

## Local RFI Mitigation Interference Protection Group

### Objectives:

1. Control of RFI generated by equipment on the Green Bank site.
2. Implementation of RFI monitoring stations for spectrum patrol, observation planning, interference source identification, and field strength measurements in support of Quiet Zone administration.

### Goals:

1. Set standards for EMI emissions from equipment on site.
2. Establish measurement capabilities of sufficient sensitivity to verify compliance with these standards.
3. Acquire expertise in low EMI circuit design and shielding techniques.
4. Retrofit existing equipment on site to bring it within the established emission standards.

### Project Management:

Interference Protection Group chaired by Rick Fisher. The members are Ford, Ghigo, Lacasse, Niday and Weadon. A new RFI engineer and manager position has been advertised. When this position is filled the current RFI management structure, including the IPG and Quiet Zone will be reviewed and modified as needed.

### Time Scale:

Continuing

### Funding and Personnel Requirements:

	2001	2002	2003	2004
	\$60K	\$30K	\$25K	\$25K
Project Mgmt	0.1	0.1	0.1	0.1
Elec. Engineer	0.5	0.5	0.5	0.5
Elec. Technician	1.0	1.0	1.0	1.0
Mech. Engineer	0.1	0.1	0.1	0.1
Machine Shop	0.3	0.3	0.3	0.3
Software Eng.	0.2	0.2	0.2	0.2
Staff Scientist	0.1	0.1	0.1	0.1
	-----	-----	-----	-----
Totals	2.3	2.3	2.3	2.3

April 2001

Charge to the Committee:  
Interference Protection Group

The Green Bank Interference Protection Group is responsible for minimizing the radio frequency interference to astronomical observations from equipment and activities at the Observatory and for developing techniques for removing or avoiding RFI that arrives from sources outside the Observatory. To this end, and within the time and resources available to the committee, it will

1. Improve the sensitivity and direction finding capability of interference monitoring equipment.
2. Improve the response time to reports of interference from observers to find and correct sources of RFI from within the Observatory.
3. Provide the telescope operator(s) with timely information on the spectrum environment at critical points around the Observatory so that new local sources of RFI are quickly detected and corrected.
4. Survey new and existing Observatory equipment for internal or radiated interference as it may affect astronomical measurements and take or request corrective measures as required.
5. Continue to build databases on the Observatory's interference environment and make that information readily available to observers for planning observing programs.
6. Provide assistance to the administrator of the Quiet Zone to the extent afforded by on-site monitoring and direction finding equipment and databases and where Committee expertise might be helpful in particular Quiet Zone technical matters.
7. Provide training and documentation to telescope operators and other technical personnel whose duties affect or are affected by local interference.
8. Develop or adopt new methods of removing or reducing the impact of interference that inevitably appears in astronomical data.