

Guided Transmission Media

Magnetic
Twisted Pair
Coax
Fiber Optics

- Magnetic Media
- Twisted pair
- Coaxial cable
- Fiber Optics

Magnetic Media

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- Physical transport
 - e.g. _____
- Example
 - Ultrium tape: Capacity _____
 - 60cm x 60cm x 60cm Box would hold _____
 - Capacity _____
 - DHL overnight service
 - Data rate: _____
- Motto: “ _____ ”

Twisted Pair

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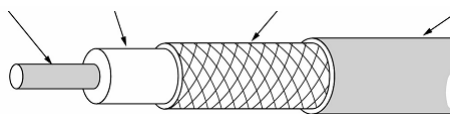
- Construction: _____
- This reduces _____
 - Note: Straight copper wires act as _____
- Usage: _____
- Distance: _____
- Types
 - Shielded Twisted Pair (STP): _____
 - Unshielded Twisted Pair (UTP): _____
 - Cat 3: _____
 - Cat 5: _____



Coaxial Cable

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- Shielding: _____
- Speed: _____
- Distance: _____
- Usage: _____
- Construction: _____

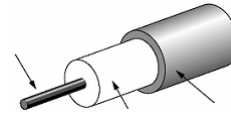


Fiber Optics (1)

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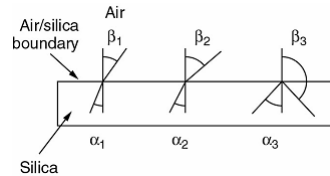
■ Components

- Source: _____
- Fiber: _____
- Detector: _____



■ Principle behind fiber optics:

- _____



■ Multimode _____

■ Single mode _____



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Fiber Optics (2)

Magnetic
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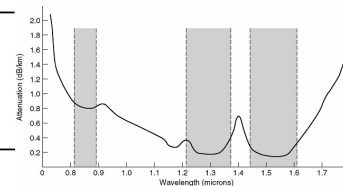
■ Properties

- Uni-directional and fragile
- Secure: _____
- Error Rate: _____
- Bandwidth: _____
- Attenuation: _____

■ Attenuation _____

■ Three bands typically used

- 1.30μ, 1.55μ _____
- 0.85μ _____



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Fiber Optic Networks

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■ LANs

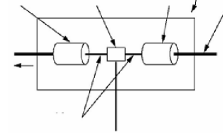
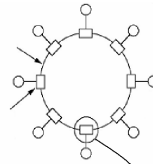
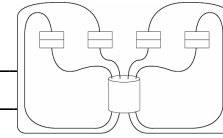
– Passive Star: _____

– Ring: _____

■ Taps

– Passive: _____

– Active: _____



Fiber vs. Copper

Magnetic
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■ Bandwidth: _____

■ Attenuation: _____

■ Interference: _____

■ Weight: _____

■ Security: _____

■ Familiarity: _____

■ Breakability: _____

■ Cost: _____