



ACION 8000

DT8150 (1.2 GHz) 1550 nm Forward Optical DM Transmitter

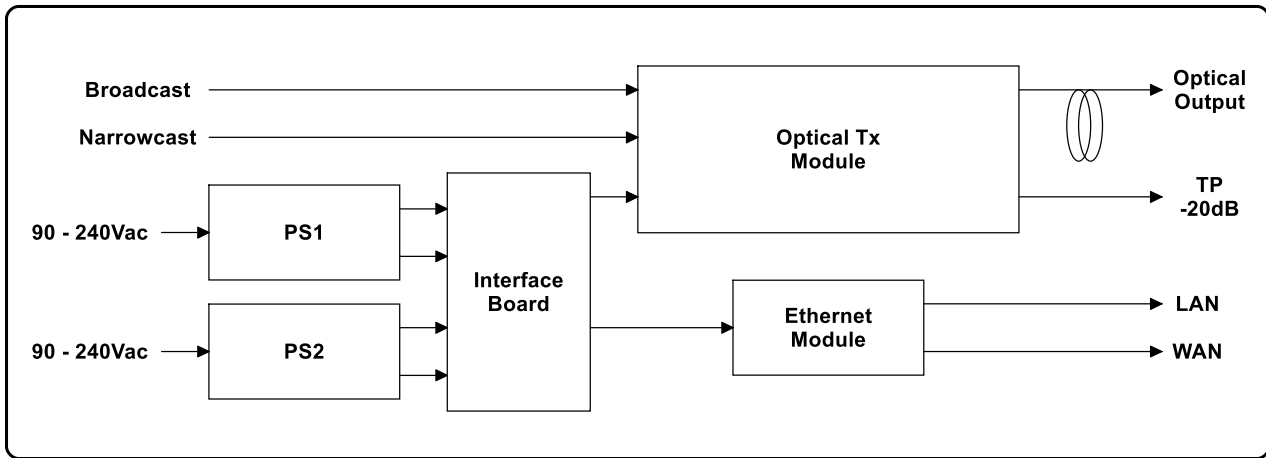
The DT8150 series are high performance head-end 1.2 GHz forward optical direct modulation transmitter (Tx) for HFC or FTTH applications. The DT8150 series Tx is a 1RU 19" standard chassis and is available in several wavelength options and configurations to meet various network requirements. The DT8150 series Tx provides a minimum optical power output of 10 dBm and can transmit RF signals over a fiber length up to 30 km with user fiber length setting in 1 km increment.

The Transmitter's adjustable OMI level and user defined AGC setting features makes it very versatile in field application with a wide range of RF input loading from analog only, analog and digital or full digital.

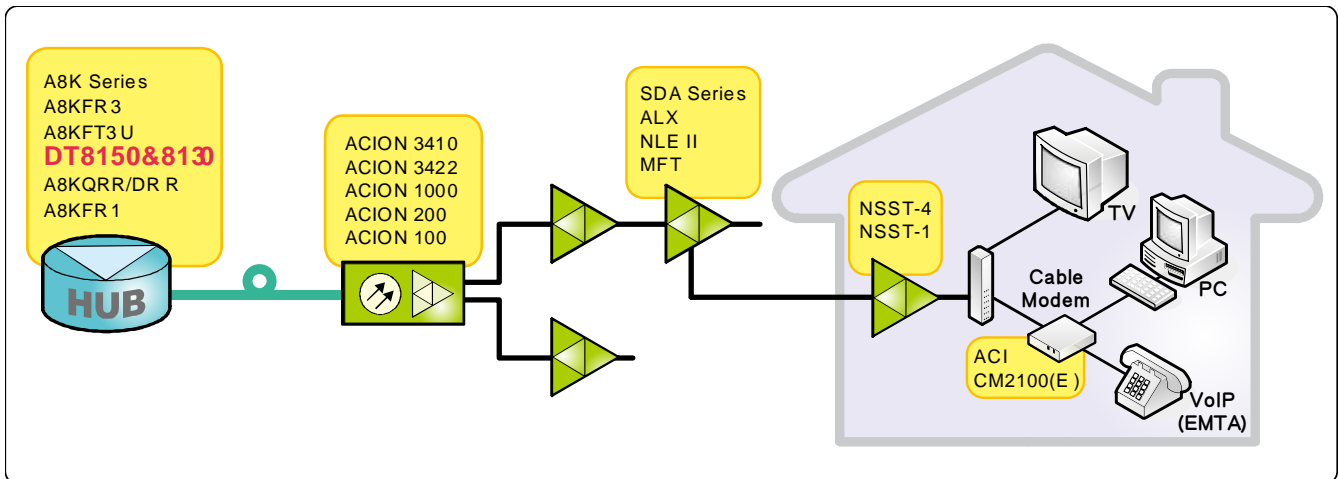
Features

- 19" standard 1RU rack design
- Transmission bandwidth up to 1.2 GHz
- Fiber distance up to 30 km with user fiber length setting in 1 km increment
- Cooled DFB laser diode with integrated optical isolator
- AGC/MGC mode selection
- 1550 nm, standard DWDM ITU Ch15 to Ch72, 100 GHz spacing
- Video/CW Mode selection
- OMI level adjustments
- User defined AGC setting
- SBS: 18 dBm
- Dual Hot-Swappable power supply
- -20 dB RF front panel test point
- Remote control and monitor functions via HMS or SNMP

Block Diagram



Application



Specifications

PARAMETERS		CONDITIONS	UNITS	SPCIFICATION	NOTES
ACI		ACION 8000 Series DT8150 1550 nm Forward Optical DM Transmitter			
Optical Specification					
Laser Type				Cooled DFB LD with Isolator	
Optical Wavelength			nm	1520 - 1565	(1)
Optical Power			dBm	10	
Optical Power Tolerance			dB	+1/-0	
Optical Connector Type				SC/APC (standard) FC/APC, E2000/APC (optional)	
SBS			dBm	18	
RF Parameters					
Operating Bandwidth			MHz	50 - 1218	
Channel Loading	Analog + Digital	Channel		79ch Analog + 47ch 256QAM +2x192MHz OFDM	
	All Digital	Channel		125ch 256QAM + 2x192MHz OFDM	
Broadcast RF Input Level	Analog Digital	dBmV/ch		15 9	
Narrowcast RF Input Level	Digital only	dBmV/ch		15	(2)
RF Return Loss (All Ports)	75 Ohm Max	dB		-16	
Broadcast & Narrowcast Flatness	50 to 1218 MHz	dB		± 0.6	
RF Input AGC Range	AGC Mode	dB		+5/-10	
MGC Gain Control Setting	MGC Mode	dB		0 to 15	
Front Panel Test Point Level	50 to 1218 MHz	dB		-20 ± 0.5	(3)
Test Point Flatness	50 to 1218 MHz	dB		± 0.6	
Port-to-Port Isolation	Narrowcast to Broadcast			45	
	Broadcast to Narrowcast		dB	15	
Distortion Performance (see Note 4)					
79ch analog + 47ch 256 QAM + 2x192 MHz OFDM (digital channels are -6 dB from analog)					
Fiber Length Setting	Selectable 1 km increment	km		0 to 30	(4)
Carrier to Noise Ratio (CNR) 79ch NTSC Analog Only 79ch NTSC + 47ch 256 QAM + 2x192MHz OFDM	Min.	dB		52 51	(5)
	Composite Second Order (CSO)	Max.	dBc	-62	
Composite Triple Beat (CTB)	Max.	dBc		-67	
Cross-Modulation	Max.	dBc		-62	
Pre-FEC Bit Error Rate (BER)	Max.			1x10 ⁻⁹	
Modulation Error Rate (MER)	Min.	dB		38	
All digital loading (125ch 256 QAM + 2x192 MHz OFDM)					
Modulation Error Rate (MER)				≥ 38	(5)
Bit Error Rate (BER)	Pre-FEC			≤ 10 ⁻⁸	
Environmental / Mechanical					
RF Connector Type (RF Input & RF Test Point)	Rear Panel Front Panel			F-Type female	
Dimensions	D x H x W	mm		JIS: 480x49x357; EIA: 482.6x43.7x357	
Operating Temperature		°F (°C)		32 to 122 (0 to 50)	
Storage Temperature		°F (°C)		-40 to 149 (-40 to 65)	
Relative Humidity	Non-condensing	%		0 - 95	
Power Consumption	0 to 50°C, Max.	W		18	
Dual Power Supply (Rear Panel)	Hot Swap			90 to 240 VAC, 50/60Hz	
2 LEDs				Status, AGC	
Front Panel Control & Monitor Interface				LAN & WAN	
Network Management				Webpage Remote NMS	

- (1) DWDM ITU Standard ch15 to ch72, 100 GHz spacing
 (2) Digital channels are -6 dB from analog after combined with Broadcast Input
 (3) Relative to the Broadcast Input
 (4) Fiber Length Setting via Webpage Remote NMS and Front Panel LAN/WAN

Part Number Ordering Matrix

DT8150 1550nm Configuration Sheet

Customer: _____

Created By: _____ Order Date: _____

ORDERING MATRIX

2018/10/9

Position	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PART NUMBER	D	T	8	1	5	0										

7~8

OPTICAL CONNECTOR

SC: SC/APC with shutter
FC : FC/APC

13~14

CONTROL INTERFACE

RS: RS-232
SN: SNMP(LAN)

9~10

OPTICAL WAVELENGTH

15:
| : 100 GHz ITU-T channel
72:
00: not specified

15~16

POWER SUPPLY / POWER CORD

SA: Single AC(110~240 VAC) / North American power cord
DA: Dual AC(110~240 VAC) / North American
SD: Single DC 48V
DD: Dual DC 48V
EA: Single AC(110~240 VAC) / European power cord
UA: Dual AC(110~240 VAC) / European power cord

11~12

OPTICAL OUTPUT LEVEL

07 : ≥ 7 dBm (7~8 dBm)
09 : ≥ 9 dBm (9~10 dBm)
10 : ≥ 10 dBm (10~11 dBm)

NOTES:



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