

**Marine Physical Laboratory**

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**Upgrade of LIMDAS Host for Enhanced  
Short Term CFARC Predictions**

R. W. Johnson

*Final Report to the  
Office of Naval Research  
Contract N00014-89-D-0142 (DO#19)*

**MPL-U-7/93**

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**University of California, San Diego  
Scripps Institution of Oceanography**

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**R. W. Johnson (Principal Investigator)**

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## *Introduction*

Delivery order Number 19 under the subject contract was established in response to our Proposal Number UCSD 91-1138-R1. The essence of the designated task was to "acquire and/or fabricate to the operational brassboard level, the prototype nighttime WSI (Whole Sky Imager) camera assembly illustrated in Figure 1, or its functional equivalent". Subsequent to these acquisitions, the task was to fabricate assemble and deliver for field test the brassboard prototype system defined under auxiliary SOW items.

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## *Technical Discussion*

The acquisition and fabricate of the selected sub-assemblies and components took place in accordance with the proposed schedule. The as-built prototype system is illustrated in Figures 2 and 3, where Figure 2 represents the configuration of the external sensor installation and Figure 3 illustrates the selected hardware.

Technical integration of the opticals, mechanical and electronic sub-systems was accomplished in accordance with the requirement for enabling both daytime and nighttime image acquisition and archival under operator interactive computer control. Whole Sky Imagery is acquired by the system at approximately two minutes per set, where each image set contains three complete images. One red image at 650 nm, one blue image at 450 nm, and one dark image for noise suppression comprise the basic image set.

Technical Discussion

The prototype system was completed, delivered and installed on the HELSTT site at White Sands Missile Range. It has been operational under the sponsors jurisdiction and control since 23 February 1992.

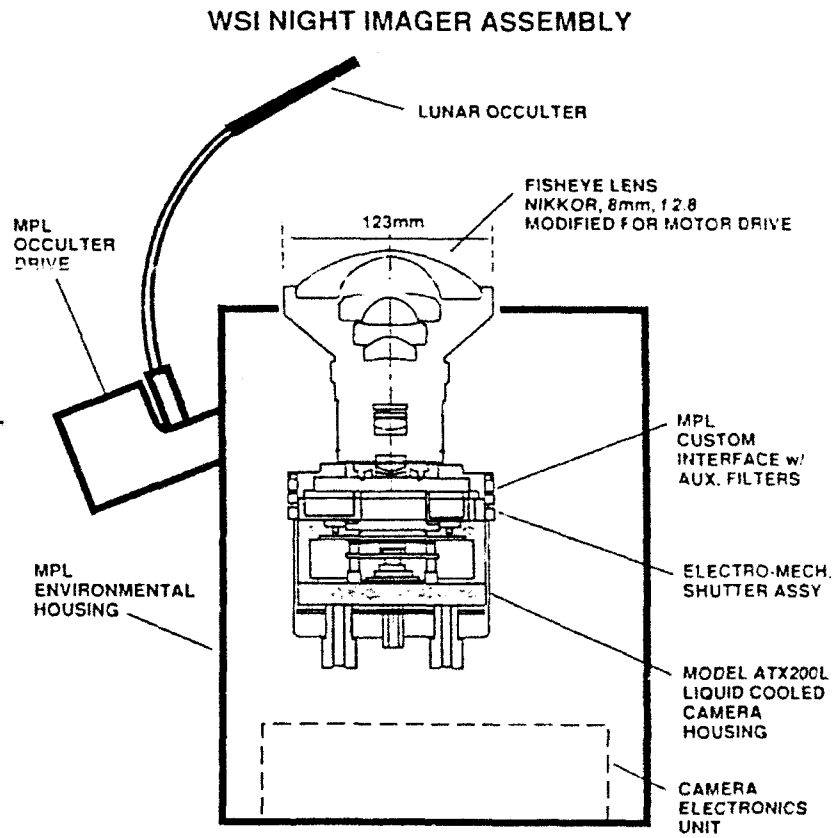
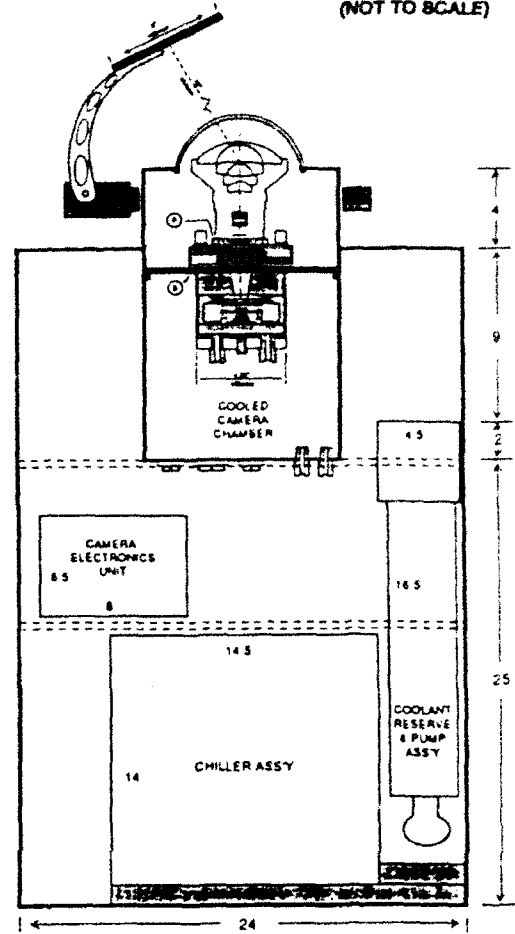


Figure 1

WSI NIGHT IMAGER ASSEMBLY  
(NOT TO SCALE)

Figure 2



DAY/NIGHT WSI  
HARDWARE BLOCK DIAGRAM

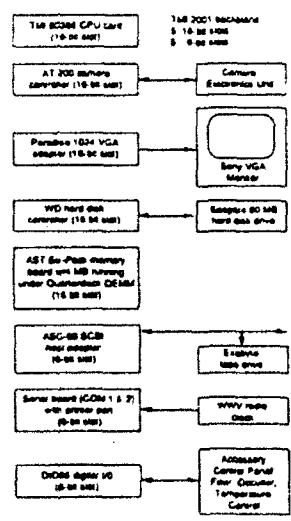
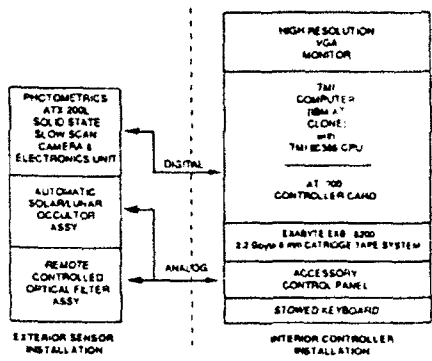


Figure 3

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