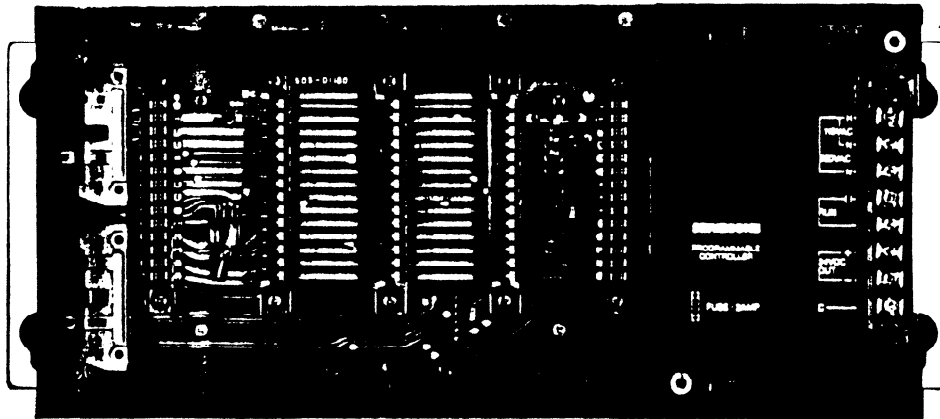


GEK-90842

Rack Description

The Series One and Series One Plus PCs are provided as a family of racks into which modules can be inserted. Each rack contains a power supply to the right and space for up to either 5 or 10 modules (see figure 2-1). Racks are available in 6 versions, 5 or 10-slot that accept 115/230 V ac input power, 5 or 10-slot that accept 24 V dc, a UL listed 5-slot rack, IC610CHS111 which accepts only a 115 V ac power source, and a low-cost 5-slot rack (IC610CHS101) that does not include an expansion part, 24 V dc terminals for external use, or a RUN relay. Each supplies internal power to the modules inserted into the rack. Mounting is provided by the brackets each with two keyholes at the rear of the rack. All racks are similar. The differences being the function of the rack as determined by the placement of modules by the user, the number of modules which may be inserted into a rack, and the input power required. Figure 2-2 illustrates typical modules for the Series One Family of PCs, illustrating in hardware, the block diagram concept of figure 1-1.

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**Figure 2-1. Typical Rack****Module Location in Rack**

The CPU module is always placed adjacent to the power supply in the first rack; it contains the microprocessor and required memory storage. There is a connector on the CPU to which the programmer is attached when mounted on the rack. As an option, between the CPU and programmer a 5 foot (1.5m) cable can be installed for more flexible operation. The remaining slots can contain I/O modules in any mix of inputs versus outputs or voltage levels desired by the user for his particular application. All modules as well as the programmer are secured to the rack by two snap-locks which can be released by squeezing the module top and bottom toward the center (see Chapter 3 for additional installation details).

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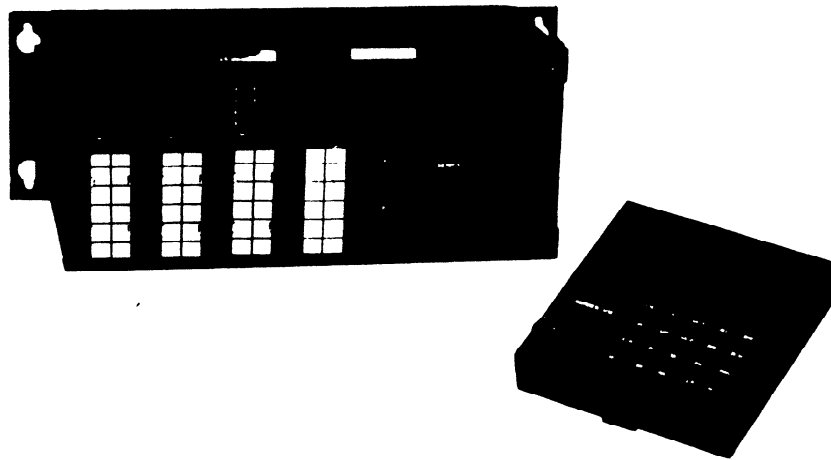


Figure 2-2. Typical Hardware

Heat Dissipation

The rack is designed to dissipate internal heat through convection cooling only and does not require a fan for forced air cooling. However, to ensure efficient operation, free air flow should not be inhibited at the top and bottom of the unit. A minimum of 3 inches (75mm) is recommended at the top and 4 inches (100mm) at the bottom with 6 inches (150mm) between racks. Both sides should be free of obstacles to allow easy removal of the unit, approximately 3 inches (75 mm) from each side excluding the mounting brackets is recommended. Furthermore, the unit should be mounted horizontally as shown in figure 2-3 and not inverted nor rotated 90°. If not oriented as shown, derating of the maximum ambient temperature specification would need to be considered. Placements of other sources of large volumes of heat near the units should also be avoided, especially directly below the rack. For reliable operation, the air entering the bottom of the rack should not be at a higher temperature than 60°C (140°. Wiring to the I/O modules and the power supplies should be placed so as to avoid blocking the air flow, yet provide a suitable service loop to allow easy removal of modules with wiring attached. Wires should be tied to maintain their order in the event they must be disconnected during module replacement.

Adding Racks

If more I/O points are required than one rack can contain, additional racks can be installed similar to the first unit previously discussed (IC610CHS101 cannot be used as an expansion rack). At the left of each rack are two connectors used to connect to additional I/O. An 18 inch (460mm) cable is available to connect the rack containing the CPU module to the first I/O expansion rack. The ends of this cable are marked "CPU" and "EXP" (Expander). The CPU end is plugged into the bottom connector at the first rack and the EXP end similarly connected to the second rack using the top connector (see figure 2-5). If a third rack is used, another cable links the second rack to the third rack, the CPU end is inserted into the bottom connector on the second rack and the EXP end into the top connector on the last rack. Within these added racks, I/O modules can be inserted in any order desired, up to five modules in a 5-slot rack and up to 10 modules in a 10-slot rack. No additional CPU modules can be installed, nor are required.

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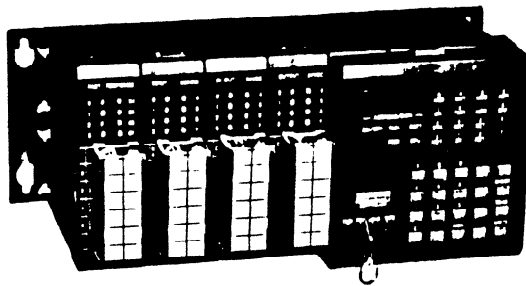


Figure 2-3. Typical (5 Slot) Rack

10-Slot Rack

The 10-slot rack provides in a single housing, as shown in figure 2-4, the same number of I/O module slots as two 5-slot racks. An added advantage of the 10-slot rack is easier and less expensive installation since fewer racks have to be mounted and wired. A system can be configured in many ways to contain various quantities of I/O. Refer to Appendix B, which contains examples of valid I/O rack configurations.

Rack Mount Brackets

Rack mount brackets (IC610CHS191) are available to adapt the 10-slot racks for mounting in 19 inch racks. With the brackets assembled on either version of a 10-slot rack, the rack can be mounted on standard mounting rails in 19 inch cabinets and consoles.

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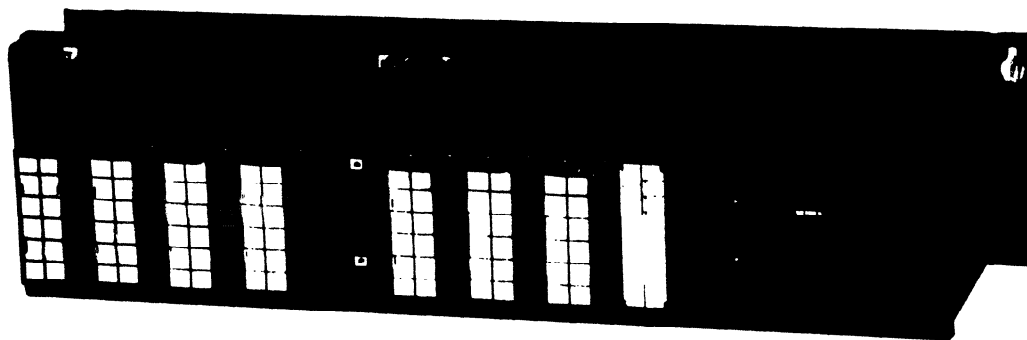


Figure 2-4. Typical (10 Slot) Rack

Feature	Junior	One™	Model E	Plus	Plus 3.7K
Program with Workmaster® Computer or IBM Personal Computer	(1)	yes	yes	yes	yes
Program with LCD Port. Programmer	yes	yes	yes	yes	yes
CPU					
IC610CPU101 (UL Listed)	n/a	yes	no	no	no
IC610CPU104	n/a	no	yes	no	no
IC610CPU105	n/a	no	no	yes	no
IC610CPU106	n/a	no	no	no	yes
Password Protection Available	no	no	yes	yes	yes
Racks					
5-slot, IC610CHS101 (2)(6)	no	yes	yes	yes	yes
5-slot, IC610CHS110 (2)	yes(expansion)	yes	yes	yes	yes
5-slot, IC610CHS111 (5)	yes(expansion)	yes	yes	yes	yes
5-slot, IC610CHS114 (3)	yes(expansion)	yes	yes	yes	yes
10-slot, IC610CHS130 (2)	yes(expansion)	yes	yes	yes	yes
10-slot, IC610CHS134 (3)	yes(expansion)	yes	yes	yes	yes
19" Rack Mounting Brackets	yes (4)	yes (4)	yes (4)	yes (4)	yes (4)
Data Communications Unit, CCM100	yes	yes	no	no	no
Data Communications Unit, CCM105	yes	yes	yes	yes	yes Rev C
RS-232/422 Adaptor Unit	yes	yes	yes	yes	yes
Peripheral Devices					
Printer Interface Unit	yes Rev A & B	yes Rev A & B	yes Rev B	yes Rev B	yes
Rev C					
PROM Writer Unit	yes Rev A & B	yes Rev A & B	yes Rev B	yes Rev B	yes Rev C
Timer/Counter Setpoint Unit	yes	no	yes	yes	yes
Cassette Tape Recorder	yes	yes	yes	yes	yes
Accessory Kit	included	yes	yes	yes	yes

1. Future enhancement with this product.
2. Requires 115/230 V ac power source.
3. Requires 24 V dc power source.
4. Used with 10-slot rack.
5. UL Listed, 115 V ac power source only.
6. Not expandable

GENERAL SPECIFICATIONS

Humidity	5% to 95% (non-condensing)
Typical Battery Life	
Operating	2 to 5 Years
Shelf Life	8 to 10 Years
Operating Power For	115/230 V ac
Series One Junior Basic	24 V dc
Units and all Racks	See specifications for each unit or rack for details