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Power Up!

The evolution of the iPhone
connector cables



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Since the progression from the 30-pin connector to the lightning cable, there has been a great deal of controversy as to the reasons for the change. Both cables have had a significant impact upon the advancement of the iPhone and related technologies, but why did Apple decide to make the transition?

The 30-pin connector was introduced in 2007 with the release of the first iPhone and is used up until the fourth generation. Prior to the transitioning between the 30-pin connector and the lightning cable, the 30-pin still had advantageous attributes. These included its compatibility with all Apple products at the time, its advancements in features (HD video output, photo importing, USB input) and the introduction of several new functions (including an increase in power, audio-output, playback control, and fast data syncing).

However, along with its advantages, the 30-pin connector also had disadvantages which in turn led to the eventual change to the lightning cable. These included the

cable being fragile, the thin profile being more difficult to use and only fitting the device one way, and the connector taking up a lot of space, particularly on smaller products.

The lightning cable was introduced in 2012 along with the fifth generation of iPhones. As a progression from the 30-pin connector, it brought many new improvements with it. These included the cable being a prominent reason for the decrease in size of iPhones by at least 20%, and the cable working in both orientations, meaning it had no top or bottom. The lightning cable itself is also 80% smaller than the 30-pin connector.

Although the change in chargers had its advantages, there are also some disadvantages that should be mentioned. The lightning cable is incompatible with all the past 30-pin devices and its exposed pins limit any electrical and mechanical protection. Many of the non-Apple made cables are also of a poor quality, therefore they have a higher chance of breakage. This means that the user will

have to spend a great deal of money on replacement chargers.

Along with some similarities, the 30-pin and the lightning cable have a variety of differences. Perhaps the most prominent difference is the size, with the width of the 30-pin being 26.1mm and the width of the lightning cable being 9.05mm (making the 30-pin 80% wider). Another major difference between the two connectors is that the lightning cable is made up of 8 exposed pins whereas the 30-pin connector consists of 30 covered pins (as the name suggests). The number of pins contributes to the size of the connector, and by having less pins, the lightning cable can decrease in size from the 30-pin. However, by exposing the pins on the lightning cable, they are at a greater risk of getting damaged than the covered pins of the 30-pin connector.

Though both Apple made cables are of high quality, the thin frame of the lightning cable makes it fragile and susceptible to breakages. The 30-pin connector also has components which stick out from

the frame and can easily be broken, thus making the item faulty. Both cables are innovative and function well, however the lightning cable created more controversy than the 30-pin. With the 30-pin already in existence when the lightning cable was released, many iPhone users were irritated and inconvenienced by having to purchase a new cable for their phone, and often questioned the reasoning behind the change.

Overall, the evolution of the iPhone charging cable has had a great impact upon charging in the mobile phone industry, further advancing Apple technologies. Changes such as the decrease in size have led to a more compact phone which is easier for users to handle, as well as new functions and a greater durability in relation to its predecessor. Therefore, the lightning cable can be considered as a significant improvement from the 30-pin connector, and despite the controversy, it was a necessary change.



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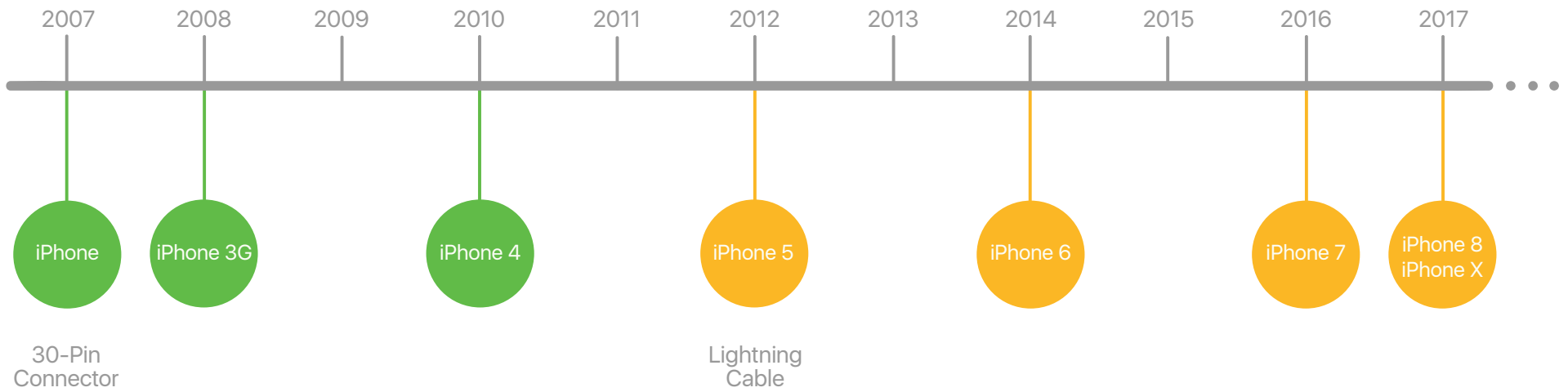
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The release of Apple's charging cables in relation to the iPhone



Similarities and Differences between the 30-Pin Connector and the Lightning Cable

