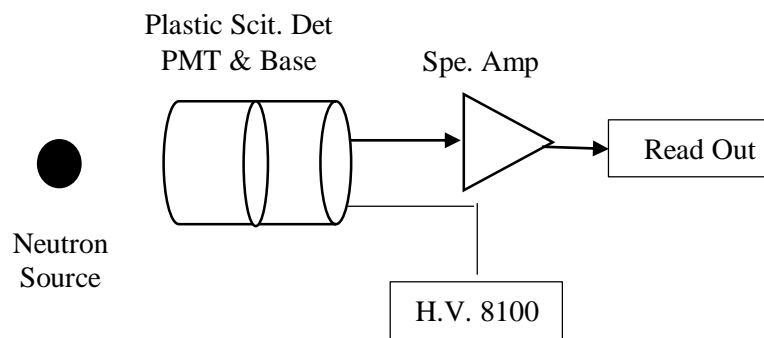


## Plastic Detector (Fast) Counting System

### Required Equipment

- Plastic detector
- Preamplifier
- Bin power supply model 8000
- High voltage power supply model 8100
- Counter timer 20 Ch -2655
- Counter timer software model 2655
- BNC and SHV cables
- Neutron emission source

This set is described in the following figure.



All products are provided by Iman Gostar Raman Kish company

### Instruments Used In This Set

#### 1. Plastic Detector

Plastic detector is provided by Iman Gostar company with different sizes and according to customer order.

#### 2. Preamplifier Model 3000

Pre-amplifier model 3000 is designed for use in proportional detectors. The model 3000 low-noise charge-sensitive preamplifier integrates the charge pulse from a PMT (decoupled from the anode) and converts it into a convenient positive voltage pulse output.

- Decay time: 50  $\mu$ s
- Temperature rate: < 0.25 %

### 3. BIN Power Supply Model 8000

The 8000 power supply is a 19 inch rack with a power supply of 160 watts, and all of its connectors have the standard voltage of a NIM bin.

#### Specifications

- Input: 220 or 115 Vac,
- Output impedance:  $<0.3\Omega$  at any frequency up to 100 KHZ for the dc output.
- Temperature coefficient:  $<0.02\%/^{\circ}C$ , 0 to  $60^{\circ}C$ .
- Output ripple:  $<3\text{mV}$
- Voltage adjustment:  $\pm 2\%$  minimum range
- Power supply

$\pm 6\text{ Vdc}$     10 mA

$\pm 12\text{ Vdc}$     3 mA

$\pm 24\text{ Vdc}$     1.5 mA

### 4. 8100 High Voltage Power Supply

The IAP 8100 high voltage power supply is used for biasing various detectors.

#### Specifications

- Output polarity: Positive or negative
- Output voltage: 0 to 3 KV
- Output current: 0- 10 mA
- Output ripple:  $<10\text{mV}$
- Power: 220 Vac

### 5. Counter-Timer 20 Ch -2655

Counter-Timer is a device that counts and stores the input pulses and sends them to a computer for further analysis.

### 6. Counter Timer Software Model 2655

Counter timer software model 2655 is designed to use and communicate between the counter and the computer.

### 7. Cables

SHV and BNC