OM-512FR Multi-Bank Flash Card
For CASIO PB-2000C & CASIO AI-1000 Pocket Computers
Technical Brochure

Overview

A Flash Memory Expansion Card designed specifically for the Casio PB-2000C and AI-1000 Pocket Computers (ポケコン). It replaces multiple, standalone OM cards by integrating 8 hardware-selectable 64 kB banks into a single 45-pin card slot.

Features

- **Native PB-2000C / AI-1000 Compatibility:** Designed specifically for the legacy 45-pin, 1mm-pitch JAE OM card slot. All cards feature an original JAE 45-pin header.
- **8 ROMs in 1 Card:** Holds eight 64 kB language or utility ROM images on a single card.
- **Hardware Bank Select:** Onboard 3-pole micro switch DIP matrix allows physical selection of Bank 0 through Bank 7.
- **Archive Compatible:** Fully compatible with original OM ROM dumps sourced from online archives (such as the Internet Archive) and open-source ROM images.
- **Direct Programmer Mode:** Setting all switches to OFF isolates the AT29C040A Flash chip for direct flashing via standard external programmers.
- **Programming Adapter**: A separate programming adapter is included in the package. Tested using a T-48 programmer.

Technical Specifications

Target Hardware	CASIO PB-2000C, CASIO AI-1000
Connector Standard	Legacy 45-Pin JAE JC20-C45S-F1-A1 (1.0mm pitch)
Memory IC	Atmel AT29C040A 4Mbit Flash (512KB x 8-bit, 150ns)
Bank Size	8×64 kB Banks
Switch Mechanism	Rear-accessible 3-pole DIP switch
Programmable	Use programming adapter and external programmer to program the card.
Case	3D-printed. Polarized geometry. SLA(Resin). JLC Black Resin. 5.39×4.29×0.21cm. Attached using double-sided 3M adhesive tape.
Supply Voltage (Vcc)	5.0V (Native)
Active Current (Icc)	40 mA
Standby Current (Isb)	100 uA
Estimated Active Power	200 mW

Memory bank arrangement

Most hobbyists program their cards using the following images available on The Internet Archive:

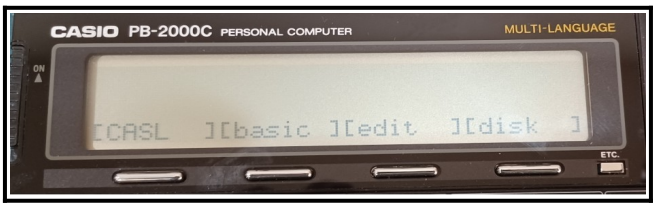
Bank	Description	SHA256
0	om53b-basic	f245dadb2c8128ddee08e9a3c6fdd5c9f25abe6211b2b5053efac17e985b645c
1	om97p-bootrom-pb2000c	60227fa7feee7b75c8be1c2bbcccdba6eaf8f83227ada391d0630f4ce5c85b12
2	om54a-casl64k	3199cf09f3467110620fc036a6738d17478ac7f5a23bb4de5a38d6f2003831bb
3	om55l-lisp	c384c2cd83e134d03146c10a460a17048273cd93ef92dfcc1a20529dd5c6cc1f
4	om52c-c	049617b856f6f8480088ee294e789afbb2d85f1e1bba439289a2b3bcb529128c
5	om99p-casl-basic	280ef399c14eabff5c11e9ff6fc8287683649ceae3d78c04d3aefaa8391bdd1a
6	om97a-bootrom-ai1000	236a4b9b1cbb5a86f895a08c9266d33c3419ebd5d9922d16d894abe83e1bf9c4
7	om51p-prolog	d840f849f97222860c253ed042971c8e4a9ad52356aa134747867 46a20b192cc



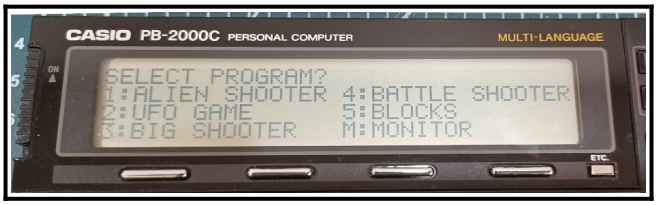

For CASIO
ROM CARD SYSTEM
AI-1000/PB-2000C
Multi 512 KB ROM
OM-512FR
(c) 2026 Xandrian Labs.
Multi


CASIO AI-1000 PERSONAL COMPUTER
MULTI-LANGUAGE
[c][newc][edit][disk]
ETC.

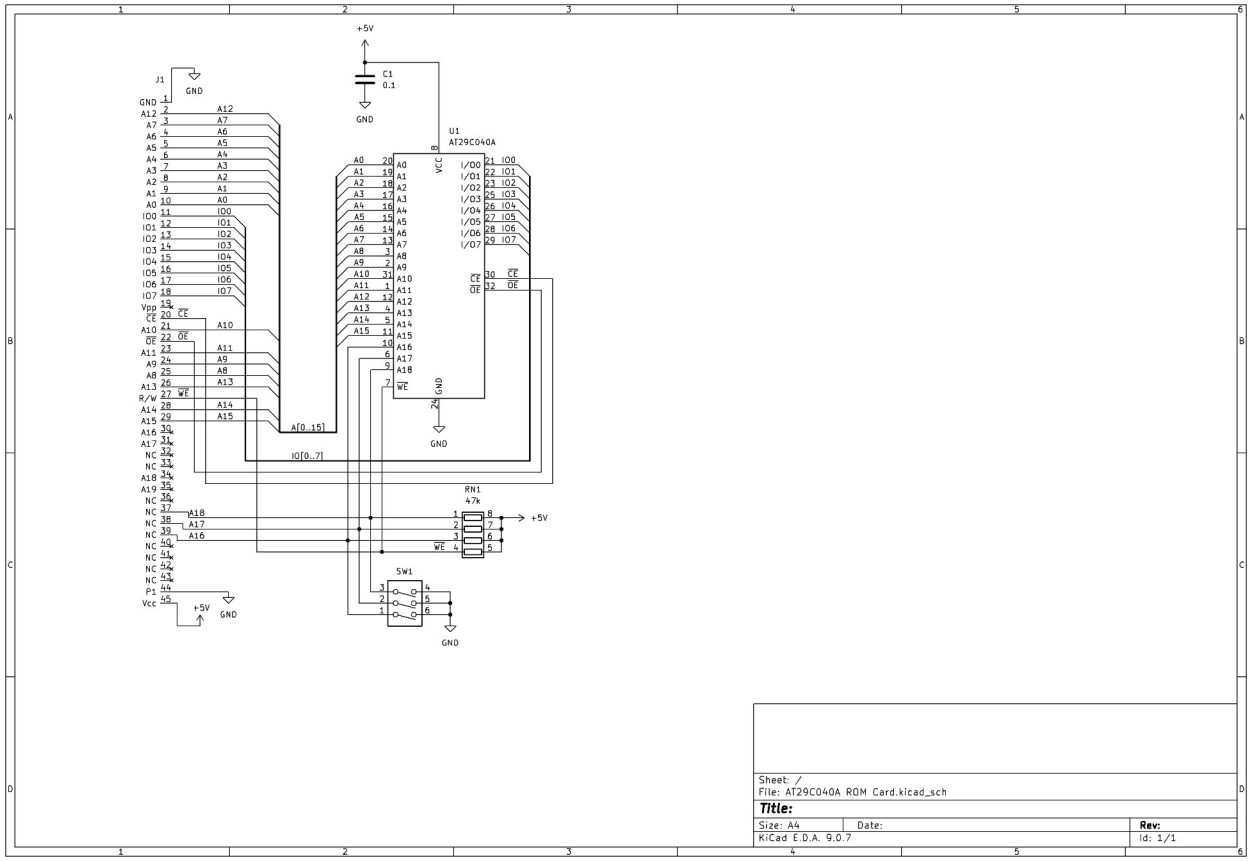

CASIO PB-2000C PERSONAL COMPUTER
MULTI-LANGUAGE
[lisp][newlsp][edit][disk]
ETC.


CASIO PB-2000C PERSONAL COMPUTER
MULTI-LANGUAGE
[CASL][basic][edit][disk]
ETC.


CASIO PB-2000C PERSONAL COMPUTER
MULTI-LANGUAGE
[prolog][newplg][edit][disk]
ETC.


CASIO PB-2000C PERSONAL COMPUTER
MULTI-LANGUAGE
SELECT PROGRAM?
1:ALIEN SHOOTER 4:BATTLE SHOOTER
2:UFO GAME 5:BLOCKS
3:BIG SHOOTER M:MONITOR
ETC.

Schematics



Combo: Two OM512-FR cards, adapter and blank protective card



Attributions & Licensing

This project was produced by **Xandrian Labs**, made possible by the invaluable contributions and research of **Piotr, Andrew, Garrett, and Alex**. 付喪神.

This work is freely shared with the vintage computing community. Please use it, build upon it, and cite the source.