Code:-

```
import numpy as np

# Define spreading codes
c1 = [1, 1, 1, 1]
c2 = [1, -1, 1, -1]
c3 = [1, 1, -1, -1]
c4 = [1, -1, -1, 1]

# Data input
print("Enter the data bits:")
d1 = int(input("Enter D1: "))
d2 = int(input("Enter D2: "))
d3 = int(input("Enter D3: "))
d4 = int(input("Enter D4: "))

# Spreading operation
r1 = np.multiply(c1, d1)
r2 = np.multiply(c2, d2)
r3 = np.multiply(c3, d3)
r4 = np.multiply(c4, d4)

# Combine all spread signals
resultant_channel = r1 + r2 + r3 + r4
print("Resultant Channel:", resultant_channel)

# User selects which channel to decode
Channel = int(input("Enter the station to listen for C1=1, C2=2, C3=3, C4=4: "))

# Assign the corresponding code
if Channel == 1:
    rc = c1
elif Channel == 2:
    rc = c2
elif Channel == 3:
    rc = c3
elif Channel == 4:
    rc = c4
else:
    print("Invalid channel selected.")
    exit()

# Despreading (inner product)
inner_product = np.multiply(resultant_channel, rc)
```

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print("Inner Product:", inner_product)

# Recover data
res1 = sum(inner_product)
data = res1 / len(inner_product)
print("Data bit that was sent:", data)
```

Output:-

```
Enter the data bits:
Enter D1:
-1
Enter D2:
1
Enter D3:
-1
Enter D4:
1
Inner product : [ 0 -4  0  0]
Enter the station to listen for C1=1, C2=2, C3=3, C4=4:
```