
摘 要

执勤是武警部队的主要工作之一，每分每秒都有成千上万的武警官兵坚守在执勤岗位忠诚履行使命^[1]。随着武警部队担负的任务种类越来越多，基层中队由于兵力紧张，哨位包值下降，官兵长期处于疲劳的高负荷运转状态，哨兵特别容易产生厌勤情绪和麻痹思想，从近年来部队通报的一些执勤事故来看，大都与制度不健全、不落实有关。特别是在夜间问题更严重，干部查哨时间固定方式单一，哨兵上下哨不交接及时、换哨秩序不正规的现象屡禁不止，严重降低了执勤质量，埋下了执勤隐患。因此，为了提升执勤质量、预防执勤隐患发生、加强部队执勤正规化建设、增加干部督促手段，建立和完善防拖哨误哨监督报警装置是非常必要的。

本文首先对防拖哨误哨监督报警装置设计的设计背景和意义进行概述，而后对国内外的执勤管理系统研究的现状进行了广泛调研，并在此基础上设计制作了一种以 IAP15W4K58S4 单片机、RC522RFID、HC-12 无线传输、MY 1690-12P 语音模块、LED 二极管、LCD1602 液晶屏等元件为主的防拖哨误哨监督报警装置。

本文系统主要完成哨兵在夜间执勤的记录情况，通过单片机的处理，哨兵的打卡情况可以在显示端进行显示，同时系统将执勤人员的信息进行存储，干部可以通过查询查阅相关信息，哨兵打卡情况可以通过无线传输模块实时传输给指挥控制端，如有未及时打卡情况，指挥控制端会有相应的报警信息。

本文设计的防拖哨误哨监督报警装置通过测试收集数据并计算得出，各次执勤打卡报警系统状态与证件状态下系统检测准确率达 99% 以上，系统整体准确率达 99%。本设计在传统的哨兵考勤系统基础上，增加了对夜间哨兵打卡情况的存储，使干部可以通过查阅相关记录，及时纠治夜间拖哨误哨的现象，增加了干部监督手段，对部队正规化管理具有重要的意义。

关键词：正规执勤；IAP15W4K58S4 单片机；RFID；考勤

ABSTRACT

Duty is one of the main tasks of the armed police force. Every minute, thousands of armed police officers and soldiers stand by their duty posts to fulfill their duties faithfully. As we have more kinds of tasks that the armed police force, grassroots squadron due to strength tension, handles the package value fell, the officers and soldiers in a state of high load operation of fatigue for a long time, the sentinel particularly prone to failure frequently mood and paralysis of thought, from the point of view of forces in recent years about some duty accidents, mostly related to the system is not sound, not implement. Especially in the night, the problem is more serious, the cadres of the fixed time and way of sentry inspection, sentry up and down not timely handover, the irregular order of sentry continued to prohibit the phenomenon, seriously reduce the quality of duty, buried the hidden danger of duty. Therefore, in order to improve the quality of duty, prevent the occurrence of the hidden danger of duty, strengthen the regularization of duty, and increase the means of supervision and supervision of cadres, it is very necessary to establish and perfect the anti-towing sentry guard, supervision and alarm device.

This article first summarizes the anti tow whistle mistakenly sentinel surveillance alarm device design background and significance of design, and then to have investigated the current situation of the research on duty management system at home and abroad, and on this basis, we design a IAP15W4K58S4 microcontroller, RC522RIFD, HC - 12 wireless transmission, MY 1690-12 p voice module, LED diode, the LCD1602 LCD screen with the element such as anti tow whistle sentinel surveillance alarm device.

This system mainly complete records the sentry duty in the night, through single chip microcomputer processing, sentry clock can display on display, system will be on duty personnel information stored at the same time, can query access to relevant information, through the wireless transmission module, the sentinel clock can real-time transmission to the command and control, such as have not timely clock case, command and control end there will be a corresponding alarm message.

The anti-towing sentry error monitoring alarm device designed in this paper

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