



## Product Component Clarification

Dear Inventor,

I am Chief Technical Officer, Corwin K. Osborne. Our company has been given the task to review your product from an engineering viewpoint. This research of the mechanical, structural, and functional features of your idea is an important part of the engineering effort to provide the proper presentation to industry. To this end, we have analyzed the critical aspects of your innovation as if we were to be the manufacturer.

My staff and I have strived to visualize and effectively illustrate the 4 key factors, which you identified in your engagement letter and Record of Disclosure. Documentation of these key points will help make the most favorable impression on the manufacturers who may consider your product for licensing (production, marketing, royalty payment, etc.) or a direct buy out.

Please understand that this Product Component Clarification, (PCC), is just one in many steps towards helping a manufacturer visualize your invention's design, structure, and function as a product. Our professionals at Consulting Engineers of Scottsdale understand that you, as the inventor, believe that your product is extremely feasible and potentially marketable. With this in mind, we feel the attached Product Component Clarification will be helpful in the presentation of your innovation to the appropriate industry.

We appreciate the opportunity to provide engineering services to you and wish you success in your endeavor.

Respectfully yours,

Corwin K. Osborne  
Chief Technical Officer

## PRODUCT COMPONENT CLARIFICATION

<b>INVENTION NAME:</b>	People/Pet Tracker	<b>DATE:</b> 03/09/01
<b>INVENTOR'S NAME:</b>	Joe Mullenax	<b>Rev #:</b> B <b>Date:</b> 03/16/01
<b>FILE NUMBER:</b>	UCSOC-3138-HB	<b>STATUS:</b> Patent Pending

The "People/Pet Tracker" is an innovative radio frequency (RF) data link transmitter/receiver system that is used to locate an errant child or pet in a localized area. The device consists of an RF transmitter that sends a digitally encoded signal to the receiver. The RF receiver on the child or pet receives and decodes the transmitted signal. Based upon the encoded information, the receiver assembly either transmits an audible alarm, a visual signal, or both at once. The audible signal will warble for easy aural discrimination. The visual signal will be strobed for maximum visibility. The units are uniquely serialized so that only the ones that are assigned to the transmitter's serial number are activated. The transmitter and receiver assemblies are powered by replaceable batteries and have a range of approximately 150 feet in free space. The invention is illustrated in the four drawings of the key points as explained to us in the documentation.

### Drawing 1: Front And Side View Of Universal Activator Unit

- (1) Rubberized pushbuttons; these are injection molded using silicone rubber. The legends will be cast into the upper surface.
- (2) Circuit board; this will be made from double-sided FR4 printed circuit board material using surface mounted components.
- (3) Switches; these are operated by the keypad pushbuttons.
- (4) High impact molded plastic body; this is injection molded using PCABS plastic and will be held together using screws.
- (5) Key change connector; this opening permits the transmitter to be attached to a key chain.
- (6) Replaceable battery; this is a commercially available battery.

### Drawing 2: Front And Side View Of People Tracker Receiver Unit

- (7) Speaker grill; these openings permit the audible signal to exit from the housing.
- (8) High impact molded plastic body; this is injection molded using PCABS plastic and will be held together using screws.
- (9) Circuit board; this will be made from double-sided FR4 printed circuit board material using commercially available surface mounted components.
- (10) Piezo audio transducer; this device emits a 105 dBA audible signal at 2.5KHz. This signal can typically be heard over a distance of 100 feet.
- (11) Replaceable battery; this is a commercially available battery.
- (12) Strobed LEDs; these are blue LEDs that have good visibility in most ambient lighting conditions.
- (13) Bracelet strap connectors; these permit a chain or ribbon to be used to secure the bracelet to the person's arm.
- (14) Light housing; this is a polycarbonate plastic injection molded lens that improves the visibility of the LEDs.

Drawing 3: Front And Side View Of Pet Tracker Receiver Unit

- (15) Speaker grill; this opening permits the audible signal to exit the housing.
- (16) Dog collar connection; this is used to attach the receiver to the dog collar.
- (17) Labeling area for pet identification.
- (18) Light housing; this is a polycarbonate plastic injection molded lens that improves the visibility of the LEDs. The LEDs are raised to improve the viewing angle.
- (19) Circuit board; this will be made from double-sided FR4 printed circuit board material using commercially available surface mounted components.
- (20) Piezo audio transducer, alarm emitted out of both sides; this device emits a 105 dBA audible signal at 2.5KHz. This signal can typically be heard over a distance of 100 feet. The housing is pierced on both sides to permit the audible alarm to be heard
- (21) Strobed LEDs, owner can see from either side; these are blue LEDs that have good visibility in most ambient lighting conditions. The LEDs are raised under the protective housing so they can be seen at the extremes of the maximum emission angle. They are placed on both sides so the owner can see the light regardless of the orientation on the pet.

Drawing 4: Pet Or People Tracker Circuit Block Diagram

Transmitter

- (22) Battery
- (23) Locate switch; pushing this switch activates both the visual and aural alarms on the receivers.
- (24) Light switch; pushing this switch activates the visual alarm on the receivers.
- (25) Beep switch; pushing this switch activates the aural alarm on the receivers.
- (26) Microcontroller
- (27) RF transmitter
- (28) Antenna

Receiver

- (29) RF receiver
- (30) Dual operational amplifier
- (31) Audio transducer
- (32) Blue LEDs

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