

AccessionIndex: TCD-SCSS-T.20191104.002

Accession Date: 4-Nov-2019

Accession By: Ronan Scaife

Object name: DEC MINC-11 laboratory minicomputer

Vintage: c.1981

Synopsis: Lab computer plus instrument chassis successor to the original MIT LINC,

Model: MINC11-AB, CAB 0, S/N: WF05524.

**Description:**

This item is a DEC MINC-11 laboratory minicomputer on a trolley, a later successor to the original MIT LINC that DEC also manufactured. It uses a PDP-11/03 rather than the original LINC processor.

The MINC-11 was contained in a 19" chassis, plus a DEC RX02 dual floppy disk drive mounted on a laboratory trolley, with a DEC VT103 intelligent terminal above. It was designed for laboratory use, using special interface modules and (in DEC terminology) double-spaced quad-sized slots. The operating system was a special version of DEC's RT-11, and booted straight into MINC-Basic, which had special functions to access the MINC modules. FORTRAN IV (Fortran-66) was optionally available for computationally-intensive applications. Lab sensors, actuators or instruments could be linked via BNC connectors at the front of the modules or via a connector block.

The PDP-11/03 (aka LSI-11/03) was the first PDP-11 designed with large-scale integration circuits, using the Western Digital MCP-1600 chipset on a KDF11-AA (M8186) Q-bus CPU board, and MSV11-DD (M8044 DH) 32kW (64kB) memory boards. An RXV21 (M8029) floppy disk controller board interfaced to the RX02 dual floppy disk drive. A BDV11 bus terminator board also provides 2kW of PROM for diagnostics and booting.

The MINC-11 in this collection includes an MNCAD Analog-to-Digital input (A/D), an MNCAA Digital-to-Analog output (D/A), MNCDI Digital Input and MNCDO Digital Output modules, as well as an MNCKW Clock module, leaving three spare slots. The Clock module is a programmable counter that can be triggered by internal or external events; it also has strobe trigger inputs.

The RX02 dual double-density 8" floppy disk drive (1978), superceded the single-density RX01 (1975). The RX02 stored 256k words (512kB) on a disk, but could emulate the 256kB RX01. The PDP-8 normally used an RX02 in RX01 mode via an RX8E (M8357) Omnibus interface board. Unlike modern floppy drives the disk was kept spinning and heads contacted the disk only for access.

The VT103 was an intelligent version of the VT100 that was used in this case as a terminal for a DEC MINC-11.

***Ronan: where did it come from + what was it used for (i.e. what is its provenance)?***

***Ronan: could you provide the appropriate paragraph re DCU please?***

Many thanks to Ronan Scaife (son of Prof. Garrett Scaife, Dept. Electrical Engineering, Trinity College Dublin) for donating this item, and also to Ronan for arranging for transport of this item to the collection.

The homepage for this catalog is at: <https://www.scss.tcd.ie/SCSSTreasuresCatalog/>  
Click '*Accession Index*' (1st column listed) for related folder, or '*About*' for further guidance.  
Some of the items below are more properly part of the other categories of this catalog, but are listed here for convenience.

Accession Index	Object with Identification
TCD-SCSS-T.20191104.002.001	DEC MINC-11 laboratory minicomputer. Lab computer plus instrument chassis successor to the original MIT LINC, Model: MINC11-AB, CAB 0, S/N: WF05524. c.1981.
TCD-SCSS-T.20191104.002.002	DEC RX02 floppy disk drive. Mass storage unit for MINC-11 lab computer. c.1978.
TCD-SCSS-T.20191104.004	DEC VT103 intelligent visual display unit. Terminal for MINC-11 lab computer, Model: VT103-BA, S/N: MF06270. c.1979.

#### References:

1. Binary Dinosaurs, *Digital MINC-11*, see:  
<http://www.binarydinosaurs.co.uk/museum/digital/minc/index.php>  
Last browsed to on 4-Nov-2019.
2. Binary Dinosaurs, *The Digital MINC-11*, see:  
<https://fjkraan.home.xs4all.nl/comp/minc/index.html>  
Last browsed to on 4-Nov-2019.
3. Binary Dinosaurs, *The Digital MINC-11*, see:  
<https://fjkraan.home.xs4all.nl/comp/minc/index.html>  
Last browsed to on 4-Nov-2019.
4. pdp8.et, *RX01/RX02 information*, see:  
<https://www.pdp8.net/rx02/rx02.shtml>  
Last browsed to on 4-Nov-2019.

5. terminals-wiki.org, *The DEC VT103*, see:  
[https://terminals-wiki.org/wiki/index.php/DEC\\_VT103](https://terminals-wiki.org/wiki/index.php/DEC_VT103)  
Last browsed to on 4-Nov-2019.
6. gunkies.org, *The PDP-11/23*, see:  
<http://gunkies.org/wiki/PDP-11/23>  
Last browsed to on 4-Nov-2019.
7. Wikipedia, *The DECtape*, see:  
<https://en.wikipedia.org/wiki/DECtape>  
Last browsed to on 4-Nov-2019.



*Figure 1: MINC-11 three-quarter view  
Photograph courtesy Ronan Scaife*



Figure 2: MINC-11 front view with lid open



Figure 3: MINC-11 front panel

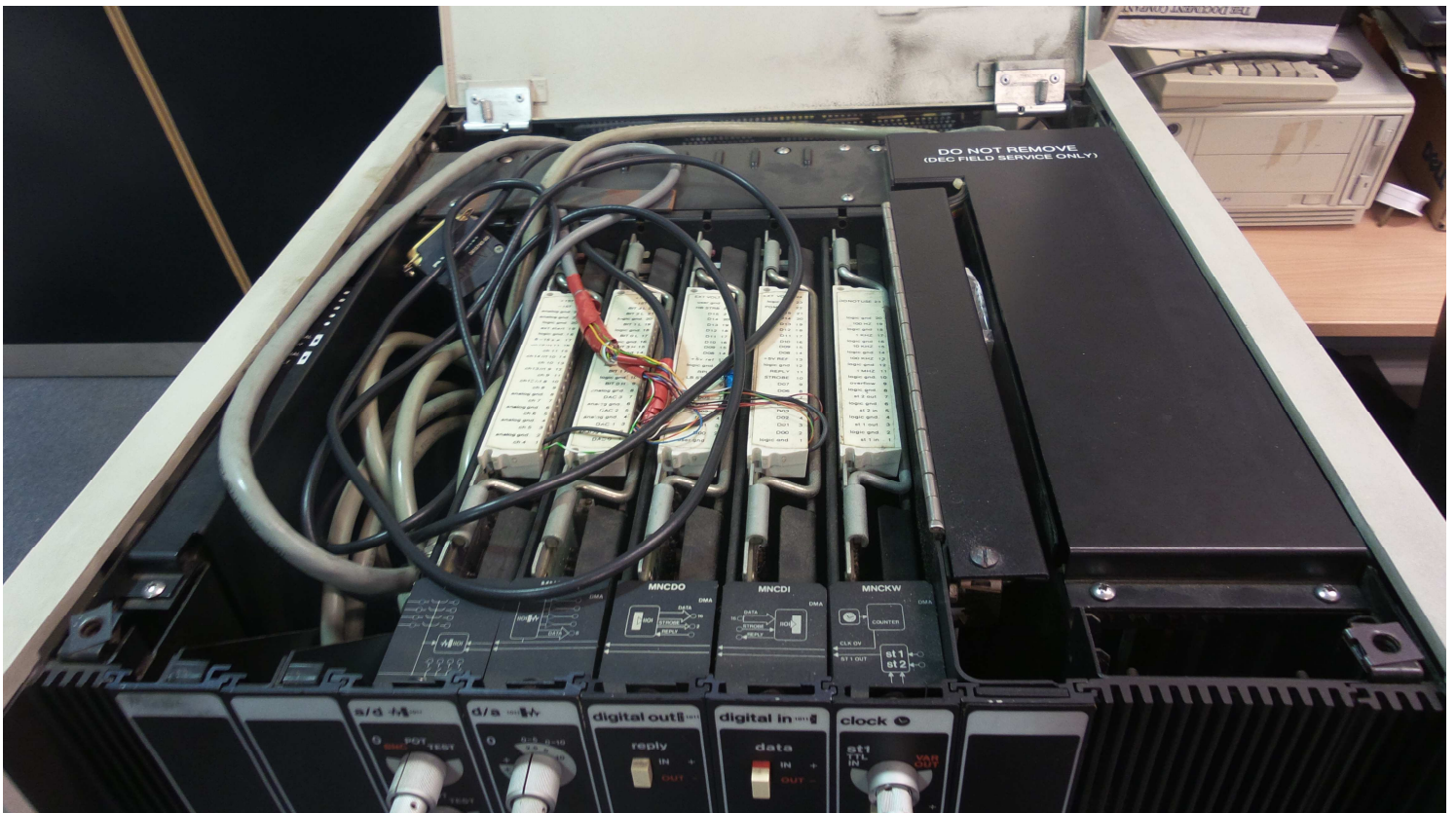


Figure 4: MINC-11 internal view



Figure 5: MINC-11 internal closeup

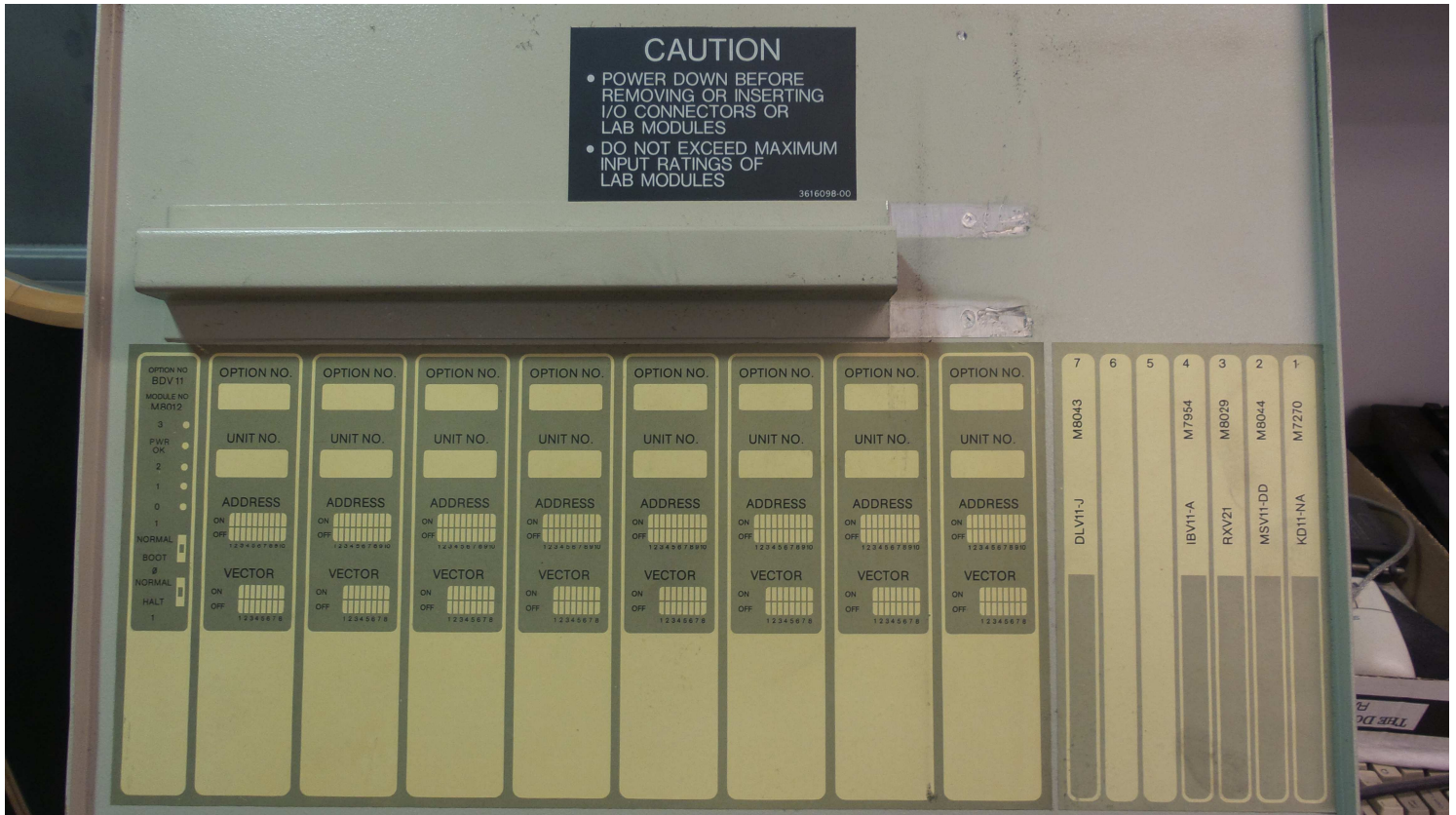


Figure 6: MINC-11 inside lid

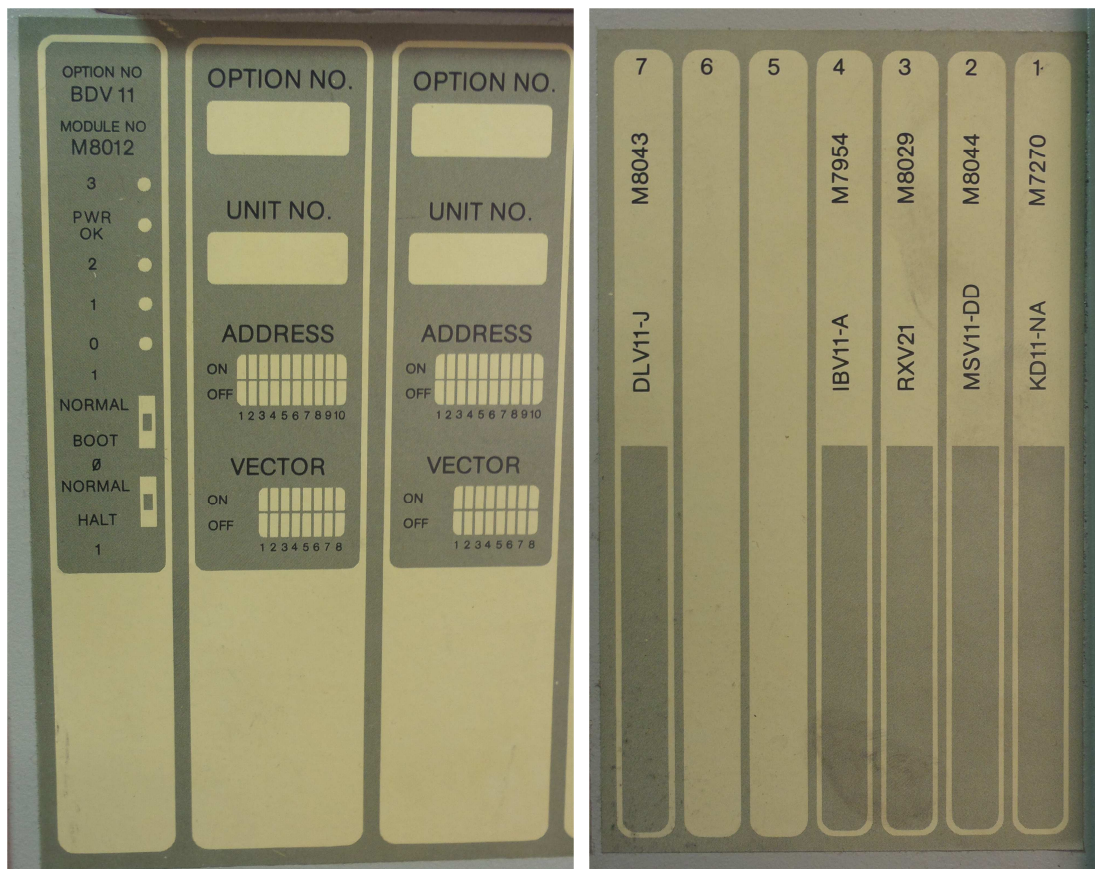


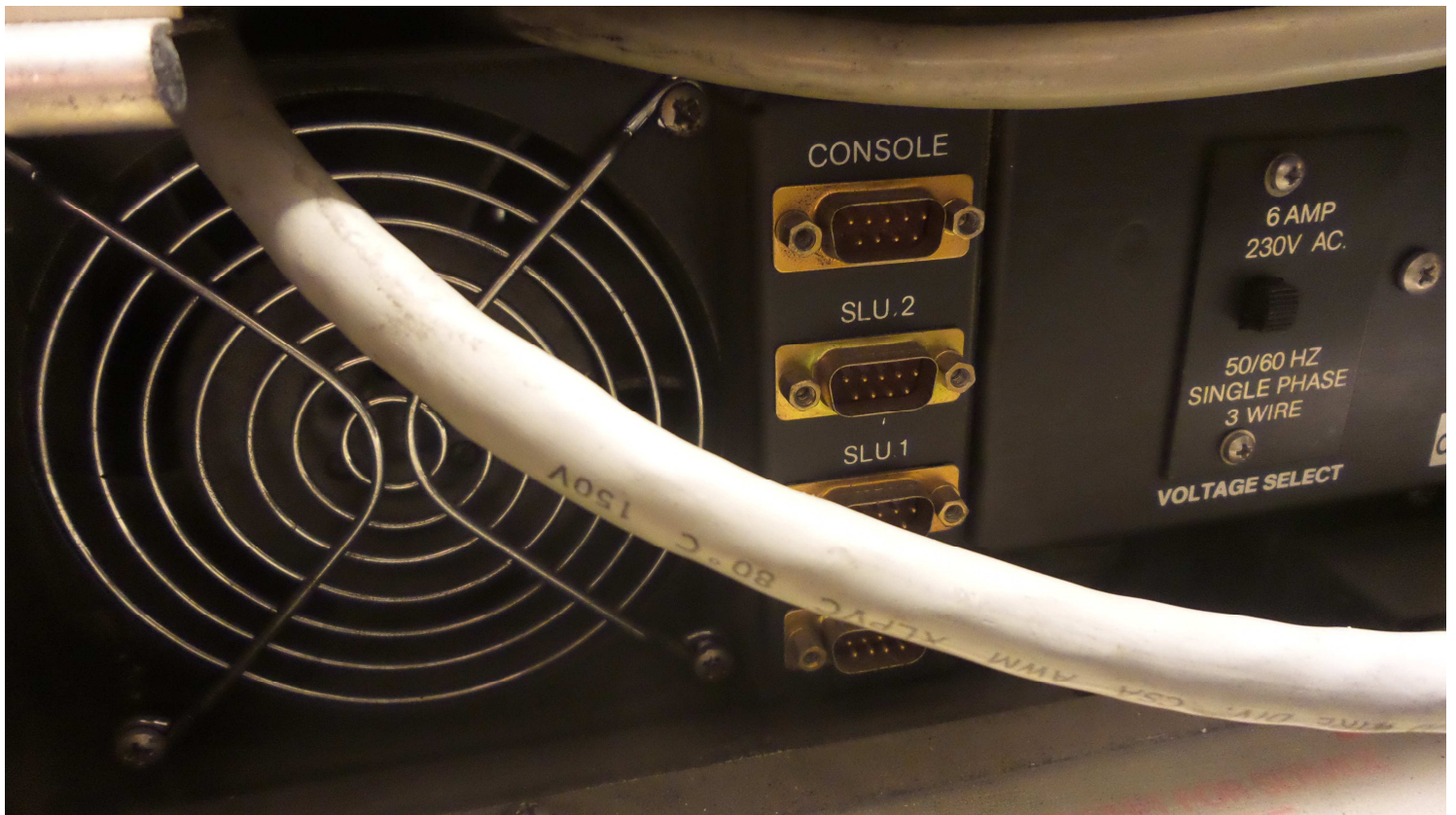
Figure 7: MINC-11 inside lid left and right closeups



*Figure 8: MINC-11 rear view (MINC-11 at top, power distribution panel next, RX02 below)*



*Figure 9: MINC-11 rear view closeup (RX02 below power distribution panel)*



*Figure 10: MINC-11 rear panel left closeup*



Figure 11: MINC-11 rear panel middle closeup



Figure 12: MINC-11 rear panel right closeup



Figure 13: MINC-11 manufacturing label  
Model: MNC11-AB, CAB 0, S/N: WF05524



Figure 14: MINC-11 power supply manufacturing label