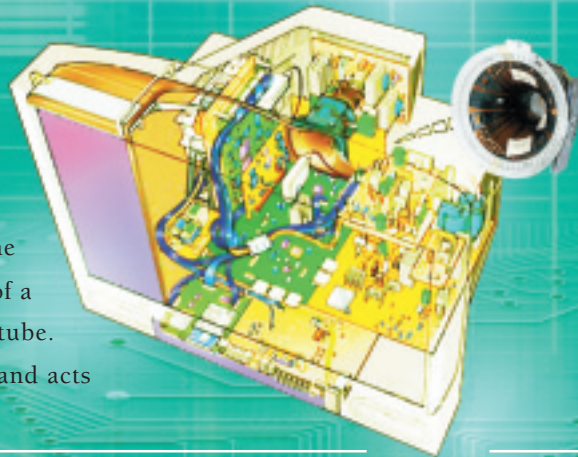


ABOUT DEFLECTION YOKE ▷

To make a beam of electrons functional, it has to be deflected from its course in some manner so as to make a trace or scan across the cathode ray tube (“CRT”)’s faceplate. There are two methods used to do this: with an electrostatic charge and an electro-magnetic field.

Electrostatic deflection uses pairs of charged plates in the neck of the CRT to repel and attract the beam of electrons. The negatively charged plates repel the electrons, as in the negatively charged control grid, and the positively charged plates attract the beam, as does the positively charged anode. The beam passes between the pairs of oppositely charged plates and, as their polarity and the strength of their charge is altered, is deflected from side to side. With one pair of plates mounted vertically and the other horizontally, the beam can be deflected towards any part of the screen.

Although electrostatic deflection is extremely fast and, consequently, ideal for CRTs used in oscilloscopes, at the energy levels of the electron beams used in TV and monitor CRTs it has insufficient influence on the beam to be useful. In these CRTs, electro-magnets take the place of the charged plates, creating two magnetic fields at right-angles to each other to control the beam’s deflection. These electro-magnets are usually mounted outside the CRT, at the point where the neck meets the funnel, and consist of a series of windings moulded to fit the glass of the tube. The part that is attached to the funnel cone region and acts as a deflector is called a deflection yoke.



關於偏轉磁芯 ▷

要使電子束具備功能，需要能使電子束在一定程度上偏離原途徑，以在陰極射線管（「CRT」）面板上掃跡或掃描。而要做到這點可以有兩種方法：使用靜電荷或電磁場。

靜電偏轉使用設於CRT頸位的多對電荷板排斥和吸引電子束。負電板排斥電子，一如負電荷控制柵的情況；而正電板則吸引電子，一如正電極的情況。讓電子束通過一連串正反電荷板，並改變荷板的極性和電荷強度，便可令電子束左右偏轉。如在垂直及水平方向各設一對電荷板，便可令電子束偏轉到屏幕上任何一點。

靜電偏轉雖極快，並因而極適用於示波器CRT，但到了電視機及顯示器CRT所使用的電子束的能量程度，靜電偏轉便顯得力有不逮。對這種CRT，電磁鐵取代了電荷板的位置，製造出兩個互相垂直的電磁場來控制電子束偏轉。這些電磁鐵通常裝在CRT外部，近頸位與斗部相連之處，並由連串經模裝以配合玻璃顯像管形狀的繞組組成。附在斗部位置作為偏轉器的部件便稱為偏轉磁芯。