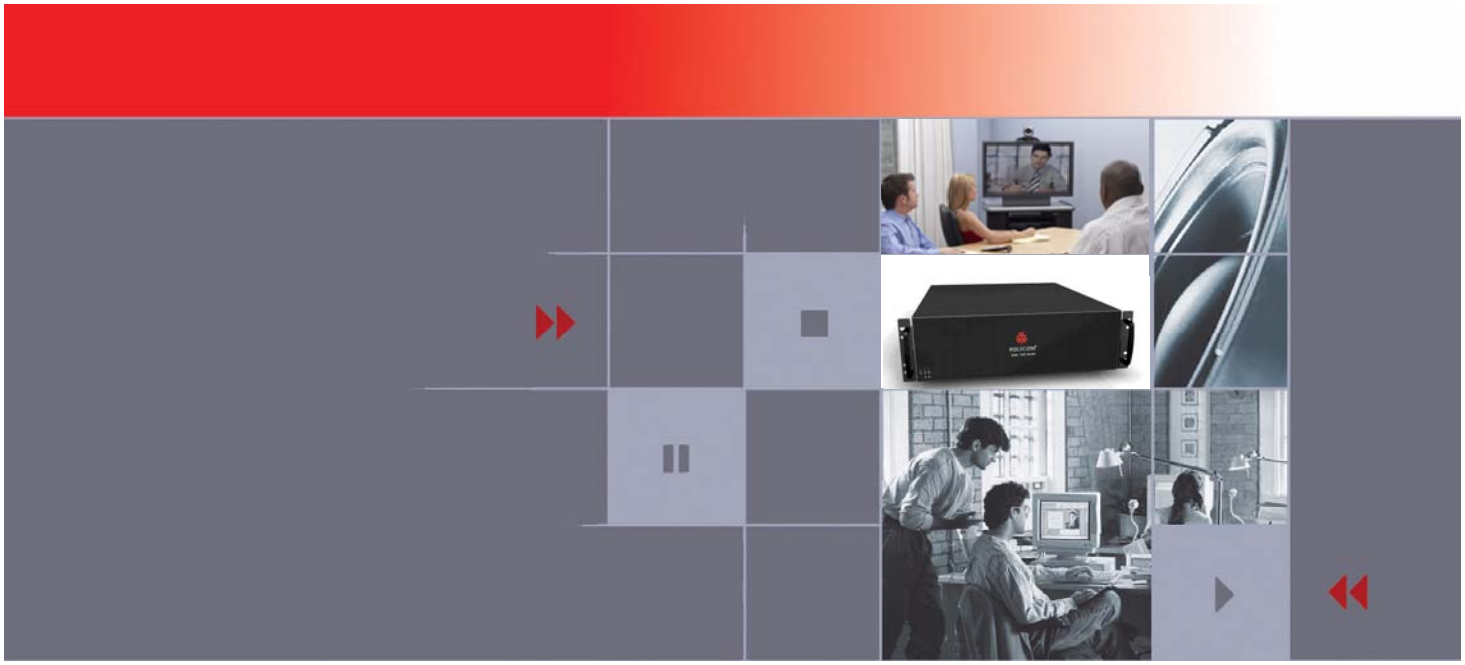


RMX 1000 User Guide

Version 1.1

POLYCOM®

Catalog No. 3150-16966-001
Version 1.1

Notice
While reasonable effort was made to ensure that the information in this document was complete and accurate at the time of printing, Polycom, Inc., cannot assume responsibility for any errors. Changes and/or corrections to the information contained in this document may be incorporated into future issues.

Regulatory Notices

United States Federal Communication Commission (FCC)

Part 15: Class A Statement. This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. Test limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates uses and can radiate radio-frequency energy and, if not installed and used in accordance with the instruction manuals, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his or her own expense.

CE & UL Mark

Polycom Inc., declares that the Polycom RSS2000 is in conformity with the following relevant harmonized standards:

EN 60950-1:2001+A11:2004
EN 55022:2006
EN 55024:1998/A1:2001/A2:2003
EN 61000-3-2:2006
EN 61000-3-3:1995/A1:2001/A2:2005
UL Listed (USA)
CUL Listed (Canada)

Following the provisions of the Council Directive 1999/CE on radio and telecommunication terminal equipment and the recognition of its conformity.

Compliant with European Battery Directive 2006/66/EC

To comply with the European Battery Directive 2006/66/EC, dispose of weak and worn out batteries in accordance with local and national regulations.

Table of Contents

1

System Overview

This chapter will serve as a brief introduction to the RMX 1000 system and its major functions and features. The subsequent chapters provide more details to attend, manage, and monitor conferences through the RMX 1000 system, and on maintaining the device.

RMX 1000

The Polycom real-time media conferencing platform (RMX 1000) is a **high-value** multipoint platform for small IP networks or remote locations on large IP networks.

The Polycom RMX 1000 provides the following features:

- All-in-one box is easy to install, configure, and manage
- Provides high quality audio, video, and content sharing
- Ensures an optimal experience even on sub-optimal networks with **Polycom LPR**
- Familiar user interface and web interface (same as RMX 2000)
- Siren 22 Stereo
- H.264 Content
- Internal Reservation (optional) – or external with Polycom SE 200
- Personal Conference Manager (PCM)

The Polycom RMX 1000 Multipoint Control Unit (MCU) meets International Telecommunication Union-Telecommunication Standardization Sector (ITU-T) standards for multipoint multimedia bridging devices, and meets ETSI standards for telecommunication products.

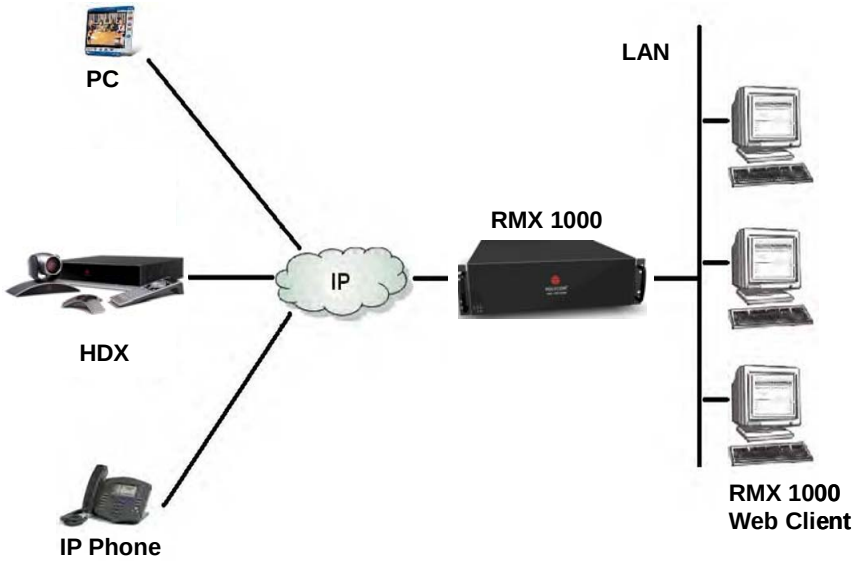


Figure 1-1 *Multipoint Video Conferencing Using a Polycom RMX 1000*

RMX 1000 Main Features

Video Display

Dynamic Continuous Presence

The dynamic Continuous Presence capability of the RMX 1000 system ensures viewing flexibility by offering multiple viewing points and window layouts for video conferencing. The Continuous Presence mode offers 24 different onscreen layouts to accommodate different numbers of participants and conference settings.

High Definition

High Definition (HD) refers to high-quality picture resolution. An HD-compliant endpoint can connect to a conference at a resolution of 1280x720 (720p) and a bit rate of 1024 kbp ~2 Mb.

Multiple Switching Modes

If the number of participants in a conference is higher than the number of onscreen spaces in the selected layout, the RMX 1000 system supports switching between video participants in one of these modes:

- Voice activation (loudest sites are included in the layout)
- Administrator-specified (one or more participants configured for display in a selected video window)
- Lecture Mode – The lecturer is viewed in full screen by all conference participants, while the audience is rotated through the lecturer's view in a "time-switched" mode.

H.239

An H. 239 compliant endpoint can simultaneously send and receive two channels of conference video streams: dynamic conference video and PC screen content. This mode of content sharing is used for many functions, such as training or reporting.

Media Encryption

The system has an optional AES 128-bit media encryption mode, so the conferencing connection is more secure.

LPR

LPR (Lost Packet Recovery) is a Polycom algorithm designed to protect IP video calls from the impact of network packet loss. LPR offers five key benefits:

- Allows users to conduct high quality video calls over loss-prone IP networks (DSL, cable, satellite, high contention LANs / WANs, etc.) without suffering the effects of packet loss.
- Protects video calls from short-term network issues by temporarily adjusting the bit rate of the call in progress.
- Reduces the jitter buffer and associated delay.

- Allows an organization to use all available bandwidth for its video calls.
- Protects all elements of the videoconference call; voice, video, and content.

IVR-Enabled Conferencing

The Interactive Voice Response (IVR) function lets participants perform various operations during ongoing conferences according to voice prompts. The participants use their endpoints' keypads and remote control to interact with the conference's menu-driven scripts using Far-End Camera Control (FECC) and DTMF codes.

Recording Link

The RMX 1000 system supports recording links similar to other Polycom MCUs. This recording link can work with the Polycom RSS 2000 to record the content of an RMX 1000 conference.

Conferencing Capabilities and Options

On Demand Conferencing

The following options are available when setting up conferences:

- Instant Conference – Convene an instant one-time-only conference. The conference is deleted from the MCU immediately after its completion.
- Meeting Room – Meeting rooms are stored in the MCU memory, without occupying any MCU resources until used. They can be activated anytime.
- Reserve a Conference (using SE 200, or internally with optional with keycode) – The reserved conference is stored on the SE 200 (or RMX 1000, if using internal scheduling) and occupies resources only for its specified timeframe. The system automatically initiates and terminates the conference according to the reservation start and end times.

Connection Methods

- Dial-out: automatically connect pre-defined participants (automatic line rate detection)
- Dial-in:
  - Inbound calling by pre-defined participants
  - Inbound calling by undefined participants

Conference Management and Monitoring Features

The Polycom RMX 1000 Web Client provides capabilities for management and monitoring of participants and conferences as follows:

- Lecture Mode in Continuous Presence conferences
- Far End Camera Control (FECC/LSD) in video conferences
- Automatic termination of empty (no participant) conferences
- Control of listening and broadcasting audio volume for individual

participants

- Conference control via DTMF codes from participant's endpoint or telephone
- Multimedia encryption
- Real-time display of all conferences and participants
- Real-time monitoring of each participant's connection status and properties
- Easily accessible Call Detail Records (CDR) for administrator
- Active display of all system resources

User Interfaces

Web Interface

The system provides a user-friendly Web-based operations interface. To conveniently and easily manage and monitor conferences, or maintain the device, the user only needs to access the Web client program of the RMX 1000 system by using the IE browser at the PC. The Web interface is designed for both administrator and operator level users.

Personal Conference Manager (PCM)

The Personal Conference Manager (PCM) is a menu-based onscreen interface viewed on a participant's endpoint. The user can perform common conference operations using the endpoint's remote control and onscreen operation menus. The interface is designed for end users.

Full Integration with SE 200

The RMX 1000 system can be completely integrated with the Polycom ReadiManager SE 200 for centrally-managed scheduling. The SE 200 can manage the RMX 1000 as follows:

- Viewing details of the RMX 1000 system
- Modifying conference profiles and scheduling conferences
- Monitoring ongoing conferences
- Managing the ongoing conference and participants, e.g., extending the conference time, terminating the conference, adding/deleting a participant, and sending notification E-mails to a participant

2

First Time Installation and Configuration

Follow the procedure below to implement *First Time Installation and Configuration* of the RMX 1000 system:

1 **Hardware Installation and Setup**

2 **Configuration Preparations**
- Get the information needed for network configuration.
- Get the product activation key.

3 **First Time Configuration**
- Connect a PC to the RMX 1000.
- Log in to the Web interface.
- Modify the default IP address.
- Configure other network options.

Hardware Installation and Setup

Install the hardware and connect lines as described below:

1. Put the RMX 1000 product on a stable surface at the installation site.
2. Carefully take the RMX 1000 device out of the package. You can install the device in the rack or position it on an even surface.
   - Mount the RMX 1000 in the rack: Install rack brackets, supplied by the rack manufacturer, in the rack. Mount the RMX 1000 on top of the rack brackets. Fasten the RMX 1000 to the rack with screws.
   - Put the RMX 1000 on a safe, even, and clean surface.
3. Connect cables on the back panel of the RMX 1000:
   - Power Cable: Firmly insert the plug into the power socket to prevent poor contact.
   - LAN Cable: Connect to the LAN1 port of the RMX 1000.

Configuration Preparations

Obtaining Network Information

Before the first time configuration, obtain the following information from the network administrator. This helps you to configure the RMX 1000 in your local network:

- The IP address, subnet mask, and default gateway IP address of the RMX 1000 LAN port
- (Optional) Gatekeeper address, and the H.323 prefix and E.164 number to be assigned to the RMX 1000

Obtaining Product Activation Key

Before using the RMX 1000, you need to register and activate the device. Follow the procedure below to obtain the product activation key. When you power on and log in to the RMX 1000 for the first time, the system displays the *Product Activation* dialog box, requesting you to enter a Product Activation Key.

1. Enter http://portal.polycom.com in the address bar of the browser to access the login page of the Polycom resource center.
2. In the login box, enter your Email address and password, and then click **Sign In**. If you are a new user, click the **Register for an Account** link for registration.
3. Click **Service & Support** in the upper navigation bar on the interface. On the *Service & Support* page, click **Product Activation** in the left navigation bar.

Figure 2-1 Service & Support Page

4 Enter the *Activate Your Product* page. Enter the **License Number** and **Serial Number** of the product in the *Single License Number* pane, and then click the **Generate** button. You can find the license number and serial number of the product from the document provided with the RMX 1000. Record the activation key displayed in the *Key Code* field.

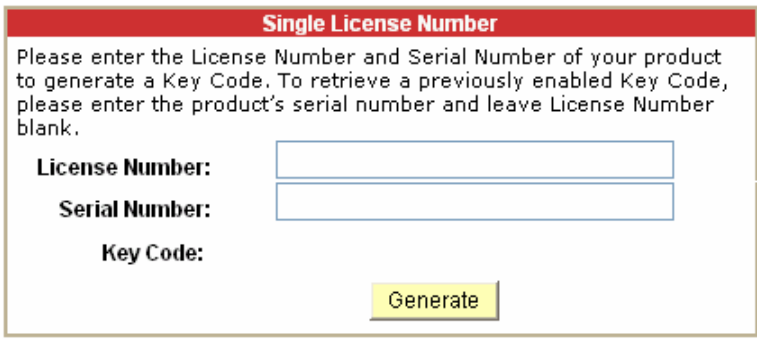


Figure 2-2 Activation Key Generating Page

First Time Configuration

Connecting PC to RMX 1000

1 Connect your PC to the LAN1 port (the LAN1 port is enabled by default) of the RMX 1000 with a cross-over network cable, or connect your PC and RMX 1000 to the same switch in the LAN. Turn on the power switch at the RMX 1000.

2 Configure the IP address for your PC, which is in the same network segment as the IP address of the RMX 1000.

The default IP address of the RMX 1000 before delivery is:

— IP address of the LAN1 port - **192.168.1.254**
— Subnet mask - **255.255.255.0**
— Default gateway IP address - **192.168.1.1**

You can also view the current address information of the product using the RMX 1000 Discover tool provided with the device.

Run the RMX 1000Discover.exe file in the CD provided with the product.

Click the **Discover** button to display the current address information of the device.

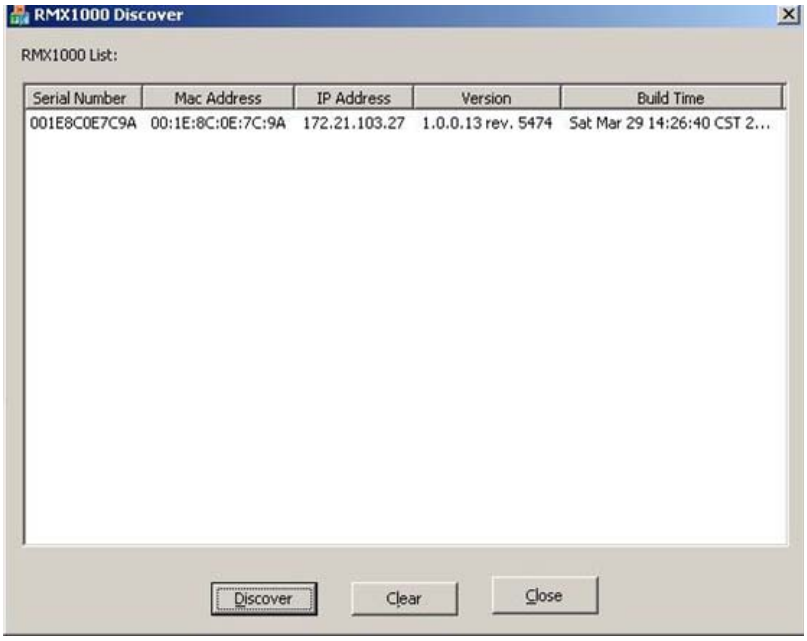


Figure 2-3 *RMX 1000 Discover Tool Interface*

Logging in to Web UI

1 Run the Web browser on the PC. Enter **http://<RMX 1000 IP address>** in the address bar, and then press **Enter**.

2 (Optional) Select a language for the Web interface from the drop-down menu. If the browser or OS of your PC does not support the selected language, the content is displayed in English.

3 On the *Welcome* interface, enter the default **User Name** (POLYCOM) and **Password** (POLYCOM). Click the **Login** button to enter the *Web configuration* interface.

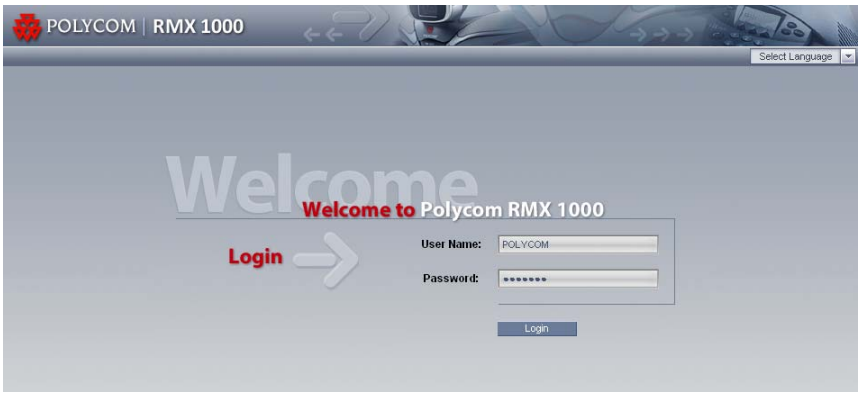


Figure 2-4 *Logging in to the RMX 1000 Web Interface*

4 The *Product Activation* dialog box is displayed. Fill in the activation key obtained in *Obtaining Product Activation Key* in the *Activation Key* box, and then click the **Save** button. Click the **Close** button.

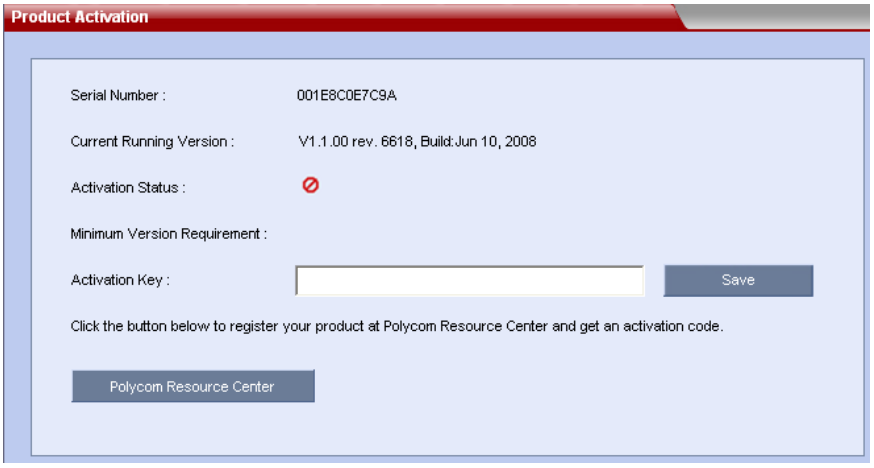


Figure 2-5 Product Activation Page

Modifying the Default IP Address

After accessing the RMX 1000 Web configuration interface, you can modify the default IP address for the device based on the settings of your local network.

1 Click the **IP Setting** configuration item in the *RMX Management* pane.

2 In the *IP Setting* configuration pane, right-click, and select **LAN1** -> **Properties**.

3 In the *LAN1 Settings* dialog box, set the IP address obtained from the network administrator, and configure the device for use on your local network.

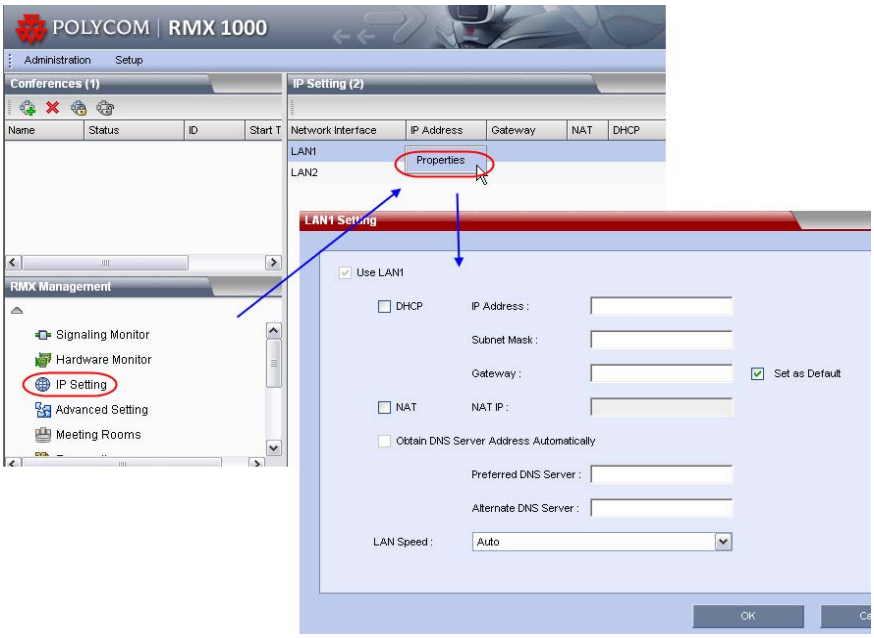


Figure 2-6 Modifying the IP Address

Table 2-1 LAN Port Setting Parameters

Parameter	Description

Parameter	Description
Use LAN1	Enables/disables the network port
DHCP	If the user network is configured with a Dynamic Host Configuration Protocol (DHCP) server, select this option to automatically obtain the IP address. Deselect this option to use a static IP address, in which case you need to configure the next three options.
IP Address	Set the IP address for this network port
Subnet Mask	Set the subnet mask for this network port
Gateway	Set the gateway address for this network port. If the **Set as Default** option is selected, the device packet will be forwarded through this gateway by default when there is no matched static route. In this case, a default route is displayed in the list of the *Advanced Setting -> Router* page. For details, refer to the *Routers* section.
NAT	The Network Address Translation (NAT) function enables you to translate a private network IP address into a public network IP address before transmission. To enable NAT, select this box and then type the public network IP address to be displayed to the outside.
Obtain DNS server address automatically	Used in combination with the DHCP option. When the *DHCP* check box is selected, this option allows you to obtain the DNS server address automatically from a DHCP server in the network.
Preferred/Alternate DNS Server	If you did not select the option for automatic DNS address discovery, you must enter the preferred/alternate DNS server addresses here for the device to resolve domain names.
LAN Speed	Sets the speed/duplex modes for LAN ports. Supported speed/duplex modes include 10/100M, Full Duplex or Half Duplex, and the 1000M Network mode. You can also select **Auto** to use Auto-Negotiation with the switch port. **Note:** Contact the network administrator before setting LAN Speed, to ensure that the switch configuration is matched with the MCU port.

Configuring Other Network Options (Optional)

If necessary, you can configure other network parameters according to the following procedure:

1. Click the **Advanced Setting** configuration item in the *RMX Management* pane.
2. In the *Advanced Setting* configuration pane, double-click the list item or right-click and then select **Properties**.
3. Based on the network requirement, set the routing information in the following dialog box.

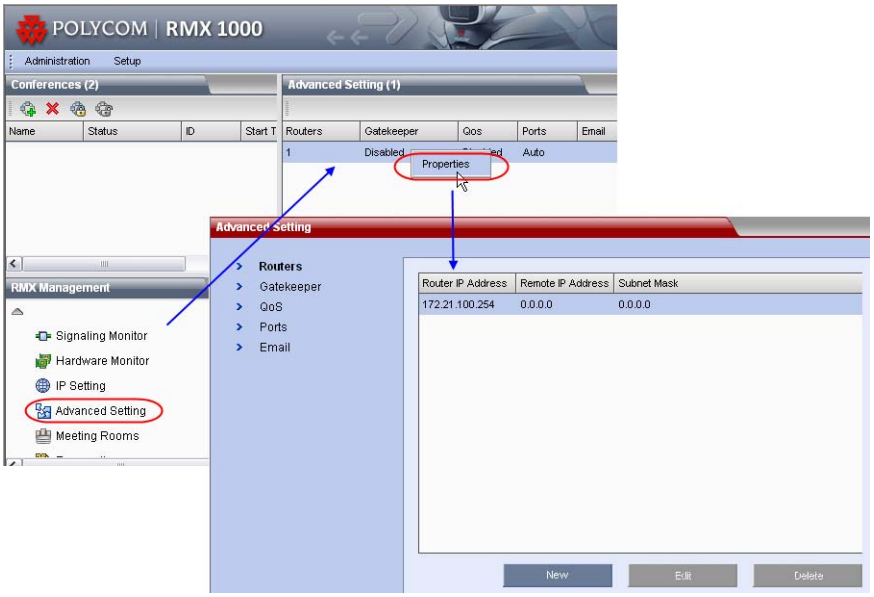


Figure 2-7 *Advanced Setting – Routers Setting*

Table 2-2 *Routers Setting*

Parameter	Description
Router IP Address	Set the IP address for the sending router of packet transmission.
Remote IP Address	Set the target network address for packet transmission
Subnet Mask	Set the subnet mask for the target network

4 Click the **Gatekeeper** tab and set the required gatekeeper information.

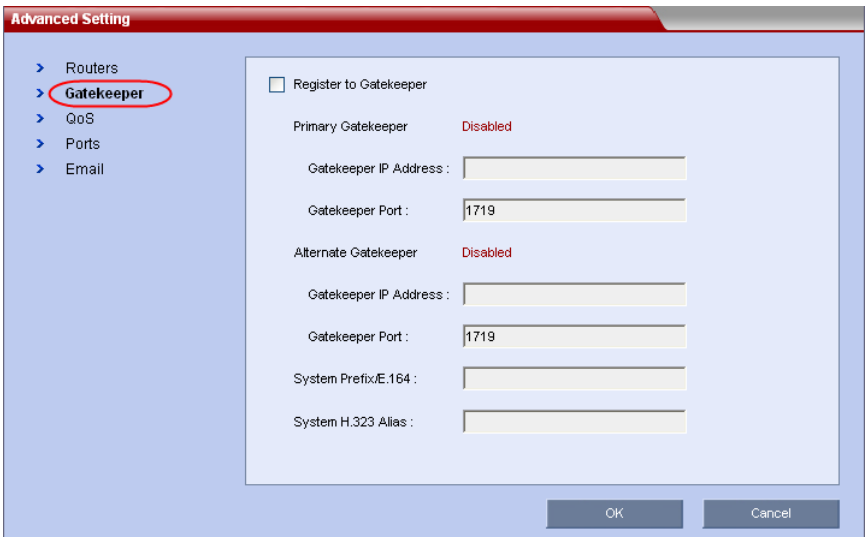


Figure 2-8 *Advanced Setting – Gatekeeper Setting*

Table 2-3 *Gatekeeper Setting*

Parameter	Description

Parameter	Description
Register to Gatekeeper	Set whether or not to register with the gatekeeper. You must check this option to set the following parameters.
Primary (Alternate) Gatekeeper	Indicates whether or not the device is registered with the primary (or alternate) gatekeeper.
Gatekeeper IP address	Set the IP address for the primary (or alternate) gatekeeper.
Gatekeeper Port	The port number for the primary (or alternate) gatekeeper.
System Prefix/E164.	Set the E.164 number for the system.
System H.323 Alias	Set the H.323 alias for the system.

5 Click the **OK** button to complete the configuration.

For more network service configuration information, refer to *Advanced Setting*.

3

Basic Operation

This chapter introduces the Web UI components of the RMX 1000 and common operations, and how to start a simple conference. The goal of this chapter is to provide a quick guide on how to start a conference with minimal effort.

RMX 1000 Screen Components

The Web configuration homepage of the RMX 1000 consists of five panes:

- Conference List
- RMX Management
- List Pane
- Address Book
- Status Bar

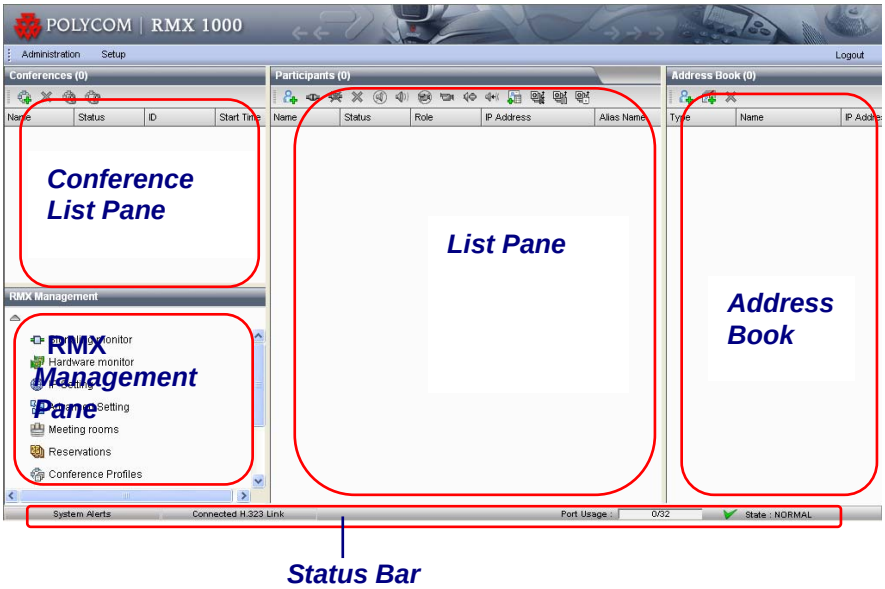


Figure 3-1 Layout of the Web Interface

User Rights

You can log in to the Web interface as a conference chairperson, an operator, or an administrator.

RMX 1000 can support a maximum of 20 users simultaneously connected to Web UI.

The table below shows the operation abilities of users at different levels when accessing the Web interface of the RMX 1000.

Table 3-1 *List of User Rights*

	View		
	Chairperson	Operator	Administrator
Conference List	√	√	√
List Pane	√	√	√
Address Book	√	√	√
Status Bar		√	√
RMX Management		√	√
Conference Alert		√	√
Conference Status		√	√
Configuration Interface		√	√
	System Operations		
	Chairperson	Operator	Administrator
Start Conference	√	√	√
Monitor Conference	√	√	√
Monitor Participant	√	√	√
Solve Basic Problems		√	√
Modify Device Configuration			√

The administrator has all operation rights to the Web interface. Unless otherwise specified, this guide describes the interface operations of an administrator.

Pane Layout

Conference List

The *Conferences* list pane shows all the conferences running on the current device and their relevant information, including status, ID, start time and end time. Here you can create, delete, and lock conferences, as well as view conference details. The title bar of the pane indicates the number of the

ongoing conferences.

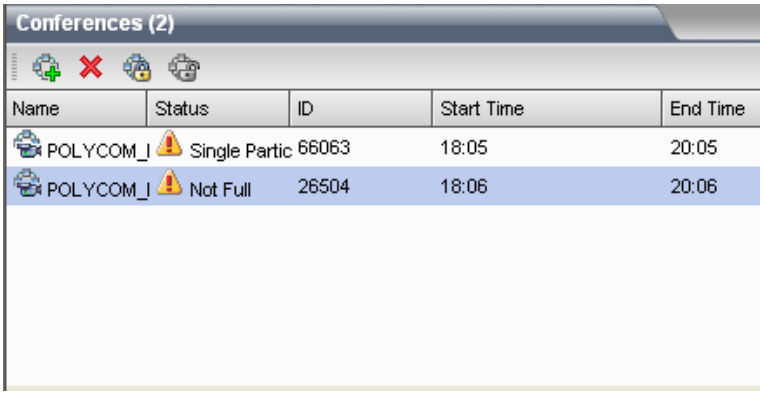


Figure 3-2 *Conference List Pane*

If you log in as the conference chairperson, the pane only shows the conferences with no chairperson password. To view the conferences for which a chairperson password is set, enter the password in the *Chairperson Password* box.

RMX Management

The *RMX Management* pane lists the menu options for conference configuration, in addition to device maintenance and management. Only users at administrator or operator levels can configure the menu options. After an item is selected in the *RMX Management* pane, the corresponding configuration items will be displayed in the *List* pane.

List Pane

The *List Pane* displays a list of the participants of the ongoing conference by default. When you click a menu item in the *RMX Management* pane, the *List Pane* displays the related parameter list. You can view all the property parameters and make specific configurations. The panel title varies with the selected option.

Status Bar

Located at the bottom of the Web interface, the status bar shows the system alert information, H.323 link status, resources usage and MCU status.

- System Alerts

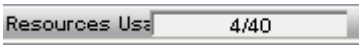
  The indication bar shows problems with the system. If there are problems with the system, this indication bar flashes in red until all the problems are solved.

  Click **System Alerts** on the left part of the *Status Bar* to display the *system alert* pane. For more information about *System Alerts*, see *System Alerts*.

- H. 323 Link Status

  This indication bar shows in real time the endpoints connected with the system and relevant information. When an H.323 endpoint is connected to the device, *Connected H. 323 Link* on the *status bar* is highlighted in red. Click this control to open the *H.323 link status pane*. For more information about H.323 links, see *H.323 Link*.

- Resources Usage

  This indication bar shows the number of Resources used in the system and Resources available in the system. For example, 

indicates that 40 resources are available and 4 of them are in use. Click **Resources Usage** to view details about Resources usage, as shown below.

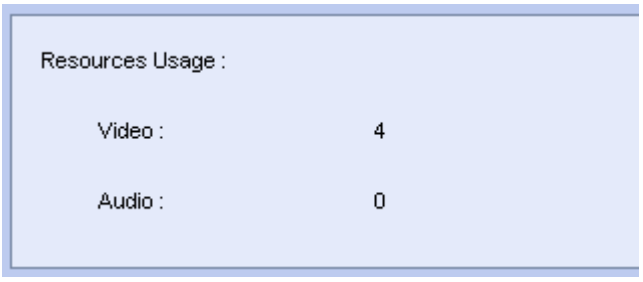


Figure 3-3 Resources Usage Information

- MCU State

  The following explains the information displayed in the *MCU State* area:

  — 

- The MCU is functioning normally.

  — 

- The MCU has a MINOR problem but keeps working.

  — 

- The MCU has a MAJOR problem. MCU behavior could be affected and attention is required.

Address Book

The *Address Book* shows the participant information set on the RMX 1000. It enables users to easily add participants to the conference. Here the user can add and delete participants or set participant groups. For more information about the address book, see *Address Book.*

Common Operations

List Sorting

All the list items on the Web interface can be sorted by parameter properties.

Click the desired column header in the list. When a small triangle () appears, you can sort the list in ascending or descending order. After a list is sorted by a column header in ascending (or descending) order, you can click the column header again to sort it in opposite order.

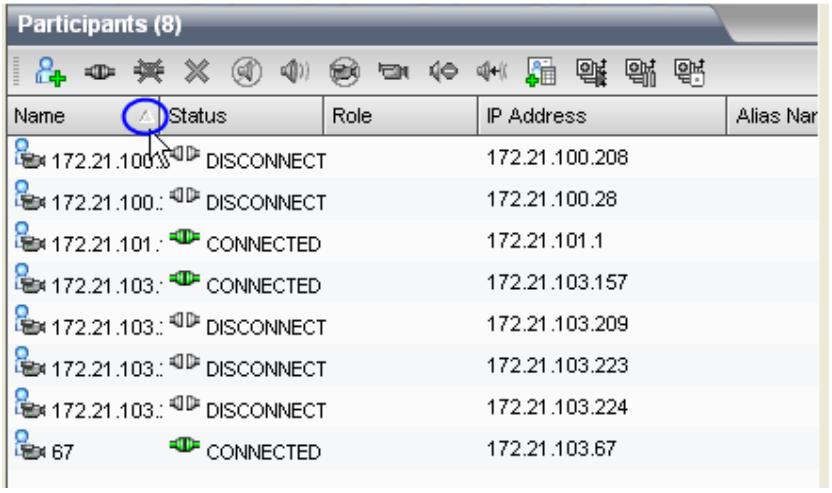


Figure 3-4 List Sorting

Right-click Shortcut Menu

The Web interface provides right-click shortcut menus for common operations such as viewing detailed parameters, creating/deleting items, etc. Alternatively, you can perform these operations by double-clicking the corresponding list items or by using the corresponding buttons on the toolbar of the pane.

Pane Sizing

Move the mouse pointer to the border of the pane; when the pointer turns into an arrow, drag to size the pane while holding down the left mouse button.

Confirm/Cancel

To confirm your settings on the *parameter configuration* interface, click the **OK** button in the lower part of the interface. To abort your settings, click the **Cancel** button.

Starting a Conference

There are several ways to start a conference with the RMX 1000:

- Click the **New Conference** button in the *Conferences* pane.
- Directly enter the dialing number, including a new conference ID, through the remote control.
- Dial into a meeting room. A Meeting Room is a conference that is saved in the MCU, without occupying any resources. It remains in passive mode until it is activated by the first participant. For more information about Meeting Rooms, see *Meeting Room.*
- Reserve a conference (optional): The reserved conference is stored at the MCU and reserves system resources for the call's specified time. The

system automatically convenes the conference according to the reservation time. For more information about conference reservation, see *Reservation*.

- Dial into the PCM (personal control manager) lobby to create a conference. For more information about creating a conference via PCM, see *Creating a Conference*.

This part describes how to create a conference instantly through the *Conferences* pane and remote control. An instant conference can be established only when the required system resources are available. The conference is deleted right after its completion to maximize system resources.

The RMX 1000 can support a maximum of 32 ongoing conferences.

Starting a Conference from the Conferences Pane

Click  in the *Conferences* pane to display the *New Conference* page.

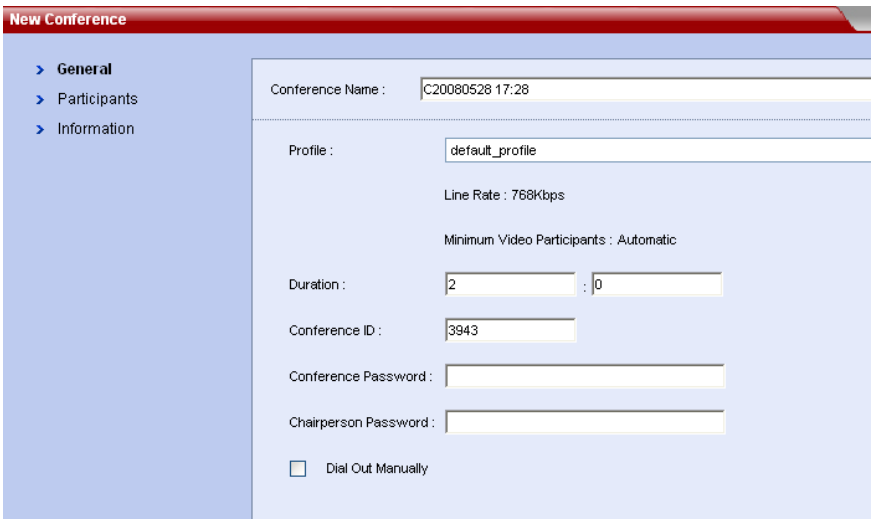
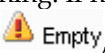


Figure 3-5 *New Conference Page*

The *New Conference* page displays the default conference name, duration, profile of conference parameters, and the conference ID automatically allocated by the system. These options are configurable, but none of these settings need to be modified to start a conference.

The conference chairperson or organizer should inform other participants of the conference ID used for the conference, so that they can dial in.

If necessary, set the basic parameters for the meeting and add participants or relevant supplementary information as desired. For more information, see *Creating a Meeting Room*.

After completing the setup, click **OK**. After that, the *conference list* shows that the new conference is running. If no participant is specified for the conference, the status is displayed as 

, until a participant dials in to the conference.

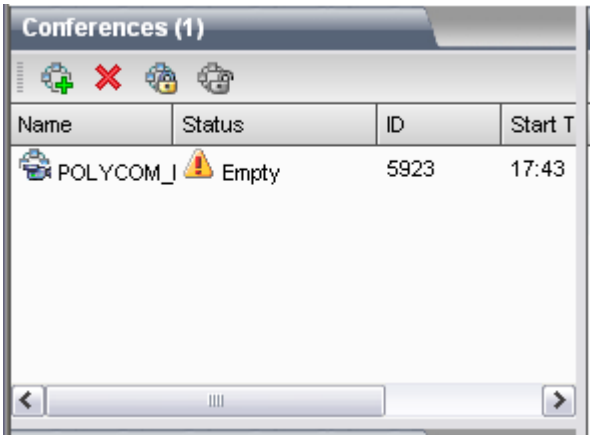


Figure 3-6 Running an Instant Conference

Starting a Conference Using the Remote Control

To create a new conference directly by the remote control of an endpoint, enter the dialing number as described in the table below on the remote control.

Table 3-2 Dialing number for Creating a conference

Scenario	Dialing Number
Create a conference which has no password	▪ RMX 1000 is registered to GK: [RMX 1000 E.164 Prefix][Conference ID] ▪ RMX 1000 isn't registered to GK: [RMX 1000 IP Address]##[Conference ID]
Create a conference which has one password only	▪ RMX 1000 is registered to GK: [RMX 1000 E.164 Prefix][Conference ID]##[Password] ▪ RMX 1000 isn't registered to GK: [RMX 1000 IP Address]##[Conference ID]##[Password] **Note:** If only one password is entered, it will be defined as a chairperson password. In this case, there won't be a conference password and the user will receive the chairperson abilities.
Create a conference which has both conference and chairperson password	▪ RMX 1000 is registered to GK: [RMX 1000 E.164 Prefix][Conference ID]##[Conference Password]##[Chair Person password] ▪ RMX 1000 isn't registered to GK: [RMX 1000 IP Address]##[Conference ID]##[Conference Password]##[Chair Person password] **Note:** The conference password and chairperson password must be different. If the user enters the same password for both, the call will be rejected.

The conference ID the user enters for creating a new conference must be unique - different from existing conference IDs.

For example, if the RMX 1000 is registered to GK and gets 925 as an E.164 prefix:

To create a conference using conference ID 1001, dial 9251001;

To create a conference using conference ID 1001 and chairperson password 2222, dial 9251001##2222;

To create a conference using conference ID 1001, with conference password 1111 and chairperson password 2222, dial 9251001##1111##2222.

Connecting to a Conference – Dialing Methods

To connect an endpoint to the ongoing conference or meeting room, there are two dialing methods:

- Dial into the PCM lobby to enter an existing conference. For more information about connecting to a conference via PCM lobby, see *Entering an Existing Conference*.
- Directly dial into the conference using the remote control. In this way, the user must obtain the conference ID and password (if the conference password or chairperson password is set) first. For more information, see the following sections.

Dial-in – RMX 1000 Registered to GK

If both the calling endpoint and RMX 1000 are registered to the same GK, see the below table for the proper number to be dialed by the endpoint.

***Table 3-3** Dialing Number – RMX 1000 Registered to GK*

Dialing Scenario	Dialing Number
No password is set for the conference	[RMX 1000 E.164 prefix (or H.323 alias)][Conference ID]
Passwords are set for the conference	[RMX 1000 E.164 prefix (or H.323 alias)][Conference ID]##[Password] **Note:** If the password entered is the conference password, the user will be joining as a regular participant. If the password is the chairperson password, the user will be joining as a chairperson. Alternatively: [RMX 1000 E.164 prefix (or H.323 alias)][Conference ID]##[Conference Password]##[Chairperson password]

For example:

RMX 1000 E.164 alias: 925

Conference ID: 1001

Conference name: Maple Room

If no password is set for the conference, the call-in number to be used by participants is: 9251001.

If passwords are set for the conference, for example, if the conference password is 1111 and chairperson password is 2222, a regular participant would dial 9251001##1111, while a chairperson would dial 9251001##2222 or 9251001##1111##2222.

Dial-in – RMX 1000 Not Registered to GK

If no gatekeeper is configured for the network service, see the below table for the proper number to be dialed by the endpoint.

Table 3-4 *Dialing Number – RMX 1000 not Registered to GK*

Dialing Scenario	Dialing Number
No password is set for conference	[RMX 1000 IP Address] ## [Conference ID]
Passwords are set for the conference	[RMX 1000 IP Address] ## [Conference ID]##[Password] **Note:** If the password is the conference password, the user will be joining as a regular participant. If the password is the chairperson password, the user will be joining as chairperson. Alternatively: [RMX 1000 IP Address] ## [Conference ID]##[Conference Password]##[Chairperson password]

For example:

RMX 1000 IP address: 172.22.30.40

Conference ID: 1001

Thus, the call-in number to be used by participants is: 172.22.30.40##1001.

If the passwords are set for the conference, for example, if the conference password is 1111 and chairperson password is 2222, a regular participant would dial 172.22.30.40##1001##1111, while a chairperson would dial 172.22.30.40##1001##2222 or 172.22.30.40##1001##1111##2222.

If the Conference ID the user entered does not exist, the RMX 1000 will create a new conference with this conference ID. For more information, see *Starting a Conference Using the Remote Control.*

4

Conference Profiles

A conference profile is used to pre-define the basic parameters for conference scheduling, such as the bandwidth, encryption, and video quality. All conferences will be created on the basis of conference profiles. By saving conference profiles on the RMX 1000, users can conveniently and rapidly schedule new conferences without performing repeated configurations.

The system is shipped with five default conference profiles as shown in the table below.

***Table 4-1** Default Conference Profiles*

Profile Name	Parameters
Default_768_CIF_H264Content (Default Profile)	With H264 Content
768_4CIF_H264Content	4CIF, H264 with H264 Content
384_CIF_H264Content	384 CIF with H264 Content
384_CIF_H263Content	384 CIF with H263 Content
2M_720p_H264Content (Appears only if the H.264 720p option is activated.)	2M 720p with H264 Content

The following parameters generally decide the video conference quality:

- Bit Rate - The transmission rate of the audio and video streams. The higher this value is, the better the displayed video quality.
- Audio Algorithm - The audio compression algorithm determines the audio quality of the video conference.
- Video Protocol, Video Format, and Frame Rate – These parameters define the quality of the video picture. When an endpoint is connected to the conference, it will select a video capability based on the video parameters set for the conference. For example, if the video protocol for the conference is H.264, an endpoint that supports the H.264 protocol will select H.264 for video-coding when it connects to this conference.

The following features are commonly used to define a conference:

- H. 239 Dual-stream – An H. 239 compliant endpoint can simultaneously send and receive two channels of conference video streams: dynamic conference video and PC screen content. The endpoints participating in the conference must use the same bit rate, protocol, and resolution in order to view the PC contents. Endpoints that do not support H.239 can

be connected to the conference but cannot view the PC content.

- Lecture Mode – All the participants in this mode will see the lecturer in full-screen, and the lecturer will see all the participants in the selected screen layout.
- Encryption – The system provides AES 128-based multimedia encryption to strengthen conference security.

To set a conference profile, click **Conference Profile** in the *RMX Management* pane. The *list pane* shows the profiles saved on the current device and their summaries.

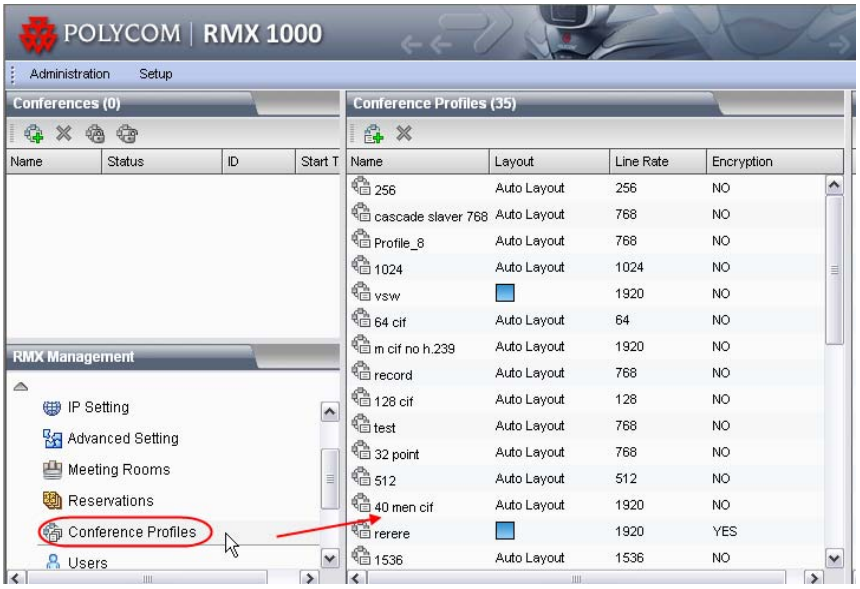


Figure 4-2 *Conference Profile List*

Defining a Profile

To create a conference profile, click  in the *Conference Profile* list pane, or right-click in the blank area in the pane, and then click **New Profile.** The *New Profile* interface appears, as shown below. The RMX 1000 fills in default settings. For basic operations, you only need to define the display name of the profile. If necessary, you can set additional conference parameters, such as video quality, video layout, conference skin, recording parameters, etc.

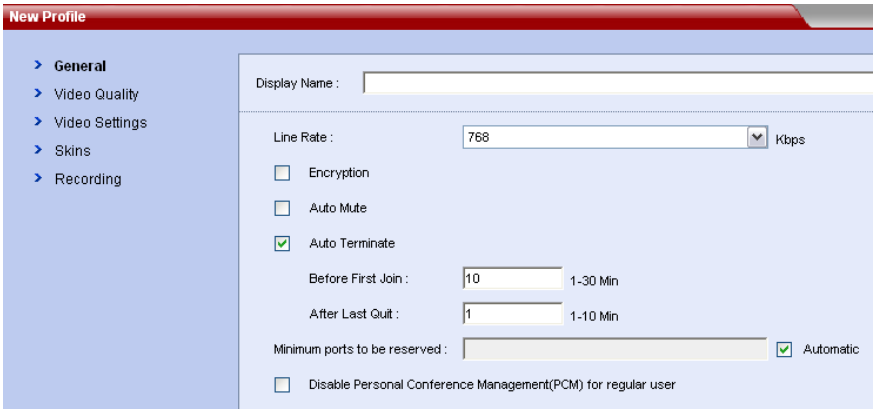


Figure 4-3 *Defining a Profile*

General Settings

On the *New Profile* page, click the **General** tab to display the interface for configuring general parameters, as shown in the figure above. The table below explains the detailed meanings of profile parameters.

Table 4-2 *General Parameters*

Parameter	Description
Display Name	Enter a unique name to identify this profile. Note: This is the only mandatory parameter when you create a new profile.
Line Rate	Select the conference line rate. Line rate indicates the rate that integrates video, audio, and data contents. The default value is 768Kbps.
Encryption	Set whether to enable the AES encryption function for this profile. **Note:** ▪ If any conference uses the profile with AES encryption enabled, an endpoint that does not support the encryption capability cannot join in the conference through the PCM (Personal Conference Manager). Endpoints can access the conference only by directly calling the RMX 1000 E.164 + conference ID. ▪ The RMX 1000 version for some geographic areas may not allow for the encryption option.
Auto Mute	If this check box is selected, after an endpoint dials into the conference, the RMX 1000 will automatically mute it.
Auto Terminate	If this check box is selected, the system will automatically terminate the conference when any of the following conditions is satisfied: ▪ Before First Join - No participant joins in within the set time after the conference starts. The default idle time is 10 minutes. ▪ After Last Quit - All participants have quit the conference, and the conference is idle for the predefined time. The default idle time is 1 minute. This check box is selected by default.
Minimum ports to be	Set the minimum number of conference participants.

Parameter	Description
reserved	
Disable Personal Conference Management(PCM)for Regular User	If this check box is selected, the user who enters the conference as a regular participant cannot display the PCM menu to control the conference. For related information, refer to *Conference Control for Regular Participants*.

Video Quality

To set the video quality parameters for the conference, click the **Video Quality** tab to enter the following page.

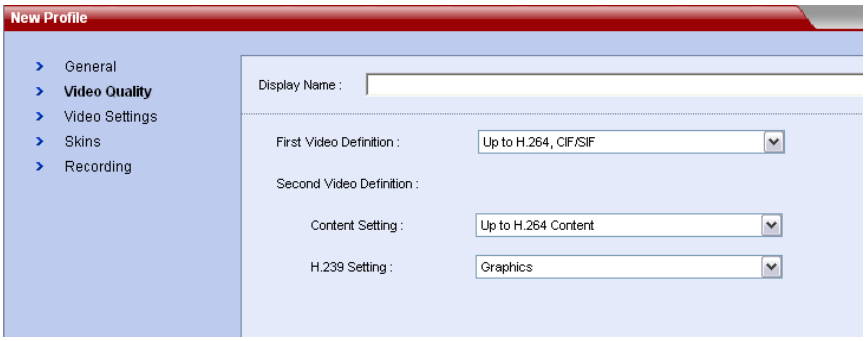


Figure 4-4 *Video Quality Setup Page*

Set the video quality of the conference screen. You can select one of the following five modes:

Table 4-3 *Video Quality Parameters – First Video Definition*

Video Definition	Description
Up to H.264, CIF/SIF	It is used for the screen display of ordinary quality. The conference video can be best coded/decoded with the H.264 protocol and displayed with the CIF/SIF resolution, requesting the lowest bandwidth requirement and occupying the minimum system resources. Each endpoint in the conference occupies only 1 H.323 connection resource.
Up to H.263, 4CIF/4SIF, 15FPS	It is used for the screen display of high quality. The conference video is coded/decoded with the H.263 protocol and displayed with the 4CIF/4SIF resolution and 15FPS frequency, requesting a higher bandwidth. Each endpoint in the conference occupies only 1 H.323 connection resource.
Up to H.264, 4CIF/4SIF	It is used for the screen display of higher quality. The conference video is coded/decoded with the H.264 protocol and displayed with the 4CIF/4SIF resolution. The endpoint must support the H.264 protocol and the bandwidth cannot be lower than 384Kbps. Each endpoint in the conference occupies 2 H.323 connection resources.
(Optional with keycode) Up to H.264, 720P (Common Layout)	The conference video can be best coded/decoded with the H.264 protocol and displayed with 1280x720 (720p) HD resolution, occupying more system resources. The

Video Definition	Description
	conference under this mode has the following restrictions: ▪ The endpoint must support the H.264 protocol and 720p resolution, and the bandwidth cannot be lower than 1Mbps. Otherwise, the conference video will be degraded to the 4CIF/CIF resolution display or H.263 coding depending on the capability of the endpoint that joins in the conference. ▪ It supports only the Same Layout video mode, and the same video layout is displayed for all the conference sites. For more information about the Same Layout mode, refer to Video Settings. ▪ The system can support convening a maximum of 5 720p conferences at the same time. ▪ When a 720p conference is ongoing, the screen of the participant's endpoint displays only the conference video. The PCM menu is unavailable. For more information about PCM, refer to Personal Conference Manager (PCM). **Note:** "Up to H.264, 720P" is an optional function of the RMX 1000 and will not be available until a license is purchased. If the license for this function is not activated, the device does not display the related options. To obtain this function, please contact your supplier.
High Definition Video Switching Highest Common	When this option is selected, the conference video is displayed at the HD resolution (720p). The RMX 1000 forwards rather than codes/decodes the data sent from the HD endpoint. Each endpoint in this conference occupies only one H.323 connection resource. The conference under this mode has the following restrictions: ▪ The endpoint must support the H.264 protocol and 720p resolution, and the bandwidth cannot be lower than 1Mbps. Otherwise, the conference video will be degraded to the 4CIF/CIF resolution display or H.263 coding depending on the capability of the endpoint that joins in the conference. ▪ The system supports only the Lecture Mode video mode. The conference lecturer is displayed on the screens of the other conference sites. The endpoint of the lecturer can be switched to display each conference site. For more information about the Lecture Mode, refer to *Video Settings*. ▪ The system supports only one conference video layout (). ▪ The system does not support the setting of conference skin. For more information on conference skins, refer to *Conference Skin*.

Set the video parameter for the second channel of PC video when dual streams are sent.

Table 4-4 *Video Quality Parameters – Second Video Definition*

Video Parameter	Description
Content Setting	Set the video protocol used for the dual-stream video. You can select the H.264 or H.263 coding/decoding algorithm based on the endpoint capability and network bandwidth.

Video Parameter	Description
	When *None* is selected, it indicates dual streams are not enabled. **Note:** If this setting is H.264, when an endpoint that only supports H.263 protocol joins in the conference, an H.264 endpoint that originally sent dual streams will terminate sending dual streams and resend them using the H.263 protocol.
H.239 Setting	The H.239 protocol is used to send dual streams. You can select three kinds of video quality as needed: ▪ Graphics: for standard video display ▪ Hi-res Graphics: for high-quality video detail display. Broader bandwidth is required. ▪ Live Video: for full-motion of dynamic video display. The broadest bandwidth is required.

The RMX 1000 supports a maximum of 20 H.323 video connections and 20 H.323 audio connections. Therefore, the number of endpoint connections supported by the device in the actual conference depends on the video definition.

Video Settings

To set the conference video layout, click the **Video Settings** tab on the *New Profile* interface.

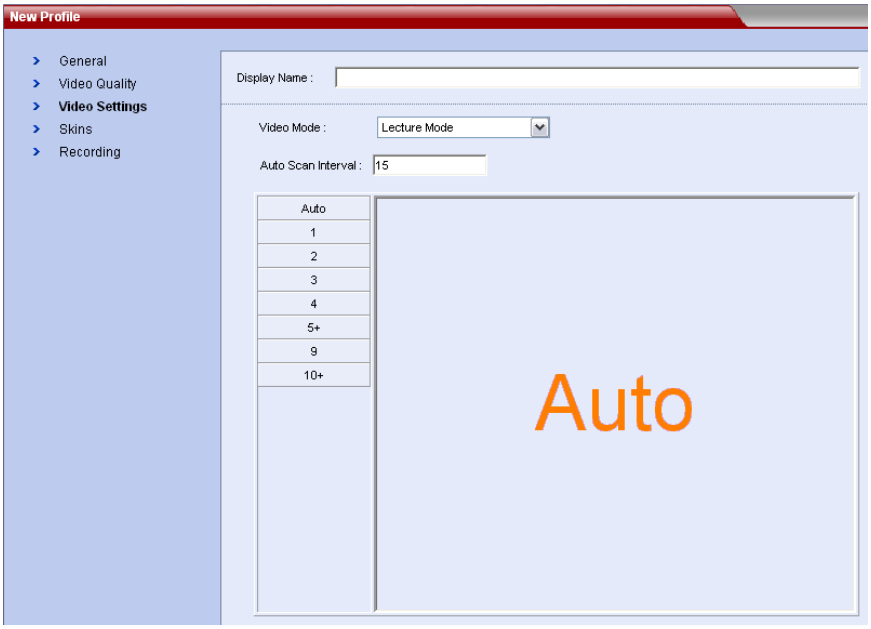


Figure 4-5 *Video Settings*

In the *Video Mode* drop-down menu, you can set three video layout modes:

- Lecture Mode: If this option is selected, when the lecturer speaks, all the participants' endpoints will display the lecturer in full screen, and the lecturer's endpoint will display other participants according to the layout

set here.

- Same Layout: If this option is selected, all participants' endpoints will display the same video according to the layout set here, and no video layout can be customized. This setting will allow sites to see their own loopback image.
- Conference Layout: If this option is selected, the video layout can be customized on each video conference endpoint. After this option is selected, the operator can set participant properties through the Web interface (for more information, see *Setting Conference Layout for Participant's Endpoint*) and the participant can choose a personal layout by operating the endpoint via remote control (for more information, see *Click & View*.)

The video setup interface shows the layout number and corresponding video layout modes. For the default layout, see the table below.

Table 4-5 *Video Layout Rules (Default)*

Layout Number	Layout
0-2	
3	
4-5	
6-7	
8+	

The user can also customize a different layout mode as needed in this way: click the corresponding layout number, and then select the desired layout in the expanded pane, as shown below.

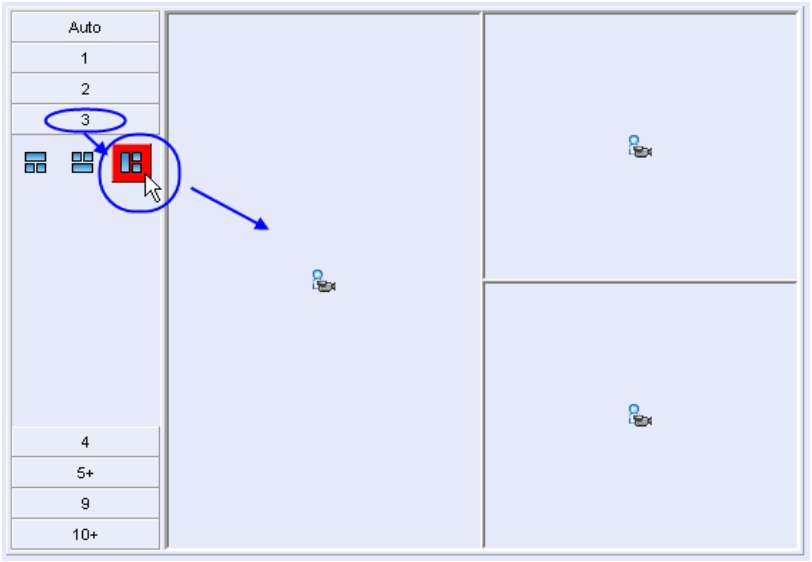


Figure 4-6 *Customizing Video Layout*

In an actual conference, when the number of participants is greater than the

layout number set here, the operator can specify a window to display the participants by turns. For details, please refer to *Changing Conference Layout*. *Auto Scan Interval* is used to set the time interval for the system to automatically switch to the next participant. The default value is 20 seconds.

Conference Skin

To set the background and border color of the video to be displayed on the endpoint, click the **Skins** tab on the *New Profile* interface. The tab provides four skins for your selection.

Figure 4-7 *Meeting Room Parameter Setup Interface*

To set the required skin, select the check box, and then click the **OK** button.

The user can also set the conference skin during an ongoing conference. For related information, see *Changing Conference Skin.*
If the *video mode* is set to *High Definition Video Switching Highest Common* in *Video Quality*, the conference skin cannot be set through this interface.

Conference Recording

The RMX 1000 can work with the Polycom RSS 2000 recording server to record conferences. Click the **Recording** tab on the *New Profile* interface to enter the related information and set the recording parameters.

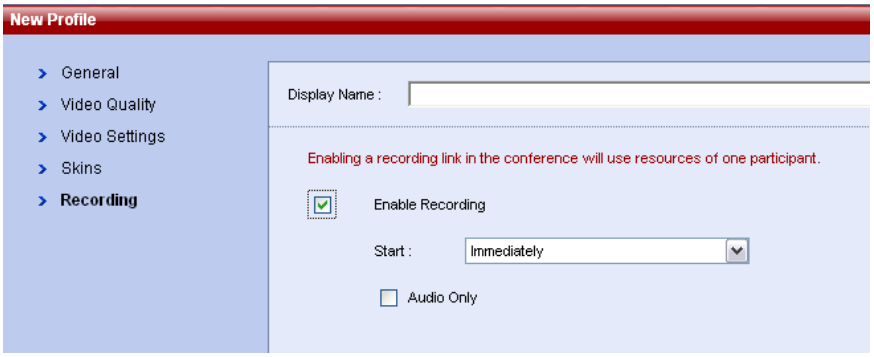


Figure 4-8 Recording Parameter Setup Interface

The table below explains the configuration parameters.

Table 4-6 Conference Recording Configuration

Parameter	Description
Enable Recording	If an RSS 2000 is available on your network, you can select this option to enable the recording function.
Start	Select the start time of the conference recording: ▪ Immediately – The recording automatically starts immediately after the first participant joins the conference. ▪ Upon Request – The operator or chairperson starts the recording manually. After this option is selected, the recording can be manually started through the Web interface or DTMF function. For more information, see *Recording Control*.
Audio Only	If this option is selected, only the conference audio will be recorded.

- The recording parameters can be set here only after the IP address of the RSS 2000 is configured on the Recording Link interface. For how to set Recording Link, see Recording Link.
- The recording link occupies one conference resource.

Modifying a Profile

To modify a saved profile, right-click it in the *Profile* list, and then click **Profile Properties** to modify its properties. For explanation of the configuration parameters, see *Defining a Profile*.

Deleting a Profile

To delete a profile, select it in the *Profile* list, and then click ; Alternatively, right-click the desired profile and then click **Delete Profile**.

A profile in use cannot be modified or deleted.

Setting a Default Profile

After a default profile is set, endpoints will use it when creating a conference from the lobby. In addition, when users create a meeting room, reserve a conference, or convene an instant conference via the Web interface, the

default profile will be used unless otherwise specified.

To set a default profile, right-click the desired profile in the *Profile* list, and then click **Set as Default.** After that, the icon of the profile becomes  .

A profile with the AES encryption function enabled cannot be set to a default profile.

5

Recording Link

The RMX 1000 supports the recording link function. It can work with the RSS 2000 to record conference content. After the recording setup is completed, when the conference starts, the RMX 1000 will first call the participants in the participant list, and then call the configured RSS 2000 to record the conference. The recording link is displayed in the *List* pane as a regular participant, thereby enabling users to view and control the recording status easily.

To record a conference running on the RMX 1000 through the RSS 2000, make sure to verify the following:

- The profile used for the conference has enabled the recording function. For details, refer to *Conference Recording*.
- The information of the RSS 2000 is configured on the recording connection. For more information, see *Recording Setup* below.

Recording Setup

In the RMX *Management* pane, click **Recording Link**. The *Recording Link* interface appears in the list pane located on the right side. Here you can view the IP address and alias configured for the RSS 2000.

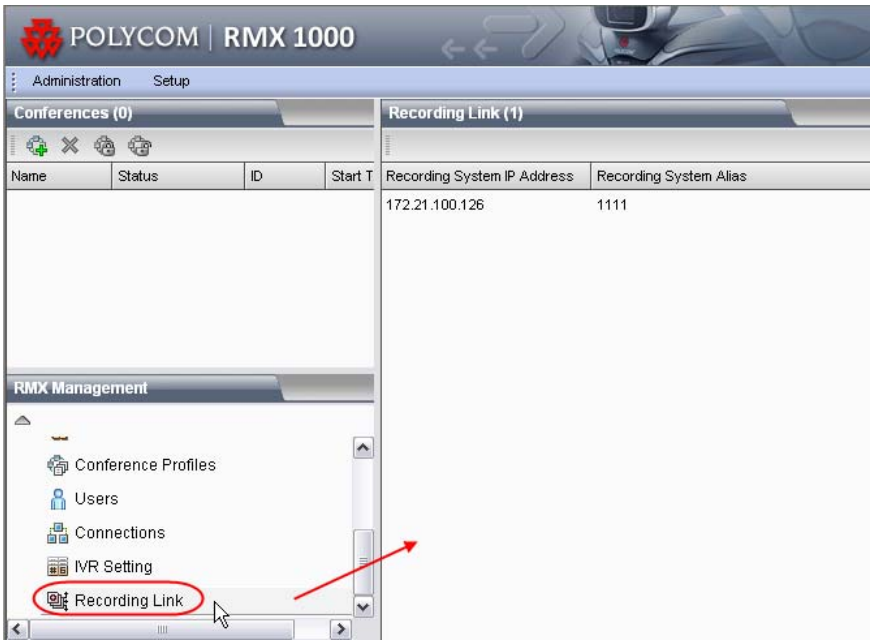


Figure 5-1 Recording Link

Right-click the RSS IP address and then click **Properties** to display the *General* tab of the *Recording Link* page.

General Settings

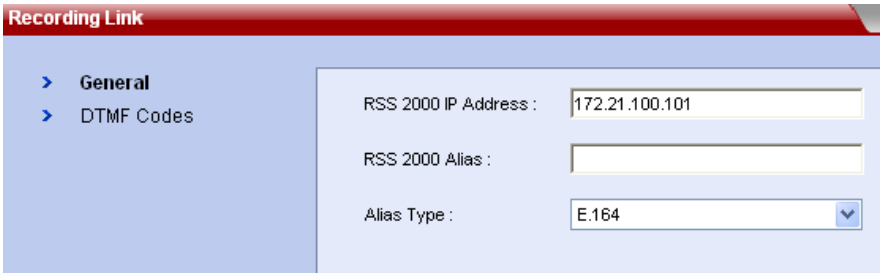


Figure 5-2 *Recording Link–General*

The table below explains the detailed meanings of these parameters.

Table 5-1 *Recording Link–General*

Parameter	Description
RSS 2000 IP Address	Enter the IP address of the RSS 2000 to be connected. This item is optional if an alias is set in the *Alias* check box below.
RSS 2000 Alias	Enter the E.164 number or H.323 alias of the RSS 2000 in accordance with the selected alias type. This item is optional if the IP address of the RSS 2000 is set.
Alias Type	Set the alias type of the RSS 2000: H.323 or E.164.

DTMF Code Setting

To set the recording control operations and rights for use by connected endpoints, click the **DTMF Codes** tab.

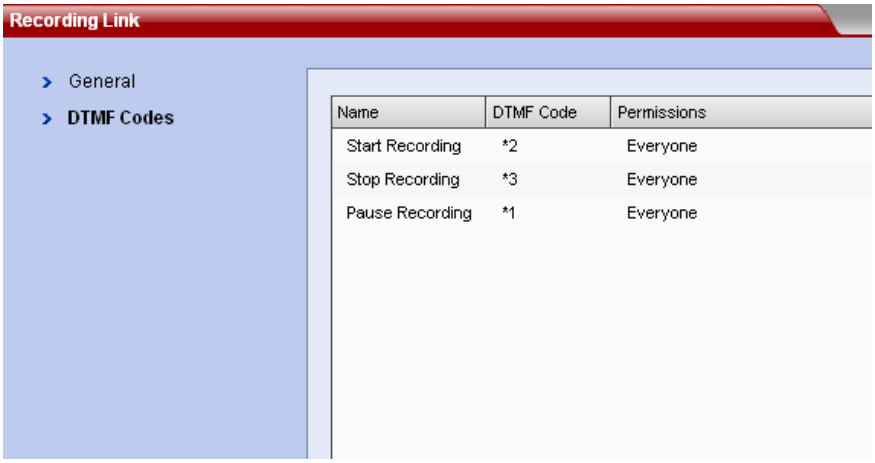


Figure 5-3 *Recording Link-DTMF Codes*

The table below explains the detailed meanings of these parameters.

Table 5-2 Parameter Description for Recording Link – DTMF Codes

Parameter	Description
Name	Name of the recording operation
DTMF Code	Set the remote control key combination used to perform the operation. The default numbers can be customized. For example, the default DTMF code for the Start Recording command is ***2**, you can press the keys ***2** to start conference recording. **Note:** Before using the DTMF command, enable the DTMF function of the endpoint according to that endpoint's configurations.
Permissions	Set the rights of using DTMF codes. *Chairperson* indicates that the DTMF is available to the conference chairperson only; *Everyone* indicates that the DTMF is available to all participants.

Recording Control

When a conference is going on, you can view and control the status of the configured recording link. In the *Conferences* list pane, select the desired conference. Then the list pane located on the right side shows the defined participants and connected participants, among which the recording link is indicated by the icon.

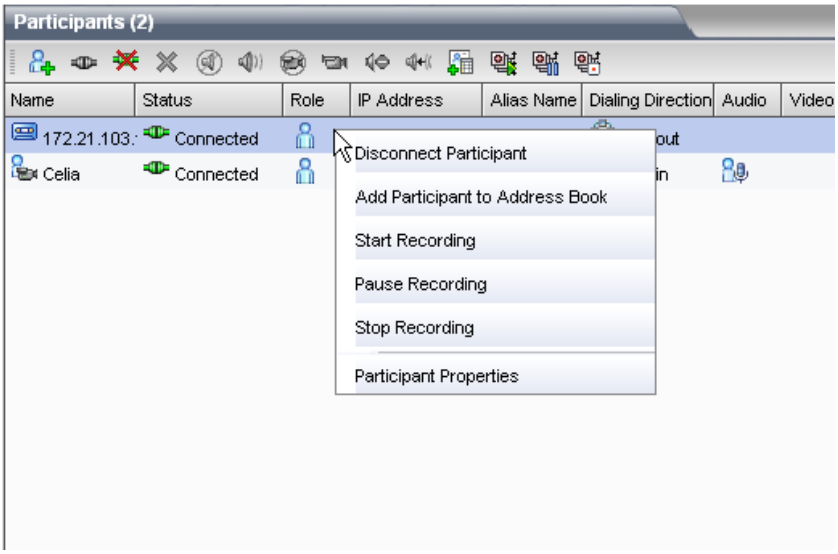


Figure 5-4 Recording Control

When a conference is going on, you can perform the following recording control operations through the recording buttons in the list pane or the right-click shortcut menu.

- Start recording -
- Pause recording -

- Stop recording - 

For more information about the recording control operations of the RSS 2000, see *RSS 2000 User Guide.*

6

Meeting Rooms

A Meeting Room is a conference saved on the MCU in passive mode, without using any system resources. A Meeting Room is automatically activated when the first participant dials into it. Once activated, a Meeting Room functions as any ongoing conference. All Meeting Rooms are based on a Conference Profile. The RMX 1000 can support up to 1000 meeting rooms.

To set a meeting room, click **Meeting Room** in the *RMX Management* pane. The list pane shows the meeting rooms saved on the RMX 1000 and their summaries, such as the meeting room name, conference ID, conference duration, conference password, chairperson password, and conference profile. Here you can create, modify and delete meeting rooms.

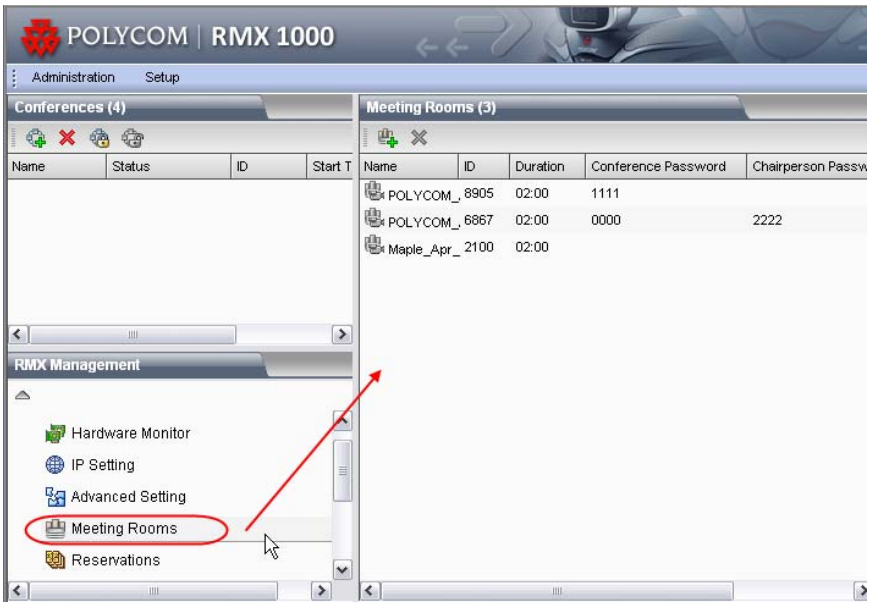


Figure 6-1 *Meeting Rooms List*

Creating a Meeting Room

To create a meeting room, click  in the list pane or right-click in the blank area of the pane, and then click **New Meeting Room**. The *New Meeting Room - General* interface is displayed.

General Settings

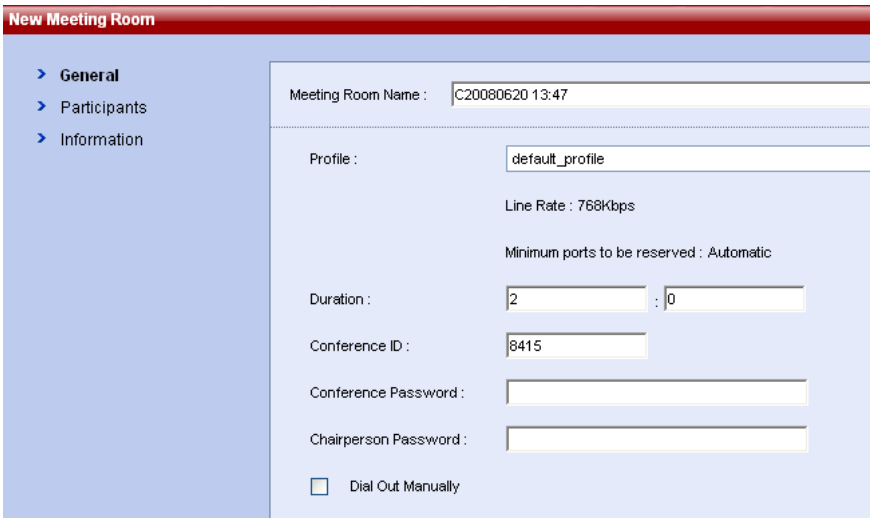


Figure 6-2 *New Meeting Room - General*

The table below explains the detailed meanings of these parameters.

Table 6-1 *Parameter Description for New Meeting Room – General*

Parameter	Description
Meeting Room Name	Set a unique name to identify the meeting room. When a meeting room is created, the system will automatically generate a unique name for it.
Profile	Select the profile to be used for this conference from the drop-down list. The lower part of this option displays the major parameter values defined for the profile: ▪ Line Rate: The bandwidth of the conference link; ▪ Minimum ports to be reserved: The minimum number of conference participants. *Automatic* indicates that the number of video participants is determined according to the available resource of the RMX 1000. The conference profile defines the basic parameters of conference scheduling, such as the bandwidth, encryption, and video quality. For more information on profiles, refer to *Conference Profiles*. When a conference is created, the system selects the default profile of the device by default.
Duration	Specify the conference duration in the range of 0-24 hours. The input format is H:M and the default value is 2:0.
ID	When a meeting room is created, the system automatically allocates a conference ID. You can also set a unique conference ID. To directly dial into the conference, the participant must know its ID.
Conference password	Enter the conference password. To connect to this conference, the participant must enter this password. If this parameter is empty, it means the conference has no password.
Chairperson password	Enter the password that identifies the chairperson ID. The system will authorize more rights to the chairperson. If this parameter is empty, it means the conference has no chairperson.

Parameter	Description
Dial Out Manually	When enabled, the system will not automatically call the participants defined in the meeting room to join the conference unless the administrator dials out manually.

Participant setup

You can add the participant information to the invited participant list for the meeting room. When the meeting room is activated, the system will automatically call the participants defined in the meeting room to join the conference. To set the invited participant list, click the **Participants** tab to enter the relevant interface, as shown below.

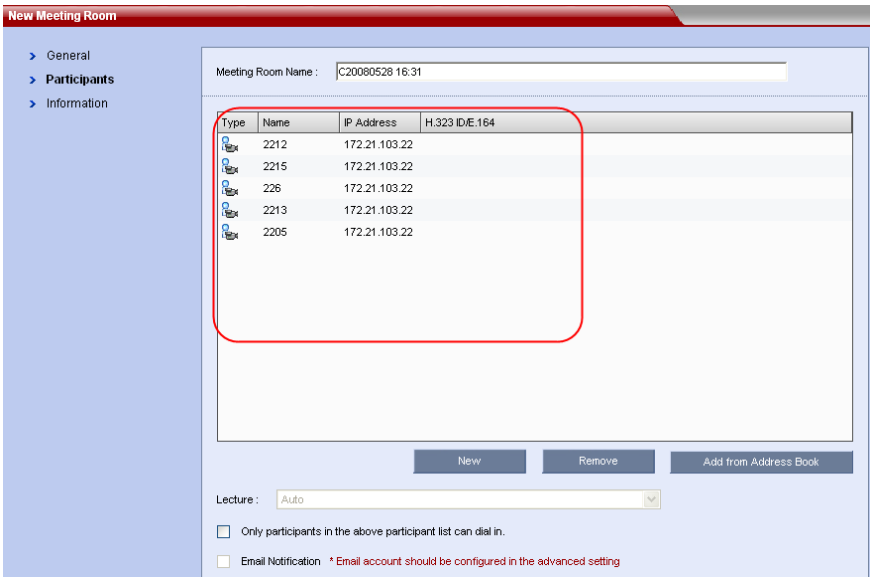


Figure 6-3 *New Meeting Room - Participants*

You can add participants to the list in the following two modes:

1 Click **New** to create a participant. The configuration interface is the same as that for adding a new participant to the address book. For explanation on the configuration parameters, see *Creating a Participant in the Address Book*.

2 Click **Add From Address Book** to select and add a participant from the address book. In the address book, select the desired participant, and then click **OK**. To select multiple participants at one time, click the desired participants one by one while pressing down the **Ctrl** key, or select adjacent ones while pressing down the **Shift** key.

To delete a participant from the *Participant* list, select the desired participant, and then click **Remove**.

Other configuration parameters are described in the table below:

Table 6-2 *Parameter Description for New Meeting Room – Participants*

Parameter	Description
Lecture	After adding participants to the list, you can select a participant

Parameter	Description
	from the drop-down list to act as the lecturer. By default, **Auto** is selected, meaning that the system uses voice activation to switch between the layouts, and the participant who speaks loudest will be selected as the lecturer. When the conference is running under the Lecture Mode, all participants' endpoints display the lecturer in full screen, and the lecturer's endpoint can time-switch to display other conference sites in rotation. For details on Lecture Mode, please refer to *Video Settings.*
Only participants in the above participant list can dial in	When this option is selected, only the participants defined in the *Participant List* can dial into the conference.
Email Notification	If this option is selected, after you click **OK**, the system will automatically send an email message to notify each participant in the *Participant List* to join the conference. This option can be enabled only if SMTP is configured in the Advanced Setting. For more information, see *Email.*

Other information

To configure other information for the meeting room, click the **Information** tab. Here you can configure conference notes, site details, accounting information, etc.

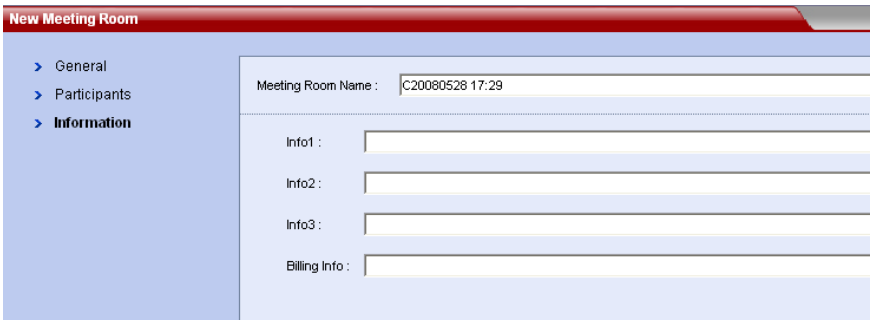


Figure 6-4 *New Meeting Room - Information*

Modifying a Meeting Room

To modify a meeting room, double-click the desired meeting room in the meeting room list; or right-click the meeting room, and then click **Meeting Room Properties**. For explanation on the configuration parameters, see *Creating a Meeting Room*.

Deleting a Meeting Room

To delete a meeting room, double-click the desired meeting room in the meeting room list, and then click or right-click the meeting room, and then click **Delete Meeting Room**.

7

Reservations

Multiple types of conference reservations can be implemented using the RMX 1000. You can reserve a conference for one time or convene routine conferences on a daily, weekly, or monthly basis as needed. The system reserves resources for conferences, so the conference can be automatically started at the preset time. The RMX 1000 can support up to 1000 reservations.

The reservation function is an optional function of the RMX 1000 and will be available only when the user purchases the license. The device does not display the related options until the license for this function is activated. To obtain this function, contact your supplier.

To configure a reservation, click **Reservation** in the *RMX Management* pane. The list pane shows the reservations configured on the device and their relevant information. Here you can create, modify, and delete reservations.

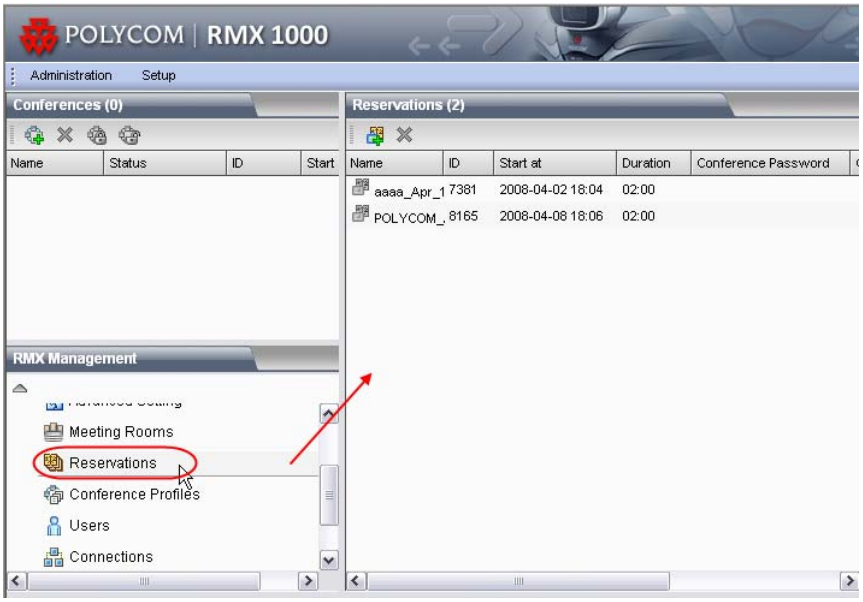


Figure 7-1 *Reservation List*

Adding a Reservation

To reserve a conference, click  in the list pane or right-click in the blank area in the pane, and then click **New Reservation**. On the configuration interface that appears, set basic information, participants, reservation time, and other related information. The procedures for setting the *General*, *Participants*, and *Information* tabs are the same as those for setting a meeting

room. For explanation on the configuration parameters, see *Creating a Meeting Room*.

To set the reservation mode and start time of the conference, click the *Schedule* tab. From the *Schedule Mode* drop-down menu, select the desired reservation mode to reserve a once, daily, weekly, or monthly conference.

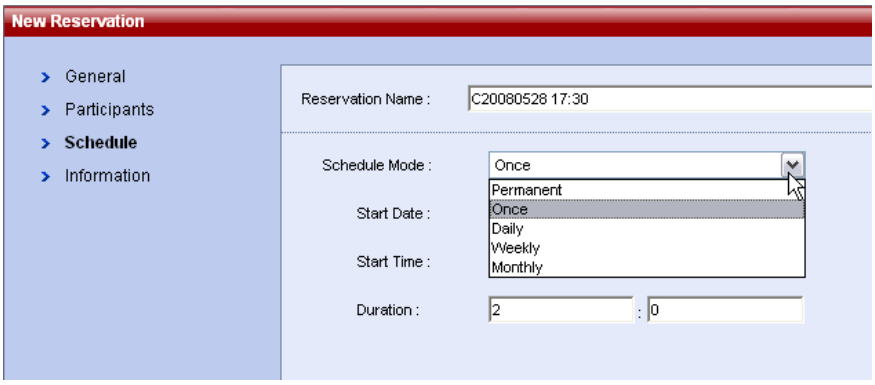


Figure 7-2 *Setting a Reservation Mode*

Reserving a One-Time Conference

A one-time reservation indicates that the reservation is only valid for one occurrence and will automatically be deleted after the conference ends. To reserve a one-time conference, select one of the following *Schedule* modes:

- Permanent: The reserved conference, after being started, will not be terminated until it is manually terminated or deleted by a chairperson or web UI user. This option can be selected if you cannot estimate the duration of the conference in advance.
- Once: The reserved conference, after being convened, will terminate at the specified time.

For either of the above modes, you need to set the *Start Time* of the reserved conference. In addition, for the *Once* mode, you need to set the duration of the reserved conference.

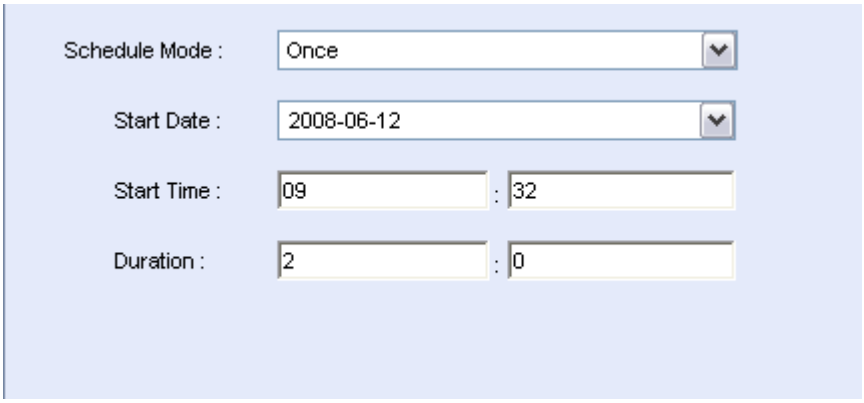


Figure 7-3 *Reservation Setup - Once*

Table 7-1 *Parameter Description for Reservation Setup - Once*

Parameter	Description
Start Date	Set the start date of the conference.
Start Time	Set the start time of the conference in the format of H:M.
Duration	Set the duration of the conference in the format of H:M.

Reserving a Daily Conference

To reserve a daily conference, set *Schedule Mode* to **Daily**.

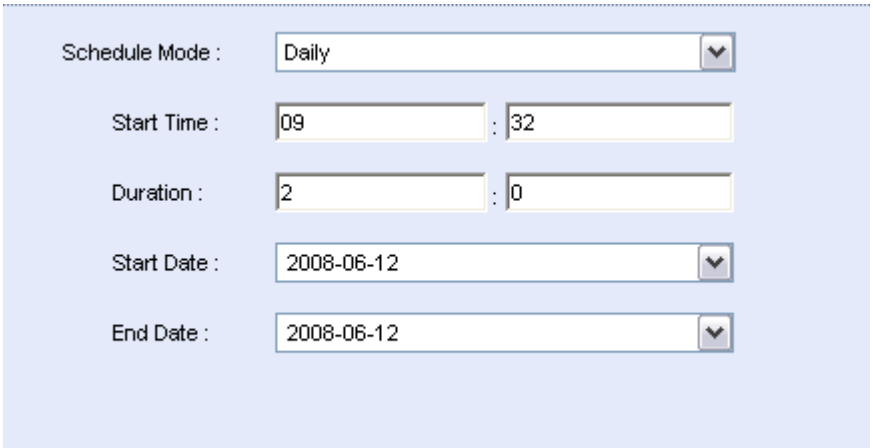


Figure 7-4 *Reservation Setup - Everyday*

The conference will be convened at the specified time every day. In the specified period, this reservation is also deleted when the last conference is terminated. The table below explains the configuration parameters.

Table 7-2 *Parameter Description for Reservation Setup - Daily*

Parameter	Description
Start Time	Set the start time of the conference in the format of H:M.
Duration	Set the duration of the conference in the format of H:M.
Start Date	Set the start date of the recurrence range of the reservation.
End Date	Set the end date of the recurrence range of the reservation.

Reserving a Weekly Conference

To reserve a weekly conference, set *Schedule Mode* to **Weekly**.

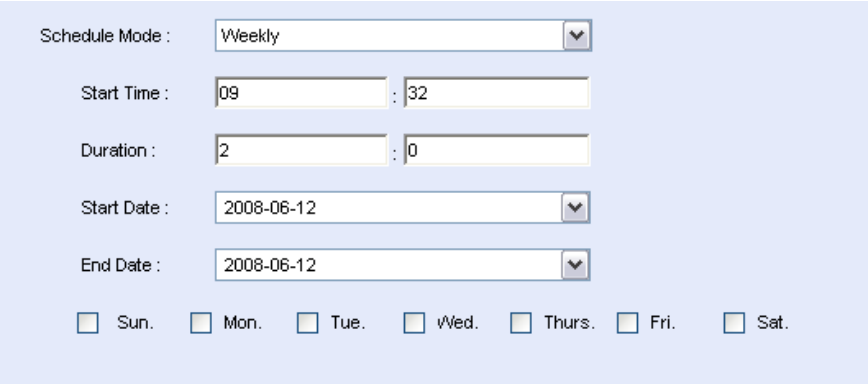


Figure 7-5 Reservation Setup - Weekly

The set conference will be convened at the specified time per week. In the specified period, this reservation is also deleted when the last conference is terminated. The table below explains the configuration parameters.

Table 7-3 Parameter Description for Reservation Setup – Weekly

Parameter	Description
Start Time	Set the start time of the conference in the format of H:M.
Duration	Set the duration of the conference in the format of H:M.
Start Date	Set the start date of the recurrence range of the reservation.
End Date	Set the end date of the recurrence range of the reservation.
Sun.~ Sat.	Specify the weekday on which the reserved conference will be convened. Multiple weekdays can be selected. If you select the **Mon**. and **Fri**. check boxes, the conference will be automatically started at the specified time on every Monday and Friday.

Reserving a Monthly Conference

To reserve a monthly conference, set *Schedule Mode* to **Monthly**.

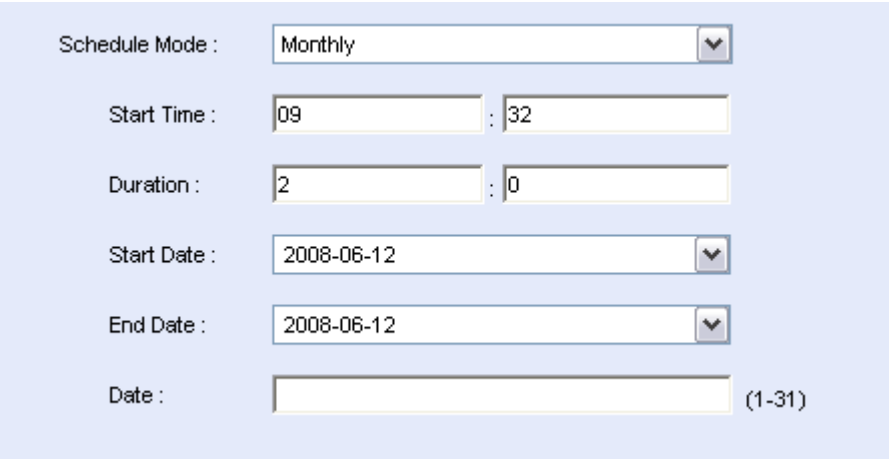


Figure 7-6 Reservation Setup - Monthly

The conference will be convened at the specified time per month. In the specified period, this reservation is also deleted when the last conference is terminated. The table below explains the configuration parameters.

Table 7-4 *Parameter Description for Reservation Setup – Monthly*

Parameter	Description
Start Time	Set the start time of the conference in the format of H:M.
Duration	Set the duration of the conference in the format of H:M.
Start Date	Set the start date of the recurrence range of the reservation
End Date	Set the end date of the recurrence range of the reservation.
Date	Specify the day of month on which the reserved conference will be convened. If you enter **1**, the conference will be automatically convened at the specified time on the first day of every month.

At the specified time, the reserved conference will be convened automatically, the conference icon will become , and the properties of the conference can be viewed but cannot be modified. In addition, the conference list will show that the conference is ongoing.

Modifying a Reservation

You can modify a reserved conference before it is convened.

To modify a reservation, double-click the desired reservation in the reservation list, or right-click the reservation, and then click **Reservation Properties**. In the configuration interface that appears, modify the parameters. For explanation on the configuration parameters, see *Adding a Reservation*.

Deleting a Reservation

You can delete a reserved conference before it is convened.

To modify a reservation, double-click the desired reservation in the reservation list, and then click , or right-click the reservation, and then click **Delete Reservation**.

8

Address Book

You can use the address book provided by the RMX 1000 to store participant information, such as the IP address and network communication protocol of the participant's endpoint. The address book enables you to conveniently and easily add participants to a conference.

The group function of the address book simplifies the creation of a conference. Different from the function of adding a single participant to the conference, the group function can be used to quickly add multiple participants to the conference at the same time.

Located in the rightmost part of the Web interface, the *Address Book* pane shows the participant information stored in the address book. Here you can add/modify/delete participants and define participant groups.

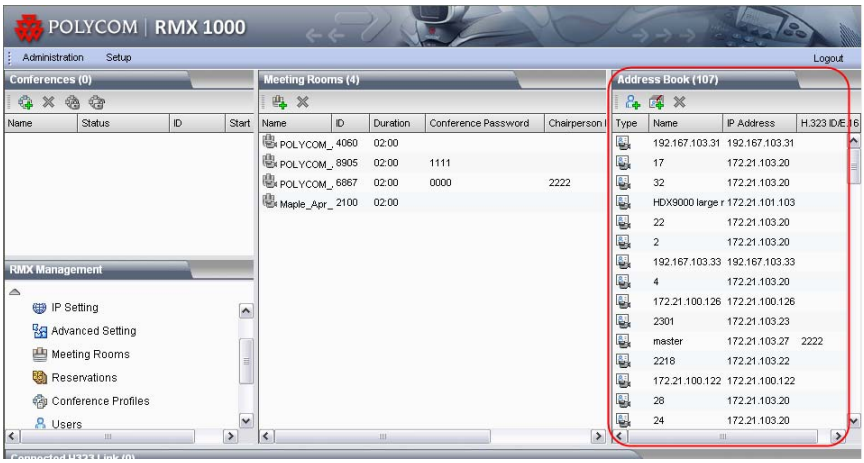


Figure 8-1 *Address Book*

Adding a Participant to the Address Book

You can add the information of a new participant to the address book in the following two ways:

- Create a participant in the address book.
- Add a participant in the ongoing conference to the address book.

Creating a Participant in the Address Book

Click the  button on the *Address Book* pane to add a new participant and enter the *New Participants – General* interface.

General Settings

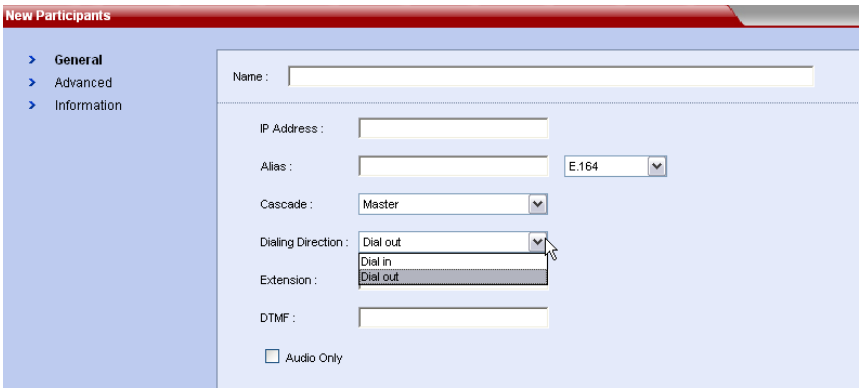


Figure 8-2 *New Participants – General*

The table below explains the detailed meanings of these parameters.

Table 8-1 *Configuration Description of New Participants – General*

Parameter	Description
Name	Enter a name to identify the participant.
IP Address	Enter the IP address of the participant's endpoint. This item is optional if an alias is set in the *Alias* check box below.
Alias	Set the alias of the participant's endpoint: Select the alias type H.323 or E.164 from the drop-down list, and then enter the alias. This item is optional if the IP address of the endpoint is set.
Cascade	If the device is a standard endpoint, select **No Cascade**. If the device will be a cascaded link to another MCU, set the master/slave relationship of the RMX 1000 relative to the participant: If the RMX 1000 is the master, select **Master**, otherwise select **Slave**. In the cascading mode, you need to set the following three items: *Dialing Direction, Extension,* and *DTMF.*
Dialing Direction	Select the dialing direction: ▪ Dial-in: The participant's device dials in the conference at the local RMX 1000. It is unnecessary to set the items *Extension* and *DTMF* if this option is selected. ▪ Dial-out: The local RMX 1000 dials out to the participant's device.
Extension	Use this field in case the user would like to send an extension field to the remote end.
DTMF	Enter a DTMF code that will be sent upon connection to the remote end.
Audio only	If this option is selected, the participant will be defined as an audio participant, and the system does not support video input and output capabilities.

Example of cascading configuration

There are two set of cascaded RMX devices (RMX 1000_1 and RMX 1000_2).

The information is as follows:

RMX 1000_1

IP: 172.22.176.9

Prefix (Register to a GK): 80

ID of Master Conference (Dial out from): 1234

RMX 1000_2

IP: 172.22.176.10

Prefix (Register to a GK): 86

ID of Master Conference (Dial into): 2222

Password of Master Conference (Dial into): 1111

To set the RMX 1000_1 as the master device and dial to the conference at the RMX 1000_2, perform the following configuration at the RMX 1000_1:

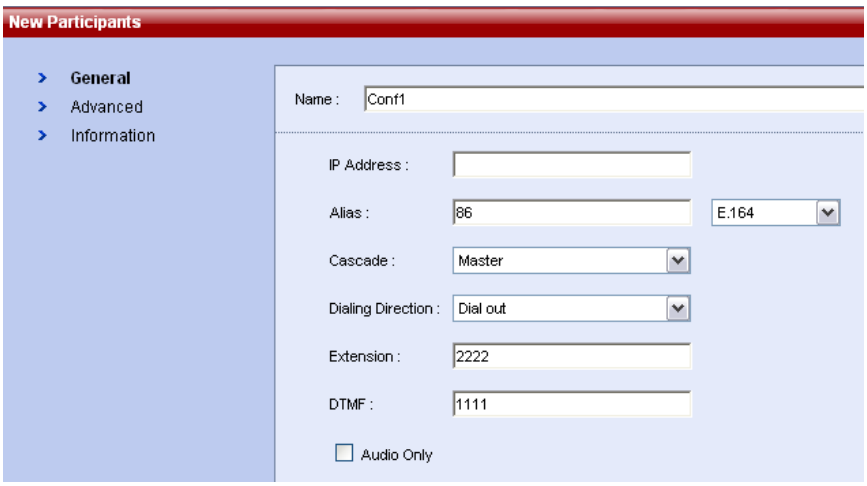


Figure 8-3 *Cascading Configuration – RMX 1000_1*

At the same time, configure as follows at the RMX 1000_2:

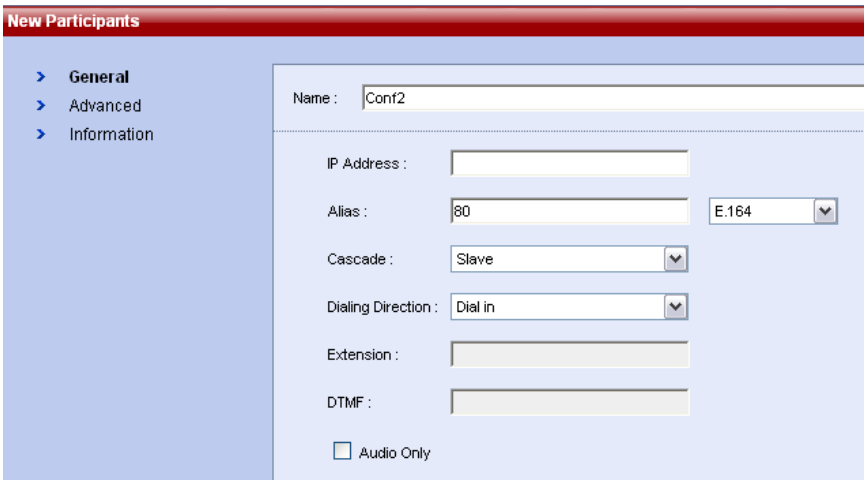


Figure 8-4 *Cascading Configuration – RMX 1000_2*

Advanced Setting

Usually, you only need to set the parameters on the *General* tab, and accept other default settings of the system. However, to set advanced parameters, click the **Advanced** tab.

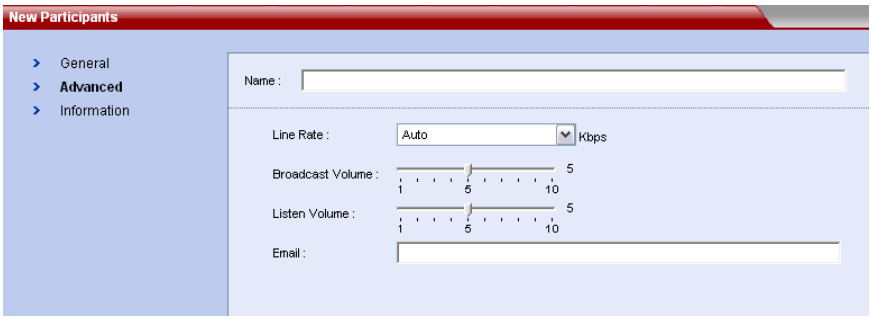


Figure 8-5 *New Participants - Advanced*

The table below explains the configuration parameters.

Table 8-2 *Configuration Description of New Participants – Advanced*

Parameter	Description
Line rate	Set the line rate of the participant's endpoint. *Auto* indicates using the specified line rate.
Broadcast / Listen Volume	Move the corresponding slider to adjust the volume transmitted/received by the participant at a step of 3dB. The adjustable range is 1~10 (in the ascending order), while the default value is 5dB.
E-Mail	Set the Email address used by the participant to receive conference notices from the system. Up to 2 Email addresses can be set by separating them with a ";". For example, enter **address1@polycom.com;address2@polycom.com**.

Other Information

To add other information for the participant (company name, contact phone, etc.), click the **Information** tab and configure Info1~Info4, then click **OK**.

Adding a Participant from an Ongoing Conference

You can also add a participant in an ongoing conference to the address book.as follows:

1. Click the desired conference in the Conferences list pane.
2. On the list pane, select the desired participant, and then click  or right-click the participant, and then click **Add Participant to Address Book**.

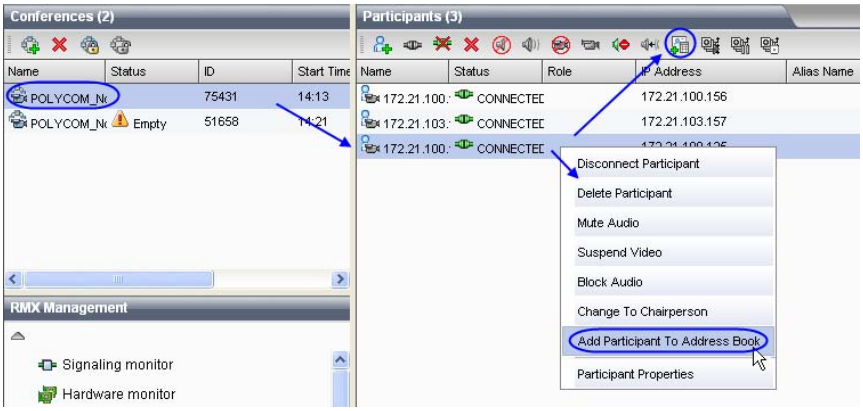


Figure 8-6 Adding a Participant from an Ongoing Conference

Defining a Participant Group

A group is a collection of pre-defined participants. With the group function, you can conveniently add a group of participants to the conference. For example, to frequently convene conferences of the marketing department, you can create a group named "Marketing Team" that contains the endpoints of all the marketing department participants. You can invite all the members to the conference to be convened.

To define a group, do as follows:

1. In the Address Book pane, click  or right-click in the blank area, and then click **New Group**.
2. The New Group page appears. Enter the name of the group in the *Group Name* field. For example, "**Marketing Team**".
3. Click **Add From Address Book**. In the participant list that appears, select the desired participant, then click **OK**. To select multiple participants at one time, click the desired participants one by one while pressing down the **Ctrl** key, or select adjacent ones while pressing down the **Shift** key. To delete an added participant from the group, select it and click **Remove**. You can also delete multiple participants from the group.
4. Click **OK** on the *New Group* page to add the new group to the address book.

Modifying a Participant/Group

To modify a participant or a group in the address book, right-click the desired participant or group, then click **Participant Properties** or **Group Properties** to display and modify the detailed parameters.

Deleting a Participant/Group

To delete a participant or a group from the address book, click the desired participant or group, then click  . Alternatively right-click the participant

or group, then click **Delete Participant** or **Delete Group**. In the confirmation dialog box that appears, click **OK**.

9

Conference/Participant Monitoring

Through the real-time conference monitoring platform of the system, you can easily monitor ongoing conferences, track participants and conference progress, and perform control operations as needed. With the RMX 1000, you can implement two types of monitoring operations:

- Conference monitoring – On the main window, view the ongoing conferences and information about the specified conference, and change the conference duration and layout.
- Participant monitoring – View status and detailed parameters of participants, modify the screen layout of the endpoint, and set a message overlay to be viewed by the site.

Conference Monitoring

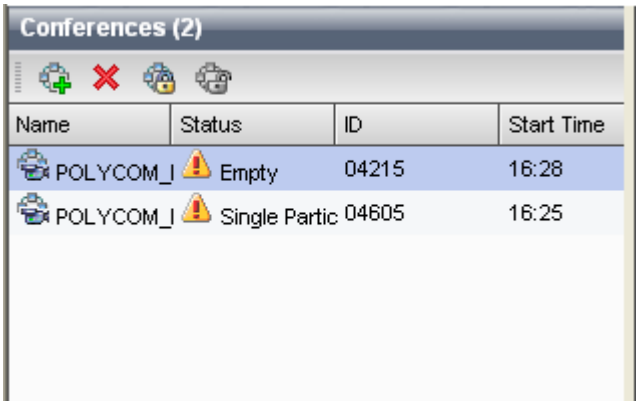


Figure 9-1 *Conference List*

Viewing Conferences List Pane

The *Conferences* list pane always shows information about ongoing conferences. If the status bar shows no indicator, it means that the ongoing conferences are normal. The table below explains conference information.

Table 9-1 *Conference Information*

Parameter	Description
Name	The interface displays the name and type of conference: ▪ Video Conference ▪ High Definition Video Conference
Status	The interface displays the status of the ongoing conference. No indication will be displayed if the connection of participants is normal. Corresponding indicators appear with a warning icon at the occurrence of the following statuses: ▪ Audio – Problems with the participant's audio. ▪ Empty – No participant is connected. ▪ Faulty Connection – Participants are connected, but the connection is problematic. ▪ Not Full – Not all the defined participants are connected. ▪ Partially Connected – The connection process is not yet complete; the video channel has not been connected. ▪ Single Participant – Only one participant is connected. ▪ Video – Problems with the participant's video.
ID	The Conference ID assigned to the conference
Start Time	Conference start time
End Time	The time the conference is expected to end

Viewing Conference Parameters

In addition to the status information shown in the conference list, you can view detailed parameters of an ongoing conference. Double-click the desired conference or right-click the conference, then click **Conference Properties**. The *Conference Parameters* interface shows the configuration of the conference. Here you can change the *end time*, *conference password* and *chairperson password* of the conference, *lock/unlock* the conference, adjust the conference layout, etc. The unavailable options cannot be modified. For explanation on the configuration parameters, see *Conference Profiles*.

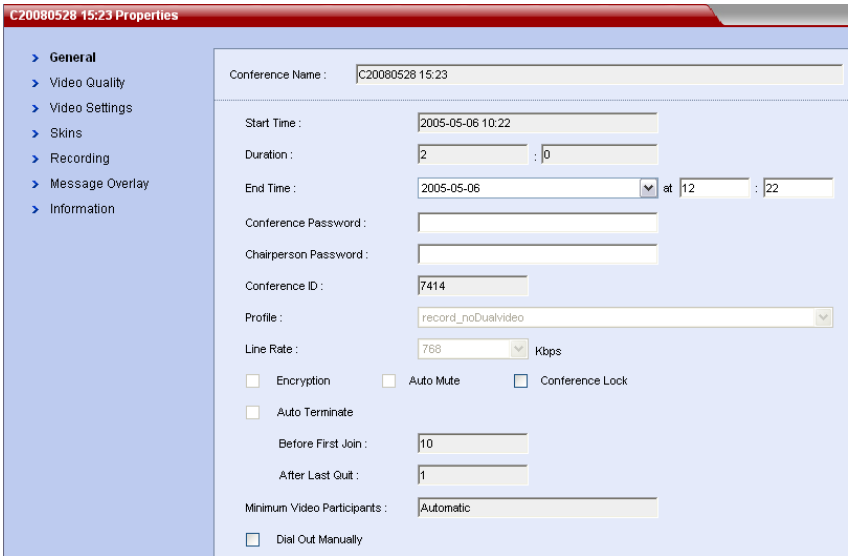


Figure 9-2 *Conference Properties*

Conference Control

Changing End Time

When a conference is created, its duration is also set. The default duration is 2 hours.

When a conference is occurring, you can extend or shorten its duration by changing its end time. You can also manually delete an ongoing conference.

To change the conference duration, do as follows:

1. Double-click the desired conference in the Conferences list pane.
2. On the *General* tab of the *Conference Parameter* interface, change *End Time*, and then click **OK**. Then the end time of the conference is changed, and the value of *Duration* is updated.

The conference duration cannot exceed 24 hours.

To manually terminate a conference, do the following:

1. In the Conferences list, click the desired conference, and then click  or right-click the conference, and then click **Delete Conference**.
2. In the confirmation dialog box that appears, click **OK**.

Locking/unlocking a Conference

After an ongoing conference is locked, any endpoint that is not already part of the participant list cannot dial into the conference actively. After the conference is unlocked, any endpoint can dial into the conference.

To lock or unlock a conference, select one of the following two modes:

- Select the conference in the conference list, and then click the **Locking** button or **Unlocking** button on the pane, or double-click the conference, and then select **Conference Lock or Conference Unlock** from the shortcut menu.
- Double-click this conference to enter the conference parameter page. On the *General* tab, select the **Conference Lock** check box.

Changing Conference and Chairperson Passwords

To change the conference password and chairperson password of an ongoing conference, do as follows:

1 In the Conferences list pane, double-click the desired conference.

2 On the General tab, set Conference Password and Chairperson Password, and then click **OK**.

Changing Conference Layout

You can change the video layout of an ongoing conference. The initial video layout of the conference is in accordance with the conference profile.

To change the video layout, do as follows:

1 In the Conferences list pane, double-click the desired conference.

2 On the conference parameter interface, click the **Video Settings** tab.

3 Select the desired layout mode:

— **Lecture Mode**: All the participants' endpoints in the conference will display the lecturer in full screen, and the lecturer's endpoint will display other participants according to the layout set here. After this option is selected, the *Lecture* option is activated. Specify a lecturer in the drop-down list. *Auto* means the voice activation mode will be used to select the participant who speaks most loudly as the lecturer.

— **Same layout**: All the participants' endpoints will display the same video according to the layout set here, and no video layout can be customized.

— **Conference Layout**: The video layout can be customized on each video conference endpoint. After this option is selected, the operator can set participant properties through the Web interface (for more information, see *Setting Conference Layout for Participant's Endpoint*) and the participant can set layout by operating the endpoint via remote control (for more information, see *Click & View*).

4 Set the layout. Click the desired layout number, and then select the desired layout. The interface shows the thumbnail of the layout. For the video display in each video window, you can select one of the following modes from the drop-down list:

— **Auto**: This option is selected by default. Each video window will automatically select a conference site based on information about the connected participants.

— **Auto Scan**: After this option is selected, if the layout number is lower than the number of connected participants, the window will take turns displaying the video of the rest participants, and the time interval (in seconds) for switching between the conference sites is the value of *Auto Scan Interval*.

— Directly select an endpoint conference site to be displayed at the window.

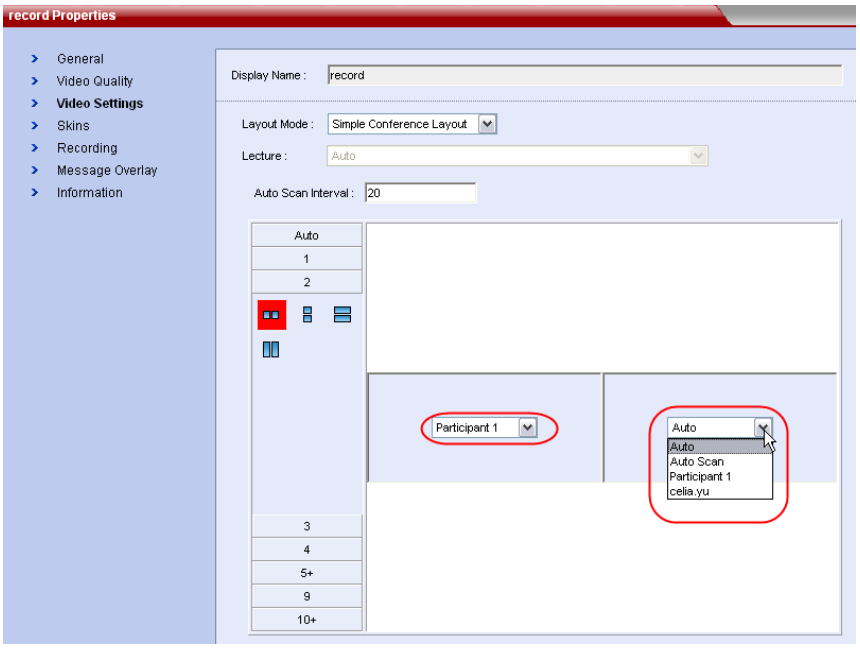


Figure 9-3 Changing Conference Layout

- A participant can only be displayed in one window at one time.
- If *Same Layout* is selected, the participants will view the video of their conference site.

Changing Conference Skin

When a conference is occurring, you can change the background color and border color of the displayed conference video. Do as follows:

1 In the Conferences list pane, double-click the desired conference.

2 On the conference parameter interface, click the **Skin** tab, select the desired skin, and then click **OK**.

Setting Message Overlay for Conference

When a message needs to be sent to all participants in a conference, you can set the message overlay to be displayed on all participants' endpoints screen.

To set the message overlay, do as follows:

1 In the *Conferences* list pane, double-click the desired conference.

2 On the conference parameter interface, click the **Massage Overlay** tab, and set the required parameters. The following interface shows a configuration example.

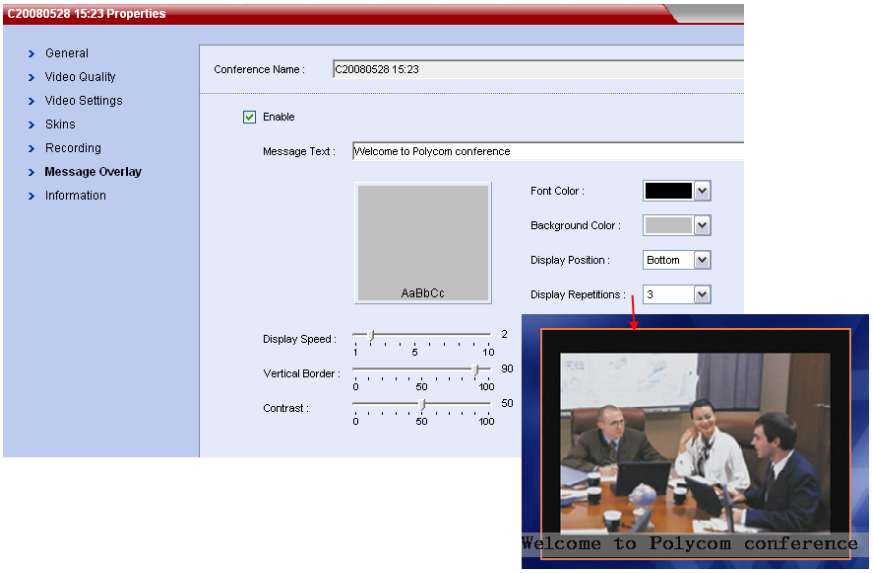


Figure 9-4 *Setting Message Overlay for Conference*

Table 9-2 *Setting Message Overlay*

Parameter	Description
Enable	Select this option to enable message overlay. Then you can set other parameters.
Message Text	Enter the content to be displayed.
Font Color	Set the font color of the message overlay.
Background Color	Set the background color of the message overlay.
Display Position	Set the display position of the message overlay: *Top* means that the message overlay is displayed in the uppermost part of the screen; *Bottom* means that the message is displayed in the lowermost part of the screen.
Display Repetitions	Move the slider to set the display times of the message overlay.
Display Speed	Move the slider to set the display speed of the message overlay.
Vertical Border	Move the slider to set the vertical boarder of the message overlay. If *Display Position* is set to **up**, the vertical border set here indicates the top margin of the message overlay. If *Display Position* is set to **down**, the vertical border set here indicates the bottom margin of the message overlay.
Contrast	Move the slider to set the contrast of the message overlay.

For a high-definition conference, the message overlay will be disabled.

Participant Monitoring

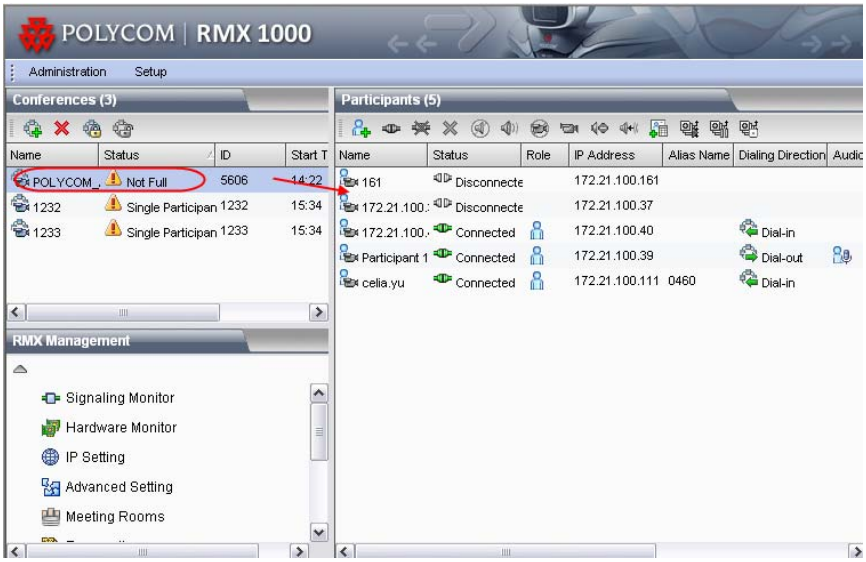


Figure 9-5 *Participant Monitoring Pane*

When a conference is occurring, you can view detailed status and properties of each participant and perform related setup and operations through the *Conferences* list pane.

Viewing Participant List

Click an ongoing conference in the conference list. The list pane then shows the participants connected to the conference and those not connected to the conference but added to the participant list.

Table 9-3 *Description of Participant List Parameters*

Parameter	Description
Name	Displays the name and type of the participant: ▪ **Audio Participant** – Connected via IP phone ▪ **Video Participant** – Connected via audio and video channels ▪ – Recording link
Status	Displays the connection status of the participant: ▪ **Connected** – The participant is successfully connected to the conference. ▪ **Disconnected** – The participant is disconnected from the conference. This status applies only to defined participants. ▪ **Partially Connected**– The connection process is not yet complete; the video channel has not been connected. ▪ **Faulty Connection** – The participant is connected, but problems occurred in the connection, such as synchronization loss.

Parameter	Description
Role	Displays the participants role or function in the conference: ▪ **Chairperson** – The participant will be defined as the conference Chairperson and will have more rights to manage conferences through the endpoint interface. ▪ **Lecturer** – The participant is defined as the conference Lecturer. ▪ **Lecturer and Chairperson** – The participant is defined as both the conference Lecturer and Chairperson.
IP Address	The participant's IP address
Alias Name	The participant's Alias Name
Dialing Direction	▪ **Dial-in** – The participant dialed the conference. ▪ **Dial-out** – The MCU dialed the participant.
Audio	Displays the status of the participant's audio channel: If the participant's audio connection is normal and the channel is neither muted nor blocked, no indication is displayed. ▪ **Muted** – The selected endpoint is muted so that its audio cannot be sent to other conference sites. ▪ **Blocked** – The selected endpoint is blocked so that it cannot hear the audio of other conference sites.
Video	Displays the status of the participant's video channel: If the participant's video connection is normal and the channel is neither suspended nor secondary, no indication is displayed. ▪ **Suspended** – Video transmission from the endpoint to the conference is suspended. ▪ **Secondary** – Participant is connected only through the audio channel due to problems with the video channel.
Encryption	Indicates that the endpoint is using encryption for its connection to the conference
FECC Token	The participant has the Far End Camera Control (FECC) Token and is capable of conducting FECC. FECC Token can only be allocated to one participant at one time. If no partipant uses the FECC function, this icon is not displayed.
Content Token	The participant has the Content Token and the rights of content sharing. FECC Token can only be allocated to one participant at one time. If no partipant uses the FECC function, this icon is not displayed.

Viewing Participant Properties

To view detailed parameters of a participant, double-click the desired participant in the participant list, or right-click the participant, and then click **Participant Properties**.

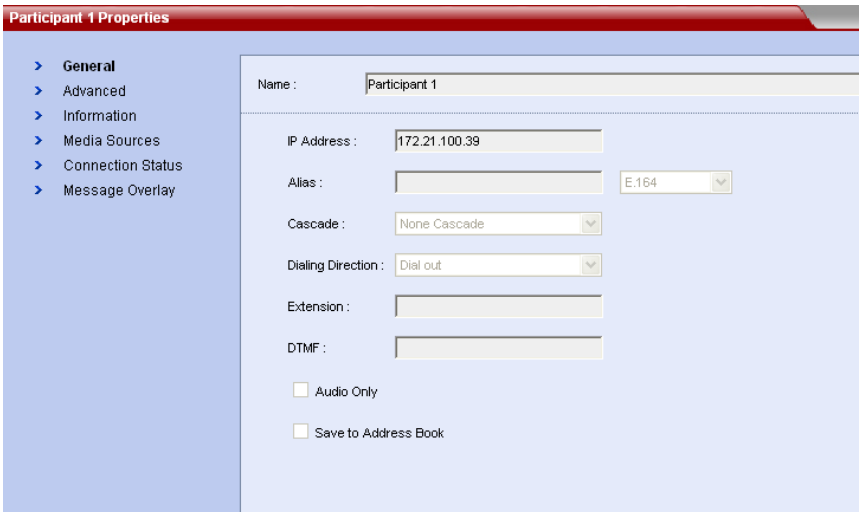


Figure 9-6 *Participant Properties*

The parameters displayed on the *General*, *Advanced,* and *Information* tabs are the same as those for adding a new participant. For explanation on configuration parameters, see *Adding a Participant to the Address Book*.

The *Connection Status* tab shows the status and detailed information of the participants, including time of connecting/disconnecting, cause of disconnecting, network transfer rate, packet loss ratio, audio, video, H.239 dual-stream protocol, etc.

The *Media Source* tab can be used to customize layout for participant's endpoint after the layout mode is set to *Conference Layout*.

The *Message Overlay* tab is used to set the message overlay of the participant's endpoint. For explanation on the configuration parameters, see *Table 9-2 Setting Message Overlay*.

Participant Control

You can control and modify the participant's connection status of an ongoing conference through the buttons in the *Participant* list pane, the *Participant* right-click shortcut menu, and the *Participant Properties* interface.

The table below explains all the buttons in the *Participan*t list pane.

Table 9-4 *Buttons in the Participant List Pane*

Button	Name	Description
	New *Participant*	Define a new participant. For more information about the New Participant dialog box, see *Creating a Participant in the Address Book*.
	Connect *Participant*	Connect a disconnected defined dial-out participant to the conference.
	Disconnect *Participant*	Disconnect the participant from the conference.

Button	Name	Description
	Delete *Participant*	Delete the selected participants from the conference.
	Mute *Audio*	Mute the audio transmission from the participant to the conference. The Audio Muted indicator appears in the *Participants List* and the Unmute Audio button becomes active ().
	Unmute *Audio*	Participant's audio transmission to the conference resumes. The Mute Audio button becomes active ().
	Suspend *Video*	Suspend the video transmission from the participant to the conference. The suppressed participant's video is not transmitted to the conference but the participant still receives conference video. The *Suspend Video* indicator appears in the *Participants List* and the Resume Video button becomes active ().
	Resume Video	Participant's video transmission to the conference resumes. The Suspend Video button becomes active ().
	Block Audio	To block the audio transmission from the conference to the participant. When blocked, the participant can still be heard by the conference. The *Audio Blocked* indicator appears in the *Participants List* and the Unblock Audio button becomes active ().
	Unblock Audio	Conference audio transmission to the participant resumes. The Block Audio button becomes active ().
	Add Participant From Address *Book*	Open the address book, and then select the desired participants. For more information about address book, see *Address Book*.
	*Start Recording*	Start conference recording.
	*Pause Recording*	Stop conference recording temporarily.
	*Stop Recording*	Terminate conference recording.

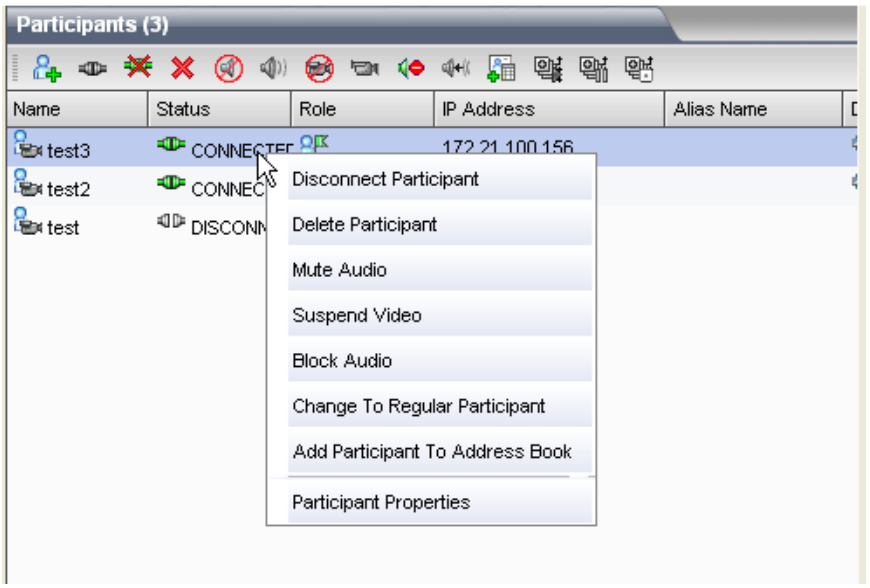


Figure 9-7 *Participant Right-click Shortcut Menu*

In the *Participant* list, right-click any connected participant to display the shortcut menu. Through this shortcut menu, you can conduct common participant control operations, including connecting/disconnecting participant, deleting participant, muting/unmuting audio, suspending/resuming video, blocking/unblocking audio, changing to chairperson/regular participant, adding participant to address book, and viewing participant properties.

If you right-click an unconnected but defined participant, the shortcut menu only provides some of the above operations.

Setting Conference Layout for Participant's Endpoint

If the layout mode is set to **Conference Layout** on the conference parameter interface, you can customize the layout of each participant's endpoint at the Web interface.

To define the layout of a participant, do as follows:

1. In the participant list, double-click the desired participant or right-click the participant, and then click **Participant Properties**.
2. Click the **Media Source** tab, and then set *Layout Type* to **Personal**.

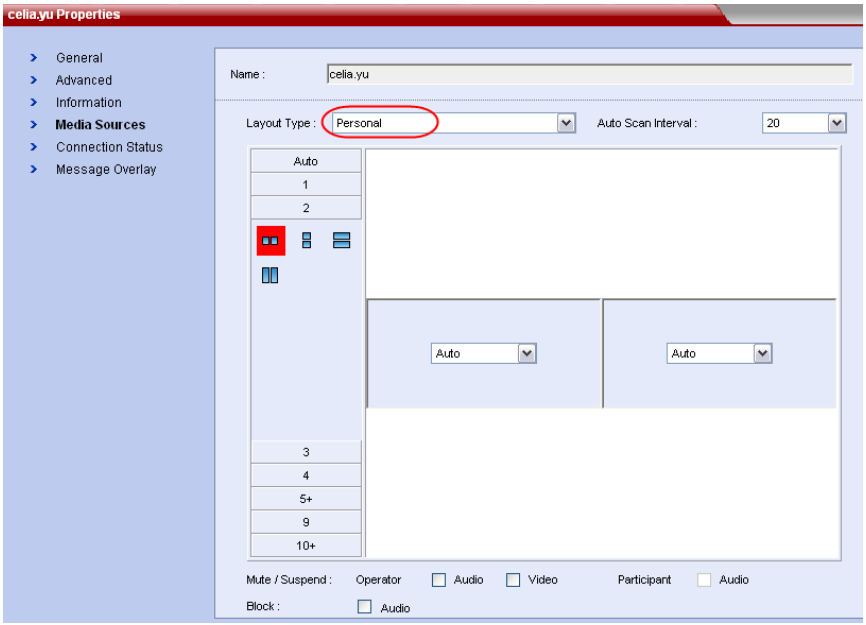


Figure 9-8 *Participant's Layout Settings*

3 Set layout for the endpoint. The procedure for setting layout here for the endpoint is similar to that for setting conference layout. For more information, see *Conference Control*.

- The layout set at the *Participant Properties* page takes effect only for this participant's endpoint.
- The layout set at the *Participant Properties* page is prior to that set on the *Conference Properties* page. In other words, the layout set here is adopted for the participant's endpoint, not being affected by the setting of conference layout.

Mute/Block Participant's Endpoint

As shown in Figure 9-8, you can set the endpoint to the mute or blocked status. The *Participant* item displays in grey, indicating the end user of the conference sets this endpoint to the mute or blocked status. To mute the endpoint here, select the related *Audio* check box in *Mute*. Then, the audio data of the endpoint's conference site is not sent to the RMX 1000. To block the terminal, select the matched *Audio* check box of *Block*. Then, the RMX 1000 will not send audio data to the endpoint's conference site.

Setting Message Overlay for Participant's Endpoint

To set a message overlay for a single participant's endpoint, double-click the desired participant in the participant list or right-click the participant, and then click **Participant Properties**. On the *Participant Properties* interface that appears, click the **Message Overlay** tab. The procedure for setting message overlay here is similar to that for setting message overlay for a conference. For more information, see *Setting Message Overlay for Conference*.

The message overlay set at the Participant Properties page supersedes any message overlay set on the Conference Properties page. When the two settings conflict with each other, the message overlay on the participant's endpoint screen is displayed as follows: The participant's message overlay, even if set later than the conference overlay, immediately replaces the conference level message overlay. The conference level overlay will not be displayed until the participant level overlay is finished displaying.

10

Users and Connections

Users defined on the Web interface can log in to the Web *Management* interface of the MCU to perform various operations. The RMX supports three user connection levels:

- Chairperson
- Operator
- Administrator

A Chairperson can only manage ongoing conferences and participants. The Chairperson does not have access to the RMX configurations and utilities.

An Operator can perform all the RMX tasks a Chairperson does. In addition, Operators can also view the RMX configurations.

An Administrator can perform all the tasks of Chairpersons and Operator users. In addition, Administrators can perform all configuration and maintenance tasks.

Administrator and Operator users can verify which users are defined in the system. Neither of them can view the user passwords, but an Administrator can change a password.

The *Users Pane* lists the currently defined users in the system and their authorization levels. The authorization level dictates a user's capabilities within the system. The pane also enables the administrators to add and delete users.

The RMX 1000 is shipped with a default Administrator user called POLYCOM, whose password is POLYCOM. However, once you have defined other Administrator users, it is recommended to modify the default password.

User List

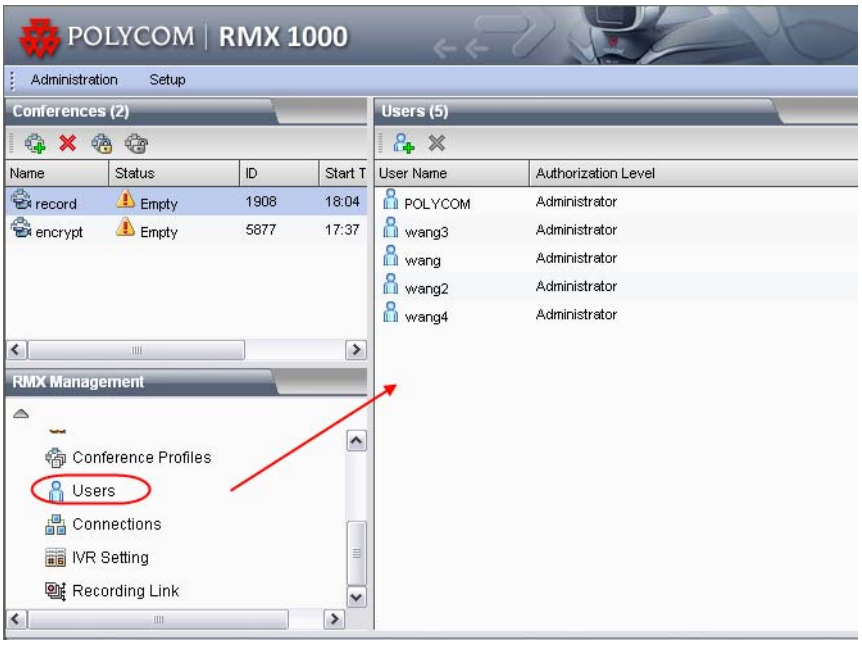


Figure 10-1 *User List Pane*

To view the defined users for the current system, click **Users** in the *RMX Management* pane. The defined user list appears in the list pane located on the right side.

The user name displayed in the list is the login name for the user to connect to the device's Web pages, with its permission level indicating the user's authorization level.

Click a column header to sort the list by the property in the column.

Defining New User

Only users with Administrator privileges are allowed to define new users.

To create a new user, click the button in the *User List* pane, or right-click in the blank area of the list and then click **New User**. The *New User* interface appears.

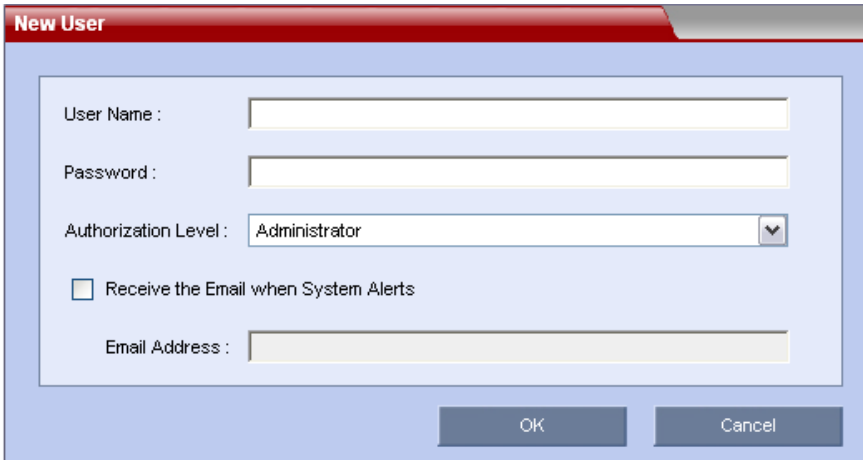


Figure 10-2 *New User Settings Page*

Table 10-1 *Description for New User Settings*

Parameter	Description
User Name	Enter the *user name* for logging in to the system's Web page
Password	Enter the *password* for logging in to the system's Web page
Authorization Level	Set the authorization level of the user to *Administrator*, *Operator,* or *Chairperson*.
Receive the Email When System Alerts	If enabled, the user will receive an Email when a system alert is generated. It is only available for Administrator-level users.
Email Address	Enter the Email addresses for recipients here if *Receive the Email When System Alerts* is enabled.

Deleting User

To delete a user, click the user in the user list and then click the button, or right-click the user and select **Delete User**.

Modifying User Password

Only users with Administrator privileges are allowed to modify passwords of other defined users.

To modify the password of a user, right-click the user you want to modify in the user list and select **Change User Password**. The page for password modification appears. Enter the old password, new password, and confirmation password to complete the modification.

Viewing User Connection

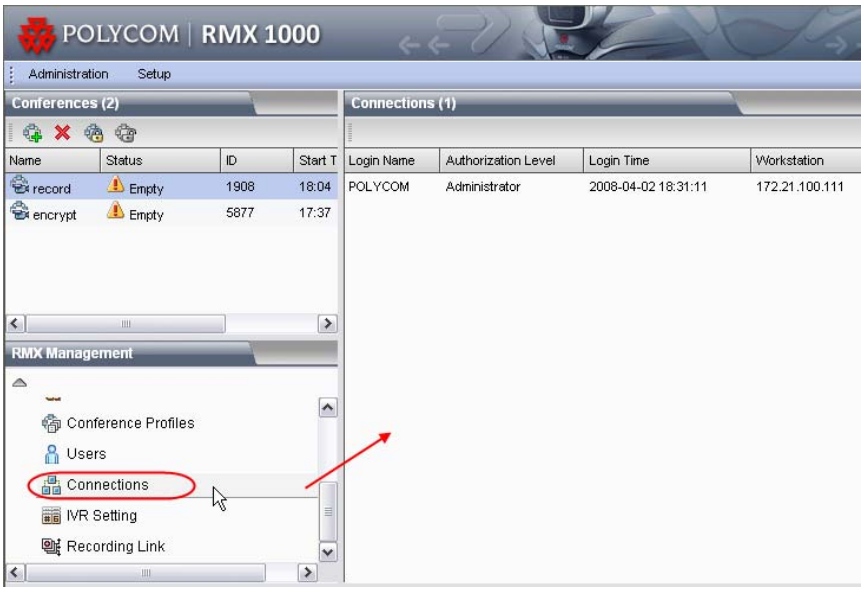


Figure 10-3 *User Connection List*

The Web management page for the device can list all connections (all users, servers, or others logged into the devices,) to the Web interface.

To view connected users, click **Connections** in the *RMX Management* pane. The list of connected users including the following information is displayed in the list pane on the right side.

- User login name
- Authorization level of the user (conference chairperson, operator, or administrator)
- User login time
- User computer name or ID

11

Network Service

IP Setting

Click IP Setting in the *RMX Management* pane. The corresponding IP information of the device will be displayed on the list pane, including the IP addresses and Gateway addresses for port LAN1 and LAN2, and the addresses of the NAT server and DNS server.

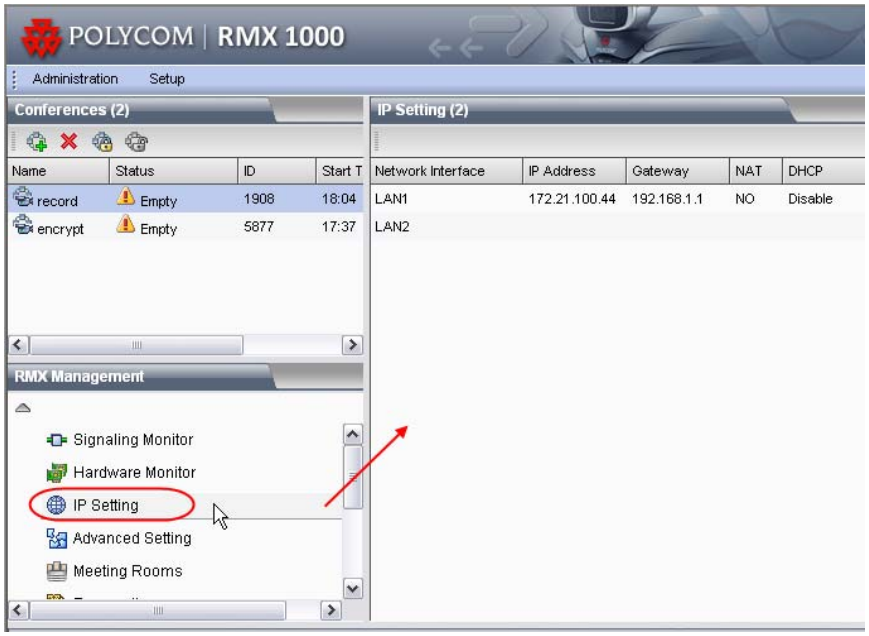


Figure 11-1 *IP Setting*

Right-click a LAN port and select **Properties**. The following page appears. You can view and modify the detailed parameter information here.

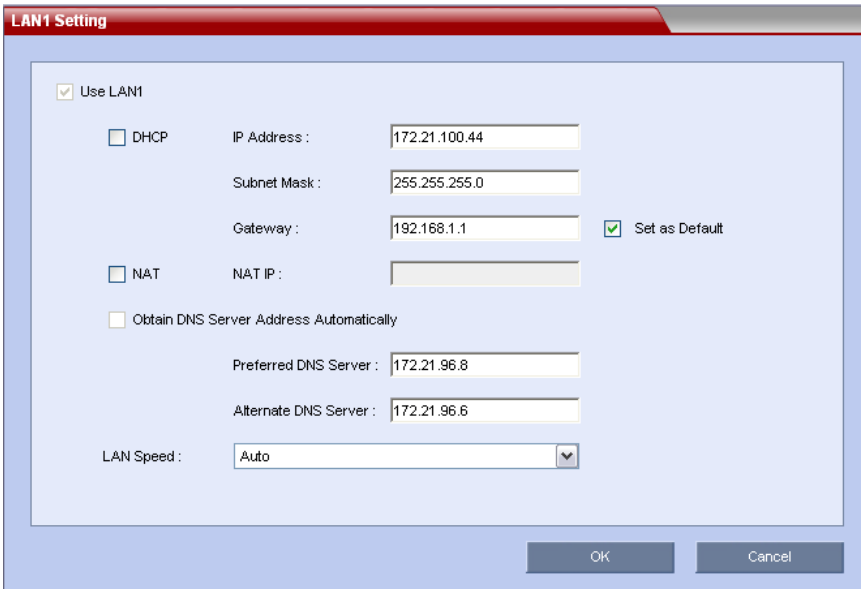


Figure 11-2 *IP Setting – LAN Port Setting Page*

Table 11-1 *LAN Port Setting Parameters*

Parameter	Description
Use LAN1(2)	Enables/disables the network port.
DHCP	If the user network is configured with a *DHCP* (Dynamic Host Configuration Protocol) server, select this option to automatically obtain the IP address. Deselect this option to use a static IP address, in which case you need to configure the next three options.
IP Address	Set the IP address for this network port
Subnet Mask	Set the Subnet Mask for this network port.
Gateway	Set the gateway address of this port. If *Set as Default* is selected and no matched static routes are found, the device packets will be transmitted via this gateway by default. A default route will be displayed in the Advanced setting -> router list. For more information, see the *Routers section*.
NAT	The *NAT* (Network Address Translation) function enables you to translate a private network IP address into a public network IP network before transmission. To enable NAT, select this check box and then set the public network IP address to be displayed to the outside in the *NAT IP* field.
Obtain DNS Server Address Automatically	Used in combination with the *DHCP* option. When the *DHCP* check box is selected, this option allows you to obtain the DNS server address automatically from a DHCP server in the network.
Preferred/Alternate DNS Server	If you did not select the option for automatic DNS address discovery, you must enter the preferred/alternate DNS server addresses here for the device to resolve domain names.
LAN Speed	Set the speed/duplex modes for LAN ports. Supported speed/duplex modes include the 10/100M, Full Duplex or

Parameter	Description
	Half Duplex mode and the 1000M Network mode. You can also select **Auto** to use Auto-Negotiation with the switch port. **Note:** Contact the network administrator before setting LAN Speed, to ensure that the switch configuration is matched with the MCU port.

Advanced Setting

In the *RMX Management* pane, click **Advanced Setting**. All the property information will be displayed in the corresponding list pane.

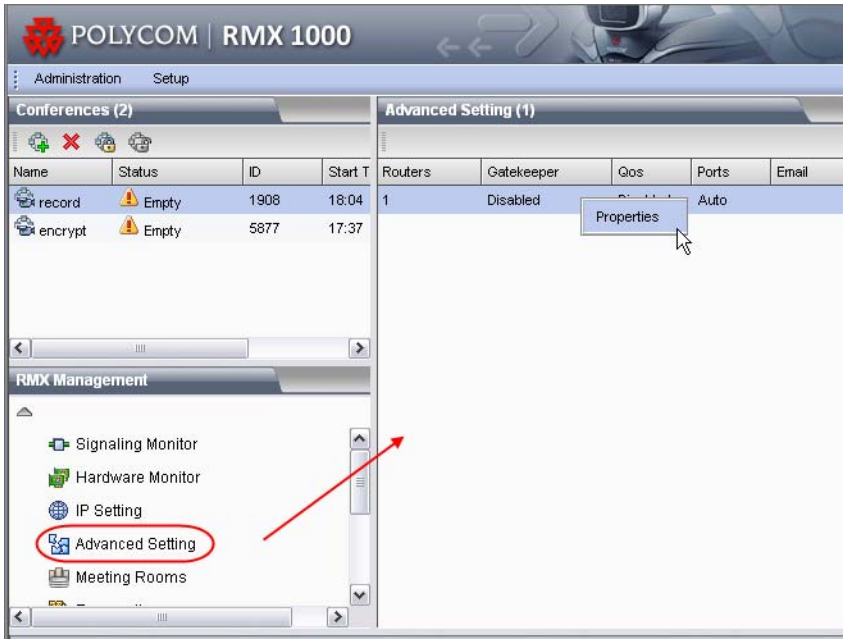


Figure 11-3 *Advanced Setting Page*

Right-click on the desired list item, and select **Properties** to enter the *Advanced Setting – Routers* page.

Routers

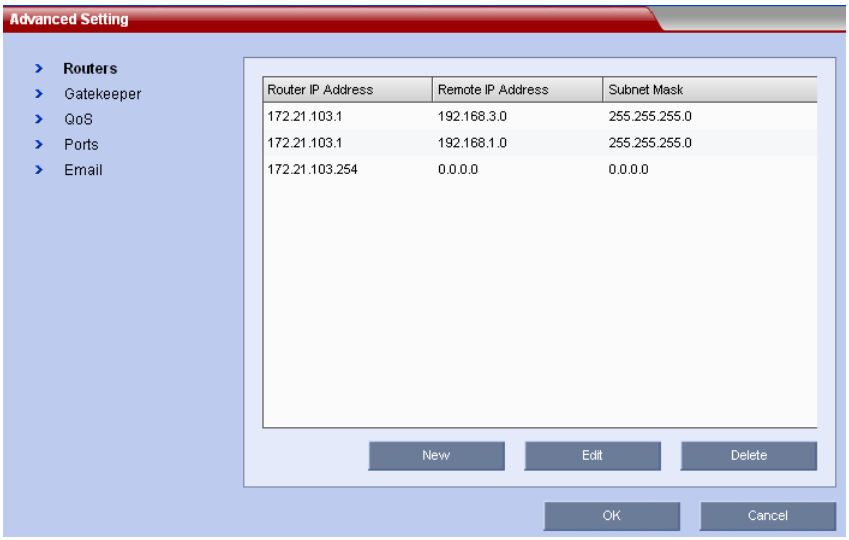


Figure 11-4 *Advanced Setting – Routers*

The *Routers* page displays the information for the configured routes in the system. The RMX 1000 packets will be transmitted via these static routes. You can modify or delete an existing route by selecting the route, or just click the **New** button to create a new route. The table below shows the descriptions for route parameters.

Table 11-2 *Routers Setting*

Parameter	Description
Router IP Address	Set the IP address for the sending router of packet transmission
Remote IP Address	Set the target network address for packet transmission
Subnet Mask	Set the subnet mask for the target network

You cannot modify the default route on this page. To set the default route, select the *IP Setting -> Properties* page, and then select the **Set as Default** check box next to the configured gateway. For more information, see *IP Setting*.

Gatekeeper

Click **Gatekeeper** on the *Advanced Setting* page. If the user network is configured with a gatekeeper device, you have the option to register RMX 1000 with the gatekeeper and configure the related parameters.

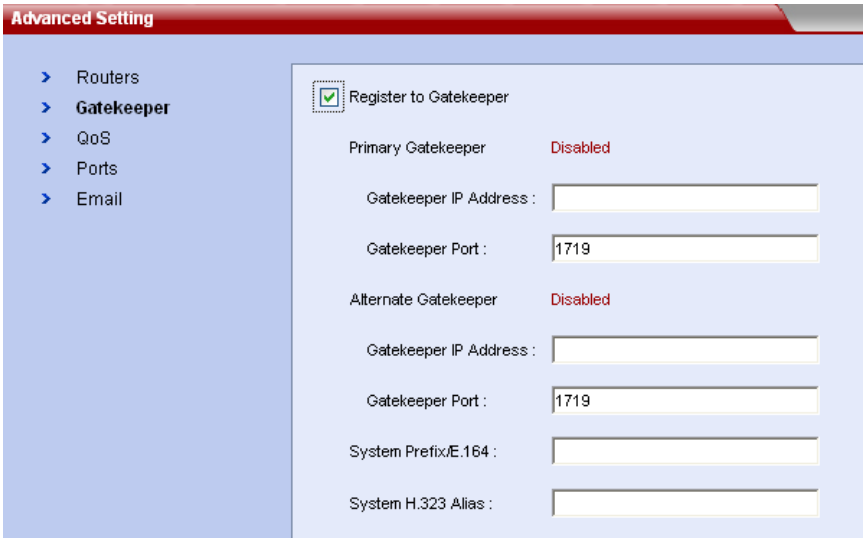


Figure 11-5 *Advanced Setting - Gateway*

The table below explains the specific meanings for the configuration options.

Table 11-3 *Gatekeeper Setting*

Parameter	Description
Register to Gatekeeper	Set whether or not to register with the gatekeeper. You must check this option to set the parameters that follow.
Primary (Alternate) Gatekeeper	Indicates whether or not the device is registered with the primary (or alternate) gatekeeper.
Gatekeeper IP address	Set the IP address for the primary (or alternate) gatekeeper.
Gatekeeper Port	The port number for the primary (or alternate) gatekeeper.
System Prefix/E.164	Set the E.164 number for the system.
System H.323 Alias	Set the H.323 alias for the system.

QoS

Click the *QoS* tab on the *Advanced Setting* page to set whether or not to enable the QoS function. The **Quality of Service** is very important in transmission of high-bandwidth audio/video data. You can use QoS to test and guarantee the following parameters:

- Average packet delay
- Delay variation (jitter)
- Error rate

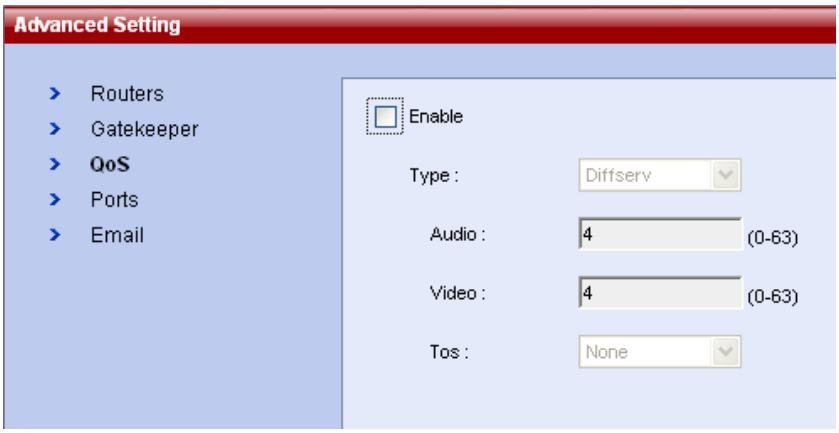


Figure 11-6 *Advanced Setting - QoS*

The table below explains the meanings for all QoS parameters.

Table 11-4 *QoS Parameter Settings*

Parameter	Description
Enable	Select this option to enable configuration of the **QoS** settings. When un-checked, the system uses the default QoS settings.
Type	*DiffServ* and *Precedence* are two methods for encoding packet priority. The priority set here for audio and video packets should match the priority set in the network routers. ▪ Differv: Select when the network router uses Differv for priority encoding. **Note:** If you select DiffServ but your router does not support this standard, IP packets queue on the same communication links with data packets. This non-prioritized queueing greatly increases the latency and jitter in their delivery and can negatively impact performance. ▪ Precedence: Select when the network router uses Precedence for priority encoding, or when you are not sure which method is used by the router. Precedence should be combined with *None* in the *ToS* field. **Note:** Precedence is the default mode as it is capable of providing priority services to all types of routers and is currently the most common mechanism.
Audio / Video	You can prioritize audio and video IP packets to ensure that all participants in the conference hear and see each other clearly. Select the desired priority. The scale is from 0 to 5, where 0 is the lowest priority and 5 is the highest. The recommended priority is 4 for audio and video to ensure that the Set as Default for both packet types is the same, that audio and video packets are synchronized, and to ensure lip sync.
Tos	Select the *Type of Service* (ToS) that defines optimization tagging for routing the conference audio and video packets. ▪ Delay: The recommended default for video conferencing; prioritized audio and video packets tagged with this definition are delivered with minimal delay ▪ None: No optimization definition is applied. This is a

Parameter	Description
	compatibility mode in which routing is based on *Precedence* priority settings only. Select **None** if you do not know which standard your router supports.

Ports

To specify fixed ports for usage with a firewall, click the **Ports** tab.

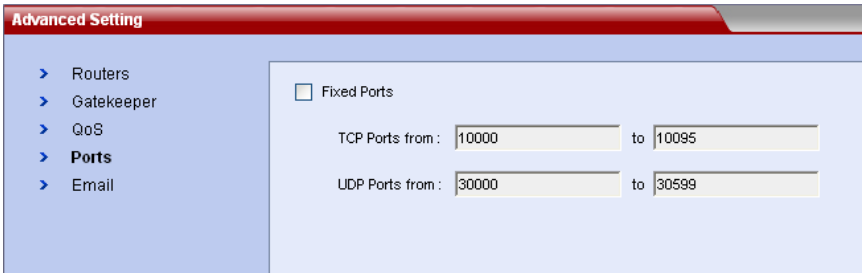


Figure 11-7 *Advanced Setting – Ports*

The table below explains the detailed meanings of port setting parameters.

Table 11-5 *Description of Port Settings*

Parameter	Description
Fixed Ports	Leave this check box clear if you are defining a Network Service for local calls that does not require configuring a firewall to accept calls from external entities. When un-checked, the system uses the default port range. Select this option to enable other port ranges or to configure the ports to be used.
TCP/UDP ports from	Shows the default TCP/ UDP port range. The user can set the start port number here, and the end port number will be calculated automatically.

If the network administrator does not specify an adequate port range, the system will accept the settings and issue a warning. Calls will be rejected when the MCU's ports are exceeded even if hardware ports are still available on the RMX 1000.

Email

To set the address and account information for outgoing conference notification Email messages, click the **Email** tab.

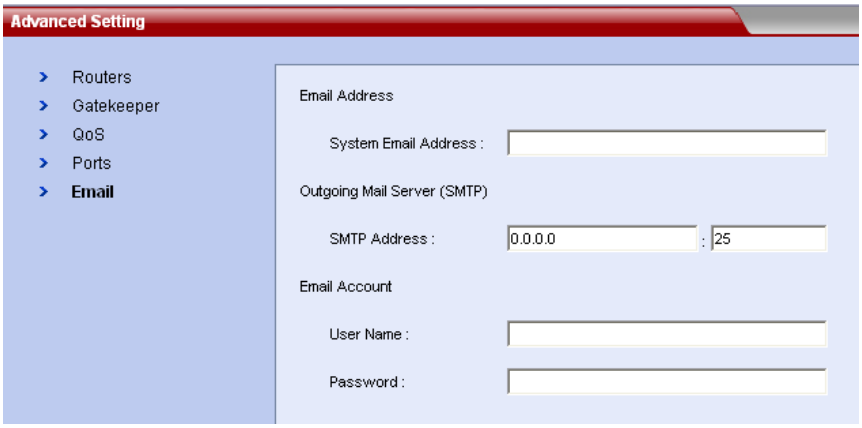


Figure 11-8 *Advanced Setting – Email*

Table 11-6 *Description of Email Settings*

Parameter	Description
System Email Address	Set the Email address for outgoing Email messages
SMTP Address	Set the mailbox server address for outgoing Email messages
E-mail Account	Set the user name and password for the Email account

If you configure the SMTP server address with the domain name, ensure that the DNS-related information is configured.

12

IVR Service

RMX 1000 provides a conference Interactive Voice Response (IVR) function which allows conference participants to use an endpoint input device (such as a remote control) to interact with the conference following the voice and onscreen operation prompts used in the conference.

The default IVR information is included in the factory default settings, and the participant will hear the default voice prompts when joining a conference. You can also customize the voice prompts if desired.

To view the IVR settings on the RMX 1000, click **IVR Setting** in the *RMX Management* pane. The IVR list will be displayed in the list pane on the right side, where you can test all the stored voice prompts, switch between different languages, or customize the voice prompts.

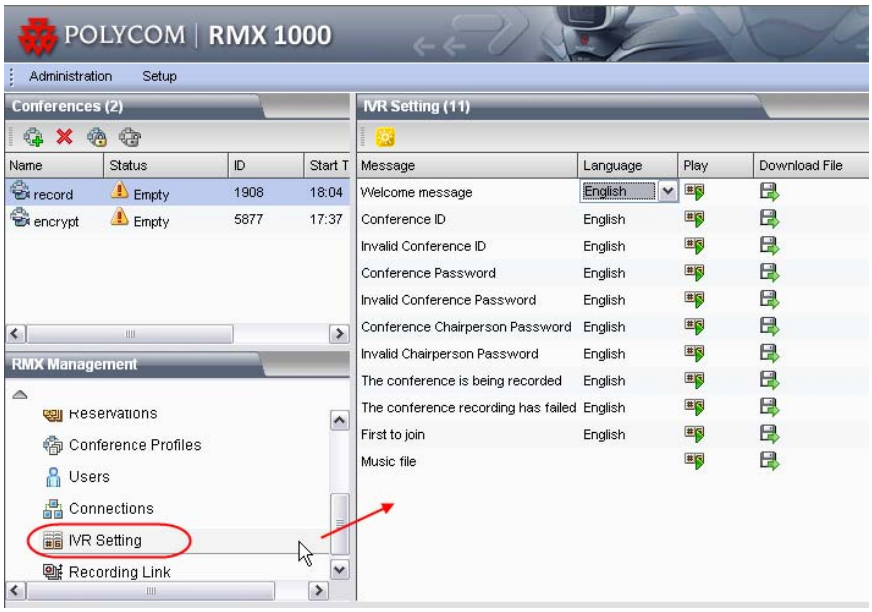


Figure 12-1 *IVR Setting Page*

Default IVR Information

The *Message* bar shows the names of the 11 IVR voice prompts available. The table below shows the factory IVR information.

Table 12-1 *Factory IVR Information*

IVR Information	Prompt Message	Description
Welcome message	Welcome to Unified Conferencing.	Each participant to dial into a conference will hear this Welcome message as they enter.
Conference ID	Please enter your conference ID. Press # when complete	This prompt will be played when the participant is required to enter a conference ID.
Invalid Conference ID	Invalid conference ID. Please try again.	This prompt will be played if the user enters an invalid conference ID.
Conference Password	Please enter the conference password. Press # when complete.	This prompt will be played when the participant attempts to join a password-protected conference.
Invalid Conference Password	Invalid conference password. Please try again.	This prompt will be played if the user enters an invalid conference password.
Conference Chairperson Password	Please enter the conference chairperson password. Press # when complete.	This prompt will be played when the user attempts to join a conference with a configured chairperson password.
Invalid Chairperson Password	Invalid chairperson password. Please try again.	This prompt will be played if the user enters an invalid chairperson password.
The Conference is being recorded	The conference is being recorded.	This prompt will be played when conference recording begins.
The Conference recording has failed.	The conference recording has failed.	This prompt will be played when conference recording fails.
First to join	You are the first person to join the conference.	This prompt will be played when the first conference participant connects to the conference.
Music file	-	This music will be played for the first conference participant until other participants join the conference.

The RMX 1000 shipped with IVR information of three languages: Chinese, English and Japanese. You can click the language options on the *Language Bar* to switch between different languages.

Customizing IVR Information

RMX 1000 supports customized IVR prompts. You can upload IVR format-compatible audio files to the device and use personalized voice prompts during conferences.

Replace the IVR information

To replace the existing IVR information:

1. From the IVR list, click the corresponding language option for the IVR information you want to replace, set a target IVR language, and then click the relevant **Download** button .
2. The *Upload File* dialog box pops up. Enter the path to the audio file you want in the file upload path box, or click the **Open** button to set the path, and then click the **Download** button to upload the file.
3. A pop-up box opens and prompts you to reboot. You need to reboot the device for all newly uploaded audio files to take effect. Click the **Confirmation** button to reboot your device.

After the files are uploaded successfully and the device is rebooted, you can click the corresponding **Play** button to test play the prompt voice in order to verify if the file modification is successful.

When uploading an IVR file, the file name is restricted to alphanumeric characters, the file format is restricted to PCM only, and the sampling frequency must be16 or 32 KHz, 16bit, and mono.

Recording an Audio Message

You can record voice messages for different languages or customize them to your needs for IVR service.

To record audio messages, use any sound recording utility available in your computer or record them professionally in a recording studio. Make sure that recorded message can be saved as a Wave file (*.wav format) and that the recorded format settings are defined as 16 or 32 KHz, 16bit, and mono. The files are converted into the RMX internal format during the upload process. This section describes the use of the Sound Recorder utility delivered with Windows 95/98/2000/XP.

Make sure that a microphone or a sound input device is connected to your PC.

To define the format settings for audio messages:

The format settings for audio messages need to be set only once. The settings will then be applied to any new audio messages recorded.

1. On your PC, click Start -> Programs -> Accessories -> Entertainment -> Sound Recorder. The *Sound–Sound Recorder* dialog box opens.

Figure 12-2 Sound–Sound Recorder Dialog Box

2 To define the recording format, click **File -> Properties**. The *Properties for Sound* dialog box opens.

3 Click the **Convert Now** button.

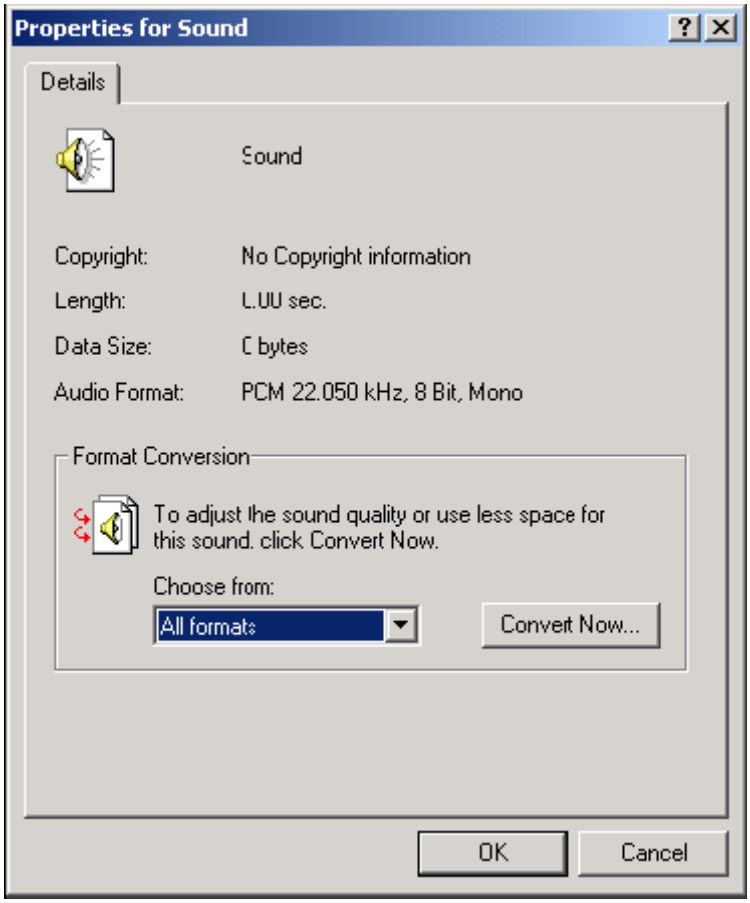


Figure 12-3 Properties for Sound Dialog Box

The *Sound Selection* dialog box opens.

4 In the *Format* field, select **PCM**.

5 In the *Attributes* list, select **16.000 kHz, 16Bit, Mono.**

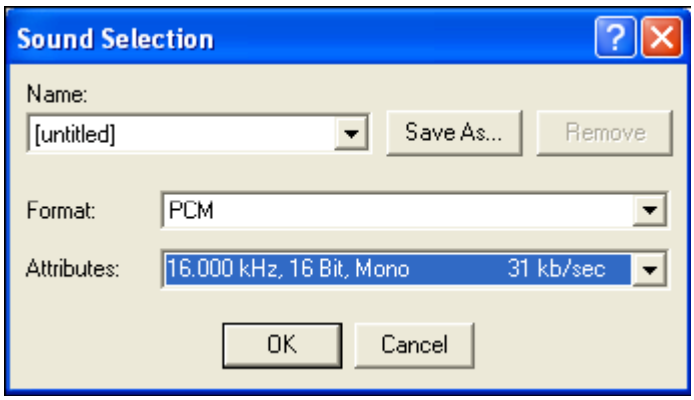


Figure 12-4 Sound Selection Dialog Box

6 To save this format, click the **Save As** button. The *Save As* dialog box opens.

7 Select the location where the format will reside, enter a name and then click **OK**.

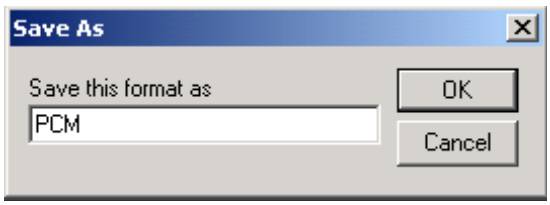


Figure 12-5 Save the Format

The system returns to the *Sound Selection* dialog box.

8 Click **OK**. The system returns to the *Properties for Sound* dialog box.

9 Click **OK**. The system returns to the *Sound–Sound Recorder* dialog box. You are now ready to record your voice message.

To record a new audio message:

1 On your PC, click Start-> Programs-> Accessories -> Entertainment -> Sound Recorder. The *Sound–Sound Recorder* dialog box opens.

2 Click File -> New.

3 Click the **Record** button. The system starts recording.

4 Narrate the desired message.

5 Click the **Stop Recording** button.

6 Save the recorded message as a wave file, click **File -> Save As**. The *Save As* dialog box opens.

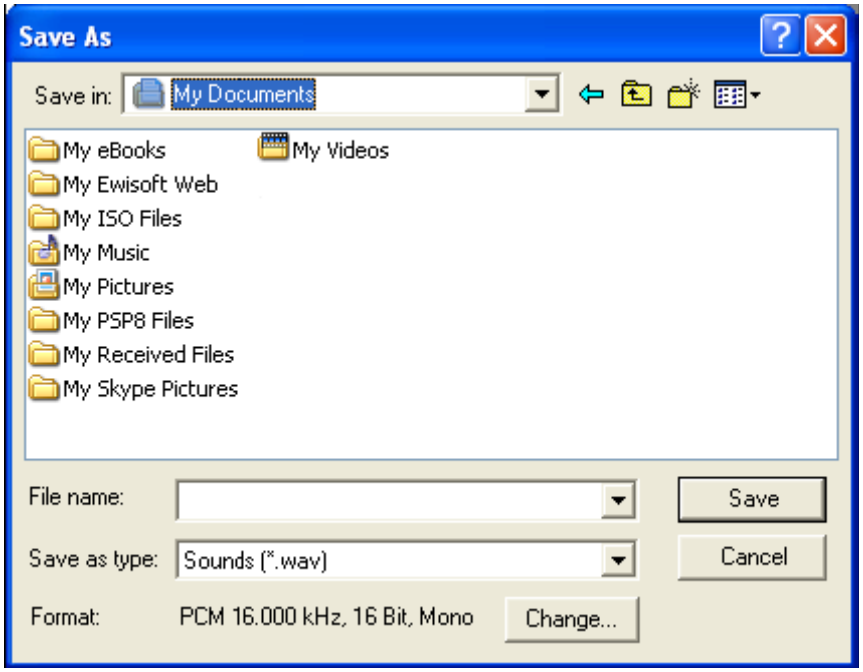


Figure 12-6 Save the Recorded Message

7 Verify that the *Format* reads: **PCM 16.000 kHz, 16Bit, Mono**. If the format is correct, continue with step 10. If the format is incorrect, click the **Change** button.

The *Sound Selection* dialog box appears.

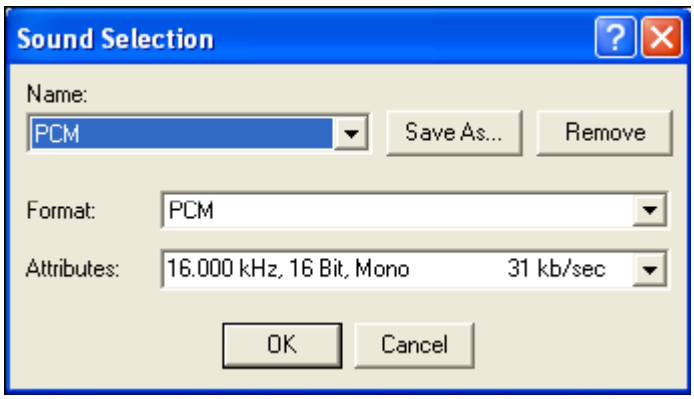


Figure 12-7 Sound Selection Dialog Box

8 In the *Name* field, select the name of the format created in step 7, as shown in Figure 12-5.

9 Click **OK**.

The system returns to the *Save As* dialog box.

10 In the *Save in* field, select the directory where the file will be stored.

11 In the *Save as Type* field, select the ***.wav** file format.

12 In the *File name* box, type a name for the message file, and then click the **Save** button.

To record additional messages, repeat steps 1 to 10.

To upload your recorded *.wav file to the RMX, see *Replace the IVR information*.

As participants will access the onscreen UI by calling the RMX 1000 IP address, there are no configurable 'Video Slide' options comparable to those available on other Polycom MCU products.

13

CDR

RMX 1000 includes a Call Detail Record (CDR) utility, which enables you to view summary information about conferences, as well as to retrieve full conference information and archive it to a file. The file can be used to produce reports or can be exported to external billing programs.

The Polycom RMX can store details of up to 1000 conferences. When this number is exceeded, the system overwrites conference data, starting with the oldest conference.

Each conference is a separate record in the MCU memory and archived as a separate file. Each conference CDR file contains general information about the conference, such as the conference name, ID, start time and duration, as well as information about events occurring during the conference, such as adding a new participant, disconnecting a participant, or extending the length of the conference.

CDR Files

The conference CDR records can be retrieved and archived in the following two formats:

- Unformatted data – Unformatted CDR files with the suffix .cdr contain multiple records in raw data format. The first record in each file contains general conference data. The remaining records contain event data, one record for each event. Each record contains field values separated by commas, as shown below. This data can be transferred to an external program such as Microsoft Excel© for billing purposes.

```
1,1111,de11eb2f47f2dc1195fd6cdf12605721,2008.03.15,04:20:47,1,2358,2,1,0,0,0;
1,15.03.2008,04:20:47,0,0,0,768,0,255,3,255,255,255,0,0,0;
2001,15.03.2008,04:20:47,0,3,0,0,5,0,255,1,0,1,0,0,1,0,1,0,0,0,65535,65535,65535,65535,65535,65535,65535,
3,1,0,1,0,0,0,4294967295;
5001,15.03.2008,04:20:47,0,1111,1,1,,,,,;
7,15.03.2008,04:22:52,0,K60v2A,a688552247f2dc1195fdaa81ab5a5cbf,1,0;
7,15.03.2008,04:29:58,0,K60v2A,a688552247f2dc1195fdaa81ab5a5cbf,1,0;
101,15.03.2008,04:59:55,0,,K60v2A,0,a688552247f2dc1195fdaa81ab5a5cbf,0,255,0,1,0,0,0,1,0,0,2,1;
2101,15.03.2008,04:59:55,0,2,1,0,255,5,2,1,1,4294967295,3232196376,65535,7,103166;
17,15.03.2008,04:59:55,0,K60v2A,a688552247f2dc1195fdaa81ab5a5cbf,1,0,0,0;
18,15.03.2008,04:59:55,0,K60v2A,a688552247f2dc1195fdaa81ab5a5cbf,5,0,255,0,1,0,0,0,1,0,0,2,1,2,1,0,255,5,
2,1,1,4294967295,3232196376,65535,7,103166;
7,15.03.2008,05:00:05,0,K60v2A,a688552247f2dc1195fdaa81ab5a5cbf,2,0;
2,15.03.2008,05:00:05,0,2;
100,15.03.2008,05:00:05,0,;
```

Figure 13-1 *CDR File – Unformatted*

- Formatted text – Formatted CDR files use the suffix .txt. Different from the unformatted CDR, the field value of each data in the formatted CDR file matches its property name one by one, as shown below. This data can be used to generate a summary report for a conference.

Figure 13-2 CDR File – Formatted

Viewing CDR Records

To view the conference records, click the menu options **Administration -> CDR** on the top-left of the page. The *CDR List* pane appears, showing the saved CDR records.

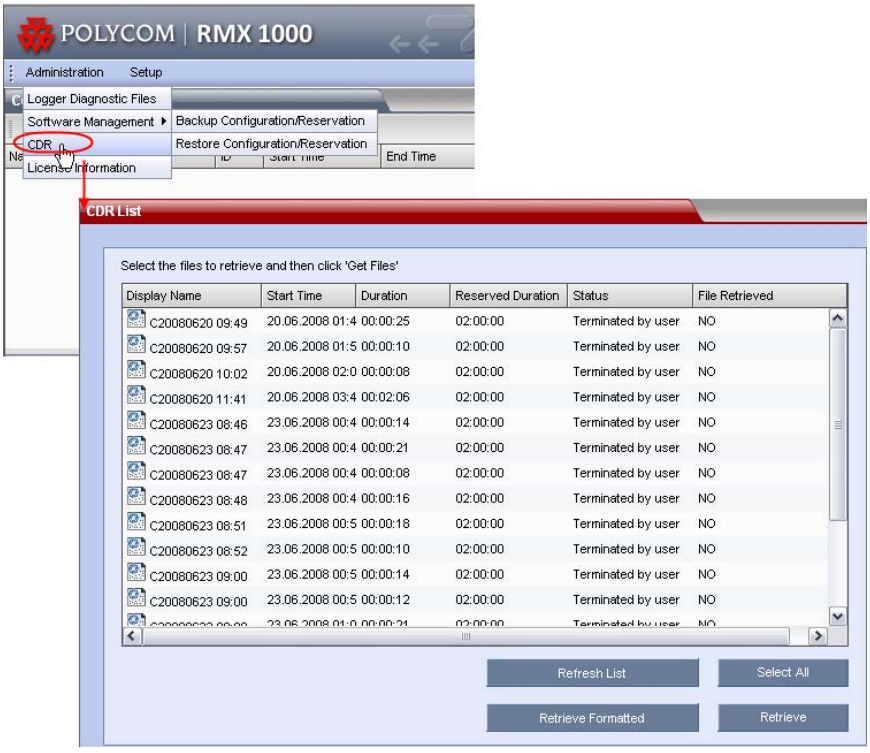


Figure 13-3 CDR Records

Table 13-1 Parameter Description of CDR

Parameter	Description
Display Name	Shows the conference name and an icon indicating whether or not the CDR record has been written to the RMX 1000's memory.  - CDR record saved  - CDR record not saved
Start Time	The actual start time for the conference.
Duration	The actual duration of the conference.
Reserved Duration	The reserved duration for the conference. You can check if the conference was extended or shortened by comparing the actual Duration to the Reserved Duration.
Status	Shows the conference status. The following values may be displayed: ▪ Ongoing conference ▪ Terminated by user ▪ Terminated when end time passed ▪ Automatically terminated when conference was empty ▪ Terminated by a participant using DTMF codes ▪ Conference never became ongoing due to a problem ▪ Unknown error
File Retrieved	Indicates if the CDR files have been previously retrieved to a text file (Yes/No).

The functions for all these buttons on the page are as follows:

- Refresh List - Refresh the CDR list to show newly created records.
- Select All - Select all CDR records in the list.
- Retrieve Formatted - Save the selected CDR records to a specified location as formatted text (.txt files).
- Retrieve - Save the selected CDR records to a specified location as plain text (.cdr files).
- 

- Move the cursor to the lower left corner of the CDR list to activate this hidden control. It is used for page turning, going to a specified page or directly going to the first page/last page.

Saving CDR Records

To save the CDR records to your local machine:

1 Select the records to save from the CDR record list.

Click the **Select All** button to select all the files. To select multiple files, Ctrl-click or Shift-click the files you want according to the Windows operation.

2 Click the **Retrieve Formatted** button or **Retrieve** button, set a target storage path in the pop-up *Save Files* dialog box, and then click **OK** to save the records as formatted/plain text.

14

RMX Utilities

System Alerts

When an error occurs in the system, the *System Alerts* function will be activated. RMX 1000 will record the system error information and a report file in *.xml or *.txt format will be generated.

When a system error occurs, the system alert area blinks red until the problem is solved.

To view the system alert, click the blinking *System Alerts* bar on the left-bottom of the page to open the *System Alerts* pane. It shows all the unresolved event information.

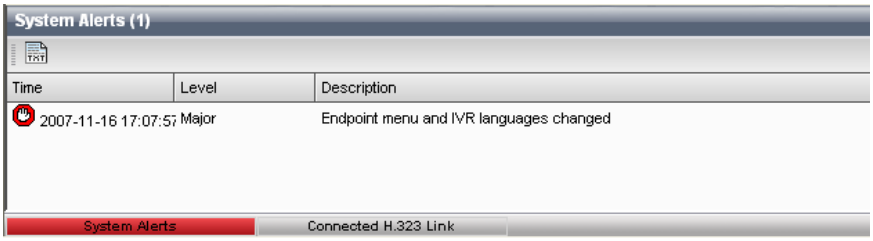


Figure 14-1 *System Alerts*

Table 14-1 *System Alert Parameters*

Parameter	Description
Time	Shows the date and time when the error occurred. It also shows a severity level identifier for each error (see item *Level* below)
Level	Shows the severity level of the error (*Major*, *Minor,* or *Startup*), each level corresponds to an identifier: ▪ - Major error ▪ - Minor error ▪ - Startup error
Description	Shows the reason of the error with more details

To download the System Alerts report file to your machine, click the button.

H.323 Link

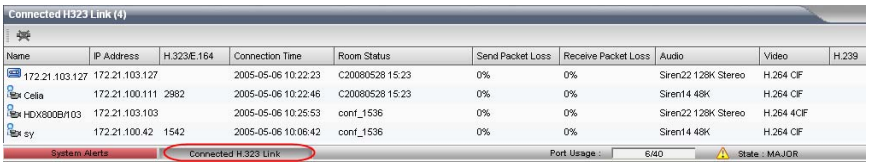


Figure 14-2 H.323 Link Status

To view all connected H.323 links, click **Connected H.323 Link** on the left-bottom of the page.

The *H.323 Link* pane opens with the list of connected H.323 links. For the meanings of the H.323 link status parameters, see the table below.

Table 14-2 H.323 Link Status Description

Parameter	Description
Name	Participant name or endpoint identifier
IP Address	The IP address for the participant's endpoint device
H.323/E.164	The alias for the participant's endpoint device
Connection Time	The date and time when the connection was established
Room Status	Shows the meeting room name of the participant. The menu indicates that the endpoint has connected to the PCM (Personal Conference Manager) lobby but hasn't joined any conference.
Send Packet Loss	The packet loss rate of packets sent from the RMX 1000.
Receive Packet Loss	The packet loss rate of packets received from the RMX 1000.
Audio	The audio protocol negotiated with the endpoint
Video	The video protocol negotiated with the endpoint
H.239	Indicates whether H.239 was negotiated with the endpoint

To disconnect an H.323 link manually, select the link, and then click the button on the pane.

System Time

The system clock can be synchronized with the user PC or a network time server to ensure accurate conference scheduling and initiation.

To set the system time, click the menu options **Setup -> RMX Time** on the top-left of the page. The system time setup page opens.

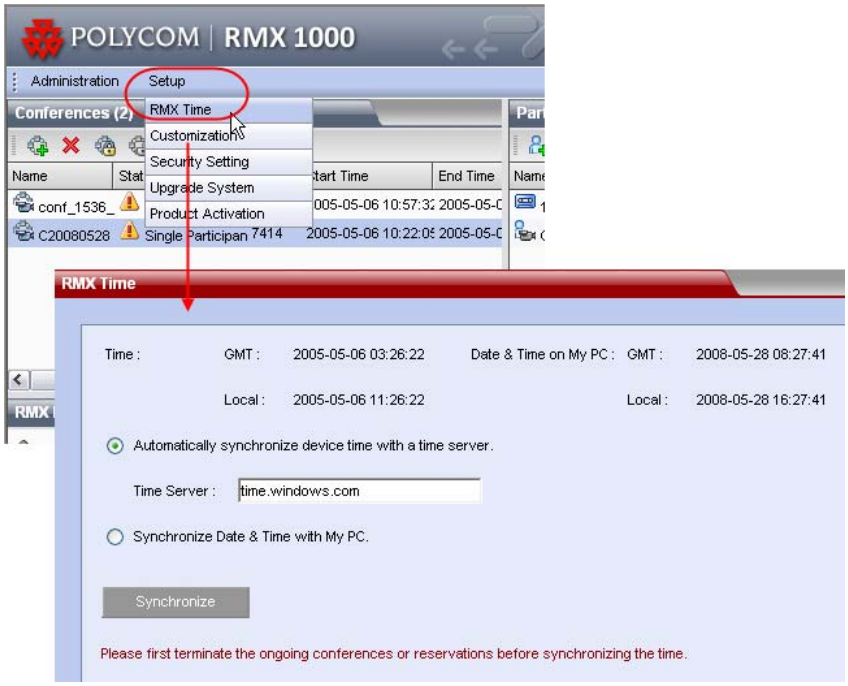


Figure 14-3 *System Time Setup Page*

This page shows the date and time of the system and the user PC. You can set up the system time in one of the following methods:

- Synchronize with a network time server

  Select the **Automatically Synchronize Device Time with a Time Server** option to synchronize the device time with a network time server. In this case, enter the IP address or domain name for the time server in the *Time Server* field, then clicking the **Synchronize** button to proceed with the synchronization.

- Synchronize with the user PC

  Select the **Synchronize Date & Time on My PC** option to synchronize the device time with the connected user PC, then click the **Synchronize** button to proceed with the synchronization.

You cannot perform the time synchronization operation if there is an ongoing conference on the device. You should terminate the conference before activating the **Synchronize** button.

Customization

You can customize the following language settings for the device: the language of the menus to be displayed for the endpoints' PCM and the IVR voice prompt language. You can also modify the device's system name. To proceed with the customization, click the menu options **Setup -> Customization** on the top-left of the page to enter the customization page.

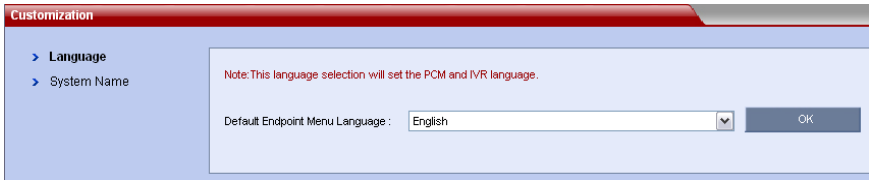


Figure 14-4 Customization Page

Modifying Language

To modify the device language, click the **Language** tab on the customization page; select the desired language from the drop-down menu and then click the **OK** button to complete. You need to reboot your system to ensure the settings take effect. The language settings here will apply to both the PCM of the endpoint connecting to RMX 1000 and the IVR voice prompts in the conference.

Setting System Name

The system name will be displayed on the endpoint device connected to RMX 1000, with a default name of POLYCOM RMX. To customize the system name for a device, click the **System Name** tab on the customization page, enter the system name in *System Name*, and then click the **OK** button.

Security Setting

To restrict the H.323 link connected to the device PCM, click **Setup -> Security Setting** at the upper left part on the interface to enter the *Security Setting* page.

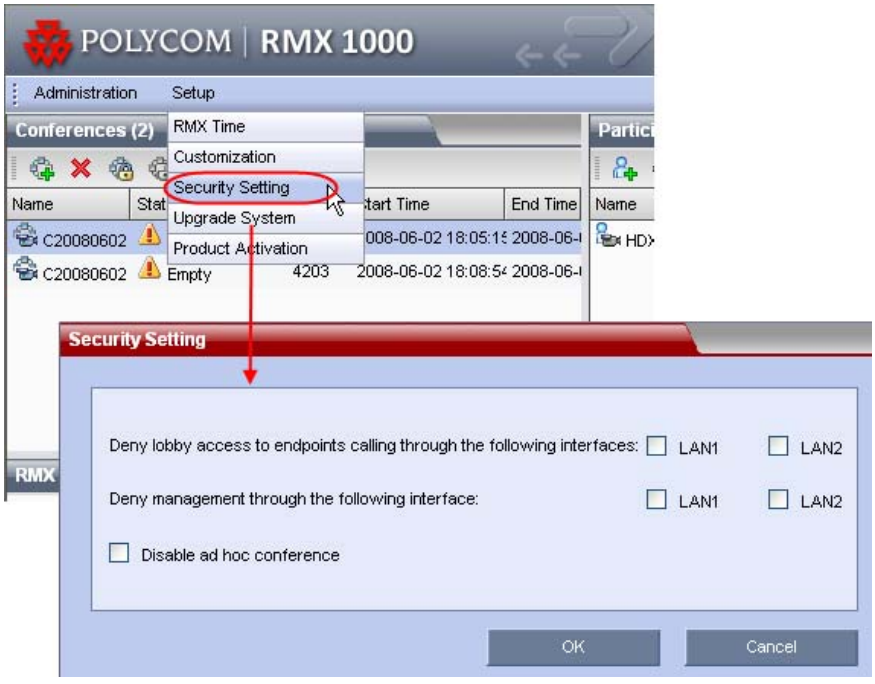


Figure 14-5 Security Setting Page

You can set the following security restrictions:

- Deny lobby access to endpoints calling through the following interfaces: Select the **LAN1 or LAN2** check box. Then, the endpoint connected to this port cannot dial into the PCM lobby through the IP address or E.164 number of the RMX 1000. However, you can still directly dial into the conference by calling "RMX 1000 IP address/E.164 + conference ID".
- Deny management through the following interface: Select the **LAN1 or LAN2** check box. Then, the user PC cannot log into the Web UI through the IP address of this LAN port. LAN 1 and LAN 2 ports shouldn't be disabled at the same time. If there is only one LAN port is enabled in **LAN Setting** page (see Figure 11-2) at the same time, both the LAN1 and LAN2 options will turn grey not allowing to be disabled.
- Disable ad hoc conference: When this check box is selected, the endpoint cannot create a conference in the PCM lobby. Also, you cannot create a conference by directly entering RMX 1000 IP## conference ID through the remote control.

For the details on PCM, refer to Personal Conference Manager (PCM).

Device Upgrade

To upgrade the software of your device, click the menu options **Setup** -> **Upgrade System** on the top-left of the page to enter the system upgrade page.

Figure 14-6 *Upgrade System Page*

To upgrade your system, do the following:

1. Read the License Agreement and select **I Agree** if you accept the terms and conditions.
2. Enter the path to the software upgrade file or click **Open** to select the path, then click **Download File** and use the selected file to upgrade your system.
3. The system displays "*Software download success, reboot system to activate new version now or later?*", indicating that the upgrade is successful. Click **OK** to reboot your system.

4 Log in to the Web interface. The system displays the *Product Activation* page, requesting you to enter the activation key to activate the upgraded device. Click the **Polycom Resource Center** button on the page to enter the login page for *Polycom Resource Center*.

5 Enter your Email address and password in the login boxes, and then click **Sign In**. If you are a new user, click the **Register for an Account** link to be registered and obtain the login password.

6 After successful login, click **Service & Support** in the navigation bar at the upper part. On the interface that appears, click **Product Activation** in the left navigation bar at the left part, as shown below.

Figure 14-7 *Service & Support Interface*

7 Enter the *Activate Your Product* Interface. At the *Software Upgrade Key Code* area, click the **Retrieve Software Key Code** button.

8 At the *Single Upgrade Key Code* area, enter the *serial number* and *version number* of the device, and then click the **Retrieve** button, to generate the *Key Code* required for system upgrade.

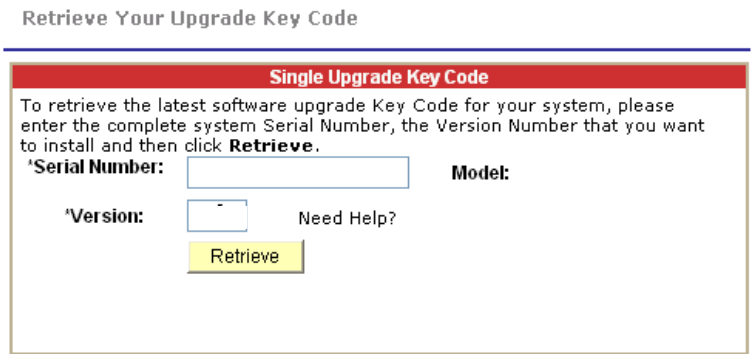


Figure 14-8 *Retrieve Your Upgrade Key Code Interface*

9 Fill the retrieved Key Code in the *Activation Key* input box. Finally, click the **Save** button to activate the RMX 1000. Then, the upgraded device is ready for use.

Product Activation

The *Product Activation* page is used in the following three activation cases:

- Activate the newly purchased RMX 1000 device.
- Activate payment function items of the RMX 1000, such as H.264, 720p conference, and conference reservation.
- Activate the upgraded device.

Click **Setup -> Product Activation** in the menu bar on the top of the Web page. The *Product Activation* page opens, which lists the *serial number, current version number,* and other device information.

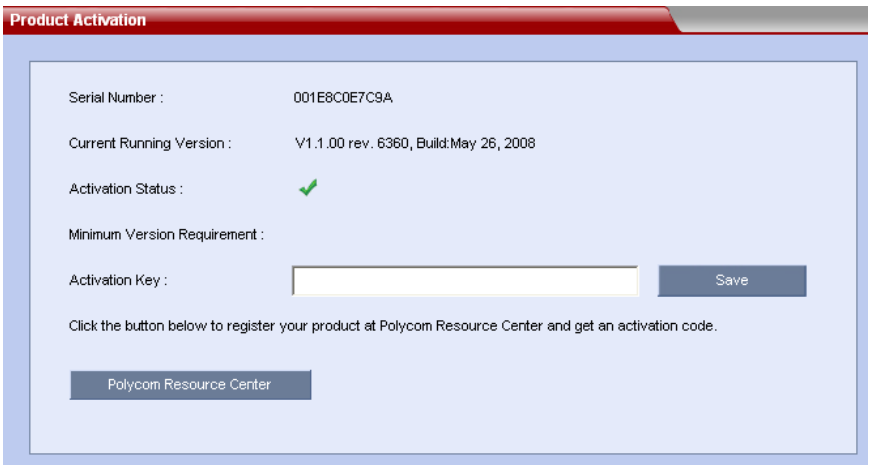


Figure 14-9 *Product Activation Page*

Fill the activation key obtained from the Polycom Resource Center in the *Activation Key* input box on the page. Then, click the **Save** button to activate the RMX 1000.

After the device is successfully activated, *Activated* will be displayed behind the *Activation Status* property on the page. After a payment function of the device is activated, you can see it is activated in the *Administrator-> License Information* page, as shown below:

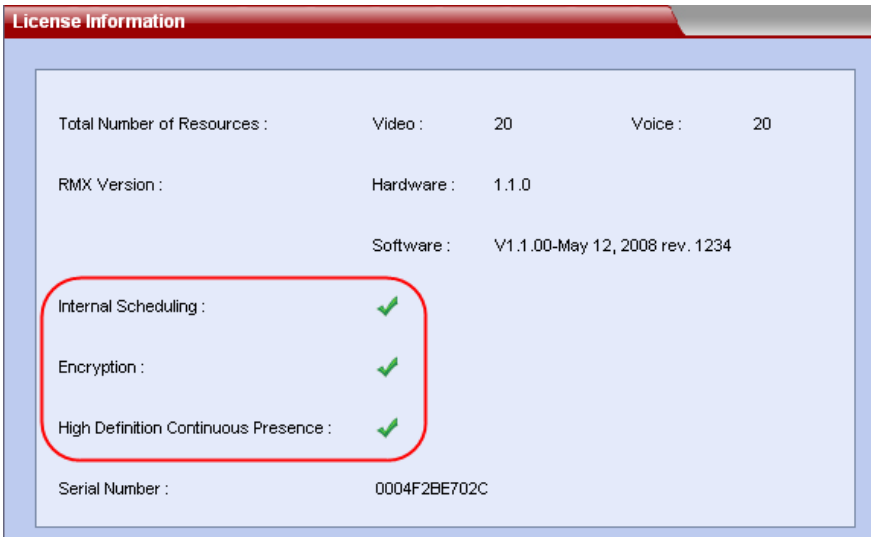


Figure 14-10 *License Information Page*

To directly enter the homepage of the Polycom Resource Center, click the **Polycom Resource Center** button on the *Product Activation* page. To obtain the new product activation key, operate according to the procedure of obtaining the paying function activation key. For details, refer to *Obtaining Product Activation Key*. For the method of obtaining the upgrade activation key, refer to *Device Upgrade.*

Log Management

The system supports logging and can record and save the system information continually. You can save the log files to your local hard disk for system analysis and diagnosis.

The log program will be activated once the system starts. However, if you manually reboot the system or something goes wrong with the log program (such as a hardware drive error occurs when saving the log files,) the data generated during this period will not be saved.

To view the log files, click the menu option **Administration -> Logger Diagnostics Files** on the top-left of the page. The log page appears.

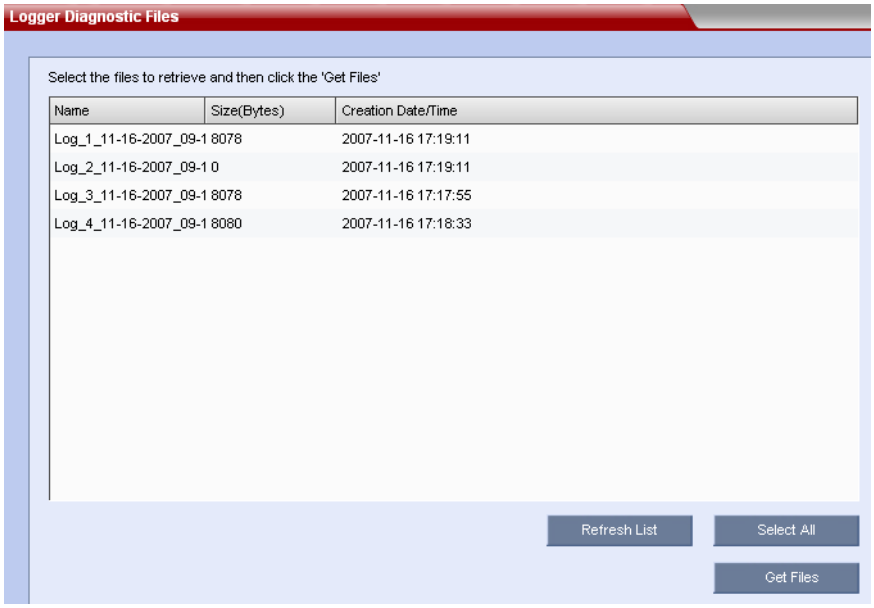


Figure 14-11 *System Log*

This page consists of a list of recorded log files with their corresponding creation times and the following function buttons:

- Refresh List - refresh the log list to show the newly created log files
- Select All - select all the log files in the list
- Get Files - save the selected log files to a specified location

To save the log files to a local location:

1. In the log list, select the log files to be saved. Click the **Select** button to select all the files. To select multiple files, Ctrl-click or Shift-click the files you want through the Windows standard operation.
2. Click the **Get Files** button, set a target storage path in the pop-up *Save Files* dialog box, and then click **OK** to save the files.

Software Management

You can backup and save all the configurations on the current device to your local PC for future use. You can use the backup configuration file to restore the device configuration if necessary.

Backup Configuration / Reservation

To backup the configuration for the current device, click the menu options **Administration -> Software Management -> Backup Configuration/Reservation** on the top-left of the page. The *File Download* page appears. Click the **Save** button, and select a saving path to save the current RMX 1000 configuration at the local PC.

Figure 14-12 Backup Configuration/Reservation

Restoring Configuration / Reservation

To restore the system configuration from the backup configuration file, click the menu options **Administration -> Software Management -> Restore Configuration/Reservation** on the top-left of the page. The *Restore Configuration/**Reservation*** page appears.

Enter the path to the configuration file you want or click the **Open** button to select the file, and then click the **Restore** button to restore your configuration.

To restore the device to the factory settings, select the **Restore Factory Defaults** option, and then click the **Restore** button.

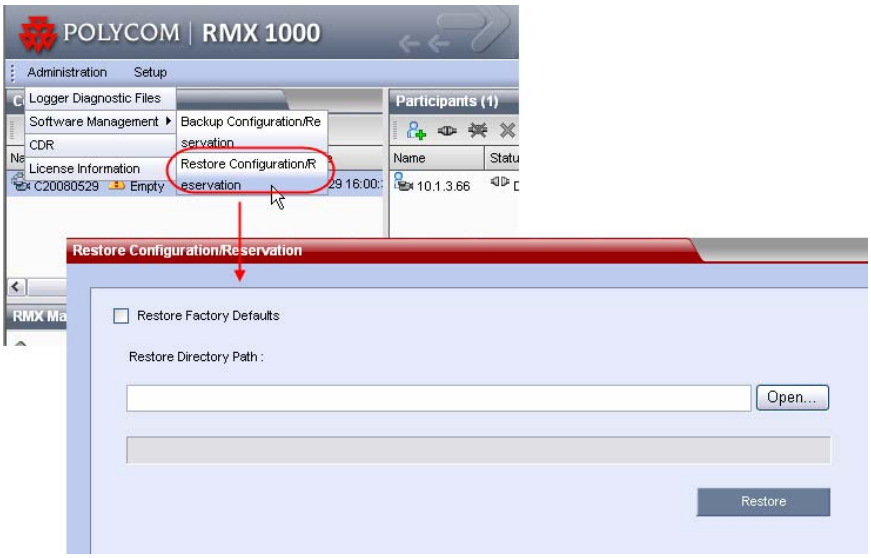


Figure 14-13 Restore Configuration/Reservation Page

15

Signaling and Hardware Monitoring

Signaling Monitoring

To monitor the LAN port connection status and gateway registration information of the device you are using, click **Signaling Monitor** in the *RMX Management* pane. The signaling status list will be displayed in the list pane on the right side.

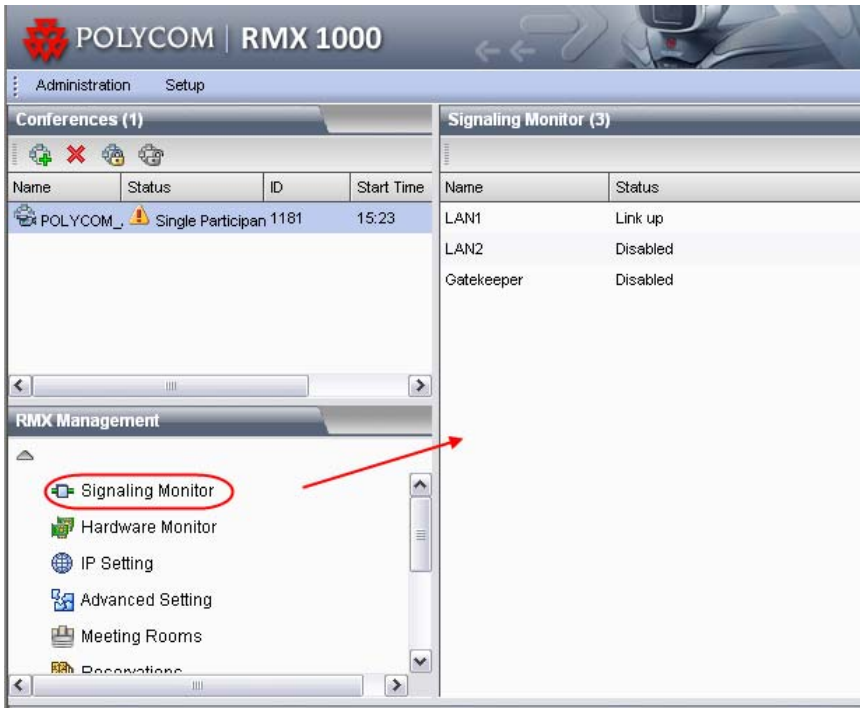


Figure 15-1 *Signaling Monitor Pane*

The LAN1 and LAN2 ports may be in one of the following three states:

- Link up: Connected
- Link down: Disconnected
- Disabled: Port disabled

The gatekeeper may be in one of the following four states:

- Registered: Registered with the gatekeeper
- Unregistered: Not registered with the gatekeeper

- Registration Failed: Registration with the gatekeeper failed
- Disabled: Gatekeeper registration is disabled

To view the detailed status information, such as the IP address, MAC address, packet transmission information, and other information for a LAN port, double-click the list item, or select an option on the right-click menu. The detailed information page opens.

Hardware Monitor

To monitor the usage of the system CPU memory and resource usage, click **Hardware Monitor** in the *RMX Management* pane. The list pane on the right side lists the states for all the hardware components of the device.

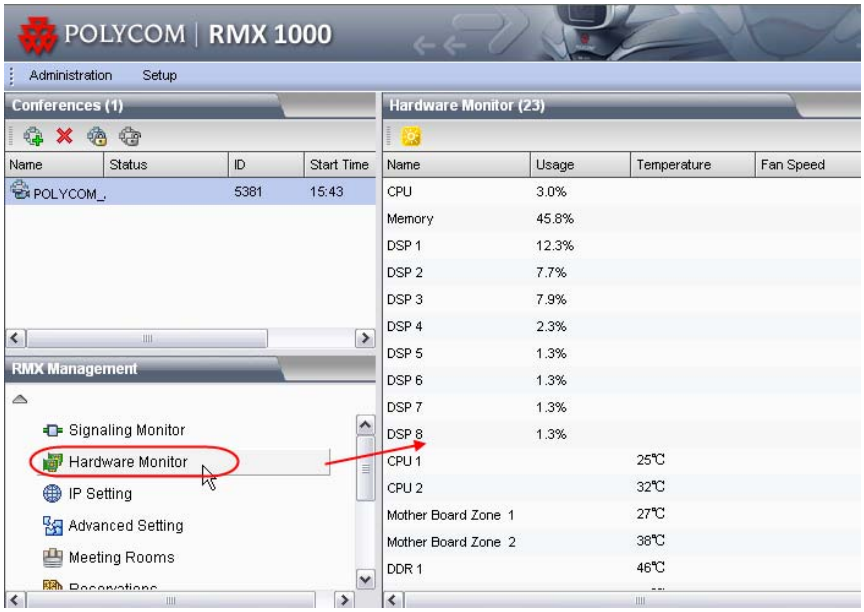


Figure 15-2 *Hardware Monitor Pane*

If the status of a hardware unit exceeds the normal range as shown in the below table, the *System Alerts* area blinks red and displays an alert message.

Table 15-1 *Normal Range of the Hardware Status*

Unit	Normal Range
CPU	0-67 Celsius degree
Motherboard	0-65 Celsius degree
DDR Memory	0-95 Celsius degree
Fan Speed	200-8000 RPM

To reboot the device, click the  button on this pane.

16

Personal Conference Manager (PCM)

In addition to the Web interface, the user can also use the PCM（Personal Conference Manager）interface provided by the RMX 1000 to control conferences. When an endpoint dials into RMX 1000 and sets up a connection successfully, the user menu of RMX 1000 will be displayed on the endpoint screen. With the PCM, the user can easily join a conference, create a new conference, or perform the related conference control operations using the remote control.

Regular participants connected to RMX 1000 have different control permissions from that of the conference chairperson. Regular participants can perform the following conference operations on the endpoint interface:

- Choose a personalized layout
- Set the remote control camera
- Specify the conference polling window.

In addition to the operations mentioned above, the chairperson can:

- Invite a participant
- Drop a participant
- Check or modify the audio or video session status for each participant's endpoint
- Terminate a conference

Next, this chapter will introduce in detail the function of each menu option on the endpoint interface and the relevant conference operations.

Introduction to PCM and Operations

You can control RMX 1000 via the endpoint PCM and remote control. When you use a regular remote control, RMX 1000 enables you to operate the menus through FECC or DTMF. If the endpoint is FECC/DTMF-enabled, you can also control the remote camera to select each menu option you want on the PCM.

The FECC and DTMF control keys are defined as follows.

Table 16-1 *FECC Control Keys*

FECC	Description
←	▪ Return to the higher-level menu ▪ Delete the character before the cursor (while inputting menu names) ▪ Exit the menu and display the video (if the top level menu is displayed) ▪ Shift the selection to the left video ▪ Bring up the menu (if the conference videos are displayed)
→	▪ Go to the lower level menu ▪ Confirm the selection (if the menu is displayed) ▪ Shift the selection to the right video ▪ Bring up the menu (if the conference videos are displayed)
↑	▪ Return to the higher-level menu, if the menu is displayed (cyclic) ▪ Shift the selection to the above video ▪ Bring up the menu (if the conference videos are displayed)
↓	▪ Go to the lower-level menu, if the menu is displayed (cyclic) ▪ Shift the selection to the below video ▪ Bring up the menu (if the conference videos are displayed)
Zoom Out	▪ Exit a specific state (under some specific states) ▪ Go to the previous page
Zoom In	▪ Confirm the selection (under some specific states) ▪ Go to the next page

Table 16-2 *DTMF Control Keys*

DTMF	Description
0	▪ Shortcut key (if the conference videos or the menu is displayed) ▪ Input numbers (while inputting menu names) ▪ Return to the conference state (under DTMF state)
1 – 9	▪ Shortcut key (if the conference videos or the menu is displayed) ▪ Input numbers (while inputting menu names)
*	▪ Enable the DTMF function of the Polycom remote control (if the conference video or the menu is displayed) ▪ Enter a period “.” (while inputting IP addresses to invite participant)

DTMF	Description
#	Input confirmation to signify completion

Before using the shortcut number keys 0-9, enable the DTMF function of the endpoint according to that endpoint's configurations.

To establish an H.323 link, use the endpoint to call the IP address for RMX 1000 directly, or call the registration prefix of RMX 1000 if you have registered to a gatekeeper. After the connection is successfully established, the PCM lobby of RMX 1000 will be displayed on the endpoint, as shown below.

Figure 16-2 *PCM Lobby*

Table 16-3 *Description for Conference States*

State	Description
	Preview of the videos for each site in the highlighted conference, displayed in a scrolling manner.
	The highlighted conference has a password, has been locked, or no participant has yet joined.
	The highlighted conference has a password. You must provide the conference password to join.

State	Description
	The highlighted conference is locked and permits nobody to join.

After joining the conference, you can use the FECC control keys to bring up the function menu in order to perform some specific function operations.

- An HD Video Switching conference does not support the preview function. For more information about the High Definition Video Switching, see *Video Quality*.
- If **Only participant in the participant list can dial in** option is selected in Participant settings page (see Figure 6-3), the endpoint in the PCM lobby which isn't added in the participant list cannot see the preview but a picture displays like the conference is locked.

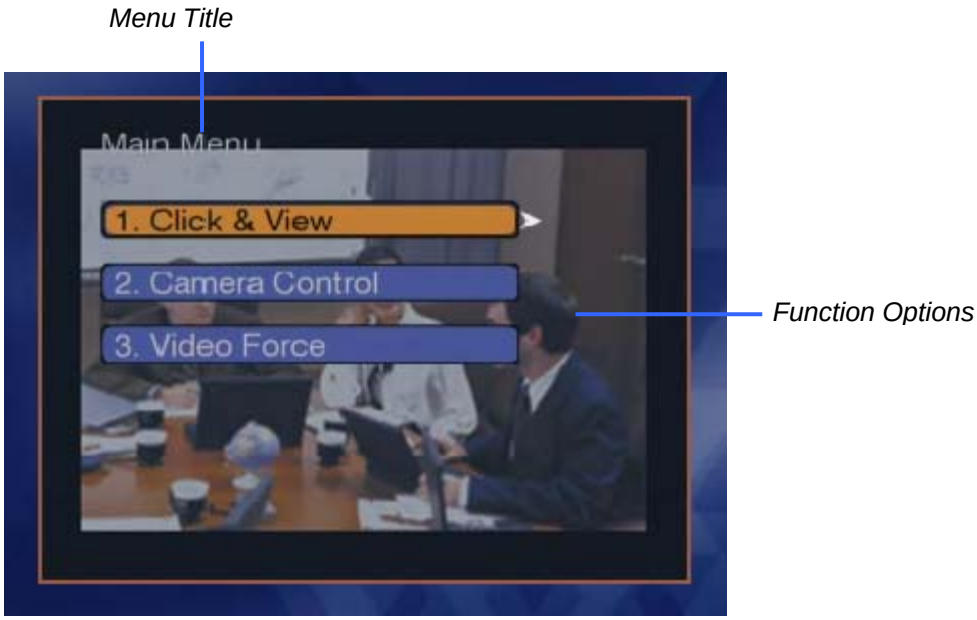


Figure 16-3 *Function Menu*

Creating a Conference

To create a new conference using the endpoint remote control:

1 After the endpoint establishes a connection with RMX 1000, enter the main menu interface. Press the *FECC* or *DTMF* key on the endpoint remote control to select **Create New Conference** on the main menu interface, as shown below:

Figure 16-4 *Create Conference – Main Menu Options*

Table 16-4 *Control Key Description*

Key	Description
1	Shortcut key for Create New Conference
↓ ↑	Shift the selection to the above/below item (cyclic)
→	Selection confirmation
Zoom Out	Go to the previous page
Zoom In	Go to the next page

2 Enter the conference ID input interface as shown below, with an IVR message played to prompt the user to enter the conference ID. Enter a valid conference ID and confirm it by pressing #.

Figure 16-5 *Create Conference – Enter Conference ID*

Table 16-5 Control Key Description

Key	Description
0 - 9	Enter conference ID
#	Input confirmation
←	Delete the previous input Return to the higher level menu (if the input box is blank)
→	Input confirmation

Please make sure that the conference ID entered does not conflict with any currently running conference ID, meeting room ID, or conference reservation ID. Otherwise, the creation of the conference will fail because conference IDs must be unique.

3 You are then brought to the *conference password input* interface as shown below, with the IVR voice played to prompt you to enter the conference password. If the conference has a password, all the participants attempting to connect to the conference must enter a correct password before joining the conference.

A conference password is not mandatory, you can press the confirmation key # to move to the next page directly.

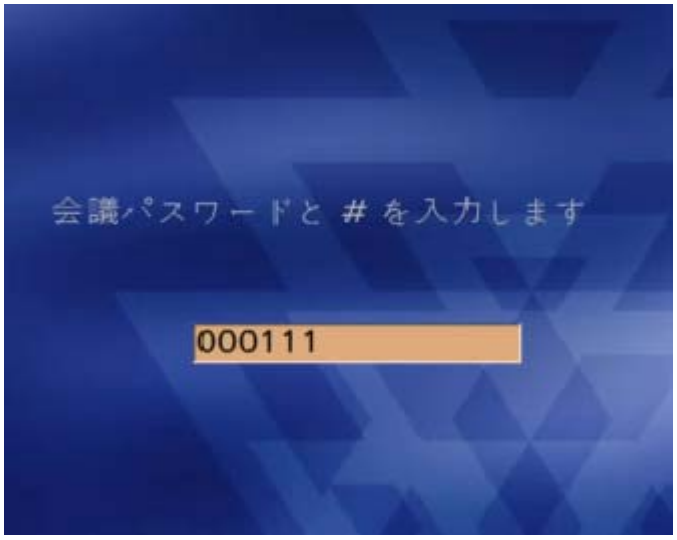


Figure 16-6 Create Conference - Conference Password

Table 16-6 Control Key Description

Key	Description
0 - 9	Enter the conference password
#	Input confirmation
←	Delete the previous input Return to the higher level menu (if the input box is blank)

Key	Description
→	Input confirmation

4 After entering the conference password, you will be brought to the *chairperson password input interface* as shown below, with an IVR voice prompt asking you to enter the chairperson password. The chairperson password is used for identifying the participants who will have access to chairperson services. When connecting to a conference, a participant who has entered the chairperson password will be treated as the conference chairperson by the RMX 1000 and thus granted with the corresponding conference operation permissions.

This is the last page for creating a conference. After completing this page, you will enter the conference.

A chairperson password is not mandatory. Press the confirmation key # to enter the conference directly if you do not have the chairperson password.

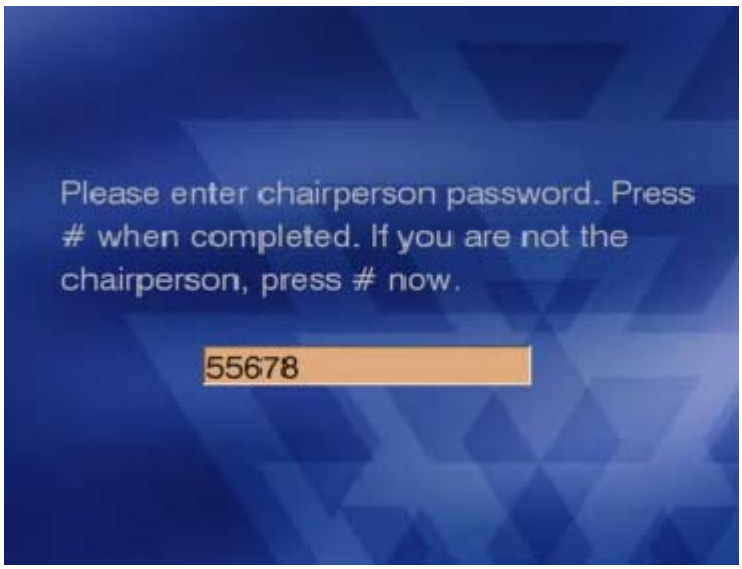


Figure 16-7 *Create Conference - Chairperson Password*

Table 16-7 *Control Key Description*

Key	Description
0 - 9	Enter the chairperson password
#	Input confirmation
←	Delete the previous input Return to the higher level menu (if the input box is blank)
→	Input confirmation

If there is no chairperson password configured in the conference, an endpoint device that accesses the conferences through the PCM won't be able to use the chairperson function.

Entering an Existing Conference

Step 1

After an endpoint establishes a connection with RMX 1000, the endpoint enters the main menu interface. Now you can join a conference in one of the following ways: selecting the conference you want from the conference list directly or choosing **Conference access by ID** and entering the target conference ID to join.

Figure 16-8 *Join Conference – Main Menu Options*

Table 16-8 *Control Key Description*

Key	Description
2	Shortcut key for Conference access by ID
n	Shortcut key for conference selection (n represents the number identifier in front of the conference name)
↓ ↑	Shift the selection focus up/down (cyclic)
→	Selection confirmation
Zoom Out	Go to the previous page
Zoom In	Go to the next page

Step 2

Select **Conference access by ID** to go to the conference ID input interface; select a conference you want to join to skip this step.

The conference ID input interface and the key operations for joining a conference are the same as those for creating a conference. For details, see *Creating a Conference*.

Please make sure that the conference ID you entered exists. It can be an ID for the currently running conference or a meeting room ID. Otherwise, the ID will be treated as invalid and you won't be able to join the conference.

Step 3

If the conference you want to join has a conference password, the conference password input interface appears. Otherwise, skip this step.

This conference password input interface and the key operations for joining a conference are the same as those for creating a conference. For details, see *Creating a Conference.*

If the password you entered is not correct, you won't be able to join the conference.

If the user enters the valid chairperson password in the conference password menu, he will be able to enter the conference as a chairperson.

Step 4

If the conference you want to join has a chairperson password, the chairperson password input interface will appear. Otherwise, skip this step.

This is the last page for joining in a conference. After completing this page, you will enter the conference.

The chairperson password input interface and the key operations for joining a conference are the same as those for creating a conference. For details, see *Creating a Conference.*

If the password you entered is not correct, you won't be able to join the conference.

For regular participants, just press # or the right arrow key ⟶ to enter the conference.

- If the encryption function is enabled for a conference, you cannot join that conference through the PCM lobby. However, you can directly dial into the conference by entering the IP address of RMX 1000 or E.164 + conference ID using the remote control of the endpoint.
- If the maximum video connections to the RMX 1000 are already utilized, an additional endpoint can only directly join the conference by calling the conference directly. Attempting to use the PCM lobby will fail, because the lobby cannot be generated by the RMX 1000 when all video resources are full. The endpoint can connect as an audio-only participant, presuming the RMX 1000's audio resources are not also fully utilized.

Conference Control for Regular Participants

If you enter a conference as a regular participant, please wait until the conference video appears and then press any FECC key to open the function menu as follows.

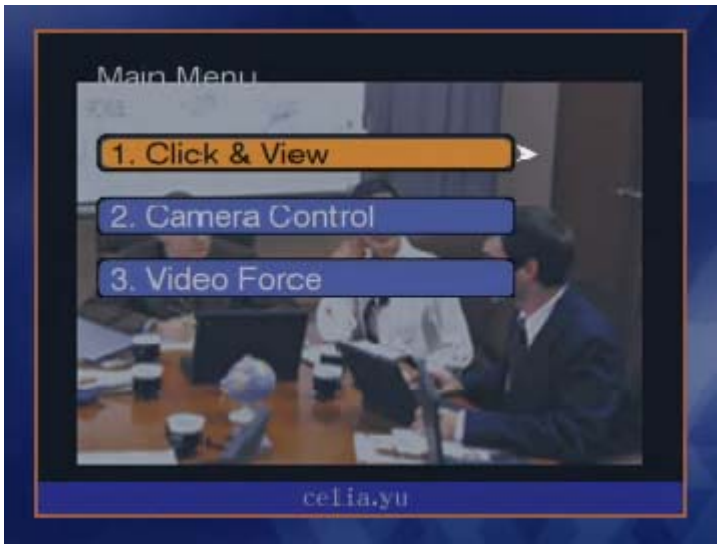


Figure 16-9 *Conference Control for Regular Participants – Main Menu*

Table 16-9 *Control Key Description*

Key	Description
n	Shortcut key for function selection (n represents the number identifier for the function)
↓ ↑	Shift the selection to the above/below item (cyclic)
→	Selection confirmation
←	Exit the menu

If the *Disable Personal Conference Management (PCM) for Regular User* option is selected in the conference profile settings page (see Figure 4-3), the regular participants in the conference cannot display the PCM menu to control the conference.

Click & View

This menu option is used to set the screen layout for a participant's endpoint. Select the **Click & View** option to enter the menu interface for layout selection, as shown below.

If the conference video appears, press the DTMF combination key ** with your remote control to open the layout selection interface.

Figure 16-10 *Conference Control for Regular Participants - Click & View*

Table 16-10 *Control Key Description*

Key	Description
n	Shortcut key for layout mode selection (n represents the number identifier for the layout mode) Execute a layout mode repeatedly, automatically switching among different states of the mode.
↓ ↑	Shift the selection focus up/down (cyclic)
→	Selection confirmation Execute a layout mode repeatedly, automatically switching among different states of the mode (cyclic).
←	Exit the menu
Zoom Out	Go to the previous page
Zoom In	Go to the next page

Table 16-11 *Layout Control Legends*

Legend	Layout States and Function Description

Legend	Layout States and Function Description
	
	
	Enter the *Video Force* page
	Fit the layout to the conference mode you set

The *Change layout* function is available only if the conference is configured in the *Conference Layout* mode. When the conference is in the *Lecture Mode* or *Same Layout*, this option will not be displayed. For more information about layout mode settings, refer to *Video Settings*.

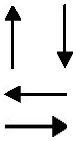
Camera Control

This item is used to remotely control the camera at an endpoint's conference site. Select the Camera Control option to enter the menu interface for remote control camera, as shown below.

On the **Camera Control** menu, use the up/down/left/right arrow keys to select a conference site, and then press the **Zoom In** key to confirm your selection.

Figure 16-11 *Conference Control for Regular Participants – Camera Control 1*

Table 16-12 *Control Key Description*

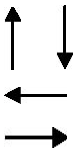
Key	Description
	Shift the selection to the above/below/left/right conference site

Key	Description
Zoom Out	Exit the Camera Control menu and return to the main function menu
Zoom In	Confirm your selection, and enter the second level interface and take control with the remote camera

After you select the conference site you want, a remote control icon will appear on the top-left corner, as shown below. Now you can use the FECC keys on the remote control to control the camera in the selected conference site. If you performed no FECC operation in 10 seconds or pressed DTMF key 0, you will be automatically signed out of the FECC state and brought to the conference video state.

Figure 16-12 *Conference Control for Regular Participants – Camera Control 2*

Table 16-13 *Control Key Description*

Key	Description
	Turn the camera of the selected conference site to the up, down, left and right directions in the remote camera control state
Zoom Out	Zoom out the focus in the remote camera control state
Zoom In	Zoom in the focus in the remote camera control state

Video Force

When the number of participants added to the conference is larger than the number of configured screen windows, this menu item is used to specify a window to display the remained participants in turn. Select the **Video Force** option to enter the menu interface for changing the displayed conference site,

as shown below.

The selected conference site is displayed with a yellow border around it. You can use the FECC up/down/left/right arrow keys to select the conference site you want, and then press **Zoom In** to confirm your selection. Press **Zoom In** repeatedly to switch the conference videos consecutively.

If you performed no operation in 10 seconds, the endpoint will automatically return to the conference video state. You can also press the **Zoom In** key to exit the *Video Force* interface and return to the main function menu.

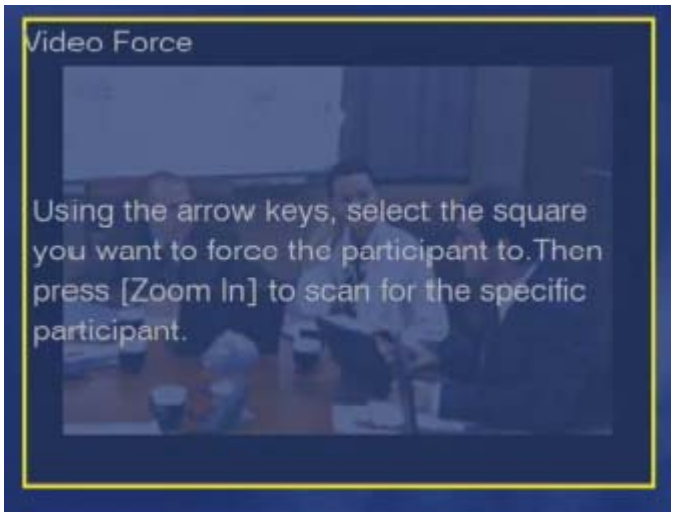
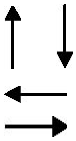


Figure 16-13 *Conference Control for Regular Participants - Video Force*

Table 16-14 *Control Key Description*

Key	Description
	Shift the selection to the above/below/left/right conference site
Zoom Out	Exit the *Video Force* menu and return to the main function menu
Zoom In	Change to another conference site video

Chairperson Conference Control

If you enter the conference as the conference chairperson, wait for the conference video to display, and then press any FECC key to open the function menu as follows. The function menu displayed for the chairperson contains more options than that of the regular participants, as the chairperson has more control ability.

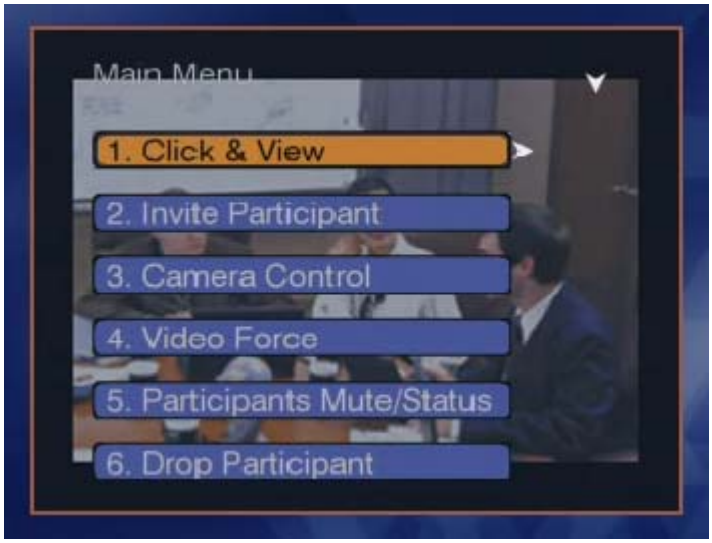


Figure 16-14 *Chairperson Conference Control - Main Menu 1*

Figure 16-15 *Chairperson Conference Control - Main Menu 2*

Table 16-15 *Control Key Description*

Key	Description
n	Shortcut key for function selection (n represents the number identifier for the function)
↑ ↓	Shift the selection to the above/below item (cyclic)
→	Selection confirmation
←	Exit the menu
Zoom Out	Go to the previous page
Zoom In	Go to the next page

- For more information about the options shared by the chairperson and the regular participants, please see *Conference Control for Regular Participants* . Only the chairperson-specific functions and operations will be described here.
- Currently, the chairperson and regular user menu are fixed and cannot be customized.

Invite Participant

This menu item is used to invite a participant to the conference. Select the **Invite Participant** option to enter the interface for inviting an endpoint, as shown below.

To invite an endpoint, you can enter its IP address by using the DTMF number keys on your endpoint remote control. You can also input the E.164 of the endpoint if you have registered with the gatekeeper.

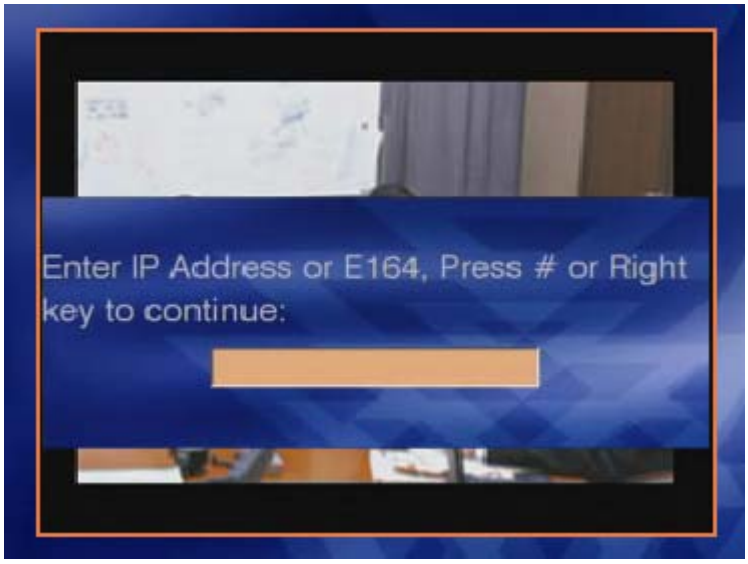


Figure 16-16 *Chairperson Conference Control- Invite Participant*

Table 16-16 *Control Key Description*

Key	Description
0 – 9	Input IP address or E.164
*	Input the dots (.) in IP addresses
#	Confirm the input and invite the endpoint
→	Confirm the input and invite the endpoint
←	Delete the character before the cursor Exit the *Invite Participant* interface and return to the main function menu (if the input box is blank)

Participant mute/status

Select the **Participants Mute/Status** option to enter the interface for

controlling and viewing the status of the audios/videos of participants' endpoints, as shown below.

This interface lists all the online endpoints and their states (mute/unmute audio, block/unblock audio, and suspend/resume video). You can also modify the states of an endpoint (such as mute an endpoint or suspend the video of an endpoint) by selecting a status icon using the FECC up/down/left/right arrow keys and then pressing the **Zoom In** key. Press the **Zoom In** key repeatedly to perform the status modification operations cyclically, for example, unmuting an endpoint, or blocking the video transmission of an endpoint.

Figure 16-17 *Chairperson Conference Control - Participant Mute/Status*

Table 16-17 *Control Key Description*

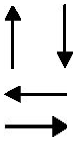
Key	Description
	Shift the conference site status selection up/down
Zoom Out	Exit the *Participant Mute/Status* menu and return to the main function menu
Zoom In	Confirm the selection and modify the status

Table 16-18 *Status Legend Descriptions*

Legend	Description
	The audio input from the endpoint is allowed. Other conference participants will hear this endpoint. This icon does not describe whether or not the endpoint has performed a voluntary local audio mute.
	The endpoint is MUTED by the RMX 1000. Other conference participants will NOT hear this endpoint. This icon does not describe whether or not the endpoint has performed a voluntary

Legend	Description
	local audio mute.
	The audio output to the endpoint is allowed. This endpoint will hear the audio from other participants.
	The audio output to the endpoint is blocked. This endpoint will NOT hear the audio from other participants.
	The video transmission from the endpoint is allowed. Other conference participants will see this endpoint.
	The video transmission from the endpoint is blocked. Other conference participants will NOT see this endpoint.

Drop Participant

This menu item is used to drop a participant. Select the **Drop Participant** option to enter the interface for disconnecting the participant's endpoint, as shown below.

This interface lists the names of all the online endpoints, if the names are known. You can choose any endpoint you want using the FECC up/down/left/right arrow keys and disconnect it.

Figure 16-18 *Chairperson Conference Control - Drop Participant*

Table 16-19 *Control Key Description*

Key	Description
↑ ↓	Shift the selection focus up/down (cyclic)
→	Confirm the selection and drop the selected participant
←	Exit the Drop Participant menu and return to the main function menu
Zoom Out	Go to the previous page

Key	Description
Zoom In	Go to the next page

Terminate Conference

This menu item is used to delete a conference from the system. Select the **Terminate Conference** option. The system displays a dialog box for confirming the operation. Press the left arrow key of the remote control to cancel the deletion, or press the right arrow key to confirm the deletion.

17

Appendix A - Connection Failure Diagnosis

When a participant failed to connect to a conference or was disconnected from a conference, the *Connection Status* page of *Participant Properties* pages appears, listing the cause and more details about the connection failure. When possible, it also provides you the possible solutions.

This appendix lists the causes that may be shown in *Call Disconnected Cause* and the corresponding descriptions.

Table 17-1 *Description for Disconnection Failure*

Parameter	Description
CALL_REJECT_GK	Call rejected by the gatekeeper
NO_NET_CONNECTION	Network connection failed
RESOURCE_DEFICIENCY	No enough resources
NETWORK_ERROR	Network error
CALL_REJECT_NO_ANSWER	No answer to the call
CALL_REJECT_BUSY	The line is busy
CALL_REJECT_IMMEDIATELY	Call rejected
NON_ENCRYPT_TERM_JOIN_ENCRYPT_MEETING	Non-encrypted endpoints are not allowed to join an encrypted conference
ENDPOINT_HANGUP	The endpoint hangs up initiatively
OPERATOR_DISCONNECT	Disconnected by the administrator

18

Appendix B: Telnet/Terminal Commands

RMX 1000 also supports device debugging from the command line. You can configure command settings in either of the following two methods: using the HyperTerminal after connecting it to the device through a serial port or configuring via telnet. Both methods use the same command format. Next, we will describe how to configure command setting using the HyperTerminal.

HyperTerminal Parameters

- Port: COM1 (basing on the port used)
- Speed: baud
- Data bits: 8 bits
- Parity bit: None
- Stop bit: 1

Furthermore, you may need to set some other parameters based on the simulation software used:

- No echo for local input
- The settings for the DEL and Backspace keys
- Enter/New line
- The simulation type for the endpoint: *Automatic* or *ANSI*

Login

If you have completed all the above configurations and launched the HyperTerminal simulation software successfully, click the **Enter** key. The login interface appears.

The login interface shows all of the software information and you'll be prompted to enter the login password. Now enter the login password and press the **Enter** key.

The factory default login password is POLYCOM (case sensitive).

If you entered a wrong password, you may be required to re-login to the system.

If you entered the right password, you will be brought directly to the command setting interface.

```
Type ? or help to get the help information

# _
```

Command Introduction

Help

After logging into the system, you may enter **?** or **help** after the prompt "#" to show the command prompt information.

```
# ?
    help or ?                 Show this message.
    exit                      Logout.
    show                      Print the systen information.
    keepalive <timeout>       Get or set the timeout value of Telnet session, de
fault is 2 Minutes.
    reboot                    Restart system.
    reset password            Reset web UI admin password.
    reset config              Clean configuration, back to default IP Address.
    cleankey                  Remove the existing keycode.
    telnet <on|off>           Get or set Telnet service status.
    lpr <on|off>              Get or set lpr option.
    set telnet password       Change the Telnet password, Up to 20 characters
    ping <ip> <-n <count>> <-w <time>> <-l <size>>  A network tool send ICMP ECH
O_REQUEST to network hosts.
    set <lan1|lan2> ip <dhcp|static <ip> netmask <mask> gw <gateway>>    Set ip
address of lan1 or lan2.
    set <lan1|lan2> speed <auto|1000|100 full|100 half|10 full|10 half>  Set dup
lex speed of lan1 or lan2.
```

- "<>" indicates an optional parameter
- "{}" indicates a required parameter
- "|" indicates a 1-out-of-N parameter

Exit

Enter **exit** after the prompt "#" to exit the command control interface.

```
# exit


User logged off
```

View Device Information

Enter **show** after the prompt "#" to view the current device information, including system information, license information, interface information, and IP address information.

Idle Timeout Setting

Enter **keepalive <timeout>** after the prompt "#" to modify the keep-live timeout setting. If no operation was executed in the defined time interval, the device will time out and exit.

Table 18-1 Parameters Description

Parameter	Description
timeout	Defaults to 120 seconds and can be modified to any value in the range of 5~600 seconds

[Example] Set the timeout time to 60 seconds:

```
# keepalive 60
current keepalive timeout value is 60 seconds
```

Reboot Device

Enter **reboot** after the prompt "#" to reboot the device.

```
# reboot
restart system ...
```

Restore Password

Enter **reset password** after the prompt "#" to restore the user password for Web login to the default password（POLYCOM）. The system will display the prompt "Are you sure?", Enter "Y" to continue, or enter "N" to cancel.

After resetting the password, the RMX 1000 must be restarted in order for the new settings to take effect.

[Example] Restore the Web login password to the default configuration:

```
# reset password

Are you sure? [Y for yes / N for no]Y

reset password ... OK

Reboot is require in order for the change to take affect  -  Reboot now? [Y for y
es / N for no]
```

Restore System Configuration

Enter **reset config** after the prompt "#" to restore the system to the default configuration. The system will display the prompt "Are you sure?", Enter "Y" to continue, or enter "N" to cancel.

After resetting the system configuration, the RMX 1000 must be restarted in order for the new settings to take effect.

Clean Key Code

Enter **cleankey** after the prompt "#" to remove the existing key code. This command is used to deactivate the RMX 1000.

The system will display the prompt "Are you sure?", Enter "Y" to continue, or enter "N" to cancel.

Telnet Setting

Enter **telnet {on | off}** after the prompt "#" to turn on/off the telnet session. For example, enter **telnet on** to enable the telnet function.

The default setting is **telnet on.** If entering "telnet off" to disable the RMX 1000's telnet function, the user can only use the serial port to perform system setting tasks. The default telnet port is 23, which cannot be modified. The password and command operations for remote telnet login are identical to those for serial port login.

LPR Setting

Enter **lpr {on | off}** after the prompt "#" to enable or disable the packet loss recovery mechanism. The default setting is off.

For example, enter **lpr on** to enable the packet loss recovery function. The data is restored when packet loss occurs during the network transmission.

The system must be restarted in order for the new settings to take effect after changing the LPR setting.

Password Modification

Enter **set telnet password** after the prompt "#" to modify the login password for the command setting interface.

The password can be set to a maximum of 20 characters. This command is only used to change the login password for the telnet session and serial interface. No effect for the web UI password.

```
# set telnet password

enter new password:
```

Ping

Enter **ping <ip> {-n<count>} {-w<time>} {-l<size>}** after the prompt "#" to check the network connection status.

Table 18-2 Parameters Description

Parameter	Description
ip	IP address of the destination host

Parameter	Description
-n<count>	Packet sending times, defaulted to 10
-w<time>	Waiting time, defaulted to 1000 ms
-l<size>	Size of the sent packet, defaulted to 32 bytes

[Example] Send the host whose IP address is 172.21.100.111 a Ping packet with the size of 1500 bytes for five times cyclically. The wait time is 1000 ms:

```
# ping 172.21.100.111 -n5 -w1000 -l1500

Pinging 172.21.100.111 with 1500 bytes, loop 5 times, wait 1000 ms.

1520 bytes from 172.21.100.111 : seq=1, ttl=127, delay=1ms.
1520 bytes from 172.21.100.111 : seq=2, ttl=127, delay=2ms.
1520 bytes from 172.21.100.111 : seq=3, ttl=127, delay=2ms.
1520 bytes from 172.21.100.111 : seq=4, ttl=127, delay=2ms.
1520 bytes from 172.21.100.111 : seq=5, ttl=127, delay=1ms.

send 5 packets, receive 5 packets, lost 0(0.0%) packets.
time is 5005ms, bandwidth is 12.1kbps
```

Network Setting

Enter the following commands after the prompt "#" to set network configurations:

"set {lan1 | lan2} ip {dhcp | static <ip> netmask <mask> gw <gateway>}" - set the IP address for LAN 1 or LAN 2.

"set {lan1 | lan2} speed {auto | 1000 | 100 full | 100 half | 10 full | 10 half}" - set the connection features for the LAN 1 or LAN2 interface.

Table 18-3 *Network Setting Parameters – LAN Interface IP Address*

Parameter	Description
dhcp	Automatically gets the address information through the DHCP server.
static	Specifies the static IP address information - Ip: IP address of the network port mask: subnet mask of the network port gateway: gateway address of the network port

Table 18-4 *Network Setting Parameters – LAN Interface Connection Rate*

Parameter	Description
auto	Auto negotiation mode
1000	1000Mbps
100 full	100Mbps full duplex
100 half	100Mbps half duplex

Parameter	Description
10 full	10Mbps full duplex
10 half	10Mbps half duplex

[Example 1] Set the IP address of the LAN1 interface to 172.21.103.29, subnet mask to 255.255.255.0, and the gateway address to 172.21.103.254:

```
# set lan1 static 172.21.103.29 netmask 255.255.255.0 gw 172.21.103.254
restart system ...
stop launcher ..... OK
stop audio ..... OK
stop video ..... OK
stop mp ..... OK
stop sys ..... OK
stop mermaid ..... OK
```

[Example 2] Set the 100M half duplex for the LAN1 interface:

```
# set lan1 100 half
restart system ...
stop launcher ..... OK
stop audio ..... OK
stop video ..... OK
stop mp ..... OK
stop sys ..... OK
stop mermaid ..... OK
```

After you set the connection feature or IP address for the LAN interface, the system must be restarted in order for the new settings to take effect.

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Appendix C: Glossary

Abbreviation/Term	Explanation
Bandwidth	Defines the information-carrying capacity of a channel. In analog systems, it is the difference between the highest frequency that a channel can carry and the lowest, measured in hertz. In digital systems, bandwidth is measured in bits per second. The larger a connection's bandwidth, the more data can be transmitted in a given amount of time, allowing for greater video resolution and more sites in a conference.
Bps, Kbps	Bits and kilobits per second--a unit of bandwidth--that is the amount of data that can flow during one second over a communications line (using a transmission medium). 1Kbps=1000Bps
CIF, 4CIF, QCIF	Common Intermediate Format, an optional part of the ITU-T's H.261 and H.263 standards. CIF specifies 288 non-interlaced luminance lines that contain 176 pixels. CIF can be sent at frame rates of 7.5, 10, 15, or 30 per second. When operating with CIF, the amount of data to transmit cannot exceed 256K bits. The CIF video format has the capacity to transmit video images of 352x288 pixels at 36.45Mbps and 30 frames per second. A 4CIF format has four times the capacity of CIF; QCIF has quarter the capacity of CIF.
Codec	Coder-decoder. A device that converts voice and video into digital code and vice versa. Refers to the endpoint video camera and video board that are used for videoconferencing.
Conference	Connection between two or more endpoints exchanging video and audio information. If only two endpoints are involved, a conference is called point-to-point and no MCU is required. If more than two endpoints are involved, it is called a multipoint conference, and an MCU (Multipoint Control Unit) is required as the management system.
DTMF	Dual Tone Multi-Frequency. A system of coded signals used by touch-tone telephones in which a specific sound, frequency, or tone is assigned to each key so that the signal can be easily recognized by a computer. The codes enable data input and control of voice-processing systems. DTMF signals can pass through the entire connection to the destination device and therefore are used for remote control after the connection with the MCU is established.

Abbreviation/Term	Explanation
Endpoint	A hardware device, or set of devices, that can call, and be called by an MCU or another endpoint. For example, an endpoint can be a phone, a camera, or microphone connected to a PC or conferencing system.
FECC	Far End Camera Control. The accompanying software in certain cameras that enables a participant to control a remote camera.
Frame	A group of bits that make up an elementary block of video data for transmission by certain protocols.
Frame Rate	The number of video frames displayed on-screen during one second, measured in fps (frames per second).
G.711	ITU-T audio algorithme, 64Kbps, 3.4 kHz.
G.722	ITU-T audio algorithme, 64Kbps, 7 kHz.
G.728	ITU-T audio algorithme, 16 Kbps, 3.4 kHz.
Gatekeeper	A type of server that performs two main functions: translates LAN alias addresses of terminals and gateways to IP addresses and provides bandwidth management.
H.221	ITU-T standard that defines how to multiplex video, audio, control, and user data into one serial bit stream.
H.230	ITU-T standard that defines simple multipoint control systems procedures and describes network maintenance functions.
H.231	ITU-T standard that defines a set of MCU functions and operational requirements.
H.242	ITU-T standard that defines initiation of communications between systems and capabilities negotiation procedures.
H.243	ITU-T standard that defines initiation of communications between systems and capabilities negotiation procedures in multipoint conferences.
H.261	ITU-T standard that defines the Px64 video coding algorithm.
H.263	ITU-T standard that provides improved compression and quality of video images at a line rate lower than 384Kbps. This standard is not supported by all codecs.
H.264	ITU-T standard that provides improved compression and quality of video images in lower line rate connections and is part of the Highest Common mechanism in Video Switching conferences.
H.323	ITU-T standard for audio, video and data communications across IP-based (LAN) networks, including the Internet.
IP	Internet Protocol. The working protocol that forms the basis of the internet.
ITU-T Standard	International Telecommunications Union, Telecommunication Standardization Sector (formerly CCITT). An international group that produces official

Abbreviation/Term	Explanation
	standards for telecommunications.
LAN	Local Area Network. A group of computers and other devices linked via a network's operating system.
Line Rate	The amount of bandwidth used by a communication device, measured in Kbps (kilobits per second).
MCU	Multipoint Control Unit. Device which allows more than two sites to be connected in a video conference.
PCM	Personal Conference Manager, a user interface displayed on the endpoint's video output screen. The user interacts with the PCM through the DTMF command and FECC function by using the endpoint remote control, to implement conference control at the MCU. For example, create a conference, dial into a conference, set the window layout, remotely control the camera, and terminate a conference.
Participant	A person using an endpoint to connect to a conference.
QCIF	Quarter CIF. A video format with image size of 176x144 pixels that transmits 30 frames at 9.115Mbps per second (a quarter of the capacity of CIF). For more information, see CIF.
QoS	Quality of Service. QoS defines the performance of a network service, such as the average delay between packets.
ToS	Type of Service. It defines optimization tagging for routing audio and video packets.
WAN	Wide Area Network. A communications network that services a geographical area larger than the LAN.
High Definition (HD)	High Definition (HD) refers to ultra-high quality video resolutions. An HD-compliant endpoint can connect to a conference at a resolution of 1280x720 (720p) and a bit rate of 384kbp~ 4Mb. When setting up an HD video conference, all participants connected to the conference are required to use the same conference bit rate and same HD settings. Those endpoints unable to meet the above requirements will be treated as secondary connections (audio only).