SECOPAGE™ 35E
SECOPAGE™ 35EV

ALARM PAGER SYSTEMS

INSTALLATION MANUAL

SECO-LARM®

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INTRODUCING THE SECOPAGE™ 35E and 35EV

The **SECOPAGE 35E** and **35EV** are sophisticated paging systems. They consist of two parts: a transmitter which includes trigger and timing circuitry, and one of two matching receivers. The **SECOPAGE 35E** includes a belt-clip receiver with beeping sounds, while the **SECOPAGE 35EV** receiver has both a beeping sound and a vibrating page function.

The pager alerts you when a building or vehicle is being vandalized or broken into, or when someone presses the remote manual paging button. The transmitter has a maximum output power of 4 watts as allowed by the FCC. The efficient low-loss circuit design permits higher signal transmission power, and the compact ultra-sensitive pager receiver can sense the transmitted signals up to 1 mile away, as long as a good antenna is properly connected to the transmitter.

Mount the **SECOPAGE** transmitter inside the building or vehicle. A page signal is sent by the transmitter upon a manual page or unauthorized entry attempt. The page signal is received by the small, highly sensitive, light-weight receiver. The receiver beeps and the digital LED lights to warn you when it receives its own specially coded page signal. In addition, the **SECOPAGE 35EV** receiver can be set to vibrate with the beeps, or to vibrate without the beeps for silent operation.

The system is easy to install in any type of building or vehicle. The two 1.5V AAA-sized batteries in the receiver will last up to one month with normal use. The receiver can be programmed to receive page signals from 3 separate buildings or vehicles.

INSTALLATION CONSIDERATIONS

Carefully study how and where to install the transmitter. In a building, mount as close to a window as possible. In a vehicle, mount under the dashboard or in the glove compartment. Mount the remote manual paging button in a location were it can be easily pressed when needed.

Do not mount the **SECOPAGE 35E** or **35EV** transmitter in the engine compartment, which automatically voids the warranty. Do not mount it in the path of the heater or air conditioning vents.

Mark locations for drilling the mounting bracket's holes. Be careful that the area to be drilled is free from wiring, trim, and/or other obstructions.

Drill holes at these location marks. Position the transmitter where it will be mounted, but do not secure immediately. It should be mounted permanently only after all connections and tests are made.

NOTE: Do not power up the transmitter before the antenna connections are made. Such an act may damage the transmitter.

The warranty may be voided if components or accessories are not mounted properly.

After deciding where to mount the transmitter, plug in the antenna. Turn to the back side of this *Tech Manual* to the section titled "CONNECTING TO AN ANTENNA." **You must connect an antenna before testing**.

LIMITED WARRANTY

This product is warranted against defects in material and workmanship while used in normal service for a period of one year from the date of sale to the original consumer purchaser. Our obligation is limited to the repair or replacement of any defective part if the unit is returned, transportation prepaid, to **SECO-LARM**. **SECO-LARM**'s policy is one of continual development and improvement. For this reason, **SECO-LARM** reserves the right to change specifications without notice.

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AUDIBLE AND VISUAL SIGNALS

TRIGGER DURATION

The pager will transmit the page signal for a cycle of about 30 seconds, whether or not the triggered zone (example: an open door) is reset. If the same zone stays triggered (i.e., the door remains open), the transmitter will not start a new transmission cycle. However, a new cycle will start once another untriggered zone is triggered.

ALARM PAGING (Press ON/OFF button to stop beeping)

The receiver will beep continuously for 3 minutes, at 9 beeps per group, and/or vibrate, when it receives an alarm page signal from the transmitter. The digital LED display will show which building or car is sending the signal (A, b, or C). Press the receiver ON/OFF button down once, and the digital LED display will show which zone was triggered (1 or 2).

MANUAL PAGING (Press ON/OFF button to stop beeping)

The receiver will beep continuously (3 groups of 3 beeps per group) for 3 minutes, and/or vibrate, when it receives a manual page signal (the user pushes the manual paging button). The digital LED display will show which building or car is sending the signal (A, b, C). Press the receiver ON/OFF button down once, and the digital LED display will show "7" to indicate manual paging.

POWER-ON PAGING (Press ON/OFF button to stop beeping)

The receiver will beep continuously (3 groups of 3 beeps per group) for 3 minutes, and/or vibrate, if it is already turned on when the transmitter is first connected to power. The digital LED display will show which building or car is sending the signal (A, b, C).

RECEIVER POWER-ON

The receiver will beep and/or vibrate, once each time the receiver is turned on.

UNATTENDED INDICATOR

The receiver will beep once every 60 seconds, and/or vibrate, to remind the user that it received a page signal from the transmitter which the user has continued to ignore. Press the receiver ON/OFF switch to stop the beeping and display the new signal.

LOW BATTERY INDICATOR

At power on, the receiver will beep twice following the power on beep if the batteries are low and need replacement. Thereafter, the receiver will beep 2 times every 5 minutes when the batteries are low and need replacement. The digital LED display will show "L" each time the receiver ON/OFF switch is pressed if batteries are low.

VIEWING THE PAGE MEMORY

1. The receiver remembers the last 6 page signals received. (However, two consecutive page signals carrying the same information will be treated as one.) Scroll back the memory history by pressing the ON/OFF switch repeatedly. The page signals will be shown one by one, starting with the most recent. Keeping the ON/OFF switch depressed will repeatedly display the currently-shown signal.
2. The digital LED display will show "—" to inform you that you have seen all the pages in memory, or that there is nothing stored in memory.
3. Turning off the receiver will erase all stored signals.

REMOTE MANUAL PAGING BUTTON

Connect the modular cable of the REMOTE MANUAL PAGING BUTTON to the transmitter. Mount the button in a location were it can be easily accessed.

PROGRAMMING THE RECEIVER TO LEARN A TRANSMITTER CODE

The transmitter's page code is pre-set at the factory to 1 of over 1 million possibilities. The receiver has to learn the transmitter's page code before it can receive signals from that transmitter. The receiver can learn the page codes of up to 3 transmitters using the following procedure:

1. Turn the receiver OFF. Then press and hold down the ON/OFF switch, and slide it to the ON position. The digital LED display will show "=". Continue pressing and holding the button for about 3 seconds until the receiver beeps once. The digital LED display will flash "A" every 2 seconds. This means the receiver is ready to learn the page code from the transmitter in the "A" building or car.
2. Press the transmitter's remote manual paging button. This will send the page signal to the receiver. The receiver will beep 5 times and the digital LED display will turn off to confirm it has received and learned the code. The receiver will return to the standby state in about 4 minutes if it did not successfully learn the code.
3. To learn the page code from the "B" building or car (the second transmitter), press the receiver's ON/OFF switch once more so that the digital LED display turns to "b." Then repeat step 2. Repeat steps 3 and 2 again for the "C" building or car (third transmitter) if needed.

Remark: The receiver remembers the transmitter codes in an EEPROM IC. This memory is maintained even without power for a long period of time (over 1 year). The receiver does not need to re-learn the transmitter codes after battery replacement.

The stored system codes cannot be erased. They can only be written over by another code learning sequence.

CHART -- UNDERSTANDING THE RECEIVER'S DISPLAYS AND BEEPS

BUILDING OR CAR NUMBER	TRIGGERED BY WHICH INPUT	RECEIVER DISPLAY		
		DIGITAL LED DISPLAY		NUMBER OF BEEPS
		INITIAL DISPLAY	AFTER PRESS ON/OFF SWITCH	
A	Purple wire	A	1	9
A	Blue wire	A	2	9
A	Manual page	A	7	3 groups of 3 beeps
A	Power ON	A	NONE	3 groups of 3 beeps
B	Purple wire	b	1	9
B	Blue wire	b	2	9
B	Manual page	b	7	3 groups of 3 beeps
B	Power ON	b	NONE	3 groups of 3 beeps
C	Purple wire	C	1	9
C	Blue wire	C	2	9
C	Manual page	C	7	3 groups of 3 beeps
C	Power ON	C	NONE	3 groups of 3 beeps

CONNECTING TO AN ANTENNA

The **SECOPAGE 35E** or **35EV** can be connected to one of three types of antennas. CB antennas offer greatest range, but require a special connector. Strip antennas (**SECO-LARM** model **E-35ANT**) offer best convenience and smallest size, but range is drastically reduced. Regular car AM radio antennas are convenient for use in vehicles, and generally offer sufficient range.

Remember, you must connect the antenna before powering up the **SECOPAGE 35E** or **35EV**. Otherwise, the transmitter will quickly burn out.

VEHICLES WITH RADIO ANTENNAS

STANDARD RADIO ANTENNA

If the vehicle has an AM radio antenna, disconnect the radio's coax antenna cable and plug it into the transmitter's "ANTENNA" jack. Plug one end of the included coax cable into the transmitter's "RADIO" jack, and the other into the radio's antenna jack.

NOTE: Window-type car radio antennas will probably decrease the pager's range.

SEMI-AUTOMATIC POWER ANTENNA

Semi-automatic antennas are operated by a dash-mounted switch for their up and down movement. *The* **SECOPAGE 35E** or **35EV** *cannot use a semi-automatic antenna because it may damage the transmitter and/or the antenna.* Use a CB or strip antenna instead.

AUTOMATIC POWER ANTENNA

Automatic power antennas connect to the radio so that, when the radio is turned on, the antenna will automatically raise, and vice-versa. The **SECOPAGE 35E** and **35EV** provide a power antenna switch feature. Cut or disconnect the power antenna lead running from the radio to the fully automatic power antenna. Connect the lead coming from the power antenna to the LONG WHITE/RED WIRE of the pager's wire harness. Connect the lead coming from the radio to the SHORT WHITE/RED WIRE of the pager's wire harness.

The SHORT WHITE/RED WIRE has a built-in diode that will block power flowing from the **SECOPAGE 35E** or **35EV** into the radio. ***Do not remove the diode.***

VEHICLES WITHOUT RADIO ANTENNAS

STRIP ANTENNA (E-35ANT)

This optional strip antenna can be used in buildings or vehicles without an existing antenna. It may also be used in vehicles with an existing antenna if there is concern that the existing antenna will be vandalized. Remember, if its antenna is broken, the **SECOPAGE 35E** or **35EV** will not transmit properly and will eventually burn out.

Insert the strip antenna's lead cable into the jack on the transmitter marked "antenna." Then, using the supplied adhesive tape, secure it to a window as high up as possible for maximum range. Remember, range will decrease with a strip antenna, and location will affect range.

Notes:

1. Do not secure the strip antenna to metal, or to defrosters or other antennas already attached to the window.
2. Do not mount where the antenna will obstruct the driver's view.

RF JACKS (on the back of the SECOPAGE 35E and 35EV transmitter)

1. ANTENNA: Connect to the car or CB antenna. The unit has an impedance of 50 Ohms.
2. RADIO: The included antenna coax cable should be plugged in here, and also into the antenna jack of the car radio.

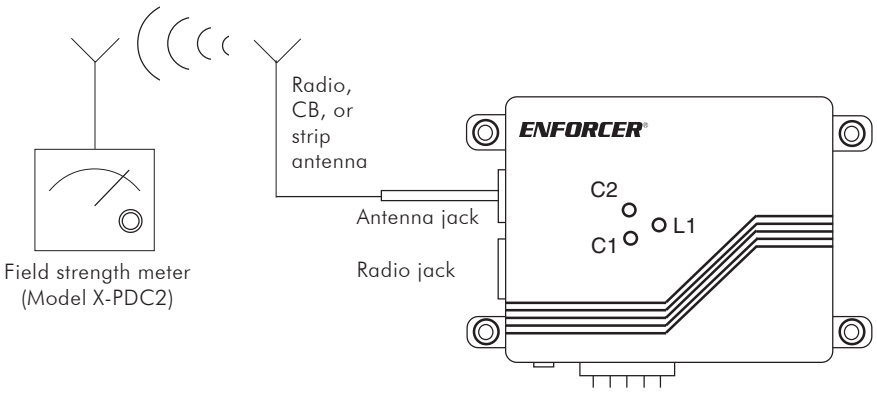
ADJUSTING THE TRANSMITTER

PAGE SIGNAL TEST

Since there are different types of antennas, the pager adapter must be adjusted to get the strongest signal for the type of antenna used. To do this, use a field strength meter. They can be purchased from most electronic component shops. Or contact **SECO-LARM** for the model X-PDC2 field strength meter.

1. Connect the antenna, and turn the field strength meter ON. Apply power to the transmitter, and trigger it with the manual page button or any zone.
2. Tune L1 to get maximum power reading.
3. Then tune C1 to get maximum power reading.
4. Then tune C2 to get maximum power reading.
5. Fine tune by repeating steps 2, 3, and 4.

Figure 1: Adjusting the transmitter for maximum range



TRANSMISSION RANGE TEST

One person should trigger the alarm while another is in a house, office or wherever the page signal should reach. This will assure that the user will receive a signal for his/her particular application.

Press down the ON-OFF button each time the receiver beeps. This returns the receiver to the standby state, ready to receive the next coded signal.

Maximum transmission range is up to 1 mile. However, range can vary depending upon terrain, environmental conditions, type of antenna used, and so on. Range may vary greatly depending on where the vehicle is parked and where the user is.

When using the **SECOPAGE 35E** or **35EV** inside a building (especially a high-rise), keep the receiver near a window or a telephone to help increase the effective range.

NOTE: When performing the transmission range test, make sure the receiver is at least 3 feet (1 meter) away from the transmitter. If the receiver is too close to the transmitter, the signal may distort, causing erratic operation.

WIRING THE SECOPAGE™ 35E and 35EV

THE TRIGGER WIRES

The **SECOPAGE 35E** and **35EV** include a positive and a negative trigger wire. Either one of these two wires can connect to a burglar alarm, car alarm, or other momentary contact. When the burglar or car alarm is violated, these trigger wires sense the burglar or car alarm's output and trigger the **SECOPAGE 35E** or **35EV**.

POSITIVE TRIGGER: PURPLE WIRE
This wire connects to a burglar or car alarm output which outputs +12V when the alarm is triggered. (The trigger signal must be at least 1 second long to in order to trigger the pager.) In most car alarms, this is the positive siren output.

NEGATIVE TRIGGER: BLUE WIRE
This wire connects to a burglar or car alarm output which outputs ground when the alarm is triggered. (The trigger signal must be at least 1 second long to in order to trigger the pager.) This could be a negative siren output.

THE GROUND AND POWER CONNECTIONS

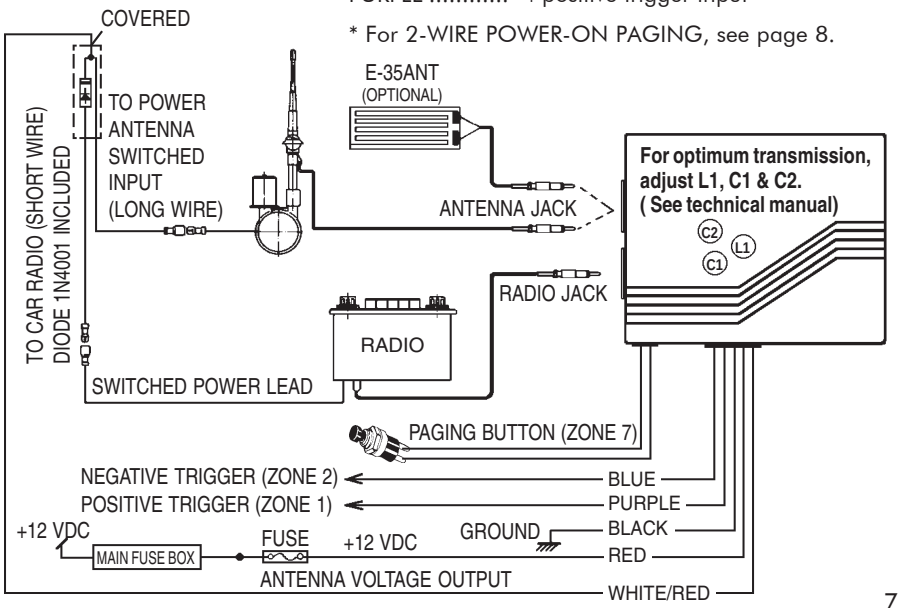
GROUND
A good ground connection is essential. In a vehicle connect the **SECOPAGE 35E** or **35EV** black ground wire to a point on the vehicle's frame or firewall. This must be a metal contact point. Or connect directly to the negative terminal of a heavy-duty 12V battery.

12 VOLT DC POWER
Connect the **SECOPAGE 35E** or **35EV** red power wire to a point on the vehicle's fuseblock that is always "hot" (i.e. not switched off when ignition/accessories is off). Or connect directly to the positive terminal of a heavy-duty 12V battery.

BASIC CONNECTION DIAGRAM

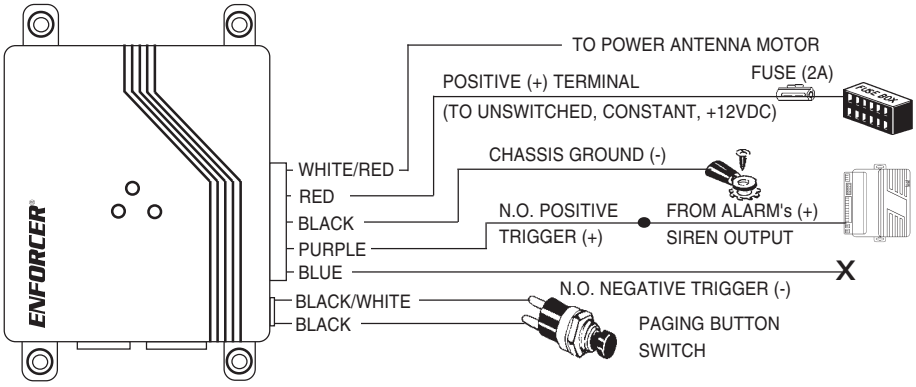
RED ..... Connect to constant +12VDC*
BLACK ..... Connect to ground
WHITE/RED ..... Auto power antenna hot output
BLUE ..... - negative trigger input
PURPLE ..... +positive trigger input

* For 2-WIRE POWER-ON PAGING, see page 8.



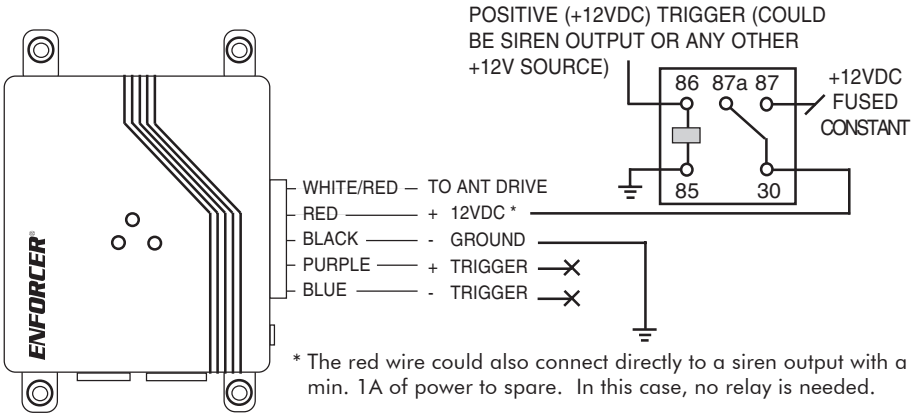
SAMPLE INSTALLATIONS

CONNECTING TO VEHICLE ALARM POSITIVE SIREN OUTPUT*



* Note that the SECOPAGE 35E and 35EV require 1A of power during transmission.

2-WIRE CONNECTION FOR POWER-ON PAGING



* The red wire could also connect directly to a siren output with a min. 1A of power to spare. In this case, no relay is needed.

SPECIFICATIONS

TRANSMITTER

Frequency	27.255 MHz
Number of Codes	Over 1 million factory pre-set
RF Output Power	4W Max.
Antenna Impedance	50 Ohms
Current Drain	20mA (standby) 1A (transmitting)
Power Requirement	+12VDC, negative ground only
Dimensions	3-15/16" X 3" X 1-1/16"
Weight	4.3 oz.
Range	Up to 1 mile in open space

RECEIVER (model SECOPAGE 35RD)

Frequency	26.8 MHz
Code Learning Capacity	Learns up to 3 transmitter codes
Current Drain	1mA (standby) 20mA (activated)
Power Requirement	3VDC (2 X AAA battery)
Battery Life	1 month (20 hours use/day)
Dimensions	3-5/16" X 2-1/8" X 11/16"
Weight	1.9 oz. without battery

Note: The SECOPAGE 35RV vibrating receiver is similar, except it includes a vibrating function.