With this periodically compiled collection of short notes, the NTT team intends to keep the community informed about changes in performances, configuration, and operation of the NTT and its subsystems.

More Software Support

On June 16 and July 1, we could welcome Thanh Phan Duc and Marco Chiesa, respectively, as new members of the NTT Team. They are reinforcing our software development capacity and are working on the new control system for the NTT. With the beginning of the final implementation phase around the end of 1995, both Thanh and Marco will be transferred to La Silla.

First Field Tests of New Control System

In May, an important milestone was reached for the development of the VLT control system. For the first time, part of it has been tested with a working telescope. The objective was to use VLT-standard hardware, operating system, drivers, and the Local Control Common (LCC) Software to control the NTT enclosure (Work Components Nos. 1 and 2 of the NTT Upgrade Plan).

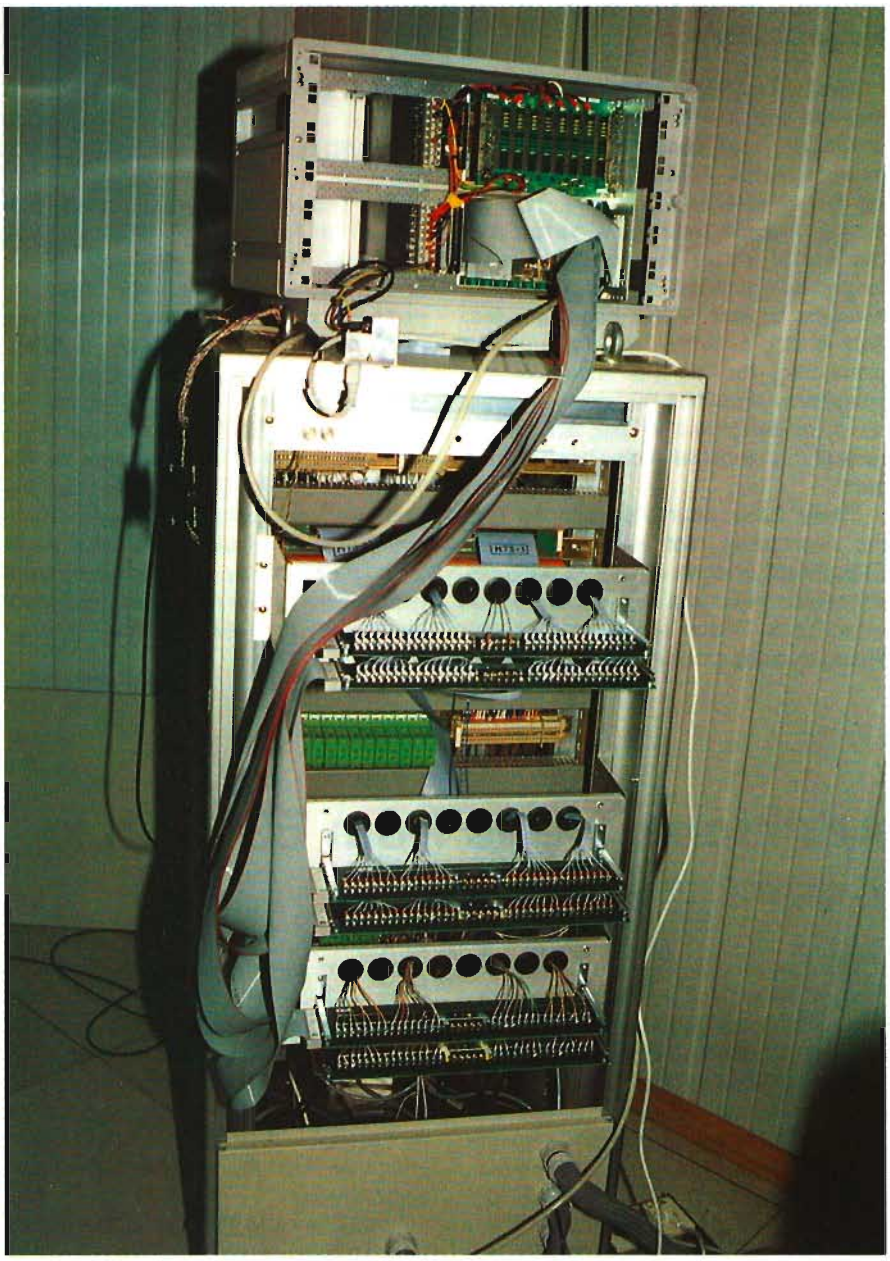
Figure 1 shows the VLT-type VME crate, with standard VLT VME boards, installed on top of the existing NTT enclosure cabinet. The field electronics have been connected to the new VME crate. Using standard VLT software and a new application developed for the NTT, the NTT enclosure functions were controlled and monitored from the LCC Engineering User Interface running on an HP700 workstation. Some early experiments could also be made with a pre-release version of the VLT Central Control Software (CCS).

The installation went so smoothly that major parts of the three nights allocated to the tests could be used for the taking of further calibration data for EMMI. The NTT enclosure application has been adopted as an example of an LCU application by the VLT Software Group and is being distributed together with the VLT Software Release 1 to VLT consortia and contractors. The complete test report is available by anonymous ftp from *ftphost.hq.eso.org* in file `./pub/NTT/testReportWC1.ps`. Tests of Work Components Nos. 3 (M2 and M3), 4 (autoguider and adapter), and 5 (hydraulics/console) are scheduled for October 1994, February, and March 1995, respectively.

Improved Pointing Models

New pointing models have been established for both foci. On side A (IRSPEC, SUSI) the all-sky rms is 1.1 arcsec. On side B it was found to be as low as 0.85 arcsec and stable over at least one month. This is comparable to the results obtained at the time of commissioning.

The most critical zone for any telescope with alt-az mounting is around the zenith where the telescope turns around very quickly during the meridian passage of the objects. At the moment the pointing is not yet as good here as over the rest of the sky. Extensions of the present pointing models to this region will be attempted in August with a special measuring technique.



Using the NTT as a testbed for the VLT control system. The VLT-type VME crate, with standard VLT VME boards, installed on top of the existing NTT enclosure cabinet.

Tracking of Moving Targets

Special efforts were undertaken to better support the tracking of moving targets. In autoguiding mode, the guideprobe was stepwise offset as to compensate for the differential motion of the target. But because there is no servo in the control loop, the errors tended to accumulate with time. On the other hand, the improvement of the pointing model automatically enhanced the tracking accuracy (both functions use one and the same software), and it was concluded that within certain limits the freely tracking telescope would in this case give a better performance. A special pointing model was built, therefore, to enable observations of the impact of comet SL-9 on Jupiter down to elevations of just 10 degrees (with an rms of 1.7 arcsec).

Image Quality

A careful mapping of the field astigmatism has been performed on side B. The results are very consistent with similar measurements obtained on side A during the commissioning period. This indicates that the results are correct and that the NTT has been stable over a long period of time. The image analysis software for side B has been updated. This is also a further step towards implementing the parallel mode of the image analysis where the image analysis has to be performed off-axis. Successful tests of this mode have also been carried out.

There have been suggestions that the elongation sometimes seen in EMMI/SUSI images is due to astigmatism. A more in-depth analysis kindly provided by R. Wilson shows that for any plausible assumptions field astigmatism cannot explain this effect, even if not corrected at all. Additional tests will be made in August.

IRSPEC

Following the solution (by B. Gilli) last year of a problem with the recovery from synchronization losses of the various real-time VME nodes controlled by the NTT computer, the operation of IRSPEC has now been very smooth for several months. Especially beam switching has no longer been a nightmare.

Even better news is that the software to transfer IRSPEC data directly to the workstation is now almost ready to use. There, the data can be reduced with the IRSPEC package in MIDAS. A graphical user interface to this package has been developed by C. Levín and is now being offered on an experimental basis.

The manual was updated a few months ago. It is offered via anonymous `ftp` only (node `ftp.hq.eso.org`, subdirectory `pub/NTT`.

EMMI/SUSI

The Optical Detector Group has performed a full test of CCD No. 36 (red arm of EMMI); No. 25 (SUSI) is scheduled for August. Test reports are available via anonymous `ftp` from node `lw5.ls.eso.org`, subdirectory `pub/CCD/new_noise_tests`. It is recommended to always check file `/pub/CCD/README` first because structure and scope of the database are not yet final. CCD No. 31 (blue arm of EMMI) was this year tested only partly. However, the control electronics was carefully fine-tuned by P. Sinclaire, which resulted in a further reduction of the read-noise level from 6.6 to 4.3 e^- in slow mode.

Following a design by T. Abbott, R. Warmels has implemented a set of MIDAS commands which will enable Visiting Astronomers to evaluate CCD test data at the telescope or their home institutes. It is expected that after further testing, this software will be distributed with the 94NOV release of MIDAS as an extension of the present CCD reduction package. In addition, the EMMI/SUSI control software has been modified such that sets of exposure definitions can be saved to and restored from disk. This should also facilitate the taking of test data by Visiting Astronomers according to a fixed standard. For the same purpose a LED assembly was prepared by S. Deiries which should eventually replace the radioactive β lights as stable standard light sources.

A new, intermediate version of the EMMI/SUSI manual can be requested from the Visiting Astronomers Section in Garching (`visas@eso.org`).

More Disk Space and Computing Power for Observers

With the advent of the 2k×2k CCDs at the NTT, many observers have strongly felt the shortage of disk space. The computer group at La Silla has now installed a new 4 Gbyte SCSI-2 disk which triples the previous capacity. A further increase to 6 Gbytes is envisaged. For the same reason, the computer group at La Silla replaced the Sun Sparc 10 workstation with an HP 735 workstation with 96 Mbytes of RAM. This gives significantly improved throughput, especially for operations involving several large frames.

Because especially in the afternoon observers and technical staff were competing for the keyboard and screen of the workstation, an additional X-terminal has been installed for the technical staff.

Additional News from ESO-Chile

J. MELNICK, ESO-La Silla

The weekend of August 19 was extremely hectic on La Silla. The movers arrived to transport the material of the Astronomy Support Department to our new base in the Vitacura office. The computer network had previously been divided into two subnets, both of which were kept running for about 10 days before the move. Then the Santiago subnet was disconnected and packed for Santiago. Thus, computer service was maintained with minimal interruption throughout the process. Service was started in Santiago about one week after the material was unpacked, a mere 10 days after packing started on the mountain, and in fact much of the delay was due to the upgrade of the Sun Servers from Sparc10 to Sparc20. I would like to congratulate our two systems managers, Cristián Levin and José Méndez for this remarkable achievement!

The library was also moved in a record time. Packing started on August 18, and the library was ready in Vitacura on August 25. The initiation of activities on Vitacura was celebrated that day with a cocktail offered by the Director General and attended by ESO staff and Chilean scientists and educational authorities. Congratulations to our librarian, Maria Eugenia Gómez, for this success.

The Santiago-Based Model

For already more than one year before the move we had been experimenting and fine-tuning the so-called Santiago-based model. This means that science