PDV Equipment from TME

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Agenda

- PDV receivers
- PDV transceivers
- Future product – PDV Fringe Recorder
- Conclusion

PDV Receivers

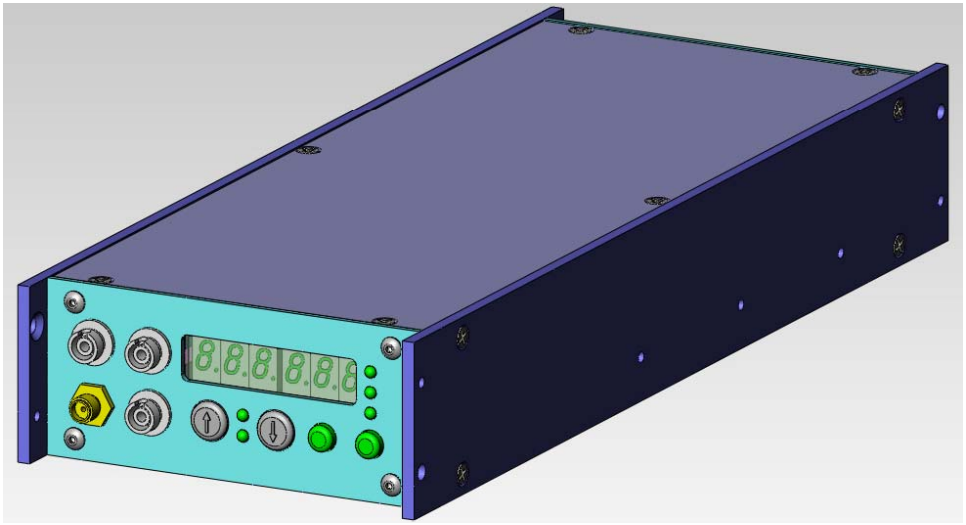
- Single channel receivers, easily expandable to many channels
- Back-Reflecting (BR) and Non-Back-Reflecting (NBR) models
- Homodyne and heterodyne models, custom easily done
- ModBlock packaging
- Powered by 12VDC, manual and/or LAN operation
- PIN Receiver, 35 KHz to 10 GHz

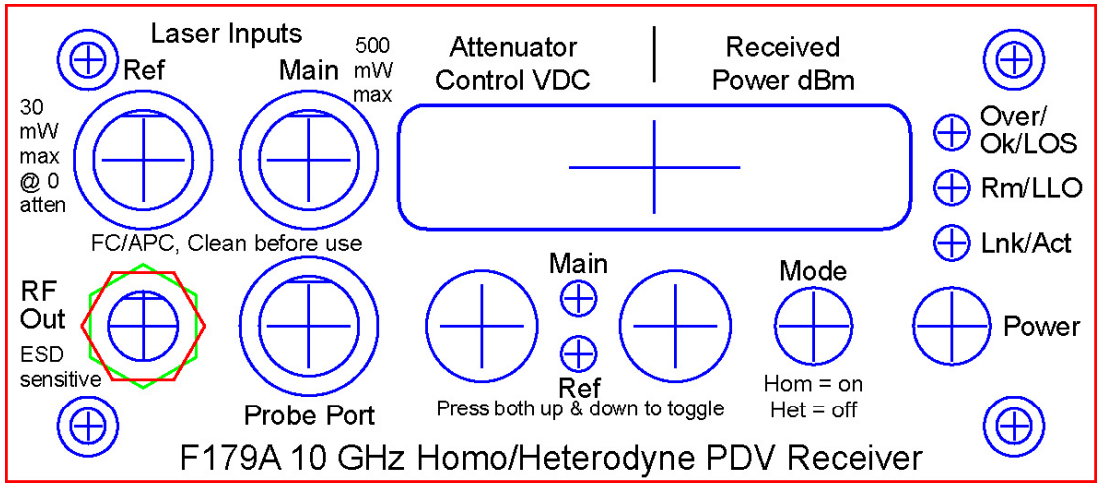
Example PDV Receiver for NBR Probe F172A, ~$13K

Example 1x4 Splitter and DC Switch

Example 4-Ch PDV Receiver for NBR 2G172PDV4A, ~$60K

Example Homodyne/Heterodyne Receiver for NBR, F179A, ~$14K





Classical 4-Ch PDV Receiver for BR Probes, 1CF41A

PDV Transceivers

- Single channel receiver with internal laser
- Easily expandable to many channels
- Back-Reflecting (BR) and Non-Back-Reflecting (NBR) models
- Homodyne and heterodyne models, custom easily done
- ModBlock packaging
- Powered by 12VDC, manual or LAN operation
- PIN Receiver, 35 KHz to 10 GHz
- DFB Laser, 20 mW, higher power available at higher cost

Example PDV Transceiver for BR Probe F235A, ~$20K

Future Product
PDV Fringe Counter, M390A, ~$15K

PDV Fringe Counter Specs

- Target velocity range: ~5 cm/s to ~15.5 km/s
- Target position range: ~6.5 meters with a ~100 um resolution
- Recording duration: ~10 ms (10 ns clock) or ~100 ms (100 ns clock)
- Triggering: external or internal
  - External trigger occurs when logic input exceeds 100 mV
  - Internal trigger occurs when the velocity exceeds ~5 cm/s, 64 fringes have occurred, and the PDV receiver output signal is >5 mVpp
- Squelch switch for high noise PDV receiver outputs
- Ethernet 10/100Base-T for data upload to computer (10-30MB CSV file)
- Excel used to produce position, velocity, acceleration, and jerk profiles
- Various status LEDs and Reset switch
- 1/4 rack ModBlock (1U x 8" deep), weighs <2 pounds, 12 VDC power

Conclusion

- Commercial 10GHz PDV receivers available for $13-14K/channel
  - BR or NBR, homodyne or homo/heterodyne
  - Expandable, 12V power
- Commercial 10GHz PDV transceivers available for $20K and up, depending on laser power output
- (Future) PDV Fringe Counter soon available for $15K/channel
  - Can replace the 4-channel real-time oscilloscope and post-processing software in many high-speed PDV applications from 5 cm/s to 15 km/s
  - Can provide position, velocity, acceleration, and jerk output profiles from CSV file using Excel
  - Implements a single channel, easily expandable to many channels, reduces PDV system costs, sizes, and power significantly

Third Millennium Engineering

Helping customers create and manufacture advanced technology products for our future

Can supply any PDV system or equipment required or shown in this paper

- Supplier of high quality custom engineered equipment, products, and systems using fiber optic, microwave, RF, or advanced technologies
- Quantities from 1 to 10+ units in typically 2-3 months
- Simple to complex, typically multi-functional, provided with any features and accessories needed
- Formal specifications not required, verbal specifications and goals adequate to produce quote
- Consulting, Engineering, Manufacturing, Support
- Commercial, Industrial, Defense, Emerging Industries

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- Plano Texas, since 1996, registered Texas engineer, 3CPK6 cage code
- View PDV and other catalogs on website, call or email to receive quote

"Why risk making it or doing without when you can buy exactly what you need?"