

## IAC-ING LIRIS/INGRID COLLABORATION

(Preliminary edition 09/12/97)

### **Introduction.-**

The collaboration is based upon the construction of two Infrared Instruments “LIRIS/IAC and INGRID/ING” that will be sharing the Cassegrain IR focus port of the WHT. Both Instruments will interface to the common user instrumentation control systems of the ING.

The aims of this collaboration should be:-

- A) Maximize the availability of both instruments to users.
- B) Minimize technological risk involved in their development.
- C) Economy of effort through technological sharing.
- D) Increase in knowledge base through information sharing.

### **Terms of agreement.-**

1. The IAC shall be responsible of the design and implementation of the EPICS instrument control software specifically for INGRID but with the generalized concept that this practical application will serve as the model for the computer upgrades project standard of EPICS interfacing at the common user instrument control computer level. This work is expected to include the design, implementation, and testing of the VME EPICS control subsystem running under VxWorks, the graphical engineering interface based on EPICS. The EPICS VME subsystem should use the Instrument Control Interface based on CIALib provided by the ING. The ING shall provide the IAC all the VME hardware necessary to develop the EPICS instrument control software. This hardware shall be available at the IAC headquarter during the whole duration of this task.
  
2.
  - 2.1. The ING shall have in place within the time frame required by LIRIS (starting of AIV at telescope level), the complete user interface and high level infrastructure for instrument integration and control to LIRIS requirements. This infrastructure will interface through three defined ports to the LIRIS Instrument, these being:
    - 2.1.1. Instrument control interface.
    - 2.1.2. Data acquisition interface (DJ Subsystem).
    - 2.1.3. Configuration control interface.
  
  - 2.2. The ING shall provide to the IAC within the time frame required by the AIV of LIRIS at instrument level, an emulator of the user interface and instrument control for the WHT. This system should be representative of the final telescope infrastructure in the following points:
    - 2.2.1. The configuration of the interfaces to LIRIS Instrument (2.1.1, 2.1.2 and 2.1.3)
    - 2.2.2. The user interface excluding the telescope control system.

Emulator software should be provided by ING. Hardware should be defined by ING and paid by IAC.

- 3. The ING invites the IAC to participate in the definition, design, and implementation of the data acquisition system (DJ Subsystem) for the computer upgrades project. Specific areas for participation are open to further discussion.
- 4. The ING shall participate in the design and implementation of the instrument data acquisition system for LIRIS. This work is expected to include the design, implementation, and testing of the array operation and data acquisition software under the responsibility of the ING. The possibility of having the participation of the IAC in this work is open to further discussion. The ING shall provide the IAC the necessary documentation to assure the maintenance and modification of this software. The development of the architecture array control hardware shall be responsibility of the IAC. The ING shall also provide complete and unrestricted access to all software and hardware documentation generated by ING for the SDSU controller inside the INGRID project. The documentation shall be available once is ready.

**General Conditions.-**

- I. To attain those objectives the requirements of both Instruments will be mutually derived as compatible as possible.
- II. The agreement included in this document is dated according the planning of LIRIS included in Annex 1.
- III. All travel expenses generated by work done for one instrument in the framework of this agreement will be paid by the instrument owner institution.

Signed in Santa Cruz de la Palma  
on .....  
For the ING

Signed in La Laguna  
on .....  
For the IAC

Rene Rutten  
Officer in Charge

Rafael Rebolo  
Head of Research

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Head of Technology