

**PIENAAR ENERGY (PTY) LTD**

# **Three-dimensional communication indoor small base station**



Voltage range:691.2-947.2V

>6000 cycles(100%DOD)

Rated battery capacity:  
216KWH (customizable)

EMS communication:  
4G/CAN/RS485

## Overview

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In this paper, a step towards consumer location systems is taken by proposing an ultra-sonic positioning method that needs just a single compact base station to measure 3D positions of mobile devices in a room. The Angles of Arrival (AoAs) of the multipath signals are estimated by two mutually perpendicular Uniform Linear Array (ULA) antennas. And the Time. This information can be provided by a dedi-cated indoor location system. A consumer location system should be robust, safe, easy to set up, low cost, and should have a minimal infrastructure. In the deployment optimization of UAVs, the placement of base stations is determined using. enhancement [5]-[7], communication relaying [8]-[10], and data broad-cast/collection [11]-[13]. Compared to conventional terrestrial communications with typically fixed infrastructures, UAV-assisted systems offer new degrees of freedom in the spati l domain to further improve communication.

## Three-dimensional communication indoor small base station

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### A 3-D Indoor Positioning Method using a Single Compact Base ...

In this paper, a step towards consumer location systems is taken by proposing an ultra-sonic positioning method that needs just a single compact base station to measure 3D positions of mobile devices in a ...

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### An Improved 3D Indoor Positioning Study with Ray Tracing

In this paper, a step towards consumer location systems is taken by proposing an ultra-sonic positioning method that needs just a single compact base station to measure 3D positions of mobile devices in a ...



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### A Survey of 3D Indoor Localization Systems and Technologies

This survey paper focused on studies performed specifically on three-dimensional indoor positioning systems as well as the techniques and technologies to facilitate them by

studying various books, ...

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## A 3D Indoor Positioning Method of Wireless Network with Single Base

We propose a method to realize 3-dimensional indoor positioning with single base station by using multipath channel. The angles of multipath coherent signals are estimated by MIMO antenna

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## Three-dimensional communication home base station

Abstract--This paper studies the problem of wireless communication base station indoor positioning of a three-dimensional, innovation of the Chan-Taylor-3D cooperative localization

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## An Improved 3D Indoor Positioning Study with Ray

## Tracing

In this paper, we build a 3D indoor multipath signal model and achieve 3D indoor positioning with a single BS by making full use of multipath channels. The Angles of Arrival (AoAs) of ...

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## Three-dimensional wireless positioning method based on ...

Abstract: Aiming at the problem that the indoor three-dimensional positioning algorithm is complex and the accuracy is not high, this paper proposes a three-dimensional wireless positioning method based ...

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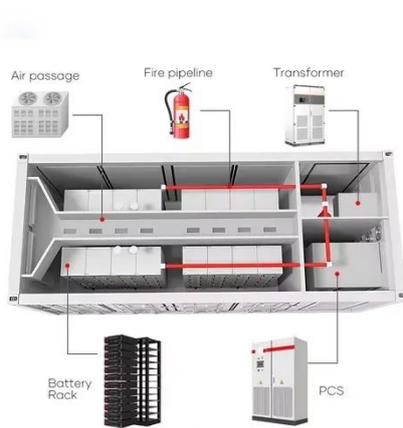
## 3D deployment of UAV-mounted base stations for

Recently, unmanned aerial vehicles (UAVs) have been reported a lot as aerial base stations (BSs) to assist wireless communication in Internet of Things (IoT). However, most results for ...

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## A 3D Indoor Positioning Method of Wireless Network with Single Base



In this paper, we propose a 3-dimensional (3D) indoor positioning method based on multipath information, which makes full use of OFDM technology and MIMO array antenna in ...

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## Three-dimensional positioning of wireless communication base station

We have studied Chan-Taylor two-dimensional positioning algorithm and propose an innovative Chan-Taylor three-dimensional positioning algorithm. And we apply it to the indoor three-dimensional ...



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## 3-D Positioning and Resource Allocation for Multi-UAV Base ...

...

nel model is proposed to characterize the continuous variation of the ch. ation problem of UAV three-dimensional (3-D) positioning and resource allocation, by power alloca. io. s. To solve this non ...

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