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Update

Amplifier Interface Developments

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Progress Report on Amplifier Interface Development

After the tests at ANU in August 1994 the development of the amplifier interface has been mainly concerned with packaging the energy to time convertors and walk generators into 16 channel modules. These will be mounted in pairs alongside 16 dual amplifier modules to give a block of 32 channels/crate.

The prototype boards for walk generation WAGER and the energy conversion CATER have been built along with a Camac board TAIL which links them to the TDC and Trigger modules in Camac. (See Diagram 1) The TDC is a standard 32 channel LeCroy 2277 module and the current trigger is based on a 32 channel MALU a LeCroy 4532. The readout of the TDC channels will be controlled by a special module FIACRE which will read the TDC channels and then arrange their output into a FERA format identical to that used by the Silena ADCs. This will enable the new system to be incorporated with the existing scheme or used to read directly to the VME crate in conjunction with the FETCH module. FIACRE will receive a pattern of accepted channels from the amplifier interface and convert these to both a list of channel addresses and a set of hit words. The address list is compared with each word read from the TDC and ensures a correct match between the hit pattern and the readout for energy and time for each active channel. The prototype FIACRE will produce data to match the existing Charissa format within a standard LeCroy Data Stack 2375. This stack may either be read as part of the existing array when it would be equivalent to 4 ADCs + 4 TDCs or directly into VME using the FETCH module to control the stack. An address list is generated for every active channel within FIACRE and it would be possible to output this list interleaved with the data onto the stack. The resulting format is then close to that which Event Builders use within the Eurogam scheme. FIACRE is still in the design stage with the prototype scheduled for early July. All the other boards have been produced in the prototype form and testing of these must be completed before full production is initiated of 320 channels. Initial testing is now in progress and it is hoped that some time might be available for final tests in the schedule at Strasbourg from September 95. A printed circuit version of the FETCH module has been produced along with a PC version of the FARMER module. Finally an extender board has been produced which will permit the existing amplifiers to be used with the CATER and WAGER assembly as the new array is developed. □