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FEMTO AMPLIFIER SELECTION GUIDE

What Kind of Application Do You Have?

- Amplification of Small Electrical Signals
  - What Will You Connect to the Amplifier Input?
    - A High Impedance or Current Source e.g. Photodiode, Photomultiplier (PMT), Charge or Ionization Detector, Faraday Cup, Capacitive Pickup, Scanning Tunneling Microscope Tip (STM), Multi Channel Plate (MCP)
      - **Current (Transimpedance) Amplifier**
        - Which Maximum Bandwidth Do You Require?
          - Up to 500 kHz
            - **Series LCA**: Fixed Gain up to 10^{13} V/A, Ultra Low Noise down to 0.2 fA/√Hz
            - **DLPCA-200**: Variable Gain from 10^{3} to 10^{11} V/A, Signal Filters, Remote Interface
          - Up to 200 MHz
            - **Series HCA**: Fixed Gain up to 10^{6} V/A, Low Noise down to 270 fA/√Hz
            - **DHPCA-100**: Variable Gain from 10^{2} to 10^{8} V/A, Signal Filters, Remote Interface
          - Up to 2 GHz
            - **Series HSA-X**: Fixed Gain up to 40 dB (5,000 V/A), Ultra Compact Package
            - **Series HSA-Y**: Fixed Gain up to 60 dB (50,000 V/A), 2 Signal Outputs, DC Monitor
            - **Series DUPVA**: Variable Gain up to 70 dB, Exceptional Low Noise and Flat Frequency Response
    - A Low Impedance or Voltage Source e.g. Resistive Element, Coil, Thermopile, Fast Photomultiplier (PMT) or Multi Channel Plate (MCP) with 50 Ohm Termination, High Bandwidth Source
      - **Voltage Amplifier**
        - Which Maximum Bandwidth Do You Require?
          - Up to 500 MHz
            - **Series HVA**: Fixed or Variable Gain up to 60 dB, Compact Package
            - **Series DHPVA**: Variable Gain up to 60 dB, Very Low Temperature Drift and Flat Frequency Response, Remote Interface
            - **Series HLVA**: Logarithmic Amplifier with 80 dB Dynamic Range, DC Coupled
          - Up to 100 kHz
            - **Series DLPVA**: Variable Gain up to 100 dB, Input Impedance up to 1 TΩ, Very Low Noise down to 0.4 nV/√Hz
- Phase Sensitive and Frequency Selective Measurement of Small Signals Potentially Buried in Noise
  - **Lock-In Amplifier**
    - **Series LIA-MV-150**: Working Frequency up to 45 kHz, Ultra Compact Package
    - **Series LIA-BV(D)-150**: Working Frequency up to 120 kHz, Low Cost 19“ Board, Ideal for Multi Channel Applications
    - **Series LIA-MV(D)-200**: Up to 120 kHz, Module Housing, Remote Control, Signal Filters, Ideal for OEM Applications