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Power to the People

No more tangled cables. Is the new
AirPower... all that its cracked up to be?

The History of Charging

Including Apple Chargers

Since 1976, Apple has used a range of charging ports for its products including using the Rs-422 serial port, ADB and Alchemy. All those years ago, Apple started to make a bigger impact on chargers and the improvement in technology. It began using FireWire (IEEE -1394) to charge its MacBooks and iMacs. The quality and how efficient chargers and cables are is measured in 'GBPS,' standing for Gigabits per second. It measures how fast it can transfer data or how quick it can charge a device. The Firewire delivers 800 Mbps (Megabits per second) therefore in comparison to the usual measurement used, one megabit is equal to 0.001 gigabit. As the FireWire measured 800mbps, which equals to 0.8Gbps.

Apple had then introduced a new product of theirs, the iPod. This needed a new form of charging, which lead to the invention of a new charging system. Apple brought out the '30 – Pin Dock Connector' in 2003. This was similar to the FireWire but in a very different physical form. It consisted of a flat but long



shape, which allowed Apple to produce their products in a more sleek style. The speed of the connector is 0.48Gbps. Both the 30 – Pin Dock Connector and the current lightning port are 2.0 USB, meaning they have the same speed as one another.

Apple introduced a new charger with their iPhone 5 called 'Lightning'. This is their current charger for all iPhones. The main advantage of this cable is that it is reversible, providing the customer the ease to insert it into their phones through either side. This is due to the fact that they have 8 pins on either side so it connects regardless. It is also more durable and efficient. These are the main benefits and reasons for change in Apple's principal charger.

MacBooks use a minimum 45-Watt MagSafe Power Adapter. They contain a magnetic feature that notifies you if the charger is beginning to weaken over time. The brilliant feature to this charger is that



FireWire



30 - Pin Connector



Lightning



Thunderbolt 2



Thunderbolt 3
and USB - C

it is travel friendly as its clever design allows the consumer to wrap the long cable effortlessly around the head for a simple storage solution. Another port that is mainly seen in MacBooks and in the iMac is called thunderbolt. Thunderbolt 2 is known for its high speed in transferring data of about 20Gbps. Apple uses Thunderbolt type 3, which includes an outstanding speed of 40Gbps.

USB Type C was introduced with the new 2017 MacBooks. It allows you to plug it in reversibly and through either side similarly to the lightning cable. The advantage of this cable is that it's a small size giving Apple the opportunity to add more innovative features. Type C also allows for bi-directional power, which will lead to a decrease in the number of wires needed for a device to work. Another advantage would be to connect the AC Power Adapter through this port. USB Type C transfers data at a speed of 10Gbps.

The AirPower is Apple's first product that provides wireless charging. It also gives us the capacity to charge up to 3 devices at the one time using the same charging outlet. The Lightning cable is connected to the AirPower, which allows the power to disperse for the ability to charge multiple devices. This charging device works with an electromagnetic field, which is produced by an electrically charged object. The aim of the pad is to remove and limit the number of chargers and cables consumers have, along with the hassle of all these being tangled with one another. Due to the magnetic field, it requires a glass back from the iPhone for the energy to go through the phone. The amount of Gbps it contains is still unknown for the AirPower, as it is still yet to be released until 2018.



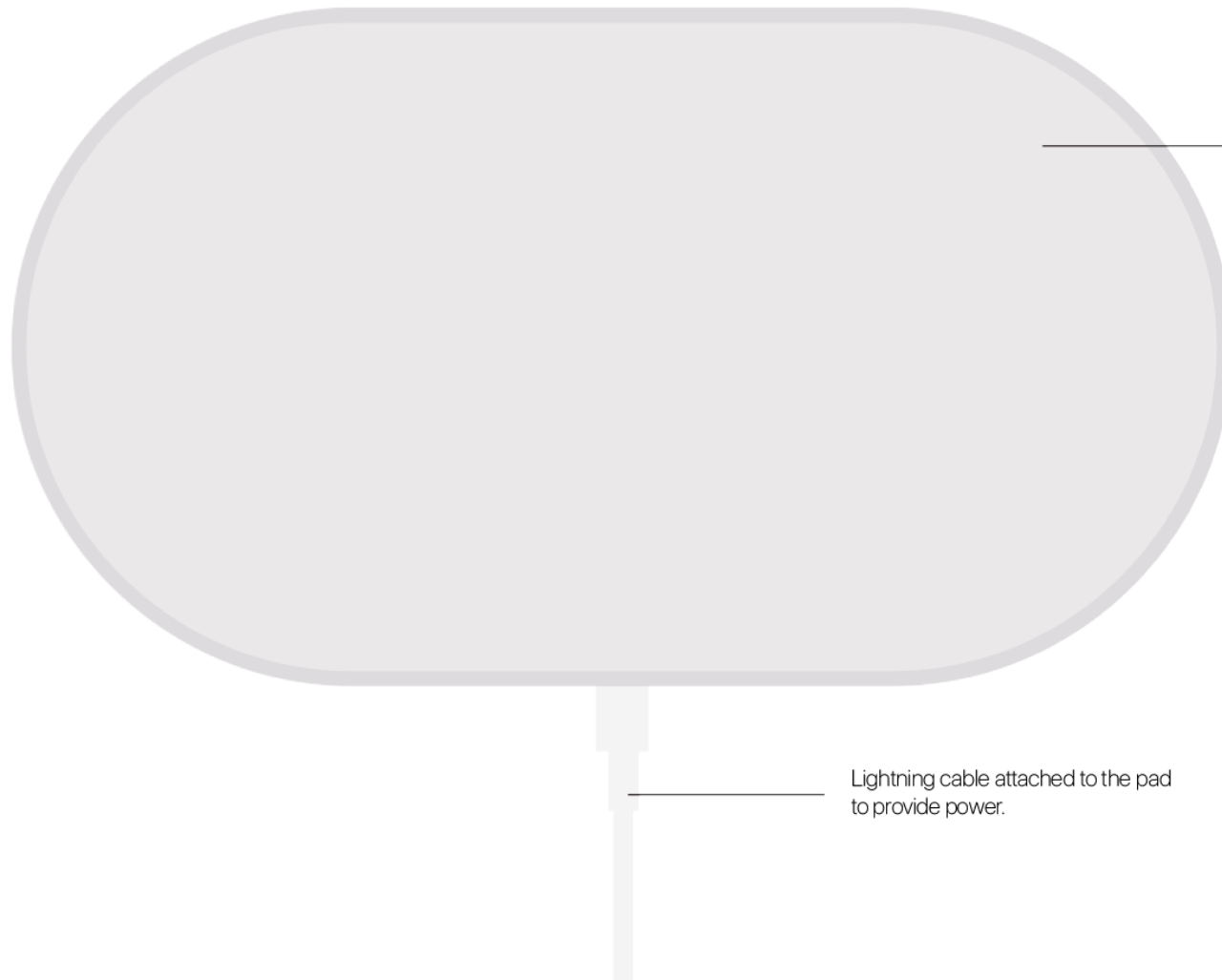
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Devices are placed on this pad. This is where they are charged wirelessly.

Lightning cable attached to the pad to provide power.

