

MZ80PAT.TXT

Purpose.: Patches for MZ-80K Applications

The Sharp applications do not work with the I/O interface and the Epson printer. This is because the printer driver sends a 05 and a 06 prior to every character, the send routine must return with C=0, otherwise no real character will print. That's why only 05s are seen on the printer with unpatched driver.
Also, a 07 and a 08 is sent after each character. This routine must return with CY=1, otherwise a printer alarm or paper empty is assumed, no further printing.

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#####

===== SP-2001 Machine Language

Supress printing 05 & 06, prevent error

Original code:

```
190A LD A,05
190C CALL 191B ; print 05
190F RET C ; error
1910 LD A,06
1912 CALL 191B ; print 06
1915 JR NC,1919 ; error
1917 XOR A ; ok, CY=0
1918 RET
1919 SCF ; error, CY=1
191A RET
```

Patch to apply:

```
190A-B916 NOPs
1917 AF XOR A ; make sure CY is 0
1918 RET
```

Supress printing 07 & 08, prevent error:

Original code:

```
195D LD A,07
195F CALL 191B ; print 07
1962 JR NC,196F ; error
1964 LD A,08
1966 CALL 191B ; print 08
1969 RET C ; ok
```

Patch to apply:

```
195D-1967 NOPs
1968 37 SCF ; make sure CY is 1
1969 C9 RET
```

===== SP-2201 Editor

Uses same original code as SP-2001

Supress printing 05 & 06, prevent error

Patch to apply:

```
183F-184B NOPs
184C AF XOR A ; make sure CY is 0
184D RET
```

Supress printing 07 & 08, prevent error:

Patch to apply

```
1892-189C NOPs
189D 37 SCF ; make sure CY is 1
189E C9 RET
```

===== SP-2202 Editor/Assembler

Uses same original code as SP-2001

Supress printing 05 & 06, prevent error

Patch to apply:

```
2B2F-2B3B NOPs
2B3C AF XOR A ; make sure CY is 0
2B3D RET
```

Supress printing 07 & 08, prevent error:

Patch to apply:

```
2B89-2B93 NOPs
2B94 37 SCF ; make sure CY is 1
```

2B95 C9 RET

Formfeed at start of assembler pass 3
Patch to apply for regular formfeed
Change 2B4C 3E 0F LD A,0F
 To 2B4C 3E 0C LD A,0C

Patch to apply to suppress formfeed
Change 2B4C 3E 0F LD A,0F
 To 2B4C 3E 00 LD A,00

===== SP-2301 Relocatable Loader
Uses same original code as SP-2001

Suppress printing 05 & 06, prevent error
Patch to apply:
1C62-1C6F NOPs
1C70 AF XOR A ; make sure CY is 0
1C71 RET

Suppress printing 07 & 08, prevent error:
Patch to apply:
1CBA-1CC5 NOPs
1CC6 37 SCF ; make sure CY is 1
1CC7 C9 RET

===== SP-2401 Symbolic Debugger
Uses same original code as SP-2001

Suppress printing 05 & 06, prevent error
Patch to apply:
1BA7-1BB3 NOPs
1BB4 AF XOR A ; make sure CY is 0
1BB5 RET

Suppress printing 07 & 08, prevent error:
Patch to apply:
1BFE-1C08 NOPs
1C09 37 SCF ; make sure CY is 1
1C0A C9 RET

===== PASCAL SP-4015
Uses different code than SP-2001

Suppress printing 05 & 06:
Patch to apply:
18B4-18C0 00 NOPs
18C1 AF XOR A
18C2 C9 RET

Suppress printing 07 & 08:
Patch to apply:
193F-194E 00 NOPs
194F F1 POP AF
1950 C9 RET

Regular formfeed at start of H command
Change 18E7 3E 0F LD A,0F
 To 18E7 3E 0C LD A,0C

Suppress formfeed at start of H command
Change 18E7 3E 0F LD A,0F
 To 18E7 3E 00 LD A,00

===== Basic SP-5025
05 & 06 are not printed

Suppress printing 07 & 08, prevent error:
Original code:
3CB6 3E 07 LD A,07
3CB8 CD 68 3C CALL 3C68
3CBB D2 CA 3C JP NC,3CCA ; error
3CBE 3E 08 LD A,08
3CC0 CD 68 3C CALL 3C68

```
3CC3 D8          RET C          ; CY=1, no error
```

```
...  
error handler  
...
```

```
Patch to apply:  
3CB6-3CC1 NOPs  
3CC2      SCF  
3CC3      RET
```

Regular formfeed at start of LIST/P command

```
Change 3C75 3E 0F LD A,0F  
To 3C75 3E 0C LD A,0C
```

Supress formfeed at start of LIST/P command

```
Change 3C75 3E 0F LD A,0F  
To 3C75 3E 00 LD A,00
```

===== Basic SA-5510
Only 05 is printed at end of line

Original code:

```
32C2 3E 05      LD A,05  
32C4 CD 84 32   CALL 3284  
32C7 D2 F3 13   JP NC,13F3 ; error handler  
32CA 00..       NOP 5x  
32CF D8         RET C  
32D0 C3 F0 13   JP 13F0 ; error handler
```

Patch to apply:

```
32C2 37          SCF          ; CY=1, no error  
32C3 C9          RET
```

===== ZEN MZ-80K
Uses SystemMonitor print routine at 00B5 (will not print with original monitor ROM SP-1002). There is a patch area for external output at 197B, here is the call to the monitor print routine.

At start of every listing to printer a form feed is sent to the printer. Changing LD A, 0C at 1B7C to LD A,00 supresses the formfeed but also the clear-screen on a simple CR.

So we use the patch area to add the code to ignore form feeds:

```
197B PUSH BC  
197C PUSH DE  
197C CP 0C      ; formfeed?  
197E JR Z,1984  ; yes, skip print  
1980 CALL 00B5  ; no, monitor print  
1984 POP DE  
1985 POP BC  
1986 RET
```

It is not possible to get a proper assembly listing on the printer with single sheets on the FX80. There is another patch which waits for the space key to pressed on every formfeed, so the paper can be inserted.

```
197B PUSH BC  
197C PUSH DE  
197D CP 0C      ; form feed?  
197F JR NZ,1993 ; no, go and print  
1981 LD DE,1999 ; address of message  
1984 CALL 0015   ; display it  
1987 CALL 0006   ; line feed on display  
198A CALL 001B   ; get key  
198D CP 20      ; space?  
198F JR NZ,198A ; no, reread  
1991 JR 1996     ; yes, return, skip print  
1993 CALL 00B5   ; character to printer  
1996 POP DE  
1997 POP BC  
1998 RET  
1999 DB "SPACE KEY"  
19A2 DB 0D
```

With this patch, the patch aread is full, 0 bytes left.

===== Sub-Monitor 48k
Works out-of-the-box

===== Disassembler (aka Super-Disassembler)
No original version was available, only the Centronincs-patched version.
The original driver had to be re-inserted and patched. Fortunately it is
built like the original Sharp driver.

Supress printing 05 & 06, prevent error
Patch to apply:
B90A-B917 NOPs
B918 AF XOR A ; make sure CY is 0
B919 RET

Supress printing 07 & 08, prevent error:
Patch to apply:
B95D-B967 NOPs
B968 37 SCF ; make sure CY is 1
B969 C9 RET

All other programs require the auto-LF on the printer to be active (they
only send a CR at end of line). Disassembler sends CR-LF, which results in
double line feeds.

Change CD13 LD A,0D
To CD13 LD A,00

EOF MZ80PAT.TXT