

U · N · I · T · E · C · H

Introduction to Tape Management

Presented by:

Lee Gehres and Bill Nicholson

Universal Systems & Technology, Inc.

5360 Robin Hood Road Suite 1W

Norfolk, VA 23513

Phone: +1-757-855-6055 Fax: +1-757-855-3830

lgehres@ix.netcom.com

stgnick@ix.netcom.com

THIC Meeting at NSWC Carderock MD

October 1998



CORPORATE OVERVIEW

- SBA 8(a) Certified, 1991 (graduate, 2000)
- Top Ten Fastest Growing High Tech Company in Mid-Atlantic Region Last 3 Years
- Established in January, 1988
- 55th Fastest Growing High Tech Company in the Nation
- SBA Administrator's Award for Excellence
- Top Secret Facility Clearance



HEADQUARTERS

Fairfax, VA

- OPERATIONAL SITES:

Albuquerque, NM

Atlantic City, NJ

Las Vegas, NV

Los Angeles, CA

Norfolk, VA

Orlando, FL

San Antonio, TX

San Diego, CA

Seattle, WA

Washington, D.C...

Yokosuka, Japan



CORE BUSINESS AREAS

INFORMATION
TECHNOLOGY

TELECOMMUNICATIONS

INFORMATION
ENGINEERING

CUSTOMER SATISFACTION

SIMULATION &
TRAINING

SYSTEMS
INTEGRATION

BUSINESS SUPPORT
SYSTEMS



INFORMATION TECHNOLOGY

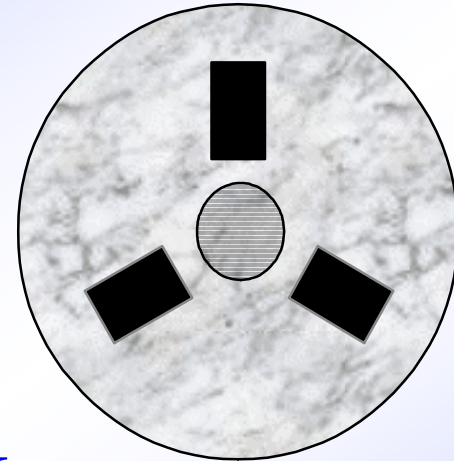
SERVICES

- Network Design/Development/Implementation
- Network Management
- LAN/WAN Integration
- EDI Support Services
- Integrated Voice, Data, Video & Imaging
- Executive Information Systems
- Magnetic Media Management

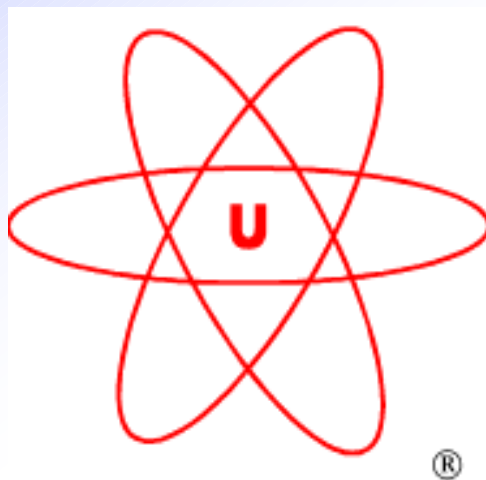


Norfolk Virginia Facility

- Production Facility designed to handle most tape formats
- Customized tape tracking databases
- Decreased error rate on instrumentation tape



Introduction to Tape Management



UNIVERSAL SYSTEMS &
TECHNOLOGY, Inc.



CRITICAL MEDIA TYPES

- HIGH VALUE VIDEO RECORDINGS
- HIGH VALUE AUDIO RECORDINGS
- MISSION ESSENTIAL DATA
- CRUCIAL HISTORICAL DATA
- IMPORTANT PERSONAL DATA



TYPICAL MEDIA USES

GOVERNMENT

➤ MILITARY

- Mission Data Collection
- System Programming
- Space Program

➤ CIVIL SERVICE

- IRS Files
- National Archives

➤ PUBLIC SAFETY

- Police/Fire Emergency
- FAA Flight Recorders

COMMERCIAL

➤ BROADCAST

- Master/Archive Tape
- Audio Recording
- Video Recording

➤ FINANCIAL

- Credit Services
- Bank Transactions

➤ SECURITY

- ATM Video Recording
- Building Surveillance



Tape Management Components

- Full erasure (-90db)
- Complete burnishing & wiping
- Electronic certification
- Programmed Tension Winding
- Cassette/Reel refurbishment
- Life cycle & database management



Additional Considerations

- Logistic Support
- Tape Salvaging [*i.e...* shattered tape reel or high shedding rate]
- Long term storage in a monitored & controlled environment.



Benefits

- Lower tape replacement cost
- Lower equipment maintenance cost
- Enhanced equipment performance
- Higher Confidence in data



Lower Tape Replacement Cost

- Extend the life expectancy of your tape.
- Eliminate “crisis” buying
- Recycle expensive components?



Lower Maintenance Cost

- Less wear on tape path components
- Less head wear
- Reliable calibration tapes



Enhanced Equipment Performance

- Improves equipment ECC performance
- Prevent head blockage and failure
- Better tape to head contact



CLEANING EFFECTS ON CBER

D1/D2 TYPE MEDIA

USING NON-DESTRUCTIVE BURNISHING AND WIPING

PRECLEAN
CBER
VENDOR 1

PRECLEAN
CBER
VENDOR 2

POSTCLEAN
CBER
RESULTS

1E-7 to 1E-8

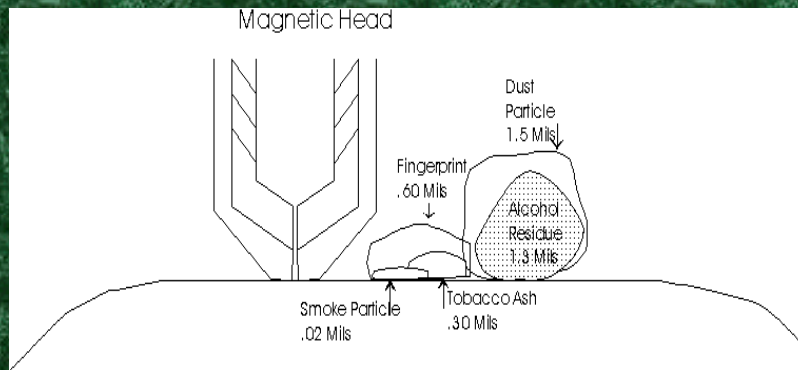
1E-9 to 1-E12

BOTH IN
10E-12
RANGE

TESTS PERFORMED BY AN INDEPENDENT DoD CONTRACTOR



PREVENT HEAD CLOGS



- Smoke particle = .00025”
- Fingerprint = .00062”
- Dust particle = .0015”

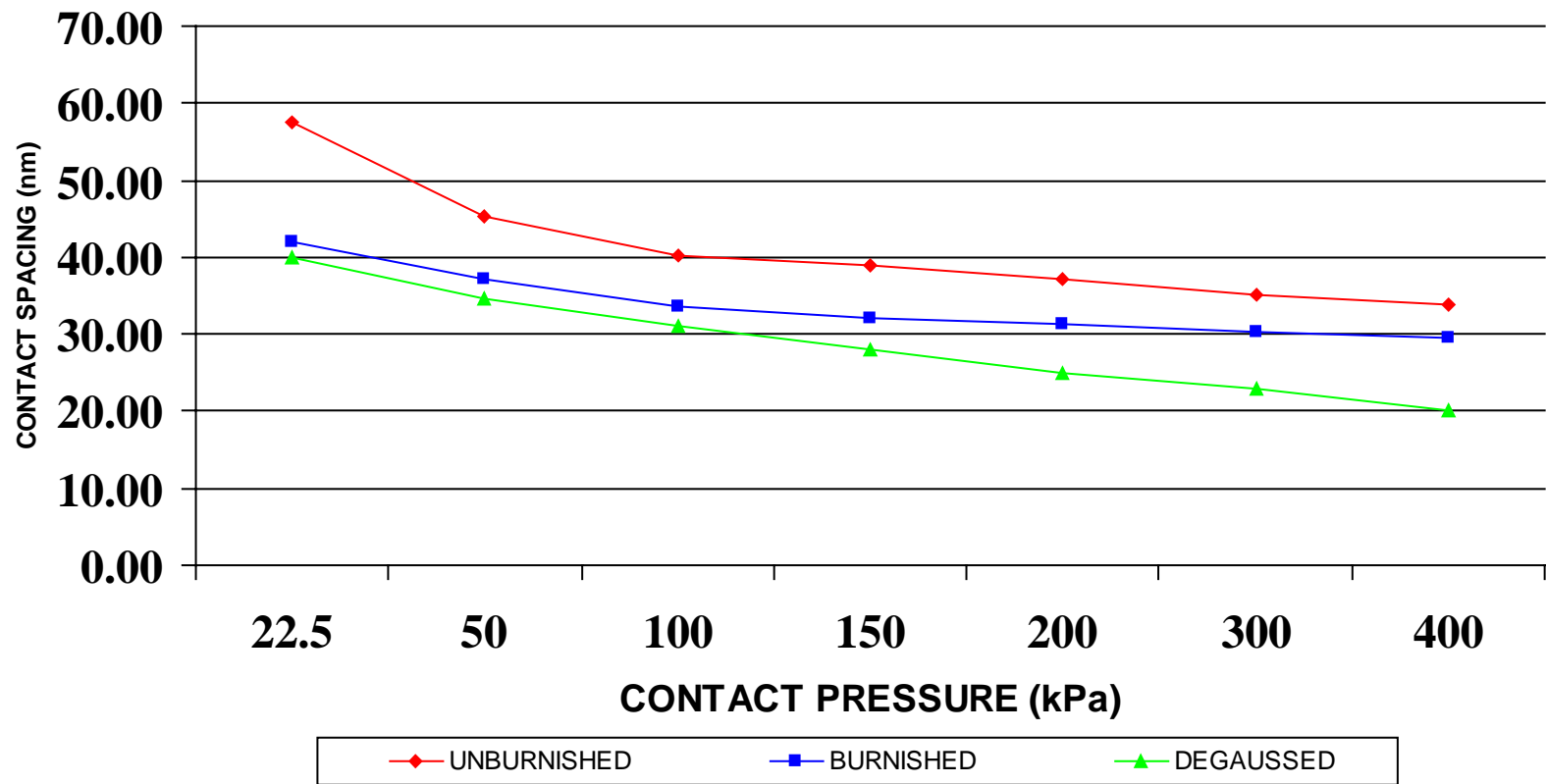
Head Blockage can occur $>.000032!!!!$



IMPROVED TAPE to HEAD CONTACT

Averaged out using data from from multiple tests on VHS and D1 media

SURFACE ASPERITY COMPARISON





Higher Confidence in Data

- Post mission analysis data is accurate
- Post mission training yields greater results
- Recorded data can be catalogued



Summary

