

Media & Technology Ministry

[Operating Procedures]

Purpose Statement

To create an environment conducive to worship, to allow all in attendance to clearly hear the Word as it is preached and be able to participate in the worship, to support the other performance ministries and to record and distribute the sermons and specials.

Purpose of this Manual

The purpose of this manual is to help you in serving in the Audio Ministry; in particular, operating the sound system used in sound reinforcement and the recording of various services. We should all strive for high quality production in all of the technical ministries, as anything less might be a distraction to someone. Each of our actions and motives should be to edify others and point the lost to our Savior. Using the guidelines, practices and procedures set forth in this manual, we will ensure a consistent, quality production from all of our technical ministries.

Power Up Procedures

A. Mackie Soundboard

1. Set “Left/Right Mix” fader down to infinity.
2. Press the master switch under the soundboard to the ON position.
3. Verify the soundboard is powered on.
4. Press the “Source” push-button on both meter bridges.
5. Verify “Channel” indicator light is illuminated on each meter bridge.
6. Verify “Left/Right Mix” fader is set down to infinity.

B. Amplifier Rack

1. Verify main power key switch is in the OFF position.
2. Turn main power key 90 degrees counterclockwise to the ON position.
3. Verify all three small green indicators light up.

This is a sequential start-up.

Note: There will be a slight pause between each circuit as it is activated.

C. Video System

1. Camera - Remove dust cap from lens.
2. Camera - Open LCD viewer located on the left side of unit.
3. Camera - Turn the power switch to the CAMERA position.
4. Camera - Verify the unit is powered on.
5. Camera - Verify the aim and focus is set properly.
6. VCR - Press the power switch.
7. VCR - Verify the unit is powered up.

D. Computer

1. Press the power button on the video computer to turn it on.
2. Press the power button on the audio computer to turn it on.
3. Choose the appropriate user and enter the appropriate password for each computer.
4. Verify the video feed is being broadcasted to the video computer.

E. 70-volt Campus-wide Audio System (CWAS)

1. Verify the main power switch is in the OFF position.
2. Set the main mix fader on the Behringer soundboard to infinity.
3. Flip the main power switch to the ON position on the CWAS rack.
4. Verify the amplifiers are powered on.
5. Set the main mix fader on the Behringer soundboard to unity.

F. Campus-wide Video System

1. For the **8:30 service**, use the TV remote and power on the following sets:
 - a) Choir Room; set appropriate volume.
 - b) Nursery Check-in Room; set appropriate volume.
2. For the **11:00 service**, use the TV remote and power on the following sets:
 - a) Sanctuary Starboard Side Aft; set volume to zero.
 - b) Sanctuary Port Side Aft; set volume to zero.

G. Stage Amplifiers (for stage monitor mixes)

1. Go under the stage to the stage rack.
2. Verify the power switch is in the OFF position.
3. Press the power switch to the ON position on the stage rack.
4. Verify the amplifiers have powered on.

H. Stage Lights

1. Open the main breaker panel box outside the sanctuary.
2. Flip circuit breaker 22 to the ON position.
3. Verify the Par Can lights for the stage are illuminated.

I. The system is now in Standby Mode. Proceed to the next section.

Microphone Setup Procedures

A. Set the “Left/Right Mix” fader up to unity for sound checks.

B. Lavalier/Lapel Microphone Setup

1. Locate Lavalier storage pouch in microphone storage case.
2. Remove Lavalier microphone and battery from protective storage pouch.
3. Return protective storage pouch to microphone storage case.
4. Verify power switch is in the OFF position.
5. Open the battery compartment on the back of the transmitter unit.
6. Install battery into transmitter unit and close battery compartment door.
7. **Verify Lavalier microphone is working properly.**
 - a) Flip power switch to the ON position.
 - b) Press the test button and verify battery strength. If signal strength is less than two-thirds, replace with a fresh battery.
 - c) Verify the microphone is working properly by performing a sound check.
 - d) Flip power switch to the OFF position.
8. Give microphone to Pastor.

C. Hand-held Microphone Setup

1. Locate hand-held microphone slipcase in microphone storage case.
2. Remove hand-held microphone and battery from slipcase.
3. Unscrew base of microphone.
4. Remove slip cover from microphone and put slip cover back into slipcase.
5. Return slipcase to microphone storage case.
6. Verify power switch is in the OFF position.
7. Install battery into base of microphone and screw back on base cover.
8. **Verify Hand-held microphone is working properly.**
 - a) Slide power switch to the ON position.
 - b) Press the test button and verify battery strength. If signal strength is less than half, replace with a fresh battery.
 - c) Verify the microphone is working properly by performing a sound check.
 - d) Slide power switch to the OFF position.
9. Place the microphone on the front pew of Worship Center.

D. Miscellaneous Microphone Setup

1. Determine type and number of microphones needed.
 - a) Shure SM57 instrument microphone.
 - b) Shure SM58 soloist vocal microphone.
 - c) Shure SM89 special soloist vocal microphone.
 - d) Shure SM81 ensemble vocal or instrument microphone.
2. Set up appropriate number of microphone stands in desired locations.
3. Use appropriate length microphone cables for each microphone.
4. Plug microphone cable into desired microphone.
5. Plug the other end of microphone cable into desired input jack.
6. Set appropriate channel fader up to unity for this microphone.
7. Set appropriate bus fader up to unity for this microphone.
8. Verify microphone is working properly by performing a sound check.
9. Repeat this process for each microphone to be used.

E. Set “Left/Right Mix” fader down to infinity.

F. The system is now in Standby Mode.

G. Skip down to “Recording Setup Procedures” on page 8 if this is a special service that you wish to record.

H. If the service is *NOT* to be recorded (typically the 8:30 service is not recorded), proceed to the next section.

Monitoring Procedures

- A. At 15 minutes prior to the start of service, do the following:**
 - 1. Verify “Left/Right Mix” fader is set down to infinity.
 - 2. Verify “Channel” indicator light is illuminated on each meter bridge.
If not, press the source switch on each of the meter bridges.
- B. At 5 minutes prior to the start of service, do the following:**
 - 1. If wired microphones are to be used for special music, set the appropriate sub bus faders up to unity.
 - 2. *Set “Left/Right Mix” fader up to unity.*
- C. Monitor the service:**
 - 1. Monitor channel input levels using the meter bridge indicator lights and use the channel trim pots to do fine adjustment to each channel volume.
 - 2. Monitor the sub bus levels and main mix volume levels using the soundboard meter lights.
 - 3. Use the Rane SM82 “Stereo Mixer” main “Output Level” control to adjust the output volume during playback of prerecorded material.
- D. At the beginning of the *Sermon*, do the following steps:**
 - 1. Mute all open microphones except the Pastor’s microphone.
- E. At the end of the *Sermon* (after Pastor’s prayer), do the following steps:**
 - 1. Disengage the mute for the pulpit microphone and for any other desired microphones used by on-stage choral groups.
- F. At the end of the service, proceed to the next section.**

Standby Procedures

- A. If more than one service occurs any given Sunday, do the following:**
 - 1. Set “Left/Right Mix” fader down to infinity.
This is so any activity in the Worship Center is not broadcast to the other rooms during the Sunday School hour, which might disturb these classes.
 - 2. Leave everything else in its current state.
- B. Locate lavalier microphone and do the following:**
 - 1. Verify power switch is in the OFF position.
 - 2. Do “Verify Lavalier microphone is working properly.” on page 4.
- C. Locate hand-held microphone and do the following:**
 - 1. Verify power switch is in the OFF position
 - 2. Do “Verify Hand-held microphone is working properly.” on page 4.
- D. Campus-wide Video System**
 - 1. Mute the TV volume in the Choir Room during Sunday School.
- E. The system is now in Standby Mode.**
- F. At the conclusion of Sunday School, proceed to the next section.**

Recording Setup Procedures

At **15 minutes** before start of service, do the following steps:

A. DAT Recorder/Player

1. Verify the unit is powered off.
If so, press the POWER button to power on.
2. Verify the unit is powered on.
3. Press the “Open/Close” button to open tape bay.
4. Verify the bay door is open.
5. Unwrap a DAT tape and verify the write protect tab is in the closed position.
6. Insert DAT tape face up into tape bay with the write protect tab facing out.
7. Press the “Open/Close” button to close tape bay.
Note: Do **NOT** force the bay door closed with your fingers.
8. Verify the bay door is closes properly.
9. Verify “Input” is set to “Analog”.
10. Verify “ID Mode” is set to “Start”.
11. Verify “Rec Mode” is set to “44.1 kHz”.
12. Verify “SBM” is set to “On”.
13. Verify “Record Level” is set to 4 for both left and right channels.
14. Verify “Auto” is displayed on LED readout.
15. Press the “Auto” button under the “ID” section.
16. Verify “Auto” is no longer displayed on LED readout.
17. Press “Renumber” button under the “ID” section.
18. Verify tape fast-forwards to EOT and then rewinds to BOT.
Note: “Renumber” will blink on LED readout during this process.
19. Verify track number display is blank.
20. The DAT recorder is now in standby mode.

B. CDR Recorder

1. Verify the unit is powered off.
If so, press the POWER button to power on.
2. Verify the unit is powered on.
3. Press the “Open/Close” button.
4. Verify disk tray is in the open position.
5. Remove a blank *Audio* CDR disk from storage spindle.
6. Place the blank CDR disk on the open disk tray.
7. Press the “Open/Close” button.
8. Verify disk tray closes properly.
9. Verify “Record Level” is set to 5 for both left and right channels.
10. Verify track number displays track zero (0).
11. The CDR recorder is now in standby mode.

C. Soundboard

1. Verify “Mix B Level” under the “Mix B Monitor” section is set to unity.
2. Verify “Phones 2” has “Mix B” button selected (is in the down position).
3. Verify “Phones Level” for “Phones 2” is set to the desired listening level.
4. Verify “Mix B” level for channels 1 through 24 are all set to unity.

D. The system is now in record standby mode. Proceed to the next section.

Recording Start-up Procedures

At **5 minutes** before start of service, do the following steps:

- A. To begin recording, do the following:**
1. Press the “Record” button on the DAT unit.
 2. Verify DAT unit is in Pause mode before continuing.
 3. Press the “Rec” button on the CDR unit.
 4. Verify CDR unit is in Pause mode before continuing.
 5. Verify Track 1 is display on both units.
 6. Press the “Play” button on the DAT unit to start recording.
 7. Press the “Play” button on deck B of the CDR unit to start recording.
 8. Press the “Mode” button on the DAT unit.
 9. Press the “Write” button under the “ID” section.
 10. Verify “Pgm Time” is displayed on the LED readout on the DAT unit.
 11. Verify Track 1 is displayed on the LED readout of the DAT recorder.
 12. Verify Track 1 is displayed on the LED readout of the CDR recorder.
- B. The system is now in record mode. Proceed to the next section.**

Recording Monitor Procedures

A. Monitor Recording Levels:

1. Monitor the input level meters on the DAT unit and use the “Master Mix-B/Monitor” level control to adjust the output volume of the soundboard to the DAT unit.
2. Each Individual channel output to the DAT unit may also be adjusted by using the specific channel’s “Mix-B Level” control as well as the source push-button switch. If this button is depressed, then the output from that channel is being fed to the Mix-B output. Otherwise, it acts as a mute button and that channel feed is not sent to the Mix-B output.

B. Monitor the DAT unit:

1. Verify the counter is incrementing.
2. To start a new track, do the following:
 - a) Press the “Write” button under “Program ID” section.
 - b) Verify the Program Time resets.
 - c) Verify the program number increments by one.
3. Verify record level meter is in desired range.

C. Monitor the CDR unit:

1. Verify the counter is incrementing.
2. To start a new track, do the following:
 - a) Press the red “REC” button.
 - b) Verify the Program Time resets to zero.
 - c) Verify the track number increments by one.
3. Verify record level meter is in the desired range.

D. Monitor the sound mix being recorded.

1. Use the headphones attached to “Phones 2” on the soundboard.
2. Verify “Mix-B” push button is depressed and all other push buttons are in the up position.
3. Use “Phones Level” stereo level control to increase/decrease the headphone volume to your desired level.

E. At the conclusion of the service, proceed to the next section.

Recording Finalize Procedures

A. To finalize the recording process, do the following:

1. On the **DAT** unit, do the following:
 - a) Press the “Pause” button.
 - b) Verify the unit is in Pause mode.
 - c) Flip “ID Mode” switch to “End” position.
 - d) Press the “Write” button under “Program ID” section.
 - e) Verify “EE” is blinking in the Program Number LED.
 - f) Proceed to next section while tape is finalizing.
2. On the **CDR** unit, do the following:
 - a) Press the “Stop” button.
 - b) Verify number of tracks and total time are displayed on the LED readout.
 - c) Press the “Finalize” button.
 - d) Verify “Finalize” is displayed in the LED readout.
 - e) Press the “Yes” button to confirm the *finalize* process.
 - (1) A timer will then begin to countdown.
 - (2) Do not do anything else to this unit until the timer reaches zero.
 - f) Proceed to next section while CDR is finalizing.
3. On the **DAT** unit, do the following:
 - a) Verify “EE” is no longer blinking in the LED readout.
 - b) Press the “Rew” button to rewind the tape.
 - c) Verify the tape has rewound to BOT.
 - d) Press the “Open/Close” button to open tape bay.
 - e) Remove the tape from the tape bay.
 - f) Press the “Open/Close” button to close the tape bay.

Note: Do **NOT** force the bay door closed with your fingers.
 - g) Flip “ID Mode” switch to the “Start” position.
 - h) Press the “Power” button to turn the DAT unit OFF.
 - i) Verify the DAT unit is powered OFF.
 - j) Proceed to the next section.

Recording Finalize Procedures

4. On the **CDR** unit, do the following:
 - a) Verify timer has reached zero.
The total time and number of tracks will display on the LED readout.
 - b) Press the “Eject” button on the CDR unit to open tray.
 - c) Power on the CD Playback unit and press the “Eject” button to open tray.
 - d) Transfer disk from CDR unit to CD Playback unit.
 - e) Press the “Eject” button on the CD Playback unit to close tray.
 - f) Verify the total time and number of tracks are displayed on the LED readout. If “disk error” displays on LED readout, go back and redo steps 2b through 2e on page 12 and then redo step 4 on page 13.
 - g) Press the “Eject” button on CDR unit to close tray.
 - h) Press the “Eject” button on CD Playback unit to open tray.
 - i) Remove the disk from the open tray.
 - j) Press the “Eject” button on CD Playback unit to close tray.
 - k) Verify both tray bays are fully retracted.
 - l) Press the “Power” button on the CDR unit and verify the unit powers off.
 - m) Press the “Power” button on the CD Playback unit and verify the unit powers off.
5. Document the **DAT** media.
 - a) Put labels on DAT tape media.
 - b) Document the track names on the slip cover.
 - c) Set the Write-protect tab to the “open” position.
 - d) Put DAT tape in tape case.
 - e) Put finished DAT tape in tape rack.
6. Document the **CDR** media.
 - a) Document all of the service information on the CDR disk using a black felt-tipped pen.
 - (1) Date and time of service.
 - (2) Name of Church.
 - (3) Title of sermon (also note sermon track number).
 - (4) Scripture passage used for sermon.
 - (5) Name of speaker.
 - b) Put CDR in white slim-line jewel case.
 - c) Make a copy of the finished CDR disk and give copy to speaker.
7. Throw all trash away.

Shutdown Procedures

A. Recording Equipment

1. On the **DAT** unit, do the following:
 - a) Verify the unit is powered on. If so, press the POWER button to power the unit off.
 - b) Verify the unit is powered off.
2. On the **CDR** unit, do the following:
 - a) Verify the unit is powered on. If so, press the POWER button to power the unit off.
 - b) Verify the unit is powered off.

B. Hand-held Microphone Disassemble

1. Collect Hand-held microphone.
2. Verify power switch is in the OFF position.
3. Do “Verify Hand-held microphone is working properly.” on page 4.
4. Unscrew base of microphone.
5. Remove battery from base of microphone and screw back on base cover.
6. If signal strength was less than four bars on battery strength test, dispose of weak battery and replace with a fresh battery.
7. Retrieve microphone slipcase from microphone storage case.
8. Unzip the microphone slipcase and remove the protective microphone slip cover.
9. Replace the protective microphone slip cover onto the microphone base and slide it up until it clicks.
10. Put Hand-held microphone and battery into the microphone slipcase and zip up slipcase.
11. Return unit to the microphone storage case.

C. Lavalier/Lapel Microphone Disassemble

1. Collect Lavalier microphone from Pastor.
2. Retrieve protective storage pouch from microphone storage case.
3. Verify power switch is in the OFF position.
4. Do “Verify Lavalier microphone is working properly.” on page 4.
5. Open the battery compartment on the back of the transmitter unit.

6. Remove battery from transmitter unit and close battery compartment door.
7. If signal strength was less than four bars on battery strength test, dispose of weak battery and replace with a fresh battery.
8. Put Lavalier microphone, transmitter and battery into protective storage pouch.
9. Return unit to the microphone storage case.

D. On Soundboard

1. Set “Left/Right Mix” fader down to infinity.
2. Set all channel mute buttons in the off position.
3. Verify all mute indicators are not illuminated.

E. Stage Amplifiers (for stage monitor mixes)

1. Go under the stage to the stage rack.
2. Press the power switch to the OFF position on the stage rack.
3. Verify the amplifiers have powered off.

F. Stage Lights

1. Open the main breaker panel box outside the sanctuary.
2. Flip breaker 22 to the OFF position.
3. Verify the Par Can lights for the stage are NOT illuminated.

G. Amplifier Rack

1. Verify main power key switch is in the ON position.
2. Turn main power key 90 degrees clockwise to the OFF position.
3. Verify all three green indicators turn off.

This is a sequential shutdown.

Note: There will be a slight pause between each circuit deactivation.

H. Soundboard

1. Press the master switch under the soundboard to the OFF position.

I. Computer

1. Close all open programs and execute “shutdown” of each system.
2. The Audio computer will automatically power off after it has completed shutdown.
3. Press the power button on the Video computer to power it off.

Shutdown Procedures

J. 70-volt Campus-wide Audio System (CWAS)

1. Set the main mix fader to infinity.
2. Flip the main power switch to the OFF position on the CWAS rack.
3. Verify the system is powered off.

K. Video System

1. Camera - Turn the power switch to the OFF position.
2. Camera - Verify the unit is powered off.
3. Camera - Close LCD viewer located on the left side of unit.
4. Camera - Attach dust cap to lens.
5. VCR - Press the power switch.
6. VCR - Verify the unit is powered off.

L. Campus-wide Video System

1. Power OFF the TV located in Sanctuary Starboard Side Aft.
2. Power OFF the TV located in Sanctuary Port Side Aft.
3. Power OFF the TV located in Choir Room.
4. Power OFF the TV located in Nursery Check-in Room.
5. Return remote to proper storage location.

M. Miscellaneous Microphone Disassemble (if any were used)

1. Unplug microphone cables from microphone and input jacks.
2. Roll up microphone cables and return to storage closet.
3. Return microphones to microphone storage case.
4. Return Microphone stands to their appropriate storage location.

N. Microphone Storage Case

1. Verify all microphones have been stored in their proper slot.
2. Close microphone storage case.
3. Return microphone storage case to its appropriate storage location.

O. SRS Equipment

1. Verify all equipment has been powered off except for the UPS system.
2. Throw all trash away, turn out lights and lock up.