

SySTIUM™ TECHNOLOGIES

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**Model 525**

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***MotherBoard Ready<sup>SM</sup> System***

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ASSEMBLY GUIDE

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 SySTIUM™ Technologies  
*MotherBoard Ready<sup>SM</sup> Solutions*

## Radio Frequency Interference Notice (USA)

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Any changes or modifications not expressly approved by the grantee of this device could void the user's authority to operate the equipment. The customer is responsible for ensuring compliance of the modified product.

Only peripherals (computer input/output devices, terminals, printers, etc.) that comply with FCC class B limits may be attached to this computer product. Operation with noncompliant peripherals is likely to result in interference to radio and TV reception.

All cables used to connect to peripherals must be shielded and grounded. Operation with cables, connected to peripherals, that are not shielded and grounded may result in interference to radio and TV reception.

**Manufacturer:** Systium™ Technologies, LLC

Minneapolis, MN

612-788-0923

**Contact:** Customer Support

### NOTE

*If a Class A device is installed within this system, then the system is to be considered a Class A system. In this configuration, operation of this equipment in a residential area is likely to cause harmful interference.*

## Radio Frequency Interference Notice (CDN)

This Class B digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

## Declaration of the Manufacturer or Importer

This system is compliant with EU directive 73/23/EEC using the standard IEC950, Amendments 1, 2, 3 & 4.

This system is compliant with EU directive 89/336/EEC using the standards EN55022 and EN55024-1.

## Disclaimer Statement

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# ASSEMBLY GUIDE

## Assembly Safety Instructions

Assembly of a computer system using this product shall be assembled only by technically qualified personnel. Follow the instructions in the document "Model 525 Maintaining Regulatory Compliance" to meet and maintain the safety and product regulatory compliance of this product when assembling a computer system using this product.

### WARNINGS

*Read and adhere to all of these instructions and instructions supplied with this assembly. Failure to follow these instructions will result in voiding the product's regulatory compliance statements. The computer system will most likely be noncompliant with other regional product laws and regulations.*

The procedures in this document assume familiarity with the general terminology associated with personal computers and with the safety practices and regulatory compliance required for using and modifying electronic equipment.

### WARNINGS

*The power button on the front panel DOES NOT turn off the system AC power. To remove power from the system, you must unplug the AC power cord from the power supply.*

*Do not open the power supply. The power supply in this computer contains no user-serviceable parts. To avoid personal injury or damage to your equipment, refer repair or replacement of the power supply to qualified technical personnel only. All other areas and components of this computer are considered user-accessible.*

### CAUTIONS

*Electrostatic discharge (ESD) can damage disk drives, add-in cards, and other components. Do the procedures described in this chapter only at an ESD workstation. If such a station is not available, you can provide some ESD protection by wearing an anti-static wrist strap and attaching it to a metal part of the chassis.*

*Add-in cards can be extremely sensitive to ESD and always require careful handling. After removing the card from its protective wrapper or from the computer, place the card flat on a grounded, static-free surface, component side up. Use a conductive foam pad if available, but not the board wrapper. Do not slide the board over any surface.*

*For proper cooling and airflow, always close the chassis before turning on the computer system. Operating the computer system without the chassis closed can damage system parts.*

## Before You Begin

1. Be sure to follow each procedure in the correct order.
2. Set up an equipment log to record the computer's model and serial numbers, all installed options, and other information about the computer. This information must be saved as a record of the product's configuration and compliance with the allowable configuration options.
3. We recommend that you use an anti-static wrist strap and a conductive foam pad when working on the computer.
4. You will need a Phillips (#1 and #2 bits) screwdriver and Needle Nose Pliers.

### NOTE

*The integration kit provides screws for the following:*

- One lock tab
- Two screw-in standoffs
- Eighteen 6-32 Phillips Screws
- Eight M3 Phillips screws
- Four Fan Mounting Screws
- Two Plastic Tie-wraps
- Four Stick-on Rubber Feet
- One Universal I/O Shield

## Assembly Notes for Different Motherboards

The Model 525 supports a number of different motherboards. A number of the assembly step details are different for each specific motherboard. This manual describes the steps required to complete the base system assembly task. Any steps or figures specific to a particular motherboard, are noted with a reference to the assembly instructions specific to that motherboard. If no motherboard instructions are present, then the assembly step is consistent for all motherboards.

### NOTE

*If the manual does not include information for your specific motherboard check the System Technologies web site <[www.System.com](http://www.System.com)>, Tech Support for updates to this manual.*

## Unpack the MotherBoard Ready<sup>SM</sup> System

System<sup>TM</sup> Technologies offers *MotherBoard Ready* products in two packaging configurations. The first is a reusable "End-User" ready single package. The second is a hi-volume bulk package. The instructions detailed are for the single package. Any differences in procedures between the single package and bulk package are noted within each section. The integration kits are the same for the single or bulk package *MotherBoard Ready* Systems.

**CAREFULLY UNPACK THE COMPUTER.** Save the box and packaging material for shipment to the customer. If components are missing please contact your supplier or System Technologies.

**BULK PACKAGE**

Please re-cycle the packaging. None of the bulk pack packaging is designed for reuse when shipping to the end customer.

**CONTENTS**

The Model 525 MotherBoard Ready System product contains the following:

- Model 525 Chassis with Power Supply Installed
- North American Compliant Power Cord
- Integration Kit
- Quickstart Guide. (This manual must be included in shipment to the End User.)
- This Manual.

**Removing a Side Cover**

1. Remove the plastic bag protecting the chassis. Save the bag for shipping the assembled computer.

FIGURE 1



2. Remove the three screws securing the top cover to the chassis. Refer to Figure 1

FIGURE 2



3. Place a hand on each corner of the top cover. While putting pressure on your fingers use your thumb to push the chassis forward. This will cause the cover to separate from the chassis base. Refer to Figure 2
4. Lift the top cover upwards and away from the chassis. Place the cover to the side where it will not get scratched or damaged before reassembly.

**NOTE**

*The same steps are followed for the bottom cover. The bottom cover doesn't need to be removed to assemble the system however it is recommended to prevent damage to the cover. If the bottom cover is not removed then care must be taken not to scratch or damage the cover when assembling the system.*

**Removing the 5.25" Peripheral Carrier**

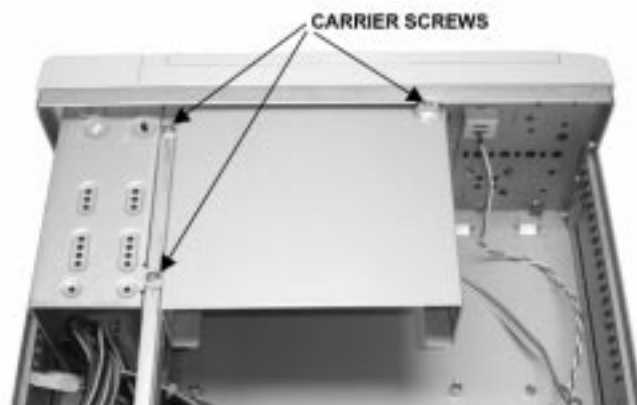
The 5.25" peripheral carrier must be removed to install the 5.25 peripheral.

**NOTE:**

*The system must have a 5.25" external peripheral installed or an EMI shield must be installed. Failure to install a 5.25" external peripheral or EMI shield can result in EMI leakage that will result in the computer system not meeting the product's EMC compliance. A 5.25" EMI shield is not supplied with the Model 525 and must be ordered separately from Systemium*

1. Remove the three screws holding the 5.25" carrier to the chassis. Refer to Figure 3
2. Grasp the 5.25" carrier at the rear and pull the carrier towards the rear of the chassis. Once the carrier is separated from the chassis place it aside for for installation of the 5.25" peripheral.

FIGURE 3



**Removing the 3.5" Peripheral Carrier**

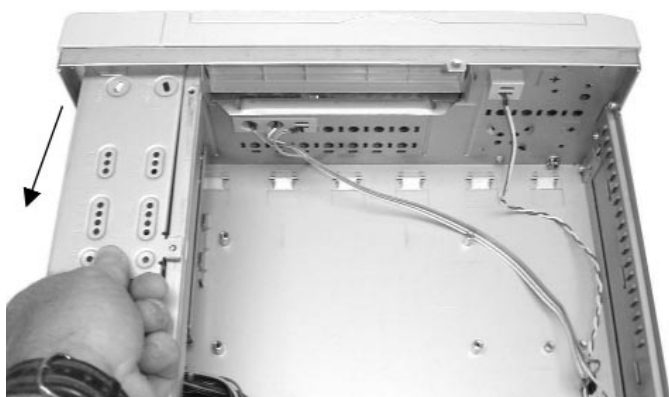
The 5.25" peripheral carrier must be removed to install the 5.25 peripheral.

**NOTE:**

*The system must have a 3.5" external peripheral installed or an EMI shield must be installed. Failure to install a 3.5" external peripheral or EMI shield can result in EMI leakage that will result in the computer system not meeting the product's EMC compliance. A 3.5" EMI shield is not supplied with the Model 525 and must be ordered separately from Systemium*

1. The 5.25" peripheral carrier screws must have been removed by completing the previous section of instructions. See Figure 3
2. Grasp the 3.5" carrier at the rear and pull the carrier towards the rear of the chassis. Once the carrier is separated from the front of the chassis the carrier can be lifted out of the chassis. See Figure 4
3. Place the carrier aside for for installation of the 3.5" peripherals.

FIGURE 4



## Installing the I/O Shield (Intel BOX Motherboards)

1. Locate the motherboard I/O shield supplied with the Intel BOX motherboard.
2. Place the lower surface of the I/O shield in the I/O opening in the rear of the chassis. Ensure the I/O shield is fully inserted into the opening. Refer to Figure 5
3. Carefully press the top surface of the I/O shield into the I/O opening. Be careful to only place pressure at the outer edges of the I/O shield when pressing on the I/O shield.
4. Check that the I/O shield is fully inserted into the I/O opening.

FIGURE 5



### NOTE

*Failure to properly install the I/O shield can result in EMI leakage that will result in the computer system not meeting the product's EMC compliance.*

## Configuring the universal I/O Shield

The Model 525 comes with a universal I/O shield designed to support a variety of motherboards. Refer to the assembly instructions for the specific motherboard being installed into the chassis for information on configuring the I/O shield.

### NOTE

*Failure to properly install the I/O shield can result in EMI leakage that will result in the computer system not meeting the product's EMC compliance.*

## Installing the Motherboard

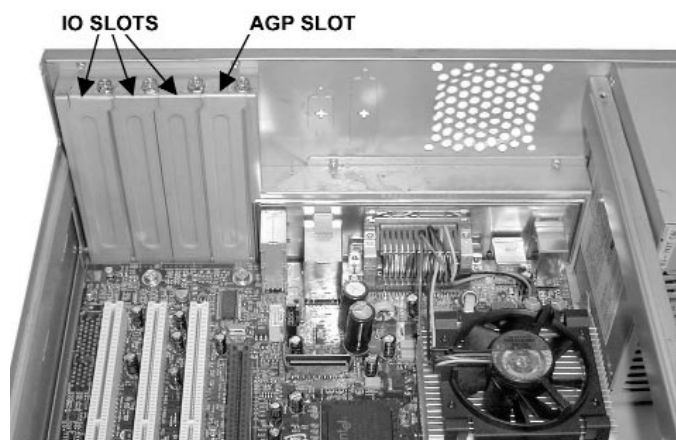
1. Specific motherboards may require the installation of a screw-in standoff(s) in the chassis base to mount the motherboard to. The standoff(s) are included with the integration kit. Refer to the assembly instructions for the specific motherboard being installed into the chassis.
2. Following the instructions supplied with the motherboard, install the CPU and memory. Ensure that the recommended ESD protection guidelines are followed.
3. Place the motherboard on the mounting supports. Carefully slide the motherboard towards the rear of the chassis to engage the motherboard connectors into the I/O shield openings. Refer to the assembly instructions for the specific motherboard being installed for a figure of the correct installation of the motherboard into the I/O shield.
4. Using the mounting screws supplied, mount the motherboard to the chassis. Ensure that the motherboard is fully inserted into the I/O shield while being tightened into place.
5. Connect the front panel connectors to the motherboard. Refer to the motherboard manual for the correct positions. Refer to assembly instructions for the specific motherboard being installed for a figure of the correct installation of the front panel connectors.
6. Connect the ATX power connector to the motherboard. Refer to the motherboard specific assembly instructions for any additional motherboard power connections.

## Installing an AGP Video Adapter (Optional)

If the motherboard does not support a built-in AGP video adapter or the built-in AGP video adapter is not being used, you must install an AGP video adapter in the AGP slot provided. If the built-in AGP video adapter is being used, this step can be skipped.

1. Remove the screw holding the I/O slot cover. Refer to Figure 6 for the location of the AGP slot cover.
2. To completely remove the I/O slot cover, slide the cover upwards and away from the back of the chassis.
3. Refer to the AGP video adapter manual for any installation or configuration steps that need to be completed before installing the adapter into the chassis.

FIGURE 6



4. Install the AGP video adapter. Refer to the motherboard manual for any motherboard specific installation instructions.
5. Secure the AGP video adapter to the chassis by installing the I/O cover screw removed in step 1.

### Installing a I/O Adapter (Optional)

If an I/O adapter is part of the system configuration the following instructions should be followed. If no I/O adapter is to be installed, then this section can be skipped.

1. Remove the screw holding the I/O slot cover for the I/O slot to be used. Refer to Figure 6 for the location of the I/O slot covers.
2. To completely remove the I/O slot cover, slide the cover upwards and away from the back of the chassis.
3. Refer to the I/O adapter manual for any installation or configuration steps that need to be completed before installing the I/O adapter into the chassis.
4. Install the I/O adapter. Refer to the Intel BOX motherboard manual for any motherboard specific installation instructions.
5. Secure the I/O adapter to the chassis by installing the I/O cover screw removed in step 1.

### Installing a 3.5" External Peripheral (Floppy)

**NOTE**

*The system must have one 3.5" external peripheral installed. Failure to install a 3.5" external peripheral can result in EMI leakage that will result in the computer system not meeting the product's EMC compliance.*

1. If the 3.5" carrier is not already removed you must remove it. To remove the 3.5" carrier following the instructions in the section "Removing the 3.5" Peripheral Carrier".
2. Configure any jumpers or switch settings required by the peripheral. Refer to the peripheral's user manual for specific instructions.
3. Locate the 3.5" peripheral carrier removed earlier.
4. Position the floppy drive in the 3.5" carrier as shown in Figure 7. Line up the floppy mounting holes with the carrier mountings holes marked with a "2". Using the supplied M3 screws, attach the floppy to the carrier.

FIGURE 7



### Installing a 3.5" Peripheral (Hard Drive)

1. If the 3.5" carrier is not already removed you must remove it. To remove the 3.5" carrier following the instructions in the section "Removing the 3.5" Peripheral Carrier".
2. Configure any jumpers or switch settings required by the peripheral. Refer to the peripheral's user manual for specific instructions.
3. Insert the 3.5" peripheral (HD Shown) into the carrier. The power and signal connectors should be oriented towards the rear of the chassis once the carrier is installed. Align the 3.5" peripheral mounting screws with the mounting holes in the carrier marked HD. Secure the peripheral to the carrier using the supplied 6-32 mounting screws. Refer to Figure 8

FIGURE 8



### Installing a 5.25" External Peripheral

1. If the 5.25" carrier is not already removed you must remove it. To remove the 5.25" carrier following the instructions in the section "Removing the 5.25" Peripheral Carrier".
2. Configure any jumpers or switch settings required by the peripheral. Refer to the peripheral's user manual for specific instructions.
3. Position the peripheral in the 5.25 carrier as shown in Figure 9. Line up the peripheral mounting holes with the carrier mountings holes marked with a "3". Using the supplied M3 screws, attach the peripheral to the carrier.

FIGURE 9



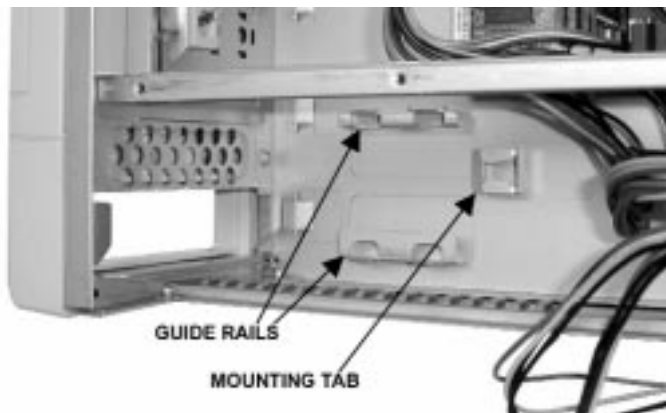
**NOTE**

*The system must have one 5.25" external peripheral installed or an EMI shield must be installed. Failure to install a 5.25" external peripheral or EMI shield can result in EMI leakage that will result in the computer system not meeting the product's EMC compliance.*

## Install the 3.5" Peripheral Carrier

1. The 3.5" peripheral carrier is mounted in the chassis by two guide rails and a mounting tab. The carrier must also fit inside the 3.5" chassis opening flanges. See figure 10.
2. Lower the carrier into the chassis such that the carrier is held between the two guides. Slide the carrier forwards to positioned the floppy correctly in the 3.5" chassis opening.
3. Ensure that the mounting tab at the rear of on the carrier is locked correctly into the mounting tab in the chassis. The carrier should also be positioned inside the 3.5" chassis opening flanges. Refer to Figure 10

FIGURE 10



## Connect Peripheral Cables

1. Connect the IDE HD cable to the hard drive. Route the cable along the bottom of the drive towards the front of the chassis. See Figure
2. Connect the floppy cable to the floppy. The route the cable over the IDE cable and directly to the motherboard. Attached the floppy cable to the motherboard. See Figure
3. Connect the IDE HD cable to the motherboard. Route the cable over top the floppy cable. See Figure
4. Connect the IDE cable for the 5.25" peripheral to the secondary IDE connector on the motherboard. Fold the cable into a flat bundle to shorten up the cable. Position the drive end of the cable to the rear of the chassis. See Figure 11

FIGURE 11



## Install the 5.25" Peripheral Carrier

1. Lower the 5.25" carrier into the chassis and insert the carrier into the 5.25" opening in the front of the chassis. The carrier must fit inside the 5.25" chassis opening flanges. See figure 12
2. Line up the three mounting holes on the carrier with the corresponding holes in the chassis. The mounting flange at the side of the carrier is mounted on top of the 3.5" carrier mounting tab. See Figure 12
3. Connect the IDE cable to the 5.25 peripheral. See Figure 12

FIGURE 12



## Connect the Peripheral Power Cables

1. Connect the peripheral power cables according to the table below. Route the cables so that there is no cables passing over top the CPU cooling fan. Use the tie-wraps included in the integration kit to secure the cables together to ensure clean routing.
2. Connect any other peripheral cables required by the peripheral devices.

PERIPHERAL LOCATION	POWER CONNECTOR
5.25" PERIPHERAL	POWER CABLE WITH 2 PERIPHERAL CONNECTORS
3.5" PERIPHERALS	POWER CABLE WITH 1 MINI AND 1 STD PERIPHERAL CONNECTOR

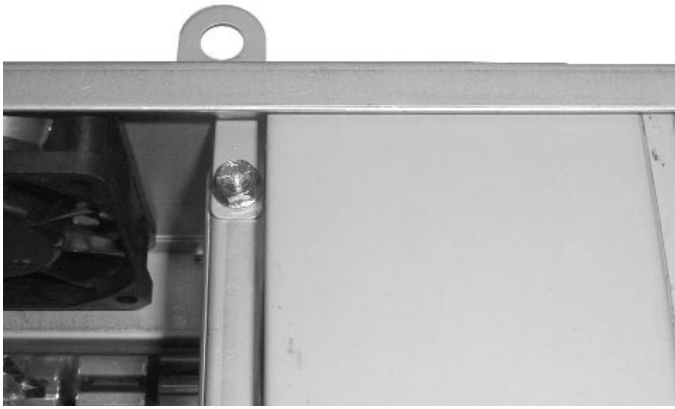
## Install Cover Lock Tab (Optional)

### NOTE

*The Model 525 supports a locking tab that allows the right chassis cover to be locked closed. A standard Hasp lock is used to secure the cover to the chassis.*

1. Locate the locking tab and mounting screw in the accessory package.
2. Position the locking tab in the notch in the power supply side of the back of the chassis. Secure the locking tab to the chassis using the screw supplied. Refer to Figure 13

FIGURE 13



## Install the cooling Fan (Optional)

### NOTE

*Perform this assembly step if the system was purchased without the optional cooling fan and a rear cooling fan is to be installed.*

1. Place the fan in the mounting location with the air flow direction pointed to the outside of the chassis. Secure the fan to the chassis with the four special fan mounting screws. See Figure 14 and 15
2. Connect the fan cable to the chassis fan connector on the motherboard. Refer to the motherboard documentation for the location of the connector.

FIGURE 14



FIGURE 15



## Install the Top Cover

### NOTE

*Before installing the top side cover please check that all cables are connected and no tools, screws or accessories are left inside the chassis.*

1. Position the cover down on top of the chassis about 1 inch away to the rear of where the cover's finally closed position. Slide the cover forward to engage the cover locking tabs to the chassis.
2. Attached the cover to the chassis using the three screws used to initially secure the cover to the chassis . See Figure 1.

### NOTE

*If the bottom cover was also removed it should be installed. The same steps as for the top cover are followed. .*

## Power up the System

1. Connect the keyboard, mouse, monitor and any other required peripheral for the correct operation of the computer. Refer to the Model Guide for assistance in connecting the peripherals to the computer.
2. Turn on the computer by pressing the power switch on the front panel. Refer to the Quick Start Section of this manual for more information.
3. Verify the operation of the POWER ON indicator on the front panel. The LED should glow constantly when the computer is turned on. Verify that the floppy LED turns on when the system resets the floppy drive during the POST. Verify the operation of the hard drive LED on the front panel. The LED should turn on when the POST resets the hard drive or attempts to boot the computer. Correct any problems detected during the initial power up phase.
4. Test the complete operation of the computer using a known good computer functional test program such as Intel 's Test view. Install any required operating system or application software.

### NOTE

*The computer must have all the required warning and information lights functioning before shipping to the end user.*

5. Disconnect the computer from the peripherals used during the testing phase. Package the computer using the original packaging (Single Pack Only).

### NOTE

**You must include the End User Quick Start manual in the shipment to the customer to maintain Regulatory Compliance.**