

## TECHNICAL DATA

### OTS main unit

<b>TMN interface</b>	RS232/V.24, 10/100 BaseTX, Q2 (RS485), Q2Et (10/100 BaseTX), 2 Mbit/s / G.703
<b>EOW telephone interface</b>	Z (2-wire)
<b>DCC (F1 or E2) interface</b>	64 kbit/s, V11
<b>Performance management</b>	G.826, G.783
<b>21 x 2 Mbit/s interface</b>	G.703 (120/75 Ω)
<b>Mapping/multiplexing</b>	G.707 at paths: VC12/TU-12/TUG-2/TUG-3/VC4/AU-4/AUG/STM-N
<b>3 x 34 Mbit/s interface</b>	G.703 (75 Ω)
<b>Mapping/multiplexing</b>	G.707 at paths: VC3/TU3/TUG-3/VC4/AU-4/AUG/STM-N
<b>Ethernet interface</b>	4 x10/100 BaseTx (IEEE 802.3) 1 x100 BaseFx (IEEE 802.3)
<b>Mapping</b>	GFP-F G.7041 (n x VC12, n x VC3 or VC4)
<b>Capacity adjustment, LCAS</b>	static, dynamic
<b>2 x 155/622 Mbit/s interface</b>	G.957, G.703
<b>Jitter and wander</b>	G.825
<b>Power consumption</b>	max 30 W

### OTS-G main unit

Same as OTS except:

<b>Ethernet interface</b>	1x1000 BaseT/BaseX (IEEE 802.3)
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### S4ADM-2 unit

<b>Cross-connect</b>	non blocking matrix capacity 288x288 VC4 (up to VC12 level)
<b>Synchronization</b>	according to G.813
<b>2 x 155/622 Mbit/s interface</b>	G.957, G.703
<b>Jitter and wander</b>	G.825
<b>Ethernet interface</b>	5 x10/100 BaseTx (IEEE 802.3) 1 x100 BaseFx (IEEE 802.3) 1 x1000 BaseT/1000 BaseX (IEEE 802.3)
<b>Power consumption</b>	max 30 W

### S4LI-4 unit

<b>4 x 155/622 Mbit/s interface</b>	G.957, G.703
<b>Jitter and wander</b>	G.825
<b>Ethernet interface</b>	2 x10/100 BaseTx (IEEE 802.3) 2 x1000 BaseT/1000 BaseX (IEEE 802.3)
<b>Power consumption</b>	max 27 W

### S16LI-8 unit

<b>up to 2 x 2.5 Gbit/s interface</b>	G.957, G.703
<b>up to 8 x 155/622 Mbit/s interface</b>	G.957, G.703
<b>Jitter and wander</b>	G.825
<b>Power consumption</b>	max 28 W

### S16LE-2 unit

<b>up to 2 x 2.5 Gbit/s interface</b>	G.957, G.703
<b>up to 4 x 155/622 Mbit/s interface</b>	G.957, G.703
<b>Jitter and wander</b>	G.825
<b>Ethernet interface</b>	4 x1000 BaseT/1000 BaseX (IEEE 802.3)
<b>Power consumption</b>	max 30 W

### STI2-63 tributary unit

<b>63 x E1 interface</b>	G.703 (120/75 Ω)
<b>Jitter and wander</b>	G.823
<b>Mapping/multiplexing</b>	G.707 at paths: VC12/TU-12/TUG-2/TUG-3/VC4/AU-4/AUG/STM-N
<b>Power consumption</b>	max 25 W

### Plug-in SFP transceivers

<b>STM-16:</b>	ITU-T G.957
<b>OI.S16A</b>	LC/FPLD 1310 nm/15 km
<b>OI.L16A</b>	LC/FPLD 1310 nm/48 km
<b>OI.S16B</b>	LC/FPLD 1550 nm/15 km
<b>OI.L16B</b>	LC/FPLD 1550 nm/80 km

<b>STM-4:</b>	ITU-T G.957
<b>OI.S4A</b>	LC/FPLD 1310 nm/15 km
<b>OI.L4A</b>	LC/DFBLD 1310 nm/48 km
<b>OI.L4B</b>	LC/DFBLD 1550 nm/80 km
<b>OI.L4B1</b>	LC/DFBLD 1550 nm/120 km

<b>STM-1:</b>	ITU-T G.957
<b>OI.S1A1</b>	LC/FPLD 1310 nm/15 km
<b>OI.S1A</b>	LC/FPLD 1310 nm/40 km
<b>OI.S1B</b>	LC/DFBLD 1550 nm/93 km
<b>OI.S1 electrical</b>	CMI/12.7 dB at 78 MHz

<b>FE:</b>	IEEE 802.3
<b>OI.S1A1</b>	LC/FPLD 1310 nm/15 km
<b>OI.S1A</b>	LC/FPLD 1310 nm/40 km
<b>OI.S1B</b>	LC/DFBLD 1550 nm/93 km

<b>GbE:</b>	IEEE 802.3
<b>OI.GbE-AS</b>	LC/MQW FPLD 1310 nm/10 km
<b>OI.GbE-A</b>	LC/DFBLD 1310 nm/40 km
<b>OI.GbE-ZX</b>	LC/DFBLD 1550 nm/60 km
<b>EI.GbE-RJ45</b>	RJ45/CAT5/CATe/CAT6/100 m

### Traffic protection

<b>Line protection</b>	1+1 MSP
<b>Path protection</b>	VC12, VC3, VC4
<b>Subnetwork protection</b>	SNCP

## Next Generation SDH Systems

# ODS2G5 SDH/SONET Multiservice Optical Digital Systems

- Next generation SDH Optical Digital Systems for STM-16/4/1, E1, E3, 10/100 BaseTx, 100 BaseFx, 1000 BaseX, 1000 BaseT services
- Add/drop, cross-connect and terminal multiplexer
- Ethernet over SDH, GFP/VCAT/LCAS technologies
- Compact and flexible SDH equipment, easily expandable from small to full capacity, for metro and access network applications
- Network management system SUNCE-M or SNMP based management



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### Basic configuration

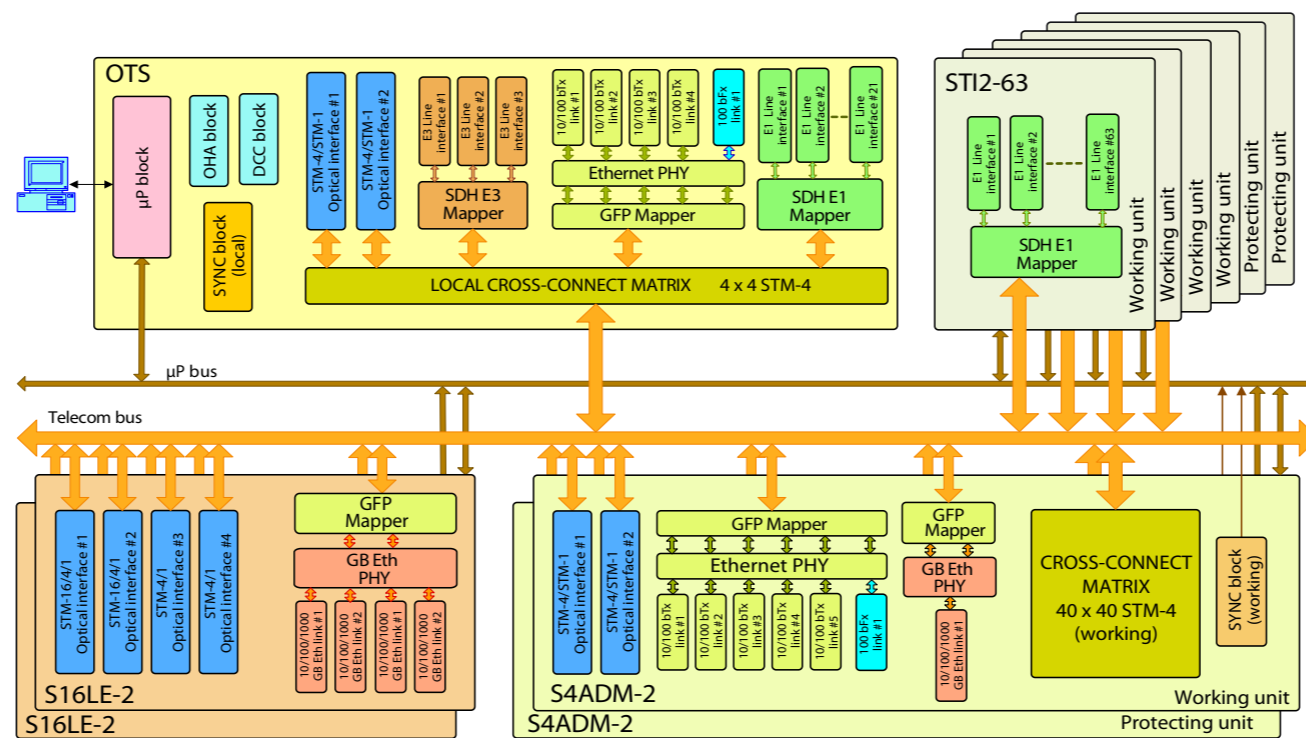
- **ODS2G5C3** configuration for 3 units:
  - up to: 4 x STM-16, 18 x STM-4/1, 21 x 2 Mbit/s, 3 x 34 Mbit/s and 4 x 10/100 BaseTx, 1 x 100 BaseFx, 9 x 1000 BaseT/1000 BaseX
- **ODS2G5C8** configuration for 8 units:
  - up to: 4 x STM-16, 20 x STM-4/1, 273 x 2 Mbit/, 3 x 34 Mbit/s and 13 x 10/100 BaseTx, 2 x 100 BaseFx, 10 x 1000 BaseT/1000 BaseX
- **ODS2G5C12** configuration for 12 units:
  - up to: 6 x STM-16, 30 x STM-4/1, 273 x 2 Mbit/, 3 x 34 Mbit/s and 20 x 10/100 BaseTx, 3 x 100 BaseFx, 15 x 1000 BaseT/1000 BaseX (cross connect card protection, sync module protection, E1 line protection)

### Applications

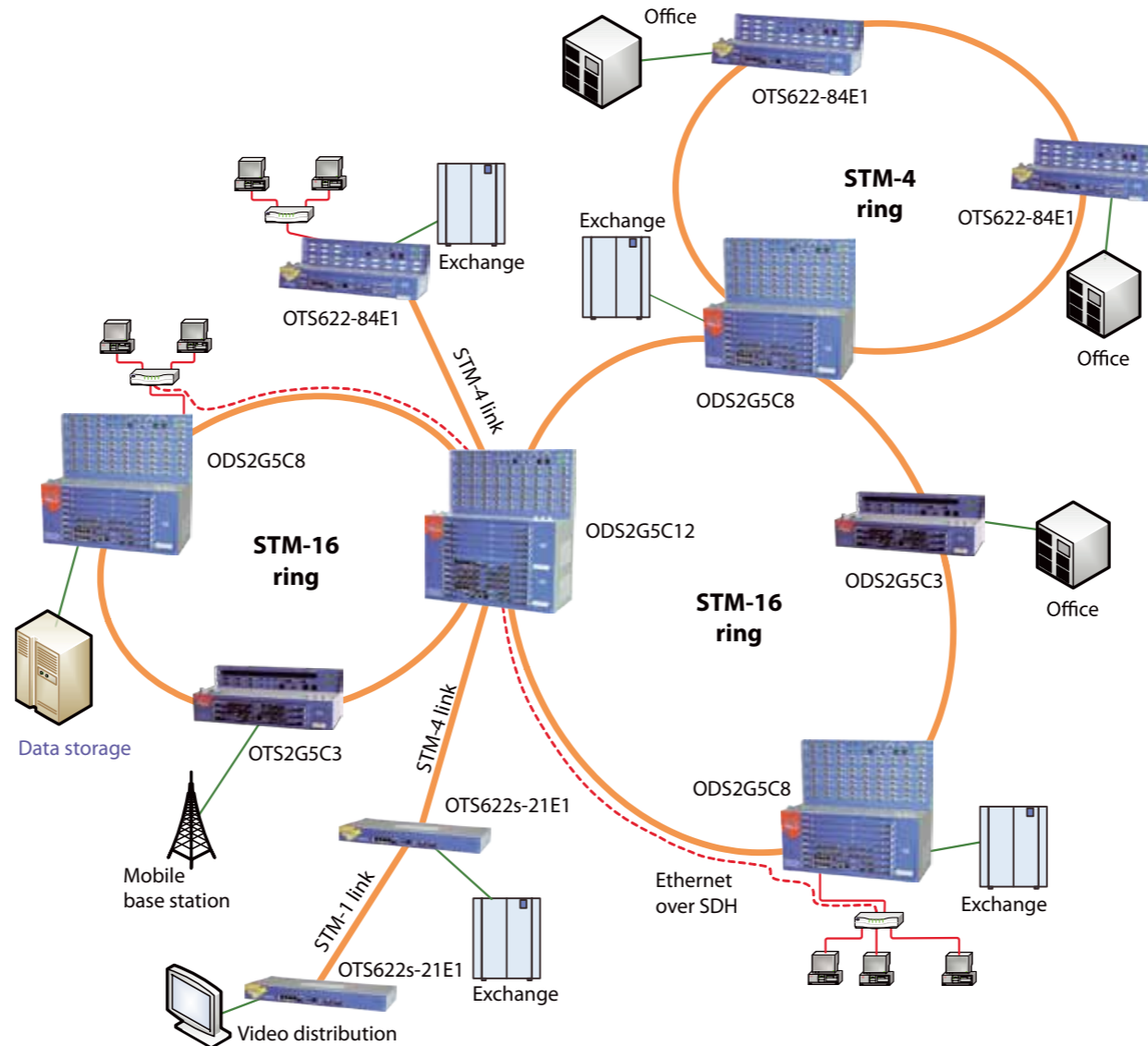
- Point-to-point fibre optic links
- Linear fibre optic networks, providing add-and-drop capability
- All types of fibre rings and complex network structure at STM-16, STM-4 and STM-1 level
- Local cross-connect at VC12 (2 Mbit/s), VC3 (34 Mbit/s) and VC4 levels

### Main features

- Multiservice SDH optical digital system for voice and data transmission of up to STM-16 (2.5 Gbit/s) rates
- Optical line interface 2.5 Gbit/s, 622 Mbit/s and 155 Mbit/s provides transmission over single-mode optical fibre at 1310 nm for section length of up to 50 km, or at 1550 nm for section length of up to 120 km
- Plug-in SFP optical or electrical transceivers, provide STM-16, STM-4 or STM-1 interface configurations on the same unit
- WDM option - two way single fibre transmission (1310 and 1550 nm), passive optical filter
- CWDM option - wavelength division multiplexing (1471, 1491, 1511, 1531, 1551, 1571, 1591, 1611 nm +1310 nm), passive optical filters
- PDH tributary interfaces for 2 Mbit/s and 34 Mbit/s
- Full non blocking cross-connect matrix, capacity 44.78 Gbit/s (288 x 288 VC4) up to VC12 level
- Ethernet over SDH via GFP/VCAT/LCAS technologies
- Static and dynamic Ethernet traffic capacity adjustment, LCAS procedure
- Line protection at multiplex section, 1+1 MSP, higher order path or lower order path protection (VC12, VC3, VC4), sub-network protection SNCP



ODS2G5 functional block diagram



ODS2G5 application in complex STM-16 network

- Advanced fault diagnostics (integrated BER tester, etc)
- Protection configurations (working and reserve modules or units) are possible for cross-connect matrix, synchronization modules, STM-16, STM-4 and STM-1 interfaces and tributary units STI2-63 (1:N 2 Mbit/s tributary protection)
- Unit's configuration parameters are stored in backplane memory, which enables "plug & play" change of units
- SONET option (OC-48/OC-12/OC-3, T1, T3) is software configurable
- ODS2G5 has been designed in compliance with new ITU-T recommendations and ETSI standards

### Control and monitoring

- Integrated network management system SUNCE-M provides continuous management of ODS2G5 and all other IRITEL's SDH and PDH equipment (OTS622, ODS155, FM-MSAN, ...)
- The computer (PC) in management operations centre is connected to one network element (ODS2G5) using Ethernet 10/100BaseTx or RS232 interface (F interface)
- NMS interconnections of collocated IRITEL's devices using Q2 (RS485) or Q2Et (10/100BaseTx) interfaces
- NMS interconnection of remote IRITEL's SDH equipment using DCC channels (192 kbit/s, 576 kbit/s)
- Additional G.703 2 Mbit/s interfaces used for connections of independent subnetworks to one centralized management system SUNCE-M
- SNMP northbound and southbound interfaces
- SNMP MIB
- Control and monitoring using standard SNMP viewer

### Power supply

- DC power supply -48 V DC or -60 V DC

### Mechanical design

- Unit's dimension: 277 x 175 mm
- Module's dimension
  - ODS2G5C3 (3 units): 150 x 436.6 x 238 mm
  - ODS2G5C8 (8 units): 400 x 436.6 x 238 mm
  - ODS2G5C12 (12 units): 482 x 436.6 x 238 mm
- ETSI or 19" cabinet's dimension: 2200 x 600 x 300 mm