FOLDABLE DEVICE WITH KEYBOARD

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Foldable Device with Keyboard

Develop a foldable device with keyboard and provide a compact folding device design, which is easy to carry with by the users. This foldable device feature with keyboard has the several benefits compared to the regular laptop personal computers as follows:

- Provide compact size.
- It is easy to carry with by the users.
- Pogo connection enables to have a quick attaching/detaching.
- Avoid folding footprint after folding as a book.
- Kickstand would be mounted each left and right side to ensure device stand steady through mechanical sliding switch and link bar mechanisms.
- Appropriate cutoff on keyboard module enables to fold smoothly without interference and maintain good outward appearance.
- Magnet/ferrite plate could be deployed on each side, so the device is folded firmly w/o loosening.
- This solid stacking design provides better compression performance, and matches the panel bending radius.

Pogo connection enables to have a quick attaching/detaching.
The product drawing on the above is to show the folding mechanism of foldable laptop.

(1) Kickstand would be mounted each left and right side to ensure device stand steady. Kickstand could be opened by below different ways.

(2) Kickstand is spring loaded and actuated by a mechanical sliding switch to release latch. Continue #1, a link bar to connect both side of latch, hence one sliding switch could release both kickstands.

(3) A link bar connected to folding keyboard rotation mechanism. Once keyboard rotates to certain degree to stand mode, the mechanism activates the link bar (continue #2) and open both kickstands.

Appropriate cutoff on keyboard module enables to fold smoothly without interference and maintain good outward appearance.

Magnet/ferrite plate could be deployed on each side so device is folded firmly w/o loosening.
Panel screen is folded facing internally and protected by enclosure. Keyboard module is perfectly folded inside as solid stacking. This solid stacking design provides better compression performance, and matches the panel bending radius. This design feature provides compact and easy to carry with reliable design solution for foldable laptop PC.

*Disclosed by James Chang, Charlie Ku and KT Wu, HP Inc.*