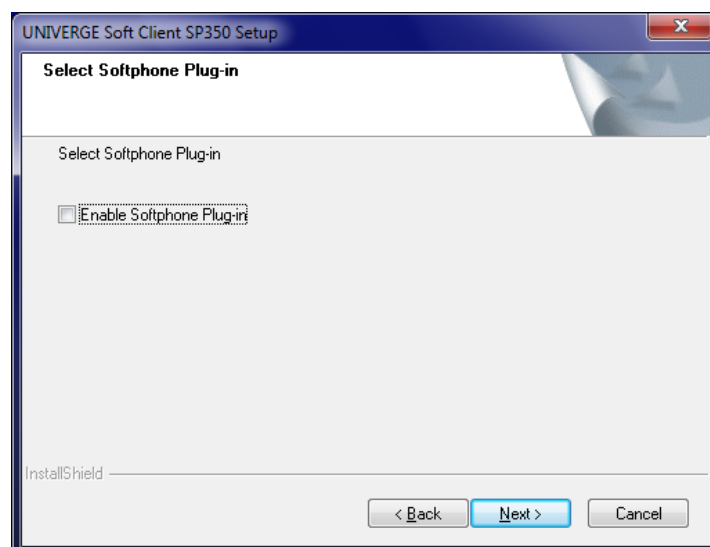
Step8. Click [Next].

The "Choose Destination Location" screen appears.

To change the folder which has been already selected, click [Browse] to specify another directory.



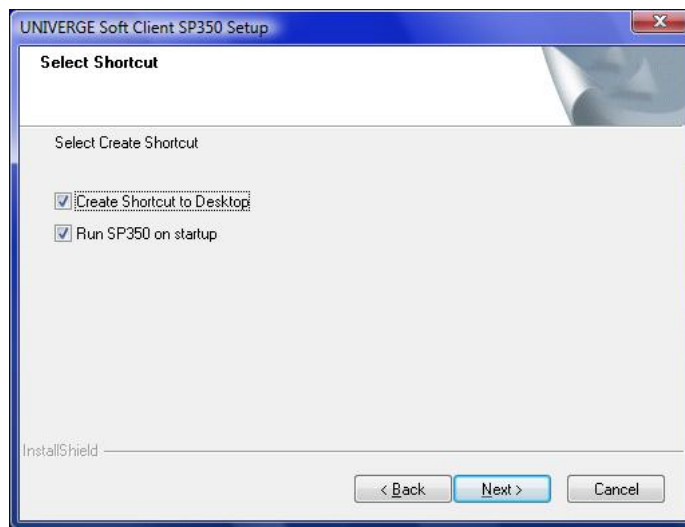
Step9. Click [Next] on the "Choose Destination Location" screen. The Select Plug-in Function screen appears. Do not check the [Enable Plug-in for MOC/IBM Sametime] checkbox and click [Next].



Note: If UNIVERGE SV8300 is selected on the VoIP server selection screen, or VPCC (Virtual PC Center) version is selected when selecting an operating environment, the selection screen for the Softphone Plug-in Coordinate function is not displayed.

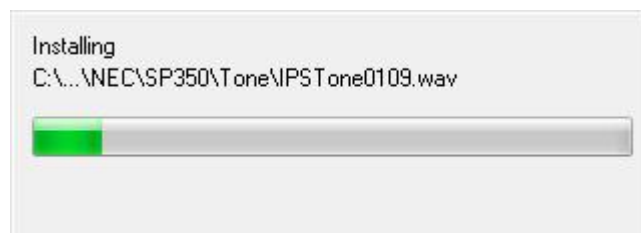
Step10. Do not check the [Enable Plug-in for Softphone Plug-in] checkbox and click [Next].

The "Select Shortcut" screen appears. Select whether or not to create a shortcut on the desktop and also to start SP350 when starting up.



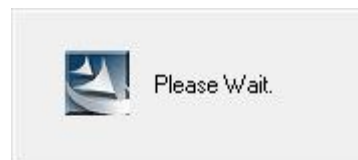
Step11. Check any desired option and click [Next] to start setup.

A status screen appears to show the setup progress during the setup.

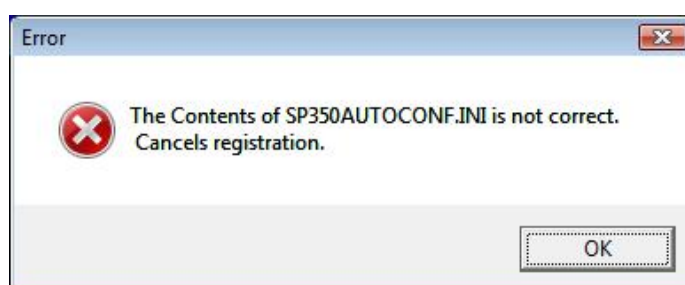


Notes:

- (1) The progress may not be updated with the progress bar remaining at 0%, or the following dialog indicating that the installation is in progress may appear instead of the status screen. Both cases are normal and installation functions well. Please wait for a while.



- (2) The following error message may appear after the status screen.



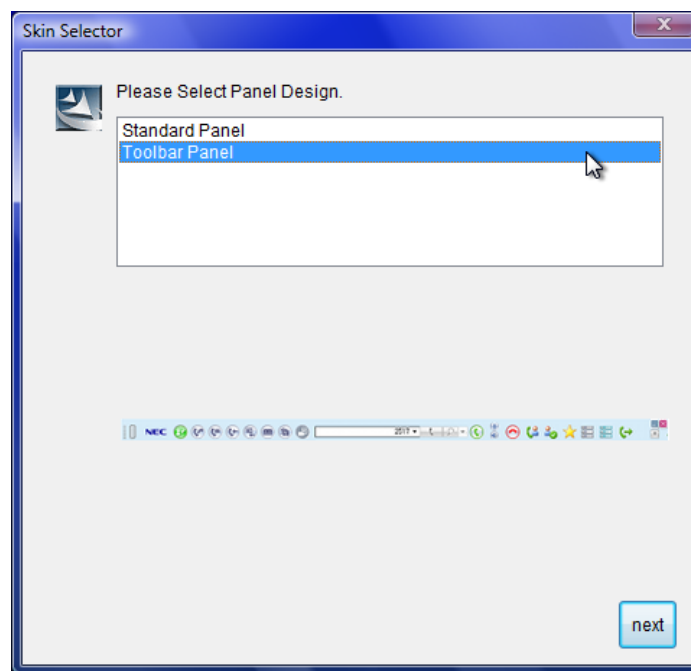
A file available for the simple installation is only the ini file applying "Export" on "Maintenance Setting". If another file such as a file which has been saved by "SP350" -> "Export" -> "Environment setting" has been included, the information cannot be set to a registry. Wait for a while even in such a case because the installation is normally in progress.

Step12 Microsoft.NET Framework 2.0 is installed automatically.

Note that this installation is omitted if .Net Framework 2.0 has already been installed on your PC.



Step13 The "Skin Selector" screen appears after the status screen.

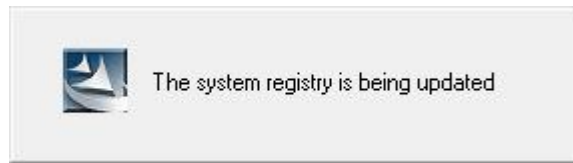


Note: The "Skin Selector" screen may get behind another screen. In such a case, press the Windows key and click "Skin Selector" on the taskbar to show the screen.

Step14 Select a screen to be used by SP350 (Standard Panel/Toolbar Panel) and Click [Next] on the "Skin Selector" screen.

Note: The skin can be modified from the "User configurations" screen even after the installation is completed.

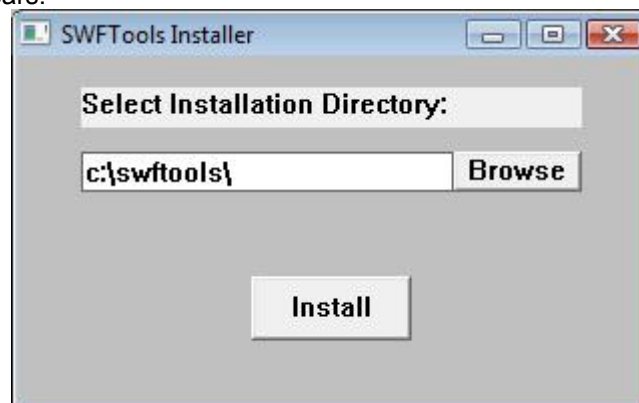
Step15 The registration and start process of the services are performed.



Step16 After the registration and start process of the services are completed, SkyPDF Pro for Softphone is installed automatically.



Step17 When the installation of SkyPDF Pro for Softphone is completed, the [SWFTools Installer] screen appears.



Note: The "SWFTools Installer" screen may get behind another screen. In such a case, press the Windows key and click "SWFTools Installer" on the taskbar to show the screen.

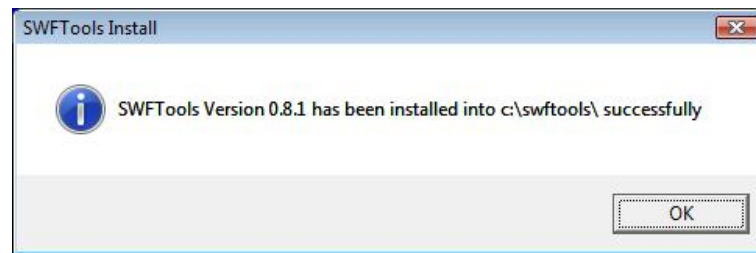
Note: When SWFTools of the same version is already installed to the PC, this screen will not appear. Then, go to Step19.

Step18. Select the installation directory on the "SWFTools Installer" screen and click [Install] to start the installation of SWFTools.

The following status screen appears to show the installation progress.



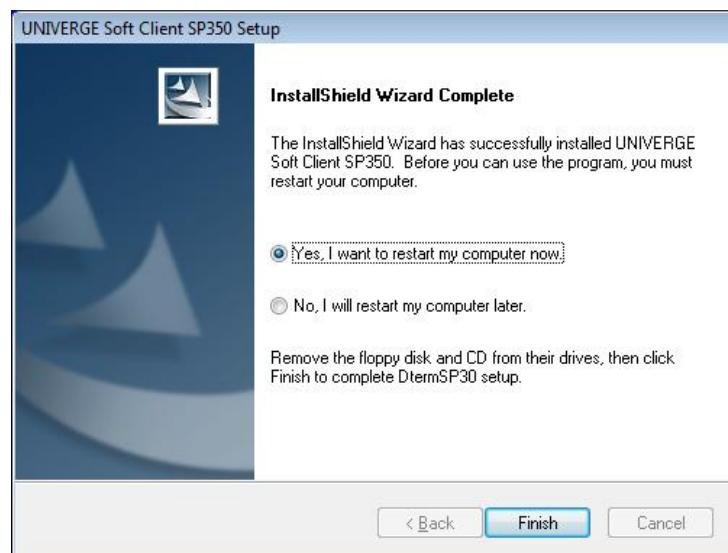
Step19 When the SWFTools installation is completed, the following dialog appears.



Note: The "SWFTools Install" dialog may get behind another screen. In such a case, press the Windows key and click "SWFTools Install" on the taskbar to show the dialog.

Step20. Click [OK].

The following screen appears.



Caution: When you click the [OK] button on the Install Complete window of SWFTools, the following warning message may appear. In such a case, please download Adobe® Flash® Player from Adobe Systems Web site or other applicable Web site, and install Adobe® Flash® Player.

In order to use Data Meeting, the installation of Adobe® Flash® Player is required.

Please install Adobe® Flash® Player for Microsoft® Internet Explorer.

Data Meeting may not work with Adobe® Flash® Player plug-ins for other browsers.



Warning Message

Step21. After completing installation, select "Yes, I want to restart my computer now." and click [Finish] to restart your PC.

This is the end of the installation of the following.

- SP350 (Softphone main program)
- Maintenance settings (Maintenance configuration setting application)
- Automatic startup setting (SP350 startup setting tool)
- File update
- Handset setting

After the initial installation completes, you need to start the maintenance configuration setting application (maintenance setting function) to perform the environment settings (for the environment settings, refer to "Chapter 2 SP350 Maintenance Settings").

Note: In the case of a simple installation, the environment setting by the maintenance setting function is not required.

1.8 Program file update

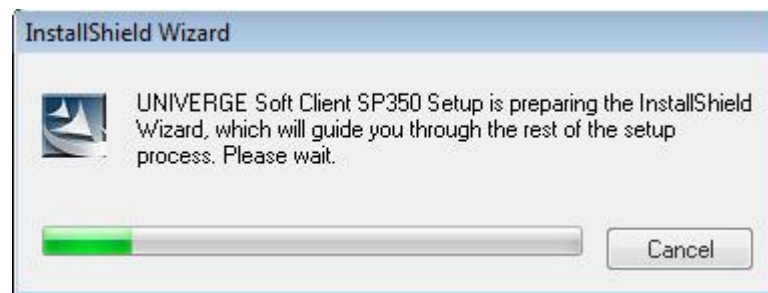
1.8.1 Update using installation file

To update SP350, perform the following procedure. The program can be updated after downloading a new installation file for SP350 to your hard disk, or preparing the CD-ROM which contains the installation file for SP350.

Step1. Confirm that "SP350", "Maintenance", and "Applications using SP350 COM (ex. Outlook)" are not running.
If any of them are running, stop them.

Step2. Download a new installation file for SP350 to your hard disk, or prepare the CD-ROM which contains the installation file.

Step3. Start the installation file for update that has been saved in the disk.
The following status screen appears to indicate the wizard is been prepared.

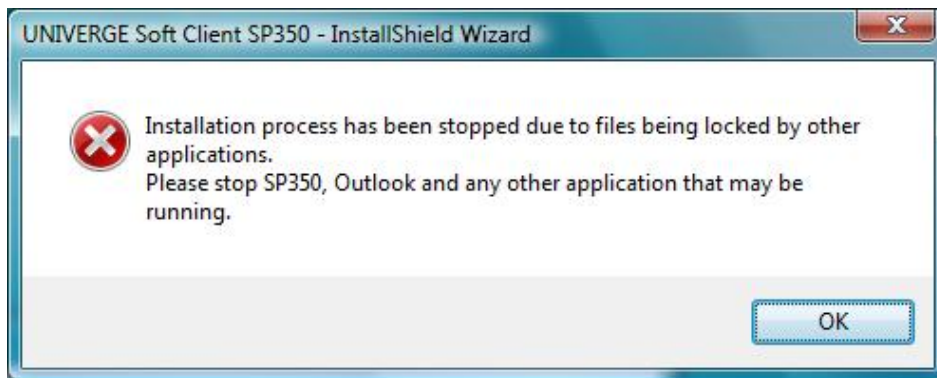


Note: If you use Windows Vista or Windows 7, the user account controlling screen appears after starting the installation file for update. Clicking [continue] displays a screen indicating that the wizard is been prepared.

Step4 After the wizard is prepared, an update confirmation dialog appears.



Note: If the following error message appears, Click [OK] and return to step 1

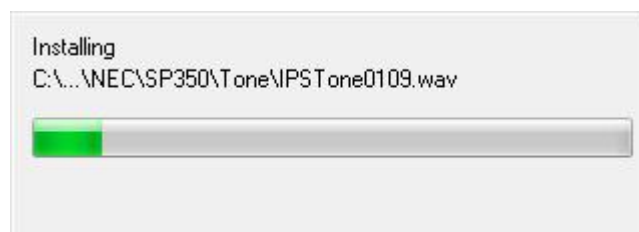


Step5. Click [OK].

If The "License Agreement" screen appears, please read the Software License Agreement. If you accept all items, select "I accept the terms of the license agreement" and Click [Next]..



Step6. A status screen appears to show the setup progress during the setup.



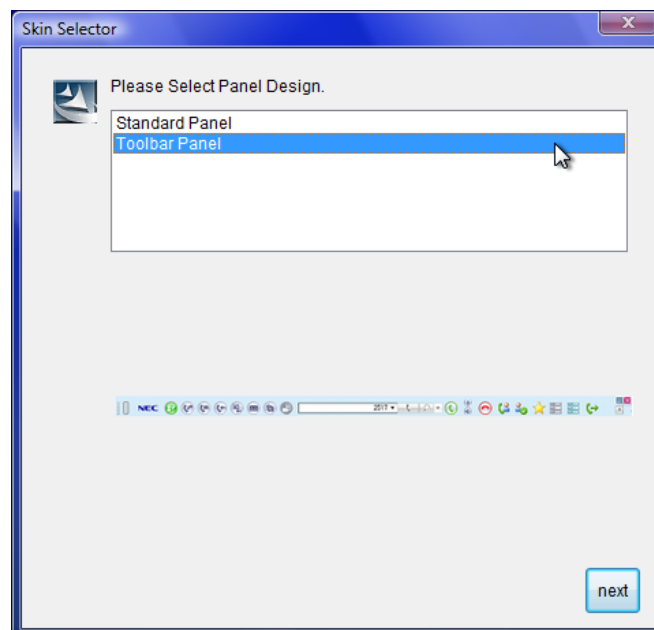
Note: The progress may not be updated with the progress bar remaining at 0%, or the following dialog indicating that the installation is in progress may appear instead of the status screen. Both cases are normal and installation functions well. Please wait for a while.



Step7 Microsoft.NET Framework 2.0 is installed automatically.
Note that this installation is omitted if .NET Framework 2.0 has already been installed on your PC.



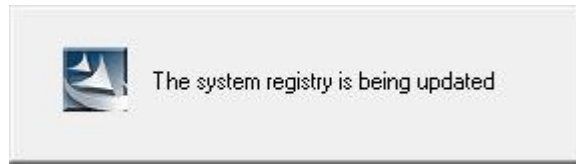
Step8 The "Skin Selector" screen appears only when the update from the software version (1.x.x.x) is performed.
In this case, select a screen to be used by SP350 (Standard Panel/Toolbar Panel) and click [Next].



Notes:

- (1) This screen does not appear if the update is performed from the software version other than 1.x.x.x.
- (2) The "Skin Selector" screen may get behind another screen. In such a case, press the Windows key and click "Skin Selector" on the taskbar to show the screen.
- (3) The skin can be modified from the "User configurations" screen even after the installation is completed.

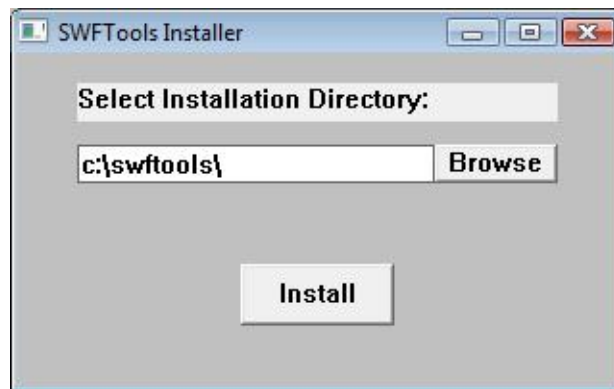
Step9 The registration and start process of the services are performed.



Step10 After the registration and start process of the services are completed, SkyPDF Pro for Softphone is installed automatically.



Step11 When the installation of SkyPDF Pro for Softphone is completed, the [SWFTools Installer] screen appears.



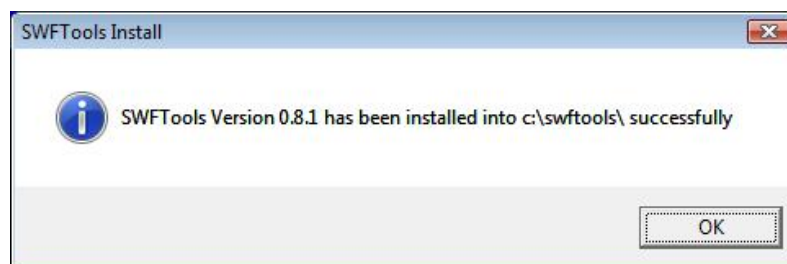
Notes:

- (1) The "SWFTools Installer" screen may get behind another screen. In such a case, press the Windows key and click "SWFTools Installer" on the taskbar to show the screen.
- (2) When SWFTools of the same version is already installed to the PC, this screen will not appear. Then, go to Step13.
In the case of VPCC mode, this screen will be displayed.

- Step12. Select the installation directory on the "SWFTools Installer" screen and click [Install] to start the installation of SWFTools.
The following status screen appears to show the installation progress.

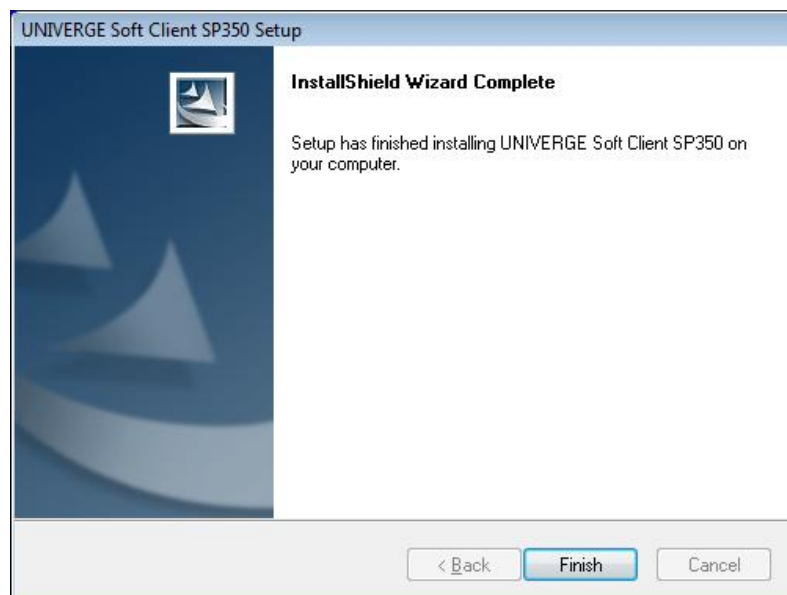


- Step13 When the SWFTools installation is completed, the following dialog appears.



Note: The "SWFTools Install" dialog may get behind another screen. In such a case, press the Windows key and click "SWFTools Install" on the taskbar to show the dialog.

- Step14. Click [OK].
The following message notifies that the update has been normally completed.



Caution: When you click the [OK] button on the Install Complete window of SWFTTools, the following warning message may appear. In such a case, please download Adobe® Flash® Player from Adobe Systems Web site or other applicable Web site, and install Adobe® Flash® Player.

In order to use Data Meeting, the installation of Adobe® Flash® Player is required.

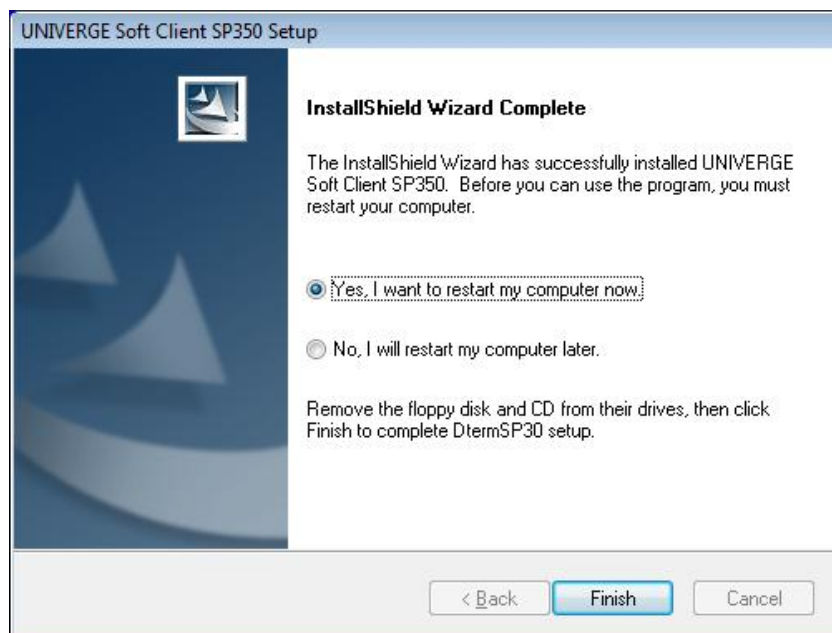
Please install Adobe® Flash® Player for Microsoft® Internet Explorer.

Data Meeting may not work with Adobe® Flash® Player plug-ins for other browsers.



Warning Message

In some cases, the screen indicating the InstallShield Wizard has been completed appears. In such a case, select "Yes, I want to restart my computer now." and click [Finish] to restart your PC.



Step15. Click [Finish].

This is the end of the update operation.

1.8.2 Update using FTP

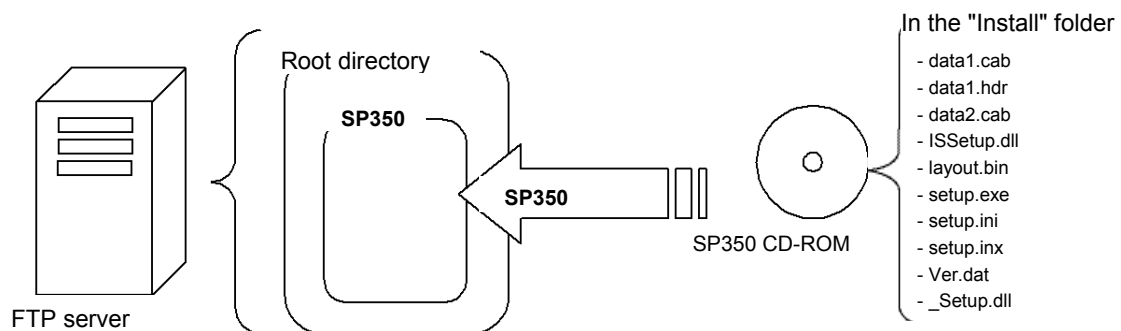
SP350 can also be updated using FTP, in addition to the method of using update installation files. When using FTP, prepare an FTP server separately. This section describes the respective procedures to be performed by the maintenance person and Softphone user for updating SP350 through FTP.

Note: Only the operation of Microsoft Internet Information Service (IIS) has been verified as an FTP server.

1.8.2.1 Update by maintenance person

The maintenance person should perform the following preparation work for Softphone users to update SP350 through FTP.

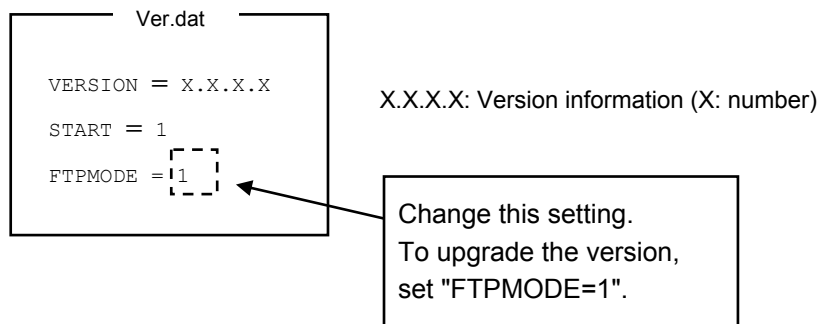
- Step1. Prepare an FTP server, and create a user account which has the right to download files from this server ("anonymous" account is also available).
The user account created in this step will be used by Softphone users.
- Step2. Prepare the CD-ROM containing the SP350 update installation files.
- Step3. Create the "SP350" directory under the root directory of the user account created in Step1.
- Step4. Copy all files in the "Install" folder of the CD-ROM into the "SP350" directory created in Step3.



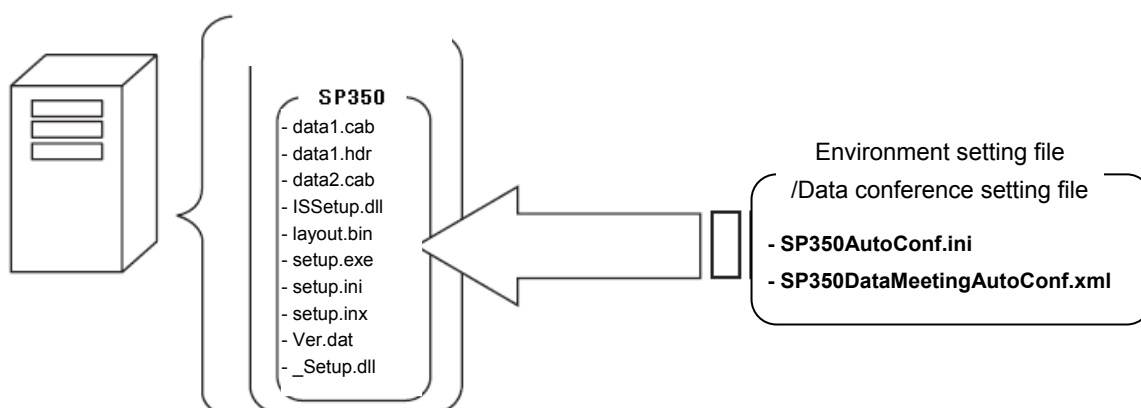
Step5. Using an editor, open the "Ver.dat" file, one of the files copied into the FTP server in Step4, and set "FTPMODE=1" in the file as shown below.

When using an FTP-based simple installation function, proceed to Step6. (When not using this function, skip Step6 and proceed to Step7.)

- When upgrading the version: FTPMODE=1



Step6. When using an FTP-based simple installation function, copy a setting file (*Note) used for simple installation into the "SP350" directory created in Step3.



Note: For the simple installation of the environment settings, the file name must be "SP350AutoConf.ini". For the simple installation of the data conference settings, the file name must be "SP350DataMeetingAutoConf.xml". If a different file name is used, the FTP-based simple installation function cannot be utilized. Refer to Step1 to Step6 in "1.5.3.2 Operations by maintenance person".

1.8.2.2 Update by Softphone user

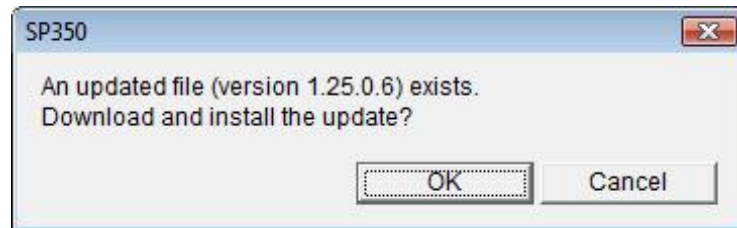
The Softphone user needs to perform the following procedure to update SP350 through FTP.

Notes:

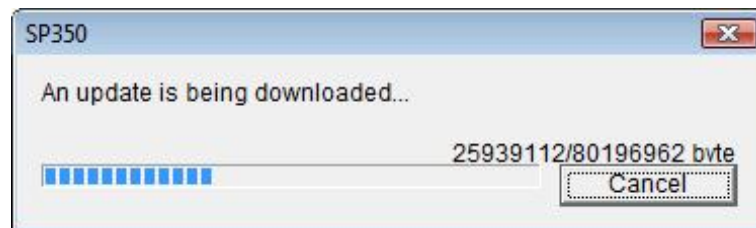
- (1) When update is executed from the Start menu, only file update is performed and SP350 is not started.
- (2) Free space of 150MB or more is required in the HD in which SP350 is installed.
- (3) This SP350 user account should have the right to install programs.

1.8.3 Update from Softphone

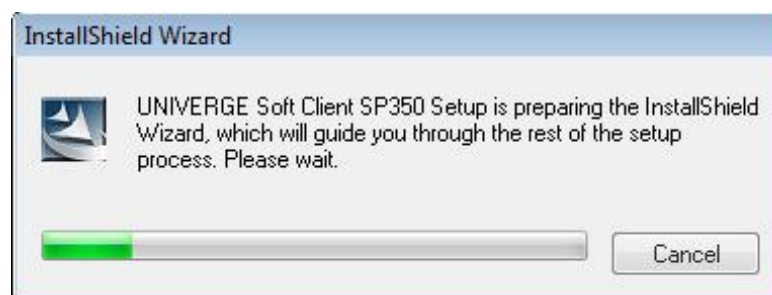
- Step1 Configure the required maintenance setting to enable this function.
Refer to "File Update FTP Server Setting" in "2.3.1.4 Software Update".
- Step2 Start SP350.
- Step3. When a file whose version is different from the current version of SP350 used by the user exists in the FTP server, the following dialog to confirm the update appears.



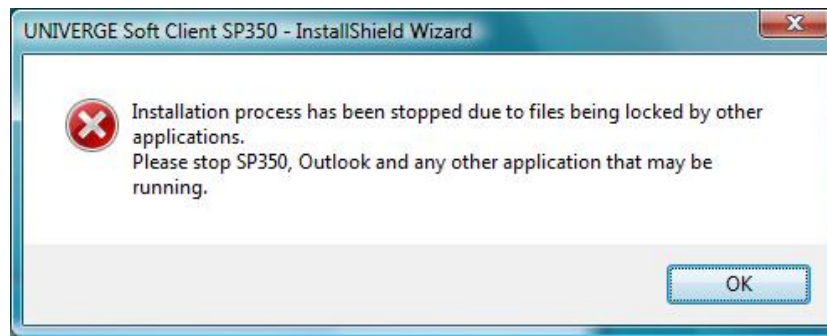
- Step4. Click [OK].
The downloading of the installer is started.



- Step5 When the downloading is completed, the dialog indicating that the wizard is been prepared appears.



Note: If the following error message appears, Click [OK] and return to step 1



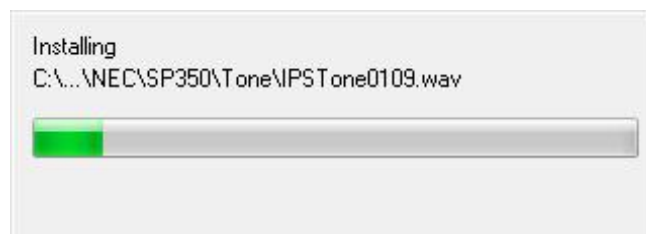
Step6. Click [OK].

If The "License Agreement" screen appears, please read the Software License Agreement. If you accept all items, select "I accept the terms of the license agreement" and Click [Next]..



Step7 When the wizard is prepared, the setup is started.

A status dialog appears to show the setup progress during the setup.



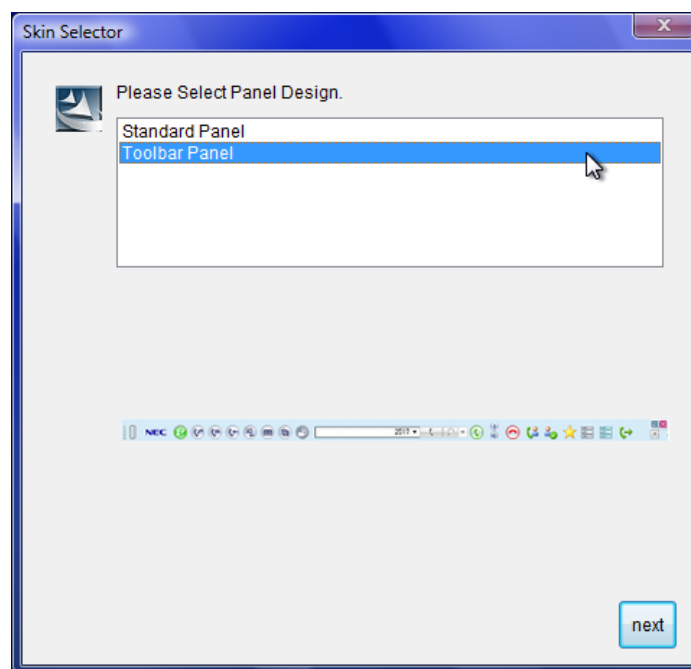
Note The progress may not be updated with the progress bar remaining at 0%, or the following dialog indicating that the installation is in progress may appear instead of the status screen. Both cases are normal and installation functions well. Please wait for a while.



- Sep8 Microsoft .NET Framework 2.0 is installed automatically.
Note that this installation is omitted if .NET Framework 2.0 has already been installed on your PC.



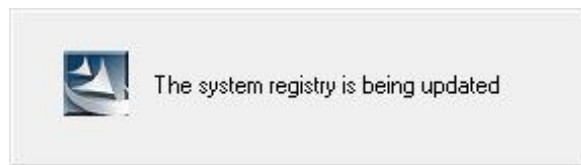
- Step9 The "Skin Selector" screen appears only when the update from the software version (1.x.x.x) is performed.
In this case, select a screen to be used by SP350 (Standard Panel/Toolbar Panel) and click [Next].



Notes:

- (1) This screen does not appear if the update is performed from the software version other than 1.x.x.x.
- (2) The "Skin Selector" screen may get behind another screen. In such a case, press the Windows key and click "Skin Selector" on the taskbar to show the screen.
- (3) The skin can be modified from the "User configurations" screen even after the installation is completed.

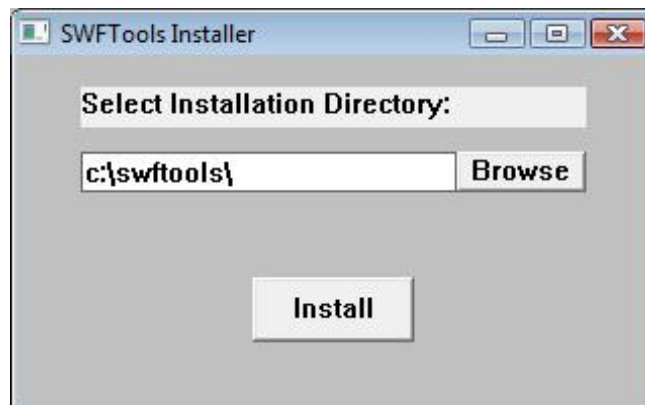
Step10 The registration and start process of the services are performed.



Step11 After the registration and start process of the services are completed, SkyPDF Pro for Softphone is installed automatically.



Step12 When the installation of SkyPDF Pro for Softphone is completed, the [SWFTools Installer] screen appears.



Notes:

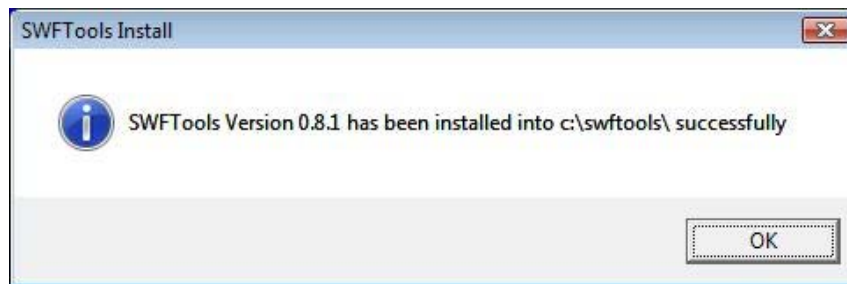
- (1) The "SWFTools Installer" screen may get behind another screen. In such a case, press the Windows key and click "SWFTools Installer" on the taskbar to show the screen.
- (2) When SWFTools of the same version is already installed to the PC, this screen will not appear. Go to Step14.
In the case of VPCC mode, this screen will be displayed.

Step13. Select the installation directory on the "SWFTools Installer" screen and click [Install] to start the installation of SWFTools.

The following status screen appears to show the installation progress.



Step14 When the SWFTools installation is completed, the following dialog appears.



Note: The "SWFTools Install" dialog may get behind another screen. In such a case, press the Windows key and click "SWFTools Install" on the taskbar to show the dialog.

Step15. Click [OK].

After updating, the newly upgraded SP350 starts.

Note: If the version upgrade is failed due to some reason such as a download failure of the installer or out of hard disk space, SP350 will starts with the version which has been already installed after an error message appears.

Caution: When you click the [OK] button on the Install Complete window of SWFTools, the following warning message may appear. In such a case, please download Adobe® Flash® Player from Adobe Systems Web site or other applicable Web site, and install Adobe® Flash® Player.

In order to use Data Meeting, the installation of Adobe® Flash® Player is required.

Please install Adobe® Flash® Player for Microsoft® Internet Explorer.

Data Meeting may not work with Adobe® Flash® Player plug-ins for other browsers.



Warning Message

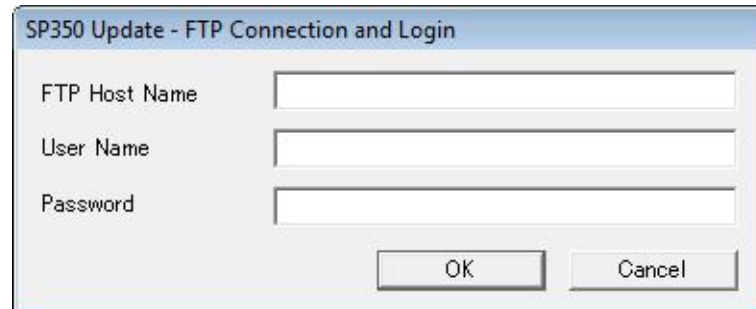
1.8.4 Update from the Start menu

Step1. Confirm that "SP350", "Maintenance", and "Applications using SP350 COM (ex. Outlook)" are not running.

If any of them are running, stop them.

Step2. Select [Programs] -> [UNIVERGE Soft Client SP350] -> [File Update] from the [Start] menu.

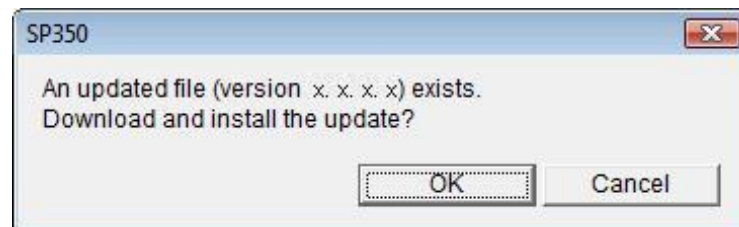
The server setting screen appears.



A dialog box titled "SP350 Update - FTP Connection and Login". It contains three input fields: "FTP Host Name", "User Name", and "Password". Below the fields are two buttons: "OK" and "Cancel".

Step3. Enter items in the required field and click [OK].

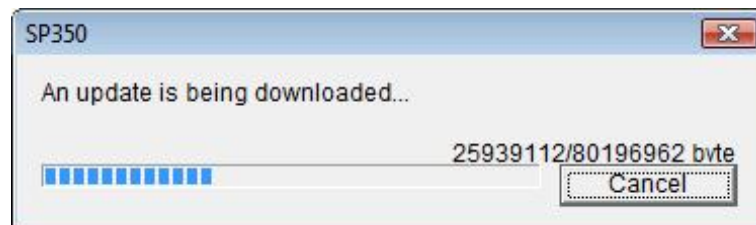
When a file whose version is different from the current version of SP350 used by the user exists in the FTP server, the following confirmation dialog appears.



A dialog box titled "SP350". It contains the text: "An updated file (version x. x. x. x) exists. Download and install the update?". Below the text are two buttons: "OK" and "Cancel".

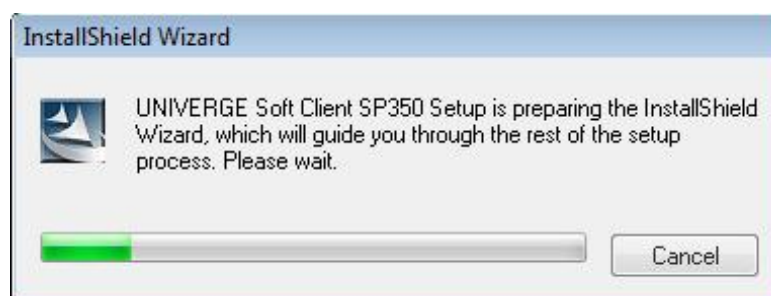
Step4. Click [OK].

The downloading of the installer is started.

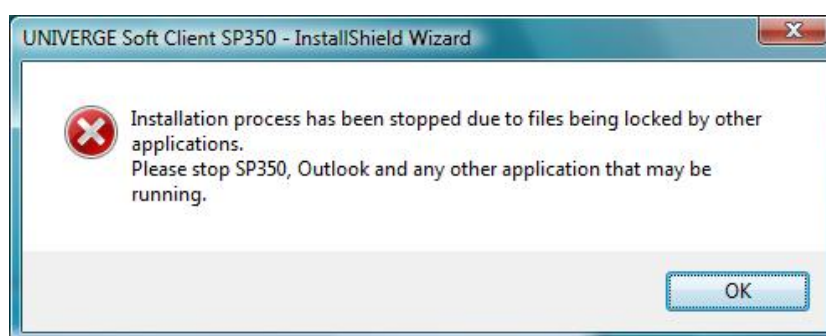


A dialog box titled "SP350". It contains the text: "An update is being downloaded...". Below the text is a progress bar with blue segments. To the right of the progress bar is the text "25939112/80196962 byte". Below the progress bar and text is a "Cancel" button.

Step5 When the downloading is completed, a dialog appears to indicate the wizard is been prepared.



Note: If the following error message appears, Click [OK] and return to step 1

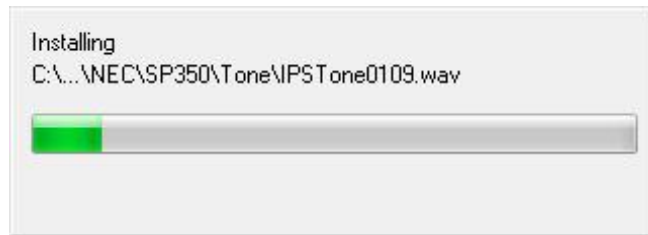


Step6. Click [OK].

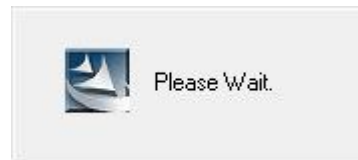
If The "License Agreement" screen appears, please read the Software License Agreement. If you accept all items, select "I accept the terms of the license agreement" and Click [Next]..



- Step7 When the wizard preparation is completed, the setup is started.
A status screen appears to show the setup progress during the setup.



Note: The progress may not be updated with the progress bar remaining at 0%, or the following dialog indicating that the installation is in progress may appear instead of the status screen. Both cases are normal and installation functions well. Please wait for a while.

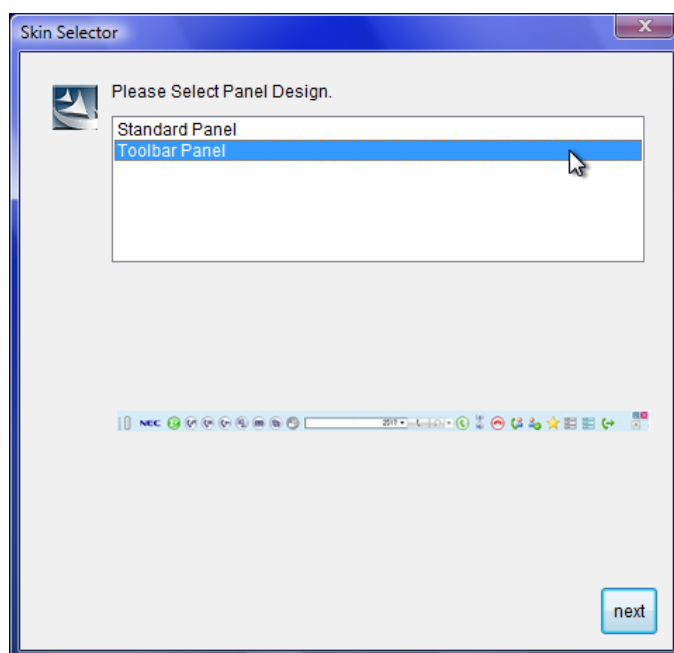


- Step8 Microsoft .NET Framework 2.0 is installed automatically.
Note that this installation is omitted if .NET Framework 2.0 has already been installed on your PC.



Step9 The "Skin Selector" screen appears only when the update from the software version (1.x.x.x) is performed.

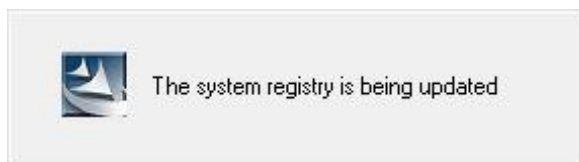
In this case, select a screen to be used by SP350 (Standard Panel/Toolbar Panel) and click [Next].



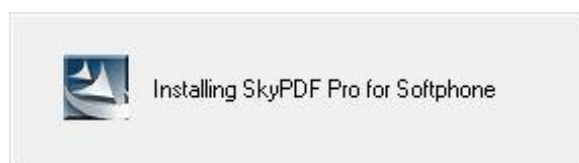
Notes:

- (1) This screen does not appear if the update is performed from the software version other than 1.x.x.x.
- (2) The "Skin Selector" screen may get behind another screen. In such a case, press the Windows key and click "Skin Selector" on the taskbar to show the screen.
- (3) The skin can be modified from the "User configurations" screen even after the installation is completed.

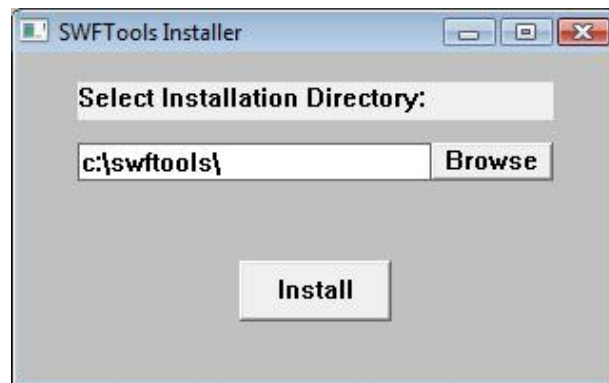
Step10 The registration and start process of the services are performed.



Step11 After the registration and start process of the services are completed, SkyPDF Pro for Softphone is installed automatically.



Step12 When the installation of SkyPDF Pro for Softphone is completed, the [SWFTools Installer] screen appears.



Notes:

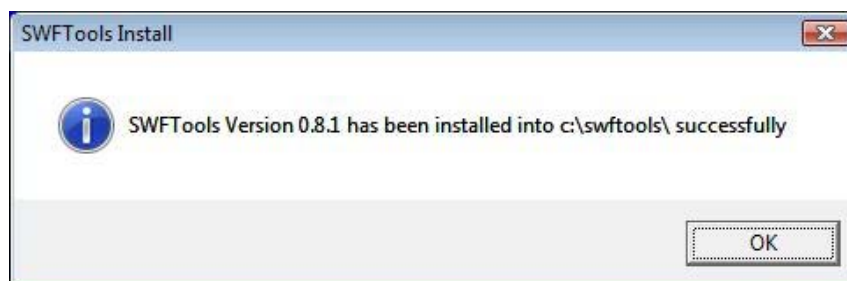
- (1) The "SWFTools Installer" screen may get behind another screen. In such a case, press the Windows key and click "SWFTools Installer" on the taskbar to show the screen.
- (2) When SWFTools of the same version is already installed to the PC, this screen will not appear. Then, go to Step14.
In the case of VPCC mode, this screen will be displayed.

Step13. Select the installation directory on the "SWFTools Installer" screen and click [Install] to start the installation of SWFTools.

The following status screen appears to show the installation progress.



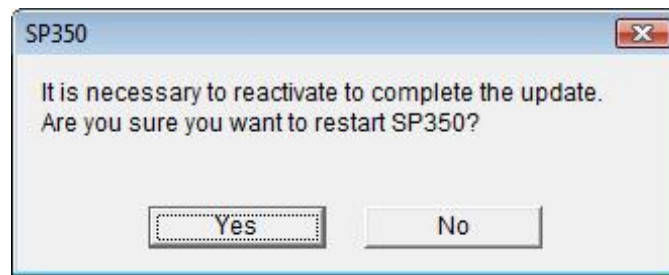
Step14 When the SWFTools installation completes, the following dialog appears.



Note: The "SWFTools Install" dialog may get behind another screen. In such a case, press the Windows key and click "SWFTools Install" on the taskbar to show the dialog.

Step15. Click [OK].

After updating, the following confirmation dialog appears.



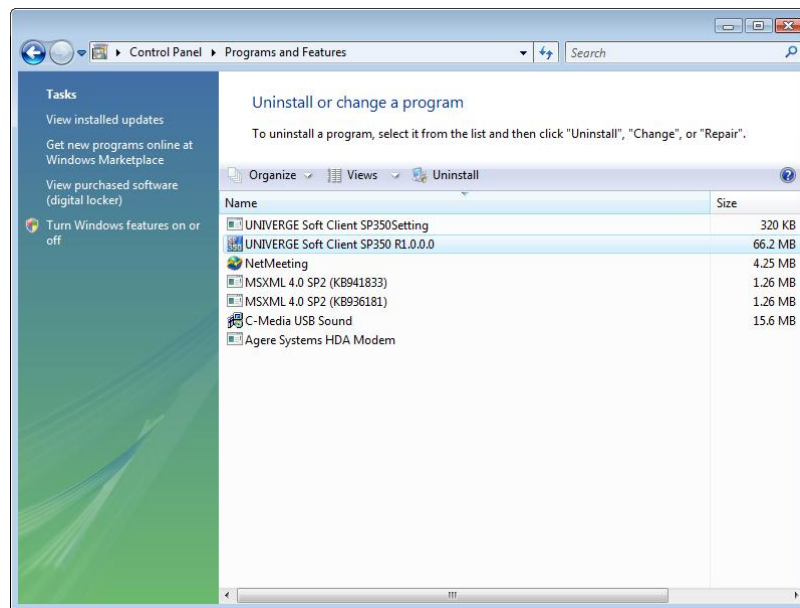
Step16. Click [Yes].

This is the end of the update operation.

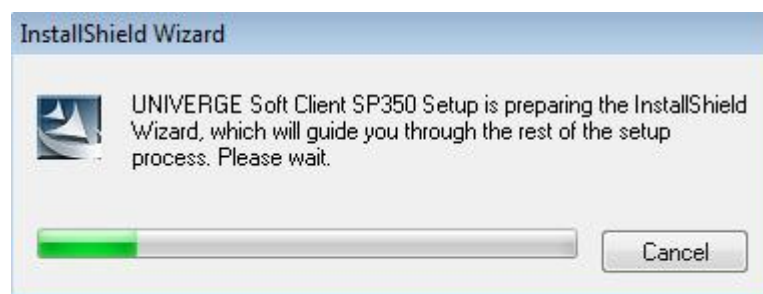
1.9 Uninstallation

Perform the following procedure to uninstall SP350. Select [Uninstall or change a program] from [Programs and Features] to start uninstalling SP350.

- Step1. Confirm that "SP350", "Maintenance", and "Applications using SP350 COM (ex. Outlook)" are not running.
If any of them are running, stop them.
- Step2. Select [Programs and Features] from the [Control Panel] screen, and select "UNIVERGE Soft Client SP350" from the currently installed programs.



- Step3. Click [Uninstall] from the [Uninstall or change a program] screen.
The dialog indicating that the wizard is being prepared appears.

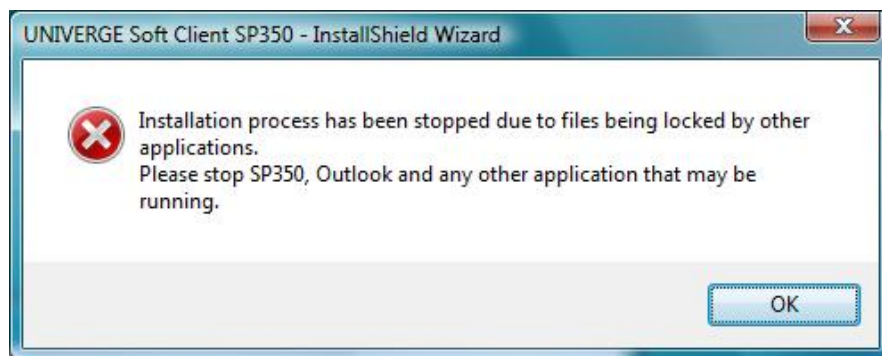


Note: For Windows Vista or Windows 7, clicking [Uninstall] displays the [User Account Control] dialog. Clicking [Continue] displays the dialog indicating that the wizard is being prepared.

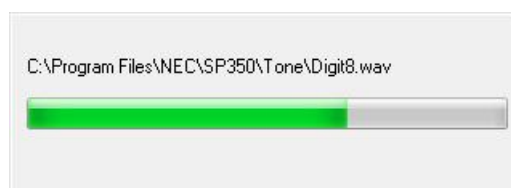
Step4 When the wizard preparation is completed, the dialog to confirm the uninstallation appears.



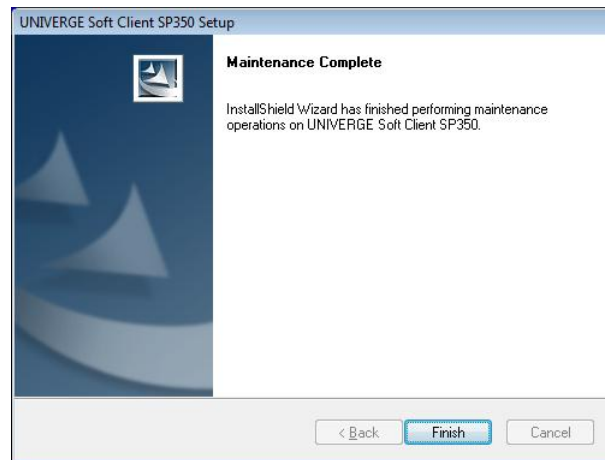
Note: If the following error message appears, Click [OK] and return to step 1



Step5. Click [OK].
The removal of the files is started. During the removal, the status screen to notify the status of the setup appears.

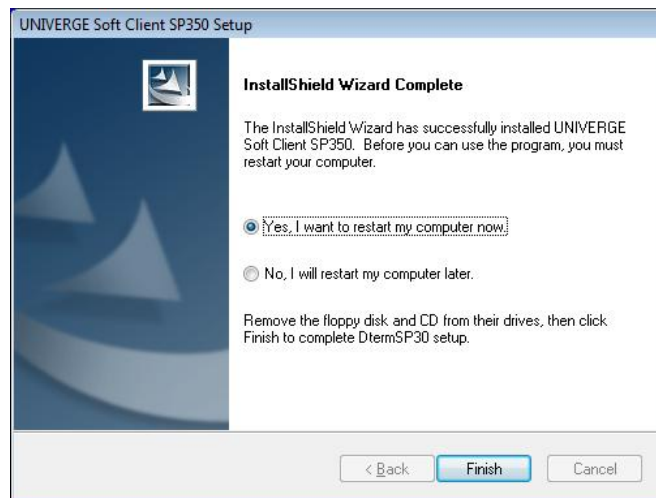


Step6 After the removal, the following completion screen appears to notify that the removal is ended normally.



Note: In some cases, the following completion screen of InstallShield Wizard may appear after the removal is completed.

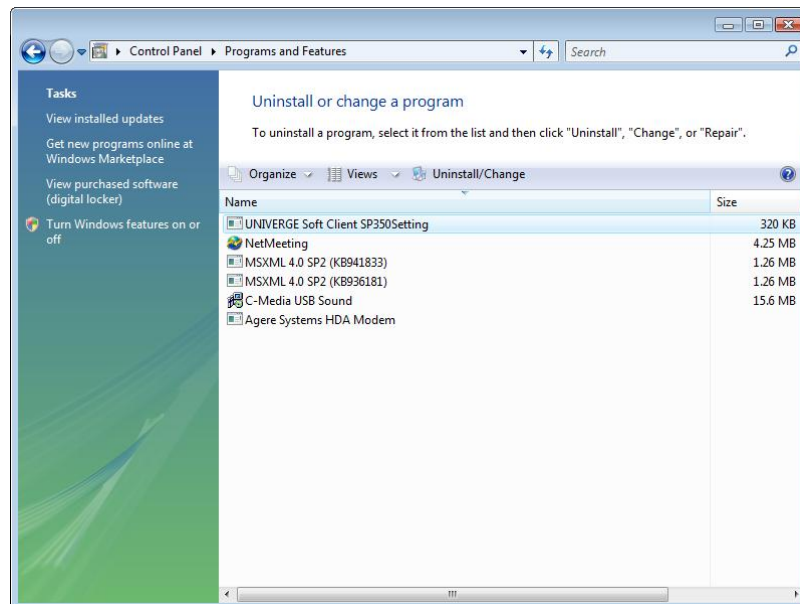
In this case, select "Yes, I want to restart my computer now.", and click [Finish] to restart the PC.



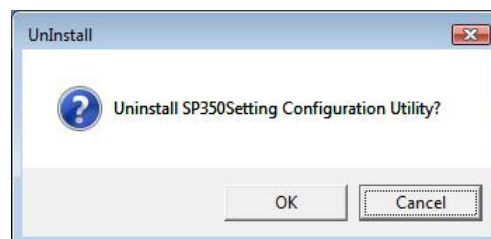
Step7. Click [Finish].
The uninstallation is completed.

Next, delete the registry data created by each Windows user account and the directories automatically created by SP350. ("xxxx" indicates a Windows user account.)
The deletion needs to be done for each user account using SP350.

Step8. Select [Programs and Features] from the [Control Panel] screen, and select "UNIVERGE Soft Client SP350Setting" from the currently installed programs.



Step9. Click [Uninstall/Change] from the [Uninstall or change a program] screen.
The dialog to confirm the uninstallation appears.



Step10. Click [OK].

Chapter 2 SP350 Maintenance Settings

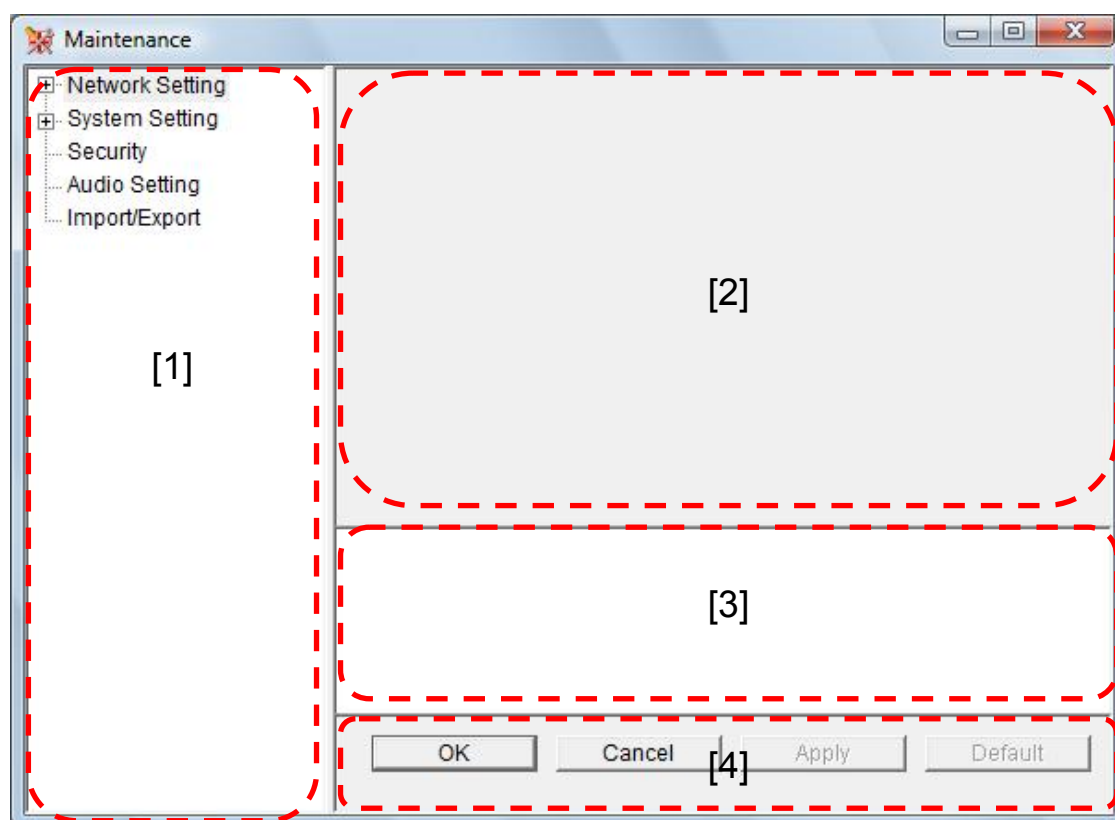
The Maintenance Setting function of SP350 is a tool to set/save the environment required for introduction of SP350. Maintenance settings in SP350 and PC configuration are explained in the following topics.

- SP350 [Maintenance] screen
- Starting or ending SP350 Maintenance Setting function
- Content of SP350 maintenance settings
- Time setting
- Sound device setting

2.1 SP350 [Maintenance] screen

The following sections describe the [Maintenance] screen of SP350.

- Category Display area[1]
- Setting Item Display area[2]
- Concise Description Display area[3]
- Control Key Display area[4]



2.1.1 Category Display area

By highlighting an item displayed in this area, the displayed content in the Setting Item Display area can be switched.

2.1.2 Setting Item Display area

In this area, each of current settings is displayed and can be modified.

2.1.3 Concise Description Display area

A concise description about the item highlighted in the Setting Item Display area is displayed in this area. This area remains blank when any item in the Category Display area or the Control Key Display area is highlighted.

2.1.4 Control Key Display area

The buttons for the following functions are displayed in this area:

- Reflect setting modifications in the Setting Item Display area on the registry
- Restore the settings displayed in the Setting Item Display area to the default values
- Terminate the User Setting function

For details, refer to the following items:

- [OK] and [Cancel]: 2.2.2 "Ending SP350 maintenance setting function"
- [Apply]: 2.2.5 "Saving settings"
- [Default]: 2.2.4 "Restoring settings to default values"

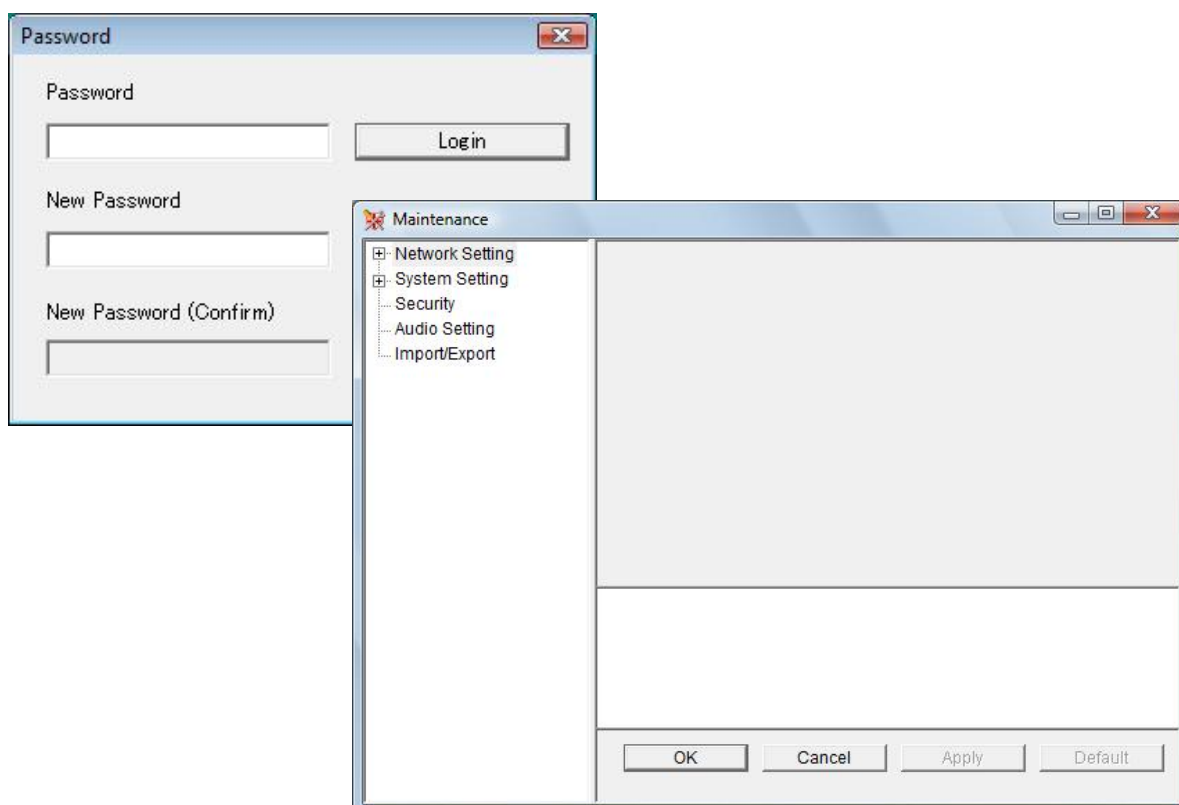
2.2 Starting or Ending SP350 Maintenance Setting function

The following sections describe start/stop of the Maintenance Setting function of SP350.

2.2.1 Starting SP350 Maintenance Setting function

The Maintenance Setting function of SP350 can be started by the following procedure.

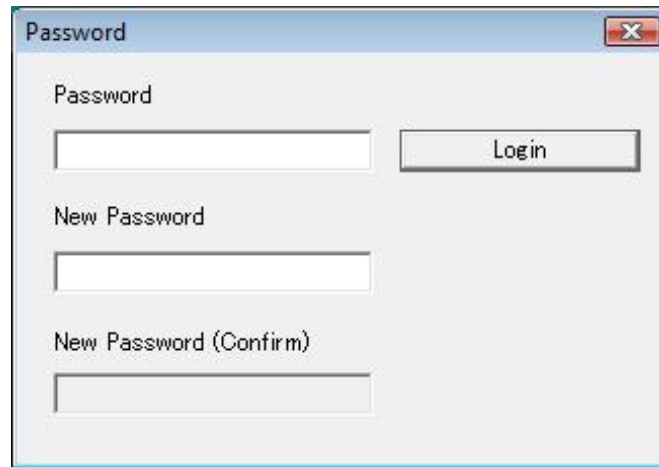
- Select [Programs] -> [UNIVERGE Soft Client SP350] -> [Maintenance] from the [Start] menu to open the [Password] screen. Enter the correct password and click [Login] to start the Maintenance Setting function.



2.2.1.1 Password

Enter the specified password.

"ctiapp" is set as the default password.

A screenshot of a Windows-style dialog box titled "Password". It contains three text input fields and one button. The first field is labeled "Password" and has a "Login" button to its right. The second field is labeled "New Password". The third field is labeled "New Password (Confirm)".

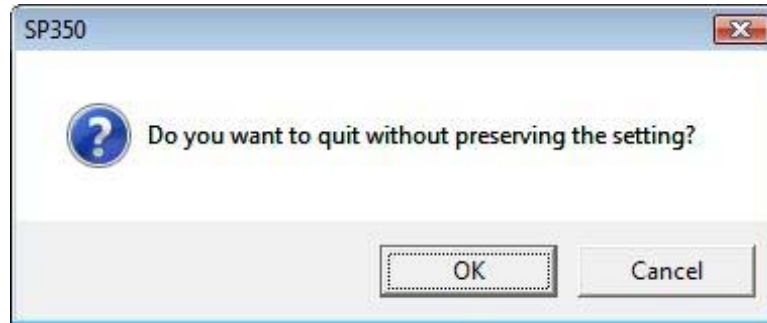
Password	
Password	Login
New Password	
New Password (Confirm)	

- **New Password**
Enter the new password when the current password is to be changed. (Up to 8 alphanumeric characters)
Note: New password becomes valid after clicking [Login].
- **New Password (Confirm)**
This field becomes valid after "New password" is specified. Enter the string identical with the one in "New password" for confirmation.
- **[Login]**
Click this button to execute password confirmation. If the password is correct, the processing goes on. If wrong, an error message dialog appears. In the case of password modification, if the strings specified in "New Password" and "New Password (Confirm)" do not agree, a message dialog appears to indicate the disagreement.

2.2.2 Ending SP350 Maintenance Setting function

The Maintenance Setting function of SP350 can be ended by the following procedure.

- Click [Cancel] (or, click [x] on the upper right corner of the screen).
When the [Apply] button is valid, a confirmation dialog appears as shown below. Clicking [OK] makes modified information invalid and ends the Maintenance Setting function. Clicking [Cancel] continues setting operations without ending the function. When [Apply] is invalid, the Maintenance Setting function is ended without any confirmation dialog.



- Click [OK].
Modified information is reflected to the registry.

2.2.3 Switching displayed content in Setting Item Display area

Displayed content in the Setting Item Display area can be switched by the following procedure.

- Highlighting an item in the Category Display area
Information relevant to the item highlighted in the Category Display area is displayed in the Setting Item Display area.

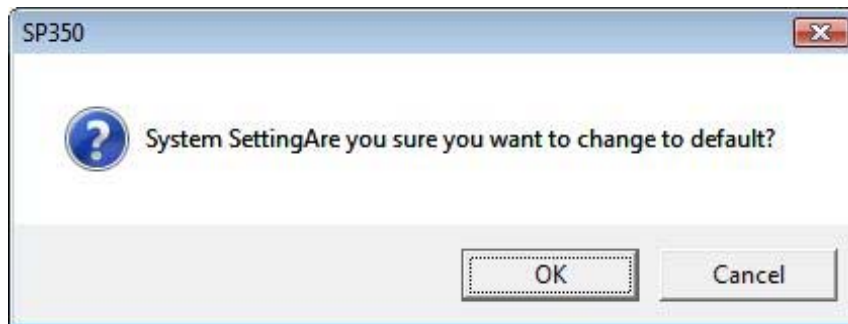
Note: When highlighting another item in the Category Display area, if any entered value is wrong or any mandatory item is left blank, an error message dialog appears and the displayed content in the Setting Item Display area cannot be switched. In this case, enter the correct value for the item which caused the error and switch the display again. Or, click [Cancel] to end the Maintenance Setting function. Then, restart the function and set the items again.

2.2.4 Restoring settings to default values

Current settings displayed in the Setting Item Display area can be restored to the default values by the following procedure.

- Click [Default].

A confirmation dialog (about the category displayed in the Setting Item Display area) is displayed as follows. Clicking [OK] in this dialog restores the information of the items displayed in the Setting Item Display area to the default values. Clicking [Cancel] in this dialog retains the current settings without restoring them.

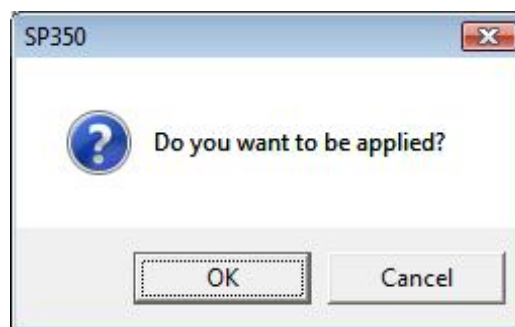


2.2.5 Saving settings

Modified information of the items displayed in the Setting Item Display area can be saved by the following procedure. Note that this function is available only when [Apply] is valid.

- Click [Apply].

A confirmation dialog is displayed as follows. Clicking [OK] reflects the setting values of the items set with the Maintenance Setting function to the registry. Clicking [Cancel] retains the current settings without reflecting them to the registry.



2.3 Method of SP350 maintenance settings

The following items describe the method to set/save the information with the Maintenance Setting function of SP350.

- Network settings
 - IP telephony server
 - Presence
 - Data conference
 - Software update
 - Directory Software update
- System setting
 - ACD setting
- Security
- Audio setting
- Import/export
 - Import
 - Export

Notes: ● No information other than maintenance settings can be saved.

2.3.1 Network Setting

2.3.1.1 IP Telephone Server

Set the parameters relevant to connection with the IP telephony server.

The screenshot shows a 'Maintenance' window with a tree view on the left and a settings panel on the right. The tree view includes 'Network Setting' (expanded) and 'System Setting'. Under 'Network Setting', 'IP Telephone Sever' is selected. The settings panel contains 'VoIP Server Setting' and 'Call Control Port Number' sections. The 'VoIP Server Setting' section has four server entries, each with a 'Server Name' and 'Port Number' field. The 'Call Control Port Number' section has 'Call Control Port Number (Start)' and 'Call Control Port Number (End)' fields. At the bottom are 'OK', 'Cancel', 'Apply', and 'Default' buttons.

Section	Parameter	Value
VoIP Server Setting	Server 1 Server Name	192.168.100.2
	Server 1 Port Number	5060
	Server 2 Server Name	
	Server 2 Port Number	5060
	Server 3 Server Name	
	Server 3 Port Number	5060
	Server 4 Server Name	
	Server 4 Port Number	5060
Call Control Port Number	Call Control Port Number (Start)	5060
	Call Control Port Number (End)	

- VoIP Server Setting (Note 1)

Specify the host name (or the IP address) of the IP telephony server and the destination port number (UDP).

For these settings, contact the installation technician.

- Server 1 Server Name: Mandatory (default: blank).
- Server 2 Server Name
- Server 3 Server Name
- Server 4 Server Name
- Server 1 Port Number: Mandatory (default SV8500/SV7000: 5060, SV8300:5080).
- Server 2 Port Number
- Server 3 Port Number
- Server 4 Port Number

One of the following default port numbers is set by the server selected in “VoIP Server Selection” when SP350 was installed.

When “UNIVERGE SV8500/SV7000” is selected (5060)

When “UNIVERGE SV8300” is selected (5080)

The specifiable range is 1024 to 65535.

Verify whether or not the port number is correctly set according to the system to be used.

- Call Control Port Number (Note 2)

Specify the range of the source port number (TCP/UDP) used for call control. The port which is available and has the smaller number within the specified range is searched and used at the startup (default: 5060 to 5187). Specify values within 1024 to 65535. Also, the number of the ports within the specified range should be 128 or more (recommended).

This item is mandatory.

- Sound Port Number (Note 3)

Specify the range of the source port number (UDP) used for sound data communication. The port which is available and has the smaller number within the specified range is searched and used at the startup (default: 60000 to 60008). Specify values within 1024 to 65535. Also, the number of the ports within the specified range should be 9 or more (recommended).

This item is mandatory.

In the case of VPCC mode, the port for PC recording will also be searched within this range and then used.

Notes:

(1) When an octet in the specified IP address is under 3 digits, do not pad it with "0".

- Example of correct setting: 10.43.0.6
- Example of wrong setting: 010.043.000.006

(2) The specified value must differ from the value for Sound Port Number.

(3) The specified value must differ from the value for Call Control Port Number.

2.3.1.2 User Presence

The screenshot shows a 'Maintenance' window with a tree view on the left and a settings panel on the right. The tree view includes 'Network Setting' (expanded) with sub-items 'IP Telephone Sever', 'Use Presence', 'Data Conference', 'Software Update', and 'Directory Service'. Other top-level items are 'System Setting', 'Security', 'Audio Setting', and 'Import/Export'. The 'Use Presence' item is selected. The settings panel contains a checked checkbox 'Use Presence:'. Below it are three text boxes: 'Presence Host Name' with the value '192.168.100.5', 'Presence Port Number' with the value '6060', and 'Presence Domain Name' which is empty. At the bottom of the settings panel is an unchecked checkbox 'When connecting Presence Server, prefix (access code + local office code)'. Below the settings panel is a scrollable area with the text: 'Select to use Presence function. If this is checked, Presence is available.' At the very bottom are four buttons: 'OK', 'Cancel', 'Apply', and 'Default'.

- **Use Presence**
Specify whether the Presence function is to be enabled or disabled (default: unchecked). When this function is enabled, the host name (or the IP address) of the presence server and the destination port number (UDP) also must be specified.
Also, set whether the local office number (access code + the local office code) is to be prefixed when connecting to the presence server. For these settings, contact the installation technician.
 - Presence Host Name: Mandatory (default: blank).
 - Presence Port Number: Mandatory (default: 6060).
Specify a value within 1024 to 65535.
 - Presence Domain Name: (default: blank).
- **When connecting Presence Server, prefix (access code + local office code) with extension number:**
When checked, the local office number (refer to 2.3.2 "System setting") and the prime line number is informed when connecting to the presence server.
(In the cases such as open-numbered accommodation per location)

2.3.1.3 Data Conference

The screenshot shows a 'Maintenance' window with a tree view on the left and a settings panel on the right. The tree view has two main categories: 'Network Setting' and 'System Setting'. Under 'Network Setting', there are sub-items: 'IP Telephone Sever', 'Use Presence', 'Data Conference' (which is highlighted with a blue selection bar), 'Software Update', and 'Directory Service'. Under 'System Setting', there are sub-items: 'Security', 'Audio Setting', and 'Import/Export'. The settings panel on the right contains two sections. The first section, 'Call Control Port Number', has a text box for 'Call Control Port Number' with the value '60010' and a text box for 'Call Control Port Number range(End)' with the value '60137'. The second section, 'Video Port Number', has a text box for 'A video port number range (start)' with the value '60010', a text box for 'A video port number range (end)' with the value '60019', and a spinner box for 'Video TOS Value' with the value '0'. At the bottom of the window are four buttons: 'OK', 'Cancel', 'Apply', and 'Default'.

- Call Control Port Number
 - Call Control Port Number range

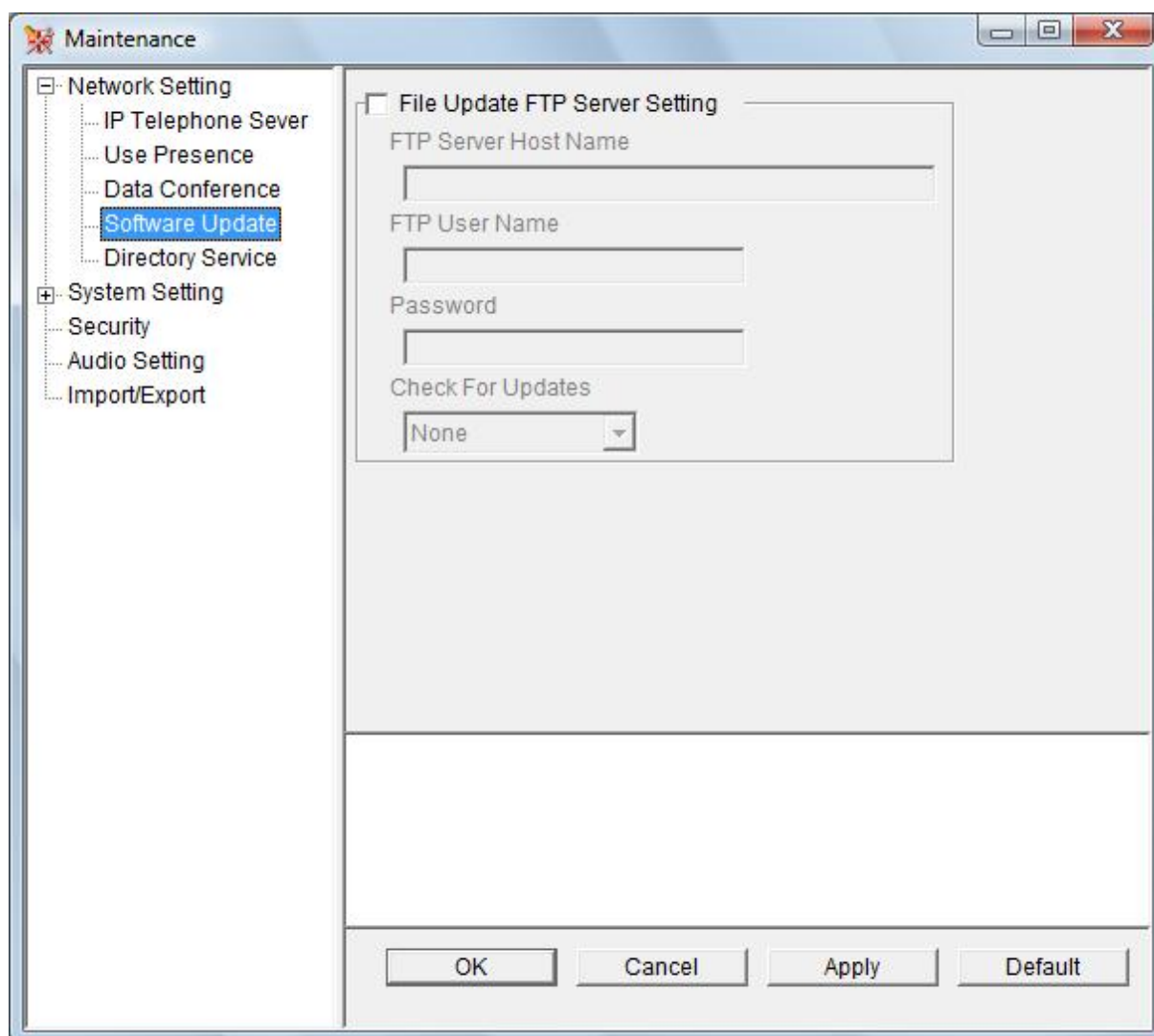
Specify the range of the source port number (TCP) used for the Data Conference/File Transfer functions. The port which is available and has the smaller number within the specified range is searched and used at the startup [default: 60010 (start) to 60137 (end)].
Specify values within 1024 to 65535. Also, the number of the ports within the specified range should be 128 or more (recommended).
This value must differ from the other specified values excepting the video port number of the Data Conference function.
- Video Port Number
 - A video port number range

Specify the range of the source port number (UDP) used for the video communication function. The port which is available and has the smaller number within the specified range is searched and used at the startup [default: 60010 (start) to 60019 (end)].
Specify values within 1024 to 65535. Also, the number of the ports within the specified range should be 10 or more (recommended).
This value must differ from the other specified values excepting the call control port number of the Data Conference function.

- Video TOS Value
Specify the TOS value used for video communication (default: 0).
Specify values within 0 to 255.
Note that when Windows Vista or Windows 7 is used as the OS, this value becomes below

00: 0–63
20: 64–127
A0: 128–191
E0: 192–255

2.3.1.4 Software Update



- File Update FTP Server Setting
Specify whether the Software Update function with FTP used when SP350 is started is to be enabled or disabled (default: unchecked).
When this function is enabled, the host name (ore the IP address) of the FTP server, user name and password also must be specified. For these settings, contact the installation technician.
 - FTP Server Host Name: Mandatory (default: blank).
 - FTP User Name: Mandatory (default: blank).
 - Password: (default: blank)

- Check For Updates

Select when the Software Update check function with FTP is to be executed.

- None: The function is not executed when starting up SP350 (default).
- Every startup: The function is executed when starting up SP350.
- Every week: The function is executed when 1 week has passed from the last execution.

(The function is not executed when starting up SP350 first after installing it.)

2.3.1.5 Directory Service

The screenshot shows a 'Maintenance' window with a tree view on the left and a settings panel on the right. The tree view includes 'Network Setting' (expanded) with sub-items 'IP Telephone Sever', 'Use Presence', 'Data Conference', 'Software Update', and 'Directory Service' (selected). Other items in the tree are 'System Setting', 'Security', 'Audio Setting', and 'Import/Export'. The settings panel has two checked options: 'Allow Directory search in Search Window' and 'Allow Directory search in Caller Information lookup'. Below these is the 'Directory Server Setting' section with fields for 'Search Place' (containing '%ROOTDSE%'), 'Search Filter' (containing '(telephoneNumber=*%PHONENUMBER%)'), an unchecked 'Encrypted connection' checkbox, and 'Attributes of Telephone' (containing 'telephoneNumber/mobile/homePhone'). The 'Attributes Setting' section has fields for 'Name' (containing 'name'), 'Corporation' (containing 'company'), 'Department' (containing 'department'), and 'Mail address' (containing 'mail'). At the bottom are 'OK', 'Cancel', 'Apply', and 'Default' buttons.

Set up the directory server to be used for information search. The information acquired from the directory server is used to display directory search results from the search entry box and the information of call counterpart in call log.

- Allow Directory search in search window
 - Allow Directory search in Search Window. "Directory Search" will appear in drop down menu on window.

- Allow Directory search in Caller Information lookup
 - If information retrieving software is set, SP350 will also search Caller information from Directory.

- Directory Server Setting
 - Set directory server for Information Retrieval.
 - Search Place
 - Search Place requires the following format
 HostName[:PortNumber][[/DistinguishedName]].
 - Search Filter
 - Search Filter enables to you to define search criteria and provide more efficiently and effective searches. The search filters as defined in RFC2254
 - Encrypted connection
 - Set if using an SSL connection
 - Attributes of Telephone
 - Set attributes on telephone for information retrieval.
 - One or more attributes can be described by using as delimiter.

- Attributes Setting
 - Set directory server for Information Retrieval.
 - Name
 - Corporation
 - Department
 - Mail address

2.3.2 System Setting

The screenshot shows a 'Maintenance' window with a tree view on the left containing 'Network Setting', 'System Setting' (selected), 'Security', 'Audio Setting', and 'Import/Export'. The main area is titled 'System Setting' and contains the following options:

- Numbering Plan**
 - Access code + local office code (for CCIS): []
 - Maximum for station number: [0]
- ☐ Use Terminal Cooperation
- ☒ Use Hotel System
- ☒ Show E911 noncompliant notice
- DTMF Tone: [Follow Server ▼]
- RTP Loss Alarm: [Follow Server ▼]
- ☒ Use Beep Tone(s) when Recording a Call
 - The timing of sending Beep Tone: [Send multiple Beep Tones (at regular intervals) ▼]
 - Beep Tone Interval: [15] [s]
- Live recording File Format: []

At the bottom are buttons for 'OK', 'Cancel', 'Apply', and 'Default'.

- **Numbering Plan**

Specify the local office number (access code + the local office code) to delete it from the number registered in the address book for origination from the address book, transfer, destination modification, status (presence table) indication and ending an instant message.

Also, in the case when the Data Conference function is used between multiple offices, or when the Chat function is used between multiple offices, if the local office number is to be attached so that the originator information can be found by searching origination numbers in the address book at the termination, specify number of the digits of the originator number to be attached.

This setting is required to connect the presence server, depending on the environment.

- **Access code + the local office code**
 - Specify the local office number (default: blank).
 - Specify the local office number with the access code included.
- **Maximum of Station Number**
 - Specify the maximum number of digits for the originating number that is associated with the office number (default: 0).

- **Use Terminal Cooperation**
Specify whether the Terminal Cooperation function is to be enabled or disabled (default: unchecked). Terminals which can be used for this function depend on the IP telephony server to be connected. For details, contact the installation technician.
- **DTMF Tone**
Select one of the following options about DTMF playback during a call (default: Follow Server).
 - Follow Server: Follows the indication from the IP telephony server per call.
Disabled whenever no indication is received from the server.
 - Always enabled: Enabled regardless of indications from IP telephony server.
 - Always disabled: Disabled regardless of indications from IP telephony server.
- **RTPLoss Alarm**
Select one of the following options about RTPLoss alarm during a call (default: Follow Server).
 - Follow Server: Follows the indication from the IP telephony server per call.
Disabled whenever no indication is received from the server.
 - Always enabled: Enabled regardless of indications from IP telephony server.
 - Always disabled: Disabled regardless of indications from IP telephony server.
- **Use Beep Tone(s) when Recording a Call**
Specify whether the indication tone of call recording on PC sent to the caller and the callee is to be enabled or disabled (default: unchecked).
To enable this function, check the checkbox.
When checked, select either of [Send multiple Beep Tones (only when starting)] or [Send multiple Beep Tones (at regular intervals)]. Also, when selecting [Send multiple Beep Tones (at regular intervals)], set the interval of the tone within the range from 5 seconds to 120 seconds. (default: blank).
- **Live recording File Format (Regular mode)**
Specify the file format for call recording on PC (default: PCM).
 - PCM: Recorded with the PCM format (960KB per 1 minute).
 - GSM6.1: Recorded with the GSM6.1 format (96KB per 1 minute).
- **File Format During PC Recording (in the case of VPCC mode)**
Specify the file format for PC recording (default: G.711).
G.711: Records in the G.711 format (approximately 480KB in recording for 1 min).
GSM6.1: Records in the GSM6.1 format (approximately 96KB in recording for 1 min) (*).

(*) It may not be possible to use GSM6.1 depending on the thin client terminal type. In such a case, even if GSM6.1 is specified, recording will be done in G.711. For more information, refer to the restrictions on each terminal.
- **Voice mail Address Change Key**
Specify the key used to indicate the end of modified number entered; This function is used when the destination number is modified with operations by using address book or member keys during call recording on UnifiedStar series.
Specify "#" when "UNIVERGE SV8500/SV7000" is selected in the "VoIP server type selection" screen during installation.
Specify blank (nothing is specified) when "UNIVERGE SV8300" is selected in the "VoIP server type selection" screen during installation.

- Area (Tone)

When selecting an option other than [Auto], the tone pattern assigned to the specified area (nation) is applied regardless of indications from the IP telephony server. Note that if the specified area has not been registered in the server, the tone pattern assigned to Japan is applied.

Also, if the server indicates an area other than the options below, the tone pattern assigned to Japan is applied.

(Default: Auto)

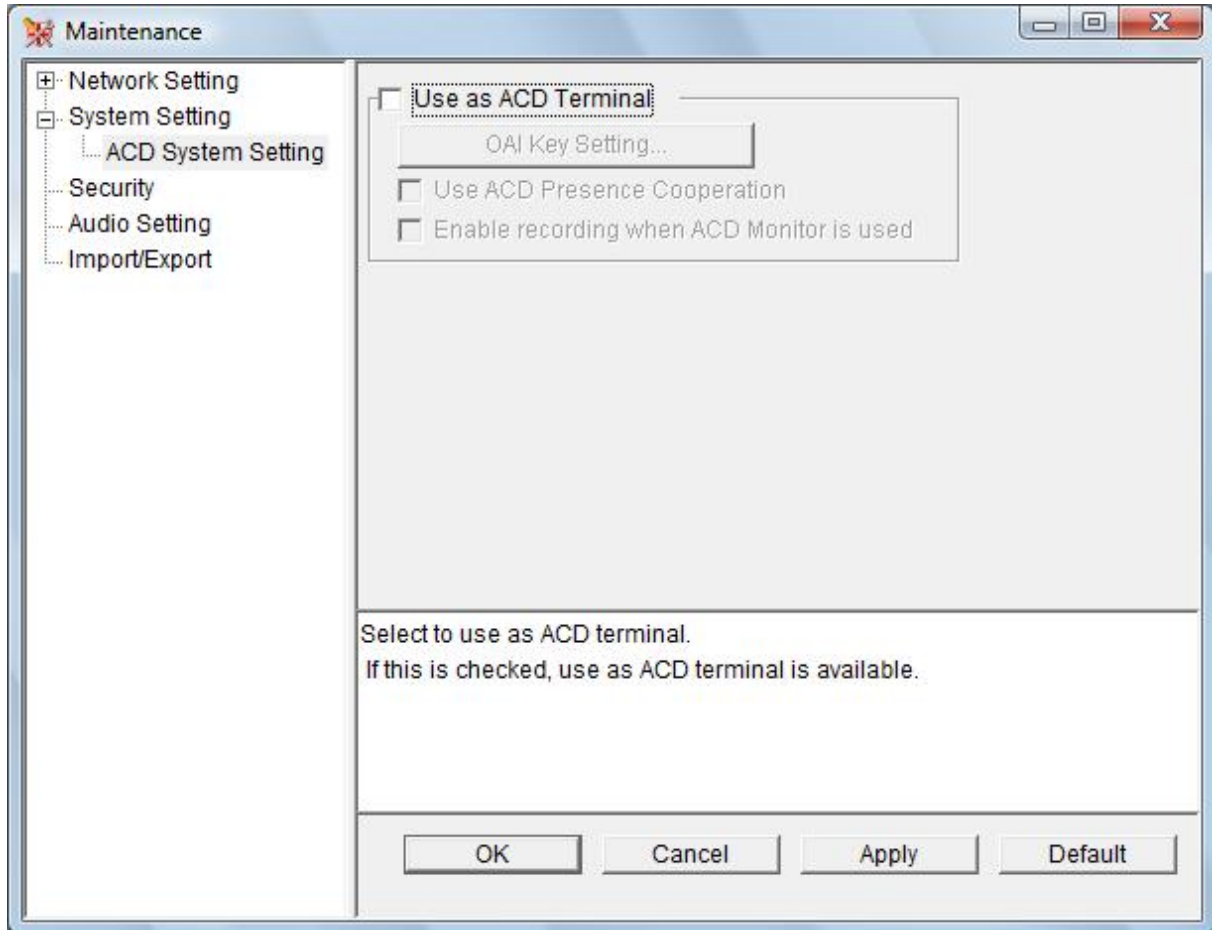
- Auto
- Japan
- U.S
- Australia
- Other overseas
- Hong Kong (Note1)
- Malaysia (Note1)
- Singapore (Note1)
- UK (Note1)
- Mexico (Note1)
- Taiwan (Note1)
- New Zealand
- South Korea (Note1)
- Brazil (Note1)
- China (Note1)
- Thailand (Note1)
- Thailand (EGAT) (Note1)
- Sri Lanka (Note1)
- Germany
- Italy
- Netherlands (Dutch)
- Denmark
- Sweden
- Spain
- Austria
- Belgium
- UK (United Kingdom) (for NECU)
- Greece
- Swiss
- South Africa
- Brazil (for NECU) (Note1)

(Note1) They can be selected when SP350 is used with SV8500/SV7000, and they are not displayed in the list when SP350 is used with SV8300.

2.3.2.1 ACD Setting

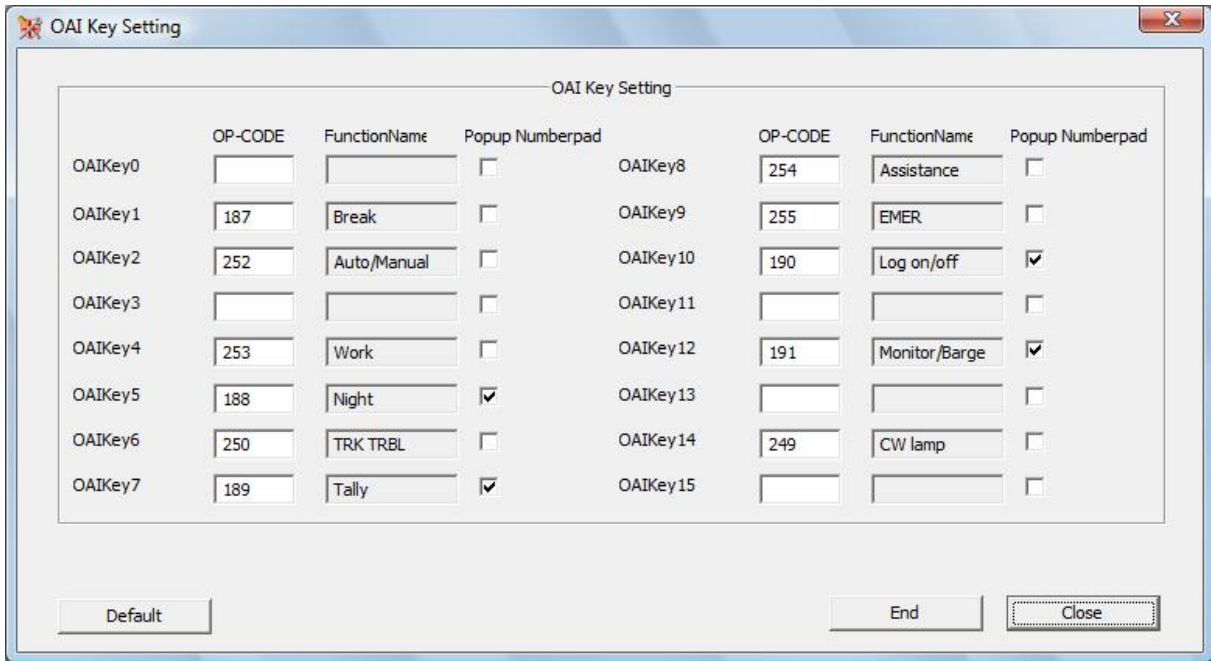
When using the ACD feature in UNIVERGE SV8500 or UNIVERGE SV7000, the following settings are required.

In the case of using SP350 in UNIVERGE SV8300, OAI Key Setting screen is not displayed.



- **Use as ACD Terminal**
Check this option if SP350 is used as the ACD terminal. (Default: unchecked)
- **OAI Key Setting**
Open the setting screen for OAI key that is used by the ACD terminal.
This button becomes active only when [Use as ACD terminal] is checked.
For setting items of OAI key, refer to the next page.
- **Use ACD Presence Cooperation**
Check this option if ACD presence is used. (Default: unchecked)
You can select this option only when [Use as ACD Terminal] is checked.
- **Enable recording when ACD Monitor is used**
Specify if PC recording while ACD monitor is in progress is to be enabled or disabled. (Default: unchecked)
You can select this option only when [Use as ACD Terminal] is checked.
Note that when PC recording is used while ACD monitor is enabled, the indication tone of call recording on PC cannot be sent to the other party.

2.3.2.2 OAI Key Setting



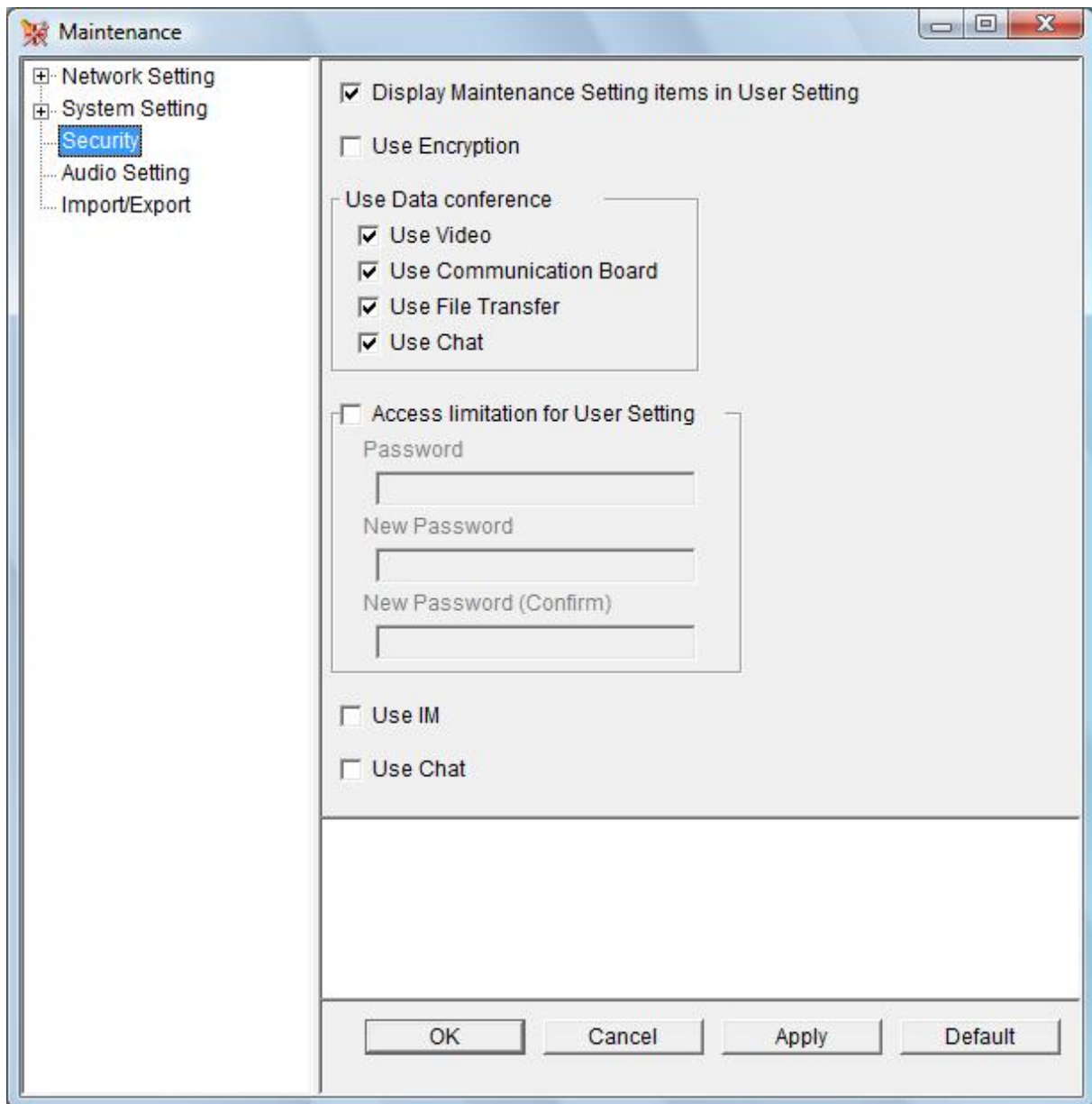
The screenshot shows a window titled "OAI Key Setting" with a table of 16 keys. The table has four columns: Key Label, OP-CODE, FunctionName, and Popup Numberpad. The keys are arranged in two columns of eight. The default values for OP-CODE and FunctionName are shown in the table. The Popup Numberpad column has checkboxes, with some keys (OAIKey5, OAIKey7, OAIKey10, OAIKey12) checked by default.

	OP-CODE	FunctionName	Popup Numberpad
OAIKey0			☐
OAIKey1	187	Break	☐
OAIKey2	252	Auto/Manual	☐
OAIKey3			☐
OAIKey4	253	Work	☐
OAIKey5	188	Night	☒
OAIKey6	250	TRK TRBL	☐
OAIKey7	189	Tally	☒
OAIKey8	254	Assistance	☐
OAIKey9	255	EMER	☐
OAIKey10	190	Log on/off	☒
OAIKey11			☐
OAIKey12	191	Monitor/Barge	☒
OAIKey13			☐
OAIKey14	249	CW lamp	☐
OAIKey15			☐

At the bottom of the window, there are three buttons: "Default", "End", and "Close".

- **OP-CODE**
Enter the feature numbers assigned to OAI keys that are used for ACD feature.
The default value for each key is shown in the figure above.
If you want to assign the number other than the default, follow the instruction of the installation technician.
- **Function Name**
When OP-CODE is entered, the corresponding function name will be automatically displayed.
These names cannot be manually edited.
- **Popup Numberpad**
Specify whether to display the numberbad automatically when pressing the OAI keys. The OAI keys that are checked as default are Night, Tally, Log on/off, and Monitor/Barge.

2.3.3 Security



- **Display Maintenance Setting items in User Setting**
Specify whether the display of maintenance setting items in the [User Settings] screen is to be enabled or disabled (default: checked).
- **Use Encryption**
Specify whether the Encryption function is to be enabled or disabled (default: unchecked).

Note: This checkbox must be checked even if either of the Encryption function or the Location Diversity function is used.
This option is grayed out and cannot be checked when "UNIVERGE SV8300" is selected in the "VoIP server type selection" screen during installation.

- Use Data Conference

Specify whether the functions provided by the Data Conference function (Video, Communication Boards, File Transfer and Chat) are to be enabled or disabled (* The setting of the organizer is reflected).

- Use Video (default: checked)
Check when the Video function is to be enabled.
- Use Communication Board (default: checked)
Check when the Communication Board function is to be enabled.
- Use File Transfer (default: checked)
Check when the File Transfer function is to be enabled.
- Use Chat (default: checked)
Check when the Chat function is to be enabled.

Note: In the case of VPCC mode, only receiving is provided for Video

- Access Information for User Setting

Specify whether the restriction using password is to be enabled or disabled when opening the [User Settings] screen of SP350 (default: unchecked).

To modify the password, enter the current password in [Password]. Also, enter the modified (new) password in both [New Password] and [New Password (Confirm)] identically.

Note: The default value of the password is "ctiappconfig".

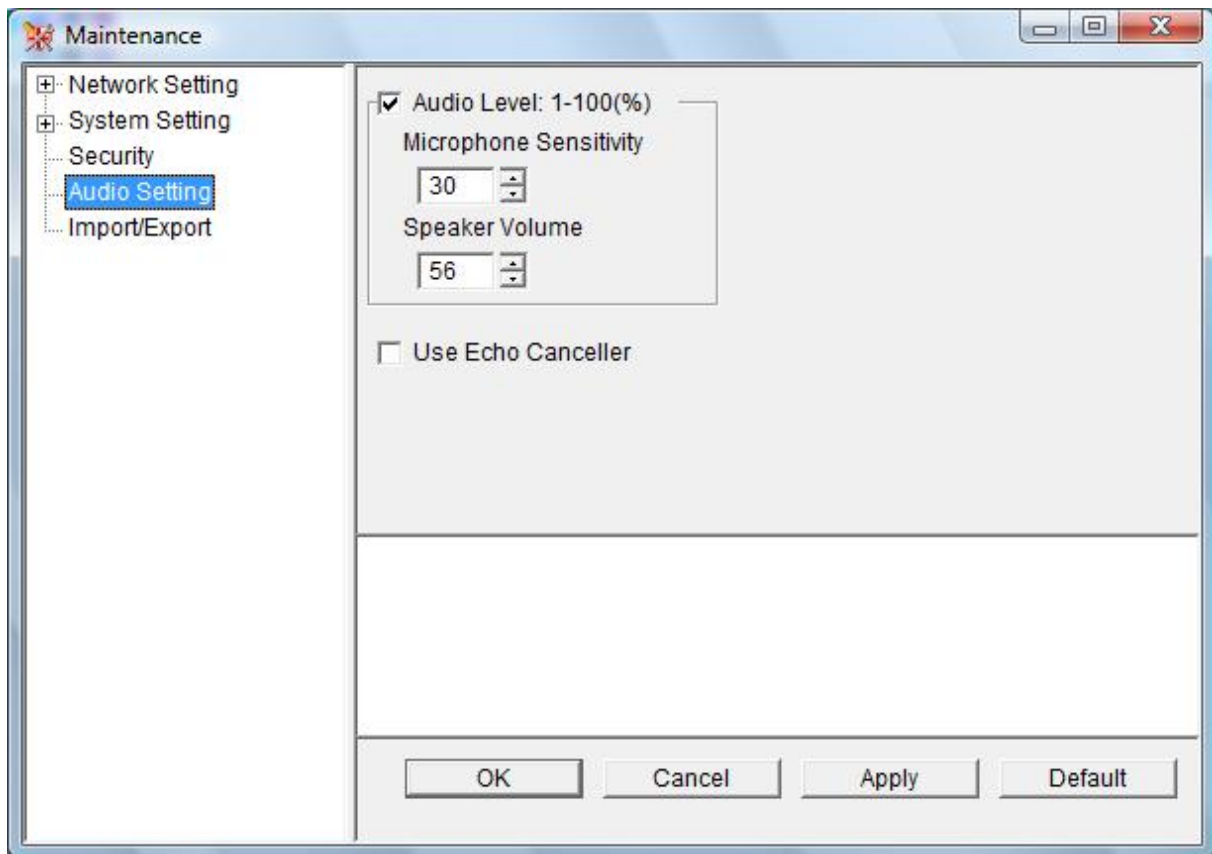
- Use IM

Specify whether to use IM (default: checked).

- Use Chat

Specify whether to use Chat (default: checked).

2.3.4 Audio Setting



- Audio Level: 1 - 100(%)

Specify whether the manual adjustments of sound volumes of microphones and speakers are to be enabled or disabled when starting up SP350 with the checkbox (default: unchecked).

When enabling this function, specify the sound volume for microphones and the one for speakers respectively.

When the recommended USB handset/headset is used, SP350 identify the type of the device and optimizes the sound volume. However, the sound volume also can be changed when this function is enabled.

Note: When this function (manual adjustment of sound volume) is enabled, the sound volume settings of microphones and speakers in the device used when starting up SP350 are changed to the values specified here. Note that the sound volume settings of the devices on the OS (Windows) are also changed to the values specified here. For necessity of this setting and the parameters to be specified, contact the installation technician.

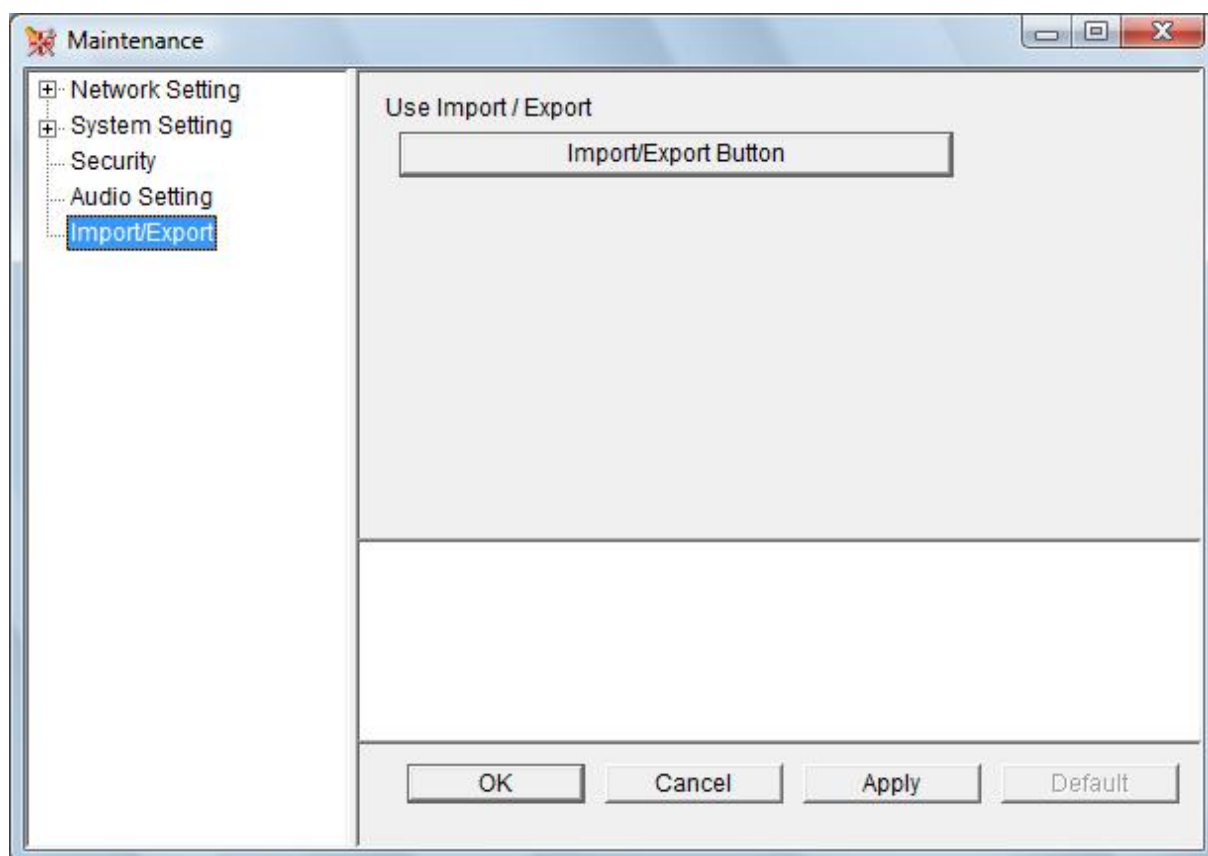
Note: If you use the UTR-1W-1(BK), UTR-1-1RS(BK) and UTR-1-1(BK), the volume cannot be manually changed.

- Use Echo Cancellor (Regular mode only)

Specify whether the Echo Cancellor function is to be enabled or disabled with the checkbox (default: unchecked).

2.3.5 Import/Export

The following sections describe the Import and Export functions in the Maintenance Setting function of SP350.



2.3.5.1 Import

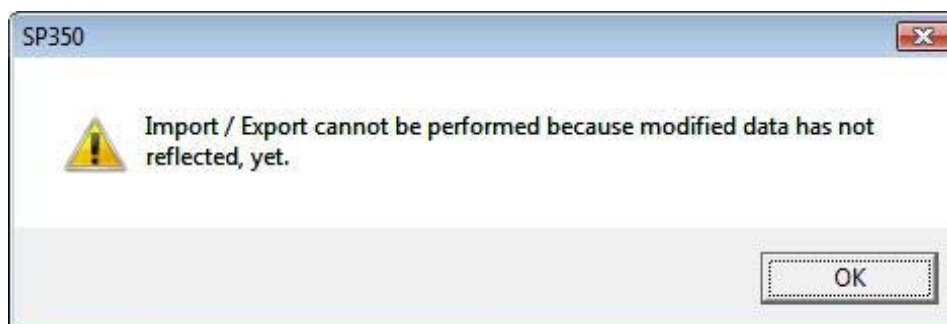
Read the maintenance settings from a file.

Step1. When [Apply] in the Control Key Display area is invalid, click [Import/Export] in the Setting Item Display area.

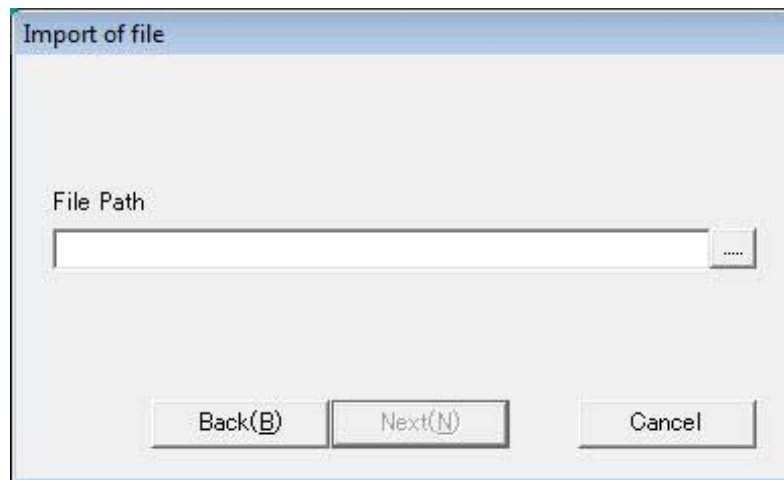
The [Import/Export Wizard] screen appears.



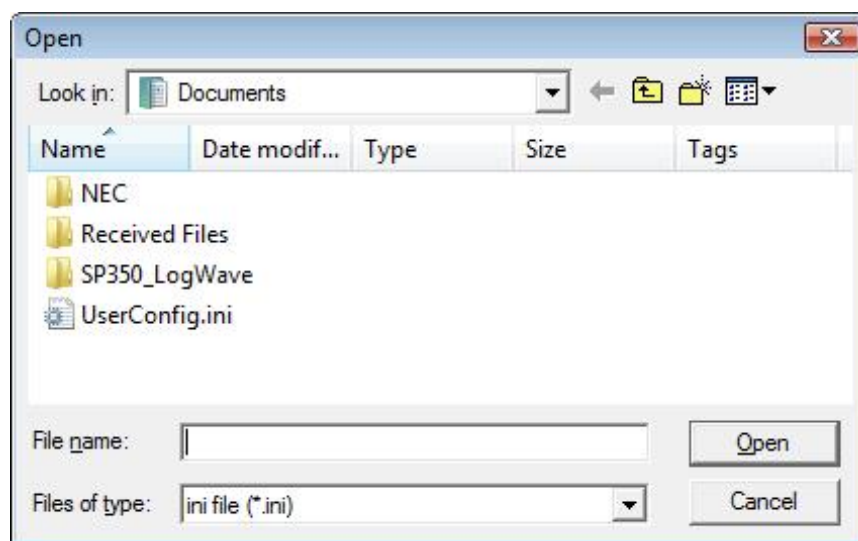
Note: If [Apply] in the Control Key Display area is valid, clicking [Import/Export] in the Setting Item Display area displays the following dialog. No import/export processing is executed.



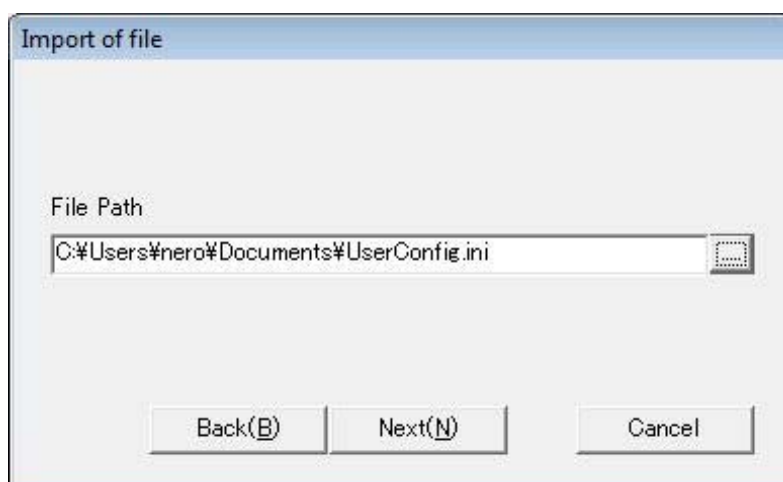
- Step2. Select [Import] and click [Next] on the [Import/Export Wizard] screen.
The [Import of file] screen appears.



- Step3. Enter the path and name of the target file directly into the [File Path] field.
Alternatively, click the  button on the [Import of file] screen to open the following [Open] screen. Select [ini file (*.ini)] in the [Files of type] field and highlight the name of the target file. Then, click [Open] to close the [Open] screen.

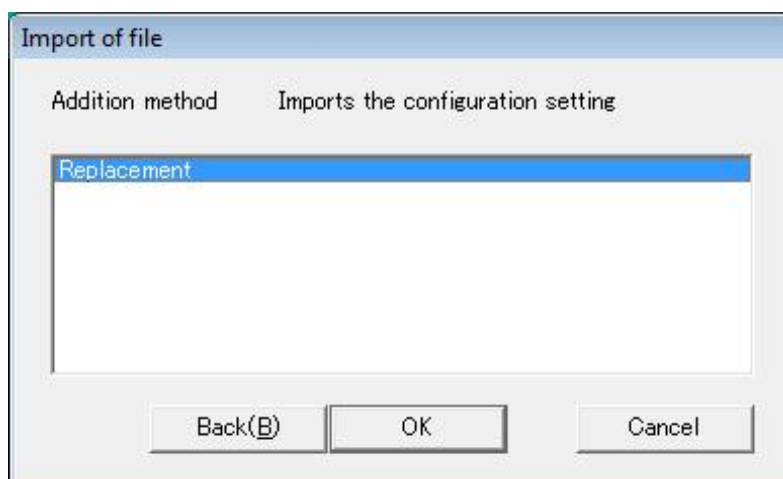


The [Import of file] screen containing the entered file path should look like the following.

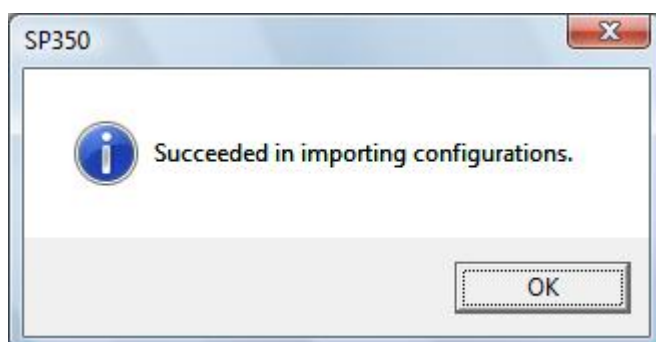


Step4. Click [Next].

The [Import of file] screen shows the addition method.



Step5. Confirm that [Replacement] is highlighted on the [Import of file] screen and click [OK].
The following dialog appears.



Step6. Click [OK] to complete the import operation.

2.3.5.2 Export

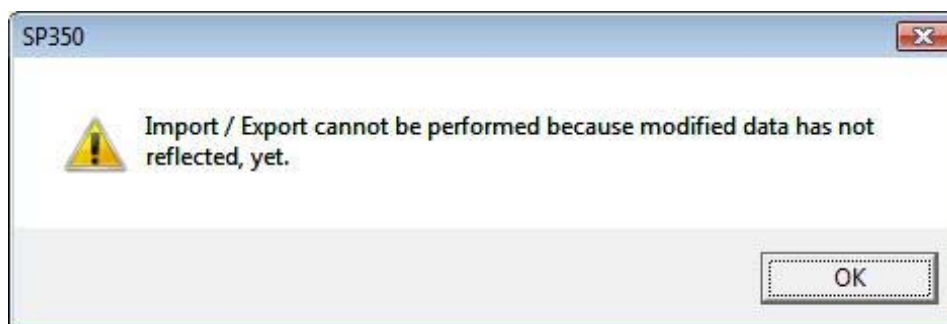
Save the maintenance settings into a file

Step1. When [Apply] in the Control Key Display area is invalid, click [Import/Export] in the Setting Item Display area.

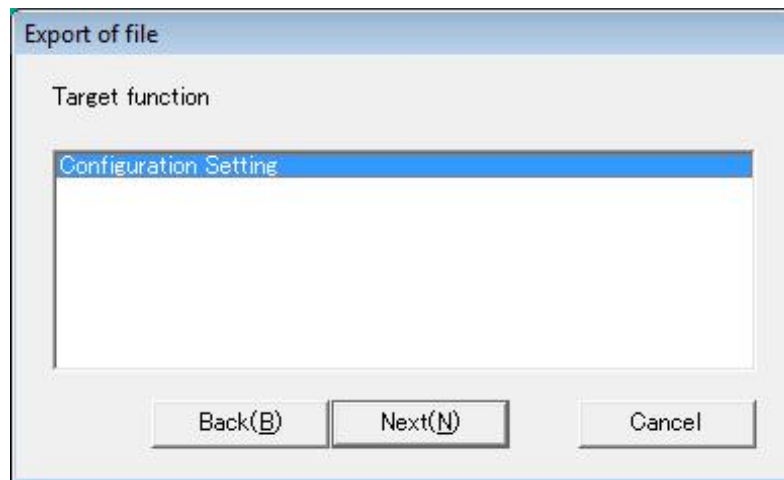
The [Import/Export Wizard] screen appears.



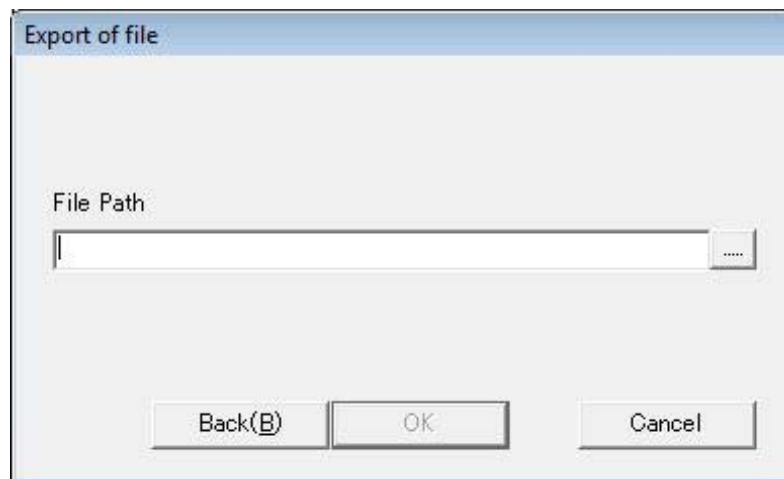
Note: If [Apply] in the Control Key Display area is valid, clicking [Import/Export] in the Setting Item Display area displays the following dialog. No import/export processing is executed.



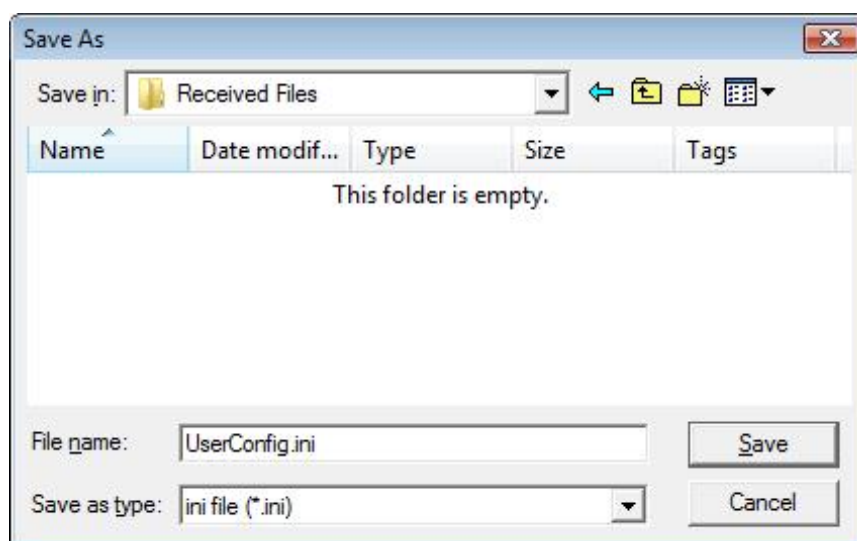
- Step2. Select [Export] and click [Next] on the [Import/Export Wizard] screen.
The [Export of file] screen appears.



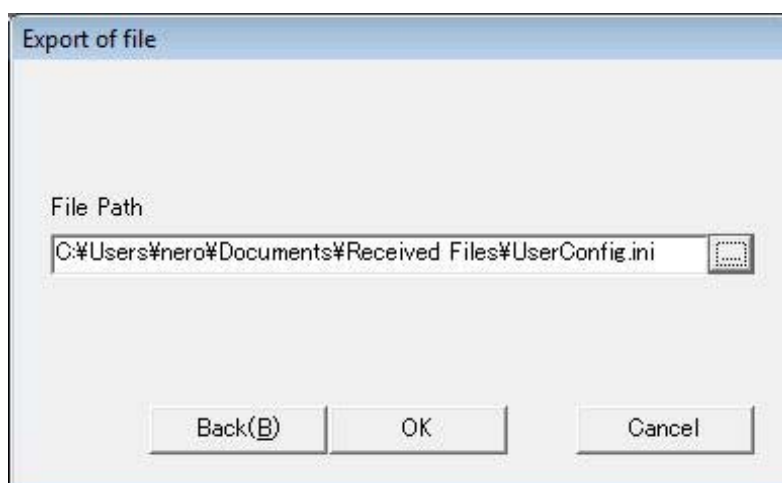
- Step3. Confirm that [Configuration Setting] is highlighted on the screen, and click [Next].
The [Export of file] screen provides the [File Path] field.



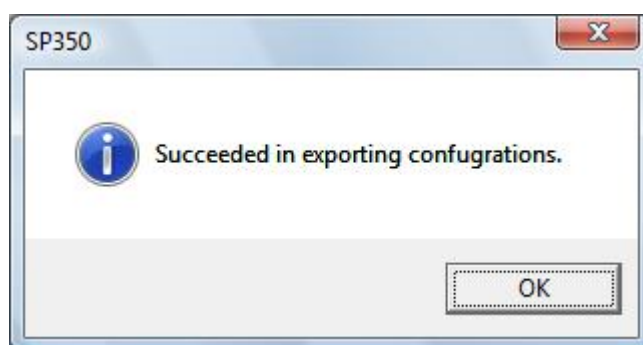
- Step4. Enter the save path and name of the target file directly into the [File Path] field.
Alternatively, click the  button on the [Export of file] screen to open the following [Save as] screen. Select the save directory and file name (file extension: ".ini"). Then, click [Save] to close the [Save as] screen.



The [Export of file] screen containing the entered file path should look like the following.



- Step5. Click [OK] to save the settings.
The following dialog appears.



- Step6. Click [OK] to complete the export operation.

2.4 Setting the time

SP350 uses the personal computer's clock for the functions such as Fault Information, Time Display and Incoming/Outgoing Log. Therefore, the clock must be exact to operate these functions correctly. The following methods enable automatic clock setting, instead of manual ways.

(1) In the case of Windows 2000

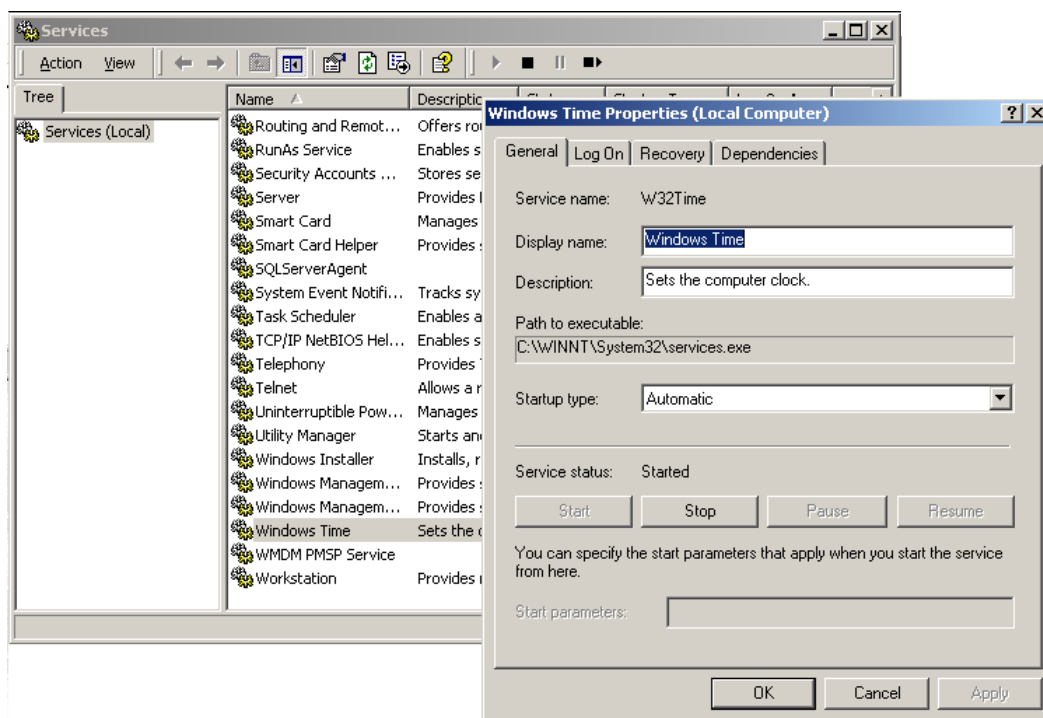
Step1. Log in as Administrator and adjust the clock with appropriate means by using the "Windows Time" service attached to the OS.

Step2. Execute the following command in the [Command Prompt] screen.

```
c:/net time/setsntp:xxx.xxx.xxx.xxx
```

* The string "xxx.xxx.xxx.xxx" must be replaced with the IP address of the NTP server (For the value of the IP address, contact the system administrator).

Step3. Start the "Windows Time" service from [Administration Tool] -> [Service] and set its startup to [Auto].

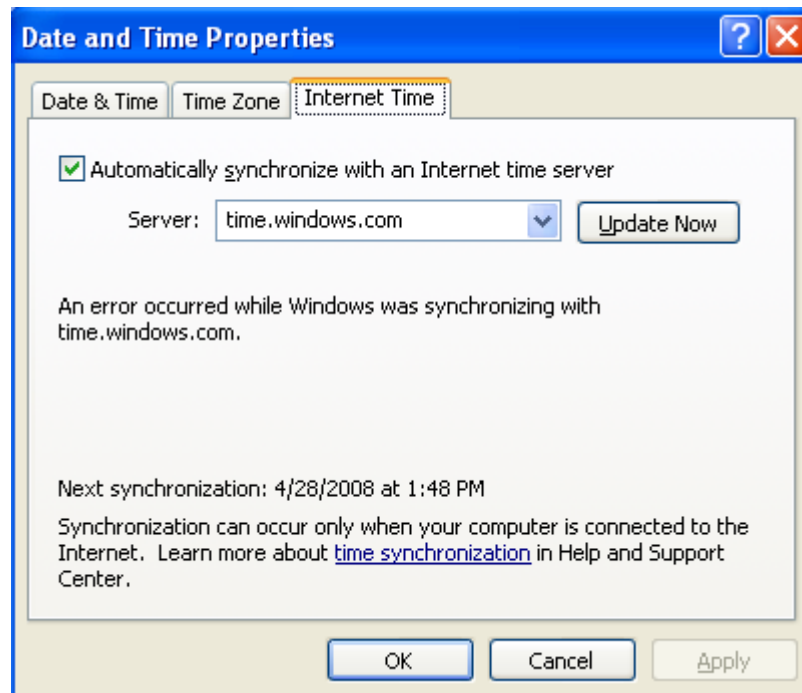


(2) In the case of Windows XP

Step1. Click and open the [Internet Time] tab on the [Date and Time Properties] screen.

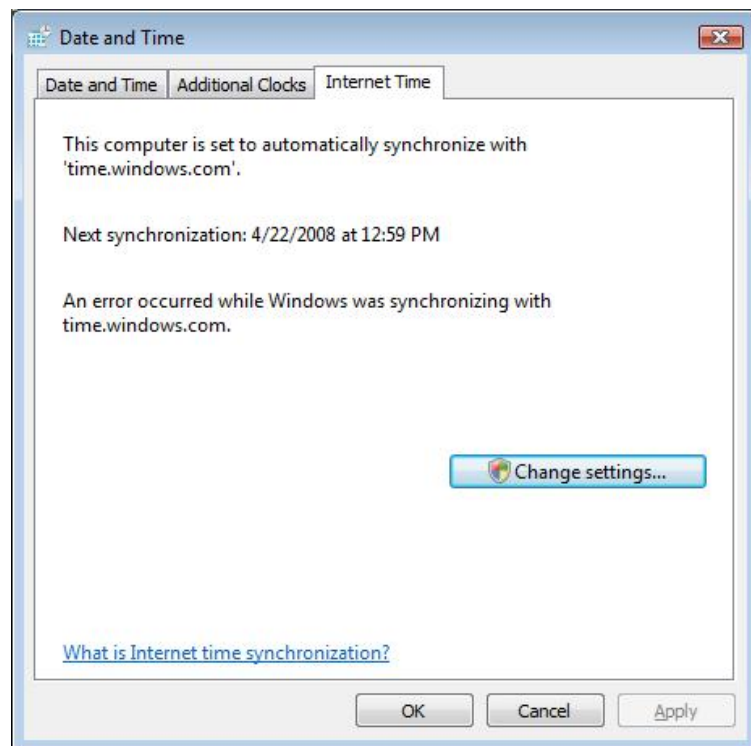
Step2. Check the [Automatically synchronize with an Internet time server] checkbox.

Step3. Click [Update Now].



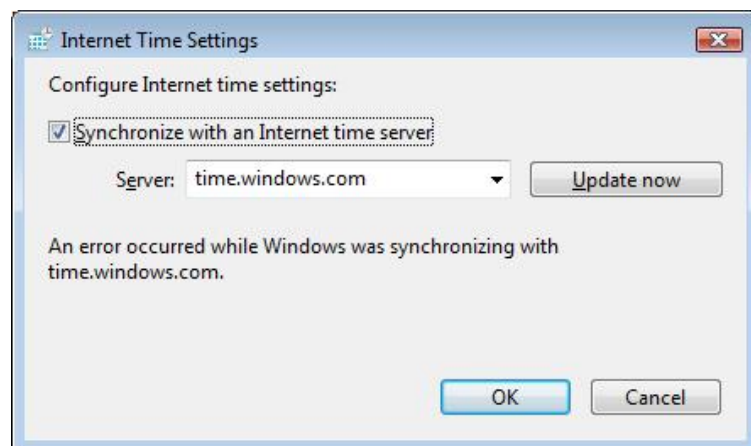
(3) In the case of Windows Vista or Windows 7

Step1. Click and open the [Internet Time] tab on the [Date and Time] screen.



Step2. Click [Change settings...].
The [Internet Time Settings] screen appears.

Step3. Click [Update now].



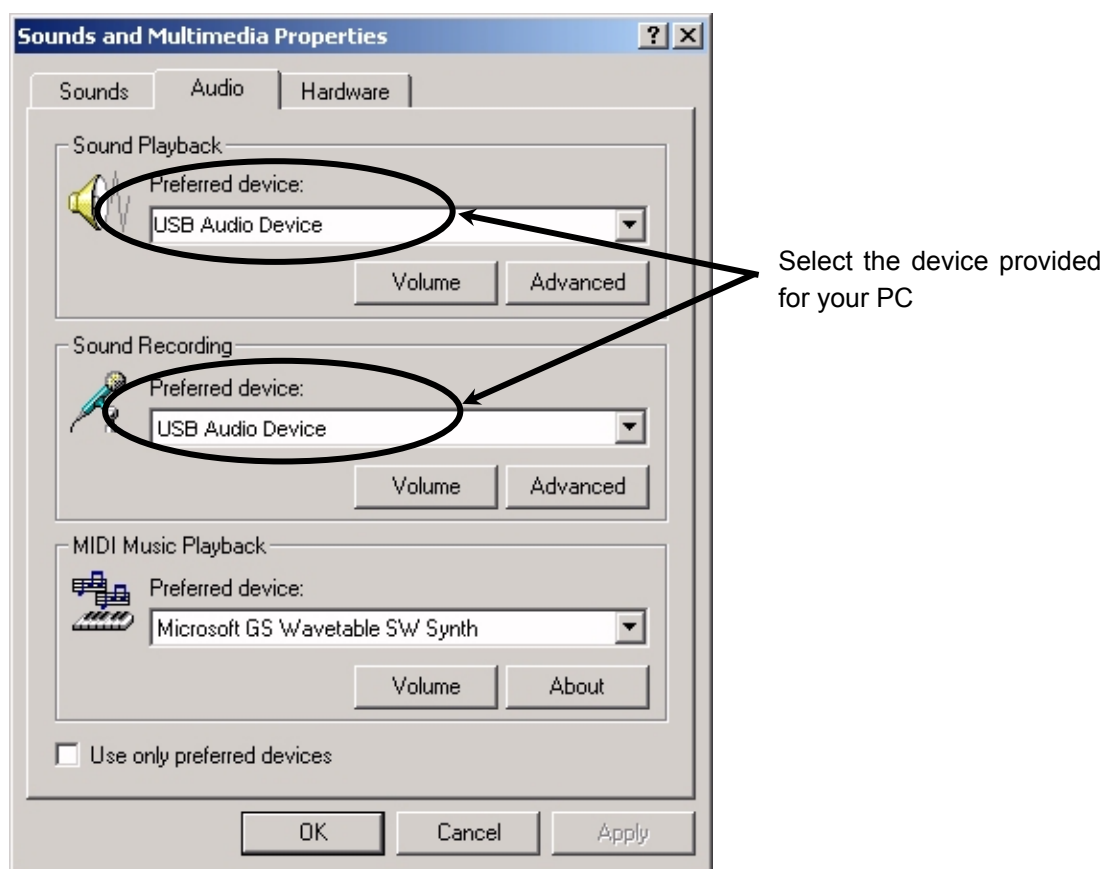
2.5 Setting the sound device (Regular mode only)

If other than the USB handset/headset is set in your PC, be sure to set the following.

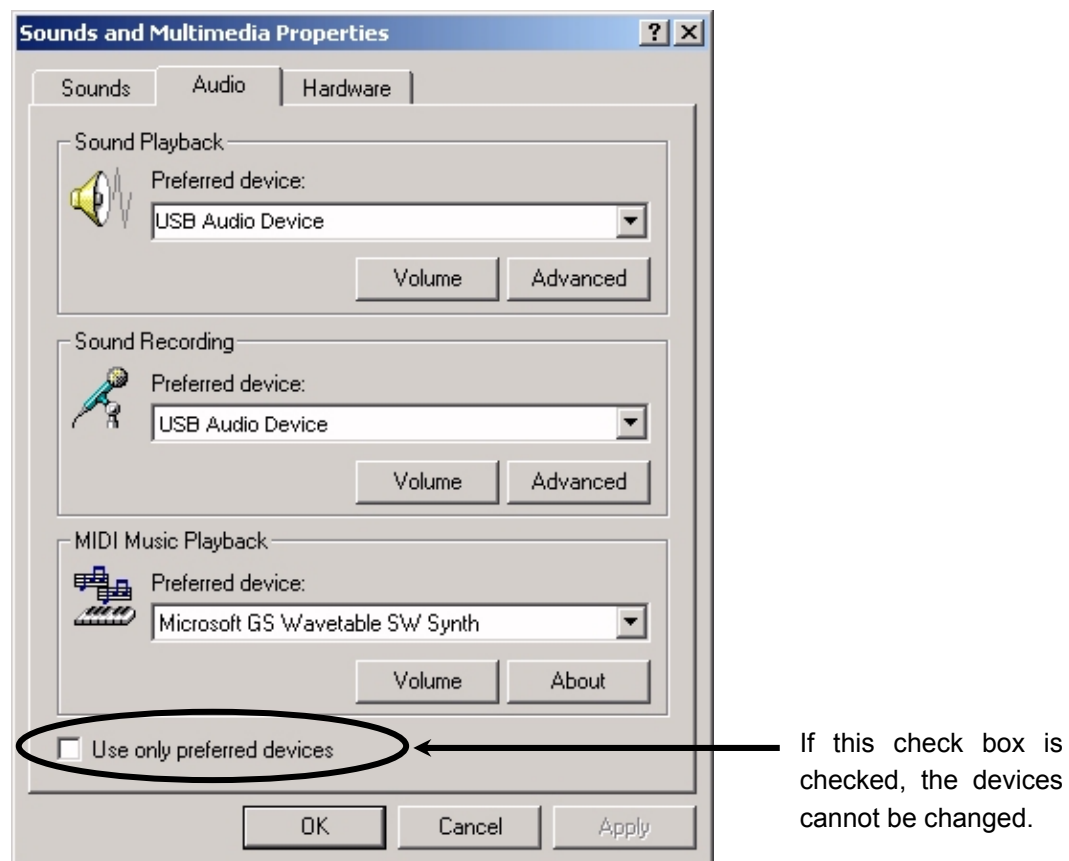
Otherwise, the speaker of the USB handset/headset outputs the Windows starting noise, error sound, etc.

(1) In the case of Windows 2000

Step1. Connect the USB handset/headset. Then, select [Control Panel] -> [Sounds and Multimedia] from the [Start] menu to open the [Sounds and Multimedia Properties] screen. Select the [Audio] tab to change the [Preferred device] fields in [Sound Playback] and [Sound Recording] to **other than** [USB Audio Device] (select the device name provided for your PC).



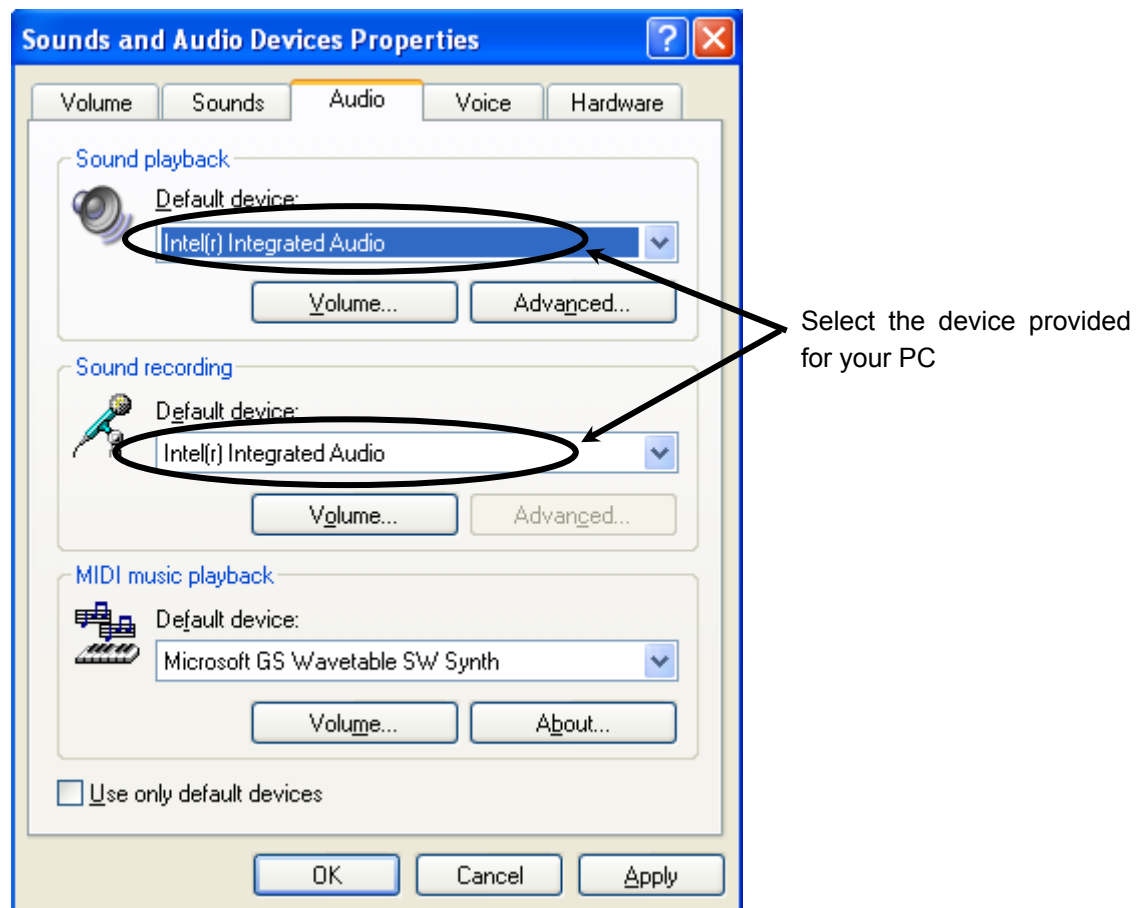
Step2. Check the [Use only preferred devices] checkbox.



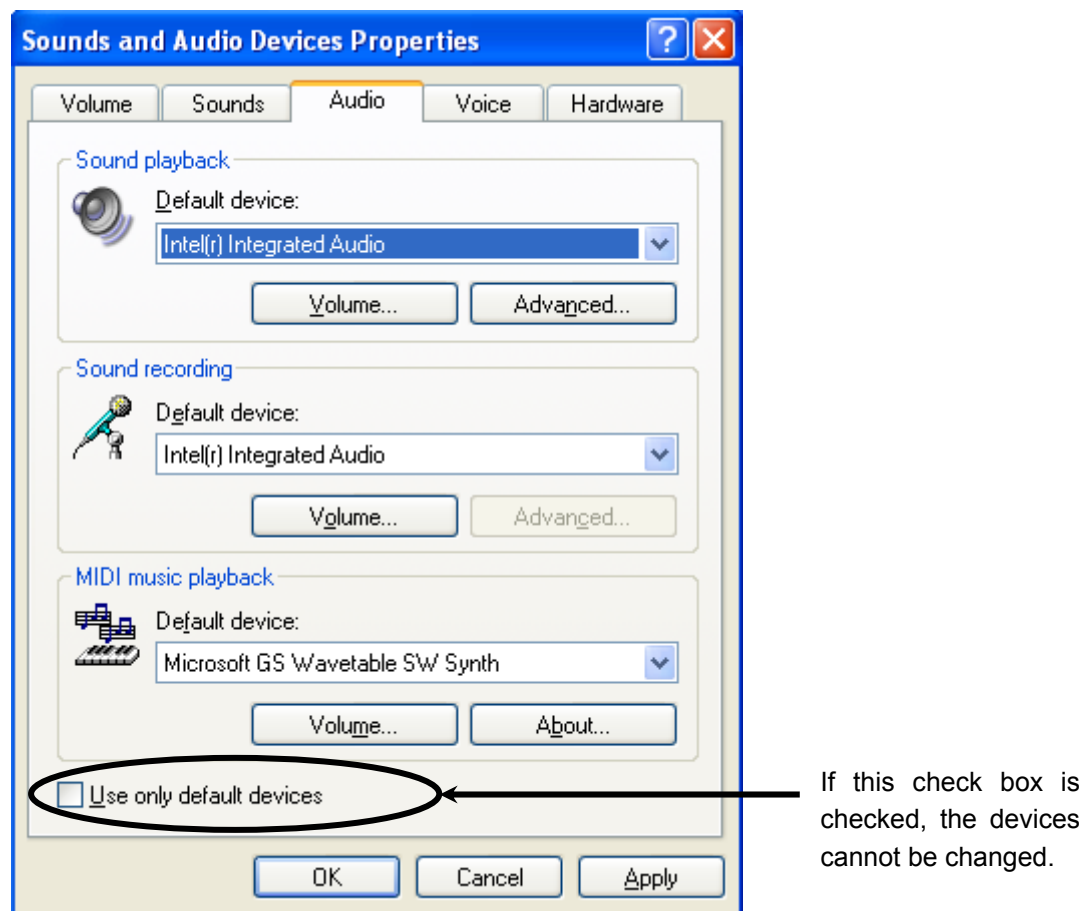
Step3. Click [OK].

(2) In the case of Windows XP

Step1. Connect the USB handset/headset. Then, select [Control Panel] -> [Sounds and Multimedia] from the [Start] menu to open the [Sounds and Audio Devices Properties] screen. Select the [Audio] tab to change the [Default device] fields in [Sound playback] and [Sound recording] to **other than** [Handset for VoIP] (when a handset is used) or [Plantronics Headset] (when a USB headset is used) (select the device name provided for your PC).



Step2. Check the [Use only default devices] checkbox.



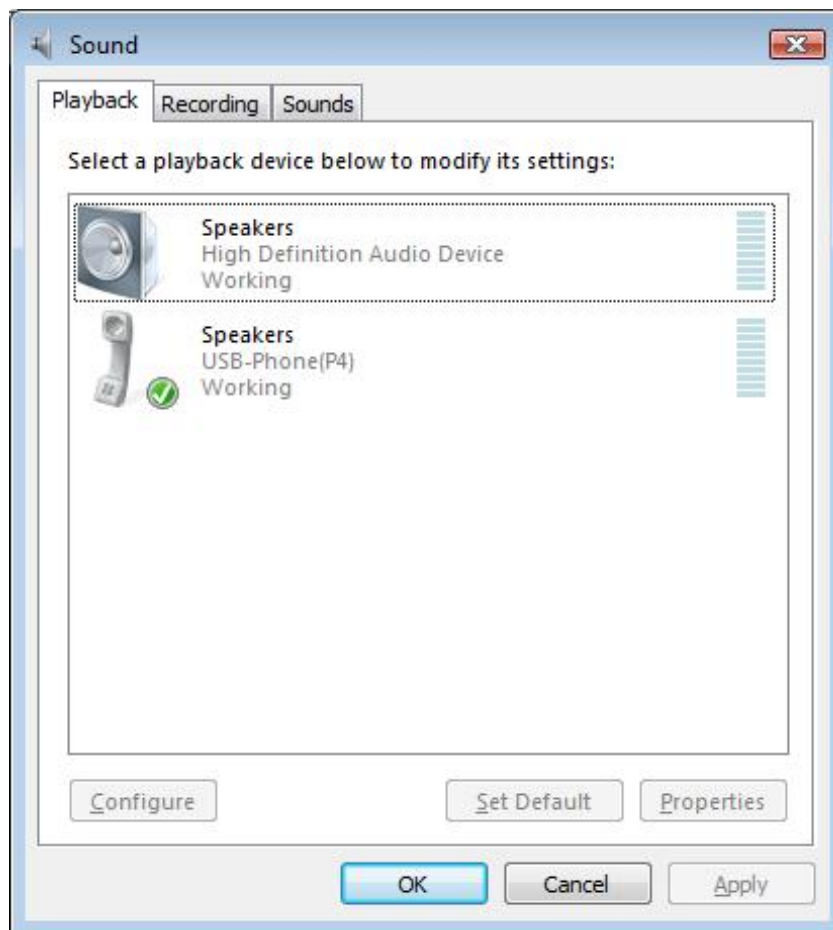
Step3. Click [OK].

(3) In the case of Windows Vista

- Setting speakers

Step1. Connect the USB handset/headset. Then, select [Control Panel] -> [Sound] from the [Start] menu to open the [Sound] screen and select the [Playback] tab.

Step2. Select the device name provided for your PC.



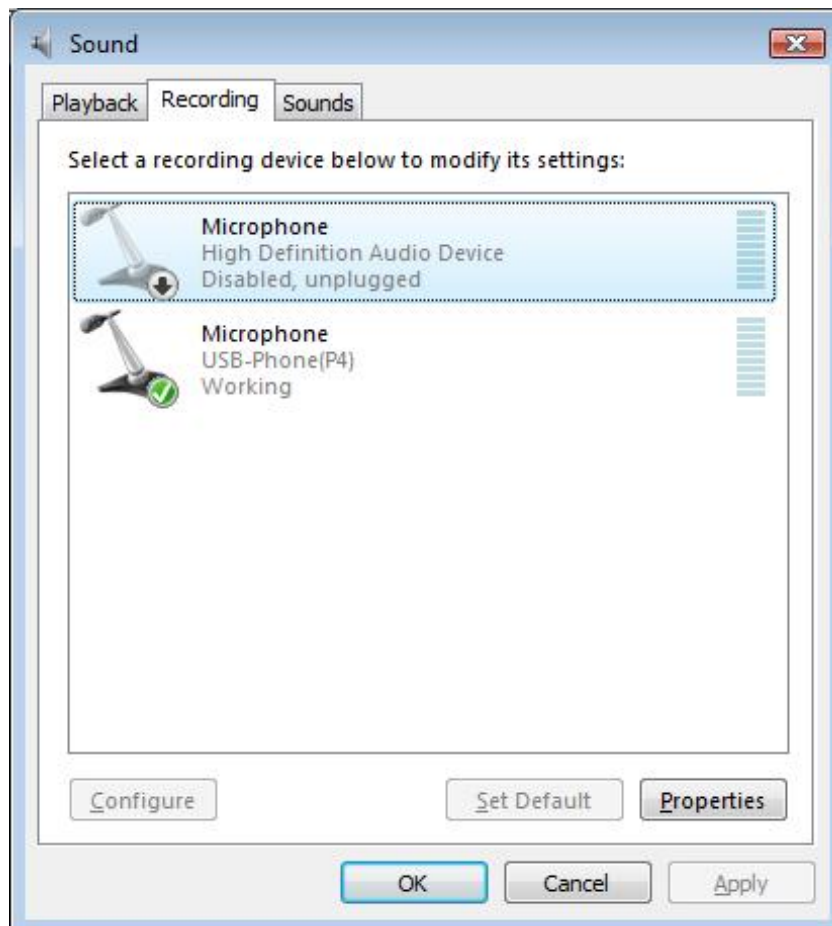
Step3. Click [Set Default].

Step4. Click [OK].

- Setting microphone

Step1. Connect the USB handset. Then, select [Control Panel] -> [Sound] from the [Start] menu to open the [Sound] screen and select the [Recording] tab.

Step2. Select the device name provided for your PC.



Step3. Click [Set Default].

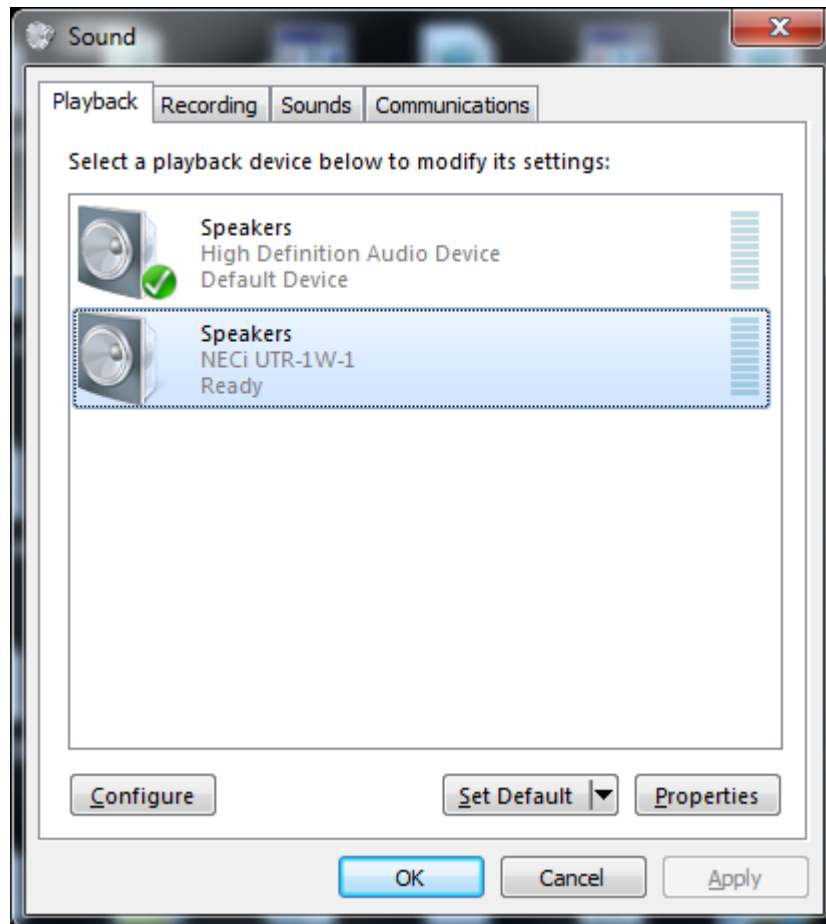
Step4. Click [OK].

(4) In the case of Windows 7

- Setting speakers

Step1. Connect the USB handset/headset. Then, select [Control Panel] -> [Sound] from the [Start] menu to open the [Sound] screen and select the [Playback] tab.

Step2. Select the device name provided for your PC.



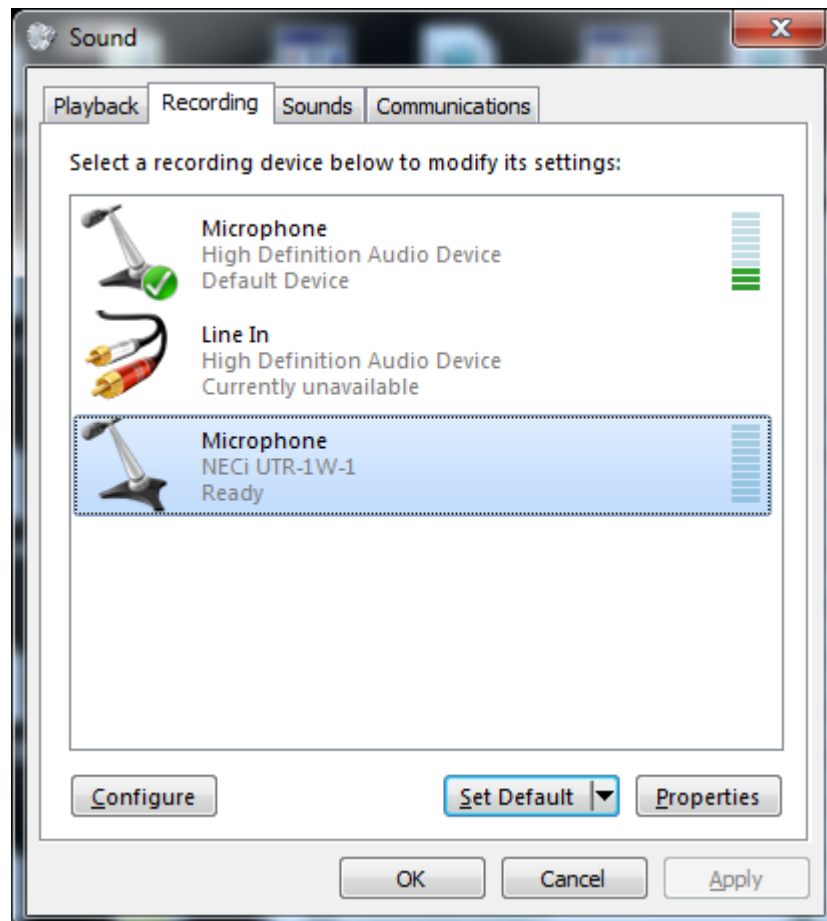
Step3. Click [Set Default].

Step4. Click [OK].

- Setting microphone

Step1. Connect the USB handset. Then, select [Control Panel] -> [Sound] from the [Start] menu to open the [Sound] screen and select the [Recording] tab.

Step2. Select the device name provided for your PC.



Step3. Click [Set Default].

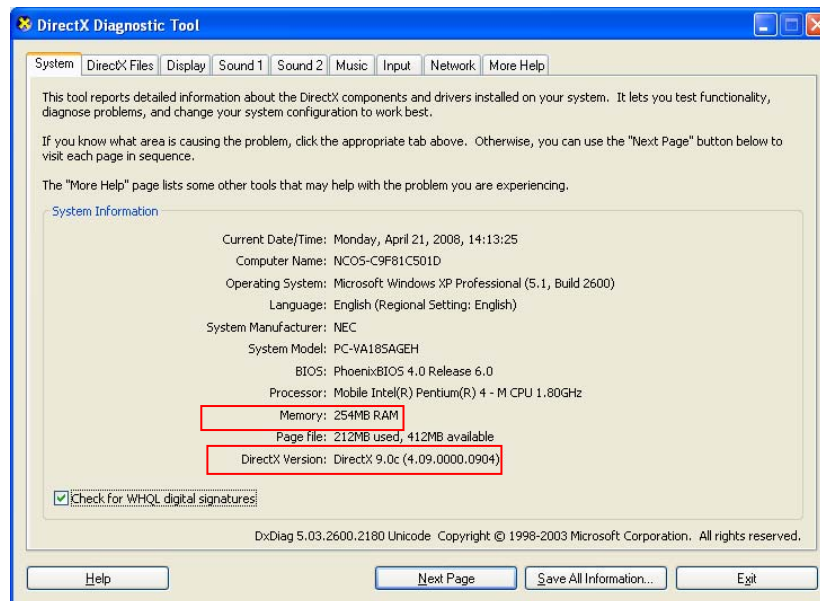
Step4. Click [OK].

2.6 About DirectX version

To use SP350, DirectX version 9.0c or later is required. If DirectX has not been installed or the installed version is earlier than 9.0c, a warning dialog appears at the SP350 start.

To check the DirectX version, perform the following procedure.

- Step1. Select [Run...] from the [Start] menu.
- Step2. Enter "dxdiag" and click [OK].
The [DirectX Diagnostic Tool] screen appears if installed.



Note: If the screen shown above does not appear, DirectX has not been installed.

- Step3. Check the version shown in the [DirectX Version] field on the [System] tab (boxed information on the screen).
This is the end of the procedure if the version is 9.0c or later.
Go to Step4 if the version is earlier than 9.0c.
- Step4. Install DirectX in either of the following ways.

- To install DirectX included in the SP350 installation CD-ROM:
Double-click "Microsoft/ENG/DirectX9.0c/dxsetup.exe" in the CD-ROM.
- To install by downloading the latest DirectX from Microsoft® web site:
Download the latest DirectX from the following URL to install.
<http://www.gamesforwindows.com/en-US/AboutGFW/Pages/DirectX10.aspx>

Note: The URL is subject to change without notice.

Chapter 3 Starting or Ending SP350

This chapter describes how to start or end SP350.

- Starting SP350
- Ending SP350
- How to confirm the version and the operation mode of SP350
- About Windows XP Service Pack 2 support
- About the firewall in Windows XP Service Pack 1 or earlier

3.1 Starting SP350

Start SP350 in any of the following ways.

- Select [Programs] -> [UNIVERGE Soft Client SP350] -> [SP350] from the [Start] menu of Windows.
- If [Create Shortcut to Desktop] is selected on the shortcut selection screen at the installation, the following shortcut icon is created. Double-click the shortcut icon.

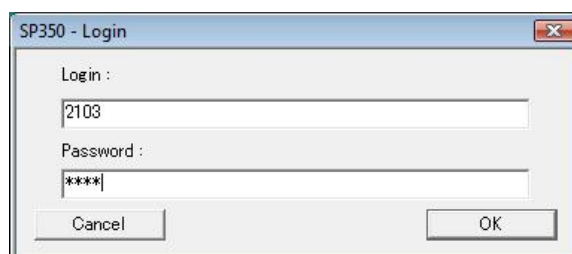


- If [Run SP350 on startup] is selected on the shortcut selection screen at the installation, the SP350 application starts when Microsoft Windows starts.

When SP350 starts, the following message is displayed until the application completes the connection to the IP telephony server. Wait until this message disappears.

**Now connecting
Please wait...**

The following [Login] screen appears. Enter the login name and the password and click [OK].

A screenshot of the 'SP350 - Login' dialog box. It has a title bar with 'SP350 - Login' and a close button. Inside, there are two input fields: 'Login :' with the value '2103' and 'Password :' with the value '****'. At the bottom, there are 'Cancel' and 'OK' buttons.

Field	Description
Login	Enter your station number.
Password	Enter your assigned PBX station password.

Note: When collaboration with another phone is used, the login name and the password are the station number (Myline) of SP350, not the station number of the terminal for collaboration. For details, contact the installation technician.

3.2 Ending SP350

End SP350 in any of the following ways.

- Right-click the icon on the task tray and select [Exit] from the pop-up menu.
- Right-click the icon on the taskbar and select [Close] from the pop-up menu.
- Click [x] on the upper right side of the SP350 screen.

When the above operation is performed, the exit confirmation dialog appears.

Click [OK] on the dialog to end SP350.

3.3 How to confirm the version and the operation mode of SP350

Follow the procedure below to confirm the version and the operation mode of SP350.

- Right-click the SP350 icon on the task tray and select [Version] while SP350 is in operation.



The [SP350 Version Information] screen appears.

- When the Communication Server is UNIVERGE SV8500 or UNIVERGE SV7000



X.X.X.X

X.X.X.X: Version number

- When the Communication Server is UNIVERGE SV8300



3.4 About Windows XP Service Pack 2 support

When Windows XP Service Pack 2 is applied, Softphone may not function normally due to the Windows firewall function which is newly provided. If any problem occurs which is considered to be caused by this function, unblock this function for Softphone in any of the following ways.

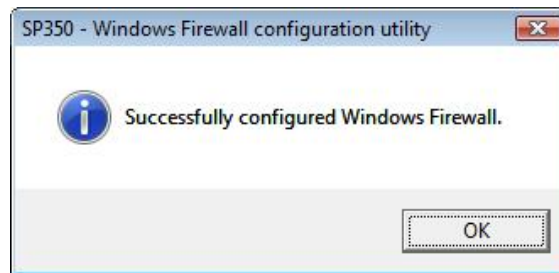
3.4.1 Execute the tool to disable the SP350 firewall

This tool can disable the firewall only for SP350 and the data conference application.

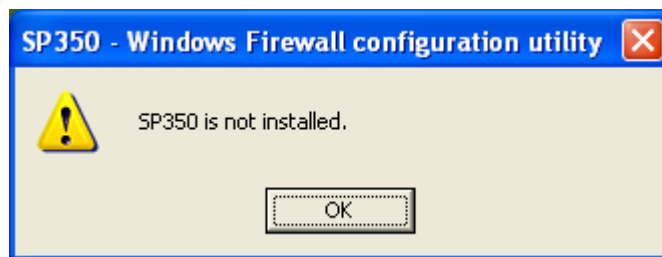
Step1. Execute "FWConfig.exe" in the SP350 installation folder.

Note: Be sure to execute it after ending SP350.

- When successfully completed:
The following dialog appears.



- When failed (Windows XP Service Pack 2 is not applied):
The following dialog appears.



3.4.2 Disable the firewall upon starting SP350 after Windows XP Service Pack 2 is applied

If Windows XP Service Pack 2 is applied after SP350 is installed, the Windows firewall displays the following setting confirmation screen when SP350 is started.



Click [Unblock] on this screen to disable the firewall. SP350 will function normally.

Similarly, when the data conference application is started, the Windows firewall displays the following setting confirmation screens.



Click [Unblock] on these screens to disable the firewall. The application collaboration will function normally.

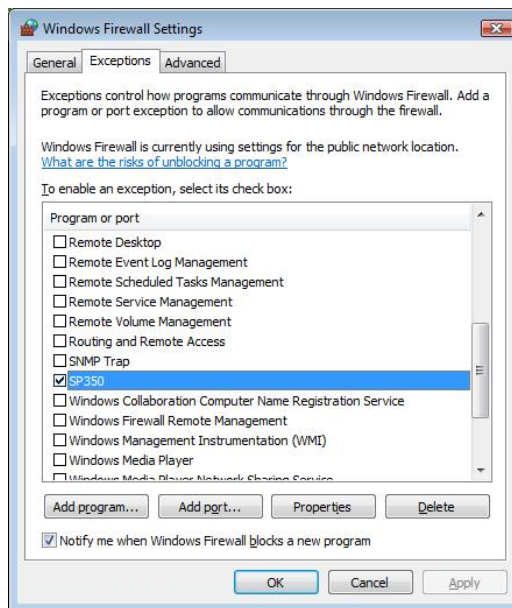
Note: If the [Keep blocking] is clicked, "3.4.1 SP350 Execute the tool to disable the SP350 firewall" or "3.4.3 Disable the firewall manually in advance" must be performed.

3.4.3 Disable the firewall manually in advance

When Windows XP Service Pack 2 is applied, [Windows Firewall] is added to the [Control Panel] screen. The SP350 firewall can be disabled using this.

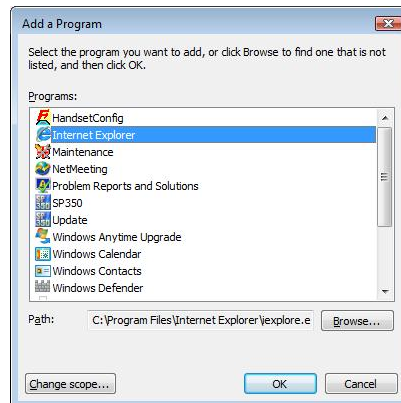
Step1. Select [Control Panel] -> [Security Center] -> [Windows Firewall] from the [Start] menu and click [Exceptions] tab.

The following screen appears.

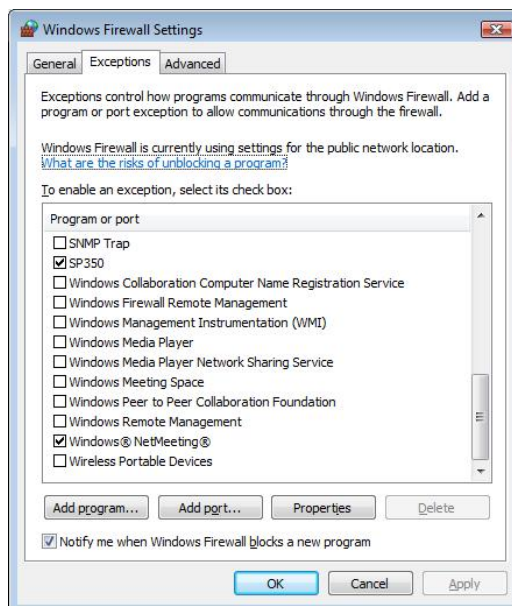


- Step2. Click [Add program] to add SP350 and the data conference application. Specify the executable file of SP350 (when installation destination is not changed, "C:\ProgramFiles\NEC\SP350\ClientPhone32.exe") in the [Path] field and click [OK] to add SP350. Similarly, specify "C:\Program Files\NEC\SP350\DataMeeting\DataMeeting.exe" and "C:\Program Files\NEC\SP350\DataMeeting\RtcSvGm.exe" to add the data conference application.

Note: The above description assumes that the installation destination of Windows is Drive C.



- Step3. Confirm that "SP350", "DateMeeting.exe", and "RtcSvGm.exe" are displayed in the list of programs and services in the [Exceptions] tab. The screen display changes as follows.



- Step4. Click [OK].
The firewall is disabled.

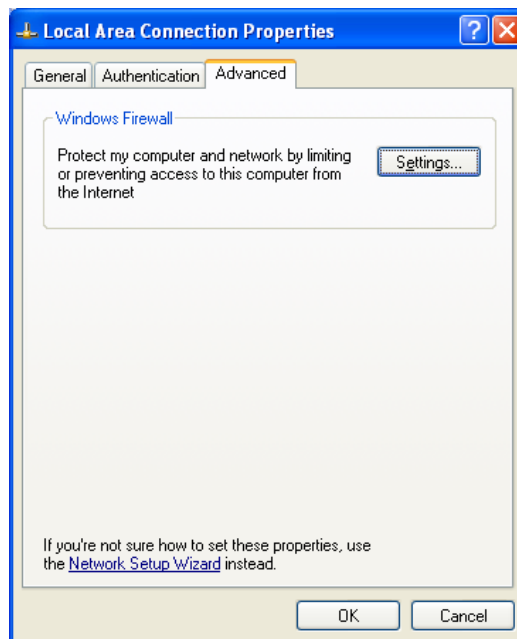
3.5 About the firewall in Windows XP Service Pack 1 or earlier

If the Windows firewall (Internet connection firewall) function is enable in Windows XP Service Pack 1 or earlier, Softphone may not function normally. If any problem occurs which is considered to be caused by this function, disable the firewall in the following way.

Note: Be sure to contact the network administrator before the firewall is disabled.

3.5.1 Disable the Internet connection firewall

- Step1. Select [Control Panel] -> [Network and Internet Connections] -> [Network Connections] from the [Start] menu.
- Step2. Right-click the network to be used, select [Properties], and click [Advanced] tab.
The following screen appears.



- Step3. Uncheck the [Protect my computer and network by limiting or preventing access to this computer from the Internet] checkbox.
- Step4. Click [OK].
The Internet connection firewall function is disabled.

Chapter 4 Configuring Directory Search Service in Information Search

This section describes the following items that are required for the directory search service in information search.

- Configuration of directory service in maintenance settings
- Directory search rule file
- Phone number normalization rule file
- Phonebook setup by user definition

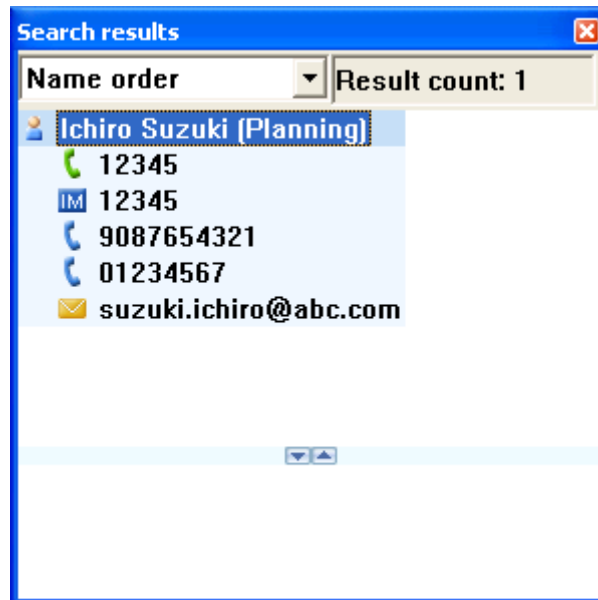
To understand the contents described in this section requires the basic knowledge of LDAP, regular expression library and phone number planning.

- Overview of service
- Flow of configuration
- Contents of maintenance settings and user definitions
- About the description format of the directory search rule file
- About the description format of the phone number normalization rule file

4.1 Outline of service

The directory service in information search provides the following function.

- The user enters a search character string (name, etc.) in the information search box and performs “Directory Search.” This searches the contact information of the counterpart from the directory and displays the search result.



4.2 Configuration Flow

When using this service, the following four items are required.

- Installation of the directory search rule file (LDAPSearchRule.txt)
- Installation of the phone number normalization rule file (NumNormRule.txt) (optional)
- Directory service configuration of maintenance settings
- User-defined phone number configuration

4.2.1 Installation of the Directory Search Rule File and the Phone Number Normalization Rule File

Install the directory search rule file (LDAPSearchRule.txt) and the phone number normalization rule file (NumNormRule.txt) in the installation directory of SP350.

There are the following two types of installation methods.

- Method by automating the installation file (refer to 1.5.3)
- Method by manually copying the installation file

4.2.1.1 Method by Automating the Installation Files

With the method by automating the installation file, a setup file packaged with a configuration file is created using the method in accordance with 1.5.3, “Automatic environment and data conference settings using installation file.” However, the IExpress.exe used as described in 1.5.3 has insufficient functions, it is necessary to use a different tool.

Here, we will introduce a method that uses free software 7-zip. The following explains the procedure using 7-zip version 4.65. The screens and display text may be different depending on the version of 7-zip and how it is obtained. Other tools can also be used as long as they satisfy the procedure of automation described later.

Note: In order to use free software including 7-zip, the customer has the responsibility for strictly following the licensing conditions of the corresponding software. NEC shall not be responsible for any damage the customer may incur as a result of using the corresponding free software. Also, NEC does not approve the distribution of SP350 software to the third party by the customer. Please be aware that this is also applicable when SP350 software is embedded into an installer created by using free software such as 7-zip.

The customer shall be responsible for damage NEC may incur when the customer distributes SP350 software to the third party.

4.2.1.2 Procedure of Automation

Similar to 1.5.3, “Automatic environment and data conference settings using installation file,” create a self-extract setup file to which LDAPSearchRule.txt and NumNormRule.txt have been added, in addition to SP350AutoConf.ini described in 1.5.3, to the installer file group before compression.

At that time, store LDAPSearchRule.txt and NumNormRule.txt in a folder named “Enhance” and execute Setup.exe by specifying the “/Enhance” option. When this option is specified, the SP350 installer copies the files under the Enhance folder to the SP installation folder by overwriting at the end of installation.

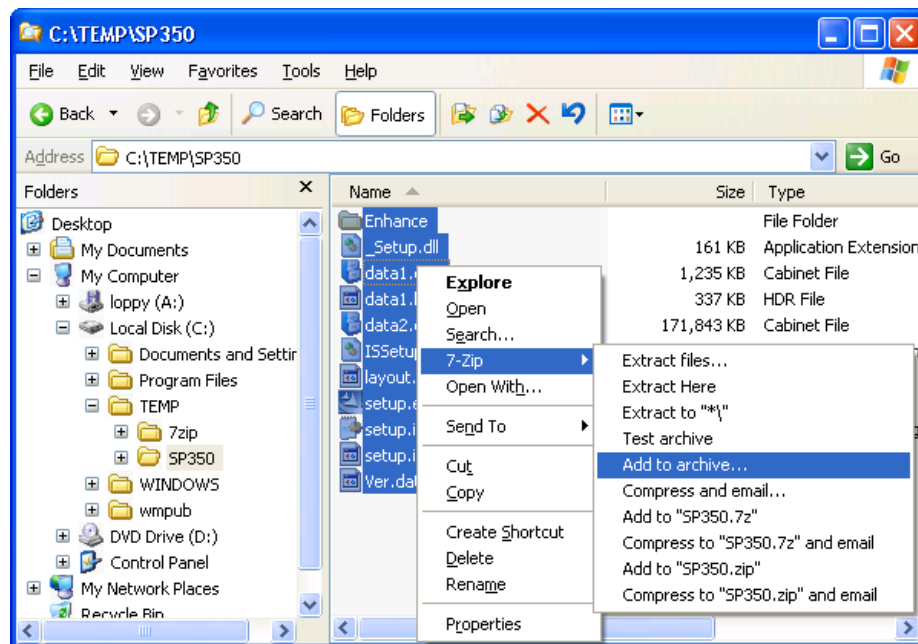
Step 1: Install 7-zip software. Download 7-zip from the URL <http://www.7-zip.org/>. Also, download a self-extract installer creation kit called 7z_extra.

Step 2: Prepare the setup file of SP350. Prepare the group of setup files provided on the installation media, create LDAPSearchRule.txt and NumNormRule.txt, as well as SP350AutoConf.ini if necessary, and prepare the files in the following folder structure.

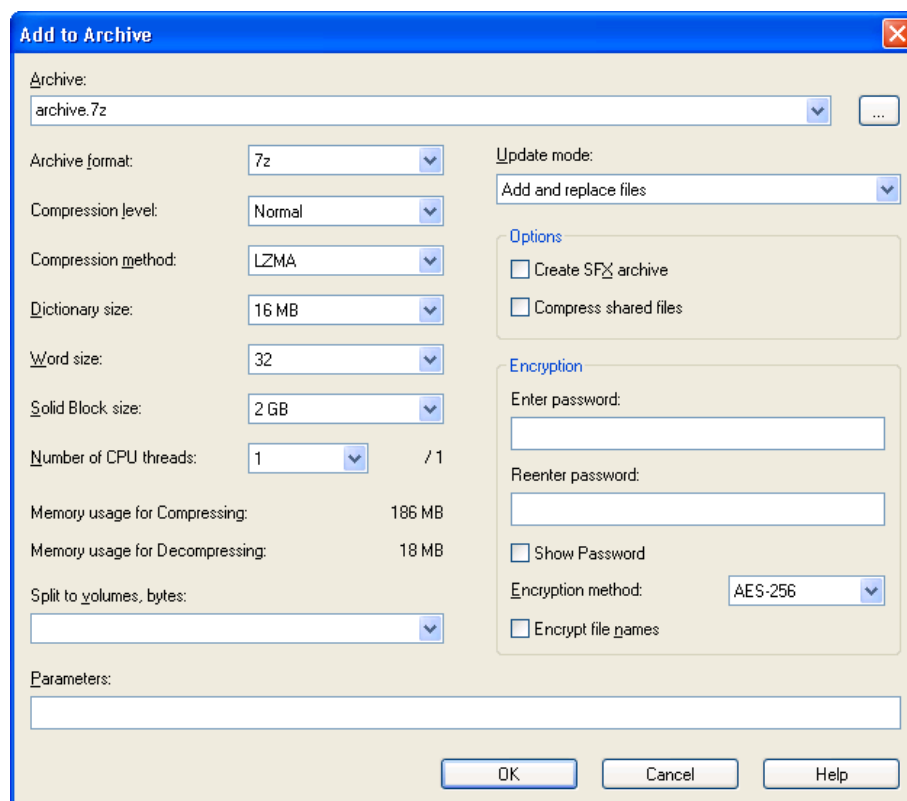
```
Enhance¥LDAPSearchRule.txt
Enhance¥NumNormRule.txt      (option)
SP350AutoConf.ini            (option)
_Setup.dll
data1.cab
data1.hdr
data2.cab
install_flash_player_10_active_x.exe
ISSetup.dll
layout.bin
setup.exe
setup.ini
setup.inx
Ver.dat
```

Note: Please be aware that LDAPSearchRule.txt and NumNormRule.txt must be created under the Enhance folder, and SP350AutoConf.ini in the same folder as the setup file group.

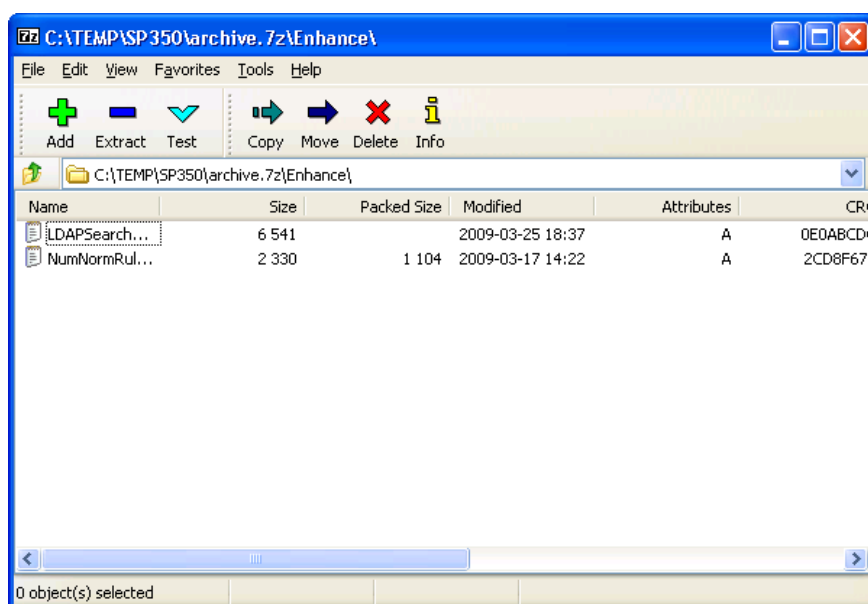
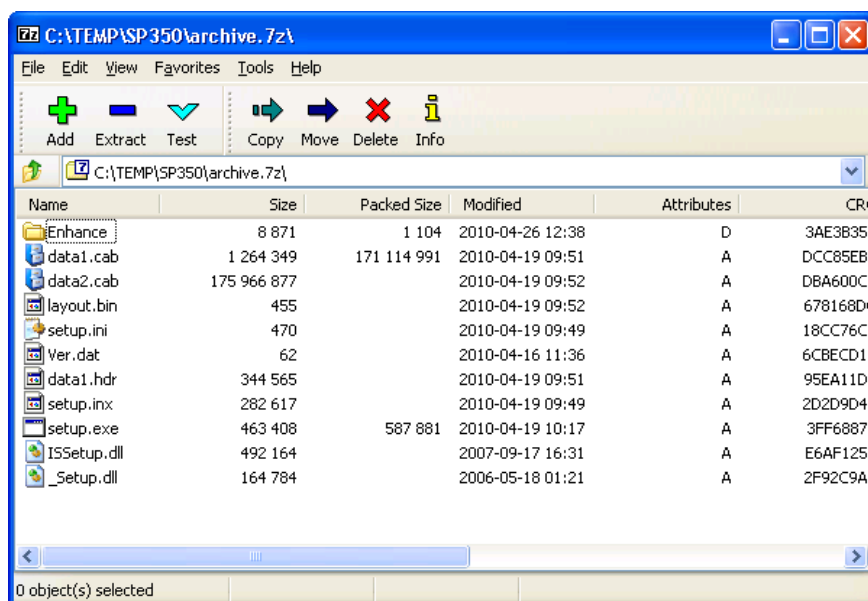
Step 3: Compress the setup files. Using 7-zip software, compress the above files into one file.



Note: Name the compressed file “archive.7z.” When compressing, select “7z” for “Archive format.” Select “Normal” for “Compression Level,” and “LZMA” for “Compression Method.” Also, do not make the file a self-extract file at this point.



Note: Open the compressed file you created in 7-zip, and verify whether or not the extracted files are stored as shown in Step2 in 4.2.1.2.
Make sure that an unnecessary folder has not been created above Setup.exe.



Step 4: Create the configuration file of the self-extract installer, and save it by naming “config.txt.”
The configuration file is as shown below.

```
;!@Install@!UTF-8!  
Title="SP350"  
BeginPrompt=" "Install SP350?"  
RunProgram="setup.exe /Enhance"  
;!@InstallEnd@!
```

Note: Title and BeginPrompt set the title and message content of the confirmation dialog box respectively when starting the self-extract installer. Specify contents suitable for usage. Note that they must be enclosed with double quotation marks (“ ”). Do not change the content of the RunProgram line.
Create the configuration file using Notepad.exe, and save it in UTF-8 format.

Step 5: Create a self-extract installer.

Prepare the 7zSD.sfx file contained in 7z_extra, archive.7z created in Step 3, and config.txt created in Step 4, and place them in the same directory.
Open a command prompt, move these three files into the folder you prepared, and then execute the following command.

```
C:¥folder> copy /b 7zSD.sfx+config.txt+archive.7z Setup.exe
```

This creates the setup file Setup.exe packaged with environmental setting.

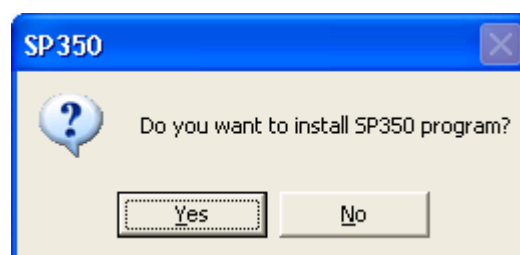
Step 6: Start the self-extract installer you created, and perform the following installation tests.

1. When Setup.exe is started, will the extraction of the compressed file be started and will SP350 Setup start?

If SP350 Setup does not start in 1, the following reasons may be considered; it has been forgotten to specify the “/b” option in the copy command in Step 5, the files prepared in Step 2 were wrong, or compressed files were stored in an unnecessary folder in Step 3, for instance.

2. When Setup.exe is executed, will a confirmation dialog box having the content you set be displayed?

If a dialog box does not appear in 2, config.txt created in Step 4 may be incorrect. Check to see if it has been saved in UTF-8 and there is no misspelling including the ;!@Install@!UTF-8! Line.



3. After installation, will LDAPSearchRule.txt and NumNormRule.txt be installed in the SP350 installation folder?

If files have not been copied in 3, there may be a possibility that Enhance\LDAPSearchRule.txt and Enhance\NumNormRule.txt were not added in Steps 2 and 3, or the RunProgram line is not as shown in Step 3 in 4.2.1.2.

4. If the Preferences SP350AutoConf.ini is also packaged, has its content been set?

If “4. Preferences” are not automatically set up, there may be a possibility that SP350AutoConf.ini was not added in Steps 2 and 3, or SP350AutoConf.ini has not been correctly created.

4.2.1.3 Method by Manually Copying Files

If you are copying files manually, copy the files into the installation directory of SP350 (the directory containing ClientPhone32.exe; if the installation destination has not been changed, “C:\Program Files\NEC\SP350”).

When copying, make sure that the user who will actually use SP350 can load these files. If the files are copied onto the desktop first, file security to allow only the person who has copied the files to load the files may be applied.

4.2.1.4 About Update

If there is no change in the contents of LDAPSearchRule.txt and NumNormRule.txt, the succeeding SP350 update can be performed by using Standard Setup provided with the installation media.

If the update of LDAPSearchRule.txt and NumNormRule.txt is also necessary, use the “Method by automating the installation files” or the “Method by manually copying files.”

4.2.2 Directory Service Configuration of Maintenance Settings

It is necessary to check [Allow Directory search in Search Window] in [Network settings – Directory Service] under Maintenance Settings, and set [Search Place], [Encrypted connection], [Attributes of Telephone] and [Attributes Setting] (the SIP address is required for MOC version only) under Directory Server Settings.

[Search Filter] is not used in this service. (The search condition is used for search from the caller's number.)

The default setting values are the standard setting values for coordinating with the Active Directory server of MS. It is necessary to change the setting values if the attribute name for storing the name has been customized, for example.

The screenshot displays the 'Directory Service Configuration' window. It features several sections with red rectangular highlights around specific elements:

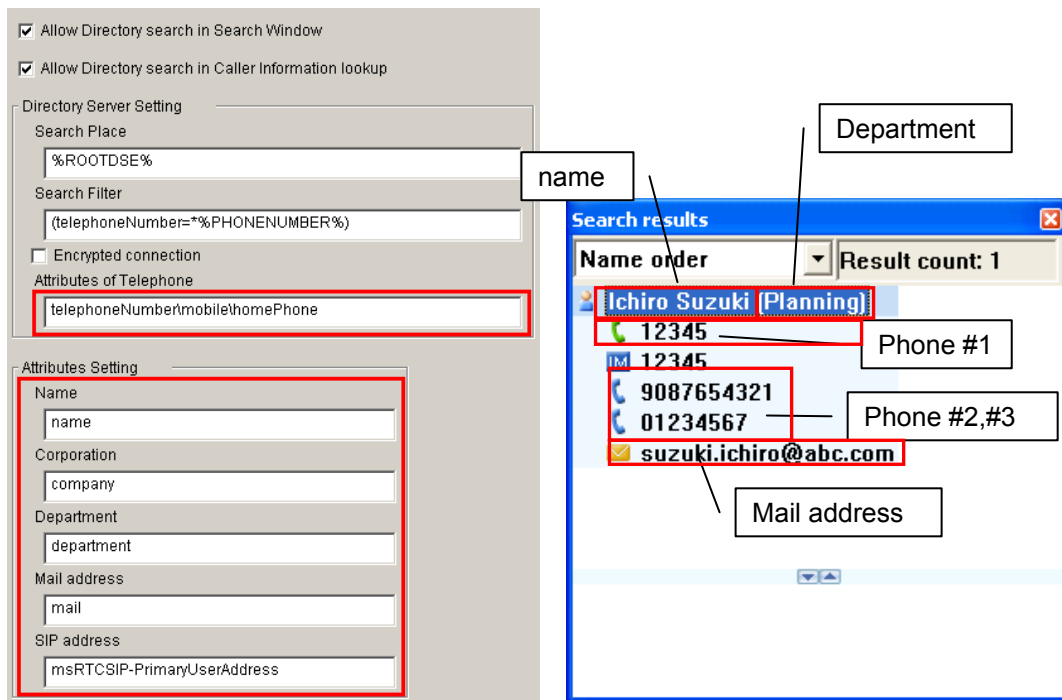
- Top Section:** Two checked checkboxes: 'Allow Directory search in Search Window' and 'Allow Directory search in Caller Information lookup'.
- Directory Server Setting Section:**
 - Search Place:** A text box containing '%ROOTDSE%'.
 - Search Filter:** A text box containing '(telephoneNumber=**%PHONENUMBER%)'.
 - Encrypted connection:** An unchecked checkbox.
 - Attributes of Telephone:** A text box containing 'telephoneNumber;mobile;homePhone'.
- Attributes Setting Section:** A group box containing several text boxes:
 - Name:** 'name'
 - Corporation:** 'company'
 - Department:** 'department'
 - Mail address:** 'mail'
 - SIP address:** 'msRTCSIP-PrimaryUserAddress'

4.2.2.1 Correspondence of LDAP Attribute Values in Maintenance Settings

The attribute names set in Maintenance Settings are used as search results with the correspondence shown in the figure below.

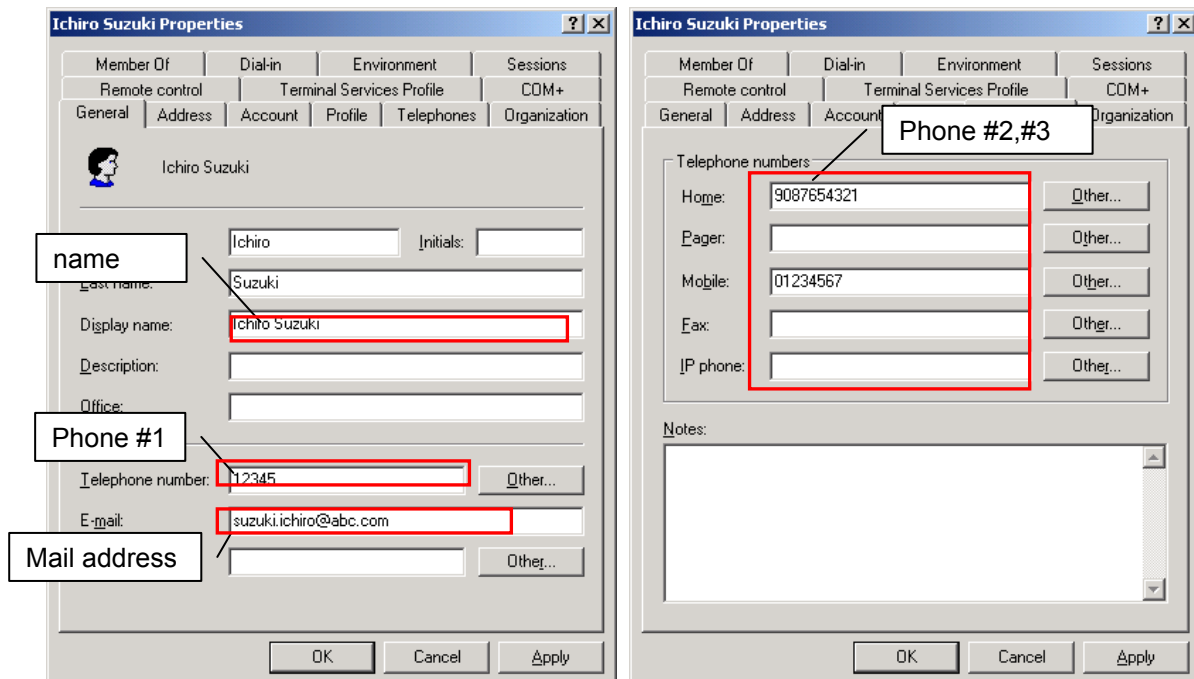
Note that, for IM, the phone number (head) is used for regular version, and the SIP address is used for MOC version.

The regular version does not have the input box for the SIP address,



(*) The phone number for regular version, the SIP address for MOC version

The standard settings assume the use of MS ActiveDirectory, and each item corresponds to the following properties that can be checked with [ActiveDirectory User and Computer] management snap-in. Because which attribute names are being used for operation differ depending on the environment, determine the attribute names to be set upon adjusting with the LDAP server operation administrator.



Ichiro Suzuki Properties

Member Of: Remote control, Dial-in, Environment, Sessions, Terminal Services Profile, COM+

General | Address | Account | Profile | Telephones | Organization

Title:

Department: **Department**

Company: **Company**

Manager Name:

Change... Properties Clear

Direct reports:

OK Cancel Apply

4.2.3 Phonebook Settings in User Configurations

Open the [User Configurations] screen and check [Use directory search] in [Phonebook].

If the LDAP server to be used requires login, also check [You are required to set login ID and password for using MOC cooperation]; the settings of the user name and password are required. Regarding whether or not the LDAP server requires login, please check with the LDAP server operation administrator.

The user name and password must be set by the end user, because of their characteristics; they cannot be set on the maintenance side in advance. Upon examining the advantages and disadvantages in operation, regarding whether to require login, or whether to permit access using an alias and existing user names, please consult with the LDAP server operation administrator.

☒ Use Directory search.

☐ You are required to set login ID and password for using MOC cooperation.

LoginID

Password

4.3 Directory Search Rule File

4.3.1 Overview

Place the directory search rule configuration file with the file name of "LDAPSearchRule.txt." In this configuration file, describe the rule for generating LDAP search filters required to search directories. In creating a configuration file, knowledge on regular expression (PCRE compliant) for describing LDAP search filters and patterns is required.

The sample configuration file for ActiveDirectory is found in \ConfigSample\DirectorySearch\EN on the CD-ROM.

Note: In creating a directory search rule, adjust with the directory server operation administrator. If an inappropriate LDAP search filter is generated, there is a possibility that it may give excessive load to the server.

In most cases, it is necessary to request the server administrator to create a full text search index for attributes that will be search targets, due to performance issue.

In this configuration file, it is possible to create a search rule totally different from the search rule provided as standard for MS ActiveDirectory. However, because the manual has been created with the assumption that it will be provided as standard, please give consideration not to adversely affect the user's convenience.

This file must be created in UTF-8.

4.3.2 Content of a Directory Search Rule

The following items are set in the configuration file.

Set the following items in the configuration file.

- ☐ CheckBox1 LDAP attribute name to be acquired and other environments
The LDAP attribute name to be acquired as a search result can be set as system variable definition. All LDAP attributes including [Name], [Phone number] and [Mail] can be specified in the configuration file.
Basically, they can be set in Maintenance Settings; however, the settings are given precedence over those in Maintenance Settings in this configuration file.
- Search filter generation rule
Describe the rule as to what kind of LDAP search filter will be generated for the search key entered by the user. It consists of a pattern recognition line entered by the user and the corresponding filter generation pattern.

An example of description is as follows.

```
$commonfilter (objectClass=user)
^sip:
(msRTCSIP-PrimaryUserAddress=sip:$f<)
```

If the user enters "sip:suzuki@x" under this rule, the following will be generated as an LDAP filter.

```
(&(objectClass=user) (msRTCSIP-PrimaryUserAddress=sip:suzuki@x*))
```

4.3.3 Basic Structure of the Configuration File

```
; Comment
```

Lines and blank lines starting with ; are ignored as comments.

```
$sip msRTCSIP-PrimaryUserAddress
```

A line starting with \$ is a substitute into a system variable. Delimit variable names and setting values with a space or tab.

If no setting value is placed after a variable name, that system variable will be set as a null character string.

```
^sip:  
(msRTCSIP-PrimaryUserAddress=sip:$f<)
```

The line that starts excluding ";", "\$", "Space", and the "tab" becomes a line for which the input pattern recognition is specified by the regular expression.

Lines starting with other than ;, \$, ' ' or tab are lines that specify input pattern recognition in regular expression. SP350 performs pattern matching in regular expression sequentially from the beginning of the file for user entry, and substitutes the specified replacement character string after a matched pattern.

Lines starting with ' ' or tab are replacement character strings. Multiple input pattern recognitions can be specified for one replacement character string.

SP350 combines replacement character strings generated from the above pattern recognition of the configuration file with AND condition, and ultimately generates an LDAP filter of (& \$commonfilter {replacement character string 1} {replacement character string 2}...).

4.3.4 System variables

\$debug	When 1 is set, log output is placed in debug mode.
\$ldapserver	Specify the address of the directory server. If not specified, it will follow Maintenance Settings.
\$commonfilter	Specify the search condition always contained in an LDAP search filter. If not specified, (objectClass=user)(objectCategory=person) will be set. If a null character string is set, the common search condition will not be included in an LDAP filter to be generated.
\$name	Specify the attribute name corresponding to "Name" to be acquired during directory search. If not specified, it will follow Maintenance Settings. The default in Maintenance Settings is "name." If a null character string is set, "name" will not be acquired.

\$company	"Company name"	The default in Maintenance Settings is "company"
\$department	"Department name"	The default in Maintenance Settings is "department"
\$phone	"Phone number 1"	The default in Maintenance Settings is "telephoneNumber"
\$phone2	"Phone number 2"	The default in Maintenance Settings is "mobile"
\$phone3	"Phone number 3"	The default in Maintenance Settings is "homePhone"
\$phone4	"Phone number 4"	The default in Maintenance Settings is "null"
\$mail	"Mail"	The default in Maintenance Settings is "mail"
\$mail2	"Mail"	The default in Maintenance Settings is "null"
\$mail3	"Mail"	The default in Maintenance Settings is "null"
\$mail4	"Mail"	The default in Maintenance Settings is "null"
\$sip	"SIP address"	The default in Maintenance Settings is "mSRTC SIP-PrimaryUserAddress"

Similar to \$name, the above specifies each of attribute names.

Note that these settings take precedence over Maintenance Settings.

Please be aware that misspelled system variables will not generate errors.

System variables cannot be referenced by pattern recognition or within a replacement character string.

4.3.5 Pattern recognition

A character string entered by the user is disassembled into multiple words with ' ', and pattern is recognized for each word.

Example: Suzuki Ichiro → "Suzuki" + "Ichiro"

Describe pattern recognition in regular expression (PCRE compliant). An explanation of regular expression is omitted in this manual.

As a special description, there is a line containing only "**"; this is handled that all input matches (same as ". *").

4.3.6 Replacement Character String

A replacement character string performs variable replacement starting with \$, which is then expanded into an LDAP search filter. The following variables can be used from matching results in regular expression.

(1) Usable Variables

\$@	Exactly replaced with a word entered.
\$0	Matched part (all): Replaced with the matched whole in regular expression.
\$1...\${32}	Correspond to the capture in regular expression. Up to 32 can be used. If the number part consists of 2 digits (10 or larger), enclose it with { } such as {10}. { } is not required for a single digit.
\$<	Replace with the character string following the matched part (all). Example: When "sip:suzuki@x" is given to "^sip:," \$0="sip:" \$<="suzuki@x."

(2) LDAP filter escape rule prefix.

The following prefixes can be added to replacement variables.

LDAP filter escape rule prefixes

- | | |
|---|--------------------------------------|
| r | Does not perform LDAP filter escape. |
| t | Performs escape for ¥() (default). |
| n | Performs escape for ¥*(). |

Example: For entry “(\01*)”

\$r0 -> (\01*)

\$t0 -> \28\5c01*\29

\$n0 -> \28\5c01\2a\29

(3) Default Part Matching Rule Specification Prefixes

When '*' is not included in the original character string, specify whether or not to add '*' to before and after the character string.

Nothing will be done if '*' has been included in \$?. Also, decision on adding * will be made after escape processing.

This is the rule for expanding words entered by the user into partial matching by default.

- | | |
|---|---|
| f | {character string}* forward matching specification |
| b | *{character string} backward matching specification |
| e | {character string} not added (default) |
| s | *{character string}* partial matching |

Example: For entry “suzuki”

\$0 -> Suzuki

\$e0 -> Suzuki

\$f0 -> Suzuki*

\$b0 -> * Suzuki

\$s0 -> * Suzuki*

On the other hand, for “Suzuki*” which contains *, “Suzuki*” will be returned as is regardless of prefix. Because the presence of * is determined after escape processing, If there is an n prefix, it will be processing for “Suzuki\2a”; * will be added according to the above rule, resulting in “Suzuki\2a*” for example.

(4) Special character strings

- | | |
|------|---|
| \$\$ | Replaced with '\$.' |
| %? | Handled as \$n? (%0 -> \$n0).
It is considered to be used in phone numbers |
| %% | Replaced with '%.' |

(5) Special Options of Replacement Character Strings

If a replacement character string starts with ':', it is regarded as option specification until there is a space.

Example: :n (title=\$@)

The following options are defined.

:e Generates an error without generating a replacement character string for a matched character string in pattern recognition. At this time, Softphone does not perform directory search.

The :e option is intended to reject vague search conditions such as (name=*a*).

:n Disables individual specification for a generated replacement character string. If an LDAP filter consisting of only a replacement character string in which :n is specified is generated, Softphone rejects LDAP search.

The :n option is intended to reject individually inappropriate search conditions such as (!(name=Suzuki)).

:a Enables individual specification for a generated replacement character string. Differently from :n, search is enabled if there are two or more replacement character strings with :a attribute.

The :a option is the same as the :n option, but is a less severe rejection condition.

Be sure to set a rule that matches with all ("") and replacement character strings at the end of a file.

If an entry does not match with any rule, that entry will be discarded.

4.3.7 About Debugging of the Configuration File

The configuration file can be updated anytime during the execution of Softphone. When Softphone detects that the timestamp of the configuration file has been updated, the configuration file is reloaded at the next LDAP search.

Loading errors of generated LDAP search files and the configuration file are saved in the UILog0.log located in the log directory of Softphone with "{time} [LDAPSEARCH]" added.

Try searching and check whether or not an intended LDAP search filter can be generated.

Example:

```
01/22 18:14:37:369 [LDAPSEARCH] input=Ichiro Suzuki suzuki@x generated
filter=(&(objectClass=user)(|(sn=Ichiro*)(givenName=Ichiro*))(|(sn=Suzuki*)(givenName=
Suzuki*)))(mail=suzuki@x*))
```

4.4 Phone Number Normalization Rule Configuration File

4.4.1 Overview

Place the configuration file of the rule that normalizes phone numbers acquired as a result of directory search with the name "NumNormRule.txt" in the installation directory of SP350. Phone numbers registered in the directory server are often incomplete numbers that cannot be originated as they are. Phone number normalization performs processing that make these incomplete phone numbers usable for call origination by adding appropriate modifications.

Because this configuration file describes the rule for normalizing incomplete phone numbers (such as extension numbers only), detailed knowledge on phone number planning and regular expression (PCRE compliant) for pattern description is required for configuration.

Note that this configuration file is optional; so it is not necessary to install it if phone number normalization is not required.

A sample configuration file that does not have specific functions is found in \ConfigSample\DirectorySearch\EN of CD-ROM.

Note: When creating phone number normalization rule configuration, please make adjustments between the person in charge of directory server operation and the person in charge of phone system operation. It is necessary to check phone number planning and in what rule phone numbers are registered in the directory. If an inappropriate rule is created, calls may be originated to unintended phone numbers by the end user. It is necessary to save this file in UTF-8.

4.4.2 Content of the Configuration File

The phone number normalization rule is applied to the following items acquired from the LDAP server.

- Phone number 1, Phone number 2, Phone number 3, Phone number 4

In the configuration file, configure the following item.

- Rule for normalizing phone numbers acquired from the LDAP server

An example of description is as follows.

```
; Rule for a 2-digit area code
^(0[0-9])-\?(?([0-9]{4}))\?-\?([0-9]{4})
0-$1-$2-$3
```

This rule normalizes 03-(1234)-4567 to 0-03-1234-4567.

4.4.3 Basic Structure of the Configuration File

The basic syntax is the same as the directory search rule file.

```
; comment
```

Lines and blank lines starting with ; are ignored as comments.

```
$debug 1
```

A line starting with \$ is a substitute into a system variable. Delimit variable names and setting values with a space or tab.

If no setting value is placed after a variable name, that system variable will be set as a null character string.

```
^(0[0-9])~?¥(?([0-9]{4})¥)?~?([0-9]{4})  
0-$1-$2-$3
```

Lines starting with other than ;, \$, ' ' or tab are lines that specify input pattern recognition in regular expression. SP350 performs pattern matching in regular expression sequentially from the beginning of the file for user entry, and substitutes the specified replacement character string after a matched pattern.

Lines starting with ' ' or tab are replacement character strings. Multiple input pattern recognitions can be specified for one replacement character string.

4.4.4 System Variables

\$debug When 1 is set, log output is placed in debug mode.

4.4.5 Pattern Recognition

Describe the pattern recognition rule in regular expression (PCRE compliant) for phone numbers acquired in directory search. An explanation of regular expression is omitted in this manual. Because double byte characters in entered phone numbers are converted into single byte characters in advance, it is not necessary to handle double byte characters.

As a special description, there is a line containing only "*"; this is handled that all input matches (same as ".*").

4.4.6 Replacement Character String

A replacement character string performs variable replacement starting with \$ and is then expanded. The following variables can be used from matching results in regular expression. Similar to the directory search rule, each variable accepts a prefix. However, do not use prefixes because they are not useful in phone number normalization.

(1) Usable Variables

\$@	Exactly replaced with a word entered.
\$0	Matched part (all): Replaced with the matched whole in regular expression.
\$1...\${32}	Correspond to the capture in regular expression. Up to 32 can be used.
	If the number part consists of 2 digits (10 or larger), enclose it with { } such as {10}. { } is not required for a single digit.
\$<	Replace with the character string following the matched part (all). Example: If "03-1234-5678 ext:1234" is given to "[0-9()-]+," "\$0="03-1234-5678" "\$<="ext:1234" are set.

(2) Special Character Strings

\$\$	Replaced with '\$.'
%?	Do not use this because the escape rule will be applied, as shown in the LDAP search configuration file. This has no effective use for phone number normalization.
%%	Replaced with '%.'
If an entered phone number does not match with any of the recognition patterns, SP350 does not perform phone number normalization and displays the numbers as they are.	

4.4.7 About Debugging of the Configuration File

The configuration file can be updated anytime during the execution of Softphone. When Sofiphone detects that the timestamp of the configuration file has been updated, the configuration file is reloaded at the next LDAP search.

Loading errors of the configuration file are saved in the UILog0.log located in the log directory of Softphone with "{time} [NUMNORMRULE]" added.

Appendix Procedure for Hiding the NEC Logos on the Panels

The procedure for hiding the NEC logos on the SP350 panels is described.

1. Overview

It is possible to hide the NEC logos on the standard panel and the toolbar panel.

2. Setup Procedure

If SP350 is running, quit SP350 first, and then perform the following procedure.

- (1) In Explorer, open the following folder at the SP350 installation destination.
C:\Program Files\NEC \SP350\Skin\Standard\bitmaps

Generally, SP350 is installed under C:\Program Files\NEC.

- (2) Rename or delete the following files in the folder.
 - NAME.bmp For the standard panel (with NEC logo)
 - Base_Logo_NEC.bmp Toolbar panel (with NEC logo)
- (3) Copy the following files in the logo folder under the Bitmaps folder to the Bitmaps folder.
 - NAME_NoLogo.bmp For standard panel (without NEC logo)
 - Base_NoLogo_NEC.bmp For toolbar panel (without NEC logo)
- (4) Rename the files copied into the Bitmaps folder to the following names.
 - NAME.bmp <= NAME_NoLogo.bmp For standard panel (without NEC logo)
 - Base_Logo_NEC.bmp <= Base_NoLogo_NEC.bmp For toolbar panel (without logo)
- (5) Start SP350.

3. Showing Hidden Logos

If SP350 is running, quit SP350 first, and then perform the following procedure.

- (1) In Explorer, open the following folder at the SP350 installation destination.
C:\Program Files\NEC \SP350\Skin\Standard\bitmaps

Generally, SP350 is installed under C:\Program Files\NEC.

- (2) Delete the following files in the folder.
 - NAME.bmp For the standard panel (without NEC logo)
 - Base_Logo_NEC.bmp Toolbar panel (without NEC logo)
- (3) Copy the following files in the logo folder under the Bitmaps folder to the Bitmaps folder.
 - NAME.bmp For standard panel (with NEC logo)
 - Base_Logo_NEC.bmp For toolbar panel (with NEC logo)
- (4) Start SP350.

4. Restrictions

If software is re-installed or updated, even if NEC logos were hidden according to the procedure described previously, NEC logos will be displayed again.

To hide the logos, please do so by performing “2, Setup Procedure” again.

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