

SRPL Laboratory Experiments and Reports

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Abstract

Experiments conducted on the GNU Radio platform of the Software Radio Prototyping Laboratory (SRPL) as part of 520.465, Digital Communications I, are discussed.

Experiments

1. Students are urged to conduct experiments in teams of 2. This minimizes scheduling since there is only one workstation at present.
2. At the conclusion of each experimental session, please *remove power from the USRP*. This will avoid problems due to power surges and interruptions and due to possible heat build-up. The USRP cost \$600.00, and we haven't a spare.
3. Patrick can give you the combination to the room. Please *lock the room* when you leave.
4. There is no provision for storing your work on the system. Everyone uses the same account, so the next user will overwrite whatever you leave behind.

Reports and Grades

1. Each student must write his or her own report. There is to be *no collaboration on the reports*.
2. There will be 4 experiments. They will be averaged as part of the homework grade
3. Report elements
 - (a) **Introduction**: What is the purpose of this experiment? How does it relate to or extend course material?
 - (b) **Experimental configuration**:
 - i. Description of the radio.
 - ii. Block diagram and explanation. We regret that it is not yet possible to print out data or block diagrams from the workstation¹.
 - (c) Discussion of **measurements** made
 - (d) **Analysis of results** and **Conclusions** (two things).
 - (e) **Feedback and comments** on the experiment, the software, utilities, or any other constructive comments.

¹However, we plan continued expansion and improvement of the system and welcome volunteers and independent study students.