

FCS Example 1 (Example HDLC Frame for PPP)

TRANSMITTER			
2	(1) 6	3 -> 4	5
ff	ff ff	ff x ff = 00 -> 00 00	00 x ff = ff
03	00 ff	03 x ff = fc -> 3d e3	e3 x 00 = e3
C0	3d e3	c0 x e3 = 23 -> 13 99	99 x 3d = a4
21	13 a4	21 x a4 = 85 -> d3 a5	a5 x 13 = b6
01	d3 b6	01 x b6 = b7 -> c1 34	34 x d3 = e7
01	c1 e7	01 x e7 = e6 -> 82 38	38 x c1 = f9
00	82 f9	00 x f9 = f9 -> 6a 4e	4e x 82 = cc
17	6a cc	17 x cc = db -> 68 5e	5e x 6a = 34
02	68 34	02 x 34 = 36 -> 54 b5	b5 x 68 = dd
06	54 dd	06 x dd = db -> 68 5e	5e x 54 = 0a
00	68 0a	00 x 0a = 0a -> af 5a	6a x 68 = 32
0a	af 32	0a x 32 = 38 -> bd cb	cb x af = 64
00	bd 64	00 x 64 = 64 -> 25 22	22 x bd = 9f
00	25 9f	00 x 9f = 9f -> 6c 7e	7e x 25 = 5b
05	6c 5b	05 x 5b = 5e -> bb fb	fb x 6c = 97
06	bb 97	06 x 97 = 91 -> 85 00	00 x bb = bb
00	85 bb	00 x bb = bb -> 0b 58	58 x 85 = dd
2a	0b dd	2a x dd = f7 -> 83 30	30 x 0b = 3b
2b	83 3b	2b x 3b = 10 -> 10 81	81 x 83 = 02
78	10 02	78 x 02 = 7a -> dc dd	dd x 10 = cd
07	dc cd	07 x cd = ca -> 69 56	56 x dc = 8a
02	69 8a	02 x 8a = 88 -> 08 40	40 x 69 = 29
08	08 29	08 x 29 = 21 -> 30 8b	8b x 08 = 83
02	30 83	02 x 83 = 81 -> 95 81	81 x 30 = b1
0d	95 b1	0d x b1 = bc -> 7f e7	e7 x 95 = 72
03	7f 72	03 x 72 = 71 -> 62 0e	0e x 7f = 71
06	62 71	06 x 71 = 77 -> 07 38	38 x 62 = 5a
FCS	07 5a		

075a x ffff = **f8a5** = **FCS**

RECEIVER			
2	(1) 6	3 -> 4	5
...	...	...	...
08	08 29	08 x 29 = 21 -> 30 8b	8b x 08 = 83
02	30 83	02 x 83 = 81 -> 95 81	81 x 30 = b1
0d	95 b1	0d x b1 = bc -> 7f e7	e7 x 95 = 72
03	7f 72	03 x 72 = 71 -> 62 0e	0e x 7f = 71
06	62 71	06 x 71 = 77 -> 07 38	38 x 62 = 5a
a5	07 5a	a5 x 5a = ff -> 0f 78	78 x 07 = 7f
f8	0f 7f	f8 x 7f = 87 -> f0 b7	b7 x f0 = b8
FCS	f0 b8	Transmission Correct!	

Notes:

- Table header according to the Steps in the «Calculation Loop Step by Step».
- «x» means XOR.
- «->» means: from result follows table entry.
- Generatorpolynomon is $x^{16} + x^{12} + x^5 + 1$ (CCITT X.25 & UIT V.24).