



OMRON LUNA-88K2 & OpenBSD/luna88k

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Here comes one of Japanese NAZO^(*) machine!

■ What is LUNA-88K/LUNA-88K2?

LUNA-88K is a workstation made by OMRON Corporation in 1990, and LUNA-88K2 is a successor of LUNA-88K, made in 1992. It is a multi-processors machine driven by 33MHz Motorola 88100s (up to four) and Mach OS.



■ What is OpenBSD/luna88k?

“OpenBSD/luna88k is an effort to port OpenBSD to the OMRON LUNA-88K and LUNA-88K2 workstations.” (from official web page)

I myself ported OpenBSD, and merged into the official source tree in 2004, with the help of OpenBSD developers, especially Miod Vallat.

→ OpenBSD/luna88k

<http://www.openbsd.org/luna88k.html>



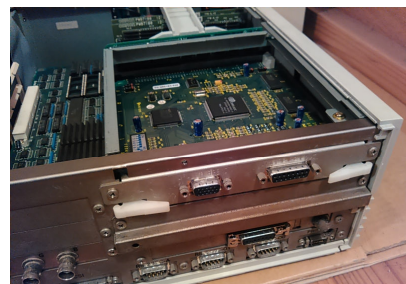
■ Highlight

(1) The machine itself

As far as I know, the real-working LUNA-88K and LUNA-88K2 are only 3 in Japan and 1 in France. The machine here is one of them, it is very rare after almost 25 years from its birth.

(2) Extended functions: PC-98 extension board bus (C-bus)

LUNA-88K2 can attach extension boards for NEC PC-9801 series, the old popular Japanese PC-AT alike computers. If you can make device drivers and application software, you can use those boards on LUNA.



↑ PC-9801 extension board attached on LUNA-88K2

This demo machine drives a wireless LAN card at C-bus

(*) NAZO (謎): enigmatic, mysterious, strange, rare.

PCMCIA slot adapter, and connects to the Internet by OpenBSD standard wi(4) driver.

One more C-bus "Window Accelerator Board" is attached to this machine, makes it possible to display the output of modified "yaft" (terminal software) with SIXEL graphics.



↑ Wireless LAN card at PCMCIA slot

(3)Running CP/M on I/O processor

LUNA has I/O processor HD647180X. It is a upper-compatible processor of Z80, so I tried to port CP/M 2.2 on it.



↑ 2 screens, "Window Accelerator Board" on C-bus(left) and Genuine frame buffer(right)

■ Future work of OpenBSD/luna88k

Seek other usable extension boards, improve interrupt processing on multi-processor kernel, color X server on genuine frame buffer... there are many issues:-)

I will continue the development as my hobby while the hardware is alive.

■ Specification of LUNA-88K/LUNA-88K2

	LUNA-88K	LUNA-88K2
CPU	MC88100(25MHz) x 1 to 4	MC88100(33MHz) x 1 to 4
CMMU	MC88200(25MHz) x 2 per 1 CPU	MC88200(33MHz) x 2 per 1 CPU
Processing speed	100MIPS(4CPU, at peak)	147MIPS(4CPU, at peak)
Main memory	16~64MB	16~112MB
PC-98 extension bus	None	2 slots
Interfaces	RS-232C x 2 FDD SCSI Centronics	RS-232C x 3 SCSI Centronics
LAN	10BASE-2/10BASE-5	10BASE-2/10BASE-5
Graphics	1280×1024 monochrome 1280×1024 16 colors	1280×1024 monochrome 1280×1024 16 colors 1280×1024 256 colors
Made in	1990	1992

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