SCHEDULE A

THE EQUIPMENT

The Canadian Network for Space Research / University of Calgary Polar Camera consists of two nearly identical all-sky cameras with associated cabling, a mounting tripod with a platform for azimuth adjustment, a computer for instrument control and data acquisition and archiving, a standard low brightness source with thermal enclosure and positioning jig for calibrations, and various tools and pieces of auxiliary equipment, together with durable packaging for shipping.

Each of the all-sky cameras includes a Photometrics AT200 camera system, which consists of a CH250 camera head, a CE200 camera electronics unit, and an AT200 computer interface circuit card mounted in the computer. The CH250 camera head includes a Thomson TH7895B scientific-grade charge-coupled device (CCD) image sensor mounted in an hermetically sealed evacuated chamber, a thermoelectric cooler for the CCD, and a preamplifier. The camera head acquires images produced by an optical system consisting of a Nikkor 16mm f/2.8 fisheye lens, a telecentric lens, a five-position filter wheel driven by a DC motor and belt, a condensing lens and a f/0.95 imaging lens with C-mount threads. The two all-sky cameras are nominally identical except for the filters in the filter wheels. In addition each camera system is equipped with various temperature sensors and electronic thermostats, an auxiliary heater with air circulation fans, a linear DC power supply, and an auxiliary electronic circuit board to control the non-imaging functions of the all-sky camera. Each camera is enclosed in an insulated aluminum housing which bolts to an aluminum baseplate, through which data and power cables pass, and views the sky through a hemispheric acrylic dome of about 3" diameter mounted in the top of the housing.

The computer is a MultiTech IBM-compatible PC (model MT-386/25C-650S), with an Intel 25-MHz 80386 processor, a Cyrix 80387 math coprocessor, and 8 MB of RAM. Data are stored on a 630-MB Fujitsu SCSI hard disk drive, and archived on digital audio tape using an internal Archive Python Model 4520 SCSI DAT drive. The PC is also equipped with 5.25" and 3.5" floppy disk drives, an Amazing Technology 14" SVGA monitor, and a custom-built device to reboot the PC when normal operations have been interrupted for more than 90 minutes. Power for the PC and for the all-sky camera operations is provided by a Sola constant-voltage transformer.

Auxiliary tools include a battery-operated flashlight, rechargeable C- and D-cells for the flashlight and low brightness calibration source, a Dynacharge battery charger and battery dischargers for ensuring full battery drainage, a Beckman digital multimeter with test leads, a Westward SDK29 set of magnetic screwdriver bits with a handle, a Canadian Tire 3-Way Ratchet Screwdriver and Socket set, a set of 5 small SAE box-end wrenches, and a set of SAE hex keys.

For shipping, there are padded wooden crates for each all-sky camera, and wooden crates for each of the primary and backup sets of data and power cables, and the (disassembled) tripod and constant-voltage transformer. The PC and monitor travel in custom-made padded aluminum cases. The other items are packed into the tripod, cable, or PC crates as space allows.

Item	University of Calgary Inventory Number	Serial Number
AT200 Cam. Sys. #0	221814	CCD: 15M-9-19-91 CH250: 264 CE200A: 1748
AT200 Cam. Sys. #1	221815	CCD: 13M-9-19-91 CH250: 265 CE200A: 1758
MultiTech PC	221610	9107172189-1
SCSI DAT Drive	222174	NAA19377
SVGA monitor	219576	A9025005

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