

HP Ultrium 232/448/460/920/960

Cleaning Indicator	Illuminated "Use Cleaning Cartridge" LED
Activated By:	1. Hard Error - i.e. Read, Write, Positioning error
	2. Expired Cleaning cartridge
	3. Excessive soft write errors
Recommended Cleaning Period (if any)	None. Only when indicated by drive.
Cleaning Period Tracked	Legacy Compaq - n/a
	Legacy HP - Yes
	Universal - Yes
Proactive Maintenance (If customer wants to avoid cleaning error during backup)	None. Self cleaning mechanism provides for this.
Cleaning Tape	LTO cleaning tape (C7979A or C7978A)
# Cleanings Per Tape	50 times (C7978A ²)
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Method of Usage Tracking	Check boxes on label, cartridge directory in memory
Expired cartridge handling	Illuminated "Tape Error" LED, Head scrub performed and then cleaning tape will eject.
Engineering Recommended Process	When "Use Cleaning Cartridge" LED illuminates:
	Power cycle drive (if LED goes off no further action required)
	or:
	Insert cleaning tape, mark check box (if LED goes off a successful clean has been completed)
	or:

	<p>If the "Tape Error" LED illuminated, verify correct cleaning tape used or try new cleaning tape (if LED goes off discard tape that gave "tape error", successful clean has been completed)</p>
	<p>if still on:</p>
	<p>Start troubleshooting process</p>
Tape Alert Support	<p>Version 3.0, MRIE 3 default</p>
Flag 20 (clean now)	<p>supported</p>
Flag 21 (clean periodic)	<p>unsupported</p>
Flag 22 (ctape expired)	<p>supported</p>
Flag 23 (invalid ctape)	<p>supported</p>
Automated/Self Cleaning Capability	<p>Internal head cleaner activated by:</p>
	<p>Time based threshold</p>
	<p>Excessive Soft Write errors</p>
	<p>Normal cleaning cycle with cleaning tape</p>