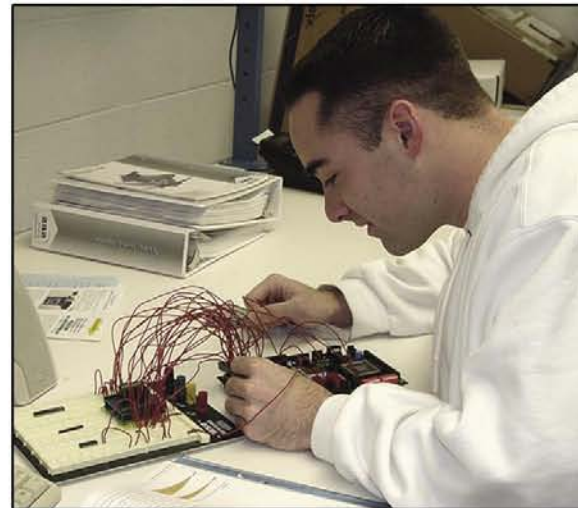


Northrop Grumman Weather Radar

Advancing Radar State-of-the-Art at ESL

Undergraduate and graduate students alike explore and enhance cutting edge radar technology in the ElectroScience Laboratory's radar lab, the centerpiece of which is the state-of-the-art APN-241 Doppler Color Weather Radar system. The radar and a variety of supporting laboratory instrumentation, including high-speed logic analyzers, oscilloscopes, network analyzers, and signal generators, were made possible by a generous contribution of the Northrop Grumman Corporation's (NGC) Electronic Systems Division of Baltimore, Maryland. Using these instruments, students learn about radar technology and apply their knowledge by conducting research projects on the same radar technology used in aircraft systems today.

A special license granted to ESL by the Federal Communications Commission (FCC) allows students to operate the APN-241 at the Ohio State University airport so they can test their experiments by collecting real-world air traffic, weather, and wind-shear data. Through ESL's close relationship with NGC, students have worked side by side with practicing engineers in solving real-world problems and designing radar systems of the future.



Recent APN-241 Projects

- An Altera FPGA-based TAXI bitstream digital-to-analog video converter
- Front-end characterization of the APN-241 pulse Doppler radar
- High-speed correlated capture and off-line analysis of raw I/Q radar samples

