Appendix H

System Evaluation

The system was evaluated by Greg Klemesrud, an electronics specialist in the College of Electrical and Computer Engineering. Below are his comments:
Evaluation of the Master Station

1. Overall Design (Your Opinions)

I like the layout of the components in the enclosure. The cut out's are straight and centered. The appearance is clean and professional - above average.

2. Workmanship (soldering, assembly, etc.)

The soldering is good - should hold up well. I like the battery idea - easy to get at.

3. Suggested Improvements/Modifications

The wiring should be longer... allowing both halves of the enclosure to lay flat. The wires should be bundled and ty-raped, secured to one side. With cable clamps for more strength.

Labels on all of the connectors would make it easier to service.

3. Potential Problems

The loose trimpot might short against something else. Secure to other cables with a ty-rap?
Evaluation of the Slave Station

1. Overall Design (Your Opinions)

    The cutouts in the enclosure for the display segments & LEDs are well done. It takes time to center everything and make straight lines. Good job.

2. Workmanship (soldering, assembly, etc.)

    For a circuit this busy, the layout is clean. The soldering is very good. The right temperature was used showing good flow at the contacts. (The use of hot glue and a polyurethane spray might secure everything on an assembly like this.)

3. Suggested Improvements/Modifications

    Whenever possible, try to install all of the components in one half of an enclosure. That way the cover can be removed and set aside — not tethered by wires. The display segments and LEDs could have been installed in the other (deeper) half of the enclosure and the PCB's stacked there. With the present arrangement, the wiring should be longer allowing both halves of the enclosure to lay flat. Also, bundle the wires to one side and secure with cable clamps.

4. Potential Problems

    The team made good use of connectors and I.C. sockets. Service would not be too difficult. The only weakness might be where wires are soldered directly to the transistor leads. This is another area where wires bundled and Ty-Raped add more strength.