

SONY PRESERVATION FACTORY™



Daan Herreman

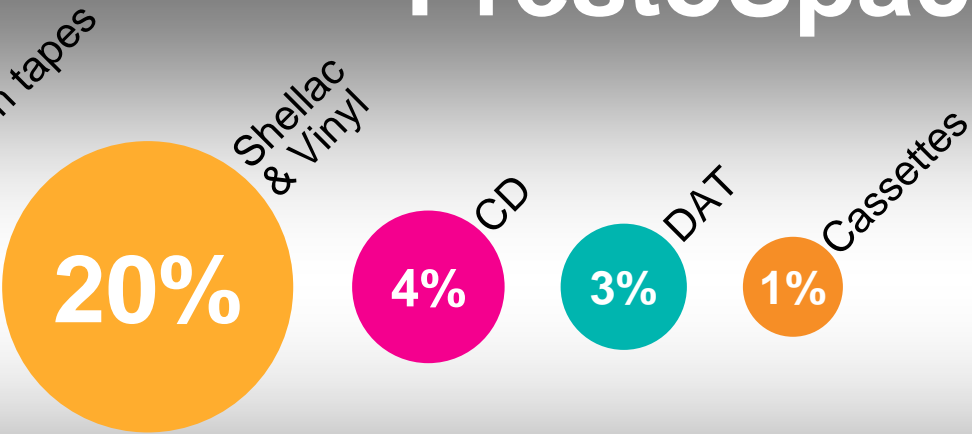
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50 million hours



hours

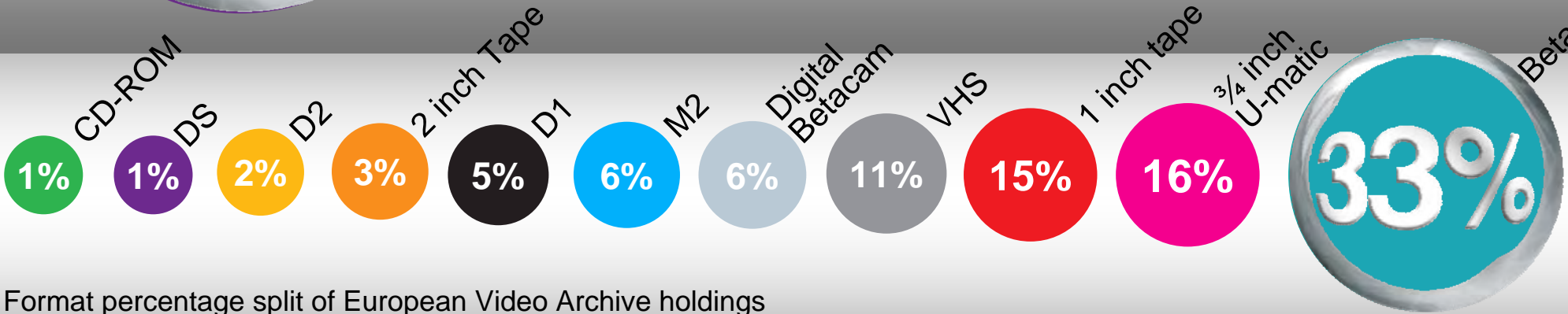
PrestoSpace Report



Format percentage split of European Audio Archive holdings

AUDIO

VIDEO



Format percentage split of European Video Archive holdings

Dax Facility



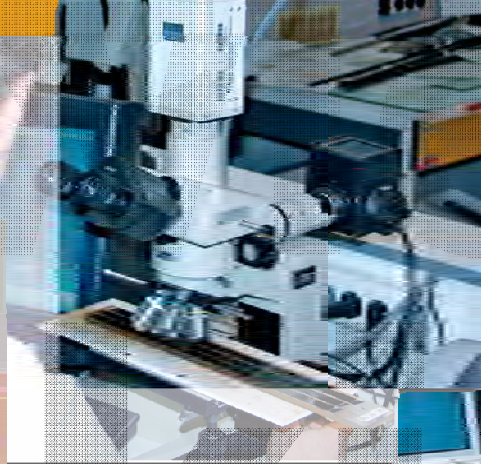
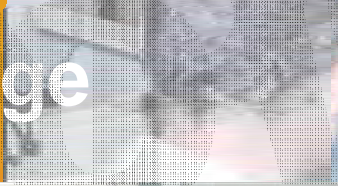
- Established : 1984
- Total surface : 127,000 m²
- Roof Surface : 33, 000 m²
- Cumulative investments : 120 million Euros
- Employees : 380
- Production capacity: several millions of Beta SP, Digi Beta and DV, VHS, Hi8

Integrated management system

- ISO 9000
- ISO 14001 Environment
- ISO 18001 Security



Knowledge



Experience



Skill



Expertise



Production capacity *planned trend*



400% Increase over 3 years

Mass Transfer \Rightarrow File

Overview



**Sony Flexicart
With BVW Serie**

Real Time Monitoring :
Video, Audio, RF

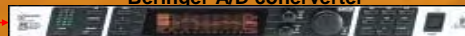


A/D Conversion :

Snell & Wilcox A/D converter & Denoiser



Beringer A/D converter



Video
Out

Audio
Out

SDI

Central Servers :

Video acquisition
Video Encoding (MPEG 2, 4, MXF, WM9...)



S-AIT LTO3

Equipment List

- Sony BVW (modified VTR for signal optimisation)
- Video Converter & Denoiser : Snell & Wilcox and Beringer Ultra Curve
- Video Server & Encoder
- Signal Monitoring : Automatic system
 - Video & Audio
 - RF signal

Mass Migration (ALL EXISTING BC FORMATS) ⇒ Digital Video

> Transfer Overview



Digital BETACAM

BETACAM SX

Digital Recorder



DV CAM

MPEG IMX

XDCAM

Video Out

Audio Out

Equipment List

- > Modified VTR for signal optimisation (1'C, U-Matic, ½' Open reel)
- > Video Converter & Denoiser : Snell & Wilcox IQDMSDL
- > Audio Converter; Beringer Ultra Curve Pro
- > Digital VTRs recorders : Digital Betacam, IMX, XDCAM
- > Signal Monitoring :

✓ Video & Audio , RF signal

Unitary 1'and 2'Transfer

➤ Transfer Overview for 1'B & 2 Inches tapes



Equipment List

- Bosch BCN (modified VTR with Tape cleaner included)
- Video Converter & Denoiser : Snell & Wilcox IQDMSDL
- Audio Converter; Beringer Ultra Curve Pro
- MPEG IMX Vtr & XPRI Editor & DVD Recorder
- Signal Monitoring : Video, Audio, RF signal

Adjustment / Control / Conversion:

➤ Player VTR adjustment

- ✓ Audio & Video signal
- ✓ Color Offset adjustment
- ✓ Dropout Compensation
- ✓ Real time tape cleaning
- ✓ Real time RF level adjust

➤ Transfer on Digital Support

- ✓ Snell & Wilcox A/D conversion
- ✓ 10 Bit conversion
- ✓ Advance Noise reduction



Normal VTR

SPF VTR

Audio Tape Transfer

> Multi Player Benches

- ✓ Studer A810
- ✓ NOA Audio System
- ✓ MTI Robot for CD Writer & Labelling



> Single Player Benches

- ✓ Studer A80
- ✓ PROTOOLS HD System
- ✓ Benches designed for :
 - Edited tapes
 - Sticky Tapes

Sony Dax Technology Centre: Preservation Factory™

Unique Solutions :

- Tape Baking
- Top Coating
- Wet Cleaning
- Mobile unit solution

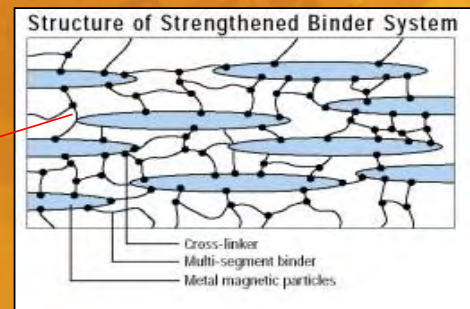
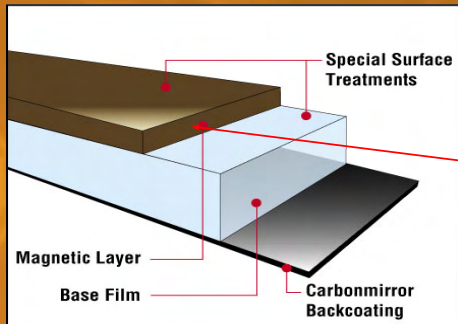
Magnetic Tape Baking

Magnetic tapes manufactured in the 1970's and 1980's have become unplayable due to binder breakdown. Tapes become gummy and it sticks to the heads generating Heavy Dropouts and Head clogging.

Fortunately, this problem is fixable by the baking process, using highly accurate control process in climatic chambers, to enhance physical & magnetic properties.



Breakage of Cross linkers



Normal VTR

Baked Tape



SONY

2-inch Baked Tape

Magnetic
Tape
Baking



SONY

Top Lubricant Coating

➤ Magnetic Layer Degradation

Many open-reel tapes manufactured in the 1970's and 1980's have become unplayable due a solidification of the Lubricant used in the magnetic paint.

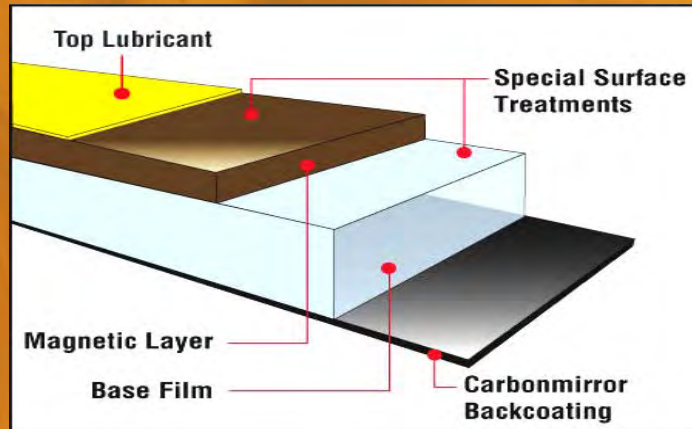
As result, Heavy Jitter, High Friction and finally Head Clogging appear during play back.



Top Lubricant Coating

➤ Solution Adopted

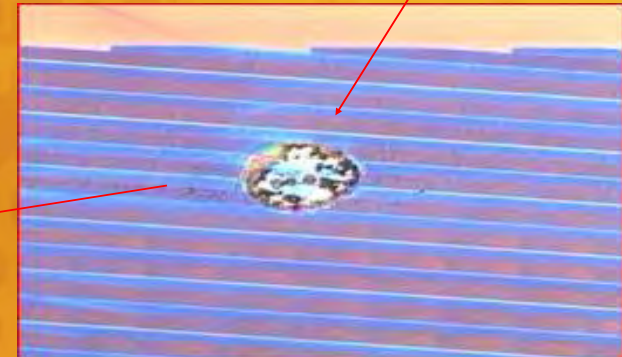
Solution developed by Sony is to apply a Top Lubricant Coating over the magnetic layer surface. This operation is well known and monitored by our manufacturing process.



Wet Cleaning

➤ External Element on Tape Surface

Some typical defect found on archive tapes is presence of foreign particles settle on tape surface of even on the tape edges



Wet Cleaning

- Tape Quality Check
- Chemical Investigation
- Wet Cleaning Process
- Copy of the Restored Tape



Determination of Tape Grade

✓ Normal Playback :

Without additional operation using our modified BCN (cleaning tool included) with OK picture Quality until tape end ⇒ **A Grade**

✓ Tape Baking :

When tape playback shows running problem, heavy dropouts & powder debris on tape cleaner of the BCN ⇒ **B Grade**

✓ Tape Baking + Tape Mechanical Cleaning :

Picture quality after tape baking is still No Good, additional cleaning is operate using dedicate tape cleaner ⇒ **C Grade**

✓ Tape Baking + Tape Mechanical Cleaning + Editing :

Heavy deterioration of the magnetic layer, with heavy dropout. Playback must be stopped several time for video heads cleaning, editing is required to assemble the different good shots

⇒ **D Grade**

✓ “Clinic” : Top Coating or Wet Cleaning ⇒ E Grade

Quality Control

✓ Incoming Inspection :

- Physical Check
- Working process orientation (Tape repair, Tape Cleaning, Transfer)
- Unique reference number for each tape to track and trace within factory

✓ Auto Control :

- Quality follow up done by Transfer Operators
- Automatic Control (RF Level, Presence of Video & Audio) for Betacam
- Controls : (100%, By Sampling etc..)

✓ Process Quality Control :

- Quality Control done by QC Operator
- Check of the equipments.

✓ Outgoing inspection :

- Lot verification (Sampling)

Safe and Secure Management

- ✓ Customer's Archives Security (Smoke detection & Sprinkler system)
- ✓ Stabilised Air Conditioning (for Archive stability)
- ✓ Guaranty Copyright Protection

**Secure Site Guaranteed
by Video Surveillance**



**Smoke Detection &
Sprinkler System**



Secure Transport

- Exclusive transport of your tapes with no other products sharing the vehicle
- Air-conditioned load bays with temperature and humidity control
- Electronically secured locking systems and sealed doors
- Carefully selected drivers with long experience of Sony
- Safe, secure parking locations for road stops
- GPS monitoring of truck



Preservation Factory: Your Best partner

➤ Quality

- ✓ Respect the cultural heritage

➤ Speed

- ✓ 24 Hours/Day,
- ✓ Industrial mass conversion methods

➤ Cost efficiency (at least 50% less expensive than traditional services)

- ✓ Realistic approach towards customer's budget



Your Advantage: Our Experience

➤ Customised Research & Development

- ✓ System architecture
- ✓ Software development (QC)

➤ Quality Control Oriented

➤ Safe and Secure Product

➤ Industrial Process Flow

➤ Optimise Signal from Player

- ✓ Real Time Cleaning
- ✓ Magnetic Tape Baking

➤ Waste Management

➤ ISO Certified: **The Only preservation facility in the world!**



Waste Management

Time consuming

Legal requirements

Waste
Waste
Waste
Waste

management
management

Customers



UNIVERSITAT DE BARCELONA



Conservatoire Occitan
CMDT Toulouse Midi-Pyrénées



SONY

HAS THE ANSWER