Community Radio

A Practical Guide

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the Mediaction Foundation

Anna Milius and Niels ten Oever

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Introduction

Hello media enthusiast,

Did you always wish to have a radio for you and your community but you always asked yourself how to do it? Or were you even afraid that it would be too difficult, or that it would cost a lot of money? Don't be afraid! This manual, and the manuals given to you on CD in this package will learn you everything you need to know, and you will find out community radio is possible, also for your community!

In this guide we'll explain you what community radio is (part I) and how you should do the technical (computer) part (part II). You'll find more information on how to select the actual broadcasting equipment in other guides on the CD (for that see the last chapter 'further reading').

But let's start at the beginning. For community radio you need a willing community. This included a lot of people who are willing to spend time on this project, now and in the future. Then you have start a organization and find out what is needed in your country to obtain a license. If you have a license, you can start looking for a place. It doesn't have to be a large house, but it needs to be dry and it has to have proper wiring.

Then you can start writing project proposals and a budget to apply for funding. You always have to write to a lot of different organizations. Only about 10% of your request will be listened to, that is, when you proposal is good. Spend a lot of time writing and revising it. Listen to the critique you get from organizations, even if if they reject it! Ask what they liked and what they disliked. You can learn from this.

What is written above here, takes mostly at least a year. After you've secured the money, you can buy the equipment you've selected. Then you have to install it properly (else everything will break the moment you switch it on). And from that moment you can start broadcasting!

This guide aims to help you with the last phase of installing everything in the studio and keeping your station running.

Part one exists of pictures which can also be used as posters in your radio station, so everyone will know what community radio is, what they should and shouldn't do and some basics about journalism.

Part two gives you a complete software solution for everything you need in the radio station. The least you will need for this set-up is a PC, a microphone, a transmitter and an antenna. That is an example of the smallest community radio station. There are even PCI cards which you can put in your computer that are already transmitters (www.pcs-electronics.com)! So then you only need a PC, a microphone, and an antenna!

In this guide we explain how you can setup a whole network, step-by-step. With a logging PC, to archive all your programs (probably obligatory for your broadcasting authority), a on-air PC, common audio editing PC's and a server to keep all the programs and share them over the network. So this guide we start from the idea that you have at least 5 PC's. If you have less, you can use this guide to put everything on one PC. Just do the installation for the onair and logging PC on one computer and you're finished! Although, more computers will give you the possibility to work with more people at the same time and it will give you more freedom and security in general. For training you will also need one computer for two

or three people, else people will just not remember what to do, if they cannot practice!

We will also show you how you can have all the menu's on the computer in your own language. Even if your languages exists of complex characters (like Amharic or Chinese) this guide will show you how you can start to type in it and have all the menus in your language! This also makes the community radio much more welcome for people who don't know English!
You will not work with Windows but with Ubuntu. That's because we could only design a custom made solution in Linux, since Microsoft Windows doesn't want to share their knowledge on how to create a system. Ubuntu does, and that gives you a lot of advantages. One of them is the localization in terms of language. The second is: Ubuntu doesn't suffer from viruses. Ubuntu also has all software available for free, also radio automation and sound editing software which is normally very expensive. Ubuntu also protects your system if inexperienced users (like your volunteers) try to change preferences or system files (either on purpose or by accident).

We've tried to make everything for you as easy as possible. That's why we've also added all the Cd's you need! So you don't have to download anything! Community radio has never been so easy!

Enjoy this guide, and we hope it helps you a lot. If you have any problems, questions, additions to this guide or you just want some comments or advice on your project, you can always email us. Then we do what lies in our powers to help you. Good luck and long life free and grass-root media!

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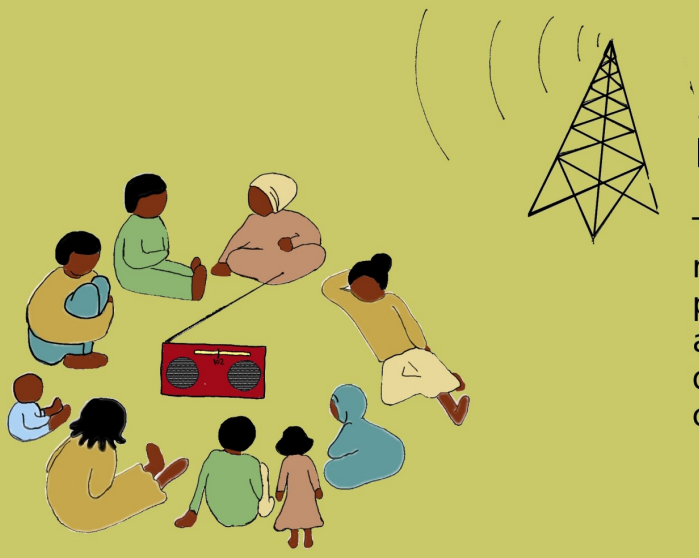
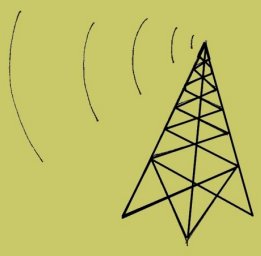
info@mediactionfoundation.org
www.radioinethiopia.org

WHAT IS COMMUNITY RADIO?



Radio for the community

The target group of community radio is your community. All the programs that are broadcasted are aimed at the needs and demands of your community community itself.



Radio by the community

Most programs that are broadcasted on community radio are produced by volunteers from your community.They produce the programs in your local languages about local issues, music, culture and news.

Radio owned by the community

Community radio is owned by you! The board of a community radio station represents your community. Their task is to make long-term plan for the radio station according to the wishes of the community. They also monitor what is going on at the station.

So the community is involved in all aspects of community radio: they own and manage the station, they produce the programs that are broadcasted and they are the audience.

WHAT IS COMMUNITY RADIO?

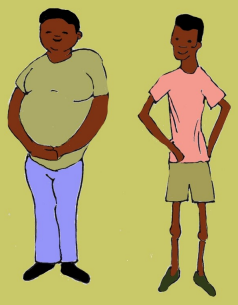
Open for all community members.

Your community exists of a lot of different people, who have one thing in common: they are part of the same community. Community radio is open for all these different members and groups in the community as long as they do not violate the rules of the station.

Male and Female

Old and Young

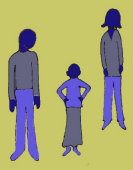
Tall and Short



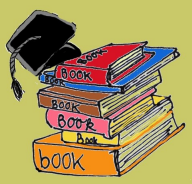
Fat and Thin

Access and participation

Community radio has the principle of access and participation. Access means that the radio service should be available for everybody in your community. Participation means that everybody in your community should have the possibility to be actively involved in the radio-service.



Minority Groups and Majority Groups



Educated and Less educated

No political or religious content

Although community radio is open for community members with different political preferences and religions, it is not allowed to produce radio programs with a political or religious content. This is an important rule for community radio in Ethiopia.

Why Community Radio?

To reflect and promote local culture

Community radio is THE place for local artists to find their first stage and reach a big audience. It is a place where new talents are spotted and stars are born.
Apart from that community radio is also a perfect means to promote and preserve your local culture. So that historical local stories, music, languages and poetry that shouldn't be forgotten can be kept alive!

Education

Radio is a relatively cheap and fast medium that is not dependent on literacy. By using community radio for education, children and adults who didn't go to school can still gain knowledge through listening to the radio.

Information

One of the main goals of community radio is to inform people about what is going on in their community. Which movies you can watch at the cinema, how the new year is going to be celebrated, when the holidays will start, etc. But if there are emergencies radio is also the main source of information for the people.
Furthermore, NGO's, universities and other knowledge institutes can use radio to send their knowledge to their target group in oder to increase health and living-standards of the community.

Diversity of voices and opinions

Community radio gives you the oppertunity to get to know what other people from your community think of certain issues. Because community radio gives you a diversity of voices and opinions it makes it easier for you to get an educated opinion. Your voice will also be heard!

Social service

Community radio can be used by community members to announce important information. So for instance if your child is born, your family-member has died or your wedding is celebrated you can announce it on the radio!

Entertainment

Of course there is no radio without entertainment: sports, music, soap opera's, quizzes..
It should be fun to listen to the radio!

Voice for the voiceless

Normally you hear the voice of important and educated people on the radio. The sick, handicapped, poor and the children are mostly neglected. Community radio can help empower the people who normally do not have anything to say.

STUDIO RULES

No eating or drinking in the studio

It is not allowed to take food or drinks into the studio. You should also not eat or drink when working on a computer.

If you borrow something, register!

Volunteers who have signed their contract can borrow portable recorders for their programs. If you are borrowing a recorder or something else first ask for permission and let your name be registered. Bring the material back within one day.

Be on time!

In radio you can not be late, the listeners and your collegues depend on you. So make sure you prepare your programs in advance. And be in the studio at least 10 minutes before your live show starts. If you cannot be on time call in advance so that someone can take over your show.

Don't disturb a live show

Before you enter the studio first check if you will not diturb a live radio-show. You can check if it is possible to go in by signing to the peron inside through the window, not by knocking!

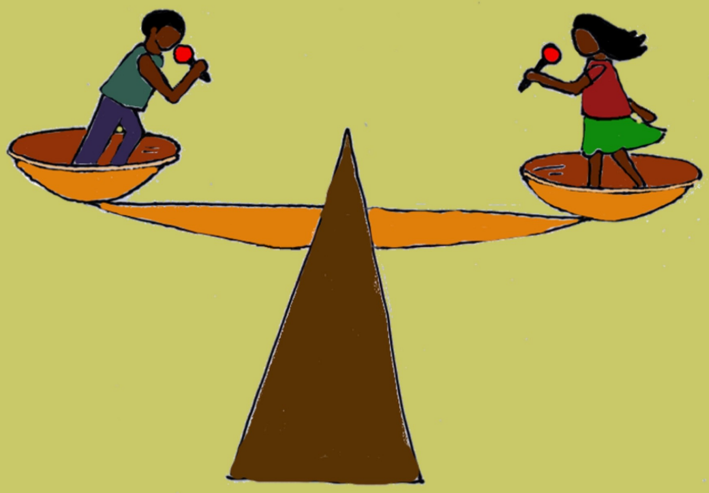
JOURNALISM ETHICS

Be accurate

Give the people information that is accurate. Always check your information before you mentionit in your program. If you cannot check the information you use, make sure you mention your source of information. In this way your listeners can judge themselves how serious they take the information. Giving inaccurate information once, can seriously damage the reputation of you, your program and the station.

Avoid gossip

If you want to make an interesting program it is sometimes tempting to use gossip or rumours. DON'T DO THIS. As a journalist you should be able to avoid this temptation and check the information you get. Secondly, make sure that your program does not allow new gossip to start in your community. Give the people fair information that is unbiased.



Give balanced information

Your program should maintain a balance that reflects the differing interests of the various majority and minority groups in the community. This means that you should find people who have different opinions on the issue you are making your program about.
So don't ventilate only your own view or interest! Also give chance for other opinions to be heard.
In this way you give the listeners a chance to form their own opinion.

BASIC QUESTIONS FOR THE JOURNALIST

Make sure you answer the following questions in your newsitem:

WHAT happened **??**

WHO was involved **??**

WHEN did it happen **??**

WHERE did it happen **??**

HOW did it happen **??**

WHY did it happen **??**

WHAT does it mean **??**

BASIC INTERVIEWING TIPS

Keep eyecontact with the person you are interviewing, do not focus on the recorder

If you are not using an external microphone, hold the recorder tight, moving your hand will resonate in the microphone and give a disturbing sound

Always use your earphones to make sure you are not recording too loud or to soft

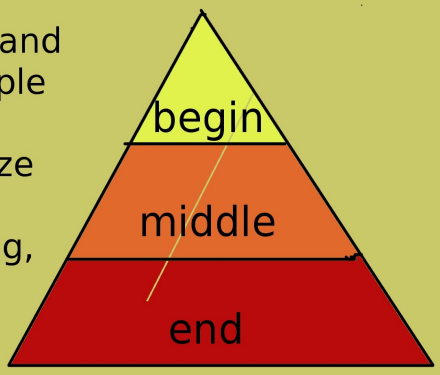
Be prepared for your interview, know what you want to know

Always check your equipment before your interview and take spare batteries

Using surrounding sounds can be very usefull to create an atmosphere but be carefull that it is not disturbing

Scriptwriting for radio

A story always has a beginning, a middle and an end. The beginning should attract people to listen. The middle is the actualy story, interview or fact. In the end you summarize the program and getto a conclusion. In a good story, the end refers to the beginning, and the beginning refers to the end.

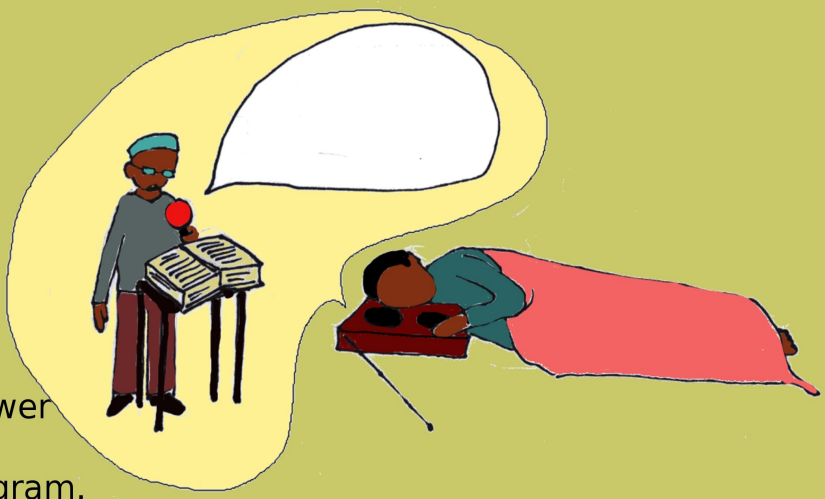


Always keep your target group in mind when you are doing a story. Adapt your language use, intonation and subject to your target group. You have to seduce them to listen!

Prepare your item well and use different sources to gather your information from. You can use experts, news papers, professionals, books, the internet and much more. The more sources you use the more diverse and trustworthy your program gets. You can also cross-check facts that are given by one source through another.
Don't forget to mention your sources! The listeners need that information to put your information in a context.

Write as you talk! Writing for radio is as if writing the words you would use to explain a friend.
Do not use formal language but make it easy to your listener. They can only hear it once!
Use your own words to desribe what you see, feel, think, and find out.

This will make the program easier and more enjoyable to listen to.



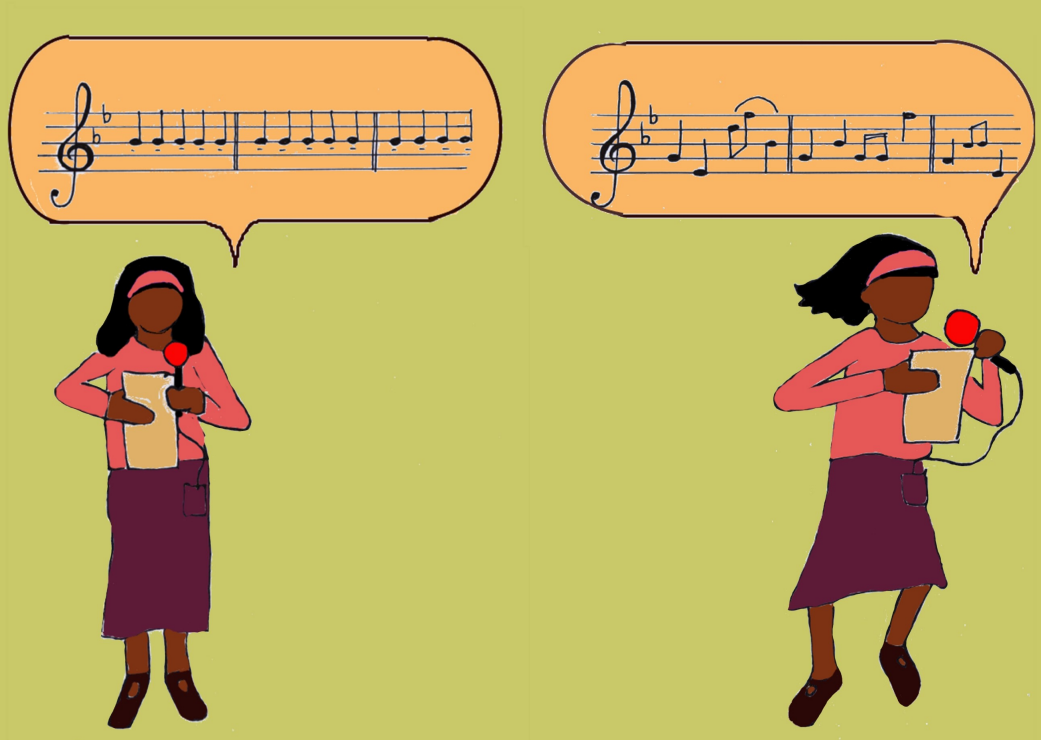
Make you program interesting!
Always think ' why is this interesting for my target group?'. If you cannot answer this question, remove the information from your program.

Interesting programs will make you sharp and fund to listen more and will not make you fall asleep!

Make you program fun!
It is always good to make people laugh.
Even when your making a program on a serious subject.
Laughing makes people more open and loose, and thus more susceptible for your message!

It's the melody that makes the music.

Use your voice in creative ways.



Just think about the fact that you never see someone sleeping in a concert, whereas in lectures...

Community Radio in technical terms

THE WHOLE SET-UP: **Open source software**
Computer installations
Recording devices

- When you're installing the computers, hold this guide next to your computer, but also open this guide on your computer (through the Extra Radio Software Installation CD) once your finished the basic installation so you can copy-paste the terminal commands right into the terminal. This saves you a lot of typing and typing mistakes. **But be careful: if a command takes more than one line, you have to type it yourself!**
- Note that if you type in the terminal the computer cannot guess what you mean, every capital letter or space counts so make sure you type EXACTLY what is written in the example, otherwise it will not work. It can be a matter of one letter or space that makes the difference if something works or not.

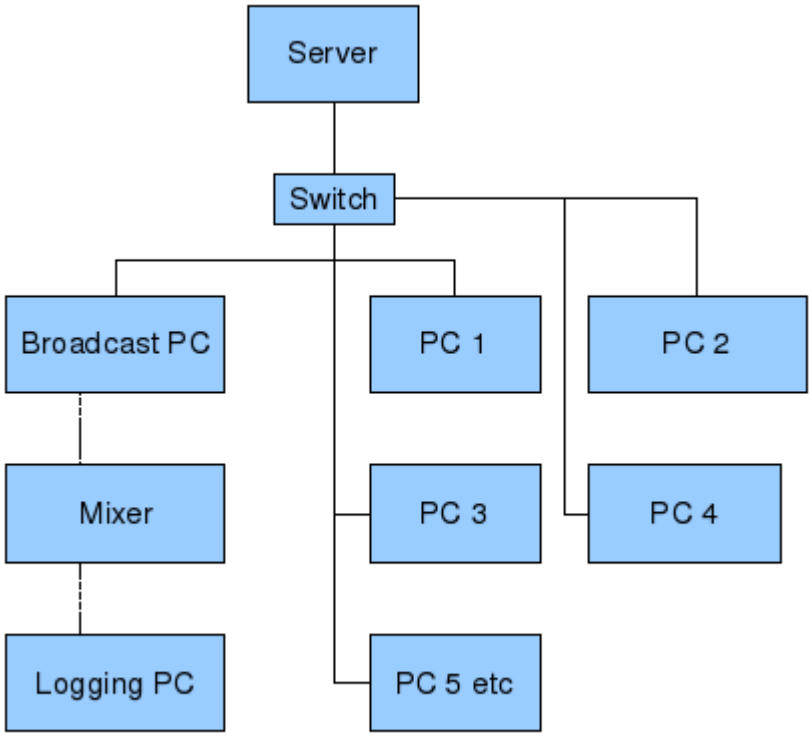
1. (Re-)Installing Computers

Read the instructions thoroughly before you start the installation!

With this package a few CD's are included:

1. Ubuntu 7.10 Desktop LiveCD (for PC's with more than 256 MB RAM)
2. Ubuntu 7.10 Desktop Alternate (for PC's with less than 256 MB RAM)
3. Ubuntu Studio 7.10 DVD
4. Ubuntu 8.04 Server
5. Extra Radio Software Installation CD

In this guide we will work with the following configuration:



People work on the PC's for audio editing, administration, etc. They can save their work on the server, if they wish/need to share, for instance radio programs, scripts or necessary documents. Everyone can access these files on the server.

On all the PC's one can use a radio automation system to plan the programs in the future, with music from both local sources (CD's, files) and from the library. People can also add their own items to the system.

When the program is scheduled, it can start at the programmed moment from the broadcast PC which plays it out on the mixer (that will go to the transmitter and then on air). The logging PC archives all the content that goes on air and archives it with the time and date of broadcast.

All the computers and the server are connected to the switch with UTP cables. The connection between the broadcast PC, the logging PC and the mixer are audio cables with a mini-jack connector. If possible, use XLR cable and solder the cables yourself.

All the computers (also the server) are normal PC's. If you have choice in quality, then use the best one for the broadcast PC. It's also nice if the server and logging PC both have some disk space. You can get more disk space by placing an extra harddrive in the computer or by adding a USB harddrive. The USB harddrive will be mounted automatically at /media/disk so you don't have to go through the steps mentioned under “logging PC” for adding a harddrive.

General notes:

- For all the installations your computer needs to be at least a Pentium 2 with 256 MB of RAM and a CD-drive
- Sometimes if you give a command, the computer will ask you something like: “do you really want this?”, or: “please insert a CD-rom and press enter”. You have to find out yourself what you have to do, I cannot describe everything, but mostly hitting the 'return-button' or 'yes' and 'return' or 'y' and 'return' will be enough. Think for yourself (that's a good rule in general by the way).
- This is not an introduction into Ubuntu computing, this is merely how you should install Ubuntu in a community radio environment. You have to learn how to work with Ubuntu, it's easy and in many ways very similar to Windows, but sometimes you have to be persistent.
- You can always email me with questions at info@mediactionfoundation.org but don't just write: “it's not working”. Describe what you have done until now, what is not working and what computers you are using, and what switches and so on. If you don't know, that's fine, just tell me.
- When I write type, you can always just copy & paste into you own terminal what comes after it, that saves you a lot of typing and typing mistakes. **BUT: if a command takes more than one line, you have to type it!**
- The Ubuntu Forums and internet in general can also learn you a lot about Ubuntu and it's programs. Check: ubuntuforums.org

1.1 Training/Editing/General Computers

This is the most common PC in the station. It's used for everything: audio editing, word processing, browsing, etc. In short: everything that is not as specific as the server, broadcast PC and the logging PC. This installation can be done in three different ways, depending on whether you have a DVD-drive (1.1.1), a USB-DVD-drive (1.1.2) or no DVD-drive at all (1.1.3).

1.1.1 Training/Editing/General Computers with a DVD-drive

1. Put the DVD 'Ubuntu-Studio 7.10' in the DVD-drive
2. (re)start the computer from the DVD.
   (If it doesn't start from the DVD enter the bios and set he computer to ' boot from DVD')
3. Install Ubuntu

1. Select language (English)
2. Select country/place (addis abeba/Ethiopia)
3. Select keyboard (us english)
4. Choose **manual** partitioning
5. choose ' **new partition table**' if your computer already has partitions
6. install the different partitions one by one like this like this:

mount point	size	type
/	4 GB (4000 MB)	ext3
	1 GB (1000 MB)	swap
/home	rest of HD space	ext3

(if this doesn't work, you can choose “guided – use entire disk” instead of “manual”)

7. Give the computer a name and number. We use to give the compuer the name of the radiostation (jimare) with a number behind it. For instance jimare01 or jimare 14 the password should be 'user' for every computer. **Make sure that the ' your name' and the 'computer name' are the same!!!**
8. **install (this can take a while)**

4. Restart your computer
5. Take the DVD out when the computer asks you to
6. The computer starts in Ubuntu Studio now: congratulations! You made your Ubuntu installation successfully! Now you will continue to make the computer ready for usage in your community radio station.

7. Log in to the new system (type login and password)
8. Put the Extra Radio Software Installation CD in the computer
   Now you are going to add the programs on the CD to the library
9. Open the terminal (Applications > accessories > Terminal) and type: *sudo apt-cdrom add (enter).*
   Note: make sure you type these words exactly as written if you make a small mistake it will not respond, this is always the case when you type in the terminal. And always press enter after you typed something in the terminal, but check the spelling first!
10. Follow the instructions and give the cd the name: Extra Radio Software Installation CD
11. Then type: sudo apt-get install nfs-common portmap
12. give your password (user)
    Note: In the future I will not note that you have to give your password anymore, just do it if you are asked to.
13. Go to System > Administration> Login Window
14. Then go to the tab 'Security'
15. Then select 'Enable Automatic Login' and select the user (Jimare01), from the menu. Press Close.
16. Open a terminal (Applications > Accessories > Terminal)
17. Type: *sudo gedit /etc/fstab*
18. Add the following sentence to the end of the file (enter)
    192.168.1.254:/srv /srv nfs rsize=8192,wsize=8192,timeo=14,intr
    Note: the easiest way to do this is by opening this manual. Do it like this: open the cd tray and close it again and automatically the cd-content will be shown. Open: equipment &

computer manual. Then you find this manual and you can copy and paste commands for the terminal easy.

19. click file > save
20. click file > quit
21. go back to the terminal and type: *sudo mkdir /srv*
22. type: *sudo apt-get install soundkonverter soundconverter vlc vorbis-tools ubuntu-restricted-extras*
23. type: *sudo apt-get install easytag exfalso ffmpeg flac java-common mozilla-plugin-vlc vlc-nox*
24. type: *sudo apt-get install flashplugin-nonfree lame audacity*
25. Follow the instructions and answer all questions with 'OK' and 'Yes'
26. *After this you are finished installing the computer! Restart and enjoy your new system! Repeat this installation on other computers that are not the server, on-airpc and logging pc.*

1.1.2 Training/Editing/General Computers with USB DVD-drive

1. Put the cd 'Ubuntu 7.10' in the CD-drive (not in the USB DVD-drive because it cannot boot from there)
2. (re)start the computer from the CD.
   (If it doesn't start from the CD enter the BIOS and set he computer to ' boot from CD')
3. Install Ubuntu
   1. Select language (English)
   2. Select country/place (addis abeba/Ethiopia)
   3. Select keyboard (us English)
   4. Choose **manual** partitioning
   5. choose ' **new partition table**' if your computer already has partitions
   6. install the different partitions one by one like this like this:

mount point	size	type
/	4 GB (4000 MB)	ext3
	1 GB (1000 MB)	swap
/home	rest of HD space	ext3

   (if this doesn't work, you can choose “guided – use entire disk” instead of “manual”)
   7. Give the computer a name and number. We use to give the compuer the name of the radiostation (jimare) with a number behind it. For instance jimare01 or jimare 14 the password should be 'user' for every computer. **Make sure that the ' your name' and the 'computer name' are the same!!!**
   8. **install (this can take a while)**
4. Restart your computer
5. Take the cd out when the computer asks you to
6. The computer starts in Ubuntu now: congratulations! You made your Ubuntu installation successfully! Now you will continue to make the computer ready for usage in your community radio station.

7. Log in to the new system (type login and password)

8. Put the Extra Radio Software Installation CD in the computer
   Now you are going to add the programs on the CD to the library
9. Open the terminal (Applications > accessories > Terminal) and type: *sudo apt-cdrom add (enter).*
   Note: make sure you type these words exactly as written if you make a small mistake it will not respond, this is always the case when you type in the terminal. And always press enter after you typed something in the terminal, but check the spelling first!
10. Follow the instructions and give the cd the name: Extra Radio Software Installation CD
11. Then type: sudo apt-get install nfs-common portmap
12. give your password (user)
    Note: In the future I will not note that you have to give your password anymore, just do it if you are asked to.
13. Upgrade to Ubuntu Studio by plugging in the USB DVD-ROM drive. If you plug it in the computer will ask: “CD with packages found, what do you want to do?” Then select: “Start package manager”
14. When Synaptic Package Manager is started, click 'search'. Then type 'studio'
15. Then select the packages which start with Ubuntu Studio and select install
16. Reboot
17. Go to System > Administration> Login Window
18. Then go to the tab 'Security'
19. Then select 'Enable Automatic Login' and select the user (Jimare01), from the menu. Press Close.
20. Open a terminal (Applications > Accessories > Terminal)
21. Type: *sudo gedit /etc/fstab*
22. Add the following sentence to the end of the file (enter)
    192.168.1.254:/srv /srv nfs rsize=8192,wsize=8192,timeo=14,intr
    note: (**the easiest way to do this is by opening this manual. Do it like this: open the cd tray and close it again and automatically the cd-content will be shown. Open: equipment & computer manual. Then you find this manual and you can copy and paste commands for the terminal easy.**
23. click file > save
24. click file > quit
25. go back to the terminal and type: *sudo mkdir /srv*
26. type: *sudo apt-get install soundkonverter soundconverter vlc vorbis-tools ubuntu-restricted-extras easytag exfalso ffmpeg flac audacity java-common mozilla-plugin-vlc flashplugin-nonfree lame vlc-nox*
27. Follow the instructions and answer all questions with 'OK' and 'Yes'
28. *After this you are finished installing the computer! Restart and enjoy your new system! Repeat this installation on other computers that are not the server, on-air pc and logging pc.*

1.1.3 Training/Editing/General Computers without DVD-rom

1. Put the cd 'Ubuntu 7.10' in the CD-drive
2. (re)start the computer from the CD.
   (If it doesn't start from the CD enter the BIOS and set he computer to ' boot from CD')
3. Install Ubuntu

1. Select language (English)
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12. give your password (user)
    Note: In the future I will not note that you have to give your password anymore, just do it if you are asked to.
13. Go to System > Administration> Login Window
14. Then go to the tab 'Security'
15. Then select 'Enable Automatic Login' and select the user (Jimare01), from the menu. Press Close.
16. Open a terminal (Applications > Accessories > Terminal)
17. Type: *sudo gedit /etc/fstab*
18. Add the following sentence to the end of the file (enter)
    192.168.1.254:/srv /srv nfs rsize=8192,wsize=8192,timeo=14,intr
    note: (**the easiest way to do this is by opening this manual. Do it like this: open the cd tray and close it again and automatically the cd-content will be shown. Open:**

equipment & computer manual. Then you find this manual and you can copy and paste commands for the terminal easy.

19. click file > save
20. click file > quit
21. go back to the terminal and type: *sudo mkdir /srv*
22. type: *sudo apt-get install soundkonverter soundconverter vlc vorbis-tools ubuntu-restricted-extras easytag exfalso ffmpeg flac audacity java-common mozilla-plugin-vlc flashplugin-nonfree lame vlc-nox*
23. Follow the instructions and answer all questions with 'OK' and 'Yes'
24. After this you are finished installing the computer! Restart and enjoy your new system! Repeat this installation on other computers that are not the server, on-air pc and logging pc.

Note: check chapter 2. for information on how to install extra applications like typing Amharic on the computer.

1.2 Server

This server is here, for the sole purpose of sharing it's harddrive with all other PC's. Doing this, everyone can share music, files, documents over the network. The network itself is configured on the onair PC. This PC is only here for storage. So for this PC you can use a slow PC with a very big harddrive.

1. Put the cd 'Ubuntu Server 8.04' in the CD-drive
2. (re)start the computer from the CD.
   (If it doesn't start from the CD enter the BIOS and set he computer to ' boot from CD')
3. Install Ubuntu Server
    1. Select language (English)
    2. Select country/place (other > Ethiopia)
    3. Detect or Select keyboard (us English)
    4. Type hostname: *server*
    5. Choose **manual** partitioning
    6. choose ' **new partition table**' if your computer already has partitions
    7. install the different partitions one by one like this like this:

mount point	size	type
/	4 GB	ext3
	2 GB	swap
/srv	rest of HD space (minimum of 20 GB)	ext3

    8. Select that the system clock is set to UTC
    9. Username: *server*
    10. Password: *user*
    11.

Don't install the DNS-server, Mail-server, DHCP-server or Apache

    12. restart and remove CD

4. When you've restarted in you system, login (server, user) (you don't see your password when you type it for security reasons).
5. Insert the Ubuntu 8.04 Server CD
6. type: *sudo apt-cdrom add* and press 'enter'
7. type: *sudo apt-get install nfs-kernel-server portmap*
8. Then put in the Extra Radio Software Installation CD
9. type: sudo mount /media/cdrom
10. type: sudo cp /media/cdrom/conf/exports /etc/exports
11. type: sudo cp /media/cdrom/conf/interfaces /etc/network/interfaces
    (These last commands will copy a configuration files onto the server so you don't have configure file sharing Although the configuration should be quite universal, there may be some minor changes you have to make in the following files: /etc/exports, /etc/interfaces)
12. Now you've shared the directory /srv with all the computers on the network. You only have to make it writeable for the others.
13. Type: *sudo chmod 777 /srv*
14. With this last command you've changed the permissions. Now all the computers automatically have a directory with the name /srv. If you copy something into it, it is available for everyone.

1.3 Logging PC

This PC is very important, because the Ethiopian Broadcasting Agency (EBA) needs you to have a archive of what is broadcasted for at least the last 6 weeks. After finishing the following installation, you can easily do this without a lot of problems: just turn on the computer when you start, and turn it off when you're finished.
Before you really use it: CHECK IF IT WORKS.
The best thing would be if you would put two hard disks in this computer, so if one fails, you always also have the recordings on the other one! (If you put a second harddrive in a computer, make sure to connect both to the flat cable and set the harddrive with Ubuntu on it to Master and the other on to Slave.)

1. Put the cd 'Ubuntu 7.10' in the CD-drive
2. (re)start the computer from the CD.
   (If it doesn't start from the CD enter the BIOS and set he computer to ' boot from CD')
3. Install Ubuntu
    1. Select language (English)
    2. Select country/place (addis abeba/Ethiopia)
    3. Select keyboard (us English)
    4. Choose **manual** partitioning
    5. choose ' **new partition table**' if your computer already has partitions
    6. install the different partitions one by one like this like this:

mount point	size	type
/	4 GB (4000 MB)	ext3

	1 GB (1000 MB)	swap
/home	rest of HD space	ext3

(if this doesn't work, you can choose “guided – use entire disk” instead of “manual”)

7. Give the computer the name *logger* and also use this as name for the user. **Make sure that the ' your name' and the 'computer (host) name' are the same!!!**
8. Give in password: user
9. install (this can take a while)
10. Restart your computer

1. Reboot into you new system (type login and password) and put in the Extra Radio Software Installation CD
2. **IF YOU'VE ADD AN EXTRA HARDDRIVE (that means you have two harddisks in your computer)** If you've added an second harddrive, check if you can see it when you open Places > Filesystem. Probably the computers asks you if you want to mount it and give you password. If this is the case, open a terminal (Applications > accessories > Terminal) and
   (a) type: *sudo gedit /etc/fstab*
   (b) copy and paste the following sentence at the end of the file as a new line:
   /dev/sdb1 /media/disk ext3 defaults,errors=remount-ro 0 1
   (c) file > save
   (d) file > quit
   (e) sudo mkdir /media/disk
   (f) sudo mkdir /media/disk/log
   (g) to check if everything worked, type: *sudo mount /media/disk*
   (h) if you restart, the disk should automatically show up on your desktop

IF YOU DIDN'T ADD AN EXTRA HARDDRIVE (which means you have only one harddrive in your computer), then do this:

(a) type*: sudo mkdir /home/logger/log*
(b) type*: sudo ln -s /home/logger/log /media/disk*
(c) type: sudo mkdir/home/logger/log/log

3. Type: *sudo apt-cdrom add* and press 'enter' (after you put in the Extra Radio Software Installation CD)
4. Follow the instructions and give the CD the name: *Extra Radio Software Installation CD*
5. type: *sudo apt-get install build-essential* (follow the instructions, maybe you have to put in the Ubuntu 7.10 installation CD first, then press 'enter' and the put in the Extra Radio Software Installation CD.
6. type: *sudo mount /media/cdrom*
7. type: *cp /media/cdrom/logging/software/lame-3.96.1.tar.gz /home/logger/*
8. type: *cd /home/logger*
9. type: *tar xfz lame-3.96.1.tar.gz*
10. type: *cd lame-3.96.1*
11. type: *./configure*
12. type: *make*
13. type: *./configure --with-fileio=lame --without-vorbis --disable-gtktest --enable-expopt=full --prefix=/usr*
14. type*: make*
15. type: *sudo make install*
16. type: *sudo cp /media/cdrom/logging/software/darkice-0.19.tar.gz /home/logger*

17. type: *cd /home/logger*
18. type: *tar xfz darkice-0.19.tar.gz*
19. type: *cd darkice-0.19*
20. type: *./configure*
21. type: *make*
22. type: *sudo make install*
23. type: *sudo cp /media/cdrom/logging/scripts/darkice.cfg /etc/darkice.cfg*
24. type: *sudo cp /media/cdrom/logging/scripts/radioplay.cron /etc/cron.d/radioplay*
25. type: *sudo mkdir /var/lib/radioplay*
26. type: *sudo cp /media/cdrom/logging/scripts/radioplay /var/lib/radioplay/radioplay*
27. *type: sudo cp /media/cdrom/logging/scripts/radioplay.conf /var/lib/radioplay/radioplay.conf*
28. type: *sudo cp /media/cdrom/logging/scripts/darkice /etc/init.d/darkice*
29. type: *sudo update-rc.d -f darkice start 20 1 2 3 4 5 6 0 .*
30. type: *sudo ln -s /var/lib/radioplay/radioplay /usr/local/bin/radioplay*
31. type: *sudo cp /media/cdrom/logging/scripts/radioplaycleaner /var/lib/radioplay/radioplaycleaner*
32. *type: sudo ln -s /var/lib/radioplay/radioplaycleaner /usr/local/bin/radioplaycleaner*
33. type: *sudo cp /media/cdrom/logging/scripts/radioplaycleaner2 /var/lib/radioplay/radioplaycleaner2*
34. *type: sudo ln -s /var/lib/radioplay/radioplaycleaner2 /usr/local/bin/radioplaycleaner2*
35. *type: sudo mkdir /etc/radioplay*
36. *type: sudo ln -s /var/lib/radioplay/radioplay.conf /etc/radioplay/radioplay.conf*
37. *type: sudo /etc/init.d/darkice start*
38. *type: sudo /var/lib/radioplay/radioplay init*

This should install the logging package. Put an output from your mixer or another music source in your input, and check in /media/disk if you have a file called radioplay_active.mp3. This is the file where the audio is directly written to. Every hour, every time on start-up, shut-down or every time you type: *sudo radioplay cron* it should copy the file into /media/disk/log with the correct date and time. You should listen to check to be sure!

If everything is installed properly, you don't need to be afraid of power cuts. The computer will record until the power cut and give the file it's name on start-up. So if on 29 September on 19:51 the power goes off, and the computer goes on again on September 30 at 11:10, the sound from September 29 19:00 until 19:51 will be stored under September 30 11:10 since that was the time the computer gave the file its name.

With this installation, the file will be saved on the harddisk /dev/sdb1 at /media/disk/log. Or, if you have only one harddisk, in /home/logger/log.

Extra logging option 1:

You can make an backup by using a script to copy the files also to /home/logger/log so you have the files on two places! If you want to do this type: *sudo gedit /var/lib/radioplay* and remove the # from the following line:

```
#       cp /media/disk/radioplay_active.mp3 /home/logger/log/$TIMESTAMP.mp3

sudo cp /media/cdrom/logging/scripts/radioplaycleaner2 /var/lib/radioplay/radioplaycleaner2
```

Extra logging option 2:
Another option is to use a script to automatically delete files if the disk is almost full. If you want this, type: *sudo gedit /var/lib/radioplay* and delete the # in front of the line.
/var/lib/radioplay/radioplaycleaner
Now it will check every hour if there is enough space for the coming two hours and if not, delete the oldest file.

If you also used 'extra logging option 1', also remove the # from line:
/var/lib/radioplay/radioplaycleaner2

and type this in a terminal (Applications > Accessories > Terminal):
sudo cp /media/cdrom/logging/scripts/radioplaycleaner2 /var/lib/radioplay/radioplaycleaner2

1.4 On air PC:

This is the heart of the station, it plays out music to the mixer, runs a IRC chat server and holds the radio automation system (campcaster). This computer should only be used for this and not for any other purposes (such as audio editing and such) because it should stay STABLE AND CLEAN.

What IRC is, is explained under 2 (but we can tell you now and here that it is a way to communicate with other people without talking by the use of an computer).
Campcaster is radio automation software, which means that you can plan when the programs that are made at the station are played out without having to be present. This means you can prepare a full program and let the computer start all the programs automatically and right on time! The only thing you have to do is leave the computer on, and the fader of the mixer open, and the transmitter on. Be sure that if there is a power cut, that the computer goes back on afterwards. Mostly this can be done in the BIOS. This is not necessary if you are present in the studio, so you can switch the computer back on yourself.

Here there are also the options again for a PC with DVD drive, a PC with a CD drive and a USB DVD drive and PC's without DVD drive. Although it's highly advised that you have at least a USB drive to update to Ubuntu Studio. This has to to with the reaction speed of the CD if you want to use real time effects (for instance for changing the voice of someone in the studio or on the telephone).

1.4.1 On air PC with a DVD-drive

1. Put the DVD 'Ubuntu-Studio 7.10' in the DVD-drive
2. (re)start the computer from the DVD.
   (If it doesn't start from the DVD enter the bios and set he computer to ' boot from DVD')
3. Install Ubuntu
    1. Select language (English)
    2. Select country/place (addis abeba/Ethiopia)
    3. Select keyboard (us english)
    4. Choose **manual** partitioning
    5. choose ' **new partition table**' if your computer already has partitions
    6. install the different partitions one by one like this like this:

mount point	size	type
/	4 GB (4000 MB)	ext3
	1 GB (1000 MB)	swap
/home	rest of HD space	ext3

(if this doesn't work, you can choose “guided – use entire disk” instead of “manual”)

7. Give the computer a name and number. We use to give the compuer the name of the radiostation (jimare) with a number behind it. For instance jimare01 or jimare 14 the password should be 'user' for every computer. **Make sure that the ' your name' and the 'computer name' are the same!!!**
8. **install (this can take a while)**

4. Restart your computer
5. Take the DVD out when the computer asks you to
6. The computer starts in Ubuntu Studio now: congratulations! You made your Ubuntu installation successfully! Now you will continue to make the computer ready for usage in your community radio station.

7. Put the Extra Radio Software Installation CD in the computer
   Now you are going to add the programs on the CD to the library
8. Open the terminal (Applications > accessories > Terminal) and type: *sudo apt-cdrom add (enter).*
   Note: make sure you type these words exactly as written if you make a small mistake it will not respond, this is always the case when you type in the terminal. And always press enter after you typed something in the terminal, but check the spelling first!
9. Follow the instructions and give the cd the name: Extra Radio Software Installation CD
10. Then type: sudo apt-get install nfs-common portmap
11. give your password (user)
    Note: In the future I will not note that you have to give your password anymore, just do it if you are asked to.
12. Go to System > Administration> Login Window
13. Then go to the tab 'Security'
14. Then select 'Enable Automatic Login' and select the user (Jimare01), from the menu. Press Close.
15. Open a terminal (Applications > Accessories > Terminal)
16. Type: *sudo gedit /etc/fstab*
17. Add the following sentence to the end of the file (enter)
    192.168.1.254:/srv /srv nfs rsize=8192,wsize=8192,timeo=14,intr
    Note: the easiest way to do this is by opening this manual. Do it like this: open the cd tray and close it again and automatically the cd-content will be shown. Open: equipment & computer manual. Then you find this manual and you can copy and paste commands for the terminal easy.
18. click file > save
19. click file > quit
20. go back to the terminal and type: *sudo mkdir /srv*
21. type: *sudo apt-get install soundkonverter soundconverter vlc vorbis-tools ubuntu-restricted-extras easytag exfalso ffmpeg flac audacity java-common mozilla-plugin-vlc flashplugin-*

nonfree lame vlc-nox

22. Follow the instructions and answer all questions with 'OK' and 'Yes'
23. type: *sudo apt-get install campcaster-studio campcaster-station ngircd dhcp3-server*
24. type: sudo cp /media/cdrom/conf/interfaces2 /etc/network/interfaces
25. type: sudo cp /media/cdrom/conf/dhcpd.conf /etc/dhcp3/dhcpd.conf
26. type: sudo cp /media/cdrom/conf/dhcp3-server /etc/default/dhcp3-server

    (These last commands will copy some configuration files onto the PC so you don't have configure them yourself. Although the configuration should be quite universal, there may be some minor changes you have to make in the

    1. /etc/network/interfaces
    2. /etc/dhcp3/dhcpd.conf
    3. /etc/default/dhcp3-server

27. To check if everything is working type: sudo /etc/init.d/networking restart
28. type: sudo /etc/init.d/dhcp3-server start
29. By now, your

1.4.2 On air PC with USB DVD-drive

1. Put the cd 'Ubuntu 7.10' in the CD-drive (not in the USB DVD-drive because it cannot boot from there)
2. (re)start the computer from the CD.
   (If it doesn't start from the CD enter the BIOS and set he computer to ' boot from CD')
3. Install Ubuntu
    1. Select language (English)
    2. Select country/place (addis abeba/Ethiopia)
    3. Select keyboard (us English)
    4. Choose **manual** partitioning
    5. choose ' **new partition table**' if your computer already has partitions
    6. install the different partitions one by one like this like this:

mount point	size	type
/	4 GB (4000 MB)	ext3
	1 GB (1000 MB)	swap
/home	rest of HD space	ext3

    (if this doesn't work, you can choose “guided – use entire disk” instead of “manual”)

    7. Give the computer a name and number. We use to give the compuer the name of the radiostation (jimare) with a number behind it. For instance jimare01 or jimare 14 the password should be 'user' for every computer. **Make sure that the ' your name' and the 'computer name' are the same!!!**
    8. **install (this can take a while)**
4. Restart your computer
5. Take the cd out when the computer asks you to
6. The computer starts in Ubuntu now: congratulations! You made your Ubuntu installation successfully! Now you will continue to make the computer ready for usage in your

community radio station.

7. Put the Extra Radio Software Installation CD in the computer
   Now you are going to add the programs on the CD to the library
8. Open the terminal (Applications > accessories > Terminal) and type: *sudo apt-cdrom add (enter).*
   Note: make sure you type these words exactly as written if you make a small mistake it will not respond, this is always the case when you type in the terminal. And always press enter after you typed something in the terminal, but check the spelling first!
9. Follow the instructions and give the cd the name: Extra Radio Software Installation CD
10. Then type: sudo apt-get install nfs-common portmap
11. give your password (user)
    Note: In the future I will not note that you have to give your password anymore, just do it if you are asked to.
12. Upgrade to Ubuntu Studio by plugging in the USB DVD-ROM drive. If you plug it in the computer will ask: “CD with packages found, what do you want to do?” Then select: “Start package manager”
13. When Synaptic Package Manager is started, click 'search'. Then type 'studio'
14. Then select the packages which start with Ubuntu Studio and select install
15. Reboot
16. Go to System > Administration> Login Window
17. Then go to the tab 'Security'
18. Then select 'Enable Automatic Login' and select the user (Jimare01), from the menu. Press Close.
19. Open a terminal (Applications > Accessories > Terminal)
20. Type: *sudo gedit /etc/fstab*
21. Add the following sentence to the end of the file (enter)
    192.168.1.254:/srv /srv nfs rsize=8192,wsize=8192,timeo=14,intr
    note: (**the easiest way to do this is by opening this manual. Do it like this: open the cd tray and close it again and automatically the cd-content will be shown. Open: equipment & computer manual. Then you find this manual and you can copy and paste commands for the terminal easy.**
22. click file > save
23. click file > quit
24. go back to the terminal and type: *sudo mkdir /srv*
25. type: *sudo apt-get install soundkonverter soundconverter vlc vorbis-tools ubuntu-restricted-extras easytag exfalso ffmpeg flac audacity java-common mozilla-plugin-vlc flashplugin-nonfree lame vlc-nox*
26. Follow the instructions and answer all questions with 'OK' and 'Yes'
27. type: *sudo apt-get install campcaster-studio campcaster-station ngircd dhcp3-server*
28. type: sudo cp /media/cdrom/conf/interfaces2 /etc/network/interfaces
29. type: sudo cp /media/cdrom/conf/dhcpd.conf /etc/dhcp3/dhcpd.conf
30. type: sudo cp /media/cdrom/conf/dhcp3-server /etc/default/dhcp3-server

(These last commands will copy some configuration files onto the PC so you don't have configure them yourself. Although the configuration should be quite universal, there may be some minor changes you have to make in the

1. /etc/network/interfaces

2. /etc/dhcp3/dhcpd.conf
3. /etc/default/dhcp3-server

1.4.3 On air PC without DVD-rom

1. Put the cd 'Ubuntu 7.10' in the CD-drive
2. (re)start the computer from the CD.
   (If it doesn't start from the CD enter the BIOS and set he computer to ' boot from CD')
3. Install Ubuntu
   1. Select language (English)
   2. Select country/place (addis abeba/Ethiopia)
   3. Select keyboard (us English)
   4. Choose **manual** partitioning
   5. choose ' **new partition table**' if your computer already has partitions
   6. install the different partitions one by one like this like this:

mount point	size	type
/	4 GB (4000 MB)	ext3
	1 GB (1000 MB)	swap
/home	rest of HD space	ext3

   (if this doesn't work, you can choose “guided – use entire disk” instead of “manual”)
   7. Give the computer a name and number. We use to give the compuer the name of the radiostation (jimare) with a number behind it. For instance jimare01 or jimare 14 the password should be 'user' for every computer. **Make sure that the ' your name' and the 'computer name' are the same!!!**
   8. **install (this can take a while)**
4. Restart your computer
5. Take the cd out when the computer asks you to
6. The computer starts in Ubuntu now: congratulations! You made your Ubuntu installation successfully! Now you will continue to make the computer ready for usage in your community radio station.

7. Put the Extra Radio Software Installation CD in the computer
   Now you are going to add the programs on the CD to the library
8. Open the terminal (Applications > accessories > Terminal) and type: *sudo apt-cdrom add (enter).*
   Note: make sure you type these words exactly as written if you make a small mistake it will not respond, this is always the case when you type in the terminal. And always press enter after you typed something in the terminal, but check the spelling first!
9. Follow the instructions and give the cd the name: Extra Radio Software Installation CD
10. Then type: sudo apt-get install nfs-common portmap
11. give your password (user)
    Note: In the future I will not note that you have to give your password anymore, just do it if you are asked to.

12. Go to System > Administration> Login Window
13. Then go to the tab 'Security'
14. Then select 'Enable Automatic Login' and select the user (Jimare01), from the menu. Press Close.
15. Open a terminal (Applications > Accessories > Terminal)
16. Type: *sudo gedit /etc/fstab*
17. Add the following sentence to the end of the file (enter)
    192.168.1.254:/srv /srv nfs rsize=8192,wsize=8192,timeo=14,intr
    note: (**the easiest way to do this is by opening this manual. Do it like this: open the cd tray and close it again and automatically the cd-content will be shown. Open: equipment & computer manual. Then you find this manual and you can copy and paste commands for the terminal easy.**
18. click file > save
19. click file > quit
20. go back to the terminal and type: *sudo mkdir /srv*
21. type: *sudo apt-get install soundkonverter soundconverter vlc vorbis-tools ubuntu-restricted-extras easytag exfalso ffmpeg flac audacity java-common mozilla-plugin-vlc flashplugin-nonfree lame vlc-nox*
22. Follow the instructions and answer all questions with 'OK' and 'Yes'
23. type: *sudo apt-get install campcaster-studio campcaster-station ngircd dhcp3-server*
24. type: sudo cp /media/cdrom/conf/interfaces2 /etc/network/interfaces
25. type: sudo cp /media/cdrom/conf/dhcpd.conf /etc/dhcp3/dhcpd.conf
26. type: sudo cp /media/cdrom/conf/dhcp3-server /etc/default/dhcp3-server

(These last commands will copy some configuration files onto the PC so you don't have configure them yourself. Although the configuration should be quite universal, there may be some minor changes you have to make in the

1. /etc/network/interfaces
2. /etc/dhcp3/dhcpd.conf
3. /etc/default/dhcp3-server

Note: check chapter 2. for information on how to install extra applications like typing Amharic on the computer.

2. Applications

2.1 Installing Amharic writing and menu's on the computers

1. Insert the Extra Radio Software Installation CD
2. Open a terminal (Applications > Accessories > Terminal)
3. Type: *sudo apt-cdrom add*
4. Follow the instructions and give the CD the name (if you didn't do this already): *Extra Radio Software Installation CD*
5. Then go to System > Administration > Language Support and select 'Amharic' then press 'apply'
6. Click on: ' enable support to enter complex characters'
7. If you want Amharic as a first language you can select it here.
8. Click on: ' OK'
9. Type: *sudo apt-get install scim-bridge*
10. Type: *sudo gedit /etc/X11/xinit/xinput.d/scim*
11. Find the following line
    GTK_IM_MODULE=xim
12. Change it into
    GTK_IM_MODULE=scim-bridge
13. File > save
14. File > quit
15. Restart the computer
16. Open a terminal and type: *scim -d*
17. Right click on the keyboard icon in the right upper corner of your screen
18. Click on SCIM setup
19. Go to 'Global Setup'
20. Select your keyboard (mostly English US) and press 'OK'
21. From now on you can left click on the keyboard icon and select in which language you want to write.

2. Using IRC to chat

Chatting is talking to other people without actually talking. Instead of making noise, you type the words you want to say to the other person. This is very usefull if you want to communicate with a person in the studio during a live program.

1. First install the switches, the onair PC and connect every computer to the network.
2. Start Pidgin (Applications > Internet > Pidgin internet Messenger)
3. Add a account:
   protocol: IRC
   screen name: Studio, or newsroom, or jimare01, jimare02, etc
   server: 192.168.1.195
4. click 'save'
5. Buddies > join a chat
6. channel: #ngirc
7. Then the channel should open and you can type and chat with the other computers on the network.
8. Select 'Buddies > Add chat

9. channel: #ngirc and save
10. Then every time you can double click #ngirc and join the chat

2.3 Using IRC to transport files over the network

1. Start pidgin to chat
2. right click another user
3. click 'send file'
4. select file and press 'send'
5. the other person still has to accept the file and place it somewhere before the process is complete

2.4 Configuring browsers for Campcaster (radio automation)

1. Start firefox (Applications > Internet > Firefox Web Browser)
2. Then type in the browser: 192.168.1.195
3. Then click campcaster
4. You're in!
5. Make this the start-up page by going to edit > preferences
6. click 'main' tab
7. click 'use current page'
8. then click 'Close'

3. Common problems and general information

3.1 Troubleshooting your network

1. Are all the computers connected to the switch?
2. Is the onair computer connected to the switch?
3. Is the onair computer switched 'on'?
4. Go to System > Administration > Network
5. Click 'Unlock'
6. Double click 'Wired Connection'
7. Select 'Roaming Mode'
8. Go to System > Preferences > Network Proxy
9. Select 'Direct internet connection'
10. Open a terminal (Applications > Accessories > Terminal)
11. Type: ifconfig
12. If there is no IP-adress at eth0, something else is wrong.
13. Check the UTP cable
14. Check the power on the switch
15. Check the configuration of the onair PC.
    1. Open a terminal (Applications > Accessories > Terminal)
    2. Type: ifconfig
    3. If the onair PC also has no IP-address at eth0, something is wrong with the configuration of the onair PC. See: onair PC. Check the configuration files mentioned there and/or email me at info@mediactionfoundation.org

3.2 Common information

1. Only two computers have a static IP-address:
   server 192.168.1.254
   onair PC 192.168.1.195

2. Password and user names of the computers on the normal computers are:
   username: jimare[number]
   password: user

   DON'T GIVE THE PASSWORD TO THE VOLUNTEERS, USE AUTOMATIC LOGIN AND KEEP THE PASSWORD SECRET TO PROTECT THE SYSTEM!

   Password and username of the server is:
   username: server
   password: user

   Password and username of the broadcast PC is:
   username: broadcast
   password: user

   Password and username of the logging PC is:
   username: logger
   password: user

3. The operating system is Ubuntu 7.10. You can use newer Ubuntu versions, but you probably need internet to get the right software AND we don't know if everything will work properly as described here.

4. If you want to add a folder of songs to campcaster, there is a command with which you can add complete folders. BUT CLEAN UP THE ID3 TAGS (Artist, Title, Genre (Amharic, Afaan Oromo, English), BEFORE YOU DO THIS!

   type: sudo /opt/campcaster/bin/campcaster-import --link [directory with the music files]

5. If you want to remove the complete library from campcaster

   type: cd /opt/campcaster/var/Campcaster/storageServer/var/install
   type: php -q uninstall.php
   type: php -q install.php

6. If you ever want to make a dual-boot (windows and Ubuntu on one PC):
   1. First install Windows
   2. Start up in windows
   3. Go to > Start > Programs > Accessories > System Tools > Disk Defragmenter
   4. Defragment the disk three times
   5. Then boot from a Ubuntu CD

6. Choose: Install Ubuntu
7. Choose: guided – resize #### and use freed space
8. Then press continue
9. Install normally
10. When you reboot, you'll find a menu saying: boot in Winows or Ubuntu

4. What to do on a daily basis?

1. **Are the tool bars not in place?**

   Open a terminal and type:

gconftool-2 --type string --set /apps/panel/toplevels/top_panel_screen0/orientation "top"

   and

gconftool-2 --type string --set /apps/panel/toplevels/bottom_panel_screen0/orientation "bottom"

   You can also add these command to the start up sequence, so that it happens every time you start the computer. You do it like this:

   1. Go to System > Preferences > Sessions
   2. Press add
   3. the command should be on of the above (gconftool.... etc)
   4. you can give it a name and description
   5. press 'OK"
   6. Now this command will be performed every time you start the PC

2. **Is the desktop visible?**
   1. If not, open a terminal and type: *gedit .config/user-dirs.dirs*
   2. The file should look like this, if it doesn't, replace the file with this:

      XDG_DESKTOP_DIR="$HOME/Desktop"
      XDG_DOWNLOAD_DIR="$HOME/Desktop"
      XDG_TEMPLATES_DIR="$HOME/"
      XDG_PUBLICSHARE_DIR="$HOME/"
      XDG_DOCUMENTS_DIR="$HOME/Documents"
      XDG_MUSIC_DIR="$HOME/"
      XDG_PICTURES_DIR="$HOME/"
      XDG_VIDEOS_DIR="$HOME/"
   3. save
   4. file > quit

3. **Shut down the server if you leave the studio**
   1. Login (username: server password: user)
   2. type: *sudo poweroff*

4. **Switch of all computers if you leave**

5. **Is there enough harddisk space left on the logging PC?**
   1. If there is less then 200 MB free, copy the oldest files to a USB drive, CD-rom or DVD
   2. Make sure the old files are on another medium (USB, CD or DVD)
   3. Delete the old file from the logging PC
   4. Always be sure to have at least an archive of the last three months, but it is an good idea to keep all the recordings in one place for the future. One day, they'll be famous!

6. **Check the recorders**

1. Are they empty?
2. Are they all registered or in place?
3. Are all batteries charged
4. Are all the batteries present?

5. What to do if a part of the equipment is not working?

1. Check if there is electricity
2. Check with the technician
3. Check the cables
4. Check the manuals
5. Check with the technology department (Ato Getachew or Belete)
6. Send a email to Anna & Niels, the Supplier AND the manufacturer in which you describe:
    1. the device, type, serial number, etc.
    2. the problem
    3. the possible cause of the problem (if any)
    4. if you don't get an reaction, send it again! And again! And again! If you still don't get any response, call them!
    5. Giving up is NOT AN SOLUTION!

    6. If the solution is expensive, check if it is cheaper to get a new one. Also take into account how much time each repairing or buying a new one would costs (time is also a kind of money).

email addresses from Jimare equipment:
Manufacturer
DB Broadcast (Transmitter) tech@dbbroadcast.com
EELA (Mixer) info@eela.com
or check the internet
www.google.com and type the name of the manufacturer
rest of the equipment)

Anna and Niels:
Info@mediactionfoundation.org

Supplier:
mg@dutchbroadcastservices.com
Dutch Broadcasting Services (The rest of the equipment)

Anna and Niels:
Info@mediactionfoundation.org

6. Recording with a voice recorder

The nice thing about radio is that is a really fast medium. This means that if something has happened somewhere in your community, you can go there by bike or by foot, record the scene, do some interviews and report, go back to the studio, edit it and send it.
In order to do this, you need a portable recording device. There are many recording devices on the market. First recording devices used tape, with a normal cassette, then there were the mini-disc recorders, and now there are digital recorders. All have their own advantages and disadvantages. The biggest disadvantage of the mini disc and the tape recorder are that they have moving parts. Moving parts cost more electricity and are more likely to break in a humid and dusty climate.
The digital recorders are nowadays quite cheap and have a reasonable quality. The other nice thing about digital recorders is that you can load your recording directly on a PC to edit it.
That's why we will only discuss digital recorders here.

We discuss two digital recorders, of course there are many of them. We choose to discuss the Olympus WS200S and the Zoom H2 because they are relatively cheap and because the represent the categories which are very suitable for community radio. This category is between high-end consumer or cheap-professional.

Both the recorders have built in stereo microphones. There is quite some debate about the use of microphones. Whether one should have a external/internal microphone and what type (dynamic/condenser). We chose for the internal microphone because of price and durability. Both recorders have the possibility of being used with a external microphone, but only through a mini-jack, which is a relatively fragile connector.

The Olympus WS200S is intended as a voice recorder but gives really good quality and costs about $90 USD – 70 EURO. It comes with earphones.

The Zoom H2 is a professional recorder which has a lot of extras, better quality then the Olympus, but also uses more battery and is slightly bigger. It costs about 230 USD or 180 EURO (plus 5 USD or 5 EURO for a protective cover). It includes a windshield for the microphone and earphones.

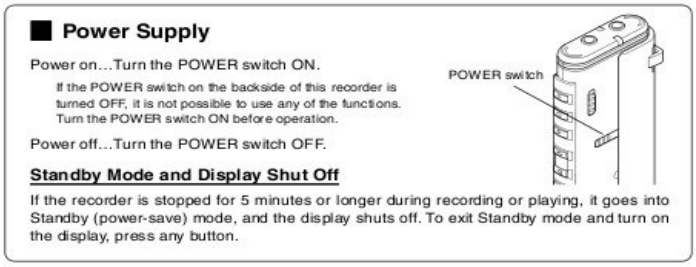
For all the recorders, there are a few important guidelines when you use them:

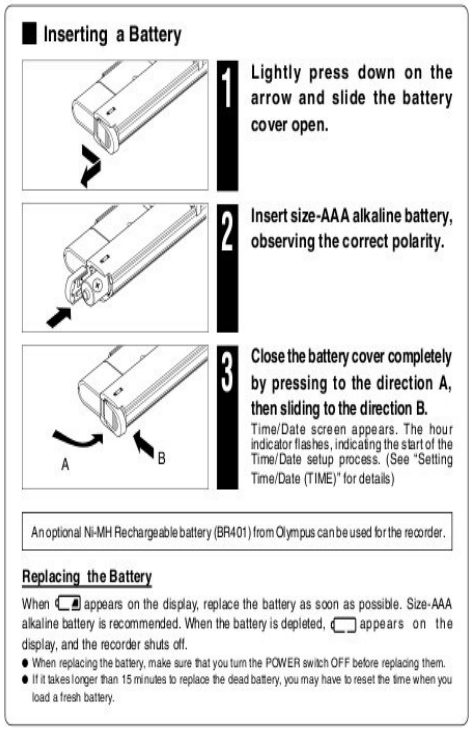
- always take extra batteries
- always check the recording levels using a headphone (possibly only in one ear)
- get used to using the recorder. If you have to struggle with the recorder, it will take the attention away from the interview
- use the recorder naturally as if it were part of your body so that the interviewee will feel at ease

7 the Olympus w200s voice recorder

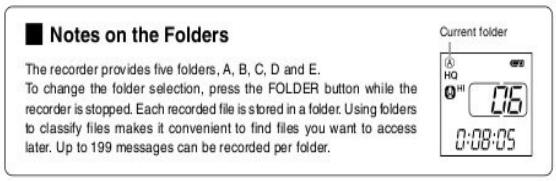
If you are looking for a cheap recorder which will give you reasonable recording quality: the Olympus w200s is your piece of equipment. It's small, handy and easy to use. There are excerpts from the manual below. We'll just mention the things you have to take care of:

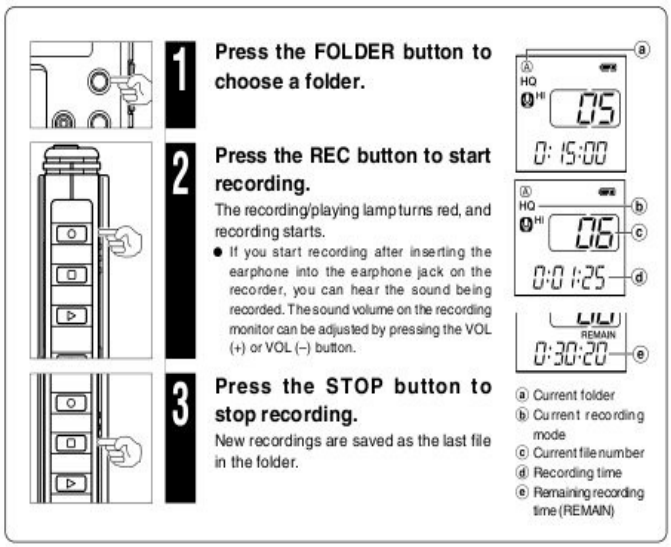
- Be careful when inserting a battery, the cover is a bit fragile
- Switch on the power on the back side



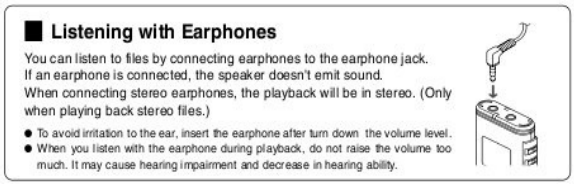


- With the 'menu/folder'-button you can selects which folder you will use (A,B,C,D or E).
- When you press record, the recording will start! You can check this by looking if the red light is burning on top.

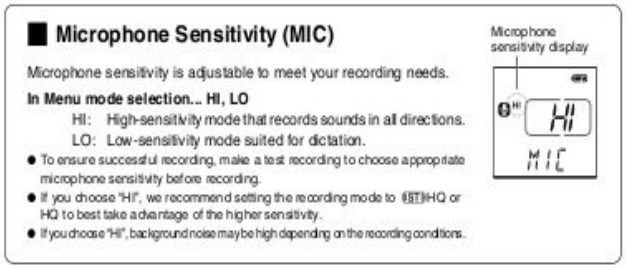




- Always check the recording volume using earphones

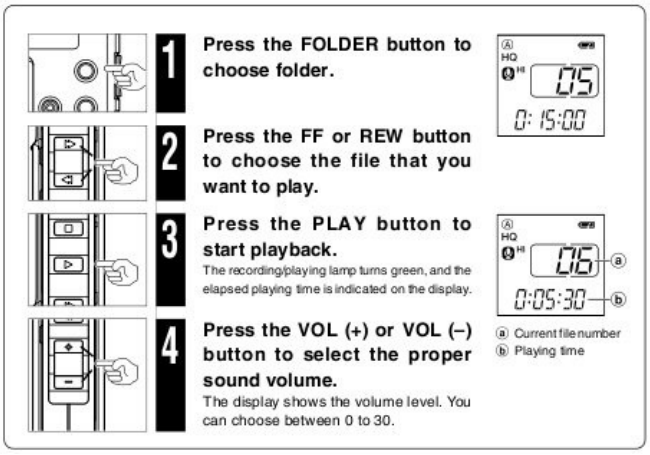


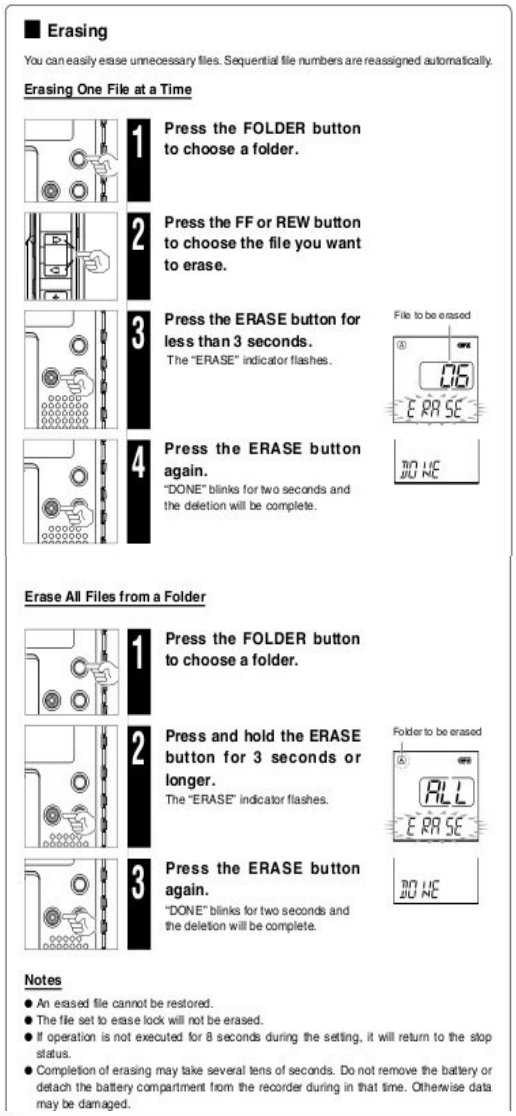
- If the levels are generally too loud or too soft, you can move the recorder closer to your mouth or change the microphone sensitivity.



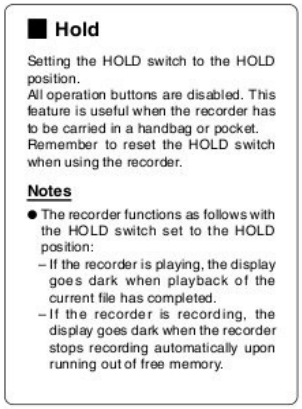
- When you have recorded a file, you can choose to listen to it. If you like it, you can go on recording put it on a computer using the USB connector. If you don't like it, you can choose

to erase this one file, or all the files on the recorder.

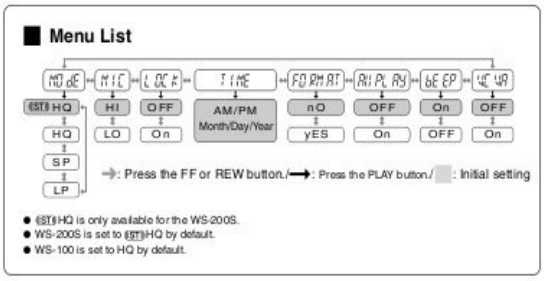


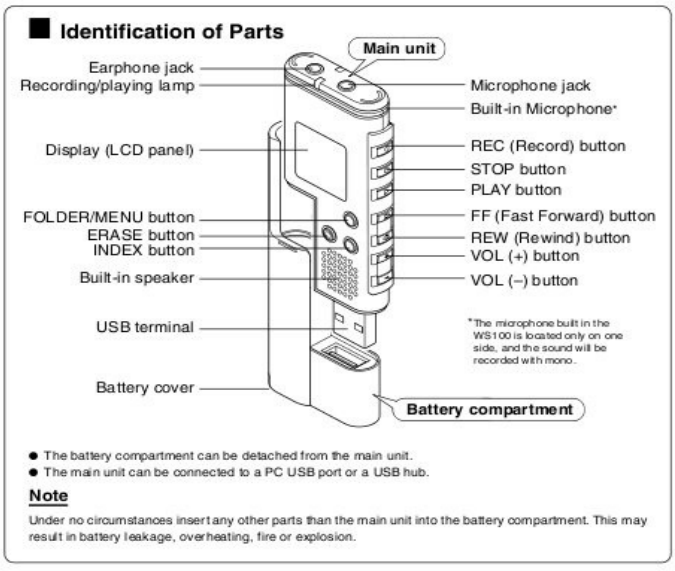


- If you carry the recorder in your pocket when going to an interview, it's wise to put it on 'hold' so the recorder cannot be switched 'on' in your pocket.



- You can erase everything from the recorder by using the format option from the menu
- When you are finished with your recorder, please leave it empty for the next person to use it. Don't expect them to save your files for you! Your files are your own responsibility!



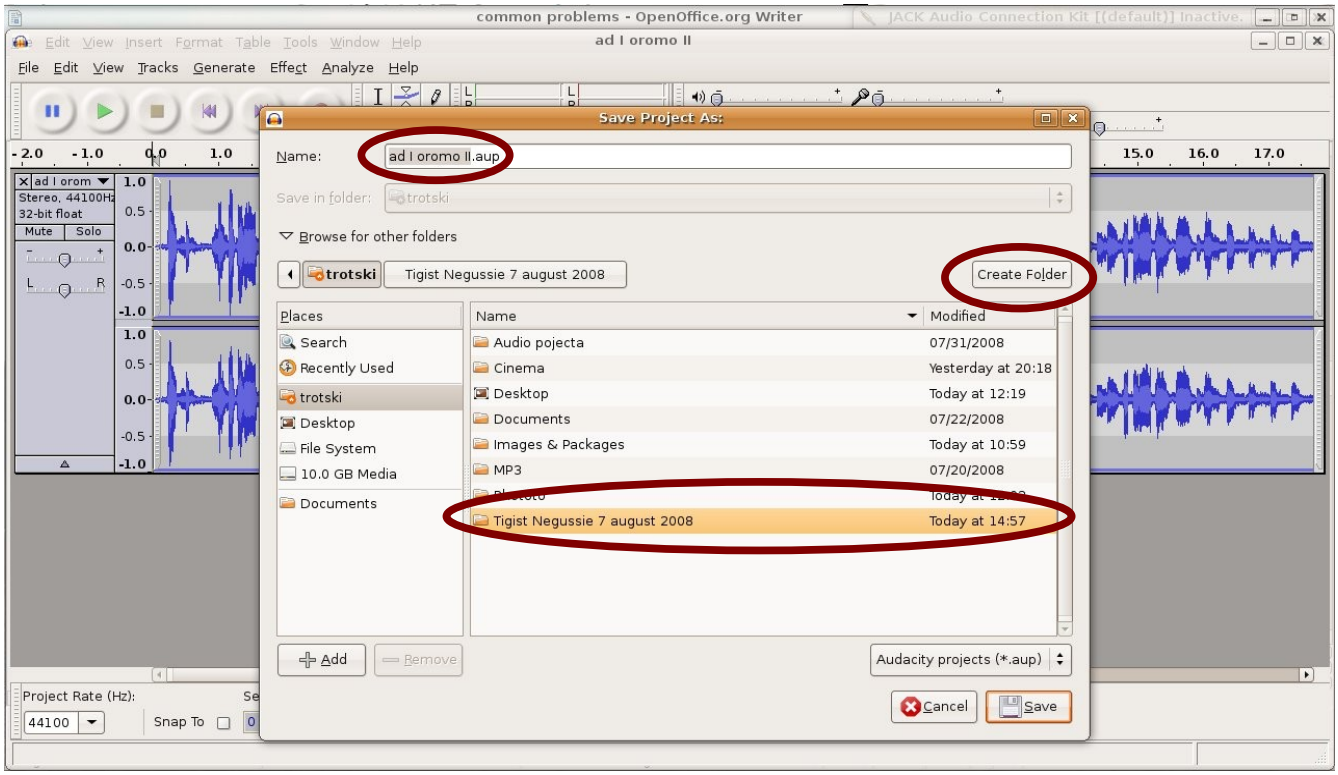


8. Files, directories and archiving

Saving things on your computer is very important because if you don't save your work or project, you have a big chance that it will be lost. But just saving will not help you. You also have to check WHERE you save it, so it's clear for other people that you still need the file or project.

Let's use an example: you've been working in Audacity and you want to save your work as a project. If you save your work, it will be a file. The place where you put the file is a directory or folder (directory and folder are the same).

Where will you save it? You shouldn't just save in the /home folder or the Desktop. Because if everyone saves in the /home folder or on the desktop, it will be a mess and no-one will be able to find his files. So what we do generally is that we create a folder within the /home folder with our name, and the date we've used it.



So here we see that Tigist Negussie created a folder with her name and date in which she can save the project file 'ad I oromo II.aup'. She created the folder with the 'Create Folder' button.

It is important that you also copy all the other files you need into this directory, for instance the files from your voice recorder. Don't leave anything on the Desktop or loosely in the /home/user directory.

If you go to 'places' (on the top left of your screen) you can go to the /home folder.

If you come at a workplace which has files on the desktop, don't delete them, but drag them in the 'rest'-folder on the Desktop.

9. File types and conversion

There are many different file-types. Normally you can recognize the filetype by the extention. For instance: teddyafro.mp3
teddyafro = file name
.mp3 = extention

an .mp3 file is a music file.
Now there are a lot of other file-types which are music files. For instance .wma .wav .ogg .flac .aac are all music files, but of different types. For an end product we use .mp3 and .ogg which are *compressed* file types. This means the files are smaller than for instance .wav.
This also means that .mp3 and .ogg carry less information! If you edit and save to .ogg and .mp3 every time you work on a project, your quality will decrease! So only use it for the end product.

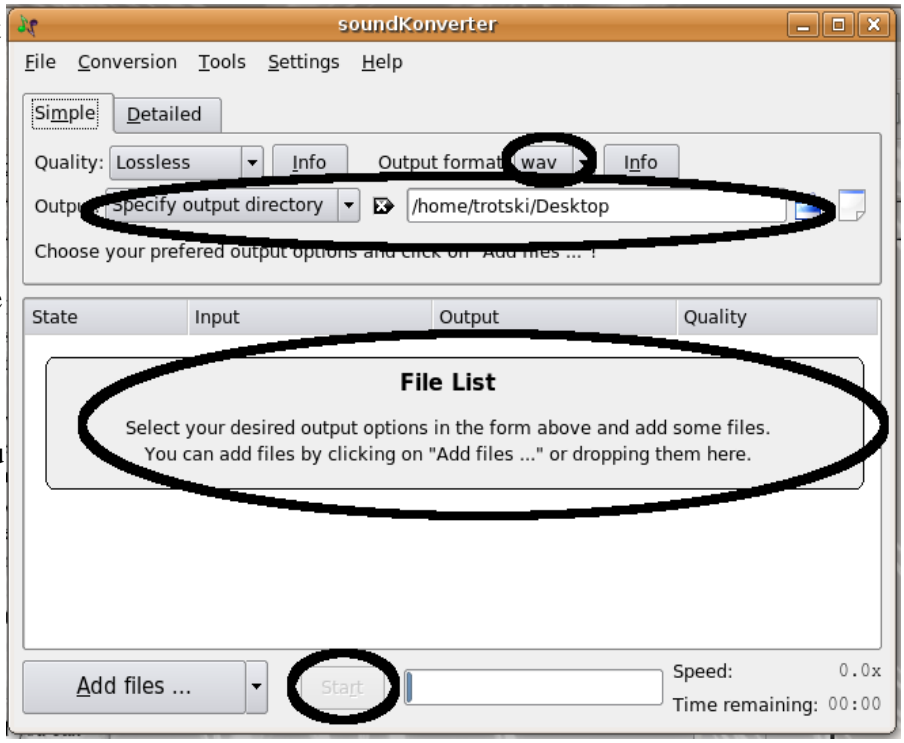
The normal file types we work with are .wav for sound editing. And .au for audacity projects, but .au are no sound files, since they can only be read by audacity, not by any music player. And .mp3 and .ogg for end products.

We can change the filetypes by exporting or saving them in different ways with Audacity. You can use the 'file > export'-function or the 'file > save as'-function for this.

Sound Konverter

If this doesn't work, you can use Sound Konverter by going to Applications > Sound and Video > Sound Konverter

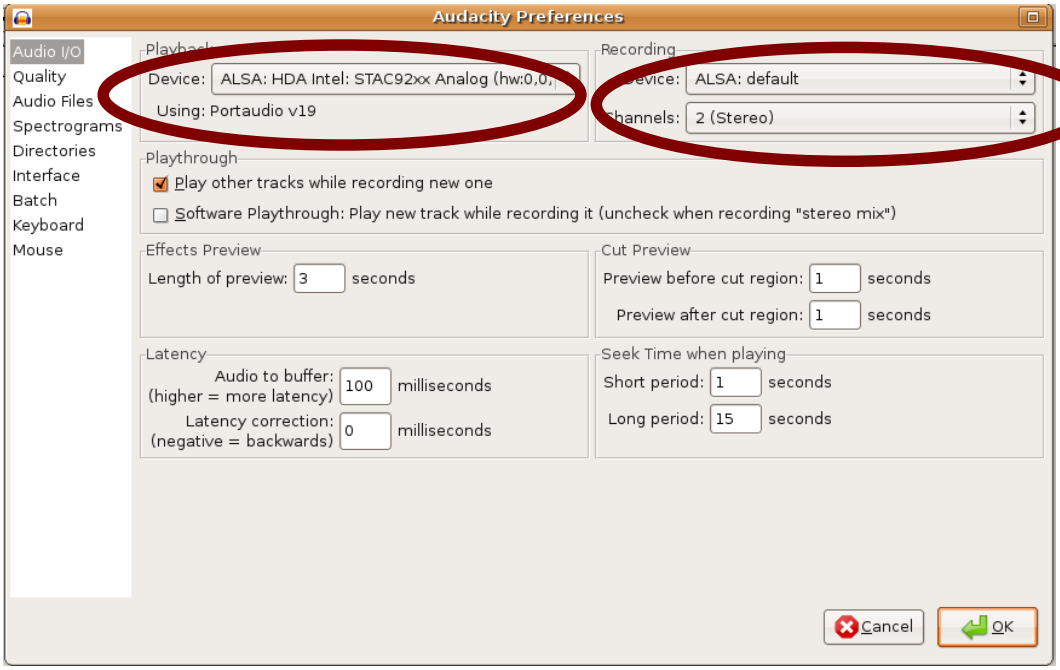
1. You select the output format (mostly .wav) (The format you want to have)
2. You specify the output directory (mostly /home/jimare/Desktop) (Where you want the files)
3. Then you drag the file to the file list
4. You press start
5. Then the files in the new format should appear on you desktop and you can use them.



Problem I : Audacity won't playback or record

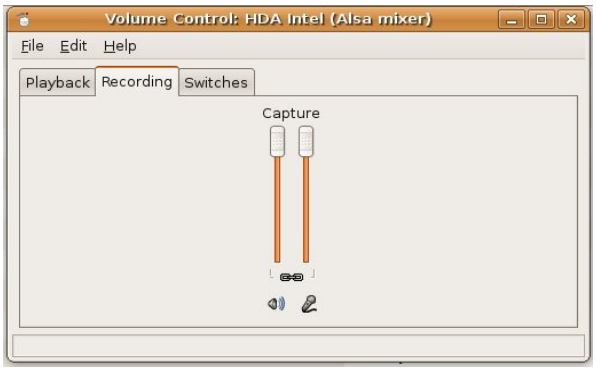
Audacity won't play or record and you get this message:

Then press CTRL + P or go to Edit > Preferences. Then you get the following menu:



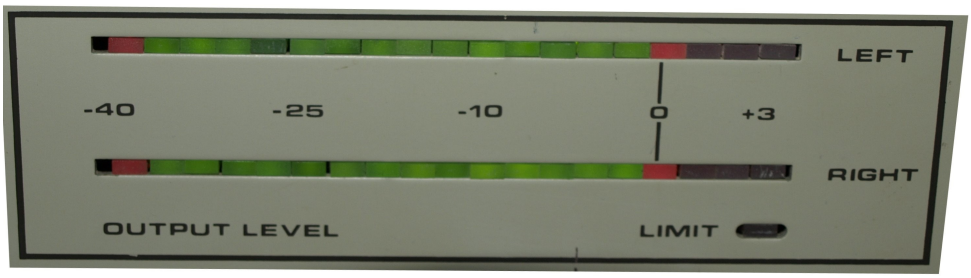
You can change the playback and recording device (see circle) into ALSA: default. Then it should work.

If it doesn't work, you can go to the volume icon  (in the right upper corner of your screen) and right click it, and click 'open volume control'. In the 'recording'-tab you can control the volume (maybe it's too low). With the 'switches'-tab, you can select the microphone (maybe something else is selected).



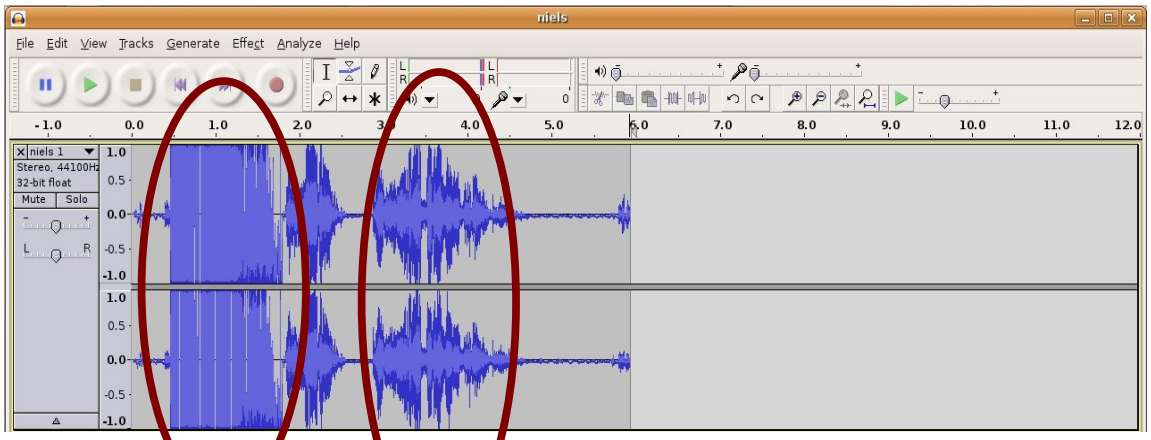
Problem II: The sound is really bad (overmodulation)

A thing which happens a lot is called 'over modulation' which actually means: playing too loud. This can occur both on the mixer, on the recorder as within audacity. On the mixer you should check that the gain is not too loud and that the fader is not too hard. There should be a meter on the mixer which should indicate that you are still within the good range (mostly green, no red).



With Audacity, the problem is actually the same. When you record something with a microphone in the computer or with a recording device, always check the recording level, don't let it get near maximum. (See chapter on recorder)

In the following example you can clearly see the first piece of the audio track which is too loud, and the second part, which has good audio levels.
When you recording is very soft, you can always make it louder. The other way around, it doesn't work. If audio is recorded on a level which is too high it suffers from 'clipping'. This means generally that the sound quality is very much reduced.



Further reading

All the literature you might need, you can find on the Extra Radio Software Installation CD

Here are the subjects of some of the best readers, you can find them all on the CD in the library folder:

Community Radio in General / Introduction
Unesco Community Radio (in Media)

Journalism
URN (in Media)
Writing for radio (in Tutorials)
Interviewing tips (in Tutorials)

Audio editing – Audacity
Audacity (in Tutorials)

Audio editing – Ardour 2
Ardour 2 (in Tutorials)

Ubuntu/Linux in General
intro linux (in PC and Programs)

Equipment
Unesco technique manual (in Equipment Technique)
Newnes radio engineering manual (in Equipment Technique)

Campcaster / Radio Automation
Campcaster long manual (in PC and Programs)
Short manual Campcaster (in PC and Programs)
CC howto (in PC and Programs)