

2. Framing Sequence 0111110

a) 1101011110101111011011110110

b) given: 1101011110101111001011110110
110101111011111101111110

c) 4 bit checksum 8 bit msg $x^4 + x^2 + 1$ 010110

0101101000 / 10011000

1001 1000

11000

10010

01000

0

10000

1001

0010

000

010

0101101000

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

d 7th from least sig bit in code word is in err

0 1 0 1 1 1 1 0 0 0 / 1 0 0 1 0 0 0

1 0 0 1 1 0 0 0

1 1 0 0 0

1 0 0 1 0

0 1 0 0 0

0

1 0 0 0 0

1 0 0 1

0 0 1 0

0 0 0

0 1 0

didn't return 0 → error

e) will detect single errors for Parity bits to each row & column. Can't detect all double & triple errors if there is multiple errors in the same row or column