

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
NATIONAL PARK SERVICE  
HORACE M. ALBRIGHT TRAINING CENTER  
Grand Canyon, Arizona

PI-40

USING THE 16 mm. SOUND PROJECTOR

1. BEFORE LEAVING

Become familiar with your equipment.  
Preview the film (Is it what you ordered? Is it in good condition?)  
Clean and oil the projector.  
Get film reels, extra lamps, extension cords, lens tissue and all needed extras.  
Depart early.

2. ON ARRIVAL

Arrive at least 20 minutes early.  
Locate power source.  
Arrange the room: chairs, aisle, visual angle, screen.  
Set up projector.  
Prefocus the light on the screen (see that the edges are sharp, the aperture clean).  
Turn on the sound and check it; listen for hum, hiss, or click.  
Set the volume at low; set tone midway between base and treble.  
Set sound on "optical" or "magnetic" depending on type of film.  
Thread the film according to instructions (proper loops are important).  
Check the threading visually; turn on the machine briefly.

3. STARTING

Motor on.  
Lamp on.  
Sound on.  
House lights off.  
Adjust the focus.  
Adjust the sound.  
Adjust picture frame if necessary.  
Be sure both reels are turning properly.

4. RUNNING

If trouble occurs, try to fix it without interrupting the show.

If you are uncertain, stop the projector.  
ALWAYS STAND BY! NEVER LEAVE A PROJECTOR WHILE IT IS RUNNING!

## 5. CLOSING

House lights on when "The End" appears.

Lamp off.

Let the music finish! Then gradually turn the sound volume to zero.

Leave the motor running (at least 3 minutes); allows projector bulb to cool.

Turn off motor.

Rewind film (if necessary); preferably after all films are shown.

Make notes if film is broken or sprocket holes torn.

Repack equipment carefully and neatly.

If you haven't been using your movie projector for a few months, here's a routine that will make for better movie projection.

1. Tighten any screws that may have worked loose.
2. Use a soft brush to clean the sprockets and rollers, to dust off the projection lamp bulb, and to take any "whiskers" of dust off the film gate.

With this done, prepare for your showing before your audience arrives. Take a couple of turns with the projector's electric cable around the leg of the table on which it rests. This will prevent the machine from being jerked to the floor if someone inadvertently catches his foot in the cable.

If there are any weak spots in the film, cut and splice right now to prevent breaks and embarrassing time intervals during the show.

Thread the film through the projector and onto the takeup reel. Then turn on the machine long enough to assure yourself that the loop is right and that the film is running through faultlessly.

Then focus the image and make sure the image is the size you want it to be. Now is the time to move the screen or projector--not later when people will have to wait impatiently as you work with the equipment.

Allow the film to advance so that when you turn on the machine you will have the title on the screen rather than a foot or so of blank film. If it is a sound film, be sure that the projector is warmed up before starting the show and that the sound volume is set to the

right level.

In other words, try to make your show get off to a same smooth start that you would expect when you go to a movie theater.

These are techniques that are worth converting into habits before showing your films. And your audience will appreciate it!

### TROUBLE SHOOTING

<u>TROUBLE</u>	<u>REMEDY</u>
Nothing happens when switches turned on	Check power cords; connections, source. Flip switches vigorously! (Note: projector fuse is for sound only)
No light when switches on	Check lamp. May be burned out, improperly seated, or the wrong kind.
No sound, exciter lamp lighted	Check speaker cords and connections
No sound, speaker may hum	Check exciter lamp. May be burned out, improperly seated, or wrong kind. Clean lens between exciter lamp and photo electric cell.
Hairy edges to image on screen and lines on film	Caused by lint and dirt on film gate. Clean it PRIOR to program.
No sound, exciter lamp not lighted, no speaker hum	Check tubes for glow. If not glowing, check fuse WITH PROJECTOR UNPLUGGED. Try connections and exciter lamp also.
Distorted sound (mushy, poor quality, out of synchronization)	Check threading, especially loops. Adjust tone control. Power cord may be too long or other equipment is taking too much power.
Chatter (picture jumps up and down on the screen, film skips)	TURN PROJECTOR OFF. Check for torn sprockets and lost loop. Rethread.
Picture unevenly lighted (halos or blurred)	Carefully clean lens, condenser, reflector. Lamp may be improperly seated; filaments should be parallel to screen. Heads of audience may be in the way.