

AccessionIndex: TCD-SCSS-T.20150217.002
 Accession Date: 17-Feb-2015
 Accession By: Dr.Brian Coghlan
 Object name: HP16500A Logic State Analyser
 Vintage: c.1985
 Synopsis: HP16500A 25MHz Logic State Analyser. S/N: 2723 G 00590.

Description:

The HP16500A is a popular Logic State Analyser made by Hewlett Packard Ltd. Three of these units were the mainstay of the development aspects of the hardware research within the Computer Architecture Group of the Dept.Computer Science throughout the 1990s.

The basic chassis default configuration includes plug-in CPU and digital acquisition modules. The unit in the collection also has plug-in digitizing oscilloscope modules. Control was via a front-panel touch-sensitive screen and associated large rotary knob. It has two 720kB floppy disk drives. Operating software was loaded on boot from one floppy disk, and data could be stored on another floppy disk, and retrieved if so desired. Operation was menu-driven, with extensive hierarchical menus.

Multiple analysers were able to be connected over HPIB to a host computer that had a HPIB adapter, and remotely programmed from the host, and data downloaded to the host and further analysed there. The analysers could also be remotely programmed via an RS232C interface.

The HP16510A digital acquisition module is able to capture the state of 80 digital signals at 25MHz, and timing detail at 100MHz, with a 1k-sample x 80-channel buffer. This made it very suitable for use with the late 1980s and early 1990s generation of microprocessors, but increasingly unable to cope with the higher clock speeds of the late 1990s generation. The module connected to the target system via five 40-pin ribbon unshielded (and unprotected) cables.

The HP16531A dual-channel digitizing oscilloscope acquisition module is able to capture analog signals at 400Megasamples/sec. A companion HP16530A module provides the necessary timebase functions. Again this became increasingly unable to cope with the higher frequencies of the late 1990s hardware, where, for example, memory data rates above 100MHz became the norm.

Accession Index	Object with Identification
TCD-SCSS-T.20150217.002.01	HP16500A Logic State Analyser Chassis. S/N: 2723 G 00590
TCD-SCSS-T.20150217.002.02	HP16531A Digitizing Oscilloscope Acquisition Module. S/N: 2808A04850
TCD-SCSS-T.20150217.002.03	HP16530A Digitizing Oscilloscope Timebase Module. S/N: 2650A04201
TCD-SCSS-T.20150217.002.04	
TCD-SCSS-T.20150217.002.05	



Figure 1: HP16500A front three-quarter view



*Figure 2: HP16500A front view,
the connector at lower right is for a mouse,
the controls below the floppy disk drive are for brightness (left) and ??? (right)*

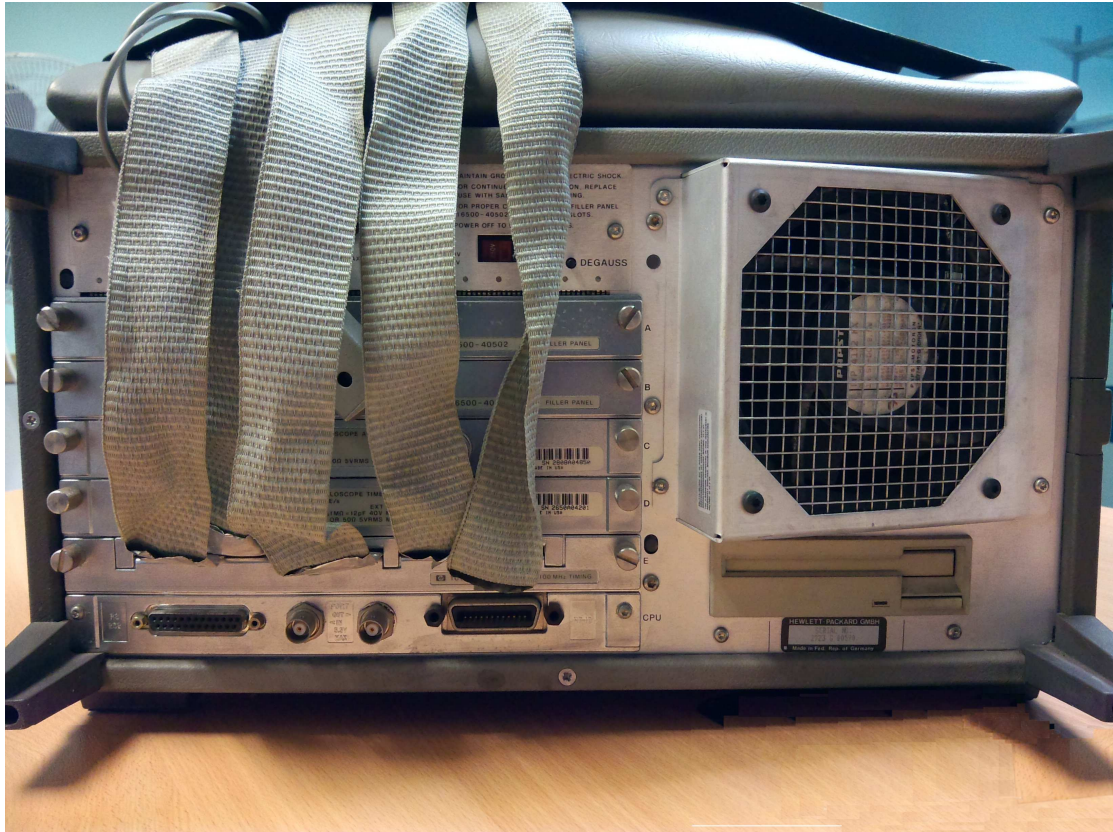


Figure 3: HP16500A rear view, showing CPU module at bottom, RS-232C DB25 connector at left, HP-IB connector at right, sync input and output at middle, rear floppy disk drive at far right

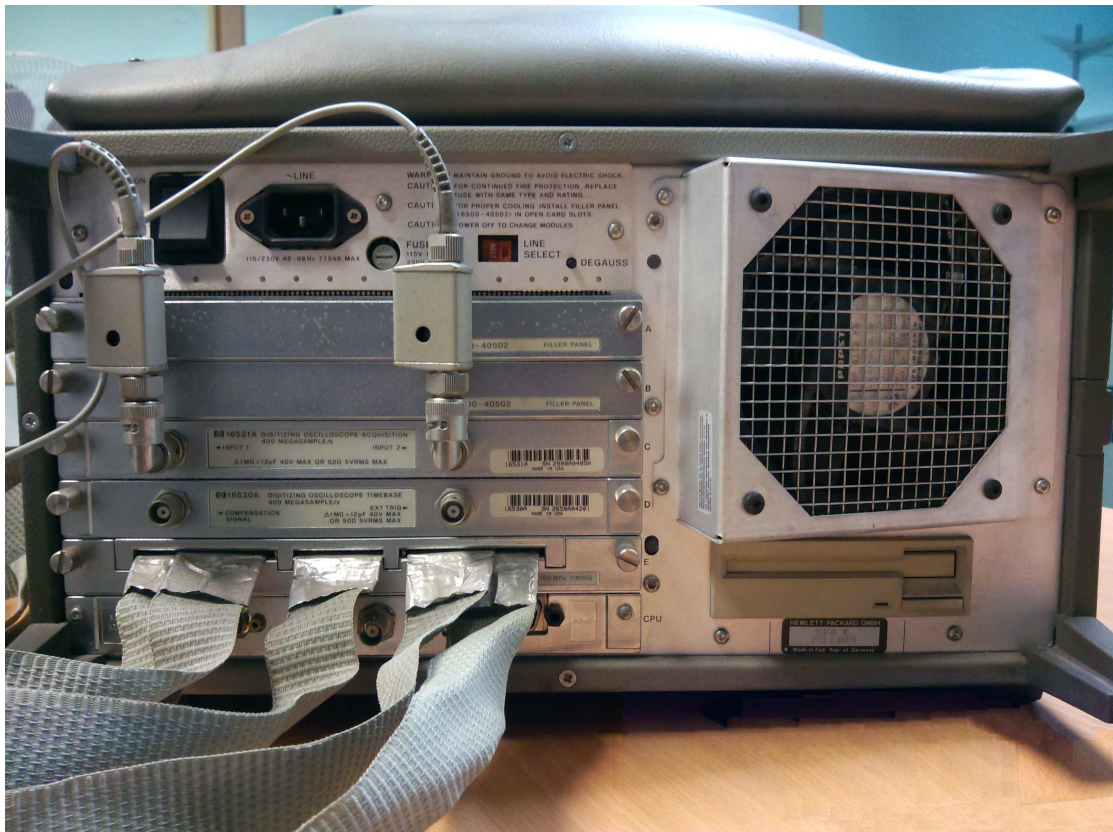


Figure 4: HP16500A rear view, showing acquisition modules,

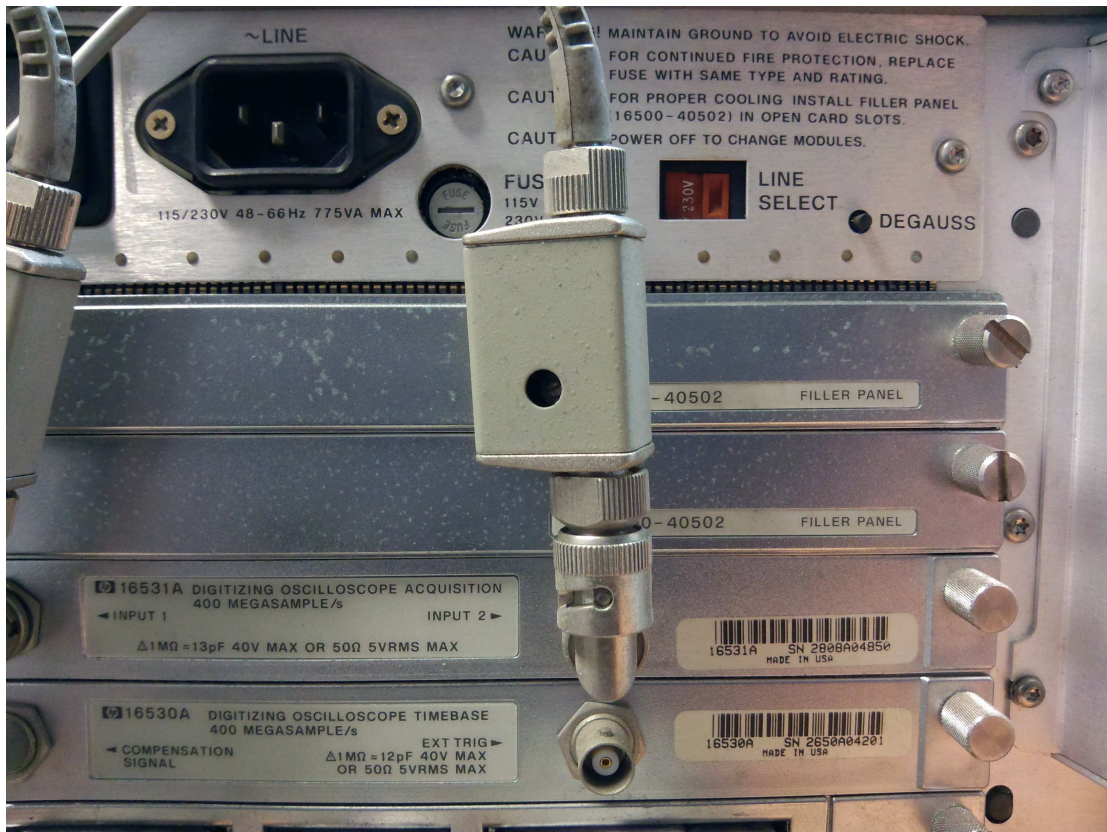


Figure 5: HP16500A 400Megasamples/sec digitizing oscilloscope modules:
HP16531A digitizing oscilloscope acquisition, S/N: 2808A04850
HP16530A digitizing oscilloscope timebase, S/N: 2650A04201



Figure 6: HP16500A CPU module

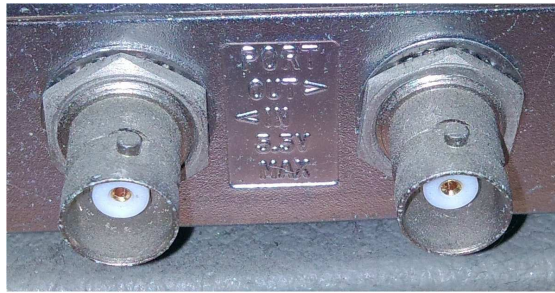
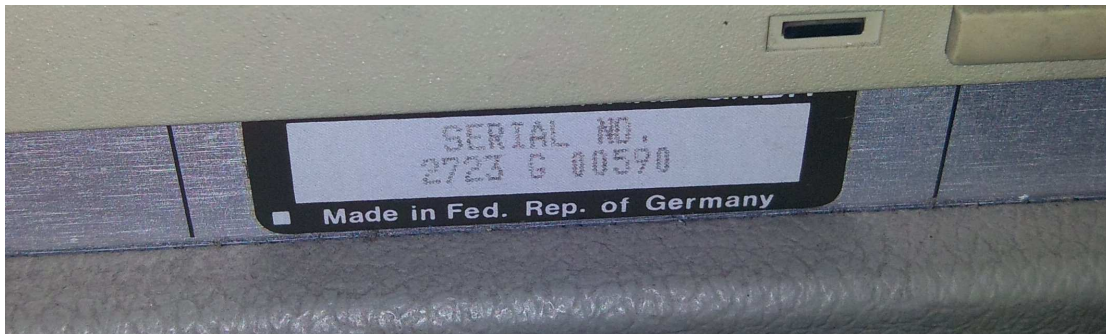


Figure 7: HP16500A sync input (left) and output (right), 5.5V max.



*Figure 8: HP16500A manufacturing label
S/N: 2723 G 00590*