

Fabrication

LCC 4730 / LCC 6318 / LCC 8803
Spring 2007

Next Week

Thursday January 25th: meet in TSRB 339

Fabrication tutorial led by Aimee

Lasercutter & 3D printer usage

Design exercise:

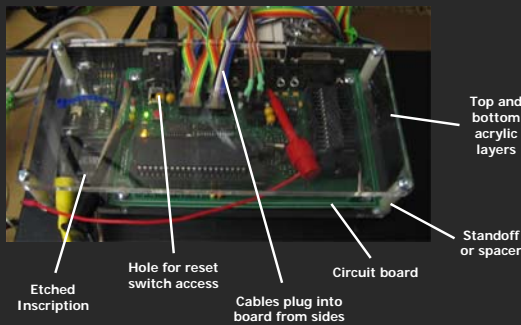
Design and build a holder for your wiring boards

Bring an 1/8" thick piece of acrylic, roughly 12"x12"

More info will be sent out by Aimee before next week

An example board holder and a brief intro to multi-layered design...

Example Board Holder



Multi-Layered Design

When working on the lasercutter (and in certain cases when working with wood), 3D objects are most easily designed from multiple layers that are stacked together.

3-dimensionality obtained by varying individual layers:

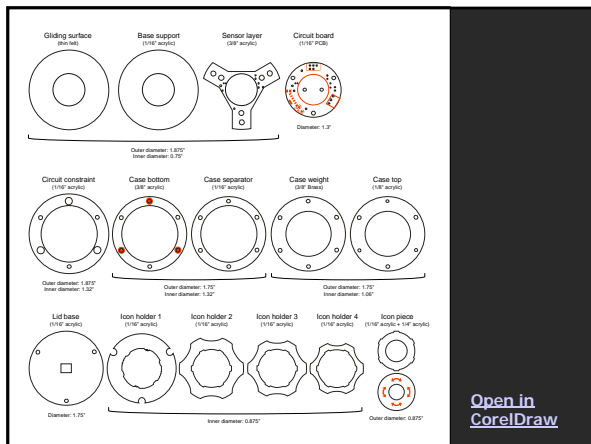
Shape, Thickness, Material

Design example: TVViews puck



Let's look at what this consists of...

(Note that this is much more complicated than what you need to do... your object does not need to have more than one layer!)



Attaching Multi-Layered Objects

For acrylic:

- Machine screws work well. You can tap the acrylic, use nuts or use press-fit threaded inserts (careful when you insert these since acrylic is very brittle!)

- Bonding agent: super glue, liquid acrylic adhesive



IPS Weld-on
3 - very thin, very fast-curing
16 - medium body, fast-curing

For wood:

- Wood screws
- 5 min epoxy, wood glue



Hand Tap and taps



Wood screw



Machine screw



Threaded insert

CAD Formats

DWG:

File format for CAD drawings used by AutoCAD
Stands for DraWinG

DXF:

Variant of DWG introduced as part of AutoCAD for CAD
drawing exchange
Stands for Drawing eXchange Format

CorelDraw prints directly to the GUV lasercutter...

Local Resources

Home Depot: 650 Ponce De Leon Ave, Atlanta, GA 30308

Sam Flax: 1460 Northside Dr NW, Atlanta, GA 30318

Pearl Art: 3756 Roswell Rd NE, Atlanta, GA 30342

Utrecht Art: 878 Peachtree St NE, Atlanta, GA 30309

McMaster-Car: 6100 Fulton Industrial Blvd, Atlanta GA, 30336