IPTV Watch TV and Educational Content on the Computer

“How-To” Guide
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Hardware System Requirements

**Windows 98/2000/XP/Vista:**
Intel Pentium III 850MHz CPU or better
Java Runtime Environment 1.4.1 or later
Firefox or Internet Explorer 6 or 7

**Mac OS X 10.2.8 (Power PC):**
Power PC G3 700MHz or G4 400 MHz or better
Java Virtual Machine - Java 1.4 or later
Firefox, Safari, IE 5.2
OR

**Mac OS X 10.4 or 10.5 (Intel)**
Java Virtual Machine - Java 1.4 or later
Firefox or Safari

YOUR COMPUTER MUST BE CONNECTED TO THE NETWORK VIA A NETWORK CABLE
*Wireless Connections are NOT supported at this time.*

Getting Started Watching TV on the Computer

**Where to Find Trinity IPTV**

1. Enter [http://iptv.int.trinitydc.edu](http://iptv.int.trinitydc.edu) in your web browser.
2. The main Trinity IPTV web portal will be launched. Select the “Tune-In” button.
3. Select **Run** if prompted. **Wait 30 seconds** for your browser to launch the Java applet that should display a separate "InStream" window that will look like the screenshot below.

![Screenshot of Trinity IPTV window](http://iptv.int.trinitydc.edu)

If you do not see the "Instream" window, you may need to download Java from the manufacturer's website. You may also have to click through various security warnings and authentications. If you are still not receiving any video or sound, please report issues to Information Technology Services help desk.
Installing Java if Required

1. The first time you use the video IPTV java applet, you may be prompted to download a new Java plug-in, or you may receive a window explaining that you do not have the latest version of Java installed on your computer.

**PC Users:** You can verify your version of Java or download Java from the manufacturer's website.


Accepting the Certificate for Viewing

Various certificate pop-up messages for PC/Mac/Linux platforms are shown below:

**Internet Explorer - PC Java Applet Permission screen**

Click "Yes", "Grant this session" or "Grant always" to accept the digital certificate.
Click "Grant this session" or "Grant always" to accept the digital certificate.

If you see a *Windows Security Alert* for *Windows Firewall*, click *Unblock*
The InStream Viewer Interface

The OnGuide program guide view contains several frames and a toolbar (called the "Dashboard") for selecting your viewer settings.
The InStream Dashboard

The Dashboard displays the controls used during viewing.

Pressing “i” button on the Dashboard will display information about your current viewing session such as:

- The current date and time
- Signal reception status

You can start and stop the broadcast by clicking on the “Stop” or “Play” button.

You can adjust the volume by clicking the volume slider and dragging right (louder) or left (quieter).

You may also "MUTE" the audio by clicking on the "MUTE" button at the left of the volume slider control.

Changing Channels

There are two ways in which you may select a channel:

- Select the + or – on the Channel selection buttons
- Double click any channel in the Channel listing

Channel Selection Button

To select a channel using the channel selection buttons, click on the “+” button to select the next channel towards the top of the channel list (as channels appear in OnGuide). Click on the “-” button to scroll towards the bottom of the OnGuide channel.

Pressing the "CH" button jumps back to the channel that was previously viewed.
To view the programming schedule for a channel, click once on the channel in the listing. Use the slider control to scroll through the programming schedule. Click on a program title in the schedule to view a description of the program.

**Watching Your Channel Selection**

To choose that channel for viewing, double-click on the channel name in the listing. The current channel selection will be displayed in green highlighting.

When a channel is selected, the program schedule displays the current broadcast. A preview is also shown in the preview window.

**Watching the Channel in “TV” Mode**

Click the “TV” button on the dashboard or under the preview window to switch from “OnGuide” mode to “TV” mode and continue viewing in “TV” mode.
Viewing the Channel in “TV” mode.

**Toggle Live TV / Program Guide Views**

Some Helpful Hints:

- Double-click on the video to switch to OnGuide view.
- Command/Control + G will toggle between Live TV and Program Guide view.
- Control + right-click displays a menu that will allows switching between OnGuide and TV mode.

- Right-click on the player window (Mac users hold down control key then click) to display the menu. Then select options to customize your viewing options.
- You may also resize your player window by clicking and dragging the green handle in the lower right hand corner (Mac) or any corner or window border (MSWindows or Linux).
### Ending Your Viewing Session

To end your channel session, click on the "x" button in the top right corner of the player window.

### Keyboard Shortcuts

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<thead>
<tr>
<th>Feature</th>
<th>Short Cut</th>
<th>Feature</th>
<th>Short Cut</th>
</tr>
</thead>
<tbody>
<tr>
<td>OnGuide / TV</td>
<td>&lt;Ctrl&gt;&lt;G&gt;</td>
<td>Info Cycle</td>
<td>&lt;Ctrl&gt;&lt;I&gt;</td>
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<tr>
<td>Channel Up</td>
<td>&lt;Ctrl&gt;&lt;Up Arrow&gt;</td>
<td>Dashboard On / Off</td>
<td>&lt;Ctrl&gt;&lt;D&gt;</td>
</tr>
<tr>
<td>Channel Down</td>
<td>&lt;Ctrl&gt;&lt;Down Arrow&gt;</td>
<td>Minimize Screen</td>
<td>&lt;Ctrl&gt;&lt;0&gt;</td>
</tr>
<tr>
<td>Volume Up</td>
<td>&lt;Ctrl&gt;&lt;Right Arrow&gt;</td>
<td>Small Screen</td>
<td>&lt;Ctrl&gt;&lt;1&gt;</td>
</tr>
<tr>
<td>Volume Down</td>
<td>&lt;Ctrl&gt;&lt;Left Arrow&gt;</td>
<td>Medium Screen</td>
<td>&lt;Ctrl&gt;&lt;2&gt;</td>
</tr>
<tr>
<td>Mute</td>
<td>&lt;Ctrl&gt;&lt;M&gt;</td>
<td>Large Screen</td>
<td>&lt;Ctrl&gt;&lt;3&gt;</td>
</tr>
<tr>
<td>Channel Jump</td>
<td>&lt;Return/enter&gt;</td>
<td>Full Screen</td>
<td>&lt;Alt&gt;&lt;Enter&gt;</td>
</tr>
<tr>
<td>Brightness Down</td>
<td>&lt;F1&gt;</td>
<td>Brightness Up</td>
<td>&lt;F2&gt;</td>
</tr>
<tr>
<td>Contrast Down</td>
<td>&lt;F4&gt;</td>
<td>Contrast Up</td>
<td>&lt;F3&gt;</td>
</tr>
<tr>
<td>Contrast/Brightness Reset</td>
<td>&lt;F5&gt;</td>
<td>Fixed Aspect On/Off</td>
<td>&lt;Ctrl&gt;&lt;A&gt;</td>
</tr>
<tr>
<td>Closed Caption 1 On/Off</td>
<td>&lt;Ctrl&gt;&lt;H&gt;</td>
<td>Thumbnail Toggle</td>
<td>&lt;Ctrl&gt;&lt;Q&gt;</td>
</tr>
<tr>
<td>Closed Caption 3 On/Off</td>
<td>&lt;Shift&gt;&lt;Ctrl&gt;&lt;H&gt;</td>
<td>Stop/Pause</td>
<td>&lt;Down Arrow&gt;</td>
</tr>
<tr>
<td>Play</td>
<td>&lt;Up Arrow&gt;</td>
<td>Tune Channel Number</td>
<td>&lt;000..999&gt;&lt;Enter&gt;</td>
</tr>
<tr>
<td>Sleep Timer(15/30/45Off)</td>
<td>&lt;Ctrl&gt;&lt;S&gt;</td>
<td>OnGuide Font Size</td>
<td>&lt;Ctrl&gt;Mouse Wheel</td>
</tr>
<tr>
<td>Program Description</td>
<td>&lt;Ctrl&gt;&lt;P&gt;</td>
<td>Quit</td>
<td>&lt;Ctrl&gt;&lt;Q&gt;</td>
</tr>
</tbody>
</table>

### Channel Lineup

<table>
<thead>
<tr>
<th>Channel</th>
<th>Network</th>
<th>Channel</th>
<th>Network</th>
<th>Channel</th>
</tr>
</thead>
<tbody>
<tr>
<td>001</td>
<td>CNN</td>
<td>014</td>
<td>MSNBC</td>
<td></td>
</tr>
<tr>
<td>002</td>
<td>CBS</td>
<td>015</td>
<td>COMEDY CHANNEL</td>
<td></td>
</tr>
<tr>
<td>003</td>
<td>ABC</td>
<td>016</td>
<td>MTV</td>
<td></td>
</tr>
<tr>
<td>004</td>
<td>NBC</td>
<td>017</td>
<td>TNT</td>
<td></td>
</tr>
<tr>
<td>005</td>
<td>DISCOVERY</td>
<td>018</td>
<td>E!</td>
<td></td>
</tr>
<tr>
<td>006</td>
<td>FOX</td>
<td>019</td>
<td>LIFETIME</td>
<td></td>
</tr>
<tr>
<td>007</td>
<td>PBS</td>
<td>020</td>
<td>OXYGEN</td>
<td></td>
</tr>
<tr>
<td>008</td>
<td>A&amp;E</td>
<td>021</td>
<td>SCIENCE CHANNEL</td>
<td></td>
</tr>
<tr>
<td>009</td>
<td>CSPAN</td>
<td>022</td>
<td>TLC</td>
<td></td>
</tr>
<tr>
<td>010</td>
<td>National Geographic</td>
<td>023</td>
<td>VH1</td>
<td></td>
</tr>
<tr>
<td>011</td>
<td>History Channel</td>
<td>024</td>
<td>TV ONE</td>
<td></td>
</tr>
<tr>
<td>012</td>
<td>USA</td>
<td>025</td>
<td>FIT TV</td>
<td></td>
</tr>
<tr>
<td>013</td>
<td>CW</td>
<td>201</td>
<td>SCHEDULED</td>
<td></td>
</tr>
</tbody>
</table>
FAQs

FAQs Before the InStream Viewer Launches

Q: Will my older computer support InStream and the IP video service?
A computer must meet certain minimum system requirements. If your system does not meet these requirements, the service may perform less than desired or not at all. The minimum system requirements to view each service are listed below:

Windows 98/2000/XP:
- Intel Pentium III 850MHz CPU or greater
- Sun JRE 1.4.1 or later
- Firefox or Internet Explorer 6.0+

Mac OS X 10.2.8:
- Power PC G4 867 MHz or greater
- OpenGL-capable video card (ATI Rage 128 or Radeon, any nVidia card)
- Internet Explorer 5.0 or higher, or Netscape Communicator 7.0

Mac OS X 10.4+ (Intel)
- Java run-time environment
- Firefox or Safari

The client computer must have network access and a recent Java run-time environment, in most cases available at http://java.sun.com.

Q: Why do I get a message in my browser that says my platform is unsupported?
If you have what is determined to be an unsupported device, the portal attempts to display a helpful message to guide you in resolving the problem. This message means that your platform is unsupported by the viewer. Please review the minimum platform requirements in another part of this FAQ.

Q: Will it work on my system with multiple monitors attached?
Yes

Q: When I direct my Web browser to the portal to "Tune In", why does my browser "crash" or show an "Applet unable to initialize" or similar status message in the lower left corner?
Your Java run-time environment may be obsolete or corrupt. Users of Macintosh OS X platforms are advised to consider visiting apple.com and upgrading to Apple’s latest MRJ. Users of Windows should consider retrieving the latest Sun Java runtime environment, which at one time was at: http://java.sun.com/j2se/1.4.1/download.html to make sure it’s the latest see: http://java.sun.com/j2se/downloads.html
You may also need to upgrade your browser to the latest version.
Q: When I try to connect to a broadcast using my Web browser, I see a pop-up message, what are these messages and how should I reply to them?
These are security warnings that ask whether you authorize to load the signed software necessary to automatically provision your computer to view the selected content. These messages are common the first time you select a stream in a browser session. Select the "Grant" or "Yes" button to bypass each request, each time. If you do not want to see these messages again, check the "Remember this decision" or "Always trust content " or similar option before you select the "Grant" or "Yes" button or select the "Always" button depending on the type of pop-up displayed. When you inform the security manager that you always want to grant authorizations to the software, the messages will no longer appear when you request to view enabled content in the future.

Q: Why do I see the message "Unable to Initialize Transport" in the browser's status area?
This means that one or more of the certificate authorizations was not granted. Reload the page to force the browser to ask you for authorization again. You may also need to upgrade your Java Virtual Machine (JVM), Java Runtime Environment (JRE), or Java Runtime Machine (JRM – Apple) to a newer version. Instructions on upgrading your JVM/JRE/JRM can be found elsewhere in this FAQ. You may need to close all instances of the browser and start again.

FAQs After the InStream View Launches

Q: Why does it take so long to connect to the transmission when using Internet Explorer?
This may be caused by an early version of the Microsoft Java Virtual Machine (JVM). Upgrade to the latest version of the Java run-time environment at http://www.java.com.

Also - At times, on the World Wide Web, "helper applications" are loaded to your computer or are attached to your browser without your knowledge. These applications are intended to mine data and provide helpful capabilities. Some of these applications may interrupt or slow down your browser performance. Be certain that any such application is not interfering with your browser’s capability or performance.

Q: Why does it sometimes take a while for the video and audio to restart when I click Stop, then Play?
Your computer has to leave and rejoin the multicast group for that service, then reacquire the stream. This may result in a brief delay.

Q: Why is my viewer so small?
To view video in full-window mode, click the "TV" button in the upper left corner of the "OnGuide" window or under the video preview thumbnail. To increase the size of the viewer window, right-click (Windows/Linux) or control-click (Macintosh) on the viewer to show a menu with pre-defined viewer sizes. Select the preferred size (small, medium, large, or full screen) from the menu. Alternately, use the mouse to click on and stretch the window borders or corners. To toggle between "OnGuide" mode and "TV" mode, press Ctrl-G (Windows) or Cmd-G (Macintosh).
Q: Why does the viewer application display "Retrieving guide data", "Waiting for Broadcast", "Tuning In", or "Connecting", and then do nothing - or worse, tells me I'm unauthorized?
The stream may not be available on the network or your computer system may not be receiving multicast data through or from your network connection or may be blocked by a personal firewall. Multicast is a standard network-based data distribution technology used to broadcast services on the network. If you encounter one of these messages but never receive onGuide data or video, you may have a firewall or other configuration issue that prevents multicast data from reaching the application on your system.

User Not Authorized: If you get a "User not authorized" error after seeing the message "Retrieving guide data," try disabling unnecessary network adapters and connections (i.e., network bridges, wireless network adapters), and try again.

License server not responding: if InStream™ cannot communicate with the license server, this message may appear. To resolve this, open the outgoing unicast udp port (specified below) in your personal firewall configuration.

Multiple Network Interfaces: You may encounter problems if your computer is configured to use several different connections to the network such as a wired 802.3 and a wireless 802.11x adapters. Disable settings for wireless adapters and try again.

Firewalls: If your computer has a personal firewall such as Zone Alarm or Black Ice installed and configured to "Block Internet Servers", you will not receive multicast services even if your network connection is multicast enabled, because an improperly configured firewall will block multicast. To enable multicast on a system with a firewall you can either temporarily disable or remove the firewall software by going to Control Panel > Add/Remove Programs (Windows), or reconfigure the firewall program to "Allow Internet Servers" in an option menu. Your firewall must be configured to allow the IP addresses carrying the multicast traffic on your network (e.g., 233.0.103.x, check with your site technical support). Also, be sure to allow the following ports: incoming multicast udp ports: 4900 and 4901 and outgoing unicast udp port 4902. Keep in mind that some network services client applications may install firewall software on your client device without your knowledge (e.g., Cisco - IPSec VPN). If you suspect this to be the case, consider opening that application, finding the firewall option and disabling it, closing the application then try accessing the video services again. If it now works, consider appropriate configuration of the firewall as mentioned earlier.

Note: Windows XP provides a built-in personal firewall that is disabled by default. If you have not enabled this feature and have no additional firewall software, multicast should not be blocked.

Q: Why is the viewer showing a "black" screen, green bars or an otherwise snowy display?
If you see nothing in the InStream viewer window, when in TV mode, and the information message in the InStream status window shows: "Now Playing: …", then the analog input signal to the video encoder may have been interrupted. Please contact the help desk.
Q: What purpose do the controls serve on the viewer?
The OnGuide/TV button is located at the top left corner of the InStream dashboard. Clicking on this button toggles between "TV" mode and the "OnGuide" program guide mode. In onGuide™ mode, the viewer window displays the list of available channels and up to two weeks of detailed program information for each channel. When InStream is in TV mode, video appears in full-window mode and the button reads onGuide.

The Stop and Play buttons are located next to the onGuide button. Clicking the Play or Stop button starts and stops the video. Right-clicking (Windows/Linux) or control-clicking (Macintosh) the mouse over the Viewer presents a menu with various options to resize, enable closed captioning, etc.

The station logo shows the icon associated with the currently tuned channel.

Volume controls are situated immediately to the right of the channel tuning controls and listed from left to right as "Mute/Unmute" and "Volume Slider". The volume slider, located to the right of the mute button, increases or attenuates the volume by sliding the slider control to the right or left. Click the mute button to mute the audio or unmute muted audio.

Q: How long should it take for video to start playing after I select a channel?
It should take only a few seconds after selecting an enabled channel. A brief delay of a few seconds is normal. If the video hasn't appeared in 30 seconds, there is a problem either with your platform, it's ability to receive the network transmission, or other problems that may require the assistance of the help desk. Close all unnecessary programs and try to restart InStream.

Q: Why does the message "Reception: (no broadcast available)...", "Tuning In..." or "Ready..." appear indefinitely in the InStream information field?
This means that either the requested stream has been interrupted, the stream is not available in the part of the network in which you are located, or for some other reason, the stream cannot traverse your network connection. It's also possible that your personal firewall is blocking multicast traffic as described in another part of this FAQ. If you believe there should be a stream available; then contact the help desk.

Q: Why do the onGuide event times appear to be inaccurate by an hour or two for the programs showing?
The time zone and system clock time of your computer (PC/Mac) might be incorrect. Be certain that you set the time zone, date, and time appropriate for your location and select the daylight savings time option if appropriate.

Q: Why do I get the message "Ready" or "Waiting for Broadcast" in the InStream™ information window?
This message implies that the expected stream is no longer available or the transmission has completed. If you know this to be unexpected, please contact the help desk.

For more information go to: www.trinitydc.edu/it and select IPTV
Q: Why is my video not smooth like TV? 
The streams are placed on the network at a "full motion video" rate (30 frames per second). Your version of Microsoft DirectX may not support monitors that are set above a scan rate of 75Hz or your CPU is taxed by other applications and not enough CPU bandwidth is available for InStream™ to display full frame-rate video. The following suggestions may help: check your CPU load with the CPU monitoring tool provided by your Operating System. If you have surplus CPU cycles available, try to change the scan rate on your monitor to 75Hz. If not, consider closing some of your other opened applications. Also consider upgrading graphics card drivers and/or your system software (e.g., Microsoft Update, Direct/X (if used), Apple Macintosh OSX update, or try a faster computer).

FAQs Platform Specific (Windows/Mac)

Q: Why does my Windows PC "lock-up" when video starts to play? 
Your current graphics card drivers may not handle overlays properly. Upgrade to latest video drivers for your graphics hardware.

Q: Why does my cursor flash when the video is running? 
Your drivers may not handle graphics overlays properly. Consider changing the properties of your mouse pointer in the control panel to normal pointer and turn off the "enable pointer shadow" option.

Q: Why does my browser crash instead of loading InStream™ or the Java applet will load but nothing happens? 

The Critical Update package may include an up-to-date Java Virtual Machine (JVM) from Microsoft, which may fix this problem. More information in recommended Java plugins can be found elsewhere in this FAQ.

Q: Does it work on Macs? 
Yes. Currently InStream™ supports OS X on both legacy PowerPC platforms and the new Intel platform. Requirements are listed elsewhere in this FAQ.

For additional guides and FAQ's go to: www.trinitydc.edu/it and select IPTV