

CMA5000a - UTA Module

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Universal Transport Analysis (UTA)



**(Field Tester for Transport Network
Installation and Maintenance)**

Anritsu Corporation

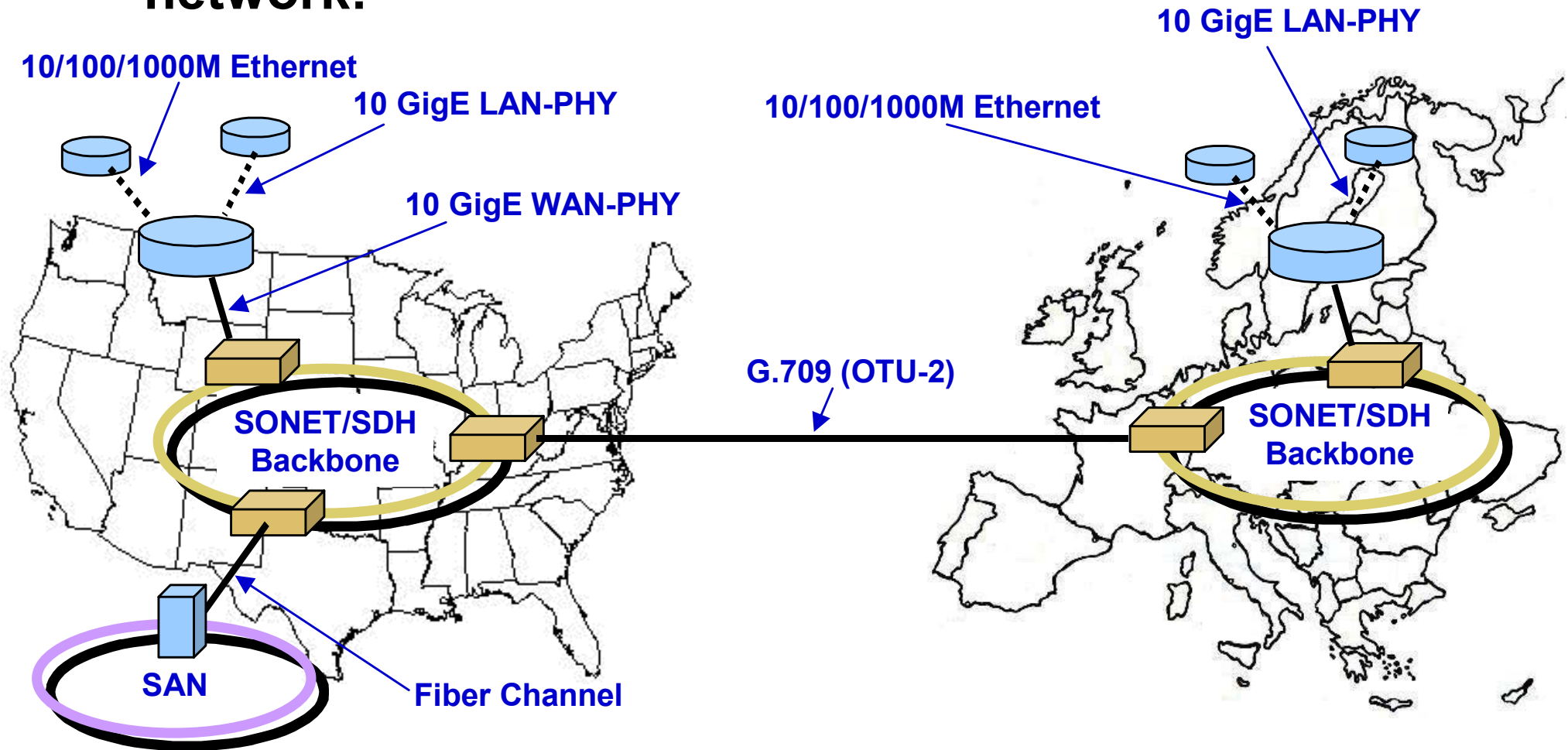
Typical Real-World Problems

- Huge recent growth in transport networks with emergence of new technologies:
 - ◆ SDH/SONET
 - Legacy technology for most world core networks
 - ◆ Ethernet (10/100/1000M Ethernet, 10 GigE)
 - Key data transport technology in access and metropolitan networks (growing in core network)
 - ◆ OTN (OTU-1 & OTU-2 & 11G FEC)
 - Initially used for submarine cable and long-haul transmissions (now, potentially everywhere)
 - ◆ Fiber Channel (1/2/4/10G)
 - Dominant SAN network connection technology

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Typical Real-World Problems

- All these transport standards coexist in global network:



Typical Real-World Problems

- **Dealing with today's increasingly complex transport networks is a key challenge for carriers and operators.**
- **Challenges:**
 - ◆ **Solving problems of scalability and manageability of fast-growing network and**
 - ◆ **Coping with shortages of staff resources and**
 - ◆ **Providing on-time service (time is money!)**

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Solving Problems

- CMA 5000a – UTA: Field Portable Transport Tester

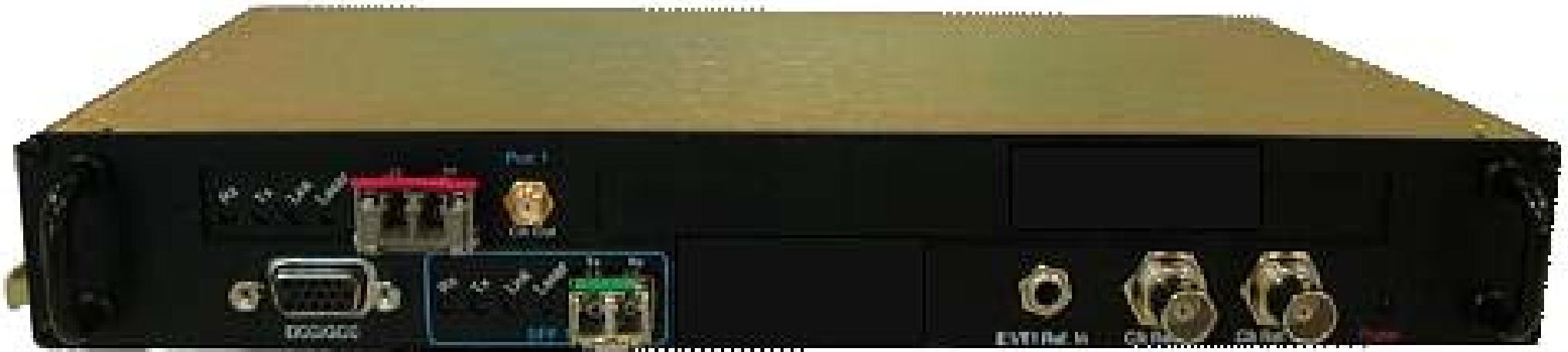


Weight: 7.2 kg (SBA main frame with UTA)

CMA 5000a - UTA Module

Solving Problems

- CMA 5000 – UTA: Universal Transport Analysis Module
Universal
 - ◆ The UTA module is a new generation of tester that supports nearly all existing transport standards:
 - Ethernet
 - SONET/SDH
 - OTN, ...



CMA 5000a - UTA Module

Solving Problems

- CMA 5000 – UTA: Universal Transport Analysis Module
Flexible
 - ◆ The UTA module supports hot-plugging of XFP and SFP transceivers, offering easy and flexible configurability.



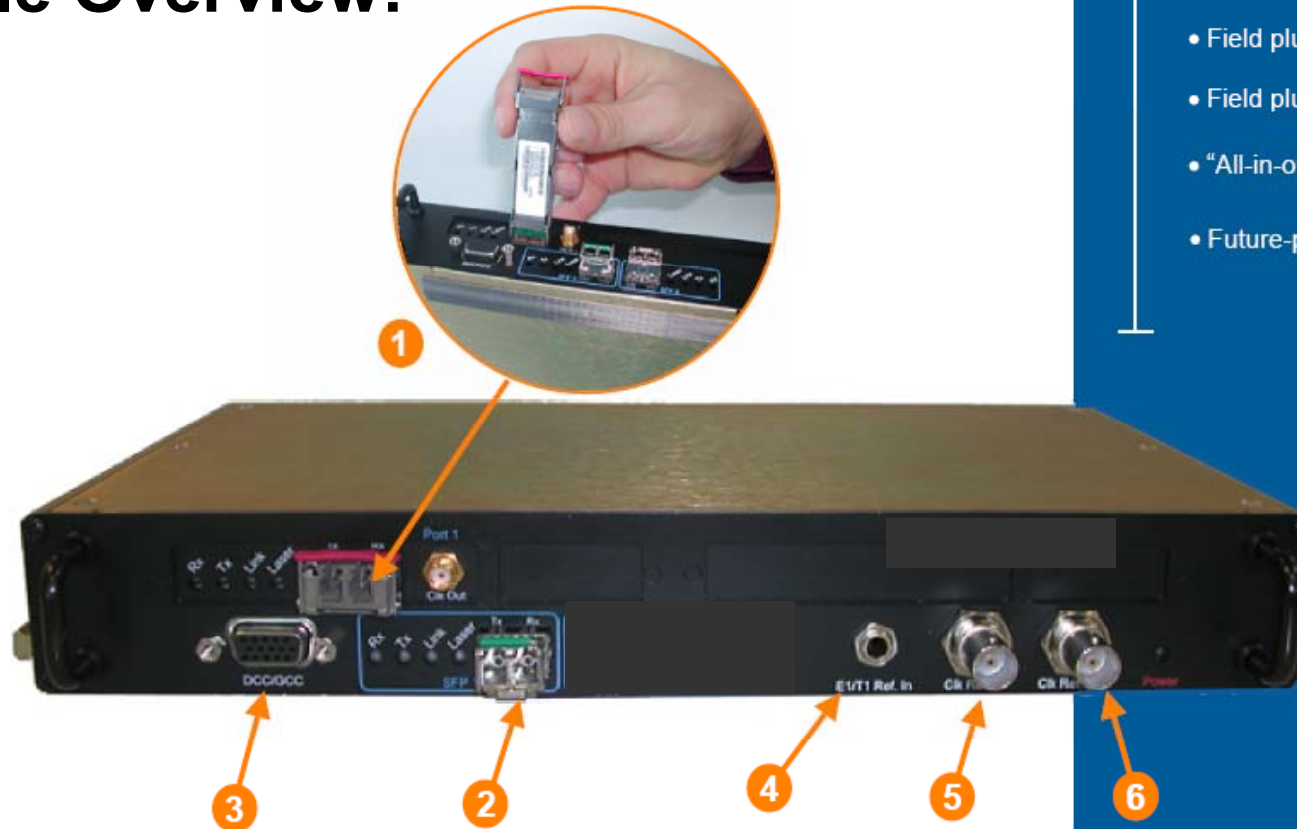
Solving Problems

- **CMA 5000 – UTA: Universal Transport Analysis Module**
Easy Upgrade
 - ◆ Field install upgrades allowing full flexibility without expensive return service costs.
 - ◆ The open architecture makes on-site upgrades easy.
 - ◆ All software applications use a consistent GUI, significantly reducing training time for new applications.

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Solving the Problems

- Module Overview:



Key Features

- Field pluggable XFP
- Field pluggable SFP
- "All-in-one" module
- Future-proof hardware

1 Field pluggable XFP¹

2 Field pluggable SFP¹

3 Data Communication Channel connector for add & drop¹

4 Clock reference input at 2.048 Mbit/s or 1.544 Mbit/s (Bantam 100 ohms)

5 Clock reference input at 2.048 Mhz, 1.544 Mhz or 10 MHz (BNC 75 ohms)

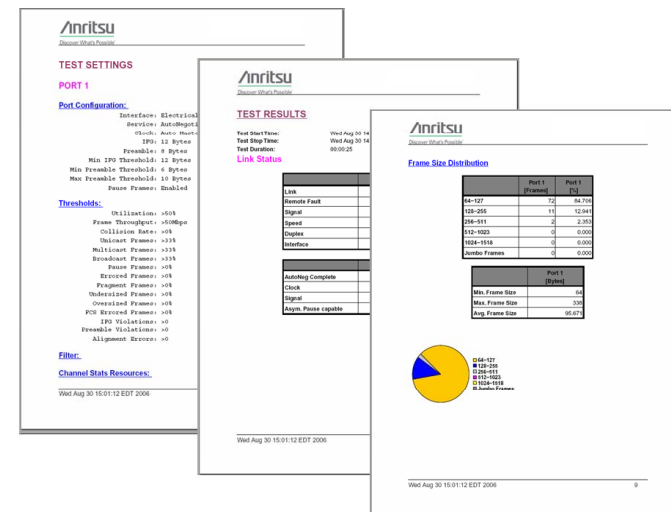
6 Clock output at 10 Mhz synchronous with the transmitted signal

Note:

¹ Depends on the application

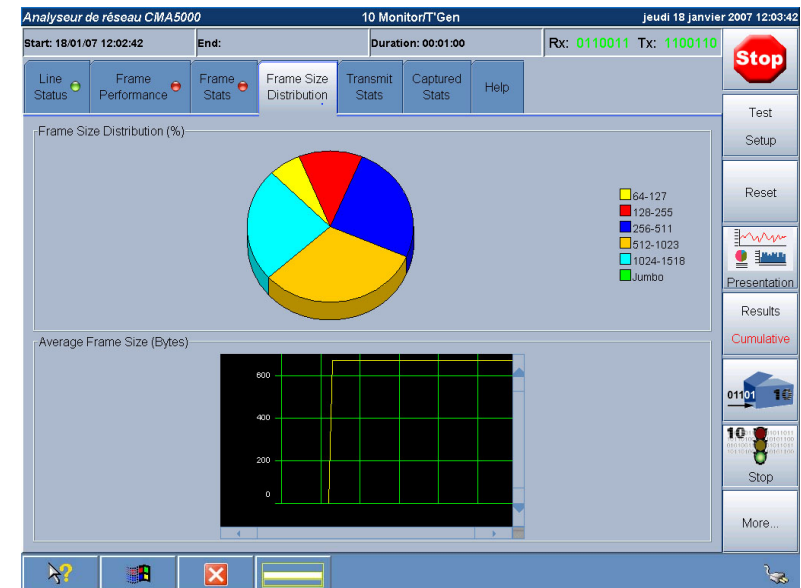
Solving Problems

- Easy-to-use GUI
 - ◆ Spend valuable time analyzing results (instead of trying to understand equipment) because all UTA applications use consistent GUI
 - A consistent GUI cuts training time and increases measurement efficiency; pre-configured tests, online help, and automatic test reports are shown below.



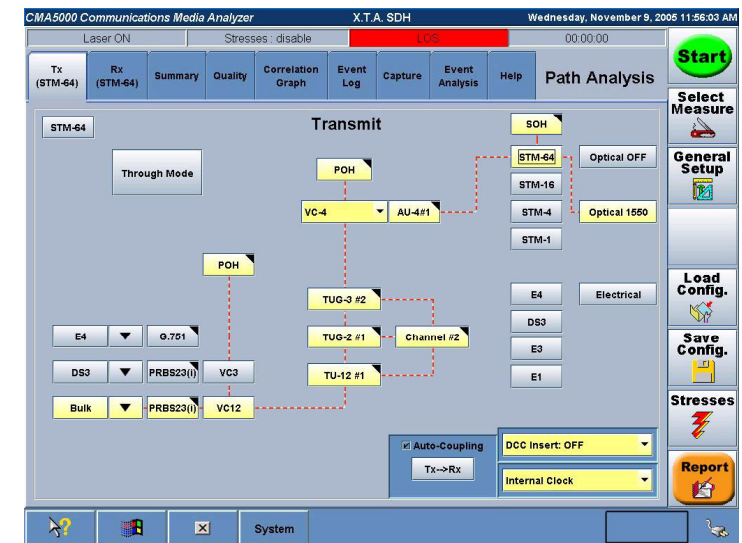
Solving Problems

- UTA Application Family
 - ◆ Supports three applications now:
 - 10 GigE
 - Supports LAN-PHY and WAN-PHY
 - Hot-pluggable XFP transceivers:
10GBASE-SR, -LR, -ER, -SW, -LW, -EW
 - Automated RFC 2544 tests
 - BERT Tests
 - Sequence tests
 - Stacked VLAN (up to 3 levels)
 - Multi-stream support
(Up to 8 streams)



Solving Problems

- UTA Application Family
 - ◆ Supports three applications now:
 - SDH/SONET
 - Supports optical SDH/SONET rates (STM-1/4/16/64 and OC-3/12/48/192)
 - Generates and analyzes SONET/SDH frames down to tributary level
 - Round-trip delay measurements with 10-ns resolution
 - G.82X and M.21XX quality measurements
 - APS Measurement with 125-μs resolution



Solving Problems

- UTA Application Family

- ◆ Supports three applications now:

- OTN

- OTN Multi-rates

- OTU-2 (10.709 Gbps)

- OTU-1 (2.66 Gbps)

- 11.049 Gbps FEC

- 11.095 Gbps FEC

- SDH/SONET mapping to OTN

- ODU-1 mapping to OTU-2

- Accurate FEC performance evaluation using 0.182 error insertion



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Configurations

- Supported by CMA 5000a SBA and MBA



SBA



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