External Cable Assemblies(外接電纜裝配)

Original equipment manufacturers (OEMs) use Gausstek ferrites to suppress EMI on external power and data cables for central processor units (CPUs), monitors, keyboards, printers, and other peripheral equipment. The long external power and data cables of these devices act as efficient antennas to transmit internally generated noise outside to the equipment's enclosure. By suppressing EMI on these cables, Gausstek ferrites can often reduce external cable shielding requirements, permitting the use of lower cost cables in many applications.
原來設備製造商(OEMs)使用豐晶科技的鐵氧磁體以抑制中央處理器(CPUs)，螢幕，鍵盤，列表機及其他周邊設備在外接電源及數據電纜產生的電磁波干擾，這些裝置的外接電源及數據電纜有如有效率的天線一般，能將在設備內部所產生雜訊傳播至外面，藉由抑制這些電纜線的電磁波干擾，豐晶科技的鐵氧磁體通常能減少外接電纜的遮蔽需求，而在許多的應用上，允許使用較低成本的電纜線。

Selecting Cable ferrites For Optimum Performance(選擇用於電纜線之鐵氧磁體以達到最佳功能)

Precision electronic components such as Gausstek EMI suppression ferrites should be selected with consideration of the intended application. In general, a cable ferrite should be selected to yield the highest in-circuit series impedance for the noise frequencies of greatest concern.
精確的電子元件，如豐晶科技的電磁波抑制鐵氧磁體，在所欲應用的考量上，應是要被選用的，一般而言，一電纜線用的鐵氧磁體需要選擇以能在最在意的雜訊頻率上具有最高的承載串連阻抗。

Core Size and Volume(鐵芯的大小及體積)

Once the ferrite material and approximate part dimensions are selected for a given application, in-circuit impedance and noise suppression performance can be optimized by:
對一應用，一旦鐵氧磁體的材質及約略的元件尺寸選定後，承載阻抗及雜訊抑制表現可由下列方式來作最佳化:

1) increasing the length of the portion of the conductor surrounded by the ferrite
2) increasing the cross sectional area of the ferrite (especially for power applications)
3) selecting a ferrite with an inner diameter most closely matching the outer diameter of the wire or wire bundle to be filtered.
1)增加圍繞在鐵氧磁體部份的導線長度
2)增加鐵氧磁體的截面積(特別是在電源應用上)
3)選擇鐵氧磁體的內徑要儘量接近所要濾波的導線或導線束的外徑

In general, the "best" ferrite for a particular application is the longest, thickest device that can be accommodated and whose inner aperture is closely matched to the outer dimensions of the cable to be treated. When installed on flexible cable harnesses, ferrite cores of significant mass should be encapsulated by heat shrink tubing or otherwise protected and secured in place.
一般而言，對一特定的運用，"最好"的鐵氧磁體是所能容納最長，最厚的元件且內孔徑緊密地符合所要處理的纜線的外部尺寸，當安置於有彈性的電纜線上時c具有相當重量的鐵氧磁體應封裝於熱縮的套管內，否則要加以保護並固定其位置。

Number Of Turns(圈數)

The series impedance of a high frequency ferrite device can be increased by running two or more turns of the treated conductor through the ferrite's core. Magnetic theory predicts that the impedance of the device will increase with the square of the number of turns. However, due to the lossy and non-linear nature of EMI suppression ferrites, a ferrite bead with two turns will yield somewhat less than four times the impedance of an identical part wound with only one turn of the conductor.
一個高頻鐵氧磁體元件的串連阻抗可藉由將導線於鐵氧磁體上纏繞二或更多以上的圈數來增加，磁學理論預測元件的阻抗會隨圈數的平方而增加，然而，因為用於電磁波干擾抑制的鐵氧磁體的損耗及其非線性的本質，一個纏繞二圈導線的鐵氧磁體磁珠的阻抗會比一個完全相同但只纏繞一圈導線的四倍還要少一點。

Placement At The EMI Source Location Or AT I/O boundaries(電磁波干擾源位置及輸入/輸出邊界的安置)

In most filter applications, the ferrite should be placed as close to the source as possible. This will prevent the noise source from coupling to other structures where filtering may be less effective or difficult to implement. For input/output (I/O) circuits, however, where conductors may enter and exit a shielded enclosure, the ferrite should generally be placed as close as possible to the shield penetration. This implementation prevents noise from coupling to the conductor at a physical location in the enclosure "after"the filter. Figure 14 illustrates both filter placement techniques.
在大部分的濾波應用，鐵氧磁體的安置應可能的接近干擾源，如此可預防雜訊源因耦合而影響濾波較無效或較難導入的結構，對輸入/輸出(I/O)電路,由於導線可以進出遮蔽的密閉器，鐵氧磁體應儘可能置於接近遮蔽的穿透處，這樣的方式可以預防在密閉器內雜訊與鐵氧磁體"後"的導線產生耦合，圖例十四說明此二種濾波安置技術。