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## Chapter 1. Overview of the 7588 Industrial Computer

The IBM 7588 Industrial Computer is designed for an extended product life in an environment of constantly advancing technology. It is engineered for flexibility, growth, and upgradability. The chassis and covers can be used with different configurations of the industrial computer. The following are some of the highlights of the computer:

- It accommodates several different microprocessors.
- It houses a variety of standard-width drives; it has space for two hard disk drives, a diskette drive, and a full-size 5.25-inch device, such as a CD-ROM drive.
- It has features for data security and power management.

The 7588 Industrial Computer has two configurations, Model 001 and Model 101. Each configuration has 11 full-size and one half-size expansion slots for adapters and one slot for the primary processor card.

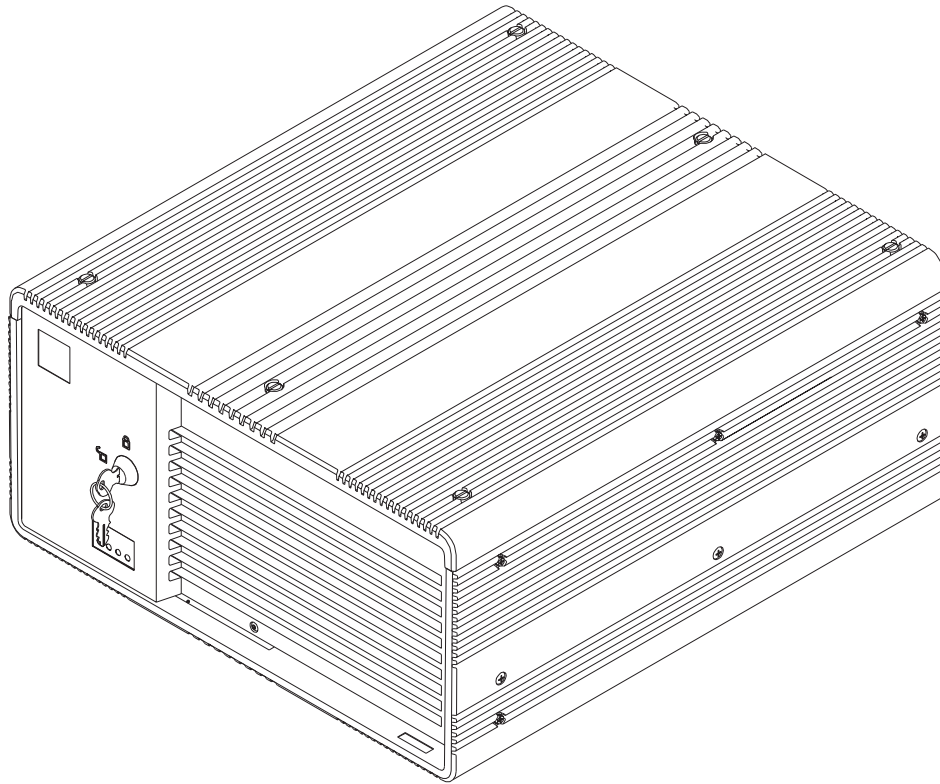
- For the Model 001 (7588-001), each expansion slot has a 16-bit ISA (industry standard architecture) connector. Two of the full-size slots also have a 32-bit PCI (peripheral component interconnect) connector.

### **Attention**

Installing more than eight ISA adapters in a single system can overload the ISA bus and cause the adapters or the system unit to fail. Before using configurations with more than eight adapters, test the configuration thoroughly.

- For the Model 101 (7588-101), six of the full-size slots have ISA connectors and eight have PCI connectors (three slots have both connectors). The half-size slot has an ISA connector only.

**Note:** For the Model 101 with the 586 or 586E SBC, the PCI connector in slot 2 is not bus-master-capable.



*Figure 1-1. IBM 7588 Industrial Computer*

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## General Layout of Components

Figure 1-2 and Figure 1-3 on page 1-4 show the 7588 Industrial Computer with the cover removed to show the location of the major components in the system unit. The actual options and adapters for a specific configuration may be different than the ones listed; however, the general layout is the same for all configurations,

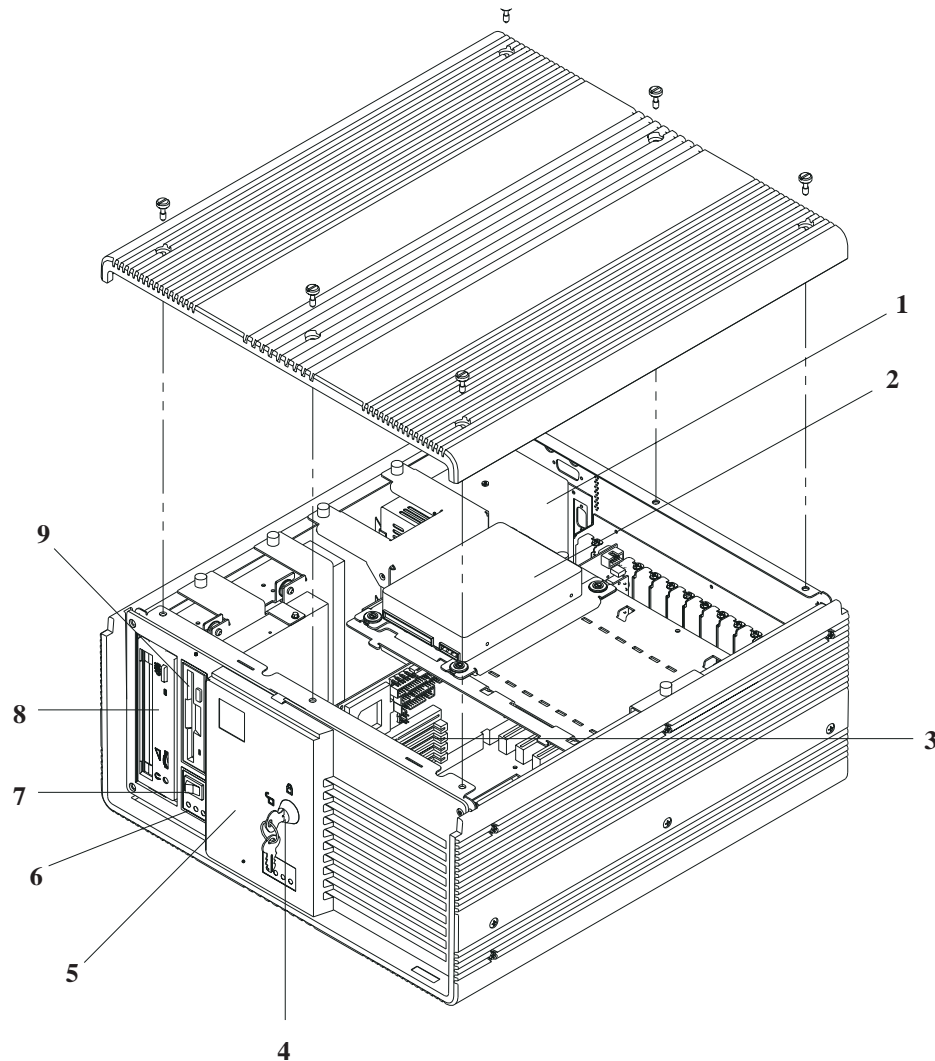
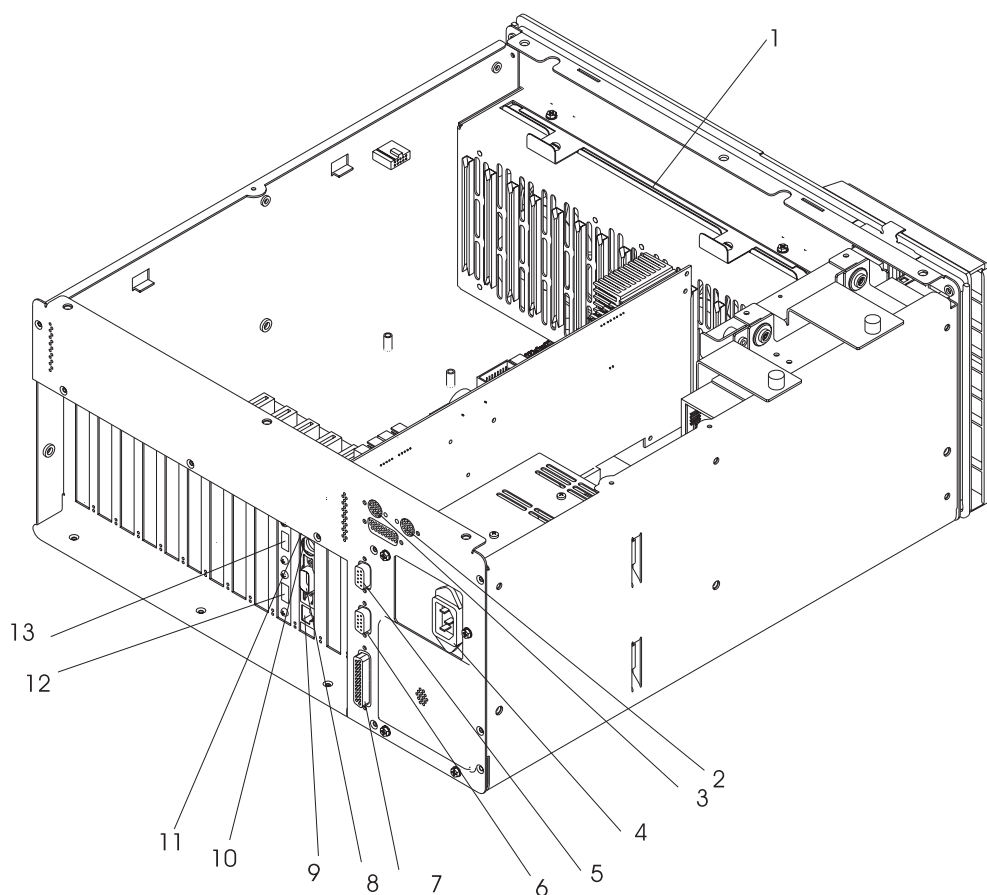


Figure 1-2. General Component Layout 1

- 1 Power supply
- 2 Hard disk drive
- 3 SBC
- 4 Key lock
- 5 Sliding door
- 6 Status light-emitting diodes (LEDs)
- 7 On/Off switch
- 8 5.25 front access bay (optional CD-ROM drive shown)
- 9 3.5-inch diskette drive



*Figure 1-3. General Component Layout 2*

- 1** Filter assembly
- 2** Keyboard connector (without PMC video card)
- 3** Mouse connector (without PMC video card)
- 4** Power input connector
- 5** Serial port B connector
- 6** Serial port A connector
- 7** Parallel port connector
- 8** Video connector
- 9** 10 BaseT/100 BaseTx Ethernet port (586E and 586EU only)
- 10** Keyboard connector
- 11** Mouse connector
- 12** USB port 2 connector (586U and 586EU only)
- 13** USB port 1 connector (586U and 586EU only)

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## Specifications

The physical specifications are as follows. For more exact system-unit dimensions, see Appendix B, “Physical Dimensions.”

- Width: 430 millimeters (16.9 inches)
- Depth: 474 millimeters (18.7 inches)
- Height: 209 millimeters (8.2 inches)
- Weight: 19.2 kilograms (42.5 pounds)  
(the actual weight depends on the installed options)

## Power Supply

- 250 Watts Output—ac input only; the voltage range is selected manually. Acceptable inputs are:
  - 100 to 125 (nominal) V ac; 50/60 Hz; 7.5 Amps (maximum)
  - 200 to 245 (nominal) V ac; 50/60 Hz; 3.25 Amps (maximum)

The following is the maximum total loading allowed for all adapters and hard disk drives installed in the system unit.

+3.3 V dc	5.0 Amps
+5 V dc	20.0 Amps
+12 V dc	4.0 Amps
–5 V dc	0.4 Amps
–12 V dc	0.4 Amps

### Notes:

1. The previous specifications apply to the standard, ac power supply.
2. If you have dc power supply, refer to the *–48 Volt Power Supply Information* book for specifications.

## Heat Output

The estimated heat output for the system unit with a 250-Watt power supply is 350 Watts (1200 BTU/hour).

## Environment

- Ambient temperature
  - Operating: 0° to 50°C (32° to 122°F)
  - Non-Operating: 0° to 60°C (32° to 140°F)
  - Shipping: –40° to 60°C (–40° to 140°F)
- Relative humidity
  - Operating: 5% to 95%

## Agency and Standards Compliance

- Equipment Approvals and Certifications
  - UL Listed (UL 1950, 1st Edition)
  - CSA Certified (CSA22.2 No. 50-M1990)
  - VDE or TUV (EN 60950/IEC 950)
  - FCC Class A
  - VCCI Class A
  - CISPR 22 Class A (EN 55022)
  - CE Mark Class A (EN 55022)
  - AS/NZS 3548 Class A
  - BABT—UK General Approval NS/G/1234/J/1000003

- European Standards Compliance
  - Safety (IEC 950, EN 60950)
  - Shock while operating (IEC 68-2-27)
    - 30 G, 1/2 sine wave for 3 milliseconds duration
    - 15 G, 1/2 sine wave for 10 milliseconds duration
  - Vibration (IEC 68-2-6)
    - 5 to 500 Hz random at 0.67 G RMS
  - Electromagnetic compatibility

Radiated and conducted EMI	EN 55022	
Conducted immunity	ENV 50141, Level 3	
Radiated electromagnetic susceptibility	ENV 50140, Level 3	10 V/m
Power line harmonics	EN 61000-3-2	
Flicker	EN 61000-3-3	
Electrostatic discharge	EN 61000-4-2	4 kV contact 8 kV air-gap
Electrical fast transients	EN 61000-4-4, Level 3	
Power frequency magnetic field immunity	EN 61000-4-8, Level 4	