

## ATA COMMAND TABLE (in OPCode Order)

<b>ATA Command</b>	<b>Instruction</b>			<b>OP</b>
CHS2LBA	CHS2LBA			
LBA2CHS	LBA2CHS			
SCT LBA SEGMENT ACCESS	SCT_LSAP SCT_LSAP_GPL	SCT_LSA SCT_LSAP		
SCT READ LONG	SCT_RL_GPL	SCT_RL		
SCT RETURN ERROR RECOVERY CONTROL	SCT_RERC_GPL	SCT_RERC		
SCT RETURN FEATURE CONTRLL	SCT_RFC_GPL	SCT_RFC		
SCT RETURN FEATURE OPTION FLAG	SCT_RFOF_GPL	SCT_RFOF		
SCT RETURN SCT DATA TABLE	SCT_DT_GPL	SCT_DT		
SCT SET ERROR RECOVERY CCONTROL	SCT_SERC_GPL	SCT_SERC		
SCT SET FEATURE CONTRLL	SCT_SFC_GPL	SCT_SFC		
SCT STATUS REQUEST	SCT_REQST_GPL	SCT_REQST		
SCT WRITE LONG	SCT_WL_GPL	SCT_WL		
SCT WRITE SAME WITH WRITE DATA BLOCK	SCT_WRSAME_ BLK_GPL	SCT_WRS AME_BLK		
SCT WRITE SAME WITH WRITE DATA BLOCK FOREGROUND	SCT_WRSAME_ BLK_FRG_GPL	SCT_WRS AME_BLK_ FRG		
SCT WRITE SAME WITH WRITE DATA PATTERN	SCT_WRSAME_ PTN_GPL	SCT_WRS AME_PTN		
SCT WRITE SAME WITH WRITE DATA PATTERN FOREGROUND	SCT_WRSAME_ PTN_GPL_FRG	SCT_WRS AME_PTN_ FRG		
SOFTWARE RESET	Reset	REST	SRST	
NOP		NOP		00h
CFA REQUEST EXTENDED ERROR	CfaReqErr	CFRE		03h
DATA SET MANAGEMENT	ATA_DSM	DSM		06h
DEVICE RESET	DevRst	DRST		08h
REQUEST SENSE DATA EXT	REQS_ATA			0Bh
READ SECTOR(S)	RdSec	RDSK RSEC	RS	20h
READ SECTOR(S) WITHOUT RETRIES	RdSecN	RDSKN RSECN	RSN	21h
READ LONG	RdLong	RDLG		22h
READ LONG WITHOUT RETRIES	RdLongN	RLN	RDLGN	23h
READ SECTOR(S) EXT	RdSecEx	RDSE	RSEX	24h
READ DMA EXT	RdDMAEx	RDMX		25h
READ DMA QUEUED EXT	RdDMAQEx	RDQX		26h
READ NATIVE MAX ADDRESS EXT	RdNativeMaxEx	RNME		27h
READ MULTIPLE EXT	RdMulEx	RDME	RMEX	29h
READ STREAM DMA EXT	RdStrDMA	RSTD		2Ah
READ STREAM EXT	RdStrPIO	RSTP		2Bh
READ LOG EXT	RdLogEx	RLEX		2Fh
READ LOG EXT COMP	RdLogExComp	RLEC		2Fh
READ LOG EXT CURRENT DEVICE INTERNAL STATUS	RdLogExCurSts	RLECURSTS		2Fh
READ LOG EXT DEVICE STATISTICS	RdLogExDevSt	RLEDEVST		2Fh
READ LOG EXT DIRECTORY	RdLogExDir	RLED		2Fh
READ LOG EXT EXTENDED POWER CONDITION	RdLogExEPC	RLEEPC		2Fh
READ LOG EXT LBA STATUS	RdLogExLBASTs	RLELBASTS		2Fh
READ LOG EXT LONG PHYSICAL SECTOR	RdLogExLPS	RLELPS		2Fh

<b>ATA Command</b>	<b>Instruction</b>			<b>OP</b>
READ LOG EXT NCQ COMMAND ERROR	RdLogExQErr	RLEQERR		2Fh
READ LOG EXT NCQ SEND RECEIVE	RdLogExQSR	RLEQMSR		2Fh
READ LOG EXT SATA NCQ QUEUE MANAGEMENT	RdLogExQMgt	RLEQMGT		2Fh
READ LOG EXT SAVED DEVICE INTERNAL STATUS	RdLogExSavSts	RLESAVSTS		2Fh
READ LOG EXT SELF TEST	RdLogExSelfTest	RLET		2Fh
READ STREAM ERROR LOG	RdStrErrLog	RSTE		2Fh
READ STREAM PERFORMANCE LOG	RdStrPfmLog	RPFM		2Fh
WRITE STREAM ERROR LOG	WrStrErrLog	WSTE		2Fh
WRITE SECTOR(S)	WrSec	WDSK WSEC	WS	30h
WRITE SECTOR(S) WITHOUT RETRIES	WrDMAN	WDMAN		30h
WRITE LONG	WrLong	WTLG	WL	32h
WRITE LONG WITHOUT RETRIES	WrLongN	WTLGN	WLN	33h
WRITE SECTOR(S) EXT	WrSecEx	WDSE	WSEX	34h
WRITE DMA EXT	WrDMAEx	WDMX		35h
WRITE DMA QUEUED EXT	WrDMAQEx	WDQX		36h
SET MAX ADDRESS EXT	SetMaxEx	SAME		37h
CFA WRITE SECTOR(S) WITHOUT ERASE	CfaWrSec	CFWS		38h
WRITE MULTIPLE EXT	WrMulEx	WDME	WMEX	39h
WRITE STREAM DMA EXT	WrStrDMA	WSTD		3Ah
WRITE STREAM EXT	WrStrPIO	WSTP		3Bh
CFA WRITE VERIFY	CfaWrVerify	CFWV		3Ch
WRITE VERIFY	WrVerify	WV		3Ch
WRITE DMA FUA EXT	WrDMAFuaEx			3Dh
WRITE DMA QUEUE FUA EXT	WrDMAQFuaEx			3Eh
WRITE LOG EXT	WrLogEx	WDFE		3Fh
READ VERIFY SECTOR(S)	RdVfy	RVFY	RV	40h
READ VERIFY SECTOR(S) WITHOUT RETRIES	RdVfyN	RVFYN	RVN	41h
READ VERIFY SECTOR(S) EXT	RdVfyEx	RVFE		42h
WRITE UNCORRECTABLE EXT		WUNCX	WUNCX	45h
WRITE UNCORRECTABLE EXT_FL		WUNCX_ FL		45h
WRITE UNCORRECTABLE EXT_FNL		WUNCX_ FNL		45h
WRITE UNCORRECTABLE EXT_PL		WUNCX_ PL		45h
WRITE UNCORRECTABLE EXT_PNL		WUNCX_ PNL		45h
READ LOG DMA EXT	RdLogEx_DMA	RLEX_DMA		47h
CFA FORMAT SECTORS	CfafmtTrk	CFFT		50h
CONFIGURE STREAM	CfgStr	CFST		51h
WRITE LOG DMA EXT	WrLogEx_DMA	WRLE_DMA		57h
TRUSTED NONDAT RECEIVE	TCG_Receive_ NData	TCG_RCV_ NDATA		5Bh
TRUSTED NONDAT SEND	TCG_Send_NData			5Bh
TRUSTED RECEIVE	TCG_Receive	TCG_RCV		5Ch
TRUSTED RECEIVE DMA	TCG_Receive_DMA	TCG_RCV_ DMA		5Dh
TRUSTED SEND	TDG_Send			5Eh
TRUSTED SEND DMA	TDG_Send_DMA			5Fh
READ FPDMA QUEUED	RDMA_NCQ	RFPDMAQ		60h
WRITE FPDMA QUEUED	WDMA_NCQ	WFPDMAQ		61h

<b>ATA Command</b>	<b>Instruction</b>			<b>OP</b>
NCQ ABORT	NCQ_Abort			63h
NCQ ABORT ALL	NCQ_Abort_All			63h
NCQ ABORT NSTRM	NCQ_Abort_NStrm			63h
NCQ ABORT SEL	NCQ_Abort_SEL			63h
NCQ ABORT STRM	NCQ_Abort_Strm			63h
NCQ DEADLINE	NCQ_Deadline			63h
NCQ QUEUE MANAGEMENT	NCQ_QMgmt			63h
NCQ DATA SET MANAGEMENT	NCQ_DSM			64h
RECEIVE FPDMA QUEUED	NCQ_Receive	NCQ_RCV		65h
SEND FPDMA QUEUED	NCQ_Send			65h
SEEK		SEEK		70h
CFA TRANSLATE SECTOR	CfaTransSec	CFTS		87h
EXECUTE DEVICE DIAGNOSTIC	Diagnose	DIAG	DIAG	90h
INITIALIZE DEVICE PARAMETERS	InitDevPara	SETP		91h
DOWNLOAD	Download	DNLD		92h 93h
DOWNLOAD MICROCODE	DnldMCode DnldMCode_DMA			92h 93h
IDENTIFY PACKET DEVICE	IdfyPktDev	IDPD		A1h
SERVICE	Service	SRVC		A2h
SMART DISABLE OPERATIONS	SmDisable	SDSO	SMDI	B0h
SMART ENABLE OPERATION	SmEnable	SESO	SMEN	B0h
SMART ENABLE/DISABLE AUTOSAVE	SmAutoSv	SAAS	SMAS	B0h
SMART ENABLE/DISABLE AUTO OFFLINE	SmAutoOffline	SAOL		B0h
SMART EXECUTE OFFLINE IMMEDIATE	ExeSmOI	SEOI	SMOI	B0h
SMART READ ATTRIBUTE THRESHOLDS	SmRdAtbThd	SRAT		B0h
SMART READ DATA	SmRdData	SMRD		B0h
SMART READ LOG	SmRdLog	SRLS	SMRL	B0h
SMART READ LOG COMPREHENSIVE	SmRdLogComp	SMRC		B0h
SMART READ LOG DEVICE STATISTICS	SmRdLogDevSt	SMRDEVST		B0h
SMART READ LOG DIRECTORY	SmRdLogDir	SMLD		B0h
SMART READ LOG LOGICAL PHYSICAL SECTOR	SmRdLogLPS	SMRLPS		B0h
SMART READ LOG SECTOR IDENTIFY DEVICE	SmRdLogIDFY	SMRIDFY		B0h
SMART READ LOG SECTOR SELECTIVE SELF TEST	SmRdLogSelect	SMRSEL		B0h
SMART READ LOG SELF TEST	SmRdLogSelfTest	SMRT		B0h
SMART READ LOG SUMMARY	SmRdLogSum	SMRS		B0h
SMART RETURN STATUS	SmStatus	SRSS		B0h
SMART SAVE ATTRIBUTE VALUES	SmSvAtb	SSAV		B0h
SMART WRITE LOG	SmWrLog	SWLS	SMWL	B0h
DEVICE CONFIGURATION FREEZE LOCK	DevCfgFrzLock	DCOF	DCFL	B1h
DEVICE CONFIGURATION IDENTIFY	DevCgfIdfy DevCgfIdfy_DMA	DCOI DCOI_DMA	DCFI DCFI_DMA	B1h
DEVICE CONFIGURATION RESTORE	DevCfgRestore	DCOR	DEFR	B1h
DEVICE CONFIGURATION SET	DevCfgSet DevCfgSet_DMA	DCOS DCOS_DMA	DCFS DCFS_DMA	B1h
SANITIZE DEVICE -BLOCK ERASE EXT	SNTZ_Erase			B4h
SANITIZE DEVICE - CRYPTO SCRAMBLE EXT	SNTZ_Crypto			B4h
SANITIZE DEVICE - FREEZE LOCK EXT	SNTZ_FrzLock			B4h
SANITIZE DEVICE - OVERWRITE EXT	SNTZ_OVWR			B4h
SANITIZE DEVICE - STATUS EXT	SNTZ_Status			B4h
ADD LAB(S) TO NV CACHE PINNED SET	AddPinSet			B6h
FLUSH NV CACHE	FlushNV			B6h

<b>ATA Command</b>	<b>Instruction</b>			<b>OP</b>
QUERY NV CACHE MISSES	QueryMiss			B6h
QUERY NV CACHE PINNED SET	QueryPinSet			B6h
REMOVE LAB(S) FROM NV CACHE PINNED SET	RmvPinSet			B6h
RETURN NV CACHE POWER MODE	RtnPwrMode			B6h
SET NV CACHE POWER MODE	SetPwrMode			B6h
CFA KEY MANAGEMENT CHANGE KEY MANAGEMENT VALUE	CfaKeyChange	CFKC		B9h
CFA KEY MANAGEMENT READ KEYING MATERIAL	CfaRdKey	CFRK		B9h
CFA KEY MANAGEMENT STRUCTURE READ	CfaStdRead	CFSR		B9h
CFA ERASE SECTORS	CfaEraseSec	CFES		C0h
READ MULTIPLE	RdMul	RMUL		C4h
WRITE MULTIPLE	WrMul	WMUL		C5h
SET MULTIPLE MODE	SetMul	SMUL		C6h
READ DMA QUEUED	RdDMAQ	RDMQ		C7h
READ DMA	RdDMA	RDMA		C8h
READ DMA WITHOUT RETRIES	RdDMAN	RDMAN		C9h
WRITE DMA	WrDMA	WDMA		CAh
WRITE DMA WITHOUT RETRIES	WrDMAN	WDMAN		CBh
WRITE DMA QUEUED	WrDMAQ	WDMQ		CCh
CFA WRITE MULTIPLE WITHOUT ERASE	CfaWrMul	CFWM		CDh
WRITE MULTIPLE FUA EXT	WrMulFuaEx	WMFE		CEh
CHECK MEDIA CARD TYPE	ChkMedType	CHMT		D1h
GET MEDIA STATUS	GetMedStatus	GTMS		DAh
MEDIA LOCK	MedLock	LOCK		DEh
MEDIA UNLOCK	MedUnlock	UNLK		DFh
STANDBY IMMEDIATE	StandbyIm	STBI		E0h
IDLE IMMEDIATE	IdleIm	IDLI		E1h
IDLE IMMEDIATE WITH UNLOAD	IdleIm_Unload	IDLI_UL		E1h
STANDBY	Standby	STBY		E2h
IDLE		IDLE		E3h
READ BUFFER	RdBuf	RBUF		E4h
CHECK POWER MODE	ChkPwrMode	CKPW	CHPW	E5h
SLEEP	Sleep	SLEP		E6h
FLUSH CACHE	FlushCache	FLSH		E7h
WRITE BUFFER	WrBuf	WBUF		E8h
READ BUFFER DMA	RdBuf_DMA	RBUF_DMA		E9h
FLUSH CACHE EXT	FlushCacheEx	FLSE	FLEX	EAh
WRITE BUFFER DMA	WrBuf_DMA	WBUF_DMA		EBh
IDENTIFY DEVICE	Identify	IDFY		ECh
MEDIA EJECT	MedEject	EJCT		EDh
SET FEATURES	SetFeature	SETF		EFh
SECURITY SET PASSWORD	SecuSetPsw	SESP		F1h
SECURITY UNLOCK	SecuUnlock	SEUL		F2h
SECURITY ERASE PREPARE	SecuErasePrep	SERP		F3h
SECURITY ERASE UNIT	SecuEraseUnit	SEEU		F4h
CFA WEAR LEVEL	CfaWearLevel	CFWL		F5h
SECURITY FREEZE LOCK	SecuFrzLock	SFZL		F5h
SECURITY DISABLE PASSWORD	SecuDisPsw	SEDP		F6h
READ NATIVE MAX ADDRESS	RdNativeMax	RNMA		F8h
SET MAX ADDRESS	SetMaxAddr	SMXA	SMAX	F9h
SET MAX FREEZE LOCK	SetMaxFrzLock	SMFL		F9h
SET MAX LOCK	SetMaxLock	SMLK		F9h

<b>ATA Command</b>	<b>Instruction</b>			<b>OP</b>
SET MAX SET PASSWORD	SetMaxSetPswd SetMaxSetPswd_DMA	SMAP SMSP_DMA		F9h
SET MAX UNLOCK	SetMaxUnlock SetMaxUnlock_DMA	SMUN SMUN_DMA		F9h