SOFTWARE | HARDWARE | SERVICE

UTC RETAIL™

5170 POS System

Installation and Maintenance Guide

Congratulations on your purchase of UTC RETAIL's innovative 5170 POS System! This fully integrated point-of-sale hardware solution, with its modular design flexibility, is ideal for specialty and general retail markets. The 5170 POS System conserves counter space, and is easy to accessorize and service with its inventive design.

You may have purchased your 5170 assembled and configured with accessories by UTC RETAIL or you may have obtained the 5170 unassembled. In either case, this guide is designed to help you efficiently install, configure and maintain your UTC RETAIL 5170 POS System.

11920016 Rev A

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The 5170 POS complies with UL60950 requirements. This equipment has been tested and found to comply with the limits for a Class "A" digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his/her own expense.

Product Safety

DANGER: High Voltage
This unit contains high voltage. There is a risk of electrical shock if the case is opened. If service is required, contact an authorized service agent or UTC RETAIL.

WARNING: CMOS Battery Damage
Replace your system's battery only with CR-2032 (or equivalent) 3V Lithium-Ion coin cell battery to avoid risk of personal injury or physical damage to your equipment. Always dispose of used batteries according to local ordinance, where applicable. Any damage due to not following this warning will void your warranty

WARNING: Access to Internal Components
All access to internal components of the 5170 unit is restricted to Authorized Service Personnel only. Opening the case or service by anyone else will automatically void the warranty on this product.

WARNING: Electrical Shock
Use caution when connecting cables. To avoid electric shock, do not connect safety extra-low voltage (SELV) circuits to telephone-network voltage (TNV) circuits. Local Area Network (LAN) ports contain SELV circuits, and telephone ports contain TNV circuits. Some LAN ports and some telephone ports use RJ-45 connectors.

CAUTION:
If your 5170 contains the WLAN accessory: This 5170 complies with FCC radiation exposure limits for an uncontrolled environment. The 5170 should be installed and operated at a distance greater than 20 centimeters (8 inches) between yourself and any bystander to comply with the Radiation Exposure Requirements. Changes or modifications not expressly approved by UTC RETAIL could void your authority to operate the 5170.

CAUTION:
Damage to the logic module components or attached peripherals may occur if AC power is not disconnected from the product prior to attaching any accessories.

CAUTION:
Do not hot plug to the connector well serial ports. Turn off the 5170 POS before connecting serial port cables.

WARNING

Heavy object.
To avoid muscle strain or back injury, use lifting aids and proper lifting techniques when removing or replacing.

A completely configured system with cash drawer and its housing will weigh in excess of 100 pounds! Do not attempt to pick up and move the system by yourself.

Table of Contents

                   11920016 Rev A

11920016 Rev A   4

5170 POS System Components

If your system is already configured, you will find the following components inside the system box:

- 5170 POS with monitor arm
- Optional LCD monitor with or without 3-Track MSR
- M750 POS keyboard or PC keyboard, PC mouse
- Optional Pole Display
- Optional receipt printer
- Optional bar code scanner
- Optional credit/debit card reader or payment terminal
- Power cord and various cables

The optional cash drawer and its housing will ship in a separate box.

If are assembling your system, you will find the following components inside the 5170 box:

- 5170 POS with A/C power cord and cable clamps

The monitor arm and any accessories you purchased (keyboard, customer display, printer and LCD monitor, etc.) will ship in separate boxes.

A completely configured system with a cash drawer and its housing will weigh in excess of 100 pounds! Do not attempt to pick up and move the system by yourself. The system should be assembled and installed at the checkout station, rather than in a back room and moved assembled to the checkout.

For the system to have sufficient air flow, it must be installed with at least 1" clearance on the left and right sides.

The keys for this device should be in the possession of Qualified Service Personnel Only and used for access by an Authorized and Qualified Service Person.

Retain all product packaging in the event you need to ship the equipment in the future.

Cash Drawer and Housing

1. Open the cash drawer box and remove the cash drawer. If you purchased the optional cash drawer housing, the cash drawer will be inside the housing; remove the mated pair.
2. Remove all packing materials.
3. Open the cash drawer and remove the keys. For use with the housing installation, remove the plastic bag containing two screws.
4. Put one of the keys in the cash drawer lock, located in the middle of the drawer, and turn it so that the drawer remains in the "Closed" position.
5. Place the cash drawer and housing on checkout counter. Remove the cash drawer from its housing and set it aside. If you do not have the housing, leave the cash drawer in place.

Install the 5170 POS

Note: If you have the cash drawer housing and there are four feet on the bottom of the 5170, remove them. If you don't have the cash drawer housing, there must be feet on the 5170.

If you have an Assembled System

1. Place the 5170 System box on a counter and remove the top cover.
2. Remove all packing material on the system. Using two people lift the 5170 from the box bottom tray and set it on the counter.

If you have an Unassembled System

1. Remove the 5170 from its box and packaging material; set the unit on the counter.

Place the Unit

1. Plug the power cord into the rear of the 5170. Attach the convenience cord if needed. **Do not plug the system into a power outlet!**

Figure 1, 5170 Power Inlet

2. With cash drawer housing:
   a. Set the 5170 onto the cash drawer housing. At the rear, engage the two tabs on the 5170 with the two slots in the housing.

Figure 2, Cash Drawer Housing Slots

    b.   At the front, left and right, insert the two hooks on the 5170 into the slots on the housing. Push the 5170 back until the hooks slide under the edge of the slots.
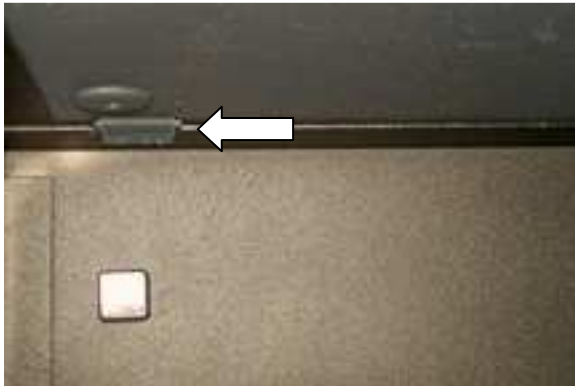

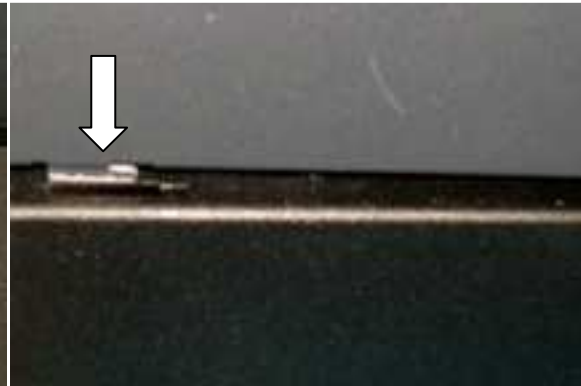**Figure 3, 5170 Tab into Housing Slot**   **Figure 4, 5170 Hook into Housing Slot**

    c.   Secure the 5170 to the housing using the two screws you removed from the cash drawer till. The flat head screw is for the right front corner, the pan head screw is for the rear.

    d.   Slide the cash drawer into the housing.

3.   Without cash drawer housing:

    a.   Place the 5170 on top of the cash drawer.

                11920016 Rev A

Cable Clamps

1. If your 5170 POS came configured, two black cable clamps are already be installed under the cable cover on the top of the 5170 POS.

2. If you are assembling your 5170, located the 2 cable clamps in the 5170 POS shipping box. The clamps must be installed on the same side of the 5170 as the monitor arm. If you want the monitor left-side mounted, raise the cable cover and snap the 2 cable clamps into the top cover.
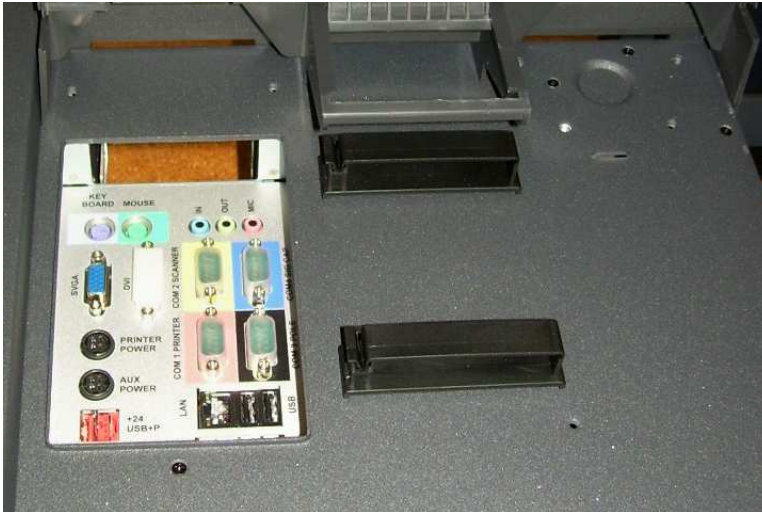

Figure 5, Cable Clamps

3. If the monitor arm is to be right-side mounted, remove the printer tray (two 8-32 screws) and snap the two cable clamps into the top cover. Install the printer tray on the 5170 POS left side.

4. If you need to move the mounted clamps to the other side of your 5170:

    a. Turn off the 5170 POS, unplug it from the wall outlet and remove the power cord from the rear AC inlet.

    b. Remove the Power Supply Module, the Logic Module and the Backplane. See pages 16, 20 and 20.

    c. Look into the chassis and locate the tips of the cable clamps. Using needle nose pliers, squeeze the tips while pushing up on them. They will pop out of the cover. Install the clamps on the side you desire.

Monitor Arm and PD1200 Bracket Installation

To install the monitor arm or move it to the other side of the system:

1. Remove all accessories and components from the top cover of the 5170.

2. Remove the cable cover and remove the rear cable cover. If you are relocating the monitor arm to the opposite side of the 5170, remove monitor arm the printer tray.

3. Attach the monitor arm using the six 8-32 screws provided. Insure screws are tight, but do not over tighten.

If you changed the monitor arm location, and two installed cable clamps are not on the monitor arm side of the top cover, you will have to remove and reinstall the clamps onto the opposite side. See

4.   Cable Clamps.
5.   Install the PD1200 mounting bracket using two 8-32 screws provided. Ensure the slot in the bracket faces the front of the 5170 POS. See Figure 9.
6.   If removed, reinstall the printer tray with two screws.
7.   Reinstall rear cable cover.

Monitor Quick Release Bracket Installation

1.   Place your monitor face down on a protective surface.
2.   Attach the quick release bracket using four M4 screws.
3.   Mate the quick release bracket with the monitor arm. Ensure the bracket latches to the arm.

Shipping Screws

1.   Remove the 8-32 shipping screws and their labels from the right and left sides of the chassis. Save them with the system's shipping container; reinstall them if the unit is shipped in the future.

Install Accessories

Keyboard and Mouse

1. Plug the M750 keyboard or a standard PC keyboard into the purple PS/2 jack in the connector well. Route excess cable through the cable clamps.
   a. Note: the M750 keyboard uses cable 11029569 and is locked out (will not function) when the cash drawer attached to the 5170 is Open. The Scroll Lock LED on the M750 keyboard turns on when the keyboard senses the cash drawer is open or missing.
2. Plug a PC mouse into the green PS/2 jack in the connector well. Run the cable along the rear wall, inserting the cable into the cable clamps on the LCD monitor arm base.

Figure 6, Mouse Cable Routing

Epson Receipt Printers

The 5170 supports Epson printers in the H6000 and TM-T88 series. Custom cables have been developed which both integrate the printers and resolve cable length problems.

1. Connect to the printer's I/O panel:
   a. Cable 11029571 – printer power. Note: plugs on either ends of the cable are different! Connect the 3-pin plug to the printer.
   b. Cable 11029572 – cash drawer interface (printer jack is labeled DK, do not plug the cash drawer cable into the printer's RJ45 jack)
   c. Cable 11029573 – serial interface, use if your printer has serial interface
   d. Cable 11029564 – USB interface, use if your printer has USB interface

                                                    11920016 Rev A

Figure 7, H6000IV Rear Panel

2.   Place the printer on the printer tray, running the cables through the mouse hole on the printer's side.

Figure 8, Printer Cables Routing

3.   Connect cables to connector well jacks:
   a.   Connect the 4-pin plug on the power cable to the jack labeled Printer Power.
   b.   Connect the cash drawer cable to the Yellow RJ port labeled Cash Drawer Kick. Do not plug it into the RJ45 port!
   c.   Connect the data interface cable. If serial, select the COM port where your POS software expects the receipt printer. If USB, select any available port.

PD1200 Pole Display

1. Stand the pole display in its bracket, feeding the cable through the slot in the bracket's front.

Figure 9, Pole Display in Bracket

2. Connect the DB9 plug to the serial port your software uses. The COM port must be configured to provide +5VDC via Pin 9; the 5170 POS default setting has COM2-4 set with +5VDC on Pin 9.

LCD Monitor

The prescribed LCD touch screen monitor for the 5170 POS is the Elo 1515L, with its accessory 3-track MSR. If you purchased the optional 3-track MSR, install it following the instructions in the MSR box. The attach the following cables:

1. Cable 11029574 – LCD power. Insert the 2.1mm plug into the monitor.
2. USB touchscreen interface cable – insert the Type B end into the monitor.
3. Video cable – attach it to the monitor and secure using the two thumb screws.
4. MSR USB cable – cable is permanently attached to MSR accessory.

Figure 10, Elo 1515L Interface Panel

5. Ensure all the LCD's cables are routed through the monitor arm brackets. Route excess cable length through the cable clamps.

Figure 11, Monitor Arm Cables

6.   Connect the monitor's cables to the connector well jacks:

     a.   Connect the 4-pin plug on the power cable to the jack labeled Aux Power.

     b.   Connect the USB plugs to any available USB port.

     c.   Connect the video cable to the SVGA port. Tighten the thumb screws.

Bar Code Scanner, Credit Card Reader, Payment Terminal

Each of these are similar in that they have a single cable interface.

1.   Route the interface cable from the monitor arm base to the connector well, running excess cable length through the cable clamps.
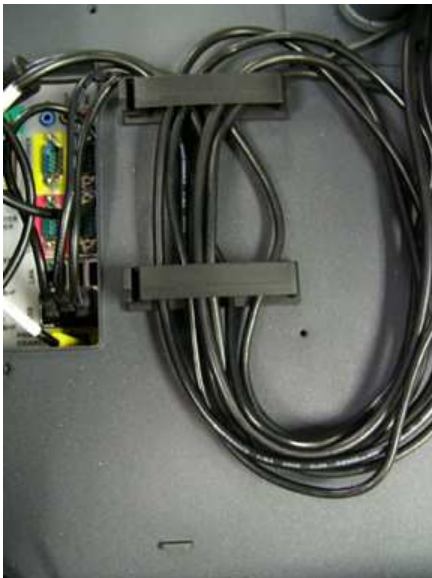

Figure 12, Cable Clamps

                11920016 Rev A

2. Plug the interface cables into the appropriate ports in the connector well.

Cash Drawer Interface
The 5170 conveniently conceals the cash drawer kick cable routed from the Epson printer.

Power Supply Module Removal
1. Ensure the 5170 POS is turned off.
2. Unlock the system front bezel and remove it.
3. Unlatch the Power Supply module by sliding the latch to your left to the Un-Locked position. Grasp the handle above the latch and remove the module from the system by pulling it straight out; set it aside.

Figure 13, Power Supply Module

Cash Drawer Cable
1. Cable 11029570 – Cash Drawer interface. Connect the RJ-12 plug to the backplane jack.
2. Connect the RJ-45 plug to the Cash Drawer jack. If you have the cash drawer housing, slide the cash drawer out about 6", connect the cable and slide the cash drawer back in, ensuring the RJ-45 plug fits in the cutout slot.

Figure 14, Cash Drawer Cable Connections

Power Supply Module Insertion

1. Ensure the latch is in the Release position. Line up the module square with the chassis. Slowly slide the module in, ensure the cash drawer cable is not snagged on or under the module. When you feel the module engage the electrical power plugs on the system backplane, gently, but firmly push the module in, seating its plugs. Do not slam the module home!
2. Latch the Power Supply module by sliding the latch to the right, through cutout in the brace.
3. Reinstall the front panel bezel.

Assembly Complete

The 5170 POS assembly is now completed. Reinstall or lower the cable cover, ensuring the cable loops on the chassis top cover are under the cover, the keyboard cable routes through the front mouse hole, the mouse, bar code and magnetic card reader cables feed through the side mouse hole by the monitor arm base and the printer's cables feed through the mouse hole on the opposite side.

Position the LCD monitor in swing, swivel and tilt.

System Power Up

1. Plug the 5170 power cord into a UPS or dedicated wall outlet.
2. Turn on the main power switch located at the top, right corner of the front bezel. Cooling fans

will turn on and 2 LEDs light indicating the power supply is outputting +12VDC and +24VDC. The 4-pin power jacks (Printer and Aux Power) and PoweredUSB® ports now have power. Turn on the receipt printer and the LCD monitor power. You will hear the receipt printer initialize, and the monitor may display a "No Signal Present" message for a few seconds. Press and release the green power switch in the lower left corner of the front bezel. After a second's delay, it will illuminate, additional cooling fans will come on and the LCD monitor will display the system power up screens. The PD1200 pole display will briefly display its boot-up screen.

3. Following the Windows® activation procedure. The required license number is on a sticker attached to the 5170 POS chassis. Never damage, alter or remove this sticker; it is required to be on the chassis.
4. Installation and power up are complete.

Elo 1515L Special Switch Settings

The power switch for the 1515L monitor is on its left side, lowest button. There is no power on indicator on the monitor.

To disable the Elo 1515L power switch so the LCD cannot be turned off, press and hold the monitor's Menu and Down buttons until the confirmation message is displayed. Press and hold Menu and Down to re-enable the Power button.

To disable the Elo Menu button so color, brightness, etc. settings cannot be changed, press and hold the Menu and Up buttons until the confirmation message is displayed. Press and hold Menu and Up to re-enable the Menu button.

11920016 Rev A   18

Diagnostics and Troubleshooting

WARNING: Unauthorized service will automatically void the warranty on the product(s). Contact UTC RETAIL Technical Support at 1.800.349.0546 or (585) 924.9500 if you have any questions.

WARNING: There is AC line voltage and high amperage DC power in the Power Supply Module. There are no user serviceable parts in the module. If the module needs servicing, return it to UTC RETAIL.

Power Supply Module

The Power Supply Module provides +12VDC and +24VDC to the 5170 POS. The main AC switch and an interlock switch control power to the module; see the switches in Figure 13. The green LEDs on the Power Supply Module front panel indicate the +12VDC and +24VDC outputs are active. The module cooling fans also indicate the module is functional.

Symptom	Solutions
Power Supply does not turn on (LEDs do not light, cannot hear cooling fans)	- Check that the wall outlet has power. - Check that the power cord is fully seated in the 5170 rear power inlet. - Make sure the main AC switch is on. - Make sure the power supply module is fully seated and its latch has slid the interlock switch to the right.
Power Supply is on (can hear cooling fans), output suspect	- Verify both LEDs on the supply's front panel are on. If not, replace the Power Supply - If an Epson receipt printer and Elo LCD monitor have power, the power supply module is functional.

Power Supply Replacement

1. If system is on, exit any open or running applications and then operating system normally.
2. Turn off main switch, remove the front bezel.
3. Slide the Power Supply latch fully to your left. Grasp the module's handle with one hand and brace the system with the other. Pull the module out of the chassis, ensuring you do not snag the cash drawer cable.
4. Reverse the steps to install a Power Supply Module. Do not slam the module into the backplane jacks; slide the module in until its plugs meet the backplane jacks, then firmly push and seat the module. Slide the latch to your right to engage the interlock switch.

Logic Module

The Logic Module contains the system's computer motherboard with its CPU, memory and graphics subsystem. It also houses the system hard drive(s).

Symptom	Solutions
Logic Module does not turn on (Green push button switch does not illuminate)	Verify the power supply is on and its power output is correct

 11920016 Rev A

	• Push the green switch and wait a few seconds for the unit to boot. (Page 18)
Red Logic Fault LED is on	• LED indicates an error with motherboard voltages. Replace the Logic Module.

Logic Module Removal

1. If system is on, exit any open or running applications and then shut down the operating system.
2. Turn off main switch, remove the front bezel.
3. Slide the Power Supply latch fully to your left.
4. Grasp the Logic Module's handle with one hand and brace the system with the other. Pull the module out of the chassis.
5. Reverse the steps to install a Logic Module. Do not slam the module into the backplane jacks; slide the module in until the its card edge and plugs meet the backplane interface, then firmly push and seat the module. Slide the latch Power Supply Module latch to your right to engage the interlock switch.

Accessories

Symptom	Solutions
There is no image on the LCD monitor	• Verify the monitor power is ON • Check that the monitor power cable is properly connected to the monitor (page 14) and to the connector well (page 15). • Check that the monitor video cable (SVGA or DVI) is properly connected to the monitor (page 14); and to the connector well (page 1515).
The printer does not have power.	• Check that the printer power switch is ON (page 18). • Check that the printer power cable is properly connected to the printer (page 11) and to the connector well (page 12).
The cash drawer does not open when printing a receipt	• Check that the cash drawer cables are properly connected (page 11 and page 16) • In Windows®, verify the Epson printer driver is properly configured. Printer properties→Printing Preferences→Document Settings→Cash Drawer
The customer Pole Display does not have power	• Verify the DB9 connector is attached to a powered serial port (page 13) • Verify Pin 9 of the COM port is configured to have +5VDC (page 21).

Backplane Removal

The connector well consists of two I/O cards plugged into a system backplane. The backplane must be removed to gain access to the I/O cards.

1. If system is on, stop any open or running applications and then exit the operating system.

2. Turn off main switch, remove the front bezel. Unplug the 5170 POS from the wall outlet and remove the power cord from the rear power inlet.
3. Unplug and disconnect *every* cable, plug and connector attached to the connector well.
4. Remove the Power Supply module and Logic Module (page 19 and page 20).
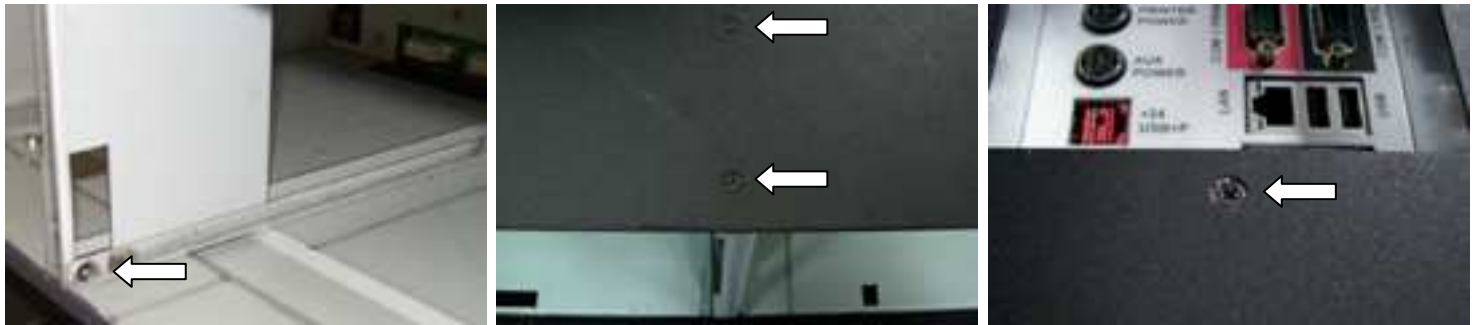5. Remove four 6-32 flat head screws. Three holding the Interlock Brace, one on the top cover.

Figure 15, 6-32 Screws

6. Remove the Brace. Next, reach into the chassis, grasp the Backplane and slide the Backplane Assembly out of the machine. Reassemble the system by reversing these steps.

Grab here

Audio Line-out Jack

The 5170 POS line-out jack will provide an audio output signal to an external pair of computer speakers. These speakers must be powered by a user supplied external power source.

21   11920016 Rev A

COM Port Power

The Pin 9 of the RS232 ports (COM1 through COM4) is configurable. The options are RI, 5VDC or 12VDC (the factory default is COM1 set for RI, COM2-4 set for +5VDC).

There are power selection jumpers located on the motherboard. Only authorized and trained service personnel should open the Logic Module and configure jumpers on the motherboard. The table below summarizes the RS232 DB9 pin definitions:

PIN NO.	1	2	3	4	5	6	7	8	9
Signal	CD	RX	TX	DTR	GND	DSR	RTS	CTS	RI or 5V/12V output

Table 1, DB9 Pins

Motherboard COM Port Jumpers

To change the serial port Pin 9 settings:

1. Remove the Logic Module (page 20) and then remove the module's cover.
2. On a static protective work surface, and while wearing an antistatic wrist strap, position the terminal block jumper for the COM port you want to configure.

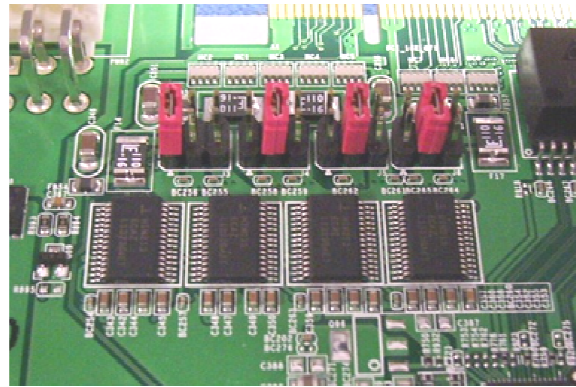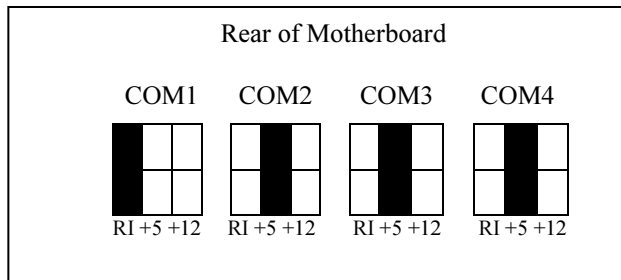The drawing and photo below show the motherboard default jumper settings for Pin 9 on COM1-COM4.
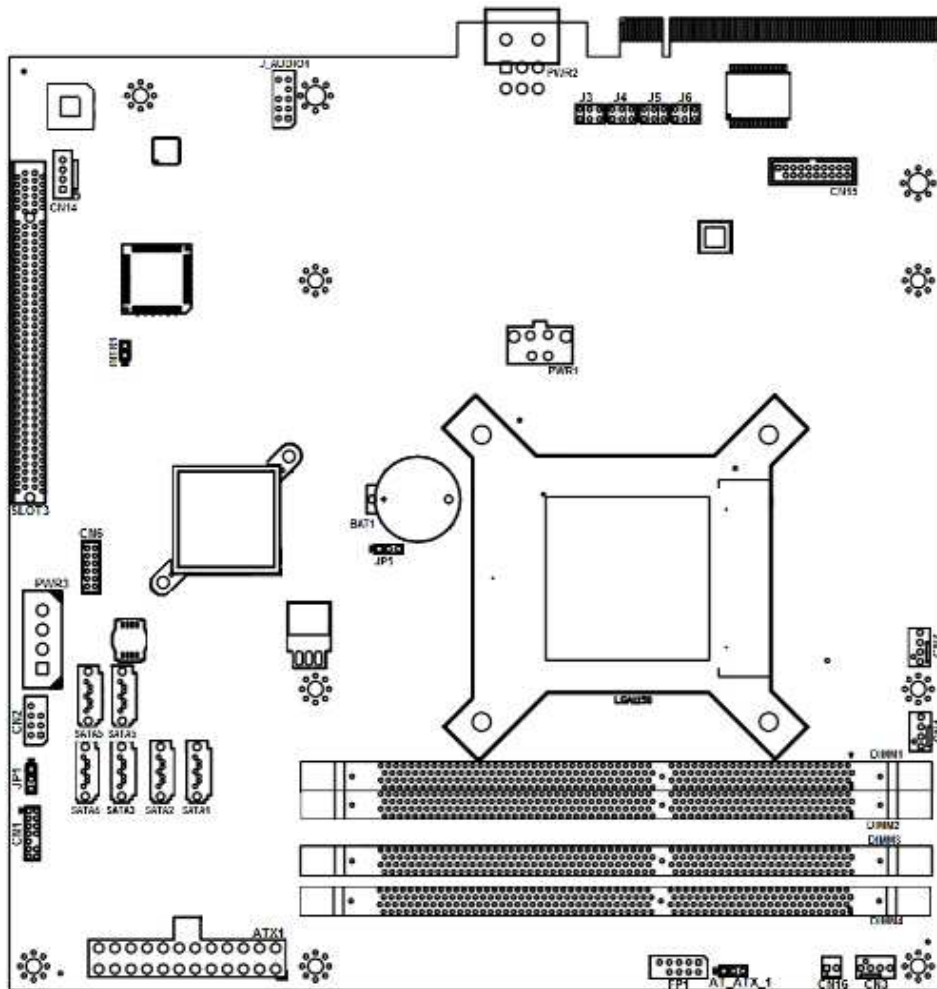

Figure 16, Serial Port Pin 9 Terminal Blocks

Motherboard Layout

Terminal Block	Function	Jumper	Output
J3	COM1	1-2	Pin 9→RI
		3-4	Pin 9→+5V
		5-6	Pin 9→+12V
J4	COM2	1-2	Pin 9→RI
		3-4	Pin 9→+5V
		5-6	Pin 9→+12V
J5	COM3	1-2	Pin 9→RI
		3-4	Pin 9→+5V
		5-6	Pin 9→+12V
J6	COM4	1-2	Pin 9→RI
		3-4	Pin 9→+5V
		5-6	Pin 9→+12V
JP5	CLR_CMOS	1-2	Default
		2-3	Clear

23

Service and Technical Support

Assistance and customer service are available from your dealer or authorized service provider. If your dealer or service provider cannot answer your questions or provide satisfactory service, call UTC RETAIL Technical Support. When calling for assistance or service information, please be ready to provide the serial numbers, which can be found on a labels on the Power Supply Module and Logic Module. If the product needs to be returned to our repair facility, please use the original packing material and shipping carton.

For assistance, service and product information, contact:
UTC RETAIL
100 Rawson Road
Victor, NY 14564
Phone: 1.800.349.0546 or (585) 924.9500
Fax: (585) 924.1434
www.utcretail.com

If a unit needs to be shipped to UTC RETAIL for repairs, please return it in the original packaging material and shipping container. If you purchased the 5170 POS System through a dealer, and the dealer is unable to answer your questions, please call UTC RETAIL Technical Support at 1.800.349.0546

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