

SERVICE LETTER

DATE:

NUMBER: DK 3042 A

PRODUCT: D3000 Disk Drives

SUBJECT: Data Errors

PURPOSE: This service letter will attempt to summarize all of the more probable causes for data errors in the D3000 Disk Drive. Reference is made to other Service Letters or PIB's if the cause and remedy have been discussed previously. New information is also presented for the later remedies and situations.

SYMPTOMS:

1. Data errors on Fixed Platter only.

Causes:

a. Wrong sector programming array in J126 location on logic PCBA. Refer to SL DK3009A.

b. Sector phase lock loop (PLL) on logic PCBA is misadjusted. See operating and service manual for adjustment procedure.

c. Pulse pairing problem. See Service Letter DK 3038. This should only apply to D3000 Disk Drives that are mounted over each other in the cabinet. For 200 TPI Disk Drives, it is recommended that the 100 uh R/W heads be replaced with 60 uh R/W heads. These are P/N 526-02XX, the XX remains the same. NOTE: If the 60 uh heads (526-02XX) are used in the D3000 Disk Drives, a steel dust cover must also be used (replace the aluminum dust cover). See below for applicable P/N's.

d. R/W head resolution, see Service Letter DK 3041.

e. R/W PCBA or platter is bad.

2. Data Errors, Removable Cartridge only.

Causes:

a. Wrong sector programming array in J127 location on Logic PCBA. Applicable for Electronic (EXXX) sectoring units only. Refer to Service Letter DK 3009A.

b. CE alignment incompatibility. Check radial and circumferential alignment. NOTE: CE alignment cartridge has a tolerance band. Use the customer's CE cartridge and compare against yours. Inform customer if there are any differences.

c. Sector pulses in error. Either defective sector transducer or incorrect sector notches on cartridge (for mechanical sectoring only).

PERTEC

- d. Wrong programming array in J125 for Electronic sectoring. Check each sector pulse on the interface for equal timing between pulses. Use index pulse for reference.
- e. R/W head resolution is bad. It should be greater than 40%. Refer to Service Letter DK 3041.
- f. R/W PCBA or Cartridge Platter is bad.

3. Data Errors on fixed and removable.

Causes:

- a. R/W PCBA one-shots misadjusted. Refer to PIB DK 3056A for adjustment method.

	D3000		D3000 EXT (20 mb)			
	Short (R113)	Long (R115)	(R79) Output	(R83) Short	Long	Output
1500 RPM	440ns	485ns	125ns	445ns	485ns	150ns (+20)
2400 RPM	270ns	300ns	125ns	270ns	300ns	110ns (+10)

- b. Sector phase locked loop (PLL) on logic PCBA is misadjusted. See Operating and Service Manual for adjustment procedure.
- c. Pulse pairing problem (refer to above paragraph).
- d. Static discharge spring is worn and causing intermittent grounding of the spindle shaft. Replace spring or belt guard assembly.
- e. System is noisy. If not already present, try putting a ground strap between the positioner and the R/W PCBA (solder mask on R/W PCBA must be removed for good electrical contact).
- f. Disk drive stacked (mounted) one above the other in the system cabinet. NOTE: Identifiable if the rate of the data errors can be increased or decreased by extending any one of the Disk Drives from the cabinet.

ACTION: Replace the aluminum dust cover with a steel dust cover. This applies for Disk Drives with either 100 uh or 60 uh R/W heads.

Top Load P/N ~~103697-00~~. 103747-01

Front Load P/N ~~103609-00~~. 103746-01

A steel or aluminum dust cover can be tested for, with a magnet.

NOTE: D3000 Extension Disk Drives do not require steel dust covers.

- g. Disk Drives mounted in a cabinet with a F3000 formatter. Refer to PIB FD 0003.
- h. R/W PCBA or platter is bad.