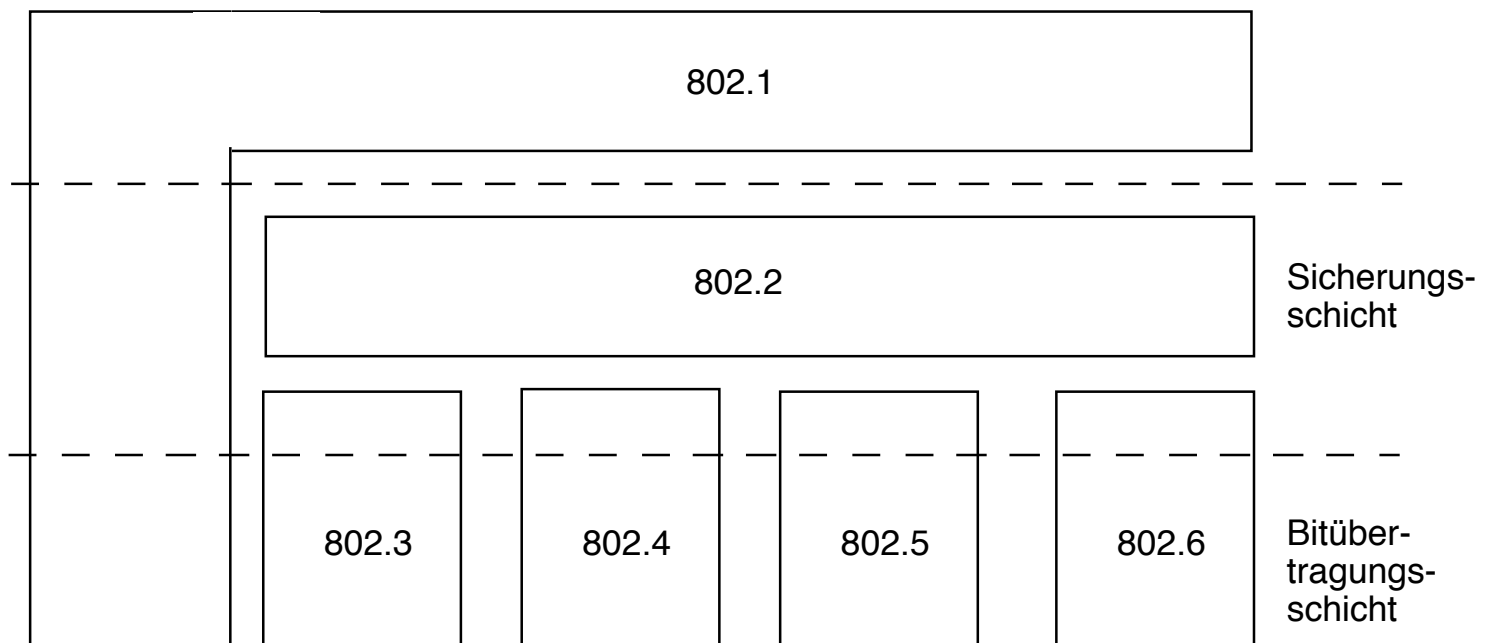


Überblick Zugriffsverfahren auf physikalische Übertragungsmedien

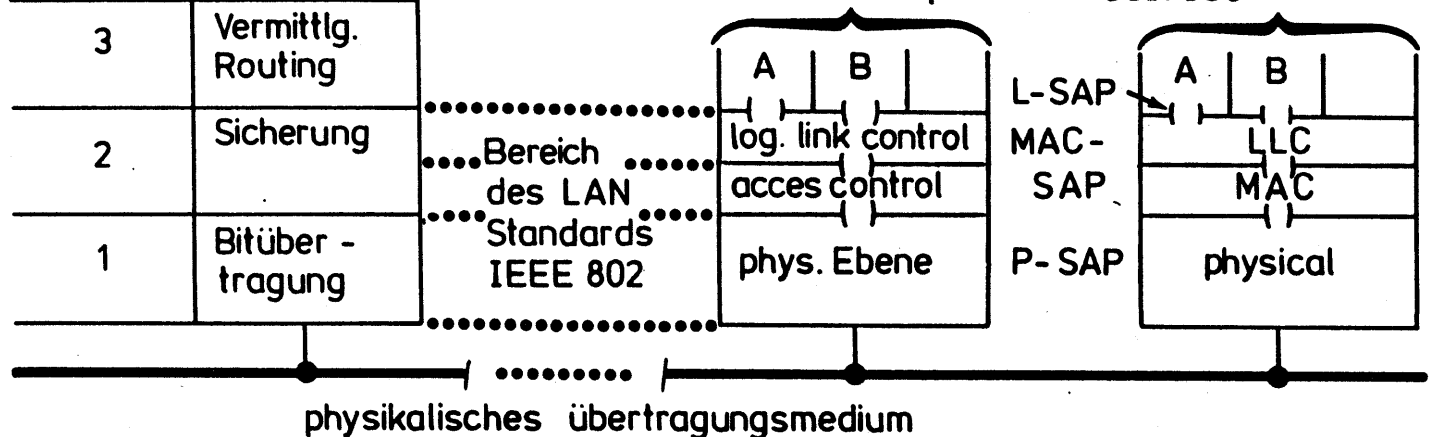


IEEE 802.1: HILI = Higher Layer Interfaces
 IEEE 802.2: LLC = Logical Link Control
 IEEE 802.3: CSMA / CD (Ethernet)
 IEEE 802.4: Token Bus (MAP)
 IEEE 802.5: Token Ring (TOP)
 IEEE 802.6: DQDB

Nummer ISO-Ebene

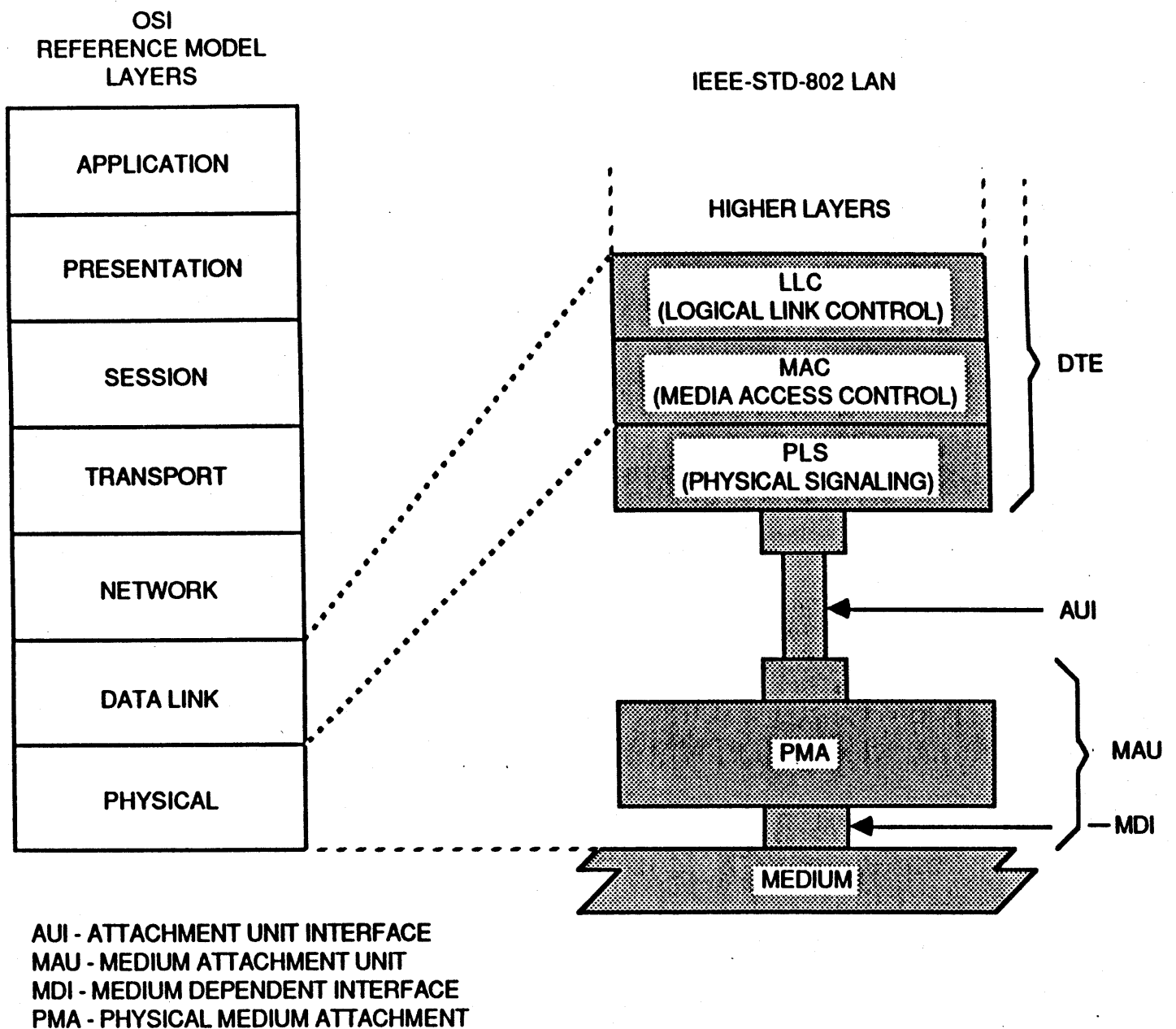
7	Anwendung
6	Darstellungs-St.
5	Sitzungssteuerung
4	Transport Steuerung
3	Vermittlg. Routing
2	Sicherung
1	Bitübertragung

IEEE LAN
 Referenz-Model
 Protokollschichten der höheren Ebenen
 entsprechend OSI/ISO



Oben: LAN / MAN Standards nach IEEE 802

Unten: IEEE 802 Protokolle in Bezug zu OSI-Schichten



Referenzmodell entsprechend IEEE 802 im Detail

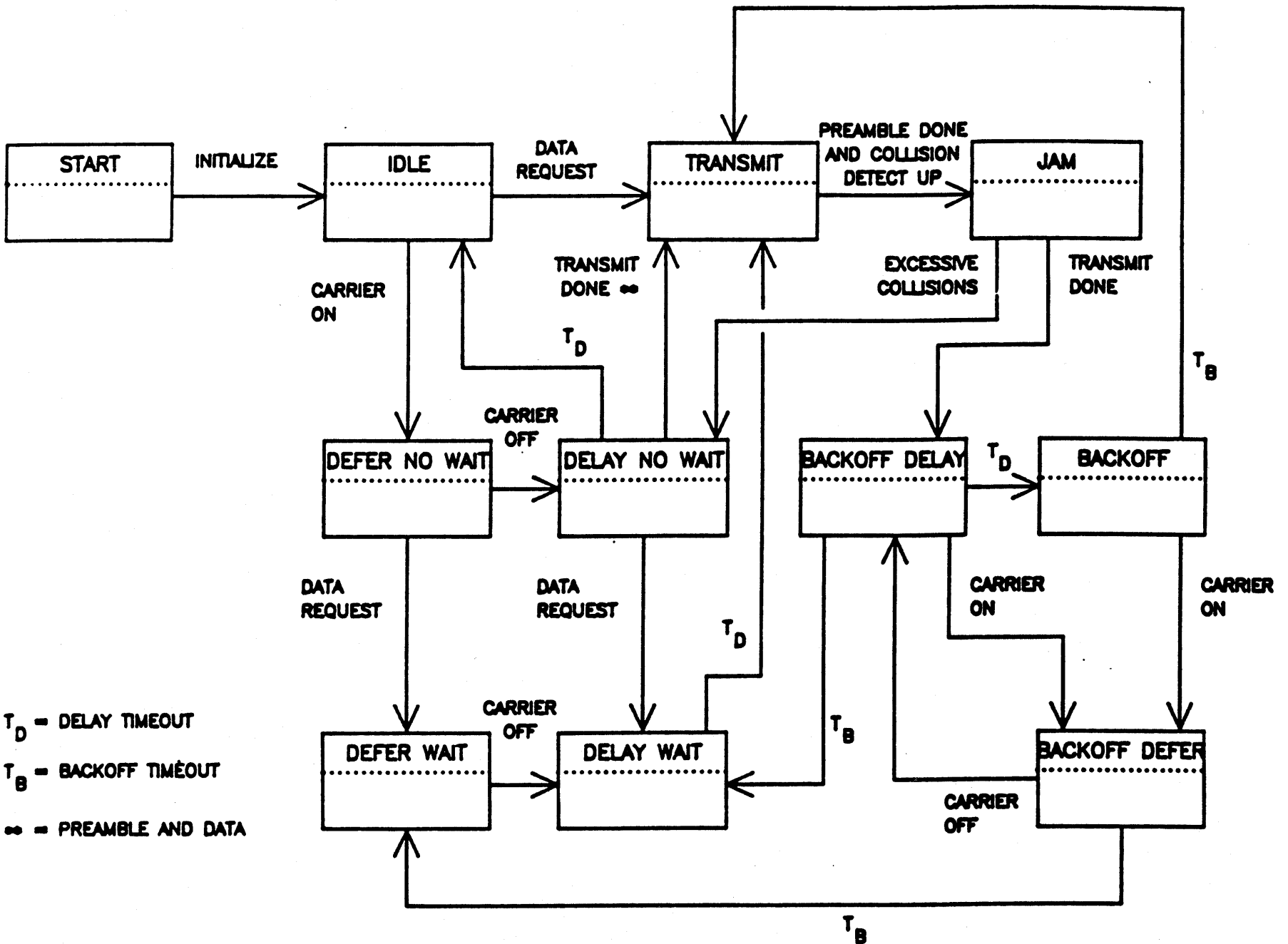
Current State	Event	Action	Next State
0. Start	Initialize	- Perform Initialization	Idle
1. Idle	Data Request	- Construct Frame - Start Frame Transmission	Transmit
	Carrier On	- No Action	Defer No Wait
2. Transmit	Preamble Done AND Collision Detect Up	- Start Jam Transmission - Increment Attempt Count	Jam
	Transmit Done	- Start Delay Timer - Reset Attempt Count - Indicate successful Transmission	Delay No Wait
3. Jam	Transmit Done	- Start Delay Timer - Start Backoff Timer	Backoff Delay
	Excessive Collisions	- Start Delay Timer - Indicate Transmit Excessive Collisions	Delay No Wait
4. Backoff	Carrier On Back off Timeout	- No Action - Start Frame Transmission	Backoff Defer Transmit
5. Backoff Defer	Carrier Off Backoff Timeout	- Start Delay Timer - No Action	Backoff Delay Defer Wait
6. Backoff Delay	Carrier On Delay Timeout Backoff Timeout	- Stop Delay Timer - No Action - No Action	Backoff Defer Backoff Delay Wait
7. Defer No Wait	Data Request Carrier Off	- Construct Frame - Start Delay Timer	Defer Wait Delay No Wait
8. Delay No Wait	Data Request Delay Timeout	- Construct Frame - No Action	Delay Wait Idle
9. Defer Wait	Carrier Off	- Start Delay Timer	Delay Wait
10. Delay Wait	Delay Timeout	- Start Frame Transmission	Transmit

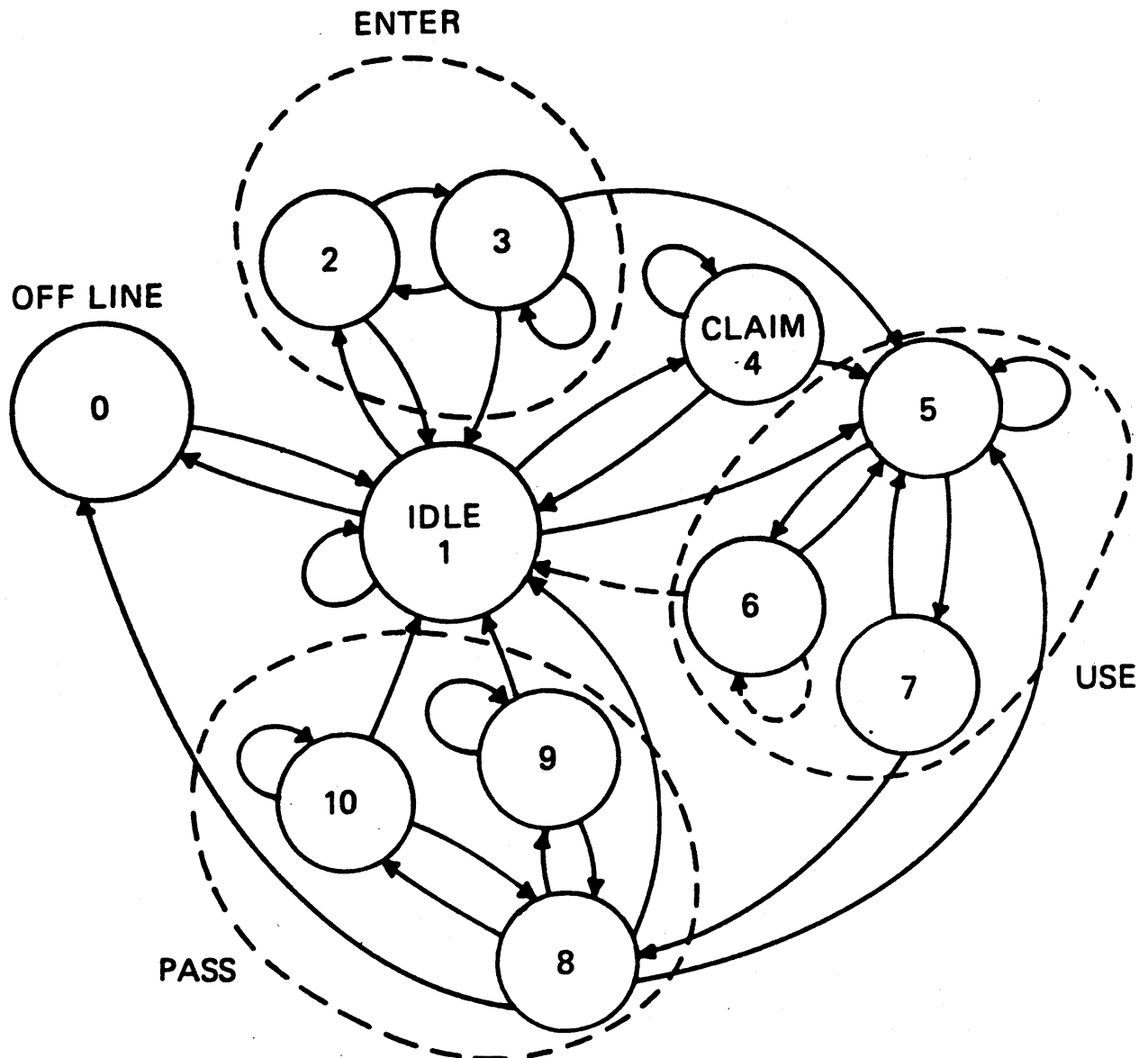
IEEE 802.3:

Zustände, Ereignisse, Aktionen und nächster Zustand

Zustandsdiagramm der Sendefunktion

IEEE 802.3:





0 – OFFLINE
 1 – IDLE
 2 – DEMAND_IN
 3 – DEMAND_DELAY
 4 – CLAIM_TOKEN
 5 – USE_TOKEN

6 – AWAIT_IFM_RESPONSE
 7 – CHECK_ACCESS_CLASS
 8 – PASS_TOKEN
 9 – CHECK_TOKEN_PASS
 10 – AWAIT_RESPONSE

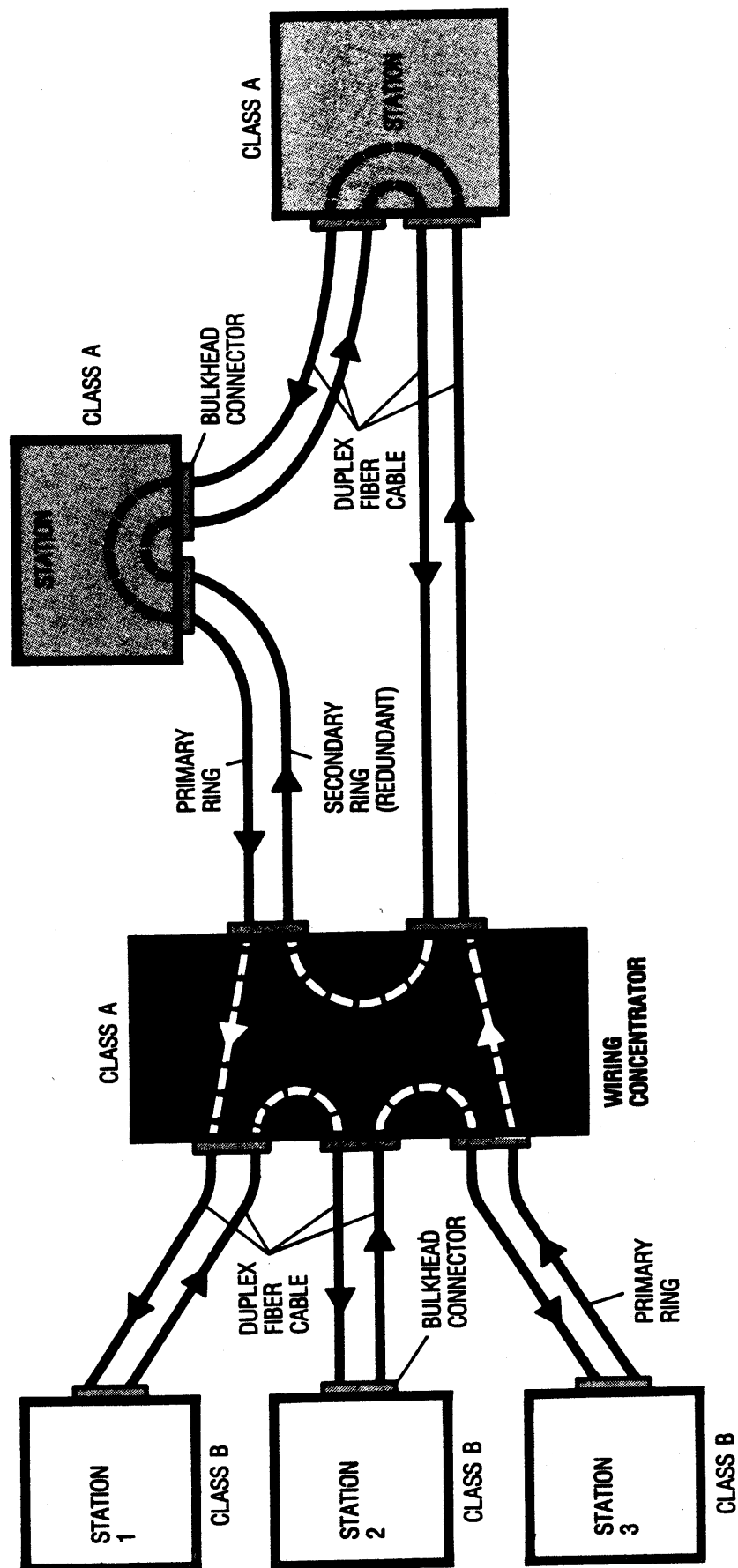
IEEE 802.4:

Zustandsdiagramm der MAC-Schicht

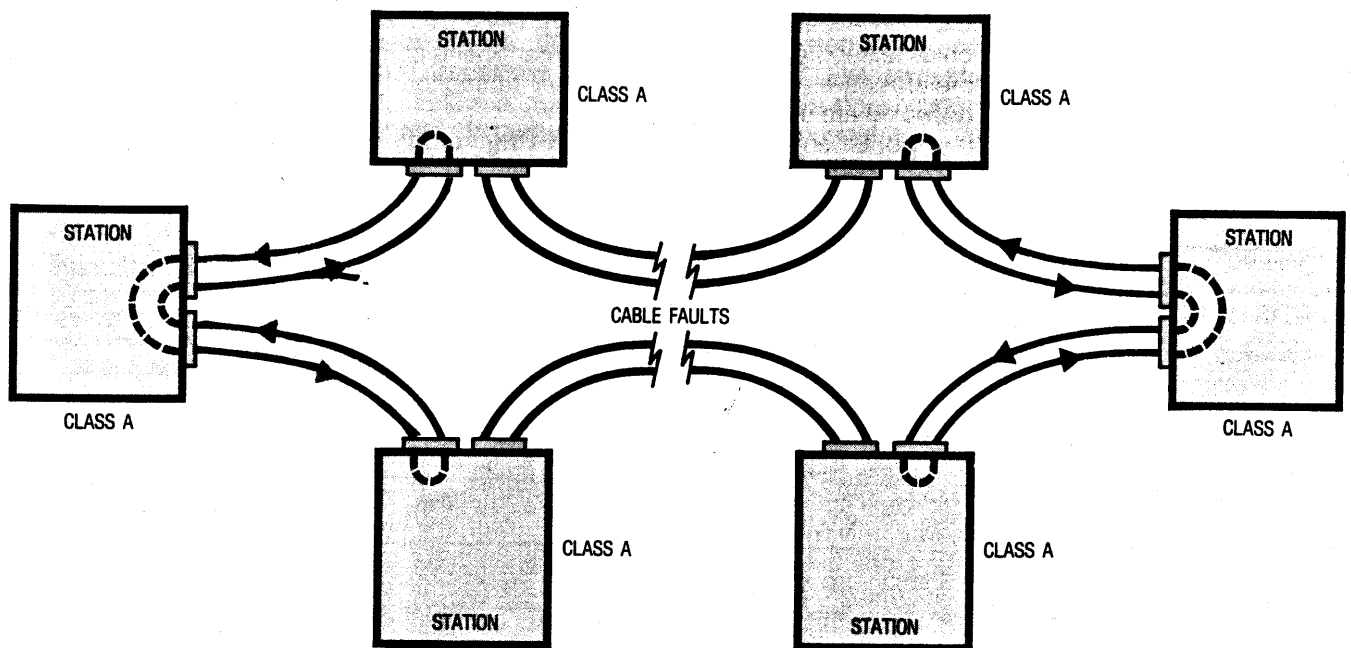
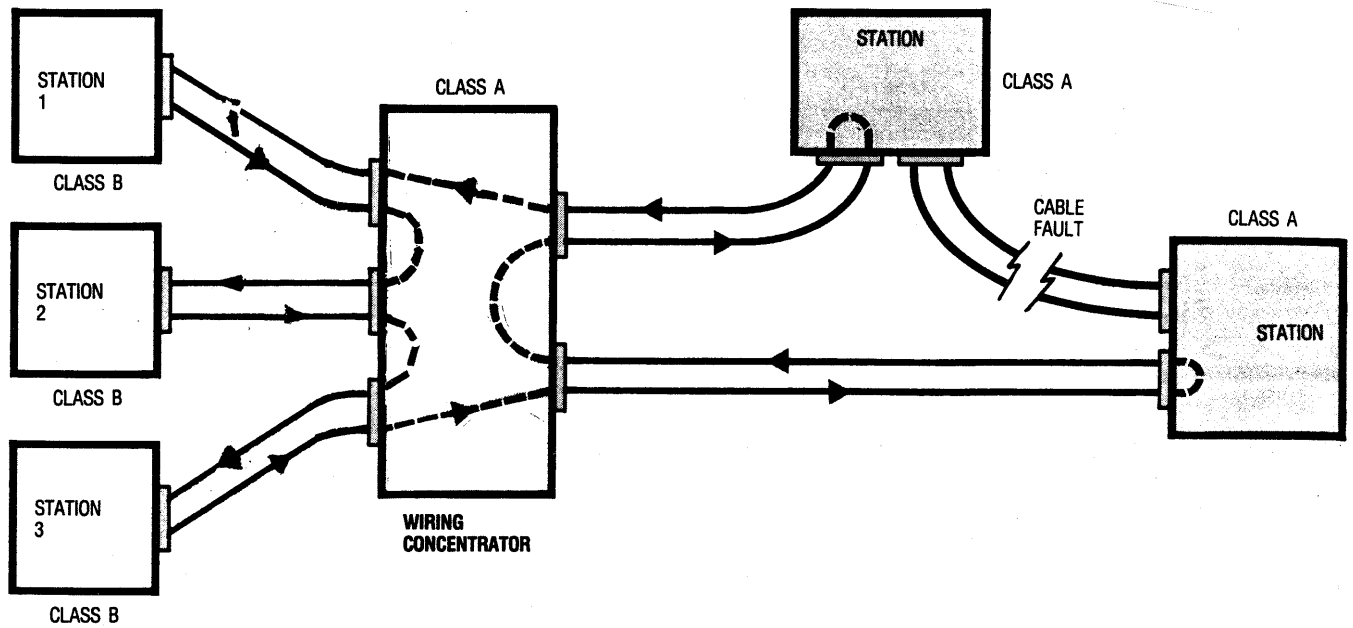
STATE	DESCRIPTION
0	UNPOWERED: Virtual state prior to power-up.
1	IDLE: Node is listening to medium and is not transmitting.
2	DEMAND IN: Node is observing medium for evidence of other contending nodes before bidding to succeed the token-holding node.
3	DEMAND DELAY: Having sent a request to enter the ring to the station holding the token, the node waits, listening for a response.
4	CLAIM TOKEN: Node is attempting to initialize or reinitialize the logical ring by sending claim-token frames.
5	ACCEPT TOKEN: Having just received or claimed a token, node is considering removing itself from the logical ring before using the token.
6	USE TOKEN: Node is sending data for its logical link layer.
7	CHECK SERVICE CLASS: Node is controlling the transmission of frames for different service classes or priorities.
8	PASS TOKEN: Node is attempting to pass the token to its successor and/or to solicit a successor.
9	CHECK TOKEN PASS: Node is waiting for a reaction from the node to which it has just passed the token.
10	AWAIT RESPONSE: Node is attempting to sequence candidate successors—by means of a distributed contention resolution algorithm—until it receives a next-node frame from one of them or determines that no successor is going to appear.

IEEE 802.4:

Bedeutung der Zustände im Zustandsdiagramm der MAC-Schicht



Prinzipieller Aufbau eines FDDI - Systems



Zur Fehlertoleranz des FDDI Systems

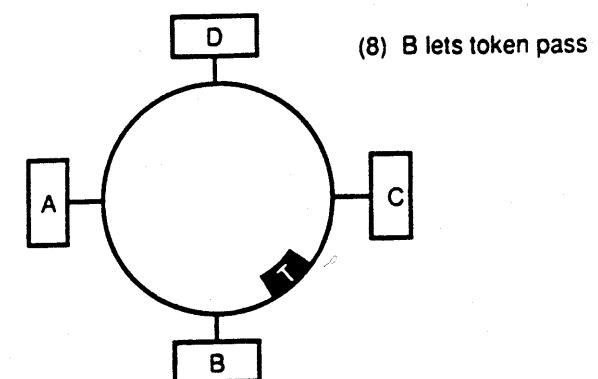
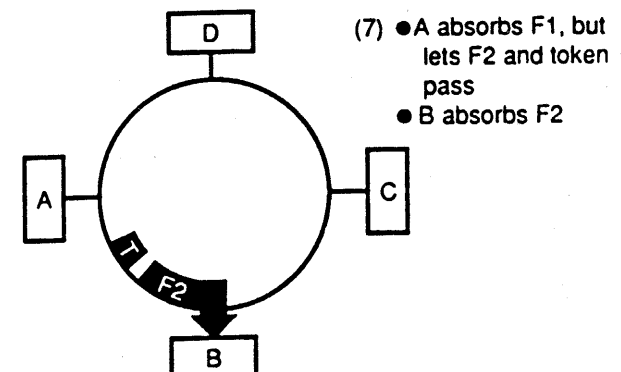
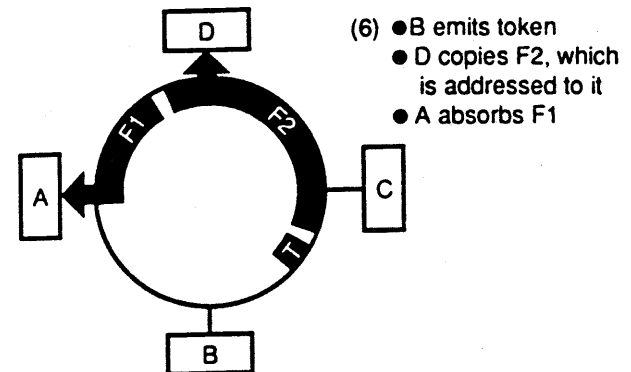
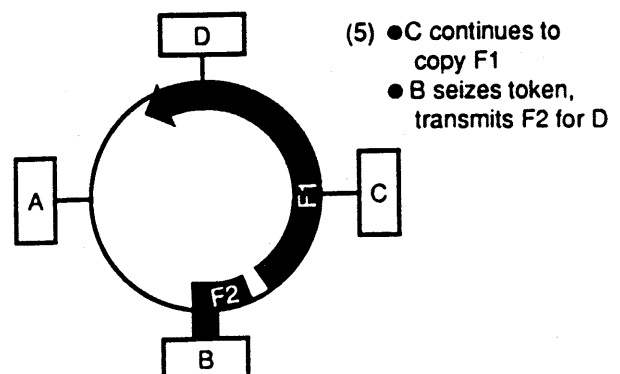
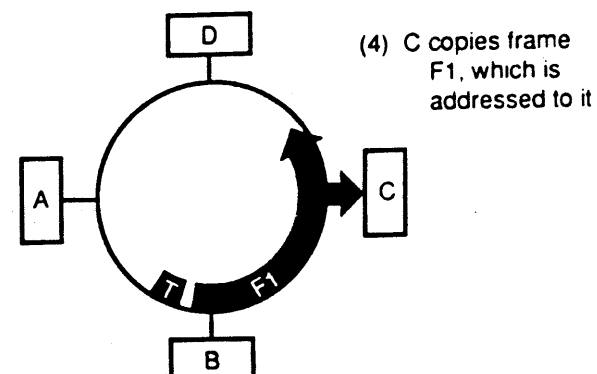
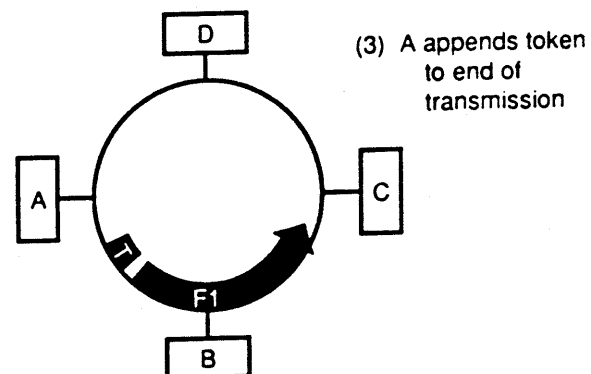
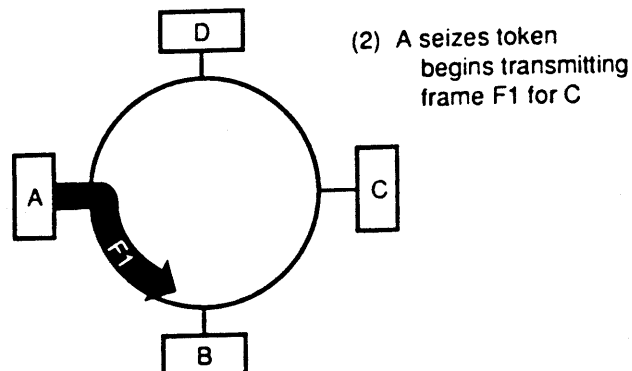
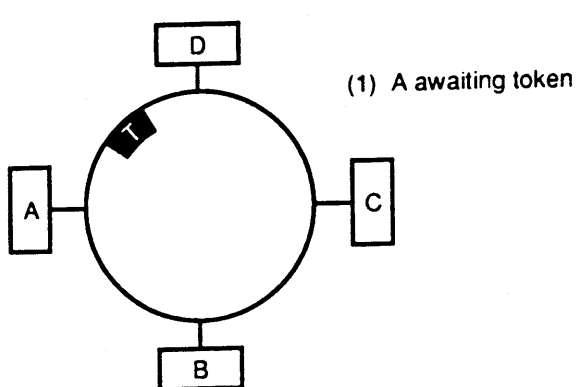
Q	00000	QUIET
I	11111	IDLE
H	00100	HALT (FORCED BREAK)
J	11000	1ST OF SEQUENTIAL SD PAIR
K	10001	2ND OF SEQUENTIAL SD PAIR

		HEX	BINARY
0	11110	0	0000
1	01001	1	0001
2	10100	2	0010
3	10101	3	0011
4	01010	4	0100
5	01011	5	0101
6	01110	6	0110
7	01111	7	0111
8	10010	8	1000
9	10011	9	1001
A	10110	A	1010
B	10111	B	1011
C	11010	C	1100
D	11011	D	1101
E	11100	E	1110
F	11101	F	1111
T	01101	ENDING DELIMITER (USED TO TERMINATE DATA STEAM)	
R	00111	DENOTING LOGICAL ZERO (RESET)	
S	11001	DENOTING LOGICAL ONE (SET)	

V	00001	NOTE: THESE CODE PATTERNS ARE INVALID BECAUSE THEY ALLOW MORE THAN THREE CONSECUTIVE ZEROS IN A ROW.
V	00010	
V	00011	
V	00101	
V	00110	
V	01000	
V	01100	
V	10000	

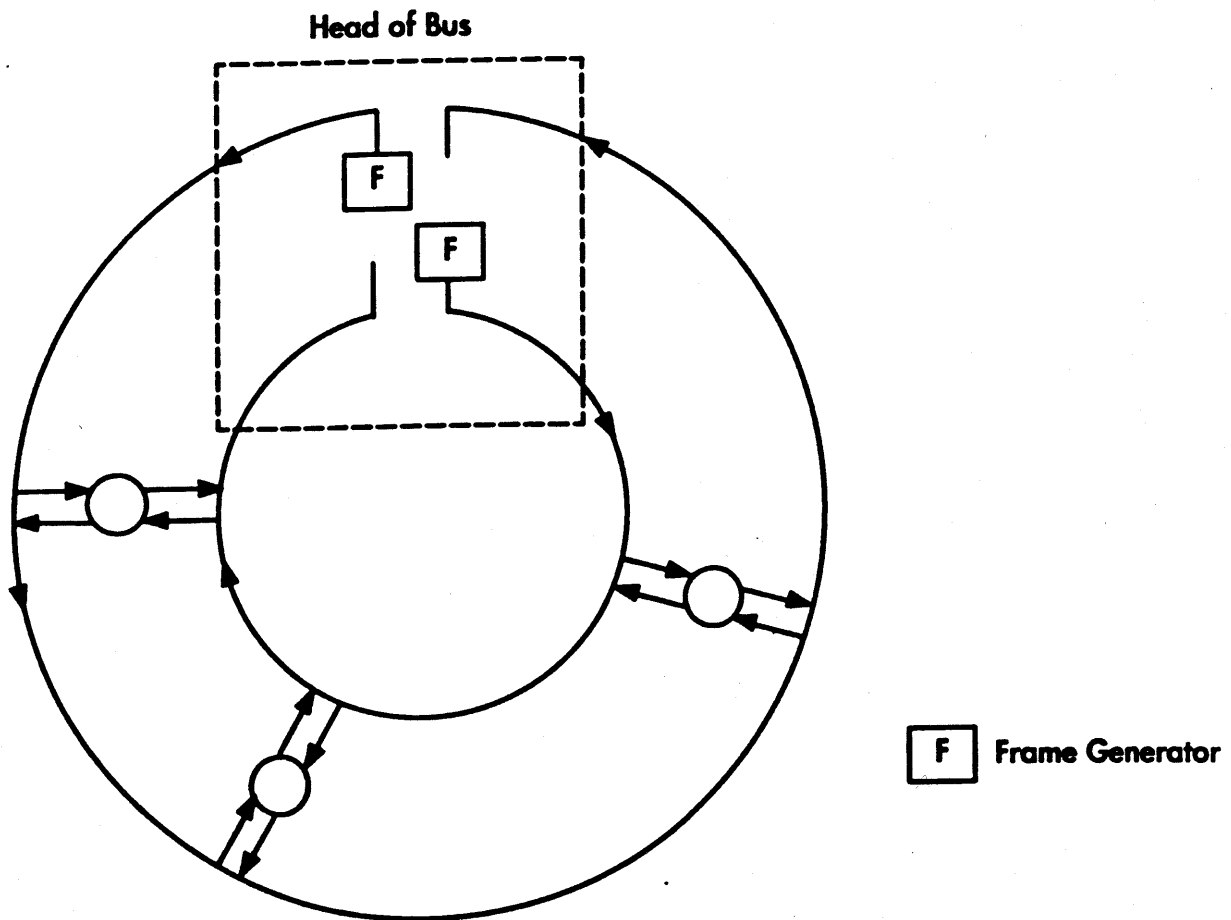
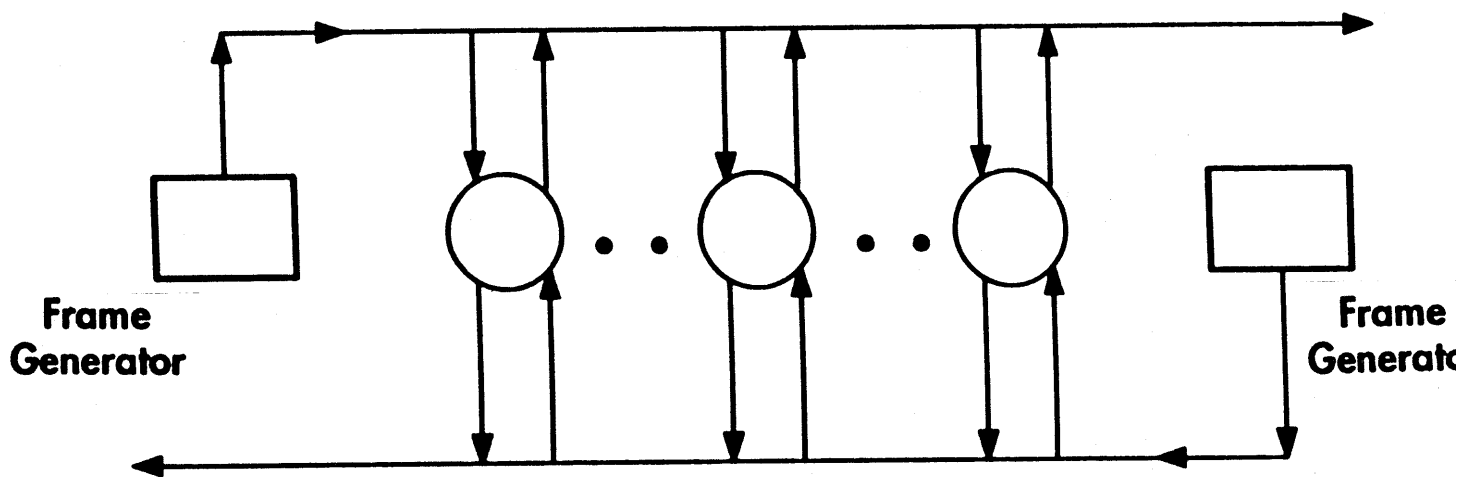
4B / 5B Kodierung

für Basisbandübertragung bei FDDI



FDDI:

Übertragung von Datenpaketen und Token



Zur Arbeitsweise des DQDB MANs