

MMTO Internal Technical Memo 93-2

Remote Observing with the MMT

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1. Introduction

This brief set of instructions should help you to get started using the MMT Remote Observing System with the Red or Blue Channels of the MMT Spectrograph. It is written assuming that you are working from the MMTO Remote Observing Room, room 481, Steward Observatory. A key to this room can be checked out from the MMTO Business Manager, Howard Lester. It would be prudent to check with me, Frank Sharp, Dave Ouellette, or some other MMTO staff member a day or so before your run so that we can ensure that all systems are working and brief you on the operation of the video switcher and the details of audio communication with the Telescope Operator.

2. Audio Communication

There is a desk-mounted microphone in Room 481 connected to a small box which is also connected to a speaker. The box has a power switch, a pilot led (marked '12V'), a volume control, a three-position toggle switch and a black button. The microphone also has an ON/OFF switch. A duplicate system is located in the MMT Control Room.

To operate the system, turn on the power switch and make sure that the microphone switch is on. Call the MMT and request that the system be turned on up there. The three-position toggle gives you the option of turning your microphone on at all times, off, or making it a 'push-to-talk' mike (in the 'Switched' position). In the latter state, the small black button must be depressed to energize the microphone. In practice, it is fairly easy to find a combination of speaker and microphone position and volume setting to allow both the Remote Observer and Telescope Operator's mikes to be 'On' at all times, allowing conversation in civil tones.

3. Telephones

There are three telephones in room 481. One of these (670-5732) is an FTS line; one is connected to the mountain extension 621-7933; and the third is a normal UA extension (621-3953). The 7933 line will ring in the Remote Room as well as on the mountain. In general, *do not answer it*. It will be answered on the mountain. If you *need* to make a long-distance call, say, to a collaborator in Ulan Bator, use the FTS line, dialing 9-1 before the area code and number. *Do not abuse this phone line. We know who you are!*

4. Spectrograph Control

Spectrograph control is accomplished using a commercial product called NPA which allows a PC running PC-NFS to accept input from and direct output to a window on a networked Sun. To set up the system,

1. Have someone at the MMT reboot the spectrograph control computer in 'REMNET' mode. They will know what you mean.
2. Have the same person switch the toggle switch on the Observer's Top Box paddle to 'SCCS Mode'
3. Select 'SCCS' (recommended) or 'Big SCCS' from the 'Windows' sub-menu of the Workspace pull-down menu.
4. You will soon be presented with a window displaying the PC screen. Type BCCS, RCCS, or RCX, for the Blue Channel, Red Channel, or Red Channel with Focal Plane Adapter, respectively.
5. When the program has initialized, enter the command TOP ON to enable control of the Top Box.

Ian Scott-Fleming has written a detailed memo on the use of this system. A copy should be located in the Remote Room or you can get a copy from him.

5. Using the Data Acquisition System

In what follows, I will assume: