INE 5429
DES Simplificado
SDES

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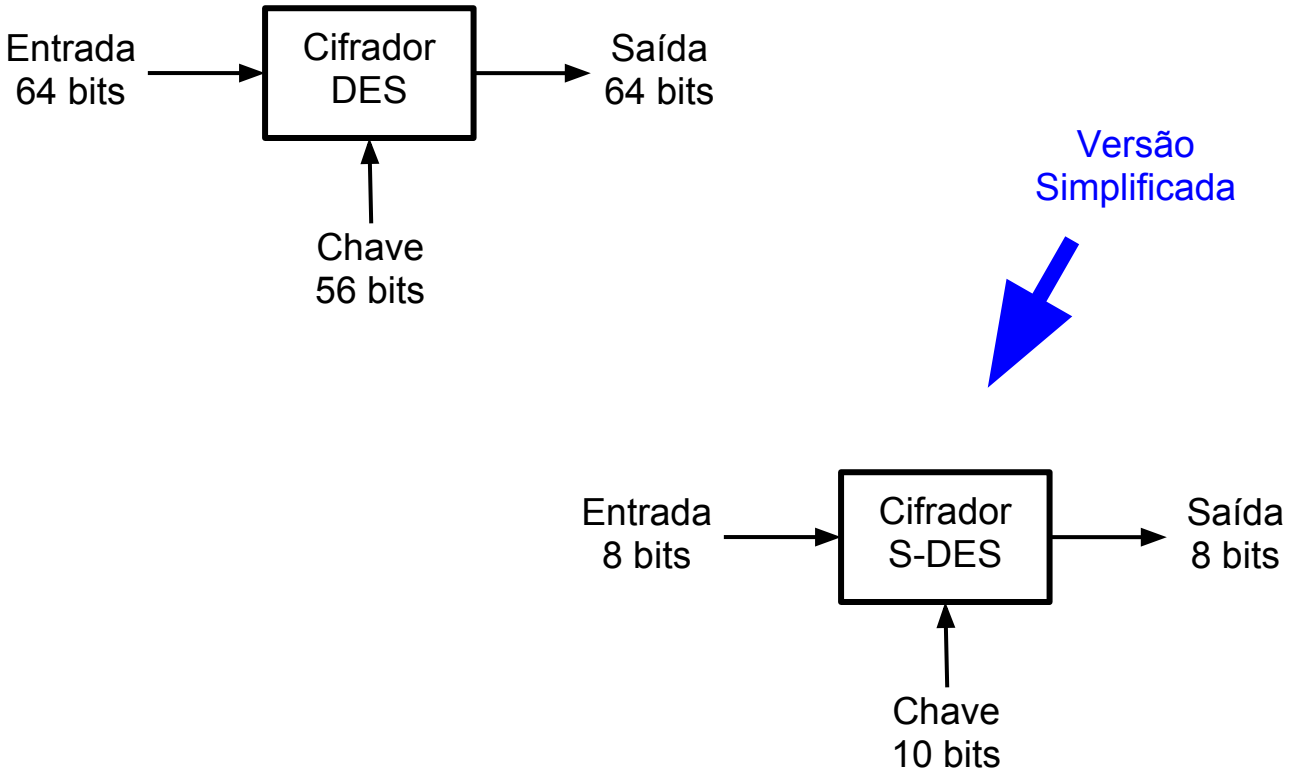
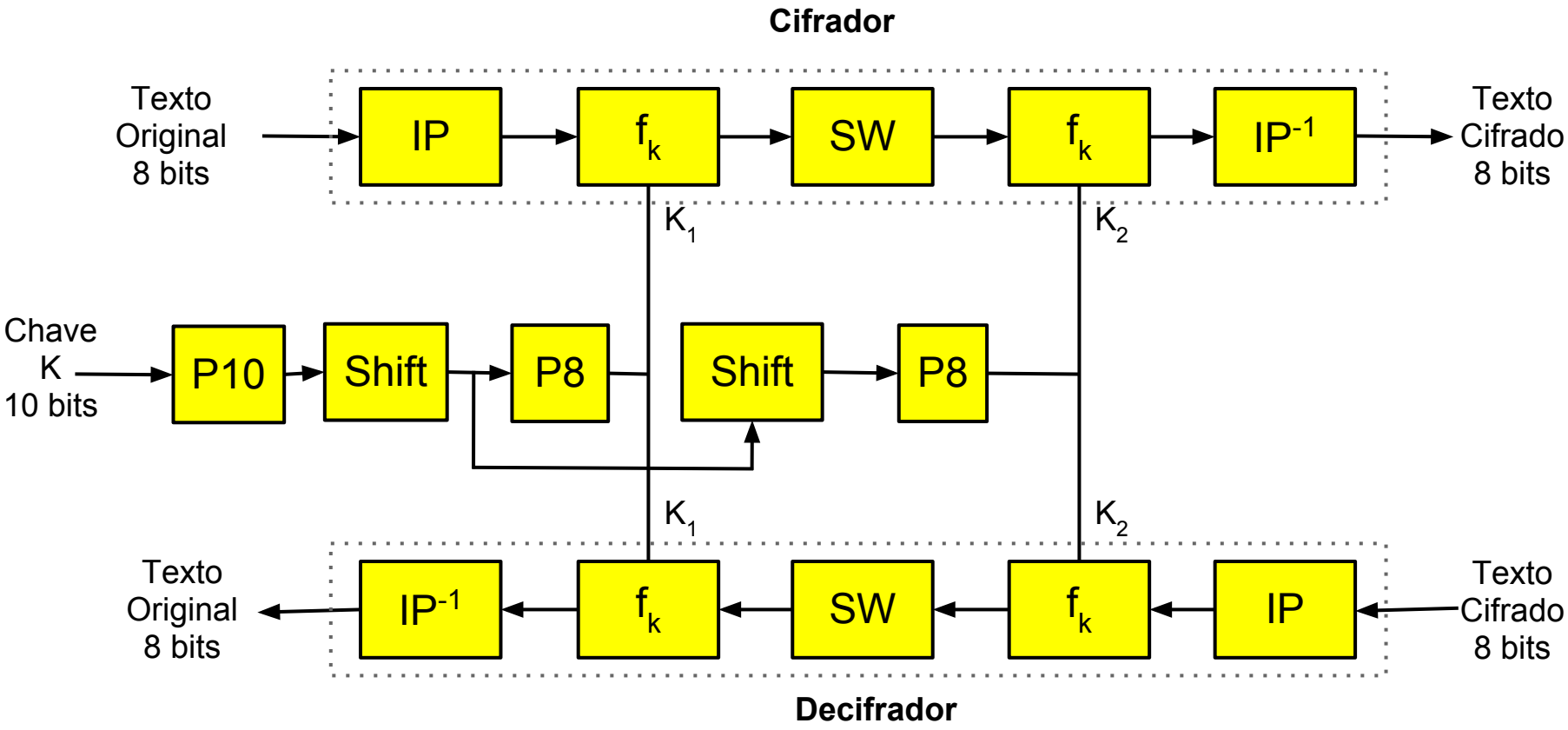
DES Simplificado



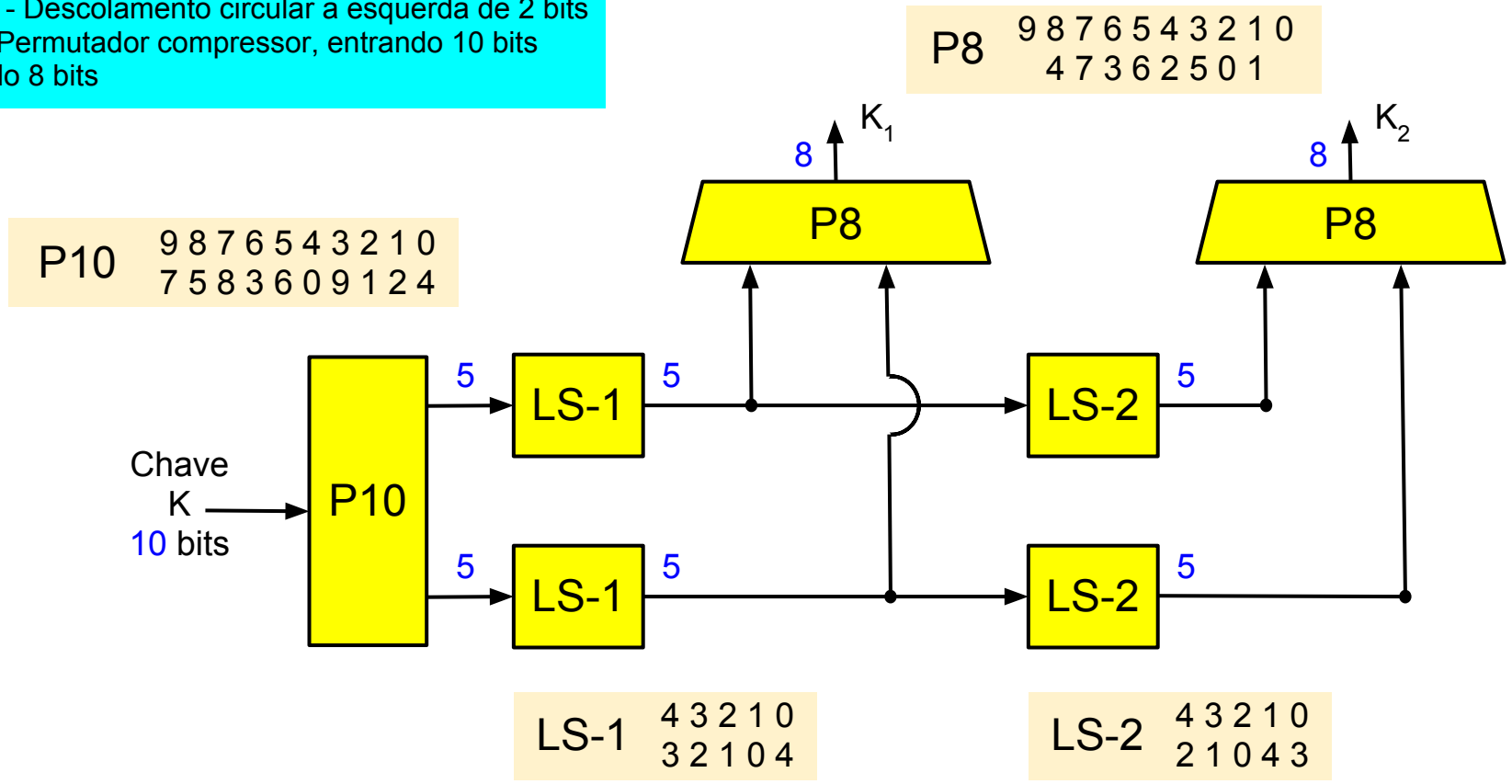
DES Simplificado

Legenda
IP - Initial Permutation
P - Permutation
SW - Switch

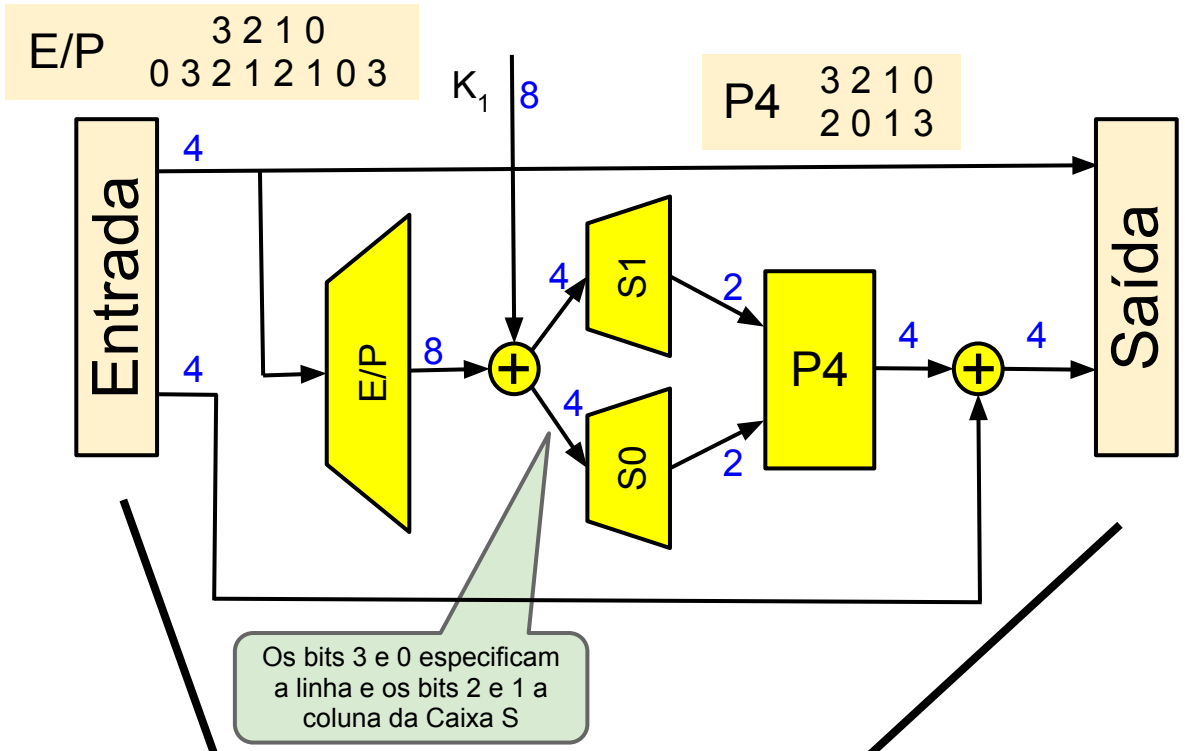


Geração de Sub-chaves

Legenda
P10 - Permutador de 10 bits
LS-1 - Descolamento circular a esquerta de 1 bit
LS-2 - Descolamento circular a esquerda de 2 bits
P8 - Permutador compressor, entrando 10 bits saindo 8 bits



Função f_k



S0

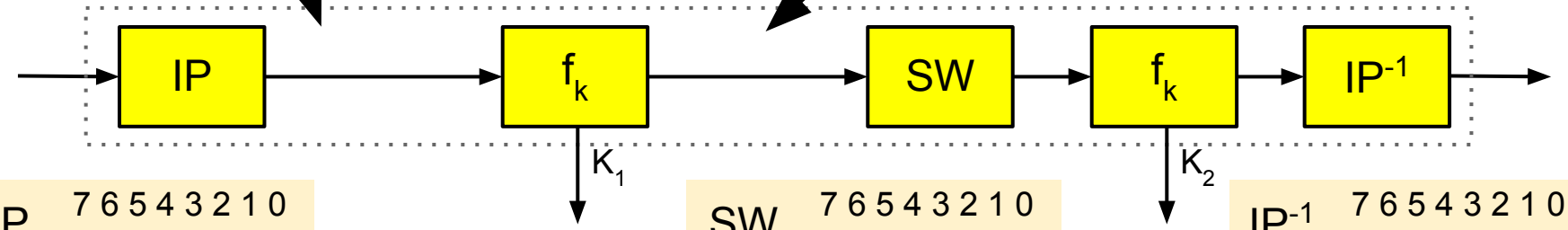
01	00	11	10
11	10	01	00
00	10	01	11
11	01	11	10

S1

00	01	10	11
10	00	01	11
11	00	01	00
10	01	00	11

⊕ XOR

Cifrador



IP

7	6	5	4	3	2	1	0
6	2	5	7	4	0	3	1

SW

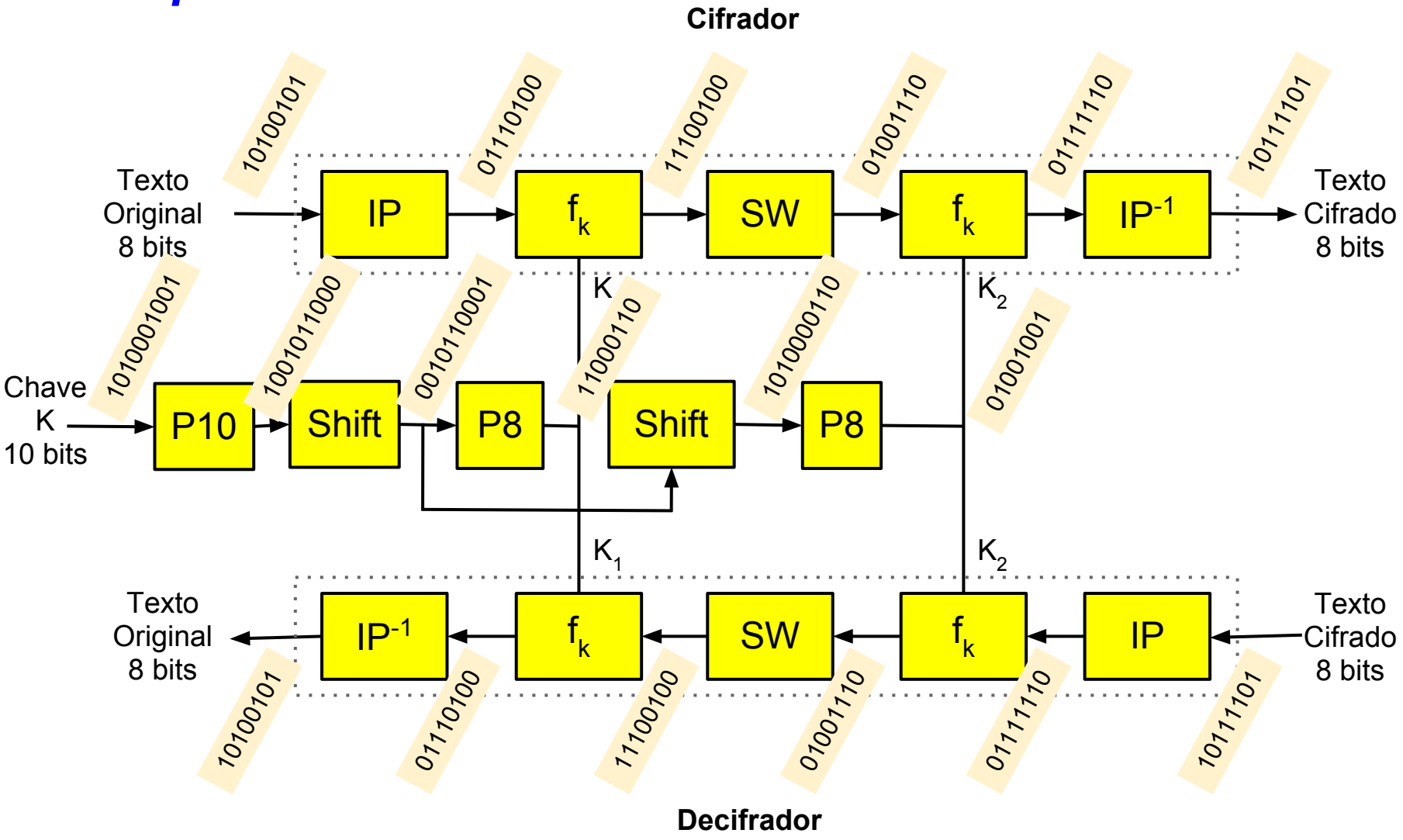
7	6	5	4	3	2	1	0
3	2	1	0	7	6	5	4

IP^{-1}

7	6	5	4	3	2	1	0
4	7	5	3	1	6	0	2

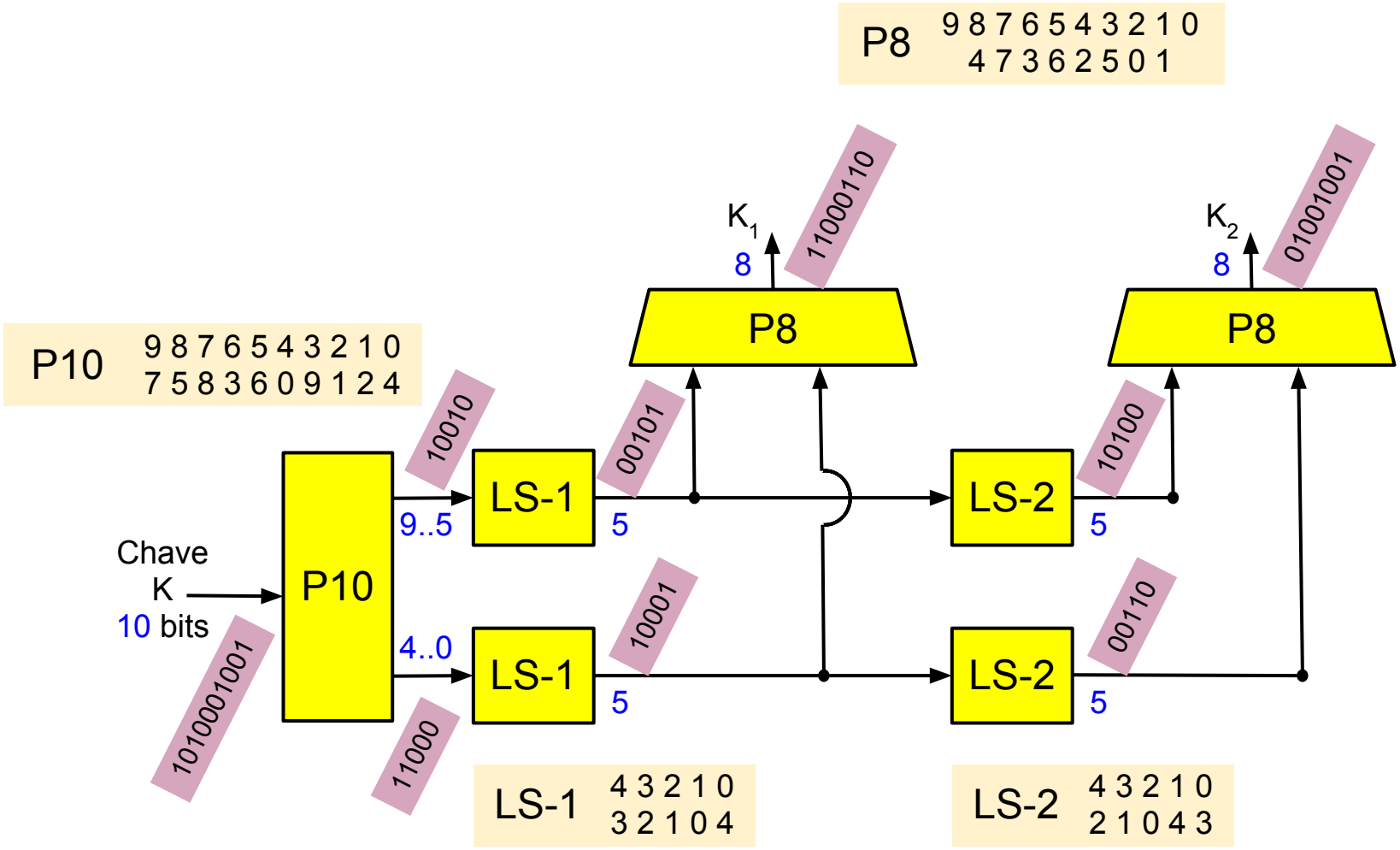
DES Simplificado

Exemplo

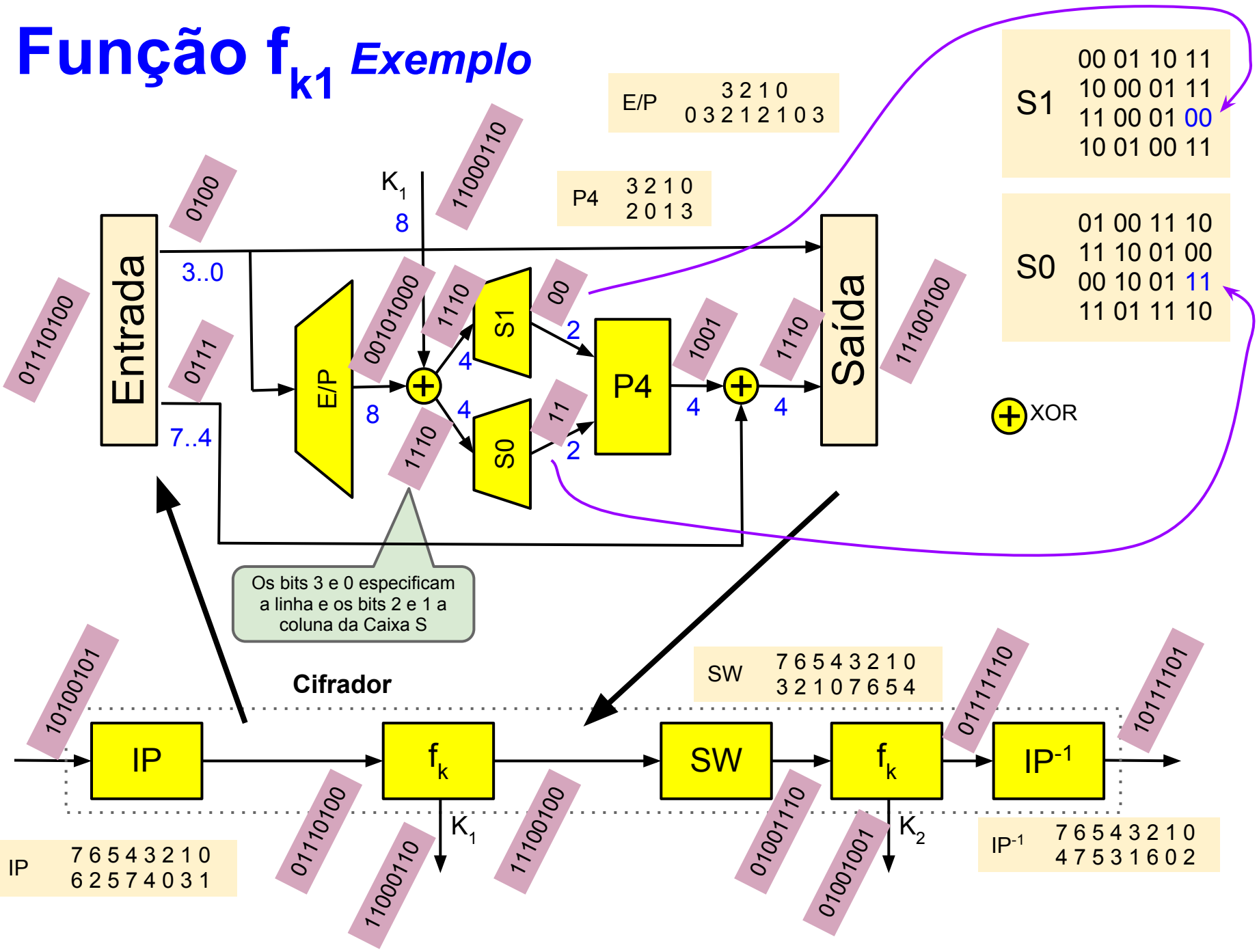


Geração de Sub-chaves

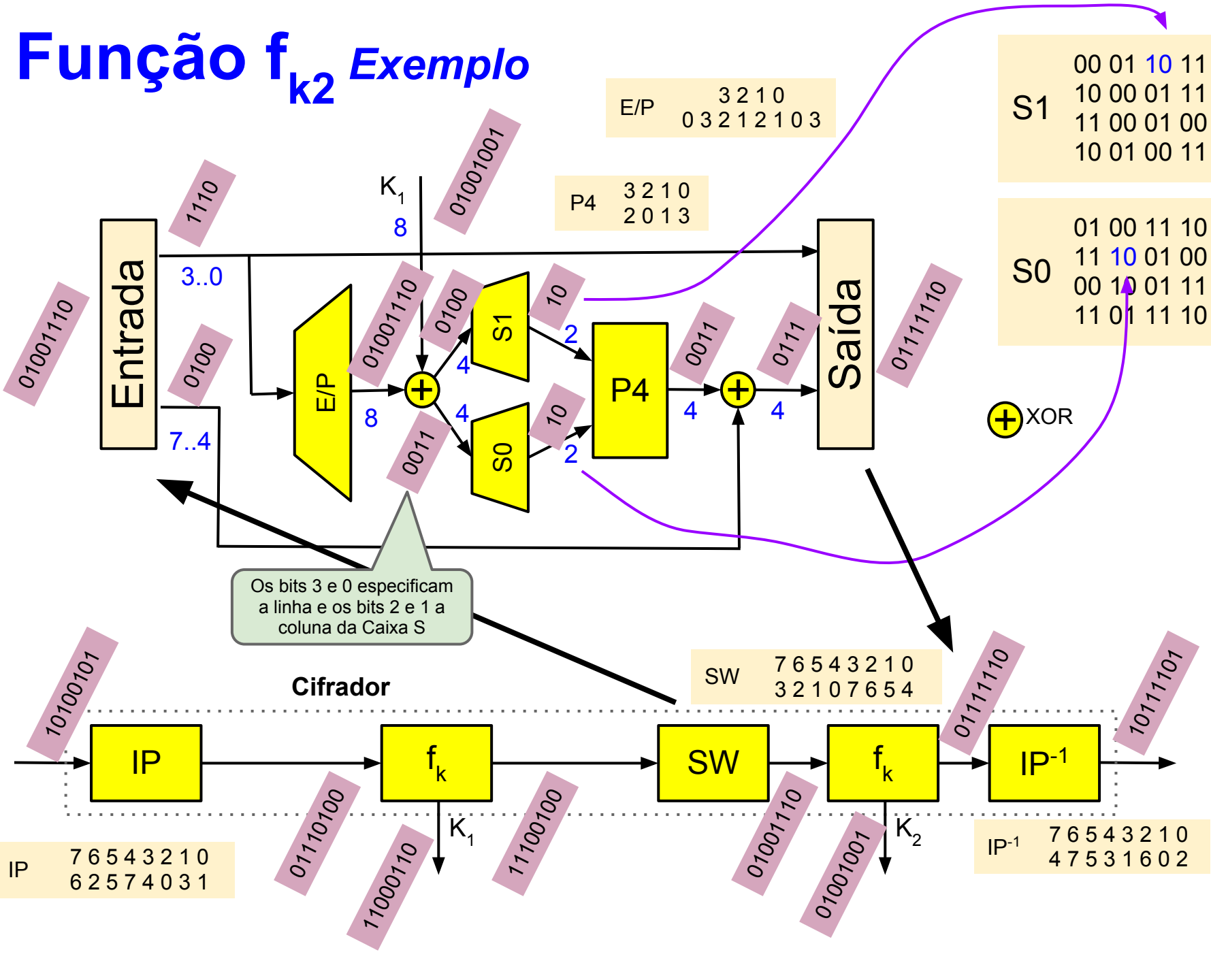
Exemplo



Função f_{k1} *Exemplo*

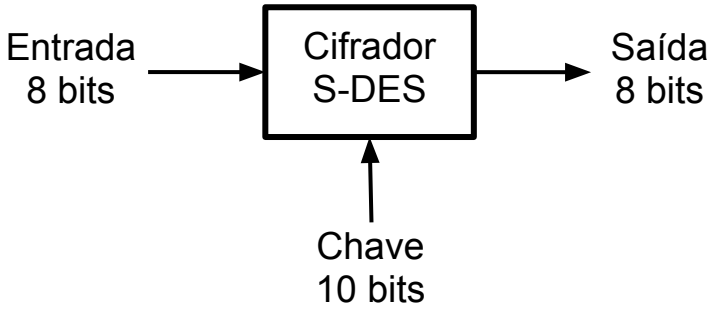


Função f_{k2} *Exemplo*



DES Simplificado

Exercício



Modo	Chave	Entrada	Saída
Ciframento	1011011001	01100101	?
Deciframento	1011011001	10100101	?