

Unit 1 Telecommunication	
1. Communication using waves	
microphone	
a device which changes sound energy into electrical energy	
一个能将声能转变为电能的装置	
speed of sound	
the rate at which sound travels	
声音传播的速度	
crest / peak	
the point where a wave is highest	
一个能量波最高的一点	
trough	
the point where a wave is lowest	
一个能量波最低的一点	
frequency	
the number of waves per second	
每秒钟所产生能量波的数量	
wavelength	
the length of a wave (in metres)	
一个能量波的长度 (以'米'为量度单位)	
measurement	
a reading	
一个读数	
energy	
the capability of doing work	
做"功"(work)的能力	

instantaneously
at a point in time
一瞬间的
mouthpiece
the part of a telephone which is spoken into
电话的部件, 人们会对著它说话
earpiece
the part of a telephone which is listened to
电话的部件, 人们会在那里收听话音
amplitude
the maximum height of a wave (in metres)
一个能量波的最大高度 (以'米'为量度单位)
angle of incidence
the angle between the 'normal' and the ray as it enters a medium
当进入一个媒介时, 入射线和'法线' (通过入射点与平面垂直的线)所形成的角
echo
a wave which returns off a barrier to the transmitting source
一个从障碍物反射回传播源头的能量波
loudspeaker
a device which changes electrical energy into sound energy
一个能将电能转变为声能的装置
pitch
a word which is used to indicate a frequency - particularly of sound
用来表示一个频率的文字 一尤指声调

signal
usually a small electrical current which carries information
通常是一个传送资讯的细小电流
2. Communication using cables
buzzer
a small device which gives out sound energy
一个能发出声能的小型装置
oscilloscope
a display screen which shows varying voltages
一个能显示不同电压的显示屏
receiver
a radio
一个收音机
signal generator
a device which gives out an alternating voltage at different frequencies
一个能发出不同频率交流电压的装置
volume
the size of an output signal (usually audio)
输出讯号的大小程度 (通常指音频)
angle of reflection
the angle between the 'normal' and the ray as it reflects off a surface
当从一个表面反射时, 反射线和'法线' (通过反射点与平面垂直的线)所形成的角
optical fibre
a length of plastic material (round in cross-section) which can carry light
一段能传送光线的塑胶物料(横切面是圆形的)

Lab. Pack
variable voltage supply
可变电压供应
ray box
a light source
一个光源
refraction
the deviation of a ray of light as it passes in/out of a material
当光线进入/离开一个物质时所产生之偏移
total internal reflection
when light within a glass/plastic material bounces off an inside wall
当在玻璃/塑胶物质内之光线从物质之内壁反弹之现象
critical angle
the angle beyond which <i>total internal reflection</i> occurs, but below which <i>external refraction</i> occurs
一个角度, 大于它会发生 <i>total internal reflection</i> 现象, 小于它时会发生 <i>external refraction</i> 现象
density
how heavy an object is relative to its volume
一件物件每单位体积的重量
link
connection
连结
3. Radio and Television
transmitter
sends out radio waves
发送无线电波的装置

tuner
a <i>coil</i> and a <i>variable capacitor</i> in parallel
a <i>coil</i> 以及 a <i>variable capacitor</i> 作出并联
amplifier
a device which increases an electrical signal
能放大电子信号的装置
decoder
a diode
一个二极管
aerial
usually a length of wire which collects radio waves.
通常是一段长电线, 用来收集无线电波
modulation
to change or 'shape' (a radio or TV wave)
去改变或是'成形' (一个无线电波或是电视电波)
leads
4mm electrical connectors
四毫米电连接导线
electric charge
basic unit of electricity / measured in <i>Coulombs</i>
电流的基本单位, 以 <i>Coulombs</i> 为量度单位
cassette recorder
tape recorder
卡式录音机
metal foil
aluminium 'kitchen foil'
铝质'厨房用薄铝片'

resonant / resonance
the frequency at which an object vibrates at maximum <i>amplitude</i>
某一个频率, 而一个物体会于该频率作最大 <i>amplitude</i> 之振动
variable output
changeable signal
可变之讯号
resistor
a device which restricts current
一个可以限制电流的装置
coil / inductor
many turns of copper wire
大量绕成圈状的铜线
carrier wave
a radio frequency signal on which an audio signal is transmitted
发射音频讯号的一个无线电频率讯号
radio frequency
a high frequency
一个高频
audio frequency
a low frequency
一个低频
deflection
deviation
偏移
fluorescent
re-transmits light
再次传播光线

cathode ray tube
the 'tube' of a TV
电视机的'显象管'
electron beam
a flow of electrons through air/vacuum
穿过空气/真空的电子流
kinetic
movement
运动
vacuum
a space in which there are no particles
一个内里没有无何粒子的空间
scan
to move (usually one's eye) across a screen
在屏幕上横向移动(通常指一个人的眼睛)
image retention / persistence of vision
the ability of the brain to 'join up' several still images to make a moving picture
脑袋'结合'数个静止影象成为动画的能力
cyan
turquoise/sea green colour
青绿色/海绿色
magenta
pink/red colour
粉红色/红色
primary colour
main colour
主要颜色

secondary colour
2 primary colours added together
两种主要颜色 (原色) 加在一起
shadow mask
a thin metal sheet with holes in it to allow the electron beams to pass
一块有洞的薄金属片以容许电子束穿过
4. Transmission of radio waves
modem
telephone computer link
电话与电脑间之连结
fax
abbreviation for facsimile
传真机 (facsimile) 的简称
Hertz - Hz
unit of frequency
量度频率的单位
Kilohertz - kHz
the number of thousands of Hz
一千个 Hz
Megahertz - MHz
the number of millions of Hz
一百万个 Hz
geostationary
always above a fixed point on the earth's surface
永远都是在地球表面的一个固定地点上面
satellite
an object which orbits a planet
绕著一个行星沿轨道运行的物体

period
the time for one event / revolution
一件事件发生/旋转一周的期间
polar orbiting
orbiting over the N & S poles
在南北极之上沿轨道运行
diffraction
the 'spreading out' of a wave as it passes through a gap in a barrier
当一个能量波通过一个障碍物的缺口时发生'散开'之情况
obstacle
an object which inhibits progress
一个阻碍前进之物体

Unit 2 Using Electricity	
1. From the wall socket	
flex	
electrical cable carrying 2 or 3 wires	
带有2 或 3条电线之电缆	
fuse	
a thin piece of wire which will melt if too high a current flows	
一条幼金属丝, 若流过之电流太强此金属丝会熔掉	
fuse rating	
the stated value of current which will melt the fuse	
宣称将可熔掉保险丝之电流数值	
appliance	
electrical device	
电器	
Power	
rate at which energy is used - measured in <i>Watts</i>	
使用能源的速度 — 以 <i>Watts</i> 为量度单位	
extension	
an additional cable which will carry power from the socket to another point	
一条附加的电缆, 可将电力由电插座带到另外一个地点	
terminal	
electrical post in a plug	
在一个插头内之电接头	

conductivity
a measure of how easily current is carried
传输电流容易程度之量度标准
electrode
an electrical 'end point'
一个电力接线的'终端'
ammeter
a device for measuring current
量度电流强度的装置
microammeter
a device for measuring very small currents
量度非常微弱电流的装置
current
flow of electrical charge
电流
resistance
a measure of the resistance to current flow
电流所遇阻力之量度标准
fault
an electrical error in a circuit
在电路中的一个电气误差

casing
the outer covering of an electrical device
一个电气装置的外壳
earth wire
the wire which is connected to 'ground'
接地线
live
the wire which carries the 230V supply
带有230伏特供电之电线
neutral
the wire which returns to the supply from an electrical device
将供电由电气装置导回供电站之电线
isolates
'cuts off'
切断
insulation
material of very high resistance
具有非常高阻抗之物料
2. Alternating & Direct Currents
Charge
basic unit of electricity / measured in <i>Coulombs</i>
电流的基本单位, 以 <i>Coulombs</i> 为量度单位

formulae
mathematical equation
数学方程式
battery
a series of cells
一系列串联的电池
rheostat
type of variable <i>resistor</i>
一种可变 <i>resistor</i>
component
constituent of a circuit eg <i>resistor / coil / LDR</i>
电路的一个组成部份, 例如 <i>resistor / coil / LDR</i>
transformer
a device for changing voltages up / down
一个可以调节 高/低 电压的装置
oscilloscope
a display screen which shows varying voltages
一个展示电压变动的显示屏
Y-input
normal input connection to <i>oscilloscope</i> - uses <i>Y-axis</i> for voltage
接驳 <i>oscilloscope</i> 的正常输入连结 — 使用 <i>Y-Axis</i> 作为电压显示

horizontal
across direction (<i>x-axis</i>)
横越的方向 (<i>X-axis</i>)
frequency
the number of waves per second
每秒钟所产生能量波的数量
signal generator
a device which gives out an alternating voltage at different frequencies
一个能发出不同频率交流电压的装置
mains
230V AC

peak voltage
the maximum voltage of an AC output
一个交流电输出的最大电压
deflection
deviation from the norm
从标准情况发生偏移
quoted
recorded
记载

capacitor
a device for storing electrical charge
一个储存电荷的装置
diode
allows current to pass in one direction only
只容许电流从一个方向流过
variable
can be altered
可以改变的
circuit
complete electrical pathway (usually circular)
完整的电路 (通常为圆形)
3. Resistance
meter
a device for measuring electrical values
一个可以量度与电有关之数值的装置
circuit diagram
a paper representation of a complete electrical ring
一个完整电路的纸上图象
voltmeter
meter to record voltage
一个用来纪录电压的仪表

torch
hand held lamp
手电筒
thermistor(TDR)
a <i>resistor</i> whose value of resistance depends inversely on temperature
<i>resistor</i> 一种, 而电阻值会与其温度成反比改变
light dependent resistor (LDR)
a <i>resistor</i> whose value of resistance depends inversely on light
<i>resistor</i> 一种, 而电阻值会与接收到之光度成反比改变
ohmmeter
meter to record resistance
一个用来纪录电阻的仪表
potentiometer
similar to a variable <i>resistor</i>
与一个可变 <i>resistor</i> 相类似
fluid
liquid or gas
液体或气体
Joulemeter
meter to record energy used
一个用来纪录已使用能量的仪表

filament
the small thin hot metal element in a bulb
在一个电灯泡内的细小发热金属丝
parallel
alongside
并排
ignition
in this context - 'the starter switch of a car'
在这个上下文中 — 即是 '汽车的起动开关'
open circuit
a circuit which has an electrical 'break' in it
一个有电气'断路'情况的电路
4. Behind the Wall
short circuit
an electrical path which bypasses a component
一个分流转向绕过一件组件的电路
circuit breaker
a device which cuts off the mains supply if a leakage current is detected
一个如侦测到漏电情况便会切断电力供应的装置
exploded diagram
a diagram in which all the constituent parts are separated (for viewing)
一个图示, 内里的所有组成部份都会分开显示 (以方便检视)

rotor
the section in a motor which rotates
一个马达内的旋转部件
field coils
the electromagnetic coils which, when energised, supply a <i>magnetic field</i>
电磁性的线圈, 在当被施加电压时, 会产生一个 <i>magnetic field</i>
commutator
the section on the <i>rotor</i> which changes the current round by 180 degrees
<i>rotor</i> 的部件, 能将现时之循环改变180度
brushes
these convey the current to the moving <i>rotor</i>
这些部件将电流传导至正在转动的 <i>rotor</i>
electromagnet
a coil of wire with a soft iron core
由线圈缠绕一个软铁芯子组成的电线圈
relay
an electromagnetic switch
一个电磁性开关
solenoid
a coil
一个线圈

reed switch
a switch operated magnetically
一个用磁力操作的开关
magnetic field
the area round a magnet which will affect iron materials
会影响铁类物质的磁体四周范围

Unit 3 Health Physics	
thermometer	
a device for measuring temperature	
一个量度温度的装置	
temperature	
a measure of how hot something is	
量度究竟某件物体有多热之标准	
heat	
a form of energy	
能量的一种	
stethoscope	
a device for listening to heart and lung sounds	
一个帮助聆听心脏及肺部所产生声音的装置	
diaphragm	
a thin sheet of material for transferring vibrations	
一薄片物质, 用作转移震动	
ultrasound	
high frequency sound above 20,000 Hz, which humans cannot hear	
人类听不到, 超过二万Hz之高频声音	
hertz (Hz)	
the unit of frequency, i.e. number of waves per second	
量度频率的单位, 即是每秒钟所产生能量波的数量	

decibels (dB)
the measure of the loudness of sound
量度声音响度的标准
refraction
the bending of light as it travels from one substance to another
当光线从一个物体进入另一个物体时所产生的折曲情况
convex lens
a lens which is thickest in the middle and brings light to a focus
一块中央部份最厚之透镜, 能将光线聚焦
concave lens
a lens which is thinnest in the middle and spreads light outwards
一块中央部份最薄之透镜, 能将光线向外分散
converge
to come to a focus point
集中于一点
diverge
to spread outwards
向外分散开
focal length
distance (in metres) to focus point from centre of lens
由焦点至透镜中心点之距离 (以'米'为量度单位)

lens power
a measure of how well lens brings light to a focus point
量度透镜聚焦能力的标准
Dioptries (D)
unit of lens power
透镜屈光度的量度单位
electromagnetic spectrum
family of waves that travel at speed of light and consists of :- <i>visible light</i>
<i>gamma rays, x rays, ultra violet, infra red, microwaves and radio waves</i>
能以光速传播之同族能量波, 包括有: - <i>visible light</i>
<i>gamma rays, x rays, ultra violet, infra red, microwaves and radio waves</i>
nuclear radiation
rays and particles that come from the <i>nucleus</i> of radioactive atoms
由放射性原子的 <i>nucleus</i> 所发出之射线与粒子
ionisation
when an atom loses or gains an <i>electron</i> and becomes positively or negatively
charged
当一个原子损失或增多了一粒 <i>electron</i> 而变成带正或负电荷
scintillations
tiny flashes of light
微小的闪光

becquerels (Bq)
unit of activity i.e number of atoms decaying per second
放射性强度的量度单位, 即是每秒钟衰变原子的数量
half life
time taken for original activity to fall to half its value
某物质的放射性由原有量减少至一半所需之时间
dose equivalent
a measure of the damage radiation does to living things
量度辐射对生物所做成伤害之标准
millisieverts (mSv)
the unit of dose equivalent
dose equivalent之量度单位
background radiation
radiation mainly due to natural sources
主要来自天然源头之辐射