Block Code matrix form representation

1. $[H] = Parity\ Check\ Matrix\ \ (n * k\ )$
2. $[G] = Generator\ Matrix\ \ (k * n\ )$
3. $[I] = Identity\ Matrix\ \ (k * k\ )$
4. $[M] = Message\ Bit\ Matrix\ \ (1 * k\ )$
5. $[P] = Coefficient\ \ Matrix\ \ (k * \{n - k\}\ )$
6. $[X] = Code\ Vector\ Matrix\ \ (1 * n\ )$
7. $[C] = Parity\ Vector\ Matrix\ \ (1 * \{n - k\}\ )$
8. $[Y] = Recived\ Code\ Vector\ Matrix\ \ (1 * n\ )$

Relationship between the different entities

1. $[X] = [M \mid G\ ]$
2. $[X] = [M\ :\ G\ ]$
3. $[G] = [I_k : P]$
4. $[H] = [\ P^T\ :\ I_{n-k}\ ]$
5.