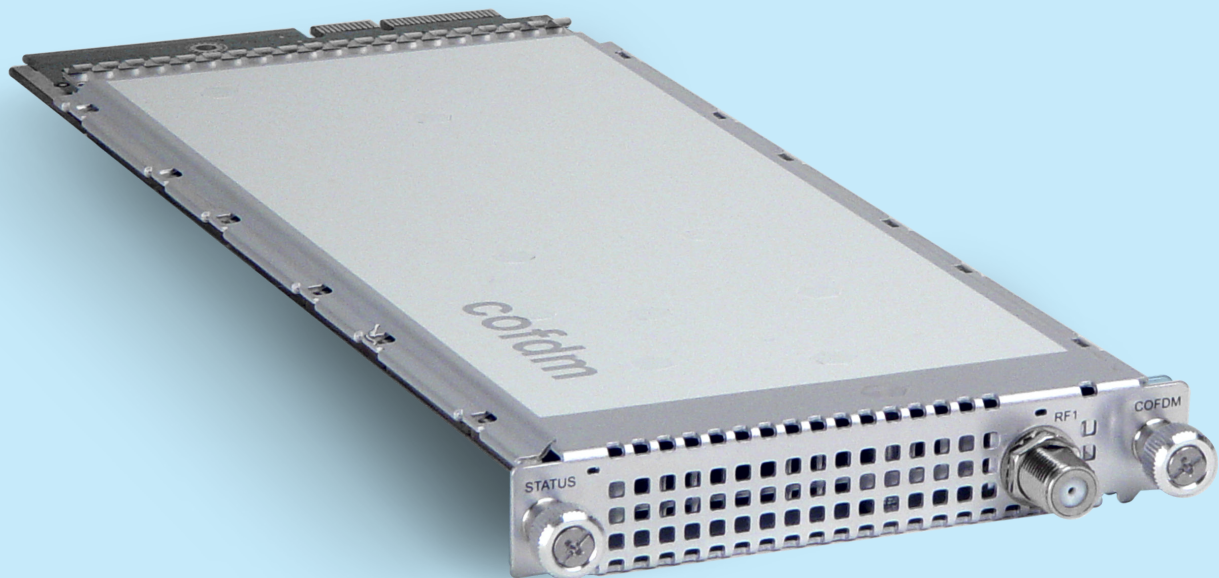


Dual/quad COFDM module for Luminato platform

The dual/quad COFDM module enables flexible multiplexing of SPTS and MPTS video services as well as PSI/SI table streams. High quality DVB-T modulation with agile up conversion provides easy adaptation to DVB-T delivery over HFC-network.



Versatile functionality

The Teleste Luminato dual/quad COFDM modules provide an advanced DVB-T platform for Cable TV operators. The COFDM module enables flexible multiplexing of SPTS and MPTS video services and also PSI/SI table streams. High quality COFDM modulation with agile up conversion provides easy adaptation to DVB-T delivery over HFC-network.

The Luminato dual/quad COFDM multiplexers support selection of free-to-air and scrambled services from IP stream sources, which can be adjusted to the operator's service line-up with the built-in advanced transport stream processing capabilities. The Luminato dual/quad COFDM module support Standard Definition, High Definition and 3D video in MPEG-2 and MPEG-4 AVC video formats and numerous audio formats.

Effective flexibility

Luminato dual/quad COFDM module is fully compatible with the high-performance Luminato chassis, where it can be fitted freely to any of the six module slots. In accordance with the Luminato system architecture, the video processing is performed on the dual/quad COFDM modules, which enables low-cost applications even with partially equipped chassis, while having the performance scalability to fully equipped chassis.

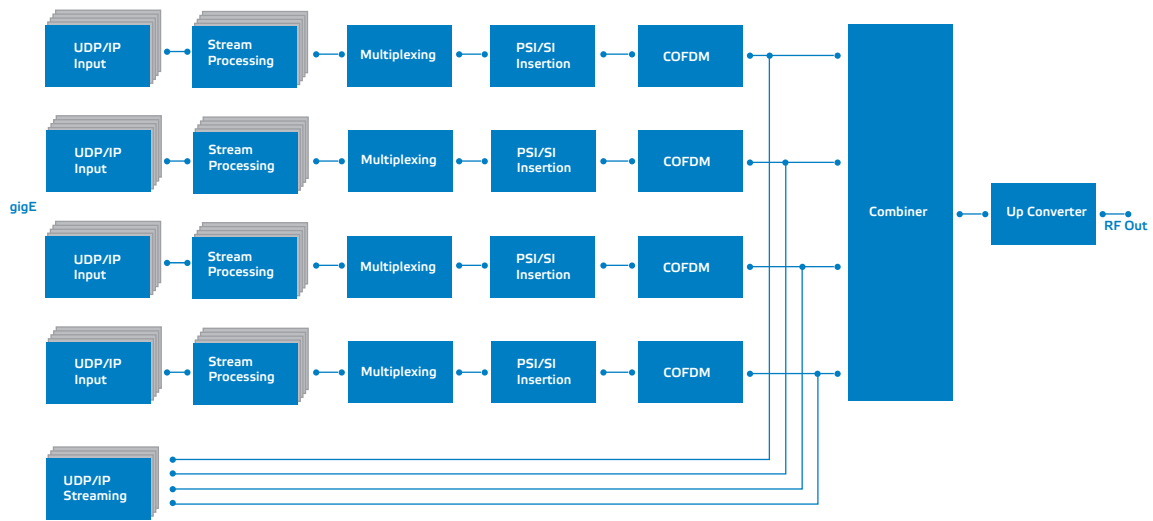
Complete cable TV headend in 1 RU

As one or more dual/quad COFDM modules can be included in 1 RU Luminato platform with Luminato DVB-S, DVB-S2, DVB-ASI, DVB-T, DVB-T2, DVB-C receivers and QAM modules, together they can form a complete cable TV headend. This provides an effective way for receiving services from multiple sources as well as ingesting them to network in various formats.

Efficiency and reliability

With the advanced transport stream processing, operator can select the services and components which are relevant to his network. The Luminato will follow-up any changes on the stream to automatically readjust the processing to provide uninterrupted service. This will allow the operator to efficiently manage network capacity usage.

The available tools provide high degree of automated features to minimise the cost of system set-up and operation, and avoiding downtime due to changes in the received services.



Block Diagram, Quad COFDM Out

Features

- DVB TS over UDP/IP or RTP/UDP/IP reception
- IP address / UDP port selector for input streams
- Network dejittering
- Advanced transport stream processing
- PCR processing
- Multiplexing
- Automatic PSI/SI table generation
- Custom PSI/SI creation and streaming
- High quality COFDM modulation
- Agile upconversion
- Multiplex IP streaming (VBR or CBR)
- MPEG transport stream over UDP/IP and RTP/UDP/IP streaming

Technical specifications

Parameter	Specification	Note	Parameter	Specification	Note
IP inputs			IP streamer output of multiplexer		
Frame formats	UDP/IP, RTP/UDP/IP		Framing format	UDP/IP, RTP/UDP/IP	
TS packet per UDP frame	1...7		Traffic type	unicast or multicast	
Max inputs streams/module	120		TS format	CBR, VBR	
Dejittering buffersize	200 ms		Max TS packet speed/streamer directly related COFDM output speed		
Multiplexers			Maximum speed total	250 Mb/s	shared with 4 outputs
Number of multiplexer	2 or 4	2)	General		
Max input service/multiplexer	120		Power consumption	15 W	
Max components per service	32		Supply voltages	24 V	
Output speed	depends on COFDM modulator settings		Connectors, DVB-T RF out	F	
COFDM Output			Dimensions	20 x 109 x 253 mm (HxWxD), 1)	
Transmission mode	2K, 8K		Weight	0,4 kg	
Transmission Guard Interval	1/32, 1/16, 1/8, 1/4		Enclosure classification	IP21	
QAM constellations	QPSK, QAM16, QAM64		Operating temperature range	-10...+55 °C	
HO code rate	1/2, 2/3, 3/4, 5/6, 7/8		Storage temperature range	-30...+70 °C	
Impedance	75 ohm		Specification is met	0...+45 °C	
Output return loss	>14 dB	active channel	Notes		
	>12 dB	act. ch 81...862 MHz	1) Dimensions excluding connectors and locking screws		
	>10 dB	act. ch 862...1000 MHz	2) Dual/Quad COFDM module can have 2 modulators in 8K transmission mode and 4 modulators in 2K transmission mode		
Output Level, 5)	102 ... 112 dBμV	Four adj. channels	3) Values for quad channels active. Excluding harmonics (8 MHz channel)		
	104 ... 114 dBμV	Three adj. channels	4) Typical value outside 100 MHz of active channel block (8 MHz channel)		
	106 ... 116 dBμV	Two adj. channels			
	110 ... 120 dBμV	One channel			
Output Level accuracy	+/- 2 dB				
Output Power step size	0,2 dB				
Output center frequency	85...999 MHz				
Output frequency accuracy	+/- 30 kHz				
Output frequency step size	50 kHz				
Out of band noise, 3)	<-58,5 dBc	1st adj. channel			
	<-62 dBc	2nd adj. channel			
	<-64 dBc	3rd adj. channel			
	<-66 dBc	other channels			
	-70 dBc	other channels, 4)			
Harmonics	<-63 dBc				