

SAGEM ADR 155e

Multi-service STM1/4 NG SDH platform



- **Secure transport over SDH**
- **Flexible, scalable and fully protected platform**
- **Innovative data interfaces with advanced Ethernet Switch features**



Sagem Communication
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Multi-Service STM1/4 NG SDH platform

OVERVIEW

As STM-1/4 level multi-service transmission platform at metro aggregation layer, **ADR 155e** provides various service interfaces including E1, E3/T3, STM-1 (o/e), STM-4, 10/100Base-T, 100Base-Fx, 1000Base-SX/LX, access and aggregation of multiple services.

KEY FEATURES

- Supports smooth upgrading from STM-1 to STM-4 level.
- Industry smallest sized 622 Mbit/s device, highly integrated, with small power consumption.
- Provides rich data service interfaces (EPLane, EPLAN).
- Provides various service interfaces including E1, E3/T3, STM-1 (o/e), STM-4, 10/100BASE-T, 100BASE-Fx, offering services from end access to centre aggregation.
- Cross-connect capacity non blocking : 96*96 VC-4/VC-3/VC-12.
- Provides 1:3 TPS protection for E1.
- Supports 1+1 hot backup of the cross-connect unit, the clock unit, and the power supply.

TECHNICAL FEATURES

SDH SPECS

SDH INTERFACE

- Supports S4.1, L4.1, L4.2 optical interfaces
- Supports S1.1, L1.1, L1.2 optical interfaces
- Supports up to 10 STM-4 optical interfaces
- Supports up to 24 STM-1 optical interfaces
- Compliant with ITU-T G.957, G.958, G.825, YD/T767-1995

PDH SPECS

E1 INTERFACE

- Supports up to 189 E1 interfaces (no TPS)
- Supports up to 63 E1 interfaces (1:3 TPS)
- Provides 75 ohm / 120 ohm resistance
- Supports tributary retiming

E3/T3 INTERFACE

- Supports up to 27 E3/DS3 interfaces (no TPS)
- Configurable interface mode as E3 or DS3

STANDARD COMPATIBILITY

- Compliant with ITU-T G.703, G.704, G.823, G.824, YD/T877-1996

CLOCK AND OVERHEAD

CLOCK

- Supports three modes : tracking/free running/hold over
- Supports three clock sources : external/line/tributary
- Built-in crystal Stratum 3
 - free running : accuracy 4.6 ppm
 - hold : accuracy < 0.1 ppm/day
- Provides 2 input/output external clock interfaces (2048kHz and 2048 kbit/s)
- Supports SSM protocol, auto switch-over between clock sources
- Compliant with ITU-T G.813, G.704, YD/T900-1997

OVERHEAD PROCESSING AND ECC

- Supports 20 DCC directions
- Supports using E1 interface to transmit DCC information

DATA SPECS

ETHERNET INTERFACE

- Supports up to 36 10/100BASE-T interfaces (IEEE 802.3-2000, IEEE 802.3u)

- Supports up to 18 100BASE-Fx (IEEE 802.3-2000, IEEE 802.3u)
- Supports up to 18 1000BASE-SX/LX (IEEE 802.3-2000, IEEE 802.3z)

MAPPING AND ENCAPSULATION

- Supports VC-12-Xv/VC-3-Xv/VC-4-Xv mapping (ITU-T G.707/ Y.1322)
- Supports up to 32 VCG
- Supports LCAS (ITU-T G.7042)

PROCESSING CAPABILITY

- Supports Ethernet switching and bridging (IEEE 802.1d)
- Supports VLAN, ranging 1~ 4095 (IEEE 802.1q)
- Supports VLAN or physical port based VLL and VPLS user classification
- VLL and VPLS services support CAR, with the CAR adjustment range of 64kbps to 1000Mbps, at the step of 64kbps

VLL SERVICE

- Supports port aggregation of FE to FE, FE to GE, GE to GE
- The max. aggregation ratio for FE ports is 128:1, for GE port is 1024:1

VPLS SERVICE

- Each physical port supports up to 128 VPLS domains
- Supports MAC address diffusion within VPLS domain
- Supports L2 broadcast/multicast

OVERALL SPECS

CROSS-CONNECT CAPACITY

- Supports VC-4/VC-3/VC-12 level cross connect processing
- High-order/ Low-order cross-connect capacity : 32*32 VC-4 VC-4/96 VC-3/2016 VC-12
- Data switching capacity : 5G

DEVICE PROTECTION

- Supports 1+1 backup of -48V power supply
- Supports 1+1 protection of the clock unit
- Supports 1+1 protection of the cross-connect unit
- Supports 1:3 TPS for E1

NETWORK PROTECTION

- Supports 2-fiber unidirectional MSP
- Supports 2-fiber bi-directional MSP
- Supports SNCP

- Supports DNI
- Supports linear multiplex section 1+1/1:1 protection
- Compliant with ITU-T G.841

NETWORK ELEMENT TYPES

- TM, ADM

PERFORMANCE

- ITU-T G.783, G.826, G.829

STANDARD COMPATIBILITY

- ITU-T G.707
- YDN099-1998, YD/T1022-1999, YD/T 1238-2002

AUXILIARY INTERFACES

- 1 RJ-45 orderwire interface
- 3-input and 1-output Boolean interfaces
- 1 Ethernet management interface, and supports management interface cascading

SUBBRACK

- Dimension : W 436mm, D 255mm, H 176mm
- Weight : 9kg

INSTALLATION

- ETS300 119 standard 300mm-depth rack
- ETS300 119 standard 600mm-depth rack
- IEC297 standard 43U 19-inch standard rack

ENVIRONMENT AND SAFETY REGULATIONS

OPERATING TEMPERATURE

- Long term : -5 to +45° C
- Short term : -10 to +50° C
- Storage : -40 to 70° C

RELATIVE HUMIDITY

- Long term : 10% to 85%
- Short term or storage : 5% to 95%

POWER SUPPLY

- -48V DC, range of -36V to -72V (typical configuration : 100W)

EMC AND SAFETY REGULATIONS

- EN60950
- EN55022 Class B ETSI EN300 386V1.2.1 (2000)
- GR-1089-CORE(1999) Level 3

