



## *Audio Recording Setup – Oct. 10*



Recording is broken down into 6 sections;

- A. Introduction\overview
- B. Using the Mackie recording mixer
- C. Tape recorders
- D. Computer recording
- E. Output to Video camera
- F. Stereo recording in Cool Edit
- G. Multi-track recording

### **A. Introduction\Overview**

Recording a service allows us to accomplish several things;

- preserve a copy of the service
- spread the message to other people via tapes, CDs and the internet
- allow people in other ministries the chance to hear the service they missed

#### **1.General**

Any audio recording must present the best quality recording we can accomplish, there are several things to consider;

- minimize the recording of copy written material (CD's played before and after the service must not be recorded)
- maintain a consistent audio level (songs must be at a similar level as the message)
- Make CD's as the demand requires, remember to make a master CD, include .wav file and all tracks

#### **2. Getting a good mix**

Getting a good recording mix requires you to place yourself in the position of the person receiving the material. If you are listening in your car or riding your bike you don't want to have to turn the levels up or down, so then all parts of the recording must have the same level.

You need to isolate yourself from the sound around you and recreate it again for the recording.

House sound is a mix of sound produced by acoustic instruments, on stage amps and monitors and voices, when we do house sound we only add what we need to fill in what we get from the stage. When you do a recording you must recreate the live sound in the recording, this may require a different mix then what the house sound is. One way to check is to record on computer during the sound check and then listen to the sound check before the service starts. Then you can make corrections during the real mix.



### 3. Basic Setup

- unpack mixer from storage box, unpack the recording rolling case
- connect "black" patch cable to black multipin connector, located under the Yamaha mixer.
- connect "yellow" patch cable to yellow multipin connector, located under the Yamaha mixer.
- connect the two output connectors to the side of the recording case
- connect power cord to the side of the recording rack
- connect headphones to the headphone jack on the upper right of the mixer
- connect a separate "audience" mic if desired to channel 16 at the front of the gym
- power on recording rack
- power on computer and check that the mixer, tape deck and effects unit is on
- you chose channels based on the band setup (connectors are numbered according to the Mackie recording mixer channels)

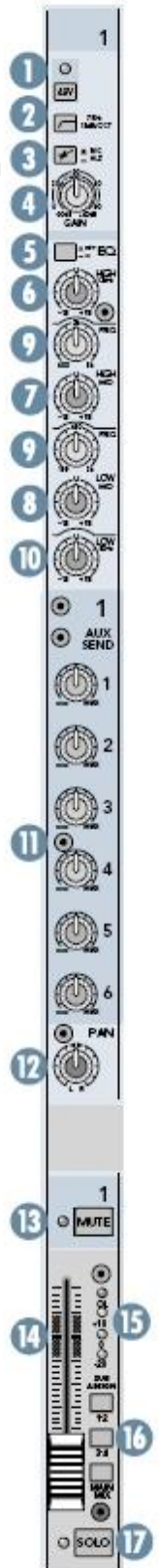
### 4. Getting a mix (refer to channel diagram on right)

- label the channels in use
- check each channel using "Solo (17)" for;
  - incoming levels, watch for clipping (15) (level should just break into yellow) by using the "Gain (4)"
  - set EQ for best sound (5 thru 10)
- assign band to mix 1&2, all others to main mix (16)
- un-mute each channel (13)
- raise output faders to "0"
- bring up drums, instruments and then vocals
- adjust mix according to lead vocal and instrument, this will vary from song to song

For a clean recording please,

- turn off the band when the pastor is speaking**
- check output signal that goes to tapes and computer,**
- watch output meters to avoid clipping**

**[For best results please take the time to read the Mackie Onyx 1640 Mixer manual, it is easier to mix when you know your equipment!](#)**



## **C. Tape recording – used for backup in case of computer failure**

### **1. Load** 2 tapes with labels into the tape deck

- check that the recording tabs are still intact on used tapes
- tape should be wound to the left of the cassette
- check the following
  - \*power on
  - \*play direction is ->
  - \* recording mode is set to continuous
  - \*noise reduction is set to "B"
  - \*balance controls are set to neutral (12 o'clock positions)
  - \*level controls can be started in the 12 o'clock position

### **2. To Record**

Press "Parallel record" then "Pause", ensure record direction is -> on all decks, decks are now paused.

-press "Pause" again to start the recording

Levels

-levels should be set to follow the computer level, once matched to the computer they do not need to be adjusted but little hands make changes for us so it doesn't hurt to check...

-maintain a tape level that breaks out over the 0 (zero) mark on the meters consistently

-too low of level will cause excessive hiss

-too high of level will cause distortion

**\*\*Listen to each deck separately to check for buzz, hum or bad sound.\*\***

## **D. Computer Recording & CD Burning**

### 1. Setup

- make sure the master power switch is on
- push the power button on the front of the computer
- monitor should come on
- computer should boot to windows screen
- open the following programs (if not already open)
- volume\recording control
- "Cool Edit"
- click on "red" recording button (choose 16 bit, 44100, mono)
- click ok and sound levels should come up
- press stop and then playback to hear what you've recorded (connect the headphones to the front of the computer)

### 2. Recording the service

- Tips for best recordings, maintain even levels, use bottom meter keep level between -6 and -3 dB
- avoid clipping the signal

### Basic steps

1. Record until offering
2. Edit start and finish and major dead space or errors
3. Add cues
  - use F8 key or CUE box, except for the beginning and the end, add each cue 2x to mark the end and the beginning of each track.
4. Merge and create tracks
5. Batch save tracks as mp3s and master to folder of same date (example July14-2002.wav to d:\services\july1402\...)
  - create a new folder as required
6. Burn CD's for info table as needed
7. Burn master CD
  - this is a "data" CD with one master file and all mp3 tracks
8. Shut down computer and put equipment away

### Detailed steps

1. Record until offering
  - click "red" recording button to start
  - chose 44100, 16bit mono for recording settings
2. Edit start and finish and major dead space or errors

-excessive editing takes a lot of processing time, make as clean of recording as you can the first time!

### 3. Add cues

-add "cues" to make tracks by pressing "F8" key or open "cue" box

-you must have a beginning and end to each track

example: 1 cue time 0:00 ( beginning of service)

2 cue time 1:23

3 cue time 1:23

4 Cue time 6:39

5 Cue time 6:39

6 Cue time 10:00 (end of service)

highlight cues 1&2 and click on the "merge" button

-you have now created track #1

highlight cues 3&4, click "merge"

-you have now created track #2

highlight cues 5&6 and click "merge"-you have track #3

### 4. Merge, batch and create tracks

Now highlight all of your tracks and click on the "batch" button

You now enter the "batch" box

-click "save to files"

-click "filename prefix" , enter todays date with the year and title of service

-click "destination directory", click "browse", find C:\Services\Current year\Current date folder (you will need to make a new folder for todays date)

-click "ok"

-files should automatically save themselves

-for file type if changed use 128kbps.mp3

5. Save single master to folder of same date (example July14-2002.wav to d:\services\july1402\...)

-quit "cooledit"

6. Burn CD's for info table as needed (use labeled disks for paid customers, un-labeled for freebies, children's ministry workers etc.)

-open the nero CD program

-place a blank disk in the burner

-chose the "audio" option

-find the directory you saved your files in

-highlight and drag the files into the burn area

-highlight all of the files and choose "properties", set the time between tracks to "0 seconds"

- press the burn button, choose the disk drive you are burning to
- ignore warning about 1st track time spacing

#### 7. Burn master CD

- a data disk with master wave file and all tracks
- label this one the master
- give this CD to Keith

#### 8. Shut down computer and put equipment away

- if time permits old services can be converted to MP3 files and the old wave files and tracks deleted to save hard drive space.

### **E. Video Camera**

The output to the video camera is from the ¼ mono - main out of the Mackie mixer, this connects to channel 1 on the camera and is usually setup by the camera operator.

### **F. Stereo Recording**

The Mackie Onyx mixer contains a firewire multi-track recording interface. For stereo recording with Cool Edit software connect the firewire cable to the computer with all programs closed. Then in Cool Edit under system chose stereo in from the Mackie.

### **G. Multitrack Recording**

The Mackie Onyx mixer contains a firewire multi-track recording interface. All 16 channels plus the stereo mix can be recorded at the same time. This mix is post gain but pre everything else.

#### Setup

- boot the computer to windows but do not open any programs
- power on the mixer
- connect the firewire cable to the computer
- open the traction software package
- set the gains as high as possible without clipping

Due to the complexity of multitrack recording you must review the firewire manual and the traction software manual before using this system.

[FIREWIRE PDF](#)

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