

6th November 2014

Setup Procedure for Solar Kit

Firstly this Solar Kit is for use with a domestic, low usage single gate system. The gate is presumed to be operating on level track, with well maintained mechanicals and electronic controller. Because of the many differing solar panel installations there is no mounting frame supplied with this kit for the solar panels. Commercially made frames are available but a simple frame for the panels can be constructed from aluminium angle with pop riveted corners and the panels retained in the frame with small nuts & bolts or even good quality thick double sided tape.

1. Install the mounting frame & Control box for the solar panels as close as possible to the gate motor. Don't mount the solar panels in the frame until all the hardware has been positioned and installed. Make sure the frame is square and not twisted.

The panels should face north and the face angle = latitude + 15degrees (approx).

Solar Panel output is directly proportional to the amount of sunlight to which it is exposed.

2. With the frame mounted in it's final position fix the panels in the frame with the connection box & leads to the top. Terminate the wires in the small enclosure taking care to get the polarity correct (see the diagram). If need be some additional brackets can be mounted and small self tapping screws can be used to secure the panels (BE CAREFUL NOT TO DAMAGE THE PANELS).

Check with the solar controller voltmeter display for maximum output from the panel terminals with regard to mount angles and position.

Electrical

The batteries are housed in a waterproof & insulated box and this should be placed as close to the gate motor as possible and mounted so the batteries remain upright. The solar panels and batteries are wired in series to give 24 volts output.

Connect the batteries and the panels up to the controller using heavy gauge figure 8 flex (minimum 1.5mm sq), the bigger the better even if you have to splice 'tails' to the heavy wire ends to fit the connectors.

Finally connect the motor wires up to the gate motor using similar wire.

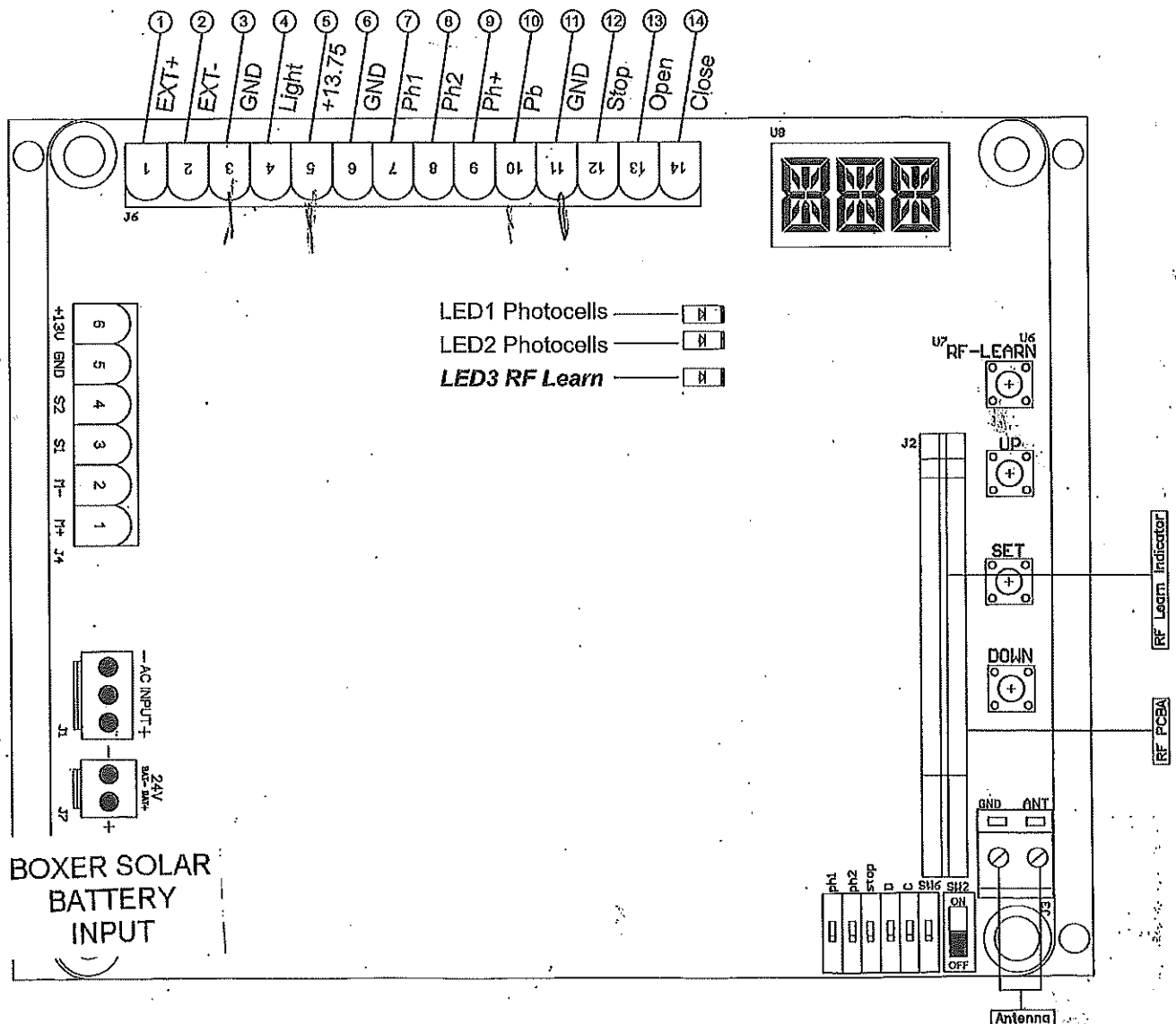
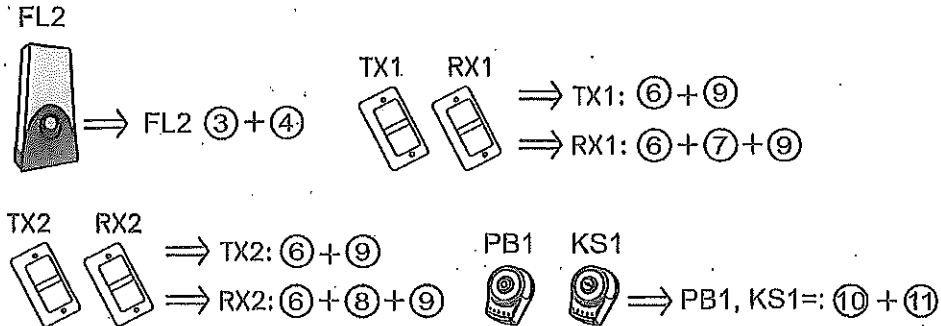
When all the wiring is complete check the display on the solar system controller and make sure that all is well.

A good tip is to charge the batteries before connecting into them into the system with an external charger.

3. SETUP AND FUNCTION SETTING:

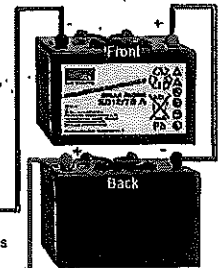
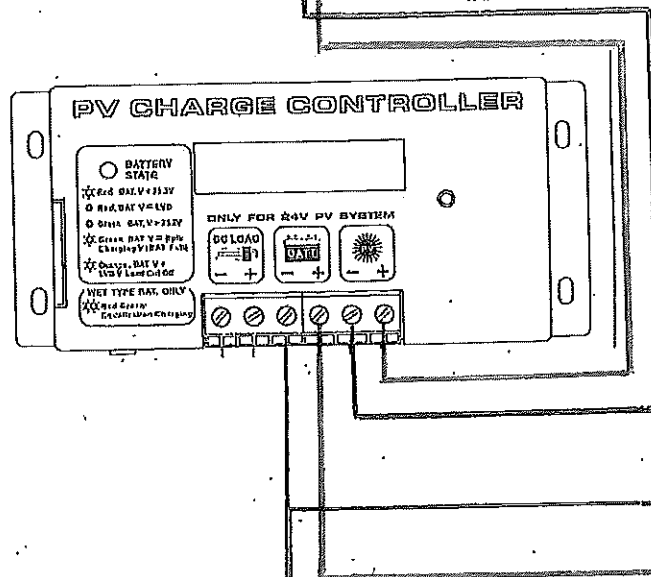
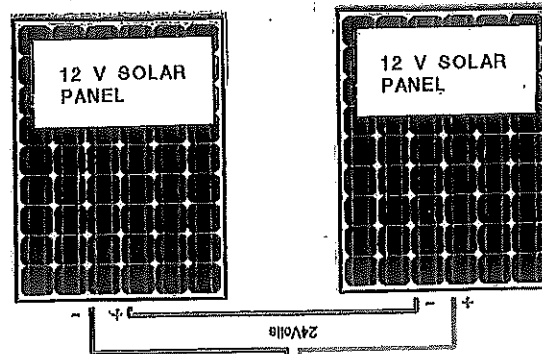
A 3.1. WIRE CONNECTION

If the Led display is in normal performing refer to "4.2.1", you can control the gate by either transmitters or the button on the board: "UP"-clockwise moving, "SET"- stop and "DOWN"- Counterclockwise moving.



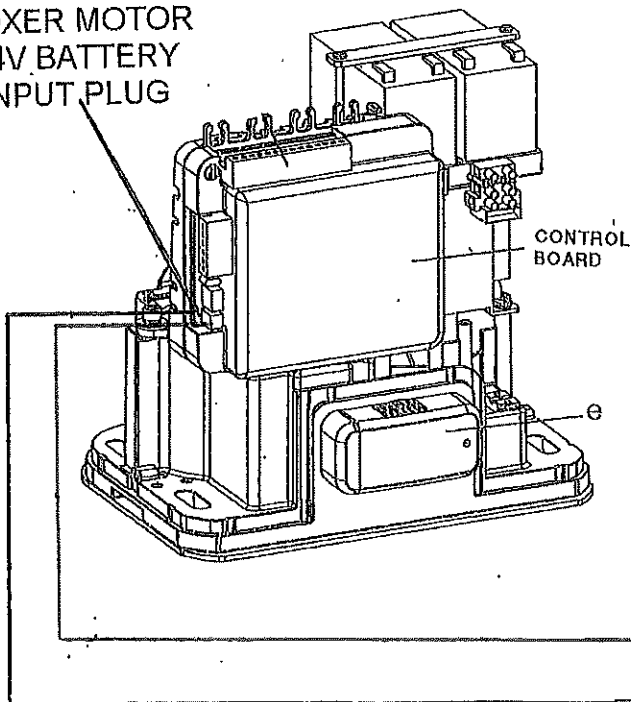
24 Volt Series Connection

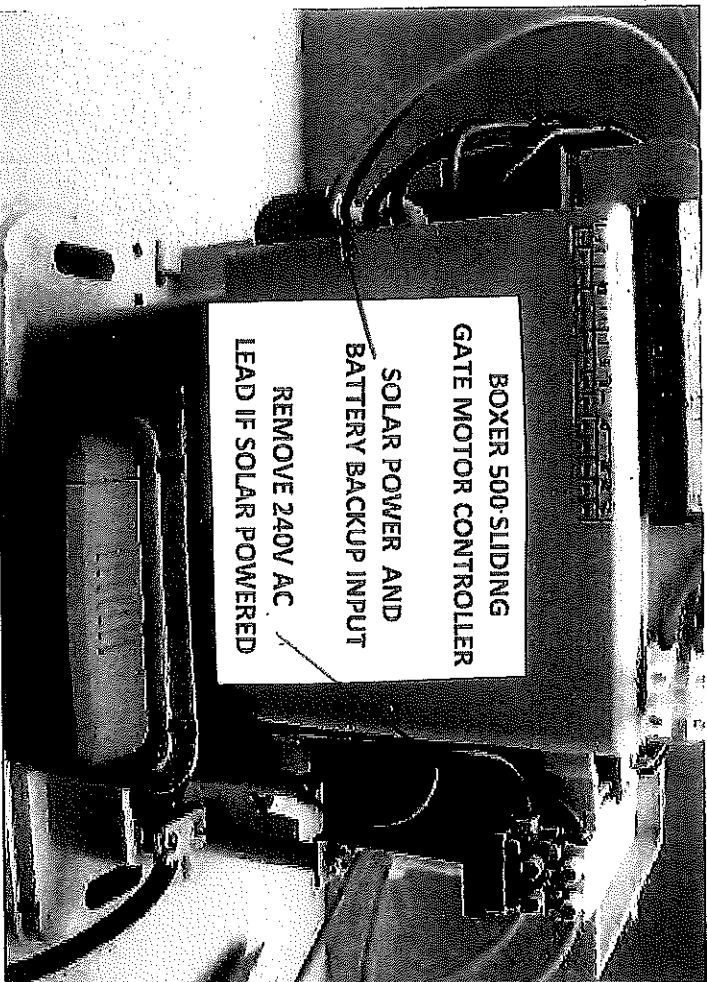
24Volts - .20 Watts



BOXER MOTOR
24V BATTERY
INPUT PLUG

2 X 12V BATTERIES
CONNECTED
IN SERIES

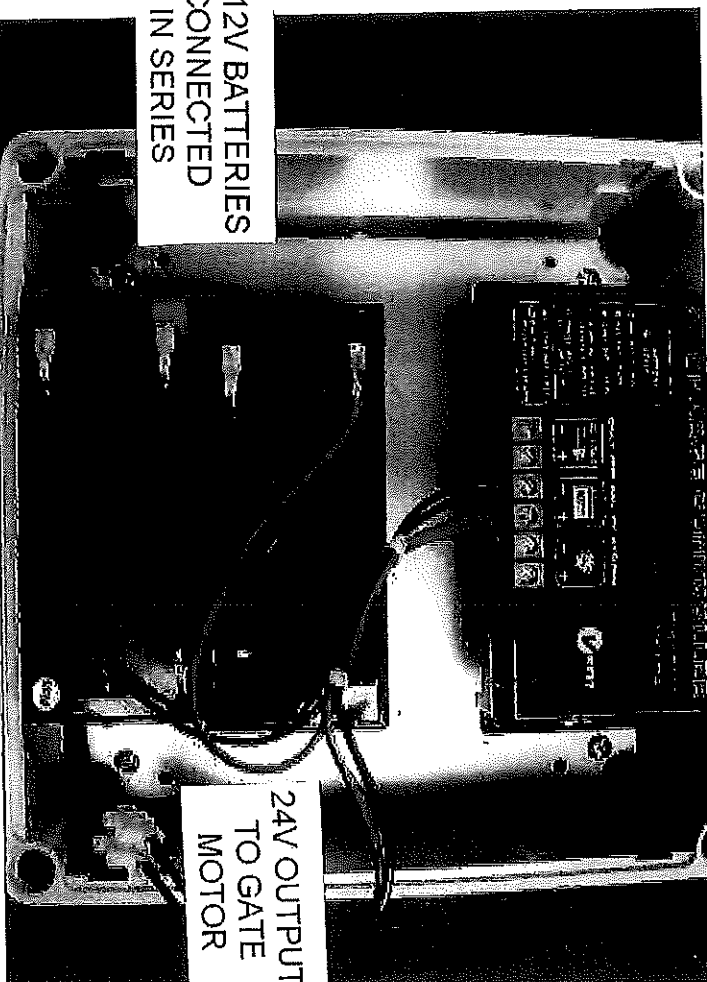




BOXER 500-SLIDING
GATE MOTOR CONTROLLER

SOLAR POWER AND
BATTERY BACKUP INPUT

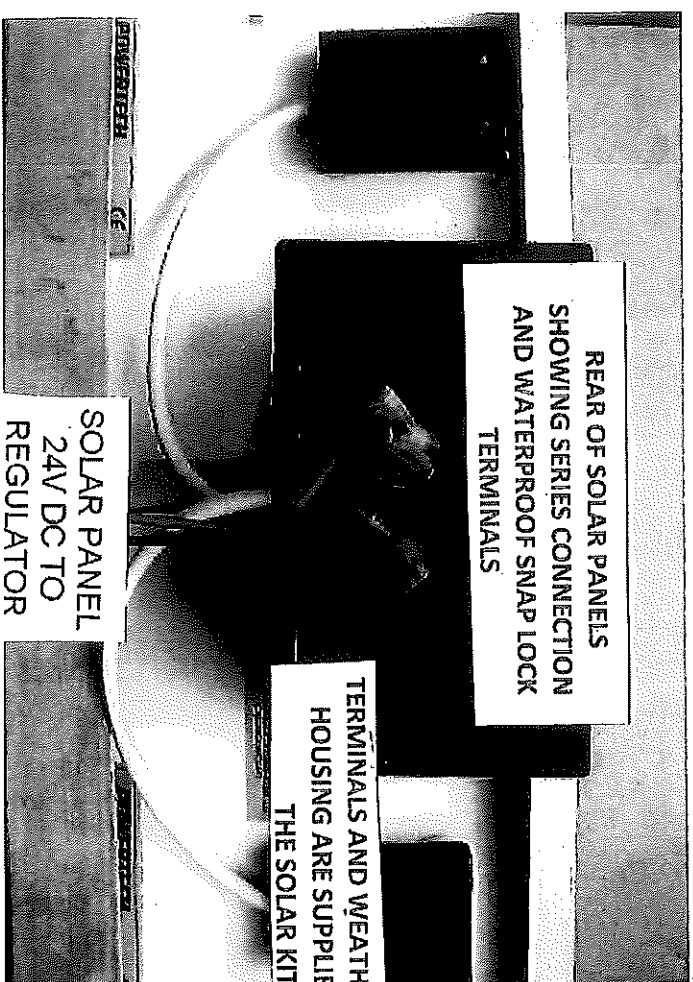
REMOVE 240V AC
LEAD IF SOLAR POWERED



2 X 12V BATTERIES
CONNECTED
IN SERIES

24V OUTPUT
TO GATE
MOTOR

SOLAR CONTROLLER SHOWING
BATTERY POSITION.
MOUNT THE CONTROL BOX FLAT IF POSSIBLE
TO KEEP BATTERIES UPRIGHT



REAR OF SOLAR PANELS
SHOWING SERIES CONNECTION
AND WATERPROOF SNAP LOCK
TERMINALS

SOLAR PANEL
24V DC TO
REGULATOR

TERMINALS AND WEATHER PROOF
HOUSING ARE SUPPLIED WITH
THE SOLAR KIT