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# **Sony 1/2" Data Recorder THIC Meeting, October 1998**

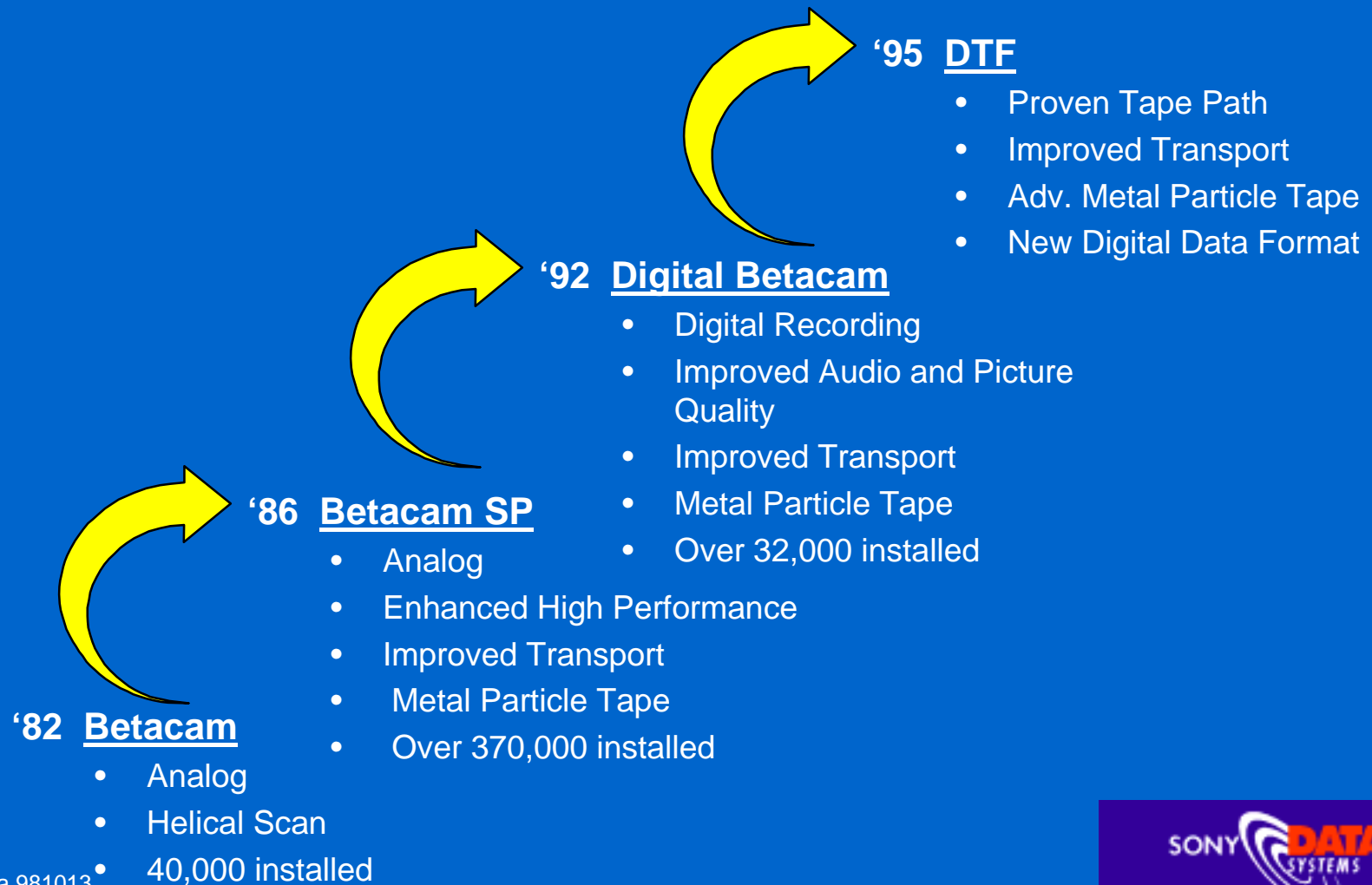


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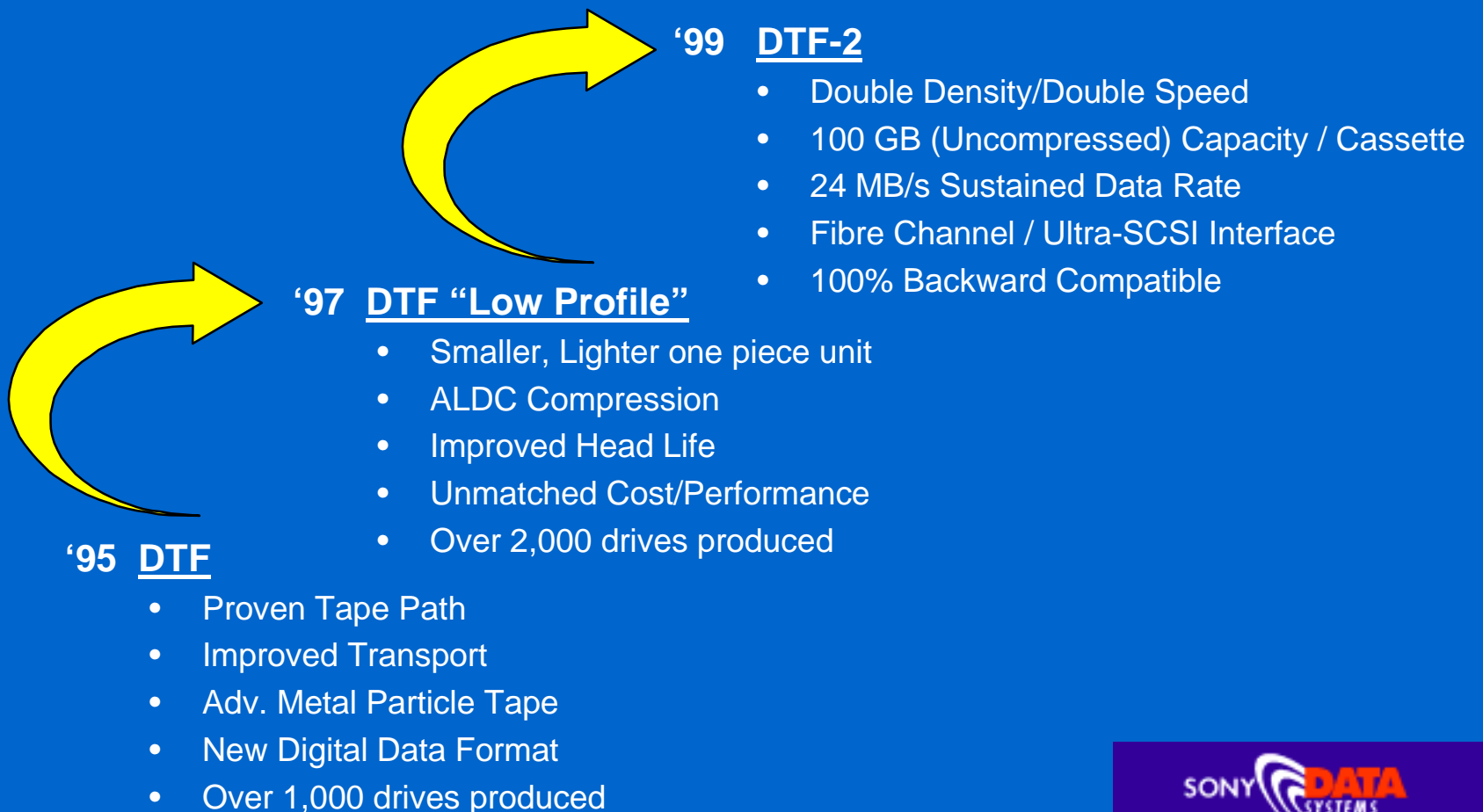
# Broadcast Products Company

## > 450,000 1/2" Tape Drives



# Broadcast Products Company (con't)

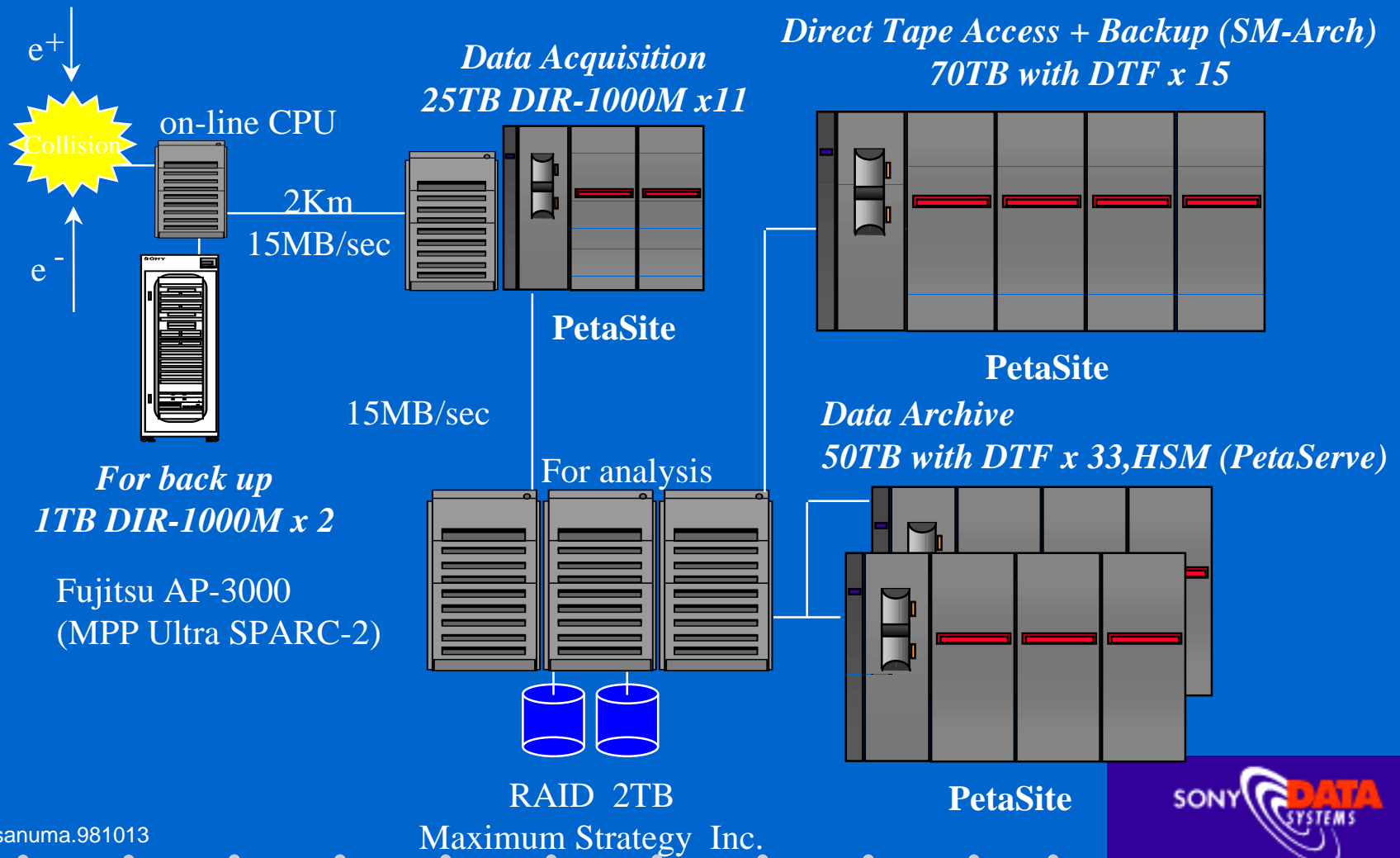
## > 450,000 1/2" Tape Drives



# DTF Software Connectivity

- Avalon Archive Manager
- Cheyenne
  - ARCserve NT
- Dantz
  - Retrospec
- Discreet Logic
  - Flame, Inferno
- EDS
  - Media Vault
- EMASS
  - AMASS Data Manager
- EMC
  - Data Manager (EDM)
- Grey Matter Response
  - Mezzo
- IBM ADSM
  - Adstar
- Kodak
  - Cineon
- Legato
  - Networker 5.0
- LSC, Inc.
  - SAM FS
- Seagate Software
  - Backup Exec
- Spectra Logic
  - Alexandria
- Unison
  - Roadrunner 3.0
- Veritas
  - Netbackup 3.1

# High Energy Physics Laboratory (KEK) B-FACTORY Project, Tsukuba Japan

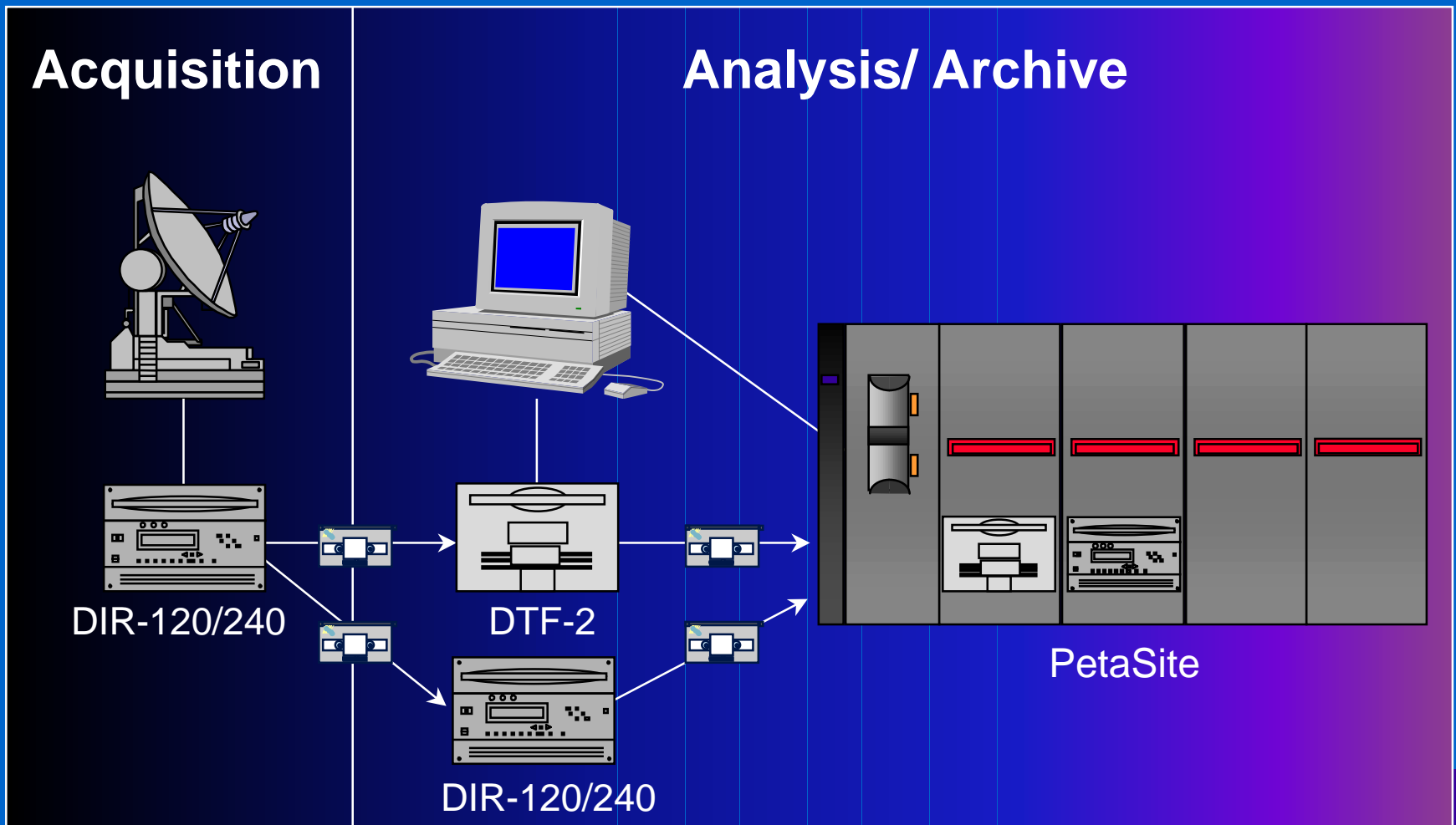


# DIR-120/240 Main Specifications

<b>Data Rate:</b>	0 - 120 Mb/sec for DIR-120 0 - 240 Mb/sec for DIR-240
<b>Data Capacity:</b>	125 GB / L-Cassette, 38 GB / S-Cassette
<b>Recording Time: (at 240 Mbit/sec)</b>	69 Minutes / L-Cassette, and 21 Minutes / S-Cassette
<b>Interfaces:</b>	8 bit Parallel, Ultra SCSI (SCSI-3)
<b>Time Code:</b>	IRIG B Input / Output, Search

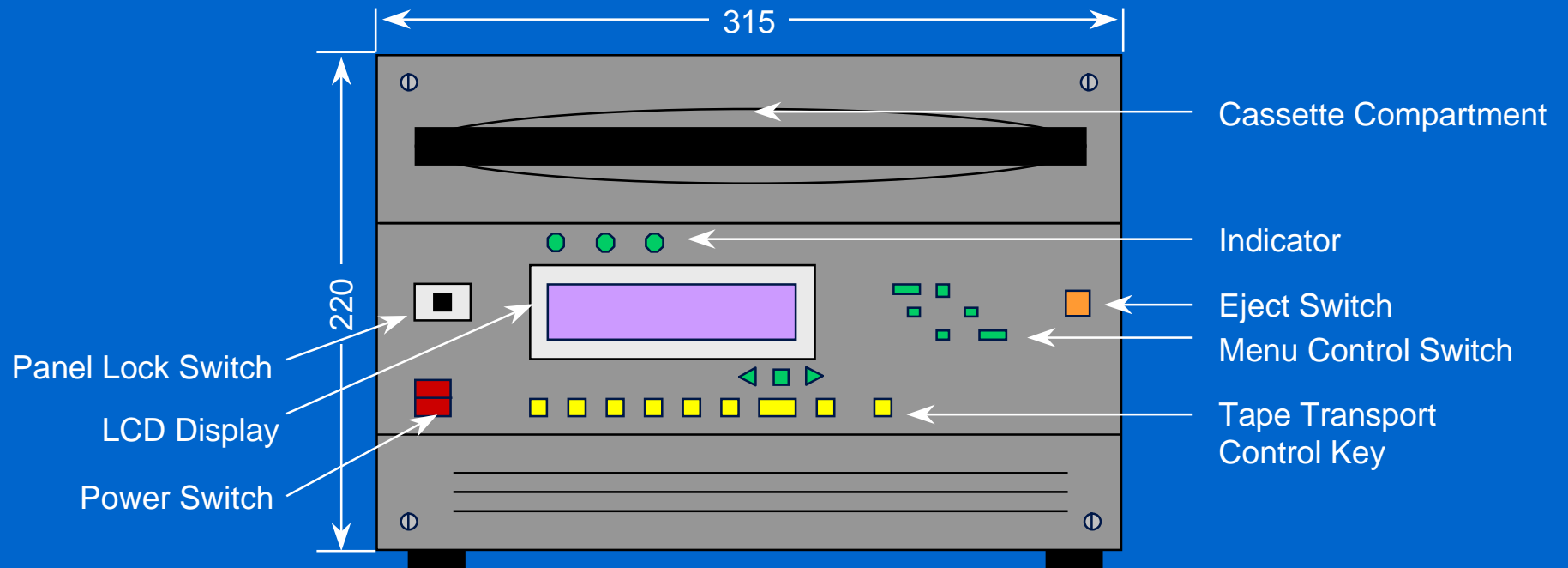
# DIR-120/240

## Compatible with DTF-2



# DIR-120/240

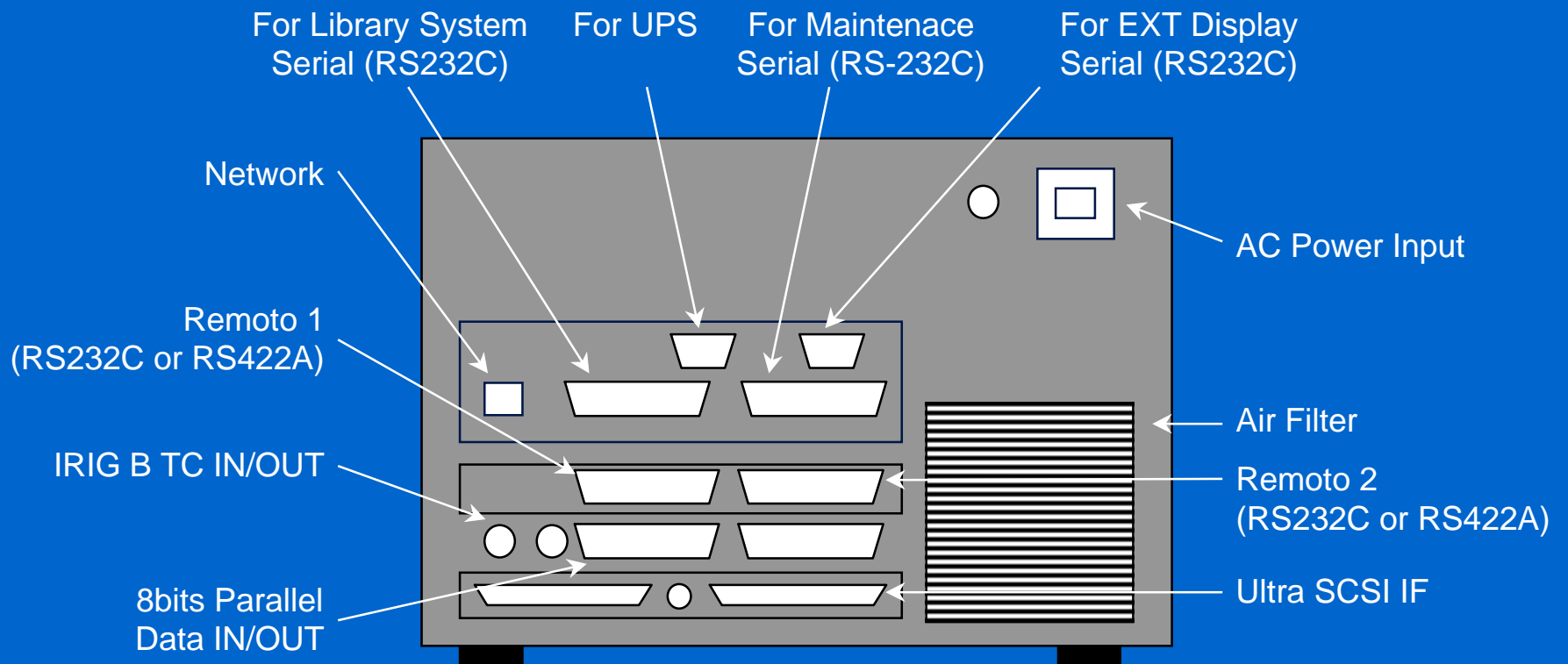
## Front View





# DIR- 120/240

## Rear View



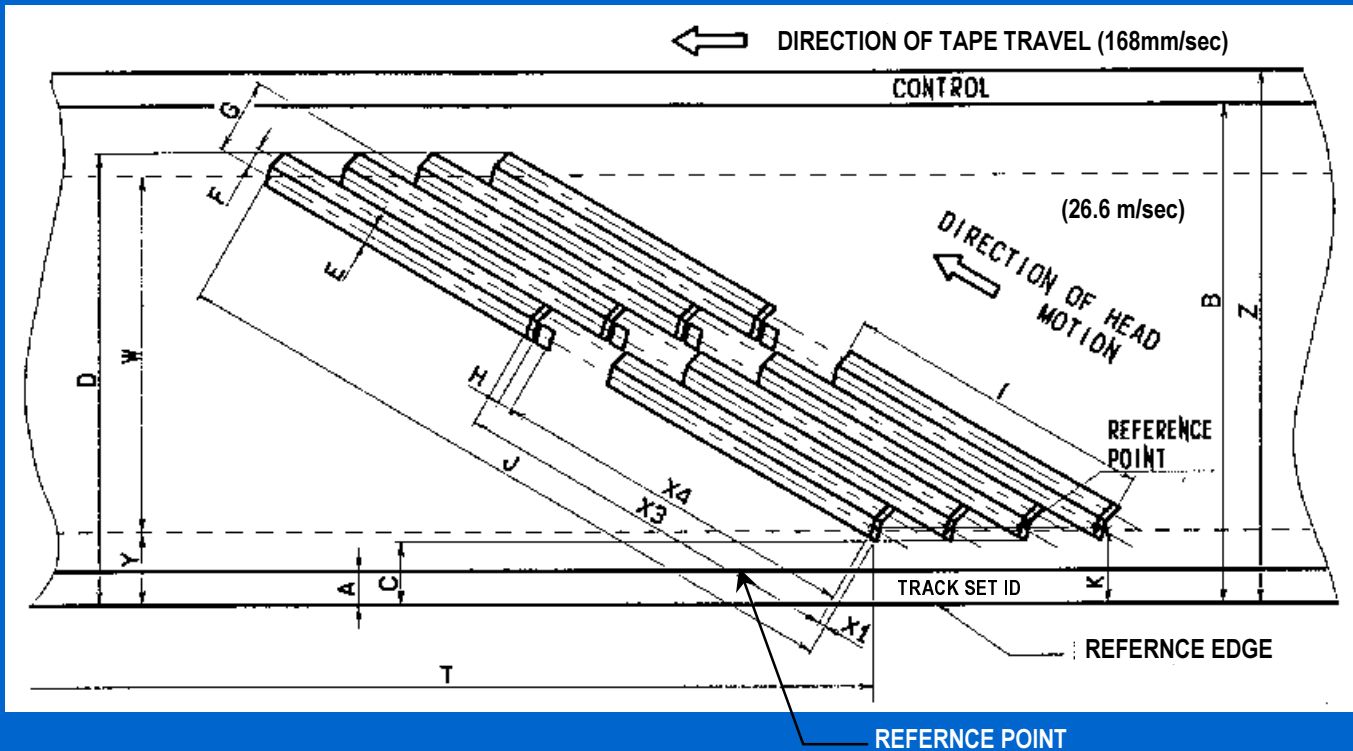
# DIR-120/240

## Data Reliability

- Dust Protection for Cassette
  - Anti Static Cassette Shell
- Clean Air in Unit
  - Well Designed Air Flow and Air Filter
- Tape Cleaning System
  - Ruby Blade
- Head Cleaning System
  - Head Cleaning Roller

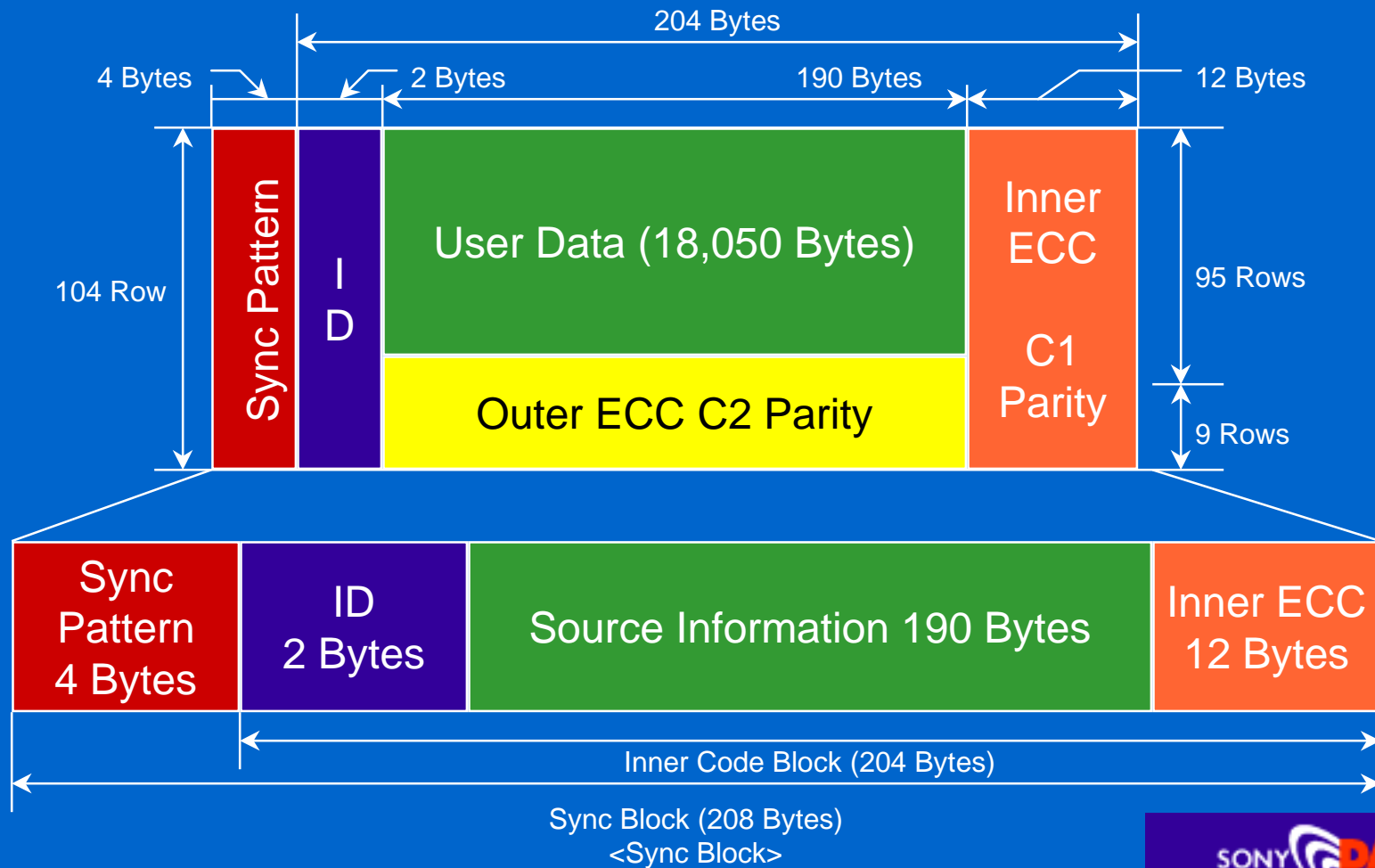
# DIR-120/240 Tape Foot Print

Track Pitch =  $16\mu\text{m}$   
 One Track Set ID = 4 Helical Tracks  
 Recording wavelength =  $0.63\mu\text{m}$

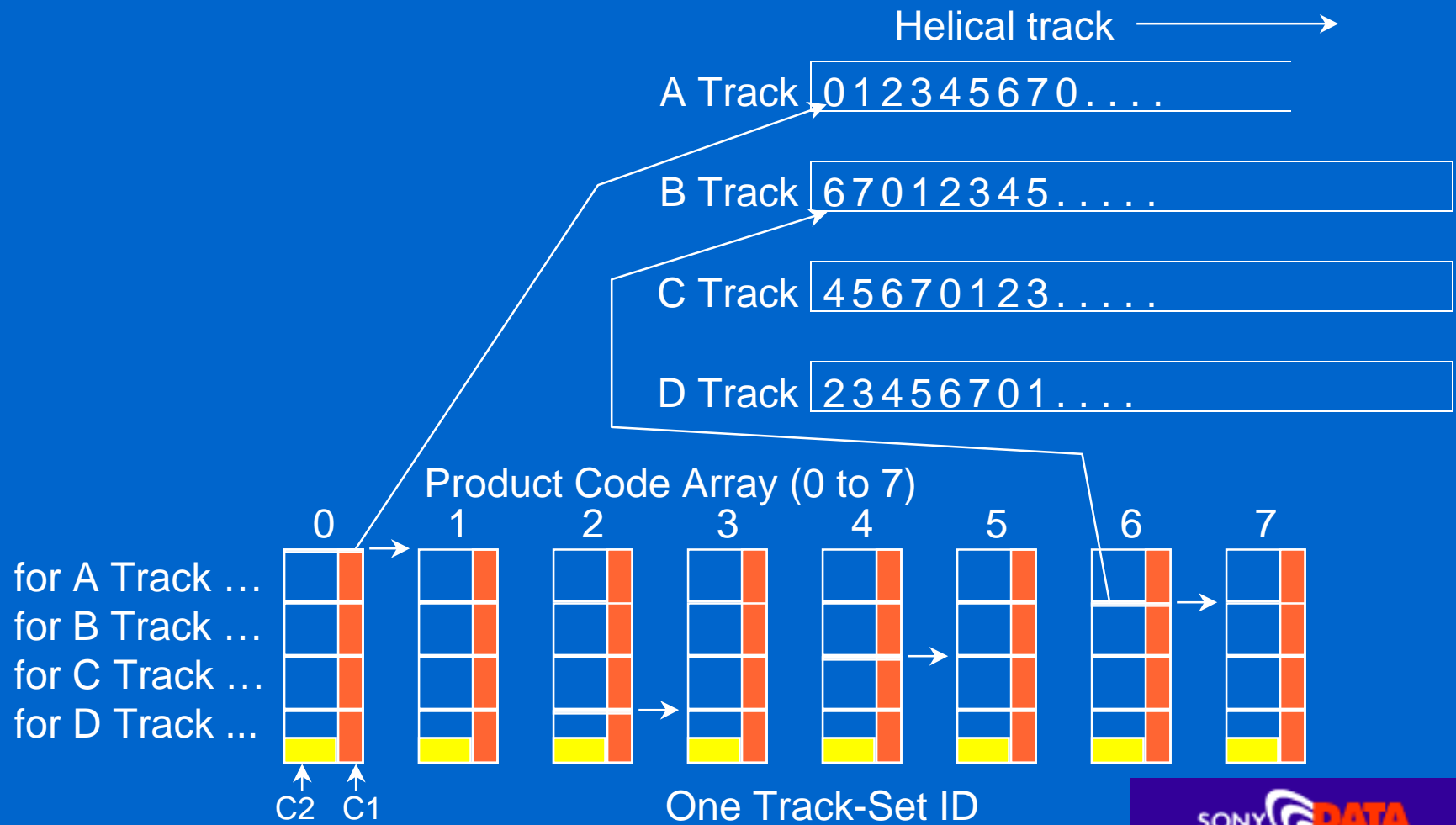


A	TIMECODE TRACK UPPER EDGE
B	CONTROL TRACK LOWER EDGE
C	HELICAL TRACK LOWER EDGE
D	HELICAL TRACK UPPER EDGE
E	TRACK WIDTH
F	chA-chB TRACK PITCH
G	chA-chE TRACK PITCH
H	TRACKING DATA AREA LENGTH
I	DATA SECTOR LENGTH
J	HELICAL TRACK TOTAL LENGTH
K	REFERENCE POINT HEIGHT
T	CTL/TC SIGNAL REC POSITION
W	PROGRAM AREA EFFECTIVE WIDTH
X1	START OF HELICAL TRACK
X2	START OF SECTOR 1
X3	START OF SECTOR 2
X4	START OF TRACKING DATA AREA
Y	LOWER LIMIT OF W
Z	TAPE WIDTH

# DIR-120/240 ECC Product Code Array

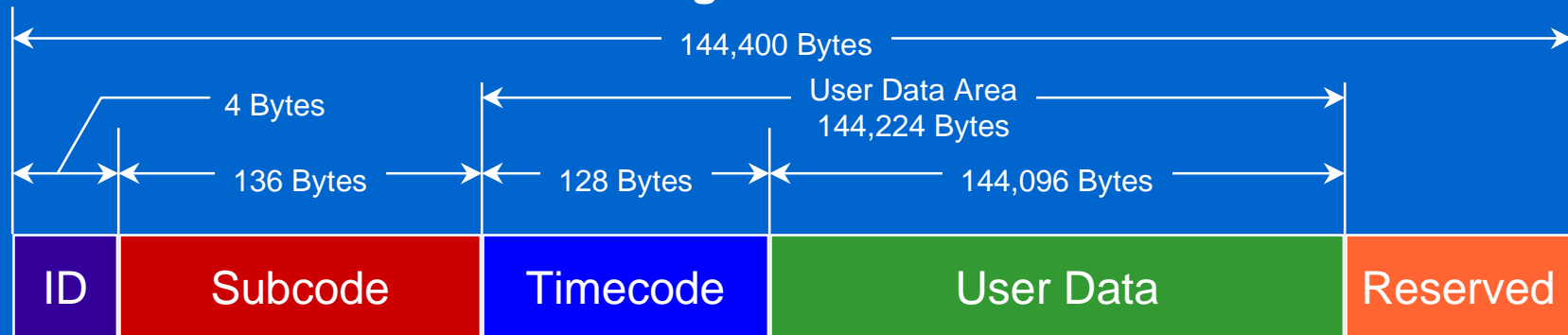


# Track Interleave

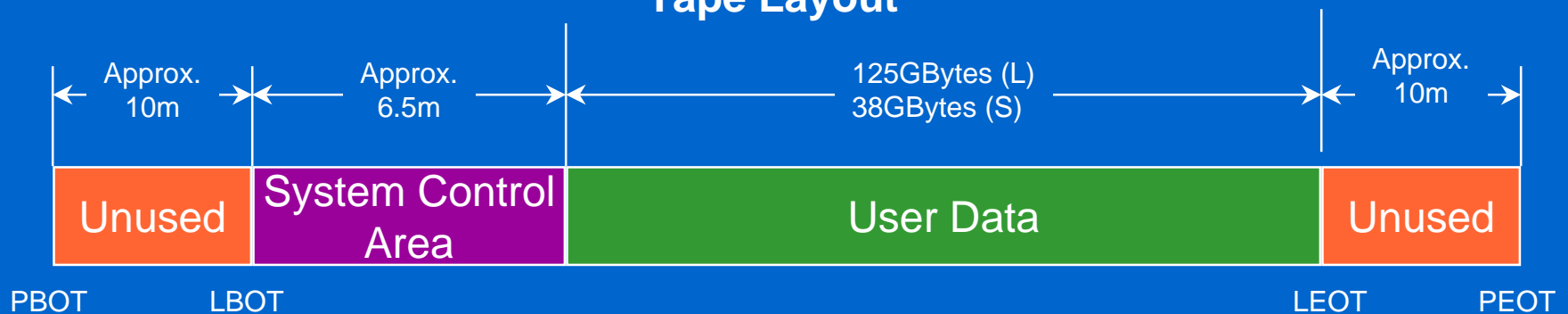


# DIR-120/240 Logical Tape Format

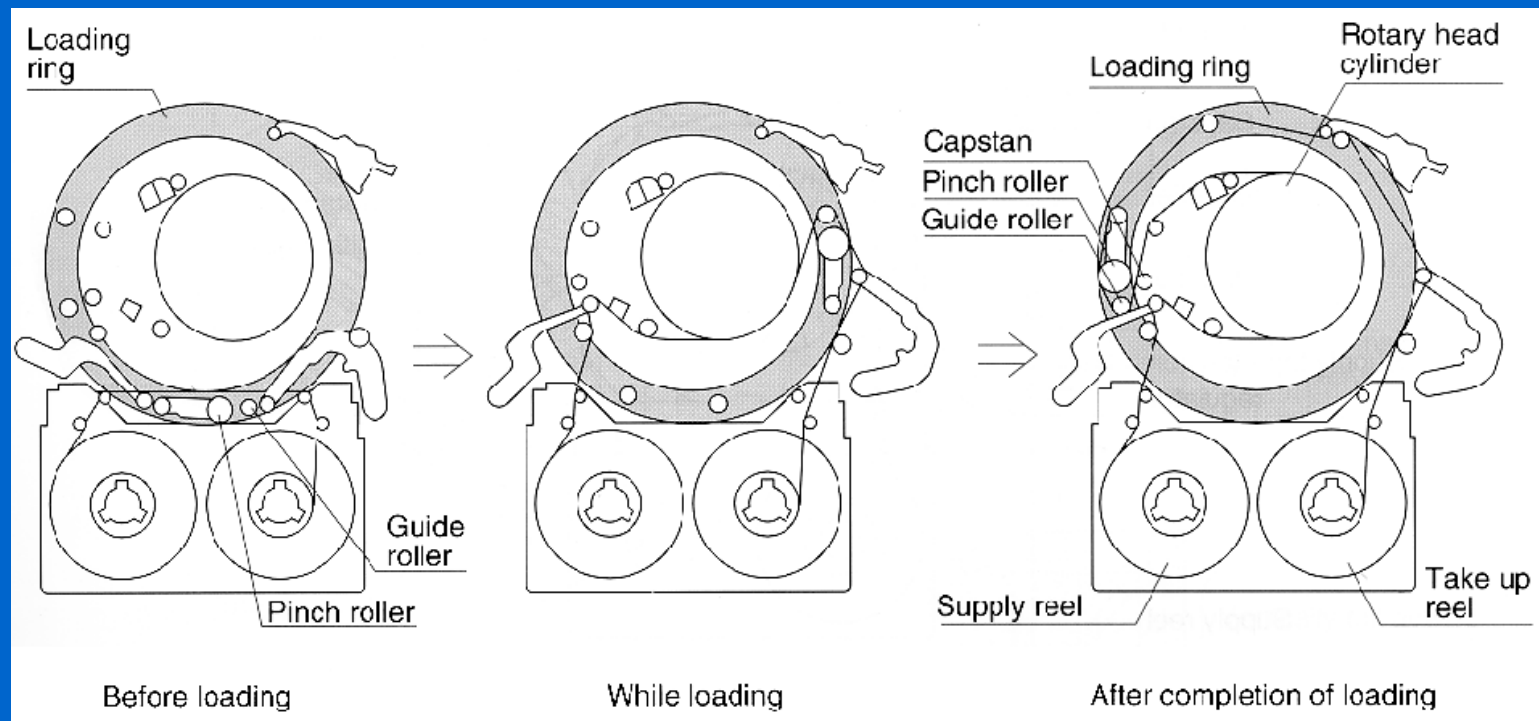
## The Logical Track Set



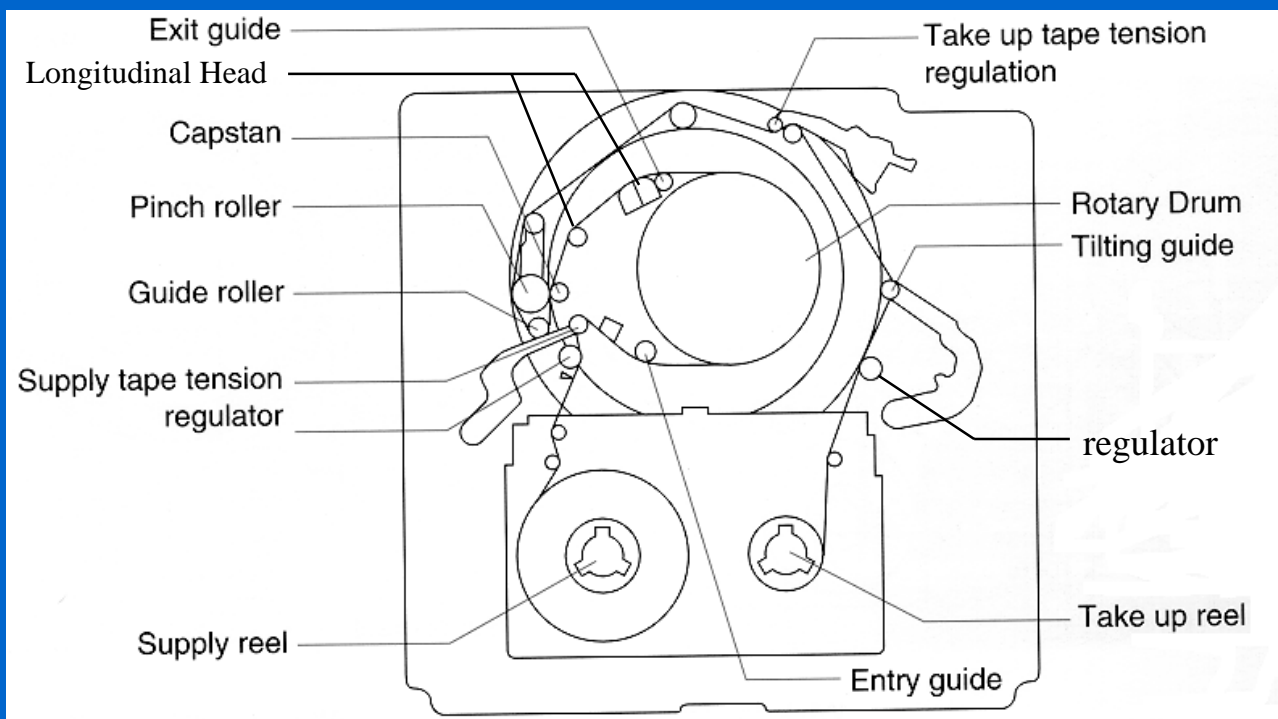
## Tape Layout



# DIR-120/240 Loading Mechanism



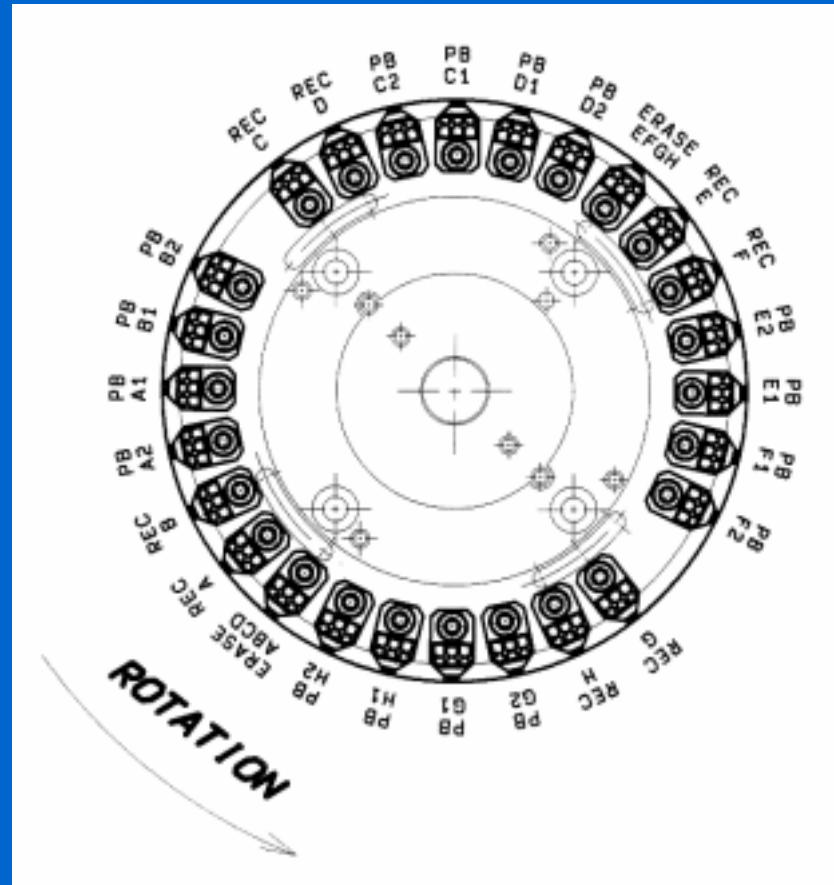
# DIR-120/240 Tape Transport System





# DIR-120/240 Head Location

- (Top View)
  - REC (n=8): Ferrite Head
  - PB (n=16): Multilayer Amorphous Head
  - Erase (n=2)



# DIR-120/240 Specification (1)

**(Tentative)**

Recording Capacity	125 GB / L-Cassette 38 GB / S-Cassette
Recording Format / Media	12.65 mm Helical Scan Metal Tape, 14 $\mu$ m.
DIR-240 Data Rate	8 bit Parallel: 0 ~ 240 Mbits/sec SCSI: 40 MB/sec (burst), 30 MB/sec (sustained)
DIR-120 Data Rate	8 bit parallel: 0 ~ 120 Mbits/sec SCSI: 40 MB/sec (burst), 15 MB/sec (sustained)
Error Rate	1 x 10 E-10
Search Speed	892 MB/sec
Tape Rewind Time	180 sec or less (L-Cassette)

# DIR-120/240 Specification (2)

**(Tentative)**

Recording Time (240 Mbit/sec)	69 minutes L-Cassette 21 minutes S-Cassette
Dimension (W/H/D)	12.4 x 8.7 x 19.1 inches
Weight	55 lbs.
Power Requirements	AC 100 ~ 240V. 50/60/400 Hz.
Power Consumption	300 VA
Operating Temperature	+5 ~ 40°C (41°F ~ 104°F)
Operating Humidity	20 ~ 80%

# DIR-120/240 Specification (3)

**(Tentative)**

Item		Contents	Reference
Data	8 bits parallel I/O	8 bits parallel ECL differential I/O	Dsub 25P
	SCSI IF	Ultra-1 wide differential SCSI (SCSI-3)	Half pitch pin type x 2
Time Code		Generator/Reader	Built-in
		Time code search	Available via control command
		Time code I/O	IRIG-B (AC code)
Remote	8 bits parallel I/O	Remote1 RS422A or RS232C	(Dsub 25P)
		Remote2 RS422A or RS232C	(Dsub 25P)
	IF for maintenance manufacturing	UPS connection	(Dsub 9 P)
		EXT display RS232C	(Dsub 9 P)
		Maintenance (DIAG) RS232C	(Dsub 25P)
		Library system RS232C	(Dsub 25P)
		Network	