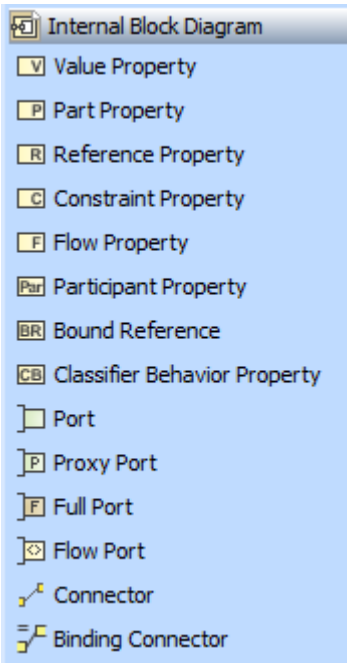


Inner Block Diagram Lite Cheat Sheet

An inner block diagram (IBD) can be used to show the details of internal components of a block, which can be a system, subsystem, assembly, component, part, etc. It also can show all the internal connectors and wiring. When using the inner block diagram to sketch, we are looking primarily to get a feel for what construction will entail. The diagram can be as simple or complex as desired.

In figure 1 we see the elements that can be placed on an IBD. The ones typically used when sketching are:



- Value – a numerical value, e.g. the weight of a car
- Part – one of the parts that make up the block the IBD is describing
- Reference – something coming from outside the block. For example, an air conditioner might be referencing an external thermostat.
- Constraint – some limit on the block. For example, for an airplane, the constraint might be maximum speed in level flight, etc.
- Flow property – typically used with a connector representing a flow of some kind, for example, water, electricity, etc.
- Port – something that connects the block to the outside world, or connects one part to another inside the block
- Connector – connects to ports, and can have a flow property.

When using the IBD for sketching, just a few of the features of the IBD need be used unless involved in detailed design (figure 2, below).

Figure 3 shows a more complex internal representation of a typical personal computer.

Figure 1 Inner block diagram elements

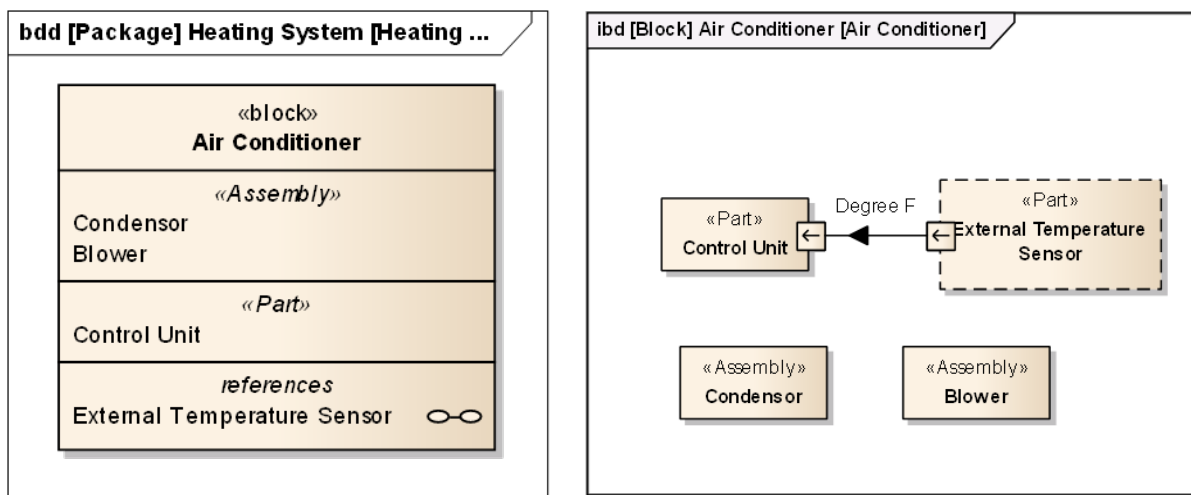


Figure 2 Simple Block and IBD representation of an Air Conditioner

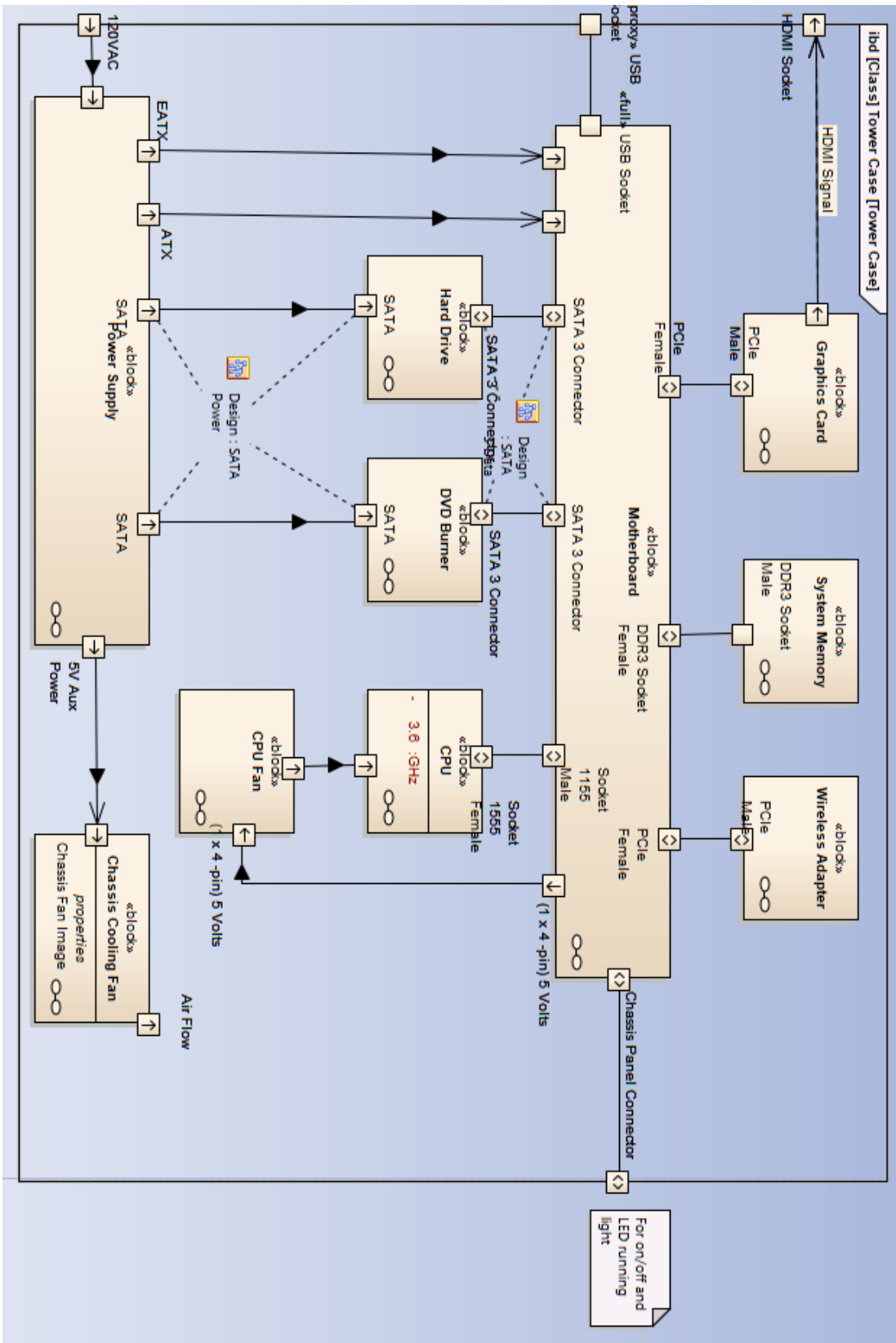


Figure 3 IBD of PC internals