

Nos. 1308, 1309, & 1318

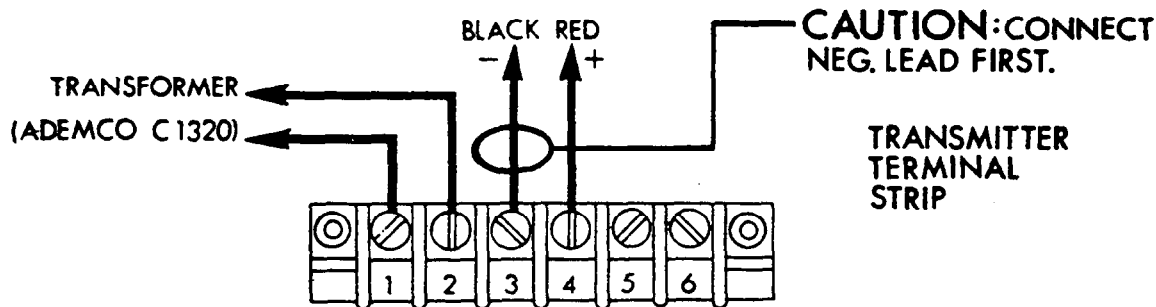
PHOTOELECTRIC SYSTEM

Locating And Mounting The Transmitter (unit without the meter)

Mount the transmitter on a solid wall approximately 24-30" from the floor. Do not mount it on flimsy partitions or walls that are subject to vibration. A 3/4" plywood mounting board fastened to one or two wall studs always makes a good foundation for mounting the Super Beam. Do not mount the receiver yet.

Preparing the Transmitter For Alignment

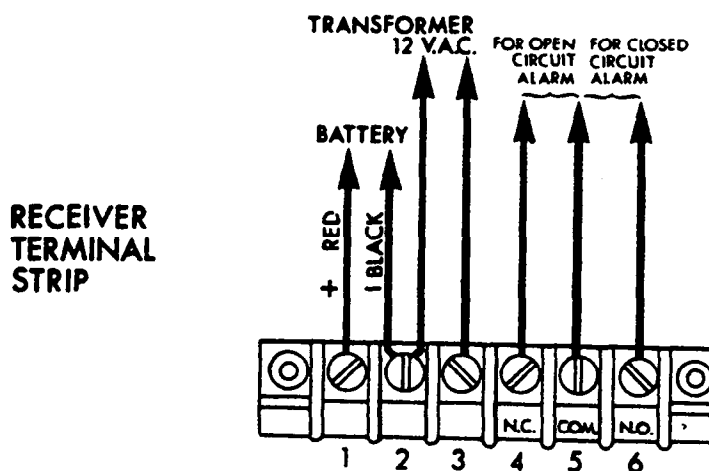
1. Remove the lower cover from the transmitter, exposing the terminals.
2. Locate a 115 volt AC outlet near the transmitter which has uninterrupted electricity 24 hours a day. Make sure that current to this outlet is not interrupted by a switch or by a circuit breaker when offices or factories are closed for the day.
3. Install the red rechargeable standby battery pack but do it with care! Make sure not to short the red and black leads together or to the chassis. Slip the battery pack into the rear of the unit behind the terminals. Bring the leads over the top of the terminal block. Connect the black (-) lead first and then the red (+) lead. Polarity must be observed.



4. Connect the transmitter to the AC outlet. Bring one end of the twisted pair wire through the large hole at the bottom of the transmitter and connect the wire leads to the two terminals marked TRANSFORMER. Connect the other end of the wire to the transformer and plug it in.
5. Loosen the nut under the head 1/2 turn clockwise using a 9/16" open end wrench (never use a pair of pliers). Rotate the head so that it is approximately looking towards the receiver.

Preparing the Receiver (the unit with the meter) For Alignment

1. Before mounting the receiver, remove the lower cover and expose the terminals.
2. Connect the battery just as you did with the transmitter.
3. Make yourself familiar with the operation of the system by holding the receiver directly in front of the transmitter with the lenses facing each other. Although the beam is invisible, you should hear the relay in the receiver click, indicating that the units are functioning. (If you do not hear a click, the receiver battery may not be charged. Connect the transformer and wait a few minutes until charging takes place).



4. Using a two-sided adhesive tape (Ademco No. 440), hang a 3" retro-reflector (Ademco No. 1383) over the transmitter lens. Make sure that the tape does not touch the lens! Fasten the tape to the housing only. The reflector will be a big help in aiming the unit.

5. Mount the receiver in its chosen location, again on a vibration-free wall, approximately 18" higher than the transmitter.

6. Connect the transformer to the receiver. Make absolutely sure that the AC power source is in constant 24 hour operation.

USING THE AIMING LIGHT (ADEMCO NO. 1311 OR NO. 1312)

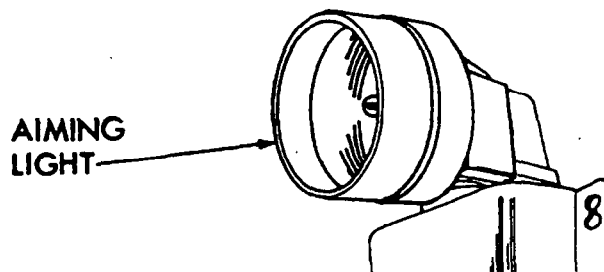
NOTE: DO NOT USE NO. 1312 FOR 1000 FT. SUPER BEAMS. THE LIGHT WILL NOT BE STRONG ENOUGH.

Super Beam transmitters project a modulated light beam that is totally invisible. Because the beam cannot be seen, Super Beam cannot be aimed in the conventional way. Therefore, a special high intensity aiming light must be temporarily used to aim all Super Beam photoelectric systems.

1. Slip the aiming light over the front of the receiver head. Attach it so that the light is secure and will not fall off.

2. On No. 1311 aiming light connect the leads temporarily to a six volt battery so that the beam is on. An Ademco No. 460 or No. 866 battery can be used. No. 1312 aiming light is self contained and has its own battery supply.

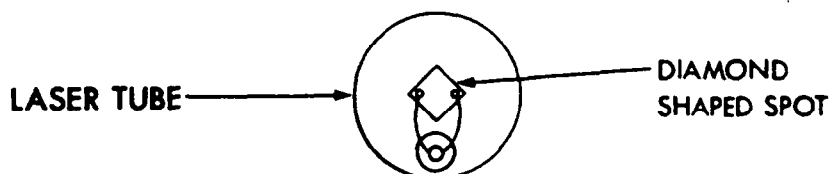
3. Loosen the nut under the head 1/2 turn clockwise so that the head moves easily. Rotate the head and light so that the beam shines directly and is centered on the retro-reflector on the transmitter. Tighten the nut so that the beam does not move off the reflector.



4. Leave the aiming light ON and return to the transmitter.

AT THE TRANSMITTER

1. Remove the reflector and the top cover from the transmitter head.
2. Rotate the head until the bright spot of light from the aiming light is seen on the rear screen behind the lens.
3. Continue to rotate the head until the spot of light falls directly on the glass face of the laser tube protruding from the center of the target plate.
4. Now, with great care, look closely into the glass front of the laser tube. You will notice 2 spots on its face under the glass. One spot is shaped like a diamond in the center of the tube, the other spot below it.
5. Move the head carefully, so that the spot of light covers the center diamond-shaped spot of the laser tube, not the bottom one. This is important. MAKE SURE THAT THE BRIGHT SPOT OF LIGHT FALLS ON THE DIAMOND-SHAPED SPOT AND COVERS IT EQUALLY.



6. Tighten the nut under the head, turning it counterclockwise, until the head is locked. After locking, make certain that the light still covers the small center diamond-shaped spot of the laser tube.
7. The transmitter is now properly adjusted and is aimed precisely at the receiver.
8. Fasten the cover on the transmitter head and the lower cover.
9. Return to the receiver.

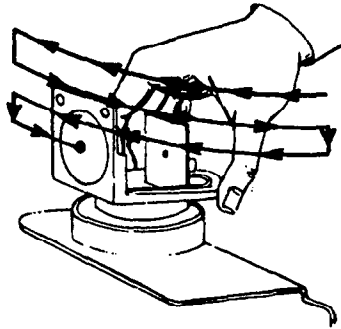
AIMING THE RECEIVER

General Information: The modulated beam from the transmitter is invisible. To align the receiver, you will have to locate the laser beam by scanning, moving it from side to side and up and down until the signal is received from the transmitter. When the receiver is approximately aimed at the transmitter, it will start

"seeing" a signal from the transmitter and the meter will start reading. At this time you will hear a relay clicking in. The better the aim, the higher the reading on the meter.

PRECISE ALIGNMENT OF THE RECEIVER

1. Remove the aiming light. Do not remove the top from the head.
2. Loosen the locknut 1/2 turn clockwise so that the head moves easily.
3. Move the head so that it is looking up as far as possible.
4. Rotate the head from one side to the other very slowly, observing the meter while this is being done. If no meter reading is observed, adjust the head downward slightly and again scan from side to side slowly. Keep moving the head down slightly and scanning from side to side until the meter starts moving up. The receiver head is now starting to "see" the signal from the transmitter. Continue to adjust slowly and carefully until the meter reaches the best possible reading. A good meter reading is one in which the indicator is in the upper portion of the red zone or above, into the green.



5. Now fine tune the receiver to get maximum signal. Cover a small portion of the lens with a small card until the meter indicator drops to about 1/2 its former value.
6. Keeping the small portion of the lens blocked, move the head very slightly and try to get the reading to go up from where it stands. Move the head slightly up and down as well as sideways. Keep adjusting the head until any tiny movement of the head, either up or down or from side to side, makes the meter move down.
7. Repeat this procedure two or three times with different portions of the lens blocked. When you have completed this, the receiver will be fine tuned and properly aimed at the transmitter.
8. Tighten the lock nut so that the head remains firmly in place.
9. Replace the lower cover and your installation is complete.

Note: Be sure to tell the subscriber not to remove the transformers under any circumstances. Removal of the transformers will needlessly use up the rechargeable standby batteries and may lead to a false alarm.

TROUBLESHOOTING Nos. 1308, 1309 & 1318

TROUBLE: 1. THE RECEIVER METER DOES NOT READ IN THE UPPER PORTION OF THE RED ZONE OR IN THE GREEN ZONE.

PROBABLE CAUSE

- A. System not aligned properly.
- B. The system is operating from standby battery only.
- C. The range limitation has been exceeded.
- D. Customer has repositioned furniture which now blocks a portion of the beam.

REMEDY

- A. Realign following the Installation Instructions.
- B. Make certain that both the transmitter and receiver transformers are supplying 12 volts A.C. and that this voltage is applied properly to the photoelectric system. (The transformers must be installed in an outlet not turned off at night).
- C. Relocate the photoelectric system.
- D. Either return the furniture to its former position or relocate the photoelectric system.

TROUBLE: 2. PROTECTIVE CIRCUIT WILL NOT SET UP WHEN ATTACHED TO THE RECEIVER.

PROBABLE CAUSE

- A. Protective circuit has been wired using incorrect terminals.
- B. Relay in photoelectric not activating properly.

REMEDY

- A. For closed circuit systems terminals 5 and 6 must be used; for open circuit systems terminals 4 and 5 must be used.
- B. Obtain a return authorization from Ademco and return unit.

TROUBLE: 3. SYSTEM WILL NOT CAUSE AN ALARM WHEN THE BEAM IS BROKEN.

- A. Short in protective circuit wiring at receiver.
- B. Relay in photoelectric not operating properly.

- A. Check the protective circuit wires and make certain that an alarm is caused when they are removed from the receiver.
- B. Obtain a return authorization from Ademco and return unit for repair.

TROUBLE: 4. SYSTEM OPERATES INTERMITTENTLY.

- A. Beam not aligned properly.
- B. Plug-in transformers not connected to 24-hour outlets.
- C. System "just barely" exceeds suggested range.
- A. Realign transmitter and receiver making certain that a little more than 50% of the receiver lens can be covered with a business card from all directions, top, bottom, left and right, before the meter moves into the black area.
- B. Make certain to plug both the transmitter and receiver transformers into an outlet not turned off at night.
- C. Relocate the photoelectric system to come within range limitation.