

NEW HARDWARE FEATURES OF THE LEICA SD LINE ANALYTICAL WORKSTATIONS

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ABSTRACT :

The open concept of the Leica photogrammetric workstation permits the user to combine basic modules in order to create a system tailored to specific requirements. To the standalone workstation or Leica Mapping Terminal, which is available in two models with different levels of precision, can be added superimposition to maximise productivity for data acquisition and revision; another option is optics for base-in/base-out to facilitate measurements for triangulation.

KEYWORDS : Analytical, Hardware, Instrument Design, Maprevision, Photogrammetry, Superimposition

INTRODUCTION

In the development of the new Leica SD line analytical workstations one aim was to make an open system in a wide sense. The interfacing of new hardware and software components must be easy. To achieve this a modular structure is necessary both in hardware and software design (Cogan, Hinsken, 1992).

An open system allows the customer to combine hardware and software modules depending on his specific requirements. It also makes it possible for him to start with an entry level system and expand as the requirements change.

LEICA SD LINE HARDWARE

The Basic Workstation Hardware

The SD line instruments include the following basic components: The table top instrument housing containing stages, viewing optics and the necessary electronics and the realtime computer (RTP) with its software.

The realtime computer forms an integral part of the workstation and is delivered with it. However, the open concept of the SD line workstation gives the user a wide choice of host computers and applications software (Almroth, Chapuis, 1992 and Hinsken, Cogan, Kotowski, 1992). Thus the host computer is not a part of the basic hardware.

The basic unit has movement control in X, Y and Z realized over the mouse or trackball of the realtime computer and a z handwheel. Handwheels and footdisk are available as an option.

The basic workstation, the Leica Mapping Terminal is available with two levels of accuracy. SD2000 with 2-4 microns and SD3000 with 2 microns. The SD3000 version has optical switches for base out/base in (L/R or R/L) and for Binocular viewing of the left or of the right stage (LL or RR).

The optical switches are motorized and controlled by the realtime processor like the zoom and the floating mark adjustments (brightness, size).

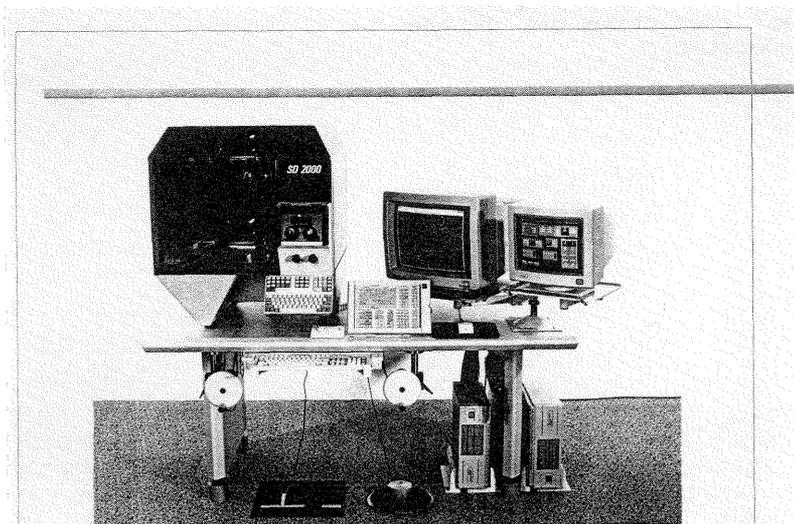


Figure 1. SD line analytical workstation.

Image Superimposition

For SD2000 and SD3000 an image superimposition system, Coloriss, has been developed. The system is available in mono and stereo versions. Representation of several colors and different linetypes is possible. The Coloriss hardware is integrated with the basic workstation hardware on the realtime computer level. Thus drivers are available for Leica as well as for third party software packages. The Coloriss is an efficient tool for the user who wants increase productivity in data acquisition and map revision.

REFERENCES

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