

APV200



Audio Perfect™ Video 200

User's Manual



Perfect Communication through Technology, Service, and Education.™

Audio Perfect® Video 200 User's Manual

Gentner Part No. 800-160-101

April 1999 (Rev 2.0)

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1 Introduction

Congratulations

Congratulations on your purchase of the GENTNER Audio Perfect Video 200 (APV200) Videoconferencing System. The APV200 is designed to communicate directly with any other industry compliant videoconferencing system to deliver a superior audio and video experience that doesn't require a personal computer or someone that knows how to operate one.

This user's manual will assist you in quickly getting your APV200 operational. It contains easy-to-follow instructions for connecting and configuring your system and for making and receiving calls using the full range of APV200 options.

If you need any additional information on how to install, set up or operate your system, please contact Gentner Communications. We will gladly assist you in the initial setup and operation of the APV200. Gentner Communications will also assist a group of users become familiar with the system and how to make successful videoconference calls.

We welcome and encourage your comments so we can continue to improve our products and serve your needs.

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FAX-On-Demand International Line 801.974.3661
Worldwide Web Page: www.gentner.com

Safety Information

Cleaning

Keep your APV200 clean by wiping with a soft clean cloth dampened with water to avoid scratching the surface. Do not use sprays, polishes, solvents or other cleaners as these may damage the finish of the APV200.

Environment

Do not place the APV200 in hot, damp or steamy conditions. This product must be installed in an environment that is within the following temperature, humidity and elevation range:

5 - 40 degrees Celsius

50 - 105 degrees Fahrenheit

5 - 90% humidity, non-condensing

0 - 12,000 feet elevation

Power Supply

The power supply that is provided with the APV200 is the only power supply that should be used, and it must be used with 90 - 265 VAC, 47 - 63 Hz.

There is a three-wired grounding type plug that must always be used for safety.

Ventilation slots

Do not block, spill, or drop anything into the ventilation slots. Doing so may cause serious damage to the APV200.

Repairs

All repairs or service must be performed by GENTNER or a GENTNER authorized repair representative.

Warranty Registration

Please register your APV200 by completing the online registration at **www.gentner.com**. When your product is properly registered, Gentner Communications will be able to serve you better should you require technical assistance or desire to receive upgrades and/or new product information.

Notice to Canadian Users

This digital apparatus does not exceed the Class A limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications (DOC). The Canadian DOC label identifies certified equipment. This certification means that the equipment meets certain telecommunications network protective, operational, and safety requirements. The DOC does not guarantee the equipment will operate to the user's satisfaction. Before installing this equipment, users should ensure that it is permissible to be connected to the facilities of the local telecommunications company. The equipment must also be installed using an acceptable method of connection. In some cases, the company's inside wiring associated with a single line individual service may be extended by means of a certified connector assembly (telephone extension cord). The customer should be aware that compliance with the above conditions may not prevent degradation of service in some situations. Repairs to certified equipment should be made by an authorized Canadian maintenance facility designated by the supplier. Any repairs or alterations made by the user to the equipment, or equipment malfunctions, may give the telecommunications company cause to request the user to disconnect the equipment. Users should ensure, for their own protection, that the electrical ground connections of the power utility, telephone lines and internal metallic water pipe system, if present, are connected together. This precaution may be particularly important in rural areas. Caution: Users should not attempt to make such connections themselves but should contact the appropriate electric inspection authority or electrician, as appropriate.

FCC Part 68 Notice (U.S.)

The Load Number (LN) assigned to each terminal device denotes the percentage of the total load to be connected to a telephone loop which is used by the device to prevent overloading. The termination on a loop may consist of any combination of devices subject only to the requirement that the total of the Load Numbers of all the devices does not exceed 100.

Warnings

Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

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. These 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. If not installed, operated, and maintained in accordance with GENTNER videoconferencing guides and manuals, it 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/her own expense.

Shielded cables must be used with this unit to ensure compliance with the Class A FCC limits.

Before You Begin

You will need to obtain a power cord if you do not live in the United States, United Kingdom, Switzerland, or Europe (CE).

Before setting up your equipment, you should have your ISDN line(s) established. You may want to complete the following page to make sure that you have all the necessary information from your ISDN provider.

Required ISDN Information

You will need to obtain the following information when your ISDN lines are installed. You may wish to fill in the blanks below for reference. The following pages will walk you through entering this information into the menus so your APV200 will work correctly. For general information regarding ISDN and SPID, please refer to page 109 of this manual.

Network type:

- N. ISDN 1 (US & Canada)
- Custom (US & Canada)
- NTT Japan (Japan)
- VN4 France (France)
- ETSI (the same as NET 3 for Europe, Australians with On-ramp & most Asian countries)
- Australia (Micronet)

Switch vendor:

- AT&T (US & Canada)
- Nor. Telecom (US & Canada)
- Siemens (Europe)
- Unknown (all other countries)

SPID numbers:

SPID numbers are only used in the US and parts of Canada. For an example of SPID numbers, please refer to page 44.



It is not necessary to insert the local area code number in the local number line.

ISDN line 1

SPID 1 _____

SPID 2 _____

LOCAL 1 _____

LOCAL 2 _____

ISDN line 2

SPID 1 _____

SPID 2 _____

LOCAL 1 _____

LOCAL 2 _____

ISDN line 3

SPID 1 _____

SPID 2 _____

LOCAL 1 _____

LOCAL 2 _____

2 Connecting the APV200

Basic APV200 Connections

Main Camera

Plug your red camera cable in here [1] and connect the other end to the back of the camera "VIDEO OUT."

TV

Plug your yellow monitor cable in here [2] and connect the other end to the back of the monitor "VIDEO IN."

Camera Control

Plug the blue camera control cable in here [3] and connect the other end to the back of the camera (the "VISCA IN" connector or RS232).

Microphone

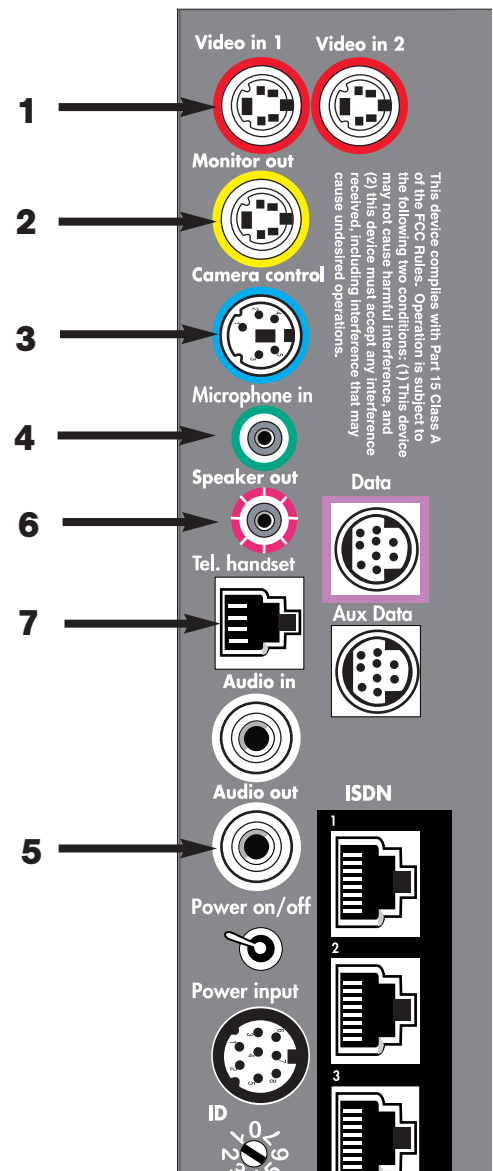
If you are only using the single microphone provided, plug your external microphone in here [4].

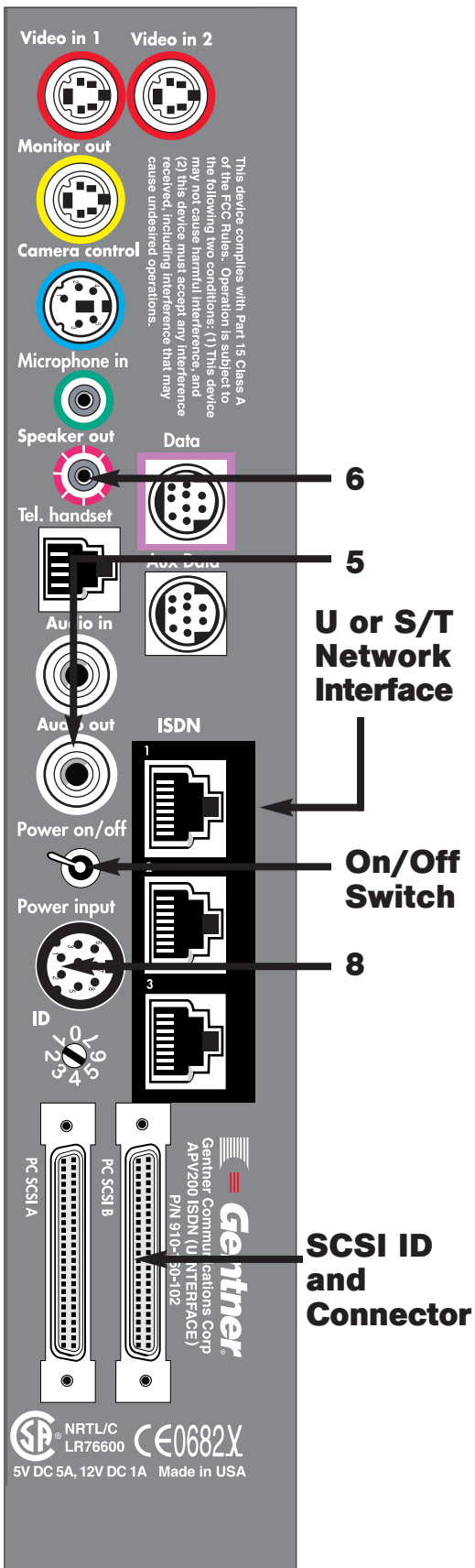
Speaker

If you are using the speakers in your monitor, connect your monitor cable to the Audio out jack [5]. If you are using an external speaker, connect it to the Speaker out jack [6].

Tel. Out or Private Handset

When using the handset, the microphone and speakers are disabled to allow a conversation to continue with all audio coming through the handset [7].





Connecting ISDN Lines

You still need to connect your ISDN lines. After your APV200 has been turned on, press the **CONFIG** button on the remote control. After the menu item Network, there will be one of the following:

U Network Interface

The U Interface has built in NT-1s, therefore external NT-1s are not required.

Plug one end of the ISDN RJ-45 cable to the APV200's ISDN connector and plug the other end into the ISDN wall jack. Repeat this for lines two and three.

S/T Network Interface

The S/T Interface does not have built in NT-1s, therefore external NT-1s are required.

Plug one end of the ISDN RJ-45 cable to the APV200's ISDN connector and plug the other into the S/T on the NT-1.

Next, plug one end of the RJ11 cable into the U on the NT-1 and the other end into the ISDN wall jack. Repeat this for lines two and three.

Power

Plug the power supply box into the power input here [8]. Plug one end of the power cord into the power supply box and the other into a surge protector that is plugged in to a grounded outlet.

On/Off Switch

The switch has an I for "On" and an O for "Off".

Important:

1. Turn on the camera.
2. Turn on the monitor and set it to the video channel.
3. Turn on the APV200.

If you are enhancing your audio capabilities using an AP400, please refer to page 13. Otherwise, skip to page 18. (Please note: If using an AP400, you do not need to connect [5] or [6].)

SCSI ID and Connector

This will allow a user to connect two APV200s together, one master and one slave.

By connecting two APV200s, you will be able to display high quality Annex D stills and snapshots on a slave unit while always displaying the remote video on the master unit.

APV200/AP400 Connections

Complete the initial APV200 Connections on pages 11 and 12.



Microphone In and Speaker Out of the APV200 cannot be used with an AP400. Remove these connections if they were previously made.

Aux Data

Connect the AP400 serial cable in here and the other end into the RS232 jack on the AP400.

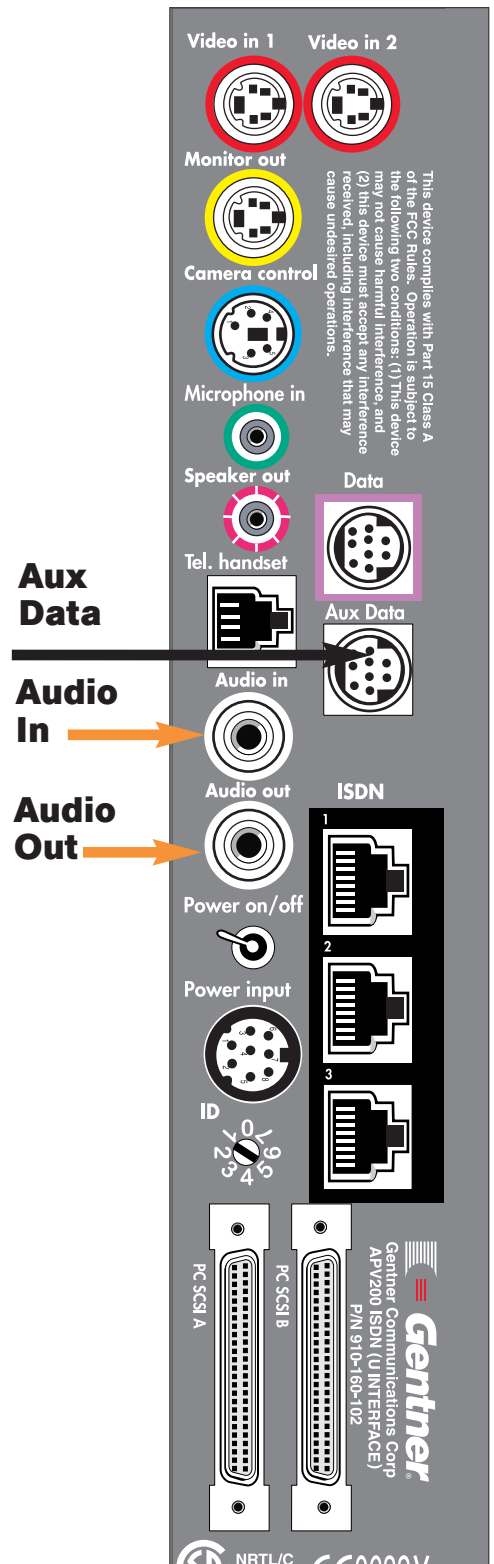
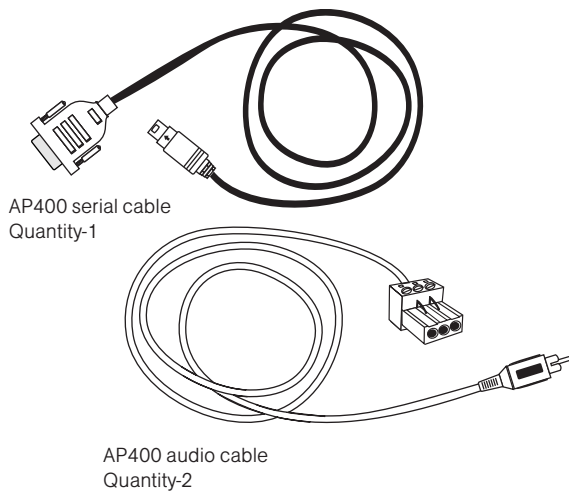
Audio In

Connect an AP400 audio cable in here and the other end into "OUTPUT A" of the AP400.

Audio Out

Connect an AP400 audio cable in here and the other end into "INPUT A" of the AP400.

For easy installation order cable kit 910-160-019

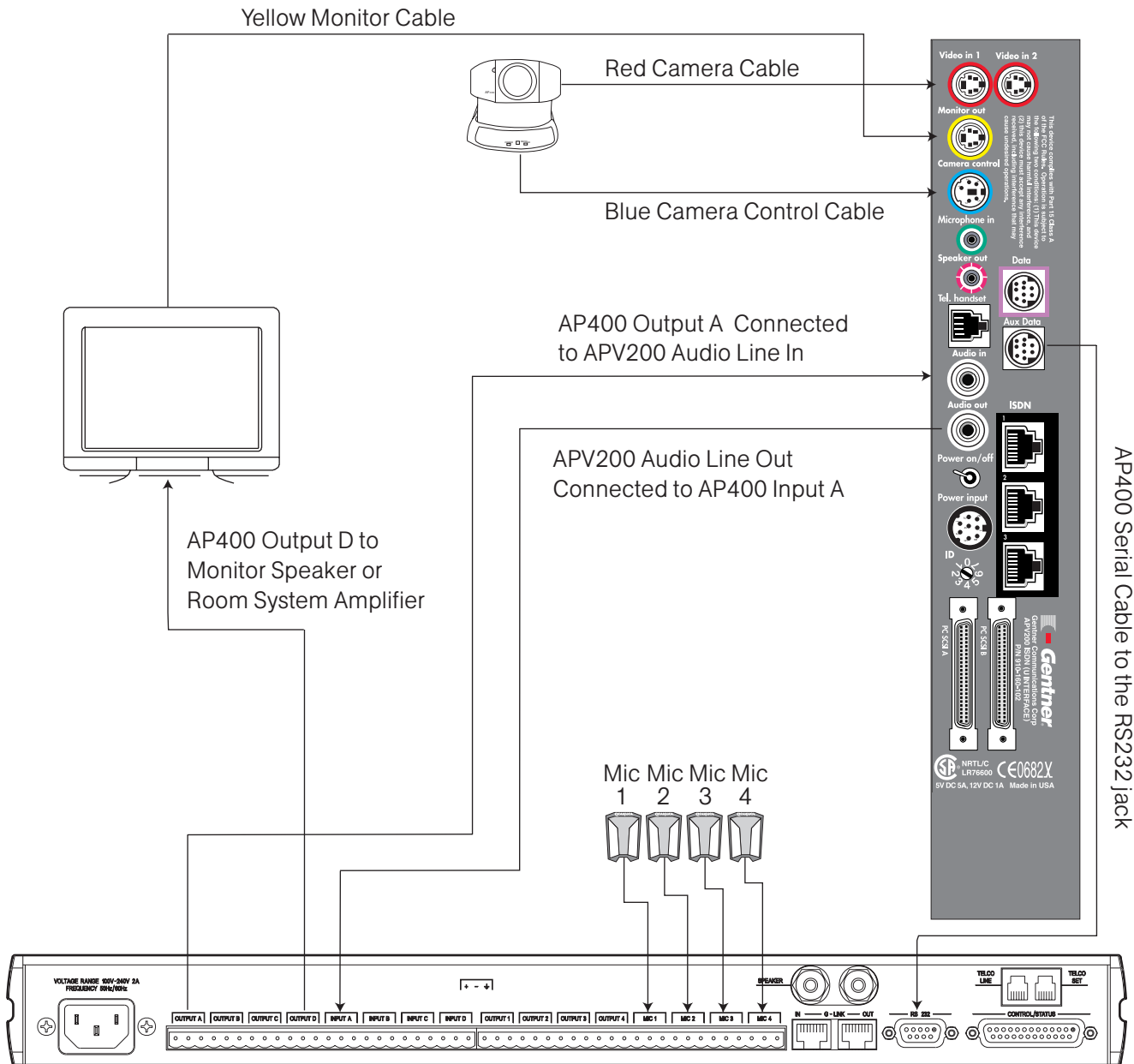


AP400 Connections

If the Basic APV200 Connections have not been made, please refer to pages 11 and 12 and complete the instructions.



Microphone in and speaker out of the APV200 cannot be used with an AP400. Remove these connections if they were previously made.



AP400 Rear Panel

APV200 Settings

The settings below must be made when an APV200 and an AP400 are connected together. Use the hand-held APV200 remote to do the following:

Press **CONFIG** button.

Press **CH-** button to highlight Communications.

Press **VOL+** button to select Communications.

Press **CH-** button to highlight Aux data port.

Press **VOL+** button to select AP400 in the Serial port mode.

Press **LAST** button twice.

Press **CH-** button to highlight Control options.

Press **VOL+** button to select Control options.

Press **CH-** button to highlight Reset system.

Press **ENTER** button twice.

The system is now resetting with appropriate changes. This will take approximately 1-2 minutes.

To complete the APV200/AP400 setup, please do the following:

Press **CONFIG** button.

Press **VOL+** button to select Audio.

Press **CH-** button to highlight Input line level.

Press **VOL+** button to adjust Input line level to 60%.

Press **LAST** button twice.



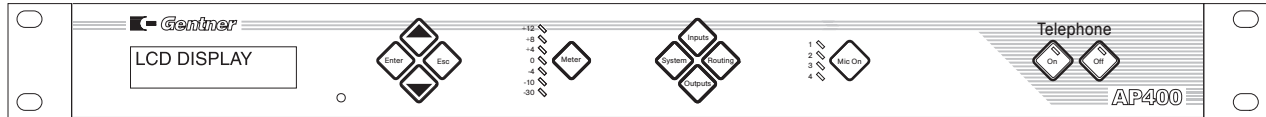
If the remote control does not appear to work, press the **CABLE** button.











It is recommended that you read the AP400 user's manual to become familiar with the menus and calibration procedures before proceeding.

AP400 Settings

The following buttons are located on the front of the AP400. You will need to do the following to complete the AP400 connection with the APV200 unit.



- Press  **Output**
- Press  to Outputs A-D, Telco.
- Press  to select Output A-D, Telco.
- Press  to select Output A.
- Press  to select Gain.
- Press  until the display reads Gain -10 LVL.
- Press 
- Press 

You have now set up the APV200 and AP400 to work together.

APV200/ AP400 Configuration Notes

Description of the keys for the remote control

Keys	AP Video mode		Camera mode	
	Menu	No Menu	Local	Remote
CH +	Scrolls up the menu items.	Increase picture control quality.	Tilt local camera up.	Tilt remote camera up.
CH -	Scrolls down the menu items.	Decrease picture control quality.	Tilts the local camera down.	Tilt remote camera down.
VOL +	Selects menu choices. Scrolls through the lower level menu choices. Increases all slider values.	Increases the volume.	Pans the local camera to the right.	Pans the remote camera to the left.
VOL -	Scrolls through the lower level menu choices. Decreases all slider values. Deletes digits/alpha characters.	Decreases the volume.	Pans the local camera to the left.	Pans the remote camera to the right.
Mute	Mutes/un-mutes the microphone.	Mutes/un-mutes the microphone.	Mutes/un-mutes the microphone.	Mutes/un-mutes the microphone.
Number pad 1 through 5	Enters the digit you selected as a digit/alpha field. In the Dial menu the number selected will dial that speed dial entry. In the Phonebook menu that entry will be selected.		Stores a local preset if held longer then 3 seconds. Selects the stored preset.	Stores a remote preset if held longer then 3 seconds. Selects the stored preset.
Number pad 6 through 9	Enters the digit you selected as a digit/alpha field. In the Phonebook that entry will be selected.		Stores a local preset if held longer then 3 seconds. Selects the stored preset.	Stores a remote preset if held longer then 3 seconds. Selects the stored preset.
0	Enters a "0" in a digit/alpha field.			
LAST	Goes to menu one level up.			
REW			Zooms local camera out.	Zooms remote camera out.
FF			Zooms local camera in.	Zooms remote camera in.
PLAY	Shows still that's stored in memory.	Shows still that's stored in memory.	Shows still that's stored in memory.	Shows still that's stored in memory.
REC	Serial port info in test mode.	Serial port info in test mode.		
STOP	Companion mode.	Companion mode.		
PAUSE		Takes proprietary snapshot.	Sends an Annex D still.	Receives an Annex D still.

Description of the keys for the remote control

Keys	AP Video mode		Camera mode	
	Menu	No Menu	Local	Remote
DIAL	The items that say "Dial" will be dialed.	Shows the Dial menu.		
HANG UP	Terminates an active call.	Terminates an active call.	Terminates an active call.	Terminates an active call.
CAM 1/2	Toggles local video sources.	Toggles local video sources.	Toggles local video sources.	Toggles remote video sources.
CONFIG	Shows or hides the Configure menu.	Shows the Configure menu.		
VIDEO	Clears menus and shows video.	Shows the status bar and toggles through 4 picture menus.		
STATUS	Shows or hides the System status menu.	Shows the System status menu.		
*	Enters a "*" in a digit/alpha field.			
#	Enters a "#" in a digit/alpha field.			
PIP	Selects alpha and numeric digits in the Name menu.	Toggles through the PIP modes when a call is active.		
ENTER	Performs "Enter" menu items.			
SPEAKER	Mutes/un-mutes the speaker.	Mutes/un-mutes the speaker.		
LOC/REM		Selects "Near end" camera mode.	Selects "Far end" camera mode.	Selects "APVideo" user mode.



3 Initial Setup

Menu Setup

Once you have your APV200 connected and turned on, there are a few menus you will need to enter information on or change. Below are step-by-step instructions to enter the information.

Press the **CONFIG** button on the remote control.

If you are using any composite (RCA) cables, you will need to access the Video menu. If you are using S-Video cables, you can go directly into the Network menu.

Video

If the cable from the camera is composite, scroll down to the Main input cable and change the setting to Composite.

If the cable from the monitor is composite, scroll down to the Video output cable and change the setting to Composite.

Press **LAST** to return to the Configure menu.



If the remote control does not appear to work, press the **CABLE button.**



When entering phone numbers, it is not necessary to insert a hyphen (-).

Network

Scroll to Network and select it.

Select Line 1 settings.

If you have SPID numbers, select SPID 1 and enter your first SPID number. When SPID 1 has been entered, scroll down to SPID 2 and enter the second SPID if it is needed. For examples of SPID numbers, please refer to page 44.

Scroll down to Local number 1 and enter your local ISDN number. This is the number that a person would dial when the call is local. Next, enter Local number 2. Local numbers must be entered to receive bonded calls.

Repeat these steps for Line 2 and Line 3 settings. For examples of Local numbers, please refer to page 45.

Press the **LAST** button to return to the Network menu.

Scroll down to Network type and scroll through the options until your Network type appears.

Scroll down to Switch vendor and scroll through the options until your Switch vendor appears.

Press the **LAST** button to return to the Configure menu.

Scroll down to the Control options and select it.

Scroll down to Reset system and press the **ENTER** button twice.

The system is now resetting.

When your APV200 is on again, you are ready to begin calling.

Placing A Test Call

Press the **DIAL** button on the remote control.

Scroll down to Manual dial 384 and select it.

Scroll down to Channel 1. Use the number pad on the remote control to enter the number you wish to call. Here are a few numbers that you can use to test your system (the loopback number will send your own image back to you):

Gentner's Customer Service	1.801.886.8834
Sprint - Loopback number	1.404.817.1098

After entering a number, scroll down to Dial and then press the **DIAL** button on the remote control.

You will see the "Connection status" screen appear and you can watch as the channels connect.

When you have completed the call, press the **HANG UP** button on the remote. The status bar will appear again and ask you to press the **HANG UP** button for a second time. This is a safety measure to prevent accidental hangups.

Note: If call doesn't connect, please call Gentner's Technical Support at 1.800.283.5936 (USA) or 1.801.974.3760.



If the remote control does not appear to work, press the **CABLE button.**

4 Operating the APV200

Operations

If the remote control does not appear to work press the **CABLE** button.

To scroll about within the menus press the **CH+** or **CH-** buttons.

To select the appropriate menu press the **VOL+** button.

To change options within the menu press the **VOL+** or the **VOL-** buttons.

Making a Video Call

1. Press **DIAL**.

2. Scroll to the desired option within the **DIAL** menu. Press **VOL+** to select the option:

—Phonebook

Use the **VOL+** or **VOL-** and the **CH+** or **CH-** to navigate.

Select a preprogrammed phonebook entry.

(To program a new phonebook entry, see chapter 6.)

Press **DIAL**.

—Manual Dialing (for both 128K and 384K)

Scroll down and select either Manual 128K or 384K. Press **VOL+**.

Scroll down to Channel and enter telephone number to dial.

Scroll down to Dial. Press **DIAL** button.

—Dial Telephone (option for AP400 only)

Scroll down to channel and enter telephone number.

Scroll down to Dial. Press **DIAL** button.

3. To end the call, press **HANGUP** button twice.

Control Functions

The following will help you become familiar with the control functions of your APV200.

■ VOLUME CONTROLS

Press **VOL+** to increase volume; press **VOL-** to decrease volume.

■ MUTING MICROPHONE & SPEAKERS

Press **MUTE** to mute the microphone; press **MUTE** again to unmute.

Press **SPEAKER** to mute the speaker; press **SPEAKER** again to unmute.

■ PICTURE IN PICTURE (PIP) – SIX SELECTIONS

Pressing the **PIP** button moves the PIP to one of the following:

Four corners of screen—one at a time

Full screen—showing local video

Off—showing remote image full screen

■ SWITCHING BETWEEN CAMERA 1 AND 2

Two cameras must be connected.

Pressing the **CAM 1/2** button toggles between the two cameras.

■ CAMERA CONTROL MODE (Local and remote camera)

Local camera control.

Press **LOC/REM** until Near (N) icon appears.

Now see Moving and Zooming the camera(s) below.



Remote camera control.

Press **LOC/REM** until Far icon appears.

Now see Moving and Zooming the camera(s) below.



Leave camera control.

Press **LOC/REM** until all icons are gone.

■ MOVING AND ZOOMING THE CAMERA(S)

To move or zoom the camera, you need to be in a camera control mode.

To move **RIGHT** press **VOL+**.

To move **LEFT** press **VOL-**.

To move **UP** press **CH+**.

To move **DOWN** press **CH-**.

To zoom **IN** Press **FF**.

To zoom **OUT** press **REW**.



If you are unable to control the remote camera it is possible that you or the remote location does not have the camera control set up to allow this action. Please refer to page 82 for more information and troubleshooting camera control.

■ STORING CAMERA PRESETS

Local camera presets:

Press **LOC/REM** until Near (N) icon appears.

Position the camera.

Once positioned, press and hold a number key (1-9) for 5 seconds.

The local camera settings are lost when the system re-starts.



A total of 9 local and 9 remote presets can be stored.

Remote camera presets:

Press **LOC/REM** until FAR icon appears.

Position the camera.

Once positioned, press and hold a number key (1-9) for 5 seconds.

The remote camera preset positions are lost when call is disconnected.



■ SELECTING A STORED PRESET

Press and release the number key of a stored preset position.

■ WORKING WITH STILL IMAGES (128k calls must be in H.261)

(If you wish to send or receive still images, go to the Control Options menu.

Select Allow Remote Access. Then select Send/Receive.)

To send a still image:

Press **LOC/REM** until Near (N) appears.

Press **PAUSE** button. Status bar will say "Sending still."



To receive a still image:

Press **LOC/REM** until FAR icon appears.

Press **PAUSE** button. Status bar will say "Receiving still."

To hide the still press the **VIDEO** button.



To view hidden still image:

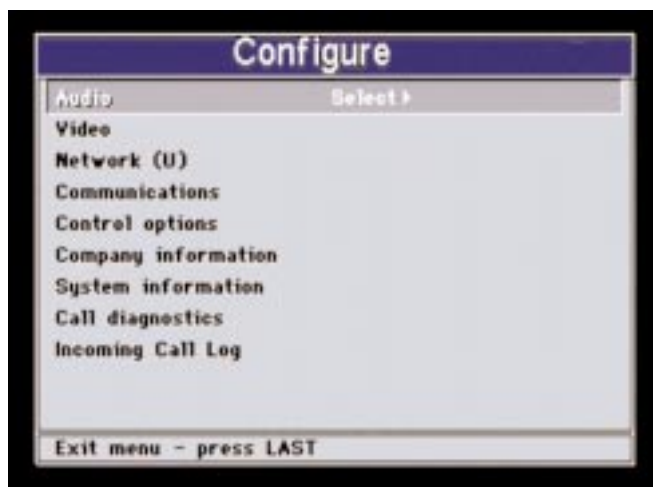
Press **PLAY**. Only the last still received can be viewed. The still is lost when a menu is displayed.

5 Menus

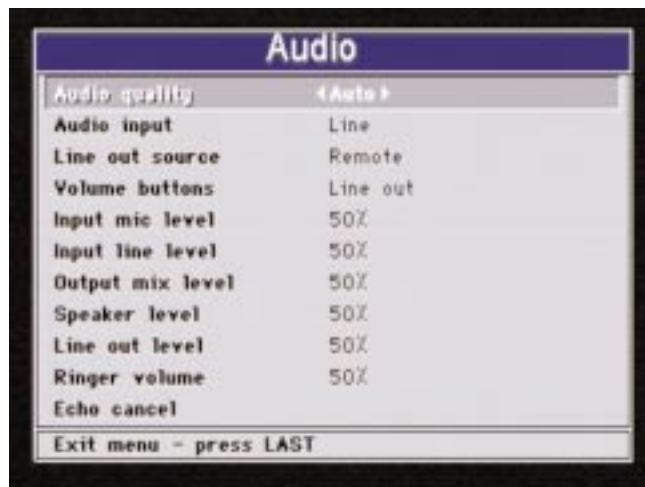
The Configure menu contains submenus for configuring your system and receiving information about GENTNER and the your APV200.

Audio

The Audio menu contains all the settings for the APV200 that relates to audio.



All functions under the Audio category can be changed without resetting the APV200.



Audio Quality

Allows you to determine the amount of bandwidth that is used to transmit audio to and from the remote location.

Auto - will automatically adjust to the best audio setting that is available. This is the recommended setting.

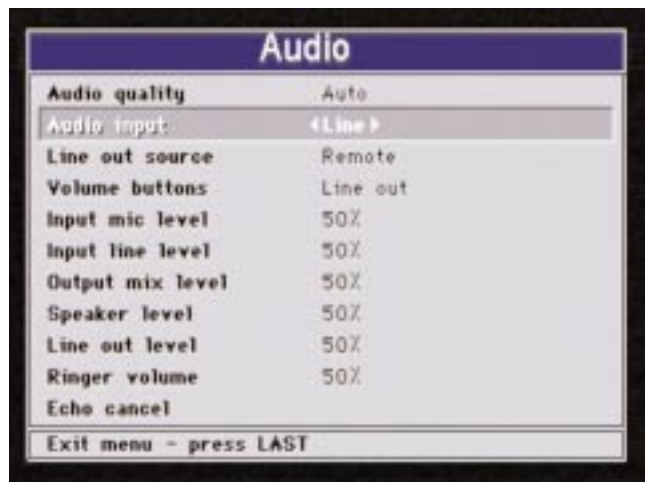
G.728 - displays the best video during a 128 Kbps call. When the APV200 is set to Auto and is on a call less than 128Kbps, this option will be used.

G.711 - audio is better than G.728, but not as good as G.722.

G.722 56K - when the APV200 is set to Auto and is on a call greater than 128Kbps, this option will be used.

G.722 48K - displays audio that is better than G.728, but not as good as G.722 56.

OFF - you will not send or receive audio; all the bandwidth goes to video.



Audio Input

Allows you to select which microphone jack is being used to send audio to the remote location.

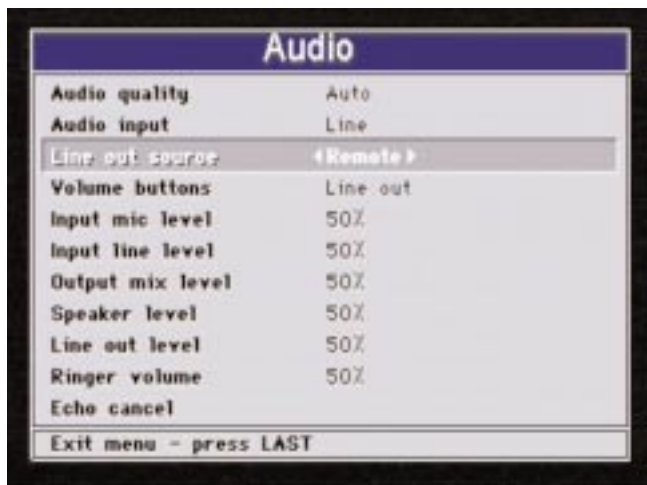
Mic - will transmit audio from the microphone that is connected to the Mic jack.

Line - will transmit audio that is connected to the Line Input jack.

Mix - will transmit audio from both the Mic and Line Input jacks.



If you are using an AP400 with the APV200, select “Line” for this menu option.



Line Out Source

Allows you to select what audio is being sent to the line output jack.

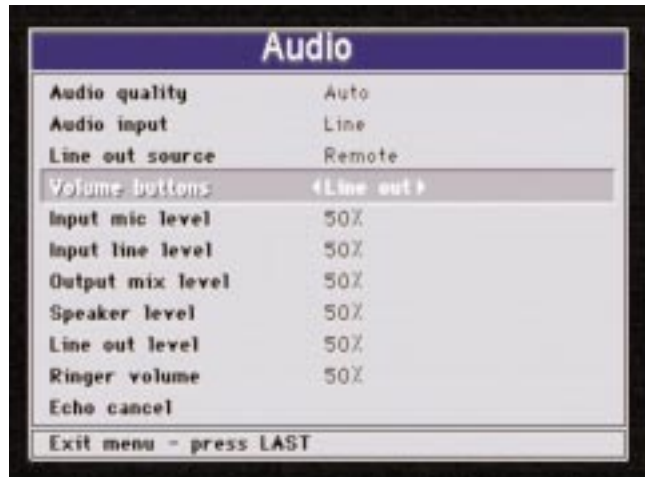
Remote - to hear the remote audio only.

Remote w/Mic - to hear both the remote audio and the audio that is connected to the Mic jack at the local location. Select this setting if you are recording to a VCR and want to hear both ends of the conversation.

Remote w/Line - to hear the remote audio and the audio that is connected to the Line Input jack at the local location. Select this setting if you are recording to a VCR and want to hear both ends of the conversation.



If you are using an AP400 with the APV200, select “Remote” for this menu option.



Volume Buttons

Allows you to adjust the volume level that is being received from the remote location. An example of this would be if you are using the speakers on your television and want to use only the APV200's remote control to increase or decrease the volume.

Speaker - adjusts the level of the Speaker jack only.

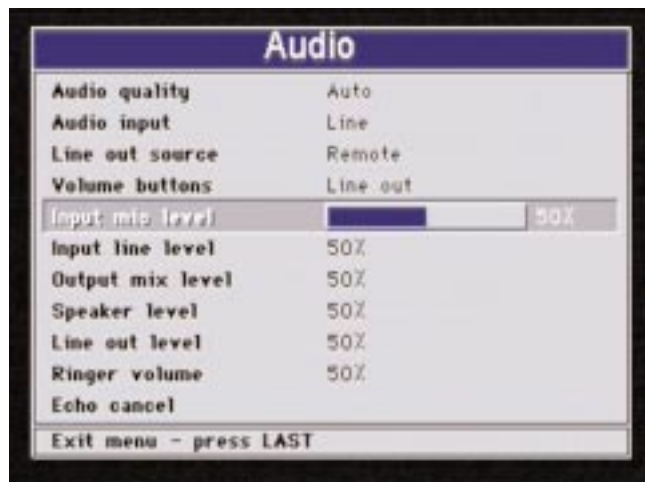
Line Out - adjusts the level of the Line Out jack only.

Speaker/Line Out - adjusts the level of both the Speaker and the Line Out jacks.

None - does not adjust the audio that is being received.

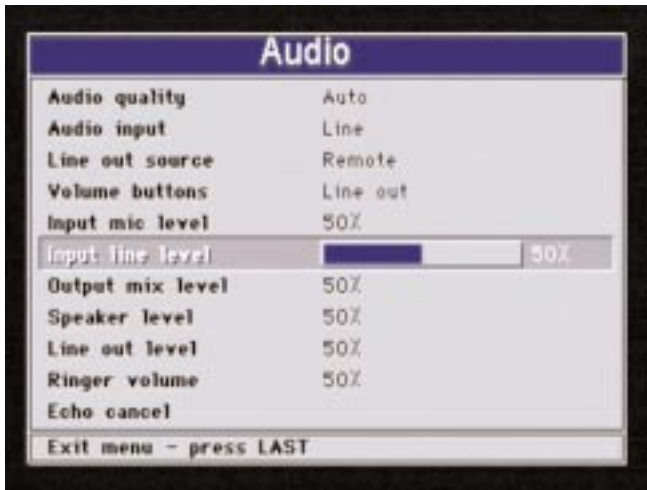


If you are using an AP400 with the APV200, select "Line Out" for this menu option.



Input Mic Levels

Allows you to adjust sensitivity of the microphone. Recommended level is 50%.

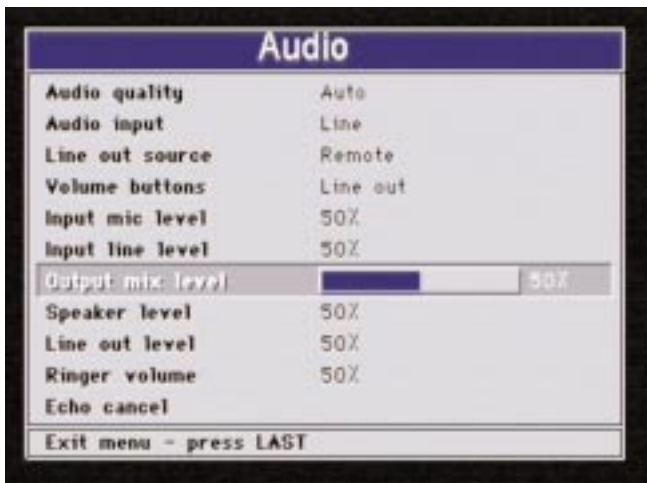


Input Line Levels

Allows you to adjust the sensitivity of the Line Input. Recommended level is 50%.

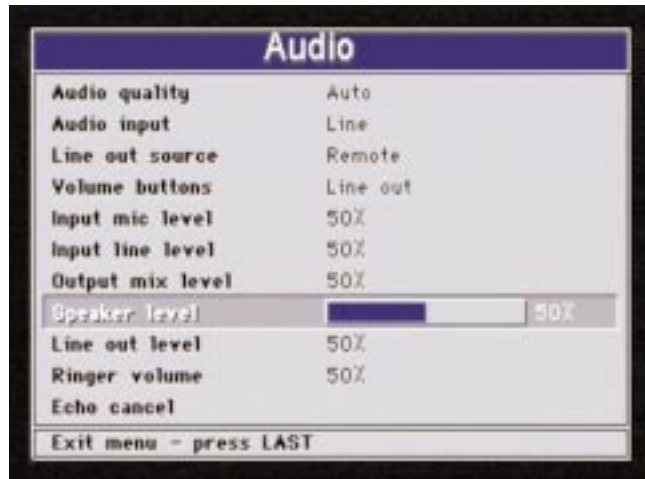


If you are using an AP400 with the APV200, the recommended level is 60%.



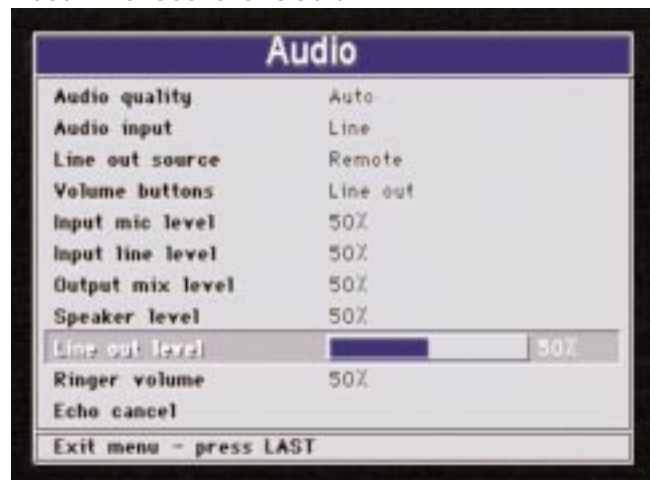
Output Mix Level

Allows you to adjust the Microphone Input or Line Input levels to the Line Output when the Line Out source is set for Remote with Mic or Remote with Line. The Remote Level isn't affected. Recommended level is 0%.



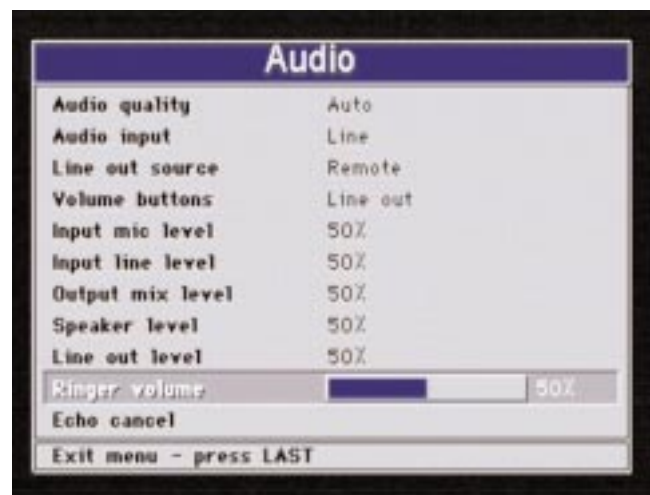
Speaker Level

Adjusts the level of audio that is being sent out through the Speaker jack. Recommended level is 50%.



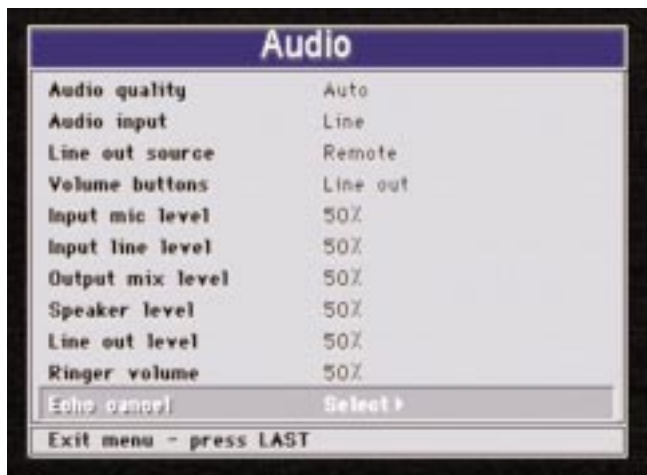
Line Out Level

Adjusts the level of audio that is being sent out through the Line Out jack. Recommended level is 50%.



Ringer Volume

Adjusts the volume of the ringer when there is an incoming call. Recommended level is 50%.

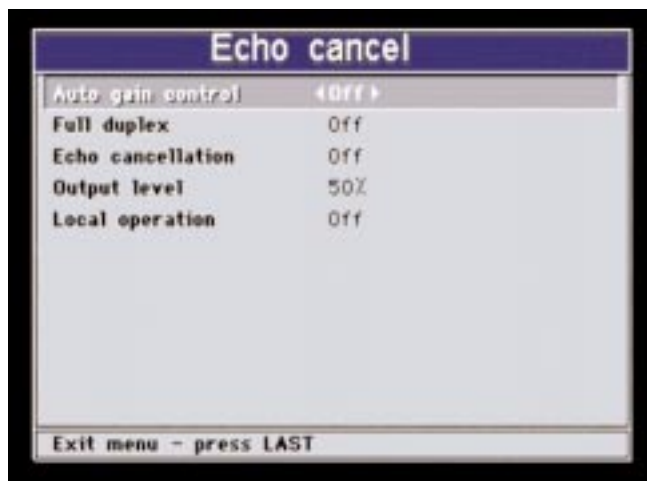


Echo Cancel

Turns on or off the auto gain control, full duplex, echo cancellation and adjusts the output level.



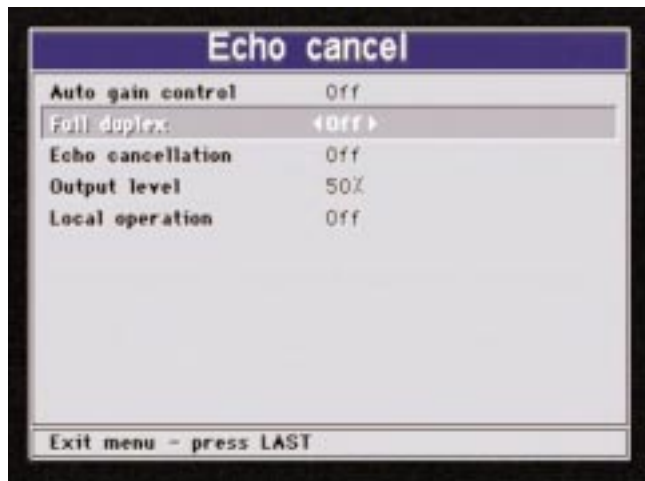
If you are using an AP400 with the APV200, all Echo Cancellation options should be turned off.



Auto Gain Control

On - will automatically adjust so that the audio levels are fairly consistent. Speaking softly the audio output is increased; speaking loudly the audio output is decreased.

Off - will not adjust the audio levels.

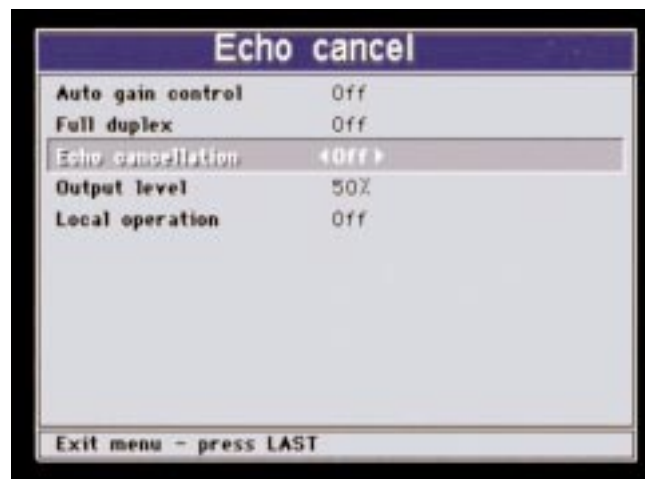


Full Duplex

Reduces low frequency background noise such as fans and other hums.

On - will not reduce these noises.

Off - will reduce these noises.



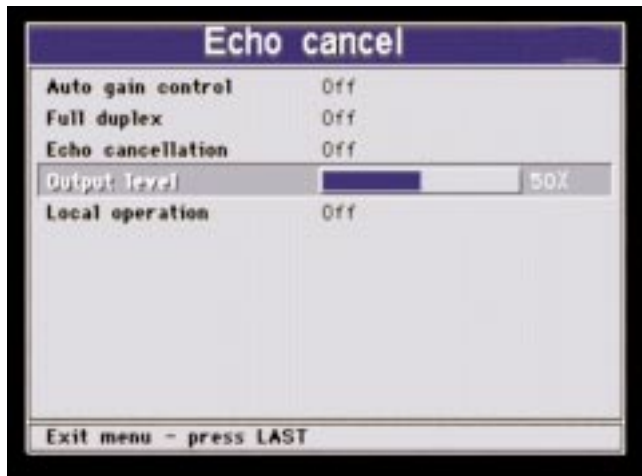
If you are using an AP400 with the APV200, all Echo Cancellation options should be turned off.

Echo Cancellation

Prevents transmitting the audio coming from the speaker back to the remote location.

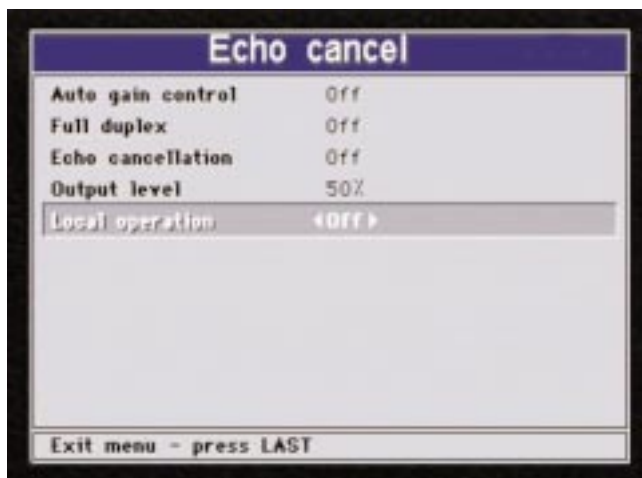
On - will help prevent transmitting the audio back to the remote location.

Off - will not prevent transmitting audio back to the remote location.



Output Level

This is for factory testing. This feature should be set to 50%.



Local Operation

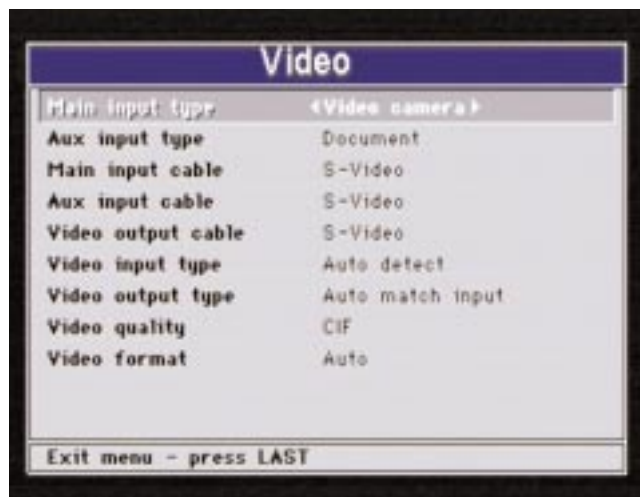
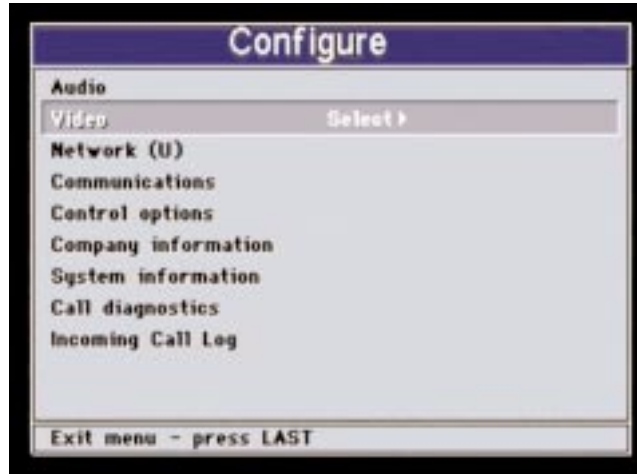
This is for factory testing. This feature should be set to "Off."

Video

The Video menu contains all the settings for the APV200 that relates to video.



All functions under the Video category can be changed without resetting the APV200.



Main input type

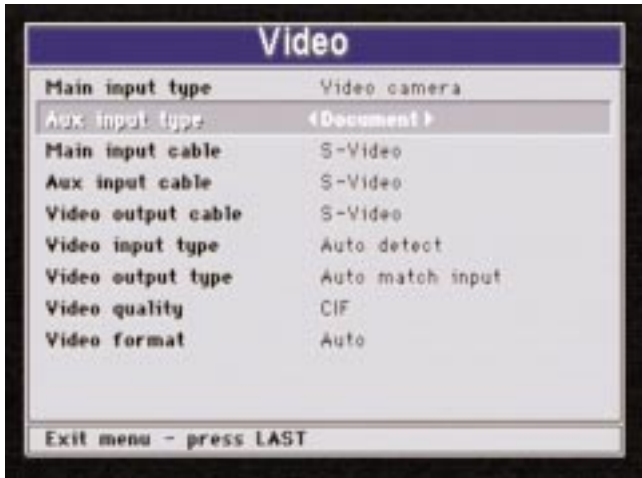
Indicates the type of camera you have connected to the Main input jack on the back of the APV200.

Video - for any pan/tilt/zoom or stationary camera.

Document - for a document camera.

VCR - for a VCR or DVD.

None - when there is not a camera connected to the APV200.



Aux Input Type

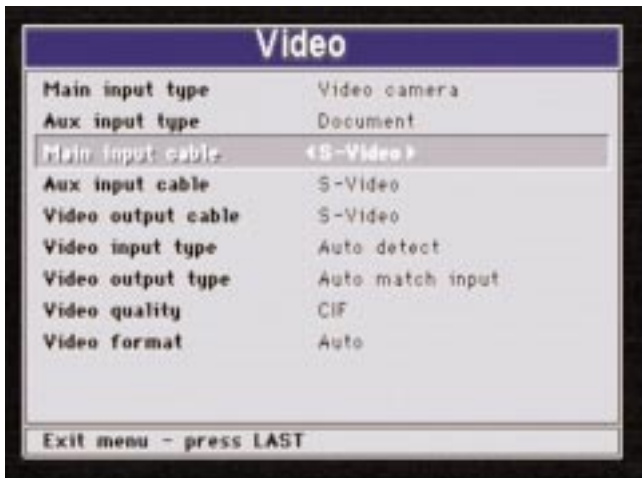
Indicates the type of camera you have connected to the Auxiliary input jack on the APV200.

Video - for any pan/tilt/zoom or stationary camera.

Document - for a document camera.

VCR - for a VCR or DVD.

None - when there is not a camera connected to the APV200.

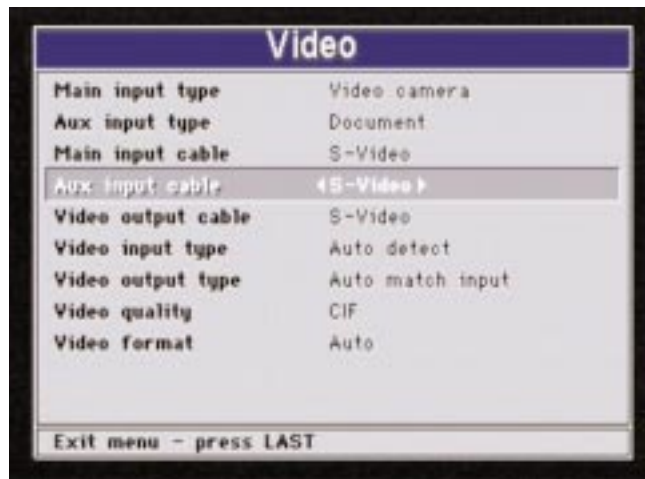


Main Input Cable

Indicates the type of cable that is connecting the Main input jack on the back of the APV200 to the camera.

S-Video - for an S-Video cable.

Composite - for a composite or RCA cable. There are three S-Video to Composite adapter cables that are included in your cable pack and will be needed when a composite cable is used.

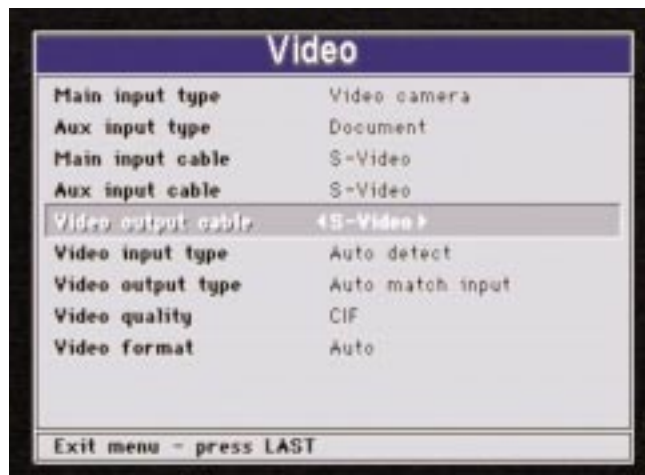


Aux Input Cable

Indicates the type of cable that is connecting the Auxiliary input jack on the back of the APV200 to the camera.

S-Video - for an S-Video cable.

Composite - for a composite or RCA cable. There are three S-Video to Composite adapter cables that are included in your cable pack and will be needed when a composite cable is used.

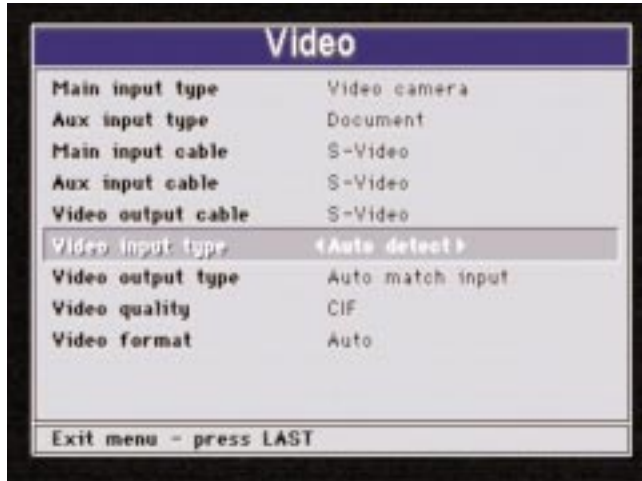


Video Output Cable

Indicates the type of cable that is connecting the Video output jack on the back of the APV200 to the monitor.

S-Video - for an S-Video cable.

Composite - for a composite or RCA cable. There are three S-Video to Composite adapter cables that are included in your cable pack and will be needed when a composite cable is used.



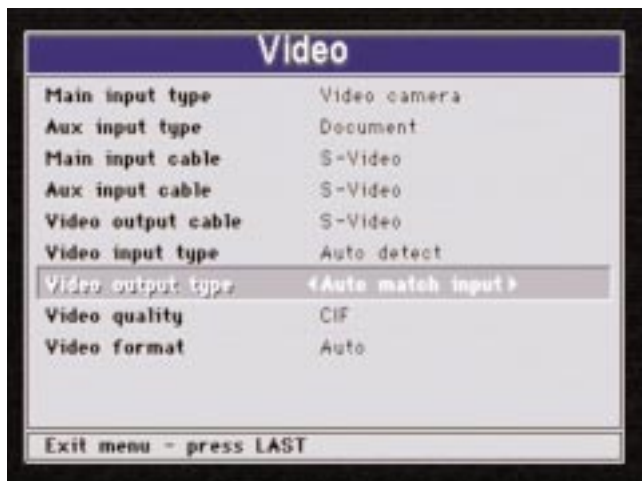
Video Input Type

Indicates the camera format type that is connected to either of the video inputs. Both the camera and monitor must be the same format.

NTSC (National Television Standards Committee) - for North America and Japan.

PAL (Phase Alternate Line) - for European video formats.

Auto Detect - if you are not sure whether you should use NTSC or PAL this is the recommended setting.



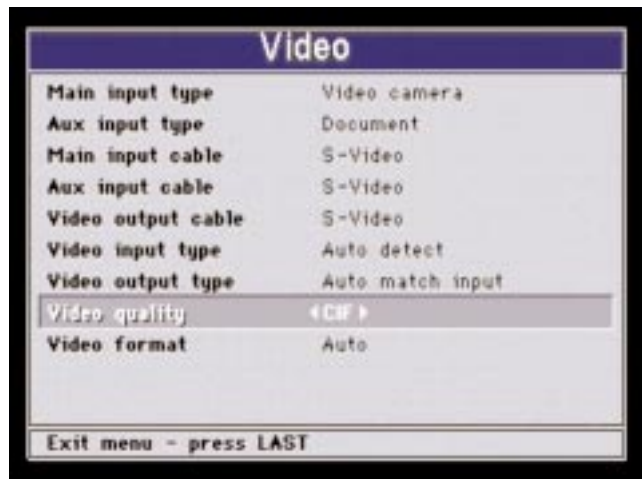
Video Output Type

Indicates the type of monitor that is connected to the video output. Both cameras and the monitor must be the same format.

NTSC - for North America and Japan.

PAL - for European video formats.

Auto match input - if you are not sure whether you should use NTSC or PAL this is the recommended setting.



Video Quality

Allows you to select different video qualities.

CIF - Offers the best picture. The video window is 352 by 288 pixels. This is the recommended setting.

QCIF - Offers the best frame rate. The video window is 176 by 144 pixels.



Video Format

Allows you to select different video formats.

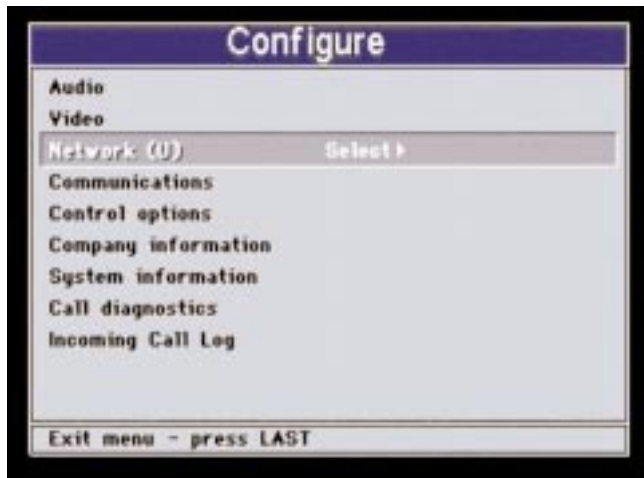
Auto- will automatically adjust to the best possible video format. If making a 128K call, H.263 will be used. Any call greater than 128K will use H.261.

H.261 - to receive the best quality video on a call greater then 128K.

H.263 - to receive the best quality video on a 128K call (Note: H.263 calls can send still images).

Network

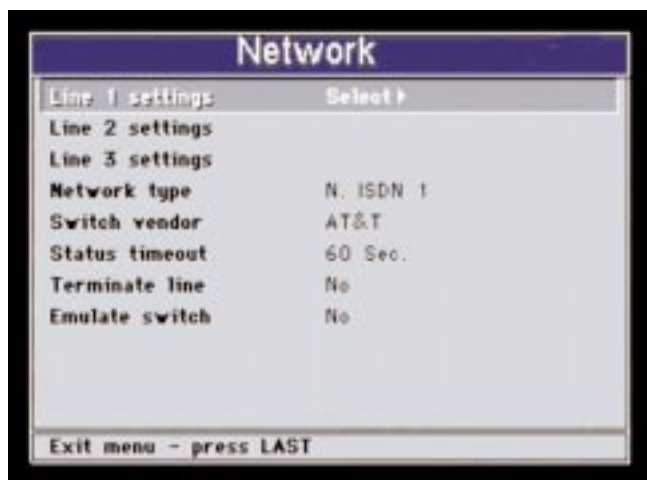
The ISDN Network menu contains all the settings for the APV200 that relates to the setup of your ISDN line or lines.



It is important the Network menu is set up correctly or you will not be able to make or receive calls.



“Network” designates the type of unit interface. Either “U” or “S/T” will appear depending on the configuration.

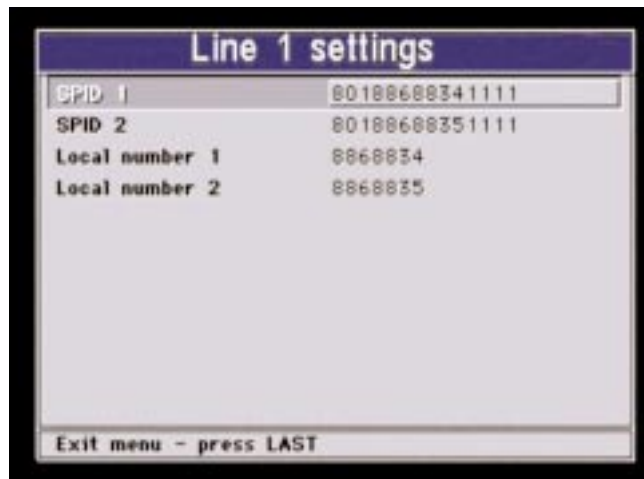


Line 1 Settings

This is where you enter the SPID and Local numbers for the ISDN line that is connected to the first ISDN jack on the back of the APV200.



The system must be rebooted after any information is changed in the network menu.



SPID 1 & SPID 2

Only the United States and Canada use SPID numbers. Your ISDN provider assigns SPID numbers and only they can tell you what your SPID numbers are.

If you were given one SPID number, enter it in the space for SPID 1 and leave SPID 2 empty.

If you were given two SPID numbers, enter one number in the space for SPID 1 and one number in the space for SPID 2. Both lines must be filled in.

If you were not assigned any SPID numbers, leave both spaces empty.

SPID - Examples

One SPID:

ISDN phone number 612-826-1117

018261117000 - SPID 1 (SPID 2 is left empty)

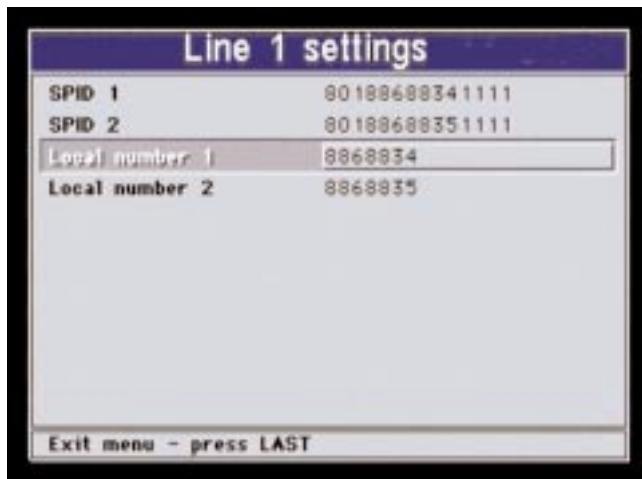
61282611171111 - SPID 1 (SPID 2 is left empty)

Two SPIDs:

ISDN phone numbers 612-826-1117 and 612-826-1118

61282611171010 - SPID 1

61282611181010 - SPID 2



Local Number 1 & 2

Local numbers must be entered in both lines 1 and 2. It may be the same number twice.

The Local number is the ISDN number that an individual would dial if the call is not long distance.

Local Number - Example

Local numbers for one SPID:

Local numbers for ISDN phone numbers 612-826-1117 are the same number twice:

- 8261117 - Local number 1
- 8261117 - Local number 2

Local numbers for two SPIDs:

Local numbers for ISDN phone numbers 612-826-1117 and 612-826-1118:

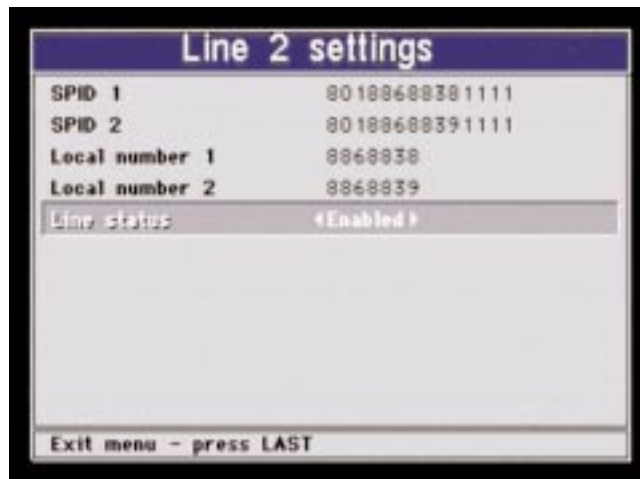
- 8261117 - Local number 1
- 8261118 - Local number 2

Line 2 & Line 3

The menus for Line 2 settings and Line 3 settings are the same as Line 1 except for the Line status option (see next page).



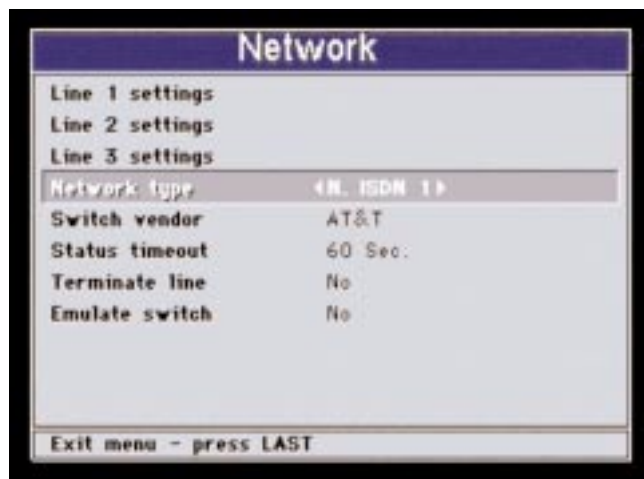
If all local numbers aren't entered, you cannot receive bonded calls.



Line Status

Enabled - when an ISDN line is connected to the jack on the back of the APV200.

Disabled - when an ISDN line is not connected to the back of the APV200.



Network Type

Your ISDN provider assigns your Network type to you. The Network type assigned depends on where you are located.

N-ISDN-1 - United States and Canada. This is the recommended setting.

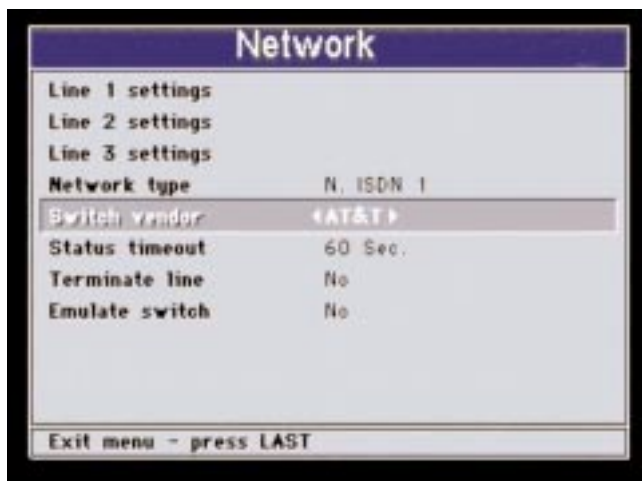
NTT Japan - Japan

ETSI - European, parts of France, most Asian countries, and Australia if using an On-ramp connection

VN4 - Parts of France

Australia - When using a Micronet connection

Custom - United States and Canada



Switch Vendor

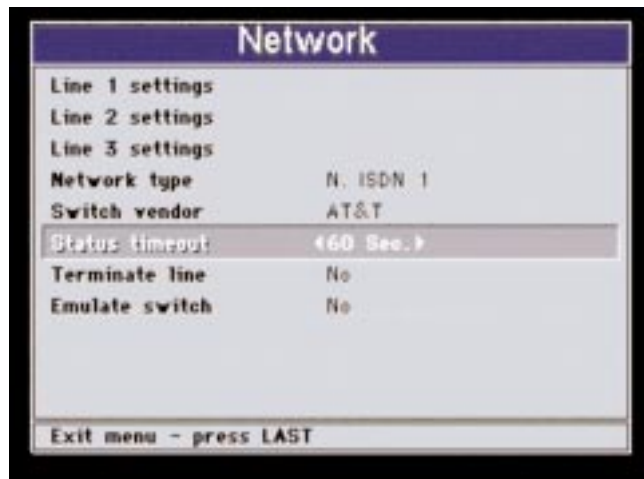
Your ISDN provider assigns your Switch vendor to you. The Switch vendor assigned depends on where you are located.

ATT - United States and Canada

Nor. Telecom - United States and Canada

Siemens - Europe

Unknown - All countries except US, Canada, and Europe



Status Timeout

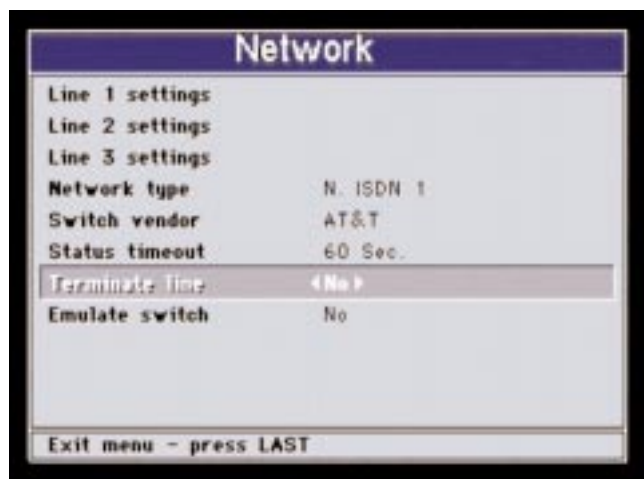
Allows you to determine the amount of time that the Call Status menu and the Answer Status menu will remain on the screen.

0 sec. - the status screen will never appear on the monitor.

5 sec. - the status screen will appear on the monitor for only 5 seconds.

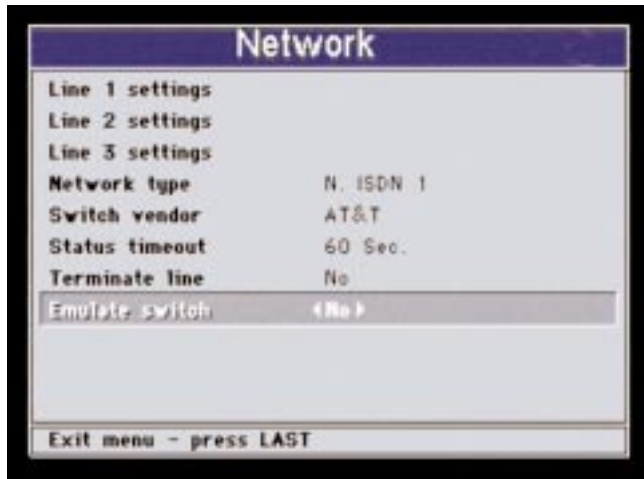
25 sec. - the status screen will appear on the monitor for 25 seconds.

60 sec. - the status screen will appear on the monitor for 60 seconds.



Terminate Line

This is for factory testing. This feature should be set to "No."

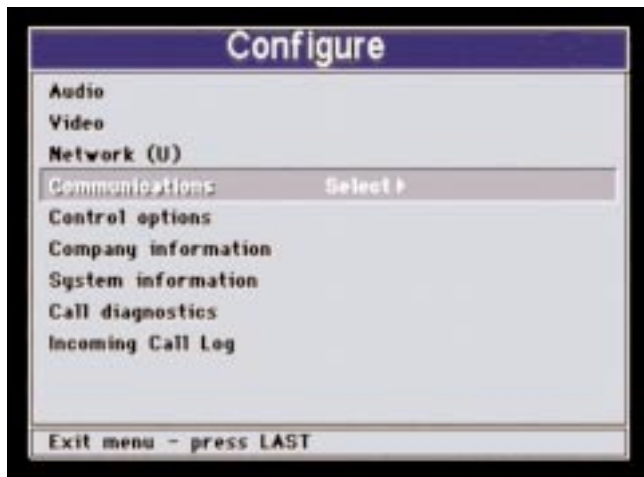


Emulate Switch

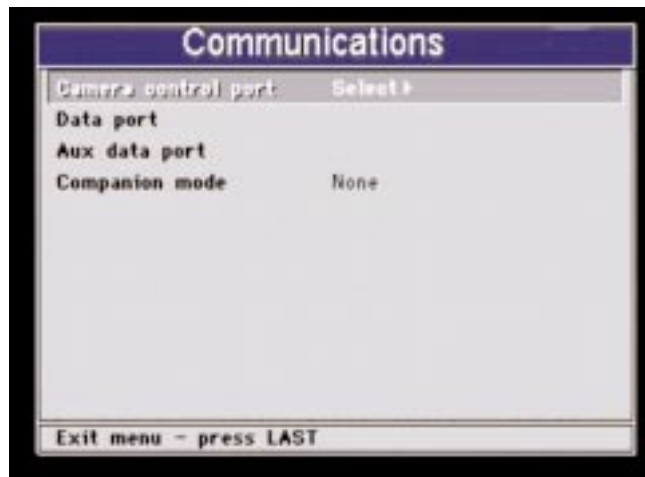
This is for factory testing. This feature should be set to No.

Communications

The Communications menu contains settings for all the options pertaining to the setup of the data ports on the back of the APV200.



The system must be rebooted after any settings have been changed.



Communications

You will need to configure this menu if you are using local and/or remote camera control, Microsoft NetMeeting, an AP400, or if you wish to use the dual monitor capabilities.

The options for each of the ports are the same, so only one port menu will be explained.

Camera control port - the factory default is "Sony camera", for camera control.

Data serial port - the factory default is "Data", for Microsoft NetMeeting. This can also be used to control the AP400 when the serial port mode is set to "AP400."

Aux data serial port - the factory default is "Debug", for taking logs. This can also be used to control the AP400 when the serial port mode is set to "AP400."

Companion mode - is configured for "None" which is for a single monitor.



Serial Port Mode

Each of the Serial ports can be configured as you wish.

Sony camera - select when port is connected to a Sony camera for local & remote camera control.

Canon camera - select when port is connected to a Canon camera for local & remote camera control.

VCR Type 1 - select when port is connect to a VCR for control of the VCR.

Debug - select when port is connected to a PC for taking logs in a terminal program.

Data - select when port is connected to a PC for data collaboration using Microsoft NetMeeting.

Test - is for factory testing.

AP400 - select when the port is connected to an AP400 for control of the AP400.



Debug is the standard mode to use when connecting an external control device (e.g. AMX or Crestron).



Serial Baud Rate

The rate at which kilobytes of data is being transferred from one system to another.

With the APV200 the two high speed serial ports also have the following options:

19200
28800
38400
57600
115200

300
1200
2400
4800
9600
19200



Flow Control

Allows the transfer of data to be controlled so one system is not overwhelmed and drops data.

None - no control

X-on/X-off - software control

RTS/CTS - hardware control



Companion Mode

Allows two APV200s to be connected via the SCSI ports to show higher resolution Annex D stills and snapshots.

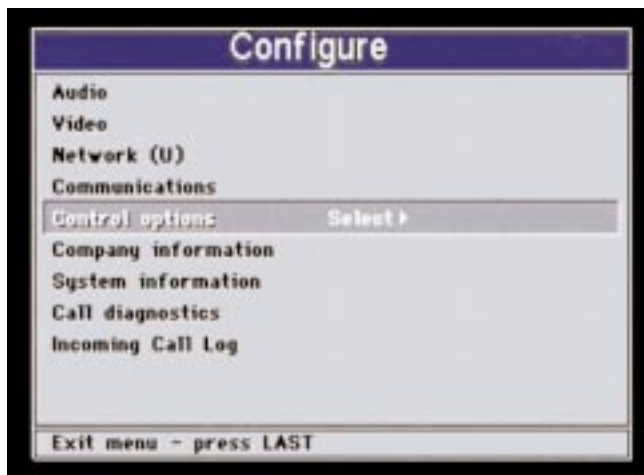
None - use when there is a single APV200.

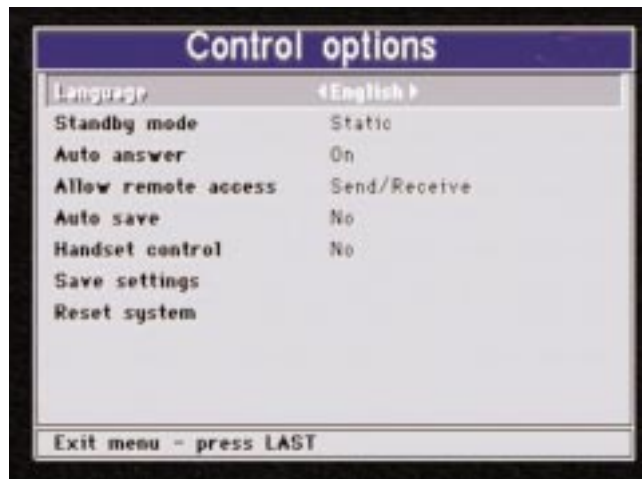
Master - designates this unit as the main APV200. There are ISDN lines connected and it responds to the remote control.

Slave - designates this unit as the secondary APV200. There are no ISDN lines connected and it will not respond to the remote until it is disconnected from the "master" APV200.

Control Options

This menu allows you to set up the language, standby mode, auto answer, and auto save features. This menu will also be used to turn the camera control feature off and on.





Language

This allows you to view the menus in different languages. This option is not available at this time. It will be available in a future release.

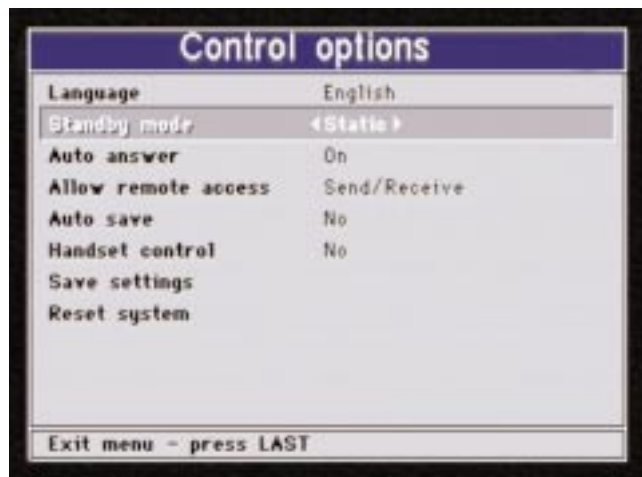
English

Spanish

French

Italian

German



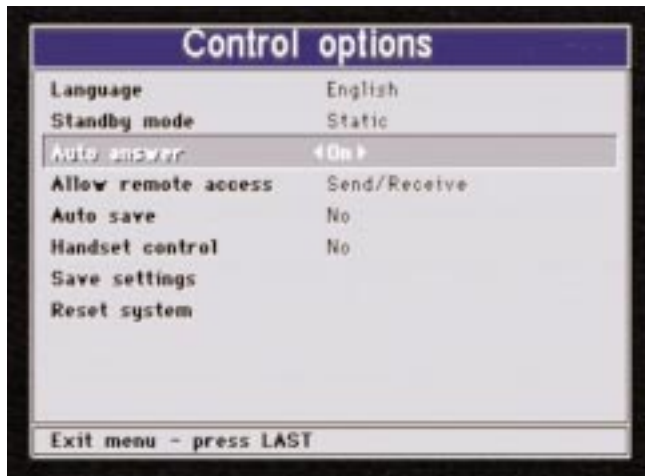
Standby Mode

Displays a screen-saver on the monitor when a call is not in progress.

Static - the Gentner Conferencing System logo appears on the screen.

Active - the words "System Ready" appear on the screen and move slowly up, down, and across the screen.

Local video - the local video appears on the screen.

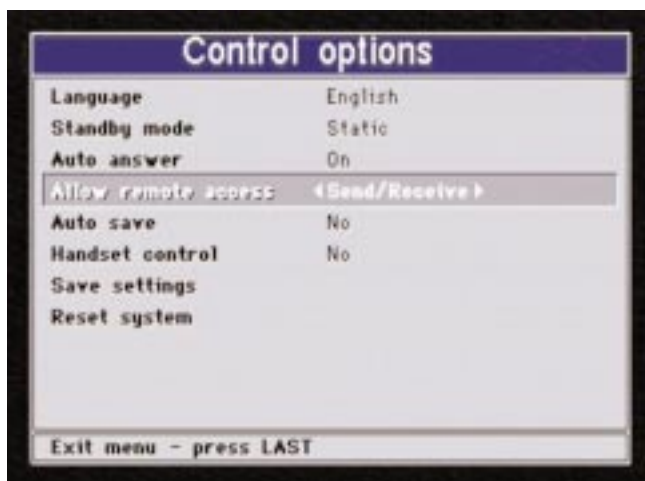


Auto Answer

You can configure the APV200 to answer all incoming calls, or you can have the Manual Answer screen appear allowing you to manually accept calls.

On - any call that is received will be answered automatically.

Off - the Manual Answer screen appears on the monitor. By pressing the **ENTER** button on the remote control you can answer the call.



Allow Remote Access

Allows you to set the local and remote camera control options.

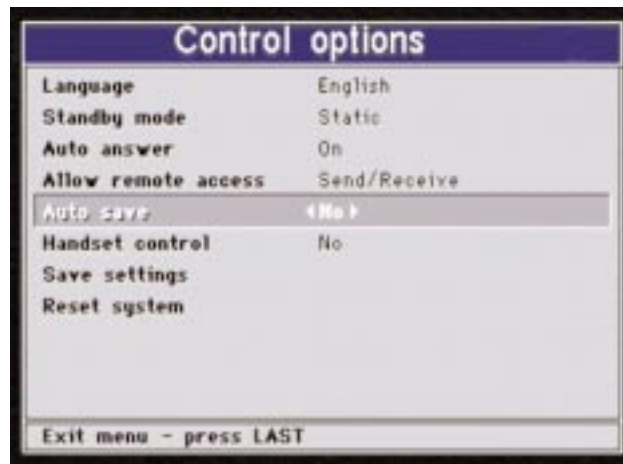
Send/Receive - allows you control of the remote camera. The remote location **can** also control your camera.

Send only - allows you control of the remote camera. The remote location **can't** control your camera.

No - allows you control of your camera only.



The desired settings for Remote Access must be turned on before the call is initiated.



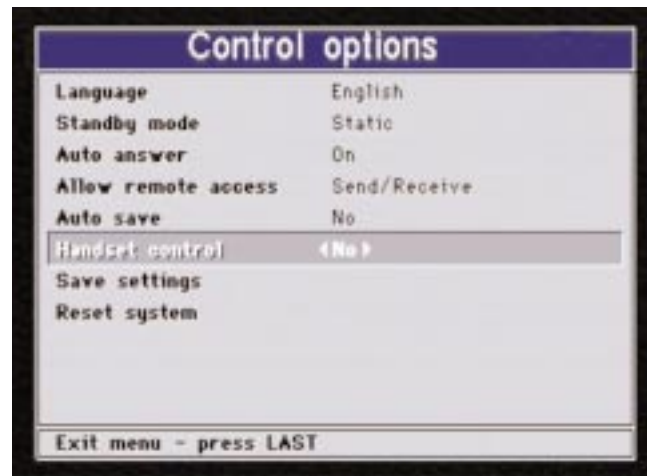
Auto Save

You can configure your APV200 so that any changes you make will be saved automatically.

If you change this option you must exit the menu before the Save settings option becomes available.

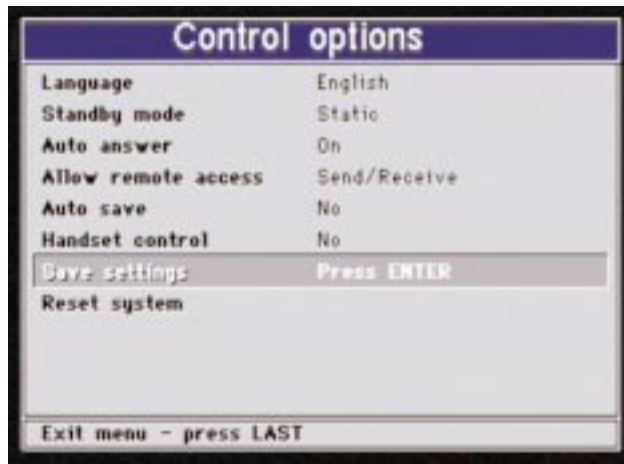
Yes - all changes will be saved automatically. This is the recommended setting.

No - all changes will have to be saved manually. If you forget to save and the system is turned off, all changes will be lost. Please refer to the next page.



Handset Control

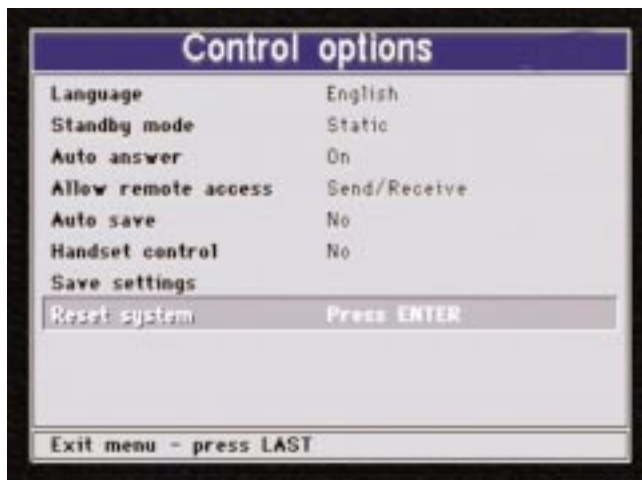
This is for factory testing. This feature should be set to No.



Auto Save - Save Settings

By setting Auto save to “Yes”, you can configure your APV200 so that any changes you make will be saved automatically. If you change this option to “No” you must exit the menu, before the Save settings option becomes available.

If you have Auto save set to “No” you will need to go into this menu and select Save settings. Press the **ENTER** button to save the changes. If you forget to save the changes and the system is turned off, all changes that have been made will be lost.



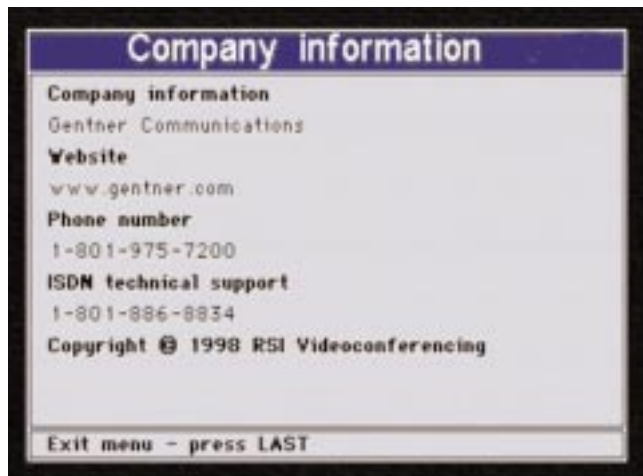
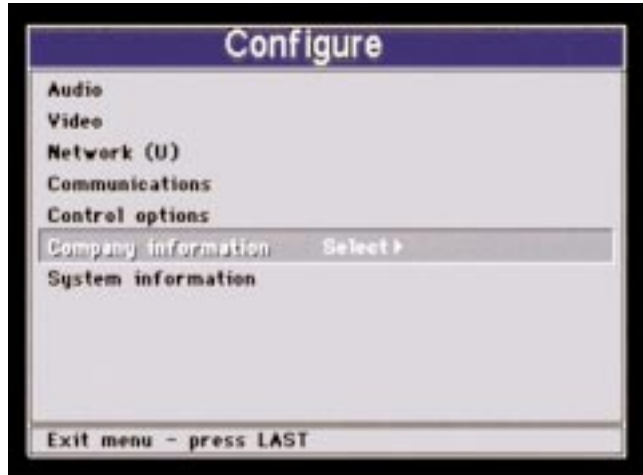
Reset System

There are times when the system will need to be reset (turned off and back on) and this can be done easily by selecting Reset system and pressing the **ENTER** button.

Once you press **ENTER** the status bar will appear saying to “Press ENTER again to reset system.” This is a safety measure to prevent accidental hangups. After you press **ENTER** a second time the monitor screen will go black and the LED on the front of the APV200 will indicate that the system is rebooting.

Company Information

Displays information that will be helpful when trying to contact GENTNER Communications.



Company Information

This screen shows information on how to contact GENTNER.

Company information - GENTNER Videoconferencing.

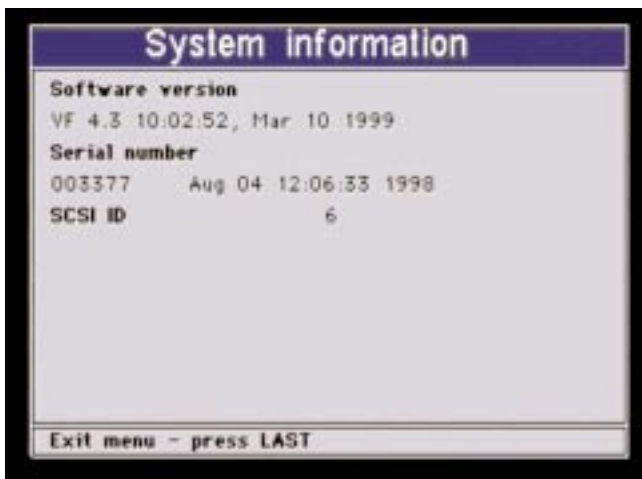
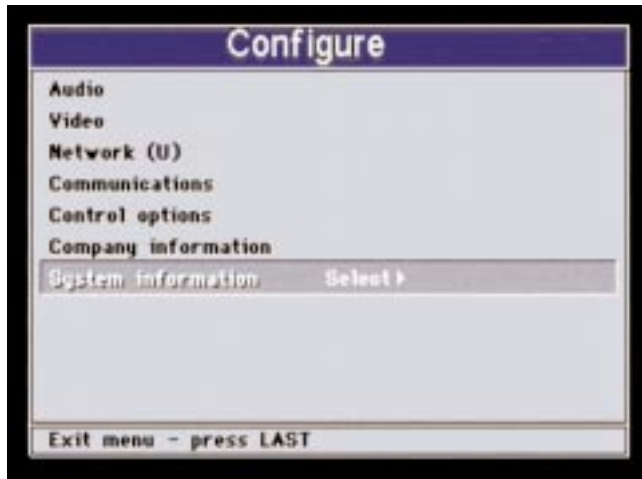
Website - website address for GENTNER.

Phone number - telephone number for GENTNER.

ISDN Technical Support - ISDN telephone number for GENTNER's Technical Support via videoconference.

System Information

Displays information about your APV200 that is helpful when contacting GENTNER's Technical Support.



Software version - displays the version of software that is on your APV200.

Serial number - displays the serial number and the date the system was manufactured.

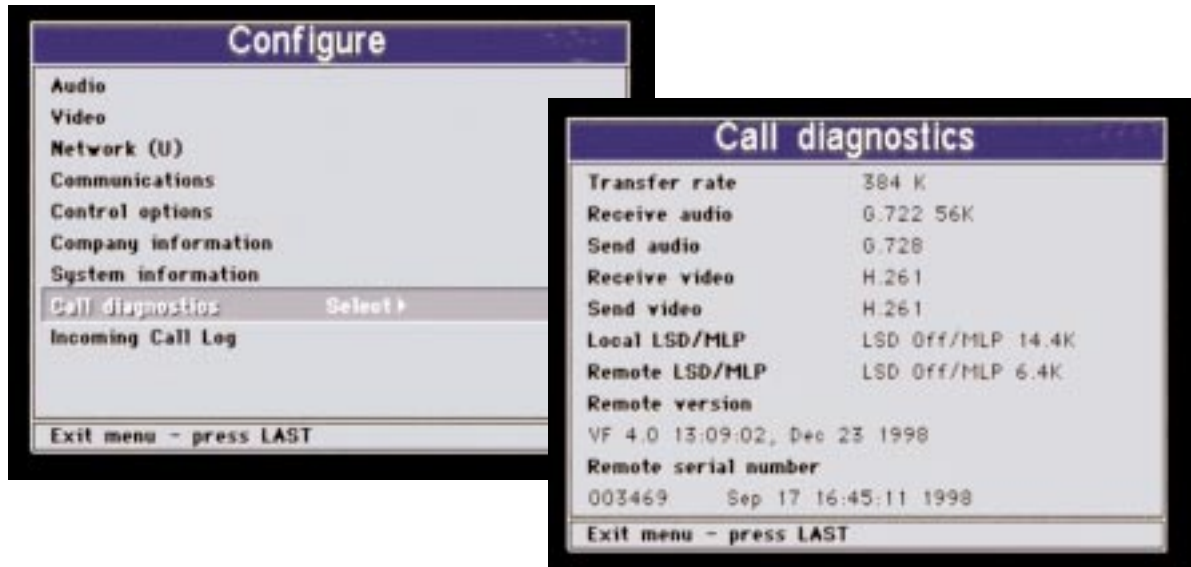
SCIS ID - displays the number that the SCSI ID switch is set to on the back of the APV200.



When you contact Technical Support, please include the version date, not just version number.

Call Diagnostics

Call Diagnostics is only available when on a call. This menu displays diagnostic information about the call that is in progress. This information may be helpful when contacting GENTNER's Technical Support.



Call Diagnostics

Displays information about the call that is in progress.

Transfer rate - is the bandwidth that you are using for the video call.

Receive audio - is the decoded audio that you are hearing.

Send audio - is the encoded audio that you are sending.

Receive video - is the decoded video that you are viewing.

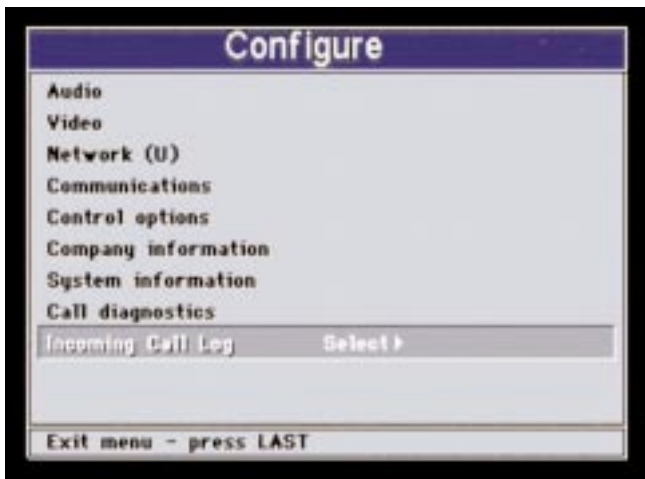
Send video - is the encoded video that you are sending.

Remote version - is the software version of the system that you are connected with. This information is available with other GENTNER systems and may or may not be available for systems from other manufacturers.

Remote serial number - is the serial number of the system that you are connected with. This information is available with other GENTNER systems and may or may not be available for systems from other manufacturers.

Incoming Call Log

Incoming Call Log displays a list of the last 45 calls that have been received since the APV200 has been turned on. This option is only displayed after a call has been received.



Incoming Call Log

This menu is only available after you have received a call. The information in the log will be lost once the APV200 has been turned off or reset.

Number - is the telephone number of the last 45 calls received.

Time since call - is a running time since the call was answered.

6 Dial Menu

Dial Menu

Entering dialing information is the same for all of the dialing options (Phonebook, Manual dial 128K, Manual dial 384K and Redial). The following pages will show all the menus, however most of the information will be covered in the Phonebook section.

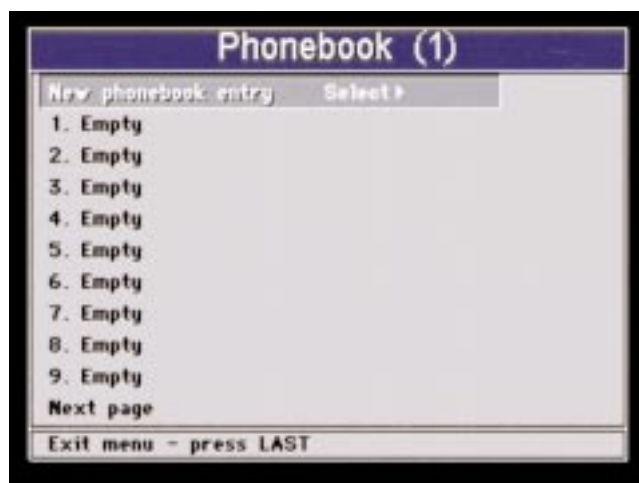


Press the **DIAL** button on your remote control to get to this menu.



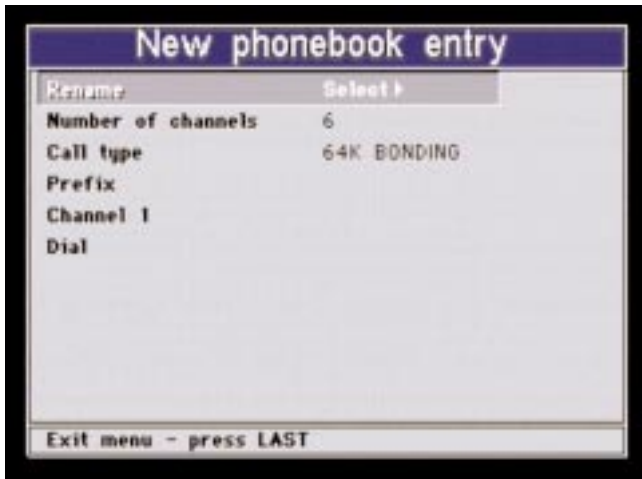
Phonebook

When you select Phonebook you will access another menu which will allow you to add and edit entries.



New Phonebook Entry

When you select this option you will access another menu to enter information that will be saved in the phonebook. If all nine phonebook entries are full, scroll to the next page and enter up to nine more phonebook entries. You can enter up to 45 entries in the phonebook. If all entries are full, you will receive a message that tells you the phonebook is full.



Rename

When you select Rename you will access another menu that will allow you to name this entry. Use a name, number, or location that clearly indicates the call's destination.



Name entry

You can move the selection box up, down, left, and right with the **CH+** and **CH-** keys and the **VOL+** and **VOL-** keys.

When you have the selection box around a letter you wish to select press the **ENTER** button on the remote control. You will see your selection appear in the space for "Phonebook entry name" at the bottom of the screen.



Phonebook entry name

If you make a mistake when entering information, you must select the "Phonebook entry name" and press the **VOL-** button on the remote control to backspace.

Dialing

Select one of the following to make a call:

- Phonebook
- Manual dial 128K
- Manual dial 384K
- Dial Telephone
- Redial

The following pages show the Phonebook menu but the information is the same for all of the dialing menus.

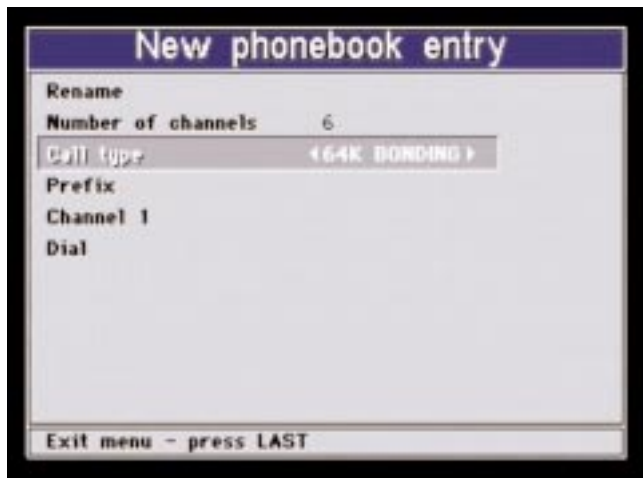


For a 384k call, select 6 under Number of Channels.
For a 256k call, select 4 under Number of Channels.

Number of Channels

When dialing a remote location you can select the number of channels that you wish to use when connecting. The greater the number the better the video quality will be for both sending and receiving.

Each single ISDN line has two channels. You have up to three ISDN lines or six channels for up to 384K calling.



Call Type

Allows you to select how the call is placed.

64K BONDING - is the industry standard for calls greater than 128K. You only need to enter one ISDN number because once the two systems connect the remaining numbers are sent to the system that is placing the call.

56K BONDING - is the same as 64K BONDING except the bandwidth has been restricted.

64K H.221 - is a standard that is primarily used for 128K calls. When using this call type you will need to enter all the numbers that you wish to connect.

56K H.221 - is the same as 64K H.221 except the bandwidth has been restricted.

Voice - is when you are making a voice only call, video will not be transmitted.

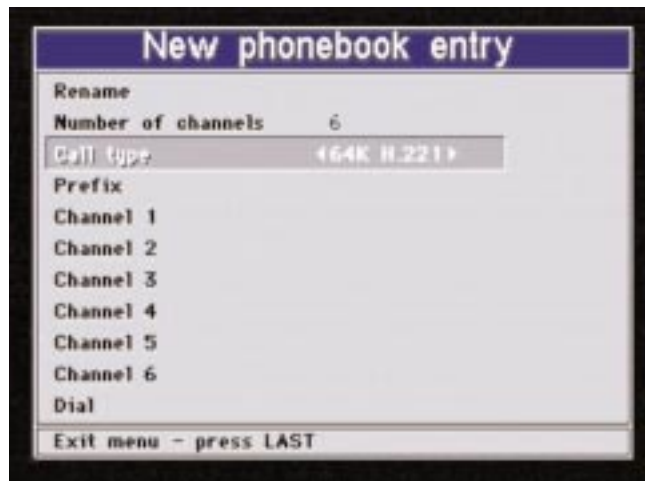
Loopback BONDING - is a method of testing the APV200 by placing a call internally. The bonding standard for connecting is used. No ISDN numbers are entered.

Local Loopback - is the same as Loopback BONDING except the H.221 standard for connecting is used. No ISDN numbers are entered.

Telephone - is when you are making a telephone call using the AP400.



Permanent line and Permanent BONDING are used for factory testing.



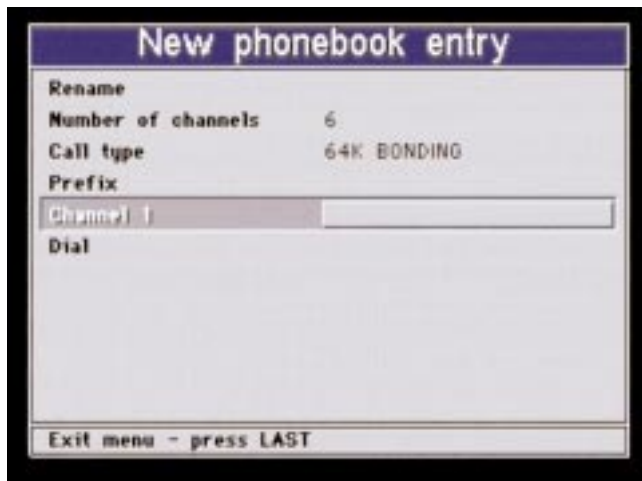
Call Type

Once you change the call type to H.221 and scroll off the Call type option, additional Channels will appear so you can enter the ISDN numbers that are needed.



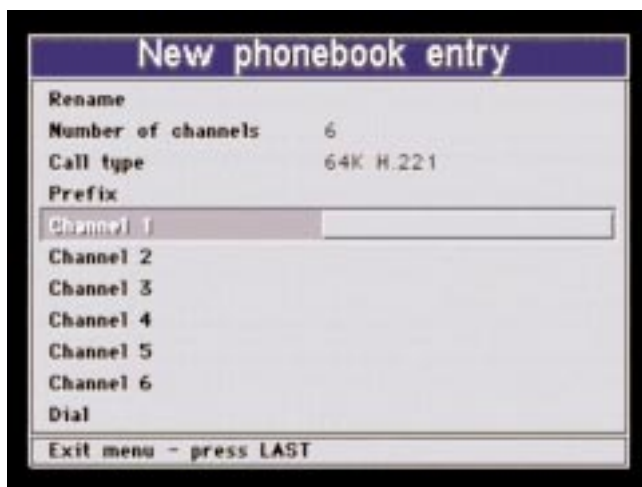
Prefix

You can use this field to put a dialing prefix such as 9 or a long distance access code such as 1010288 for AT&T or 1010222 for MCI. If you make a mistake you can backspace by pressing the **VOL-** button on the remote control.



Channel 1

Enter the number for the location that you wish to call. If you make a mistake use the **VOL-** button on the remote to backspace.

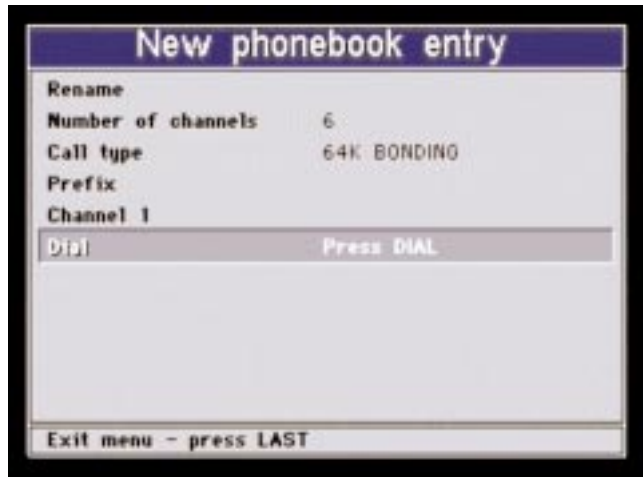


Channel 1

Enter the number for the remote location that you wish to call.

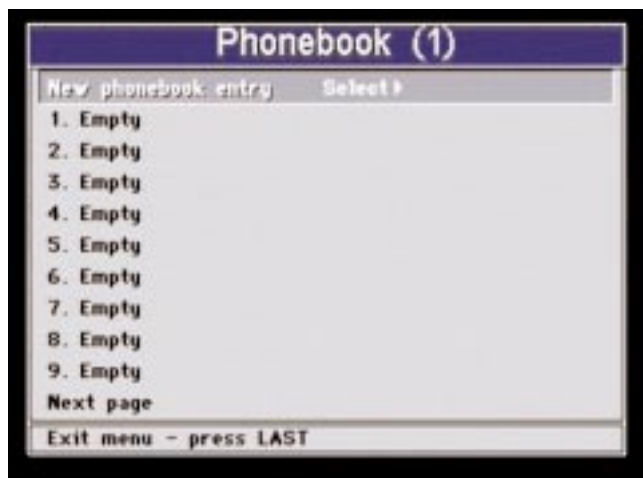
If you make a mistake use the **VOL-** button on the remote to backspace.

When making an H.221 call you must enter all the ISDN numbers that you wish to connect. This will be equal to the number of channels you have selected. Refer to page 67 for more information on Call type.



Dial

When you are ready to initiate the call, select Dial and then press the **DIAL** button on the remote control.



Phonebook Entry 1

Once you have entered information in the New Phonebook Entry Menu, it will be displayed in the Phonebook menu.

To place calls from the Phonebook scroll down to the entry you wish to call. Select it to access that entry. Scroll to the Dial option and press the **DIAL** button on the remote control.



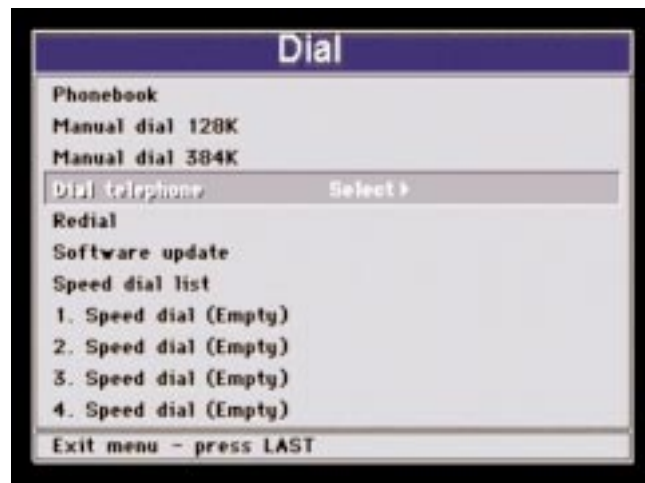
Manual Dial 128K

Select this option if you are going to make a two channel H.221 call.



Manual Dial 384K

Select this option if you are going to make a 6 channel ISDN call.



Dial Telephone

Select this option if you are going to make a telephone call using the AP400.



Redial

Select this option to redial the last number that you called.

Once you select Redial, the Manual Dial menu will appear and it will contain all the information from the previous call.

If necessary, you can make changes quickly and easily.



Software Update

When new software is available you can receive an update by selecting Software update, which will take you to the Software Update Menu.



Software Update Menu

Enter the number for the software server that you want to download software from. Scroll to Dial and press **DIAL** on the remote control to initiate the call.

For more information on software updates please call Gentner's technical support at 1.800.283.5936.



Speed Dial List

On the main Dial Menu there are four speed dial entries listed so you can select them quickly by pressing the number on the remote control that corresponds to the entry you wish to call.

By selecting the Speed dial list option you will be able to access the Speed dial list menu so you can scroll through all the phonebook entries and choose which entries are displayed on the main Dial Menu.

You may select up to four numbers from the phonebook to be displayed in the Speed dial list. To select your Speed dial entries, scroll to the Speed dial list and press the **VOL+** button.



Speed Dial List Menu

You can change the phonebook entries that are listed on the main Dial menu by going into the Speed dial list menu.

Select which Speed dial number you would like to change and then scroll through the phonebook by pressing either the **VOL+** or **VOL-** buttons on the remote control.

When you have the entries in the order that you would like press the **LAST** button on the remote control to exit back to the main Dial menu.



Speed Dial 1

To use the speed dials on the main Dial menu, press the number on the remote control or scroll to it. Then press the **DIAL** button on the remote control.

7 System Status

System Status

By pressing the **STATUS** button on the remote control you can view the System status menu which displays basic information about your APV200. This shows a display of your system. These menu items are not selectable.



Channel 1 through Channel 6 can display the following information:

Inactive - the APV200 is not on a call.

Wait, Proceeding - the beginning of the call process.

Proceeding - beginning the call process.

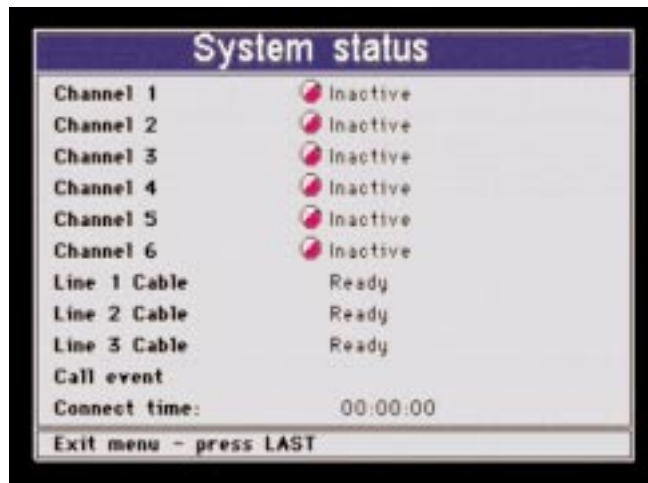
Need Digits - checking the numbers that you wish to dial.

Ringing Local - the call is ringing at the local location.

Ringing Distant - the call is ringing at the remote location.

Connected - the remote location has answered the call.

Busy - the remote location is already on a call.



Line 1 cable, Line 2 cable, and Line 3 cable can display the following information:

Ready - the line is ready to make and receive calls.

Offline - the line is set to Offline in the ISDN menu.

Error - there is a problem with the ISDN configuration or the line itself.

Invalid SPID - the SPID number has been entered incorrectly. Check the number and reset the system.

Not connected - no ISDN line is connected.

Offline - shows that line 2 and/or 3 are disabled in the ISDN menu.

Reset - the APV200 needs to be reset.

Call event tells that status of a call such as:

Voice - the connection is a voice only call, no video will be transmitted.

Video, x Channels - shows the videoconferencing systems have synchronized.

Displays cause codes - shows why a call failed. Refer to the Cause Code section beginning on page 115 for an explanation of each code.

Connect time displays the amount of time that a call has been in progress.

8 Status Bar

Status Bar

The status bar will supply you with information that you may need when on a call.

Volume

Pressing the **VOL+** button on the remote control will increase the volume you are receiving from the remote location.

Pressing the **VOL-** buttons on the remote control will decrease the volume you are receiving from the remote location.



Microphone On

Pressing the **MUTE** button on the remote control turns the microphone on and off.



When the microphone is on you will send audio from either the mic input or the line input.

Microphone Muted

When the microphone is muted you will not send audio from either the mic input or the line input. You can still hear the remote location.





Speaker On

Pressing the **SPEAKER** button on the remote control turns the speaker on and off.

When the speaker is on you will hear the audio from the remote location.



Speaker Muted

When the speaker is muted you will not receive audio from the remote location; the remote location can still hear you.



Main Video/Auxiliary Video

By pressing **CAM 1/2** button on the remote control you can switch between the main (1) and auxiliary (2) camera inputs.

Brightness, Color, Contrast, and Tint

You can adjust the image of the brightness, color, contrast, and tint by pressing the **CH+** and **CH-** buttons on the remote control. These settings will only adjust the video that you are sending; they will not adjust the video that you are receiving.



Near and Far End Camera Control

You can control the near and far end camera if the systems are set up to do so.

When you see the N icon, you are controlling your camera.



When you see the Far icon, you are controlling the camera at the remote location. If this does not work, the remote location may have disabled your ability to control their camera.



Snapshots

You can take high quality snapshots by pressing the **PAUSE** button on the remote control. Note: snapshots are not sent to the remote location.

Taking snapshot

When the snapshot has been taken the status bar will say "Snapshot Done".

Snapshot done

You can show the snapshot by pressing the **PLAY** button on the remote control. To hide snapshots press the **VIDEO** button on the remote control.

Press VIDEO to hide snapshot



Only one still can be saved at a time. If any menu option is pressed or the call is terminated, the still will be lost and will need to be retaken.

Annex D Stills

You can send high quality Annex D stills (or snapshots of an image) when you are on a video call.

To request a still from the remote location, select the Far end camera control mode and press the **PAUSE** button on the remote control.

Receiving still

To send a still to the remote location, select the Near end camera control mode and press the **PAUSE** button on the remote control.

Sending still

You can toggle between the still and the live video. To hide the still, press **VIDEO**. To display the still, press **PAUSE**.

Camera Presets

If either the local or remote camera is set up for camera control you can save camera presets. To do this get in the Near or Far end camera control mode and using the number pad press and hold for five seconds the number that you want to store this camera view. The status bar will appear once the view is stored.

Preset stored

Hang Up

To terminate a call press the **HANG UP** button on the remote control twice. If you only press it once, the status bar will appear again asking you to press **HANG UP**. This is a safety measure to prevent accidental hangups.

Press HANGUP again to hang up call

Reset the APV200

When you are in the Control options menu there is an option to reset the system. When you select this option, the Resetting system status bar will appear for a moment.

Resetting system...

9 Troubleshooting

Setting Up Camera Control

APV200 Connection

Connect the blue Camera Control Cable to the APV200's Data port. Connect the other end of the cable to either the "RS232" port on the Canon camera or the "VISCA IN" port on the Sony camera.

APV200 Setup

1. Press the **CONFIG** button.
2. Scroll down to Video and select it.
3. On Main input type scroll through the options until Video camera appears.
4. Scroll down to Communications and select it.
5. Scroll down to Camera control port and select it.
6. With Serial Port Mode selected scroll through the options control until your camera type appears.
7. Scroll down to Serial baud rate.
8. Scroll through the options control until 9600 appears.
9. Scroll down to Flow control.
10. Scroll through the options until None appears.
11. Press **LAST** on the remote control two times to return to the Configure menu.
12. Scroll down to Control options and select it.
13. Scroll down to Allow remote access.
14. Scroll through the options and choose from:
 - No - controls local camera only.
 - Send only - controls local and remote camera.
 - Send/Receive - controls local and remote camera and allows the remote location to control your camera.
15. Scroll down to Reset system and press the **ENTER** button on the remote control twice. Once the APV200 is back on you will have the camera control ability. Please read the next page "Using camera control."

You can only control the remote camera if the unit you are conferencing with is set up to allow you to do so.

Using Camera Control



To easily check if your remote control is working, point the remote to the screen while live video is operating. Push the buttons on your remote control. You should see light flickering from the remote if it is operating properly.



You can only control the remote camera if the unit you are conferencing with is set up to allow you to do so.

To Move the Local or Remote Camera

Press the **LOC/REM** button on the remote control. Select the camera you wish to control. “Near end camera control” controls your camera. The N icon will appear. “Far end camera control” controls the camera at the remote location. The Far icon will appear.

Press the **VOL-** to move the camera left.
 Press the **VOL+** to move the camera right.
 Press the **CH+** to move the camera up.
 Press the **CH-** to move the camera down.
 Press the **REW** to zoom the camera out.
 Press the **FF** to zoom the camera in.

Store Local Presets

You can have up to 9 presets for the local camera. The Remote icon (the camera with N below it) must appear before proceeding.

1. Move the camera to a position that you would like to store.
2. Select the number on the keypad where you would like to store this camera view and hold it for 5 seconds.
3. The status bar will display “Preset stored.”
4. Once you reset your system you will lose the presets you have saved.

Store Remote Presets

You can have up to 9 presets for the remote camera. The Remote icon (the camera with Far below it) must appear before proceeding.

1. Move the camera to a position that you would like to store.
2. Select the number on the keypad where you would like to store this camera view and hold it for 5 seconds.
3. The status bar will display “Preset stored.”
4. Once you terminate the call you will lose the presets you have saved.

Connecting a VCR or DVD for Playing to a Remote Location

Connecting the Cables

Video

From the VCR - Video Out

To the APV200 - Video In 2

This can be Video In 1 if you want the VCR used as the primary camera source

Audio

From the VCR - Audio Out

To the APV200 - Audio In

Configuring the menus

In the Audio menu you will need to change the Audio Input to either:

Mic

So the remote location will hear only you and not the VCR.

Line

So the remote location can hear only the VCR audio.

Mix

So the remote location will hear both the VCR audio and your microphone audio.

Switching between Main and Secondary cameras

Press the **CAM1/2** button on the remote control.

Switching the Audio inputs

You must go into the Audio menu and select which Audio input source you want the remote location to hear.

Once on a call press the play button on the VCR or DVD.

Connecting a VCR for Recording a Video Call

Connecting the Cables

Video - cable 1

From the APV200 - Video Output
To the VCR - Video Input

Video - cable 2

From the VCR - Video Out
To the TV - Video Input

Audio

From the APV200 - Audio Line Output
To the VCR - Audio In

Configuring the menus

In the Audio menu you will need to change the Line Out Source to either:

Remote w/Mic

Will tape both the Local and Remote locations.

Remote w/Line

Will tape both the Local and Remote locations.

Remote

Will tape only the remote location.

Once on a call, press the record button on the VCR.

Request Software Update

The Software Update Menu allows the APV200 to update software over the ISDN lines.

Using the remote control

- Press the **CONFIG** button on the remote control.
- Go to the control options menu.
- Scroll down to Reset system.
- Press the **ENTER** button on the remote control twice.

Once the system is back on:

- Press the **DIAL** button on the remote control.
- Scroll down to Software update and select it.
- Enter the telephone number of the server you wish to connect with.
- Scroll down to Dial.
- Press the **DIAL** button on the remote control.

What to expect next

If the server responds a menu will be displayed and you should press the **ENTER** button on the remote control.

When the download begins you will know where in the update process you are by watching the status bar. It will go through three phases:

- Getting firmware**
- Checking firmware**
- Saving firmware**

Results screen

After the three phases are complete a results screen will display a message that will determine your next action.

Success

Terminate the call and reset the APV200 to load the new software.

Error () no change made

Terminate the call and reset the APV200 and try to download the software again. If you receive the same result contact Gentner's Technical Support.

If anything else appears

Terminate the call and contact Gentner's Technical Support.
DO NOT turn off your APV200.

Black and White Video

Press the **CONFIG** button on the remote control.
Scroll down to Video and select it.

If the Video menu is black and white

1. Scroll to Video output cable.
2. Change this setting by pressing the **VOL+** button on the remote control one time.
3. The Video menu should be in color.
4. Press the Video button on the remote control to show local video.

If the Video menu is color and the video from the camera is black and white

1. Scroll down to Main input cable.
2. Change this setting by pressing the **VOL+** button on the remote control one time.
3. Press the **VIDEO** button on the remote control to show local video.
4. The local video image should be in color.

Check the cables

If you are sure you have all the menu settings correct and you still have black and white video you may have a bad cable. To check the cables follow the instructions below.



Prior to connecting new cables, make sure they work properly by connecting them to the camera and the monitor.

1. Disconnect the monitor cable from the back of the APV200 and connect it into the video out on the back of the camera (most cameras will accept either S-video or composite cable).
2. If the video is black and white replace this cable with a new cable.
3. If the video is in color return the cable to the back of the APV200.
4. Disconnect the camera from the back of the APV200 and connect it into the video in on the back of the monitor.
5. If the video is black and white replace this cable with a new cable.
6. If the video is in color verify the menu setting again.

Cannot Make Calls

Press the **STATUS** button on the remote control to bring up the Status menu. Verify that each Line cable says Ready. If Offline or Invalid SPID appear, go into the ISDN menu by pressing the **CONFIGURE** button on the remote control and make sure that your Network menu is configured correctly.

Verify the network type, the switch vendor, and the SPID numbers with your network provider.

Local

Make a voice call from an analog phone to each channel of the APV200.

Make a voice call from the APV200 to a local analog phone.

If both work make a video call using 56 Kbps instead of the 64 Kbps.

If the analog calls do not work, call your Network provider to determine why the service is not working.

If the 56 Kbps call works, call your Network provider to determine why the service is restricted to 56Kbps.

Long Distance

Make a voice call from an analog phone to each channel of the APV200.

Make a voice call from the APV200 to a local analog phone.

If the calls using the analog phone do not work call your Network provider to determine why your long distance service is not working.

If both calls using the analog phone work, make a long distance video call using a long distance access code. Try both codes. Only one of them will work.

1010288 - AT&T

1010222 - MCI

If either of the access codes work, call your Long Distance provider to have long distance service set up on your ISDN lines.

If the access codes don't work, make a long distance call using 56 Kbps **without** an access code.

If this does not work make a long distance call using 56 Kbps **with** an access code.

If dialing at 56 Kbps works with or without an access code, call your Network provider to determine why the service is restricted to 56 Kbps.

If the 56 Kbps call works with an access code, call your Network provider to determine why the service is restricted to 56 Kbps and call your Long Distance provider to have long distance service set up on your ISDN lines.

Sometimes when you dial international you may find it necessary to put a # at the end of the dialing string. This may or may not help, depending on where you are trying to connect.

Common Error Messages When Making Calls

User busy

The location that you are trying to connect with is using their system.

Invalid SPID

Go to the ISDN menu by pressing the **CONFIG** button. In the Network menu verify the Network type, Switch vendor, SPID number and if you have lines 2 and 3 connected make sure they say Online. Make sure you reset the system.

Bad CRN

This is an error message that comes back from the telephone company's central office switch. Most of the time you can make a successful call if you try the call again in a few minutes. Sometimes you may need to use a long distance access code. Use 1010222 or 1010288.

Circuit not available

All circuits are busy

The call cannot be complete using the route the call was taking. If you try using a long distance access code such as 1010222 or 1010288 the call will take a different route and be successful.

For additional error messages see the Cause Codes on page 115.

Cannot Receive Calls

Press the **STATUS** button on the remote control to bring up the Status menu. Verify that each Line cable says Ready. If Offline or Invalid SPID appear, go into the ISDN menu by pressing the **CONFIGURE** button. Select the Network menu and make sure that your system is configured correctly.

In the Network menu, verify the network type, the switch vendor, and the SPID numbers with your network provider. Please refer to page 43 for more information.

Local or Long Distance

Make sure that you have your Local numbers entered for each of the ISDN lines that you have connected to the back of the APV200. You **MUST** have both your Local number and the recipients Local number entered in order to receive a bonded call. After entering these numbers make sure you save the settings, if necessary, and reset your APV200.

Make a voice call from an analog phone to each channel of the APV200.

If any of the channels connect, make sure that the ISDN line that connected is in the first ISDN jack on the back of the APV200.

Make another voice call from an analog phone to each channel of the APV200.

If any or all of the lines connect make a voice call from the APV200 to a local analog phone.

If this does not work, call your Network provider to determine why the service is not working.

Capturing an APV200 Log

Connect one end of the GENTNER Serial cable, to the RS232 port on the back of the APV200. Connect the other end to the DB9 Comport on the back of your PC. Turn the APV200 on and make sure you have local video on the monitor.

In Windows select:

Start > Programs > Accessories > HyperTerminal.

Double click **Hyperterm.exe**.

The Connection Description box will appear.

Enter a name. **Example** - gentner-log - Click **OK**.

The Phone Number box will appear.

Under Connect using select **Direct to COM 1**. Click **OK**.

The COM 1 Properties box will appear.

Under Bits per second select **9600**.

Under Flow control select **NONE**.

Leave the rest of the settings at their defaults. Click **OK**.

You are now at the Gentner-Log - HyperTerminal screen.

Under Transfer select **Capture Text**. Select **Start**.

At the VCS> Type **S1** - press **ENTER**.

Once you have completed the action that you need on the log return to Transfer and select **Capture Text**. Select **Stop**.

Go to the HyperTerminal File - **Exit**.

Two boxes will appear:

Are you sure you want to disconnect? - **Yes**

Do you want to save session gentner-log? - **No**

You will now need to send the saved file to a disk so you can send it to GENTNER Technical Support for the Engineers to check.

Go into the HyperTerminal program again and select **capture.txt**.

Next select File - **Send To** - A.

You can e-mail the file to techsupport@gentner.com.

If you have any questions please contact GENTNER Technical Support.

Video Common Questions

If you are experiencing any problems in the areas listed below, ask yourself the following questions:

Video

None

- Is your camera turned on?
- Is the lens cap removed?
- Do you have the camera connected correctly?
- Do you have the monitor connected correctly?
- Do you see menus on the monitor?
- Do you have the correct menu settings?

Slow

- Where is the video resolution set - CIF or QCIF?
- Does the video speed up when not on a call?
- Does the video speed up when the ISDN lines are not connected?
- Do you have the correct menu settings?
- Where is your audio rate set - Auto, G.722 or G.728?

Blocks or Pixels

- Do you have the correct menu settings?
- Where is the audio set - Auto, G.722 or G.728?
- Where is the video resolution set - CIF or QCIF?
- Do the blocks clear up when you make a call?

The Remote Control Does Not Work

- Where is the APV200 located? Is it behind something?
- When were the batteries changed last?
- If you point the remote at the camera can you see the infrared flashes?
- Does the remote work with the lights off in the room?
- Reprogram the remote control.
 1. To reprogram the remote, press the **CABLE** button.
 2. Press and hold the **SETUP** button until the LED flashes twice.
 3. Press 4 7 7.

Loopback Calls

- To make a loopback call bring up the Dial menu.
- Under Call type select Loopback BONDING.
- Select Dial and press **ENTER**.

Audio Common Questions

Audio

Hum

- Does it happen on every call?
- Do you hear the hum when you do a loopback call?
- Do you have the correct menu settings?
- What type of power strip is being used?

At the remote location:

- Where is the microphone placed?

You cannot hear the remote location

- Where is the volume set on your APV200 system?
- Are the speakers turned on?
- Are the speakers connected into the correct jack on the APV200?
- Do you have the correct menu settings?
- Where is the audio setting - Auto, G.722 or G.728?
- Can you hear yourself if you do a loopback call?

At the remote location:

- Where is the microphone placed?
- Is the microphone connected correctly?
- What audio setting is being used?

The remote location cannot hear you

- Where is your microphone located?
- Is your microphone connected correctly?
- Can you hear yourself if you do a loopback call?
- Do you have the correct menu settings?
- Where is your audio set - Auto, G.722 or G.728?

At the remote location:

- Where is the volume set?
- Are the speakers turned on?
- Are the speakers connected correctly?
- What audio setting is being used?

Feedback or echo

At the remote location:

- Where is the volume set?
- Where is the microphone placed?

10 Microsoft NetMeeting T.120 Collaboration

APV200 Configuration

Serial Port Configuration

Use the Data port on the expansion card for connection to the PC. This port is labeled Data on the rear panel graphic. You can then use the standard internal Main serial port for camera control.

Configuring Data Serial Port

Press **CONFIG** button on the remote control to display the Configure menu.

Scroll down to Communications and select it.
Scroll down to Data port and select it.

In the **Aux serial port** menu:

- Set **Serial port mode** to Data.
- Set **Serial baud rate** to 57600.
- Set **Flow control** to RTS/CTS.



If your PC only has a 25 pin serial port available, you must obtain a 9-pin-to-25-pin adapter. If you require a longer serial cable, you can use a standard “straight through” 9 wire serial cable with a female DB-9 connector on one end and a male DB-9 on the other to extend the serial cable. Both the adapter and the extension serial cable are readily available at computer and electronics stores such as Best Buy, Computer City, etc.

Audio

At present, the data and audio must fit in the first B channel, so selecting the G.728 audio algorithm, which utilizes more advanced compression, will provide the best data performance.

To set the audio:

Press the CONFIG on the remote control to display the Configure menu. Scroll down to Audio and select it.

Scroll down to Audio quality and set it to G.728.

Reset the APV200

The APV200 must be reset (you must also save the changes manually if you do not have your APV200 set up for automatic saving).

To reset the APV200:

Press the **CONFIG** on the remote control to display the Configure menu.

Scroll down to Control options and select it.

Scroll down to Reset system and press the **ENTER** button on the remote control.

Connecting the APV200 to the PC

The Data serial port is connected to the PC using a serial cable with GENTNER part number 2091. The female DB-9 connector should be plugged into an available 9 pin serial port on the PC, and the DIN connector end of the cable should be plugged into the Data port.

PC Configuration

Windows 95 and Windows NT 4.0 are supported. The APV200 must be installed as a modem device in the operating system configuration. Performing this operation requires a modem profile configuration file, available from GENTNER. To install the modem device:

1. Access the Control Panel folder (Start button, Settings -> Control Panel).
2. Double click on the Modems icon. In the Modems Properties dialog, press the Add... button.
3. If you are using a computer equipped with PCMCIA card slots (most portable computers), you will be asked if the modem is a PCMCIA modem or not. Select Other: this is NOT a PCMCIA modem configuration. Then press the Next> button. If you are using a desktop computer, you will most likely not be asked this question.
4. At the Install New Modem dialog, check “Don’t detect my modem I will select it from a list” and press the Next > button. The PC will be busy for several seconds building a device list.

5. When the device list shows, press the Have Disk... button, and the Install From Disk dialog will appear.
6. The Install From Disk dialog requires that you enter the drive and path to the directory in which the MDM GEN01.INF file is located. If you have copied the file to a diskette, the default of A:\ is appropriate, and you can just press the OK button after inserting the diskette with the file. If you have the file on hard disk, press the Browse button to navigate to the directory in which the file is located.
7. After pressing the OK button in the Install From Disk dialog, the Install New Modem dialog re-activates with a list. One "model" is for use with the APV200. Select the line showing GENTNER APV200, then press the Next> button.
8. Select the PC COM port to which you connected the APV200 serial cable and press the Next button.
9. Windows will finish installing the modem device. Under Windows NT you MUST reset the PC prior to using the modem device with NetMeeting. Under Windows 95 you don't strictly have to reset the PC, but it is a good idea. Experience has shown that some Windows 95 configurations will not operate correctly with the newly installed modem device until after a reset.

No other modem configuration installed in the Control Panel Modems applet should be set to use the same COM port as the APV200 modem device. NetMeeting has problems if more than one modem is set to use the same COM port. If you have other modem devices installed and set to use the same COM port as the APV200 modem device, you must either delete these or change them to use another port.

For portable computer users: Many newer portable computers include Infrared (IR) serial port functionality. Often, a single serial port chip is shared between the DB-9 RS232 connector on the computer and the IR port. Only one of the DB-9 connectors or the IR port can be used at any particular time. A setting in the computer hardware configuration switches between the DB-9 connector and the IR port. You will need to ensure that the APV200 modem configuration is set to use the DB-9 connector, and that the computer serial port is configured to connect the DB-9 connector rather than the IR port. If "IR" or "Infra-Red" is mentioned in the COM port assigned to the APV200 modem configuration, it is highly unlikely that the configuration will work.

NetMeeting Configuration

NetMeeting must be configured to use the APV200 for data transport. In addition, unless both parties will be connected to the Internet while using NetMeeting, disable the ILS server mechanism in NetMeeting. Typically, NetMeeting is used over APV200 connections without the PC's at either end being connected to the Internet.

NetMeeting version 2.0 is recommended. Version 1.0 is not as robust, and version 2.1 does not support direct dial-up modem transport. NetMeeting version 2.1 is not supported.

If you need to obtain NetMeeting 2.0, you can download it from Microsoft for free over the Internet at:
<http://www.microsoft.com/netmeeting>.

The download process includes a drop-down list for selecting the version of NetMeeting you want. Be sure to select version 2.0 for the right operating system in the drop down list (version 2.0 has separate versions for Windows NT and Windows 95). Microsoft does not recommend using NetMeeting 2.0 with Windows 98.

The first time NetMeeting is run after installation it will run a configuration wizard. The wizard is somewhat unfortunate as it has extra steps for Audio tuning which are unnecessary for use with the APV200. The wizard does not set all necessary configuration options. As you go through the wizard, don't worry about what you enter, just do the minimum necessary to get the wizard completed.

When configuring NetMeeting, keep in mind that NetMeeting is primarily oriented toward use over the Internet. Furthermore, NetMeeting was developed to perform low quality videoconferencing using inexpensive PC cameras and soundboards. When using NetMeeting with the APV200, the audio and video will be handled by the APV200, and NetMeeting is used only for data collaboration. In addition, as the APV200 has already been used to dial the call, NetMeeting's ILS locator server protocol is unnecessary. Therefore, the bulk of the configuration choices made with NetMeeting are to turn OFF the audio, video, and ILS support.

After installation and running the wizard, startup NetMeeting, and select the Options... dialog from the Tools menu.

NetMeeting Options - General Tab

Check "Show Microsoft NetMeeting icon on the taskbar."

Check "Automatically accept incoming calls."

Un-check all other boxes in the General group.

The "Network bandwidth" setting is irrelevant because it has to do with audio and video tuning. Set it to "28800bps or faster modem".

The File Transfer folder is the place where NetMeeting will place files that are sent to you in a NetMeeting session. You may wish to change the folder used.

NetMeeting Options - My Information Tab

Entries here are irrelevant other than that the name entered will show up on the other person's NetMeeting main window when a NetMeeting session is entered.

NetMeeting Options - Calling

UN-check ALL check boxes, and set "Automatically add SpeedDials for people I call and people who call me" to "Never".

NetMeeting Options - Video

Un-check "Automatically receive video at the start of each call".

Everything else is irrelevant.

NetMeeting Options - Protocols

UN-check all protocols except Modem. Make sure the Modem protocol is checked, click on it to highlight it, and press the Properties button to bring up the Modem Protocol Properties dialog.

In the Modem Protocol Properties dialog:

Check "Use modem to answer incoming calls."

Set to "Let the phone ring 0 times before picking up" (zero rings).

In the Connection group, set Connect using: to the APV200 modem device.

Press the OK button in the Modem Protocol Properties dialog.

Completing Configuration

Press the OK button in the Options dialog to store the settings, then exit NetMeeting. Not all the configuration options will take until NetMeeting is exited and re-started.

Operating NetMeeting on a Call

The recommended method for using NetMeeting in a conference call is to:

1. Establish the videoconference using the standard APV200 calling procedures (or PC application operations). Do not have NetMeeting running while the call is being established.
2. After the videoconference is established, the persons at both ends should agree to use NetMeeting, and then load NetMeeting at both ends.
3. To start a NetMeeting session after booting NetMeeting at both ends, one side must perform a conference "call". To do this, press the Call button in the NetMeeting toolbar, then enter a single digit phone number (like "1") in the Address box, and select Modem in the Call Using drop-down list. After entering the single digit for a phone number, and selecting Call Using Modem, press the Call button in the dialog box.
4. The NetMeeting session should connect in about 5 seconds. Once the connection is established, the names of both parties will be shown in the main NetMeeting window.



NetMeeting will store the number dialed, along with the Call Using setting. After you make your first call with NetMeeting over an APV200 connection, you can just pick the number entered from the drop-down list of "Addresses", and Call Using Modem will automatically be set.

IMPORTANT: NetMeeting should not be started at either end until after a videoconference has been established. In typical modem use, NetMeeting is used to dial the actual phone number. When a user hangs-up in NetMeeting or exits NetMeeting, the phone connection is broken. GENTNER has implemented a more convenient mode where the existence of the videoconference call is independent of the data connection. With the GENTNER implementation, NetMeeting data connections can be made and disconnected at will over a single video call without any ISDN hang-up or re-dial, but NetMeeting needs to be exited on both ends and re-started prior to establishing a new "conference". IN GENERAL, DON'T BRING UP NetMeeting UNTIL AFTER THE VIDEO CALL IS ESTABLISHED. IF IT WAS UP, OR IF AT ANY TIME NetMeeting REFUSES TO ESTABLISH A DATA CONNECTION, SIMPLY EXIT NetMeeting AT BOTH ENDS AND THEN BRING IT BACK UP.

NetMeeting is not perfect software. On occasion, it may experience a General Protection fault, or other errant behavior. If you experience such a problem, and NetMeeting will not operate further, you may need to reset your PC. In this case, we suggest you smile at the person on the other end of the videoconference connection, and explain that you need to reset your computer and try again. We have found that people who use Windows generally are familiar with the occasional need to reset the PC. Fortunately, the APV200 will maintain the video and audio portions of the conference call while the PC is re-booting.

You can minimize problems with NetMeeting by providing the resources NetMeeting needs. NetMeeting is rather resource intensive, particularly when using it for data collaboration as both NetMeeting and the application(s) being shared all are running at once. A 166 MHz Pentium or faster processor and at least 32MB of RAM are recommended for working in NetMeeting on Windows 95, with 64MB of RAM recommended under Window NT.

11 Factory Default Settings

Menu Item:	Default Setting:
CONFIGURATION MENU	
AUDIO	
Audio quality	Auto
Audio input	Mic
Line out source	Remote
Volume buttons	Speaker/Line out
Input mic level	50%
Input line level	50%
Output mix level	50%
Speaker level	50%
Line out level	50%
Ringer volume	50%
Echo Cancel	
Auto gain control	On
Full Duplex	On
Echo cancellation	On
Output level	50%
Local Operation	Off
VIDEO	
Main input type	Video camera
Aux input type	Video camera
Main input cable	S-Video
Aux input cable	S-Video
Video output cable	S-Video
Video input type	Auto detect
Video output type	Auto match input
Video quality	CIF
Video format	Auto

Menu Item:	Default Setting:
NETWORK	
Network type	N. ISDN 1
Switch vendor	AT & T
Status timeout	60 sec.
Terminate line	No
Emulate switch	No
Line 2 settings	
Line status	Enabled
Line 3 settings	
Line status	Enabled
COMMUNICATIONS	
Companion mode	None
Main serial port	
Serial port mode	Sony
Serial baud rate	9600
Flow control	None
Data port	
Serial port mode	Data
Serial baud rate	57,600
Flow control	RTS/CTS
Aux data port	
Serial port mode	Debug
Serial baud rate	9600
Flow control	None
CONTROL OPTIONS	
Language	English
Standby mode	Local video
Auto answer	On
Allow remote access	Send/Receive
Auto save	Yes
Menu Item:	
Default Setting:	
DIAL MENU	
Manual dial 128K	
Number of channels	2
Call type	64K H.221
Manual dial 384	
Number of channels	6
Call type	64K BONDING

12 About Your APV200

About your APV200

APV 200	
NET WORK	
Network capabilities	BRI ISDN x 3 (Standard) ISDN PRI
I-MUX	Built-in 384 Bonding Inverse Mix (Option)
Algorithms	H.320 ITU-T
VIDEO	
Frame rate	Up to 30 frames per second
Video inputs	
Main camera	Composite/S-Video NTSC or PAL
Aux camera	Composite/S-Video NTSC or PAL
Video outputs	
Main monitor	Composite/S-Video NTSC or PAL
Camera (optional)	
Standard delivery Type	High quality with Pan/Tilt/Zoom 1/3" Hi-res color CCD
Focus length	5.4 to 64.8 mm
Focus	Auto
Zoom ratio	12x
Pan range	100 degrees +/-
Tilt range	25 degrees +/-
Resolution	More than 420 TV lines
Presets	
Local camera	Up to 10 positions
Remote camera	Up to 10 positions

APV 200	
Camera control	
Local camera	H.281 (pan/tilt/zoom)
Remote camera	H.281 (pan/tilt/zoom)
Monitor display	
Display	Conned to any size TV, LCD projector or VCR. Single monitor is standard but dual monitor support is available. With a movable PIP.
AUD IO	
Audio coding	G.711 300Hz – 3.4 kHz G.722 300Hz – 7.0 kHz G.728 300Hz – 3.4 kHz
Audio features	Full duplex acoustic echo cancellation Automatic noise suppression Automatic gain control
Audio inputs	Internal microphone Microphone Auxiliary line level input
Audio outputs	Internal speakers External speakers Auxiliary line level out
DATA	
Stills	H.261 – Annex D for sending and receiving Snapshots
Application sharing	T.120 using Microsoft NetMeeting with a PC
USER INTERFACE	
User interface	A soft touch hand-held infrared remote control is used to move about the user friendly interface
PHYSICAL	
Size	11" tall 12.5" deep 3.5" wide
Weight	10 lbs. (4.5kgs)

APV200

RS-232 data port, and 2 high speed data ports for the "Plus"

Remote diagnostic capability.

Remote software updates.

Speed dial directory.

Audio privacy handset.

Movable PIP

VCR support.

Voice only calls from analog or ISDN telephones.

H.320 and H.243 bridge compatible.

Supports Pan/Tilt/Zoom cameras.

**APV200
Input/Output
Characteristics**

Audio Line Input

Composite (RCA) phono jack. Input is AC coupled into impedance of 40K ohm. Signal level should not exceed 2.5 volts peak to peak to avoid clipping.

Audio Line Output

Composite (RCA) phono jack. Output is DC coupled with a source impedance of 150 ohm. The average level of the output will be at approximately 2.2 volts DC. APV200 will typically source a signal not exceeding 3 volt peak to peak under normal operating conditions.

External Microphone Input

1/8 inch (3.5 millimeter) mono phone jack. Input designed for electret type microphone. Center (tip) of jack is provided a bias from +5 volts through an impedance of 1.5K ohm outer connection of jack is terminated into an impedance of 470 ohm to ground. Note that neither side of the external microphone may be connected to the APV200 ground or chassis. Input is DC coupled to the bias source and termination impedance.

External Speaker Output

3.5 mm mono phone jack. Output is designed to drive an 8-ohm speaker. Both speaker leads MUST be isolated from the APV200 ground and chassis. Connection of a 4-ohm load will cause the speaker amplifier to go into shutdown mode and could damage the amplifier. The output is a DC-coupled balanced complementary driver.

Video Inputs for Both Main and Auxiliary

Standard s-video jacks. Inputs are DC coupled in a 75 ohm load on each line. Each input line has diode clamps to +5 volts and is grounded with a LC noise filter. Input is DC coupled to the input impedance.

Video Output

Standard s-video jack. Source impedance is 75 ohm ground. Each output line also has a LC filter and clamp diodes to +5 volts and ground output is DC coupled.

Product Specifications

Computer Interfaces (optional)

SCSI I and SCSI II

Telephone Interfaces

ISDN BRI

Standards Compatibility

ITU Standard H.320

ITU Standard Audio (G.728, G.722, G.711)

Video Inputs

Two Camera Inputs

Video Outputs (NTSC/PAL)

S-Video

Audio Inputs

Microphone

Audio Outputs

Composite for both local and remote locations

Video Out Options

Display remote, and remote with PIP

Approvals & Certification

CSA certified

FCC Class A

CUL certified

13 ISDN & Cause Codes

General Information about ISDN

Integrated Services Digital Network (ISDN) is the world wide standard for digital communications service. The line quality (e.g. reduced static, transmission errors, etc.) is far superior to POTS (Plain Old Telephone Service).

The most important difference is the bandwidth and the digital nature of ISDN. ISDN is 128Kbps wide versus about 16Kbps for standard telephone lines. This larger "Data pipe" means you can send more information faster. Also, ISDN service is 100% digital. Digital service provides greater reliability, functionality, and matches the emerging computer market.

An ISDN line connects from the customer's premises to the central office at the local telephone company's central office. APV200 supports the most common central office telephone switches used by the telephone companies and the long distance carriers.

The Basic Rate Interface (BRI) line's signal is divided into three "channels" that can be used alone or simultaneously. Each line normally contains two B (bearer) channels (B1 and B2), with a maximum speed of 64Kbps each. There are some companies that restrict the operating capacity to 56Kbps. You will have to obtain your line capacity information when you order your ISDN service.

The "B channels" transmit voice, data and video. The total capacity for both B channels is 128Kbps. A third channel, the "D channel", transmits at 16Kbps and is used for out-of-band signaling. This is basically a method for the ISDN provider to transmit call set-up and tear down instructions or messages so as not to interfere with video, data transmission, etc.

There are two types of ISDN Basic Rate Interface (BRI) service lines:

1. point-to-point, which is a single line with one phone number.
2. multi-point, which is a single line with either 1 or 2 phone numbers. Do not confuse multi-point with conference calling to multiple parties. They are not one in the same. Multi-point lines can have up to four (4) devices on a single ISDN lines. (An example would be a APV200 videoconferencing system, and ISDN phone, an ISDN fax, and an ISDN modem.)

There are three critical layers to the ISDN process.

Layer 1 provides the details that describe the mechanics of the call. It determines how data will be translated into signals and then back again into data. It is the physical medium that carries the data (e.g. wire pairs, satellite, etc.).

Layer 2 provides the structure for data being sent between the user and the network. It is the data link layer.

Layer 3 is considered the network layer and is supported by layers 1 and 2. This layer establishes the connection for the transfer of data from one user to the other.

The telephone company assigns a seven (7) digit local directory number (LDN) for each point to point line. The Telephone Company may assign one, two, or possibly no SPIDs.

If a SPID is required and is not configured properly none of the above will occur.

What Is a SPID?

SPID stands for "Service Profile ID". It is a multi-digit number assigned to each local directory number (LDN). When the Telephone Company installs your ISDN line, they may assign a SPID number for the line. This is similar to a directory number. It may be a full ten-digit number, or a number with a suffix and/or a prefix of 000, 1111 or any combination of 0 and 1. It is really no more than an access code or a password to your ISDN line. If the information isn't entered correctly in Setup, you can not access the ISDN lines and utilize the APV200. It is really just as simple and complex as that.

SPIDs are a phenomena associated with domestic (U.S.) ISDN usage more so than international. The usage of SPIDs is not consistent throughout the world. Our experience has been it is primarily in use in North America. Each ISDN provider determines the SPID usage.

A SPID must be entered in the APV200 Setup if you have a multi-point ISDN line. There is a possibility you will have more than one SPID number. At the very least, you will usually have one SPID number for a multi-point line.

This information is only available from your ISDN provider. It is extremely important that you obtain the following information prior to attempting APV200 setup. You will not be able to utilize your ISDN line with the APV200 unit without this information.

ISDN Network Type

ISDN Switch Type

ISDN telephone number(s)

ISDN SPID (Service Profile I.D.) number(s) assigned to your ISDN line, if applicable. The SPID number may have prefixes and suffixes. Any line prefix, (if applicable).

If the line is Point-to-Point or Multi-point

If the line is 56K or Clear 64K

Ordering ISDN Service

ISDN is a complex service with multiple options. These suggestions are provided to guide you and your local telephone company representative in specifying and obtaining your ISDN service requirements.

An ISDN line connects from a Local Telephone Company's central office (CO) to a customer's premises.

Physical Interface Requirements

ISDN Basic Rate Interface (BRI) line

If your ISDN provider goes by the National ISDN Ordering Codes you need to order ISDN Ordering Code M.

Code M reads: Includes alternate voice/circuit - switch data on two B-channels. Voice and data features include Calling Number Identification and redirecting number delivery.

If your ISDN provider does not go by the National ISDN Ordering Codes you can provide them with the information on the following pages.

For service offered as AT&T 5ESS National ISDN-1, request a line with the following features:

National ISDN-1 (NI-1)	Switch Type- AT & T 5ESS
Line Code 2B1Q 2B + D Line	Software Release 5E8 or Greater
Set Terminal Type to "A"	Functional Terminal Adapter
B1 to CSV/D	B2 to CSV/D
D - Signal Only	No Packet Mode on D
Dynamic TEIs	CA PREF to I
Set CSD to 2	Set CSD Channel to Any
Set CSV to 1	Set CSV Channel to Any
Set CSVA CO to U	CSV Limit to 1
Set CSDA CO to U	CSD Limit to 2
Set Display to YES	MAX B Channel set to 2
MTERM set to 2	ACT USER set to YES
Set Directory Numbers	Set SPIDs

The following service is also a possible option with the AT&T 5ESS switch:

Custom (Not NI-1)	Switch Type- AT & T 5ESS
Line Code 2B 1Q 2B + D Line	
Set Terminal Type to "A"	Functional Terminal Adapter
Dynamic TE Is	
Set CSD LIMIT to 2	D Channel Signaling (No Packet data)
Set Display to YES	MAX B Channel set to 2
MTERM set to 2	ACT USER set to YES
Set B 1 to CSV /D	Set B2 to CSV /D
Set CSD to Channel 2	Set CSD Channel to Any
Set CSV to Channel 1	Set CSV Channel to Any
Set D Channel Signal Only	No PMD on D
Set Directory Numbers	Set SPIDs

The service offered as NI-1, DMS 100; request the line be provisioned as follows:

National ISDN- 1	Northern Telecom DMS 100
Line Code 2B 1Q 2B + D Line	
Functional Terminal Adapter to Issue 2	Set Packet Mode Data to NO (NOPMD)
Dynamic TE Is	B 1 set to CSV /D & B2 set to CSV /D
D Channel - Signal Only	
Set EKTS to NO	Set MAXKEYS to 10
Set Ring to Yes	
Set TWO Directory Numbers	Set TWO SPIDs

There is a possibility of the following Northern Telecom DMS 100 Service being offered:

Custom	Northern Telecom DMS 100
Line Code 2B1Q 2B + D Line	
Functional Terminal Adapter to Issue 2	Set Packet Mode Data to NO (NOPMD)
Dynamic TEIs	B1 set to CSV/D & B2 set to CSV/D
D Channel - Signal Only	
Set EKTS to NO	Set MAXKEYS to 10
Set Ring to Yes	Set EKTS to No
Set TWO Directory Numbers	Set TWO SPIDs

Another possible switch type that may be offered is the Siemens 5W5D. The following are the line options for this type of service:

National ISDN 1 (NI-1)	Siemens EWSD
Line Code 2B1Q 2B + D Line	
Set Bearer Capabilities to C56, C64, SP, AU 3	LNA TT to Layer 2 Hold
TERMLIN to 8	Set Call Type to Circuit Mode Data
Set BCHEQN to 2 (2 B Channels)	B1 to CSV/D & B2 to CSV/D
Set D Channel to Signal	

Identify your long distance Primary Interchange Carrier (PIC) of choice and request circuit-switched 64Kbps Clear Channel access.

Cause Codes

Cause codes are explanations for the inability of a call to be processed. The following are codes seen with the use of an APV200.

A suspended call exists, but this call identity does not

This cause indicates that a call resume has been attempted with a call identity, which differs from that in use for any presently suspended call(s).

Access information discarded

This cause indicates that the network could not deliver access information to the remote user as requested; e.g. user-to-user information, low layer compatibility, high layer compatibility, or sub-address as indicated in the diagnostic. It is noted that the particular type of access information discarded is optionally included in the diagnostic.

Bearer capability not authorized

This cause indicates that the user has requested bearer capability, which is implemented by the equipment that generated this cause, but the user is not authorized to use.

Bearer capability not implemented

This cause indicates that the equipment sending this cause does not support the bearer capability requested.

Bearer capability not presently available

This cause indicates that the user has requested a bearer capability, which is implemented by the equipment that generated this cause but which is not available at this time.

Call awarded and being delivered

This cause indicates that the user has been awarded the incoming call and that the call is being connected to a channel already established to that user for similar calls (e.g. packed mode calls).

Call having the requested call identity has been cleared

This cause indicates that the network has received a call resume request. The call resume request contained a Call identity information element, which once indicated a suspended call; however, that suspended call was cleared while suspended, either by network time-out or by remote user.

Call identity in use

This cause indicates that the network has received a call suspended request. The call suspended request contained a call identity (including the null call identity) which is already in use for a suspended call within the domain of interfaces over which the call might be resumed.

Call rejected

This cause indicates that the equipment sending this cause does not wish to accept this call.

Channel type not implemented

This cause indicates that the equipment sending this cause does not support the channel type requested.

Channel unacceptable

This cause indicates the channel most recently identified is not acceptable to the sending entity for use in this call.

Destination out of order

This cause indicates that the destination indicated by the user cannot be reached because the interface to the destination is not functioning correctly. The term "not functioning correctly" indicates that a signaling message was unable to be delivered to the remote user (e.g. a physical layer or data link layer failure at the remote user, user equipment off-line, etc.).

Facility rejected

This cause indicates the network can't provide a facility requested by the user. (Try 1010288 or 9 before dialing the number)

Identified channel does not exist

This cause indicates that the equipment sending this cause has received a request to use a channel not activated on the interface for a call. For example, if a user has subscribed to those channels on a primary rate interface numbered from 1 to 12 and the user equipment or the network attempts to use channels 13 through 23, this cause is generated.

Incoming Calls Barred

This cause indicates that the destination will not accept the call setup.

Incompatible destination

This cause indicates that the equipment sending this cause has received a request to establish a call which has low layer compatibility, high layer compatibility, or other compatibility attributes (e.g. data rate) which cannot be accommodated.

Information element non-existent or not implemented

This cause indicates that the equipment sending this cause has received a message, which includes information elements not recognized because the information element identifier is not defined or it is defined but not implemented by the equipment sending the cause. However, the information element is not required to be present in the message in order for the equipment sending the cause to process the message.

Interworking, unspecified

This cause indicates that there has been interworking with a network which does not provide cause for actions it takes, thus, the precise cause for a message which is being sent cannot be ascertained.

Invalid call reference value

This cause indicates that the equipment sending this cause has received a message with a call reference, which is not currently in use on the user-network interface.

Invalid information element contents

This cause indicates that the equipment sending this cause has received an information element which it has implemented; however, one or more of the fields in the information element are coded in such a way which has not been implemented by the equipment sending this cause.

Invalid message, unspecified

This cause is used to report an invalid message event only when no other cause in the invalid message class applies.

Invalid number format (address incomplete)

This cause indicates that the called user cannot be reached because the called party number is not a valid format or is not complete.

Mandatory information element is missing

This cause indicates that the equipment sending this cause has received a message, which is missing an information element, which must be present in the message, before that message can be processed.

Message not compatible with call state

This cause indicates that a message has been received which is incompatible with the call state.

Message not compatible with call state or message type non-existent or not implemented

This cause indicates that the equipment sending this cause has received a message such that the procedures do not indicate that this is a permissible message to receive while in the call state, or a STATUS message was received indicating an incompatible call state.

Message type non-existent or not implemented

This cause indicates that the equipment sending this cause has received a message with a message type it does not recognize either because this is a message not defined or defined but not implemented by the equipment sending this cause.

Network out of order

This cause indicates that the network is not functioning correctly and that the condition is likely to last a relatively long time. Immediately re-attempting the call is not likely to be successful.

Network temporarily out of order

This cause indicates the network will not be out of order for a long period of time, the user may wish to try another attempt immediately.

No answer from user (User alerted)

This cause is used when a user has provided an alerting indication but has not provided a connect indication within a prescribed period of time.

No call suspended

This cause indicates that the network has received a call resume request. The call resume request contained a Call identity information element which presently does not indicate any suspended call within the domain of interfaces over which calls may be resumed.

No circuit/channel available

This cause indicates that there is no appropriate circuit/channel presently available to handle the call.

No route to destination

This cause indicates that the called user cannot be reached because the network through which the call has been routed does not serve the destination desired.

No route to specified transit network

This cause indicates that the equipment sending this cause has received a request to route the call through a particular transit network, which it does not recognize. The equipment sending this cause does not recognize the transit network either because the transit network does not exist or because that particular network, while it does not exist, does not serve the equipment, which is sending this cause.

No User responding

This cause is used when a user does not respond to a call establishment message with either an alerting or connect indication within the prescribed period of time allocated.

Non-selected user clearing

This cause indicates that the user has not been awarded the incoming call.

Normal call clearing

This cause indicates that the call is being cleared because one of the users involved in the call has requested that the call be cleared. Under normal situations the source of this cause is not the network.

Normal unspecified

This cause is used to report a normal event only when no other cause in the normal class applies.

Number changed

This cause is returned to a calling user when the party number indicated by the calling user is no longer assigned. The new called party number may optionally be included in the diagnostic field. If a network does not support this capability, cause No. 1 unassigned number shall be sent.

Only restricted digital information bearer capability is available

This cause indicates that the equipment has requested an unrestricted bearer service but that the equipment sending this cause only supports the restricted version of the requested bearer capability.

Protocol error, unspecified

This cause is used to report a protocol error event only when no other cause in the protocol error class applies.

Quality of service not available

This cause is used to report that the requested Quality of Service, as defined in Recommendation X.213 cannot be provided (e.g. throughput or transit delay not supported).

Recovery on timer expire

This cause indicates that a procedure has been initiated by the expiration of a timer in association with Q.931 error handling procedures.

Request facility not implemented

This cause indicates that the equipment sending this cause does not support the requested supplementary service.

Requested channel/circuit not available

This cause is returned when the circuit or channel indicated by the requesting entity cannot be provided by the other side of the interface.

Requested facility not subscribed

This cause indicates that the requested supplementary service could not be provided by the network because the user has not completed the necessary administrative arrangements with its supporting networks.

Resource unavailable, unspecified

This cause is used to report a resource unavailable event only when no other cause applies.

Response to STATUS INQUIRY

This cause is included in the STATUS message when the reason for generating the STATUS message was the prior receipt of a STATUS INQUIRY message.

Service or option not available, unspecified

This cause is used to report a service or option not available when no other cause applies.

Service or option not implemented, unspecified

This cause is used to report a service or option not implemented when no other cause applies.

Switching equipment congested

This cause indicates that the switching equipment generating this cause is experiencing a period of high traffic.

Unallocated (Unassigned) Number

This cause indicates that the destination requested by the calling user couldn't be reached because, although the number is in a valid format, it is not currently assigned.

User busy

This cause is used when the called user has indicated the inability to accept another call (busy). It is noted that the user equipment is compatible with the call.

14 Warranty & Software License Agreement

Warranty

Gentner Communications Corporation (Manufacturer) warrants that this product is free of defects in both materials and workmanship. Should any part of this equipment be defective, the Manufacturer agrees, at its option, to:

A. Repair or replace any defective part free of charge (except transportation charges) for a period of one year from the date of the original purchase, provided the owner returns the equipment to the Manufacturer at the address set forth below. No charge will be made for parts or labor during this period; or,

B. Furnish replacement for any defective parts in the equipment for a period of one year from the date of original purchase. Replacement parts shall be furnished without charge, except labor and transportation.

This Warranty excludes assembled products not manufactured by the Manufacturer whether or not they are incorporated in a Manufacturer product or sold under a Manufacturer part or model number.

THIS WARRANTY IS VOID IF:

A. The equipment has been damaged by negligence, accident, act of God, or mishandling, or has not been operated in accordance with the procedures described in the operating and technical instructions; or,

B. The equipment has been altered or repaired by someone other than the Manufacturer or an authorized service representative of the Manufacturer; or,

C. Adaptations or accessories other than those manufactured or provided by the Manufacturer have been made or attached to the equipment which, in the determination of the Manufacturer, shall have affected the performance, safety or reliability of the equipment; or,

D. The equipment's original serial number has been modified or removed.

NO OTHER WARRANTY, EXPRESS OR IMPLIED, INCLUDING WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR USE, APPLIES TO THE EQUIPMENT, nor is any person or company authorized to assume any warranty for the Manufacturer or any other liability in connection with the sale of the Manufacturer's products.

Manufacturer does not assume any responsibility for consequential damages, expenses, or loss of revenue or property, inconvenience, or interruption in operation experienced by the customer due to a malfunction in the purchased equipment. No warranty service performed on any product shall extend the applicable warranty period.

In case of unsatisfactory operation, the purchaser shall promptly notify the Manufacturer at the address set forth below in writing, giving full particulars as to the defects or unsatisfactory operation. Upon receipt of such notice, the Manufacturer will give instructions respecting the shipment of the equipment, or such other matters as it elects to honor this warranty as above provided. This warranty does not cover damage to the equipment during shipping and the Manufacturer assumes no responsibility for such damage. All shipping costs shall be paid by the customer.

This warranty extends only to the original purchaser and is not assignable or transferable.

Gentner Communications Corporation
1825 Research Way, Salt Lake City, Utah 84119

Software License Agreement

Grant of License

GENTNER Communications, Inc. hereby grants you a non-exclusive and non-transferable license to use the program. This license allows the use of the Software on a network server.

Term

This Agreement is effective as of the date of receipt by the Customer of the program and shall remain in effect as long as Customer has possession of the program, unless sooner terminated by GENTNER Communications, Inc. or the Customer, as provided for in this agreement.

Assignment

Neither this Agreement, nor any Software to which it applies, may be assigned, sub-licensed, or otherwise transferred by Customer without the written permission of GENTNER Communications, Inc.

Copies/Modifications

Customer agrees not to copy or modify the Software, in whole or in part. Any documentation, manuals or accompanying literature may also not be copied or modified. Customer may keep one full copy for the express purpose of system backup/restoration, or transfer the Software to a hard disk consistent with the terms and conditions of this Agreement and keep the original copy for backup.

Protection and Security

GENTNER Communications, Inc. and Customer agree that the Software is proprietary information to GENTNER Communications, Inc. and disclosure to, or use by, third parties will be damaging to GENTNER Communications, Inc. Customer agrees to hold all of such proprietary information in trust and confidence for GENTNER Communications, Inc. and agrees not to make use thereof other than in accordance with this Agreement. Customer agrees:

1. not to provide, or otherwise make available any Software including, but not limited to, flow charts, logic diagrams, program codes in any form and operating manuals to any person other than Customer or Customer's employees;
2. not to modify Software except as directed by GENTNER Communications, Inc. to correct a defect; and
3. it will take appropriate action by instruction, agreement, or otherwise with its employees, or other persons permitted access to the program to satisfy its obligations under this Agreement with respect to use, copying, modification, protection, and security of the program.

Taxes

You must pay all property taxes that may now or hereafter be imposed or assessed with respect to the possession of this Software or this license. You shall file all reports required in connection with such taxes.

Material Default

Customer's breach of any of the provision of this section of the Agreement constitutes a material default under this Agreement.

Export

Regardless of any disclosure by Customer to GENTNER Communications, Inc. as to the ultimate destination of this Software, the Customer shall not export or re-export, to anyone outside of the United States of America, unless they have obtained the proper license(s) from the United States Department of Commerce, or any other agency or department of the United States Government as indicated and required.

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GENTNER Communications, Inc.
1825 West Research Way
Salt Lake City, Utah 84119

Enforceability

If any provisions of this Agreement shall be held to be invalid, illegal, or unenforceable, the validity, legality, and enforceability of the remaining provisions shall in no way be affected or impaired.

Governing Law

This Agreement and performance thereunder shall be governed and constructed in accordance with the laws of the State of Minnesota.

No Waiver

The failure of either party of this Agreement to object to, or to take affirmative action with respect to any conduct of the other which is in violation of the terms of this Agreement shall not be construed as a waiver of the violation or breach, of any further violation, breach, or wrongful conduct.

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Note: 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. These 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 manual, 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 own expense.

! NOTE TO USERS

There are no user-serviceable parts in the APV200 unit. Please do not remove the cover. Attempting to disassemble the APV200 unit may damage the unit and void your warranty.

Important Safety Instructions

Read and understand all instructions in this manual.

Follow all warnings and instructions marked on the product. Never spill liquid on the product or drop objects into the ventilation slots and openings. Doing so may result in serious damage to the components. Repairs or service must be performed by a qualified repairperson only. The product is provided with a three-wire grounding type plug. This is a safety feature. DO NOT defeat the safety purpose of the grounding type plug. DO NOT staple or otherwise attach the AC power supply cord to building surfaces. DO NOT use the product near water or in a wet or damp place (such as a wet basement).

! CAUTION

DO NOT block or cover the ventilation slots and openings. They prevent the product from overheating. DO NOT place the product in a separate enclosure unless proper ventilation is provided.

Only use the supplied power supply. Failure to do so will void the warranty and may cause severe damage to the APV200.