

HDOS 2.0 Y2K Patch: to fix a Y2K bug in HDOS Version: 2.0
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15-AUG-11 Revision adding patch to version strings, and to support systems with SYSMOD2 or SUPERSM2 enhancements.

The following patches modify HDOS so any date from 01-JAN-00 to 31-DEC-99 will be accepted at the system date prompt.

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:
HDOS Version: 2.0
(the original)

HDOS Version: 2.0 (.20) - Modified by Jim Teixeira, Feb 1981
(the original enhanced by SYSMOD2.ABS)

And,
HDOS Version: 2.0 - with SUPER SYSMOD2 (2.2)
(the original enhanced by SUPERSM2.ABS)

Let us assume 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.

=>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

=> Back to system prompt

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/

012076 = 044/

012077 = 063/

012100 = 376/

012101 = 077/144

012102 = 322/^D

Address? 12276

012276 = 106/000

012277 = 376/^D

Address? 2231

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

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

=>

Just press RETURN key to keep same code byte

(control+d)

Change "Version " to "Y2K Ver "

Change "Version: " to "Y2K Vers. "

Back to system prompt

Step (3):

Two HDOS 2.0 Enhancement programs are supported.

SYSMOD2.ABS which replaces SYSCMD.SYS with a custom version, and
SUPERSM2.ABS which replaces both SYSCMD.SYS and PIP.ABS with custom versions.

If you want standard HDOS Y2K Ver. 2.0 or
If you have already run either enhancement program go to step(4)

Otherwise now is the time to run your HDOS 2.0 enhancement program, either
SYSMOD2.ABS or SUPERSM2.ABS.

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

Step (5) Patching SYSCMD.SYS

If the VER command output is:

=>VER

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

If the VER command output is:

=>VER

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

You have the SYSMOD2.ABS version of SYSCMD.SYS is installed, and the appropriate patch 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          control+d quit SPATCH
=>                    back to the system prompt

```

If the VER command output is:

```

=>VER
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
=> back to the system prompt

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.

A directory listing 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 (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.