COHERENT RECEIVER FRONTENDS

Fraunhofer HHI

AT A GLANCE

- Optical coherent receiver in a compact 19''-chassis
- Coherent detection of high-speed optical dual-polarization m-PAM and m-QAM signals > 40, > 70 and 110 GHz versions available

Features

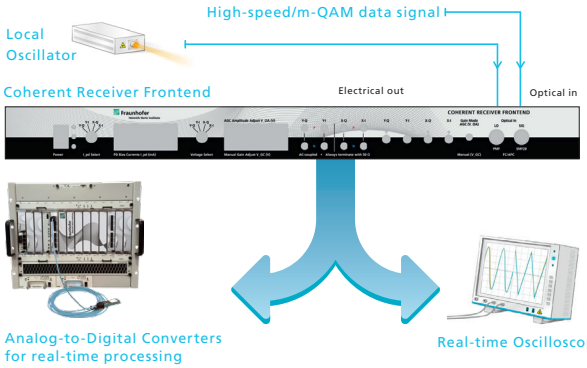
- Coherent optical receiver in a compact 19''-chassis
- Simultaneous detection of I/Q and both polarizations
- Optical inputs for local oscillator and data signal
- Low, medium and high-bandwidth version
- Linear trans-impedance amplifier in low-bandwidth versions
- Optical extender heads in high-bandwidth versions

Applications

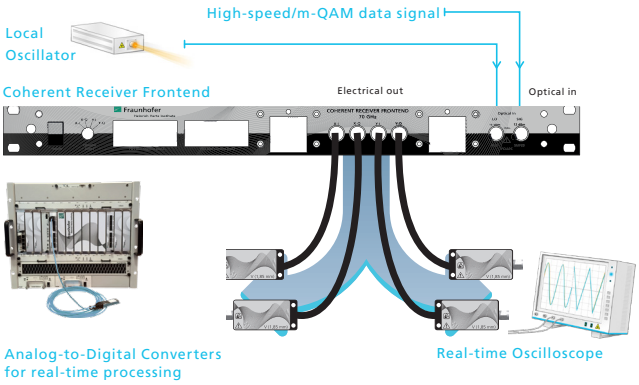
- Test and measurement
- Development of multi-terabit transmission systems and components
- Polarization diverse coherent detection of high-speed data signals with various modulation formats (m-PAM, m-QAM, 4D)
- Coherent receiver frontend for single-mode optical data transmission
- O/E converter for detection of arbitrary optical waveforms
- High-resolution optical spectrum measurements

Fraunhofer HHI

	CRF - 40	CRF - 40 - EH	CRF - 70 - EH	CRF - 100 - EH
Operating wavelength range (nm)	C-band (1530 – 1570) Units operable in S-band to U-band available upon request. CRF-40/70-EH also available for			
6 dB cut-off frequency (GHz)	>45	>50	>70	>110
Average CRF responsivity (sig mA/W) includes hybrid loss excluding TIA gain	45	60	60	40
Trans-impedance amplifier (linear)	No (Optical pre-amplification is recommended)			
Output swing (Vpp) @1GHz	150	300	300	200
CRF input Sig/LO power (dBm)	12/16			
Common mode rejection ratio (dB_e)	-18 (DC)	-20 (DC)	-20 (DC)	-15 (DC)
Imbalance I_{Sig} and I_{LO} (dB_o)	2 (DC)	2 (DC)	2 (DC)	2 (DC)
Phase deviation (deg)	+/- 5.0	+/- 5.0	+/- 5.0	+/- 5.0
Optical Return Loss (dB_o @1550nm)	30	30	30	30
Pol. extinction ratio for Sig & LO (dB_o)	20			
Internal local oscillator laser	Optional			
Optical extender head	No	Yes	Yes	Yes
Optical connectors	FC/LC/E2000-APC			
HF-connectors	female K®	female V®	female V®	female mm-W®
Dimensions (W x H x D in mm)	482 (19'') x 45 x 460			



Principal setup of CRF-40



Principal setup of CRF-40, 70, and 100-EH

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