

## USING 386MAX

386MAX is a memory manager utility that helps maximize the amount of memory that is available for your programs to use. Only the DOS command line version of this utility is available from Datalight. The driver is offered by Datalight as a replacement memory manager for those systems where the Datalight EMM386 driver does not provide all of the necessary memory management services.

This driver replaces the use of both the DOS HIMEM.SYS and EMM386.EXE drivers. You can still load HIMEM.SYS on your system without error, but it is not needed.

386MAX supports LIM/EMS 4.0 (Lotus Intel Microsoft Expanded Memory Specification ), XMS 2.0 (Extended Memory Standard ) , DPMI .9 and 1.0 (DOS Protected Mode Interface), and VDS 1.0 (Virtual DMA Services). The hardware system requirements include a 386, 486, or Pentium class CPU and a minimum of 512KB of extended memory .

386MAX, by default, will use 1Kb of low DOS memory and 3.5Kb of high DOS memory when loaded. The remainder of the 386MAX memory usage will be from extended memory. You can force 386MAX to not use the high DOS memory by using the NOLOADHI argument defined below. This option will move the 3.5Kb of high memory usage back to the low DOS memory. The original low DOS memory usage and the extended memory usage will remain the same.

The 386MAX memory manager is loaded from the CONFIG.SYS file as a device driver. For example:

```
Device=c:\386max\386max.sys pro=c:\386max\386max.pro
```

The “pro=” argument indicates the location of the configuration file, “386max.pro”. This file contains the loading parameters and restrictions that you designate for 386Max to use as it installs itself into your system. An example configuration file is:

```
RAM=D000-E000 ; MAXIMIZE ==> Protect RAM on adapters
NOWIN3 ; INSTALL ==> Do not install Windows 3 support code
USE=B000-B800 ; INSTALL ==> Recover RAM in MDA region
EXCLUDE=DC00-E000 ;
EXCLUDE=C800-CC00 ;
SWAPFILE=d:\386MAX\386MAX.swp /S=8192 ; INSTALL ==> Create an 8192 KB temporary
DPMI swap file
EMS=0 ; SETUP ==> Disable EMS services
```

## CONFIGURATION OPTIONS

All possible options for 386MAX.PRO are:

<b>32bitdma</b>	System supports 32-bit EISA style DMA
<b>amrs=nnn</b>	Define nnn additional Alternate Map Register Sets
<b>Auto</b>	Inactive state
<b>cache size=nnn</b>	Specify external cache size in K (default:256)
<b>Cga</b>	Equivalent to VIDMEM=B800-C000
<b>dma=nnn</b>	Set size of DMA transfer buffer to nnn KB
<b>dos4</b>	Use PC-DOS 4.00 compatible EMS page numbering
<b>dos5</b>	Use DOS 5 compatible MAC spanning entry
<b>dpmimem=lll,sss,bbb,ccc,hhh,ppp,ddd ;</b>	Set DPMI memory options: <div><div></div><div>Min Def</div></div> <div>lll = # LDT entries32 616</div> <div>sss = byte size of the HPDA stack512 1024</div>

	bbb = byte size of the HPDA buffer	512 4096
	ccc = # VM callbacks	16 32
	hhh = # DPMI memory handles	1 32
	ppp = # page directories	1 1
	ddd = byte size of the dynamic save area	1024 2048
<b>ega</b>	Equivalent to VIDMEM=A000-C000	
<b>emm=nnnnn</b>	Synonym for EMS=	
<b>ems=nnnnn</b>	Reserve exactly nnnn KB of EMS memory	
<b>ems30</b>	Include support for EMS 3.0 functions 10 and 11	
<b>exclude=xxxx-yyy</b>	Exclude these as EMS-mappable pages	
<b>ext=nnnnn</b>	Reserve at least nnnn KB of extended memory	
<b>extsize=nnnnn</b>	Set nnnn KB as the amount of extended memory in the system	
<b>fastram</b>	Recover AST fASTram memory	
<b>forcea20</b>	Trap I/O ports 60h and 64h in IO bit permission map	
<b>frame=xxxx</b>	Put EMS page frame at segment xxxx	
<b>highdos</b>	Allow high DOS memory (ILIM386 only w/ILIMLOAD)	
<b>hmamin=nn</b>	Require HMA users to request at least nn KB	
<b>hpdareg=nnnnn,r</b>	Put DPMI HPDA in high DOS region r. If size n doesn't match, force it low.	
<b>Ignoreflexframe</b>	Tell 386LOAD to ignore the FLEXFRAME option	
<b>include=nnn</b>	Define up to an additional nnn KB of EMS-mappable pages	
<b>include=xxxx-yyy</b>	Define additional EMS-mappable pages	
<b>iop=nnnn</b>	Default is F080	
<b>iowrap</b>	Trap wrapped I/O addresses on ISA systems	
<b>istacks=nn</b>	Define additional nn x 256 bytes of internal stack space	
<b>lmltop=xxxxxxxx</b>	Load program in extended memory ending at xxxxxxxx in hex	
<b>load=d:\path\filename.ext [args]</b>	Load API-compatible file	
<b>Lowframe</b>	Allow low DOS memory EMS page frame (HPEMM386 only)	
<b>mce</b>	Enable Machine Check Exception checking (default=disabled)	
<b>mono</b>	Equivalent to VIDMEM=B000-B800	
<b>no4b</b>	Don't allow programs to load high using DOS function 4B	
<b>no58</b>	Don't emulate DOS=UMB support of DOS function 58	
<b>noabios</b>	Ignore BIOS initialization error	
<b>nocache</b>	Don't disable 486 cache in TIME_ALLMEM	
<b>Nocomprom</b>	Don't compress system ROM	
<b>nocrr</b>	Don't set Cache Disable bit on ROM Residues	
<b>nodma</b>	EMS=0 SWAP=0 NOLOW NOHIGH NOROM NOWARMBOOT	
<b>nodpmi</b>	Disable DPMI services	
<b>Noeisadma</b>	Do not utilize EISA DMA characteristics	
<b>noflex</b>	Synonym for IGNOREFLEXFRAME	
<b>noframe</b>	Omit EMS page frame, but install with EMS 4.0 services	
<b>nogate</b>	Don't use WBINVD, as on Gateway systems	
<b>nohigh</b>	Don't define high DOS memory	
<b>nohma</b>	Don't define HMA (HPEMM386 only)	
<b>Noiowrap</b>	All 16 bits of an I/O address are significant	
<b>noloadhi</b>	Don't load 386MAX.SYS into high DOS memory	
<b>Noloadhigh</b>	Synonym for NOLOADHI	
<b>nolow</b>	Don't define low DOS memory	
<b>noparity</b>	Don't enable parity check	
<b>Nopnp</b>	Don't redirect PnP requests to PM	
<b>Nopulse</b>	Don't pulse 8042 after gating/de-gating A20	
<b>Norom</b>	Don't cache ROMs	
<b>Noscan=xxxx-yyy</b>	Don't scan (in 386UTIL /R) this region	
<b>Noscrub</b>	Don't scrub shadow RAM	

<b>Noscsi</b>	Don't check for SCSI bus masters
<b>notime</b>	Skip TIME_ALLMEM and load MAX in highest extended memory
<b>Novgasig</b>	Don't copy video signature region when using VGASWAP
<b>novme</b>	Don't enable Virtual Mode Extensions
<b>nowarmboot</b>	Don't steal 4KB of ROM at FF00-10000
<b>nowin3</b>	Disable support for Windows 3 and save up to 1KB of low DOS
<b>nowin30</b>	Disable support for Windows 3.0 (Support 3.1 and above)
<b>Noxbios</b>	Don't relocate XBIOS data area
<b>noxram</b>	No extra (shadow/TOP384) RAM
<b>Numhandles=nn</b>	Synonym for XMSHNDL (HPEMM386 only)
<b>Off</b>	Disabled state
<b>on</b>	Enabled (default) state
<b>prgreg=n</b>	Load 386MAX.SYS into program region n (1-9)
<b>pro=d:\path\filename.ext</b>	Take keywords from profile (CONFIG.SYS line only)
<b>prof=d:\path\filename.ext</b>	Synonym for PRO=
<b>psmem=nnn[,ssss]</b>	Define nnn KB of periscope memory in a 32KB window optionally at segment ssss
<b>ram=xxxx-yyyy</b>	Avoid using as high DOS memory
<b>reboot</b>	Synonym for FORCEA20 (HPEMM386 and ILIM386 only)
<b>Resetkeyb</b>	Reset 8042 whenever going inactive
<b>rom=xxxx-yyyy</b>	Cache this ROM only
<b>screen</b>	To support Omniview
<b>Shadowram</b>	AT/386 or NEAT CHIPSet
<b>Shadowrom</b>	Leave alone any ROM shadowed at E000 or E800
<b>Shortframe</b>	Synonym for NOFRAME
<b>Slowdma</b>	Trap DMA count and address registers
<b>Slowkeyb</b>	Disable/enable keyboard during INT 09h handler
<b>stackreg=nnnnn,r</b>	Load SOP data in high DOS region r (0 to load low). If size n doesn't match, force it low.
<b>stacks=nn[,sss] [/h] [/i=ii[,ii,...]]</b>	Define nn DOS stacks with optional args sss each of size sss (default size=128) /h locate in high DOS (superseded by STACKREG=) /i=ii[,ii,...] restrict intercepted interrupts to ii,... The values nn and sss are in decimal, ii is in hex.
<b>stacks=off</b>	Disable stacks at startup (disabled by default)
<b>stacks=on</b>	Enable stacks at startup (disabled by default)
<b>swap=nnn</b>	Swap nnn KB of low DOS memory with 32-bit memory at 1MB
<b>swapfile</b> [=d:\path\filename.ext] [/s=nnnn] [/t]	Use a swapfile for DPMI VMM Optional arguments: d:\path\filename.ext Use this as permanent swapfile /t On second thought, it's temporary /s=nnnn Make it nnnn KB in size (default = 8192) If no filename is specified, the SWAPFILE is temporary, otherwise, it's permanent unless /T is specified.
<b>sys=systype</b>	Note special system type
<b>syst=systype</b>	Synonym for SYS=
<b>terse</b>	Suppress display of blue screen map during initialization
<b>top384</b>	COMPAQ 16MB-384KB compatible
<b>trace</b>	Conditional-assembly option for I/O trace
<b>Unshadowrom</b>	Relocate video ROM from E000 or E800 back to C000
<b>unshift</b>	Don't trap IO ports 60h and 64h (default)
<b>use=xxxx-yyyy</b>	Use as high DOS memory
<b>vga</b>	Equivalent to VIDMEM=A000-C000
<b>vgaswap</b>	Move the 32K VGA ROM to B000
<b>vgaswap=xx,yy,zz</b>	Move the VGA ROM at para xx to para yy for zz bytes

<b>vidmem=xxxx-yyyy</b>	Specify bounds of video memory
<b>vxd=d:\path\filename.ext</b>	Load alternate 386MAX.VXD for Windows 3
<b>w=off</b>	Disable Weitek co-processor (HPEMM386 only)
<b>w=on</b>	Enable ...
<b>weitek=force</b>	Force recognition of Weitek co-processor
<b>weitek=off</b>	Disable Weitek co-processor
<b>weitek=on</b>	Enable ...
<b>xbdareg=nnnnn,r</b>	Relocate XBIOS into high DOS region r (0 to load low) If size n doesn't match, force it low.
<b>xbioshi</b>	Attempt XBIOS relocation into high DOS memory (superseded by xbdareg=)
<b>xmshndl=nn</b>	Reserve nn XMS handles (default=32)