

SONY

VIDEO COMMUNICATION SYSTEM-APPLICATION NOTE

Using the Streaming & Recording Features

IPELA

PCS-G50/G50P All

PCS-G70/G70P All

Introduction

Sony PCS-G50/G50P/G70/G70P videoconferencing systems come standard with the ability to multicast streaming video and audio over an IP network, and to record such data into a locally mounted Memory Stick. The streaming capability allows conferences to be viewed in real time from rooms that lack a PCS system, since all that is required is a PC and the ability to receive multicast packets. The recording capability allows the conference to be recorded so that it can be reviewed later-analogous to the keeping of conference minutes. The ability to record minutes directly into a Memory Stick is an original Sony feature.

This document explains how to operate the streaming and recording functions supported by the PCS units mentioned above.

Streaming

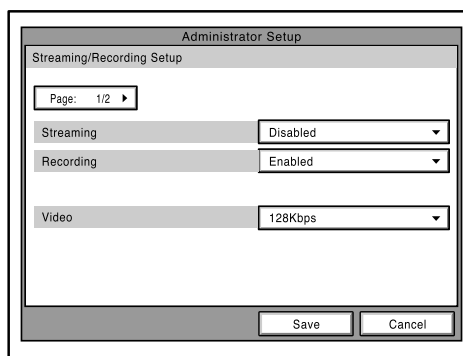
To use PCS streaming, the following steps must be carried out.

- Make preliminary settings to enable streaming.
- Start sending of the stream.
- Start receiving of the stream.

Settings and operation are described below.

Preliminary Settings

The following settings must be made ahead of time to enable the use of streaming.



- Set **Streaming** to **Enabled**.
- Set **Video** to the appropriate bit rate for the streaming video. The following settings are available: **Off**, **64 Kbps**, **128 Kbps**, **384 Kbps**, and **512 Kbps**. If you select **Off**, only audio data will be streamed. The bit rate for audio streaming is fixed at 64 Kbps. Note that the sum of the video and audio rates becomes the network bandwidth utilized for streaming. When setting the video bit rate, therefore, consider the network environment as well as the desired video quality.

The screenshot shows a web-based configuration window titled "Administrator Setup" with a "Streaming" tab. At the top left, it says "Page: 2/2". Below this are four rows of configuration fields:

Multicast Address	230.0.0.1
Audio Port Number	49501
Video Port Number	49500
HOP	1

At the bottom right of the window are two buttons: "Save" and "Cancel".

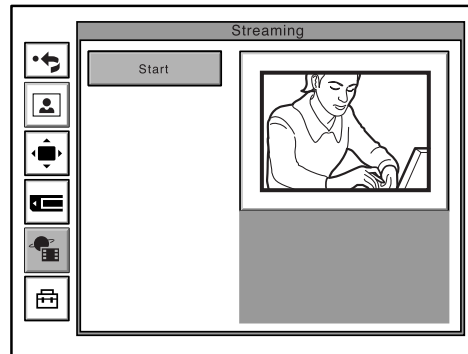
- Set **Multicast Address** to the IP address that will be used by the group of clients that wish to receive the video and audio streams. Set the address to a unique value (that is, a value not used by other stream sources) between 224.0.1.0 and 239.255.255.255. If there is no conflicting stream, you may leave the setting at its default.

- Set **Audio Port Number** and **Video Port Number** to appropriate values for the network environment. The available range is 0 to 65535. If you have packet-filtering routers or firewalls on the network, set these port numbers so that the packets will get through these barriers. If you want to send multiple streams to the multicast address, you can achieve this by setting a different port number for each source. If you are working in a network environment that does not require you to give special thought to port-number assignment, you may leave these settings at their defaults.

- Set the **Hop** according to the number of routers between stream source and recipients. The available range is 0 to 255. If there is exactly one router between source and recipients, for example, then the setting must be no less than 2, as a setting of 1 or 0 will cause the stream to be discarded before reaching its destination. But note that setting an unnecessarily high count will cause a drop in network efficiency.
Lower settings restrict communication to within certain limits, as follows.
 - 0: Communication is restricted to within the host.
 - 1: Communication is restricted to within the subnet.
 - 15: Communication is restricted to within the site.

To Start and Stop Streaming...

Use the Streaming menu to start and stop streaming.



- Select **Start** to start the stream.
- Select **Stop** to stop the stream.
- Streaming is disabled if the videoconference is secured (encrypted).

[Streamed Data]

The system streams the conference's audio and video. But note that there are certain types of audio and video data that may be used by the videoconference but that cannot be streamed.

- Audio and video is streamed at all times until stopped-both while the conference is in progress and while it is not.
- The audio stream reproduces the sound just as it is heard at the videoconference. If multipoint videoconferencing is in use, the audio stream reproduces the multipoint sound just as it is heard by the participants.
- In general, the system streams the image that is shown on the main monitor. It does not stream any menu data.
- The system does not stream PC images sent by DSB (Data Solution Box), still images, and whiteboard shots, etc.
- Picture-in-picture images are streamed without change.
- If the local system is set to split display, the video stream reproduces the split screen. Similarly, split displays sent from remote sites are streamed without change.

Receiving

Streaming reception makes use of the PCS system's web functionality.



Note: The illustration shows the screen that appears when "streaming" is entered as the username.

- The stream is played using the QuickTime player. Correct operation has been confirmed for QuickTime versions 6 and 7. If QuickTime is not yet installed, it can be downloaded from the following site:
<http://www.apple.com/quicktime/download/>
- To access the PCS system, use the PC's web browser.
- When you click the **Streaming** button on the PCS system's web menu page, QuickTime will automatically open and begin receiving the stream.
- The PCS unit itself cannot receive streams.

[Streaming Password]

The PCS web facility provides dedicated stream-receiver accounts. Access from these accounts can be controlled by password.

 A screenshot of the "Administrator Setup" web page. The page title is "Administrator Setup". Under the "Password" section, there is a "Page: 1/3" indicator. Below this, there are five rows, each with a label and a text input field: "Administrator Password", "Phone Book Modification Password", "Save Settings Password", "Remote Access Password", and "Streaming Broadcast Password". At the bottom of the page, there are "Save" and "Cancel" buttons.

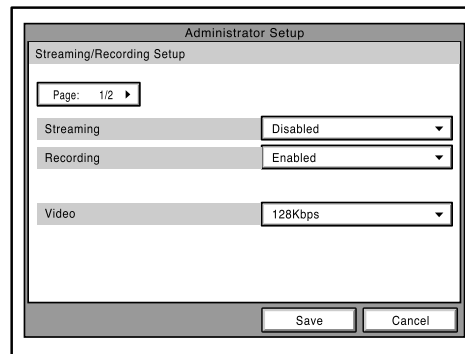
- If you wish to use a password to restrict access by stream-receiver accounts to the PCS web facility, simply set the desired password (of up to 10 characters) into the **Streaming Broadcast Password** field.
- The stream-receiver account can log into the PCS web facility by entering "streaming" into the **Username** field, and the above-described password into the **Password** field.
- Stream-receiver accounts can be used only for stream reception.

Recording

The PCS recording facility is operated from the Memory Stick menu. Preliminary settings must be made ahead of time to enable use of this feature, as follows.

Preliminary Settings

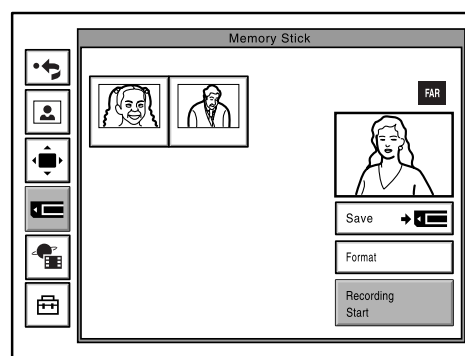
The following settings must be made ahead of time to enable use of the recording feature.



- Set **Recording** to **Enabled**.
- Set **Video** to the appropriate bit rate for the video transmission. The following settings are available: **Off**, **64 Kbps**, **128 Kbps**, **384 Kbps**, and **512 Kbps**. If you select **Off**, only audio data will be recorded. The bit rate for audio transmission is fixed at 64 Kbps.

To Start and Stop Recording...

Use the Memory Stick menu to start and stop recording.



- Insert a Memory Stick into the unit.
- Select **Start** to start the recording.
- Select **Stop** to stop the recording. The recorded data is retained as a file on the Memory Stick.
- Recording will stop automatically if the Memory Stick runs low on space.
- Recording is disabled if the videoconference is secured (encrypted).

[Filenames of Saved Files]

- Recorded audio and visual data are stored into the following directory, which is created automatically.

\\MSSONY\PRO\TVCONF\MP4\M4V00001.MP4

- The first saved file is named M4V00001.MP4, where the "00001" is a sequential number. This number then increments by one with each new file. If the number reaches "99999", further recording to the Memory Stick is disabled.

[Content of Recorded Data]

Recorded data is identical to streamed data. For details, refer to the section on streaming.

[Recording Length]

The time length of the recording that can fit on the Memory Stick varies considerably according to the video source. The following results, obtained using test video, may serve as a reference.

Rate/Capacity	64MB MS	128MB MS	512MB MS	1024MB MS
64Kbps	Approx 20 min.	Approx 45 min.	Approx 170 min.	Approx 320 min.
128Kbps	Approx 15 min.	Approx 40 min.	Approx 150 min.	Approx 300 min.
384Kbps	Approx 10 min.	Approx 25 min.	Approx 100 min.	Approx 200 min.
512Kbps	Approx 9 min.	Approx 20 min.	Approx 85 min.	Approx 160 min.

Playing the Recorded Data

The recorded files are played using the QuickTime player. Correct operation has been confirmed for QuickTime versions 6 and 7. If QuickTime is not yet installed, it can be downloaded from the following site:

<http://www.apple.com/quicktime/download/>

- When ready to replay the files, insert the Memory Stick into a computer that has QuickTime installed on it.
- If you are using a PC that does not support Memory Sticks, you can download any of the last ten recorded files by going to the web menu, clicking the **Info** button, then selecting **Recording Data** and choosing one or more files from the file list that appears. Note that only the recent ten newest files are displayed.
- At the PC, select the file that you want to play, so that it plays back in QuickTime.
- Note that recorded data cannot be replayed on the PCS unit itself.
- Note that files created by a PCS unit cannot be replayed on a PSP™ (Playstation Portable).

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PSP™ (Playstation Portable) is a product of Sony Computer Entertainment Inc.

Memory Stick is a trademark of Sony Corporation.

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