BROADBAND TEST EQUIPMENT

OUTLINE OF BROADBAND TEST SYSTEMS

Broadband test equipment performance is crucial in a business that considers 98% service availability unacceptable. To help service providers exceed that standard, Anritsu's Broadband systems perform access, test and performance monitoring on over 2,000,000 circuits at 35 service providers, in ten countries everyday.

There is a good reason for this acceptance:
- Value through unequaled service, and low-cost, modular design
- Downloadable software that gets systems on-line fast, makes upgrading easy, and avoids obsolescence

Anritsu's Broadband products enable testing of analog and digital circuits at remote locations – without having to dispatch service personnel. With Anritsu's Broadband equipment installed at central offices, service providers can both reduce their maintenance and repair costs and offer customers more reliable services. Problems anywhere on the circuit can be pinpointed quickly. Accurate test results allow service providers to dispatch more effectively, resulting in an efficient use of maintenance personnel and faster service restoration. And because Anritsu's Broadband products are modular, service providers can add functionality at any time without needing to replace existing equipment.

The Three Major Components of Anritsu's Broadband Products are:

- Operations Support System (OSS) – test and performance monitoring
- Remote Access and Test Units – for numerous applications
- Service – design, installation, training and ongoing support

Remote test and monitor systems reduce expenses and improve service quality with:
- Savings in pre-service testing and restorals for VF, DDS and HiCap circuits. A single tester can remotely access and test a section of a circuit between both ends
- Fewer dispatches, reduced travel time and costs, due to rapid, accurate sectionalization and fault isolation
- Consistent test results, due to commonality of equipment and methods
- Comprehensive DS1 and DS3 circuit performance reports generated from full-time circuit monitoring data
- Proactive DS1 and DS3 maintenance via alarm reporting when preset thresholds are exceeded

Anritsu's remote test and monitor system provides even more features:
- Modular flexibility – buy only the equipment and test functionality you need today, with seamless expansion tomorrow
- Equipment reliability – high mean-time-between-failures (MTBF) results from careful design and production controls; low mean-time-to-repair results from extensive self-testing and planned accessibility
- Rapid updating – remotely downloadable software to remote test units
- Redundant relay contacts with continuity testing ensure reliable metallic circuit access and release
- Metallic and digital access/monitor with a full complement of industry-standard intrusive tests
- Full compliance with industry standards

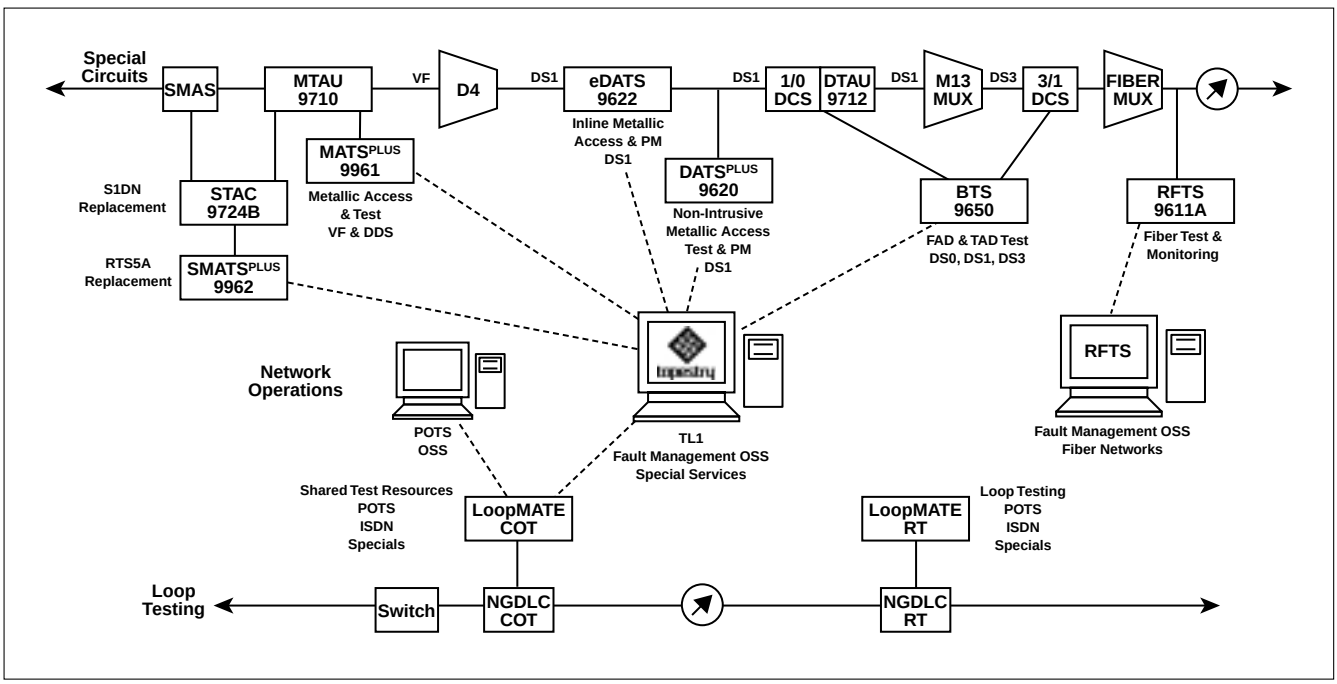

Fig. 1 Network test components

For product ordering information, see pages 4 – 10

DATS$^{PLUS®}$
9620

For DS1 Access, Test and PM

The Digital Access and Test System^{PLUS}, DATS$^{PLUS®}$, is the new generation of DS1 access, test and performance monitoring systems from Anritsu. Building upon Anritsu's long-standing reputation for reliable and cost-effective products, DATS$^{PLUS®}$ offers a fully-featured solution built around the latest Telcordia Technologies (formerly Bellcore) and ANSI standards for managing DS1 networks: TR-NW-834, TR-NWT-833, TR-NWT-820 and T1.231. The 9620 enables you to significantly improve service in your network, and to deliver the high quality service assurance desired by your customers. It reduces response time to network problems and lowers your overall operating expenses in DS1 maintenance.
The DATS$^{PLUS®}$ system is automatically inventoried and provisioned via the Telcordia TIRKS® Operations Support System, and its circuit access database is automatically loaded into Telcordia's NMA® OS via TIRKS flow-through. The DATS$^{PLUS®}$ is also easily installed due to its fully connectorized backplane architecture. Future OS interoperability is assured by our commitment to an open-system architecture, as well as by our active participation in the OSMINE® process at Telcordia.

- Integrated circuit access, test and performance monitoring
- Upgradable via downloadable software
- The industry's best solution for DS1 maintenance

eDATS
9622

For Digital Access and Test

The enhanced Digital Access and Test System, (eDATS) from Anritsu is the latest generation in features, performance and customer value for managing DS1 and DS0 circuits in your HiCap network. Interfacing at the DSX-1, eDATS allows you to monitor and test DS1, DS0, VF, DDS and Fractional-T1 circuits, all from one compact shelf. And eDATS offers the latest industry-standard DS1 Performance Monitoring features including PM from intelligent NIUs.

- DS1 HiCap access, test and performance monitoring – at the DSX
- DS0, VF and DDS and Frac-T1 monitor and test in the same system without backhauling circuits
- Low initial cost – expand as service needs demand
- In-line signal regeneration allows installation up to 650 feet from the DSX, giving you the much needed flexibility to place it in the central office

BTS
9650

For Managing DS1 and DS0 Circuits

The Anritsu Broadband Test System, BTS, is a multi-user, multi-function digital test system for testing at broadband, wideband and narrowband rates. The BTS can be configured for a variety of access and testing combinations of DS0, DS1, VT1.5 and DS3 HiCap digital circuits from one compact test system. Designed-in flexibility allows the unit to be optimized for small to large offices to provide hitless monitoring and intrusive/non-instrusive testing at Digital Cross-connect Systems (DCSs).
The BTS is the single shelf solution for high-speed testing via a DS3 single or dual FAD (facility access digroup), VT1.5 payload testing via a STS-1 TAD (test access digroup), DS1 testing via a single or dual FAD, and DS0 and Fractional-T1 testing via a FAD or TAD.

- Monitor and test access at DS3 and DS1 digital cross-connect systems
- Manage multiple network test elements in one compact shelf
- Up to 6 DS3 or STS-1/VT1.5 and up to 24 DS1/DS0 or 12 VF/DDS test sessions
- Standard TL1 and PDS Snider Communications

MATS$^{PLUS®}$
9961

For Metallic Access and Test

The Metallic Access and Test System^{PLUS}, MATS$^{PLUS®}$, is the perfect solution for the testing requirements of any size central office. MATS$^{PLUS®}$ is an advanced, special services remote test system that combines multiple test capabilities and plug-in circuit access modules into one compact shelf. Each test head can perform a wide variety of tests including voice frequency (VF), DS0A digital data service (DDS), analog data impairments, DDS loop qualification and multimeter. The optional plug-in site controller (TSC function) has a direct X.25 interface and supports up to 7 MATS$^{PLUS®}$ shelves (14 test heads).

- Up to two test heads per shelf, each capable of VF and DDS testing
- Grow from a small to a large office without replacing hardware
- Remotely download software upgrades
- Industry-standard TL1 interface works with any TL1 OS

SMATS$^{PLUS®}$
9962

Plug-for-Plug RTS5A Replacement

Using the same advanced software-based test modules as the MATS$^{PLUS®}$, SMATS$^{PLUS®}$, Model 9962, extends metallic testing to embedded AT&T SMAS access systems, with or without an S1DN. A plug-for-plug replacement for AT&T's RTS5A systems, one 12-inch high SMATS$^{PLUS®}$ shelf can replace up to five rack-feet of RTS5A equipment. SMATS$^{PLUS®}$ is also the ideal replacement for AT&T's RMS-M systems.
SMATS$^{PLUS®}$ directly interfaces SMAS maintenance connector controllers or distribution networks, S1DN superquads, network interface control units, SMAS 5B Connector Group Networks, and jack, key and lamp panels. For RTS5A systems, both controller and RTPPs are replaced.

- Cost effective plug-for-plug RTS5A replacement
- Up to two VF and DDS test heads in each shelf
- Remotely download software upgrades
- Remote maintenance and diagnostics capability

FAULT MANAGEMENT OSS
TAPESTRY

An Integrated Test, PM and Alarm OSS

tapestry®

Tapestry is a powerful fault management tool for analog, DDS, DS1 and DS3 services that helps service providers stay competitive in today's exploding telecommunications market. It combines advanced test, PM, and alarm functions into one system, interfaces with existing provisioning and trouble ticket OSSs, is UNIX-based, and provides a simple "point and click" graphical user interface to reduce testing time, manpower requirements, and training. Additionally, its advanced testing features help meet customers' demands for shorter circuit downtime and means that less-experienced testers are more effective.

- Integrated test, PM and alarm
- Interface to circuit database and trouble ticketing systems
- Powerful open platform simplifies customization: UNIX, X-Window, Motif, relational database
- Quick testing with GUI and automatic test sequences
- Simple operation with pass/fail analysis of test results
- Online context-sensitive help
- Scalable client-server architecture
- Requires less training

For product ordering information, see pages 4 – 10

DS3 HI-CAP TEST SYSTEM
MP1033A

DS3 Monitor, Access and Test

NEW

The Anritsu MP1033A is a combination access, test and performance monitor system for DS3 circuits. It enables a service provider to non-intrusively determine the quality of the signal at the DSX3 in the central office as well as at the point where service is delivered to the customer. It can be the tool to provide documented proof of service quality to the end user, or at the point of hand-off between an ILEC and a CLEC. In the event of an outage, the equipment can help pinpoint faults - and the responsible party - to support quick service restoration.

- DS3 Performance Monitoring, access and test in a single shelf
- Works with NIU at customer premises to non-intrusively characterize service quality
- Fail-safe circuit path redundancy
- Redundant power supplies
- Seamless operations integration

STAC
9724B

Drop-in Replacement for S1DN

The Anritsu SMAS Test Access Concentrator (STAC), Model 9724, is a plug-for-plug replacement for aging and maintenance intensive AT&T Stage One Distribution Networks (S1DNs). STAC operates transparently with existing RTS5A test systems and Anritsu's SMATS$^{PLUS®}$ RTS5A replacement system. It can be used to replace all S1DNs in a system or to selectively replace individual S1DNs while other S1DNs in the system are left in place.
STAC provides significant technical and economic advantages over existing S1Dns through increased reliability.

- Plug-for-plug S1DN replacement
- Hermetically sealed relays reduce maintenance and increase reliability
- S1DN-like architecture supports all elements of SMAS
- Transparent to RTS5A or Anritsu's SMATS$^{PLUS®}$ RTS5A replacement
- Can be mixed with existing S1DNs for gradual migration

SICU
9725

Drop-in Replacement for NICU

NEW

The Anritsu SMAS Interface Control Unit, (SICU), is a plug-for-plug replacement for aging and maintenance intensive AT&T Network Interface Control Units, (NICUs). The SICU operates transparently with existing RTS5A test systems and Anritsu's SMATS$^{PLUS®}$ RTS5A replacement system. It can be used to replace all AT&T NICUs in a system or to selectively replace individual NICUs while other AT&T's NICUs in the system are left in place.
SICU provides significant technical and economic advantages over existing AT&T NICUs through increased reliability.

- Plug-for-plug NICU replacement
- Hermetically sealed relays reduce maintenance and increase reliability
- NICU-like architecture supports all elements of SMAS
- Transparent to RTS5A or Anritsu's SMATS$^{PLUS®}$ RTS5A Replacement can be mixed with existing NICUs for gradual migration