APV200-IP

Audio Perfect Video 200- IP
V.35 Manual

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Perfect Communication through Technology, Service and Education.

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Before You Begin

Visually inspect the equipment that you have received for any damages. If any damage is noticed, call Gentner's Technical Support Department at (800)283-5936 to request a Return Material Authorization (RMA) number. All returns must be packed in their original shipping containers and must be properly marked and identified with an RMA number.

You will need to obtain a power cord from your local electrical parts supplier if you do not live in the United States, United Kingdom, Switzerland or Europe (CE).
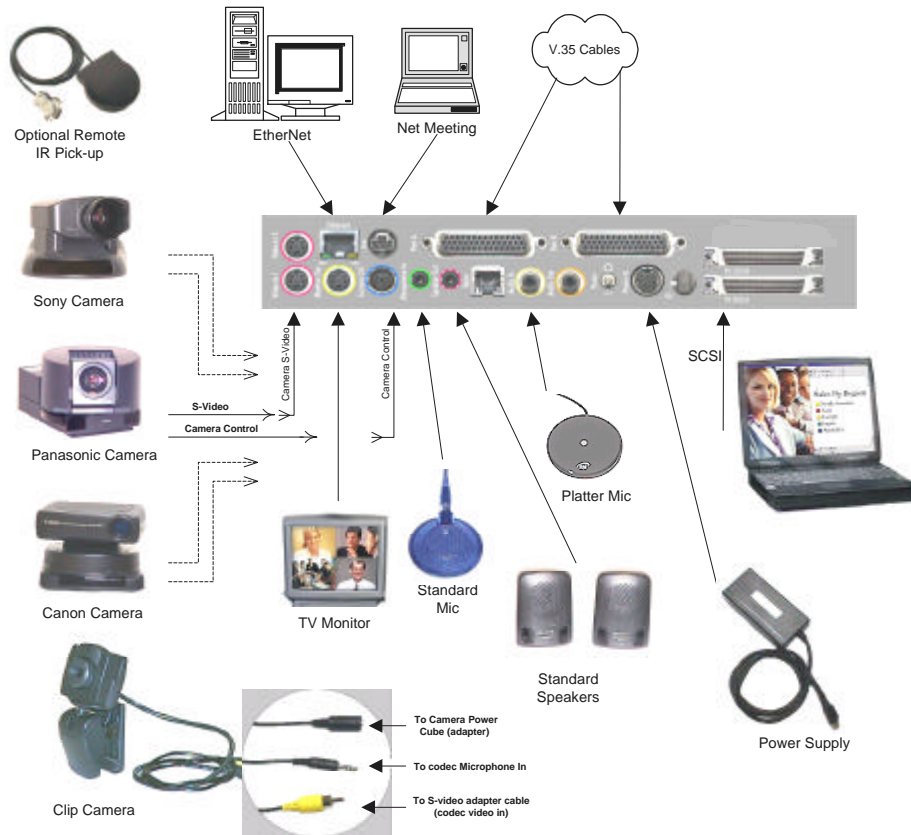
Where Do I Start?

(The do it yourself basics)

Carefully review this Users Guide before you begin your installation. Exercise every safety precaution in your installation to protect yourself and your investment.

Make sure you have a live network connection and the appropriate network configuration information. Refer to the connection guide to assemble your hardware.

Familiarize yourself with the hand held Remote Control before you power on your APV200IP and start your configuration setup.

Connectivity

Optional Remote IR Pick-up

EtherNet

Net Meeting

V.35 Cables

Sony Camera

Camera S-Video

Camera Control

Panasonic Camera

S-Video

Camera Control

Canon Camera

TV Monitor

Standard Mic

Platter Mic

SCSI

Standard Speakers

Power Supply

Clip Camera

To Camera Power Cube (adapter)

To codec Microphone In

To S-video adapter cable (codec video in)

Turn on the camera.
Turn on the monitor.
Turn on the APV200IP.

Remote Control

DIAL

Manual dial, redial, speed dial, or use a video phonebook to make calls. Allows you to get information about the remote control, Gentner, or the APV200IP.

STAT

Shows all important call information such as transfer, audio and video rates.

END

Hangs up the current call.

FECC

Far End Camera Control
Pressing this allows you to control the remote camera, pan, tilt, zoom and presets.

PIP

Allows you to position the picture-in-picture around the screen.

VOLUME

Adjusts the speaker or line out level.

A/B

Allows you to switch between the two camera inputs, or up to 16 remote inputs.

MUTE

Mutes the microphone or line input.

UP, DOWN, LEFT, RIGHT

Manipulates the menu items. Pan and tilt functions for camera when no menu is showing.

ENTER

Used in menu functions that say "press ENTER." Zooms camera in when no menu is showing.

VIDEO TRIGGER

This will show video at any time when a menu is showing.

PREV (ZOOM-)

Goes to the previous menu. Zooms camera out when no menu is showing.

CONFIG

Allows you to configure your system setup options.

Configuration

There are 3 different network configuration options available on the V.35 APV200IP. The 3 options are Leased line (T1, E1, PRI), RS-366 dialing (for dialing video numbers), and DTR dialing (for numbers stored in the IMUX). To assist in the proper setup and configuration, a brief description of each menu option specific toV.35 configuration is shown in this document. Please refer to your Gentner APV200IP manual for all other menus and their respective descriptions.

The Setup Genie

After initial power on and boot up, you will enter the Setup Genie. Follow all instructions carefully.

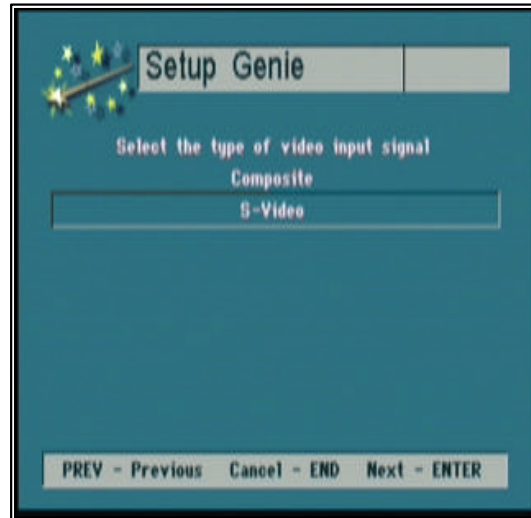You can make your desired selection by using the < > buttons on the remote control.
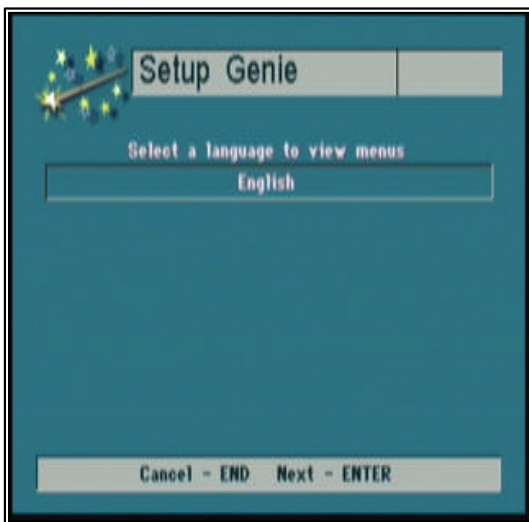
Step 1. Select your language of choice. Press **Enter** to continue. English is the only option at this time.

Step 2. To begin follow the Setup Genie's instructions carefully. Press **Enter** to continue.
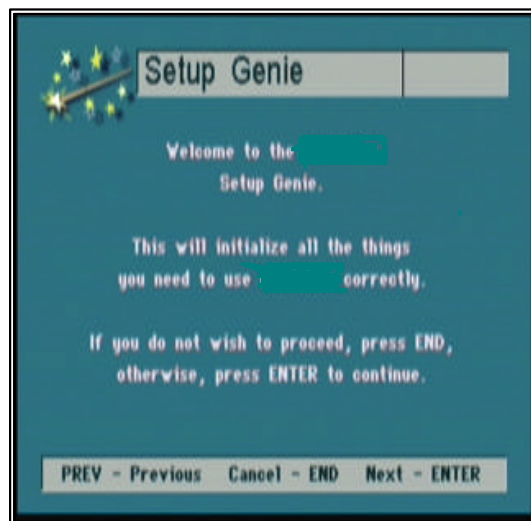
Step 3. Using the up/down (⌃ ⌄) arrow buttons select the type of video signal your primary input device (camera, VCR) will provide. Press **Enter** to continue.

Setup Genie

Select the type of video input signal
Composite
S-Video

PREV - Previous   Cancel - END   Next - ENTER

Setup Genie

Select the type of video output signal
Composite
S-Video

PREV - Previous   Cancel - END   Next - ENTER

Step 4. Using the up/down (⌃ ⌄) arrow buttons select the type of video signal your display device (TV, monitor) requires. Press **Enter** to continue.

Step 5. Using the up/down (▲ ▼) arrow buttons select your V.35 dial type. Press **Enter** to continue.

Selecting the Leased line option

This is a direct connection from one location to another location, there are no dialing capabilities. The V.35 APV200IP can only connect to the location at the other end of the leased telephone line or private network. Select this option when the V.35 APV200IP is attached to a CSU/DSU or DCE device. Only Port A on the V.35 APV200IP is connected. The RS366 interface is not used for this application.

Selecting the RS-366 option

This allows you to dial to any location using an external DCE network device or IMUX. The external DCE device must have an RS-366 connection. The dial digits are sent to the DCE via the RS366 interface. When dialing an H.221 call Port A and B are both used, where bonded calls use only Port A. Select this option when attaching to an IMUX. The IMUX must be configured for RS366 dialing.

Note: The set up and configuration of the IMUX is the responsibility of the systems integrator or the end user.

Selecting the DTR option

Select this option to instruct the APV200IP to raise the Data Terminal Ready (DTR) interface signal to place a call to a telephone number stored in the IMUX. The IMUX must be configured for DTR dialing and have the telephone number stored in its call directory.   In this application, the APV200IP does not send dial digits to the IMUX.
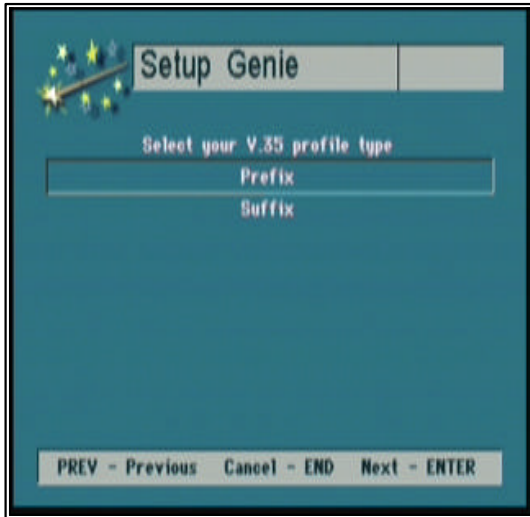
Step 6. Using the up/down (▲ ▼) arrow buttons select your profile type. Press **Enter** to continue.

Selecting the correct Profile type

Consult your DCE equipment manufacturer's documentation to determine if a prefix or suffix is required in the call profile to activate the RS-366 dialing procedure.
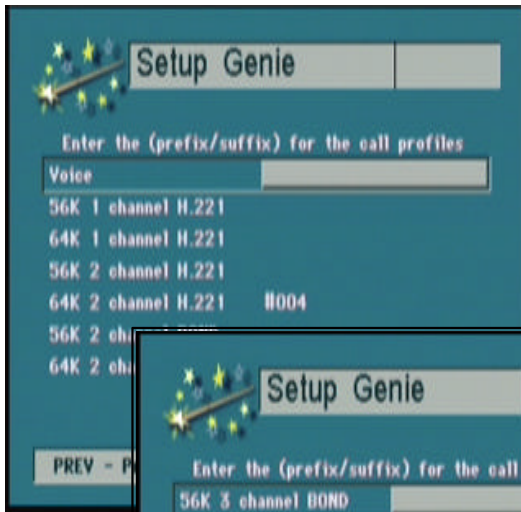

Step 7. Enter your call profile information for the type of calls that you make. Use the left (◄) arrow button to backspace and the up/down (▲ ▼) arrow buttons to advance to the next line. Press **Enter** to continue.

Selecting the correct Call Profiles

Consult your DCE equipment manufacturer's documentation to determine if a prefix or suffix is required in the call profile to activate the RS-366 dialing procedure.

Example:
In the Call profiles menu, select *64K 2 channel BOND*, and enter #012. In the
Dial menu, when you select the call type of *2Ch 64K (128),* the #012 will automatically be added to the dialing string.
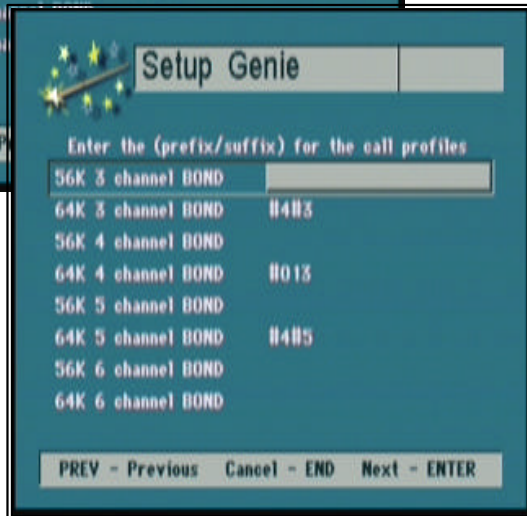
IP Information is for Ethernet equipped units only. Consult your IS manager for the correct settings.

Step 8. IP address is for Ethernet equipped units only, consult your IS manager for correct selection. Using the up/down (▲ ▼) arrow buttons select your IP address method. Press **Enter** to continue.
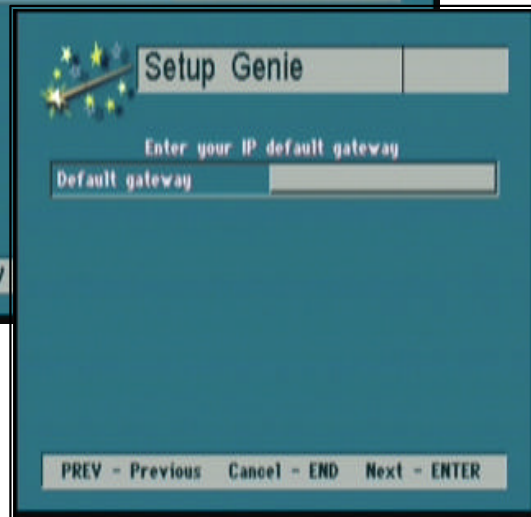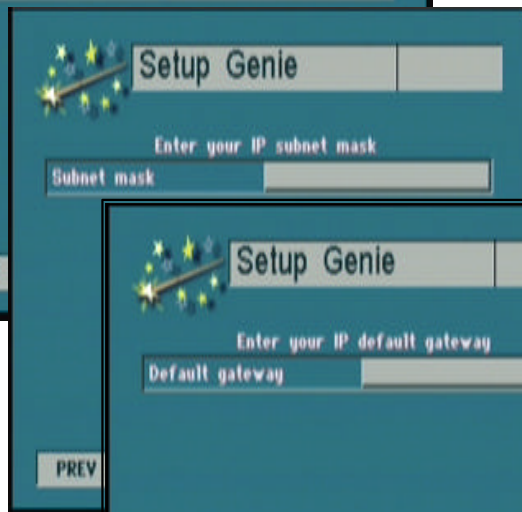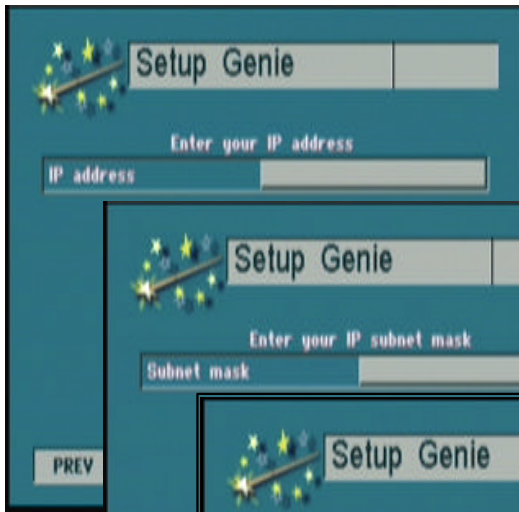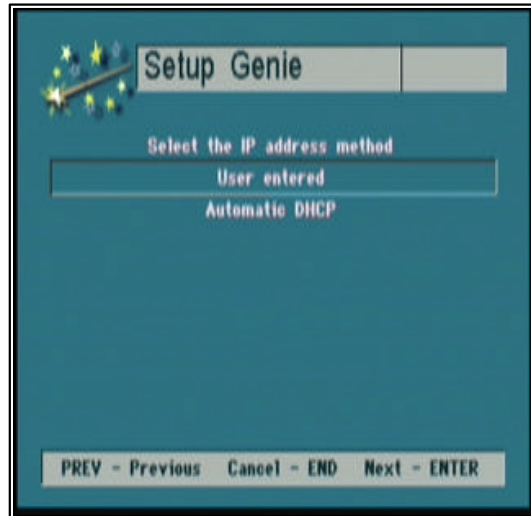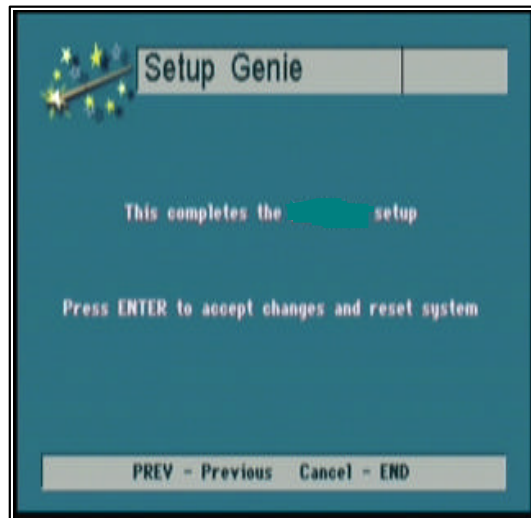
Step 9. Enter IP address. Use '*' to enter the decimal point. Press **Enter** to continue.

Repeat for IP Subnet mask and IP Default gateway entries.

Step 10. Setup is now complete. You are ready to proceed with your first video call. Press **Enter** to continue.

Note: After pressing Enter your system will automatically reset.

Optional Remote IR Pick-up

The Optional Remote IR Pick-Up connects to the REM IR jack on the back panel of the APV200IP. The Remote IR allows you to place the APV200IP out of site (assuming that you have a clear view from the remote control to the Remote IR).

Local and remote camera control

Below are instructions to set up local camera control. If you call and connect to another video conferencing system you may be able to control their camera as well.

To control the local camera (your camera), press:

    pans up
    pans down
    pans left
    pans right
PREV **(– ZOOM)** zooms out
ENTER **(+ ZOOM)** zooms in

To control the remote camera, press *FECC* on the remote control. A far camera icon will appear on your screen. Use the same up, down, left and right buttons to pan and the *PREV* and *ENTER* to zoom.

Note: If you are unable to control a remote camera it is possible that the person you are calling does not allow a remote caller to control their camera.

Camera presets

Presets can be set for both the local or remote cameras. The local presets will be saved if you lose power to the APV200IP. The remote presets will be lost when the call is terminated.
To store a local preset, position the camera on an image you would like to save. Using the number pad, press and hold the number you want to store. The status bar will appear with a "Preset stored" message.

To control the remote camera press FECC on the remote control. A far camera icon will appear on your screen. Position the camera on an image you would like to save. Using the number pad, press and hold the number you want to store. The status bar will appear with a "Preset stored" message. Remote presets are lost when the call is terminated.

V.35

The V.35 APV200IP has been introduced to accommodate Non-ISDN BRI applications through the use of external network equipment. This APV200IP has two high-density, HD-44 high-speed serial data ports, which can be configured to operate as a V.35, RS449, or RS530 interface. In addition, the V.35 APV200IP has two integrated RS366 dialing interfaces.

The V.35 APV200IP is a Data Terminal Equipment (DTE) device and connects to a wide variety of external V.35/RS449/RS530 Data Communication Equipment (DCE) devices using RSI cable sets. The V.35 APV200IP does not have a built in IMUX or telephone network interface.

The V.35 APV200IP supports operation on leased (dedicated) digital telephone lines, dial-up (PSTN) digital lines, or over a satellite link. An encryption device may be installed between the APV200IP V.35 port and the DCE device to provide secure video conferencing. The V.35 APV200IP operates at bit rates of 56Kbps to 384Kbps. The bit rate must be a multiple of 56Kbps or 64Kbps.

Gentner supplies cable sets for attachment to various DCE devices. The interface cable set must be ordered separately with each V.35 APV200IP. Each set consists of two cables. Use the following chart to order the correct cable set:

Cable	Part number	DTE	DCE
RS530/RS366	830-000-029	DSUB 44M	(2) DSUB 25M
RS449/RS366 (Y-cable)	830-000-027	DSUB 44M	RS366 (1) DSUB 25M RS449 (1) DSUB 37M
V.35/RS366 (Y-cable for use with ADTRAN CSU/DSU)	830-000-028	DSUB 44M	RS366 (1) DSUB 25M V.35 (1) Winchester 34M
Direct connect to an Ascend IMUX	830-000-026	DSUB 44M	(1) DSUB 44M

The V.35 APV200IP has two HD-44 data/dialing ports, *Port A* and *Port B* (see below). *Port A* is the primary serial data port and is used for all incoming and outgoing calls. *Port B* is the secondary serial data port and is used for the second channel in H.221 calls.

The DCE device will direct incoming H.221 calls to *Port A* and/or *Port B*. The DCE device will direct incoming bonded calls to Port A.

A typical DCE device will have a MASTER or Primary port, which connects to the APV200IP *Port A*. Some DCE devices will have a SLAVE or Secondary port, which connects to theAPV200IP **Port B**. The actual DCE device port names vary with the manufacturer. An external IMUX is considered a DCE device.
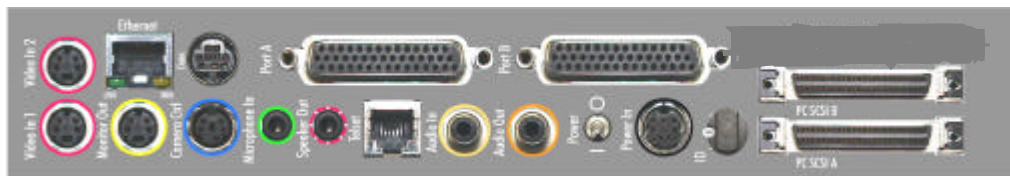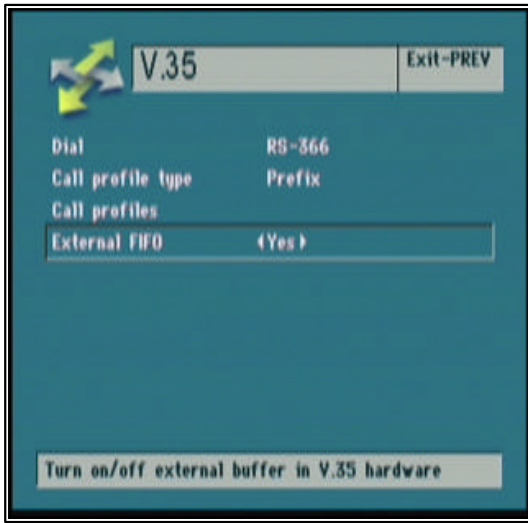
Additional Configurations

You may find it necessary to make additional setting changes in the V.35 configuration. Press the **CONFIG** button and select **V.35 setup.**
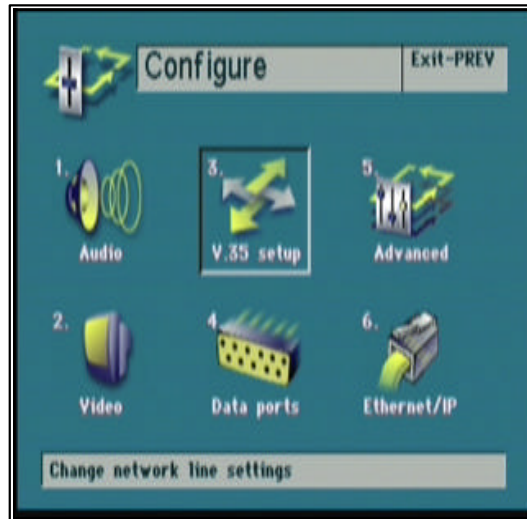
Selecting the External FIFO option

This option must always be set to *Yes.*

Selecting the Auto dial feature
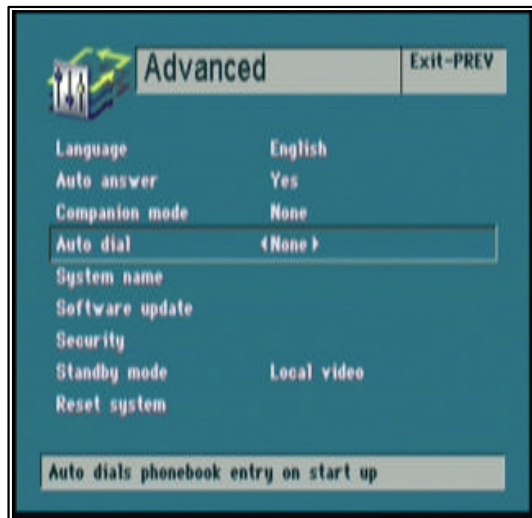
Select *None* to Disable the Auto dial feature.

To Enable the Auto dial feature select *1, 2,* or *3* to instruct the APV200IP to automatically dial the number in the phonebook position 1, 2, or 3.

Note: Any menu setting changes made will not be saved while a call is active, the call must be terminated so changes can be saved.

Performing an Interface Loop back

This will verify the APV200IP's functional operation.

Note: Mute the microphone or have the speakers very low or feedback will occur.

Step 1
Press the *DIAL* button on the remote control
and select the Manual dial option from the
Manual dial menu.

Step 2
Select the appropriate **Call type**, for example
6Ch 64K (384). APV200IP will loop
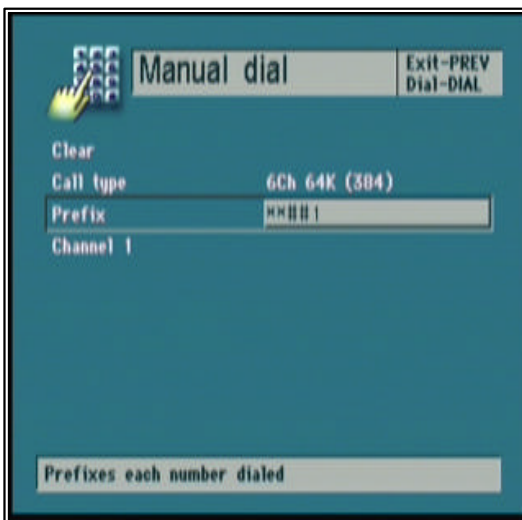back the number of channels requested.

Step 3
In the **Prefix** enter the string ***##1*.

Step 4
Press the *DIAL* button to dial the Loop back
entry.

Step 5
The Loop back call will stay connected until terminated by pressing the *HANG UP* button on the
remote control.

Typical applications

Leased Line Manual Dial/Manual Answer

Setup

1. Attach the proper Gentner interface cable to Port A on the back of the APV200IP.
2. Press the *CONFIG* button on the IR controller to enter the **Configure menu**.
3. Select **V.35 setup** by pressing *3*.
4. Scroll through the **Dial** options and select *Leased line.* Press *PREV* to exit this menu.
5. Select **Advanced** by pressing 5.
6. Scroll down to **Auto Answer** and the select *NO* option.
7. Scroll down to **Auto Dial** and the select *None* option. Press *PREV* to exit this menu.
8. Select **Advanced** again by pressing 5.
9. Scroll down to **Reset system** and press the *ENTER.* Your system will now automatically reset.

Establishing a connection:

1. Press the *DIAL* button on the IR Controller.
2. You will then be prompted to press *DIAL* again.
3. Wait until the call is either automatically or manually answered at the remote site.

Answering a call in manual mode:

Upon hearing the ring and seeing the prompt press *ENTER* to answer the call.

Terminating a call:

To disconnect the call, press the *HANGUP* button.

Leased Line Auto Dial/Auto Answer

Setup

1. Attach the proper Gentner interface cable to Port A on the back of the APV200IP.
2. Press the *CONFIG* button on the IR controller to enter the **Configure** menu.
3. Select **V.35 setup** by pressing *3*.
4. Scroll through the **Dial** options and select *Leased line.* Press *PREV* to exit this menu.
5. Select **Advanced** by pressing 5.
6. Scroll down to **Auto Answer** and the select *Yes* option.
7. Scroll down to **Auto Dial** and the select 1 option. Press *PREV* to exit this menu.
8. Select **Advanced** again by pressing 5.
9. Scroll down to **Reset system** and press the *ENTER.* Your system will now automatically reset.

Establishing a connection:

If the remote site is properly connected to the network and configured for auto answer, this application will automatically establish a connection with that remote site upon power up and restoration of a network disruption.

Answering a call in Auto Dial mode:

Not applicable, this application will always attempt to originate a call.

Terminating a call:

This application will not allow a call to be permanently terminated. Should a network disruption terminate the call it will be only temporary, the APV200IP will automatically attempt to re-establish the call.

DTR Automatic Dialing Method

Setup

1. Attach the proper Gentner interface cable to Port A on the back of the APV200IP. If H.221 calls will be made, attach the proper RSI interface cables to Ports A & B.
2. Press the *CONFIG* button on the IR controller to enter the **Configure** menu.
3. Select **V.35 setup** by pressing *3*.
4. Scroll through the **Dial** options and select *DTR*. Press *PREV* to exit this menu.
5. Select **Advanced** by pressing 5.
6. Scroll down to **Auto Answer** and select either *Yes* or *No*.
7. Select **Advanced** again by pressing 5.
8. Scroll down to **Reset system** and press the *ENTER.* Your system will now automatically reset.

Establishing a connection:

1. Press the *DIAL* button on the IR controller
2. Select **Manual Dial**
3. Press the *DIAL* button on the IR controller. The number that has been previously stored in the IMUX will be called.

Answering a call:

If the **Auto Answer** is set to *Yes* an incoming call will be answered, if it is set to *No* you will need to press the *ENTER* button on the IR controller to answer the call.

Terminating a call:

To end a call, press the *END* button on the IR controller.

Leased Line application:

DCE - Adtran TSU LT (T1-FT1 Data/Channel Service Unit)

Gentner Cables:

1 – Gentner to V.35 cable (part #830-000-028).
Connect the end of the cable labeled Video Codec to the V.35 APV200IPPort A connector.
Connect the V.35 connector to the Adtran V.35 port. The RS366 cable is not connected in this application.

DCE configuration:

Follow manufacturer instructions to select the number and type of T1 time slots to be used. This must agree with the usage at the remote end. The TSU may supply timing to the Network (T1) connection, or may derive timing from it. The APV200IP (DTE) does not provide T1 timing. The APV200IP will support 1 to 6 time slots, either 56 or 64kbps.

APV200IP configuration:

V.35 Menu:

Dial: Leased Line

Operation:

Dial the call.
The call stays connected until hung up by the user.
Once the other end answers, audio and video will flow.
Push the *Hang Up* button twice to disconnect the call.
DCE Configuration – refer to the manufacturer's instructions.

Dial Up Application:

DCE - Ascend Multiband VSX BRI, refer to the manufacturer's instructions.

Gentner Cables:

2 – Gentner to Ascend cables, part number 830-000-026.
Connect one cable from the V.35 APV200IP Port A to the Ascend Host 1 port. Connect the other cable from the V.35 APV200IP Port B to the Ascend Host 2 port.

Note: Make sure the end of the cable labeled Video Codec is attached to the V.35 APV200IP. The connectors on each end of the cable look the same but the wiring of the cable is different at each end. The other end is connected to the IMUX.

DCE configuration:

Follow the manufacturer's instructions to configure the IMUX. The parameters recommended for operation with RSI V.35 APV200IP must be set as shown below:

Configure:

Dial	RS-366 Ext. 1
Clear	DTR Inactive
Early CD	None

Advanced

Dual Port	1&2 Dual.

Directory:
The factory default directory contains the following call profiles:

01	1 port, 56k
02	1 port, 64k
03	2 port, 56k
04	2 port, 64k
05	Bond 56x8
06	Bond 64x8

The first four entries are used for H.221 dialing. The 05 and 06 entries will attempt to dial 8 channel bonding calls if the remote device has 8 channels capacity. Entries 05 and 06 will not work with the APV200IP since it supports a maximum of 6 channels.

Create two or more profiles, identical to 05 and 06 with channel counts of 6 or less.

For example, create an entry 13:

Name	Bond 56x6
Dial #	(anything, the APV200IP will override via RS-366 dialer)
Call Type	BONDING
Call Mgmt	Mode 1
Data Svc	56K
Force 56	No
Base Ch Count	6
Inc Ch Count	N/A
Dec Ch Count	N/A
Bill #	(nothing)
Call Password	(nothing)

Or, create an entry 14:

Name	Bond 64x6
Dial #	(anything, the APV200IP will override via RS-366 dialer)
Call Type	BONDING
Call Mgmt	Mode 1
Data Svc	64K
Force 56	No
Base Ch Count	6
Inc Ch Count	N/A
Dec Ch Count	N/A
Bill #	(nothing)
Call Password	(nothing)

The example call profiles shown above will work when calling an Gentner ISDN APV200IP and other H.320 bonding video conferencing devices. Some of the Ascend profiles support the use of Ascend's proprietary AIM protocol. The AIM protocol can only be used between compatible Ascend IMUX's. Gentner does not recommend using the AIM protocol since the call will fail if the remote IMUX does not support AIM. The above profiles will work with an attached Gentner V.35 APV200IP if the channel count is 6 channels or less.

When a call is initiated, the maximum channel rate (64/56) and the maximum channel count (6 or less) are set by the call profile. The remote terminal may negotiate lower connection rate and channel count.

APV200IP configuration:

V.35 Menu:

    Dial: RS-366
    Call Profile Type: Prefix

    Call Profiles:
    56K 2 channel H.221   #003
    64K 2 channel H.221   #004
    56K 6 channel BOND   #013
    64K 2 channel BOND   #014

    External FIFO: Yes

Placing a Call:

1. Press *DIAL*
2. Press *ENTER* to select Manual Dial.
3. Press *ENTER* to clear the manual dial menus and set the Call profile to *6Ch 64K (384)*
4. Scroll down to Channel 1 and enter the telephone number that you want to call, for example 18018868834.
5. Press *DIAL* again to initiate the call.

The Connection status menu will appear. The IMUX connects first then the APV200IP will connect. Once the call has been established, you will see video and hear the audio from the remote end. To terminate the call, push the *HANG UP* button twice.

WAIT PROCEEDING indicates the RS-366 dialer is active. Once the call is placed, the IMUX does all the work until the H.221 channels are cut through to the APV200IP or the bonding completes and connects a single high speed channel to the APV200IP. Upon completing the establishment of the call, the call status menu will show Port A connected and Port B inactive.

If the IMUX fails to complete the calls, a FACILITY REJECTED cause code results.

After the IMUX asserts Carrier Detect, the APV200IP will learn from the IMUX how many channels are connected and at what rate (56/64). The APV200IP will then negotiate H.221 and start video. It will place a second H.221 call if the entry so specified.

If a call fails please refer to the IMUX manufacture's instructions for cause code information.

Satellite Applications:

The V.35 APV200IP has been demonstrated to work with several satellite installations. However, since there are a wide variety of satellite modems, timing, network design and other factors, Gentner cannot guarantee proper video operation with every satellite installation.

Since Gentner does not have its own satellite service, Gentner is willing assist the user in determining if the V.35 APV200IP is suitable for the application.

Gentner must be provided with the following information:

1. An overview of the proposed application.
2. A network diagram of the proposed application
3. A list of the modem and network equipment that will be attached to the APV200IP including specifications.
4. A technical support contact familiar with the satellite equipment.