



## The Lightning by Mobile Tech



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### Abstract

According to the lightning protection requirements of the facilities and equipment's in oil depot, this paper proposes the integrated mobile lightning protection device and technology to protect lightning strike in different regions of oil depot, analyses the systemic composition and the technical characteristics of the integrated mobile lightning protection device and technology, and practically applies them to establish the lightning protection system in the important region of oil depot. The application shows that the integrated mobile lightning port According to the lightning protection requirements of the facilities and equipment in oil depot, this paper proposes the integrated mobile lightning protection device and technology to protect lightning strike in different regions of oil depot, analyses the systemic composition and the technical characteristics of the integrated mobile lightning protection device and technology, and practically applies them to establish the lightning protection system in the important region of oil depot. The application shows that the integrated mobile lightning protection device and technology are safe, reliable, practical and convenient, which makes it suitable for widely applications.

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### 1. Introduction

Lightning is an eight-pin connector which carries a digital signal. Unlike the connector it replaces (or the standard USB plug), the Lightning is more convenient to use because it can be inserted either face-up or face down. Apple offers various adapters which allow the Lightning connector to be used with other interfaces, such as 30-pin, USB, HDMI, VGA, and SD cards. The Lightning to 30-pin adapter supports only a limited subset of the available 30-pin signals: USB data, USB charging, and analog audio output.

Official Lightning connectors contain an authentication chip that makes it difficult for third-party manufacturers to produce compatible accessories without being approved by Apple.

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## 2. Research Methods

The present study is to use a descriptive analysis in the qualitative methods.

## 3. Results and Analysis

Mobile tech is proud to introduce their powerful cell phone yet the lightning. This new cell phone has some features and powered by a lithium-ion battery.

### *Touchscreen*

The touchscreen is an input device normally layered on the top of an electronic visual display of an information processing system. A user can give input or control the information processing system through simple or multi-touch gestures by touching the screen with a special stylus/pen and-or one or more fingers.<sup>[1]</sup> Some touchscreens use ordinary or specially coated gloves to work while others use a special stylus/pen only. The user can use the touchscreen to react to what is displayed and to control how it is displayed; for example, zooming to increase the text size.

The touchscreen enables the user to interact directly with what is displayed, rather than using a mouse, touchpad, or any other intermediate device (other than a stylus, which is optional for most modern touchscreens).

Touchscreens are common in devices such as game consoles, personal computers, tablet computers, electronic voting machines, and smartphones. They can also be attached to computers or, as terminals, to networks. They also play a prominent role in the design of digital appliances such as personal digital assistants (PDAs)es and some books (E-books).

The popularity of smartphones, tablets, and many types of information appliances is driving the demand and acceptance of common touchscreens for portable and functional electronics. Touchscreens are found in the medical field and in heavy industry, as well as for automated teller machines (ATMs), and kiosks such as museum displays or room automation, where keyboard and mouse systems do not allow a suitably intuitive, rapid, or accurate interaction by the user with the display's content.

### *Lithium-ion battery*

Lithium-ion battery (sometimes Li-ion battery or LIB) is a member of a family of rechargeable battery types in which lithium ions move from the negative electrode to the positive electrode during discharge and back when charging. Li-ion batteries use an intercalated lithium compound as one electrode material, compared to the metallic lithium used in a non-rechargeable lithium battery. The electrolyte, which allows for ionic movement, and the two electrodes are the constituent components of a lithium-ion battery cell.

Lithium-ion batteries are common in consumer electronics. They are one of the most popular types of rechargeable batteries for portable electronics, with a high energy density, small memory effect,<sup>[8]</sup> and only a slow loss of charge when not in use. Beyond consumer electronics, LIBs are also growing in popularity for military, battery electric vehicle, and aerospace applications.<sup>[9]</sup> For example, lithium-ion batteries are becoming a common replacement for the lead acid batteries that have been used historically for golf carts and utility vehicles. Instead of heavy lead plates and acid electrolyte, the trend is to use lightweight lithium-ion battery packs that can provide the same voltage as lead-acid batteries, so no modification to the vehicle's drive system is required.

Chemistry, performance, cost and safety characteristics vary across LIB types. Handheld electronics mostly use LIBs based on lithium cobalt oxide (LiCoO<sub>2</sub>), which offers high energy density, but presents safety risks, especially when damaged. Lithium iron phosphate (LiFePO<sub>4</sub>), lithium manganese oxide (LMO) and lithium nickel manganese cobalt oxide (LiNiMnCoO<sub>2</sub> or NMC) offer lower energy density, but longer lives and inherent safety. Such batteries are widely used for electric tools, medical equipment, and other roles. NMC, in particular, is a leading contender for automotive applications. Lithium nickel cobalt aluminum oxide (LiNiCoAlO<sub>2</sub> or NCA) and lithium titanate (Li<sub>4</sub>Ti<sub>5</sub>O<sub>12</sub> or LTO) are specialty designs aimed at particular niche roles. The new lithium sulfur batteries promise the highest performance to weight ratio. Lithium-ion batteries can be dangerous under some conditions and can pose a safety hazard since they contain, unlike other rechargeable batteries, a flammable electrolyte and are also kept pressurized. Because of this, the testing standards for these batteries are more stringent than those for acid-electrolyte

batteries, requiring both a broader range of test conditions and additional battery-specific tests.<sup>[10][11]</sup> This is in response to reported accidents and failures, and there have been battery-related recalling by some companies.

#### *Caller ID and Call waiting*

This feature combines Caller ID and Call Waiting on your Home Phone. When you are on the phone and another caller tries to reach you, a special tone or beep alerts you to the waiting call, and the name and number of the person waiting are displayed on your screen.

#### *Voice Activation*

Voice Activation is considered both a time-saving and safety feature, as it can be quicker than physically typing in a number and it can also be used hands-free whilst driving, which is obviously safer than attempting to dial a number and keep an eye on the road.

#### *Bluetooth*

Bluetooth is a wireless technology standard for exchanging data over short distances (using short-wavelength UHF radio waves in the ISM band from 2.4 to 2.485 GHz<sup>[4]</sup>) from fixed and mobile devices, and building personal area networks (PANs). Invented by telecom vendor Ericsson in 1994,<sup>[5]</sup> it was originally conceived as a wireless alternative to RS-232 data cables. It can connect several devices, overcoming problems of synchronization.

Bluetooth is managed by the Bluetooth Special Interest Group (SIG), which has more than 25,000 member companies in the areas of telecommunication, computing, networking, and consumer electronics.<sup>[6]</sup> The IEEE standardized Bluetooth as **IEEE 802.15.1**, but no longer maintains the standard. The Bluetooth SIG oversees development of the specification, manages the qualification program, and protects the trademarks.<sup>[7]</sup> A manufacturer must make a device meet Bluetooth SIG standards to market it as a Bluetooth device.<sup>[8]</sup> A network of patents applies to the technology, which is licensed to individual qualifying devices.

## **4. Conclusion**

As such despite the high cost of living, the use of mobile phones is presently considered necessary among many Filipinos. The growth of the mobile industry is on the upswing and growth arrows indicate a constant increase in patronage. Mobile phones technology is creating vast opportunities for one, it makes communication so fast. For another, it creates a world without bounds. Philosophically speaking, cellular technology transcends time and space.

A decade earlier, people used cable phones, and emails, all that was to change when facilities more launched onto space; analog, then digital cell phones mushroomed all over the world. The resulting technology changes the way people do business, the way people socialize and the way people communicate.

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#### *Statement of authorship*

The author(s) have a responsibility for the conception and design of the study. The author(s) have approved the final article.

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