



Live Broadcasting Manual

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Section A : Introduction to Live Broadcasting

A1. What are live broadcasts?

A live broadcast is a radio broadcast that takes place outside of the CiTR studios. It could be a special broadcast from a particular event which focuses on the event itself (eg Folk Festival, Pride Parade), a broadcast of a music performance (eg Shindig) or a special edition of your show from a different location (eg Arts Reports at the Fringe Festival).

For any live broadcast you need a mobile studio and a transmission method. A mobile studio refers to the set up you have on site, the mixer you're using and the different audio sources you have going into that mixer. Instructions on setting up a mobile studio are outlined in **Section B** of this manual. The transmission method refers to the way you're going to get the broadcast to air. This can be done via the internet (**Section C**), via wireless transmitter and receiver or via phone lines (**Section D**).

A2. Why live broadcast?

Broadcasting live provides interesting and exciting programming, is engaging for a live audience, and raises the profile of CiTR. Setting up a mobile studio at a festival or event gives you access to performers, organizers, audiences and other people on site at the events. If you're on site you can better convey to a radio audience what it is like to be at that particular event. Also, when music is involved you can get a line out of the sound board to broadcast the performance live.

A3. Transmission methods – quick guide

CiTR has five different transmission methods for live broadcasting. Choosing a method depends on the resources you have available and the content of your broadcast.

Phone

CiTR's sports mixer has the ability to transmit audio via phone lines (cell phone or landline). These broadcasts are put on air the same way as any other telephone call.

Advantages: Flexible, doesn't require internet access, allows for 2 way communication between the studio and the field, involves the studio producer more in the broadcast

Drawbacks: Sound quality not as high as an internet broadcast, no music can be included because the audio quality is too low

Internet – Shoutcast/streaming

The output from any mixer can be plugged into the mic in / line in jack on a computer equipped with Shoutcast/butt or another audio streaming application.

Advantages: The audio quality is good enough to broadcast music. All the IDs, promos etc can be played from on site so you don't need to go back and forth between the field and the studio.

Drawbacks: You need to have stable internet access which requires forward planning. You need to test the connection out beforehand and troubleshoot any connection or firewall issues. This only allows for one way communication and there is a 20 – 30 second delay.

Internet – IP codec

CiTR has 2 IP codecs. One is wired into the broadcast panel in the studio and the other goes into the field. Both need to be connected to the internet and once they are the field codec can 'call' the studio codec by dialing its IP address. Then whatever audio you've got plugged into the field codec will be transmitted back to the studio codec.

Advantages: More stable connection. No delay. Two way communication is possible.

Disadvantages: Need a wired internet connection.

Leased Lines

CiTR has three leased lines on campus – at the hockey rink, at the gym and at the football stadium. These lines were put in for the sports department and are primarily used for sports broadcasts but could be used for any broadcast from those locations.

Advantages: No delay, have own channel on studio console, good for talk or music, no internet connection needed

Disadvantages: Only exist on campus at 3 locations

Wireless Transmitter / Receiver

CiTR has a wireless transmitter and wireless receiver which have a line of site range. To broadcast with this you would plug the transmitter into your mixer and the receiver into the studio console (outlined in Section B7)

Advantages: No delay, good for talk + music, no internet connection needed

Disadvantages: Is really only useful for broadcast locations you can see from one of CiTR's windows (ie McInnes Field)

A4. Which transmission method is right for your broadcast?

The method you use to transmit your broadcast depends on the resources you have available. Generally speaking an internet broadcast will always be preferable because it allows for higher quality audio.

There are some occasions when a phone broadcast is necessary. If you're moving around a lot and need to be mobile a phone broadcast would be easier. The major drawback is that you cannot include any music. Also, if you're near a stage and background music is picked up by the microphones this can cause some sound distortion.

You should always be familiar with at least two different transmission methods so you have one as a backup. Unforeseen problems can (and will) arise, it's important to have a backup plan so you're prepared for all eventualities.

A5. Different Roles in Live Broadcasting

It is impossible to set up and conduct a live broadcast on your own. At an absolute minimum you need at least two people for a live broadcast. One person to send the audio from on site and one person to be in studio to make sure the audio you're sending goes to air. The number of people you'll need to successfully complete a broadcast depends on its length, content and also the experience level of the volunteers.

Host/s

A broadcast should have a host or hosts to act as the primary narrator of the broadcast. It is the host's role to introduce each element of the broadcast (interviews, music etc) and provide proper context for it. Ideally, it's best to have two hosts so if one becomes stuck or distracted by a technical issue the other can jump in without the audience realizing there is a problem. Also there is more description of atmosphere and events in a live broadcast than a studio broadcast and this generally works better with two people talking.

Field Producer

This person would set up all the gear and monitor the technical side of the broadcast as it is going to air. They would also keep track of the progression of the broadcast and ensure it stays on course and on time. The producer would line up interviewees and prep them before going on air. They would also provide direction to reporters and keep track of all the content.

Studio Producer

The studio producer gets the feed on air, introduces the broadcast, monitors the feed and troubleshoots any problems from the studio end. This person is absolutely essential and is often the hardest volunteer to find. If the broadcast is done via phone lines the studio producer would also be responsible for playing station IDs, promos etc.

Reporters

These people would conduct interviews to provide content for the broadcast and to lighten the load on the hosts. They could do live interviews with a wireless mic, or pre-recorded interviews to be played during the broadcast. If the interviews are pre-recorded they would also edit them and get them ready for air. The reporters assist the producer in finding and prepping interviewees for the live broadcast.

A6. Organizing live broadcasts

Step 1. Talk to Bryce

Run your broadcast idea past CiTR's Program Coordinator Bryce Dunn citrprogramming@club.ams.ubc.ca. He'll be able to let you know whether the content is appropriate for CiTR and will give you the go ahead to pre-empt regular programming. You should give programmers as much notice as possible if pre-empting their shows. Four weeks before the broadcast is a good time to get started, this gives you two weeks for pre-planning and two weeks' notice for affected programmers.

Step 2. Contact the venue/event organizer

Find out whether or not they are on board with your live broadcast idea. Let them know what you require from them (eg internet access, power, table, chairs etc). Figure out all the logistical and technical details of the broadcast (how will you broadcast, what equipment is needed, how will you get it there, where will you set up).

Step 3. Advise programmers

Once you're sure the broadcast can go ahead confirm with Bryce and let him contact the programmers affected or contact them yourself. You should be giving people **at least two weeks' notice** to pre-empt their show.

Step 4. Recruit volunteers + assign tasks

You cannot do this alone. At a minimum you need one person on site and one person back in the studio. Ideally you'd have a host, a producer, reporters and a studio producer. Send an email out to the volunteer list but remember not everybody reads emails as closely as they should. Put a signup sheet at the station and ask people in person if they are interested. Ask CiTR staff who they think could be interested in being involved and contact them directly.

Step 5. Plan the broadcast

Have a run sheet for the broadcast. Chances are things will change as you progress so you'll need to be flexible but you should have a plan to start with. Contact potential interviewees and figure out a way to contact them on site (sending a person to meet and fetch them often works well)

Step 6. Do a test run

Set up all your equipment (on location if possible) and test it all out. Make sure everything works and all the volunteers involved know how to use the equipment. If possible, stop by the venue/location and test everything a day or two in advance. Always have a back-up plan, in the case of unforeseen technical difficulties that prevent the broadcast from working

Step 7. Promote the broadcast

Speak to the CiTR Promotions Coordinator (sponsorship@citr.ca) about ways to promote your broadcast. Create a promo to air on CiTR, have a post added to the CiTR website, Facebook and Twitter

accounts. After the broadcast, post the podcast to the website, and send the podcast to the community partner, band manager or event organizer to promote to their respective audiences.

Section B : Setting Up a Mobile Studio

CiTR owns two JK Audio Remote Mix Sports (pic below). These are primarily used for sports broadcasts but can also be used for on location talk or music programming. These mixers are designed to broadcast via phone lines – either cell phone or landline – but they can also be used for internet broadcast if you have a stable internet connection on site. The instructions below are specific to the Remote Sports Mix but a lot of the principles concerns (inputs, outputs, levels etc) remain the same no matter what type of mixer you use. For extra information about the Remote Sports Mix see its online manual

http://www.jkaudio.com/assets/pdf/user_guides/Sport-0307w.pdf.

B1. Setting up the Remote Sports Mix

Step1. Plug in the power supply

Step2. Turn the mixer on

Step3. Attach the mics + headphones

Step4. Test levels

Step5. Plug in the phone line or cell phone / attach the mixer to a laptop

Step6. Make the call or answer the call / broadcast over the internet



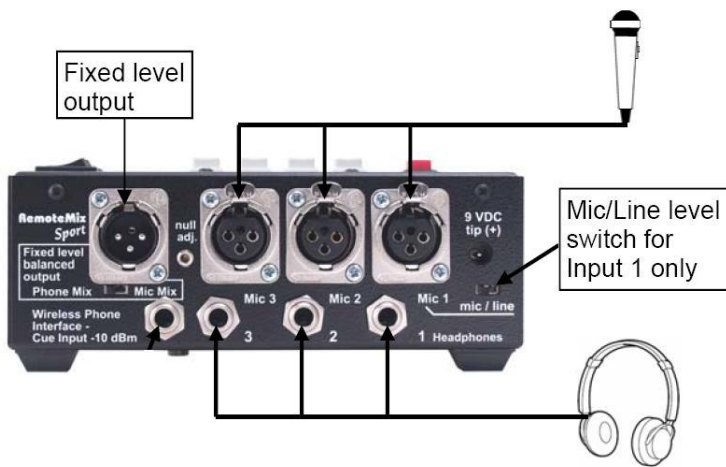
Power Supply

The Remote Mix Sport has a 9 volt DC power supply but it can also run using two 9V batteries. The battery compartment is located on the underside of the mixer. You need to unscrew the panel to replace batteries. You should always have fresh batteries in the mixer in case of power failure. The battery life can be tested with the battery test button on the front of the unit. If the red light lights up the batteries are still ok.

B3. Inputs + Outputs

There are three XLR inputs on the rear of the mixer. There are also three 1/4inch outputs underneath the XLR inputs for headphones. It's best to use the headset mics (pic left) with this mixer because they are hands free. The headset mics also have a very close range so they work well for broadcasts in noisy places because they don't pick up too much background noise. If you need more flexibility or a better microphone you can plug in any other mic/headphones into these inputs/outputs. If you are using a phone line to broadcast you'll be able to hear the person you are calling through the headphones.





If you are doing an internet broadcast and playing music you can plug an iPod/computer/mp3 player into the Mic 1 input. You may need to flick the mic/line switch over to the line setting depending on the audio device.

B4. Live feeds

You might want to include a live feed from the sound board at the events you're broadcasting from. You'll need a line out of their sound board which you can plug directly into your mixer or directly into the IP codec or computer if you're just broadcasting a live feed. If you're sending a live feed to the sports mixer it must go into the **Mic 1** input and the **mic/line** switch should be switched to **line**. Test the feed before the broadcast goes to air to make sure it sounds ok and then keep the levels down until you're ready to go live. The output on the sound board at the event will vary depending on their set up. Usually the output will be RCA, XLR or 1/4 inch. Make sure you are there well in advance to plug into the board and test the feed. If possible contact the sound tech before the broadcast to check what kind of an output is available.



B5. Levels

The level of each input can be adjusted on the front panel. The levels can be monitored using the VU meter on the top of the mixer. The level controls are very sensitive so adjust them slowly. The Cue Input and Main Feed levels control your headphones only and will not affect the main output level.

B6. Phone lines

The Remote Sports Mix can be plugged into a landline using a telephone cable plugged into the wall socket. The mixer will then act as a telephone interface and is capable of making and receiving calls. You can also unplug the handset cable from a phone and plug that into the handset jack on the mixer.



To make a call simply ensure the **Key Pad** switch on the front panel is up and the **Phone Line** switch is in the **Dial/Talk** position. To receive calls the Phone Line switch must be in the **Hang Up** position. The mixer can be plugged into a cell phone using the ¼ inch to 2.5mm **Daptor One** cable. The cell phone output is located under the fixed line output level on the back of the mixer.

Many newer model cell phones have 1/8 inch inputs and these can be attached to the mixer with a ¼ inch to 1/8 inch cable. If you are broadcasting using a cell phone make sure it is fully charged and the phone charger is readily available on site. If possible leave the phone plugged in and charging for the entire broadcast.



B7. Wireless Transmitter

CiTR has a wireless transmitter and a wireless receiver. The wireless receiver (top left) can be plugged into one of the Remote Sports Mix XLR inputs to receive audio from the wireless transmitter (bottom left).

There is an XLR output on the back of the receiver which plugs into any XLR input on the mixer. There must be line of sight between the transmitter and the receiver for this to work. You can use this set up as a wireless mic to have a roving reporter in the field. Just plug a microphone into the transmitter. If you're using the transmitter as the transmission method for the broadcast plug the transmitter into the XLR out of your mixer. Then connect the receiver to an input using an XLR cable (mic 2 or 3) on the studio console to get the broadcast on air. Remember the receiver needs to be within line of sight of the transmitter (newsroom window).

Turn the transmitter on with the on/off switch on its base. There is a VU meter on the side of the transmitter so you can monitor your levels and a mute button on the bottom. If you're using the transmitter as a mic the person using it should be listening to CiTR using a small portable radio so they can hear what is going on. This way they will hear the remote broadcast host when they throw to them for content. When possible the host and wireless mic user should use visual cues when throwing back and forth to avoid dead air.



Section C: Internet Broadcasting

C1: Setting up the Shoutcast webstream

Step1. Download Broadcast Using this Tool (butt)

butt is a free program and is available for download at <http://sourceforge.net/projects/butt/files/>

Through this program you can access CiTR's Shoutcast server to create a webstream for broadcast.

There are different files to download depending on your operating system

For **Mac** download the **.dmg** file

For **Linux** download the **linux** file

For **Windows** download the **.exe** file

Step2 . Enter the CiTR server information

After butt is installed open it and click on the **Settings** button. The window to the right will pop up. Select the **audio device** from the drop down menu. This needs to be the same as the input you are sending the audio into and will vary depending on which computer you are using.

Click the **ADD** button below the server drop down menu. The box on the next page will pop up.



Make sure the **ShoutCast** option is selected

Name – **CiTR 101.9FM**

Address – **citrsports.serverroom.us**

Port – **7890**

Password – **ask station staff**

do not enter anything for mountpoint

Click ADD

Next click on the **ADD** button under **Stream Infos** in the Main tab of the Settings menu. The box to the left will appear.

The information put into these fields isn't critical and won't affect the stream getting through.

Name – CiTR 101.9 FM

Description – CiTR 101.9 FM

Make sure you check the **Make server public** box

Click **ADD**

Click on the **Stream** tab in the settings menu.

This is where you determine the bit and sample rate of your web stream. The information you enter here depends on the type of broadcast you are doing and the speed of your internet connection.

The bit rate of the web stream determines the transmission speed. It is the number of bits that are transmitted per unit of time (typically one second). The bit rate is most commonly stated as Kbps – Kilobits per second (1000 bits per kilobit).

Here is a bit rate rough guide

voice – 64Kbps (32Kbps is alright but not great)

music (mp3) – 128Kbps

music (cd) – 192Kbps

music (best quality) - 320Kbps

The sample rate refers to the frequency at which an analog audio stream is "sampled" or converted into digital. The higher the sampling rate, the closer the digital file will be to the original analog source and the better the quality. A sample rate of 44 100 khz is considered CD-quality.

For a music broadcast ensure the bit rate is **128k or higher** and the sample rate is **44100Hz or higher**.

Select **Stereo** for the channel and **mp3** for the codec. Mono is acceptable if the broadcast is talk only or if you need to reduce the size of the web stream because of low internet connection speed.

The other fields can remain blank.

Step4. Plug in your audio source

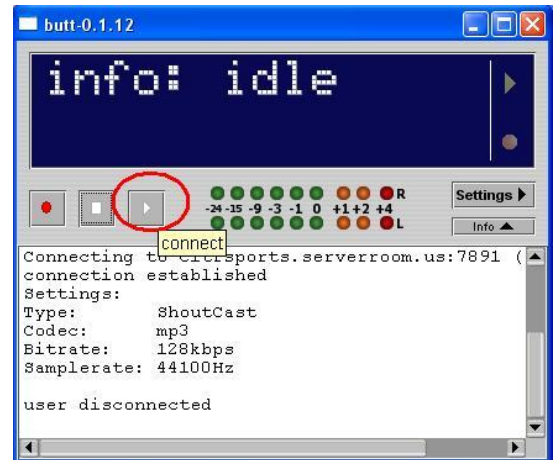
When you're testing the webstream you can just plug in an Audio source (iPod, mic, mixer) into the line / mic input on your computer. You should see the levels on the main butt screen rise and fall in time with your audio input. If for some reason butt is not registering your audio input check the sound setting on your computer and make sure you have not muted your mic / line input. Also check the volume of that input.

Step5. Connect the server

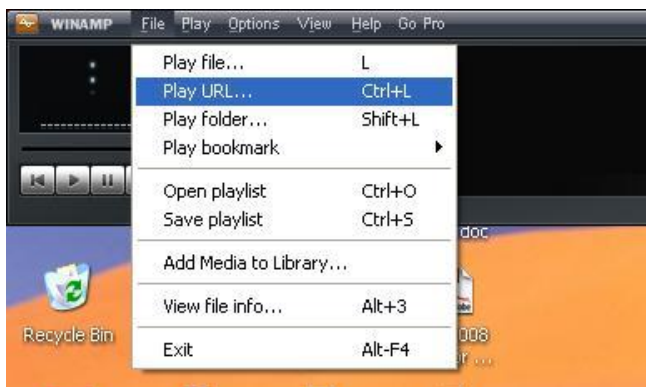
Once you've got your audio input registering in butt click the **play button** to connect. Your computer must be connected to the internet for butt to connect to the CiTR server. If it doesn't connect check the address, port number and password are correct.

Step6. Test the stream on another computer

Check the audio stream is coming through by accessing the webstream from another computer. The audio stream is accessible most media players.



In Winamp



Go to **File > Play URL**

Type in

<http://citrsports.serverroom.us:7890/listen.pls> and

click **open**

In iTunes

Go to **Advanced > Open Audio Stream**

Type in

<http://citrsports.serverroom.us:7890/listen.pls> and

click **OK**



In Windows Media Player

Go to **File> Open URL**

Type in <http://www.citr.ca/webcast.asx> and click **OK**

If you cannot find the files menu in Windows Media Player right click on the top explorer bar and select View Classic Mode



C2: Monitoring the Shoutcast webstream

When you broadcast using butt you need a person to be in the CiTR studio to access the webstream from the studio computer and a person on site to monitor the stream you're sending through. Ideally these people should be able to speak to each other via text message, phone calls or email when setting up and testing the stream so it comes through at the correct level.

On Site

The person monitoring the Shoutcast stream on site needs to make sure butt stays connected to the Shoutcast server and is there to reconnect if it disconnects. They also need to monitor the input levels to make sure the stream is not peaking or too low. Ideally the stream should be between -10Db and -5Db. You can increase or decrease the level of the stream by:

1. Adjusting the computer's input level settings. Usually you can access this menu through the audio option in the Control Panel
2. Adjusting the level on the input device (eg mixer, ipod, mic)

In Studio

The person in the studio needs to access the webstream using the instructions outlined in **Section C1** (Step6) from the computer in the studio. The audio will come through the CPU channel on the broadcast console (same channel as Burl, 3rd from the right). They can test the feed before going to air by putting this channel in cue. They can adjust the level of the stream by increasing or decreasing the volume in whatever media player they are using and also with the fader for the CPU channel.

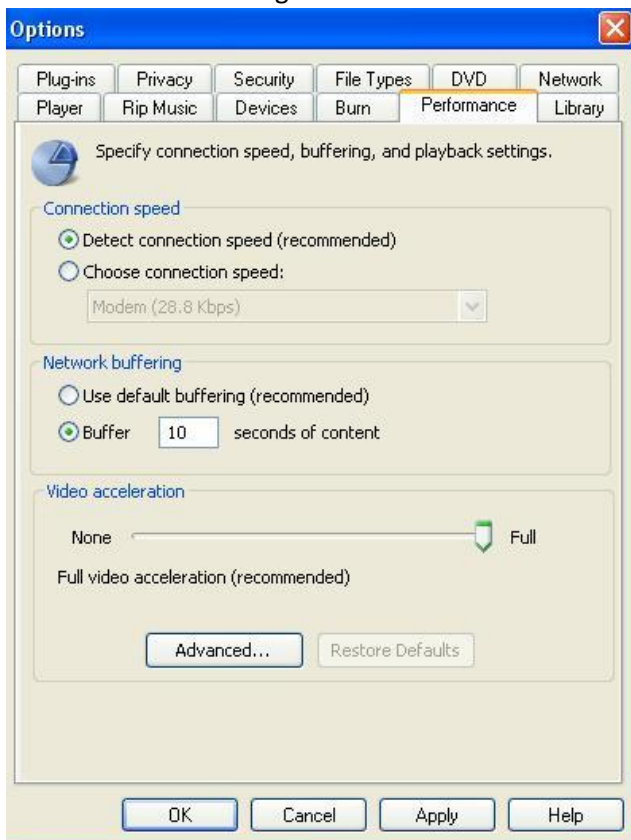
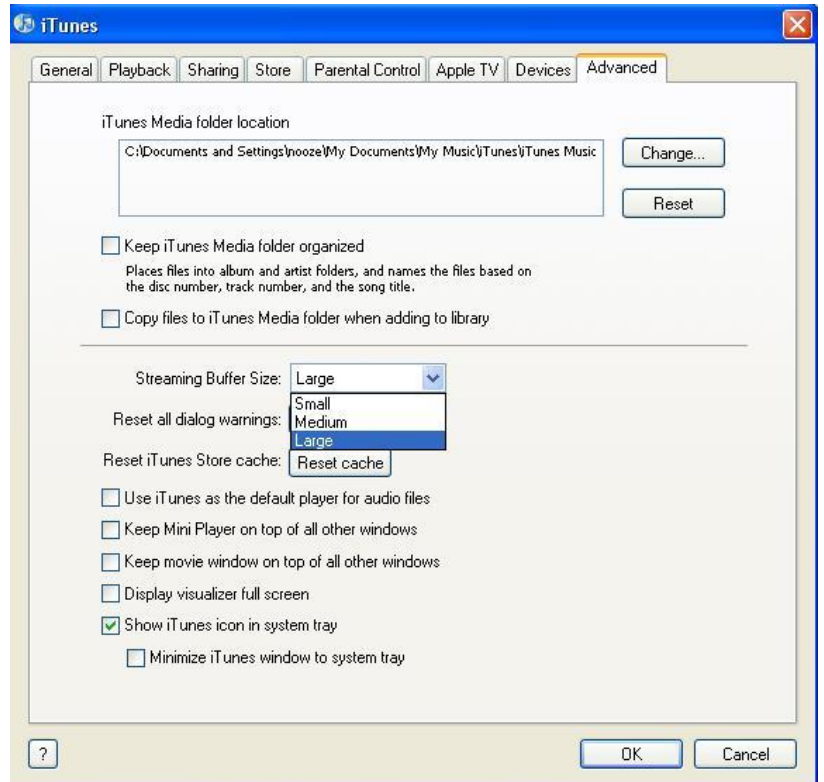
If you are looking after the feed in the studio make sure your mic is turned off while the feed is on air!

C3: Web stream buffering issues

When web streaming, you may have come across instances where the stream stops for a few seconds (a buffer underrun). When this happens, the player must re-buffer, or acquire, more of the stream from the Internet. The amount and frequency of buffering depends on the speed of the internet connection at the streaming end (connection is sufficient at CiTR end). If you notice this is happening a lot during a broadcast and is making the stream choppy you can configure the media player you are using so it buffers more of the stream before playback. This may cause you to wait a few more seconds before the initial stream begins, but once it starts, it is less likely to stop during the broadcast.

iTunes

1. Open iTunes, choose, "Edit", then "Preference"
2. Choose the "Advanced" tab
3. About half-way down you will see "Streaming Buffer Size", open it and choose "Large"
4. Click "OK".
5. Close iTunes and restart it
6. Restart streaming

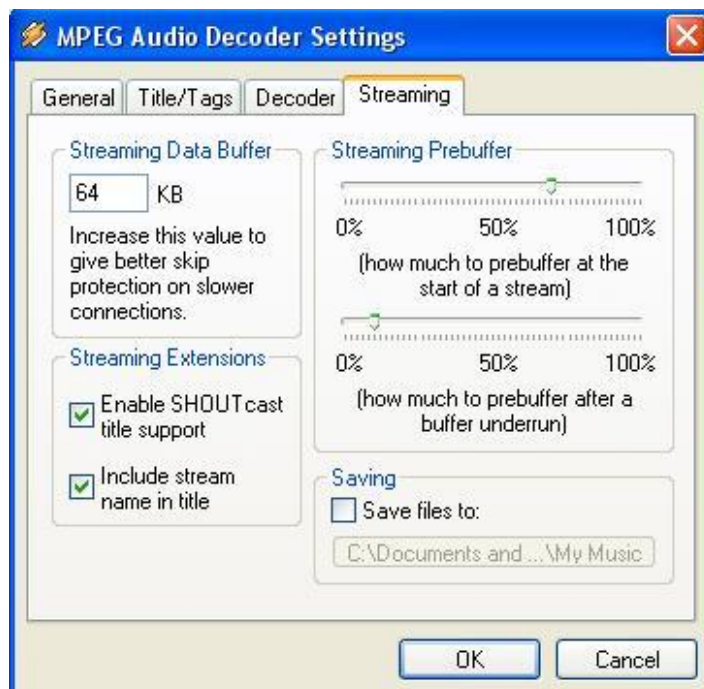
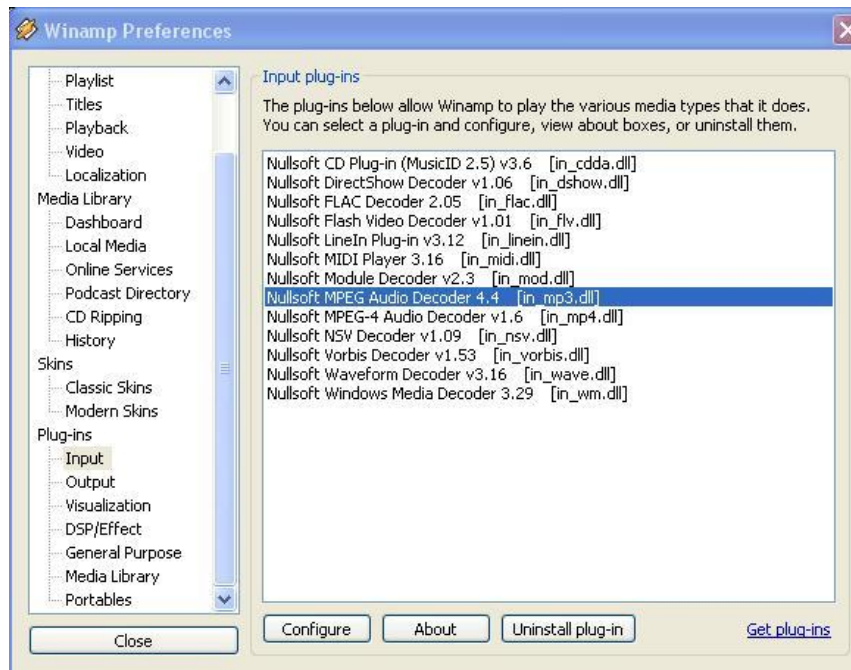


Windows Media Player

1. Open Windows Media Player
2. Click on "Tools", then "Options"
3. Choose the "Performance" tab
4. If it's set to "Use default buffering" but its buffering is often, try click the "Buffer" button and putting in "10" seconds of content.
5. Choose "Apply" and "OK"
6. Close Windows Media Player and restart it.
7. Restart the stream, if it doesn't improve, try increasing the amount of "content".

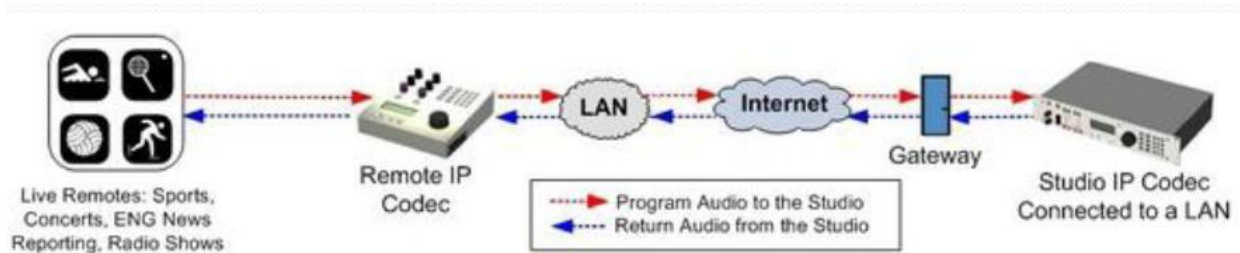
Winamp

1. Right-click the Winamp 5 title bar, choosing "Options" - "Preferences".
2. Click "Input" underneath "Plug-ins".
3. Double-click "Nullsoft MPEG Audio Decoder".
4. When the "MPEG audio decoder settings" multi-tabbed dialog box appears, click the "Streaming" tab.
5. Move the "Streaming Prebuffer" slider all the way to 100%.
6. Click "OK" to close the settings dialog box.
7. Click "Close" to close the preferences dialog box.



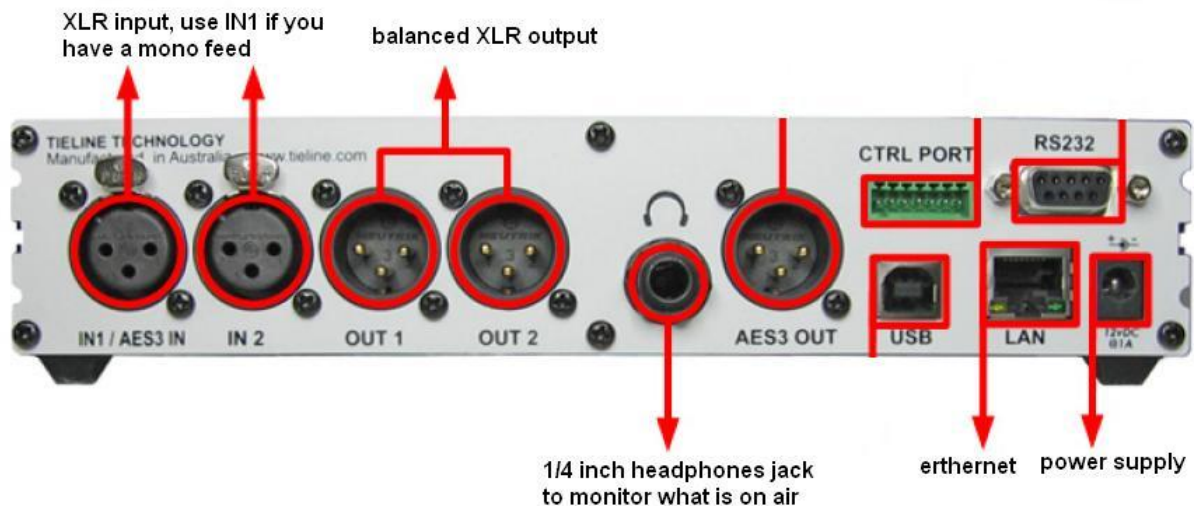
C4: IP codecs

CiTR has two IP codecs. The machines are identical – one is wired into the broadcast console (studio codec) and the other goes out on location (field codec). The field codec requires a wired internet connection. Once connected to the internet dial the IP address of the studio codec. The studio codec sends the on-air audio back to field codec and the field codec sends audio from your location back to the studio.



Setting up the IP codec

The IP codec has a 12V power supply which needs to be plugged in. There is also a LAN port on the back of the codec for an ethernet cable. You can find ethernet in mobile sound with the live broadcast gear. There are 2 female XLR inputs on the rear of the IP codec for your audio in. If you are sending a mono feed just use the input on the left. From the 1/4 inch headphone jack you'll be able to hear what is going to air after a connection has been formed.

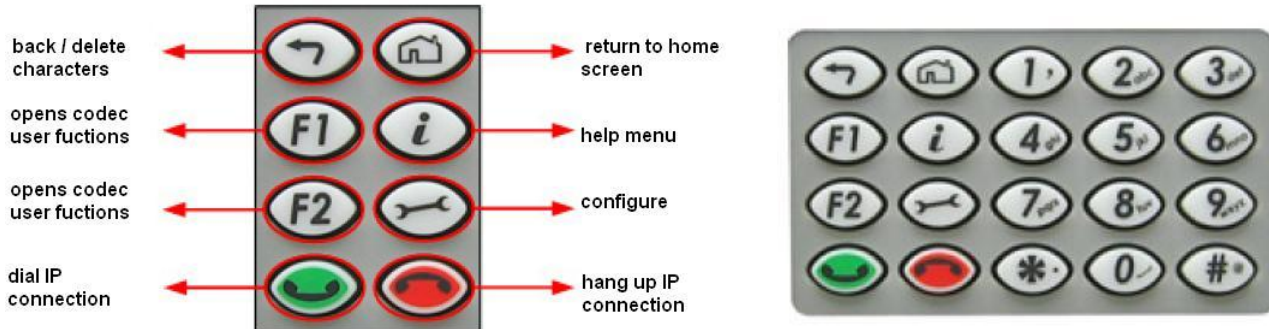


As soon as the power is plugged in the codec will turn on automatically.

The IP codec has four arrow shaped navigation buttons (left) for navigating menus and an **OK** button for selecting menu items.



The keypad (below) has alpha-numeric buttons and operation buttons used to launch codec functions, navigate menus and dial/hang up connections.



DHCP vs manual programming

DHCP is an acronym for Dynamic Host Configuration Protocol. This enables the IP codec to automatically find the IP address, subnet mask and default gateway for the connection it is plugged into. This will be the case for most internet connections. If the internet connection you are using has a firewall DHCP may not work and you will need to enter the IP address etc manually. See **Troubleshooting Section F1** for details on how to find out the IP address, subnet mask and default gateway for your internet connection.

To check if DHCP is enabled from the **Home** screen go to **Config > LAN**. Arrow down to DHCP and press **OK** to change the setting from **disabled** to **enabled**. This is also the menu where you can enter the IP address, subnet mask and default gateway if you need to. Just arrow down and click **OK** to enter the information.

Once you've made your changes ensure you arrow up to the top and select **Apply Settings** otherwise your changes won't take effect. If you find your changes have not taken effect try rebooting the codec by turning it off and then on again.

Once the IP codec is connected to the internet you can dial the studio codec by navigating to the **Contacts** menu on the **Home** screen and selecting 'citr'. Use the **OK** button to select 'citr' and click dial or simply press the green call button.

Once a connection is established you'll see levels on the level meter at the top of the screen and you'll be able to hear what is going on-air via the rear ¼ inch headphone jack.

Adjust headphone level

Hold the **F2** button down and then press the **right arrow** key to bring up the headphone level adjustment screen. Use the plus and minus (left and right) arrow keys to adjust headphone levels.

Adjust input level

Hold the **F1** button down and then press the **right arrow** key to bring up the level adjustment screen. Make sure Gang 1+2 is enabled so both the left and right channels are equal. Use the plus and minus (left and right) arrow keys to adjust the input levels.

In the studio

Once a connection is established whatever audio you are sending through the IP codec will come up on the channel marked 'Bridge-IT' on the studio console. The studio operator can put this channel is cue to ensure your audio is coming through. The IP codec shares a channel with MD 1 and is the B input so **ensure input channel at the top of the studio console is set to B**. To put your feed on air the studio operator will turn the Bridge-IT / MD 1 channel on and slide the fader up.

For additional information about the Bridge-IT Ip codec see its online manual

http://www.tieline.com/files/files/320_Bridge-IT_User_Manual_1.4.20r5157_17-9-10_low_res.pdf.

C5: Internet Requirements and Rocket Stick

In order to conduct an internet broadcast you need to make sure the upload speed of your internet connection is fast enough. The upload speed must be at least double the bit rate of the audio you are sending (eg 256Kbps for 128Kbps audio). Wireless connections can work but they are less reliable than wired connections and are more prone to drop outs. Also, make sure you check who else will be using the internet connection when you are. If many people are sharing a connection the internet speed will decrease and your broadcast will be more likely to drop out.

You will also need to check for firewalls at both at CiTR's connection and your remote connection. The best way to do this is to connect on location, send through some test audio and have somebody check that audio can be accessed in the CiTR studios. If you're using butt for your broadcast you will need to make sure the webstream is accessible.

The AMS blocks many sites by default so it's extremely important to check you can access the webstream well in advance. If for some reason the CiTR computers are blocking the stream you need to speak to AMS IT Manager Hong-Lok Li lihl@ams.ubc.ca. He is available Monday – Friday during business hours. In some cases you may need additional information to connect to the internet. For more about this see **Section F: Troubleshooting**.

Rocket Stick

CiTR owns a Rogers Rocket Stick which can be used for live broadcasts when the venue cannot supply you with a stable internet connection. CiTR is on a month-to-month data plan which allows for 1GB of data (approx 15 hrs of audio streaming). The plan may not always be active so make sure you know well in advance whether or not you need to use the Rocket Stick. The Rocket Stick is compatible with any computer. Just plug it into a USB port to install and follow the instructions provided in the user guide.

Section D: Phone Broadcasts

D1. Overview

The mobile studio set up will remain the same regardless of whether you are doing an internet or phone broadcast. The only difference is where you send the output of the mixer. You can broadcast over the internet with any mixer but only the Remote Sports Mix is suitable for phone broadcasts.

Set up the Remote Sports Mix according to the directions outlined in **Section B**. If you are using a phone line for the broadcast you need to plug a phone line into the mixer and the other end goes into the wall jack. Once you've done this the mixer becomes a phone interface and you can dial numbers using the keypad on the top of the mixer. You can also receive calls if you know the number of the phone line you are plugged into. To dial number the **Dial/Talk** switch on the top of the mixer must be up and if you are receiving a call this switch must be in the **Hang Up** position.



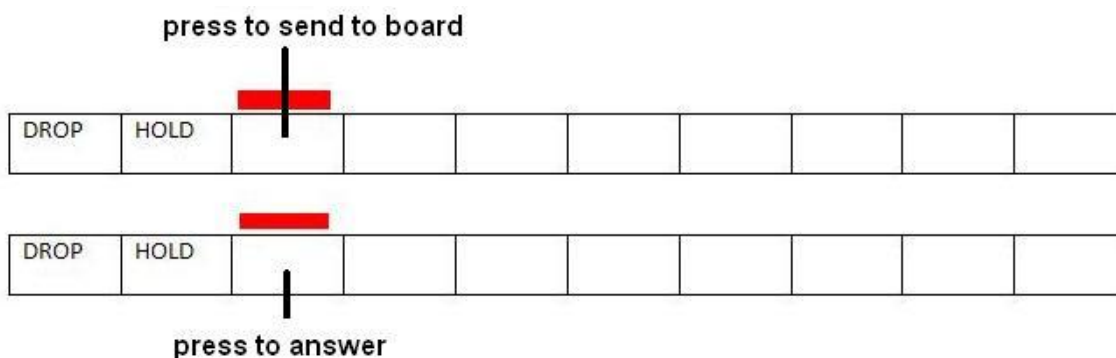
If you are using a cell phone you can use either the Daptor One ¼ inch to 2.5mm cable or any ¼ inch to 1/8 inch cable – this will depend on the input on your phone. Generally speaking older phones have a 2.5mm input and newer phones like iPhones or Blackberries have a 3.5mm (1/8 inch) input.

D2. Getting the call on air

There are two rows of buttons along the Telos keypad next to the phone in the studio. Each button along the bottom represents a different line a call can come through on. The studio telephone doesn't ring – a blue light under the CD players will flash when a call is coming through. Whichever line the call has come through on (usually the first one) will start flashing to answer the call lift the handset and press the bottom button.

If you are making the call you'll need to select a line from the bottom row of buttons (same button you use to answer) and then dial **9** before the number you're calling.

Once you're ready for the call to go to air press the top button on your line. This puts the call through to the board (see below). You can now hang up the phone without hanging up the call. To get the call on air all you need to do is turn the telephone channel on and push the fader up.



As soon as you press the top button to send the call to the board the person at the other end will be able to hear what is going on air. You'll be able to talk to them on air as well. It's a good idea to get the call on air a few minutes before the broadcast begins so you don't have any last minute problems. Once you've got the call on air keep them in cue so you can hear that they are still there and the call is still connected.

If you need to speak to the broadcasters off air you'll need to press the top button again to take the call off the board and you can speak to them through the telephone handset.

Section E: After the Broadcast

E1. Podcasting

Just like any other CiTR program it's very important to create a podcast of your live broadcast so listeners can hear it later. If the broadcast takes place in your usual timeslot then podcast it as you normally would. In addition it should also be added to the CiTR Special Events podcast feed.

<http://feeds.feedburner.com/Citr--SpecialEvents>

You can log in here – <http://playlist.citr.ca/podcasting/phpadmin/edit.php>

Username – ask station staff

Password – ask station staff

E2. Play sheets

You need to fill out the play sheet for the corresponding timeslot so CiTR can keep track of CanCon, FemCon, Playlist etc quotas. Go to <http://playlist.citr.ca> and log in with the citrdjs account

Username – ask station staff

Password – ask station staff

Choose the most appropriate timeslot for the broadcast and enter as much information as you have. If broadcasting a band live see if you can get a set list to accurately record the songs.

E3. Reporting

After the broadcast it also important to make a record of how it went so other volunteers can learn from your mistakes and successes. You might not be still be volunteering at CiTR when the next broadcast happens and it's important that the knowledge you gained during the broadcast doesn't disappear. Make note of; who was involved, any technical problems you encountered, how you overcame them and suggestions for next year. Email the report to station staff so they can keep it on file for next time.

Section F: Troubleshooting

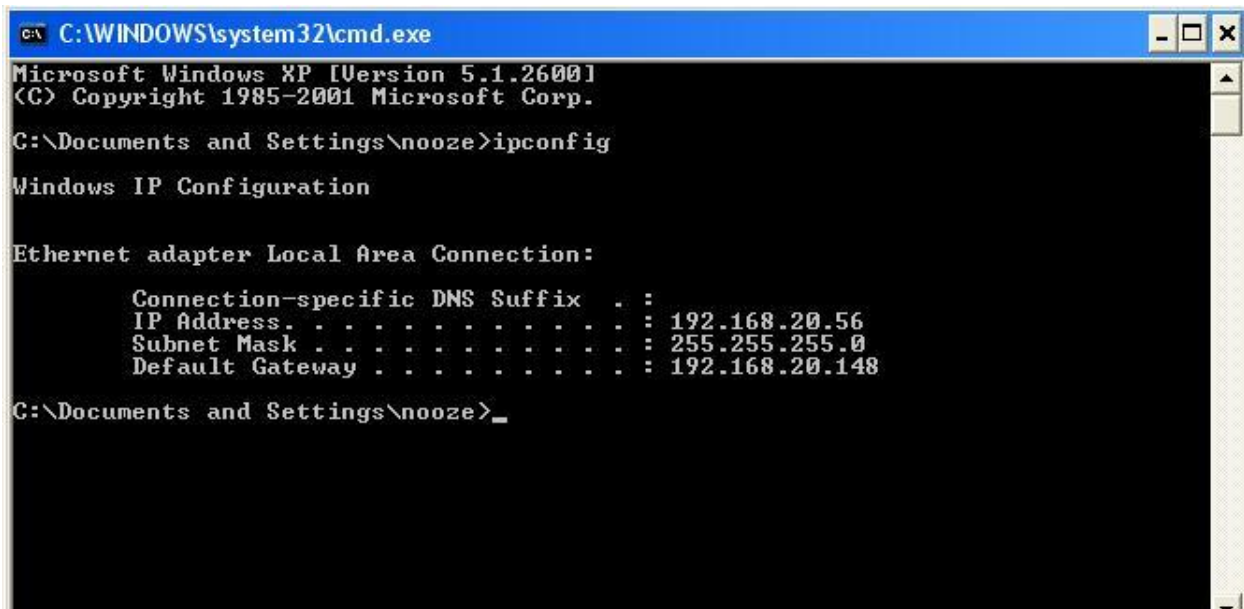
F1. Internet Connection Problems

Depending on the level of internet security you may need to manually enter the IP address, subnet mask, default gateway and DNS server into your computer or the IP codec to connect to the internet. If you are using an internet connection from a computer (ie unplugging a computer's ethernet cable and plugging it into your device) you can use that computer to find out this information.

Windows

Go to the Start menu and click on Run. Type 'cmd' into the box that appears and press enter. Then type in 'ipconfig' into the text box that appears and press enter again.

The below information will show up and you'll be able to see the IP address, subnet mask and default gateway.



```
C:\WINDOWS\system32\cmd.exe
Microsoft Windows XP [Version 5.1.2600]
(C) Copyright 1985-2001 Microsoft Corp.

G:\Documents and Settings\nooze>ipconfig

Windows IP Configuration

Ethernet adapter Local Area Connection:

    Connection-specific DNS Suffix  . : 
    IP Address. . . . .                : 192.168.20.56
    Subnet Mask . . . . .              : 255.255.255.0
    Default Gateway . . . . .          : 192.168.20.148

G:\Documents and Settings\nooze>_
```

If you are entering this information into a computer you'll need to go to **Control Panel > Network Connections**. Right click on the connection you want and go to **Properties**. Click on the **Internet Protocol** you are using to connect (could be called Internet Protocol, IPV4 or IPV6) and select **Properties**. Under **Properties** you can either select that you want the computer to find the IP address automatically (this is usually the case) or that you want it to use specific settings to connect. This is where you'd need to enter the above information.

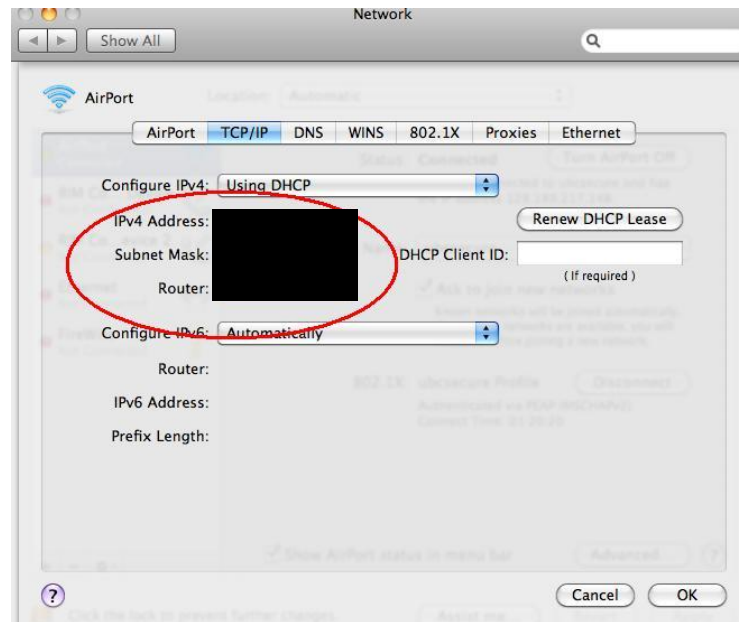
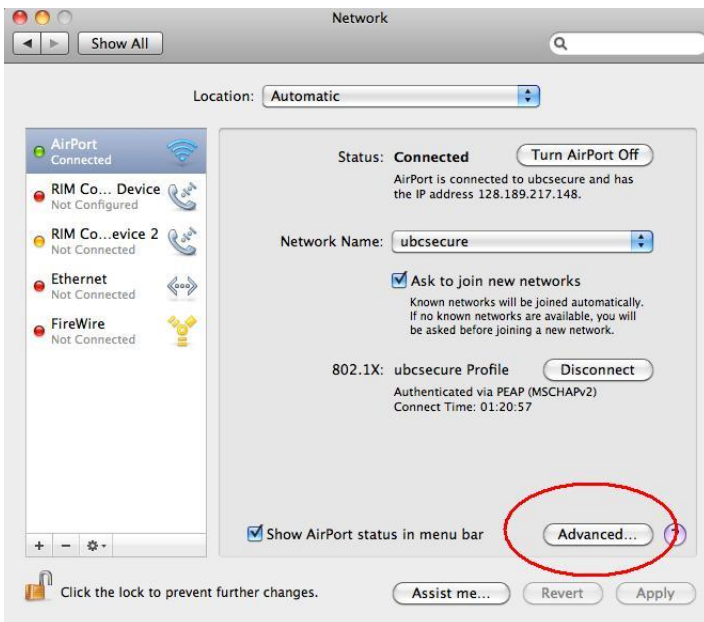
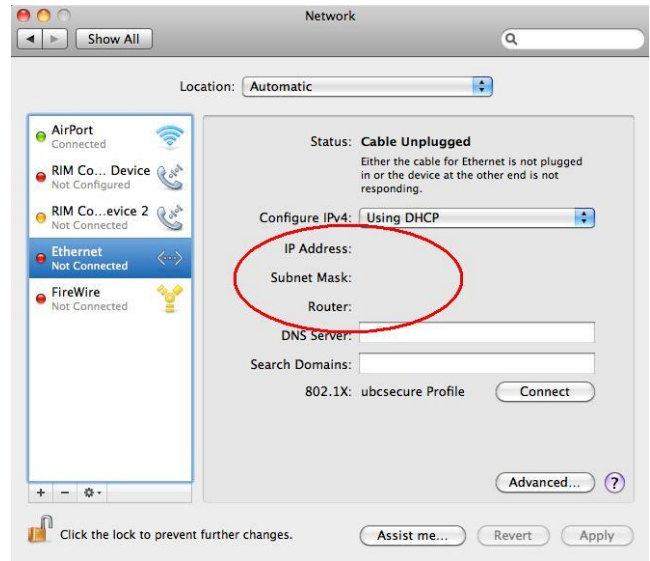
Mac

To find out this information on a Mac go to **System Preferences > Network** and then select your connection method (eg AirPort, ethernet).

If you have an ethernet connection the IP Address and Subnet Mask will be listed in the right panel. The Router number is the Default Gateway.

If your connection is wireless select **AirPort** and click on the **Advanced** button.

Go to the **TCP/IP** tab on the **Advanced** screen. The IP Address, Subnet Mask and Router (gateway) will be listed there.



F2. Cannot access Shoutcast stream on CiTR computers

When trying to access the Shoutcast stream on the CiTR computer you may get the error message on the left. The AMS has a firewall that may block the webstream. Currently the AMS internet is set up to allow the CiTR webstream through but this could change after a system wide refresh.



If you receive this message while trying to access the CiTR webstream you'll need to get Hong Lok-Li (AMS IT Manager) to unblock the website. If you cannot reach Hong in time then you'll need to access the webstream on a laptop connected to the UBC Secure wireless internet (username: tapehead, password: discord3r) and plug the headphone jack from this laptop into the patch bay below the cd players with an RCA – 1/8 inch cable (same as you would an iPod etc).

F3. Board mix does not sound right

You may want to broadcast a live feed from a sound board at a concert or event but you cannot always count on this mix sounding right for radio. Often when you get a line out of a sound board you will be getting the same mix that goes to the speakers. The sound tech's job is to mix the right sound for the room they are in. This might mean that they are not amplifying the drums or guitars very much because those instruments are independently loud enough for people in the room to hear them. Generally speaking you will run into this problem in smaller rooms or venues and larger outdoor venues will be ok. This is why it's important to learn about the venue beforehand and speak to the sound tech. There are three options if the board mix does not sound complete.

1. Set up mics in the room and use those to capture the sound. The best mics to use would be the Rode condenser mics in the Newsroom and Studio C.
2. Mix a room mic with the board mix to balance the sound out. You could experiment using different mics to see which captures the best sound.
3. See if it is possible for the sound tech to create a separate auxiliary mix. This would require a lot of extra work for the sound tech which they are not being paid to do so you would need to be very tactful when enquiring about this. Their sound board may also not be capable of aux mixes
4. Split all the mic cables on stage and have them all run to your own mixer

Remember that if you are using condenser mics you will need your mixer that has phantom power. The Remote Sports Mix does not have phantom power. If you are planning a broadcast like this where the sound board mix will not be complete you should consult with CiTR sound engineers to see which method would be best for you.