BITSTREAM®

Leader in time synchronization and data transmission solutions

Fiber optic multiplexer CERES

Fast transport of a stream of Ethernet frames and one E1 stream over the optical path.

Reliable

Easy to configure

Adaptive

CERES

1x E1 G.703 2048kbit/s fiber optic multiplexerwith 4-port 100 Mb/s Ethernet switch

- ✓ Ethernet LAN connection 10/100 Mbit/s + 1x E1 2048kbit/s G.703 via optical link
- ✓ Optical port 155 Mbit/s
- ✓ Built-in 4-port Ethernet switch with 1000 MAC address table
- ✓ Ability to define up to 15 VLANs to create independent transmission channels
- ✓ Ability to limit bandwidth on Ethernet ports
- ✓ QoS support, dual traffic class support, frame prioritization based on default port priority, 802.1p compliant priority, DSCP/ToS field
- ✓ SNMP management, WWW, TELNET, RS232 console, SNTP, SMTP, Syslog support
- ✓ Virtual console, possibility of remote management with CERES device equipped with RS232 interface
- ✓ Power supply range 12 to 60V DC

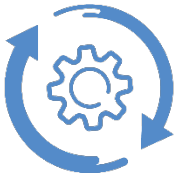
Features of Ceres multiplexer

Reliable

CERES device has built-in 4-port Ethernet switch with "flow control", "autocrossover", VLAN support and QoS mechanisms (support for two traffic classes). On each port of the switch it is possible to allocate available transmission bandwidth from 32 kbit/s to 100 Mbit/s. So it is possible to set priorities for each user directly in the device.

Easy to configure

Built-in HTTP server, TELNET server and SNMP agent allows for free configuration of device parameters via standard WWW browser and continuous fault monitoring from the level of any management platform equipped with SNMP protocol. Both local and remote management of the device is performed via dedicated Ethernet port thus not occupying any transmission ports.



Adapting

Advanced VLAN configuration mechanism in CERES device allows flexible linking and traffic distribution among clients connected to Ethernet ports. Additionally, it is possible to create four independent channels on Ethernet ports, completely transparent for Ethernet packet stream.

Supported EMC, safety* standards, recommendations and directives:

PN-EN 55032:2015-09	Electromagnetic compatibility for multimedia equipment	Emission Requirements.
PN-EN 55035:2017-09	Electromagnetic compatibility for multimedia equipment	Resistance requirements
PN-EN IEC 62368-1:2020-11	Audio/visual, information technology and telecommunications equipment	Part 1: Safety requirements
PN-EN 55011:2016	Industrial, scientific and medical equipment	Radio frequency disturbance characteristics - Limits and methods of measurement
PN-EN 60825-1:2014-11	Safety of laser equipment	Part 1: Equipment classification and requirements
EMC 2014/30/EU	EMC Electromagnetic Compatibility Directive.	
LVD 2014/35/EU	LVD Low Voltage Directive.	
PN-EN 61000-4-2	Electromagnetic Compatibility (EMC)	Part 4-2: Test methods and measurements - ESD immunity test
PN-EN 61000-4-3	Electromagnetic Compatibility (EMC)	*Part 4-3: Test and measurement methods - Testing for immunity to radiated radio frequency electromagnetic fields*
PN-EN 61000-4-4	Electromagnetic Compatibility (EMC)	Part 4-4: Test for immunity to a series of fast electrical transients
PN-EN 61000-4-5	Electromagnetic Compatibility (EMC)	Part 4-5: Test and measurement methods - Impact test
PN-EN 61000-4-6	Electromagnetic Compatibility (EMC)	Part 4-6: Test and measurement methods - Immunity test for conducted disturbances induced by radio frequency fields
PN-EN 61000-4-8	Electromagnetic Compatibility (EMC)	Part 4-8: Testing for immunity to mains frequency magnetic fields
PN-EN 61000-4-11	Electromagnetic Compatibility (EMC)	Part 4-11: Test and measurement methods -- Tests for resistance to voltage collapse, short-time interruptions and voltage changes for equipment with rated phase current up to 16 A

Technical specification

Supported transmission standards

- ✓ IEEE 802.3 10Base-T Ethernet
- ✓ IEEE 802.3u 100Base-TX Fast Ethernet
- ✓ IEEE 802.3u 100Base-FX Fast Ethernet Fiber
- ✓ IEEE 802.3x Flow Control and Back-pressure
- ✓ IEEE 802.1p Class of Service (CoS)
- ✓ IEEE 802.1Q VLAN
- ✓ IEEE 802.1ad QinQ

Multiplexing

- ✓ Number of channels E1 - 1 channel
- ✓ Maximum Ethernet data rate - 100 Mbit/s
- ✓ Ethernet management channel - 7Mbit/s

Supported protocols

- ✓ SNMP, SNTP, SMTP, Syslog
- ✓ WWW, TELNET, RS232 console
- ✓ MDI/MDIX "autocrossover" function
- ✓ Full/half duplex
- ✓ Flow control function
- ✓ Support for QoS mechanisms

Linear optical port

- ✓ SM, MM, WDM
- ✓ Fiber type 9/125um, 62.5/125um
- ✓ SC/PC connector
- ✓ Range depending on port type optical: 15km, 50km, 100km (1550nm)
- ✓ Also available with SFP port

Ethernet Electrical Ports

- ✓ 4x 10/100BaseT(X)
- ✓ 10/100 Mbit/s transmission rate
- ✓ Flow control function
- ✓ MDI, MDI-X "autocrossover" function
- ✓ Support for VLAN, IEEE 802.1q
- ✓ Connection validity indication
- ✓ Connector 4 x RJ-45
- ✓ MAC table: 1000 addresses

Physical characteristics

- ✓ Housing dimensions103x230x53 mm
- ✓ Weight up to 1 kg

Environmental requirements

- ✓ Operating temperature: +5° to +45°C

Power supply

- ✓ Supply voltage range 12 to 60V DC
- ✓ Power consumption up to 6W
- ✓ Connector type: Screw

Port E1

- ✓ ITU-T G.703 compliant, 2048kbit/s
- ✓ 120 W symmetrical pair
- ✓ Line code HDB-3
- ✓ Test loops: towards the E1 line and towards the remote device
- ✓ Ability to generate a PRBS test stream
- ✓ RJ-45 connector

Management

- ✓ SNMP
- ✓ HTTP protocol and web browser as a management application
- ✓ SMTP - sending e-mail in case of failure
- ✓ Dedicated RJ45 port for management
- ✓ Via RS232 console
- ✓ Implementation of G.826.
- ✓ Virtual console function

Labels

CERES-S-(X)

CERES Optical interface type: Built-in	S	(X)
1310 nm SM/MM - range 15/5 km	S	
1310 nm SM - range 50 km	M	
1550 nm SM - range 100 km	L	
WDM interfaces (additional field required in designation for transceiver)		
1310/1550 and 1550/1310 nm SM/MM - 20/2 km range	WS	
1310/1550 and 1550/1310nm SM - 40 km range	WM	
1310/1550 and 1550/1310 nm SM - range 60 km	WL	
1550/1570 and 1570/1550nm SM - range 100 km	WLL	
Interchangeable		
Version with SFP connectors	SFP	
Optional field (valid only if WDM interface is selected in the previous field)		
For SFP, S, M, L versions		-
1310/1550 nm for WS/WM/WL versions or 1550/1570 nm for WLL versions		1
1550/1310 nm for WS/WM/WL versions or 1570/1550 nm for WLL versions		2

NOTE - the ranges given are approximate and depend on actual fibre parameters

Example designations

CERES-L CERES multiplexer, RCK-ANY-02 rack card version, 1x E1 G.703 and 4x ETH version with 1550nm SM interface, range up to 100km, operating temperature: +5° to +45°C, supply voltage 12 to 60V DC

Additional accessories

Designation	Transmission speed	Wavelength	Fiber optic cable type	Distance	Insert type	WDM	Connector type	Operating temperature
BTP-8503-02CD	155 Mbps	850 nm	MM	2 km	SFP	---	LC	0~70°C
BTP-3103-L2CD	155 Mbps	1310 nm	MM/SM	2/20 km	SFP	---	LC	0~70°C
BTP-3103-L4CD	155 Mbps	1310 nm	SM	40 km	SFP	---	LC	0~70°C
BTP-5503-L8CD	155 Mbps	1310 nm	SM	80 km	SFP	---	LC	0~70°C
BTP-5503-12CD	155 Mbps	1310 nm	SM	120 km	SFP	---	LC	0~70°C
BTPB-3503L-L2CD	155 Mbps	1310/1550 nm	SM	20 km	SFP	YES	LC	0~70°C
BTPB-5303L-L2CD	155 Mbps	1550/1310 nm	SM	20 km	SFP	YES	LC	0~70°C
BTPB-3503S-L2CD	155 Mbps	1310/1550 nm	SM	20 km	SFP	YES	SC	0~70°C
BTPB-5303S-L2CD	155 Mbps	1550/1310 nm	SM	20 km	SFP	YES	SC	0~70°C
BTPB-3503L-L4CD	155 Mbps	1310/1550 nm	SM	40 km	SFP	YES	LC	0~70°C
BTPB-5303L-L4CD	155 Mbps	1550/1310 nm	SM	40 km	SFP	YES	LC	0~70°C
BTPB-3503S-L4CD	155 Mbps	1310/1550 nm	SM	40 km	SFP	YES	SC	0~70°C
BTPB-5303S-L4CD	155 Mbps	1550/1310 nm	SM	40 km	SFP	YES	SC	0~70°C

List of proposed power supplies for BITSTREAM devices

Designation of the power supply	Output voltage range(DC)	Nominal output power	Operating temperature C-standard T-industrial
ZAS-24-25-W-T	24 V	25 W	-30°C ~ +70°C
ZAS-48-25-W-T	48 V	25 W	-30°C ~ +70°C
ZAS-24-25-S-T	24 V	25 W	-30°C ~ +70°C
ZAS-48-25-S-T	48 V	25 W	-30°C ~ +70°C
ZAS-24-20-R-T	24 V	20 W	-20°C ~ +70°C
ZAS-48V56-40-R-T	48 - 56 V	40 W	-20°C ~ +70°C


BitStream Sp. z o.o.

Mełgiewska St. 7/9

20-209 Lublin, Poland

Vat: 946-250-85-88

Tel. +48 81743 86 43

Fax +48 442 02 98

info@bitstream.pl

www.bitstream.pl/en