

# Hamming Code

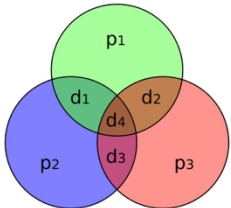


Figure 1  
Hamming (7,4)

Bit Position	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Data Bit															

Data Bits (k) ( $k \leq 2^m - 1 - m$ )	Parity Bits (m) ( $2^m \geq m + 1 + k$ )	Hamming Code Bits (n) ( $n = k + m \leq 2^m - 1$ )	Parity	
			Odd ( $\overline{d} \oplus \overline{d'}$ )	Even ( $d \oplus d'$ )

Bit Position		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Hamming code bits Encoded data bits		p1	p2	d1	p4	d2	d3	d4	p8	d5	d6	d7	d8	d9	d10	d11	p16	d12	d13	d14	d15
Parity bit coverage	p1																				
	p2																				
	p4																				
	p8																				
	p16																				

$p_1 =$

$p_2 =$

$p_4 =$

$p_8 =$

$p_{16} =$

# Hamming Code

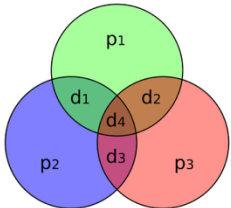


Figure 2  
Hamming (7,4)

Bit Position	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Data Bit															

Data Bits (k) ( $k \leq 2^m - 1 - m$ )	Parity Bits (m) ( $2^m \geq m + 1 + k$ )	Hamming Code Bits (n) ( $n = k + m \leq 2^m - 1$ )	Parity	
			Odd ( $\overline{d} \oplus \overline{d'}$ )	Even ( $d \oplus d'$ )

Bit Position		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Hamming code bits Encoded data bits		p1	p2	d1	p4	d2	d3	d4	p8	d5	d6	d7	d8	d9	d10	d11	p16	d12	d13	d14	d15
Parity bit coverage	p1																				
	p2																				
	p4																				
	p8																				
	p16																				

$p_1 =$

$p_2 =$

$p_4 =$

$p_8 =$

$p_{16} =$