

# Global Milonga 2010

## Technical Requirements for Participating Locations

Peter Zion - +1.514.651.5041 - [peter.zion@gmail.com](mailto:peter.zion@gmail.com)

### Revision History

Date	Author	Notes
2010-03-15	Peter Zion < <a href="mailto:peter.zion@gmail.com">peter.zion@gmail.com</a> >	Initial version

### Background

On 12 December 2009, ten cities in five countries in Europe and North America participated in the first ever Global Milonga. People at different milongas danced to the same music broadcast over the internet and could see live video feeds of dancers in other cities. The event was a huge success: about USD \$7,000 was raised for the environmental charity [Trees for the Future](#), while everyone had a lot of fun seeing their friends dancing in other cities across the world. However, the event was not without its technical issues, and in 2010 we hope to eliminate as many of these technical issues as possible and make the event feel more tightly integrated.

In order to fix the technical issues encountered in 2009 it is necessary to lock down the technical requirements for participation early in the preparation for 2010. The purpose of this document is to specify these requirements as well as to explain when necessary why these requirements have been imposed. Actual instructions for participation will follow at a later date but will assume that the computers and network connection being used meet these requirements.

### Technical Components

Participation in the Global Milonga involves the following technical roles:

- All participants will be receiving audio (DJed music) broadcast over the internet from another milonga
- All participants will be broadcasting video from their milonga for other milongas as well as people on the internet to see
- Some (but not all) participants will be broadcasting audio to the other milongas; who is doing this will depend on which DJs are chosen for different hours of the event.
- All participants should be displaying one or more videos broadcast from other milongas so that people have the impression of people dancing at the same time at other locations.

Thus, the four technical components of the Global Milonga are:

- **Audio Broadcasting** - the music being DJed at the milonga is broadcasted over the internet and is played back at other milongas.
- **Audio Reception** - the music being played back at the milonga is being broadcasted over the internet from another milonga
- **Video Broadcasting** - a live video feed of dancers at the milonga is broadcasted over the internet and is played back at other milongas
- **Video Reception** - the live video feed from another milonga is being received and played back locally for the local people to see

Each of these components have slightly different requirements:

- Audio broadcasting and reception are the most critical components because people are dancing to this music. If the broadcast or received audio “drops”, then people stop dancing. In 2009 there were several occasions when people became frustrated because of these drops. **The primary technical goal of 2010 is to eliminate these audio drops.**
- Video broadcasting should favor fluidity over image quality; it’s more important that the sensation of people dancing at a milonga is captured than it is that the image is high-resolution. While video “drops” are also bad, they are not critical problems as are audio drops. As such, the second technical goal of 2010 is to **increase the fluidity of the video.**
- Video reception needs to be able to keep up with the video being broadcast, but otherwise has no additional technical requirements.

## Computer Requirements

The technical requirements for the computers used to participate break down into general requirements as well as specific requirements for each component (as described above).

### General Requirements

The following two platforms (operating systems) are supported for all the components:

- Windows XP Service Pack 2 or later (eg. Windows Vista, Windows 7)
- Mac OS X 10.5 (Leopard) or later (eg. Snow Leopard)

The reasons for supporting these specific platforms are:

- These platforms are known to fully support the software needed to participate
- These platforms are the most commonly in use and computers running them are easily available
- Any problems encountered with these platforms can be easily diagnosed by the tech team

In terms of hardware, any reasonably modern hardware should suffice; basically, almost anything that was bought new in the past couple of years should work fine. In terms of hardware specifics, this means a 2GHz or faster processor. Other hardware specifications are unimportant, though the computer will obviously need to be able to connect to the network as described below.

To guarantee sufficient performance, **the different components (described above) must be done by different computers**. In other words, you must not use one of the computers used for video broadcasting to also receive video from other locations or to broadcast or receive audio. There is one exception to this: you may use the same computer to broadcast and receive audio. This is because the hardware requirements for audio are much less than those for video, and because there is no need to broadcast and receive audio at the same time.

## Audio Broadcasting/Reception Requirements

The following additional requirements are imposed on the computer used to broadcast and/or receive audio:

- In order to minimize the chance of audio drops, **it must be connected to the router using a wired ethernet connection** and not over a wireless (WiFi/w-lan) connection. Wired ethernet is a much more reliable network connection and is not subject to the same kinds of interference as a wireless connection. Depending on your setup this may require running a long network cable which will need to be protected from dancers.

## Video Broadcasting Requirements

The computer used to broadcast video has the following additional requirements:

- **It must be connected to the network router using a wired ethernet connection** for the same reasons as for the audio broadcasting/reception above.
- It must be able to capture video and audio using the Flash plug-in for Mozilla Firefox 3.5.x. This means that the computer will need to have some sort of video camera attached; this could be anything from a built-in webcam to a high-end DV camera. It is likely that we will again be using the livestream.com service for video broadcasting and reception, and broadcasting will be done using their “webcaster” tool. To test if your computer can support this service, perform the following steps:
  - Install Firefox 3.5.x
  - Create an account at livestream.com
  - Create a channel
  - Open the webcaster for that channel and start broadcasting the video and audio. The video should be broadcasted at a frame rate of 25fps
  - Go to another computer and then go to the “watch” address for the channel. Ensure that you can see the video and hear the audio coming from the first computer.

Note that the reason the video broadcasting computer must be able to capture and broadcast audio as well is that we will be making available the video feeds to those who are not able to attend the milongas in person; these video feeds will be a lot nicer if they can hear the music as well!

## Video Reception Requirements

The computer used receive video must be able to play back video from the livestream.com service using Firefox 3.5.x and its Flash plug-in. This is easily tested by simply viewing videos on the livestream.com homepage.

Note that it is not required that computers receiving video be connected to the router using a wired connection, but doing so will generally increase the quality of the video being displayed; as such, it is still recommended.

## Network Requirements

The network connection being used for the computers for the Global Milonga must meet the following requirements:

- Must have at least 3 megabits downstream and 768 kilobits upstream of bandwidth. This generally means that “full” high-speed connections will work fine but “basic” high-speed connections will not. If unsure, call your internet provider to find out what are your upstream and downstream bandwidth. Most (but not all) DSL and cable high-speed connections will suffice.
- You should not be using the network connection for anything except the Global Milonga during the event itself as well as all the test runs and “dress rehearsals”.
- You must be able to connect computers to the router used to share the internet connection using wired ethernet. Most (but not all) routers have at least four ethernet ports on the back which can be used for this.

## Software Requirements

Software requirements will follow at a later date, but all the software needed to participate will be available at no cost, with the exception of the software required to broadcast audio on Mac OS X (Nicecast) which costs USD \$40. We will approach Nicecast to see if they are willing to donate a license for use by all Global Milonga participants for the event, which may also eliminate this cost.