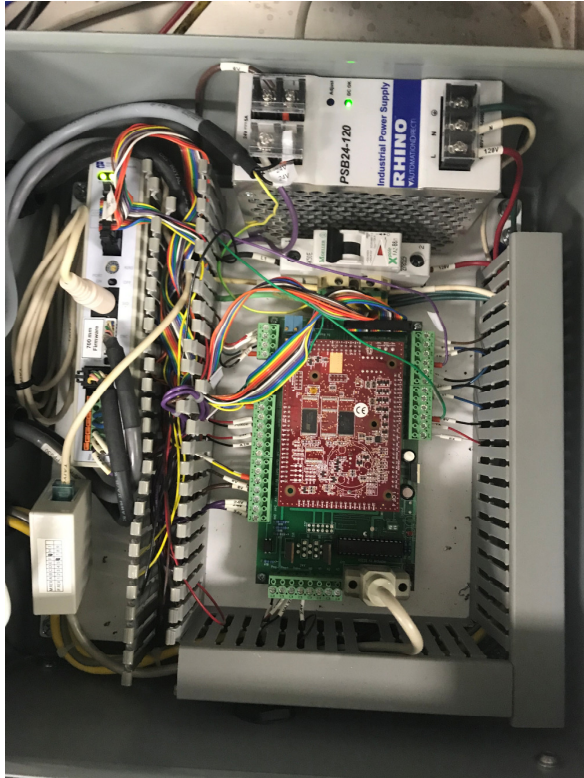


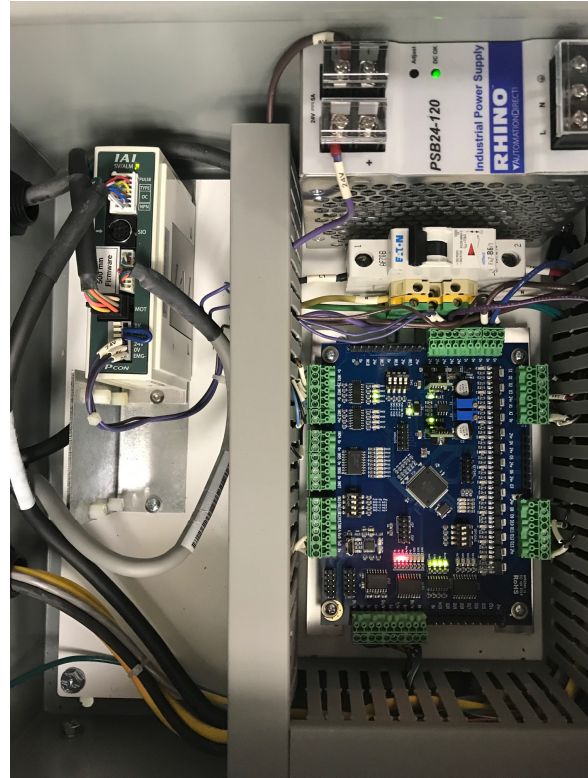
AVR2560

Retrofit Instructions for ServoSpray and ServoSonic

In order to add functionality, improved wiring and improved firmware upgrade capability, all ServoSpray / ServoSonic products are now controlled with a new microcontroller card based on the AVR2560 controller. This document aims to guide you through the installation of the new controller in an electrical box originally wired for the Rabbit LP3500 with base board.

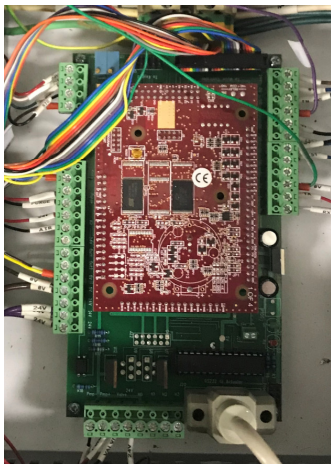


Electrical Box with LP3500 and Base Board



Electrical box with AVR2560

For reference, the following images identify key components in the electrical box



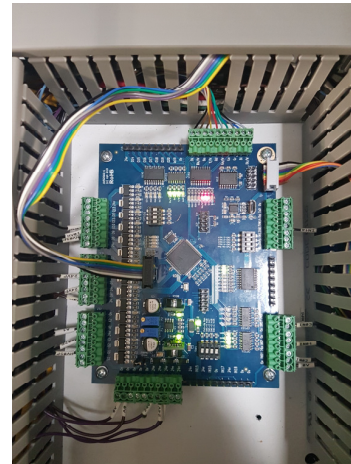
LP3500 and Base Board



IAI Controller I



IAI Controller Assembly II

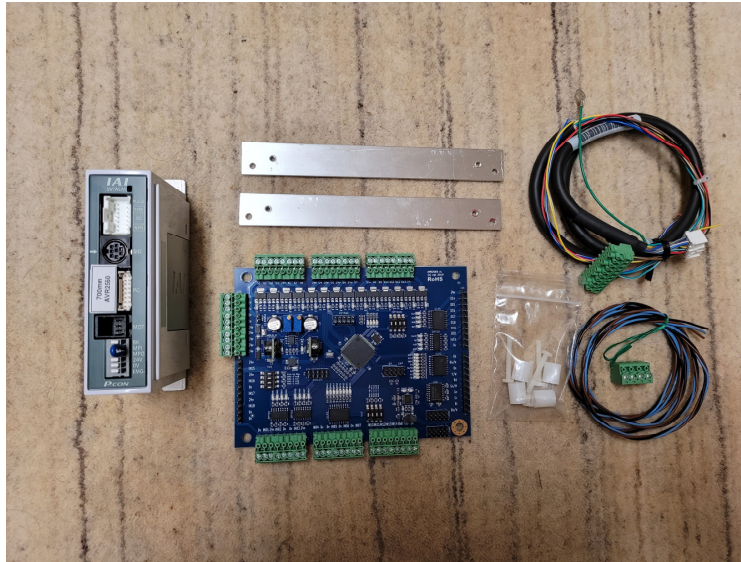


AVR2560

Note that machines were built with 2 different versions of the IAI Actuator Controller

Contents of AVR2560 Controller Retrofit Kit

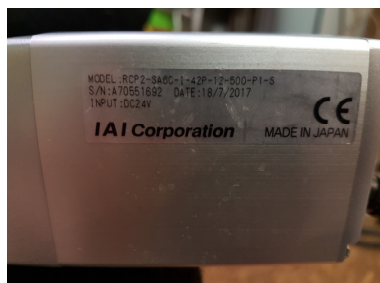
1. AVR 2560 Controller
2. IAI Actuator Controller for AVR2560
3. IAI Control Cable
4. Aluminium Mounts and Standoffs for AVR Board Mounting
5. Jumper Terminal Block and Splice Wire (for extending wires if required)
6. 24V wire label for Pump Common Wire relocation.



Note: IAI Controller is specific to the Actuator Model. There are 3 actuator models:
500mm SA6 700mm SA7 700mm SA6



IAI Controllers (note label identification of actuator model)



500mm SA6
RCP2-SA6C-I-42P-12-500



700mm SA6
RCP2-SA6C-I-42P-20-700



700mm (SA7)
RCP2-SA7C-I-56P-16-700

Wire Installation Guide

ServoSpray Single Nozzle Fluxer

Old Rabbit LP3500 and Base Board

New AVR2560

Outputs

Air	– Head Air	O9
Air 24	– 24V to Air Solenoid	24v
Purge	– Purge Solenoid	O10
Purge 24	– 24V to Purge Solenoid	24v
Valve	– Flux Valve	O1
Valve 24	– Flux Valve 24V	24v
Pres	– Flux Tank Pressure Controller Signal	A1
24V	– Flux Tank Pressure Controller 24v	24v
0V	– Flux Tank Pressure Controller 0v	0v
Pump	– Solvent Pump	O3
Pump 0V	– Solvent Pump Common Wire	24v

(NOTE: The Pump Common wire must be moved from 0V to 24V – New control is sinking not sourcing)

Inputs

Flux level Sig	– Flux Low Level Switch Signal (Black)	IN01
Flux level 0V	– Flux Low Level Switch 0V (Blue)	0v
IN PC Sig	– Incoming Photocell Signal (Black)	IN02
IN PC 24V	– Incoming Photocell 24V (Brown)	24v
IN PC 0V	– Incoming Photocell 0V (Blue)	0v
CIn level Sig	– Solvent Low Level Switch Signal (Black)	IN03
CIn level 0V	– Solvent Low Level Switch 0V (Blue)	0v
+24V	– From DC Power Supply	J26 24v
GND	– From DC Power Supply	J26 0v

(NOTE: 24v/0v terminals on J26 are common with all 24v/0v terminals. Any 24v/0v terminal may be used to supply controls. The DC Power Supply output MUST be supplied to J26)

Options DIP Switches

1-OFF 2-OFF 3-OFF 4-OFF

Hold Enable Jumper

Do NOT install

IAI Communication Cable

- Remove Serial Communication cable from the Control Box – it is no longer required as the actuator motion is now controlled directly by the AVR2560 board. This is the cable connected to the DB9 connector on the LP3510 Base Board. Depending on the model of your machine it is either a beige cable terminating in the barrel connector of the IAI controller or a multicolored flat ribbon cable connected to the IAI control board.

Wire Installation Guide

ServoSpray Dual Nozzle Fluxer

Old Rabbit LP3500 and Base Board

New AVR2560

Outputs

Purge	– Purge Solenoid	O10
Purge 24	– 24V to Purge Solenoid	24v
Pres	– Flux Tank Pressure Controller Signal	A1
24V	– Flux Tank Pressure Controller 24v	24v
0V	– Flux Tank Pressure Controller 0v	0v

Valve / Air / Pump Select Relay (CR1)

Flux 1	– Flux Valve Nozzle 1	O1
Flux 2	– Flux Valve Nozzle 2	O2
Air 1	– Air Solenoid Nozzle 1	O9
Air 2	– Air Solenoid Nozzle 2	O11
Pump 1	– Solvent Pump Nozzle 1	O3
Pump 2	– Solvent Pump Nozzle 2	O4
Pump 0V	– Solvent Pump Common wire	24v

(NOTE: The Pump common wire must be moved from 0V to 24V – New control is sinking not sourcing)

Inputs

IN PC Sig	– Incoming Photocell Signal (Black)	IN02
IN PC 24V	– Incoming Photocell 24V (Brown)	24v
IN PC 0V	– Incoming Photocell 0V (Blue)	0v
Flux Lev 1 0V	– Flux Tank 1 Low Level Switch 0V (Blue)	0v
Flux Lev 2 0V	– Flux Tank 2 Low Level Switch 0V (Blue)	0v
Cln Lev 1 0V	– Solvent Tank 1 Low Level Switch 0V (Blue)	0v
Cln Lev 2 0V	– Solvent Tank 2 Low Level Switch 0V (Blue)	0v
+24V	– From DC Power Supply	J26 24v
GND	– From DC Power Supply	J26 0v

(NOTE: 24v/0v terminals on J26 are common with all 24v/0v terminals. Any 24v/0v terminal may be used to supply controls. The DC Power Supply output MUST be supplied to J26)

Level Switch Select Relay (CR2)

Flux Level 1	– Flux Tank 1 Low Level Switch Signal (Black)	IN01
Flux Level 2	– Flux Tank 2 Low Level Switch Signal (Black)	IN04
Cln Level 1	– Solvent Tank 1 Low Level Switch Signal (Black)	IN03
Cln Level 2	– Solvent Tank 2 Low Level Switch Signal (Black)	IN05

Options DIP Switches

1-OFF 2-OFF 3-OFF 4-OFF

Hold Enable Jumper

Do NOT install

IAI Communication Cable

- Remove Serial Communication cable from the Control Box – it is no longer required as the actuator motion is now controlled directly by the AVR2560 board. This is the cable connected to the DB9 connector on the LP3510 Base Board. Depending on the model of your machine it is either a beige cable terminating in the barrel connector of the IAI controller or a multicolored flat ribbon cable connected to the IAI control board

ServoSonic Fluxer

Old Rabbit LP3500 and Base Board

New AVR2560

Outputs

Air	– Head Air	O9
Air 24	– 24V to Air Solenoid	24v
Purge	– Purge Solenoid	O10
Purge 24	– 24V to Purge Solenoid	24v
Valve	– Flux Valve	O1
Valve 24	– Flux Valve 24V	24v
Knife	– Ultrasonic Generator Control Signal	O8
Pwr	– Ultrasonic Generator 0-10VDC Power Signal	A2
Pres	– Flux Tank Pressure 0-10VDC Control Signal	A1
24V	– Flux Tank Pressure Controller 24v	24v
0V	– Flux Tank Pressure Controller 0v	0v
Pump	– Solvent Pump	O3
Pump 0V	– Solvent Pump Common Wire	24v

(NOTE: The Pump Common wire must be moved from 0V to 24V – New control is sinking not sourcing)

Inputs

Flux level Sig	– Flux Low Level Switch Signal (Black)	IN01
Flux level 0V	– Flux Low Level Switch 0V (Blue)	0v
IN PC Sig	– Incoming Photocell Signal (Black)	IN02
IN PC 24V	– Incoming Photocell 24V (Brown)	24v
IN PC 0V	– Incoming Photocell 0V (Blue)	0v
Cln level Sig	– Solvent Low Level Switch Signal (Black)	IN03
Cln level 0V	– Solvent Low Level Switch 0V (Blue)	0v
IN	– Ultrasonic Nozzle Error	IN06
+24V	– From DC Power Supply	J26 24v
GND	– From DC Power Supply	J26 0v

(NOTE: 24v/0v terminals on J26 are common with all 24v/0v terminals in other locations on the board. Any 24v/0v terminal may be used to supply controls. The DC Power Supply output MUST be connected to J26)

Options DIP Switches

1-OFF 2-OFF 3-OFF 4-OFF

Hold Enable Jumper

Do NOT install

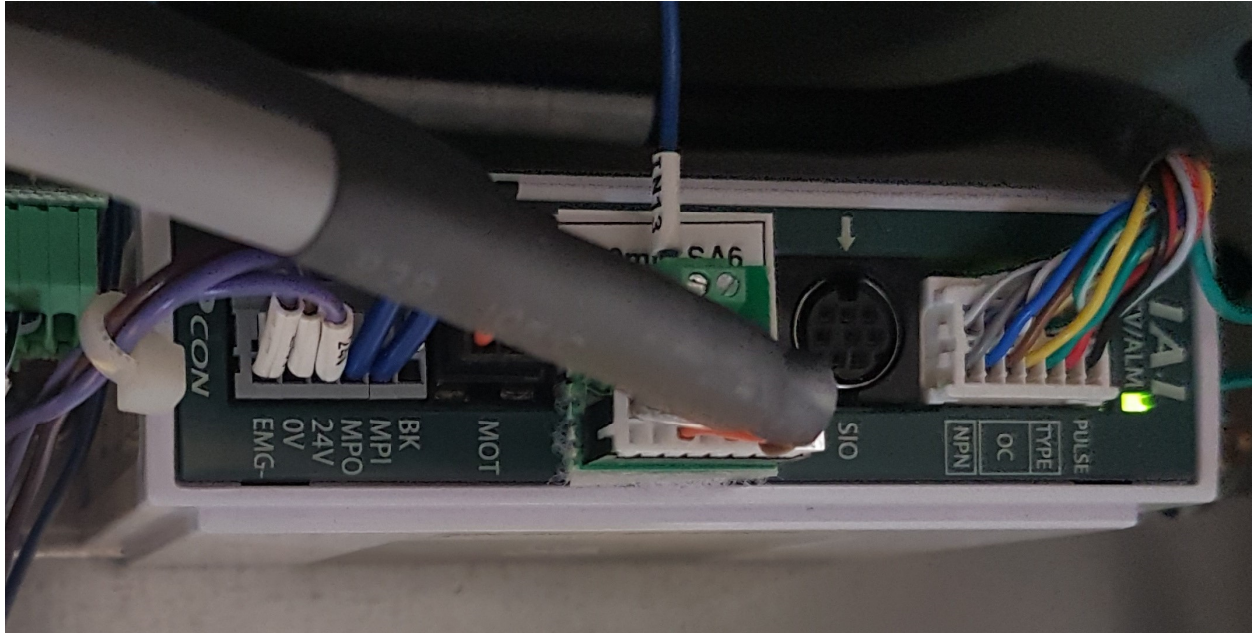
IAI Communication Cable

- Remove Serial Communication cable from the Control Box – it is no longer required as the actuator motion is now controlled directly by the AVR2560 board. This is the cable connected to the DB9 connector on the LP3510 Base Board. Depending on the model of your machine it is either a beige cable terminating in the barrel connector of the IAI controller or a multicolored flat ribbon cable connected to the IAI control board.

IAI Controller Installation

- Transfer 24V, 0V, 24V power wires from old controller to new controller
- Transfer the 2 actuator cables from old to new controller
- Install the actuator control cable from the AVR2560 board

Remove existing IAI Controller Assembly. New controller will be secured to the electrical backplate by a single screw (Top). Install green ground wire on this screw.



Splice Terminal Block and Extension Wire

A 4 position terminal block is provided to use as a splice point for wires that may need to be extended to reach their new connection point on the AVR2560 controller board. The terminal block could be used for up to 4 wire extensions – 1 splice in each position of the terminal block. 3 wire colors are provided. When possible try to maintain the following pattern for consistency:

Brown – 24V Blue – 0V Black – Signals

