XFR STN

ON VIEW
07/17—09/08/2013

STATION 1: VIDEO

Accepts U-matic, VHS, SVHS, Hi8, Digital8, DVCam, Mini-DV formats for digital transfer

Transfers are facilitated by Audio-Visual Conservator of "XFR STN" Walter Forsberg and Technicians Rebecca Fraimow, Leeroy Kun Young Kang, Kristin MacDonough, and Bleakley McDowell. The spirit of "XFR STN" is both conceptual and educational, and open dialogues around process as well as context are part of its motivation. Feel free to engage technicians and artists whether you are here to transfer or not.

1. TEKTRONIX 1730 SERIES WFM WAVEFORM MONITOR & 1720 SERIES VECTORSCOPE

Special kinds of oscilloscope are used in video applications to measure and calibrate voltages, which correspond to picture information. A vectorscope is used to measure a video signal's chrominance, or color information. Waveform monitors are used to measure a video signal's luminance, or brightness levels. Waveform monitors and vectorscopes are the reason why those mysterious "color bars" test patterns exist on videotapes. Feel free to ask one of the "XFR STN" technicians to show you how they work. The **Tektronix 1730 Series Waveform Monitor** and **1720 Series Vectorscope** are analog models capable of monitoring both analog NTSC and PAL video signals. The **Tektronix 601E Waveform Monitor/Vectorscope** is a digital hybrid model, with SDI input, enabling a more complex analysis of the video signal across both analog and digital domains.

2. VHS (1976)

Requiring no introduction, the JVC company's Video Home System (VHS) 1/2" videotape was one of the most successful consumer electronics technologies in any media format. Commercially manufactured until the late 2000s, VHS revolutionized public creation, distribution, and consumption of moving images. Hollywood studios released films on VHS for home viewing, "time-shifting" consumers recorded millions of hours of television, and camcorders enabled a new paradigm in home movies that featured instantaneous playback, sound, and editing capability. Although initially less technologically robust than Sony's contemporaneous 1/2" Betamax format, VHS gained market dominance thanks, in no small part, to its adoption by the pornography industry. JVC's 1987 introduction of the improved S-VHS specification featured increased picture information (resolution; luminance information) and hi-fi audio capacity. The two **Sony SVO-5800** units in use here were among the highest quality VHS/S-VHS editing and playback VTRs manufactured and date from the late 1980s.

3. 3/4" U-MATIC (1969/1971)

Developed by Sony in 1969 and introduced to the market in 1971, the 3/4" U-matic format's self-contained plastic cassette enclosure marked a departure from previous open reel-to-reel videotape formats. Although originally intended for use in the consumer market, U-matic ultimately became popular in broadcast fields by the early 1980s, eventually replacing 16mm film as a preferred means for television news footage. Thanks to its increased portability and affordability (in comparison to previous videotape formats), artists and independent moving image–makers throughout the 1970s, '80s, and early '90s widely adopted the 3/4" U-matic format. From a preservation perspective, due to age and dwindling availability of playback machinery, U-matic is generally considered a seriously at-risk format. The **Sony BVU-950 U-matic SP** VTR (videotape recorder), employed here, was introduced in the early 1980s as a broadcast-grade machine with improved color, decreased noise levels, and compatibility with previous legacy U-matic tapes and configurations.

4. 8MM (1986), Hi8 (1989), AND DIGITAL8 (1999)

8mm video, also referred to as "Video8," was released to the consumer market in 1986. Smaller and more compact than U-matic or VHS, it was largely used by artists and community groups, and for at-home recordings from the late 1980s and into the early 1990s. In 1989, Sony released Hi-8mm (Hi8) as an improvement on the 8mm format, featuring greater luminance bandwidth, and also intended for consumer market and educational markets. Due to their reduced tape size and lower cost, 8mm and Hi8 remained widespread for several years. These analog formats were eased out by the late '90s in favor of digital video formats such as Mini-DV and eventually Digital8—the latter of which digitally recorded video on Hi8 tape stock (although capable of only half the recording time). 8mm and Hi8 were described as "upwardly compatible," which means they can be played in a Digital8 deck—an approach "XFR STN" is taking thanks to the **Sony DCR-TRV530 Handycam.** The cost and size benefits of 8mm and Hi8 formats also mean there are disadvantages: the thin tape of the cassettes is prone to stretching, causing them to be less durable the more often they are played, resulting in a loss of information. Since the tapes, as well as the playback decks, are smaller than other consumer formats, they are difficult to repair, and finding parts for a broken deck can be challenging and expensive despite the relative youth of these formats.

5. DVCAM (1996)

6. MINI-DV (1998)

Leading video manufacturers began developing a low-cost format capable of digitally encoding video signals on magnetic tape in the early 1990s. The resultant 1/2" Digital Video format, known to most simply as "DV," employed discrete cosine transform (DCT) image compression (also used in the still image JPEG format specification). Manufacturers eventually introduced their own proprietary branded versions of professional-grade DV: Panasonic's DVCPRO and Sony's DVCam in 1995 and 1996, respectively. The smaller Mini-DV cassette version of the format was designed for amateur use, but by the end of the 1990s, they became widespread in the explosion of nonlinear editing software and practices that accompanied DV's near-total replacement of analog videotape formats. The **Sony DSR-45** and **DSR-11** DV decks are two models expressly representative of that important nascent era of digital video production and editing.