APPENDIX A: EDGE CODE CHART

These charts reproduce the date edge codes from Kodak and Dupont motion picture film. To date your film, find the film's edge code and select the matching code on the chart. Kodak repeated symbols every 20 years, so you will need additional data to pinpoint the date. For 8mm edge codes used after 1965, see the Web site www.filmforever.org. Fuji film uses a four-digit code; the first two numbers represent the year of manufacture. For more on using edge codes for dating, see 3.3.

EAST	IAN KOD	AK DATE	CODE CH	ART	DUPON	
1922 1942	1962		1982	●■X	CODE	CHART
1923 1943	1963		1983	X 🛦 X	1956	KL
1924 1944	1964		1984		1957	KN
1925 1945	1965		1985		1958	KS
1926 1946	1966		1986		1959	LN
1927 1947	1967		1987		1960	LS
1928 1948	1968*	$\bullet \bullet \bullet$	1988	++▲	1961	NS
1929 1949	1969	+	1989	X + ▲	1962	Κ
1930 1950	1970	▲+	1990	▲+▲	1963	L
1931 1951	1971	•+	1991	X + X	1964	Ν
1932 1952	1972	■ +	1992	■+▲	1965	S
1933 1953	1973	+ 🔺	1993	+ ▲ ▲	1966	KLT
1934 1954	1974	+•	1994	+•▲	1967	KNT
1935 1955	1975	+ 🔳	1995	+ 🔳 🔺	1968	KST
1936 1956	1976	•	1996	X●▲	1969	LNT
1937 1957	1977		1997	X	1970	LST
1938 1958	1978		1998	X A A	1971	NST
1939 1959	1979	$\bullet \bullet$	1999	• X ▲	1972	КТ
1940 1960	1980		2000		1973	LT
1941 1961	1981		2001		1974	NT
WHEF	RE EASTM	AN KODA	к этоск	WAS MANU	JFACTURE)
S A	FETY - R Fety - E Fety - A	NGLAND	S A	(Fety - Ca F ety - Fr		

Source: Adapted from a design by Lauren Jones-Joseph, Sabucat Productions.

*The code for 1968 is ++.

APPENDIX B: PRINT CONDITION REPORT

A print condition form was developed by Chad Hunter of George Eastman House as an instructional tool for workshops held during fieldwork for this guide. Before the sessions, each participant sent a film print to Eastman House for inspection. Staff preservationists recorded their findings on the form and returned the prints and completed reports to participants. The findings were discussed at the workshops. This form can be downloaded from the National Film Preservation Foundation Web site, www.filmpreservation.org.

Silent Sound Gauge: 16mm Material: X Triacetate Polyester Generation: X Positive X Reversal Fine Grain Soundtrack Only X Image Only Language/Head Titles/Intertitles/Subtitles: English PHYSICAL DAMAGE Marked on a scale of 1 (slight) to 4 (heavy)	Length: 486 feet (image to image) Black & White	Color X (Kodachrome)
Gauge: 16mm Material: _X_TriacetateDiacetatePolyester Generation: _X_Positive _X_ReversalFine GrainSoundtrack Only _X_Image Only Language/Head Titles/Intertitles/Subtitles: English PHYSICAL DAMAGE Marked on a scale of 1 (slight) to 4 (heavy)O-1Emulsion Scratches2.5Projector Oil & DirtO-1Base ScatchesOWarpage2.5Perforation Damage4%5%_ShrinkageOEdge/Perforation RepairOColor Fading Number of Splices: 89 cement splices. Four "popped" or open splices—which have be wrapped into film—not repaired. Several other weak splices which will likely pop if handled more Vinegar Syndrome (Acetate Decomposition Level)*O		
Material: X Triacetate Diacetate Polyester Generation: X Positive X Reversal Fine Grain Soundtrack Only X Image Only Language/Head Titles/Intertitles/Subtitles: English PHYSICAL DAMAGE Marked on a scale of 1 (slight) to 4 (heavy)		
Generation: X Positive X Reversal Fine Grain Soundtrack Only X Image Only Language/Head Titles/Intertitles/Subtitles: English PHYSICAL DAMAGE Marked on a scale of 1 (slight) to 4 (heavy) O-1 Emulsion Scratches 2.5 Projector Oil & Dirt O-1 Base Scatches O Warpage 2.5 Perforation Damage .4%5% Shrinkage O Edge/Perforation Repair O Color Fading Number of Splices: 89 cement splices. Four "popped" or open splices—which have be wrapped into film—not repaired. Several other weak splices which will likely pop if handled more Vinegar Syndrome (Acetate Decomposition Level)* O	5	issetste Debugtter
Fine Grain Soundtrack Only _X Image Only Language/Head Titles/Intertitles/Subtitles: English PHYSICAL DAMAGE Marked on a scale of 1 (slight) to 4 (heavy) O-1 Emulsion Scratches 2.5 Projector Oil & Dirt O-1 Base Scatches Warpage O Edge/Perforation Damage A%5% Shrinkage O Edge/Perforation Repair Color Fading Number of Splices: 89 cement splices. Four "popped" or open splices—which have be wrapped into film—not repaired. Several other weak splices which will likely pop if handled more Vinegar Syndrome (Acetate Decomposition Level)*O		
Language/Head Titles/Intertitles/Subtitles: English PHYSICAL DAMAGE Marked on a scale of 1 (slight) to 4 (heavy) 0-1 Emulsion Scratches 2.5 Projector Oil & Dirt 0-1 Base Scatches 0 Warpage 2.5 Perforation Damage .4%5% Shrinkage 0 Edge/Perforation Repair 0 Color Fading Number of Splices: 89 cement splices. Four "popped" or open splices—which have be wrapped into film—not repaired. Several other weak splices which will likely pop if handled more Vinegar Syndrome (Acetate Decomposition Level)* 0		
PHYSICAL DAMAGE Marked on a scale of 1 (slight) to 4 (heavy) 0-1 Emulsion Scratches 2.5 Projector Oil & Dirt 0-1 Base Scatches 0 Warpage 2.5 Perforation Damage .4%5% Shrinkage 0 Edge/Perforation Repair 0 Color Fading Number of Splices: 89 cement splices. Four "popped" or open splices—which have be wrapped into film—not repaired. Several other weak splices which will likely pop if handled more Vinegar Syndrome (Acetate Decomposition Level)* 0	Fine Grain So	oundtrack Only <u>X</u> Image Only
Marked on a scale of 1 (slight) to 4 (heavy) 0-1 Emulsion Scratches 2.5 Projector Oil & Dirt 0-1 Base Scatches 0 Warpage 2.5 Perforation Damage .4%5% Shrinkage 0 Edge/Perforation Repair 0 Color Fading Number of Splices: 89 cement splices. Four "popped" or open splices—which have be wrapped into film—not repaired. Several other weak splices which will likely pop if handled more Vinegar Syndrome (Acetate Decomposition Level)* 0	Language/Head Titles/Intertitles/Subtitles	s: English
Marked on a scale of 1 (slight) to 4 (heavy)	Рнузи	
0-1 Base Scatches 0 Warpage 2.5 Perforation Damage .4%5% Shrinkage 0 Edge/Perforation Repair 0 Color Fading Number of Splices: 89 cement splices. Four "popped" or open splices—which have be wrapped into film—not repaired. Several other weak splices which will likely pop if handled more Vinegar Syndrome (Acetate Decomposition Level)* 0		
2.5 Perforation Damage .4%5% Shrinkage 0 Edge/Perforation Repair 0 Color Fading Number of Splices: 89 cement splices. Four "popped" or open splices—which have be wrapped into film—not repaired. Several other weak splices which will likely pop if handled more Vinegar Syndrome (Acetate Decomposition Level)* 0	0-1 Emulsion Scratches	2.5 Projector Oil & Dirt
<u>O</u> Edge/Perforation Repair <u>O</u> Color Fading Number of Splices: 89 cement splices. Four "popped" or open splices—which have be wrapped into film—not repaired. Several other weak splices which will likely pop if handled more Vinegar Syndrome (Acetate Decomposition Level)* <u>O</u>	Base Scatches	O Warpage
Number of Splices: 89 cement splices. Four "popped" or open splices—which have be wrapped into film—not repaired. Several other weak splices which will likely pop if handled more Vinegar Syndrome (Acetate Decomposition Level)* _0_	2.5 Perforation Damage	.4%5% Shrinkage
wrapped into film—not repaired. Several other weak splices which will likely pop if handled more Vinegar Syndrome (Acetate Decomposition Level)* _0_		nair O Color Fading
	Edge/Perforation Rep	
	Number of Splices: 89 cement splices. For wrapped into film—not repaired. Several handled more Vinegar Syndrome (Acetate Decomposition *Marked on a scale of 0 (no deterioration) to 3 (critical)	our "popped" or open splices—which have b Il other weak splices which will likely pop if on Level)* _0_
Notes: Edge code reads "square plus," which correlates to 1952. Approximately one of pulled sprocket / torn perforations throughout print. 2 areas which have chunks mis from edge, and will likely tear open upon handling. At 407 feet to tail of print, mold begun to eat away portions of the image in cycles of 1 foot—approximately three or four frames every foot. The emulsion damage ranges from minimal to 75% loss of im (per four frames). It progresses nearer to the tail. Original can is rusty, and needs be replaced. Early form of desiccant in can contains high amount of mold, and should discarded. Reel is rusty, and should be replaced or film should be put on core. Mold wiped from edges of film using 50% Perchloroethylene and 50% Simplex projector of the state.	Number of Splices: 89 cement splices. For wrapped into film—not repaired. Several handled more Vinegar Syndrome (Acetate Decompositio *Marked on a scale of 0 (no deterioration) to 3 (critical) Notes: Edge code reads "square plus," wh pulled sprocket / torn perforations through from edge, and will likely tear open upon I begun to eat away portions of the image four frames every foot. The emulsion dar (per four frames). It progresses nearer to be replaced. Early form of desiccant in co discarded. Reel is rusty, and should be re	our "popped" or open splices—which have b I other weak splices which will likely pop if on Level)* nich correlates to 1952. Approximately one ughout print. 2 areas which have chunks mis handling. At 407 feet to tail of print, mold in cycles of 1 foot—approximately three or mage ranges from minimal to 75% loss of in to the tail. Original can is rusty, and needs an contains high amount of mold, and should eplaced or film should be put on core. Mold

Appendix C: Selected Film Preservation Laboratories

Audio Mechanics (sound track)

1200 W. Magnolia Blvd. Burbank, CA 91506 Phone: 818-846-5525 Web site: www.audiomechanics.com

BB Optics

108 Franklin St. New York, NY 10013 Phone: 212-966-6253 Web site: www.bboptics.com/bboptics.html

Bono Film and Video Services

3200 Lee Hwy. Arlington, VA 22207 Phone: 703-243-0800 Web site: www.bonofilm.com

Brodsky & Treadway (film-to-video-

tape transfer of reversal originals) P.O. Box 335 69 Warehouse Ln. Rowley, MA 01969 Phone: 978-948-7985 Web site: www.littlefilm.com

Chace Productions Inc. (sound track) 201 S. Victory Blvd. Burbank, CA 91502 Phone: 800-842-8346 Web site: www.chace.com

Cinema Arts Inc. Huckleberry Hill, Arts Building Angels, PA 18445 Phone: 570-676-4145

CinemaLab 2735 S. Raritan St. Englewood, CO 80110 Phone: 303-783-1020 Web site: www.westerncine.com

Cineric Inc.

630 Ninth Ave., Ste. 508 New York, NY 10036 Phone: 212-586-4822 Web site: www.cineric.com

Cinetech

27200 Tourney Rd., Ste. 100 Valencia, CA 91355 Phone: 877-492-9000 Web site: www.cinetech.com

Colorlab Corp.

5708 Arundel Ave. Rockville, MD 20852 Phone: 301-770-2128 Web site: www.colorlab.com

Crest National

6721 Romaine St. Los Angeles, CA 90038 Phone: 323-860-1300 Web site: www.crestnational.com

DJ Audio (sound track) 10806 Ventura Blvd., Ste. 2 Studio City, CA 91604 Phone: 818-760-1673 E-mail: djaudio@aol.com

Note: This is a selective list of American commercial laboratories experienced in the preservation copying and restoration of motion pictures. It is provided as a public service and does not constitute an endorsement by the National Film Preservation Foundation. For a fuller listing of film and video laboratories, see the Association of Cinema and Video Laboratories Web site, www.acvl.org.

DuArt Film and Video

245 W. 55th St. New York, NY 10019 Phone: 800-523-8278 Web site: www.duart.com

Erickson Archival Telecine

(film-to-video transfer) 11900 Baltimore Ave., Ste. E Beltsville, MD 20705 Phone: 301-210-9988 Web site: www.ericksonarchival.com

Film Technology Company Inc.

726 N. Cole Ave. Los Angeles, CA 90038 Phone: 323-464-3456 Web site: www.filmtech.com

FotoKem Film and Video

2801 W. Alameda Ave. Burbank, CA 91505 Phone: 818-846-3101 Web site: www.fotokem.com

Monaco Film Labs

234 Ninth St. San Francisco, CA 94103 Phone: 415-864-5350 Web site: www.monacosf.com

NT Audio Video Film Labs

(sound track) 1833 Centinela Ave. Santa Monica, CA 90404 Phone: 310-828-1098 Web site: www.ntaudio.com

Summit Film Lab & Media Services 1020 Napor Blvd. Pittsburgh, PA 15205 Phone: 412-937-9333 Web site: www.summitfilmlab.com

Technicolor Creative Services

4050 Lankershim Blvd. North Hollywood, CA 91608 Phone: 818-505-2835 Web site: www.technicolor.com

Trackwise Inc. (sound track)

123 W. 18th St., 7th Fl. New York, NY 10011 Phone: 212-627-7700

Triage Motion Picture Services

516 N. Larchmont Blvd. Los Angeles, CA 90004 Phone: 323-962-7420 Web site: www.triage.to

YCM Laboratories

3140 Clybourne Ave. Burbank, CA 91505 Phone: 818-843-5300

APPENDIX D: Selected Equipment and Supply Vendors

FILM EQUIPMENT AND SUPPLIES

Christy's Editorial Film

and Video Supply 3625 W. Pacific Ave. Burbank, CA 91505 Phone: 800-468-6391 Web site: www.christys.net

Hollywood Film Company

3294 E. 26th St. Los Angeles, CA 90023 Phone: 323-261-3700 Web site: www.hollywoodfilmco.com

J&R Moviola

1135 N. Mansfield Ave. Los Angeles, CA 90038 Phone: 323-467-3107 Web site: www.moviola.com

Motion Picture Enterprises Inc.

P.O. Box 276 Tarrytown, NY 10591 Phone: 212-245-0969 E-mail: info@mpe.net

Neumade Products Corp.

30–40 Pecks Ln. Newtown, CT 06470 Phone: 203-270-1100 Web site: www.neumade.com

FILM CONTAINERS AND CONSERVATION SUPPLIES

Conservation Resources International 5532 Port Royal Rd. Springfield, VA 22151 Phone: 800-634-6932 Web site: www.conservationresources.com

FPC Inc.

6677 Santa Monica Blvd. Los Angeles, CA 90038 Phone: 800-814-1333 Web site: www.fpcfilm.com

Gaylord Bros.

P.O. Box 4901 Syracuse, NY 13221 Phone: 800-634-6307 Web site: www.gaylord.com.

Light Impressions

P.O. Box 787 Brea, CA 92822 Phone: 800-828-6216 Web site: www.lightimpressionsdirect.com

National Film Preservation Products Inc. 3236 Union St.

North Chili, NY 14541 Phone: 585-594-1026 Web site: www.nfppi.com

Note: This is a selective list of firms that specialize in motion picture equipment, containers, and conservation supplies. It is provided as a public service and does not constitute an endorsement by the National Film Preservation Foundation. For photo shops serving amateur filmmakers and links to sources for 8mm and Super 8mm equipment and supplies, see Film Forever: The Home Film Preservation Guide, www.filmforever.org.

Plastic Reel Corporation of America

Western Region 8140 Webb Ave. North Hollywood, CA 91605 Web site: www.prcofamerica.com

RTI Tek Media Supply Company

4700 W. Chase Ave. Lincolnwood, IL 60712 Phone: 800-323-7520 or 847-677-3000 Web site: www.rtico.com/tekmedia

Stil Design

3, Valliere St., Ste. 103 Quebec City, QC G1K 6S9, Canada Phone: 888-414-0449 Web site: www.stildesign.com

Talas

568 Broadway New York, NY 10012 Phone: 212-219-0770 Web site: www.talasonline.com

Tayloreel Corporation

P.O. Box 476 Oakwood, GA 30566 Phone: 770-503-1612 Web site: www.tayloreel.com

Tuscan Corporation

7115 Virginia Rd., Ste. 111-6 Crystal Lake, IL 60014 Phone: 888-457-5811 Web site: www.tuscancorp.com

Urbanski Film

P.O. Box 438 Orland Park, IL 60462 Phone: 708-460-9082 Web site: www.urbanskifilm.com

GLOSSARY

Covered here are film preservation terms and abbreviations mentioned in this guide. Definitions reflect the usage in the text. For additional film preservation terms, see the technical glossary included on ScreenSound Australia's Web site, www.screensound.gov.au, and FIAF's *Glossary of Filmographic Terms*, compiled by Jon Gartenberg. For definitions of genres, film types, and technical terms more common to filmmaking or exhibition, see Kevin Jackson's *The Language of Cinema*. For general archival terminology, see SAA's A *Glossary for Archivists*, *Manuscript Curators*, and *Records Managers*, compiled by Lewis J. Bellardo and Lynn Lady Bellardo.

A and B rolls Paired production elements that are printed in succession to hide transitions or splices between shots and to produce fades or dissolves. Created by splicing negative or positive film into two rolls. Where one carries the picture, the other has black or blank leader.

Access copy Film, video, or digital copy used for public service.

Acetate Short for cellulose acetate. Film base introduced as safe, nonflammable substitute for nitrate base film.

Acetate decay Chemical deterioration of acetate plastic accelerated by high relative humidity and temperature. Also known as vinegar syndrome because of the odor released during the decay process.

ACVL Association of Cinema and Video Laboratories (www.acvl.org). International organization serving film and video laboratory professionals.

A-D Strips Diagnostic tool developed by the Image Permanence Institute to test the level of acetate decay in cellulose acetate base film.

AMIA Association of Moving Image Archivists (www.amianet.org). Professional organization for film, video, and television archivists and preservationists.

Analog videotape Videotape that records sound and image information using frequency-modulated signals. Digital videotape, in contrast, records information as numeric values.

Answer print First positive film copy in which each scene has been corrected for brightness and color. Created to check the quality of the production, printing, or preservation elements. Usually presented to the client for approval. Also known as trial print.

Balance stripe On composite prints the magnetic stripe affixed to the film edge opposite the edge carrying the magnetic sound track. With a stripe along both edges, the film produces a more even roll when wound.

Base In motion picture film, transparent layer that supports the photographic emulsion. Can be made of cellulose nitrate, cellulose acetate, or polyester plastic.

Betacam SP A format of analog videotape that measures one-half inch in width and is packaged in a cassette.

Binder In motion picture film, the material in the emulsion that holds the image-forming particles or dyes.

Blowup Film made in a larger format than the original, such as a 16mm print made from an 8mm original. Also called enlargement.

Buffered Cardboard that has been chemically treated to adjust acid content prior to its use in film containers.

Camera original Film exposed in the camera.

Cellulose acetate Family of transparent plastics introduced as a nonflammable substitute for cellulose nitrate base film. Film with an acetate base is often called acetate film.

Cellulose diacetate Earliest safety film base.

Cellulose nitrate Transparent plastic used as the base in the earliest 35mm film stock. Highly flammable, cellulose nitrate base film was phased out in the early 1950s. Film with a nitrate base is often called nitrate film.

Cellulose triacetate Strongest acetate film base used for motion picture film.

Check print Usually a one-light positive film copy created to check the quality of the production, printing, or preservation elements.

Color correction In the transfer of film to video, the process of adjusting the color and brightness from scene to scene. The term is used to describe adjustments made during transfer of either black-and-white or color film.

Color fading Decay of photographic images caused by the chemical instability of the dyes. As the dyes break down, contrast is also lost and the film eventually takes on a washed-out monochromatic look.

Color reversal intermediate Film stock introduced in the late 1960s for making internegatives directly from negatives or internegatives and interpositives directly from interpositives. No longer in use, it is identified by its black edges and the orange cast of color images. Often abbreviated as CRI.

Combined print Film positive carrying both picture and sound track. Also known as composite print or married print.

Composite print Film positive carrying both picture and sound track. Also known as combined print or married print.

Conservation Processes and activities resulting in the protection of the film original.

Contact printing Laboratory process in which a film copy is made through direct physical contact between the source material and raw film stock.

Core Hub on which film is wound for storage.

CRI Color reversal intermediate. Film stock introduced in the late 1960s for making internegatives directly from negatives or internegatives and interpositives directly from interpositives.

Data logger Electronic instrument used to record temperature, relative humidity, light intensity, and other variables that affect collection materials.

Diacetate Short for cellulose diacetate. Early safety film base.

Digi Beta Short for Digital Betacam.

Digital Betacam A format of one-half-inch digital videotape that is packaged in a cassette. Also known as DBC, Digi Beta, and Digibeta.

Digital videotape Videotape that stores picture and sound as numeric values. Analog videotape, in contrast, records picture and sound information using frequency modulated signals.

Duplicate negative New negative created in the preservation copying of positive black-and-white film. This preservation element may be made from an original print or from a duplicating positive. Sometimes shortened to dupe negative or dupe neg.

Duplicating positive Generic term for the new positive intermediate created during preservation copying from a negative original. For black-and-white film the duplicating positive is called a finegrain master; for color film, it is called an interpositive.

Duplication Making a surrogate copy.

DVD Optical disc used for storing digital information, including moving images.

Edge code Symbols printed along the edge of the film by the manufacturer to indicate production data, such as date and location of manufacture.

8mm Film gauge introduced in 1932 for the amateur market. Measures 8 millimeters in width.

Emulsion Image-forming layer within motion picture film.

Emulsion in Film wound so that the emulsion side faces the center of the reel.

Emulsion out Film wound so that the base side faces the center of the reel.

Enlargement print Print made on a larger format than the original, such as a 16mm print made from an 8mm original. Also known as blowup.

Equalization In sound preservation, the process of changing the level or volume of selected frequency ranges to improve overall sound quality.

Exhibition print Positive created for film screenings. Also known as show print.

FIAF La Fédération Internationale des Archives du Film/International Federation of Film Archives (www.fiafnet.org). International association for film archives and museums.

Film cement Solvent used to join two pieces of film, thus creating a splice. Cements now on the market cannot be used with polyester film.

Film cleaner Solvent applied to the film surface to remove dirt, oil, dust, and wax. Commercially available film cleaners can be toxic and should be handled as directed on the manufacturer's material safety data sheet.

Film viewer Machine with screen for viewing film at a workstation. Film viewers range from simple tabletop devices to sophisticated flatbed editing consoles.

Fine grain master New duplicating positive made in the preservation copying of black-and-white film. This intermediate preservation element is created from a negative source and is used to produce a duplicate negative from which new prints can be created. Sometimes shortened to finegrain.

Footage Measurement of film length in feet or frames. Also used to describe unedited positive film.

Footage counter Measurement device that counts feet or frames of film. Industry models may also indicate run time and time code.

Format Term referring to the dimensions of the apertures used in motion picture cameras and projectors. Formats are standardized for film gauges now in commercial use. Films in the same format have the same gauge, width, image height and position, and perforation placement and size. Formats are also standardized for videotape by width, track placement, and other factors.

Frame Rectangular area of the motion picture film strip that holds a single film image. Sometimes used as a unit of measurement, e.g., frames per second.

Frame enlargement Still photograph that reproduces a single frame of motion picture film.

Full-coat mag Short for full-coat magnetic sound track. Production or preservation sound element in which the magnetic oxide recording layer covers one full side of the film surface. Gate Mechanism in a camera, projector, or printer that holds the film strip.

Gauge Width of the motion picture film from edge to edge, expressed in millimeters.

Grading Process through which the laboratory technician determines the correct brightness and color of a film element scene by scene. Also known as timing.

Head Beginning of film roll.

Head out Film wound on a reel or core so that its beginning is on the outside.

Hygrometer Device for measuring relative humidity.

IMAP Independent Media Arts Preservation (www.imappreserve.org). Consortium affiliated with Electronic Arts Intermix that has developed a cataloging template to help repositories organize their media collections.

In-camera Any process or effect that is achieved within the camera itself during shooting rather than through manipulation at a later stage of production.

Inspection Close examination of film to identify technical characteristics and physical condition.

Intermediate Any film material created in the process of making a viewing print from original source material.

Internegative Color negative from which new prints can be created. In the preservation copying of color film, the new internegative may be made from an original print or from an interpositive.

Interpositive New duplicating positive created during the copying of color film. This intermediate preservation element is made from a negative original and is used to produce a color duplicate negative, called an internegative. Sometimes abbreviated as IP.

Intertitles In silent films, the screens of text containing dialogue and other information about the narrative or action.

IP Abbreviation for interpositive, the duplicating positive created during the preservation copying of color film.

IPI Image Permanence Institute (www.rit.edu/ipi). Research organization at the Rochester Institute of Technology that studies the effect of light, heat, pollutants, and humidity on imaging materials.

ISO International Organization for Standardization (www.iso.org). International group that develops manufacturing and performance standards for many industries.

Kinetoscope loop Piece of film used in a kinetoscope, the personal viewing machine publicly introduced by Thomas Edison and W.K.L. Dickson in 1893. Kinetoscopes used 35mm film, which remains the industry standard.

Kodachrome Color reversal motion picture film introduced by Kodak to the 16mm market in 1935. Available as slide and 8mm film in 1936.

Kodacolor Lenticular color motion picture film introduced by Kodak to the 16mm market in 1928. Term also used by Kodak for color still photographic film.

Leader Blank film attached to the beginning and end of film rolls to facilitate handling. Sometimes used to separate short films or shots on a single film roll.

Lenticular film Black-and-white film in which the base is embossed lengthwise with ridges that act as semicylindrical lenses. When lenticular film is shown through a three-color projector lens, it appears in color on the screen. See also Kodacolor.

Licensing Transfer of rights from the rights holder to another party generally for a specific use, duration, and territory.

Light box Illuminated box with glass or plastic surface used for examining film.

Liquid-gate printing Printing process during which motion picture film is briefly immersed in a chemical bath that helps to fill in scratches. Also known as wetgate printing.

Loupe Magnifying eyepiece used in film identification.

Magnetic sound track Motion picture sound track in which the sound information is carried by magnetic oxide. Magnetic sound track can be affixed to a print as a stripe along the film edge or exist as a separate element (full-coat mag). Often shortened to magnetic track or mag track.

Magnetic stripe In a composite print, the stripe of magnetic oxide applied near the film edge to carry the sound record or affixed to the opposite edge for balance.

Magnetic track deterioration Decay of the sound track that results in sound loss due to shedding, sticking, or layer separation.

MARC Machine Readable Cataloging. International standard for bibliographic data adopted by the library community to facilitate electronic data sharing.

Married print Another term for composite print. Film positive carrying both picture and sound track.

Master In film preservation, the sound and picture elements that are sufficient for printing new film copies without reuse of the original source. Also known as preservation master.

MIC Moving Image Collections (gondolin.rutgers.edu/MIC/). Online entry point to moving image collections. The development of MIC is sponsored by the Association of Moving Image Archivists and the Library of Congress.

Molecular sieve Commercially available desiccant placed in a sealed film can to adsorb acetic acid vapor and moisture.

Mute Sound film element that carries only picture.

Negative Film carrying the reverse image of the motion picture subject. The negative is exposed in the camera or created from a positive in the laboratory. It is printed to produce a positive for projection and viewing.

Nitrate Short for cellulose nitrate. Transparent plastic used as the base in the earliest 35mm film stock. Highly flammable, nitrate base film was phased out by the early 1950s.

Nitrate decay Chemical degradation of cellulose nitrate plastic film base that is accelerated by high relative humidity and temperature.

OCLC Online Computer Library Center (www.oclc.org). Nonprofit membership organization hosting an online catalog system used by libraries around the world.

One-light print Film print produced with a single level of color and brightness for all scenes.

Optical printing Laboratory process in which the image is projected through a lens and copied onto raw stock, frame by frame. Often used to produce prints in a different format from the original.

Optical sound track Photographically printed sound record carried on the film print or produced as a separate element.

Original Film artifact that can be used as source material in duplication. Also used to describe film exposed in the camera.

Outtakes Footage not used in a completed film.

PAT Photographic Activity Test. Tool developed by the Image Permanence Institute to predict the chemical reaction between photographic materials and their enclosures.

Perforations Holes, usually along the film edge, used to advance the film strip through a camera, printer, or projector. Also known as sprocket holes.

Polyester Toughest and most chemically stable safety film base used today.

Positive Film that has a positive image of the motion picture subject. The positive is generally produced from a negative and used for viewing.

Preservation Continuum of activities necessary to protect film for the future and share its content with the public.

Preservation master Sound and picture elements that are sufficient for printing new film copies without reuse of the original source. Often shortened to master.

Presstape Adhesive splicing tape prepared in ready-cut segments.

Printer Machine used to duplicate motion picture film.

Printing Process of duplicating motion picture film.

Processing Range of laboratory procedures used to develop and fix the latent image in exposed motion picture film.

Projector Machine for displaying motion picture prints on a screen.

Public domain Term used to describe film or footage that is not protected by copyright and may be used without permission of the creator or former rights holder.

Quality control Process through which preservationists check the acceptability of preservation elements. Usually accomplished through review of the answer print.

Raw stock Unexposed film.

Redimensioning Chemical treatment that temporarily returns shrunken film to close to original dimensions for preservation copying. This process may result in permanent damage to the original and should be used only in extreme cases.

Reduction print Positive made in a smaller format than the original, such as a 16mm print made from a 35mm original.

Reel Metal or plastic hub with extended sides between which film is wound for projection. Also, for silent-era motion pictures, an imprecise measure of run time. Each 1,000-foot, 35mm reel runs between 10 and 18 minutes, depending on projection speed.

Reference print Positive film copy made for projection and public access.

Regular 8mm Term applied to 8mm film to distinguish it from Super 8mm.

Relative humidity Ratio of the amount of water actually in the air to the maximum air can hold at the same temperature. Abbreviated as RH.

Release print Print made for distribution.

Restoration Reconstruction of a specific version of a film.

Reversal original Film that is run through the camera and processed to produce a positive image. Positive reversal film has no corresponding negative.

Rewind Hand-cranked or motorized device used in pairs to control the winding of film for inspection and for transfer from reels to cores.

RH Relative humidity. Ratio of the amount of water actually in the air to the maximum that air can hold at that given temperature.

RLIN Research Libraries Information Network (www.rlg.org/rlin.html). Online system of the Research Libraries Group, the nonprofit group with more than 160 university, library, archive, and historical society members.

Safety film Term applied to all film made with a nonflammable plastic base.

Scratch Scrape or abrasion to either the base or the emulsion side of film.

Shot list Finding aid that describes the content of each film scene or segment.

Show print Positive created for film screenings. Also known as exhibition print.

Shrinkage Contraction of film from its original dimensions.

Shrinkage gauge Device used to measure the extent to which film has contracted from its original dimensions. Compares the standardized distance between perforations with that of the shrunken film and expresses the difference as a percentage.

Silent film Film made without a sound track. Also used to describe commercial motion pictures produced before the widespread adoption of the sound film in 1929.

16mm Film gauge introduced in 1923 for the nontheatrical market. Measures 16 millimeters in width.

Small gauge film Umbrella term generally applied to 8mm and Super 8mm film, although it can be applied to any film less than 35 millimeters in width.

SMPTE Society of Motion Picture and Television Engineers (www.smpte.org). International technical association that publishes standards, recommended practices, and engineering guidelines for film, television, video, and multimedia materials.

Sound restoration Process through which original aural qualities of the film sound track are reconstructed. In restoration the sound is generally transferred to digital files, where the sound damage—hiss, pops, clicks—can be removed.

Sound track. See Magnetic sound track and Optical sound track.

Splice Joining of two film pieces usually by cement, tape, or ultrasonic technology.

Splicer Piece of equipment for joining two pieces of film. Splicers come in many designs and may use cement, adhesive tape, or ultrasonic technology.

Splicing tape Adhesive tape for repairing film.

Split reel Reel with a removable side. Used to transfer film between reels and cores.

Sprocket Toothed mechanism that engages with film perforations to advance the film strip through a camera, printer, or projector.

Sprocket damage Tears, rips, and other physical damage to film perforations. Generally caused by improper projection.

Sprocket holes Holes, usually along the film edge, used to advance the film strip through a camera, printer, or projector. Also known as perforations.

Staging area Room set at a temperature and humidity level between that of the cold vault and the workroom. Film is acclimated in the staging area before it is moved to a new environment.

Stock General term for film. Applied particularly to unexposed film.

Super 8mm Film measuring 8 millimeters in width, with smaller sprocket holes than Regular 8mm film so that more area is left for the picture.

TailEnd of film roll.

Tail out Film wound on a reel or core so that its end is on the outside of the roll.

Telecine Piece of laboratory equipment that converts film images and sound into digital or analog video images and sound.

Thermohygrometer Device for measuring temperature and relative humidity. Thermohygrometers that output data to graph form are called hygrothermographs.

35mm Standard film gauge for the theatrical film industry. Measures 35 millimeters in width.

Timed print Print in which the color and brightness are adjusted scene by scene.

Timing Process through which the laboratory technician determines the correct brightness and color of a film element scene by scene. Sometimes called grading.

Triacetate Short for cellulose triacetate. Strongest acetate film base.

Trial print Another term for answer print.

Ultrasonic cleaner Piece of laboratory equipment in which film is passed through a solvent bath where high frequency vibrations dislodge dirt.

Ultrasonic splicer Machine that splices polyester film by fusing the two film ends using high frequency energy.

U-matic videotape A format of three-quarter-inch analog videotape that is packaged in a cassette.

Union catalog Reference tool that brings together in a unified sequence information on the holdings of two or more repositories.

Vault Storage area for film.

VHS videotape A format of one-half-inch analog videotape that is packaged in a cassette.

Vinegar syndrome Popular term for acetate decay.

Wet-gate printing Printing process during which motion picture film is briefly immersed in a chemical bath that helps to fill in scratches. A wet gate can be incorporated into a film printer or a telecine. Also known as liquid-gate printing.

SELECTED BIBLIOGRAPHY

- ACVL Handbook: Recommended Practices for Motion Picture and Video Laboratory Services, 5th ed. Hollywood, CA: Association of Cinema and Video Laboratories, n.d.
- Adelstein, Peter Z. IPI Media Storage Quick Reference. Rochester, NY: Image Permanence Institute, Rochester Institute of Technology, 2004.
- AMIA Cataloging and Documentation Committee. AMIA Compendium of Moving Image Cataloging Practice. Edited by Abigail Leab Martin. Beverly Hills, CA: Association of Moving Image Archivists; Chicago: Society of American Archivists, 2001.
- AMIM Revision Committee and Motion Picture, Broadcasting, and Recorded Sound Division. Archival Moving Image Materials: A Cataloging Manual. 2nd ed. Washington, D.C.: Cataloging Distribution Service, Library of Congress, 2000.
- Ascher, Steven, and Edward Pincus. The Filmmaker's Handbook: A Comprehensive Guide for the Digital Age. Rev. ed. New York: Plume, 1999.
- Bellardo, Lewis J., and Lynn Lady Bellardo, comps. A Glossary for Archivists, Manuscript Curators, and Records Managers. Chicago: Society of American Archivists, 1992.
- Besek, June M. Copyright Issues Relevant to the Creation of a Digital Archive: A Preliminary Assessment. Washington, D.C.: Council on Library and Information Resources: Library of Congress, 2003. Also available at www.clir.org/pubs/ abstract/pub112abst.html.
- Bigourdan, Jean-Louis, and James M. Reilly. Environment and Enclosures in Film Preservation: Final Report to the Office of Preservation, National Endowment for the Humanities. Rochester, NY: Image Permanence Institute, Rochester Institute of Technology, 1997.
- Blasko, Edward, Benjamin A. Luccitti, and Susan F. Morris, eds. The Book of Film Care. 2nd ed. Kodak Pub. H-23. Rochester, NY: Eastman Kodak Company, 1992.
- Bowser, Eileen, and John Kuiper, eds. A Handbook for Film Archives. New York: Garland Publishing, 1991.

Note: Listed here are works cited more than once. Also included is a selection of additional publications, Web sites, and listservs that have information useful for librarians, archivists, and museum professionals undertaking film preservation projects. Citations to Web sites are valid as of December 31, 2003.

- Cherchi Usai, Paolo. Silent Cinema: An Introduction. Rev. ed. London: BFI Publishing, 2000.
- Coe, Brian. The History of Movie Photography. Westfield, NJ: Eastview Editions, 1981.
- Davidson, Steven, and Gregory Lukow, eds. *The Administration of Television Newsfilm and Videotape Collections: A Curatorial Manual.* Los Angeles: American Film Institute; Miami: Louis Wolfson II Media History Center, 1997.
- FIAF International FilmArchive Database. CD-ROM. New York: Ovid, 2001–3.
- FIAF Preservation Commission. Technical Manual of the FIAF Preservation Commission. Brussels, Belgium: International Federation of Film Archives, 1993.
- Film Preservation 1993: A Study of the Current State of American Film Preservation. 3 vols. Washington, D.C.: Library of Congress, 1993. Also available at lcweb. loc.gov/film/study.html.
- Footage: The Worldwide Moving Image Sourcebook. New York: Second Line Search, 1997.
- Gartenberg, Jon., comp. Glossary of Filmographic Terms. 2nd ed. Brussels, Belgium: International Federation of Film Archives, 1989.
- Gracy, Karen F. "Documenting the Process of Film Preservation." Moving Image 3 (Spring 2003): 1–41.
- IPI Storage Guide for Acetate Film: Instructions for Using the Wheel, Graphs, and Tables. Rochester, NY: Image Permanence Institute, Rochester Institute of Technology, 1993.
- Jackson, Kevin. The Language of Cinema. New York: Routledge, 1998.
- Kattelle, Alan D. Home Movies: A History of the American Industry, 1897–1979. Nashua, NH: Transition Publishing, 2000.
- Keepers of the Frame. VHS. Produced by Randy Gitsch and directed by Mark McLaughlin. New York: WinStar TV & Video, 1999.
- Kilchesty, Albert, ed. Big as Life: An American History of 8mm Films. San Francisco: Foundation for Art in Cinema, 1998.
- Kula, Sam. Appraising Moving Images: Assessing the Archival and Monetary Value of Film and Video Records. Lanham, MD: Scarecrow Press, 2002.
- MacLean, Margaret, and Ben H. Davis, eds. *Time & Bits: Managing Digital Continuity*. Los Angeles: J. Paul Getty Trust, 1998.

- MacLeish, Bruce, and Greg Harris. Bringing Up Boomer: Archival Care of Mid-Twentieth Century Media. Technical Leaflet 195. Nashville: American Association for State and Local History, 1996. Originally published in History News 51 (Autumn 1996).
- "Manual for Access to Film Collections." *Journal of Film Preservation* 55 (December 1997): 3–51. Also available at www.fiafnet.org/pdf/uk/fiaf55.pdf.
- Mibach, Lisa. Collections Care: What to Do When You Can't Afford to Do Anything. Technical Leaflet 198. Nashville: American Association for State and Local History, 1997. Originally published in History News 52 (Summer 1997).
- National Film Preservation Foundation. *Report to the U.S. Congress.* San Francisco: National Film Preservation Foundation, 1997-2002. Reports from 2001 and 2002 also available at www.filmpreservation.org.
- National Fire Protection Association. *Standard for the Storage and Handling of Cellulose Nitrate Film.* NFPA 40. Quincy, MA: National Fire Protection Association, 2001. Also available at www.nfpa.org.
- Nichols, Stephen G., and Abby Smith. *The Evidence in Hand: Report of the Task Force on the Artifact in Library Collections*. Washington, D.C.: Council on Library and Information Resources, 2001. Also available at www.clir.org/ pubs/abstract/pub103abst.html.
- *Playback: Preserving Analog Video.* DVD. Produced by Bay Area Video Coalition. San Francisco: Bay Area Video Coalition, 2003.
- *The Race to Save 100 Years.* VHS. Produced by James Gentilcore, Richard P. May, Roger Mayer, and Patrick Murphy and directed by Scott Benson. Los Angeles: Turner Entertainment; Warner Bros., 1997.
- Read, Paul, and Mark-Paul Meyer, eds. *Restoration of Motion Picture Film*. Oxford; Boston: Butterworth-Heinemann, 2000.
- Redefining Film Preservation: A National Plan. Washington, D.C.: Library of Congress, 1994. Also available at lcweb.loc.gov/film/plan.html.
- Reilly, James M. Storage Guide for Color Photographic Materials: Caring for Color Slides, Prints, Negatives, and Movie Films. Albany, NY: University of the State of New York, New York State Education Department, New York State Library, New York State Program for the Conservation and Preservation of Library Research Materials, 1998.
- Safe Handling, Storage, and Destruction of Nitrate-Based Motion Picture Films. Kodak Pub. H-182. Rochester, NY: Eastman Kodak Company, 2003. Also available at www.kodak.com.

- Sargent, Ralph N. Preserving the Moving Image. Washington, D.C.: Corporation for Public Broadcasting, 1974.
- The State of Digital Preservation: An International Perspective. Proceedings of a conference sponsored by Documentation Abstracts and Institutes for Information Science in Washington, D.C., April 24–25, 2002. Washington, D.C.: Council on Library and Information Resources, 2002. Also available at www.clir.org/pubs/abstract/pub107abst.html.
- Television and Video Preservation 1997: A Report on the Current State of American Television and Video Preservation. 4 vols. Washington, D.C.: Library of Congress, 1997. Also available at lcweb.loc.gov/film/tvstudy.html.
- Treasures from American Film Archives: 50 Preserved Films. 4-DVD set and program notes. Curated by Scott Simmon; music curated by Martin Marks. San Francisco: National Film Preservation Foundation, 2000.
- Yee, Martha M., comp. Moving Image Materials: Genre Terms. Washington, D.C.: Cataloging Distribution Service, Library of Congress, 1988.
- Young, Christine. Nitrate Films in the Public Institution. Technical Leaflet 169. Nashville: American Association for State and Local History, 1989. Originally published in History News 44 (July/August 1989).
- Zimmermann, Patricia R. Reel Families: A Social History of Amateur Film. Bloomington, IN: Indiana University Press, 1995.

SELECTED WEB SITES

American Association for State and Local History (AASLH) www.aaslh.org

American Association of Museums (AAM) www.aam-us.org

Association of Moving Image Archivists (AMIA) www.amianet.org

Conservation OnLine: Resources for Conservation Professionals palimpsest.stanford.edu

Eastman Kodak Company www.kodak.com

Film Forever: The Home Film Preservation Guide www.filmforever.org

Image Permanence Institute (IPI), Rochester Institute of Technology www.rit.edu/ipi Independent Media Arts Preservation (IMAP) www.imappreserve.org

International Federation of Film Archives (FIAF) www.fiafnet.org

Internet Archive: Movie Archive www.archive.org/movies

Library of Congress www.loc.gov

Moving Image Collections (MIC) gondolin.rutgers.edu/MIC/

National Film Preservation Board (NFPB) lcweb.loc.gov/film

National Film Preservation Foundation (NFPF) www.filmpreservation.org

Online Computer Library Center (OCLC) www.oclc.org

Research Libraries Information Network (RLIN), Research Libraries Group www.rlg.org/rlin.html

ScreenSound Australia (National Screen and Sound Archive of Australia) www.screensound.gov.au

U.S. Copyright Office www.copyright.gov

SELECTED LISTSERVS AND DISCUSSION GROUPS

Association of Moving Image Archivists (AMIA) AMIA-L: An Online Forum for Moving Image Archivists www.amianet.org/amial/amial.html

H-Net Humanities & Social Sciences Online H-Film Discussion Group (cinema history and uses of media) www.h-net.org/~film

Society of American Archivists (SAA) Archives and Archivists Listserv www.archivists.org/listservs/index.asp#archives-archivists

Visual Materials Section, Cataloging and Access Roundtable List www.lib.lsu.edu/SAA/vmelist.html

INDEX

A and B rolls as source material, 37, 39, 46-47 use, 10 access, 85-92 as part of preservation, 3-4, 42-44 defined, 4 for commercial users, 87-89 for researchers, 73-75, 85-86 loans, 89–90 public programs, 86-87, 89-91 role in leveraging support, 56, 91 access copies and fair use, 81 storage, 62, 68 types, 42-45, 85-86 accession numbers, 28, 72 acetate decay and cold storage, 14, 61, 62, 66 and vented cans, 66 causes and identification, 14–15, 17, 18, 59 in magnetic tracks, 17 measuring, 14 acetate film history, 8, 9 IPI storage recommendations, 60-61 shipping, 53-55 acquisitions policy, 36 provenance information, 27, 34–35 rights issues, 80-81 selection, 24n, 36 A-D Strips, 14, 18, 32, 62 Airplanes at Play, 38 amateur films in multimedia collections, 34 on reversal film, 10 small gauge, 7-8, 49-50 sound, 13 value as documents, 36 American Library Association, 38

American Memory project, 87 analog videotape, 43 answer prints and fair use, 81 in lab estimate, 51, 52 use in duplication, 46–48, 55 artifact, 4, 34, 41, 50 Association of Moving Image Archivists (AMIA) cataloging projects, 71, 75 history, 2 listserv, 38 shrinkage-gauge lending service, 15 Small Gauge Initiative, 49–50 training, 28n audio tracks. See sound tracks avant-garde films, 8, 13, 37, 50

balance stripe, 12 base. See film bases Bell Museum of Natural History, 56 "best" surviving source material, 34, 36–39 Betacam SP videotape, 43, 45 binder, 8, 9, 10 black-and-white film, 9–10 IPI storage recommendations, 60 spliced with color, 50 Business Screen Magazine, 35

California Pacific Medical Center, 57 camera original, 10, 37 catalog record components, 72–73 for multimedia collections, 73 subject access, 73–74 templates, 75 cataloging, 70–76 data sharing, 70, 75 manuals and tools, 71, 73, 75 cellulose acetate base film. See acetate film cellulose nitrate base film. See nitrate film cement splicers, 29, 30-31 cine clubs, 7 Clash of the Wolves, 80 cleaning film by laboratory, 51, 52 in-house, 22, 25, 31–32 precautions for mag track, 25, 31 color correction, 51 color film, 10, 11 fading, 11, 15–16, 18 IPI storage recommendations, 60 spliced with black and white, 50 community outreach, 86-87, 89, 90-92 compilation films, 50, 57 composite prints, 12–13 as source material, 46-48 IPI storage recommendations, 60-61 precautions in handling, 12, 24 condensation, 62-63 conservation, 3-4, 42-44, 68 ethics, 41-42 See also access copies; artifact; source material; storage contact printing, 49 containers, 26-27, 66-67. See also film cans copyright, 77-80, 81-84 and orphan films, 3, 79, 81 checking status, 78 defined, 77-80 permissions, 80, 81, 82, 83, 84, 87, 88 published v. unpublished works, 78-79 records, 35-36, 78 rights of repositories, 81-82 term, 78, 79 See also donor agreements; licensing cores, film, 21–23, 26–27, 67 Cronar, 9 Cruisin' J-Town, 58 curators, selection duties of, 34-40 curl, 14, 23

data loggers, 64 date codes. See edge codes deposit agreements, 80-81, 83 desiccants, 62, 66, 67 diacetate. See acetate film Digital Betacam videotape, 43, 45, 57 digital restoration, 16, 49, 58 digital videotape, 43, 85-86 digitization, 43-44, 81n, 86 disaster planning, 67 donor agreements, 80-81, 83 dry printing, 48 Dublin Core, 75 duplicate negative, 39n, 47 duplication, 41–58 cost, 42, 50-53 defined, 3–4 prioritizing, 3, 39, 44, 62, 68 products, 46-48 source material for, 15–17, 36–39, 46-48 DVD access copies, 43, 45, 57, 86 IPI storage recommendations, 60-61 legal issues of publication, 77, 80, 81

East Tennessee State University, 56 Eastman Kodak Company film stocks, 6, 7, 8, 9, 11 molecular sieves, 67 edge codes, 25-26, 40, 93 Edison Company, 42 Educational Film Guide, 35 educational films, assessing uniqueness, 38-39 8mm as source material, 37 dating, 25n6, 93 duplication, 49-50 history, 7-8, 11 plastic support, 9 repairing, 31 reversal film, 10-11, 37 shrinkage, 15

8mm (continued) sound tracks, 12-13 storage on reels, 26 Elmo, 43n5, 85 emergency preparedness, 67 emulsion, 8, 9-10 and curl, 23 damage, 13-16, 48-49, 63 ESTAR, 9 estimates, lab, 46, 50–53 exhibition Internet, 38, 77, 82, 87, 89 loans, 90-91 rights issues, 55, 77, 82, 83, 87 screenings, 1, 86-87, 89-90 exhibition prints, 89–90

fair use, 81, 82 FIAF. See International Federation of Film Archives film cultural and evidentiary value, 3, 5,36 dating, 25-26, 93 uniqueness, 36-39 film archiving, history, 1–3 film bases damage, 13-17 types, 8–9, 10 See also acetate film; nitrate film; polyester film film cans labels, 27, 28 opening, 21-22 replacing, 26 sealing v. venting, 63, 66 selecting, 66-67 film cement, 9, 28–29, 30–31 film equipment basic list, 19-21, 32-33 secondhand, 20 vendors, 97-98 See also specific equipment Film Forever, 62 film format, 6n2, 12–13 film handling, 13, 19–33 film laboratories. See laboratories

film repairs, 12, 28-31 equipment needed, 33 in lab estimate, 51–52 prioritizing, 28 film rulers, 19, 25 film viewers, 21, 24, 43 film-to-film duplication. See duplication film-video converter, 43n5, 85 fine grain master, 47n flatbed editing tables, 21, 24, 86 Florida Moving Image Archive, 90–91 Footage, 38 footage counters, 19, 21, 24-25 frame enlargements, 77, 88 freezers and refrigerators, 57, 62-63, 64, 66.68 full-coat mags, 13 fungus. See mold, mildew, and fungus

gauges, types, 6–8, 9 George Eastman House, 1, 53n, 65, 88 gloves, 20 government films, 38, 39 grants, 3, 56

Harry Smith Archives, 89 head, 28 home movies. See amateur films hot splicer, 30 humidity and cold storage, 62–63, 64–65 and curl, 23 effect on film, 14, 15, 16, 59–61 measuring, 61, 64 hygrometer, 64

Image Permanence Institute (IPI), 14, 59–61, 64, 66. See also A-D Strips Increasing Farm Efficiency, 69 Independent Media Arts Preservation, 75 industrial films, assessing uniqueness, 38–39

inspection and lab estimate, 50-52 equipment needed, 33 how to do, 21–26 types of damage and decay, 13–18, 21 written reports, 24, 28, 51, 94 Institute of Museum and Library Services, 56 Institutional Amnesia, 91 insurance for shipping, 53 intermediate materials, 46, 48 International Federation of Film Archives (FIAF), 1, 2, 16, 37, 41n2 internegative, 46, 47n Internet catalog access, 75, 76 film access, 38, 76, 77, 82, 83, 87, 89 Web site list, 112–113 interpositive, 39, 47n intertitles, 42, 92 IPI. See Image Permanence Institute IPI Media Storage Quick Reference, 59-60 ISO (International Organization for Standardization), 59-60, 65, 66

Japanese American National Museum, 36 Johns Hopkins University, 91

Kearney and Its People, 35 Kem, 21n Kodachrome, 11, 57 Kodacolor, 11 Kodak. See Eastman Kodak Company

labeling, 27–28 laboratories processes, 48–49 products, 46–48 project costs, 42, 46, 50–53 repairs by, 28, 51 specialization, 46, 50 laboratories (continued) technical language, 46 vendor list, 95–96 working with, 41, 50-53, 55 labspeak, 46 leader replacing, 27 use, 10, 27-28 lenticular color, 11 Library of Congress cataloging tools, 71, 73, 75 copyright records, 35–36, 78 film collection, 1, 38, 80, 87 film tour, 5 national planning efforts, 2–3, 75, 80 Web site, 38, 87 licensing, 56, 81-82, 83, 86, 87-89 light box, 21, 23–24 listservs, 38-39, 113 loans and nonprofit distribution, 81, 89-90

magnetic sound tracks, 12–13 as source material, 37, 39, 46-48, 58 decay, 17, 18 IPI storage recommendations, 60-61, 63 precautions in handling, 24, 25, 30.31 Mahagonny, 89 Maine Marine Worm Industry, 76 managing duplication projects, 50–53, 55 MARC format, 70, 71, 75, 76 masters. See preservation masters; video masters measuring film length, 24–25 metadata standards, 75 Minnesota Historical Society, 67, 92 MIT Museum, 38 mold, mildew, and fungus conditions for growth, 60n, 61 identifying, 13-14, 18 removing, 21-22, 31-32 molecular sieves, 66, 67

Moving Image Collections (MIC) project, 75, 76 Moviola, 21n MPEG-7, 75 multimedia collections, 2, 34–35 cataloging, 73 IPI storage recommendations, 59–61 Museum of Modern Art, 1, 42

National Archives and Records Administration, 1, 38 National Center for Jewish Film, 90 National Endowment for the Arts, 56 National Endowment for the Humanities, 56, 68, 91 National Film Preservation Foundation, 2, 56, 80, 81 National Fire Protection Association, 65 National Historical Publications and Records Commission, 56 National Science Foundation, 75 Nebraska State Historical Society, 35, 69 negatives, 10 as source material, 37, 39, 46-47 newsreels, 88–89 9.5mm, 8, 9 nitrate blooms, 16 nitrate film case studies, 5, 69 decay, 16, 18, 69 disposal, 16 flammability, 8 history, 6-7, 8, 9 identification, 8 shipping, 53 storage, 60, 65-66 Norman Bel Geddes' Hamlet, 84 Northeast Historic Film, 68, 76, 89

OCLC, 38, 75 Ojibwe Work, 92 Oklahoma Historical Society, 5 one-light transfer, 51 optical printing, 49, 51 optical sound tracks, 12–13, 47 oral history, 35 orphan films, 2–3 outtakes, 88–89

paper prints, 87 perforations damaged, 13, 20, 24, 25, 32 function, 6 in 8mm and 16mm, 7-8 repairing, 31 use in measuring shrinkage, 15 Photographic Activity Test (PAT), 66 polyester film history, 8, 9 IPI storage recommendations, 60 shipping, 53-54 splicing, 28-29, 30 power failure, 64 Prelinger Archives, 38, 87n preservation defined. 3-4 in collection planning, 3-4, 42-45, 68 Preservation Calculator, 61 preservation copying. See duplication preservation masters and fair use, 81 geographic separation of, 63-64 in lab estimate, 51 inspecting, 55 role of, 4, 41, 42–45 storing, 68 types, 42, 46–48 presstape, 30, 31 production elements as acquisitions, 10, 21, 25n5 as source material, 37, 39 projectors, 6, 7, 11, 12 damage by, 13, 15, 20, 48 for archival screenings, 90 tolerance for shrunken film, 15 use in quality control, 55 provenance clues, 27, 34-35 record keeping, 34 public domain, 78, 87, 88

quality control, 55, 58

redimensioning, 49 reduction prints, 37, 39 reels use on rewind, 23, 26-27 v. cores, 21, 26 refrigerators. See freezers and refrigerators Regular 8mm. See 8mm relative humidity. See humidity release prints, 9, 46 remote storage, 63-64 repairing film, 28-31, 33 restoration defined, 3-4, 56 digital techniques, 49, 58 ethics, 41-42 of Hollywood films, 2, 3, 16, 81 reversal film, 10–11 as source material, 37, 39, 40, 48 rewinds, 21, 26, 33 how to use, 23-24rights holders. See copyright; donor agreements; licensing RLIN, 38, 75 Rogers, Will, 40

safety film, 9, 53-54, 66 scanning, 44, 88 scratches, 13, 37, 48-49 selection for acquisition, 3, 24n, 36 for cold storage, 68 for duplication, 36-39, 44 70mm, 6 shipping, 53-55 shot list, 74 shrinkage, 14, 15, 18, 20 as factor in duplication, 15, 49 measuring, 15, 40 shrinkage gauge, 15, 19 silent-era film, 1, 11, 42, 80 assessing uniqueness, 37, 39 international database, 37

16mm A and B rolls, 10 as source material, 37-39 case studies, 40, 57, 58, 76, 84, 92 history, 7, 8, 11 plastic support, 9 reduction prints, 11, 37 reversal film, 10, 37, 40 shrinkage, 15 sound tracks, 12-13 small gauge film, 6, 12, 15, 20, 49–50. See also 8mm; Super 8mm; 16mm Society of American Archivists, 28n, 38.71 source material, 36-39, 43-44, 46-48 sound reader, 24 sound tracks, 12–13 duplication and restoration, 46-49, 58 See also magnetic sound tracks; optical sound tracks South Dakota Art Museum, 87 splicers, 28-31 splices, 10, 13, 40, 50 cement v. tape, 28-29 handling damaged, 20, 24, 25 how to make, 28-31 splicing tape, 9, 25, 28, 29–30 for repairing perforations, 31 removal by hand, 29 split reels, 21, 23, 26–27, 33 for estimating film length, 25 sprocket holes. See perforations sprocket-driven equipment, 6, 28. See also specific types of equipment staging, 64-65 Steenbeck, 21n storage, 59-69 as cornerstone of preservation planning, 3–4, 42–44, 68 effect on film decay, 13-17, 69 for nitrate, 65-66 improving, 61-64 IPI recommendations, 59-61 monitoring, 64 removing films from, 64-65 vendors, 63-64

Super 8mm duplication, 49–50 history, 7–8 plastic support, 9 reversal film, 10–11, 37 shrinkage, 15 sound tracks, 12–13

tail, 27, 28 tape splicer, 29-30 Technicolor, 11, 81 telecine, 43n5, 49, 51, 85 temperature effect on film, 14, 15, 16, 59-61 in storage areas, 62-63, 64-65, 68 measuring, 61, 64 thermohygrometer, 61, 64 35mm as source material, 5, 37, 39, 69 history, 6-7, 8, 11 plastic support, 9 sound tracks, 12-13 This Is Our City, 5, 35 timing, 47n, 48 tinting, 11 Toll of the Sea, 81 training, 28 triacetate. See acetate film trial print, 46 28mm, 8, 9, 39

UCLA Film and Television Archive, 1, 81, 86

ultrasonic film cleaners, 32, 51 damage to tape splices, 28 ultrasonic splicers, 9, 29, 30 U-matic videotape, 43 union catalog, 75 uniqueness, 34, 36–39 University of Alaska Fairbanks, 26, 40, 91 University of South Carolina Newsfilm Library, 88–89 University of Texas at Austin, 84 U.S. Copyright Office, 35, 78 Utah State Historical Society, 86–87

vaults, storage, 62, 63–64, 65–66, 68 VHS videotape, 43, 45, 55 video masters, 43, 45, 68, 85 videotape access use, 42–43, 85–86 in lab estimate, 51–52 IPI storage recommendations, 60–61 publication, 92 transfer to, 43, 48, 51, 68, 85 types, 42–43, 45 vinegar syndrome. *See* acetate decay Visual Communications, 58 volunteers, 32

water damage, 62–63 West Virginia State Archives, 89 wet-gate printing, 48–49, 51 *White Water and Black Magic*, 57 winding, 23–24, 26–27

ABOUT THE NATIONAL FILM PRESERVATION FOUNDATION

The National Film Preservation Foundation (NFPF) is the independent, nonprofit organization created by the U.S. Congress to save America's film heritage. Growing from a national planning effort led by the Library of Congress, the NFPF began operations in 1997, thanks to donations from the Academy of Motion Picture Arts and Sciences, The Film Foundation, and others in the entertainment community. The foundation works directly with archives to rescue endangered films that will not survive without public support.

The NFPF raises money, gives grants, and organizes cooperative projects that enable archives, libraries, museums, historical societies, and universities to work together to save American films not preserved by commercial interests. Since opening its doors, the NFPF has helped preserve more than 630 films and collections and assisted archives in 34 states and the District of Columbia.

The NFPF is a public charity incorporated in the District of Columbia and affiliated with the National Film Preservation Board of the Library of Congress. It depends entirely on private contributions to support operations.

BOARD OF DIRECTORS

Chairman of the Board Roger L. Mayer

DIRECTORS Laurence Fishburne I. Michael Heyman The Hon. Robert W. Kastenmeier Cecilia deMille Presley John Ptak Robert G. Rehme Eric J. Schwartz Martin Scorsese James H. Billington, The Librarian of Congress (*ex officio*)

STAFF

Annette Melville, Director Jeff Lambert, Assistant Director David Wells, Programs Manager Rebecca Payne Collins, Office Manager