



ICON™ series/remote PHY

ICON9000 RPD INTELLIGENT REMOTE PHY 1.2 GHz OPTICAL NODE

Teleste ICON9000 RPD is an excellent 1.2 GHz node equipped with remote PHY module. The module meets CableLabs® specifications and allows interoperability with standards-based CCAP core implementations.

Cable industry is going through a rapid change, as operators are searching for solutions to provide consumers with more network capacity and services which enable smooth and reliable online use of versatile applications and video content. The ICON9000 RPD offers an excellent HFC node concept that expands cable network capacities, with the remote PHY technology specified by CableLabs and allows cable operators to embrace distributed access architectures. The ICON9000 RPD provides an economically sensible platform for foresighted operators who want to maximize network uptime and performance.

TELESTE

ICON9000 RPD INTELLIGENT RPD-ENABLED 1.2 GHZ OPTICAL NODE

Combining our smart HFC technologies with the remote PHY capabilities, this intelligent distributed access node, called the ICON9000 RPD, offers automated features and advanced diagnostics reducing operational expenditures.

1. Performance

In addition to being an excellent HFC fiber node, the ICON9000 RPD is equipped with remote PHY module. The node and remote PHY module support DOCSIS® 3.1 downstream spectrum and upstream frequencies.

2. Remote PHY device (RPD) modules

The node can host either 1x1 or 1x2 Teledyne remote PHY device (RPD) modules. Modules meet CableLabs specifications to allow interoperability with standards based CCAP core implementations.

3. Security

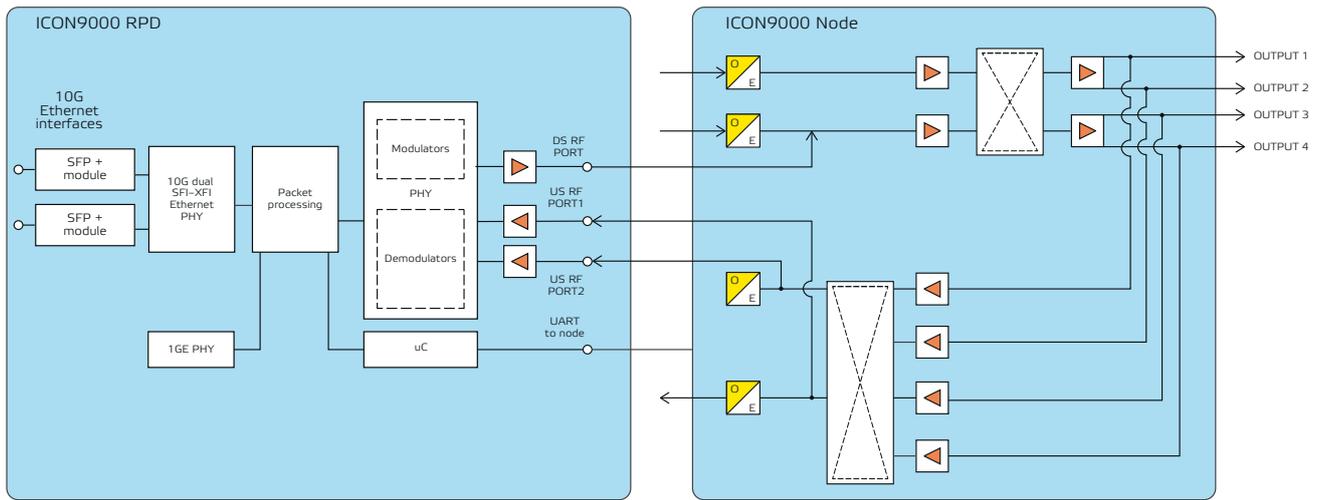
Management traffic between CCAP service card and ICON9000 RPD is secured by IPsec.

- Authentication 802.1x
- Device Certificate as in CM-SP-R-PHY
- Secure SW download as in CM-SP-R-PHY
- MACSec Product option

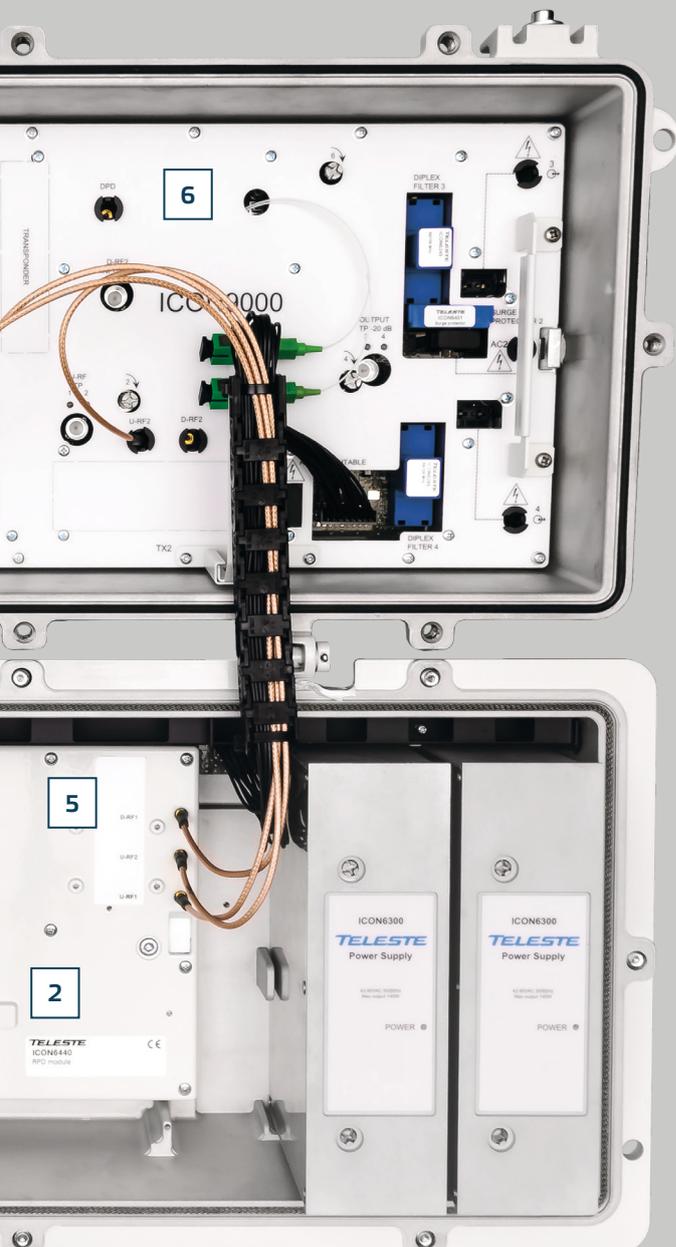
4. Digital optics

2 x 10 GbE SFP+
2nd for redundancy or daisy chain





ICON9000 RPD block diagram



5. OOB support

3 OOB channels

OOB modes: SCTE 55-1, SCTE 55-2, NDF/NDR.

6. High reliability

Excellent and fully passive cooling design lowers internal temperature, which increases reliability and component durability. This leads to higher network availability and lower operational costs.

7. Easy management even on the site

The node can be accessed locally via a USB port. The USB port also enables wireless local management via BT connection and Teleste CATVisor Commander application for Android smartphones and tablets.

8. Integrated fiber compartment

The integrated fiber management provides secure storing location for fiber-optic cables and fiber splices.

ICON9000 RPD / INTELLIGENT REMOTE PHY 1.2 GHZ OPTICAL NODE

DOWNSTREAM SIGNAL PATH		UPSTREAM SIGNAL PATH	
Light wavelength	1290...1610 nm	Frequency range	5...42 / 65 / 85 / 204 MHz
Optical input power range	-7...0 dBm	Ingress switching	0 dB / -6 dB / Blockage
Frequency range	54 / 85 / 102 / 258...1218 MHz	Input level	2...19 dBmV
Flatness	± 0.5 dB	Max input level	34 dBmV (TCP)
Gain limited output	4 x 64 dBmV	OMI adjustment	0...-20 dB
Max output level	4 x 58 dBmV (190 channels)	Return test point	0 dB
GENERAL CHARACTERISTICS			
Power consumption	81 W + 34/38 W (RPD)	Dimensions (l x w x d)	22.8" x 11.5" x 10.7"
Supply voltage	45...90 V AC	Weight	22 kg (48 lbs)
Max current feed trough	15 A / port	Operating temperature	-40...+60 °C (-40...+140 °F)
Hum modulation	65 dB	Class of enclosure	IP67
Optical connectors	SC/APC	EMC compatibility	FCC part 15, EN 50083-2
Output ports	5/8"	ESD, Surge	4 kV, 6 kV (EN 60728-3, ANSI/SCTE 81)

RPD

10 GBIT ETHERNET INTERFACES		DOWNSTREAM RF INTERFACE	
Number of ports	2 x SFP+ module slot	Number of interfaces	1
Standard	IEEE 802.3-2008, Section 4 10GBASE-SR, 10GBASE-LR, 10GBASE-ZR	Standard	CM-SP-DRFI Annex D CM-SP-PHYv3.1
Timing	IEEE-1588	Connector	75 Ω MCX
DOWNSTREAM SC-QAM		DOWNSTREAM OFDM	
Number of SC-QAM chs	160 x 6 MHz channels	Number of OFDM chs	6
Frequency range	54...1002 MHz	Frequency range	108...1218 MHz
Modulation	Up to 1024 QAM	Channel width	24...192 MHz
		Modulation order	Up to 16k QAM
UPSTREAM RF INTERFACE		UPSTREAM SC-QAM	
Number of interfaces	1 (ICON6441)	Number of SC-QAM chs	12 per RF interface
Number of interfaces	2 (ICON6442)	Frequency range	5...85 MHz
Connector	75 Ω MCX	Modulation order	Up to 256 QAM ATDMA
Standard	CM-SP-PHYv3.1, CM-SP-R-PHY Annex E		
UPSTREAM OFDMA		OOB SUPPORT	
Number of OFDMA chs	2 per RF interface	Downstream frequency range	85...1218 MHz
Frequency range	5...204 MHz	OOB mode	SCTE 55-1, SCTE 55-2, NDF/NDR
Modulation order	Up to 4k QAM	Number of OOB channels	3
Channel width	Up to 96 MHz (per channel)	Standard	CM-SP-R-OOB



TELESTE CORPORATION
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