

FIGURE 6.4 Example of a sliding-window protocol.

Flag	Address	Control	Information	FCS	Flag		
8	8n	8 or 16	Variable	16 or 32	8		
(a) HDLC, LAPB							
Flag	Address	Control	Information	FCS	Flag		
8	16	16*	Variable	16	8		
(b) LAPD							
MAC control	Dest. MAC address	Source MAC address	DSAP	SSAP	LLC control	Information	FCS
Variable	16 or 48	16 or 48	8	8	16*	Variable	32
(c) LLC/MAC							
Flag	Address	Control	Information	FCS	Flag		
8	16 or 32	16*	Variable	16 or 32	8		
(d) LAPP (control)							
Flag	Address	Information	FCS	Flag			
8	16 to 32	Variable	16	8			
(e) LAPP (core)							
General flow control	Virtual path identifier	Virtual channel identifier	Control bits	Header error control	Information		
4	8	16	4	8	384		
(f) ATM							

* = 16-bit control field (7 bit sequence numbers) for I- and S-frames; 8 bit for U-frames.

FIGURE 6.13 Data link control frame formats.

Tab.8.4 Supervisory commands of HDLC

Symbol	C -field								Function
	1	2	3	4	5	6	7	8	
RR	1	0	0	0	P/F	N(R)			Receive ready
REJ	1	0	0	1	P/F	N(R)			Reject
RNR	1	0	1	0	P/F	N(R)			Receive not ready
SREJ	1	0	1	1	P/F	N(R)			Selective reject

Tab.8.5 Unnumbered commands of HDLC

Symbol	C -field								Function
	1	2	3	4	5	6	7	8	
SARM	1	1	1	1	P	0	0	0	Set asynchronous response mode
SNRM	1	1	0	0	P	0	0	1	Set normal response mode
SABM	1	1	1	1	P	1	0	0	Set asynchronous balanced mode
SARME	1	1	1	1	P	0	1	0	Set asynchronous response mode extended
SNRME	1	1	1	1	P	0	1	1	Set normal response mode extended
SABME	1	1	1	1	P	1	1	0	Set asynchronous balanced mode extended
DISC	1	1	0	0	P	0	1	0	Disconnect
SIM	1	1	1	0	P	0	0	0	Set initialization mode
UP	1	1	0	0	P	1	0	0	Unnumbered poll
UI	1	1	0	0	P	0	0	0	Unnumbered information
XID	1	1	1	1	P	1	0	1	Exchange identification
RSET	1	1	1	1	P	0	0	1	Reset

Tab.8.6 Unnumbered responses of the HDLC

Symbol	C -field								Function
	1	2	3	4	5	6	7	8	
UA	1	1	0	0	F	1	1	0	Unnumbered acknowledgement
CMDR	1	1	1	0	F	0	0	1	Command reject
DM	1	1	1	1	F	0	0	0	Disconnected mode
RD	1	1	0	0	F	0	1	0	Request disconnect
RIM	1	1	1	0	F	0	0	0	Request initialization mode
UI	1	1	0	0	F	0	0	0	Unnumbered information
XID	1	1	1	1	F	1	0	1	Exchange identification

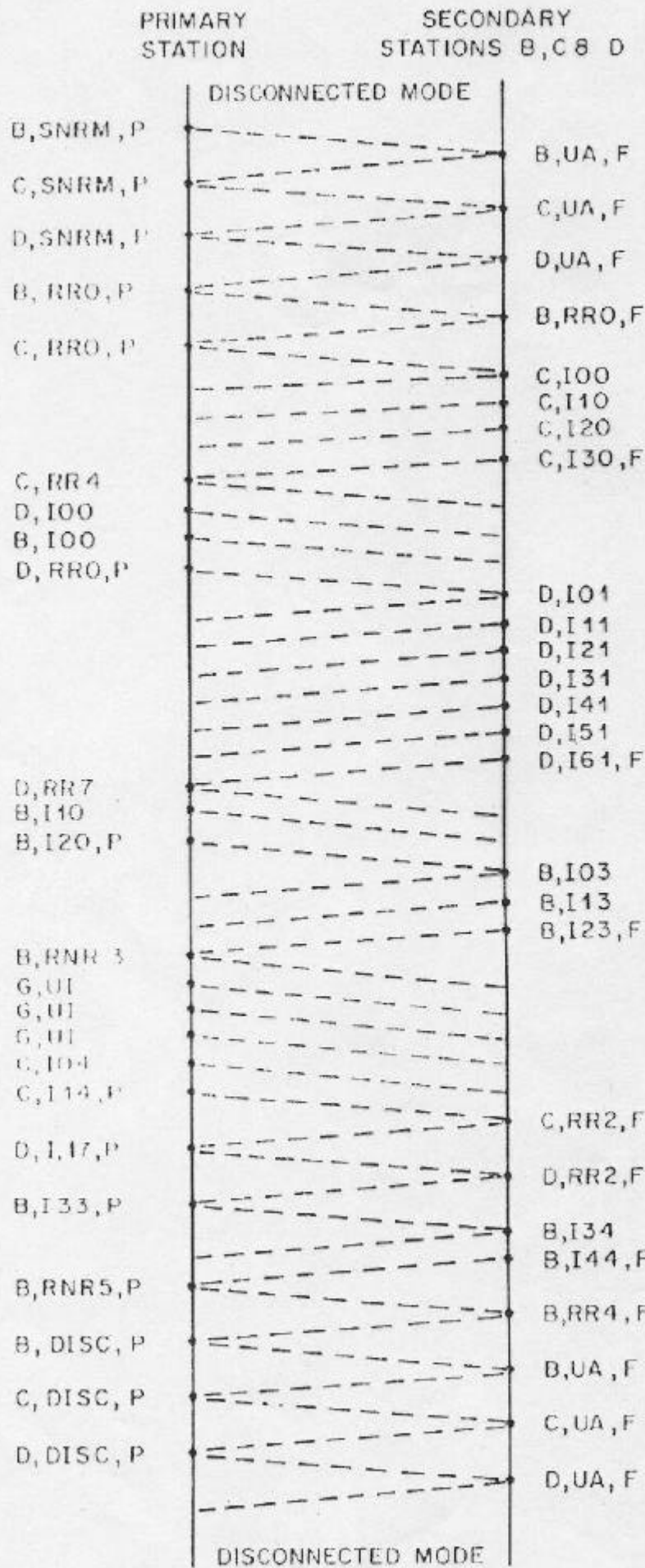


Fig. 3. Class HDLC 3.4 - example of error-free operation

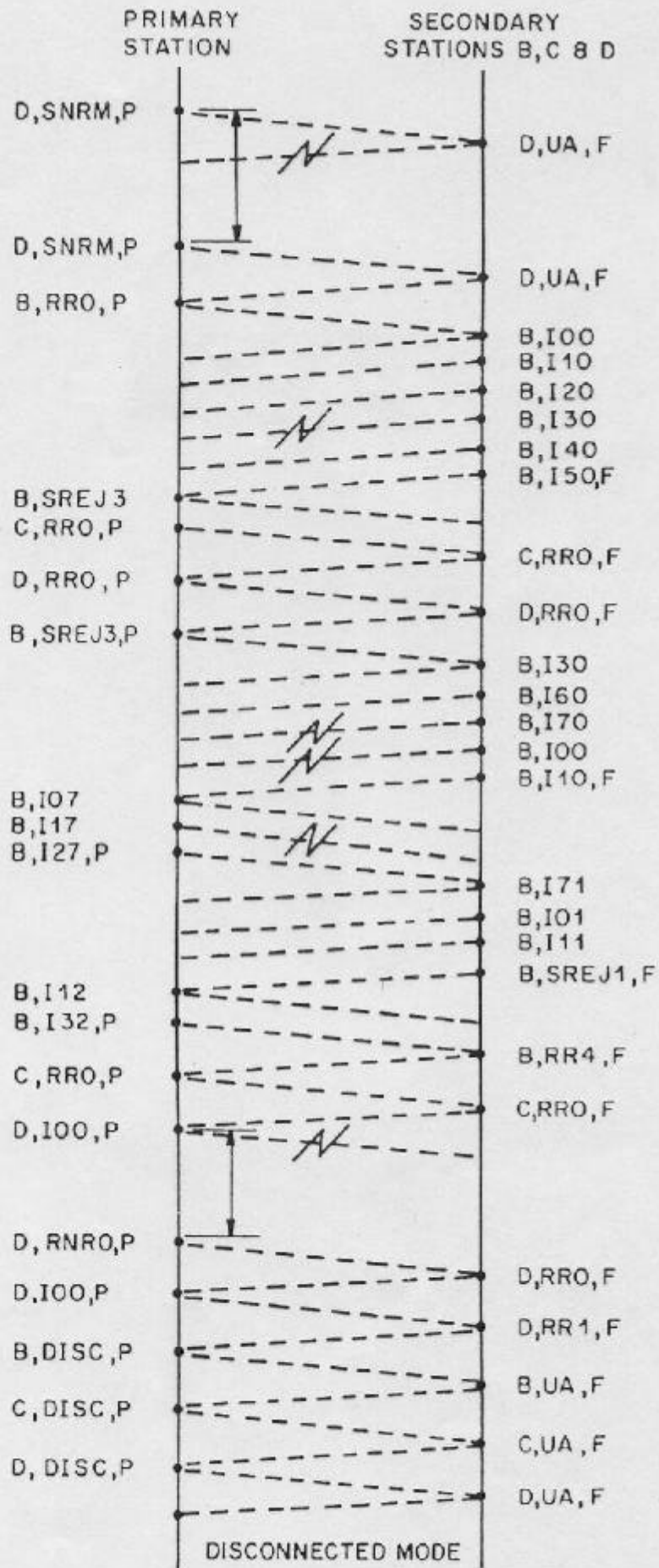


Fig. 4. Class UNC,3,4—examples of recovery procedures.

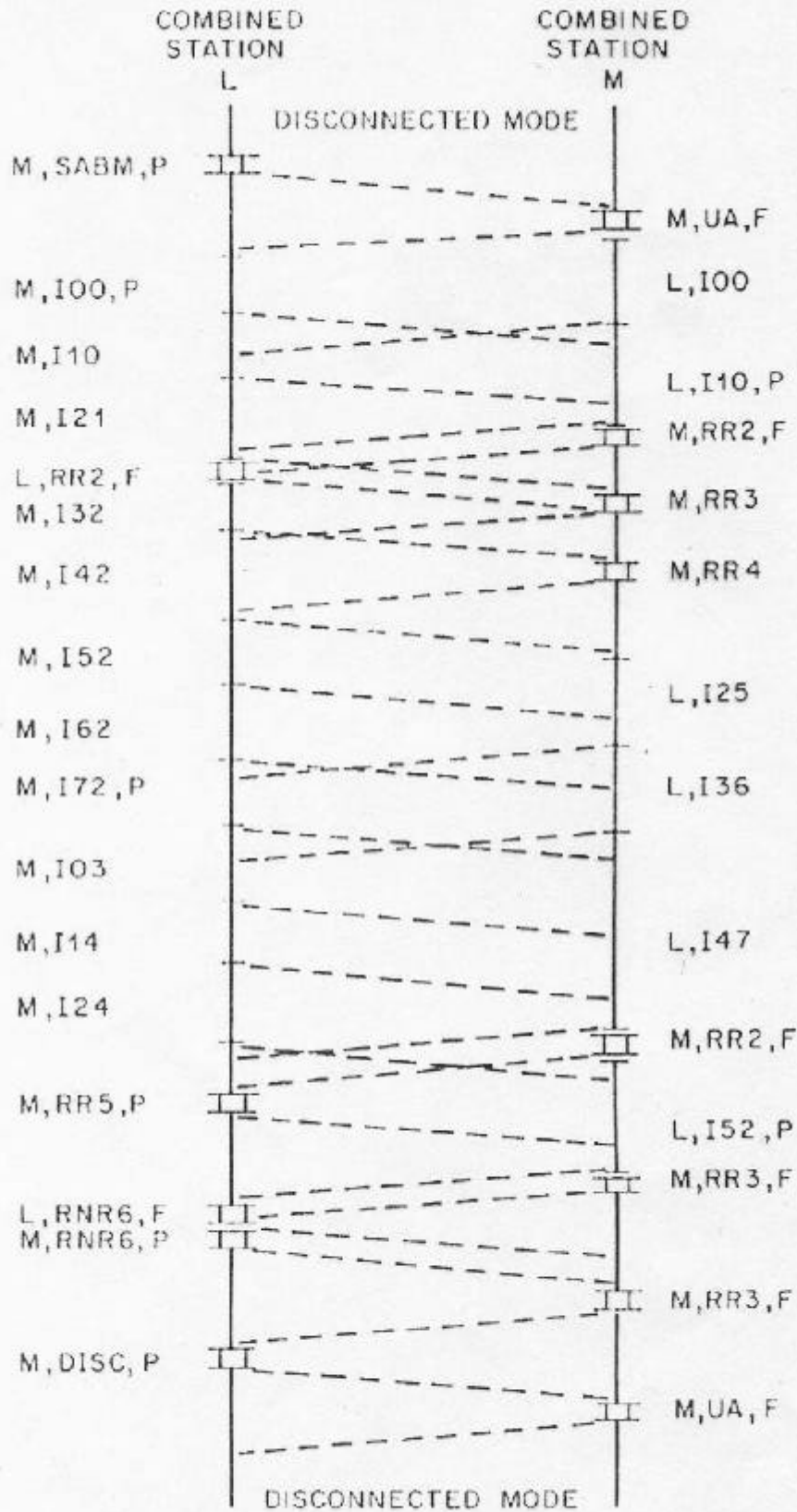


Fig. 5. Class BAC.2.8 examples of error-free operation.

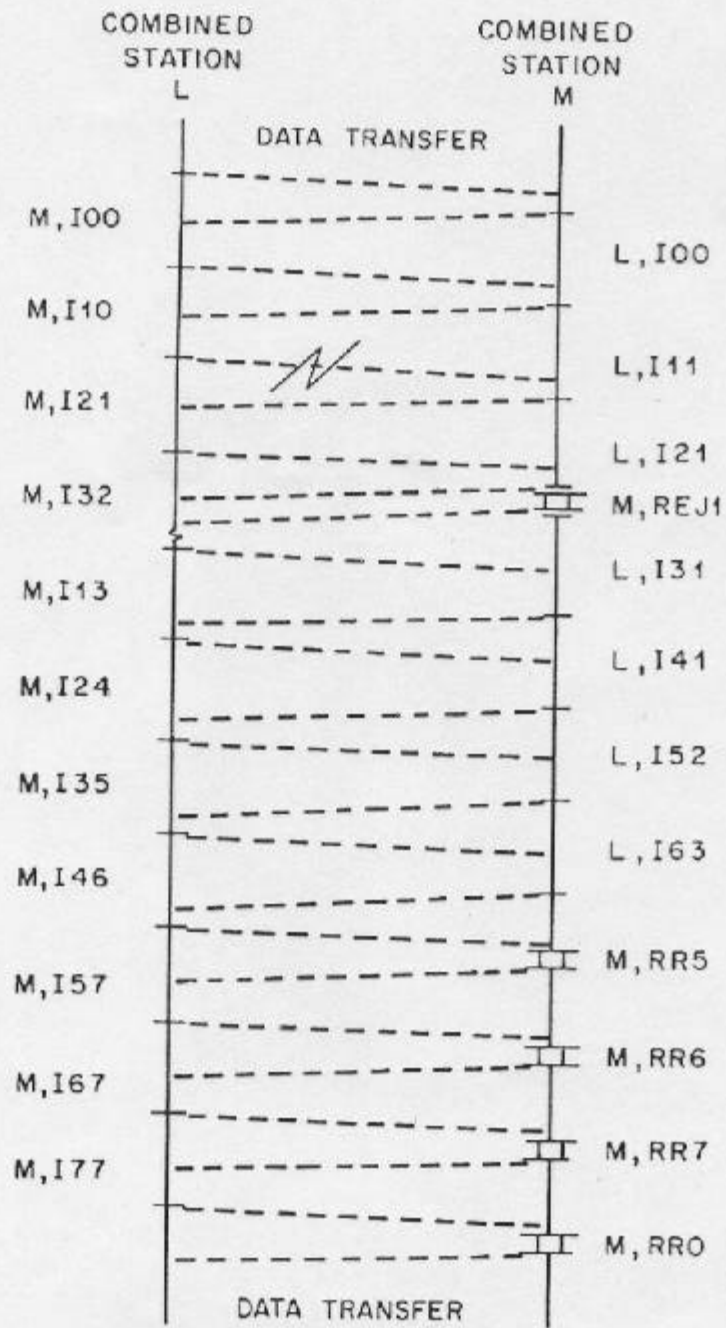


Fig. 6. Class BAC.2,8—example of REJ recovery procedures.