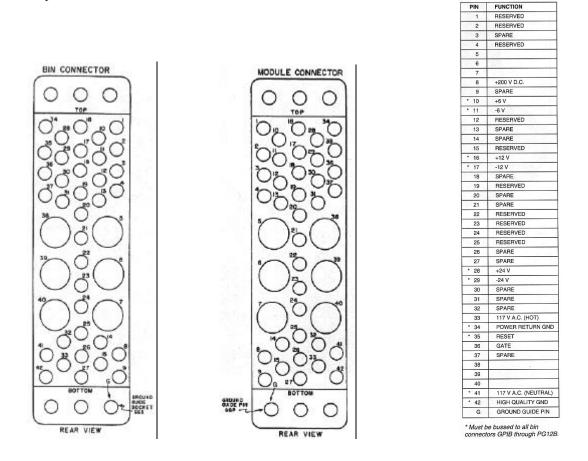
AN INTRODUCTION TO NIM

The NIM standard (DOE/ER-0457), originally an acronym for Nuclear Instrumentation Methods, was established in 1964 for the nuclear and high energy physics communities. The goal of NIM was to promote a system that allows for interchangeability of modules. Even today experimenters use NIM modules to assemble a system which meets the specific requirements of their experiment.

Standard NIM modules are required to have a height of 8.75", and must have a width which is a multiple of 1.35". Modules with a width of 1.35" are referred to as single width modules and modules with a width of 2.7" are double width modules, etc. The NIM crate, or NIM bin, is designed for mounting in EIA 19" racks, providing slots for 12 single-width modules. The power supply, which is in general, detachable from the NIM bin, is required to deliver voltages of +6 V, -6 V, +12 V, -12 V, +24 V, and -24 V. The standard NIM power connectors and pinouts are shown the Bin Connector Diagram, Module Connector Diagram and Pin/Function Table. The LeCroy NIM bin and power supply, Model 1403, adhere to all NIM specifications.



The NIM standard also specifies three sets of logic levels. In fast-negative logic, usually referred to as NIM logic, logic levels are defined by current ranges. Since the standard also requires 50 W input/out impedances, these current ranges correspond to voltages of 0 V and -0.8 V for logic 0 and 1 respectively. Fast-negative logic circuitry can provide NIM signal with rise times of order 1 nsec. Slow-positive logic, is rarely used in fast-pulse electronics due to the slow rise times involved, and is not implemented in LeCroy modules. Specifications for ECL (emitter-coupled logic) voltage levels and interconnections have been added to the NIM standard at the request of LeCroy. The logic levels, header sizes, cable terminations, etc., is specified in the standard. The TTL logic system may be used in NIM modules, but is not specified in the NIM standard. LeCroy provides the Model 688AL and the Model 4616 for NIM/TTL and ECL/NIM/ECL level translations. LeCroy also provides the Model 4501A adaptor, which allows a NIM modules to be used in a CAMAC crate.