

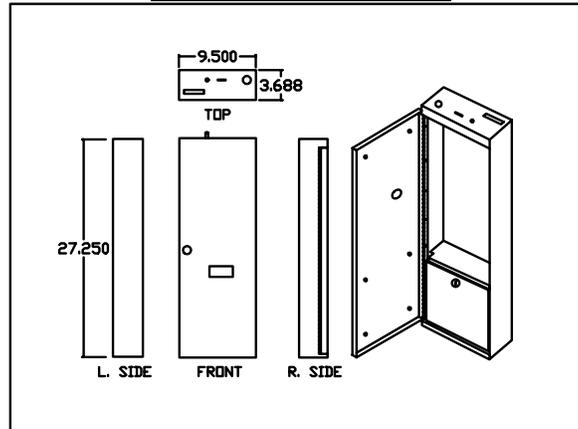
# **1501SV**

## **Installation Manual and User's Guide**

**Publication ID: SV0804TS**

Each ACDI product includes all parts necessary for installation. Upon receiving your order, check to see that all parts listed below are included in your packaging. Every effort is made to ensure that your order is shipped correctly. If you do not have all of the items listed below, call us at 800-990-ACDI.

### 1501SV – Single Vend



**1 - 1501SV**

**2 - Door Keys #**

**2 - Coin Box Keys #**

**2 - By-Pass Keys #**

**1 - 24vac Transformer**

**1 - Machine Harness**

**1 - Mounting Kit**

**2 - 5/16x32x1" Bolts**

**2 - 5/16x32 Nuts**

**4 - 5/16" Washers**

**1 – Product CD**

**1 – Setup Instructions**

**1 – Product Checklist**

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## **Section 1 - Mechanical Installation**

### **1501SV**

Both the 1500 and 2000 series can be attached to any smooth surface that will support the unit's weight and will allow drilling for support bolts. The bolt-ons can also be attached to the 2015PD Universal Pedestal Stand and the Front Locking Cassette Stand.

#### **2015PD Universal Pedestal Stand Installation**

1. Place the 1501SV on top of the pedestal mounting plate
2. Insert 5/16" bolts (with one washer) through the 1501SV down to the pedestal mounting plate
3. Secure the bolts with 5/16" nuts and washers supplied

#### **Front Locking Cassette Stand Installation**

1. Place the 1501SV on the door of the FLC.
2. Align the holes in the door of the FLC with the holes in the door of the 1501SV.
3. Insert 5/16' bolts (with one washer) through the 1501SV into the FLC door.
4. Secure bolts with 5/16" nuts and washers supplied.

#### **Other Surface Installation**

1. Mark the mounting surface by using a pencil and marking through the 1501SV's mounting holes
2. Drill or otherwise prepare the surface to receive the mounting hardware that you are using for your specific application
3. Secure the 1501SV using supplied 5/16' nuts, washers, and bolts.

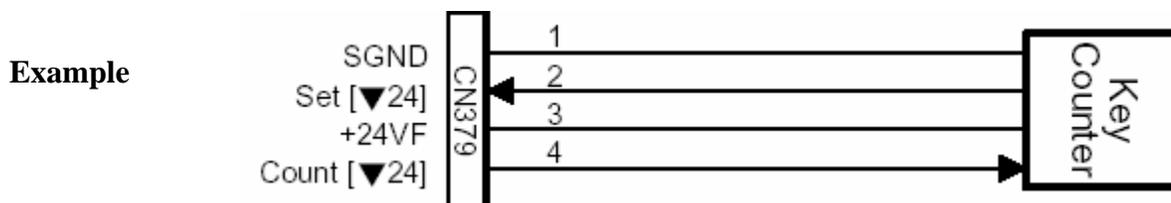
## Section 2 - Electrical Installation

- ⊗ Most copiers can be connected using one of the methods described in the following pages.
- ⊗ Because there is some variance in electrical and/or electronic operation of copiers (even copiers made by the same manufacturer), one set of instructions will not work for all copiers.
- ⊗ Follow the appropriate instructions included with your unit to connect your copier.
- ⊗ If you have any questions, **call us toll-free at 800-990-ACDI (2234).**
- ⊗ It is recommended that the technician read the information contained in **General Information (Connection)** before beginning installation.
- ⊗ **Technicians should have a copier technical manual to use as reference during installation.**

### **General Information (Connection)**

Coin-ops generally control copiers in the following way:

- ⊗ Copier's Key Counter interface is normally a four pin connector (see example below). Two wires are for enable/disable and two wires are for copy pulse. In some cases the Key Counter is equipped with a 'dummy plug' that jumpers the enable/disable wires together.
- ⊗ Copier's **enable** jumper is opened and replaced with two wires from the coin-op. These lines provide common and normally open relay contacts
- ⊗ Copier's **copy pulse** lines have a coin-op wire attached to each.
- ⊗ When the user inserts enough money to reach the copy price, the coin-op's enable relay closes providing the same **enable** jumper that the copier is originally equipped with.
- ⊗ User's may insert enough money to run one copy and receive change
- ⊗ As a copy is made, the copier supplies a **copy pulse** which is transmitted to the coin-op through the attached wires.
- ⊗ When the reset signal is received from the copier, the coin-op's enable relay de energizes opening the enable line - the copier is now disabled.
- ⊗ The unit is now ready for the next customer



## Standard Connections

- ⊗ Begin with a fully functional copier that has been completely tested
- ⊗ Remove power from the copier and the coin-op
  - Δ**Warning: Failure to remove all power can result in personal injury and/or damage to the copier!**
- ⊗ Locate the 'Key Counter' connector in the copier
- ⊗ Remove copier panels to expose the connector and to provide a routing path for the copier harness.
- ⊗ Connect the copier harness to the matching square connector on the end of the machines harness.
- ⊗ Route the harness to the 'Key Counter' connector.
- ⊗ Remove “dummy plug” if present and connect harness to ‘Key Counter’ connector.
- ⊗ Connect the 24VAC transformer to power harness of 1501SV

<b>Copier 'Key Counter' Connector Wire</b>	<b>Copier Harness Wire</b>
Normally Jumpered (Singal)	Black (Enable Relay Normally Open)
Normally Jumpered (GND)	White (Enable Relay Common)
Counter Pulse (Constant)	Red (Billing Constant Line)
Counter Pulse (Pulse)	Green (Billing Pulse Line)

**Note:** Check to see that the black & white wires are connected to the copier lines that were jumpered. Incorrect connections will damage the copier.

- ⊗ Route the machine harness away from moving parts and secure
- ⊗ Replace all copier panels and apply power to the copier and coin-op
- ⊗ After the copier warms up, insert and turn the coin-op operator key - the copier should make copies normally
- ⊗ Turn off the operator - the copier should be disabled
- ⊗ Insert enough change to make one copy
- ⊗ Select 2 copies on the copier
- ⊗ Press "Print"
- ⊗ The copier should produce one complete copy

## General Connections

The parameters listed in this section are normally not needed. Some copier models operate in a different manner which will require adjustment of these parameters and, possibly, will require electrical connections that differ from those found in this manual. The following is a brief discussion of the use of parameter settings. The described copier operation is general in nature. We will not presume to tell the service technician how a copier works - we intend to illustrate how the coin-op provides control for the copier. Remember, if you need to make parameter changes due to copy irregularities, we can help! It is recommended that service technicians read this manual to familiarize themselves with the coin-op equipment. However, if you need a non-standard setup, we can help you accomplish this quickly - call us!

### **Basic copier operation presented in a simplistic form (for our example) is as follows:**

- ⊗ Copier is powered-up and ready to make copies
- ⊗ User selects a single copy and presses 'Start'
- ⊗ Paper feeds from paper source
- ⊗ Standard paper path is followed
- ⊗ During the copy cycle a copy pulse is sent to the internal copy counter and to the 'Key Counter' connector for each copy
- ⊗ Copy cycle ends

### **Basic copier operation with coin-op:**

- ⊗ Copier is powered-up and ready to make copies
- ⊗ User selects the number of copies and presses 'Start'
- ⊗ Because the coin-op is connected to the copier, the copier's enable jumper has been removed
- ⊗ Copier will not come to ready until copy price has been inserted
- ⊗ User inserts 10 cents (copy price1 = 10 cents)
- ⊗ Paper feeds from paper source
- ⊗ During the copy cycle a copy pulse is sent to the internal copy counter and to the 'Key Counter' connector for each copy
- ⊗ If copy pulse is too early in the cycle, the copier is disabled and a complete copy is not produced
  
- ⊗ It is for these occasions that the disable delays are used
- ⊗ Simply adjust the delay potentiometer CCW (located on the SV800 controller)
- ⊗ If copy pulse is too late in the copy cycle, users can get a free copy or blank second page
- ⊗ Simply adjust the delay potentiometer CW to decrease the disable delay

- ⊗ If disable delay are set at zero, move the two coin-op reset (billing) lines to a 24VDC solenoid or clutch that functions earlier in the copy cycle (Registration, Paper Feed, etc.)
- ⊗ The disable delay time or billing line connection will vary by copier
- ⊗ Copy cycle ends

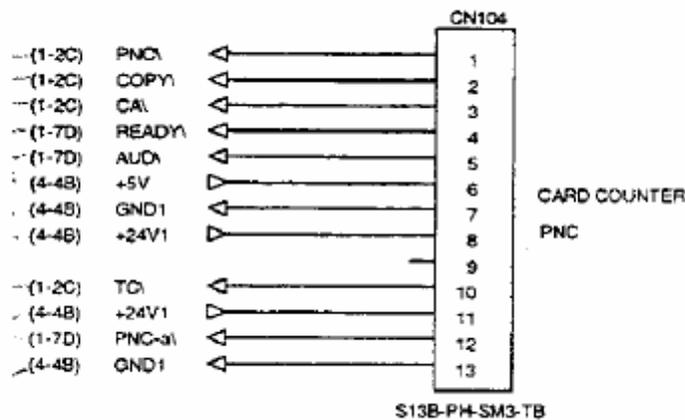
**Remember, determining the proper connection for your copier is normally a very short , simple procedure. If you need help, call us.**

## Other Connections

### Non-Standard Key Counter

Not all copiers are equipped with a four pin ‘Key Counter’ interface. However, the 1501SV comes equipped with the copier harness it needs to connect properly. See example below.

Example:

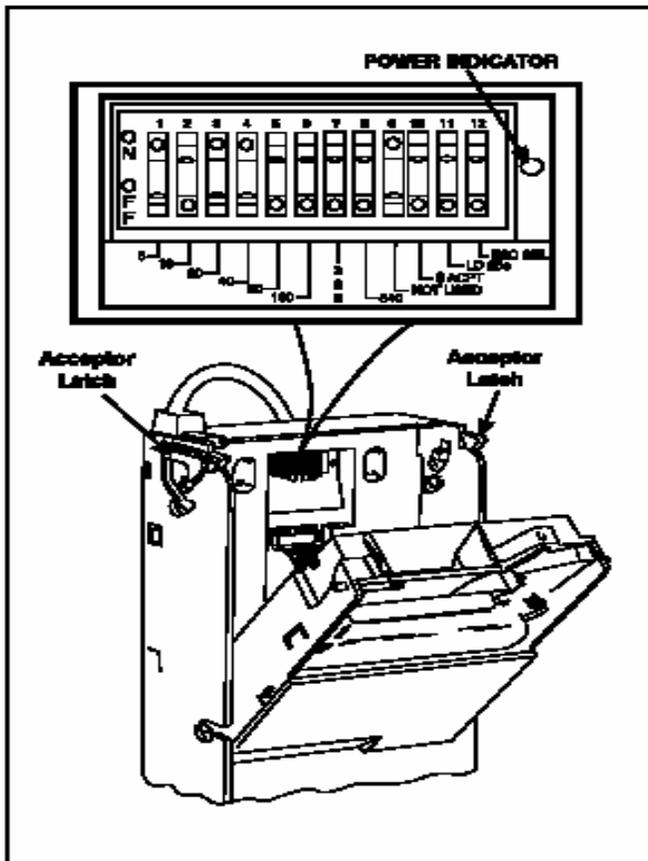


## Section 3 - Operational Setup

Normally, the unit will function with your copier without changing any jumpers on our controller. The only setting that should be changed is the vend price (default setting is 5 cents). The following sections describe how to make other changes, should it be necessary. You should call ACDI before making any changes other than price changes. We can ensure that changes are necessary before you use your valuable time.

### Copy Price

- ⊗ Open the coin-op by turning the door lock key
- ⊗ Remove the coin acceptor from the changer body by lifting the two retainers and pulling the acceptor outward. Now, locate the 6 position DIP switch (red body with white switches)
- ⊗ Set copy price by enabling appropriate dip switch positions as shown in figure 2.  
SW10 must be turned to the on position at all times  
Set for 15 cents: turn on SW1 and SW2 ( $.5 + .10 = .15$ )  
Set for 25 cents: turn on SW1 and SW3 ( $.5 + .20 = .25$ )



<u>SWITCH #</u>	<u>PRICE/OPTION</u>
1 .....	\$05
2 .....	\$0.10
3 .....	\$0.20
4 .....	\$0.40
5 .....	\$0.80
6 .....	\$1.60
7 .....	\$3.20
8 .....	\$6.40
9 .....	NOT USED
10 .....	\$ coin acceptance
11 .....	LO \$0.25
12 .....	escrow until select

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## Disable Delay

Allows time delay to be adjusted for proper operation of some copiers.

### When To Use

Most copiers do not need delays to function properly. However, some will not operate without adjustment to the disable time. A brief description of symptoms indicating the need for delay times is presented under each heading below. The troubleshooting guide will also indicate when to set delays and which of the delay settings need modification. For further information, see General Information (Connection) on page 2-5 and General Information later in this chapter (page 3-3). It is best to read this information if you are not familiar with coin-op control of copiers. Don't hesitate to call us if you need help or further information. Remember, you may not need to set any of these parameters. They are provided to enable control of a wide variety of copiers (current and future).

### Disable 1

- ⊗ Locate R5 on the 8SV-800BD controller (brown body, tan adjustment - upper center of controller). Refer to Wiring Diagram
- ⊗ Default setting = 0 delay
- ⊗ Make this adjustment if your copier makes partial copies or jams before a copy is made.
- ⊗ Increase according to how much of the copy is lost .
- ⊗ Rotate potentiometer counter-clock-wise (CCW) to increase the delay time
- ⊗ Check to ensure that extra copies are not made (delay too long).

## Reset Signal

The 8SV-800BD controller is capable of accepting reset signals from 5 to 24VDC. The controller can also work with copiers that provide a relay closure (such as Xerox copiers). Very few copiers will need the closure or 5VDC reset. The unit is configured for 24VDC unless another value was specified. If you are changing to a copier that you think will need one of the optional settings, call ACDI for proper jumper settings.

## Coin Pay Out

Coins are paid out manually:

- ⊗ Open the coin-op door to expose the changer
- ⊗ Activate the payout switch located at the bottom right of the changer
- ⊗ Release the switch when finished

## Loading The Coin Tubes

Loading the changer's coin inventory tubes is accomplished directly at the changer. Coin inventory tubes are normally self-loading during operation. If the vend price is set to 5 cents and many quarters are used, the tubes can be depleted. To load the coin inventory tubes:

- ⊗ Open the coin-op door to expose the changer
- ⊗ Insert the coins from the top of the coin inventory tubes located about midway down the changer
- ⊗ When you have finished loading the tubes, payout four nickels to ensure that coins are seated

## Exact Change Condition

The microprocessor is constantly looking at the change status. If correct change cannot be made, the changer rejects the last coin deposited, resulting in an overinsertion. At this time the exact change light flashes on and off in one second intervals for 10 seconds. See chart below for coin tube sensor levels.

### Coin Tube Capacity

	\$ .05 Tube	\$ .10 Tube	\$ .25 Tube	
			LO \$ .25 Option Switch Set to OFF Position	LO \$ .25 Option Switch Set to ON Position
Low Sensor Level	7	9	7	7
Full Sensor Level	78	113	77	22
Hand Load Level	86	125	95	22

## **Jumper Settings**

All jumpers are set at the factory and should not be changed without contacting technical support. They are listed below for reference purposes only. Refer to the board diagram on page 18 for location purposes.

### **JP1 Pulse/Reset Signal Jumper**

3 Pin jumper used to set signal voltage to either 24 VDC or 5 VDC. Pins 1&2 are jumpered for 5 VDC, and Pins 2&3 are jumpered for 24 VDC.

### **JP2 Relay Jumper**

3 Pin jumper used to set state of relay to either N/O (Normally Open) or N/C (Normally Closed). Pins 1&2 are jumpered for N/O, and Pins 2&3 are jumpered for N/C.

## **Board Connections**

All harnesses should be connected properly. Refer to the list below and the board diagram on page 18 for correct location and color codes.

### **J1 Machine Harness Interface**

24 Pin interface used to connect 1501SV to copier. Currently Pins 1-4 are in use. The remaining pins are for future additions. Pins 1&2 are for Pulse/Reset Signal (Green & Red). Pins 3&4 are for Enable/Disable (Black & White).

### **J2 Changer Interface**

6 Pin interface used to connect Coinco 9342-SC changer to main board.

Pin1 – Blue	Pin2 – Red	Pin3 – Yellow
Pin4 - Purple	Pin4 – Brown	Pin6 - Green

### **J3 Exact Change Light Interface**

2 Pin interface used to connect Exact Change Light.

### **J4 Bypass Lock Interface**

2 Pin interface used to connect Bypass Lock to main board.

### **J5 Power Harness Interface**

Pin Interface used to connect 24VAC Transformer to main board.

## **Section 4 – Operation**

The following is a brief description of the coin-op's operation. If you need more in-depth information, call the Access Control Devices, Inc. toll-free technical support line.

### **Coins**

- ⊗ Copier will be on and functional except that it will not run copies
- ⊗ Customer inserts coins (nickels, dimes, and/or quarters)
- ⊗ Once the copy price has been inserted, the coin-op will bring the copier to the ready state
- ⊗ Customer can make one copy
- ⊗ Remaining balance will payout automatically
- ⊗ Copy will count on the paid counter (located above the SV800 controller). See page 18.

### **Bypass**

This unit is equipped with an electrical bypass key. To use the bypass function:

- ⊗ Insert bypass key in lock
- ⊗ Turn
- ⊗ Coin acceptance is inhibited
- ⊗ Copier will be enabled
- ⊗ Copies can be made without money
- ⊗ Copy will count on bypass counter (located below the SV800 controller). See page 18.

## Section 5 - Sales Information

The 1501SV provides a non-resettable counter to record the number of paid copies made as well as a non-resettable bypass counter is also available

### **Sales Information**

#### **Copies Price 1**

Count of paid copies made using vend

Located on the top row of LED's on the 8SV-800 board controller on the carrier assembly (refer to "board diagram" on page 18)

#### **Total Bypass Copies**

Total copies made in the Bypass Mode

Located on the top row of LED's on the 8SV-800 board controller on the carrier assembly (refer to "board diagram" on page 18)

<u>Month Type</u>	JAN	FEB	MAR	APR	MAY	JUN	TOTALS
TOTAL PAID COPIES							
TOTAL SALES (COPIES*PRICE)							
TOTAL BYPASS COPIES							
BYPASS CHRG (COPIES*PRICE)							
<b>TOTALS</b>							

<u>Month Type</u>	JUL	AUG	SEP	OCT	NOV	DEC	TOTALS
TOTAL PAID COPIES							
TOTAL SALES (COPIES*PRICE)							
TOTAL BYPASS COPIES							
BYPASS CHRG (COPIES*PRICE)							
<b>TOTALS</b>							

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## **Section 6 - Troubleshooting and Repairs**

ACDI products are designed with reliability in mind. It is our goal to provide customers with highly reliable products that offer trouble-free operation. Each unit is simple with enough sophistication to handle your needs without a great degree of complexity. Each unit is tested for proper operation before it is shipped. If you experience any difficulty with an ACDI product, call us for immediate help.

If your unit does not function properly, call our toll-free line for help - regardless of your warranty status. We will talk you through the proper steps for testing and we will send a replacement part if necessary. If you are returning a part to us, or if you are sending a part in for repair you must call and receive a **Return Authorization Number**. This number must be printed on the outside of the return box for our shipping department to accept the package.

### **Toll-Free Support:**

ACDI was founded on the belief that small businesses must be responsive and efficient in order to be competitive. We know that your business cannot be competitive if your products have excessive downtime. We provide a toll-free technical support line in order to help make your installations simple and cost effective. ACDI technicians will help with all phases from pre-installation advice to converting our equipment to an upgraded copier.

#### Contact Information:

Access Control Devices, Inc  
2201 Brookwood Drive  
Suite 118  
Little Rock, AR 72202  
800-990-2234

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## Warranty and Alteration/Attachment Disclaimer:

All products manufactured by Access Control Devices, Inc. (ACDI) carry a full two-year warranty. If our equipment fails during the two-year warranty due to defects in material or workmanship, ACDI will repair or replace the defective part. ACDI provides a toll-free support line for your convenience. Technicians may call this number for support regardless of your warranty status. ACDI technicians will provide troubleshooting guidelines over the phone and arrange for replacement parts if necessary. *Replacement parts will be considered sales if the defective parts are not returned within 30 days.*

An alteration is defined as any change to a copier, computer, laser printer, reader-printer or other device that deviates from the machine's original physical, mechanical or electrical or electronic interconnection of a machine of ACDI's manufacturer to any other device that is sold, serviced, supplied or installed by the original equipment manufacturer ("OEM") of the machine.

An alteration to a machine may be made by a purchaser or lessee of ACDI's products with prior written notice by the customer to the OEM's supplier and service organization. This should be done to ensure that continued service support will be provided if an alteration is made to the machine. An attachment can be made to virtually any machine via an OEM approved attachment means. The correct attachment means should be confirmed in writing with the OEM machine supplier.

The customer is responsible for making any such alteration or attachment using an ACDI product or device, for its use and for the results obtained there from, and to pay all charges related to the alteration or attachment that would effect "Maintenance Service" by the OEM supplier and service organization. The customer is responsible for removal of any alteration or attachment and to restore a rented or leased machine to its normal, unaltered condition prior to its return to the rental or lease supplier, or upon notice from the OEM supplier and service organization that the alteration or attachment creates a safety hazard or renders maintenance of the machine impractical. See alteration attachment disclaimer for additional terms and conditions.

*\*\*\*\*Extended warranty available upon request*

Note:

Within 30 days of purchase, any repaired unit/part will be shipped overnight at ACDI's expense.

Items 31-90 days from date of purchase - any repaired unit/part will be shipped ground track at ACDI's expense.

Items 91 days or more from date of purchase - any repaired unit/part will be shipped ground track at customer's expense.

The customer assumes responsibility to the OEM supplier and service organization for all charges for maintenance and other service activities, or for loss of or damage to a machine, caused by: 1) use of ACDI attachments, 2) alterations as defined above. It is understood that ACDI shall not be liable for any incidental or consequential damages. ACDI's liability and the customer's exclusive remedy for any cause of action arising from the use of ACDI of the purchase price for the goods, with respect to which damages are claimed. All claims of whatever nature shall be deemed waived unless made in writing within (30) days of the customer's receipt of the goods.

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## Troubleshooting

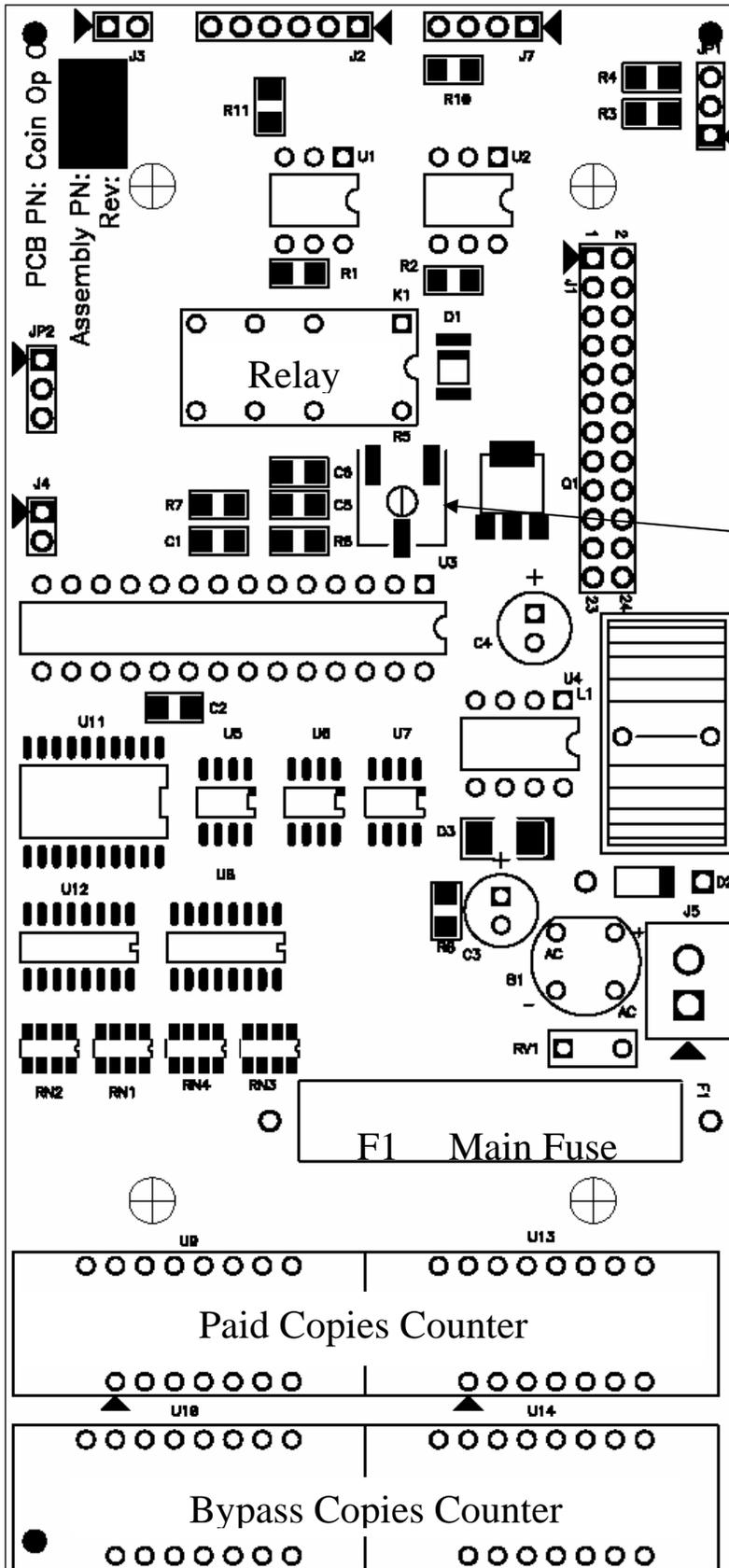
Symptom	Possible Cause	Solution
No coin acceptance, no coin payout	Bad wall transformer or transformer connection	Test for 24vac from transformer to controller
	Blown Fuse on board.	Check fuse (F1) on board and replace if blown.
Does not take coins, coin payout OK	Improper Changer harness connection	Ensure that the Changer harness controller connector is properly seated
	Changer CREM defective	Replace changer
Makes more than one copy per copy price	Disable delay setting too high	Enter service and lower the delay setting
	Billing lines connected to late copy cycle point	Move billing lines to a solenoid/clutch further back in the copy cycle (move from exit sensor to registration, etc.)
Copier jams or gives partial copy	Disable delay not set high enough	Enter service mode and adjust disable delay up
Coin-op does not reset	Improper connection of billing lines	Ensure that the billing lines are connected to the proper copier points and that the electrical connection is good
Coin-op resets immediately after inserting coins	Disable delay potentiometer defective or has been turned past stop	Adjust potentiometer 10 turns CW or CCW
Coin-op appears to work but copier does not come to ready	Bad connection of machine harness	Check machine harness connections

## Section 7 – Parts Replacement and Electrical Diagrams

<b>1501SV PARTS REPLACEMENT LIST</b>	
<b>PART #</b>	<b>DESCRIPTION</b>
8SV-800BD	MAIN CONTROLLER BOARD
1C-9342SC	COINCO CHANGER
300HO-H6-MACH	STANDARD MACHINE HARNESS
300HO-H2-POWER	POWER HARNESS
8SV-ECL	EXACH CHANGE LIGHT
300HP-H1-BP	BYPASS HARNESS WITH KEYS
1T-10102	24VAC TRANSFORMER
1L-PH101	POP OUT LOCK WITH HANDLE
1L-D8714	PLUG LOCK WITH KEYS
*1500CASHBOX	CASH BOX
1L-C610S	CASH BOX LOCK WITH KEYS
280M-1500SK-SV	1501SV MYLAR OVERLAY
208M-1000SK-5	DECAL, PRICE 5 CENT
280M-1000SK-10	DECAL, PRICE 10 CENT
80M-1000SK-15	DECAL, PRICE 15 CENT
80M-1000SK-20	DECAL, PRICE 20 CENT
80M-1000SK-25	DECAL, PRICE 25 CENT
<b>REPLACEMENT KEYS</b>	
TO ORDER REPLACEMENT KEYS, CALL 1-800-990-ACDI (2234). PLEASE HAVE YOUR KEY #, SERIAL #, OR PROCDUCT CHECKLIST READY.	

**8SV-800  
BOARD  
DIAGRAM**

J3 Light Interface    J2 Changer Interface    J7 Internal Signal Jumper



JP1  
Pulse/Reset Singal  
Jumper

J1  
Machine Harness  
Interface

R5  
Disable 1

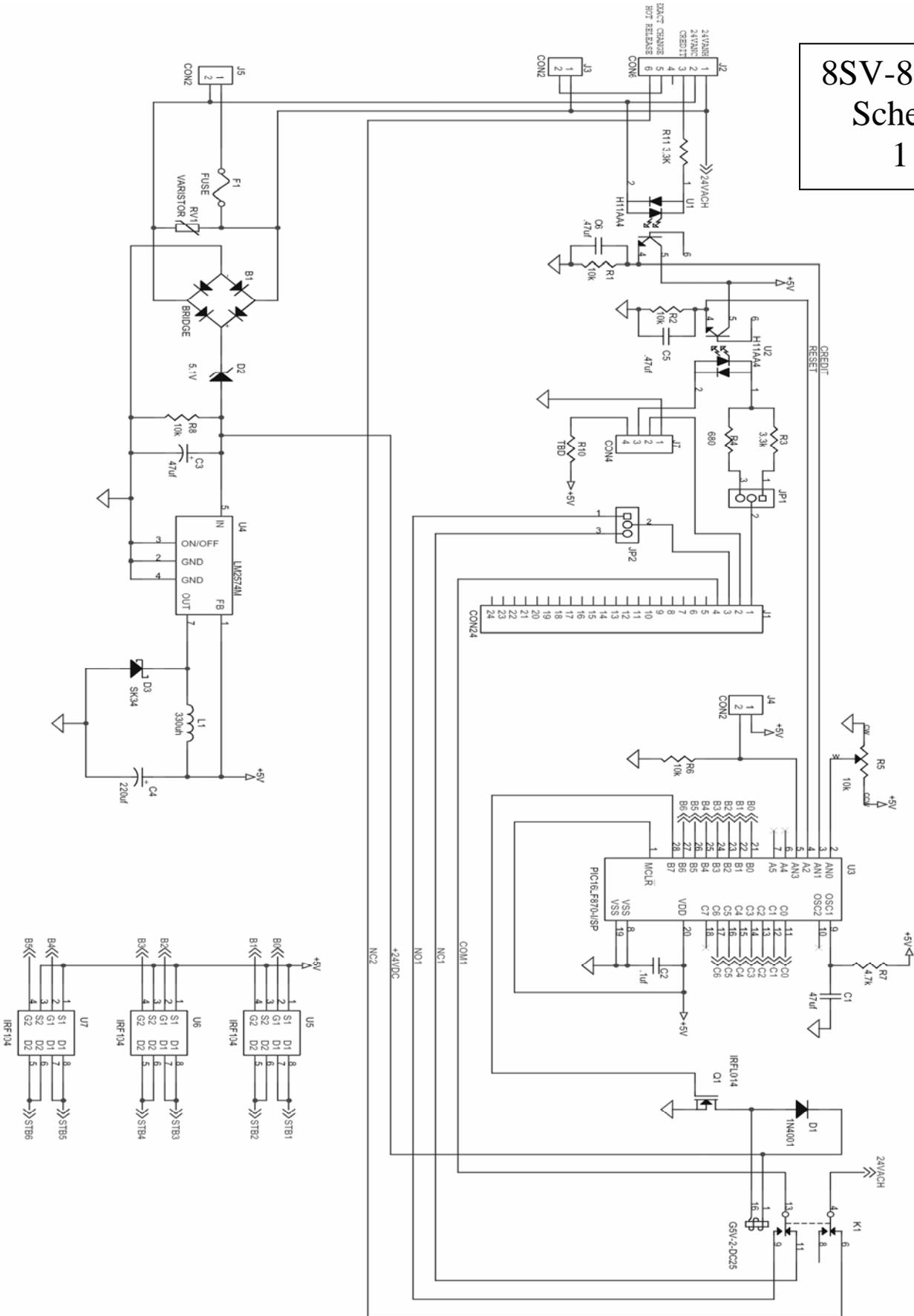
J5 Power Harness  
Interface

JP2  
Relay Jumper

J4  
Bypass Lock  
Interface

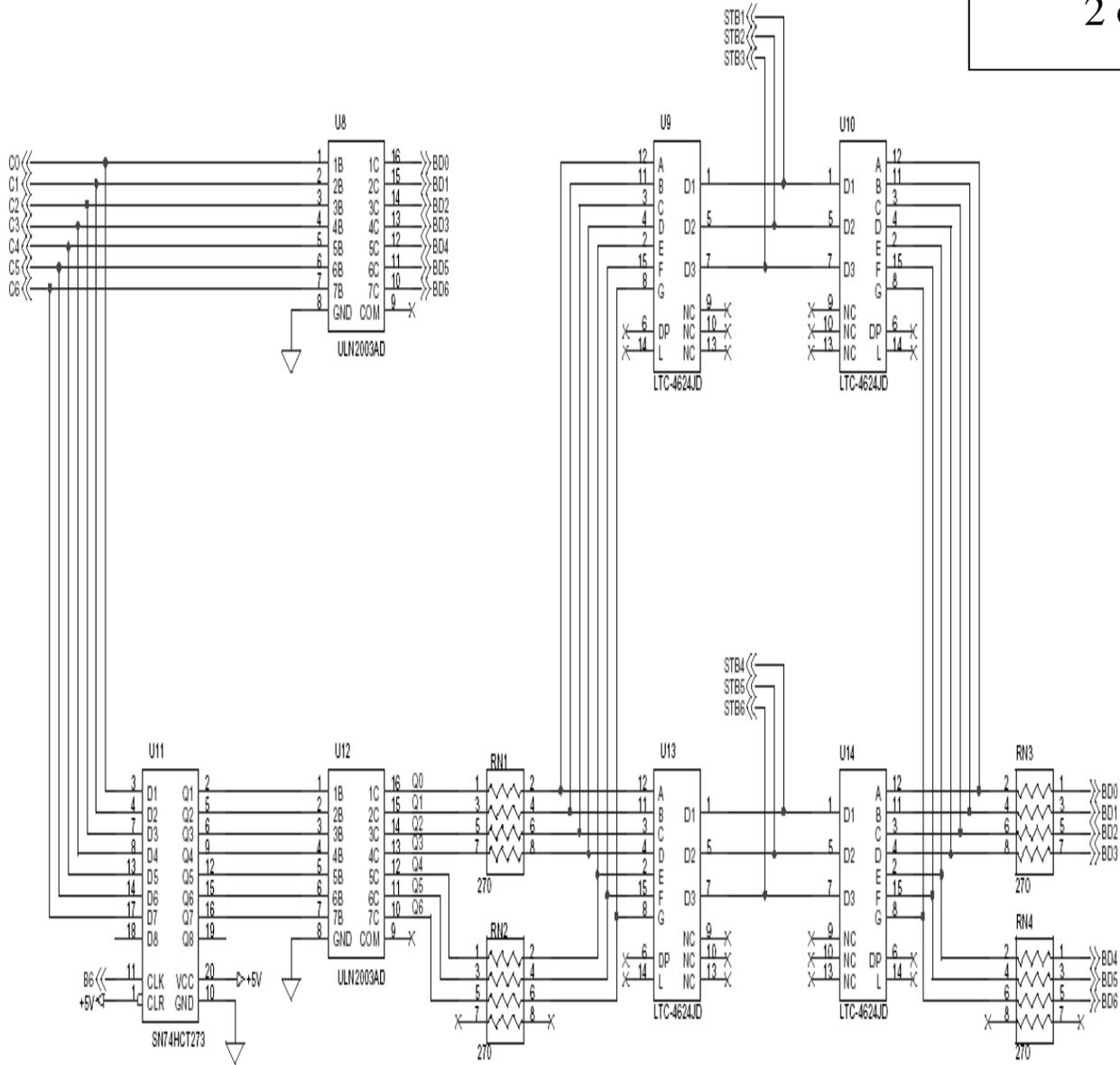
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# 8SV-800 Board Schematics 1 of 2



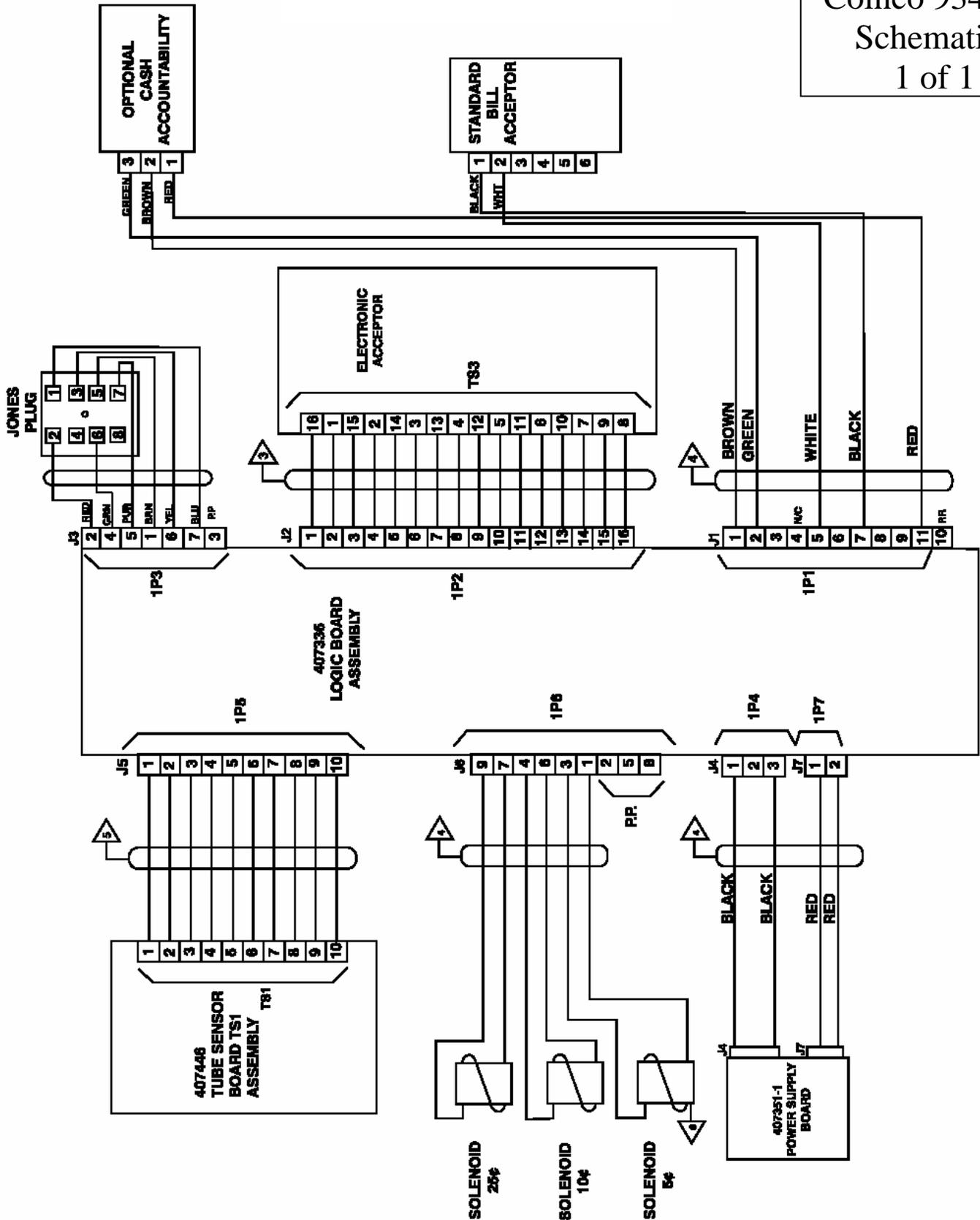
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# 8SV-800 Board Schematics 2 of 2



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Coinco 9342SC  
Schematics  
1 of 1



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