Technical Review Paper: Serial Communication
What is a Technical Review Paper?

- It’s a summary of published research or documentation in which the writer does NOT add their opinions, ideas, or contributions to the topic.

- It’s useful to quickly bring people up to speed on a particular topic.
Subject of Your TRP: Asynchronous Serial Communication

- Used to be standard on every PC, though now commonly replaced by USB.
- Still widely used, especially in industrial equipment.
- Your paper will discuss asynchronous serial communication, RS-232, and UARTs.
Motivation and Audience

- Customer: “We want the new product to talk to computers over serial.”
- Your manager: “Write a technology review of “serial” to get everyone on the team up to speed.”
- Your audience is fellow engineers who will soon need to implement serial communication over RS-232.
Scope of This Report

Yes:
- UARTs (async. serial comm.)
- RS-232 (signal and mechanic characteristics)

No:
- Devices (including interface with UART and specific UARTs)
- Bus interfaces (line drivers, voltage conversion)
Sections of Your Report: Introduction

- Explicitly state the purpose of the paper
  - “This paper is a review of …”
  - Exactly what does the paper cover?
  - You’re not writing a mystery novel

- Provide necessary background on the technology being reviewed
  - Will be brief; avoid “fluff”
Sections of Your Report: Body

- All the technical information goes here.
- We’ve only given you the bare minimum necessary to understand the topic.
  - These slides, and on the assignment sheet.
- Organization is key.
  - Consider the logical layout of your information
  - Make ample use of headings and subheadings
Where Do You Find Reliable Technical Information?

- Journal articles and conference proceedings
- Trade publications
- Patents
- Manufacturer documentation (datasheets)
- Books
- Websites
What Are NOT Citable Sources?

- Wikipedia
  - It can be useful to lead you to citable sources, but is not one itself.

- HowStuffWorks.com
  - Again, might lead to sources, but is itself unreliable.
How to Find Sources

- General web search (e.g. Google)
  - Basic definitions and explanations of the technology
  - Miscellaneous web sites (e.g. users groups, trade organizations, web sites for hobby supplies, Wikipedia, etc.)

- Georgia Tech library web site
  - www.library.gatech.edu
  - Search for articles and conference proceedings (pick “Databases”)
  - IEEE Xplore, Compendex, and SPIE Digital Library are the best databases
  - Browse on-line journals and SPIE Proceedings

- Browse print versions of technical magazines (articles and ads)
  - IEEE Spectrum, Proceedings of the IEEE
  - Electronic Design, EE Times, NASA Tech Briefs, etc.
Useful Links

- Georgia Tech Library
  - [www.library.gatech.edu](http://www.library.gatech.edu)
  - Select “Search & Find”
  - Select “Articles” or “Databases” to execute specific searches
    - Best options are “Compendex”, “IEEE Xplore,” and “SPIE Digital Library”
  - Select “eJournals” or “Journals” to browse specific technical journals, or to locate a specific article in a journal

- Google Scholar
  - [http://scholar.google.com](http://scholar.google.com)
  - May have to use the GT library links to get to the articles you find

- U.S. Patent Office
  - [http://www.uspto.gov](http://www.uspto.gov)
  - Select “Patents” and the “Search”
Required Writing Consultation

• You will meet with your GTA to review a full draft of your TRP.
  o 15% of your writing assignment grade.

• Consultations will be 30 minutes each, held between Jan 28 and Feb 14.
  o Sign up ASAP to get a good time and date.

• Look for more details from your GTA soon.
Use Piazza for Discussion

- Piazza is the best way to get your question seen and answered.
- We will also post any announcements there, including the provided source.
- If you haven’t joined yet, do so ASAP!
Schedule

● Due Feb 17 - over three weeks from now.
  ○ Mostly so that GTAs can handle all of the consultations.
  ○ This is not a 3-week paper, but...

● Don’t procrastinate.
  ○ Bringing a truly complete draft to your consultation will allow your GTA to give you the best feedback.