Requirements

- A TCP/IP network
- CAT 5 cable
- If the network is faster than 10baseT a switching hub will be needed
- Static IP address

Power Up

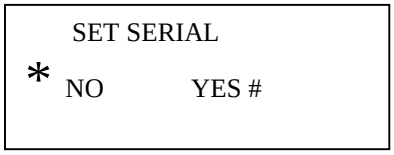
A Reader with an Ethernet adaptor installed and the network cable (CAT 5) plugged in will automatically detect the presence of the adaptor upon power up. If the network cable is not plugged in the Ethernet adaptor will not see the network and will ask if the cable is plugged in. Plug in the network cable and power cycle the reader. When the reader boots up the LCD will display an IP address and then proceed to the "READY" or "ENTER ID" prompt.

Configuring

Dipswitch 3 needs to be in the off (422) position or the Ethernet card will not be able to communicate. The IP address of the unit must be programmed into the Reader before the adaptor can be used. Do not use the IP address that came with the Reader, that is the IP address that the factory uses for testing purposes and will not work in the End User's network. Obtain the static IP address and Gateway address that the Reader will need from the System Administrator. If there is no need for a gateway address leave the gateway set at 0.0.0.0.

To set the IP address, follow these steps:

1. The unit's IP address resides in the SET SERIAL command of the SETUP menu, which is level 2 of the HandReader.
2. Press # when the display shows



3. Enter the 12 digit IP address and press #
4. Enter the 12 digit Gateway or enter all) if no gateway is needed and press #
5. Enter the Host bits if the Reader will be communicating over a WAN or leave the Host bits set to 0 if communicating over a LAN and press #
6. Press CLEAR to exit menu
7. The reader will need to be reset if the changes are needed to take place right away. Otherwise it may take up to 6 minutes for the changes to take effect.

WAN

When communicating over a WAN the Ethernet adaptor will need to have the subnet mask set. At this time the ready will only accept the Host Bits so the subnet mask needs to be converted. The only subnet masks and the Host Bits that can be used are listed below:

SUBNET MASK	**HOST BITS**
255.255.255.255	0
255.255.255.254	1
255.255.255.252	2
255.255.255.248	3
255.255.255.240	4
255.255.255.224	5
255.255.255.192	6
255.255.255.128	7
255.255.255.0	8
255.255.254.0	9
255.255.252.0	10
255.255.248.0	11
255.255.240.0	12
255.255.224.0.	13
255.255.192.0	14
255.255.128.0	15
255.2555.0.0	16
255.254.0.0	17
255.252.0.0.	18
255.248.0.0	19
255.240.0.0.	20
255.224.0.0	21
255.192.0.0	22
255.128.0.0	23
255.0.0.0	24

If, after the Readers have been installed, and programmed properly and the reader can be pinged, but will not talk to the software. The System Admin of the site may need to configure the switches or routers to allow for communication.

INSTALLATION

Periodically, enhancements to the HandKey or HandPunch are introduced that offer added functionality and performance. Should it be necessary to incorporate the enhancements into the "F" series circuit board (HP2000, 3000, 4000, HandKey2 and HandKey CR), use the following procedures.

PROCEDURE

CAUTION: This procedure requires erasing the existing hand templates. Save the existing hand templates before proceeding.

1. Unlock the reader and open the unit.

CAUTION: If the unit is equipped with an optional battery back up, remove the J7 jumper before proceeding. See figure number 10.

2. Disconnect the power supply from the power source.

3. Remove and tag all external connections to make correct re-attachment.

4. Remove hand reader from wall by loosening the three screws that secure the hinge assembly to the wall mounting plate. Then slide the reader upwards until the screws can pass through the slotted holes in the hinge assembly. See Figure #1, point A. below.

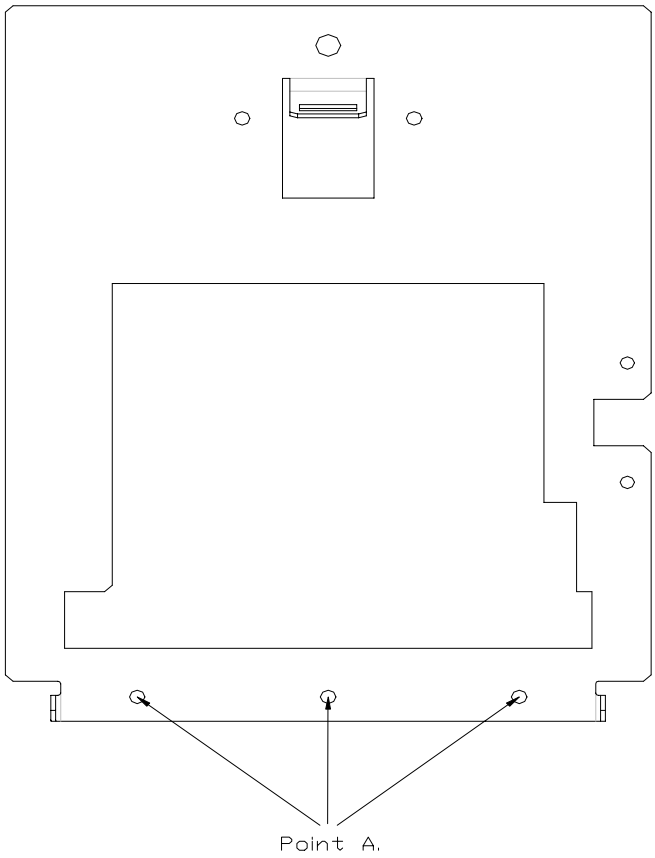


Figure 1.

CAUTION: Do not allow the ground strap attached to the main PCB to touch the J7 jumper. Failure to do so will cause permanent damage to the main circuit board and will not be considered a warranty repair. See "1" on figure #2 below.

5. Set the unit on a firm surface such as a table. Remove the four screws that secure the back plate to the HandKey. See figure # 2 below.

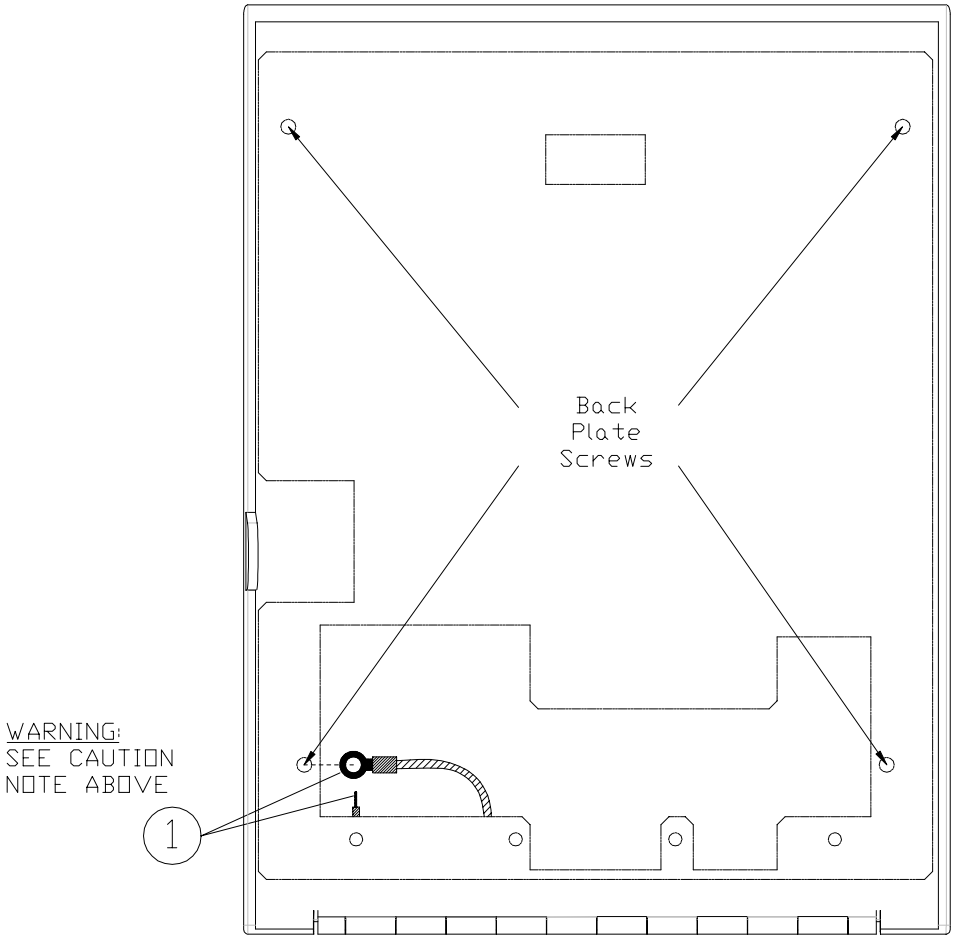


Figure 2.

6. Remove the back plate.

7. Remove and discard the foam insert that is placed over the camera assembly (if installed).

8. Locate the cable that runs from the top panel circuit board to the main circuit board. Disconnect this cable from J9 on the main circuit board. See "1" on figure #4. To remove the (J9) connector on the main circuit board (lower board), depress the retaining clip on the connector and pull upwards. See figure #5 on the following page.

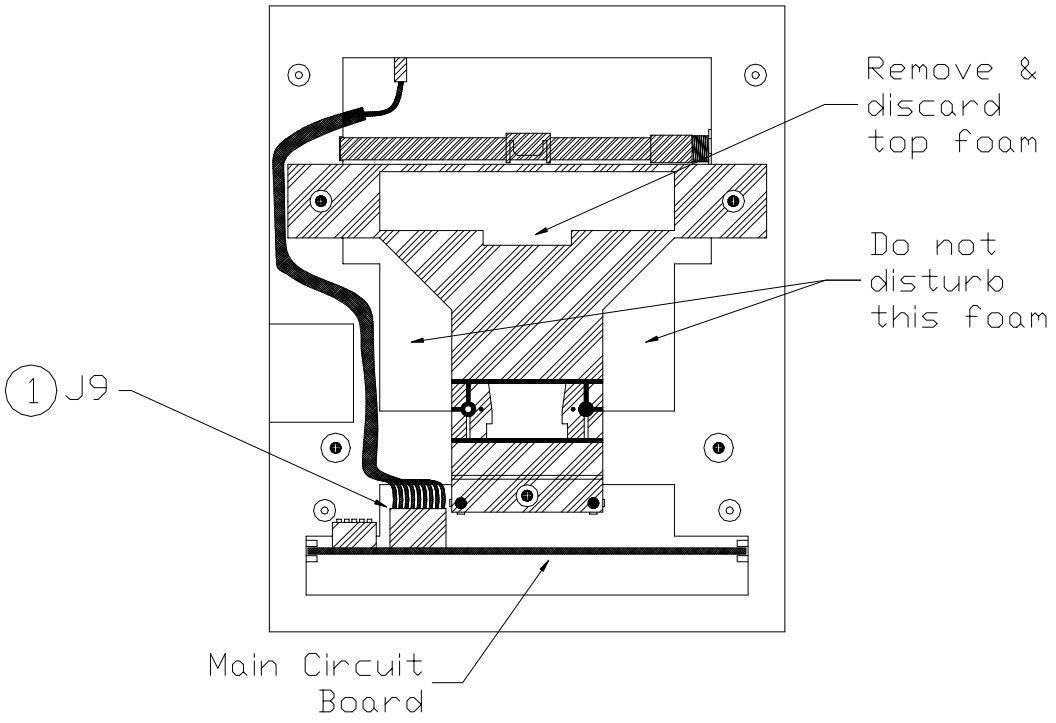


Figure 4.

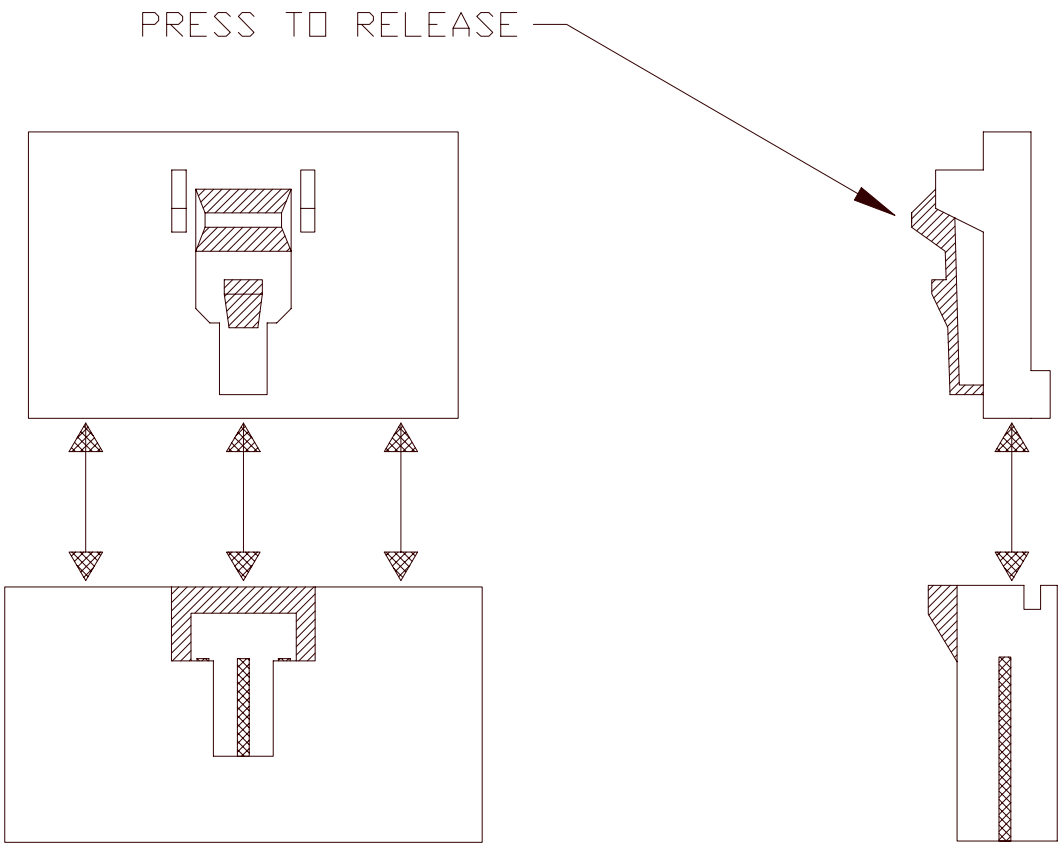


Figure 5.

9. Carefully slide the main circuit board out until the ribbon cable between the camera assembly and J2 on the main circuit board can be detached from J2. Gently pull up on this cable, being careful not to pull down as damage may occur to the camera assembly. See "3" on figure #6 below.

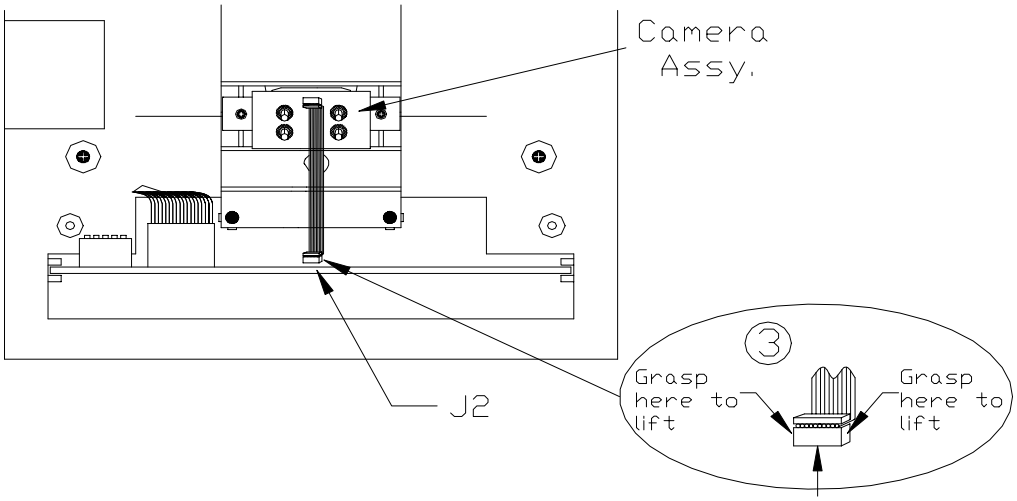


Figure 6.

10. Carefully remove the main circuit board by sliding it free from the chassis.

11. Install the Ethernet PCB on to the main PCB. See figure #7 & #8 on the following page.
    A. Align male header on the Ethernet PCB with J10 on the underside of the main PCB.
    B. Insert the male header pins into the J10 socket. Align male pins so that there are 2 empty sockets on each side when inserted into J10 (see figure #8 on the following page). If done correctly the two standoffs on the Ethernet PCB should insert through the mounting holes in the main PCB.
    C. Turn the PCB's over so that the main circuit board is on top of the Ethernet PCB. Secure the Ethernet PCB to the main PCB by adding the provided flat washers, split washers, and nuts on to the standoffs. Tighten the nuts using a 3/16 nut driver.

CAUTION: Torque the 4-40 nuts to 4.5 – 5.5 in. lbs. (.51 - .62 Nm). Excessive torque may damage the circuit boards. After installing the Ethernet card inspect for warped Ethernet or main PCBs.

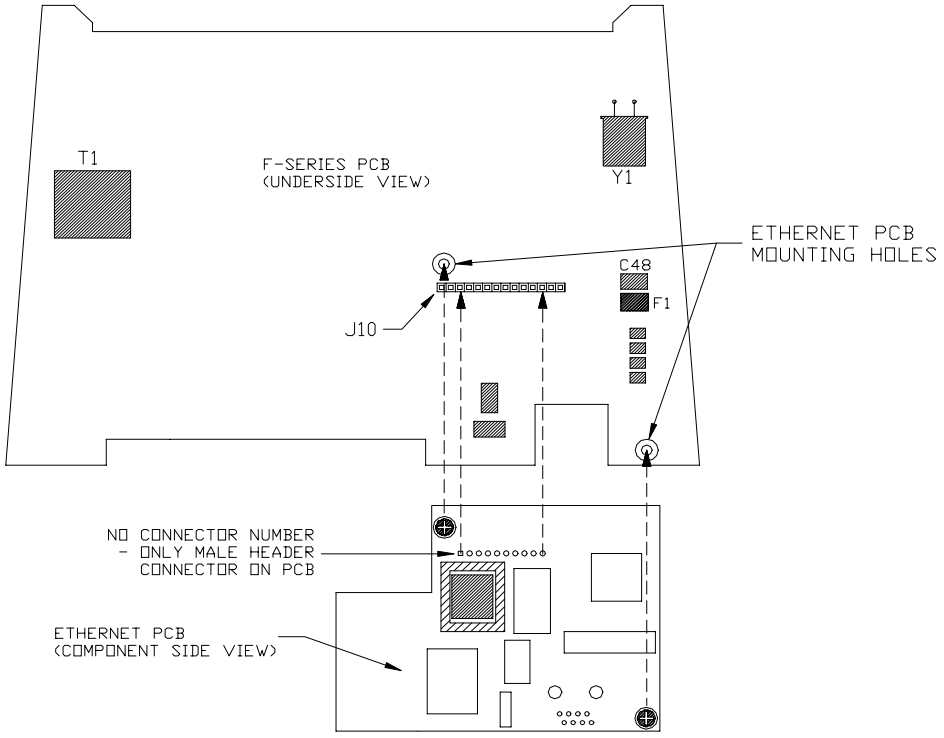


Figure 7.

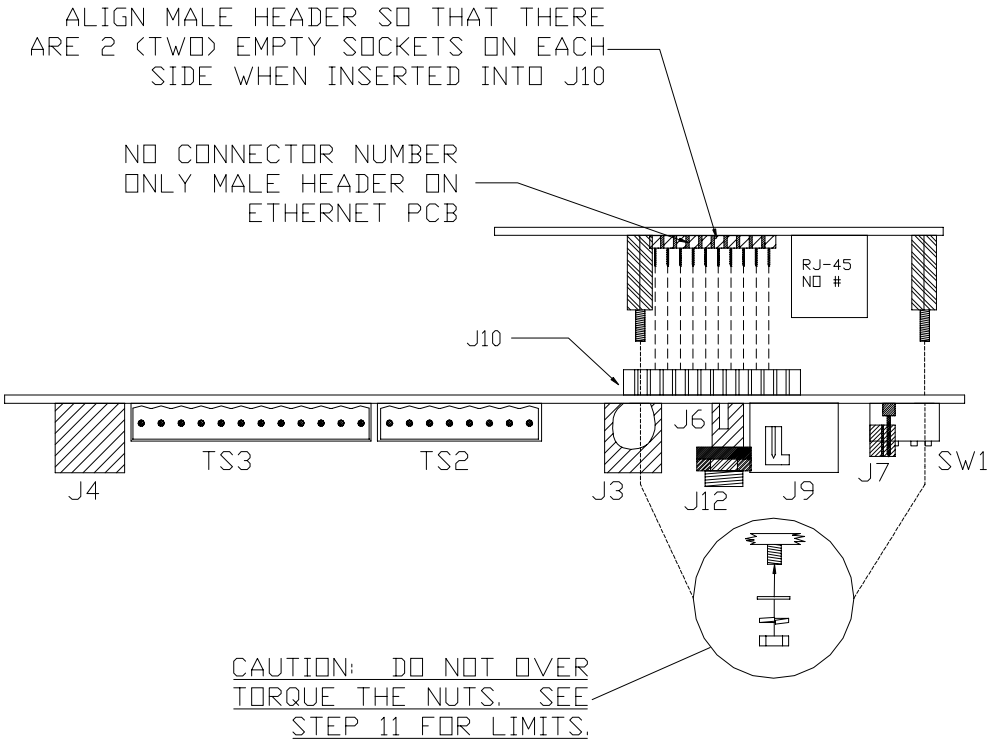


Figure 8.

12. Carefully slide circuit board back into the chassis using the circuit board guides to locate the circuit board correctly. See figure #9 below.

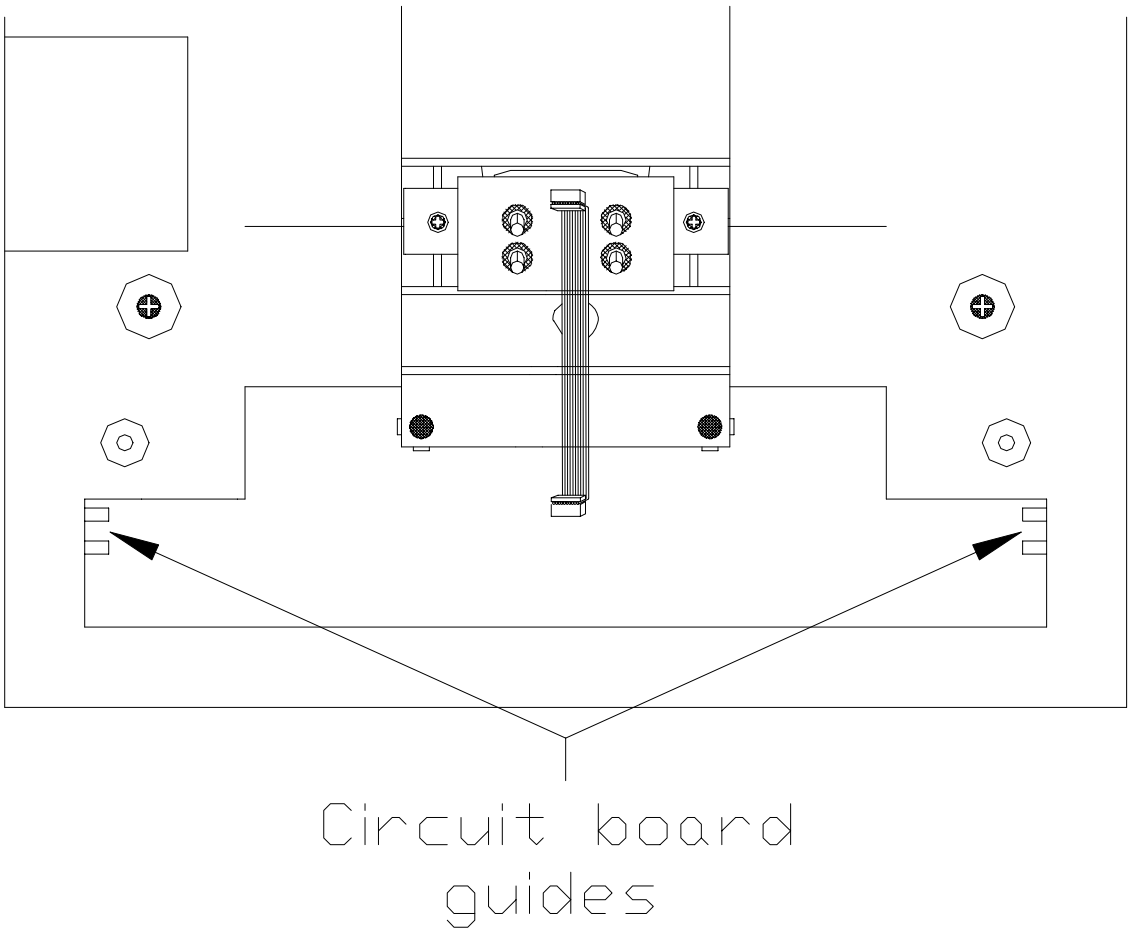


Figure 9.

13. Attach the camera cable to J2 on the main circuit board.

14. Locate the cable that runs from the top panel circuit board to the main circuit board. Connect this cable to J9 on the main circuit board. See figure #11 for cable routing.

15. If the battery backup option is installed, replace the J7 jumper located directly in front of the dip switch bank (S1) on the main PCB. See figure #10 on the following page.

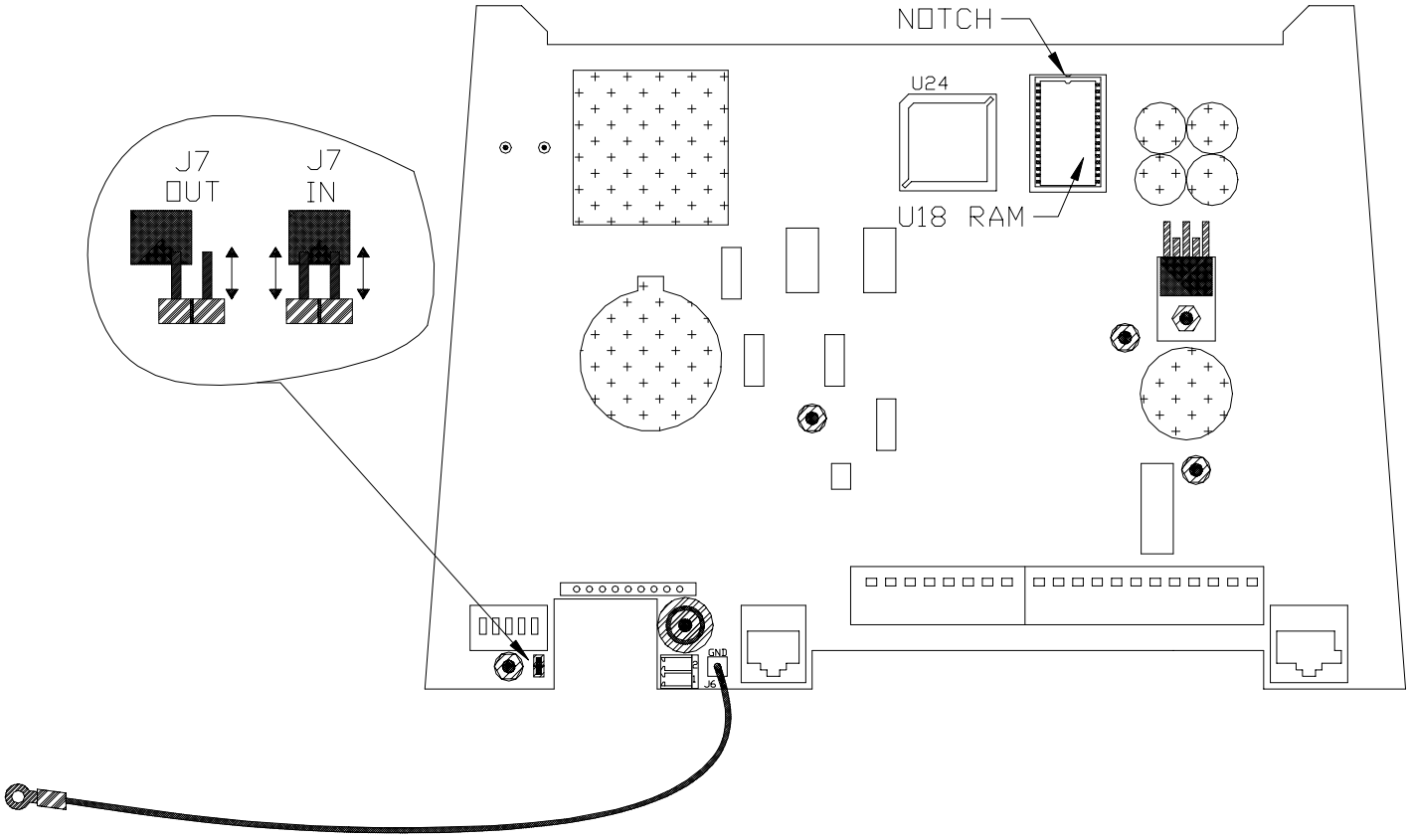


Figure 10.

CAUTION: Do not allow the ground strap attached to the main PCB to touch the J7 jumper. Failure to do so will cause permanent damage to the main circuit board and will not be considered a warranty repair.

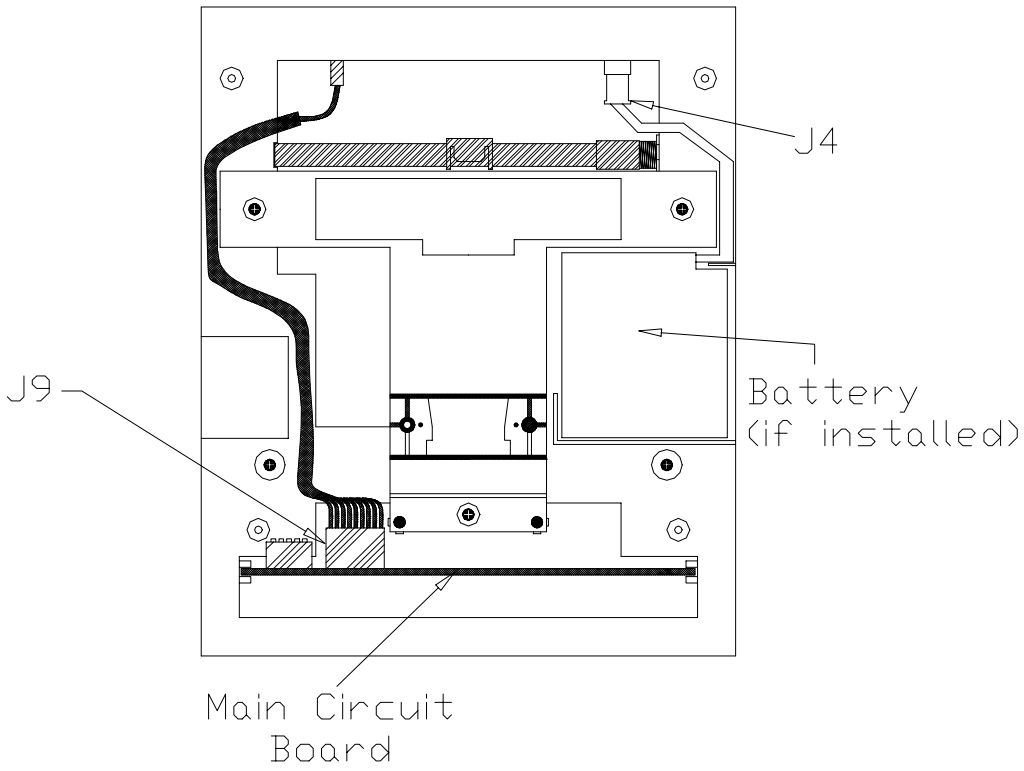


Figure 11.

CAUTION: Do not allow the ground strap attached to the main PCB to touch the J7 jumper. Failure to do so will cause permanent damage to the main circuit board and will not be considered a warranty repair.

16. Install the back plate onto the chassis (Attach the grounding strap on the main PCB to the lower left back plate screw).

17. Attach unit to the wall plate and hinge assembly and tighten the three hinge screws.

18. Place dip switch #4 and #5 in the "On" position. This will cause a full reset when powered up.

19. Reconnect all external connections removed in step #3.

20. Power up the unit. Once the unit has booted up move dip switches #4 and #5 to "Off" position.

21. Secure the unit to wall mount. Upgrade is completed.