

OPCOM3103-155 STM-1 ADM and TM

Compactness, cost-efficiency and versatility highlight the OPCOM3103, which is good suited for transmit voice and data. The service offered range from traditional E1 to new service such as Fast Ethernet.

OPCOM3103 provides fixed 32 ports E1, 8 ports Fast Ethernet over 2 VCG individually and it can also provide 2STM1 ports or 2DS3/E3 ports or 2GE ports by extension slot. For Ethernet over SDH service, the introduction of standard Generic Framing Procedure (GFP) mapping, Link Access Procedure SDH (LAPS) virtual concatenation, and Link Capacity Adjustment Scheme (LCAS) for dynamic bandwidth allocation are used by OPCOM3103. These features enable OPCOM3103 is next-generation STM-1 access equipment.

Feature

Standalone Mini SDH Add/drop Multiplexer(ADM) and Terminal Multiplexer(TM), it is composed with mainboard and sub card, the sub card support hotswap.

STM-1 Interface:

Two SDH STM-1 interfaces provided by mainboard, can be configured to 2 independent line or 1+1 mode, optical interface adopt SFP module.

Support 1+1 optical interface protection and 1+1 low path protection, protection switching time is less than 50ms.

E1 interface:

Providing fixed 32 E1 balanced interfaces on the front panel.

Ethernet interface:

Totally 8 10/100M electrical Ethernet interfaces, the first two electrical Ethernet interfaces of which can use 100M optical Ethernet interface, the two optical interfaces adopt SFP module.

8 Ethernet services to share 63VC12 or 3VC3.

Ethernet support GFP\LAPS encapsulation, the service granularity support VC12\VC3, and support VCAT\LCAS function.

Extension slot:

2STM1 card: two STM1 ports, support 1+1 protection, adopt SFP module

8EOS-2GE card:Aggregate 1~8 VCG to 2 GE interfaces, adopt SFP module

2 DS3/E3: two DS3/E3 interfaces, support independent mode or 1+1 protection mode

Cross connection:

Maximum cross connection capacity is 6x6 VC4\18x18 VC3\378x378 VC12, support VC3\VC12 hybrid cross connection, flexible in network topology

Clock:

The clock in support of lock,holding, free vibration mode, compliant with ITU-T G.813 recommendation.

Equipment timing source is support 2 uplink STM1 line clock、 the former 4 E1 line clock、 2 downlink STM1 line clock、 one 2Mbit external clock、 one 2MHz external clock and local oscillator. While providing one 2MBit & one 2MHz external clock output.

The former 4 E1 support E1 retiming function.

Other features:

Support point-to-point, chain topology and ring topology patterns

ALS (Auto-Laser-Shutdown) function can efficiently control the output of optical signal in disconnection condition

Dying Gasp function can detect the remote device power off alarm trap

Local optical interface & local E1 interface support external loop back and internal loop back facilitate link detection

Complete alarm trap, performance monitory function

Management:

SNMP interface and CONSOLE interface provide in-band and out-of-band network channel, in support of local and remote software online upgrade



OPCOM3103-155-BL front panel



OPCOM3103-155-BL rear panel

Specification

Aggregation 2 STM-1 fiber optical Interface

Interface type: SFP

Standard: compliant with ITU-T G.707

Coding type: scrambling NRZ

Transmission speed: 155.52 Mbps

Jitter: compliant with ITU-T G.783, G.825

Tributary 32 E1 electrical Interfaces:

Interface type: RJ45

Interface Impedance: 120 ohm balanced

Interface rate: 2048Kbps±50ppm

Coding type: HDB3

Standard: ITU-T G.703, G.704

Output jitter: compliant with ITU-T G.783

Jitter transfer: compliant with ITU-TG.823

Input jitter tolerance: compliant with ITU-TG.823

Tributary Fast Ethernet interface

Speed: 10/100M Auto-Negotiation

Interface: Electrical : RJ45

Optical: SFP

Line order: Auto-MDI/MDIX

Standard: IEEE802.3, 802.3u

Flow control: IEEE802.3ah, back press

MTU: support Jumbo Frame> 9600 byte

Management:

Methods:SNMP/Telnet/Console

Network management channel: in-band/out-of-band

Console Interface:

Interface: RJ45

Standard: compliant with RS232

Rate: 9600bps

SNMP Interface:

Interface: RJ45

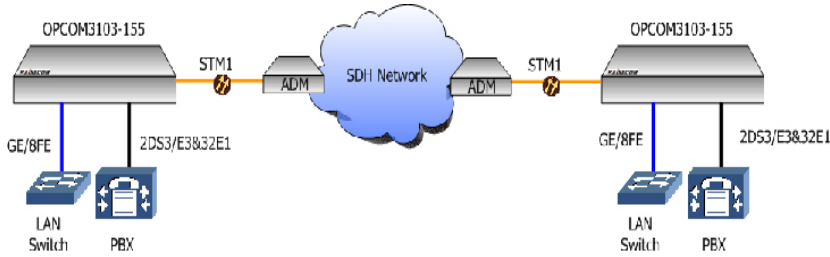
Standard: IEEE802.3

Speed: 10/100M Auto-Negotiation

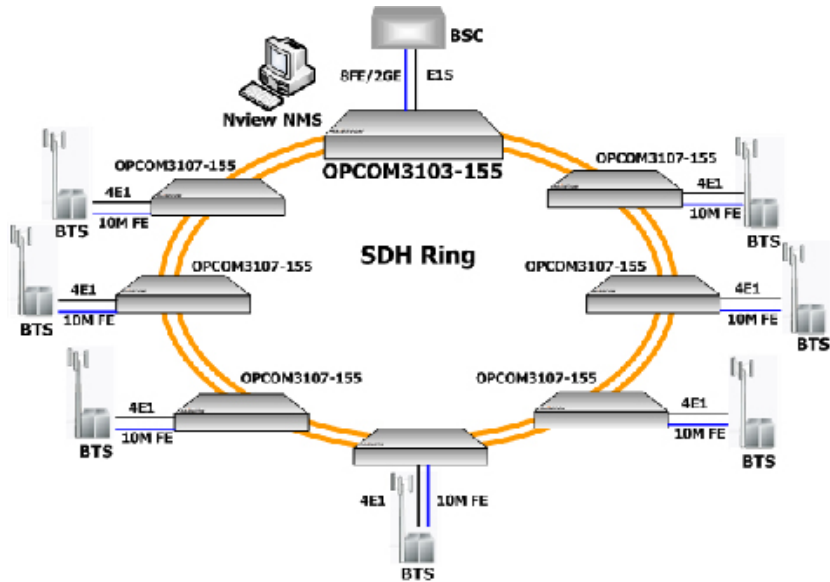
Line order: Auto-MDI/MDIX

Typical Application

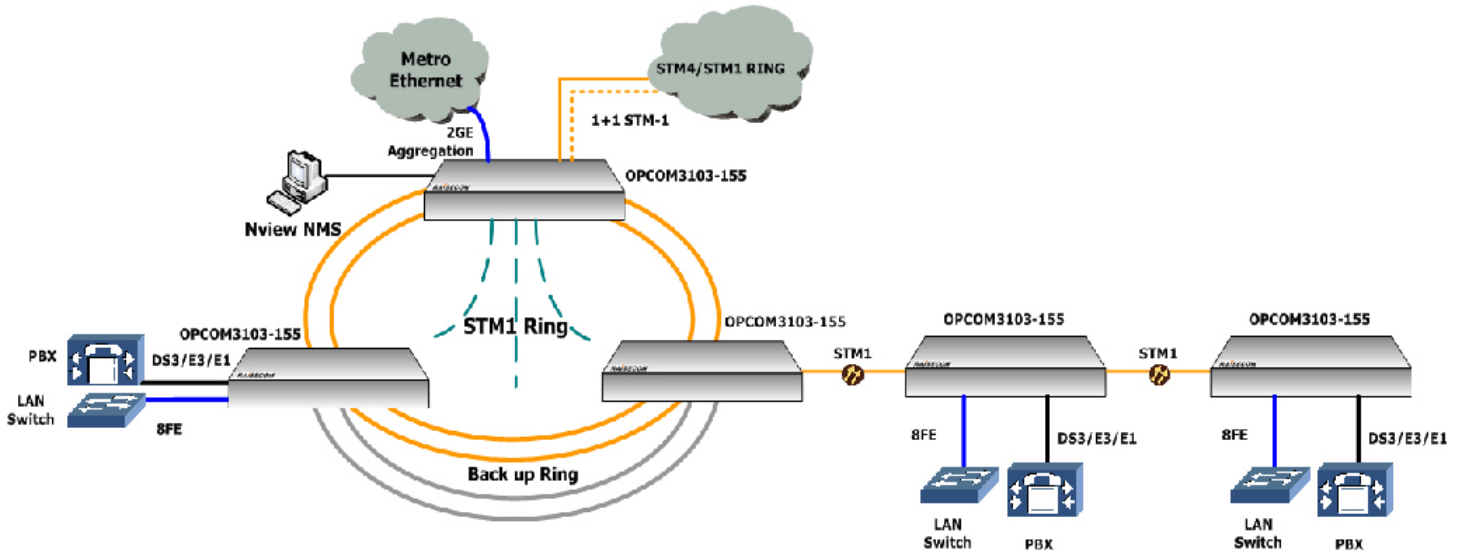
Point-to-point Multi-Service Transport STM-1 TM, the 2 VCG in support of Ethernet Spanning Tree truck



OPKOM3103 can be a aggregation device organize ring topology network with multiple OPKOM3107, each OPKOM3107 use 2 or 4E1s and one 10M FE to connect the BTS. For follow application, there are 7 OPOCM3107 and each device use 4E1s and one 10M FE, all these service just assign to 63 VC12.



OPKOM3103 can organize ring and chain topology network at STM-1 speed with flexible service configuration and high reliability, all the FE services from remote sites can be aggregated by GE ports, it also can realize 2F SNCP function



Specification

Clock:

Frequency Accuracy:

Free vibration: $\leq \pm 4.6 \times 10^{-6}$

Holding: $\leq \pm 0.37 \times 10^{-6}$ (24H)

Advanced

Update: support local and remote on-line update.

EOS service: support VCAT, VCG, LCAS

VC increment: VC12 / VC3

Encapsulation: GFP / LAPS

Ambience

Temp: -5 ~ 50 degrees centigrade operating

Humidity: 5~95% no condensing

Redundant Power Supply:

dual AC P.S: 180~260V, dual DC P.S: -48V(-36~-72V)

Consumption: <40W

Dimension and Weight

Physical outlook: 19-inch standalone device with height of 1U

Dimension: 440mm(W)x43.6mm(H)x360mm(D)

Weight < 4.8kg

Ordering Information

Part Number	Description
OPCOM3103-155-BL-X	Standalone, 19inch 1U high, two STM-1 optical interfaces, redundant power supply, 32 E1 RJ45 balanced ports, 8 FE ports, ADM and TM, SNMP manageable
X	X means dual power supply type -AC (dual 110V&230V/AC), -DC (dual -48V/DC), -ACDC (one 110V&230V/AC and one -48V/DC)

Fiber Optical Interface Characteristics

Part Number	Speed	Connector Type	Wavelength(nm)	Power(dBm)	Receiver Sensitivity(dBm)	Max Distance(km)
USFP-03/M	155	PIN	1310	-20~-14	<-29	2
USFP-03/S1	155	PIN	1310	-15~-8	<-34	15
USFP-03/S2	155	PIN	1310	-5~0	<-34	40
USFP-03/S3	155	PIN	1550	-5~0	<-34	80
USFP-03/SS13	155	PIN	1310	-15~-8	<-28	15
USFP-03/SS15	155	PIN	1550	-15~-8	<-28	15
USFP-03/SS23	155	PIN	1310	-5~0	<-32	40
USFP-03/SS25	155	PIN	1550	-5~0	<-32	40