RV COLLEGE OF ENGINEERING®, Bengaluru-59
(Autonomous Institution affiliated to VTU, Belagavi)
Department of Electronics and Communication Engineering
Course: Communication Systems-2 (18EC63) LAB

<u>Expt-1: MPSK Transceiver</u>

The path for the sub vi's of MPSK is described here:

Search where LabVIEW software is installed.

1. **mod_psk transmitter.vi: Not available in Search**
   Path: National Instruments/Labview2020/vi.lib/addons/Modulation/Digital/Support/Examples

2. **MT Add AWGN.vi: Available in search or Quick drop (ctrl + Spacebar)**
   Path: National Instruments/Labview2020/vi.lib/addons/Modulation/Digital/Impairments

3. **MT Apply IQ Impairments.vi: Available in search or Quick drop (ctrl + Spacebar)**
   Path: National Instruments/Labview2020/vi.lib/addons/Modulation/Digital/Impairments

4. **MT Demodulate PSK.vi: Available in search or Quick drop (ctrl + Spacebar)**
   Path: National Instruments/Labview2020/vi.lib/addons/Modulation/Digital/Demodulation

5. **MT measure PSK Quadrature Impairments.vi: Not available in Search**
   Path: National Instruments/Labview2020/vi.lib/addons/Modulation/Digital/Demodulation

6. **MT Calculate BER.vi: Available in search or Quick drop (ctrl + Spacebar)**
   Path: National Instruments/Labview2020/vi.lib/addons/Modulation/Digital/Demodulation

7. **MT Calculate EbNo.vi: Not available in Search**
   Path: National Instruments/Labview2020/vi.lib/addons/Modulation/Digital/Demodulation

8. **Mod_align Tx and Rx bit sequence: Not available in Search**
   Path: National Instruments/Labview2020/vi.lib/addons/Modulation/Digital/support/examples

9. **The case structure:**
   a. **Transmitted Symbols/Demodulated Symbols:**
      MT bit stream to digital graph.vi: Not available in Search
      Path: National Instruments/Labview2020/vi.lib/addons/Modulation/Digital/General
   b. **TX Spectrum:**
      Mod_complex FFT(Mag_Phase).vi: Not available in Search
      Path: National Instruments/Labview2020/vi.lib/addons/Modulation/Analog/support
   c. **Constellation (Tx Output):**
      MT format Constellation.vi: Available in search or Quick drop (ctrl + Spacebar)
      Path: National Instruments/Labview2020/vi.lib/addons/Modulation/Digital/General
   d. **Constellation (Rx Output):**
      mod_truncate filter transient.vi: Not available in Search
      Path: National Instruments/Labview2020/vi.lib/addons/Modulation/Digital/support/Examples
      MT format Constellation.vi: Available in search or Quick drop (ctrl + Spacebar)
      Path: National Instruments/Labview2020/vi.lib/addons/Modulation/Digital/General
   e. **Eye Diagram(Rx):**
      MT Format_Eye Diagram.vi: Available in search or Quick drop (ctrl + Spacebar)
      Path: National Instruments/Labview2020/vi.lib/addons/Modulation/Digital/General

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Expt-2: MQAM Transceiver
The path for the sub vi's of MQAM is described here:
Search where LabVIEW software is installed.

1. **mod_QAM transmitter.vi: Available in search or Quick drop (ctrl + Spacebar)**
   Path: National Instruments/Labview2020/vi.lib/addons/Modulation/Digital/Support/Examples

2. **MT Add AWGN.vi: Available in search or Quick drop (ctrl + Spacebar)**
   Path: National Instruments/Labview2020/vi.lib/addons/Modulation/Digital/Impairments

3. **MT Apply IQ Impairments.vi: Available in search or Quick drop (ctrl + Spacebar)**
   Path: National Instruments/Labview2020/vi.lib/addons/Modulation/Digital/Impairments

4. **MT Demodulate QAM.vi: Available in search or Quick drop (ctrl + Spacebar)**
   Path: National Instruments/Labview2020/vi.lib/addons/Modulation/Digital/Demodulation

5. **MT measure QAM Quadrature Impairments.vi: Not available in Search**
   Path: National Instruments/Labview2020/vi.lib/addons/Modulation/Digital/Demodulation

6. **MT Calculate BER.vi: Available in search or Quick drop (ctrl + Spacebar)**
   Path: National Instruments/Labview2020/vi.lib/addons/Modulation/Digital/Demodulation

7. **MT Calculate EbNo.vi: Not available in Search**
   Path: National Instruments/Labview2020/vi.lib/addons/Modulation/Digital/Demodulation

8. **MT Modulate QAM: Available in search or Quick drop (ctrl + Spacebar)**
   Path: National Instruments/Labview2020/vi.lib/addons/Modulation/Digital/Modulation

9. **MT Measure Rho: Available in search or Quick drop (ctrl + Spacebar)**
   Path: National Instruments/Labview2020/vi.lib/addons/Modulation/Digital/Demodulation

10. **Mod_align Tx and Rx bit sequence: Not available in Search**
    Path: National Instruments/Labview2020/vi.lib/addons/Modulation/Digital/support/examples
11. **The case structure:**
    a. **Transmitted Symbols/Demodulated Symbols:**
       MT bit stream to digital graph.vi: Not available in Search
       Path: National Instruments/Labview2020/vi.lib/addons/Modulation/Digital/General
    b. **Constellation (Tx Output):**
       MT format Constellation.vi: Available in search or Quick drop (ctrl + Spacebar)
       Path: National Instruments/Labview2020/vi.lib/addons/Modulation/Digital/General
    c. **Constellation (Rx Output):**
       mod_truncate filter transient.vi: Not available in Search
       Path: National Instruments/Labview2020/vi.lib/addons/Modulation/Digital/support/Examples
       MT format Constellation.vi: Available in search or Quick drop (ctrl + Spacebar)
       Path: National Instruments/Labview2020/vi.lib/addons/Modulation/Digital/General
    d. **Eye Diagram (Rx):**
       MT Format_Eye Diagram.vi: Available in search or Quick drop (ctrl + Spacebar)
       Path: National Instruments/Labview2020/vi.lib/addons/Modulation/Digital/General

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Expt-3: MFSK Transceiver

The path for the sub vi's of MFSK is described here:

Search where LabVIEW software is installed.

1. **mod_FSK transmitter.vi: Available in search or Quick drop (ctrl + Spacebar)**
   Path: National Instruments/Labview2020/vi.lib/addons/Modulation/Digital/Support/Examples

2. **MT Add AWGN.vi: Available in search or Quick drop (ctrl + Spacebar)**
   Path: National Instruments/Labview2020/vi.lib/addons/Modulation/Digital/Impairments

3. **MT Apply IQ Impairments.vi: Available in search or Quick drop (ctrl + Spacebar)**
   Path: National Instruments/Labview2020/vi.lib/addons/Modulation/Digital/Impairments

4. **MT Demodulate FSK.vi: Available in search or Quick drop (ctrl + Spacebar)**
   Path: National Instruments/Labview2020/vi.lib/addons/Modulation/Digital/Demodulation

5. **MT Calculate BER.vi: Available in search or Quick drop (ctrl + Spacebar)**
   Path: National Instruments/Labview2020/vi.lib/addons/Modulation/Digital/Demodulation

6. **MT Calculate EbNo.vi: Not available in Search**
   Path: National Instruments/Labview2020/vi.lib/addons/Modulation/Digital/Demodulation

7. **Mod_align Tx and Rx bit sequence: Not available in Search**
   Path: National Instruments/Labview2020/vi.lib/addons/Modulation/Digital/support/examples

8. **The case structure:**
   a. **Transmitted Symbols/Demodulated Symbols:**
      MT bit stream to digital graph.vi: Not available in Search
      Path: National Instruments/Labview2020/vi.lib/addons/Modulation/Digital/General
   b. **Eye Diagram(Rx):**
      Mod_plot FSK Eye Diagram.vi: Available in search or Quick drop (ctrl + Spacebar)
      Path:
      National Instruments/Labview2020/vi.lib/addons/Modulation/Digital/Support/Examples
   c. **Transmit Spectrum/ Received Spectrum:**
      mod_Complex FFT.vi: Available in search or Quick drop (ctrl + Spacebar)
      Path: National Instruments/Labview2020/vi.lib/addons/Modulation/Analog/Support

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Expt-4: MSK Transceiver

The path for the sub vi's of MSK is described here:

Search where LabVIEW software is installed.

1. **mod_MSK transmitter.vi: Not available in Search**
   Path: National Instruments/Labview2020/vi.lib/addons/Modulation/Digital/Support/Examples

2. **MT Add AWGN.vi: Available in search or Quick drop (ctrl + Spacebar)**
   Path: National Instruments/Labview2020/vi.lib/addons/Modulation/Digital/Impairments

3. **MT Apply IQ Impairments.vi: Available in search or Quick drop (ctrl + Spacebar)**
   Path: National Instruments/Labview2020/vi.lib/addons/Modulation/Digital/Impairments

4. **MT Demodulate MSK.vi: Available in search or Quick drop (ctrl + Spacebar)**
   Path: National Instruments/Labview2020/vi.lib/addons/Modulation/Digital/Demodulation

5. **MT measure MSK Quadrature Impairments.vi: Not available in Search**
   Path: National Instruments/Labview2020/vi.lib/addons/Modulation/Digital/Demodulation

6. **MT Calculate BER.vi: Available in search or Quick drop (ctrl + Spacebar)**
   Path: National Instruments/Labview2020/vi.lib/addons/Modulation/Digital/Demodulation

7. **MT Calculate EbNo.vi: Not available in Search**
   Path: National Instruments/Labview2020/vi.lib/addons/Modulation/Digital/Demodulation

8. **Mod_align Tx and Rx bit sequence: Not available in Search**
   Path: National Instruments/Labview2020/vi.lib/addons/Modulation/Digital/support/examples

9. **The case structure:**
   a. **Transmitted Symbols/Demodulated Symbols:**
      MT bit stream to digital graph.vi: Not available in Search
      Path: National Instruments/Labview2020/vi.lib/addons/Modulation/Digital/General
   b. **MSK Constellation (Tx/Rx):**
      MT format Constellation.vi: Available in search or Quick drop (ctrl + Spacebar)
      Path: National Instruments/Labview2020/vi.lib/addons/Modulation/Digital/General
   c. **Trellis Graph (Tx/Rx):**
      MT Format Trellis Diagram: Available in search or Quick drop (ctrl + Spacebar)
      Path: National Instruments/Labview2020/vi.lib/addons/Modulation/Digital/General