

USER DRIVEN MANUAL*

Any feedback, changes, or advice we are glad to hear it. Please contact us at support@estateswing.com

—WARNING—

Read all instructions before beginning installation or use of this gate opener. This operator exerts a high level of force. Exercise caution at all times and stay clear of the system during operation.

Estate SLIDIE



E-SL 450BD Series - Direct 24V Power w/ Battery Backup

INSTRUCTION MANUAL

**Estate Swing's unique user driven manuals are constantly updated by installers and homeowners like yourself. We improve by hearing and applying your feedback.*

Estate Swing Summary of Functions

Estate Slide Summary of Functions

The Estate Slide is only to be used for vehicular Slide gates in a Class I setting.

Class I: A vehicular gate opener (or system) intended for use in a home of one-to-four single family dwelling, or a garage or parking area associated therewith.

The Estate Slide automated system was designed and built for controlling vehicle access. Do not use for any other purpose.

The Estate Slide automated system automates residential Slide-leaf gates with leaves of up to 18' in length.

It consists of a locking electro-mechanical linear operator, powered by a 24V AC transformer, coupled with control board that switches the voltage to DC to power the motor. The MASTER card can be programmed and is used to set the following: function logics, work times (by self-learning) and pause times, leaf speed, and the sensitivity of the anti-crushing device.

The locking system will automatically lock when the motor is not operating. A release system enables the gate to be moved by hand in case of a system failure.

For Your Assistance

Keep this manual safely stored after installation

Serial Number _____

Date of Purchase _____

Place of Purchase _____

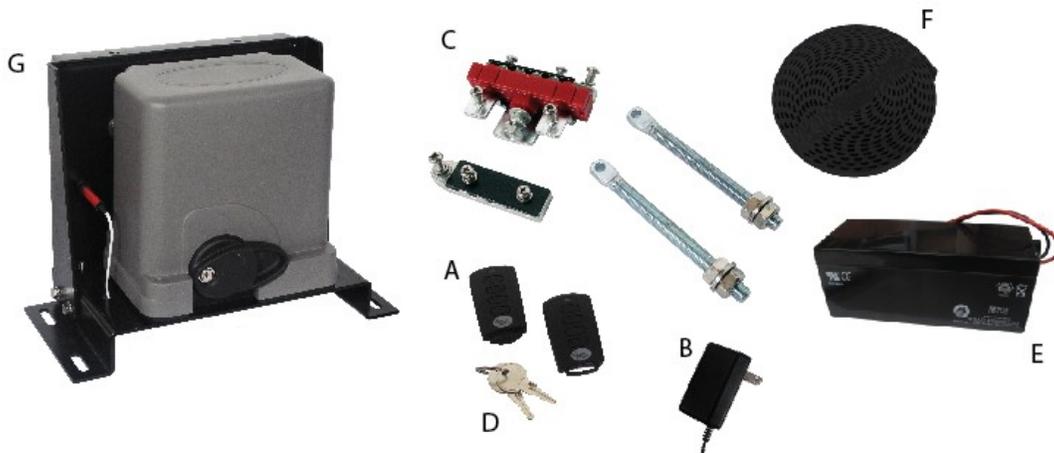
Have this information on hand while handling all service and warranty issues.

Specifications & Part List

Model	Estate Slide 450BD
Power Supply	24 V AC / 24V DC
Absorbed Power (W)	50
Absorbed Current (Amps)	10
Max Run Time	5.6 Minutes
Operating Ambient Temperature	-4 °F to +124 °F
Motor Rotational Speed	2000r / min
Gate Leaf Max Length (ft.)	Up to 14
Gate Leaf Max Weight (lbs.)	Up to 450
Type of Limit Switch	Magnetic

Estate Swing Parts Included:

- A) Two Remotes
- B) Transformer
- C) Two Limit Magnets
- D) Release Keys
- E) Battery
- F) Belt
- G) Motor

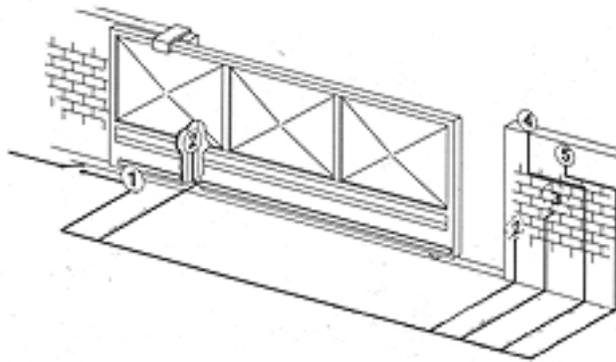


Standard System Overview and Safety

The system display below is a recommended standard system. Other approved accessories can be installed.

Photo sensors and a flashing light indicating gate movement is recommended for safety purposes.

1) Estate Slide Operator 2) Photocells (not included) 3) Key operated pushbutton (not included) 4) Flashing lamp (not included) 5) Radio receiver (optional)



NOTES:

- 1) Do not extend operator connection cables
- 2) When laying electrical cables, use appropriate rigid and/or flexible tube
- 3) Do not run any wires in the same conduit as 110 AC power that may be in the area. This will cause unwanted interference

Important Preliminary Checks:

To ensure safety and an efficiently operating automated system, make sure the following conditions are observed.

- The gate and post must be suitable for being automated. Check that the structure is sufficiently strong and rigid, and its dimensions and weights conform to those indicated in section 1. In particular, wheel diameter must be in relation to the weight of the gate to be automated. Dimensions and weight must match those indicated in the technical specifications.
- Make sure the leaves move smoothly without any irregular friction during entire travel.
- The soil must permit sufficient stability for the expansion plugs securing the foundation plate.
- Check if the upper guide and travel limit mechanical stops are installed.

We advise you to have any metalwork carried out before the automated system is installed.

Tools Needed For Installation



- Power Drill
- Crescent Wrench
- Metal Drill Bits
- Hacksaw
- Flat Head Screwdriver
- Phillips Head Screwdriver
- Tape Measure
- Level
- Wire Strippers
- C-clamps

Other items that may be needed prior to commencing installation:

- Cement, boards for a slab frame, and a trowel.
- Low voltage wire will be required to run power to your operator. See the power page for specifications.
- If the gate is more than 144' from an a/c power supply then an electrician will be required to move a supply closer.
- Depending on the current base, you may need cement to form a level mounting pad.
- A voltage meter may be necessary to run diagnostic checks.
- A digital camera will come in handy with technicians if any support is needed.

Manual Operation

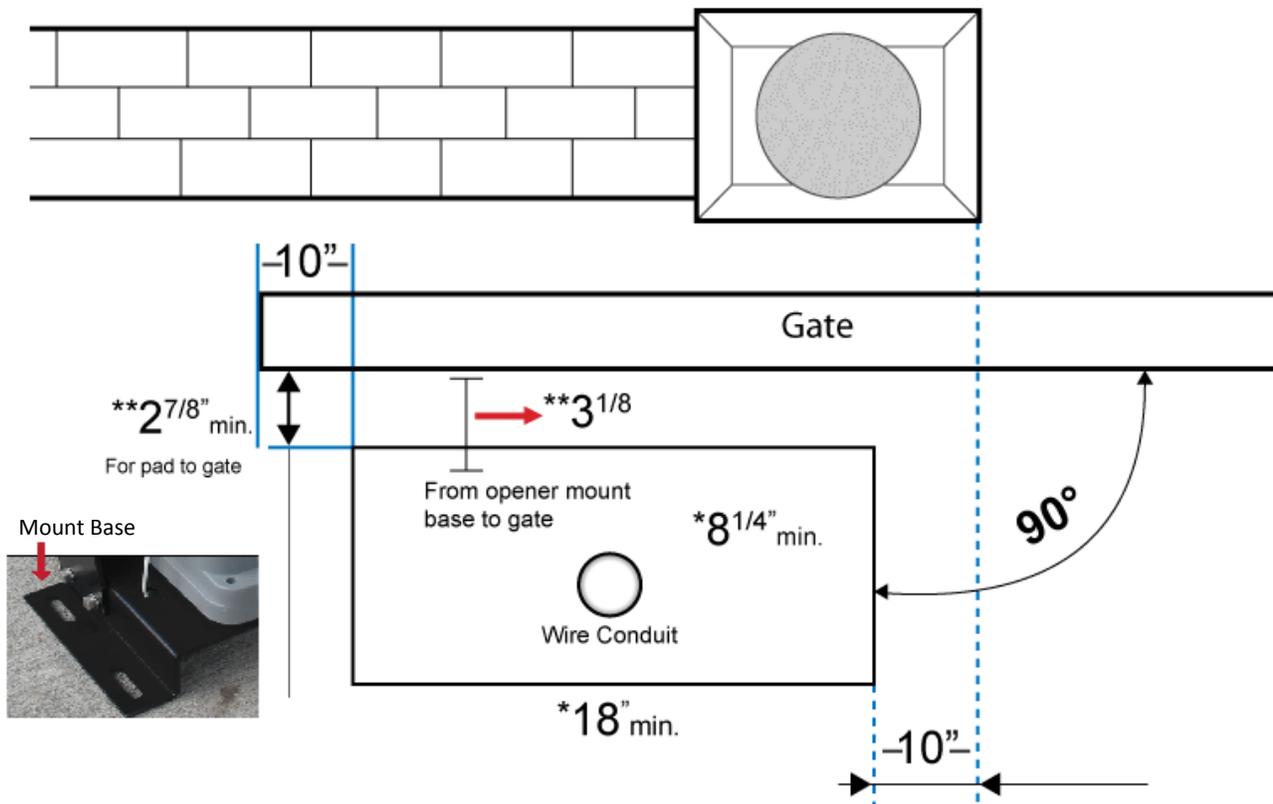
1. Key release the lever.
2. Lift the lever to disengage the gears.
3. The motor will not run again until the motor is relocked.



Creating Mounting Slab

1. Determine the height of your concrete pad based upon how high the gate is from the ground and where the belt can be mounted to the gate. The minimum height from the top of the slab to the belt is 10".
2. Pour a concrete pad for your opener to bolt to. Levelness of the pad is important. For convenience place a piece of conduit that runs up the center of the pad and the other end is easily accessible.
3. After the foundation has dried, use 7/16 concrete anchors attach the opener to the base.

NOTE: The gate opener can be placed on the left or right of the driveway. The diagram below is for being placed on the left side of the driveway (if you are standing on the inside of the property looking out)



* Pad can be larger/closer to gate as long as opener is mounted at correct distance from the gate.

** Dimension can be greater if spacers are used to offset gate brackets from rear face of gate. Spacers will need to be $(\text{Base distance from gate}) - 3 1/8 = \text{Spacer Width}$.

Concrete Slab Tips: Creating a wood rectangle with no top is a good way to form a slab. After the cement dries the wood can be knocked away. The slab must be secured to the ground below. Having rebar pass into the slab works well.

Securing the Operator

If the height of the operator from the slab ever has to be adjusted, nuts can be inserted just on the threads between the anchor and the bottom of the opener—the opener can be moved up the threading and the operator can rest on the nuts.

Feed any wires up through the opener while installing the opener to the base.

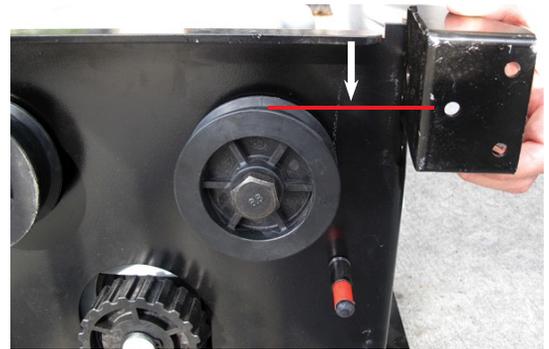


Installation of Motor

Horizontal position of gate bracket: The hole in the gate bracket should be mounted on the gate so it is centered with the idler gears horizontally. Depending on how close you mounted the gate opener from the rear face of the gate you may need to shim your bracket to make it protrude off the back of the gate more to achieve this.



Vertical position of gate bracket: The hole in the gate bracket should be level with the top of the idler gears when mounted on the gate.



After identifying the correct height for the gate bracket, bolt the bracket to your gate frame using the three mounting holes. The flat side with a single hole should be facing in toward the center of the gate.



On one side of the gate lay the belt into the belt attachment bracket so the teeth of the belt mesh the teeth of the bracket.

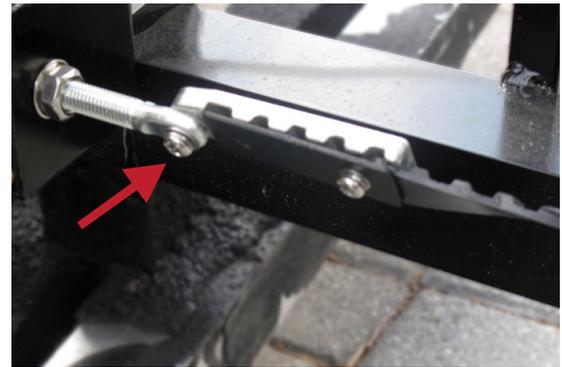


Installation of Motor

Lay the top of the belt bracket on the belt. It has two holes in it. Mark and drill two holes in the belt. Then put the bolts through the bolt bracket assembly to hold the bracket to the belt.



Attach the assembled belt bracket to the belt attachment bolt.



Run the belt over the idlers and under the mechanized gear with the belt teeth facing up.

Repeat gate bracket and belt bracket steps on the other side of the gate to attach the other end of the belt to the gate. The belt may need to be cut down to be tight if you gate is not 15 feet long including tail. Do not cut the belt until you have run the belt through the gears to account for the length needed for this.



Make your final tightening adjustments on the belt. The belt should not have excessive sag in it (no more than 2 inch variance from furthest bracket to opener). To tighten the belt after mounting, move the nuts on the belt attachment bolt.



Installation of Motor

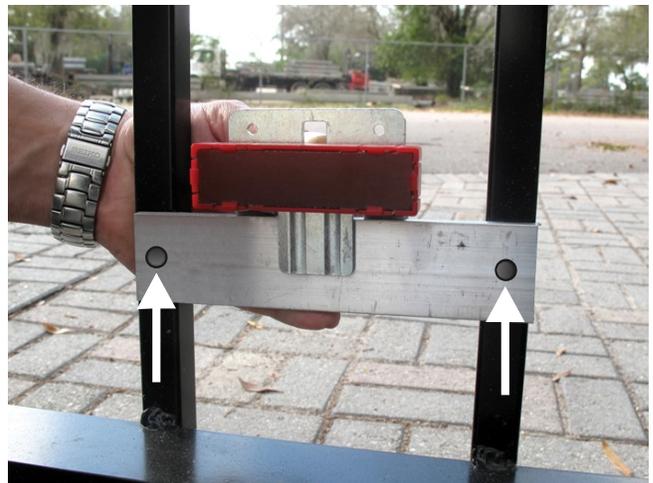
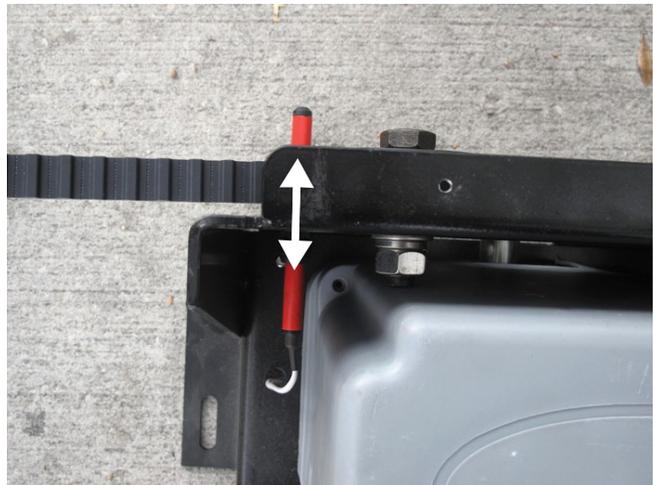
Find the correct height for the limit magnet to find the mounting spot from the gate. This should be done in conjunction with the next step of adjusting the horizontal distance the limit switch protrudes from the side of the unit. The distance from the limit magnet to the limit switch should be under 1 inch.

Adjust the limit switch horizontally to match up with the limit magnet. The distance between the two should not exceed 1 inch.

Mount your limit magnet on the provided piece of flat bar. The flat bar is intended to be attached to your gate at the correct height to trigger your limit switch in the gate's **closed** position. There are many ways to attach the flat bar to your gate so the bar is left un-drilled and unpainted for best suiting it to your style gate.

Example: In the photo the gate is picket style, in this case we would use self tapping metal screws to attach the bar to the pickets. Then we would paint the flat bar black.

Mount a magnet on the gate so it triggers the limit detector closest to the driveway when the gate is in the OPEN position. Mount the second magnet on the opposite end of the gate so it triggers the limit furthest from the driveway when the gate is CLOSED.



Auto Reclose, Left / Right Mode, Force

	Auto-close (OFF)		Auto-close (80s)
	Auto-close (20s)		Auto-close (100s)
	Auto-close (40s)		Auto-close (120s)
	Auto-close (60s)		Auto-close (140s)

Motor wires and Limit wires determine left or right operation:

For a motor mounted on the **Left** hand side of the driveway (when you are standing on the inside of the property looking at the rear face of the gate)

Connect Red wire of motor to Motor + and Black wire to Motor –.

For a motor mounted on the **Right** hand side of the driveway (when you are standing on the inside of the property looking at the rear face of the gate)

Connect Black wire of motor to Motor + and Red wire to Motor –.

Limits:

Connect the limit detector wires to the control board:

The limit that is closest to the driveway will be wired to terminals:

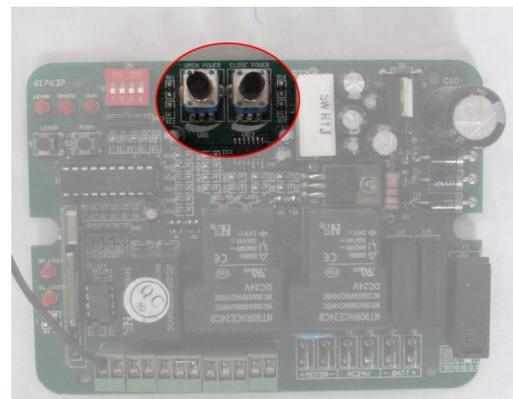
OP and GND - There is no designation of which wire should go into which terminal.

The limit that is furthest from the driveway will be wired to terminals:

CL and GND - There is no designation of which wire should go into which terminal.

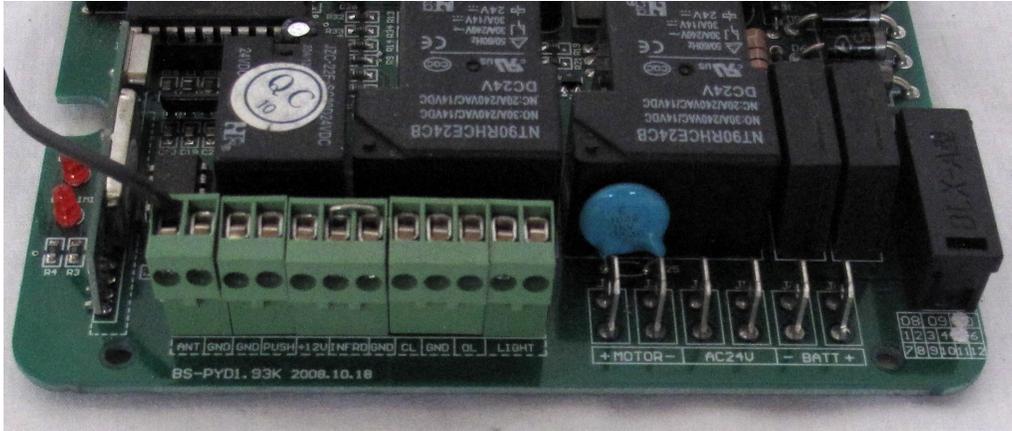
Force:

The force of the motor is adjustable for both the opening and closing of the gate. Turn the force adjustments clockwise to increase the force (resist obstructions) and counter clockwise to decrease the force (be more sensitive to obstructions).



Power Connection

1. The Estate Swing E-SL 450 comes with 1) 24V transformer. The transformer supplied has 2 wires to connect to the board. You may extend those wires and locate the transformer up to **200' away from the control board using 2 conductor stranded 16 gauge direct burial wire**. Be sure to splice appropriately for where the splice will be located (splice the wire extension where it is protected from elements if possible).
2. Insert the two wires from the transformer into the two AC24V terminals on the control board. The wires are not polarized, there is no positive or negative.



Never run 110VAC power directly to the Estate Swing. This will destroy the Estate Swing control board. Never connect the power wire with the transformer plugged in. Contact between the two lead wires, even for a second, will destroy the transformer. Transformers are only warranted if the internal fuse is not blown. If the fuse is blown an outside factor (shorting, surge, water, etc) has caused the transformer not to function.

3. Plug the **transformer** into a 120 VAC outlet.
4. The transformer is not weather proof and must be kept in a covered area. Plug covers are available at your local hardware store.
5. The provided 24V DC battery is for back up purposes, connect it to the pre-wired connector on the board in BATT + and -.

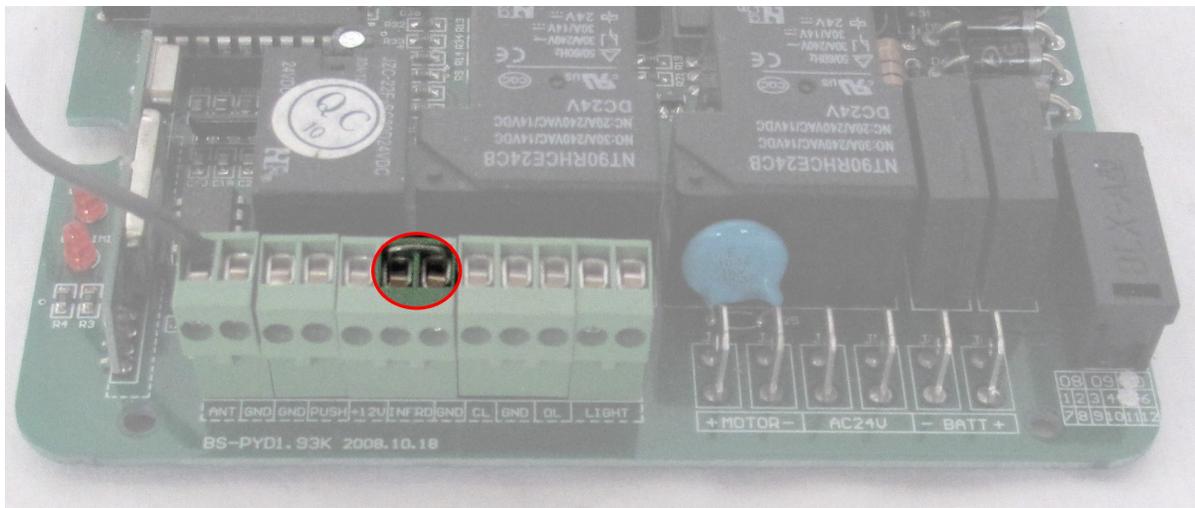
Temporary Safety Jumper

For the highest level of safety, the Estate Swing systems are set up with a Normally Closed safety terminal. This means that in order for the gate opener to move these terminals must be closed either through a safety device (recommended) or with jumpers. Temporary safety jumpers are installed in the factory

It is recommended not to use any accessories until setup and programming is complete.

NOTE: If not using safety devices the temporary safety jumper must remain in. In order for the gate operator to move. Also in order for safety devices to function the safety jumpers must be removed.

The jumper is in the terminals INFRD and GND



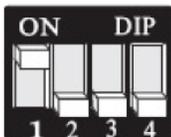
Troubleshooting Tip:

If the gate will only open and will not close - the safety jumper is not making a connection between the two terminals. Even with a jumper in place, sometimes metal or wire loses its conductivity for various reasons. Please try to replace this jumper and see if the problem is resolved.

One Touch EZ Programming

In this stage, your control board will memorize run time and where to stop in the open position.

Turn the power off by unplugging the battery and transformer. With power off move the first dip switch up and the rest down.



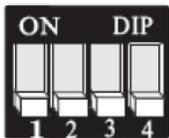
Turn power back on.

Press the PUSH button at the top of the board, the gate should go open and stop on the open limit.

Press the PUSH button at the top of the board again, the gate should go closed and stop on the closed limit.

Press the PUSH button at the top of the board one more time, the gate should go open and stop on the open limit.

Programming is done, while power is still on move the first dip switch down.



Setting Transmitters

The receiver is built into the board. It can have up to 6 remotes programmed into the system.

Warning: gate opener may run immediately when programming is finished - do not program transmitters before programming run time.

1. Turn power off.

2. Move the #1 dip switch to the up position.



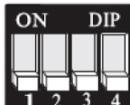
3. Turn power back on

4. Press and release the LEARN button and the LEARN LED will light up.

5. Press and hold a button on a remote until the LEARN LED light goes out.

6. Repeat with other remotes and buttons (you can program all 4 buttons to open the gate)

7. Move the #1 dip switch back off.



Erasing All Transmitters: Press and hold LEARN button until the LEARN LED flashes.

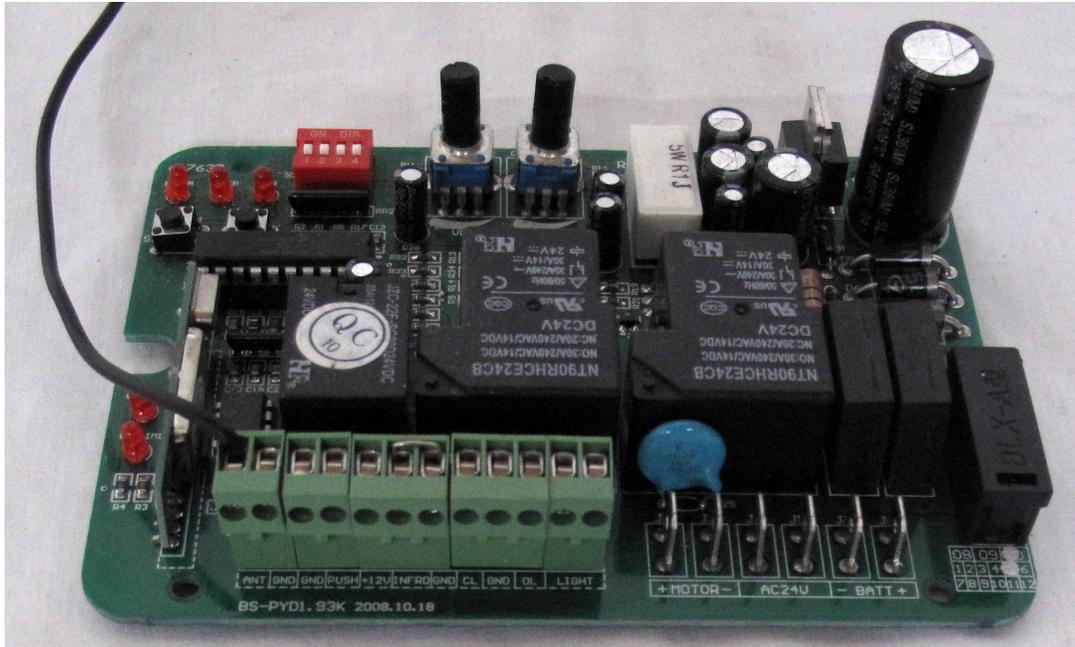
You will then have to reprogram all remotes back in.



Control Board Overview



Caution! Do not run 120V AC power direct to the board. This will cause permanent damage to both boards and void your warranty. Caution!



From Left to Right

- **Ant:** Antenna for receiver.
- **GND:** Ground pairing to PUSH terminal or +12V terminal.
- **PUSH:** This terminal activates the gate when momentarily closed through a dry contact with GND.
- **+12V:** Positive power for an accessory.
- **INFRD:** This terminal is for a photo eye. It should be a closed circuit unless the photo eye is tripped.
- **CL, GND, OP:** Limit switch terminals.
- **Light:** Flashing 24VAC output.
- **+MOTOR-:** Motor output leads. Polarity determines opening direction.
- **AC24V:** Transformer input. No polarity.
- **-BATT+:** Back up battery terminals. Respect polarity.
- **Fuse Box:** Motor fuse box.

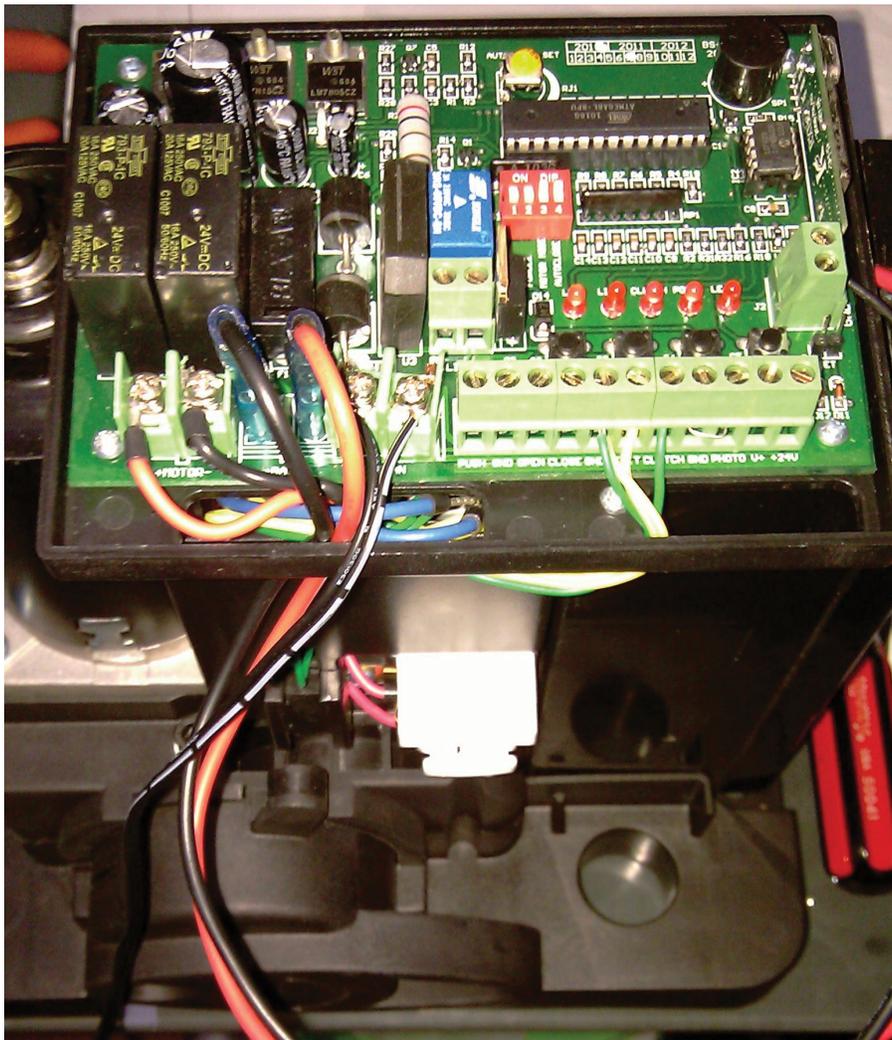
Warranty / Troubleshooting Notice



If you call in for technical support or warranty support: before any control board or motor will be permitted to be sent in for testing or warranty you will be required to e-mail digital photos to the technician.

This is done in your best interest to save unnecessary shipping expenses and time lost. Many times we can come up with solutions to issues by seeing pictures that relay information that is impossible to relay through a phone conversation.

Below is an example of a control board picture that we will be looking for:



Accessories Wiring

The manufacturer instructions that come with your accessory should have markings for wires or terminals to connect to the gate opener. Please look for terminals named below in the instructions for the accessory.

Keypads, Receivers:

Normally Open (NO) or Input (INP) or Relay of entry device = *PUSH terminal on gate opener control board.*

Common (COM) or Ground (GND) or Relay of entry device = *GND terminal on gate opener control board.*

NOTE: If the power for the accessory shares a Ground wire/terminal with the relay – Do Not power that accessory off this control board (example: WKP-P keypad). Instead power that device with batteries.

12V Power positive (+) or (24V) or (PWR) of entry device = *+12V terminal of gate opener control board.*

12V Power Negative (-) or (GND) or (PWR) of entry device = *GND terminal of gate opener control board.*

Push Button, Intercoms:

Normally Open (NO) or Input (INP) or Relay of entry device = *PUSH terminal of gate opener control board.*

Common (COM) or Ground (GND) or Relay of entry device = *GND terminal of gate opener control board.*

Push buttons do not require power and Intercoms draw too much power to power from the gate opener.

Exit Wand/Sensor, Exit Loop Detector, Exit Device:

Normally Open (NO) or Input (INP) or Relay of exit device = *PUSH terminal of gate opener control board.*

Common (COM) or Ground (GND) or Relay of exit device = *GND terminal of gate opener control board.*

12V Power positive (+) or (24V) or (PWR) of exit device = *+12V terminal of gate opener control board.*

12V Power Negative (-) or (GND) or (PWR) or Shield wire of exit device = *GND terminal of gate opener control board.*

Accessories Wiring

Photo Eye, Safety Edge, Safety Loop:

Normally Closed (NC) of safety device = *Photo terminal of gate opener control board.*

Common (COM) or Ground (GND) of safety device = *GND terminal of gate opener control board.*

12V Power positive (+) or (12V) or (PWR) of safety device = *+12V terminal of gate opener control board.*

12V Power Negative (-) or (GND) or (PWR) of safety device = *GND terminal of gate opener control board.*

**Remove safety jumper from PHOTO terminal if using a safety device.*

Magnetic Gate Lock: Magnetic gate locks must have their own power supply and their own relay.

Coil of relay for magnetic lock = *L1-1 Motor lead terminal of gate opener control board.*

Coil of relay for magnetic lock = *L1-2 Motor lead terminal of gate opener control board.*

Connect positive lead of the power supply directly to the positive lead of the mag lock.

Connect negative lead of the power supply to the N/C terminal of the relay.

Connect the COM terminal of the relay to the negative lead of the mag lock.