

CompTIA A+ 2007 - Depot Technician

- **Course Number:** 220-604
- **Length:** 5 Day(s)

Certification Exam

This course will help you prepare for the following exam:

- **CompTIA Exam 220-604:** A+ Depot Technician

Course Overview

The Depot Technician course will emphasize the set of technician skills required for hardware-related work. In-depth topics include CPU and Motherboards, Data Storage, Printers, and others.

Prerequisites

This is an entry-level course.

Audience

This course is geared towards entry-level hardware technicians.

Course Outline

- Course Introduction
- Chapter 1 - Electricity
- Electricity
- Electrical Characteristics
- Safety Precautions
- Safety
- Digital Multimeter
- Calculating Current
- Static Electricity
- Static is Caused by....
- Before Working..
- Live Demo: Typical Internal Components
- PC Power Supply
- Live Demo: PC Power Supply
- Installing a Power Supply
- Typical Power Requirements
- Standard Outputs
- Live Demo: Peripheral Power Connector
- Floppy Power Connector
- SATA Power Connector
- Motherboard Power Connector
- Live Demo: Wire Colors
- Live Demo: Motherboard Power Connector
- Power-Supply Form Factors
- How to Protect your Equipment

- Power Issues
- UPS
- Live Demo: Voltage Selection Switch
- Troubleshooting Symptoms
- Chapter 1 Review
- Chapter 2 - CPU and Motherboards
- CPU and Motherboards
- BIOS
- Demo: Determine Bios Version
- When You Need BIOS Updates
- BIOS Issues
- Flashing the BIOS
- Minimizing BIOS Upgrade Risks
- Recovering From a Failed Update
- CMOS Battery
- Central Processing Unit (CPU)
- Installing a CPU
- CPU Performance
- CPU Characteristics
- Live Demo: CPU Packaging
- CPU's
- Live Demo: A Motherboard
- Cooling Method - Fins
- Cooling Method - Cooling Fins and a Fan
- Live Demo: Cooling Method - Fan
- Installing a Motherboard
- Riser Cards
- Motherboard/CPU Failures
- Chapter 2 Review
- Chapter 3 - Memory Systems
- Memory Systems
- Memory
- Measured Units
- Installation Notes
- Proper Handling
- Demo: Show Memory Mods
- Live Demo: Show Memory Mods
- Notebook Memory
- Live Demo: Notebook Memory
- Testing Memory
- Demo: Testing Memory
- Memory Types: Volatile vs. Non-Volatile
- Memory Types: Dynamic vs. Static Memory
- Memory Types: Asynchronous & Synchronous
- Speed Ratings
- Individual Chips
- SIMM
- Memory Error Recovery
- Parity
- Task Manager
- Demo: Task Manager
- Memory Symptoms

- Chapter 3 Review
- Chapter 4 - Expansion Cards
- Expansion Cards
- Buses
- PCI Bus Slots
- Live Demo: PCI Bus Slots
- Handling Expansion Cards
- System Interaction
- Interrupts
- IRQs
- Assigning IRQs
- I/O Addresses
- DMA Channels
- Base Memory Addresses
- Demo: Device Manager and Resources
- Drivers
- PC Sound
- Demo: Sound/ Control Panel
- Sound Card Components
- A Sound Card
- Sound Card Connectors
- Live Demo: A Sound Card
- Speakers
- Modems
- Riser Cards
- Softmodems
- System Resources
- Modem Connections
- Internal Modem Symptoms
- AT Commands
- HyperTerminal
- Speed Standards
- Type II PC Card
- PC Card Bus Types
- Card and Socket Services Specifications
- Live Demo: Mini PCI Card
- Legacy Devices
- Controllers and Interfaces
- PC Drive Interfaces
- ATA Motherboard Connectors
- Standard IDE Cable
- 80-pin ATA Cable
- Live Demo: SATA Data Cable
- Drive Identification
- Primary and Secondary
- SCSI
- SCSI Device IDs
- Termination
- SCSI ID and Termination
- Differential SCSI
- Other Interfaces
- Video Adapters

- Creating an Image
- Maximum Colors
- Video Standards
- SuperVGA
- 15-pin VGA/SVGA Connector
- VGA/SVGA Socket
- DVI Connector Types
- DVI-I Connector
- Video Drivers
- Video Adapter Slot Types
- An AGP Video Card
- PCIe Video Card
- Video Card Symptoms
- Live Demo: RJ-11 Connectors
- Sound Card Symptoms
- Chapter 4 Review
- Chapter 5 - Data Storage
- Data Storage
- Hard Drive Components
- Live Demo: Hard Drive Components
- Head Crash
- Hard Drive Installation
- ATA Drive Identification
- SCSI Drive Identification
- Chassis Installation
- Data and Power Cable Connections
- Hard Drive Geometry
- Hard Drive Preparation
- Low-Level Formatting
- Partitioning
- Unpartitioned Disk in Windows
- Partition Types
- Formatting
- Partitioning Utilities
- File Systems
- FAT File System
- NTFS File System
- Comparison
- Organization of Data
- Demo: Directory Trees
- File Fragmentation
- Hard Drive Maintenance
- CD Drive Components
- Components of a CD
- Recordable CDs
- CD Drive Speeds
- DVDs
- DVD Types
- Using CD and DVD Drives
- Optical Drive Connections
- Optical Drive Installation
- Optical Disc and Drive Cleaning

- USB Flash Drives
- Live Demo: USB Flash Drives
- Flash MP3 Player
- Floppy Disks
- 5.25" Floppy Disk
- Capacities
- Write Protection
- Diskette Preparation
- Floppy Controller Resources
- Floppy Drive Cable
- Floppy Controller Connector
- Boot Floppies
- Backup Methods
- Tape Formats
- Chapter 5 Review
- Chapter 6 - Printers
- Printers
- Dot-Matrix Printer
- Dot-Matrix Printer Issues
- Other Impact Printers
- An Inkjet Printer
- Inkjet Printer Cartridges
- Inkjet Cartridge Print Heads
- Inkjet Print Quality
- Demo: Install an Inkjet Printer
- Straight-Through Paper Path
- Curved Paper Path
- Laser Printer
- Laser Printer Components
- Laser Printing Process
- Demo: Install a Network Printer
- Other Printer Types
- Main Windows Components
- Inkjet Communications Interfaces
- Inkjet Problems
- Laser Printer Communications Interfaces
- Laser Printer Problems
- Demo: Printer Configuration Options
- Chapter 6 Review
- Chapter 7 - Portable Computers and Devices
- Portable Computers and Devices
- Network Connections
- Hot-Swappable Components
- Live Demo - Hot-Swappable Components
- Safely Remove Hardware
- Non-Hot-Swappable Components
- Upgrading Memory
- Peripherals
- Notebook Computer Issues
- Notebook Batteries
- Notebook Power
- Power Indicator Lights

- Demo: Power Management Utility
- Troubleshooting Power Problems
- Demo: Safely Remove Hardware
- Notebook Processors
- Notebook Hard Drive
- Notebook Keyboard
- Monitors
- Notebook Pointing Devices
- Communication Connections
- Infrared
- Radio
- 802.11 Wireless Router
- Bluetooth
- Notebook Peripheral Ports
- PC Card Types
- Live Demo: Type II PC Card
- PC Card Bus Types
- Card and Socket Services
- Live Demo: Mini PCI card
- Port Replicators
- Docking Station
- Maintenance
- Being Mobile...
- PDA
- Live Demo: Graffiti Alphabet
- Using the Stylus
- Powering the PDA
- Connecting PDAs and PCs
- Sync
- Chapter 7 Review
- Chapter 8 - Security
- Security
- User Accounts
- Groups
- Workgroups
- Active Directory
- Demo: Local Users and Groups
- Demo: Active Directory Groups
- Authentication
- A Fingerprint Scanner
- Smart Card and Reader
- Installing Biometrics and Smart Card Readers
- Fobs
- Protocols
- File System Security
- NTFS Advantages
- NTFS Security
- NTFS Permissions
- Disabling Simple File Sharing
- Demo: Simple File Sharing
- Encryption
- Security Policies

- Auditing
- Auditing Guidelines
- Demo: Auditing
- Physical Access Restrictions
- Corporate Security Policies
- Social Engineering Attacks
- Alleviate Security Weaknesses
- Malicious Software
- Prevention
- Network Security
- Chapter 8 Review
- Course Closure