MAIN DIFFERENCES
BETWEEN VERSION A AND VERSION B

The differences between version A00 and version B00 (see VER$ in *Other JPC Rom features*) result from some bug fixes, modifications and improvements. The main differences are listed below :

Bug fixes

MARGIN parameter is now limited to 96.

Under certain circumstances FIND could find matching lines which should not have been. (see *JPC 45*). Janick Taillandier has corrected this problem.

COMB and ARR have been rewritten by Guy Toublanc to use a multiplication based algorithm instead of factorials.

COMB was modified to return a valid result when executing S=S+COMB(n,0).

The FINPUT version published in *JPC* exited when pressing the [f] [CONT] key. This was wrong.

New keywords and features

The DATESTR$ function has been added to convert from and to the new date format.

New structured programming statements have been added to this version.

Modifications and improvements

Date functions have been modified to use the new JPC Rom date format as well as the standard format.

The keyword KSPEED has been removed. The cursor speed-up is still present, but repetition speed is maximum and delay after the key is pressed and before repeat begins is not tunable.

POSI has been modified to admit numeric as well as string parameters.

The escape sequence sent to the printer by BOLD has been modified to be compatible with all *PCL* printers, especially the ThinkJet and LaserJet.

FF has been renamed to PFF, LF to PLF, PL to PAGELEN, CR to PCR. FPRM has been renamed to FPRIM and NPRM to NPRIM. HMS+ has been renamed to HMSADD and HMS- to HMSSUB.

Note

All these improvements and corrections have been realized preserving program compatibility with previous versions of JPC Rom. So your programs written with previous versions are totally compatible with the new JPC Rom.

MAIN DIFFERENCES
BETWEEN VERSION B AND VERSION C

The differences between version B00 and version C00 (see VER$ in *Other JPC Rom features*) result from some bug fixes, modifications and improvements. The main differences are listed below :

Bug fixes

Structured programming statements didn't work properly if followed by a comment after the beginning of the loop, as for example :

```
10 WHILE 1 !
20 END WHILE
```

Same problem with SELECT, CASE, etc. Notified by Henri Kudelski from Switzerland and Gérard Kossman in France.

Functions STARTUP$ and ENDUP$ didn't returned their result properly, this could produce a Data type error when the following program was executed :

```
10 DESTROY ALL
20 DIM S$
30 DIM S$[LEN(STARTUP$)]
```

Same problem with ENDUP$. Notified by Tapani Tarvainen from Finland.

The [f] [BACK] key acts as usual in the Command Stack under CALC mode, this allows freely editing expressions in the command line. Notified by Michael Markov in the United States and Tapani Tarvainen in Finland.

After a configuration (for example, COPY of a Lex file to Ram, LEX ON/OFF), assembler tabs were enabled when using EDTEXT.

The keyword STACK has been replaced by a new version from Henri Kudelski in Switzerland to avoid bad problems during the ML program.

New keywords and features

The keywords SYSEDIT, OPCODE$ and NEXTOP$ have been added. OPCODE$ and NEXTOP$ were written by Jean-Jacques Dhénin. SYSEDIT was written by Pierre David and Janick Taillandier.

The FILESIZE function by Henri Kudelski has been added.

The address directory manager KA and its related programmable functions (ADCREATE, ADDELETE, ADFIND, ADGET, ADPUT and ADSIZE) have been added. These keywords have been written by Pierre David.

The KEYWAIT$ function by Hewlett-Packard has been added. Its Id and token numbers have not been modified versus the Users' Library version.

The keyword ROMAN was added to allow using the *Roman* character set. This keyword was written by Pierre David and Janick Taillandier.

Now, JPC Rom recognizes non standard file types, such as HP-41 or HP-75 ones, during a CAT, as well as non standard HP-71 types. This was written by Jan Buitenhuis in The Netherlands and Janick Taillandier in France.

Modifications and improvements

JPC Rom was previously called *JPCLEX*.

BLIST has been renamed to DBLIST, because of a conflict with the BREAK Lex from the Users' Library.

SWAP has been renamed to VARSWAP.

The INV$ function has been removed, its functionalities are now part of INVERSE.

Syntax of INVERSE and PAINT have been extended to provide more flexibility.

Syntax of SPACE$ has been extend to allow repeating any string.

ENABLE and DISABLE have been renamed to LEX ON/OFF because of a conflict with ENABLE in the HP-IL module.

Functions REPLACE$ and RPLC$ have been merged in a new REPLACE$. With three parameters or if the fourth one is numeric, functionalities are similar to the old RPLC$. If the fourth parameter is a string it is the *wild-card* character used in the old REPLACE$.

DBLIST and PBLIST were rewritten to allow indentation of structure and redirection into a file.

Removed keywords are listed as obsolete when they are present in a program. If these programs are executed, they produce the error JPC ERR:Removed Keyword (message number 16).

Note

All these improvements and corrections have been realized preserving program compatibility with previous versions of JPC Rom. So your programs written with previous versions are totally compatible with the new JPC Rom.

MAIN DIFFERENCES
BETWEEN VERSION C AND VERSION D

The differences between version C and version D (see VER$ in *Other JPC Rom features*) result from some bug fixes, modifications and improvements. The main differences are listed below :

Bug fixes

The extended character set *Roman* disappeared at power on.

The *Assembler Tabs* mode was regularly enabled (during power on, for example).

The POSI function returned an incorrect value (1) when used as POSI("",x), with $x<6$. This bug was mentioned by Joe Horn in the United States.

The new DBLIST version did not recognize the following syntax : DBLIST 1000 INDENT 4.

The FIND keyword did not work properly. Notified by Henri Kudelski from Switzerland and Claudio Benski from France.

Date calculation functions (such as DOW for example) did not accept February 29 of leap years, when the last year digit was not a multiple of 4. Notified with details by Laurent Istria from France.

From *browse mode* in KA, the keystroke [f] [EDIT], then [ENDLINE] entered *edit mode*, then exited it. Notified by Henri Kudelski from Switzerland.

New keywords and features

The DDIR and PDIR keywords have been added.

Modifications and improvements

Disassembling with OPCODE$ and SYSEDIT swapped RSI and PC=(A) mnemonics. This appeared when we disassembled the HP-28C Rom.

Note

All these improvements and corrections have been realized preserving program compatibility with previous versions of JPC Rom. So your programs written with previous versions are totally compatible with the new JPC Rom.

MAIN DIFFERENCES
BETWEEN VERSION D AND VERSION E

The differences between version D and version E (see VER$ in *Other JPC Rom features*) result from some bug fixes, modifications and improvements. The version E mainly adds two large parts, namely the editor and the graphic. The main differences are listed below:

Bug fixes

The addition of the pseudo keyword obsolete lead to some problems when the keywords of JPC Rom were analysed with a Basic program.

The structured programming keywords were affected by a problem when they were followed by a comment, like in:
```
  10 LEAVE !
```
This was also the case for WHILE, IF and ELSE. Error reported by Joseph A. Dickerson from the USA.

The SELECT structure didn't work well in the following case, for instance:
```
  10 SELECT 0.4
  20   CASE >0.2 @ BEEP
  30 END SELECT
```
The BEEP statement was never executed. Error reported by Laurent Istria and Jean Horville.

New keywords and new features

The editor in assembly language from Pierre David and Janick Taillandier was added to JPC Rom. It provides the following keywords: XEDIT, TEDIT, GENPOS, GENLEN, GENRPLC$ and FILEPOS. The *Assembler Tabs* mode now works with XEDIT and TEDIT and no more with EDTEXT.

The graphic keywords (BOX, CSIZE, DRAW, FRAME, GDUMP, GEND, GINIT, IDRAW, IMOVE, LABEL, LDIR, LINETYPE, LORG, MOVE, PENDOWN, PENUP, PEN, PLOTTER, TICLEN, XAXIS and YAXIS) from Pierre David have been added.

Modifications and improvements

The FIND keyword, despite several successive corrections, still didn't give satisfactory results. It was entirely rewritten, furthermore it now takes advantage of the generic string feature from XEDIT and of two additional parameters. By Pierre David and Janick Taillandier.

The address parameter in the keywords OPCODE$, NEXTOP$, PEEK$, POKE and SYSEDIT can now be specified in decimal, to simplify the calculation and avoid useless conversions.

The keyword LEAVE accepts now an optional parameter to specify the number of nested loops to exit from.

Note

All these improvements and corrections have been realized preserving program compatibility with previous versions of JPC Rom. So your programs written with previous versions are totally compatible with the new JPC Rom.

MAIN DIFFERENCES
BETWEEN VERSION E AND VERSION F

The version F mainly merges the fixes and improvements of version X (the unofficial version from Rodger Rosenbaum) with the version E, but doesn't include the editor and the graphic module of version E. Only the specific version F differences are listed below, see the documentation of the JPC Rom version X for more details on the other bug fixes and improvements.

Bug fixes

Include the bug fix on leap years (e.g. 29 March 1999). From Rodger Rosenbaum.

SYSEDIT now accepts to be followed by a comment or another statement. Reported and fixed by Claude Marcoin.

A bug in COMB and PERM functions with large arguments such as COMB(1E12-1,1E11) was fixed. Reported by Claude Marcoin.

New keywords and new features

None. On the contrary, the editor and graphic keywords of version E are removed. The editor is supported by the optional XEDIT Lex. The FIND keyword in this JPC Lex is the same than in version X.

Modifications and improvements

SYSEDIT accepts an optional alpha or numeric expression to be compatible with both versions X and E.

The PARPOLL keyword is renamed back to the original PPOLL name.

The DDIR and PDIR keywords are renamed to DCAT and PCAT, to ensure better consistency. DDIR and PDIR can still be keyed in.

The assembler field and cursor position viewing functions are removed. The assembler field function is managed by the optional XEDIT Lex. The cursor position viewing function was conflicting the VIEW assignment used in the HP41 Translator Rom.

The KEYWAIT$ keyword is no more part of the JPC Lex.

Note

This JPC Rom version is special in the sense that it was built about 18 years after the last official JPC Rom from PPC Paris (version E, 1989). However, "all these improvements and corrections have been realized preserving program compatibility with previous versions of JPC Rom. So your programs written with previous versions are totally compatible with the new JPC Rom."