

# OR43-x

## QUADRUPLE RFoG/HFC OPTICAL RETURN PATH RECEIVER

### Application

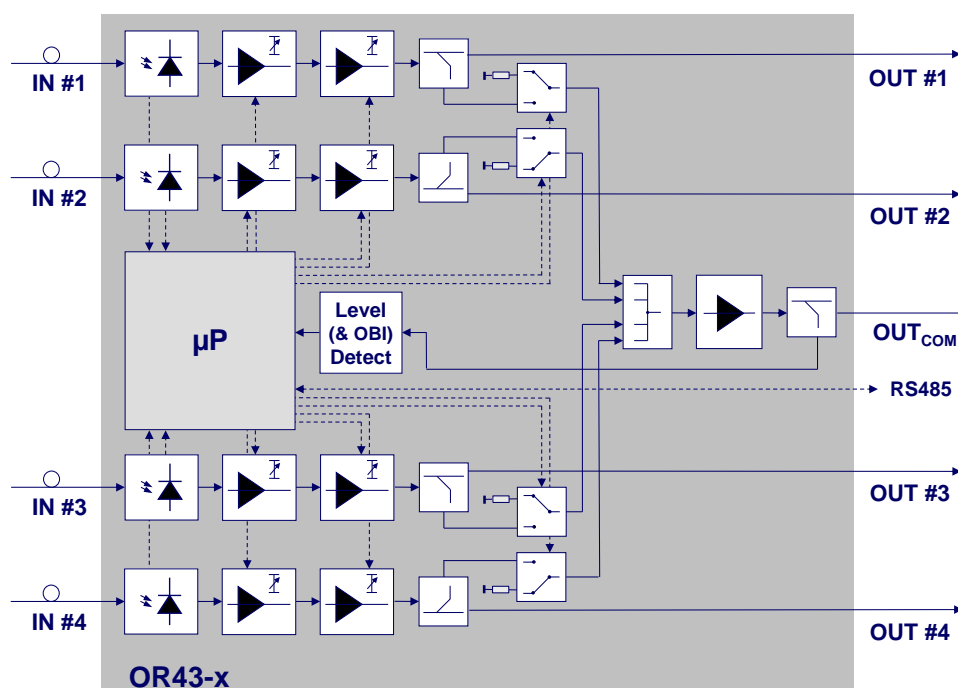
- ▶ Optical to electrical conversion of four upstream signals in RFoG (RF over glass) and HFC networks
- ▶ Redundant path switching
- ▶ Usage in headends/hubs and outdoor units
- ▶ DOCSIS 3.1 complying

### Features

- ▶ Four independent ultralow-noise optical receivers
- ▶ Automatic sleep mode for redundancy applications
- ▶ Optical power detection on all inputs
- ▶ Very wide optical input power range and gain dynamic range
- ▶ Additional configurable RF combination (testpoint) output
- ▶ Optical input power controlled AGC
- ▶ Various network management capabilities
  - Each receiver output can be separately disabled
  - Optical power level detection suitable for pulsed optical RFoG (TDMA) and continuous wave HFC signals
  - RS485 network management interface
- ▶ 2G6 modular design (1 slot wide unit)
- ▶ Optical input wavelength range is extended between 1270 nm - 1620 nm



### Block Diagram



## Technical Data

### Electrical/Optical Characteristics

Parameter	Symbol	Min	Typ	Max	Unit
Optical Input Power	PIN				
OR43-085		-26		-10	dBm
OR43-204		-26		-10	dBm
OR43-300		-20		+2	dBm
Optical Return Loss	ORL	45			dB
Detector Responsivity	$\eta$	0.8			A/W
Power Consumption	P		9	10	W
Optical Connectors		SC/APC or E2000			
RF Connectors		F female			

### RF Characteristics

Parameter	Min	Typ	Max	Unit
RF bandwidth				
OR43-085	5	-	85	MHz
OR43-204	5	-	204	MHz
OR43-300	5	-	300	MHz
Receiver noise current (min. opt. input power)				
OR43-085			0.8	pA/ $\sqrt{\text{Hz}}$
OR43-204			1.5	pA/ $\sqrt{\text{Hz}}$
OR43-300			3.0	pA/ $\sqrt{\text{Hz}}$
RF Impedance	-	75	-	$\Omega$
RF Return Loss	18			dB
Frequency Flatness	-1.0		+1.0	dB
RF output level (OMI= 5%)				
OR43-085	88			dB $\mu$ V
OR43-204	88			dB $\mu$ V
OR43-300	95			dB $\mu$ V
Gain Range	-30		0	dB
Combination port attenuation	-1	0	+1	dB
IM2, IM3 *)	55			dB
Isolation between receivers				
OR43-085, OR43-204	60			dB
OR43-300 (>60dB for P <sub>opt</sub> ≥ -16dBm)	54			dB
Receiver Turn-on (RF output reaches 90% of its steady-state value)			0.25	$\mu$ s

\*) 2-tone test with OMI= 20%, optical input power at maximum, RF output level of individual ports  $\leq 107$ dB $\mu$ V

### Available Types

OR43-085	Low noise 85MHz RFoG return path receiver
OR43-204	Low noise 204MHz RFoG return path receiver
OR43-300	Standard 300MHz HFC return path receiver