



ACION™ 8000 Series

A8KQRR/DRR (300 MHz)

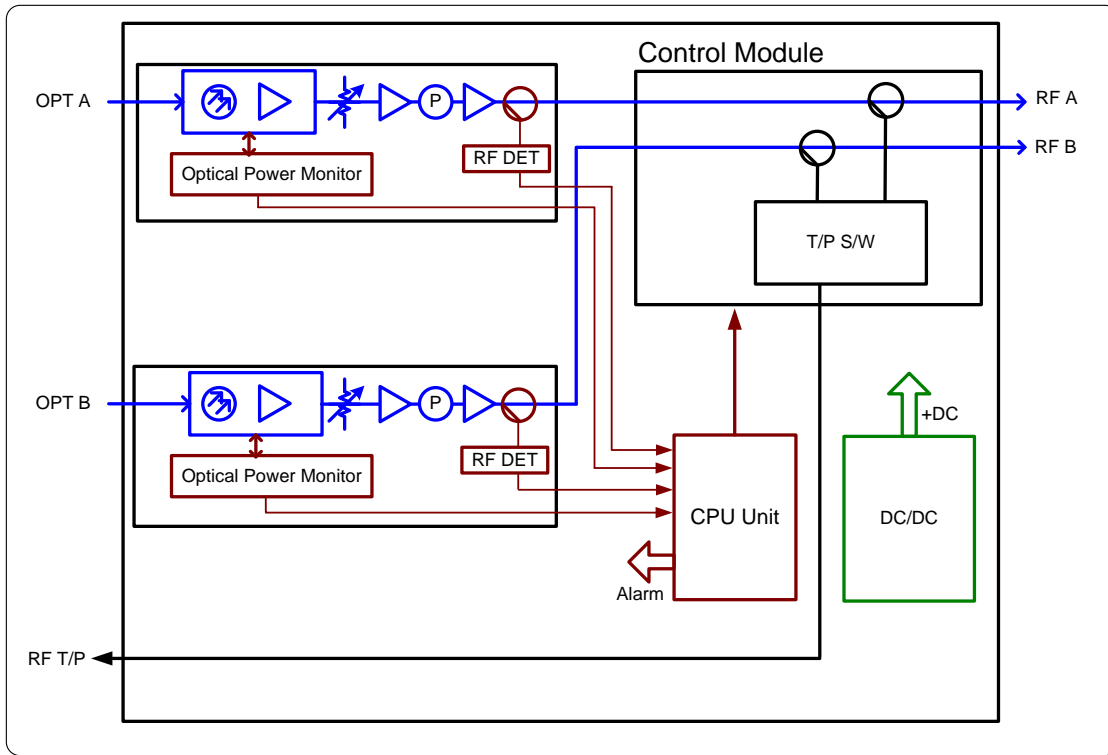
Quad/Dual Return Receiver

A8KQRR and A8KDRR – Quad/Dual Return Receiver is an integral part of return path system applications. 3RU in height and up to 12 modules can reside in the 19-inch high-density chassis (A8KMF3). The receiver has RF bandwidth up to 300 MHz with very low noise which is excellent headend return receiver for high frequency split DOCSIS 3.1 transmission in the HFC network.

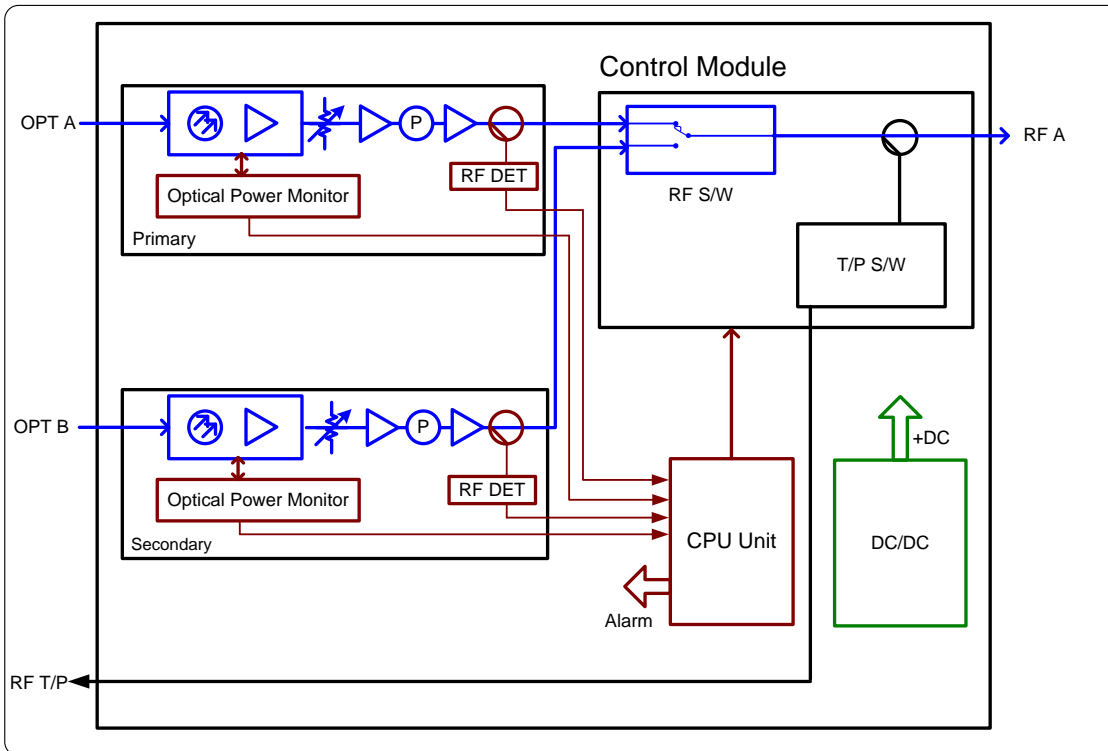
Features

- Bandwidth up to 300MHz
- Wide optical input range (-15 to +2 dBm)
- Front optical inputs and rear RF outputs
- Optical wavelength: 1200 to 1600 nm
- Optional A/B switch for redundant receivers
- Hot-swappable
- -20 dB RF test point on front panel, selectable for each input
- AGC function to control network levels
- Remote monitor and control function by HMS or SNMP

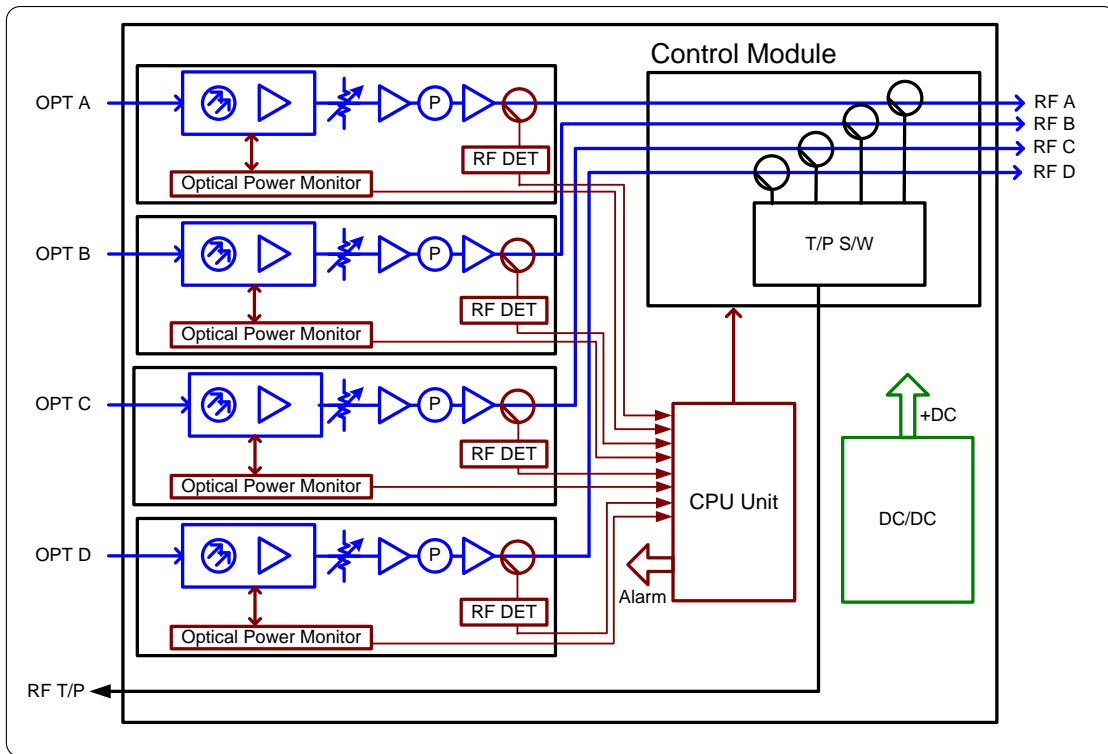
Block Diagrams



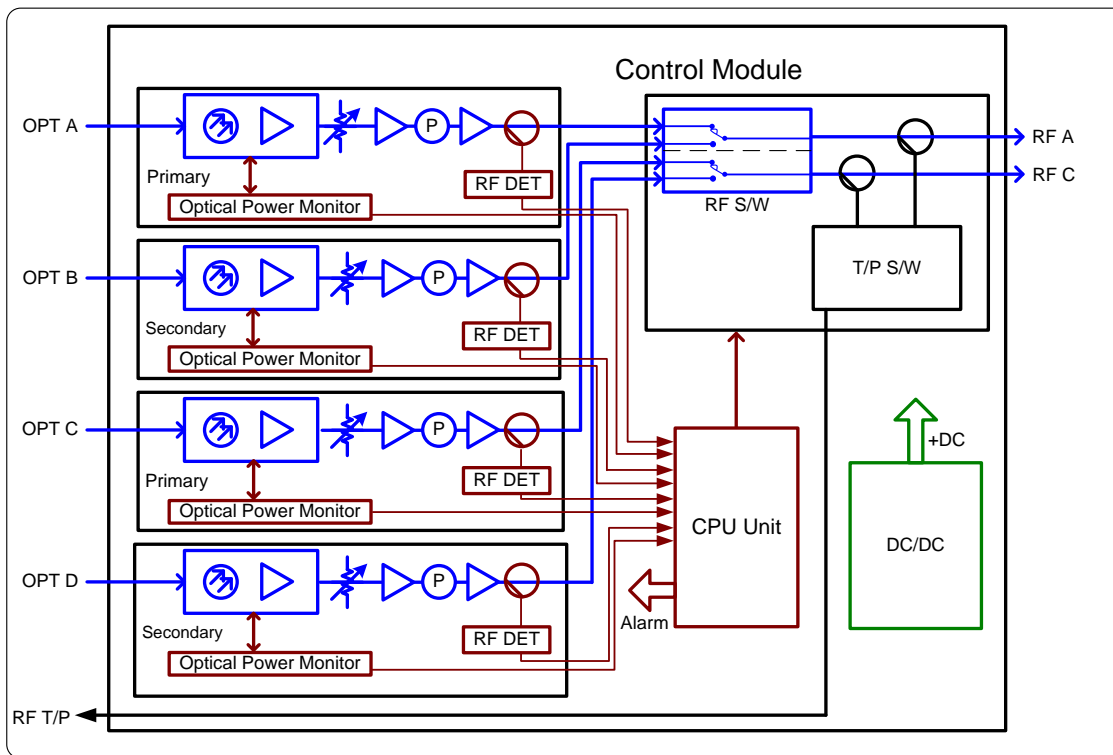
A8KDRR Dual Receiver Without AB Switch



A8KDRR Dual Receiver with AB Switch



A8KQRR Quad Receiver Without AB Switch



A8KQRR Quad Receiver with AB Switch

Specifications

ACI		ACION 8000 Series A8KQRR/A8KDRR Quad/Dual Return Receiver 300MHz		
PARAMETERS	CONDITIONS	UNITS	SPECIFICATION	NOTES
Optical Specification				
Wavelength		nm	1200 to 1620	
Optical receive power		dBm	-15 to +2	
Optical return loss		dB	≥ 50	
Number of optical input ports	QRR DRR		4 2	
A/B switching threshold		dBm	-15	For AB switch model only
RF Specifications				
Operating bandwidth		MHz	5 - 300	
Number of RF output ports	QRR QRR AB S/W DRR		4 2 2	
Impedance		Ω	75	
Return loss	Max.	dB	-16	
Output level	Opt.In -10 to 0 dBm Opt.In -15 to +2 dBm	dBmV	≥ 42 (AGC) 32 – 46 (MGC)	Note 1
RF Gain Adjustment:				
MGC/RGC Mode range		dBm	-10 to 0	
Optical AGC range		dB	± 1	
AGC Mode tolerance		dBm	0 to 20	
Flatness	Peak to Valley	dB	± 0.5	AGC Mode
Slope	-10 to -4 dBm -4 to 0 dBm	dB	+0.75 to -0.5 -2.5	AGC Mode
Test point	Directional coupler	dB	-20 ± 0.5	
RF gain	A8KQRR/DRR	dB	49	Note 2
Redundancy switch time	Max.	ms	50	
Port to Port isolation:				
Non-adjacent ports	5 to 300 MHz	dB	≥ 60	
Adjacent ports			≥ 70	
TP to TP isolation	5 to 300 MHz		≥ 50	Worst case

Specifications

ACI		ACION 8000 Series		
		A8KQRR/A8KDRR Quad/Dual Return Receiver 300MHz		
PARAMETERS	CONDITIONS	UNITS	SPECIFICATION	NOTES
Distortion				
Equivalent noise input	Max.	Pa/Hz ^{1/2}	3.5	
Second order distortion (DSO)	Max.	dBc	-55 (-58 typical)	
Third order distortion (DTO)	Max.	dBc	-65	
Mechanical and Environmental				
Module width		slot	1	
Power consumption	Max.	W	15	For A8KQRR
Operating temperature		°F (°C)	32 to 122 (0 to 50)	
Relative humidity	Non-condensing	%	0 to 95	
Optical connector			SC/APC	Standard
Dimensions	D x H x W	Inch. (mm)	16.1 x 5.0 x 1.0 (410 x 127 x 26)	
<p>Note 1: At maximum gain with -10 dBm optical input and 10% OMI from return transmitter.</p> <p>Note 2: Measured from input of first gain stage to output of module with minimum attenuation.</p>				

Ordering Matrix

A8KQRR/DRR 300 MHz Configuration Sheet

Customer: _____

Created By: _____ Order Date: _____

ORDERING MATRIX

April 16, 2021

	1		2	3	4		5	6	7	8
A 8 K		R R	—			—			—	3

1. Number of Receivers in module

D	=	2 Receivers
Q	=	4 Receivers

3. 4. A/B Switch for redundant or Non-redundant receivers

A	A	=	With A/B Switch and software AGC function
A	C	=	W/ AGC & Without A/B Switch for Non-redundant receivers

5. 6. Connector

S	C	=	SC/APC with shutter (standard)
S	U	=	SC/UPC
F	C	=	FC/APC
E	2	=	E2000

7.8. Bandwidth

—	3	=	300 MHz
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