

# *COM* **Station**

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## *Installation Guide*



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**Warning: Opening or making 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 and will void the warranty.**

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## Important Safety Information

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### **WARNING:** Potential Shock Hazard



- Only experienced and qualified technicians should install the comStation.
- Install comStation in a safe location where no one can step on, trip over, or damage the cables.
- Always use properly grounded electrical outlets.
- If you need to use an extension cord, make sure it is rated to handle more current than the components it is powering.
- Always disconnect power before attempting to clean or service comStation or any components.
- Do not use liquids to clean comStation or any components.
- Keep all electronics away from water, extreme heat, or direct sunlight.
- Do not install or use this product near water.
- Keep vents free of obstructions.
- Always follow basic safety precautions when using this product to reduce risk of injury from fire or electric shock.
- Keep all electronic components away from children.
- Do not disassemble this system (except as instructed in the manufacturer's instructions). To reduce the risk of shock and to maintain the Warranty on the system, only qualified, experienced technicians may perform service or repair work.

**SAVE THESE INSTRUCTIONS.**

### **Ordering ISDN Service**

For more information about ordering ISDN service, refer to the document:

*How to Order ISDN for Zydacron Products.* This PDF document is available at [www.zydacron.com](http://www.zydacron.com).

### **Customer Support**

For comStation support, contact your Zydacron reseller.

To test your system, call the **Zydacron Test Station: 1 + (603) 644-6950**. Zydacron provides the test station to test your videoconferencing setup. It can be called at 2 x 64k (dial the same number twice) or one channel up to 384k. A successful connection to the Test Station provides you with the test station's video and audio.

You can also visit the Zydacron website, [www.zydacron.com](http://www.zydacron.com), for information on the latest product offerings.

## comStation Setup

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The exact installation procedure for your comStation depends on which model you have. Refer to the table below.

Type of comStation	Primary Features	Page
comStation IP	Z360 codec	8
comStation 512	Z360 codec, ZC208 IMUX Board	10
comStation V.35	Z360 codec, V.35 Board	12

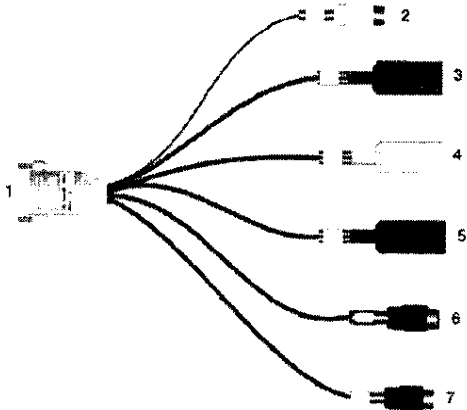
Each model comes with a Personal Computer, Shure Microphone, Canon Pan/Tilt/Zoom Camera, Wireless Keyboard with Mouse and Infrared Receiver, and Cables.

## Identifying Standard Components

Unpack the computer, wireless keyboard, and camera and refer to the documentation provided.

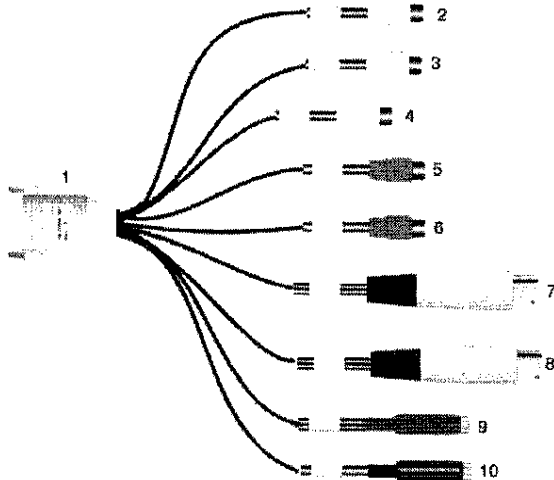
### Cables

Identify the cables pictured below:



#	Description	Color
1	CB-1091-000 (DB15)	Black
2	Camera Audio In	White
3	Video In #1	Green
4	Video In #2	Yellow
5	Video Out	Blue
6	Video Out	Blue
7	Video In #3	Red

**CB-1091-000 Video Breakout Cable**

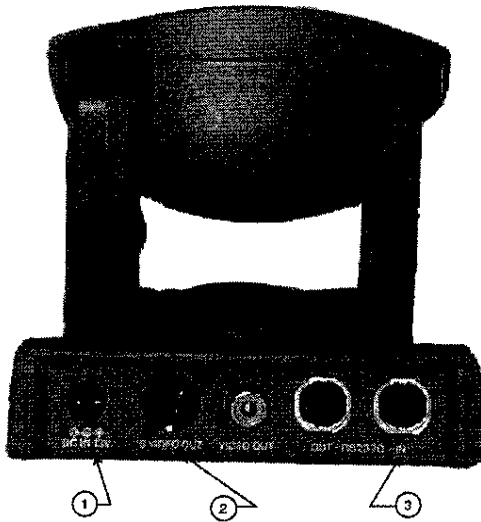


#	Description	Color
1	CB-1092-000 (DB26)	Black
2	Audio In #1	White
3	Audio In #2	White
4	Aux Audio In	White
5	Audio Out	Orange
6	Aux Audio Out	Orange
7	Microphone #1	Silver
8	Microphone #2	Silver
9	Headset	Green
10	Speaker Out	Black

**CB-1092-000 Audio Breakout Cable**

**Camera**

Identify the Canon VC-C4 Camera pictured below:

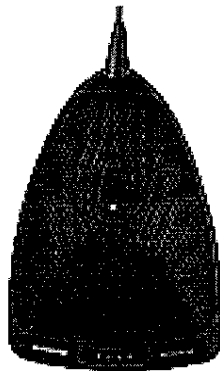


#	Description
1	DC IN 13V
2	S VIDEO OUT
3	RS232C - IN

**Canon VC-C4 Camera Rear View**

**Microphone**

Identify the Shure Microphone pictured below:

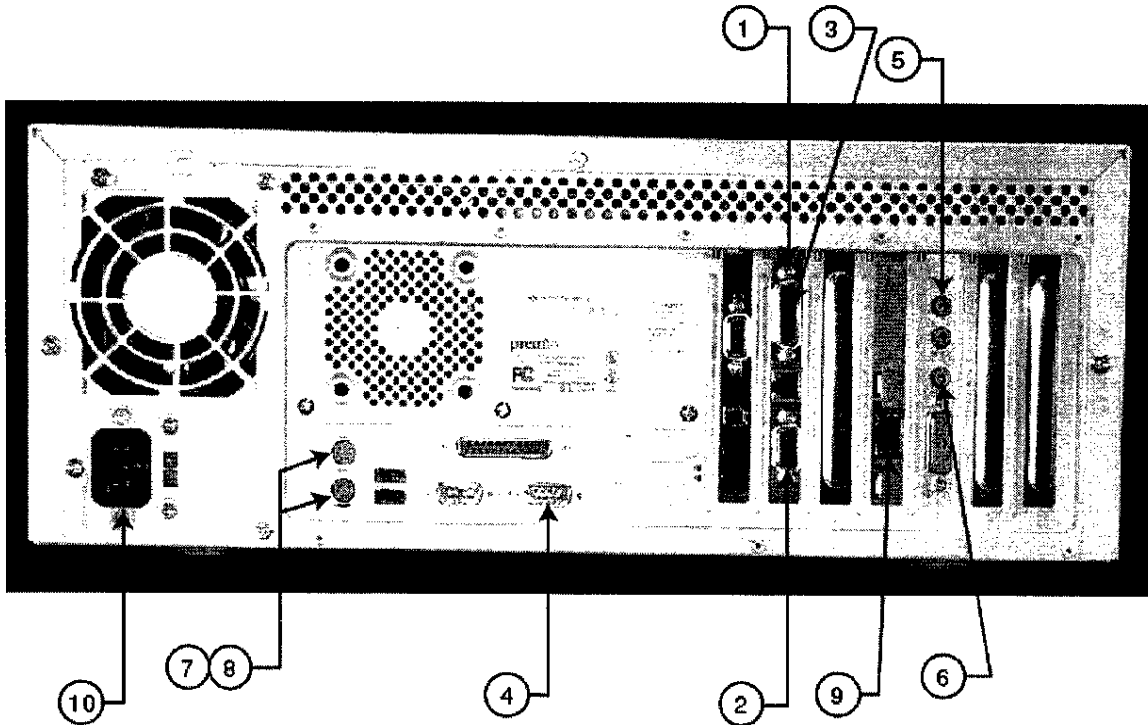


**Shure Microphone, Top View**

## comStation IP Installation Procedure

Refer to the Identifying Standard Components section, starting on Page 6 as needed. Complete the following steps to setup your comStation IP:

1. Identify the comStation IP Computer Rear Panel (shown below).



#	Description
1	Z360 Codec Endplate
2	Codec Video Connector
3	Codec Audio Connector
4	Serial 2 Jack (RS232)
5	Audio Board Line In Jack (Blue)
6	Audio Board Audio Output Jack (Green)
7-8	Keyboard (Purple) & Mouse (Green) Jacks
9	Network Interface Card (LAN) Connector
10	Computer AC Power Jack

### comStation IP Computer Rear Panel

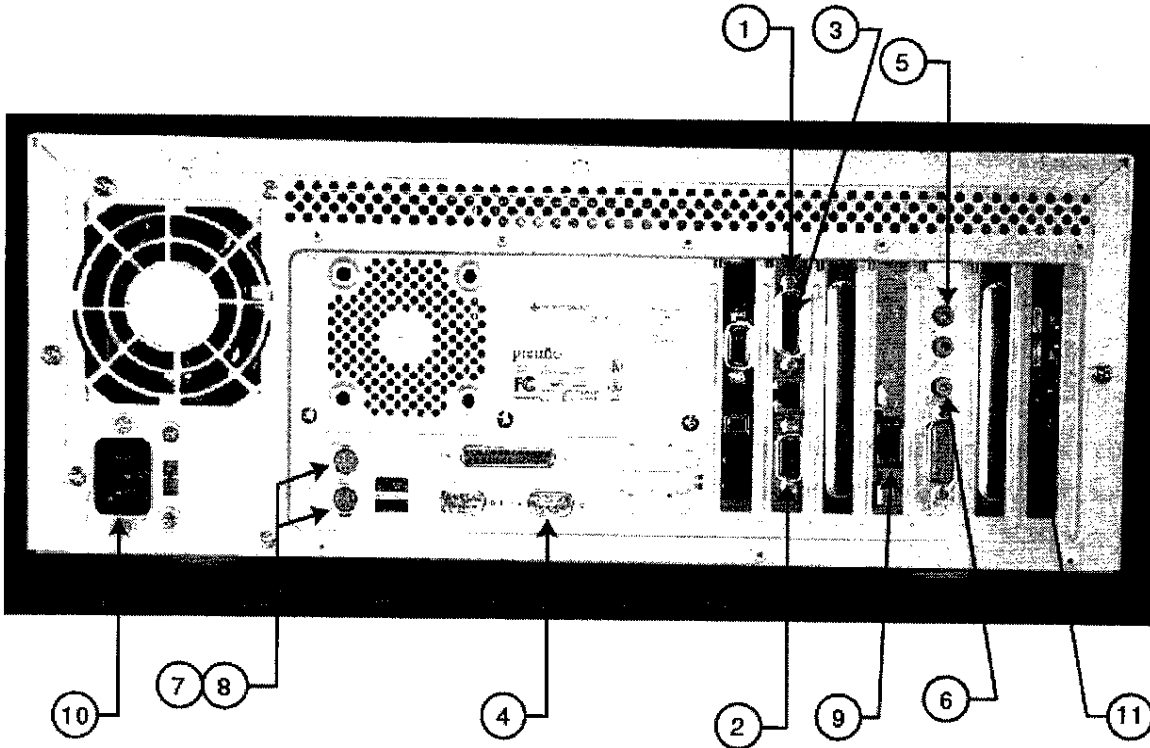
2. Locate the **Z360 Codec Endplate** on the back of the computer (shown above).
3. Plug in the large (DB15) connector of the **CB-1091-000 Video Breakout Cable** in the bottom **Codec Video Connector** of the **Z360 Codec Endplate**.
4. Plug in the large (DB26) connector of the **CB-1092-000 Audio Breakout Cable** in the top **Codec Audio Connector** of the **Z360 Codec Endplate**.

5. Unpack the **Canon Camera** and refer to the Canon documentation as needed.
6. Plug the **S-Video** cable into the **S-Video** Jack on the Canon Camera. Plug the free end of this cable into the **Video In #1** Jack (green) on the **CB-1091-000 Video Breakout Cable**.
7. Plug the small connector on the **PA10073 Cable** (gray) into the **RS232C** jack on the Canon Camera. Plug the free end into the **Serial 2 Jack** (RS232) on the computer.
8. Plug the Canon Camera **Power Supply Cable** to the **DC IN 13V** Jack on the Canon Camera. Insert the **AC Line Plug** into a suitable power outlet.
9. Attach the **Shure Microphone** to the **Microphone #1** XLR jack on the **CB-1092-000 Audio Breakout Cable**.
10. Attach one mini-plug connector of the **CB-1077-000 Audio Cable** into the **Speaker Out** Jack on the CB-1092-000 Audio Breakout Cable. Attach the other mini-plug connector into the **Audio Board Line In** Jack (blue) on the computer's **Audio Board End Plate**.
11. Plug (optional) amplified speakers into the **Audio Board Audio Output** Jack (green) on the computer's **Audio Board End Plate**. You can also plug an optional headset into the **Headset** Jack on the **CB-1092-000 Audio Breakout Cable**.
12. Attach the **Infrared Receiver** for the **Wireless Keyboard** to the computer or optional cart as desired using the Velcro® tape provided. Make sure that the **IR Receiver** is facing the front because the wireless keyboard operates using infrared light similar to a TV remote control.
13. Plug the **Infrared Receiver Cable** into the **Mouse** and **Keyboard** **Jacks** on the back of the computer. Note the mouse and keyboard symbols on the connectors.
14. Attach your LAN cable to the **Network Interface Card** (LAN) connector. Make sure the LAN cable is connected to your Local Area Network.
15. Insert the computer's **AC Power Cable** into the **Computer AC Power** **Jack** located on the left side of the computer's back panel and then to a suitable power outlet.

## comStation 512 Installation Procedure

Refer to the Identifying Standard Components section, starting on Page 6 as needed. Complete the following steps to setup your comStation 512:

1. Locate the **Z360 Codec Endplate** on the back of the computer as shown below.



#	Description
1	Z360 Codec Endplate
2	Codec Video Connector
3	Codec Audio Connector
4	Serial 2 Jack (RS232)
5	Audio Board Line In Jack (Blue)
6	Audio Board Audio Output Jack (Green)
7-8	Keyboard (Purple) & Mouse (Green) Jacks
9	Network Interface Card (LAN) Connector
10	Computer AC Power Jack
11	ISDN Port 1, ZC208 Card Endplate

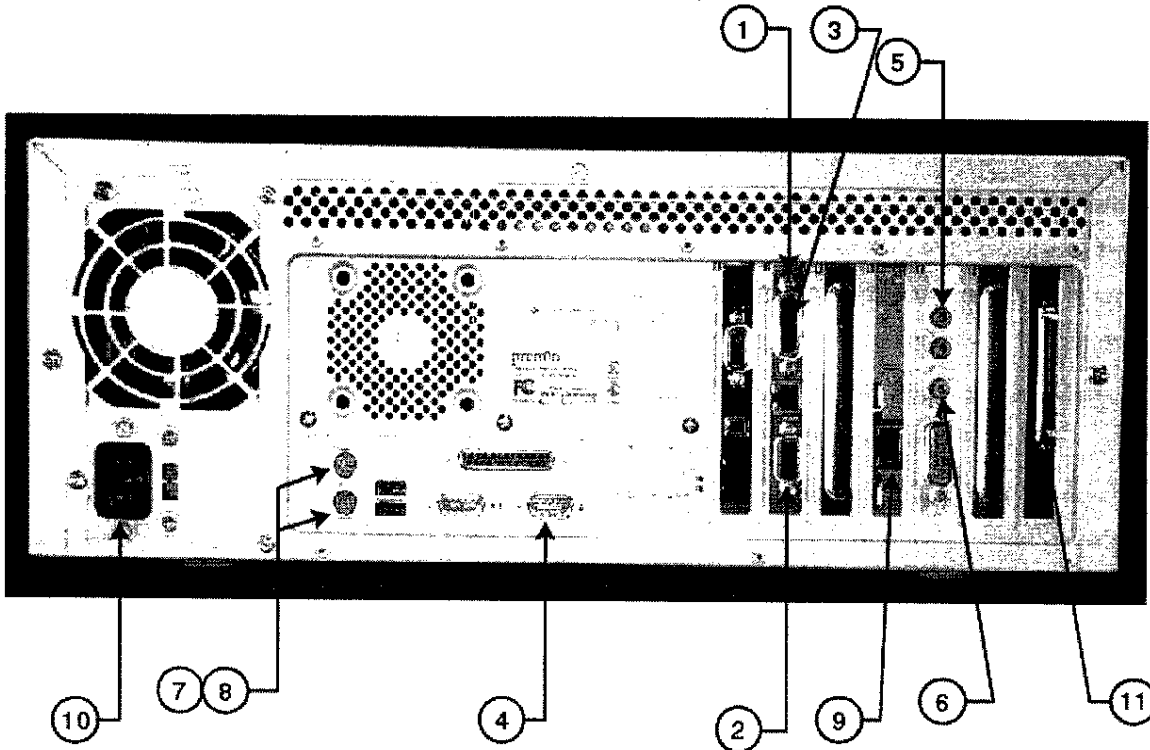
comStation 512 Computer Rear Panel

2. Plug in the large (DB15) connector of the **CB-1091-000 Video Breakout Cable** in the bottom **Codec Video Connector** of the **Z360 Codec Endplate**.
3. Plug in the large (DB26) connector of the **CB-1092-000 Audio Breakout Cable** in the top **Codec Audio Connector** on the **Z360 Codec Endplate**.
4. Unpack the **Canon camera** and refer to the Canon documentation as needed.
5. Plug the **S-Video** cable into the **S-Video** jack on the **Canon camera**. Plug the free end of this cable into the **Video In #1** jack (green) on the **CB-1091-000 Video Breakout Cable**.
6. Plug the small connector on the **PA10073 Cable** (gray) into the **RS232C** jack on the **Canon camera**. Plug the free end into the **Serial 2 Jack** (RS232) on the computer.
7. Plug the **Canon Camera Power Supply Cable** to the **DC IN 13V Jack** on the **Canon camera**. Insert the **AC Line Plug** into a suitable power outlet.
8. Plug the optional **CB-1056-000 ISDN Cable** or equivalent into **ISDN Port 1** located on the computer rear panel. (Port 1 is labeled on the **ZC208 Card Endplate** on the computer rear panel.) Attach the free end to your ISDN network. Plug additional ISDN cables as desired into Ports 2, 3, and 4 in the same fashion. (Four cables are required for 512 Kbps transmission speed.)
9. Attach the **Shure Microphone** to the **Microphone #1** XLR jack on the **CB-1092-000 Audio Breakout Cable**.
10. Attach one mini-plug connector of the **CB-1077-000 Audio Cable** into the **Speaker Out Jack** on the **CB-1092-000 Audio Breakout Cable**. Attach the other mini-plug connector into the **Audio Board Line In Jack** (blue) on the computer's **Audio Board End Plate**.
11. Plug (optional) amplified speakers into the **Audio Output Jack** (green) on the computer's **Audio Board End Plate**. You can also plug an optional headset into the **Headset** jack on the **CB-1092-000 Audio Breakout Cable**.
12. Attach the **Infrared Receiver** for the Wireless Keyboard to the computer or optional cart as desired using the Velcro tape provided. Make sure that the receiver is facing the front because the wireless keyboard operates using infrared light similar to a TV remote control.
13. Plug the **Infrared Receiver Cable** into the **Mouse** and **Keyboard Jacks** on the back of the computer. Note the mouse and keyboard symbols on the connectors.
14. Insert the computer's **AC Power Cable** into the **Computer AC Power Jack** located on the left side of the computer's back panel and then to a suitable power outlet.

## comStation V.35 Installation Procedure

Refer to the Identifying Standard Components section, starting on Page 6 as needed. Complete the following steps to setup your comStation V.35:

1. Locate the **Z360 codec endplate** on the back of the computer as shown below.



#	Description
1	Z360 Codec Endplate
2	Codec Video Connector
3	Codec Audio Connector
4	Serial 2 Jack (RS232)
5	Audio Board Line In Jack (Blue)
6	Audio Board Audio Output Jack (Green)
7-8	Keyboard (Purple) & Mouse (Green) Jacks
9	Network Interface Card (LAN) Connector
10	Computer AC Power Jack
11	V.35 Jack, V.35 Card Endplate

comStation V.35 Computer Rear Panel

2. Plug in the large (DB15) connector of the **CB-1091-000 Video Breakout Cable** in the bottom **Codec Video Connector** of the **Z360 Codec Endplate**.
3. Plug in the large (DB26) connector of the **CB-1092-000 Audio Breakout Cable** in the top **Codec Audio Connector** on the **Z360 Codec Endplate**.
4. Unpack the **Canon Camera** and refer to the Canon documentation as needed.
5. Plug the **S-Video** cable into the **S-Video Jack** on the **Canon Camera**. Plug the free end of this cable into the **Video In #1 Jack** (green) on the **CB-1091-000 Video Breakout Cable**.
6. Plug the small connector on the **PA10073 Cable** (gray) into the **RS232C** jack on the **Canon Camera**. Plug the free end into the **Serial 2 Jack** (RS232) on the computer rear panel.
7. Plug the Canon camera **Power Supply Cable** to the **DC IN 13V Jack** on the **Canon Camera**. Insert the **AC line plug** into a suitable power outlet.
8. Attach the **Shure Microphone** to the **Microphone #1 XLR** jack on the **CB-1092-000 Audio Breakout Cable**.
9. Attach one mini-plug connector of the **CB-1077-000 Audio Cable** into the **Speaker Out** jack on the **CB-1092-000 Audio Breakout Cable**. Attach the other mini-plug connector into the **Line In** jack (blue) on the computer's **Audio Board End Plate**.
10. Plug (optional) amplified speakers into the **Audio Output Jack** (green) on the computer's **Audio Board End Plate**. You can also plug an optional headset into the **Headset** jack on the **CB-1092-000 Audio Breakout Cable**.
11. Attach the **CB-1020-012** or **CB-1020-013 V.35 Cable** (or equivalent) into the **V.35 Jack** on the computer rear panel.
12. Attach the **Infrared Receiver** for the Wireless Keyboard to the computer or optional cart as desired using the Velcro tape provided. Make sure that the IR Receiver is facing the front because the Wireless Keyboard operates using infrared light similar to a TV remote control.
13. Plug the **Infrared Receiver Cable** into the **Mouse** and **Keyboard Jacks** on the back panel of the computer. Note the mouse and keyboard symbols on the connectors.
14. Insert the computer's **AC Power Cable** into the **Computer AC Power Jack** located on the left side of the computer's back panel and then to a suitable power outlet.

## Connecting Zydacron comStation Components

### Dual Microphones

Connect an optional second Shure microphone (if desired) to the **Microphone Input 2** Jack on the **CB-1092-000 Audio Breakout Cable**. Position the second microphone near the ceiling or at the far end of the conference table. **NOTE:** To use configure your software for dual microphone operation, from the **Tools** menu, select **Controls**, then select the **Audio Controls** tab. Select **Configure**, then select **Dual Mic**.

### Wireless Keyboard/Mouse

Install the AA batteries included with the Zydacron comStation into the battery holder, which is accessed through the bottom of the keyboard. Be sure to observe polarity.

Remove all packaging from the infrared transmitter located on the front of the keyboard.

You have now completed the hardware setup for comStation. Before power up, verify that all cable connections are secure. Refer to the comStation User's Guide for further information.

## Setting Up the Network

From the Windows desktop select **Start > Programs > comStation > Network Setup**. Selecting **ISDN** starts the **ISDN network setup**. Selecting **LAN** starts the **LAN network setup**. Selecting **ISDN and LAN** starts the **LAN network setup** first, then the **ISDN network setup**.

### LAN Network Setup (H.323)

Complete the Configure Gatekeeper dialog box as follows:

1. Ask your network system administrator for the information needed to complete the fields in this dialog box.
2. If your system is not using a Gatekeeper, do **not** check the **Use Gatekeeper** checkbox. If your system has a pre-configured Gatekeeper do **not** check the **Use Gatekeeper** checkbox. Click the **OK** button to complete the **LAN network setup**.

If your system *is* using a Gatekeeper, ask your network administrator for your system's **name** and **phone number**. If you are using only **IP addressing**, complete these steps:

- **Use Gatekeeper:** Check here to use Gatekeeper.
- **IP Address:** Enter the **IP address** of your Gatekeeper system.
- **Name:** Enter a unique name. This is the name others on your network will use to call you.
- **Phone Number:** Enter a unique **telephone number**. This is the number others on your network will use to call you. Network administrators typically assign these.

### ISDN Network Setup (H.320)

To complete the **Network Setup Wizard**, follow these steps:

1. Select the **Switch Software** that is configured for your ISDN phone line from the list, then click the **Next>** button. (Contact your ISDN service provider for this **Switch Software** information.) The **Network Setup Wizard** displays the **If you have MSN...** message.
2. Click the **Next>** button to continue. If your switch type is **NI1**, **DMS100**, **AT&T5ESSA**, or **G3 Custom**, the **Network Setup Wizard** displays the **You have specified a switch...** message. This dialog box is where SPIDs are specified.
3. Enter the **SPIDs** in their corresponding fields. If you have only one SPID, enter it in **SPID 1** and leave **SPID 2** blank. (You may have up to four pair of SPIDs depending on your setup.) The settings do not take effect until you restart your computer. Click the **Next>** button to continue.

4. Configure the Subscriber and Dialing information using the following descriptions:
  - **MSN** - Check this box if you have a **Multiple Subscriber Network**. If you are unsure, leave this box *unchecked*.
  - **Parallel Dialing** - Check this box if you want to allow multiple simultaneous call dialing. This would speed the connection process. Not all manufacturers are IMUX compatible with parallel dialing. If you are unsure or unable to connect to a site, uncheck the **Parallel Dialing** box.
  - **Internal Dialing Prefix** – Enter a dialing prefix if your company uses one. Prefixes are typically required with PBXs. The **Network Setup Wizard** uses this prefix setting to perform a **Loopback Test**.
  - **Phone Number** - Enter a voice phone number. Dialing 1 + the area code may also be required to access a **POTS** (Plain Old Telephone Service) line. The **Network Setup Wizard** uses this phone number to test the voice capability of your ISDN line(s). You must run the **voice only test** to make voice calls. Leave the phone number field *blank* if voice-only call capability is not required.
5. Click the **Next>** button to continue. The **B Channel Entry** dialog box displays.
6. Enter the **ISDN Phone Number** for the **B Channel**. (You may need to enter up to eight numbers depending on your setup.)

If you entered a **dialing prefix** in the **Subscriber and Dialing** dialog box, do *not* enter that prefix as part of the phone number here. Incorrect phone numbers could cause the **Network test** to fail.

For **NI1**, and **DMS100** switch types there are two different numbers per interface. Enter those numbers in order, starting with **B Channel 1** followed by **B Channel 2**, etc.

For *other* switch types, enter the *same* phone number in both **B Channels**. (The settings do not take effect until your computer is restarted.)
7. Click the **Next>** button to continue. The **Start the Network Setup Test** dialog box displays.

**NOTE:** Certain switch types do not allow for B Channel testing. If the B Channel test fails, wait for it to time-out then click the **Finish** button.
8. Click the **Next>** button to start the Network Setup Test. The **Network Setup Wizard ISDN Test** dialog box displays. The automatic ISDN line analyzer tests your ISDN line. This process lasts for approximately three minutes. If your system fails the network test, readjust the settings and rerun the test. Upon successful test completion, click the **Next>** button. The Network Setup Wizard displays the **ISDN Line Analyzer** dialog box.
9. The **Automatic ISDN Line Analyzer** tests your ISDN line. If your system does not pass the **Network Test**, adjust the settings and rerun the test. The most common reasons for test failure include:
  - Incorrect Phone number
  - Incorrect SPIDs

To correct the network configuration, click the **<Back** button to return to a previous dialog box and correct the error.
10. Click the **Finished** button in the **Network Test Complete** dialog box to finish the network test procedure. The **Setup Complete** dialog box displays.

## Setting Up NetMeeting

Microsoft NetMeeting can establish a data conference over an existing video call. After installing NetMeeting and rebooting or starting the application, the NetMeeting Wizard starts. To set up NetMeeting, follow these steps:

1. Follow the Microsoft NetMeeting Wizard and click the Next button to continue.
2. Make sure that the Directory Server checkbox is UNchecked and click the Next button to continue.
3. Complete the NetMeeting User Information form and click Next to continue.
4. Select the User Category and click the Next button to continue.
5. Click the Finish button.
6. Refer to NetMeeting Help for more information.

## Software Recovery

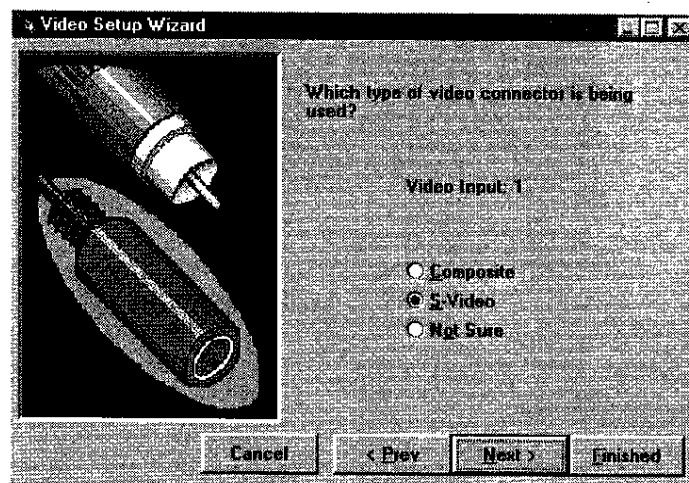
Refer to the **Software Recovery Disk Procedure** document provided with your comStation. After completing a software recovery, proceed to **Setting Up the Video Configuration** below.

### Setting Up the Video Configuration

The first time you start the **comStation** application after installation, the **Video Setup Wizard** automatically displays. (You can also run the **Video Setup Wizard** at any time by selecting **Controls** from the **Tools** menu. Click on the **Video Controls** tab > **Video Setup Wizard** button.) To configure the video, follow these steps:

1. Select the video format, **NSTC** for North and South America, Japan, South Korea, Philippines, and Taiwan and **PAL** for Europe, Asia, and Africa. The **Video Setup Wizard** starts by displaying the **Video Format** dialog box.
2. Click the **Next>** button to continue. The **Video Setup Wizard** displays the **Video Input** dialog box.
3. Configure the **Video Input: 1** by entering the following information:
  - **Usage:** Select the **Main Camera**. The **Usage** appears as a menu item or button name.
  - **Name:** Enter a unique name. This **Name** appears on far end systems if you check the **Allow far end camera selection** checkbox. (Default is **Input 1**.)
  - **Model:** Select the camera brand and model. This sets the defaults properly for known camera types, including computer controlled pan-tilt-zoom controls. The Zydacron reseller set the options available.
  - **Allow far end camera selection:** Check this box to allow for **FECC** (far end camera control). Your camera model must have remote control capability and the far end system must be H.281 compliant.
4. Click the **Next>** button to continue. The **Video Setup Wizard** displays the **Video Connector** dialog box (shown below).

**Note:** The **Video Connector** dialog box will *not* display if **Video Input: 3** is selected.



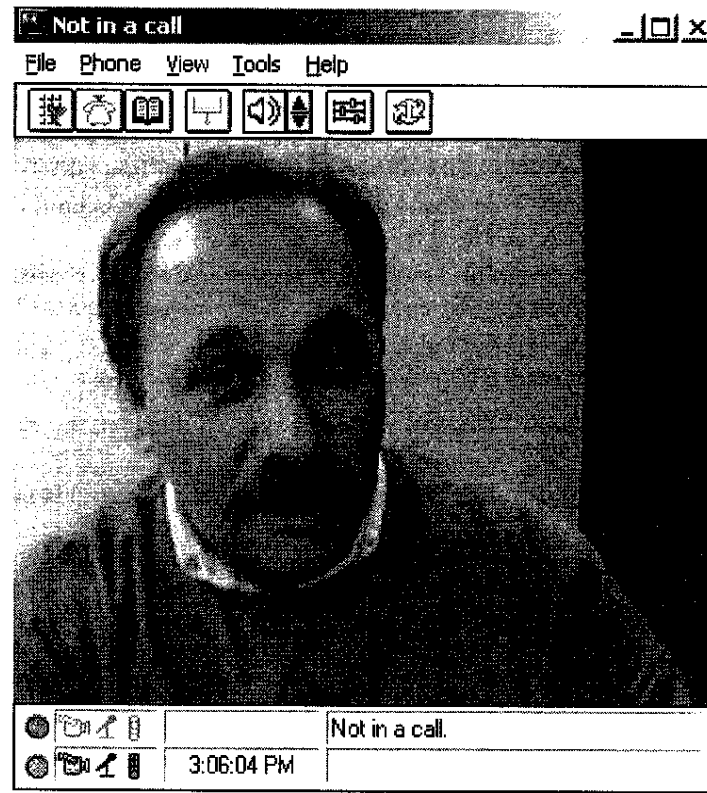
**Video Setup Wizard**

5. Selecting a specific camera model in the **Video Setup Wizard** automatically selects the correct connector type for your camera (See figure above). You can also manually select the type of video input connector:
  - **Composite** uses an RCA connector, like the one shown at the top of the **Video Setup Wizard** (above).
  - **S-Video** typically uses a DIN connector, like the one shown at the bottom of the **Video Setup Wizard** (above). (S-Video can also be converted from an RCA connector by using an RCA-DIN adapter.)
  - **Not Sure** is if you are unsure of which connector to use.

6. Click the **Next>** button to continue. If you have more video inputs, set them up using the same method as described above and click the **Next>** button to continue after each one.

The **Video Setup Wizard** displays the **Live Video** dialog box. You should see a small image of your *local* video signal display within the wizard as shown.

7. Select the **video inputs** that you configured earlier. Verify that you can see video from that source. If the displayed video is black and white (it should be in color), you may have incorrectly selected **S-Video** as your video connector. You can use the **<Prev** button to return and change that selection now. (You can also run the **Video Setup Wizard** at any time by selecting **Controls** from the **Tools** menu. Click on the **Video** tab.)
8. Click the **Finished** button. The **comStation Software** displays the **Main Video** window (below). The **Main Video Window** displays live video. This live video allows you to see how you will look to the viewer on the far end before you make a call. This is the best time to focus your camera and/or adjust lighting. (The sound may not be audible yet. This is normal.)



**Main Video Window**

### Configuring the Audio Output

The first time you run the **comStation** application, you must configure and verify the **Audio Output**. Go to **Tools > Controls > Audio Controls** tab and run the **Audio Auto Select**. The **comStation** should normally be set to **Input Mic** and **Output Speaker**.

## Using the ATM Tool

ATM support requires installation of the following *Fore Systems Software*:

- ForeThought 5.0.2 Build 33861
- ForeThought 5.0.2 Winsock Service Provider Build 33861

To obtain this software contact Fore Systems ([www.fore.com](http://www.fore.com)).

Zydacron recommends using **bit rates greater than 120 KB**. You may need to adjust the minimum bit rate based on your system requirements. Use the **ATM Tool** program (`atmtool.exe`) to adjust the **Quality of Service (QOS)** class and **minimum bit rate** of your system.

Acceptable QOS Classes are:

Unspecified bit rate* (UBR).	Use UBR for bursty LAN traffic and data that is more tolerant of delays and cell loss. UBR is a best effort service that does not specify bit rate of traffic parameters and has no quality of service guarantees.
Real-time variable bit rate* (RT-VBR).	RT-VBR has a bursty nature. Voice and video applications that use compression. Traffic is real-time, where end-to-end delay is critical in applications such as videoconferencing.
Non real-time variable bit rate* (VBR-NRT).	VBR-NRT has a bursty nature and is characterize by voice of video applications that use compression. Traffic is non-real time, where delay is not critical. Examples include applications such as video playback, training tapes, and video mail messages.
Available bit rate* (ABR).	LAN traffic and data that is more tolerant of delays and cell loss uses ABR. ABR is a best-effort service base on minimum cell rate with a low cell loss.
Constant bit rate* (CBR).	A continuous stream of bits at a steady rate characterizes CBR traffic. CBR traffic is low-bandwidth traffic that is highly sensitive to delay and intolerant to cell loss. This is the default QOS class.

\*If supported by the ATM NIC.

Modifications to the QOS class require that you *restart the application*. Modifications to the minimum bit rate require that you *hang-up and redial* your existing connection.

**NOTE:** If your computer does not have an ATM card installed, the ATM Tool Menu will display, but all options will be grayed-out and non-functional.

## Technical Specifications

<b>Audio</b>	
<b>Audio Compression</b>	<ul style="list-style-type: none"> <li>• G.711, G.728, G.722</li> </ul>
<b>Audio Inputs</b>	<ul style="list-style-type: none"> <li>• One Line Level input on the CB-1092-000 cable</li> <li>• Two auxiliary inputs on the CB-1092-000 cable</li> <li>• 2 Balanced microphone inputs on the CB-1092-000 cable</li> </ul>
<b>Audio Outputs</b>	<ul style="list-style-type: none"> <li>• Speaker output on stereo 3.5mm jack for Line Level on the CB-1092-000 cable</li> <li>• Two auxiliary outputs on the CB-1092-000 cable</li> </ul>
<b>RJ-11 phone interface</b>	<ul style="list-style-type: none"> <li>• RJ-11 jack to connect a standard POTS telephone for privacy.</li> <li>• Hook and DTMF generation.</li> </ul>
<b>Echo cancellation</b>	<ul style="list-style-type: none"> <li>• Full duplex echo cancellation</li> <li>• Disable and enable cancellation</li> <li>• AGC Automatic Gain Control</li> </ul>
<b>Video</b>	
<b>Video Compression</b>	<ul style="list-style-type: none"> <li>• H.261, H.263</li> </ul>
<b>Video Resolution and Frame Rates</b>	<ul style="list-style-type: none"> <li>• H.261: CIF resolution 352 x 288 – Encode 30fps, Decode 30fps</li> <li>• H.261: QCIF resolution 176 x 144 - Encode 30fps, Decode 30fps</li> <li>• H.263: CIF resolution 352 x 288 – Encode 15fps, Decode 30fps</li> <li>• H.263: QCIF resolution 176 x 144 - Encode 15fps, Decode 30fps</li> </ul>
<b>Video Inputs</b>	<ul style="list-style-type: none"> <li>• Composite Video or S-Video input #1 on the CB-1091-000 cable</li> <li>• Composite Video or S-Video input #2 on the CB-1091-000 cable</li> <li>• Composite input #3 on the CB-1091-000 cable</li> <li>• Brightness, contrast, saturation, and hue controls</li> <li>• Capture of full resolution image 640x480 (NTSC) or 768x576 (PAL) square pixels</li> </ul>
<b>VGA Display</b>	<ul style="list-style-type: none"> <li>• PCI bus S-VGA boards that supply Direct-Draw Drivers and linear addressing for the frame buffer</li> <li>• VGA board must support 16-bit color at 800x600 resolution.</li> </ul>
<b>Main Video Window</b>	<ul style="list-style-type: none"> <li>• View incoming video</li> <li>• View outgoing video, encoded then decoded, for self-view of what remote side sees</li> <li>• Smooth scaling from icon to 640x480</li> <li>• Maintains proper aspect ratio</li> <li>• PIP of camera view optional</li> <li>• 640 x 480 (interlaced) maximum size with one video window (with PIP).</li> </ul>
<b>Self-View picture-in-picture Window</b>	<ul style="list-style-type: none"> <li>• View camera input</li> <li>• Location in one of 4 corners of main window</li> <li>• Small, medium, and large sizes</li> </ul>
<b>Communications</b>	
<b>Protocols</b>	<ul style="list-style-type: none"> <li>• H.320, H.323, H.221, H.230, H.242, H.243</li> </ul>
<b>Rates</b>	<ul style="list-style-type: none"> <li>• ISDN: 56Kbps to 512Kbps</li> <li>• LAN – speeds up to 768Kbps</li> <li>• V.35 – speeds up to 1680/1920 Kbps</li> </ul>
<b>ISDN Network Termination</b>	<ul style="list-style-type: none"> <li>• ISDN BRI Signaling</li> </ul>

<b>S/T Network Termination on ZC206/ZC208</b>	• 5ESS	• D-Channel signaling for AT & T 5ESS
	• 5ESSA	• D-Channel signaling for North America with SPIDs
	• G3 Custom	• D-Channel signaling for Lucent Dfinity PBX switch
	• NI1	• D-Channel signaling for National IS DN-1
	• DMS100	• D-Channel signaling for NTI DM S100
	• EURO	• D-Channel signaling for European ISDN
	• 1TR6	• D-Channel signaling for German 1TR6
	• VN4	• D-Channel signaling for France VN3
	• TPH	• D-Channel signaling for Australia
	• NTT	• D-Channel signaling for Japan
<b>Communications</b>	<ul style="list-style-type: none"> <li>• Ethernet</li> <li>• ZC208</li> <li>• V.35</li> </ul>	
<b>B channel protocols</b>	<ul style="list-style-type: none"> <li>• ZC208 accesses Internet with rates up to 128K.</li> </ul>	
<b>Voice call protocols</b>	<ul style="list-style-type: none"> <li>• Voice only call</li> <li>• Simultaneous voice and data calls supported</li> </ul>	
<b>Rates</b>	<ul style="list-style-type: none"> <li>• T.120 driver for MLP/HMLP.</li> <li>• MLP/HMLP combination up to 128K</li> </ul>	
<b>Data</b>	<ul style="list-style-type: none"> <li>• Microsoft NetMeeting</li> <li>• Built-in file transfer and messaging commands</li> <li>• Far-end Camera control</li> </ul>	
<b>BRI Interface</b>	<ul style="list-style-type: none"> <li>• BRI Basic Rate S/T interface</li> </ul>	
<b>Bonding Modes</b>	<ul style="list-style-type: none"> <li>• <b>Mode 0:</b> This mode provides initial parameter negotiation and Directory Number exchange over the master channel, then reverts to data transmission without delay equalization. This mode is useful when the calling endpoint requires Directory Numbers, but the delay equalization is performed by some other means.</li> <li>• <b>Mode 1:</b> This mode supports user data rates that are multiples of the bearer rates. It provides the user data rate with the full available bandwidth, but does not provide an in-band monitoring function. The overhead octets are removed after the call is phase aligned. Error conditions on one or more channels that disturb overall system synchronization are not recognized automatically.</li> </ul>	
<b>Physical Specifications</b>		
<b>Specification</b>	<b>Dimension</b>	
<b>PC</b>		
<b>Weight</b>	<ul style="list-style-type: none"> <li>• 45 lbs.</li> </ul>	
<b>Dimension</b>	<ul style="list-style-type: none"> <li>• Desktop case with 6.5" (Height) x 16.5" (Width) x 16.25 (Depth) dimensions</li> </ul>	
<b>Connections</b>		
<b>Power connections</b>	<ul style="list-style-type: none"> <li>• Surge protected AC for device, monitor, and PTZ camera all in one</li> </ul>	
<b>ISDN/Network Connections</b>	<ul style="list-style-type: none"> <li>• 4 RJ-45 ISDN connections</li> <li>• 1 RJ-45 Network connection</li> </ul>	
<b>Peripheral Connections</b>	<ul style="list-style-type: none"> <li>• 4 pin din for S-video camera input (Z360 board)</li> <li>• Two XLR for microphone connection (Z360 board)</li> <li>• 3.5mm jack for speaker output connection (sound card)</li> <li>• 9 pin D-sub connector for Far-end camera control (communications port)</li> </ul>	
<b>Environmental Requirements</b>		
<b>Parameter</b>	<b>Category</b>	<b>Specification</b>
<b>Temperature</b>	• Operating	• 0 C to +40 C
	• Non-operating	• -20 C to 60 C
<b>Humidity</b>	• Operating	• 5% to 95% (No Condensation)
	• Non-operating	• 0% to 95% (No Condensation)

<b>Power Requirements</b>	
<b>Operating voltage</b>	<ul style="list-style-type: none"><li>• 80 – 130 V / 180 – 204 V</li></ul>
<b>Typical AC power</b>	<ul style="list-style-type: none"><li>• 200 watts</li></ul>

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