SAMCEN

Professional Video Conference System

SCS8000E Multipoint Control Unit

Administrator's Guide

Please read the instruction carefully before using.

Statement

Preface

Target Readers

Video conferencing system administrators

SCS 8000E administrators

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Related Manuals

The manual related to *SCS8000E Multipoint Control Unit*

Administrator's

Guide and its usage is as follows:

Manual Name	Usage
Samcen Series Administrator's Guide	Introduces how to install and configure the Video Conferencing System.
Samcen Series User Manual	Introduces how to operate the terminals of the Video Conferencing System.
Live Conferencing User Manual	Introduces how to install and use the Live Conferencing System.

Conventions

Various eye-catching symbols are used in this manual to indicate precautions during operations. These symbols are defined as follows:

Symbol	Name	Description
>	Multi-level Menu	For example, go to **Conf Mgt**>**Template**> **General Info**> **Advanced Info** interface.
<>	Interfacial Button	For example, <**OK**> button.
	Note	A Note statement is widely applied to notify users of descriptions and prompts.
	Caution	Indicates a potentially disadvantageous situation that, if not avoided, could result in certain adverse consequences or operation failure. In general, such problems are not so difficult to solve.

Contents

System Overview

SCS8000E, that is, SAMCEN Multipoint Control Unit (hereinafter referred to as SCS8000E). It affords IP-based network platform to support the video conferencing. Creatively integrated GK Service, Standard H.460 Firewall Proxy Service, SAMCEN Private Proxy Service and so on. It is the most simple system architecture rather than the traditional "platform + ancillary services" architecture, providing a convenient way to deploy and maintain. The typical appliance of SCS8000E in a conferencing deployment is in following figure:
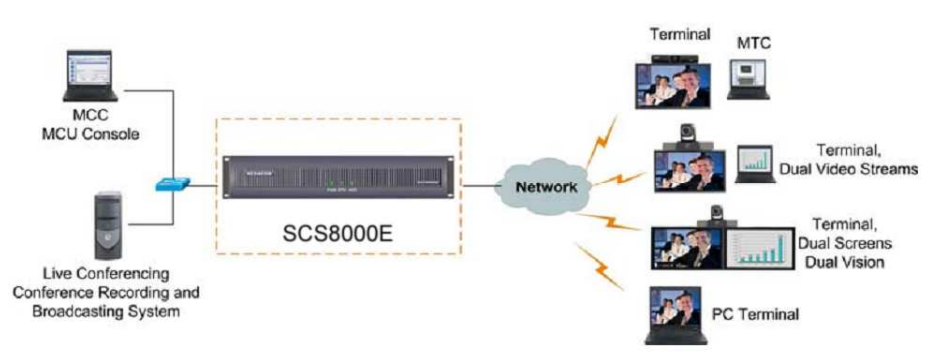
Main Functions

- Multiple Conferencing at the same time

- A variety of audio and video formats

- Such various as 1080p/i, 720p, 4CIF and CIF

- Multiple channels of intelligent mixing

- Various CP styles

- Multiple Calling Rates, the terminal can call a conference at any rate

- Integrated GK service, Firewall Proxy service and so on

- PC dual video streams

- Supporting Data Conference and Video Conference to work

collaboratively

- Streaming Media multicast

- 128 bits of high reliability encryption mechanism

- Support for a variety of network characteristics, such as Qos and so on

- Convenient Web management

- Support for conference record

- Support for H.460 Protocol

- Virtual Conf Room

Hard Ware Introduction

Picture	Name
	SCS 8000E Multipoint Control Unit
	Power Line
	Ground Wire
	CD which includes MCU Console Software, Data Conferencing Console Software, Gatekeeper Console Software, Network Testing Software and Online Helps.

Section One Equipment Installation

1 Installation Preparation

Check the environment and place whether match the requirement before installing.

1.1 Environment Requirement

Check the temperature, humidity, cleanliness, anti-jamming and anti-lightning of the conference room to meet the requirements. Make sure the safety of power equipment.

1.1.1 Power

Input voltage: 220VAC

Voltage frequency: 50 Hz ～60 Hz

1.1.2 Temperature and Humidity

Working temperature: 0℃～60℃

Working humidity: 10%～85%

1.1.3 Grounding

Grounding is to prevent static electricity.

Connect one end of the ground wire to the earthing column on the back of the SCS8000E and the other end to the earthing device.

1.1.4 Wireless Interference

This product is A-class product. It may generate wireless interference, which users should take practical steps to prevent.

1.1.5 Positioning the SCS8000E

Place in machine room and position on desktop flatly or fix to bracket stably.

2 Equipment Panel

2.1 Equipment Appearance

The SCS8000E adopts 19' 2U rack-mountable chassis. The appearance of SCS8000E is shown as following:

Figure 1-2.1 the Appearance of SCS8000E

2.2 The Front Panel

The introduction of front panel:

PWR: Power indicator, lighting after powered on

ETH: Ethernet port on-line indicator, lighting after connected to network

HDD: CF card read and write indicator, lighting when reading/writing data

Figure 1-2.2 the Front Panel

2.3 The Rear Panel

The introduction of rear panel:
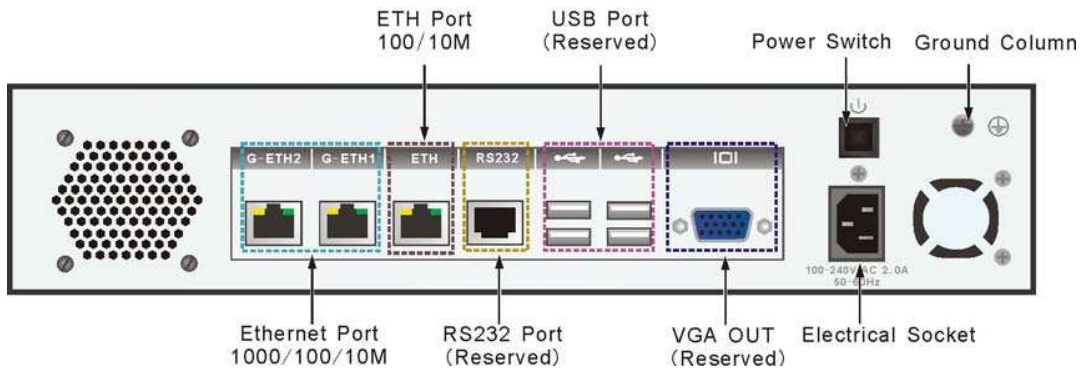
Figure 1-2.3 the Rear Panel

3 Initial Configuration

The initial use of SCS8000E, we recommend you to log on the MCU Console (MCC) to configure the SCS8000E general information.

Through the direct connection of MCC and SCS8000E, you can achieve the configuration.
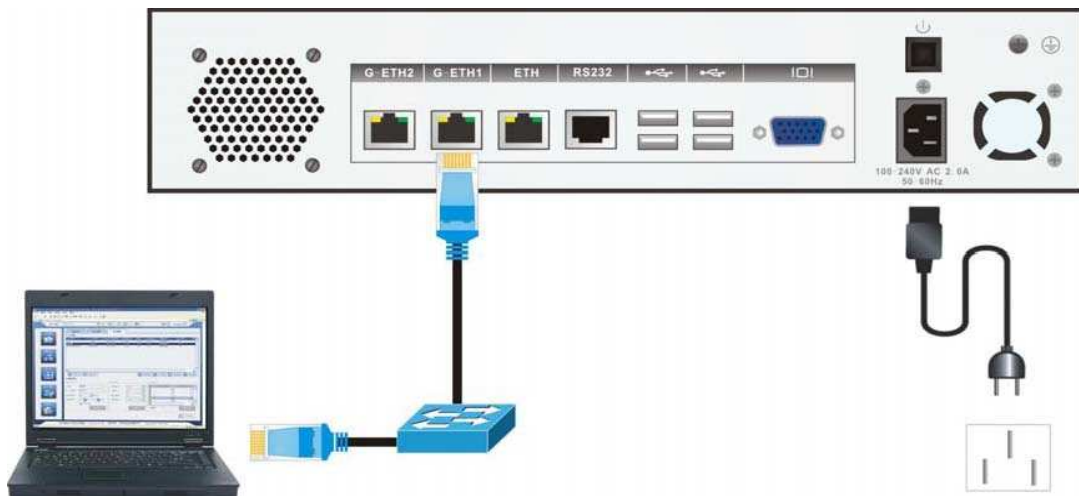
Figure 1-3 SCS8000E Connection

Operations as following

1） Amend the IP address of the PC having installed MCC software, make sure that two IP addresses can communicate. About the installation of MCC, please refer to *Section Two*.

2） Use network cable to connect the SCS 8000E and the PC directly, you can refer to upper figure.

After a successful connection, log on SCS8000E through MCC software, the system will enter the "Setup Wizard" interface, which guides you to complete various settings.

4 Cable Connection

SCS8000E

Power Socket

MT

Network · · ·

MT

Live Conferencing

· · ·

MCC
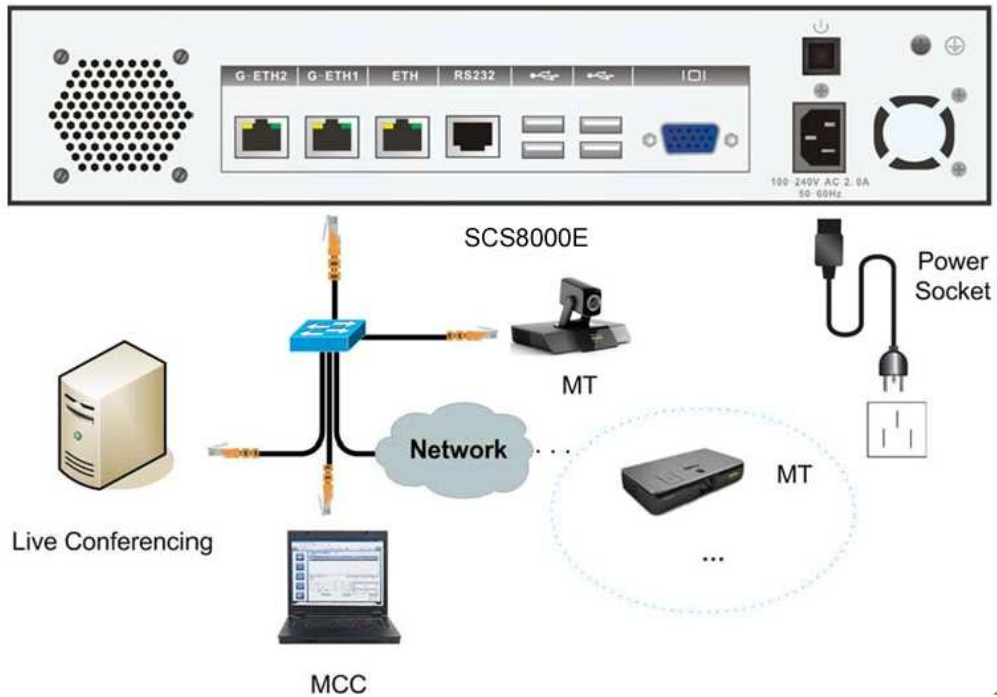
Figure 1-4-1 Cable Connection

4.1 Power Connection

Connect power using the power line packed with the SCS8000E, the requirement of power is 100-240VAC, 50-60Hz.

Push the power switch lasting for a period to power on.

Caution: Click Shutdown to automatically power off SCS8000E, do not push the power switch to force it powering off.

4.2 Host Network Connection

Connect the SCS8000E to network.

4.3 MCC Connection

Connect the PC having been installed with MCC software to network.

4.4 Live Conferencing Connection

Connect the Live Conferencing system to network.

4.5 MTs Connection

Connect the MTs to network. For detailed information, please refer to *Samcen Series Administrator's Guide.*

Section Two MCU Console-MCC Operation

1   MCU WEB Management Software Introduction

The MCU Console (hereinafter called MCC) is a kind of new generation videoconferencing software based on WEB interfaces. The MCC software provides users with an interface that can control an entire videoconference in vivid and interactive graphic interfaces. It implements various videoconferencing functions by controlling a SCS8000E Multipoint Control Unit (MCU).

Multiple MCCs can connect the same MCU, but a MCC can only control a real-time MCU at the same time.
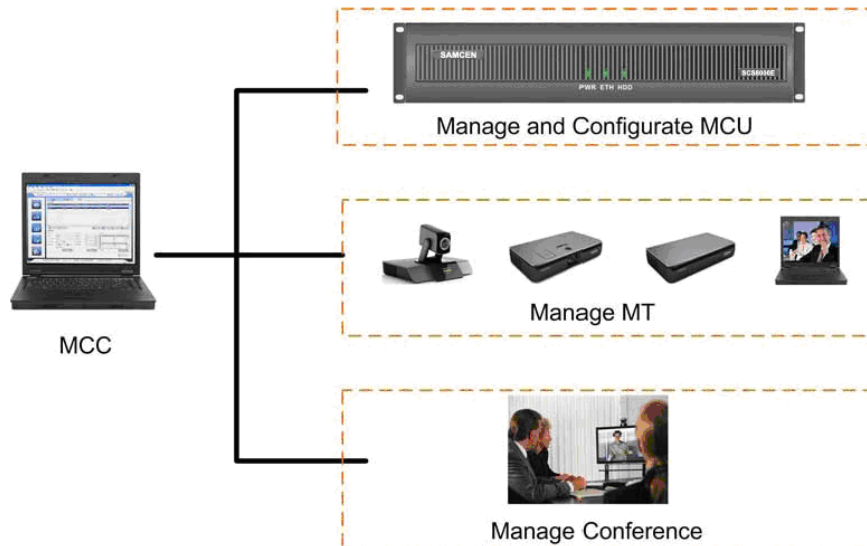
Figure 2-1-1 MCU WEB Management

Note: Users can look the status bar on the bottom left corner of the MCC interface to view an operation result.

1.1 MCC Software Overview

MCC supports the Management Conference, MCU and MT. Operations can be carried out as follows:

- o Hold conference
- o Manage conference
- o Monitor conference
- o Manage MT
- o Manage MCU

1.2 MCC Installation

To introduce the environment and the methods of install MCC software.

1.2.1 Run Environment

Software Environment:

Operating system: Windows 2000 or later

version; Internet Explorer: Internet Explorer 6.0

or later version.

Hardware Environment:

Minimum configuration requirement:

If the monitoring function is not enabled: Pentium 4 1.8 G or above; 256MB memory or above;

If the video monitoring functions is enabled: Pentium 4 2.8 G and above or Intel® Core2® Duo CPU 1.6G; 512MB memory or above.

1.2.2 How to Install

Two methods are available for the installation of the MCC.

Method 1: using installation program

1） Find the installation CD from the MCU packaging box and insert it into the CD drive. The CD program runs automatically;
2） Select <**Install the MCU Console Software**> in the interface and then click <**Run**>. The setup wizard interface opens;
3） Click <**Next**> to enter the interface to select an installation path.
4） According to the installation progress, click <**Install**> and <**Finish**> in the pop-up interfaces in turn, and the installation can be completed successfully.

After the installation is completed, the **MCU Console icon** automatically appears on the desktop.

Method 2: using IE explorer

1） Directly enter the URL address of the MCU to be connected in the address bar of the IE. For example, if the IP address of the MCU is 172.16.62.1, the URL is http://172.16.62.1.

2） The setup of the MCC software system will be completed automatically.

3） When the user logon interface appears, it indicates that the setup is completed successfully.

Caution: If a security setting alert appears during the installation, please click <**Yes**> or <**Run**> according to the actual situation. Only in this way can the installation be completed successfully.

1.2.3 Login the SCS8000E

Method 1: local login

1） Double click **MCU Console icon** to start the MCC, and the login interface appears;

2） To make connection with MCU, click the <**Config**> button to add the MCU address and name;

3） Enter the user name and password(the default user name is admin and password is admin);

4） Select a MCU item to be connected, click the <**Login**> button.

Method 2: Web Access login

1） Enter the URL address of the MCU to be connected in the address bar of the IE explorer;

2） Enter the user name and password (the default user name is admin and password is admin) in the interface.

3） Click the <**Login**> button.

If you want to hang up the connection of MCC and the MCU, click [icon] button; to reconnect the MCU click [icon] button.

[icon] **Note:** If the SCS8000E has been configured several IP addresses, the MCC can type any one of these addresses to login the SCS8000E. But this situation is not available when the SCS8000E was deployed in LAN and the MCC was deployed in WAN.

1.2.4 Reboot and Shut down the SCS8000E

When the MCC has connected to the SCS8000E, reboot it refer to these ways:

o Click [Reboot] button to reboot the SCS8000E. Shutdown the SCS8000E:

o Click [Shutdown] button to shutdown the SCS8000E.

[icon] **Note**: Super administrator or administrator has the right to execute the Reboot and Shutdown operations. For more information on MCC user, see section two *User Management*.

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2 MCC-Setup Wizard

The initial use of MCU, we suggest that you log on MCC firstly to configure the basic information of the MCU.
Usage of MCC
Select **MCU Mgt** > **Setup Wizard**;
Pop-up setup wizard interface, then you can select the following steps:

O General information configuration;

O Backup MCU settings information into local computer;

O Load MCU settings information from local computer.

2.1 General Information Configuration

Steps to configure general information:

1） Select the network type of the videoconferencing system;

2） Configure the alias information of the MCU.

Select the **General Information Configuration** in the **Setup Wizard** interface, click <**Next**>.

Note : For details on configuring general information, please refer to **SCS8000E Quick Start Guide**.

2.1.1 Determining Network deployment

Videoconferencing system can be deployed in the LAN network, WAN network or LAN & WAN mixed network.

o LAN Network: All equipments in your videoconferencing system are deployed in LAN, as the following topology figure shows.
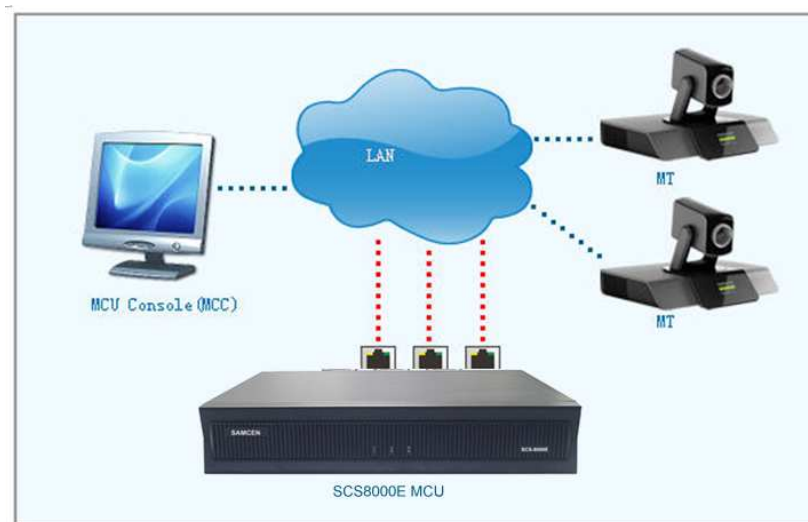
Figure 2-2-1 LAN Network

o WAN Network: All equipments in your videoconferencing system are deployed in the WAN, as shown in the following topology.
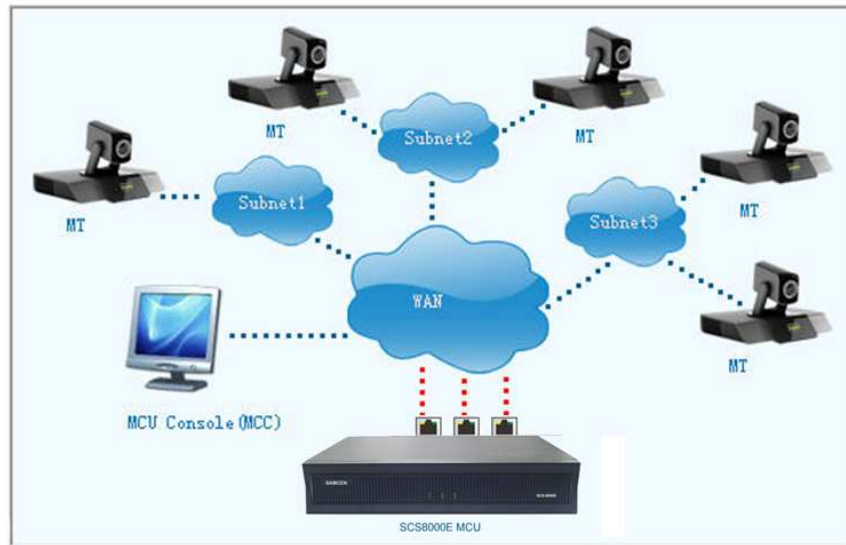
Figure 2-2-2 WAN Network

○ LAN & WAN Mixed Network: Some terminals are in LAN and some terminals are in WAN, as shown in the following topology.
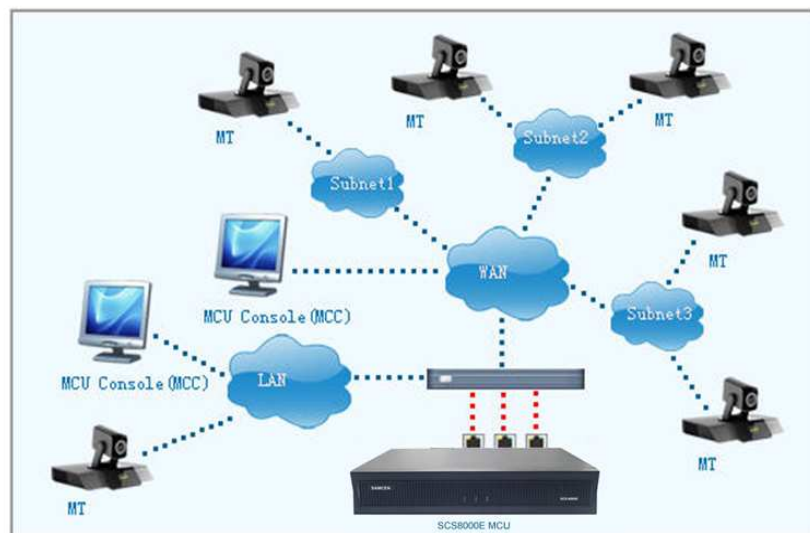
Figure 2-2-3 Mixed Network

2.1.1.1 LAN Network

Determining all equipments in your videoconferencing system are deployed in the LAN, then click <**Next**> to complete the following configuration:

1） Choose the using **Adapter Name**, then fill in the **IP Address**, **Subnet Mask** and **Gateway**;

2） Setup the alias and E.164 ID of the MCU. If successfully registered to the

gatekeeper, other MTs who registered in the same gatekeeper or adjacent gatekeeper can call your MCU through the alias or E.164 number.

2.1.1.2 WAN Network

Determining all equipments in your videoconferencing system are deployed in the WAN, then click <**Next**> to complete the following configuration:

1） Select the proxy sever type

o If some MTs manufactured by other companies in your videoconference system, we recommend you clicking <**Enable H.460 proxy**>. When using H.460 proxy and your SCS8000E located in the DMZ, please select <**Enable DMZ**>, then input the router's public network address.

Note: The SCS8000E located in the DMZ is only applicable to the single ISP (Internet Service Provider) line, does not apply to multiple ISP lines.

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o If your videoconference system adopts Samcen earlier version (prior to V1.3.1) MTs, we recommend you clicking <**Enable private proxy of Samcen**>.

2） Select the number of ISP lines;

3） Configure the network information

o Single ISP Line: Click <**Next**> and choose the using **Adapter Name**, then fill the **IP Address**, **Subnet Mask** and **Gateway.**

o Multiple ISP Lines: The different Proxy addresses should be configured for your MTs adopt the different ISP lines for accessing to MCU. Select the **Network** and matching **Adapter**, then fill in the **Proxy IP**, **Subnet mask** and **Gateway** information for the ISP line, after that, click <**Add**> button.

4） Setup the alias and E.164 ID of the MCU. If successfully registered to the gatekeeper, other MTs who registered in the same gatekeeper or adjacent gatekeeper can call your MCU through the alias and E.164 number.

Note: In the multiple ISP lines case, if some MTs manufactured by other companies need to register to the H.460 proxy server we recommend you registering the first H.460 proxy address which has been configured in the MCU.

2.1.1.3 LAN and WAN Mixed Network

Determining all equipments in your videoconferencing system are deployed in the Mixed Network, then click <**Next**> to complete the following configuration:

1） Select the proxy server type

o If some MTs manufactured by other companies in your videoconference system, we recommend you clicking < **Enable H.460 Proxy**>. When using H.460 proxy and your SCS8000E located in the DMZ, please select <**Enable DMZ**>, and then enter the router's public network address.

Note: The SCS8000E located in the DMZ is only applicable to the single ISP (Internet Service Provider) line, does not apply to multiple ISP lines.

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o If your videoconference system adopts Samcen earlier version (prior to V1.3.1) MTs, we recommend you clicking < **Enable private proxy of Samcen** >.

2） Select the number of ISP lines;

3） Configure the network information
   o Single ISP Line: Click <**Next**> and choose the using **Adapter Name**, then fill the **IP Address**, **Subnet Mask** and **Gateway.**
   o Multiple ISP Lines: The different Proxy addresses should be configured for your MTs adopt the different ISP lines for accessing to MCU. Select the **Network** and matching **Adapter**, then fill in the proxy **IP**, **Subnet mask** and **Gateway** information for the ISP line, after that, click <**Add**> button.

4） Setup the LAN proxy server address for MTs in LAN. This address should communicate with the MTs' addresses. Set the LAN proxy address of the MTs accessing to the MCU through LAN.

5） Setup the alias and E.164 number of the MCU. If successfully registered to the gatekeeper, other MTs who registered in the same gatekeeper or adjacent gatekeeper can call your MCU through the alias and E.164 number.

Note: In the multiple ISP lines case, if some MTs manufactured by other companies need to register to the H.460 proxy server, we recommend you registering the first H.460 proxy address which has been configured by the MCU.

2.1.2 Completed

Show Configuration

Clicking <**Details**> button, you can view detailed configuration information in the< **SCS8000E MCU Network Configuration**> interface.

Print Configuration

All detailed configuration information showed in the interface can be printed.

Reboot MCU

After the configuration, please kicking <**Need to further configuration, reboot the MCU after exiting**> or <**Reboot the MCU later for more configuration**> to bring the configuration into effect.

2.2 Backup MCU Settings Information into Local Computer

1） Click <**Backup MCU Settings Information into Local Computer**> in the **MCU Wizard** interface;
2） Select the corresponding directory, fill in the file name;
3） Click <**Start**>.

2.3 Load MCU Settings Information from Local Computer

1） Click <**Load MCU Settings Information from Local Computer**> in the **MCU Wizard** interface;
2） Select a desirable MCU configuration file in the pop-up interface, and click <**Start**>.

3　MCC-Arranged Conference

Using the MCC software you can make a conference held immediately or in booked time.

3.1 Instant Conference

Two methods can be used to create an instant conference:

o Use of the template;
o Use of the wizard.

3.1.1 Creating a Conference through Template

1） Click the **Conf Mgt** > **Templates**;
2） Select the desired template in the list;
3） Click <**Hold Conf**>, an instant conference starts.

Support the type of conference:

o Audio and Video Conferencing;
o Data Conferencing;
o Dual Stream in Conferencing.
For details contained in the template, please refer to section 6.

3.1.2 Creating a Conference by Wizard

1） Click the **Conf Mgt** > **Conf List**;
2） Click <**Create**>, pop-up an interface, you can select <**Hold Conf**>;
3） Fill in the general information and add participating MTs to the conference(corresponding to create a new template in section 6.1);
4） Click <**Create**> in the Create Conference Wizard interface, an instant conference starts.
Before clicking <**Create**>,you can select the <**Save as Template**> option to save the conferencing information in the template list.

3.2 Booked Conference

The booked conference will be held in the appointed time automatically:

o Using template: Select the desired template in the **Templates** list, click <**Book Conf**>, fill in the conferencing held time, a conference will be held in designated time;

o Using wizard: Select <**Book At**>, fill in the conferencing held time, a conference will be held in designated time.

3.3 End Conference

Two methods can be used to end a conference:
Automatically End:

o According the settings in template of the **General Info** interface to end a conference;

o According the settings in template of the **Advanced Info**>**Auto End** (**when no MTs in conf**) to end a conference.

Manually End:

o In **Conf Mgt** > **Conf List** interface, select the conference, right click and select the <**End Conf**> in the shortcut menu;

o In the **Boardroom** interface, click <**End Conf**>.

4 MCC-Casual Conference

The MT can call the E.164 ID of the Virtual Conference Room directly, having no use for conferencing template or conferencing wizard.

Characteristics of the Conference:

o The default type of the virtual Conf Room is a discussion conference, without chairman and spokesperson;
o The MT receives the image and sound synthesis and mixing from all the participants;
o All participants can originate and receive Dual Video;
o The conference takes up the public meeting resource of the MCU.

Resource to Support:

The Virtual Conference Room needs to use the CP function and the Mixer function of the MCU, if the CP Unit or Mixer is occupied by other conference, the virtual conference can not be opened.

4.1 Start Virtual Conf Room

After the configuration for the SCS8000E has completed, the Virtual Conf Room can be started following these steps:

1）Set the properties of the Virtual Conf Room in **Conf Mgt** > **Virtual Conf Room** >**Edit** interface;

Parameters	Introductions
Name	The name of the virtual Conf Room, the system default
Conference Rate	Set the conference rate，default rate is 256Kbps.

Parameters	Introductions
E.164 ID	MTs can use the E.164 number to call the virtual Conf Room after both of the sites register to the same or adjacent GK.
Note: In **Virtual Conf Status** interface, the status of the Virtual Conf Room and its maximum participant information will be displayed.	

2） Click <**Advanced**> button to set the advanced attribute;

Parameters	Introductions
Primary Format	Set the **Primary Format.** The primary resolution contains CIF, 4CIF and 720P. When the CIF was selected then the Frame Rate is 30, otherwise, if 4CIF or 720P was selected the Frame Rate can select 1, 5, 7.5, 10, 15, 25 or 30.
Dual Video Format	The second video format in dual stream conference, Dual Video Format includes H.263+/H.239 and H.264/H.239. "H.264/H.239" means follow the H.239 protocol and the second video source is H.264. When H.264/H.239 is selected the Resolution and Frame Rate vary with the Primary Format.
Security Settings	Select the conference **Open Mode**. If <**By Password**> is selected, a password has to be entered for verification. And then, password verification will be required before MTs joining the virtual Conf Room.

3） Click <**Save**> button in **Conf Mgt** > **Virtual Conf Room** interface;

4） Select <**Hold Conf** > button.

Note: The reserved participants' number for Virtual Conference Room is 16. When the total authorized participant number is 32, the virtual conference room occupies 16, and other conferences occupy the remainder. When the total authorized participant number is less than 16, the Virtual Conference Room occupies all the participants, so

the MTs have no second choice but to join in the Virtual Conference Room.

4.2 Hold Conference in the Virtual Conf Room

MTs can join the Virtual Conf Room simply by dialing the E.164 number, MTs will failure to join when the total authorized participant number is more than 16.

Note: The **Virtual Conference Room** can not invite MTs actively.

4.3 Stop Conf Room

Click <**Stop Conf Room**> button in the **Conf Mgt** > **Virtual Conf Room** interface can end the virtual Conf Room.

5 Monitoring

Use the MCC software to monitor the conference.

5.1 Current Conference

The current conference means a conference that is being held. To

go to **Conf Mgt** > **Current Conf**

O Shows all ongoing conferences;

O Shows the E.164 number of all ongoing conferences.

You can see the E.164 number of the Virtual Conference Room if it has been started and hold conference in the Virtual Conference Room.

You may double click a conference name to enter the **Boardroom**.

5.2 Conference List

The Conf List is used to show all undergoing conferences, booked conferences, the Virtual Conference Room and the conference details and all MTs details of these conferences.

In this interface, the user can create, end or save conference.

5.3 Conference Monitoring

To go to conference monitoring

O Select Conf Mgt > Current Conf, then double click a conference name;

O Click the right interface of Conference Information > Conf List in Boardroom interface, select conference name.

The default monitoring object is the first conference in the Conf List.

Shortcut icon explanation

 large icons display, small icons display, tree type display, conference mute (quiet), stop conference mute, conference dumb, and stop conference dumb.

MT status icon

 On Line MT, Off Line MT, Speaker MT,

 Chairman MT, Speaker & Chairman MT

5.4 Site Video Monitoring

To monitor site video, PC performance required to meet the recommended standards, please go to **Boardroom** or **Monitoring** interface.

5.4.1 Site Monitoring in Boardroom

In the **Boardroom**, drag an MT's icon to the monitoring window below.

The system can monitor up to nine MTs at the same time.

Right click on the monitoring window can complete various MT monitoring operations

- o Stop Monitoring
- o Real-time Monitoring
- o Monitoring Mute
- o Monitoring Info
- o Full Screen

o   Capture Picture
o   Camera RC

5.4.2   Site Video Monitoring in Monitoring

Go to **Monitoring**, select an ongoing conference to be operated from the Conf

List drop-down, and then in the MT List, drag the MT to the monitoring window.

And the MT monitoring operations are not different from in Boardroom interface.

5.5 Site Polling

The site polling function means that the MCC plays the audio and video streams
of the selected MTs at a designated internal according to a certain sequence.

To make solution for polling
1）   Click the <**Polling**> under the **Boardroom** interface;
2）   Select an MT from the **MT(s) Available** box, then click ⌐ > ¬
3）   Click ⌐ ↑ ¬(top), ⌐ ↑ ¬(previous), ⌐↓¬(next) or ⌐ ↓ ¬ (bottom) in the **MT(s)
        Selected** list to change the sequence;
4）   **Set polling interval:** double click the member in the **MT(s) Selected** list
        to modify or fill in a unified polling interval in **General Polling Interval(s)**;
5）   **Set the count of polling:** "0" indicates the unlimited number of polling;
6）   Click <**Save**> to save the solution.
7）   If **With Audio** is selected, the MT will be polled with video and audio.

To poll according the existing solution

1）   Select a solution in Solution drop-down,

2）   Click <**Load**>, and the original information will be loaded to the list;

3）   Click <**Start**>.

5.6 Conference Status

Go to **Boardroom**, click <**Status**> button, then the status of the current
conference are shown as follows:

o   **Mixing**: It shows the MT(s) in Mixing list;
o   **Continuous Presence**: The MT(s) in Continuous Presence (CP) list will be

displayed;
- O **View**: This list shows View MT, Viewed MT and View Type;
- O **Send Back**: The list shows the Send Back MT on Lower Level MCU, it is available only in Combined Cascade Conference (See Part III, section 4.2).

6 MCC-Templates Management

SCS8000E can store up to 128 templates, use MCC to manage template reflected in the following:

- O Create template
- O Modify template
- O Delete template

.

6.1 Create Template

Go to **Conf Mgt** > **Templates,** click **Create** to fulfill the template information.

Template information in the following table:

General Info		
Parameters	**Introductions**	
name Conf	Enter the conference name which is indispensable.	
E.164 ID	Enter conference ID here, normally, E.164 ID are assigned by your system administrator. The E.164 ID can not be the same in a GK. If the MCU and MTs are registered in the same GK or adjacent GKs, the MT can call the E.164 ID of the MCU to start a conference or join in a conference.	
Conf Rate	The default value is 256Kbps.	
Max Time	Terminate manually or set the duration time, "0 Hour 0 Minute" indicates no time limit to the conference.	
General Info—Advanced Info		
Control Mode	If **Need Password** is selected, a password has to be entered for verification before other MCC to operate the conference, set password below; but no password is needed for local MCC operation.	**Security Settings**
Open Mode	Full Open: Any MT can participate in the conference without verification; By Password: Password verification is required before MTs joining the conference; Not Open: Only MTs invited to the conference can participate into the conference.	

Conf Password	The verification password of the conference, it is also a password for attending the Data Conference or for MCC to control the conference.	
Encryption	Select a encryption mode for transmitting information of a conference. If the user selects the **Encryption**, the encryption mode will be applied to all MTs.	
Manual Key	After the AES is selected in **Encryption**, set manual key.Cascade MCU must be set the same key when the **Manual Key** is selected.	
Conference Call Mode.	The **Conference Call Mode** completes the MCU-call-MT settings: Timed: "0" indicates no limitation, the interval of calls made to each offline terminal when **Timed** is selected. The default value is 20s.	
Accept Conf Cascade Cal	This option should be selected for both the superior and subordinate MCUs to support conferences to combine.	**Advanced Settings**
Enable IPLR	Used to select whether to enable the IPLR (Intelligent Packet Loss Recovery) mechanism.	

Auto End	The conference will automatically end when no MT in the conference.	
Discussion Conf	In discussion conference, the sound of all Ms will be mixed in the MCU and broadcasted to the whole conference, so that all MTs can be heard by each other.	
Initial Mute	At the beginning of the conference, MTs stop collecting audio signals, then the MCC or the MT to change this state after the beginning of the conference.	
Data Conf	A data conference means the T.120 conference. The audio and video format of the conference will be set to G.711 ALAW or G.711 ULAW and H.263 when the data conference is needed.	
Multicast	The valid multicast IP addresses range from 225.0.0.0 to 231.255.255.255 and 233.0.0.0 to 239.255.255.255	
How to deal with when no more terminals supported to carry on discuss	The MCU supports intelligent audio mixing contains 64 terminals at the most, You can select which way to deal with the situation that the terminals in discussion conference are more than the maximum intelligent mixing terminal number. The optional ways are Switch to Mix (custom mixing) and Stop Discussion.	
Auto Record	If this check box is selected, the user needs to select a online recorder to be used from the **Recorder** list.	
Record Type	It includes **Daily** and **Weekly**. Here, the user can set to make recording every day, a day or several days in a week.	**Conference Record Settings**
Record Time	Set the **Start Time** and **End Time** of record.	
Record with Dual Video	If there are two channels of conference images are transmitted, these two image codes will be recorded at the same time.	

Media Option	
Video Format	The SCS8000E MCU supports the H.264 and H.263 video compression standards.
Resolution	If "H.264" is selected as the video format, the resolution of CIF, 4CIF, 720Pand 1080p/i can be selected from the drop-down list; while for the H.263 video format, only CIF resolution is supported.
Frame Rate	The maximum frame rate is 30.
Audio Format	Select the compression format from the drop-down list. General, the higher the audio sampling frequency, the better the quality of out-put sound.
Image Process	Only the opening of image processing functions will be allowed to call terminals with different resolution during meeting. The processing resource is exclusive for the conference selected the Image Process, in this case the other conference can not enable **CP** function or call different resolution MTs. If a conference has selected the resolution of 1080p/i the **Image Process** function is unavailable.

Media Option—Advanced Info		
Video Format	Select the format of the second video source, including H.263+/H.239 and H.264/H.239. "H.264/H.239" means that the H.239 protocol is used and the format of the second video source is H.264.	**Dual Video Format**
Resolution	Refers to the dual video source resolution: VGA (640×480), SVGA (800×600）, XGA (1024×768), WXGA (1024×512), SXGA (1280 × 1024) and 720P (1280 × 720). These resolutions are different under the condition of different Video Format and different Primary Resolution.	
Frame Rate	Set the maximum frame rate for the second video source.	
Video Rate	Used to select the percentage occupied by the second code stream in dual video format. The specific calculation formula is: the second code stream/ (conf rate – audio rate) ×100%.	
Start Mode	Select whether anyone or only the spokesman can star the dual video.	
Video Quality	including Speed Precedence and Quality Precedence. Quality precedence policy ensures the image quality during the video transmission, so that the picture is free of mosaic or blue screen; while the speed precedence ensures the smoothness and consistency of the video.	**Other**
VA Sensitivity	Under voice activation, the spokesman switching is implemented by judging the voice status of the MT. After the MT becomes the spokesman, no matter whether the MT is speaking, other MTs cannot seize its spokesman position in a set VA sensitivity period. Beyond this period of time, if the MT does not speak either, other MT with audio output will automatically become spokesman.	

Speaker Recv	This option is used to select which video streams that the speaker will receive after a conference starts. If the selected object does not exist in the conference, the picture of the speaker itself will be received by default. If **With Audio** check box is selected, audio and video code streams will be received simultaneously.	
Participants		
name	Enter the E.164 ID, IP address or H.323 ID of an MT to be invited. If **Add to AddrBook** option is selected, the MT information is added to the address book at the same time.	
AddrBook	Select an MT from the address book and add it to the invited MT list.	
Option…	Select an MT, click **Option….** button to designate the MT call rate.	
CP	Enable the CP, select **Broadcast Stream** and **CP with mt's alias** or not, then select Solution and Layout for the CP. In a 1080p/i conference the CP is unavailable.	

6.2 Edit Template

Select a template from the Templates list, click <Edit> to enter the template editing mode. After editing related conference information, click <Save> to save the corresponding information.

6.3 Show Template Information

Select a template from the Templates list, click <**Edit**> to enter the template editing mode, after view the related information, click <**Cancel**>.

6.4 CopyTemplate

Select a template to be copied from the Templates list, click <**Copy**>, the name and E.164 ID of the new template automatically change or you can reset them manually, and then click <**OK**>.

6.5 Delete Template

Select a template to be deleted from the Templates list, and click <**Delete**> to delete it.

6.6 Conference and Template

Once the conference has been started in accordance with the established template, the conference and the template are not correlative.

7 MCC- Conference Management

Depending on MCC software to manage conference, participating terminals and switching the conference mode to achieve a perfect control of the conference functions.

7.1 MCC-Conference Control

The control of conference including **Prolong Conf**, **Conf Password**, **MT Video Source** and so on.

Go to **Boardroom** to execute the operations.

7.1.1 Prolong Conf

The time can be prolonged during a timed conference.

Prolong Tips

15 minutes before the end of the conference, there will be a pop-up interface. Need to prolong the conference, enter the time.

To Prolong Manually

Go to **Boardroom**, click **Settings**, select the **Prolong Conf** in the pop-up menu, entering the time.

7.1.2 Conf Control

Click Settings in Boardroom interface, select Conf Control in the pop-up menu.

- ○ Full Open: Each MCC user can operate the conference and participating MTs;
- ○ By Password: password verification is required when other MCC user operate the conference;
- ○ Not Open: The conference is monopolized by the local MCC user, and other users cannot make any conference operations.

7.1.3 Conf Password

Used to enter or change the conference control password.

Click **Settings** in **Boardroom**, select **Conf Password** in the pop-up menu.

In the Modify Password interface:

1） Enter the old password;

2） Enter the new password;

3） Confirm the new password.

7.1.4 Conference Recording

Conference recording needs the support of the Live Conferencing Recorder.

Recording

1）Click **Settings** in **Boardroom**, select **Record**;
2）Select online recorder, click <**start**>;
3）Enter the record-file name in the pop-up interface and select record mode;

  ○ Strobe Recording: Used to record video streams in key frame mode;

  ○ Record with Dual Video: If Record with Dual Video is selected, the two channels of code streams of the picture will be recorded; otherwise, only one channel of code stream will be recorded.

Recording interface can display the currently recorded time length in real time, in units of seconds.

7.1.5 Switching Participating MT Video Source

Some of the participating MTs with two video source: Video Source 1 and Video Source 2, Video Source 1 is usually a built-video source, Video Source 2 is an external.

Switch Video Source in two easily methods

Method 1

Click **Settings** in **Boardroom**, select **MT Video Source** in the pop-up menu.

Way 1

1）Select a solution in the list;

2）Click **Load**.

Way 2

1）Select an MT from the **MT(s) Available** list；
2）Choose a video source port from the **Video Source Port** drop-down list;
3）Click [>] or [»] or , put the designated terminal into **MT(s) Selected** list.

Way 3

1）Click [>] or [»] , put the designated terminal into **MT(s) Selected** list;
2）Select the MT in **MT(s) Selected** list, right click, choosing a video source port.

The user can also save the video source settings as solution; load existing solution; and delete unnecessary solution.

Method 2

Right click the MT in **Boardroom** interface, then select **Video Source** > **Video Source 1**(**Video Source 2**).

If the selected video source does not access, the MT's video screen prompts no video source, select the video source connected normally.

7.1.6 Start/Stop Discussion

To start discussion conference will occupy the mixer resources on the MCU. When the resource is sufficient you can start the discussion conference.

Start

Click **Settings** in **Boardroom**, select **Discussion** in the pop-up menu. The SCS8000E supports up to 32 MTs to join a discussion conference.

Stop

During the discussion conference, select **Discussion** once again to stop it.

7.1.7 Mixing

Conference in mixing status, only the designated members can join the discussion, and other members receive the sound of the members of the discussion group, the speaker takes the initiative in occupying a mixing channel.

Mixing can select MTs through single mode or extend mode.

The operating procedure for the Single Mode is as follows:

1） Click **Settings** in **Boardroom**, select **Mixing** in the pop-up menu；
2） In the **Mixing Style** field select the number of mixing channels; SCS8000E supports up to 32 channels;
3） Drag the MTs from the boardroom to each channel, and click <**Start**> ;
4） Click a mixing channel, and the mixing of the MT will be ended.

Under the premise of mixing, if another MT requests to chime in, the MT can automatically participate into the mixing group after the approval of the MCC or the chairman.

The operating procedure for the Extend Mode is as follows:

1） Select an MT (tick the check box before the MT) to be added to the mixing group;
2） Click <**Start**> to start mixing;
3） Click <**Stop**> to stop mixing.

Note: If the previous operation of the mixing is single model, it will automatically access to the single mode next time. With he Extend Mode situation is the same as the Single Mode.

7.1.8 CP

CP Settings

1） Go to **Conf Mgt** > **Templates** > **Create**, click <**Participants**> ;

2） Click **CP** in **Invited MT Settings** interface;

3） Tick the **Enable CP** in the pop-up interface, by default, **Broadcast Stream** and **CP with mt's alias** are selected (it can be canceled according to actual needs);

4） Select solution (To use an existing CP solution, which including the picture frame and background) and layout;

   o "**Dynamic**" indicates that the system will automatically determine the layout according to the number of participating MTs.

5） Select an MT from the MT list and drag it into the CP channel, click <**OK**> and <**Save**>;

6） Use this template to start a conference which is in CP status;

7） Click **Settings** in **Boardroom**, select **CP** in the pop-up menu, then click <**Stop**> to exit.

Broadcast Stream means broadcast the CP stream, the participant receives composite image. The MT's alias or E.164 number will be attached on the small picture in CP when **CP with mt's alias** is selected.

Start/stop CP

If a holding conference did not set the CP, you can follow these steps to start CP in the conference:

Click **Settings** in **Boardroom**, select **CP** on the pop-up interface, and then select Solution and Layout on the **Continuous Presence** interface, drag MTs to the layout window (For more information see *SCS8000E Quick Start Guide*), tick or do not tick **Broadcast Stream** and **CP with mt's alias**, click **Start/Stop** to start or stop the CP.

CP Channel Operations

Clicking an occupied channel, and then the user can make settings as follows:
o Set by MCC: only the chairman MT and the MCC can specify the channel video source;
o Speaker Picture: the channel will show the speaker images;
o Chairman Picture: the channel will show the chairman images;
o Polling Picture: the channel show polling images when video polling.

7.1.9 Message

Click **Message** in **Boardroom**, edit the contents of the message, then send to participating MTs.

How to send message

1） Fill in the parameters and the contents of the message;

2） Select MTs who will receive the message;

3） Click < **Send**>.

What are the parameters need to set up

Parameters	Introductions
Type	The way message scroll on the screen.
Scroll Times	Up to 255 times
Speed	Rolling speed
Edit Message	The maximum length of a message is 1024 bytes, the maximum number of Leftward caption is 26 lines, and the maximum Paged Upward caption is 26 lines.

Send Daily Message

Edit **Daily Message**, then **Save** in the Daily Message box.

Choose a saved message from the drop-down box, then click **Select**.

Load file message

Click <**Load**> to load a message from a TXT file to the above **Edit Message** box.

After sending the message successfully, the user can click the <**Stop**> button, and then the message that is being shown on the receiving terminals' screens will disappear.

7.1.10 Voice Activation

Under voice activation, the switching spokesman is implemented automatically.

Conditions as the Spokesman

The speech sound is the biggest and the duration is longer than the **VA Sensitivity** will become spokesman.

Start VA

Click **Settings** in **Boardroom** interface, select **Voice Activation** in the pop-up menu. After the Voice Activation was enabled, click **Settings** and select **VA Settings** to reset the **VA Sensitivity**.

Stop VA

Click < **Settings** > in **Boardroom**, select < **Voice Activation** > once again in the pop-up menu to stop the voice activation.

7.2 MCC–MT Management

Go to **Boardroom** to execute the operations.

7.2.1 Invite MT to Join

Invite MT during meeting

1） In the **Boardroom** interface, right click an empty area of the conference;

2） Input the MT's parameters, and click < **Add** >;

Parameters	Introductions
Call MT	Fill in the MT E.164 ID, IP address, or select the MT from the **AddrBook**.
MT Rate	Default rate matches the conference rate.
Add to AddrBook	Add the MT's information to **AddrBook**.
Exit after Add	Exit automatically from this interface when click **Add** button.

Invite MTs to the conference

Add MTs when you are creating a template. For details, please refer to section 6.1.

7.2.2 Delete MT

In **Boardroom** interface, choose the icon of the MT to be deleted:

o Right click, select **Delete MT,** and click <**OK**> in the pop-up alert box.
o Press the < Delete > key in the keyboard.
o In **Conf List** interface, select the MT in **MT Information List,** right click, select **Delete MT**.

7.2.3 Hang up MT

Right click the icon of the MT to hang up the connection with the current MT, select **Hang up** MT. The MCU can recall this MT to join in conference.

7.2.4 Forbid MT to Join

Using a template to start a conference, when create the template select **Not Open** as the open mode, that is to say, only invited MTs can join in the conference.

How to set up

1） In **Templates** interface, choose a template, then click **Modify** > **Advanced Info**;

2） In the pop-up **Security Settings** on the interface box, select **Open Mode** > **Not Open**;

3）Click < **OK**>, and save the modified template.

7.2.5 Set the Role of MTs

The role of MTs in three sub-terminals: chairman, spokesman and common terminals. The role of the different roles and conference operations, please refer to *Samcen Series User Manual*.

The role-set can be operated before the conference start or after.

Set the role before the conference start

1）Go to Conf Mgt > Templates, select a template, then click Modify;

2）Click **MT List**, select MT in the pop-up interface;

3）Right click, then select **Set as Chairman** or **Set as Speaker**;

Specify the role after the conference start

Go to the Boardroom interface, right click a MT's icon, then select Set as **Chairman** or **Set as Speaker**; certainly, you can drag the MT's icon to the chairman/speaker's position to complete the same operation.

When cancel the corresponding role-set by right click or other MT become chairman/speaker the original role will be replaced automatically.

7.2.6 Set the Content of the MT View

MT View means to have one MT to receive the audio and video of another MT.

How to set MT A to view MT B

Method 1

1）Go to **Boardroom** interface, right click the icon of MT A, select **MT View** in the pop-up menu;

2）Select **View Type** in the pop-up interface, then double click the icon of MT B.

Method 2

1）Go to **Boardroom** interface, drag MT A to the position of MT B;

2）Select **View Type** in the pop-up interface (View type includes **A / V**, **Audio** and **Video**).

7.2.7 Set MT Mute/Dumb

The MT that set to be mute will not hear sounds of other MTs. After

dumb enabled, other MTs cannot hear the voice of dumb MT.

Go to **Boardroom** interface, click to select the MT:

o Select conference mute (quiet), stop conference mute, conference dumb, and stop conference dumb.

o Right click to select the **MT Mute**/**MT Dumb** in the pop-up menu, the corresponding selection button of the terminal have been mute or dumb was ticked.

In the **MT Information** box tick or undo-tick **Mute**/**Dumb** selection.

7.2.8 Adjust Input/Output sound of the MT

The MT input means peripheral's volume input to MT, such as microphone; output is the output to peripherals such as television or audio.

How to operate

Go to **Boardroom** interface, click to select the MT, In the **MT Information** box drag the block of **Volume(In)/Volume(Out)**.

Note: When adjust the output volume, we recommend to adjust peripheral (the television or stereo) as a priority.

7.2.9 Camera Remote Control

Right click the icon of MT in **Boardroom** interface, select **Camera RC** in the pop-up menu.

The user can conduct such camera operations as move (Up, Down, Left and Right), Focus (auto/manual), Zoom, Brightness, Preset, Save, and Load.

7.2.10 Display MT Information

Select an MT icon in the **Boardroom** interface, and the MT information will be displayed on the right column of the interface, such as, MT Alias, Call Mode, Transmitting Rate, Audio Source, Video Source, and MT Status. Furthermore, the user can also set Mute, Dumb, Volume (In), and Volume (Out) of the MT.

7.2.11 Other Operations

Right click the MT's icon in **Boardroom** interface, you can further conduct operations by follows:

Refresh Alias

Refresh the alias of a selected MT.

MT Call Mode

The MT recall mode after the MT is offline or restart. The user can select manual call or timed call on this interface.

Add to AddrBook

Add the MT information to the address book.

8 MCC-MCU Management

The MCU management includes the following interfaces: General Info, MCU Settings, Peripheral, Address Book, User and Setup Wizard.

8.1 MCU General Information

Go to **MCU Mgt** > **General Info** interface, to view the current status of the SCS8000E MCU.

o CPU Utilization: Displays the CPU utilization of the MCU.

o Register to GK: Displays whether the MCU has registered to GK or not.

o Number of Conf: Displays the number of ongoing conferences and booked conferences in the MCU.

o Online MT: Displays the number of participating MTs in the MCU.

o MCU Running Time: Shows the running time of the MCU since it has run.

Click <**Refresh**>, and real-time display of the latest general information of the MCU.

Click <**Refresh**>, and real-time display of the latest general information of the MCU.

Click < **MCU Config Info** >, and you can see the detailed configuration information and the network topology.

Time Settings

Shows the current MCU time, click <**Sync with Local**> button to synchronize the MCU time with the local system time.

Version Information

Display this information including the maximum authorized number of MTs, PCMT authorization number and the MCU hardware version. The **PCMT authorization number** is included in **Authorization Num**.

Click < **Upgrade MCU**> can upgrade SCS8000E, for detailed operation, please refer to the section three of *Version Upgrade*.

Click <**MCU License** > to import the MCU license file. If you have not authorized license file, you can through automatically generate the MCU message to get the file.

8.2 Peripheral Status

Go to **MCU Mgt** > **Peripheral**, can view the MCU has enabled currently peripherals' basic information.

Select a peripheral you can view the online status of the peripheral and more information.

In this interface displays the statuses of "CP Unit", "Mixer", "BAS", "PRS", "Private proxy of Samcen", "GK", "H.460 Server" and "Data Conference Server".

The upper half field shows the peripheral list, including the information of Equipment name, Online, and so on. Select a peripheral (such as Mixer), the detailed equipment information will be displayed in the lower half field of the interface.

8.3 MCU Settings

The MCU Settings is used to complete such configurations as LAN, Qos, CP, and other settings.

Go to **MCU Mgt** > **MCU Settings** to setup MCU.

8.3.1 LAN Settings

In LAN interface to configure the network information:

The System's Deployment: Display the network deployment and the proxy.

Adapter Name: Shows the NIC that is being used, if there are several adapters , you can select the one you want to use. Then the information of MCU Address, Subnet Mask and Gateway is just the adapter's corresponding information what you have configured. You can modify the configured information.

Data Recv. Port: The range is 61000-64255. Default value is 61000, and the best use of the default value.

H225/H245 Start Port: The range is 60002-65279. Default value is 60002, and the best use of the default value.

Private proxy start port: The range is 48000-49720. Default value is 48011. Or **H.460 server start port**: The range is 48000-49720. Default value is 48011.

MCU Alias: Setup the MCU alias.

E.164 ID: Setup the E.164 ID of the MCU. The E.164 ID is mainly used to GK registration and calling.

After completing settings, click <**Save**> button.

8.3.2 Qos Settings

The Qos (Quality of Service) settings are used to get satisfied video quality. We recommend best use of the default settings.

If you have to change the default value, please click <**Edit**> button in the lower right corner of this interface.

Qos Type: DiffServ or IP Precedence.

o   DiffServ: used to define which priority Audio, Video, Data and Signaling packets transmission should have in an IP network. The priority ranges from 0 to 63 for each type of packets. The number 0 indicates the lowest priority, and the number 63 indicates the highest priority.

o   IP Precedence: used to assign a priority level to Audio, Video, Data and Signaling packets should have in a network device.

The IP ToS (Type of Service) is used to help the network devices (such as routers) select a service type when handling the datagram.

o   Delay: minimize the delay;

o   Throughput: maximize the throughput;

o   Reliability: maximize the reliability;

o   Cost: minimize the cost.

MTU: Maximum Transmission Unit, this parameter is set according to the actual network conditions. The value ranges from 1308 to 1468.

8.3.3 Solution of CP

To set the CP background color, the frame color and other appearances.

How to set the CP solution

1） Go to **MCU Mgt** > **MCU Settings** > **CP**, select a solution;

2） Set the CP background color and the frame color of each member (including the speaker, chairman and normal).

3） Click <**Rename**> to rename the solution.

8.3.4 Other Settings

Select <**Other**> button, you can complete following settings:

Save Bandwidth of MT (s) When not Transmitting Streaming: It is used to select whether to decrease the bandwidth usage of MTs who do not need to transmit streaming.

Round Trip Delay(s): Set the test interval, at which the system will test the network connection status of the MT after the connection is established.

Round Trip Delay Count: Set the retry count of automatic test, available only when the connection fails.

MT List Refresh Interval(s): Used to set the MT list refresh interval of a cascade conference.

Video Source Refresh Interval(s): Used to set the video source refresh interval of a cascade conference.

Audio Source Refresh Interval(s): Used to set the audio source refresh interval of a cascade conference.

Enable Data Conf Server: This option is used to select whether to enable a data conference. After selecting **Enable Data Conf Server**, enter the IP address of the data conference server.

You can use DCC (Data Conference Console) software to manage the data conference. For detailed operations, please refer to corresponding introductions.

9   User Management

The MCC user belongs to a user group, the group has the following advantages:

o   Any user belongs to a user group. Users in the same group share their resources (templates, conferences, and so on).

o   If the creation of a conference is initiated by an MT, all MCC users of the MCU can control the conference.

o   After a MCC user group is deleted, all MCC users contained in the group will be deleted either, and furthermore, the resources related to these MCC users

will be deleted either.

Users are divided into three levels based on their rights: Super administrator, administrator and operator.

o Super administrator: Can make complete control over the MCU;

o An administrator can support all the control functions except MCU configuration; however, it can only manage conferences and templates created by itself or users in its own group;

o An operator supports all the control functions except user management, template management and MCU configuration; however, it can only manage conferences created by the administrator of its own user group.

In the **User** interface, the administrator can add, modify or delete user group and user information.

9.1 Adding/Deleting/Modifying User Group

Adding a user group

1） Click <**Add Group**> button;
2） Enter the user group information in the pop-up interface:
o Group Name: Enter the name of the user group;

o Group ID: Enter the ID number of the user group;

o Max User Num: It is used to set the maximum number of users in a user group;

o Auth IP Range: It is used to set the IP address range of MTs that are allowed or forbidden to call the MCU.

  ▪ Allow: Only MTs in the set range are allowed to be called to join in a conference (template) created by the user group;
  ▪ Forbid: MTs in the set range are forbidden to be called to join in a conference (template) created by the user group.

Note: The Auth IP Range is only valid for MTs that call the MCU initiatively. The MTs that the MCU calls initiatively to join in a conference are not restricted. A user group can set three forbidden/allowed IP ranges at maximum.

Deleting a user group

1） Select a MCC user group, then right click and choose <**Del Group**>;

2） Click < **OK** > button in the pop-up interface.

Modifying a user group

1） Select a MCC user group, then right click and choose <**Edit Group**>;

2） Modify the group information in the pop-up interface, click <**OK**> button to take the changed contents effect.

9.2 Adding MCC users

1） Select a MCC user group which is going to add users, click <**Add User**> button in the user information column;

2） Fill in the correct username, password, and permission and so on, then click <**OK**> to complete.

10   Address Book

Address Book records the group to which the participating MT belongs and the detailed address entry.

The group is a set of a group of address entries. To use the group is convenient to manage and use.

The address entry is the detailed information of the MT. It includes the MT name, IP address, E.164 ID and H.323 alias.

Go to **MCU Mgt** > **Address Book** to manage the address book.

10.1 Address Entry

Adding an address entry

1） Go to Address Book interface, then click < **Add**>;

2） Fill in related information of the MT in the pop-up interface, then click <**OK**> button and the entry can be added successfully.

Editing an address entry

1） Select a MT entry;

2） Click the <**Edit**> button in the address entry column, then edit corresponding information in the pop-up interface;

3） Click <**OK**> to complete.

Finding an address entry

1） Enter the keyword in the address entry interface, such as MT name, H.323 ID,

E.164 ID or IP address;

2） Click <**Search Next**>.

10.2 EntryGroup

Adding an entry group

1） In the bottom of the **Address Entry** list, click <**Add**>;

2） Fill in the name of the entry group, and click <**OK**>.

Editing an entry group name

1） In the **Entry Group** list, select an entry group to be edited;

2） Right click, select <**Edit**>, then enter a new name of the entry group in the pop-up interface, click <**OK**> to complete.

Adding a group member

1） In the **Entry Group** column, select a group needing add existing entries;

2） Right click to select <**Add Member**> button;

3） Select an MT from the **Entries Available** list in the left of the pop-upinterface, click 【>】or 【>>】button to import the selected entries to the **Entries Selected** list of the MCU by selecting single entry or all entries.

4） Click <**OK**>, and the member can be added successfully.

11 MCC-Preferences

Go **Preferences** > **User Settings** interface, to set the user's personalized application:

Visible menu and interface language of conference;

○ MTs' large icons status display;

○ Monitoring methods.

11.1 User Interface Settings

According to need, the user can customize menu, the information of list and the interface language.

Menu includes conference setting menu and MT shortcut menu. The customized contents will display in the **Boardroom** interface.

List includes conference information list and MT information list. The customized contents will be display in the **Conf Mgt** > **Conf List interface**.

Custom menu

1） Go to **Preferences > User Settings >User Interface Settings** interface, tick the **Custom Menu**;

2） Click <**Config…**> button, then configure the **Conf Setting Menu** or **MT Shortcut Menu** in the pop-up interface;

3） Select menu item, click the moving-button to make corresponding menu displayed or hidden;

4） Click <**Save**> after set and exit.

Custom List

1） Go to **Preferences** > **User Settings** > **User Interface Settings** interface, tick the Custom List;

2） Click <**Config…**> button, then configure the Conf Info or MT Info in the pop-up interface;

3） Select list item, click the moving-button to make corresponding menu displayed or hidden;

4） Click <**Save**> after set and exit.

11.2 MT Status Icon in Boardroom

In **Boardroom** interface, when the MT is displayed with large icon the status of the MT can be indicated by an additional small icon. For example, means the MT is dumb,

How to set

1） Go to Preferences > User Settings > MT Status Icon in Boardroom interface;

2） Using the <**Display All**> button and <**Display None**> button can check or uncheck all the icons in the same time or you can manually select some of them.

If the MT is displayed with small icon it does not have an impact.

11.3 Monitoring Settings

Monitoring includes No monitoring and Camera Strobe Monitor.

For the high performance PC, we recommend to enable the monitoring function.

Go to Preferences > User Settings > Monitoring interface to set the way of monitoring:

o **No Monitoring**: If this option is selected, it indicates that after a conference starts, the MCC is not allowed to monitor MTs.

o **Camera Strobe Monitor**: Used to select whether to make strobe playing when a camera is used for picture monitoring. If there is no high requirement for image continuity, this option can be enabled to play key frames, in order to reduce the bandwidth usage.

11.4 Event Log

In **Preferences** > **Event Log** interface, you can view, export and delete the event log.

View event log

The event log list record the type, time and detailed information of all operations.

In addition, you can click 🕒 button to view the event log in the main interface.

Export event log

Click the <**Save As…**> button at the bottom of the Event Log interface, then set the path and file name in the pop-up interface, click <**Save**> to complete.

Delete event log
Delete log entries: select a log entry in the log list, right click <**Delete**>.
Delete all log entries: click <**Clear**> button at the bottom of the interface, then select <**OK**> in the pop-up interface.

Section Three Related Services and Applications

1 Gatekeeper Services

SCS8000E has integrated Gatekeeper (Referred to GK). services, which mainly provides such services as registration management, address resolution, call admission control, bandwidth control, zone management, call control signaling, call permissions, call management.

The Services can through Gatekeeper Console (Referred to GKC) to manage.

1.1 Environment Requirement of GKC Installation

GKC software runs on the PC.

Hardware Configuration

Recommended PC Configuration: Pentium 4 1.8 G and above; 256MB Memory and above.

Software Configuration

Operating system: Windows 2000 or above

IE: Microsoft Internet Explorer 6.0 and above

1.2 GKC Installation

Installation Methods

Method One: Use SCS8000E packaging CD, select "Install The Gatekeeper Console Software" to install.

Method Two: Enter such address as "IP of SCS8000E/gk.html" in the URL to install.

If a security setting alert appears in the initial use, please click <**Yes**> to launch the auto-installation. Pop-up login interface when the installation complete.

For detailed information on login the GKC, please refer to the *GKC Software Help file*.

2 Data Conferencing Services

SCS8000E supports video conferencing and data conferencing to work cooperatively. A data conference means that the T.120 data transmission protocol is used for data transmission during a conference, so as to support such conference applications: electronic whiteboard, file transfer, chat and sharing programs.

Data conferencing can through Data Conferencing Console (Referred to DCC) to manage.

2.1 Environment Requirement of DCC Installation

DCC software runs on the PC.

Hardware Configuration

Recommended PC Configuration: Pentium 4 1.8 G and above; 256MB Memory and above.

Software Configuration

Operating system: Windows 2000 or above

IE: Microsoft Internet Explorer 6.0 and above

2.2 DCC Installation

Installation Method:

Use SCS8000E packaging CD, select "Install The Data Conf Console Software" to install.

If a security setting alert appears in the initial use, please click <**Yes**> to launch the auto-installation. Pop-up login interface when the installation complete.

For detailed information on login the DCC, please refer to the *DCC Software Help file.*

3 Video Conferencing Live Online

Through Live Conferencing – a conference recording and broadcasting system and with the use of SCS series MCU, then the video conferencing can be broadcasted online, on-demand and download the video conferencing.
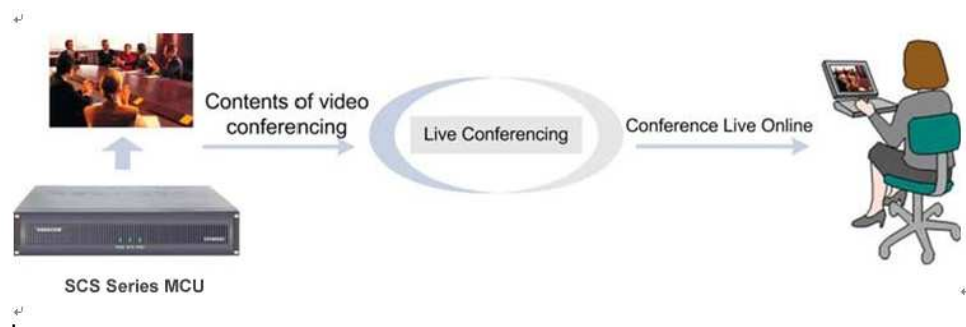
The installation and application of Live Conferencing, please refer to *Live Conferencing User Manual.*

4 Cascade Conference

Cascade conference means a joint of conferences ongoing in different MCUs.

4.1 Simple Cascade

This kind of cascade conference applies to combine conferences holding on the Samcen MCU and other manufacturer's MCU.

Characteristics

o The cascaded MCU (no matter the master or the slave) cannot view MTs of other MCUs;

o The slave MCUs are cascaded as a MT;

o The master MCUs passively accept the streams sent by slave MCUs, cannot operate the MTs of slave MCUs.

How to hold simple cascade conference

Preparation:

To hold a simple cascade conference, the master or the slave MCUs should not select the **Accept Conf Cascade Call** option in the **General Info**>**Advanced Info**> **Advanced Settings** interface.

Method one:

o When creating a conference template on the master MCU, add the E.164 number of the conference in slave MCU into its participant list.

Method two:

o After a non-cascade conference created on the master MCU, call the E.164 number of a slave MCU's conference just as call a MT into the conference.

4.2 Combined Cascade

Combined cascading MCUs are all Samcen's MCU. Both the MTs of the master MCUs and slave MCUs can be viewed by MCU.

Characteristics

o Increase in the number of participating terminals, each slave MCU occupies a channel to transmit data;

o Facilitate management, each participating MT is authorized by a specified MCU.

o A MCU can control MTs of its slave MCUs.

How to hold combined cascade conference

Preparation:

To hold a combined cascade conference, the **Accept Conf Cascade Call** option should be selected both in the conference templates of all combined MCUs.

Method:

The creating method for the combined cascade conference is the same as that for the simple cascade conference.

Operations can be carried out in combined conference

o The master MCU can conduct control over all participating MTs in the directly-connected slave MCU, such as, adding, deleting, calling, hanging up, camera RC, and vide source switching.

o The chairman in each MCU can only control the MTs under the local MCU, and cannot control MTs in a different level of MCU.

o The system supports the master MCU to designate any MT under the directly-connected slave MCU to become the speaker of a conference.

o Each MCU can view MTs of master MCU, slave MCU and its own, adjacent MCUs cannot view MTs of each other.

o In a combined cascade conference, when CP is conducted in a master MCU, its member can be an MT of the local MCU or an MT of a slave MCU (a slave MCU only supports one MT). If CP is performed in a slave MCU, its member can be an MT of the local MCU or the broadcast channel of the master MCU. After the CP operation, the CP pictures are not required to be sent to the master MCU.

o A master MCU can designate an MT (only one is supported) of a slave MCU to be displayed on the monitor wall of the master MCU. A slave MCU can designate whether pictures from its master MCU are displayed on the monitor wall of the slave MCU.

o If the conference discussion mode is used, an MCU will automatically start the local mixer (in discussion mode) .

o If custom mixing is used, a master MCU is supported to select several MTs of its own and certain MTs of its directly-connected subordinate to participate in custom mixing.

o In a combined cascade conference, each level of MCU can only control the recorder of the local MCU. A master MCU can designate an MT of a slave MCU to make recording in the master MCU. A slave MCU can designate its master MCU to make recording in the slave MCU.

o In a combined cascade conference, the user is allowed to conduct such operations as view and MCC monitoring. The MT from master MCU is allowed to view the MT of the directly-connected slave MCU, and the MCC of the master MCU is allowed to monitor the MT of the directly-connected slave MCU (an MCU only supports one MT). The MT from slave MCU is not allowed to view the MT under the master MCU, and the MCC of the slave MCU is not allowed to monitor the MT under the master MCU.

o In a combined cascade conference, an MCU is supported to poll all online MTs of the local MCU and all online MTs of the directly-connected slave MCUs. Two cases are involved when an MT in a slave MCU speaks in the local MCU: Only video polling can be conducted, and the polling of and broadcast to all MTs in the MCU cannot be made; Polling of audio and video can be conducted. The polling of and broadcast to all MTs in the MCU can be made.

o In a combined cascade conference, the MCC connected to the master MCU is supported to be set to monopolizing the entire conference, and other MCCs can only view pictures, without any operation right.

o In a combined cascade conference, an MCU is supported to send messages to the MT of its own or of the slave MCU.

o When a combined cascade conference is created, the speaker of each MCU

is independently controlled by the MCU itself. If a slave MCU does not have a speaker, the conference held on the MCU is in no speaker status.

5   Version Upgrade

Use MCC software to upgrade the MCU version.

Preparation:

o   Confirm the current MCU version;

o   Login website:http//www.samcen.com to download corresponding version documents to local PC.

Update Operations:

The upgrade file of SCS8000E is mcuupdate.bin;

1） Start the MCC software, then go to **MCU Mgt** > **General Info** interface, click < **Upgrade MCU**> button;

2） Click < **Select Files**> in the pop-up interface, then select a file needed to upload;

3） Click < **Upgrade**> button, the file will automatically upload;

4） After the completeness of uploading, reboot the SCS8000E to make the upgrade into effect.

6 Troubleshooting

This chapter describes the use of MCU in the progress of frequently asked questions, and possible causes and solutions.

6.1 Download troubles of MCC

Phenomena	Phenomena	Solutions
Download failure of MCC	PC opens the firewall.	Please temporarily turn off the firewall.
	Check whether such security software as Internet Assistant is installed or plug-in download is disabled in IE settings	Disable these configurations, and download once again.
	Confirm whether the connection between the PC and the MCU is OK or not.	Use "ping" command to check the network.
	The Internet security set is too high.	In the IE, select **Tools**>**Internet Options**>**Security**, click **Custom Level**, and the **Security Settings** interface appears; Set the security level to "Low" or "Medium-low".
	Your PC has been installed MCU console software.	Please delete this Control from C:\WINNT\Downloaded Program Files, re-download the file.

6.2 Connection troubles of MCC

Phenomena	Phenomena	Solutions
MCC connects to MCU abnormally	The MCU does not start normally	Please check whether the MCU operates normally.
	MCC does not match the version with the MCU	Check whether the MCU version matches the MCS version.
	The Internet security set is too high.	In the IE, select Tools>Internet Options>Security, click Custom Level, and the Security Settings interface appears; Set the security level to "Low" or "Medium-low".

Phenomena	Phenomena	Solutions
	PC opens the firewall.	Please temporarily turn off the firewall.
	Your PC has been installed MCU console software.	Please delete this Control from C:\WINNT\Downloaded Program Files,re-download the file.

6.3 Troubles of MT joining conference

Phenomena	Phenomena	Solutions
Some MTs cannot join a conference after the conference has started.	The connection between MCU and MTs failed.	Use "ping" command to check the network..
	Use the E.164 number or H.323 alias to call an MT, but the MT has not register to GK.	Check the status of MT registration to GK in the MT's main interface.
	The conference holding on the MCU was encrypted, but the MT did not set encryption.	Check the encryption settings between MCU and MT.
	MTs have been connected to the MCU over the number of authorized.	With MCC software, enter the **MCU Mgt > General Info** interface to check the authorized number. Or attempt to withdraw some MTs from conference.

6.4 Troubles of camera remote controlling

Phenomena	Phenomena	Solutions
Controlling MT's camera failed during conferencing.	The camera you selected to control does not support PTZ controlling.	Make sure that the camera you selected supports PTZ controlling.
	The MT you selected does not allow Far End Camera Control.	Make sure that the FECC function is enabled for the MT you selected.

6.5 Troubles of pictures

Phenomena	Troubles	Solutions
After setting an MT as speaker, all the other participants can not view its images.	Speaker video source fault.	The speaker makes a self-test to check the picture effect.
	Speaker's call rate is too low.	Speaker withdraws from the conference, then matches the conference rate to recall the conference.
MTs are dragged to the monitoring window of the MCC, but no pictures are displayed.	Monitoring is disabled	Make sure whether No Monitoring is selected in Preferences > User Settings > Monitoring interface. If selected, please undo it.
	Decoder error	Please reinstall the MCC, which contents decoder.
	The Operating system had installed MCC software is Windows Vista, in addition, the PCMT software, MTC software and Kaspersky Anti-Virus software are enabled.	Please temporarily turn off the Kaspersky Anti-Virus software.

6.6 Others

Phenomena	Phenomena	Solutions
An error report as "Codec error in turning on audio card" or "Decoder error in turning on audio codec" appears when monitoring images	The audio card driver of the PC of the MCC is not successfully installed	Please check whether the audio card driver of the PC of the MCC is successfully installed.
	Decoder error.	Please reinstall the MCC, which contents decoder.
	If the codec has already been installed, but it is of lower priority.	Reset the priority of the codec.
	The audio card software conflicts with other software ports.	Recommend to mask other conflicting ports conference.

Appendix A Port Usage of SCS8000E

This chapter mainly introduces the port usage of SCS8000E MCU, you may need the following information when configure the firewall of video conferencing system.

SCS8000E MCU start port default value of the UDP, TCP:

Data Receive Port: Default value is 61000.

H.225/H.245 Start Port: Default value is 60002.

In a variety of network deployment, when the SCS8000E uses default value of

UDP and TCP ports please refer to following table:

Network Deployments		Port Number	Functions
LAN Network/WAN Network		61000－62280 dynamic	UDP Media ports
		1719 static	UDP RAS ports
		1720 static	TCP H.225 ports
		60002–60258 dynamic	TCP H.245 ports
LAN and WAN Mixed Network	Enable private proxy of Samcen	2776–2777 dynamic	UDP Proxy Server ports
		2776–2777 dynamic	TCP Proxy Server ports
	Enable H.460 proxy	48000–50000 dynamic	UDP Media ports
		1719 static	UDP RAS ports
		1720 static	TCP H.225 ports
		59000-60000 dynamic	TCP H.460 ports

If you modify the default value of data receive port and H225/H245 Start Port, the SCS8000E will automatically adjust the range of UDP Media port and TCP H.245 port basing on your modified default value.

The range adjustment conforms to the following regulations:

o   UDP Media Port: Data Start Port (Initial Value is 61000)－>61000＋1280;

o   TCP H.245 Port: Initial value of H225/H245 Start Port is 60002－>60002＋256

Appendix B The Media Processing Ability of SCS8000E

The SCS8000E MCU's abilities to Mixing and CP are detailed as follows:

1 Enabling the mixing or discussion application

o The maximum of 32 audio channels of participants can be mixed;

o In the condition that discussion have been enabled already in a conference, for some reasons (for example, new terminal's joining) the participant terminals are more then 32, the system will prompt corresponding alert, and switch the discussion mode to custom mixing or stop discussion, according to the solution way you selected in the **Conf Mgt**>**Template**> **General Info**> **Advanced Info** interface.

2 Enabling the CP application:

o the maximum of 16 images combined ;

o The ordinary CP Layout of SCS8000E MCU could be 1 Picture, 2 Pictures (Left and Right), 4 Pictures, 9 Pictures and 16 Pictures;

o The 1+N CP Layout of SCS8000E MCU could be 2 Pictures (1 Larger and 1 Smaller), 3 Pictures (1 Top and 2 Bottom), 4 Pictures (1 Larger and 3 Smaller), 6 Pictures (1 Larger and 5 Smaller), 8 Pictures (1 Larger and 7 Smaller) and 13 Pictures (1 Larger and 12 Smaller).

o The 2+N CP Layout of SCS8000E MCU could be 6 Pictures (2 Top and 4 Bottom), 10 Pictures (2 Top and 8 Bottom), 10 Pictures (2 Left and 8 Right) and 14 Pictures (2 Larger and 12 Smaller), in addition with the 3+4 CP Layout is 7 Pictures (3 Larger and 4 Smaller).

3 Voice activation and mixing application can not be applied simultaneously;
4 Mixing and discussion can not be applied simultaneously.

Appendix C Downloading and Installing the PCMT

The customer who buys the MCU and the PCMT at the same time can download and install the PCMT software following these ways.

1. Open the Internet Explore;

2. Enter the address as *http://192.168.2.1/pcmt_setup.exe* and the 192.168.2.1 is the MCU's address;

3. Pop-up a window in which you can select run or save.

For detailed information on installing the PCMT software, please refer to the PCMT's online help.

Appendix D Glossary

Abbreviation	Meaning
SCS	Samcen Videoconferencing
GK	Gatekeeper.
IP	Internet protocol.
IPLR	Intelligence Packet Loss recovery.
DCC	Data Conference Console.
MCU	Multipoint Control Unit.
MCC	MCU Console.
CP Unit	Continuous Presence Unit, a kind of device embedded in the MDSC/HDSC module of SCS8000E that can merge multiple channels of images into one channel of image in small picture mode according to certain format
SCS-DCS	Data Conference Server

Stream Media	The multimedia data stream is transmitted from the server to the client through the network, and the receiver can play the media while receiving it.
MT	Meeting Terminal: a videoconferencing terminal with the capability of audio/video collection and coding, as well as the capability of audio/video decoding.
MT Dumb	The MT ceases to output the local audio signal to the network so that other MTs that receive this MT fail to hear the sound of the dumb MT
MT Mute	The MT ceases to output decoded audio signal to the local audience, so that the mute MT cannot hear voice from other MTs.

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