AC1140A Video and Audio over Ethernet Standalone Transmitter

AC1140C Video and Audio over Ethernet PC Card Transmitter

AC1141A Video and Audio over Ethernet Receiver

Conductor Software
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Software Product(s)

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- Do not operate this device in a wet environment.
- Refer servicing to qualified service personnel only.
- Please read the Operating Manual carefully before operating. Follow all operating and other instructions carefully.
- This device should only be operated with the accompanying power adaptor.
- Do not use this product near heat sources such as radiators, air ducts, areas subject to direct, intense sunlight, or other products that produce heat.

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Do not play the supplied CD-ROM in any CD-ROM Player that does not support data CD-ROMs. The extremely loud sound that may result from playing the CD-ROM in an audio CD player (music player) could damage the speakers. It is also possible to suffer hearing losses from listening with headphones to the loud sounds of a data CD-ROM played on a music CD player.

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Normas Oficiales Mexicanas (NOM)

Electrical Safety Statement

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1. Todas las instrucciones de seguridad y operación deberán ser leídas antes de que el aparato eléctrico sea operado.
2. Las instrucciones de seguridad y operación deberán ser guardadas para referencia futura.
3. Todas las advertencias en el aparato eléctrico y en sus instrucciones de operación deben ser respetadas.
4. Todas las instrucciones de operación y uso deben ser seguidas.
5. El aparato eléctrico no deberá ser usado cerca del agua—por ejemplo, cerca de la tina de baño, lavabo, sótano mojado o cerca de una alberca, etc.
6. El aparato eléctrico debe ser usado únicamente con carritos o pedestales que sean recomendados por el fabricante.
7. El aparato eléctrico debe ser montado a la pared o al techo sólo como sea recomendado por el fabricante.
8. Servicio—El usuario no debe intentar dar servicio al equipo eléctrico más allá a lo descrito en las instrucciones de operación. Todo otro servicio deberá ser referido a personal de servicio calificado.
9. El aparato eléctrico debe ser situado de tal manera que su posición no interfiera su uso. La colocación del aparato eléctrico sobre una cama, sofá, alfombra o superficie similar puede bloquear la ventilación, no se debe colocar en libreros o gabinetes que impidan el flujo de aire por los orificios de ventilación.
10. El equipo eléctrico deber ser situado fuera del alcance de fuentes de calor como radiadores, registros de calor, estufas u otros aparatos (incluyendo amplificadores) que producen calor.
11. El aparato eléctrico deberá ser conectado a una fuente de poder sólo del tipo descrito en el instructivo de operación, o como se indique en el aparato.
12. Precaución debe ser tomada de tal manera que la tierra física y la polarización del equipo no sea eliminada.
13. Los cables de la fuente de poder deben ser guiados de tal manera que no sean pisados ni pellizcados por objetos colocados sobre o contra ellos, poniendo particular atención a los contactos y receptáculos donde salen del aparato.
14. El equipo eléctrico debe ser limpiado únicamente de acuerdo a las recomendaciones del fabricante.
15. En caso de existir, una antena externa deberá ser localizada lejos de las líneas de energía.
16. El cable de corriente deberá ser desconectado del cuando el equipo no sea usado por un largo periodo de tiempo.
17. Cuidado debe ser tomado de tal manera que objetos líquidos no sean derramados sobre la cubierta u orificios de ventilación.
18. Servicio por personal calificado deberá ser provisto cuando:
   A. El cable de poder o el contacto ha sido dañado; u
   B. Objectos han caído o líquido ha sido derramado dentro del aparato; o
   C. El aparato ha sido expuesto a la lluvia; o
   D. El aparato parece no operar normalmente o muestra un cambio en su desempeño; o
   E. El aparato ha sido tirado o su cubierta ha sido dañada.
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<td>System Menu</td>
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1.0 SYSTEM REQUIREMENTS

The AC1140A (stand-alone) and AC1140C (PC card) Video and Audio over Ethernet transmitters can be used with or without the Conductor software. Without Conductor installed, the transmitter is operating system independent and functions as a DVI or HDMI extender with the capability of distributing content to an unlimited number of monitors over unlimited distances using gigabit Ethernet switches. When installed, Conductor manages several video streams (i.e.-several transmitters), schedules content to be displayed at certain times on certain monitors, and provides LAN diagnostics. The following tables list the host PC requirements.

Table 1 - System Requirements for AC1140A or AC1140C Transmitter

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Detail</th>
</tr>
</thead>
<tbody>
<tr>
<td>Display</td>
<td>1280 x 720, 24-bit color</td>
</tr>
<tr>
<td>Graphics Adapter</td>
<td>dual-head graphics card suggested as minimum¹</td>
</tr>
<tr>
<td>Interface</td>
<td>Gigabit Ethernet (if connecting to video LAN)</td>
</tr>
</tbody>
</table>

Table 2 - System Requirements for Conductor Software

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Detail</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating System</td>
<td>Windows XP or Windows Vista</td>
</tr>
<tr>
<td>RAM</td>
<td>512 MB minimum, 1GB recommended</td>
</tr>
<tr>
<td>Interface</td>
<td>USB 1.1</td>
</tr>
<tr>
<td>Hard Disk Space</td>
<td>100 MB</td>
</tr>
</tbody>
</table>

¹ The DVI output from a single head graphics card can be sent to the transmitter if the display monitor is within sight of the host computer. Otherwise, a dual-head graphics card is required with one output to a local monitor and the other to a remote display monitor showing the same content.

2.0 FRONT AND BACK VIEWS OF AC1140 AND AC1141

The AC1140A stand-alone transmitter can be plugged into any DVI or HDMI source. The AC1140C PC Card transmitter installs in a PCI or PCIe slot in the host computer. The PCI/e tab is for mechanical support only and does not provide electrical connection. When installing in a PCIe slot, leave the perforated tab intact. When installing in a PCI slot, break the tab off at the perforation for proper seating.

Figure 1 - AC1140 front panel connections
Table 3 - AC1140 Front Panel Connections

<table>
<thead>
<tr>
<th>Left to Right</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>DVI Input</td>
<td>DVI-D connection to graphics card or digital video source</td>
</tr>
<tr>
<td>USB</td>
<td>USB connection to host for diagnostics, configuration and scheduling</td>
</tr>
<tr>
<td>Network output</td>
<td>Gigabit Ethernet connection for video and data</td>
</tr>
<tr>
<td>Audio In</td>
<td>3.5-mm stereo audio connector from sound card or other audio source</td>
</tr>
</tbody>
</table>

Figure 2 - AC1140 rear panel connections

Table 4 - AC1140 Back Panel Connections

<table>
<thead>
<tr>
<th>Left to Right</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>P0-P2</td>
<td>Gigabit Ethernet connections for video and data (used to connect multiple transmitters together internal to host computer). Some transmitters do not have port P2.</td>
</tr>
<tr>
<td>Power Connector</td>
<td>+5VDC @ 1.5A (additional 4-pin Molex connector on board for PC power supply connection)</td>
</tr>
<tr>
<td>Reset</td>
<td>Push-button switch to reset on-board processor</td>
</tr>
</tbody>
</table>

Figure 3 - AC1141 front panel connections
Table 5 - AC1141 Front Panel Connections

<table>
<thead>
<tr>
<th>Connector</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power</td>
<td>+5VDC @ 1.5A through supplied AC adapter</td>
</tr>
<tr>
<td>Reset</td>
<td>Push-button – resets internal processor</td>
</tr>
<tr>
<td>Diag</td>
<td>USB connection to host for diagnostics</td>
</tr>
<tr>
<td>P0-P2</td>
<td>Gigabit Ethernet ports for video and data (internally connected)</td>
</tr>
</tbody>
</table>

Figure 4 - AC1141 rear panel connections

Table 6 - AC1141 Back Panel Connections

<table>
<thead>
<tr>
<th>Back Panel Connection</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>RS 232</td>
<td>Bi-directional serial port for controlling displays</td>
</tr>
<tr>
<td>DVI Output</td>
<td>DVI-D connector to display monitor or TV</td>
</tr>
<tr>
<td>Stereo Out</td>
<td>RCA jacks for stereo connection to speakers</td>
</tr>
</tbody>
</table>
Your AC1140A or AC1140C transmitter comes with the Conductor Software CD, a USB cable for connecting to the host, and an audio cable for hooking up an audio source (e.g.– a sound card or CD player). The AC1140A stand-alone transmitter comes with an additional power adapter. The AC1141A receiver comes with power adapter and DVI-HDMI adapter. The Video and Audio over Ethernet devices can be used as a simple digital video extender without installing the Conductor software or it can be used as the basis for an extended video LAN system over which data, video, and audio are all sent simultaneously.

**Notes:**

1. **Power connector must be attached to AC1140 transmitters before power is applied.**
2. **Before installing each AC1141A receiver in a particular location, make a note of the MAC address and/or serial number so that it can be assigned a name and a transmitter if desired.**
3. **Important: Any network device added to the video LAN must have a gigabit Ethernet connection.**

**To use the Video and Audio over Ethernet system as a DVI extender:**

1. Install AC1140C PC Card transmitter in an open PCI or PCIe slot on the host computer. The PCI/e tab is not used for data—only for mechanical support. When used in a PCIe slot, leave the perforated tab intact. If installing in a PCI slot, break the tab at the perforation to allow the AC1140C to seat properly. Connect an available 5-V DC connector from the host power supply to the 4-pin Molex connector.

2. Once your AC1140C is installed, connect the DVI cable from the host graphics card (or other video source) to the DVI connector on the AC1140. Connect the audio source to the audio connector on the AC1140 using the supplied 3.5-mm audio cable or equivalent. Do not connect the AC1140 to the host with a USB cable unless the Conductor software will be used.

3. Connect a Cat-5e or Cat-6 cable from the transmitter card to the AC1141 receiver. The maximum distance between transmitter and receiver is 300-ft. A gigabit Ethernet network switch can be used to extend this distance another 300-ft.

4. Plug the 5-V DC power adapter into the AC1141 receiver unit before connecting the DVI connector from the display monitor. Connect the receiver to the display monitor with a DVI cable (or an HDMI cable using the adapter supplied) and an RCA-to-3.5mm audio cable.

5. As soon as video, audio, and power cables are connected, the receiver will play the pre-recorded LocalPlay frame (shown below) and audio content in the absence of a live video stream. If the transmitter and receiver are communicating correctly, then live video generated by the graphics card will be displayed on the monitor. At this point, the hardware is correctly connected as a DVI extender.

![Figure 5 - Default "LocalPlay" content](image)
Creating a video and data LAN:
All Ethernet ports on both the transmitter and receiver function as gigabit Ethernet switches. Common network appliances such as NAS drives, IP cameras, switches, or routers can be connected to these ports or other AC1140 or AC1141 devices can be added to the LAN. For example, multiple AC1140C cards can be installed in one host computer for multiple video streams on one LAN. In this case, all transmitters can be included on the LAN by connecting the internal Ethernet ports together. Alternatively, multiple receivers can be daisy-chained together to extend the same video content to an unlimited number of monitors.

To implement a video LAN:
1. Install transmitters and receivers as needed in steps 1-5 above.
2. Verify that live video streams are displayed on all monitors.
3. Connect network appliances or additional Video and Audio over Ethernet components as desired. Verify that each left-most LED on all RJ-45 connectors is flashing three times indicating gigabit Ethernet.

Note: “Conductor” software does not need to be installed for video LAN implementation unless content scheduling or diagnostics is required or if more than one transmitter is being used.

The AC1141 has three LEDs on top indicating power, DVI, and LAN connected. All three LEDs must be on for proper operation. If any of these LEDs are off, this indicates a problem that must be addressed. If the LAN connection is lost, the receiver automatically switches to its on-board LocalPlay content. If the DVI connection is lost, confirm that the monitor is getting power or try resetting monitor power.

Both transmitter and receiver units have two LEDs on each network connector. The right LED blinks during data transmission and the left LED blinks in a specific pattern to indicate the connection bandwidth. For gigabit Ethernet (1000-baseT) connection, the left LED will blink three times then pause. A fast Ethernet (100-baseT) connection will blink two times with a pause and 10-baseT blinks once. Neither unit will function properly at a bandwidth less than 1000-baseT. The LAN LED on top of the receiver illuminates when that receiver is getting a valid video stream from a transmitter. The LAN LED may be off but the left LED on the connector still indicating gigabit connection. This indicates that data is received but no valid video stream is detected. In this case, the receiver unit will play its on-board LocalPlay content only until a valid stream is assigned.

4.0 CONDUCTOR SOFTWARE

AC1140A and AC1140C transmitter comes with a software CD for installing Conductor on a Windows-based computer. Load the CD into a CD drive on the host and the installation process should start automatically. If the installation does not start, double click on the setup.exe file on the root of the CD. Follow the setup wizard’s instructions to install the software. Double-click the Conductor icon installed on the desktop to start Conductor. Some of the tasks that can be accomplished with Conductor are:

1. Create LocalPlay content to upload to receivers. This content is stored to on-board memory and plays either automatically when LAN connection is lost or through the Conductor scheduler.
2. Name transmitters and receivers on the video LAN.
3. Assign receivers to particular transmitters.
4. Assign tasks to common applications such as PowerPoint, Windows Media Player, or QuickTime so that content can be quickly and easily scheduled using these applications. Conductor recognizes these
applications during installation and automatically associates the appropriate command-line option for
full-screen mode and looping among others.
5. Schedule a particular transmitter or receiver for LivePlay or LocalPlay at a certain time. By default,
each receiver comes up in LivePlay mode on power-up if there is no LAN connection.
6. Schedule tasks at certain times on certain receivers using a Windows application.
7. Log LAN diagnostics if a connection is lost to a particular transmitter or receiver.
8. Immediately halt video and/or audio to any or all components.
9. Broadcast an emergency message using EMCast to all receivers on the video network.

Conductor can be used to control and assign transmitters and receivers when the host computer is plugged
into any transmitter’s USB port. However, Conductor can only be used to schedule tasks on the host
computer. Conductor can be used on multiple computers connected to the video LAN but should only be
used on one computer for scheduling or configuring the network.
4.1 CONFIGURING TRANSMITTERS AND RECEIVERS WITH CONDUCTOR

Important: Any AC1140 and AC1141 transmitter/receiver pair can be used as a DVI extender out of the box without Conductor installed. However, once Conductor is installed and receivers are assigned, these assignments will be remembered upon next power-up. The factory defaults that allow each receiver to attach to any transmitter as a generic DVI extender are lost. Factory defaults can be restored by right-clicking an assigned transmitter or receiver in the left-hand column and selecting the [Factory Settings] option in the Conductor software (see Figure 7 below). Do not un-assign a receiver in the left-hand column by clicking the right arrow since this will return it to LocalPlay mode instead of LivePlay. Once factory defaults are reset, all previous configuration information is lost.

Refer to Figure 6 above for the following discussion. Conductor searches the network for all hardware installed on the video LAN and lists the transmitters on the left and unassigned receivers on the right. Initially all receivers are unassigned. Receivers can be assigned to transmitters by selecting the desired transmitter on the left, the desired receiver to connect on the right, and clicking the left arrow button. Selecting the assigned receiver on the left and clicking the right arrow will un-assign that receiver from a particular transmitter. You may also select the receiver and drag-n-drop it onto the desired transmitter. Once assignments are made, this information will be remembered by the devices. If you exit the conductor software and restart it, the configuration will be retained.

When moving the mouse over the transmitters and receivers, an information window will appear that displays the device name, serial number, IP address, MAC address, video source (Live Play for DVI stream and Local Play or Host Play for pre-recorded local content) and audio status (on/off). These values can be changed by activating the popup menu for the device. To do this, select a device and right click with the mouse. The menu will display and you can change the name, change the media and audio status or open the properties dialog for the device. You can change various settings using the property dialog as well.

Figure 7 - Transmitter Information Window
Popup Menus
Popup menus can be activated by right clicking on a transmitter or receiver. The following figures show the menus.

Figure 8 - Receiver Information Window

Figure 9 - Transmitter Popup Menu

Figure 10 - Receiver Popup Menu
The “Audio” command allows you to turn the audio on or off for the selected device. This can also be done by selecting the “Audio ON” or “Audio OFF” buttons on the main window.

The “Media Source” command allows you to turn change the media being displayed by the selected device. On a transmitter, “Host Play” tells the transmitter to play its local content while “Live Play” instructs the transmitter to play content received on its DVI input. On a receiver, “Local Play” tells the receiver to play its local content while “Live Play” instructs the receiver to play the content it receives over the network. This can also be by selecting the “Host Play”, “Local Play” or “Live Play” buttons on the main window.

The “Host Play Files” command allows you to configure the local play content on the transmitter. This is discussed in the next section of this document.

The “EMCast Files” command allows you to configure the emergency broadcast files on the transmitter. The EMCast feature is discussed in detail in the EMCast Section of this manual.

The “Local Play Files” command allows you to configure the local play content on the receiver. This is discussed in the next section of this document.

The “Serial Port” command allows you to configure the RS232 serial port of the receiver. This is used to send RS232 commands to the attached display. See the section on Serial Commands for more information.

The “Rename” command allows you to rename the device. Names should be unique and are limited to 64 characters. You may also edit the name by clicking on the name in the tree or by using the “Properties” command.

The “Properties” command displays a property dialog for the device. It includes information shown in the information window and allows you to set various values.

The “Factory Restore” command allows you to restore the device settings as it was shipped from the factory. This should be used with caution. In most cases, you should only select the “User Settings” option on the dialog and then the “Reset” button. Selecting the “Reset” button without any options selected on the “Factory Restore” dialog can be used to reboot the device. This is the same as pressing the “Reset” button on the device.

The red Emergency button activates or deactivates the emergency broadcast feature of Conductor. All receivers on the video network will show the EMCast files and play the EMCast audio. Please refer to the EMCast section in the document for more details on this advanced feature.

At the bottom of the main window there is a log window that lists informational messages about any action taken by the user or the task scheduler. The “Clear Log” button will erase the messages from the window.

**Note:** The buttons on the main window manipulates the selected item in the “A/V Network” tree on the left and not the tree on the right.

**Conductor Menu**
The Conductor menu contains the Security and Options command.
The Security command is used to control access to the host play, local play and EMCast media.

Enabling security for a feature forces the user to enter password before changes can be made to the selected content. For example, if you select “Enable LocalPlay Media Security” you will be required to set a password. This password will then be required to make changes to Local Play content on any AC1141A receiver on the network. To turn off security, you must supply the current password. You may change the password using the “Password” button. To change the password, you will also need to know the current password.

This Options command will activate the Options dialog.
The first option allows you to control how the media source for receivers are controlled. If this option is turned on, then when you change the media source of a transmitter (Host Play to Live Play or Live Play to Host Play), then all of it’s receivers will also update to display this data. This means if any of its receivers were playing local content because they were in Local Play mode, the receivers will automatically be switched to Live Play mode to play the data being sent by the transmitter. This also applies to scheduled tasks. This option is turned on by default.

The second option allows you turn on or off “hot keys” for the system commands. This option allows Conductor to process the system shortcut keys (F6, F7, F8, F9, and F10) even when Conductor is minimized and/or does not have input focus. By default this is turned on.

The “Logging” option allows you to enable or disable logging to a file. The information that is sent to the log window on the main Conductor window will also be sent to a file if file logging is enabled. You have several options in specifying a log file to use. You can select to always use the same log and optionally append to it. You can also choose to create a new log file every time Conductor is started. In this case, you select the folder in which the log files will be stored and Conductor will create a log file based on the current date and time.

The “Network Status” option allows you to poll the system at regular intervals to ensure all devices are communicating properly. This command is disabled by default. The results are sent to the log window and to the log file (if logging to a file is enabled).

**System Menu**
The system menu contains commands that affect the entire video network or system.

![BlackBox Conductor](image)

**Figure 14 - System Menu**

The “All Host Play” command instructs all transmitters to play their local play content. The F6 key also initiates this command.

The “All Local Play” command instructs all receivers to play their local play content. The F7 key also initiates this command.

The “All Live Play” command instructs all receivers to play the stream it receives from the transmitter. The F8 key also initiates this command.

The “All Audio On” command turns the audio on for all transmitters and receivers. The F9 key also initiates this command.

The “All Audio Off” command turns the audio off for all transmitters and receivers. The F10 key also initiates this command.

The “Emergency Broadcast” command activates Conductor’s EMCast feature. This broadcasts an emergency message on all receivers. See the EMCast section for more details.

The “Check Network Status” command will open a dialog to allow you to quickly check the status of the network to ensure all devices are communicating properly. This command can also be scheduled to occur at a regular interval using the [Conductor] → [Options] command.

The “Refresh Network” command will rediscover the video network and update the display. This is essentially the same as exiting and restarting Conductor.
4.2 HOST PLAY & LOCAL PLAY CONTENT

HostPlay and LocalPlay are powerful features of the Video and Audio over Ethernet system. It allows you to upload your own media content to either a transmitter or a receiver. You may upload both images and audio. Host Play and Local Play are essentially the same with Host Play applying to the transmitter and Local Play applying to the Receiver. Below is the Local Play dialog.

**Figure 15 - Local Play Dialog**

Conductor will accept a variety of image formats including bitmaps, JPEG, GIF, TIFF, and PNG files. The files will be converted to the proper dimension and format when they are uploaded. Images should have a resolution of 1280 x 720. If they do not, by default, the images will be re-sampled without regards to aspect ratio. You may select the option to maintain the image aspect ratio. This option will cause a 1280 x 720 image to be created with a border (top, bottom, left, and/or right) as needed. You may select a color for the border or tell Conductor to use the background color attribute of the image.

You may enter a different display time for each image. By default, each new image added to the list will be displayed 2 seconds or the time specified on the dialog in the “Default time per image” field. You can then edit each image’s time by clicking on the time in the list. You can also select several images at one time and enter a time in the “Default time per image” field and then select the “Apply” button to change the time for all selected images.
Images may be ordered using the up and down arrow buttons.

You may choose to use the current audio, no audio or select a new audio file. Only 16 bit, 2 channel, 44 kHz wave files can be used for audio. Conductor will allow you to select a MP3 file for conversion but due to copyright protection, this may not always work correctly. The audio file will be repeated over and over during the presentation. This allows you to use a small audio file.

Once you have your content selected, you may preview it on the local computer by selecting the “Preview” button.

The Save button allow you to save the settings (image list, timing, audio path) to a file. The Open button can then be use to open the file later. This is useful when you want to load the same content on several devices.

If you are happy with the content, select the OK button on the Local Play dialog to upload the data to the receiver. This can be a time consuming process, especially if a large audio file is selected.

If content security has been enabled, you will be prompted to enter the password before updates are applied to the device.

The Host Play dialog is identical to the Local Play dialog. A similar dialog is also used to load EMCast files to a transmitter.

4.3 EMCAST

Conductor offers a powerful feature that allows the user to send emergency messages across the A/V network. This feature is called EMCast. It works similar to the Host Play feature. You use the “EMCast Files” menu option to load media content to the local transmitter. Each VTC103 transmitter unit comes pre-loaded with an example EMCast image. By clicking the red button in the center of Figure 6 above, every receiver on the video LAN will switch to this emergency message (shown in Figure 15 below) within a few seconds.

Figure 16 - Default EMCast message
When the system is signaled to broadcast the data, the EMCast media is played from the local transmitter and broadcast to all receivers on the network. If there are receivers on the network that are assigned to other transmitters, these receivers will still play the EMCast media of the local transmitter. This is also true if the receivers are playing local play content.

The EMCast mode can be activated by the following methods:

1. Clicking the red emergency button on the main window.
2. Selecting the [System] → [Emergency] command from the menu.
3. Simultaneously pressing the ATL and F1 keys.
4. Using a USB Digital I/O switch. The software currently supports the USB Digital I/O Module (UMDIO 24L) from CyberResearch. This will allow you to connect to a control system using a TTL signal or switch-closure. Connection should be to Digital Port A0 as per the CyberResearch UMDIO 24L User’s Manual on page 14. When the switch is low, the emergency broadcast mode is activated. When the switch goes back high, the alert is cancelled and Conductor returns to the previous state.

For option 4, the module must be installed and configured as board 0 and device 0 following the manufacturer’s instructions.

4.4 CONDUCTOR TASKS

Conductor offers another feature that allows the user to schedule tasks on the video network. These tasks can be created and scheduled to run at regular intervals. The tasks are retained when the Conductor software is exited but they will NOT execute unless Conductor is running.

The Task menu on the main Conductor window allows you to access the task scheduling capabilities.

![Figure 17 - Task Menu](image)

The “Scheduled Tasks” command will open a dialog showing the currently scheduled tasks. It also allows you to create, edit, remove and executes tasks. See below for more details.

The “Start Scheduler” command will start the task scheduler. Conductor will automatically start the scheduler if tasks are defined.
The “Stop Scheduler” command will stop the task scheduler and prevent any scheduled tasks from executing.

The “Serial Commands” command will open a dialog displaying the list of defined serial commands. From this dialog you can add, remove and edit serial commands.

Scheduled Tasks Dialog
The scheduled tasks dialog shows the list of tasks currently defined. It is sorted by the “Next Run Time” which is the next time a task is scheduled to execute. It also displays some information about the tasks such as a short descriptive name, the action (or command), the target of the action and how often the command will execute.

![Scheduled Tasks Dialog]

Figure 18 - Scheduled Tasks Dialog

The “Refresh” button will update the task list. Usually this involves updating the “Next Run Time” in case a task has executed since the dialog was opened.

The “Add Task” button will open the Task dialog and allow you to create a new task.
Each task should be uniquely named but this is not a requirement. Select an action to perform and then select the appropriate target. Current actions include enabling local play, host play, live play and turning the audio on or off.

Once an action has been selected, the “Target” fields will update appropriately. If an action only operates on a receiver, then receivers will be listed in the target list. If an action only operates on transmitters, then transmitters will be listed in the target list. If an action operates on both devices, then all devices will be listed. Transmitters names are prefixed with “tx” and receiver names are prefix with “rx” to help distinguish between them.

There are various options for scheduling the tasks including how often the task is to execute, the start date and time, and an optional end date.

Scheduled tasks include changing content to LivePlay, LocalPlay, or HostPlay and switching Audio On or Audio Off. Additionally Serial Commands may be scheduled to execute on the receivers.

Windows Task Scheduler can be used if third-party applications need to be scheduled.

**Serial Commands**
The Serial Command dialog used is add, edit and delete serial commands. The name of the task and the data, in HEX format, is displayed.
Figure 20 - Serial Commands

The Add and Edit buttons will display the Serial Command Dialog. This dialog will allow you to name the serial command (must be unique) and enter the command data in either HEX or ASCII format. The Delay option tells the system to wait for the specified time after sending the RS232 command. You have the option of sending the data in HEX or ASCII format.

Figure 21 - Serial Command Dialog

Keep in mind that you still need to configure the serial port for the receiver you wish to send RS232 command thru. You also need to schedule tasks that use the command.

5.0 USING CAMERAS FOR LIVE FEEDS

Live camera feeds can be displayed on the video LAN in two ways:
1. By connecting the camera HDMI output (if available) directly to the AC1140 DVI input using the supplied HDMI-to-DVI adapter.
2. By connecting a fire wire, USB, or Ethernet camera directly to the host PC and extending the controlling application onto the remote monitor through the graphics card DVI output.

If the camera is not HD or does not have an HDMI output, video scaling adapters can be used to convert from S-Video, composite, or component to DVI or HDMI.

In both cases above, the camera is required to be located near the host PC. However, an IP camera can be located anywhere on the video LAN by connecting to any port on an AC1140 or AC1141. In this case, the controlling application runs on a host PC, recognizes and controls the camera through the video LAN, and displays live images with synchronized audio which can then be extended to multiple monitors through the Video and Audio over Ethernet video LAN.
Appendix A: Troubleshooting

The following table describes problem conditions you may encounter with the GigaView camera and suggested actions to resolve these problems.

<table>
<thead>
<tr>
<th>Problem</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>AC1141 indicates no power</td>
<td>Confirm power connection to unit.</td>
</tr>
<tr>
<td>AC1141 indicates no DVI connection</td>
<td>Check DVI cable to monitor and monitor power cord. If monitor is connected and functioning properly, cycle power on unit.</td>
</tr>
<tr>
<td>AC1141 indicates no LAN connection</td>
<td>Indicates that AC1141 is not receiving a valid video stream – although LAN data may be received. Confirm that video is not being disabled through Conductor software and that all LAN cables are connected properly.</td>
</tr>
<tr>
<td>AC1140 or AC1141 indicates no gigabit Ethernet connection</td>
<td>An intermediate switch or network appliance has been installed that does not support gigabit Ethernet (1000-baseT). Remove device or replace with gigabit Ethernet version.</td>
</tr>
<tr>
<td>Installed transmitter or receiver does not show up in Conductor software but LEDs indicate connection.</td>
<td>Check all network cabling and components to verify connection. Click on “Refresh Network” to detect any recently installed components. If still no connection, reset unit by pushing pink Reset button and waiting several seconds for unit to boot.</td>
</tr>
</tbody>
</table>

For technical support, contact Black Box technical support at 724-746-5500.