KANJI49
Version 1.2
Released 01/12/00
An application for the HP49G calculator.
Distributed as 3 auto-attaching libraries.

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Please send your comments to:                                |
James Weisbin    jim@savagetranscendental.com                |
115 West Broadway                                            |
New York NY 10013                                            |
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Prerequisites:

1. HP49G with 256 Kbytes free ram in port 1 or port 2.

2. At least approximately 100 Kbytes free memory in port 0 (to install only, after install this memory can be used for other purposes).

3. A PC running Windoze and HPComm, get HPComm from:
   http://www.hp.com/calculators/software

4. Raymond Hellstern’s (Raymond.Hellstern@gmx.de)
   “Lib Browser” library for the HP49G – get it at:
   http://www.hp48.bismarck.k12.nd.us/hp49/utils/misc/lb.zip
   or http://165.234.32.14/hp49/utils/misc/lb.zip

Change History:

1. Version 1.0 for the HP48GX with 256K free RAM by James Unterburger, © 1992-1996 james_unterburger@mentorg.com

2. Conversion to two compressed libraries holding the Kanji GROBS, and one 67K directory, for HP48GX, by Georg Zotti, 1996 e9126124@student.tuwien.ac.at

3. Conversion to (3) libraries for HP49G by James Weisbin, 2000 jim@savagetranscendental.com
   (version 1.0 for HP49G not publicly distributed)

4. Version 1.2 for HP49G:

   a. Replaced internal EDL and SEL routines (list browser and selector) to use Raymond Hellstern’s “LB” list browser, which is much faster. LB is not included with this software. See above for URL’s.

   b. Replaced internal routines ->L (convert to uppercase), ->U (convert to lowercase) and INTS (intersection of 2 sets) with faster ML routines.

   c. Added IFERR loops around main routines to trap for ON key interrupt and exit gracefully where possible.

d. The internal P->I routine was updated to fix a problem when searching for “yu”.

e. Changed some key codes tobe compatible with the HP49G.

Instructions:

Please refer to the original documentation Kanji48.pdf for instructions on how to use the program in general, but use the following method to install. Also note that the list browser routine has been replaced with Raymond Hellstern’s LB (not included). Refer to the documentation for LB, and other notes below.

Installation:

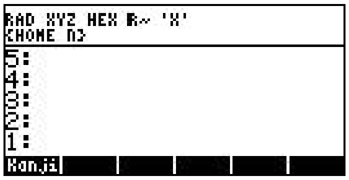
Make sure that you have at least 100K free ram in port 0, and 256K free ram in ports 1 or 2. If you don’t, move stuff into port 2 flash ram to make room in port 0, then you can move it back after Kanji49 has been installed.

1. Connect the HP49G via cable to your PC.

2. Set the calculator to binary mode (APPS, I/O, Transfer, Binary). Wile holding down the red right-shift button, press right arrow. The calculator should go into Kermit “server mode”.

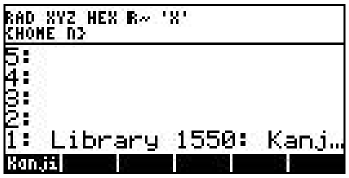
3. Fire up HPComm and select Binary Mode from the Calculator pull-down menu.

4. Download Kanji49.lib (ID 1550, 61995 bytes, checksum #EB67h) to the calculator. Exit HPComm, which should terminate the server on the calculator (if it doesn’t, press ON to terminate it). You should now see the file Kanji49 on the soft menu, like this:



```
RAD XYZ HEX R~ 'X'
{HOME D}
5:
4:
3:
2:
1:
Kanji
```

5. Press the function button under the file tab and now the file will be on the stack, like this:



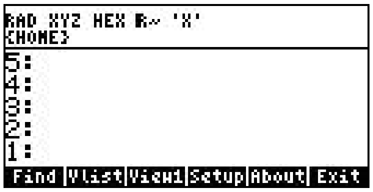
```
RAD XYZ HEX R~ 'X'
{HOME D}
5:
4:
3:
2:
1: Library 1550: Kanj…
Kanji
```

6. To store the library in port 1, press 1 STO. For port 2, press 2 STO. Note: you can’t use port 0, because this program requires a lot of ram, and you wont have space left for anything else.

7. Now delete the file by pressing ‘ (red/left/shift, EQW) and then the softkey under the file that you downloaded. Press On-C to auto-attach the library. Note: These two steps are important, in order to reclaim memory and attach the libraries!!!

8. Repeat steps 4-7 for the other two libraries included in this package:
   K1.lib (ID 1551, 62308.5 bytes, checksum #22BFh)
   K2.lib (ID 1552, 67049.5 bytes, checksum #10DBh)
   If you haven’t installed Raymond Hellstern’s LB library then do so now, using the same methods.

9. After the last ON-C, you can run the application by pressing red (right-shift), 2 (Lib), press NEXT until you see the Kanji tab, press the Kanji tab, and this is the menu that you will see:

   ```
   RAD XYZ HEX R~ 'X'
   {HOME}
   5:
   4:
   3:
   2:
   1:
    Find |Vlist|View1|Setup|About| Exit
   ```

   Refer to James Unterburger’s original documentation for the description of how to use each function shown, except for the list browser, refer to Raymond Hellstern’s documentation for “LB”.

Notes:

Kanji Mentor contains 2000 Japanese Kanji characters. Each one is a 24x24 pixel GROB (Graphic Object). The GROBs therefore occupy approximately 180,000 bytes of ram, which strains the memory limitations of the HP49G. Georg Zotti had the idea of compressing the GROBs into (2) libraries of 1000 each, and did so (for the HP48GX) using the “PK” compressor for the HP48.

With this arrangement, the GROBs occupy approximately 130,000 bytes of ram, and splitting them into two libraries makes it easier to download and install the libraries with limited ram available. The library “→1Kanji” contains the first 1000 Kanji in this collection, and the library “→2Kanji” contains the second 1000 Kanji. I have re-written the libraries so that the user can access either set of GROBs using the library command ->1Kanji or ->2Kanji. Each accepts a real number, between 1 and 1000 or between 1001 and 2000, respectively, and returns the GROB of that Kanji. This could be useful to someone building their own application (for example, the English translations/meanings are not included in this version, this would be a good project for someone to tackle). I finished the conversion to the HP49G by including everything else in a third library. Mika Heiskenan wrote the UPK un-compressor, which is used by the Kanji libraries.

The list browser is only used when you have selected “find 2 readings”. I have replaced James Unterburger’s original list browser, which was written in user-RPL, with Raymond Hellstern’s LB library (ID 1421 - not included with this software – see above for where to get it). You have the option to place a check mark next to the readings you want, or cancel. If you cancel, you will view all readings. When both “find many” and “try two” are selected, the program tries to find those readings which each Kanji have in common (the intersection of two sets). Note that if this doesn’t exist (list is empty), the you will get an error message: List is Empty!.

Many many thanks to James Unterburger for all the incredible effort he must have put into this program, Georg Zotti for his great ideas and efforts, and Mika Heiskenan, as well as to HP and the ACO team.

Jim Weisbin   1/12/00