

Advanced Data Communication Control Procedures

In telecommunication, **Advanced Data Communication Control Procedures** (or **Protocol**) (**ADCCP**) is a bit-oriented data link layer protocol developed by the American National Standards Institute. It is functionally equivalent to the ISO High-Level Data Link Control (HDLC) protocol.^[1]

Although the ISO and ANSI standards writers coordinated their work, so the differences between the standards are mainly editorial, there is one meaningful difference: ADCCP's definition of the basic subset required to implement balanced asynchronous mode includes the RSET frame, while HDLC makes it optional.^[2]

One major difference between the two is the unnumbered (U) format. When extended (7-bit) sequence numbers are used, I and S frames have two-byte control fields. Like early versions of HDLC,^[3] ADCCP specifies a 2-byte control field format with the P/F flag duplicated.^[4] Later HDLC specifications, in particular ISO/IEC 13239, changed that to specify that U frames have 1-byte control fields in all cases.

ADCCP control fields

First byte							Second byte							Description	
0	1	2	3	4	5	6	7	0	1	2	3	4	5		6
0	N(S)			P/F	N(R)										I frame, N(S) is a 3-bit send sequence number
1	0	type	P/F	N(R)										S frame, N(R) is a 3-bit receive sequence number	
1	1	type	P/F	type										U frame	
0	N(S)						P/F	N(R)						Extended I frame, N(S) is a 7-bit sequence number	
1	0	type	—0—			P/F	N(R)						Extended S frame, N(R) is a 7-bit sequence number		
1	1	type	P/F	type			P/F	—0—						Extended U frame (ADCCP only)	


See also

- [Data link layer](#)
- [High-Level Data Link Control](#)

References

- Friend et al. 1988, p. 191
 - NBS 1980, p. 6, §3.0 ADCCP classes of procedures
 - ISO 1984, p. 18, §7.4 Extended control field formats
 - ANSI 1979, p. 28, §5.2.2 Extended control field
- Friend, George E.; Fike, John L.; Baker, H. Charles; Bellamy, John C. (1988). *Understanding Data Communications* (2nd ed.). Indianapolis: Howard W. Sams & Company. ISBN 0-672-

27270-9.

- *Guideline for implementing advanced data communication control procedures (ADCCP)* (<https://archive.org/details/federalinformati78nati>). National Bureau of Standards. 26 September 1980. FIPS PUB 78.
- *ISO 4335:1984 Data Communication—High Level Data Link Control Procedures—Consolidation of Elements of Procedures* (<https://law.resource.org/pub/in/bis/S04/is.11418.2.1986.pdf>) (PDF). Archived (<https://web.archive.org/web/20190323134103/https://law.resource.org/pub/in/bis/S04/is.11418.2.1986.pdf>) (PDF) from the original on 23 March 2019. Alt URL (<https://archive.org/details/gov.in.is.11418.2.1986>)
- *ANSI X3.66-1979: American National Standard for advanced data communication procedures (ADCCP)* (<https://archive.org/details/federalinformati7119nati>). American National Standards Institute. 9 January 1979. FIPS PUB 71-1980.
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