HDOS Y2K Date Patches

by Stanley K. Webb ***11-Sep-11***

HDOS 2.0 System Y2K Date Patch

This set of patches modify HDOS 2.0 so any date from 01-JAN-00 to 31-DEC-99 will be accepted at the system date prompt.

HDOS 3.02 System Y2K Date Patch

This set of patches modify HDOS 3.02 so any date from 01-JAN-00 to 31-DEC-99 will be accepted at the system date prompt.

HDOS Y2K Patch for SYSMOD2.ABS

SYSMOD2.ABS is the SYSMOD2 HDOS enhancement program by Jim TeIxiera.

This patch modifies the SYSMOD2.ABS binary file so that when this HDOS enhancement program is run, the custom version of SYSCMD.SYS it installs will be already patched for compatibility with HDOS Y2K version dates.

HDOS Y2K Patch for SUPERSM2.ABS

SUPERSMD2.ABS is the SUPER SYSMOD2 HDOS enhancement program by Jim TeIxiera.

This patch modifies the SUPERSM2.ABS binary file so that when this HDOS enhancement program is run, the custom versions of PIP.ABS and SYSCMD.SYS it installs will be already patched for compatibility with HDOS Y2K version dates.

HDOS Y2K Patch for CLIST.ABS

CLIST.ABS is a stand alone HDOS diskette cataloging program by Richard Rudell.

This patched version of CLIST.ABS will correctly display HDOS Y2K version dates in its file listings.

HDOS 2.0 System Y2K Date Patch: to fix a Y2K bug in HDOS Version: 2.0

by Stanley K. Webb
Dated 11-Sep-11

15-Aug-11 Revision added patch to version strings, and to support systems with SYSMOD2 or SUPERSM2 enhancements.

The following patches modify HDOS 2.0 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-'9   Mon 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 Teixiera, Feb 1981
(the original enhanced by SYSMD2.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, Prequisite 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): Patch HDOS.SYS and ONECOPY.ABS files

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

PATCH Issue #50.06.00.

File Name? HDOS.SYS

Address? 12074
012074 = 106/000            remove 70 year bias
012075 = 332/               Just press RETURN key to keep same code byte
012076 = 044/
012077 = 063/
012100 = 376/
012101 = 077/144            100 is too many years
012102 = 322/^D             (control+d)
Address? 12276
012276 = 106/000            remove 70 year bias
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             (control+d)
Address? ^D
PATCH Issue #50.06.00.

File Name? ONECOPY

Address? 60263
060263 = 106/000            remove 70 year bias
060264 = 376/^D             control+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             control+d
Address? ^D                 control+d
PATCH Issue #50.06.00.

File Name? ^D
=>                          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 SYSMDOD2.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            remove 70 year bias
060165 = 376/^D             control+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             control+d
Address? ^D                 control+d
PATCH Issue #50.06.00.

File Name? ^D
=>                          Back to system prompt
```

Step (5) Patch SYSCMD.SYS (select appropriate patch)

If the VER command output is:

```
=>VER
HDOS   Version: 2.0
```

you have 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            remove 70 year bias
051366 = 332/               Just press RETURN key to keep same code byte
051367 = 335/
051370 = 051/
051371 = 376/
051372 = 077/144            100 is too many years
051373 = 322/^D             control+d
Address? 52254
052254 = 106/000            remove 70 year bias
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 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             control+d
Address? ^D                 control+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)
```

You have the SUPERSM2.ABS version of SYSCMD.SYS 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/               Just press RETURN key to keep same code byte
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             control+d
Address? ^D                 control+d
PATCH Issue #50.06.00.

File Name? ^D               control+d
=>                          back to the system prompt
```

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

NOTES:
•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.

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

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. Due to tabbing issues file flags will out of line or date will be off 70 years due to the 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.

HDOS 3.02 System Y2K Date Patch: to fix a Y2K bug in HDOS Version: 3.02

by Stanley K. Webb
Dated 11-Sep-11

The following patches modify HDOS 3.02 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.

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 allow you to modify a write protected system file.

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

Address? 42231
042231 = 312/303
042232 = 244/^D             (control+d)
Address? 42263
042263 = 247/257
042264 = 304/^D             (control+d)
Address? 44055
044055 = 076/303
044056 = 000/354
044057 = 377/047
044060 = 046/^D             (control+d)
Address? ^D                 (control+d)
PATCH Issue #50.06.00.

File Name? ^D
=>                          Back to system prompt
```

STEP (2): Modifying HDOS 3.02 system files

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

PATCH Issue #50.06.00.

File Name? HDOS30.SYS

Address? 012345
012345 = 326/
012346 = 106/000            remove 70 year bias
012347 = 332/               Just press RETURN key to keep same code byte
012350 = 265/
012351 = 072/
012352 = 376/
012353 = 077/144            100 is too many years
012354 = 322/^D             (control+d)
Address? 013201
013201 = 306/
013202 = 106/000            remove 70 year bias
013203 = 376/^D             (control+d)
Address? 004364             Change "Version " to "Y2K Ver "
004364 = 126/131
004365 = 145/062
004366 = 162/113
004367 = 163/040
004370 = 151/126
004371 = 157/145
004372 = 156/162
```

```
004373 = 040/^D             (control+d)
Address? ^D                 (control+d)


PATCH Issue #50.06.00.

File Name? ONECOPY

Address? 062024
062024 = 306/
062025 = 106/000            remove 70 year bias
062026 = 376/^D
Address? 053167             Change "Version: " to "Y2K Vers. "
053167 = 126/131
053170 = 145/062
053171 = 162/113
053172 = 163/040
053173 = 151/126
052174 = 157/145
052175 = 156/162
052176 = 072/056
052177 = 040/^D             (control+d)
Address? ^D                 (control+d)
PATCH Issue #50.06.00.

File Name? PIP

Address? 151367
151367 = 326/
151370 = 106/000            remove 70 year bias
151371 = 332/
151372 = 307/
151373 = 151/
151374 = 376/
151375 = 077/144            100 is too many years
151376 = 322/^D             (control+d)
Address? 152223
152223 = 306/
152224 = 106/000            remove 70 year bias
152225 = 376/^D             (control+d)
Address? 140250             Change "Version: " to "Y2K Vers. "
140250 = 126/131
140251 = 145/062
140252 = 162/113
140253 = 163/040
140254 = 151/126
140255 = 157/145
140256 = 156/162
140257 = 072/056
140260 = 040/^D             (control+d)
Address? ^D                 (control+d)
PATCH Issue #50.06.00.
```

```
File Name? SYSCMD.SYS

Address? 104234
104234 = 326/
104235 = 106/000            remove 70 year bias
104236 = 332/               Just press RETURN key to keep same code byte
104237 = 154/
104240 = 104/
104241 = 376/
104242 = 077/144            100 is too many years
104243 = 322/^D             control+d
Address? 105163
105163 = 306/
105164 = 106/000            remove 70 year bias
105165 = 376/
105166 = 144/^D             (control+d)
Address? 056312             Change "Version: " to "Y2K Vers. "
056312 = 126/131
053613 = 145/062
056314 = 162/113
056315 = 163/040
056316 = 151/126
056317 = 157/145
056320 = 156/162
056321 = 072/056
056322 = 040/^D             (control+d)
Address? ^D                 (control+d)
PATCH Issue #50.06.00.

File Name? ^D               quit SPATCH
=>                          back to the system prompt
```

STEP (3): 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. 3.02 can read the original HDOS floppy disks without a problem, so any desired file can be transferred and used normally.

The old HDOS Version: 3.02 systems when booted can read and write to HDOS Y2K Ver. 3.02 disks.

One known glitch exists under original HDOS 3.0: "impossible" dates (Those where dd-mon-'yy+70 is 100 or more) will list as ??-???-??.

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.

HDOS Y2K Patch for SYSMOD2.ABS: to fix a Y2K bug in HDOS Version: 2.0

by Stanley K. Webb
Dated 11-Sep-11

This patch assumes your HDOS system has been patched to HDOS Y2K version.

The following patch modifies the SYSMOD2.ABS binary file so that when this HDOS enhancement program is run, the custom version of SYSCMD.SYS that it installs will be already patched for compatibility with HDOS Y2K version dates.

HDOS Y2K ver 2.0 allows any date from 01-JAN-00 to 31-DEC-99 to be accepted at the system date prompt.

Date routines in SYSCMD.SYS 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.

A word on using PATCH.ABS:

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.

Let us assume the system prompt is:

=>

for greater visibility in the PATCH session given below:

Step (1): Patching the SYSMOD2.ABS file

=>PATCH (invoke PATCH.ABS program)

```
PATCH Issue #50.06.00.
```

```
File Name? SYSMOD2.ABS      (the HDOS 2.0 enhancement program)

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             CTL+d to change address sequence
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             CTL+d to change address sequence
Address? 103355
103355 = 306/
103356 = 106/000
103357 = 376/^D
Address? ^D
PATCH Issue #50.06.00.

File Name? ^D               control+d quit SPATCH
=>                          back to the system prompt
```

You are finished. From now on this pre-patched version of SYSMOD2.ABS will produce an HDOS Y2K compatible version of SYSCMD.SYS when it is run.

NOTES:
HDOS Y2K Ver. 2.0 can read the original HDOS 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. Due to tabbing issues file flags will out of line or the date will be off 70 years due to the bias of 70 added to the 'YY field.

DISCLAIMER:
Please be sure you have a back-up disk.
I have tested this patch and encountered no significant problems with it but you must use these patches at your own risk.

HDOS Y2K Patch for SUPERSM2.ABS: to fix a Y2K bug in HDOS Version: 2.0

by Stanley K. Webb
Dated 11-Sep-11

This patch assumes your HDOS system has been patched to HDOS Y2K version.

The following patch modifies the SUPERSM2.ABS binary file so that when this HDOS enhancement program is run, the custom versions of PIP.ABS and SYSCMD.SYS that it installs will be already patched for compatibility with HDOS Y2K version dates.

HDOS Y2K ver 2.0 allows any date from 01-JAN-00 to 31-DEC-99 to be accepted at the system date prompt.

Date routines in SYSCMD.SYS and PIP.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.

A word on using PATCH.ABS:
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.

Let us assume the system prompt is:
=>
for greater visibility in the PATCH session given below:

Step (1): Patching the SUPERSM2.ABS command file

```
=>PATCH                 (invoke PATCH.ABS program)

PATCH Issue #50.06.00.

File Name? SUPERSM2.ABS

Address? 51077          Change "Version: " to "Y2K Vers. "
051077 = 126/131
051100 = 145/062
051101 = 162/113
```

```
051102 = 163/040
051103 = 151/126
051104 = 157/145
051105 = 156/162
051106 = 072/056
051107 = 040/^D           CTL+d to change address sequence
Address? 60173
060173 = 306/       just press return to leave byte unchanged
060174 = 106/000    change 106 byte to 000
060175 = 376/^D           CTL+d to change address sequence
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           CTL+d to change address sequence
Address? ^D
Address? 101142
101142 = 326/
101143 = 106/000
101144 = 332/
101145 = 113/
101146 = 101/
101147 = 376/
101150 = 077/144
101151 = 322/^D           CTL+d to commit changes
Address? ^D
PATCH Issue #50.06.00.

File Name? ^D             control+d quit SPATCH
=>              back to the system prompt
```

You are finished. From now on this pre-patched version of SUPERSMD2 will produce Y2K versions of SYSCMD.SYS and PIP.ABS when it is run.

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 or the date will be off 70 years due to the bias of 70 added to the 'YY field.

DISCLAIMER:
Please be sure you have a back-up disk.
I have tested this patch and encountered no significant problems with it but you must use these patches at your own risk.

HDOS Y2K Patch for CLIST.ABS: to fix a Y2K bug in HDOS Version: 2.0

By Stanley K. Webb
Dated 11-Sep-11

CLIST.ABS is a stand alone HDOS diskette cataloging program by Richard Rudell.
The patch described below converts:

CLIST Version #1.00.
to
CLIST Y2K Ver #1.00
which is compatible with the HDOS 2.0 System Y2K Date Patch.

HDOS Y2K ver 2.0 allows any date from 01-JAN-00 to 31-DEC-99 to be accepted at the system date prompt.

A date computation in CLIST.ABS is patched to accommodate a slight change in date format.

The patch removes 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.

A word on using PATCH.ABS:

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.

Let us assume the system prompt is:

=>

for greater visibility in the PATCH session given on the following page:

Step (1): Patching the CLIST.ABS file

```
=>PATCH                         (invoke PATCH.ABS program)


PATCH Issue #50.06.00.

File Name? CLIST.ABS            (the HDOS 2.0 cataloging program)

Address? 52124                  Change "Version " to "Y2K Vers "
052124 = 126/131
052125 = 145/062
052126 = 162/113
052127 = 163/040
052130 = 151/126
052131 = 157/145
052132 = 156/162
052133 = 040/^D                 CTL+d to change address sequence
Address? 51140
051140 = 306/                   Just press RETURN key to keep same code byte
051141 = 106/000
051142 = 117/^D                 CTL+d to change address
Address? ^D                     CTL+d here to commit changes
PATCH Issue #50.06.00.

File Name? ^D                   CTL+d quit SPATCH
=>                              back to the system prompt
```

You are finished. This patched version of CLIST.ABS will correctly display HDOS Y2K version dates in its file listings.

DISCLAIMER:
Please be sure you have a back-up disk.
I have tested this patch and encountered no problems with it but you must use these patches at your own risk.