CHAPTER IV

SPECIFICATIONS

4.1 PERFORMANCE

Function. Can be used as a Timer or Counter, and as Timer-Counter simultaneously.

Count Capacity. Six decades, from 000 000 to 999 999

Time Base. 0.1 sec. or 0.1 min. counting increments, time base dervied from line frequency.

Counting Rate. (Counter Mode). 10 MHz, minimum.

Time Base Accuracy and Stability. Depending on line frequency.

Pulse Pair Resolution (Counter Mode). Minimum 50 ns. .

Input Discriminator. Adjustable through range of 0.1 to 10 V.

Automatic Clear. Generated when power is turned on initially or after a power failure.

4.2 INDICATORS

Display. 6 direct-reading 7-segment LED digits with automatic blanking of insignificant zeros.

Overflow LED. Illuminated from the first overflow until resetting occurs.

Start LED. Illuminated while unit is in the counting

condition.

Interval LED. Illuminated while unit is in the timing
interval.

4.3 CONTROLS

Display Test. Push-button switch illuminates all segments
of each digit in the display when depressed; display reads 888 888.

Master/Slave. 2-position toggle switch selects the timer-
counter function when the module is connected in a data acquisition
system. Master selects control over all slaves in the system by
furnishing control signals through the common gate and reset lines.
Slave accepts control from another module in the system, operating
as a Master, that furnishes the system gate and reset signals.

Reset. Push-button switch resets the internal counting
register and the display to zero when depressed.

Start (Stop). Push-button switch initiates (inhibits)
counting and timing condition manually for the module.

4.4 CONNECTORS

Input. Front pannel type BNC connector accept positive
unipolar or bipolar signals to $\pm$ 25 V maximum. Input amplitude
must exceed adjusted threshold level with a 20 n sec minimum pulse
width Z_{in} is equal to 1K Ω to ground and is dc-coupled.

Gate In. Front panel BNC connector accept NIM-standard
slow positive logic signals to control the counting register
input gate. An open circuit or $\geqslant$ 3 V enables counting; $\leqslant$ 1.5V

inhibit counting; $\pm$ 25V maximum; driving source must be capable of sinking 0.5 mA of positive current.

Gate Out. Front panel BNC connector furnishes a $+$ 5 V output level whenever the unit is in timing condition. Signal switches to $\approx$ 0 V at the end of the preset time.

Reset In (Out). Front (Rear) panel BNC connector accepts NIM-standard slow positive logic signals to reset the unit to an initial condition, $\geq +3$ V generates reset; $\leq$ 1.5V does not reset.

Oflow (Overflow). Front panel BNC connector furnishes standard positive logic out each time the Counter overflows from 999 999 to 0.

In/Out. Rear panel Amphenol type 57-40140 connector includes four common data lines and all system logic for the standard ORTEC printing and/or counting system connections.

4.5 BIN/MODULE CONNECTOR PIN ASSIGNMENTS FOR AEC STANDARD NUCLEAR INSTRUMENT MODULES PER TID_20893

Pin	Function	Pin	Function
1	3 volts	23	Reserved
2	3 volts	24	Reserved
3	Spare Bus	25	Reserved
4	Reserved Bus	26	Spare
5	Coaxial	27	Spare
6	Coaxial	28	+ 24 volts
7	Coaxial	29	−24 volts

Pin	Function	Pin	Function
8	200 volts dc.	30	Spare Bus
9	Spare	31	Carry No.2
10	+6 volts	32	Spare
11	-6 volts	33	115 volts ac (Hot)
12	Reserved Bus	34	Power Return Ground
13	Carry No.1	35	Reset
14	Spare	36	Gate
15	Reserved	37	Spare
16	+12 volts	38	Coaxial
17	-12 volts	39	Coaxial
18	Spare Bus	40	Coaxial
19	Reserved Bus	41	115 volts ac (Neut.)
20	Spare	42	High Quality Ground
21	Spare	G	Ground Guide Pin
22	Reserved		

4.6 SYSTEM CONNECTOR SIGNAL:

The following signals are in the two 14 pin rear panel connectors. Ten of the eleven signals are common to the two connectors. The only difference being on Pin 7. On the "In" connector, the signal is Previous Module Finished, and on the

"Out" connector, the signal is "This Module Finish ".

	"In" Connector			"Out" Connector	
Pin	Description		Pin	Description	
1	Data 1		1	Data 1	
2	Data 2		2	Data 2	
3	Data 4		3	Data 4	
4	Data 8		4	Data 8	
5	Print		5	Print	
6	Print Advance		6	Print Advance	
7	Previous Mod.Finish		7	This Mod.Finish	
8	System Gate		8	System Gate	
9	System Preset		9	System Preset	
10	System Reset		10	System Reset	
11	Ground		11	Ground	
12	Spare		12	Spare	
13	Spare		13	Spare	
14	Spare		14	Spare	

4.7 POWER REQUIREMENTS:

$$110\ V_{rms} \quad < \quad 5\ mA$$

$$+12\ V \quad \approx \quad 1.2\ A$$

$$-12\ V \quad < \quad 20\ mA$$