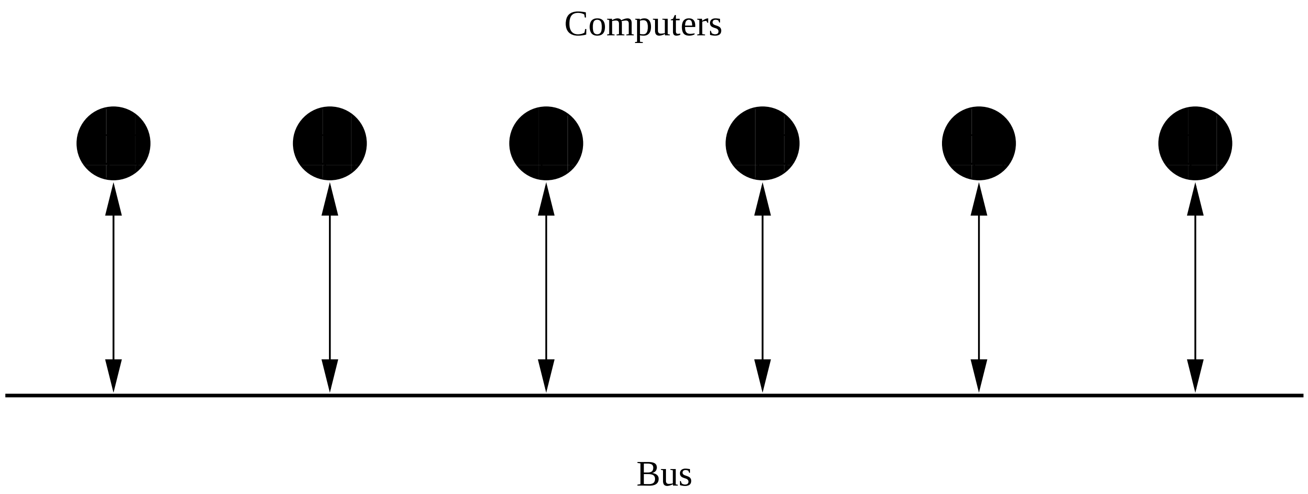
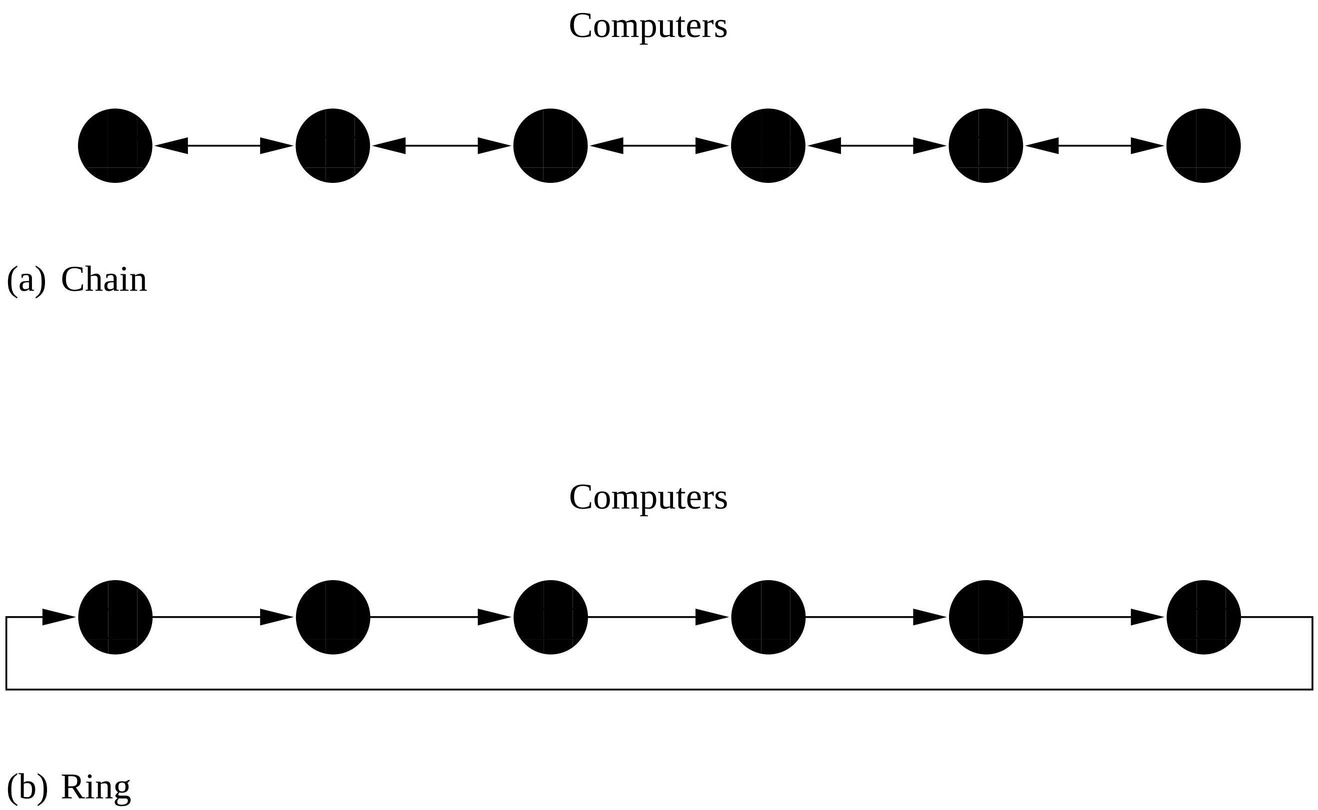
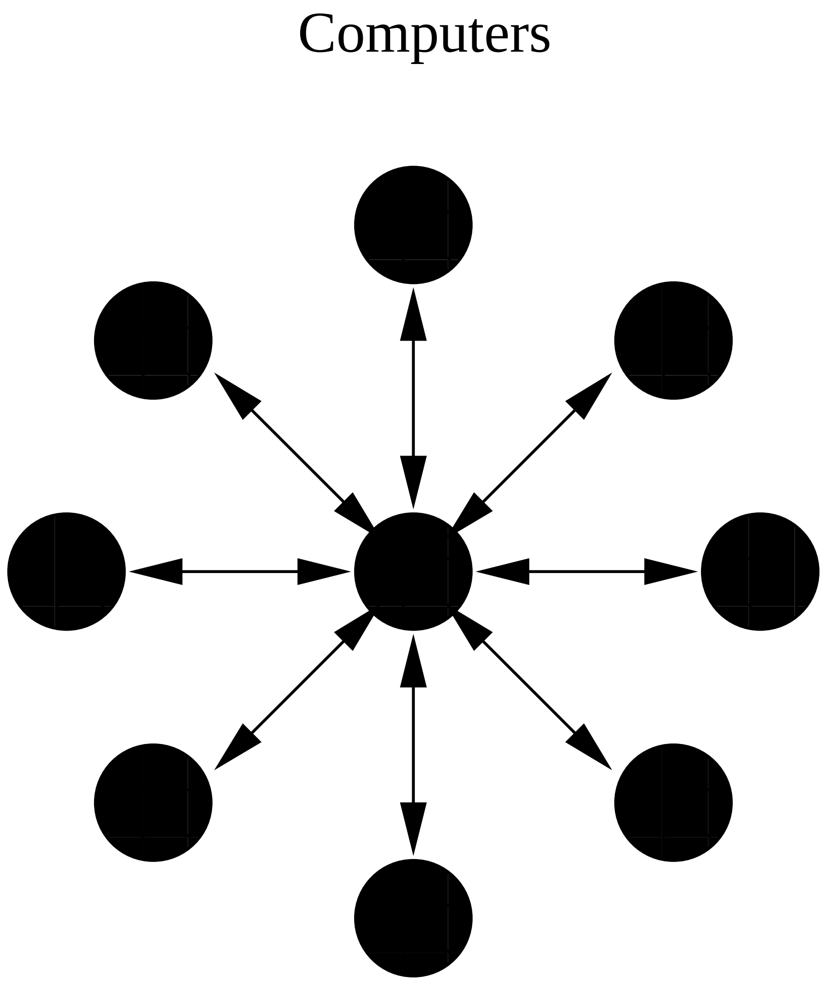


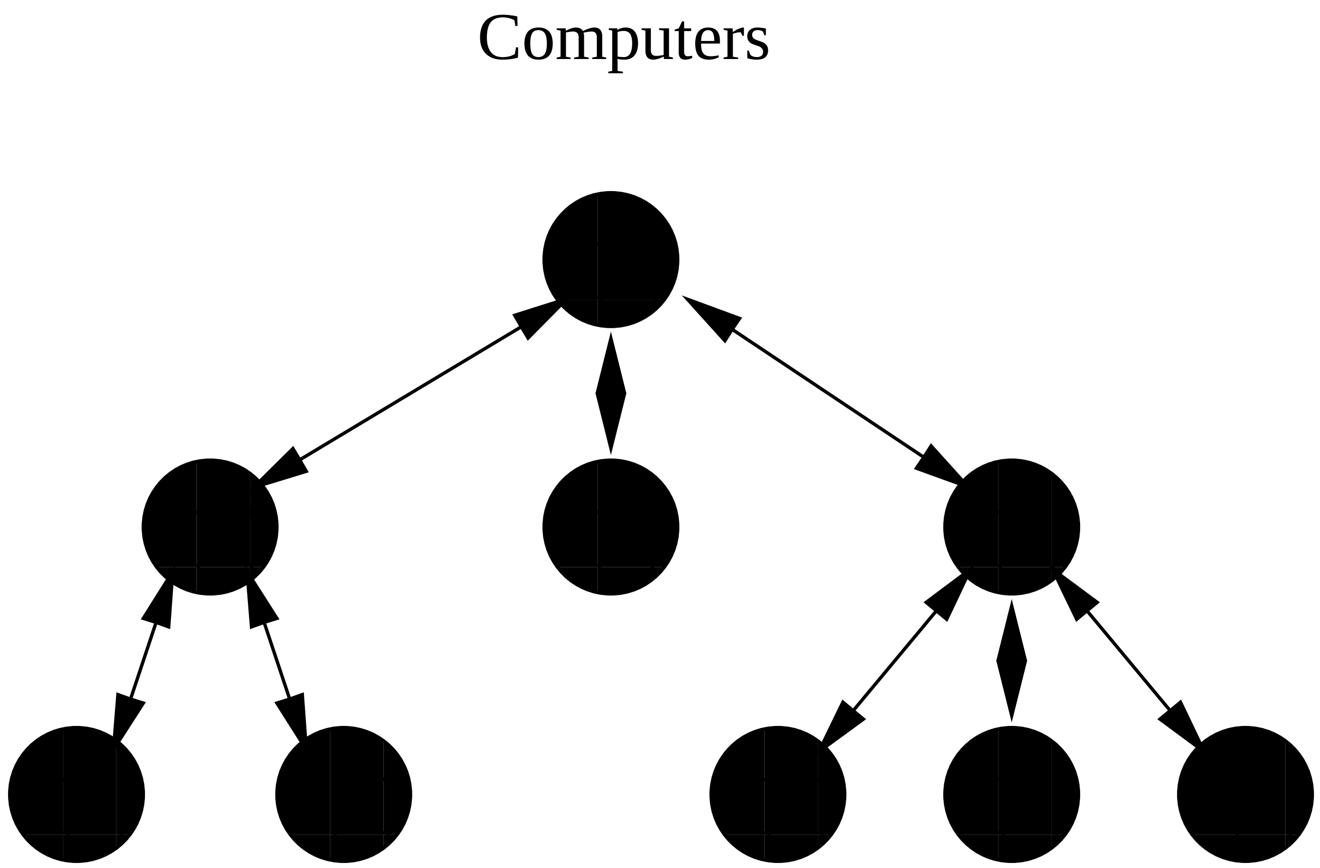
Multipeer channel using common medium



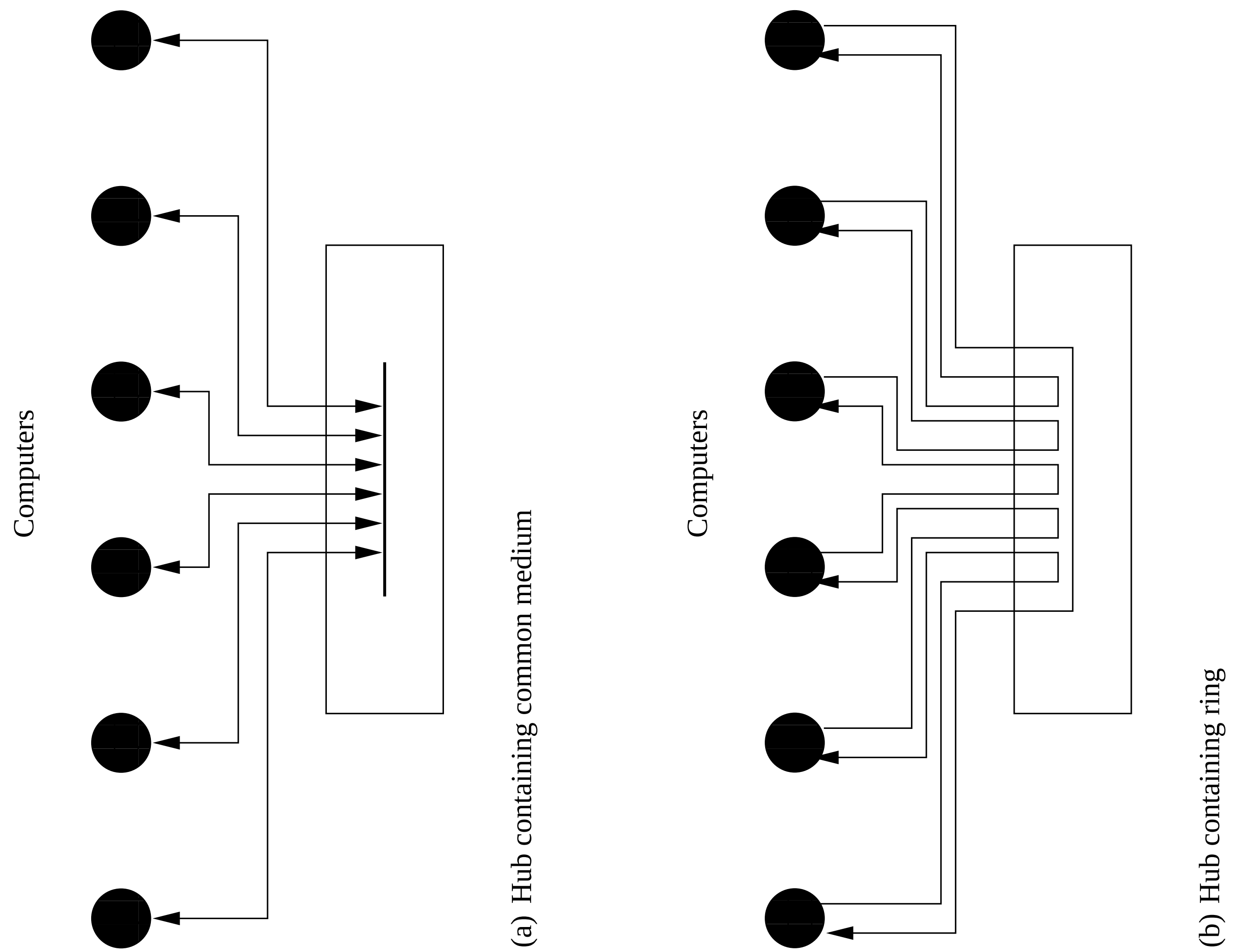
Multipeer channels using chain and ring arrangements



Multipeer channel using star arrangement



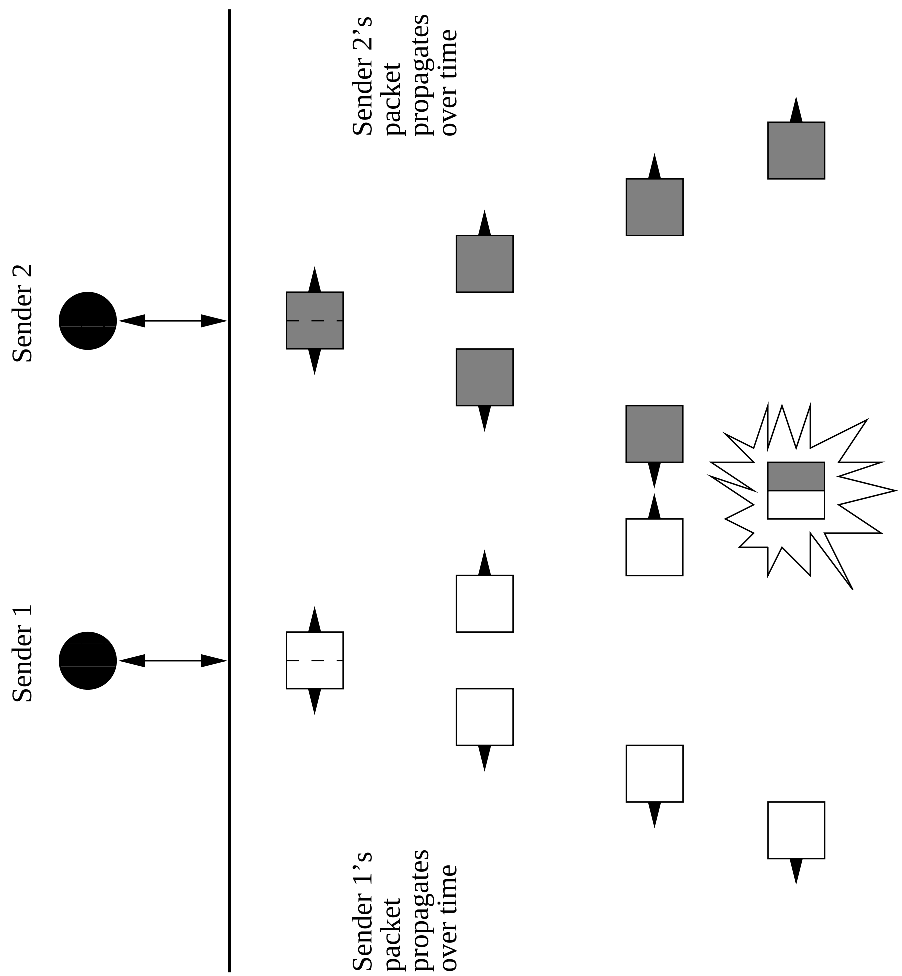
Multipeer channel using tree arrangement



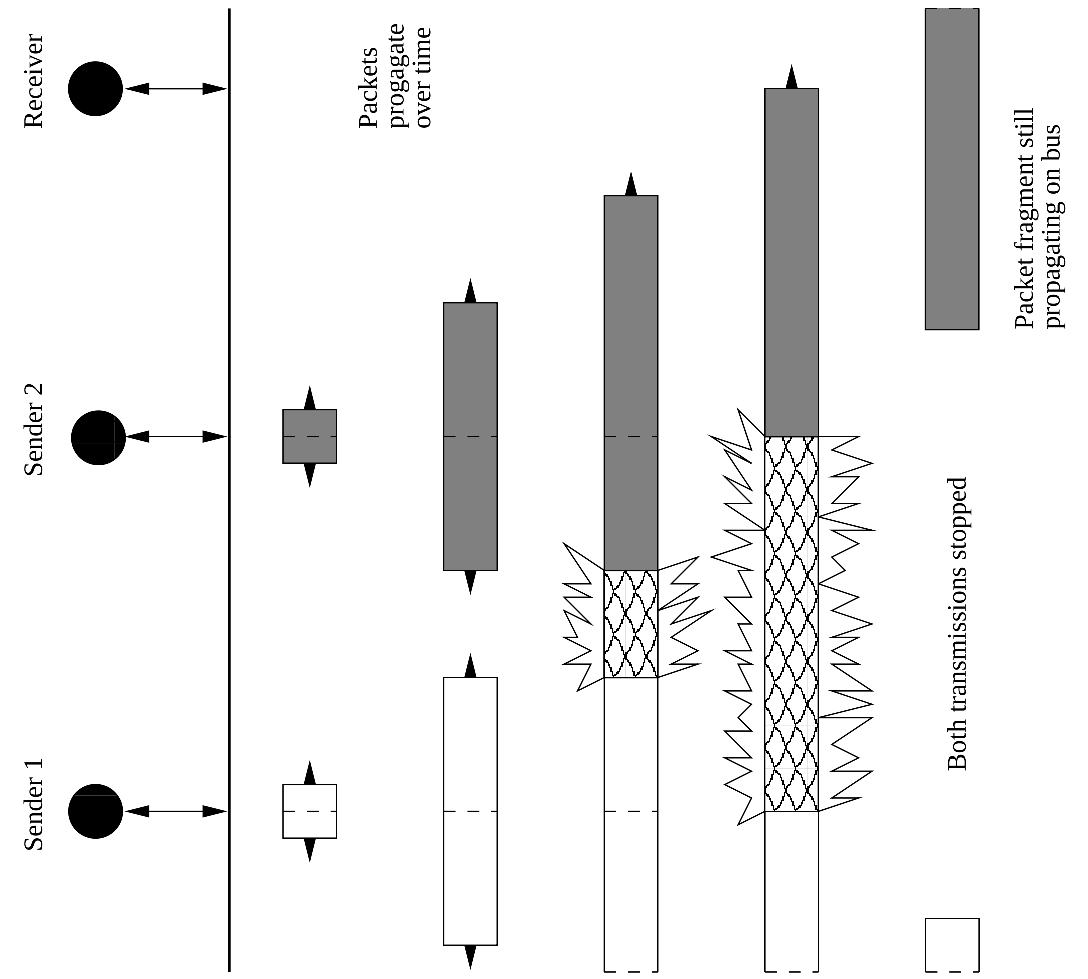
Hub arrangements for common medium and ring networks

Format of IEEE 802.3 ethernet message

Field	Size
Preamble pattern: **10101010** seven times	7 bytes
Start byte: **10101011**	1 byte
Destination identifier	2 or 6 bytes
Source identifier	2 or 6 bytes
Length	2 bytes
Information content within 1518-byte maximum message length	
Optional padding to ensure 64-byte minimum message length	
Cyclic redundancy code (using CRC-32)	4 bytes



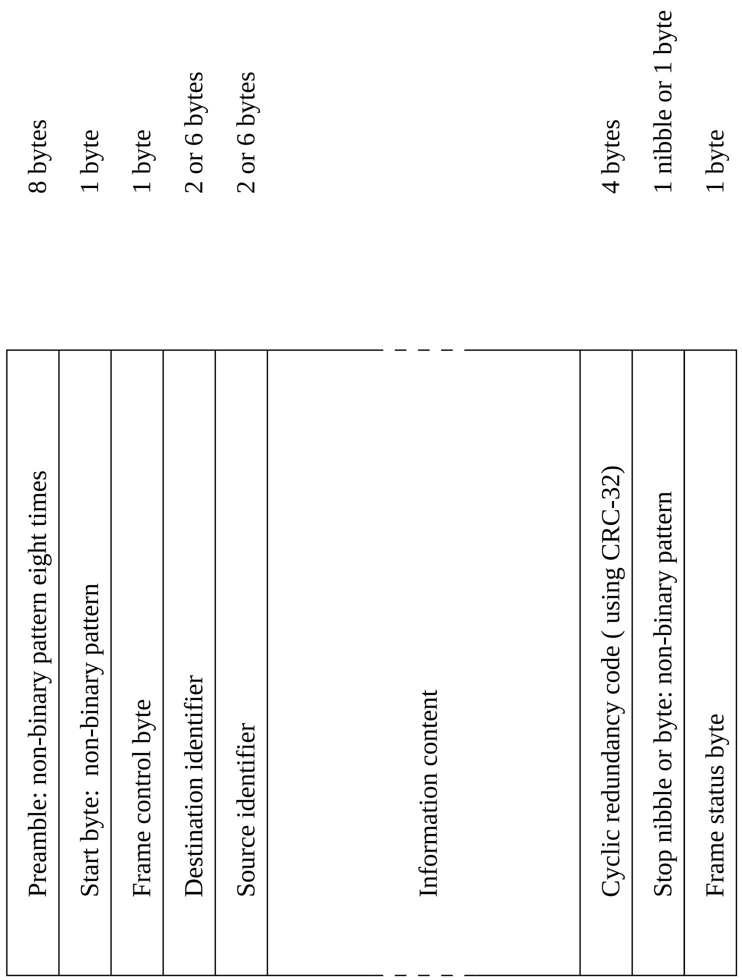
Ethernet collision invisible to transmitters



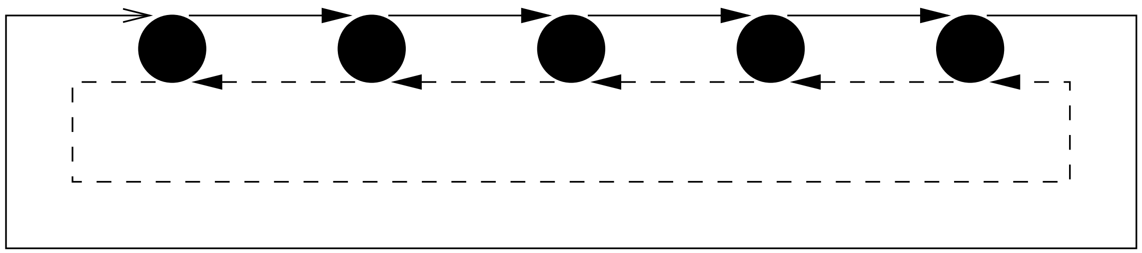
Ethernet collision invisible to a receiver

Format of IEEE 802.5 token ring message

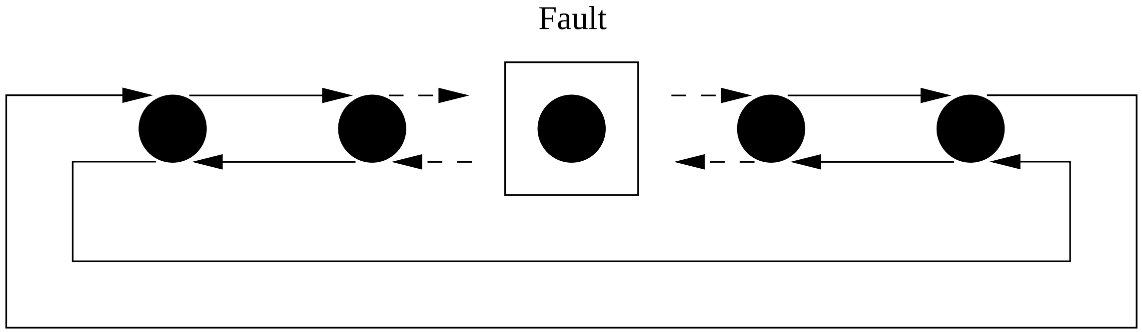
Field	Size
Start byte: non-binary pattern	1 byte
Access control byte	1 byte
Frame control byte	1 byte
Destination identifier	2 or 6 bytes
Source identifier	2 or 6 bytes
Information content	
Cyclic redundancy code (using CRC-32)	4 bytes
Stop byte: non-binary pattern	1 byte
Frame status byte	1 byte



Format of FDDI message



(a) Normal operation



(b) Operation to avoid fault

Single FDDI ring formed from dual ring channels

Preamble: non-binary pattern five times	5 nibbles
Cycle header	24 nibbles
Group 0	129 bytes
Group 1	129 bytes
	8 * 129 bytes
Group 10	129 bytes
Group 11	129 bytes

(a) Overall cycle format

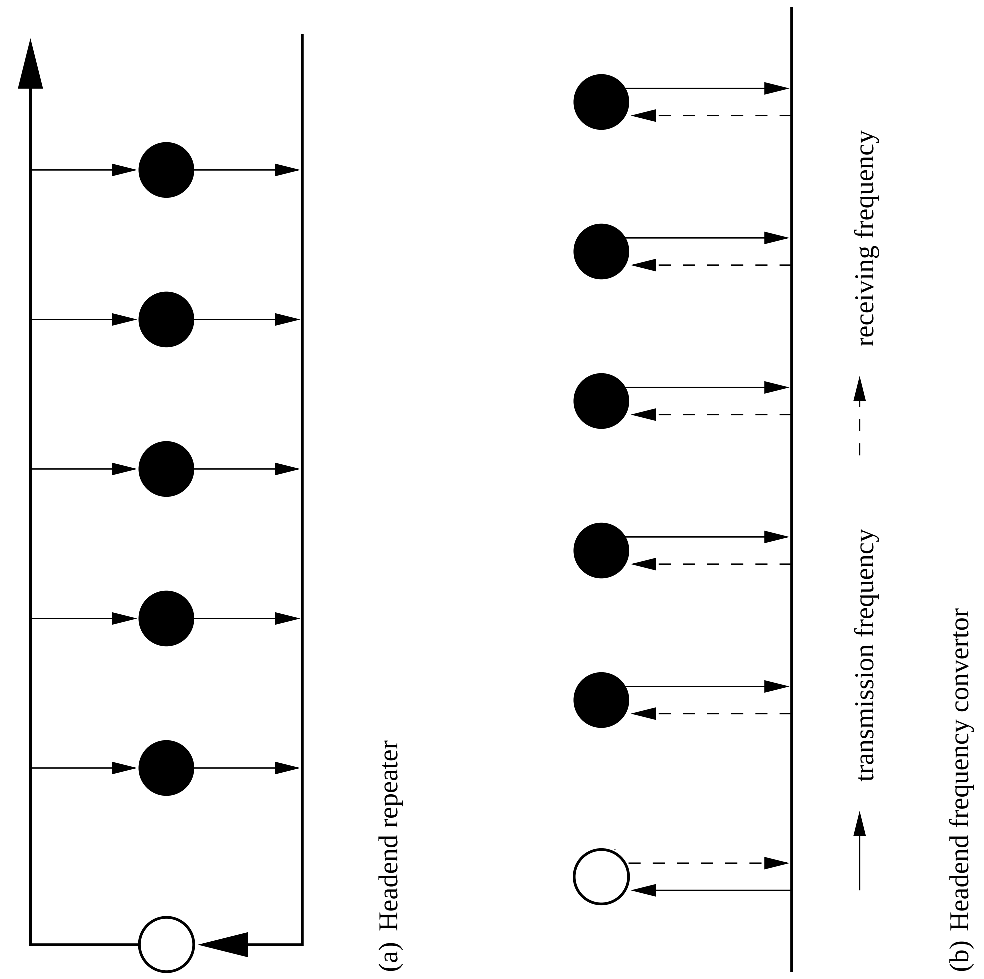
Dedicated packet byte	1 byte
Wideband channel 0	8 bytes
Wideband channel 1	8 bytes
	12 * 8 bytes
Wideband channel 14	8 bytes
Wideband channel 15	8 bytes

(b) Group format within cycle

Format of FDDI-II cycle

Preamble: **10101010** one or more times	1 or more bytes
Start byte: non-binary pattern	1 byte
Frame control byte	1 byte
Destination identifier	2 or 6 bytes
Source identifier	2 or 6 bytes
Information content	
Cyclic redundancy code (using CRC-32)	4 bytes
Stop byte: non-binary pattern	1 byte

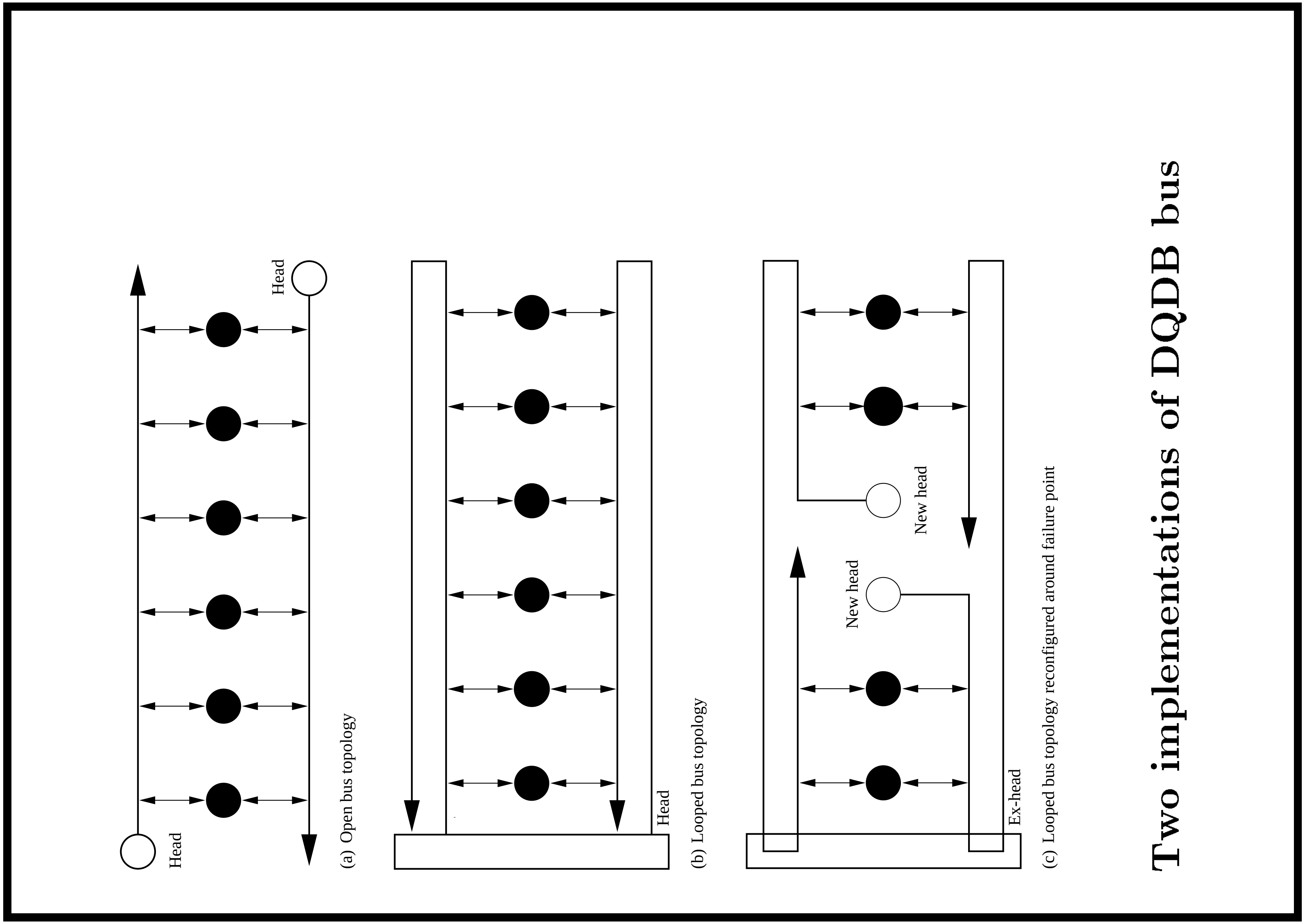
Format of IEEE 802.4 token bus message

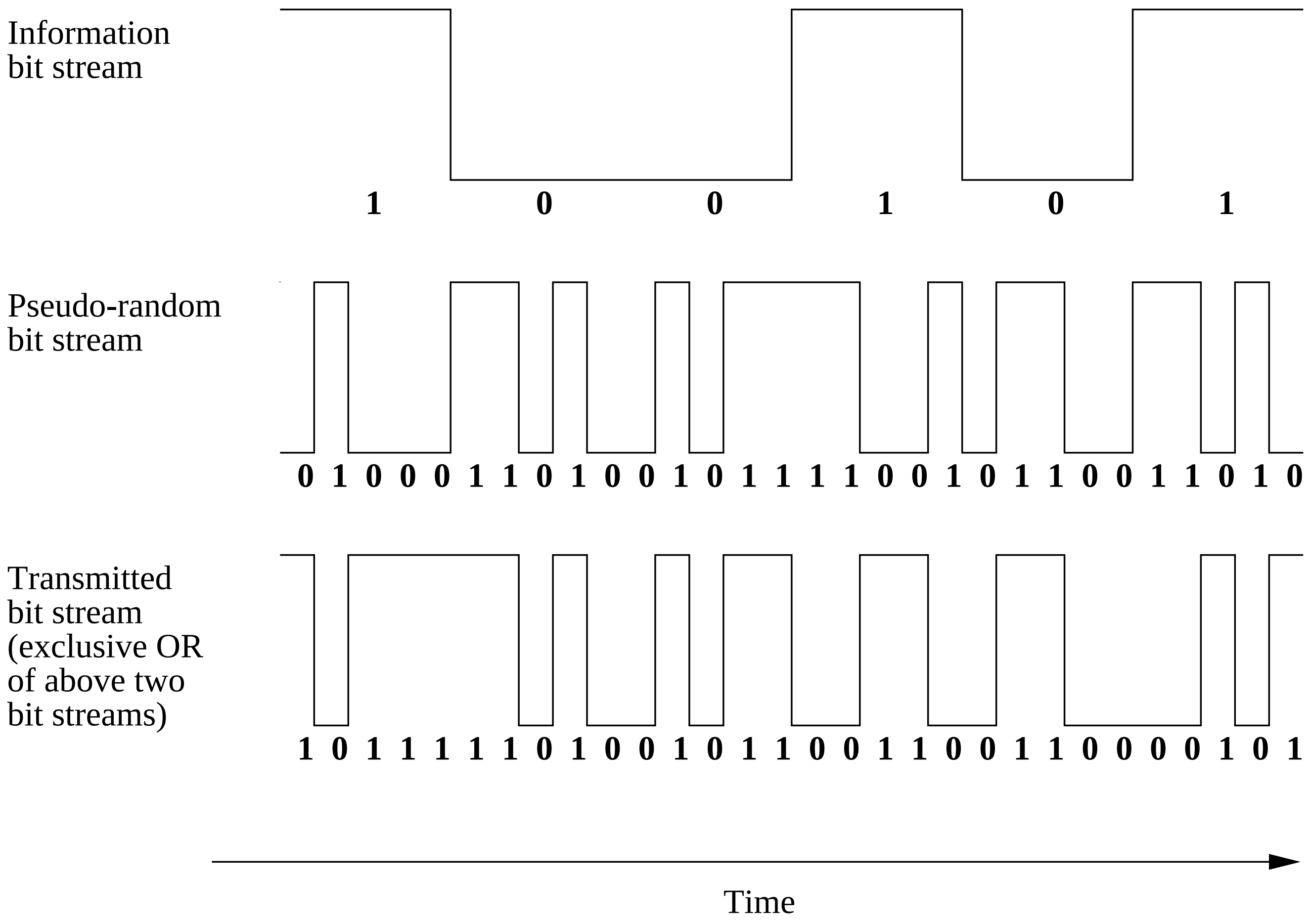


Two implementations of IEEE 802.4 bus

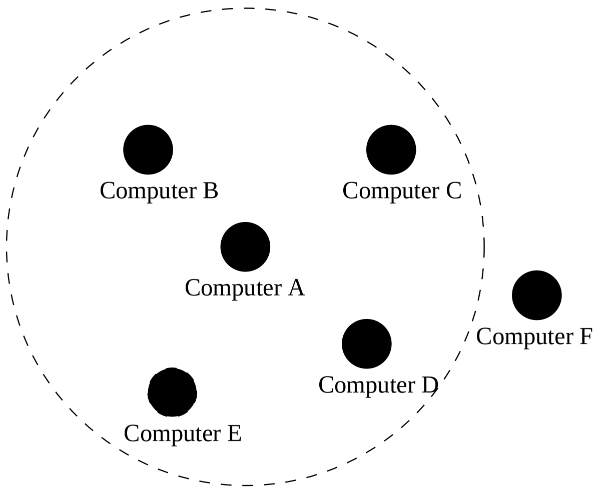
	Access control byte	1 byte
Segment header	Virtual channel identifier	20 bits
Segment header	Payload type field	2 bits
Segment header	Segment priority field	2 bits
Segment header	Segment header CRC (uses CRC-8)	1 byte
	Segment payload	48 bytes

Format of DQDB message

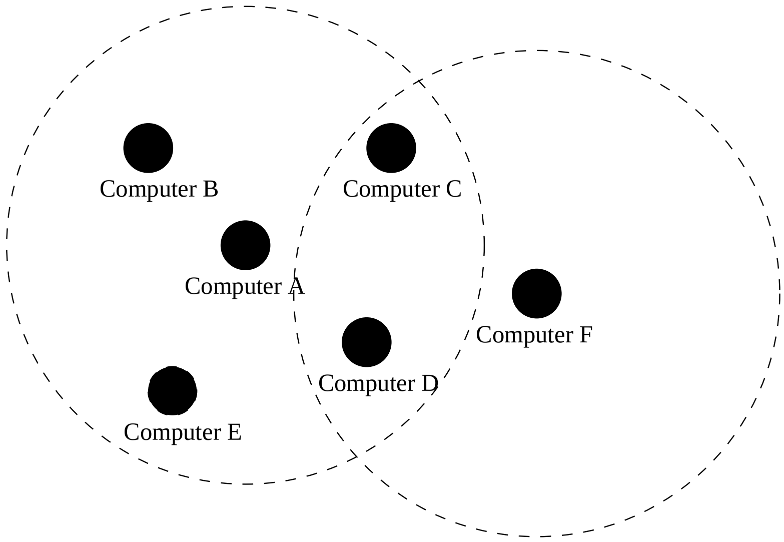

Head
Head
(a) Open bus topology
Head
(b) Looped bus topology
New head
New head
Ex-head
(c) Looped bus topology reconfigured around failure point
Two implementations of DQDB bus



Example of direct sequence spread spectrum transmission



(a) Computer A is heard by Computers B, C, D and E, but not F



(b) Computer F collides with A at Computers C and D

Hidden station problem in wireless network