

HDOS 2.0 System Y2K Date Patch

The following patches when entered fix a Y2K bug in HDOS ver 2.0 to allow any year between 00 and 99 to be input at the "Date (DD-MMM-YY)?" prompt.

15-AUG-11 Revision -- adding patches for version strings, and to support systems with SYSMOD2 or SUPERSM2 enhancements.

(Submitted by Stanley K. Webb)

Date routines in HDOS.SYS, SYSCMD.SYS, PIP.ABS, and ONECOPY.ABS are patched to accommodate a slight change in date format.

The patches remove the 70 year bias from the old encoding. Years now occupy the topmost 7 bits of the encoded date word (instead of the published specification of a 0 sign bit followed by 6 bits encoding the year minus 70). The new encoding has no added bias. Years simply roll over to '00 at the century mark.

This means that January 1, 2000 can be entered as 1-Jan-00, and accepted by HDOS. January 1, 2100 would be entered exactly same, and so on.

Dates encoded in the old format will be off by 70 years under the new system. Any program that encodes or decodes dates using the old method will be off as well.

This is the new date encoding:

15-----9	8-----5	4-----0
7-bits	4-bits	5-bits

Year '00-'99 Mo 1-12 Day 1-31		

The encoded word is always decoded by HDOS as DD-MON-YY.

These patches are valid for 3 specific versions of HDOS:

1. HDOS Version: 2.0, (the original)
2. HDOS Version: 2.0 (.20) - Modified by Jim Teixeira, Feb 1981
the original enhanced by SYSMOD2.ABS)
3. HDOS Version: 2.0 - with SUPER SYSMOD2 (2.2)
(the original enhanced by SUPERSM2.ABS)

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Let us begin then by assuming the system prompt is “=>” for greater visibility in the PATCH sessions given below:

STEP (1): Modifying the PATCH command

First, you need a modified version the PATCH.ABS program supplied with HDOS that doesn't ask for a Patch ID, Prerequisite Code, and Patch Check Code when modifying a system file. If you have already obtained a modified PATCH.ABS, you can use it to make the patches in STEP (2).

Let's call our new version SPATCH.ABS short for SuperPATCH.

On your HDOS system, make a new copy of PATCH.ABS by typing:
=>COPY SPATCH.ABS=PATCH.ABS

Now modify SPATCH.ABS using itself.

Make sure the old data (the octal numbers before the slash) are as shown before you make the patch.

The patch is not made until you type control-D at the Address? prompt.

You can always type control-C to abort the patch and then control-D to exit PATCH. The PATCH program assumes SY0: and .ABS to be the default device and file extension if they are not given at the File Name? prompt.

```
=>SPATCH
PATCH Issue #50.06.00.
File Name? SPATCH
Patch ID? IFOJIC
Prerequisite Code? IFBEIADPGEFFCF
Address? 42231
042231 = 312/303
042232 = 244/^D          (control-D)
Address? 42263
042263 = 247/257
042264 = 304/^D
Address? 44055
044055 = 076/303
044056 = 000/354
044057 = 377/047
044060 = 046/^D
Address? ^D
Patch Check Code? DLMIAGPD
PATCH Issue #50.06.00.
File Name? ^D
```

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STEP (2): Modifying HDOS 2.0 system files

```
=>SPATCH                                (the name of your modified PATCH.ABS program)
PATCH Issue #50.06.00.
File Name? HDOS.SYS
Address? 12074
012074 = 106/000
012075 = 332/                                Just press RETURN key to keep same code byte
012076 = 044/
012077 = 063/
012100 = 376/
012101 = 077/144
012102 = 322/^D                                (control-D)
Address? 12276
012276 = 106/000
012277 = 376/^D
Address? 2231                                Change "Version " to "Y2K Ver "
002231 = 126/131
002232 = 145/062
002233 = 162/113
002234 = 163/040
002235 = 151/126
002236 = 157/145
002237 = 156/162
002240 = 040/^D
Address? ^D
PATCH Issue #50.06.00.

File Name? ONECOPY
Address? 60263
060263 = 106/000
060264 = 376/^D
Address? 52156                                Change "Version: " to "Y2K Vers. "
052156 = 126/131
052157 = 145/062
052160 = 162/113
052161 = 163/040
052162 = 151/126
052163 = 157/145
052164 = 156/162
052165 = 072/056
052166 = 040/^D
Address? ^D
PATCH Issue #50.06.00.
File Name? ^D
=>                                Back to system prompt
```

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Step (3): Third Party HDOS 2.0 Enhancement programs

Programs that enhance HDOS may replace PIP.ABS and SYSCMD.SYS with custom versions.

Now is the time to run your HDOS 2.0 enhancement program if needed.

If the current system is already enhanced or is standard HDOS just continue.

Step (4): Patch PIP.ABS:

```
=>SPATCH                                (the name of your modified PATCH.ABS program)
PATCH Issue #50.06.00.
File Name? PIP
Address? 60164
060164 = 106/000
060165 = 376/^D
Address? 51067                          Change "Version: " to "Y2K Vers. "
051067 = 126/131
051070 = 145/062
051071 = 162/113
051072 = 163/040
051073 = 151/126
051074 = 157/145
051075 = 156/162
051076 = 072/056
051077 = 040/^D
Address? ^D
PATCH Issue #50.06.00.
File Name? ^D
=>                                     Back to system prompt
```

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Step (5) Patching SYSCMD.SYS

At your HDOS system prompt, perform the VER command by typing:

=>VER

If the VER command produces:

HDOS Version: 2.0

you have the standard HDOS installed and the appropriate patch is:

=>SPATCH (the name of your modified PATCH.ABS program)

PATCH Issue #50.06.00.

File Name? SYSCMD.SYS (Standard HDOS 2.0)

Address? 51365

051365 = 106/000

051366 = 332/ Just press RETURN key to keep same code byte

051367 = 335/

051370 = 051/

051371 = 376/

051372 = 077/144

051373 = 322/^D (control+d)

Address? 52254

052254 = 106/000

052255 = 376/^D

Address? 46254 Change "Version: " to "Y2K Vers. "

046254 = 126/131

046255 = 145/062

046256 = 162/113

046257 = 163/040

046260 = 151/126

046261 = 157/145

046262 = 156/162

046263 = 072/056

046264 = 040/^D

Address? ^D

PATCH Issue #50.06.00.

File Name? ^D quit SPATCH

=> back to the system prompt

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If the VER command output is:

HDOS Version: 2.0 (.20) - Modified by Jim Teixeira, Feb 1981

the SYSMOD2.ABS version of SYSCMD.SYS is installed, and the appropriate patch is to SYSCMD.SYS is:

=>SPATCH	(the name of your modified PATCH.ABS program)
PATCH Issue #50.06.00.	
File Name? SYSCMD.SYS	(SYSMOD2.ABS enhanced version)
Address? 103066	
103066 = 326/	Just press RETURN key to keep same code byte
103067 = 106/000	
103070 = 332/	
103071 = 037/	
103072 = 103/	
103073 = 376/	
103074 = 077/144	
103075 = 322/^D	(control+d)
Address? 103355	
103355 = 306/	
103356 = 106/000	
103357 = 376/^D	
Address? 77321	Change "Version: " to "Y2K Vers. "
077321 = 126/131	
077322 = 145/062	
077323 = 162/113	
077324 = 163/040	
077325 = 151/126	
077326 = 157/145	
077327 = 156/162	
077330 = 072/056	
077331 = 040/^D	
Address? ^D	
PATCH Issue #50.06.00.	
File Name? ^D	quit SPATCH
=>	back to the system prompt

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If the VER command output is:

HDOS Version: 2.0 - with SUPER SYSMOD2 (2.2)

the SUPERSM2.ABS version of SYSCMD.SYS is installed and the appropriate patch to SYSCMD.SYS is:

```
=>SPATCH                                (the name of your modified PATCH.ABS program)
PATCH Issue #50.06.00.
File Name? SYSCMD.SYS                  (SUPERSM2.ABS enhanced version)
Address? 101142
101142 = 326/
101143 = 106/000
101144 = 332/                          Just press RETURN key
101145 = 113/
101146 = 101/
101147 = 376/
101150 = 077/144
101151 = 322/^D                        (control-D)
Address? 76036                         Change "Version: " to "Y2K Vers. "
076036 = 126/131
076037 = 145/062
076040 = 162/113
076041 = 163/040
076042 = 151/126
076043 = 157/145
076044 = 156/162
076045 = 072/056
076046 = 040/^D
Address? ^D
PATCH Issue #50.06.00.
File Name? ^D                          quit SPATCH
=>                                     back to the system prompt
```

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STEP (6): Reboot and set the system date. Newly created files will have the correct date.

Be sure to boot from a System Disk with these Y2K patches applied.

When using SYSGEN use the patched version of HDOS as your source disk to make sure these patches are propagated to all your new system disks.

NOTES:

HDOS Y2K Ver. 2.0 can read and write the original HDOS floppy disks without a problem, so any desired file can be transferred and used unchanged.

The old HDOS Version: 2.0 systems when booted can read and write to HDOS Y2K Ver. 2.0 disks.

One known glitch exists under original HDOS: "impossible" dates (Those where dd-mon-'yy+70 is 100 or more) will list as DD-MON- with no year showing (actually YY is two NUL bytes. Due to tabbing issues file flags will out of line) date will be off 70 years due to the added bias of 70 added to the 'YY field.

DISCLAIMER:

Please be sure you have a back-up SYSTEM DISK.

I have tested this patch and encountered no significant problems

with it but you must use these patches at your own risk.