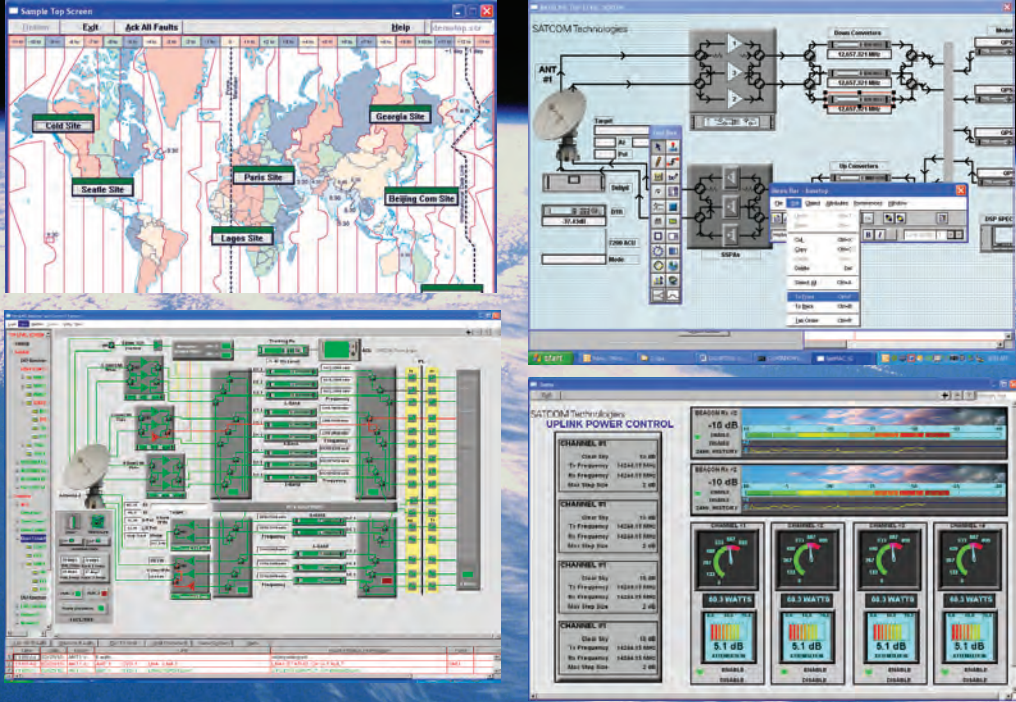


NetMAC® Monitor and Control Total System Management

Satcom & Antenna Technologies Division



Overview

The NetMAC® (Network Monitor and Control) System is the complete management tool for your telecommunications system, from a single site to a full array of functions. The NetMAC® provides cost effective and powerful central control of your total operations, giving you the competitive edge.

The NetMAC® has been optimized for the management of communication systems at either a single site or a network having multiple remote locations.

Whether these locations communicate with a single hub, multiple hubs, or exist in a hubless mesh network, the NetMAC® can work within the existing topology and easily expanded to meet your future growth plans.

To fulfill your needs, we have combined flexible hardware configurations in concert with an extensive set of built-in software tools coupled with point-and-click graphics. Customized reporting, automatic task scheduling, and control process programming are just a few of the ways in which you can take charge of your system with NetMAC®.

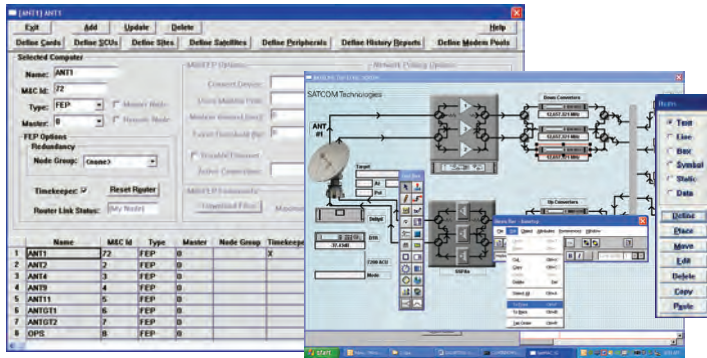
Key Features

- Full Featured, Easy to Use
- Configuration Management
- User Configurable
- Client / Server Architecture
- Remote Manager Consoles
- User-Configurable Drivers
- Protocol Analyzer
- Fault Masking
- Security Hardened
- LDAP for NetMAC® Logins
- SSL for GUI-to-IOM Communication
- SSH IOM Login
- Recorded Command - Macros
- Action Process
- Multi-Level Severity Alarms
- Multi-Level Password Protection
- SNMP Agent
- Task Scheduling
- Live / Historical Data Graphing
- Report Generation
- Single Box Solution

Options

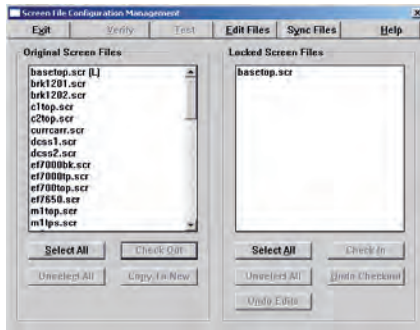
- SNMP V3
- Carrier Monitoring System
- Spectrum Analyzer Display and Command
- BIT / BITE
- Site Diversity Switching
- Uplink Power Control
- Additional Security

NetMAC[®] Monitor and Control Total System Management



User Configurable

NetMAC[®] comes equipped with all tools necessary to add new devices, write your own device drivers, and modify and/or add new system screens.



Configuration Management

The NetMAC[®] file Configuration Management System keeps the worry away on keeping multiple workstations up to date. When a change is made to a screen, bitmap, unit control screen, and/or wav file, it is automatically sent to all other workstations. If a workstation is down at the time, when it comes back up it automatically checks to see if it needs any updates.

Client/Server Architecture

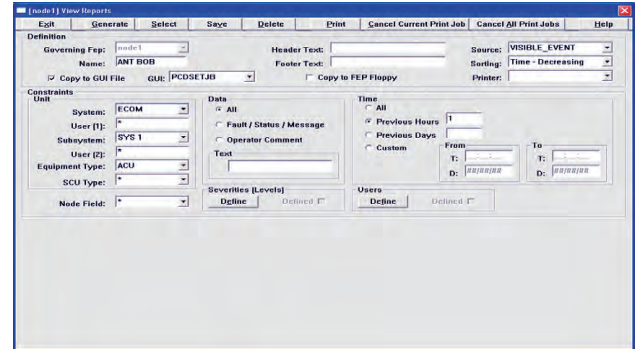
The NetMAC[®] architecture is a unique split OS system utilizing Microsoft Windows OS for the Graphical User Interface and QNX for the data gatherer. QNX provides the real-time environment necessary to respond effectively and efficiently to problems or potential problems in your system. QNX is an extensible POSIX-certified OS with a proven track record for reliability.

Point and Click Graphical User Interface

NetMAC[®] GUI is Object-Oriented in design and utilizes the Windows point and click user interface.

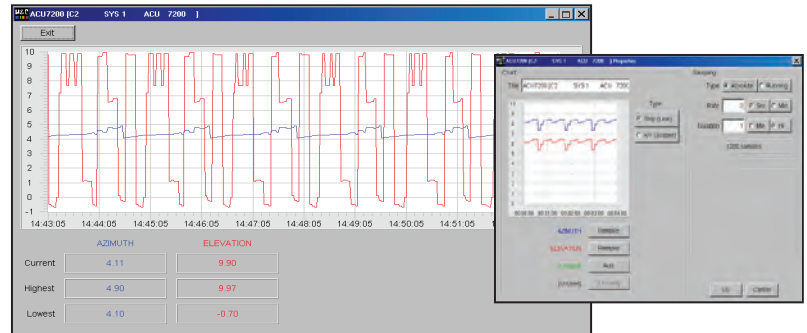
Multi-Level Password Protection

The system administrator assigns each user feature level access as well as equipment level access. For added security, the passwords can be hardened; meaning: they must follow a rigid rule set.



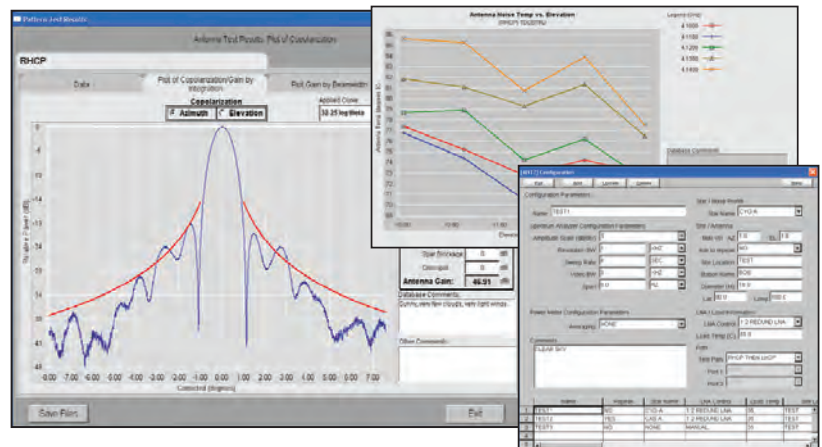
Report Generation

Capable of generating a variety of different reports, based on types of equipment, time of day, specific event severities, particular users, and more.



Live Data / Graphing / History Reporting

NetMAC[®] allows gathering of data for detecting intermittent problems and performance analysis. The NetMAC[®] History function gives you the ability to select and collect raw datapoint values and display these values on-screen live or export the information for use with any graphic and/or spread sheet application.

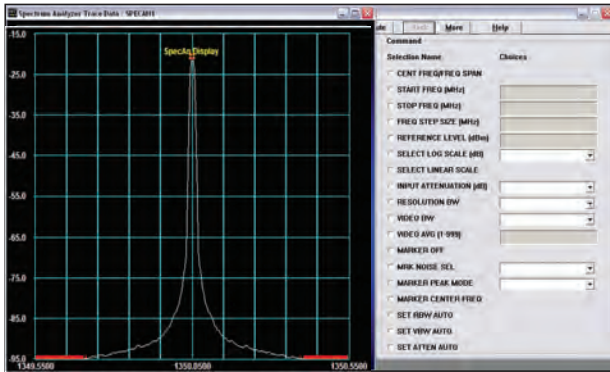


Built-In Test (optional)

NetMAC[®] provides automated tests to help maintain the quality of an earth station. They can alert the operator to system changes by monitoring test points and indicators to support function verification, performance analysis, and fault isolation. Typical automated tests include G/T measurements (star method), Noise Figure, and Pattern Integration.

NetMAC[®] Monitor and Control Total System Management

Control Features and Options



Remote Spectrum Analyzer Display and Command (optional)

The NetMAC[®] allows for display and command of a spectrum analyzer from any operator console.

The screenshot shows the 'Carrier Monitor' window with a table of carrier data. The table has columns for Number, Name, Center Freq, Power Level, EIRP Level, C/N Ratio, Noise Floor, Scan Date, and Scan Time.

Number	Name	Center Freq	Power Level	EIRP Level	C/N Ratio	Noise Floor	Scan Date	Scan Time
1	Carrier 1	3787.72	-21.574	-40.875	*.999.000	*-21.379	16/12/04	11:31:57
2	Carrier 2	3999.35	-20.252	-47.547	0.801	-23.725	16/12/04	11:31:59
3	Carrier 3	4089	-25.501	-52.795	*.999.000	-20.136	16/12/04	11:32:00
4	Carrier 4	4089.17	-23.055	-50.349	*.999.000	22.156	16/12/04	11:32:01
5	Carrier 5	3996.16	*-22.286	0.000	*.999.000	-19.623	16/12/04	11:32:03
6	Carrier 6	4087.27	-23.590	-50.892	*.999.000	-21.959	16/12/04	11:32:04
7	Carrier 7	4087.67	-21.439	*-48.733	*.999.000	19.623	16/12/04	11:32:05
8	Carrier 8	3985.17	-21.050	*-48.345	*.999.000	-20.193	16/12/04	11:32:07
9	Carrier 9	4095.32	-23.106	-50.390	*.999.000	22.073	16/12/04	11:32:08
10	Carrier 10	3965.83	-20.971	*-48.267	-1.032	-23.496	16/12/04	11:31:56

Carrier Monitoring System (CMS) (optional)

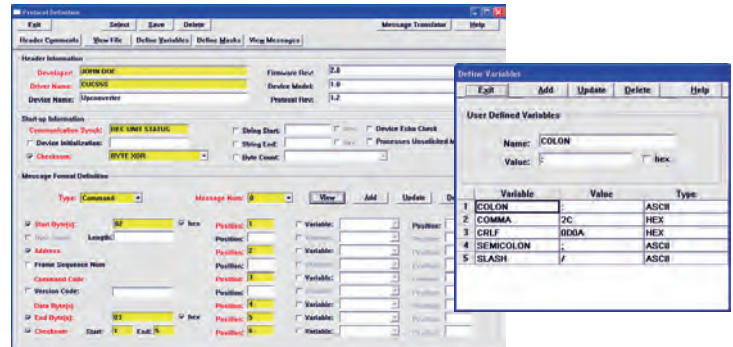
The NetMAC[®] can monitor any number of carriers for proper C/N ratios, power levels, noise floors, and EIRP.

On-Line Help

NetMAC[®] provides the O&M Manual as integrated online help. The user can include specific instructions to customize the help for specific operational procedures.

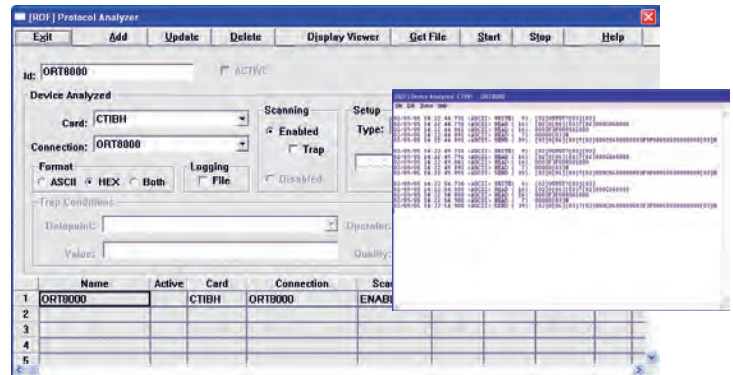
Full Redundancy (optional)

The NetMAC[®] can provide full "hot redundancy" capability for those mission critical systems. Monitoring and Control operations continue seamlessly upon automatic or manual fall over.



Graphical Driver Interface

NetMAC[®] provides the ability to write your own custom device drivers.



Protocol Analyzer

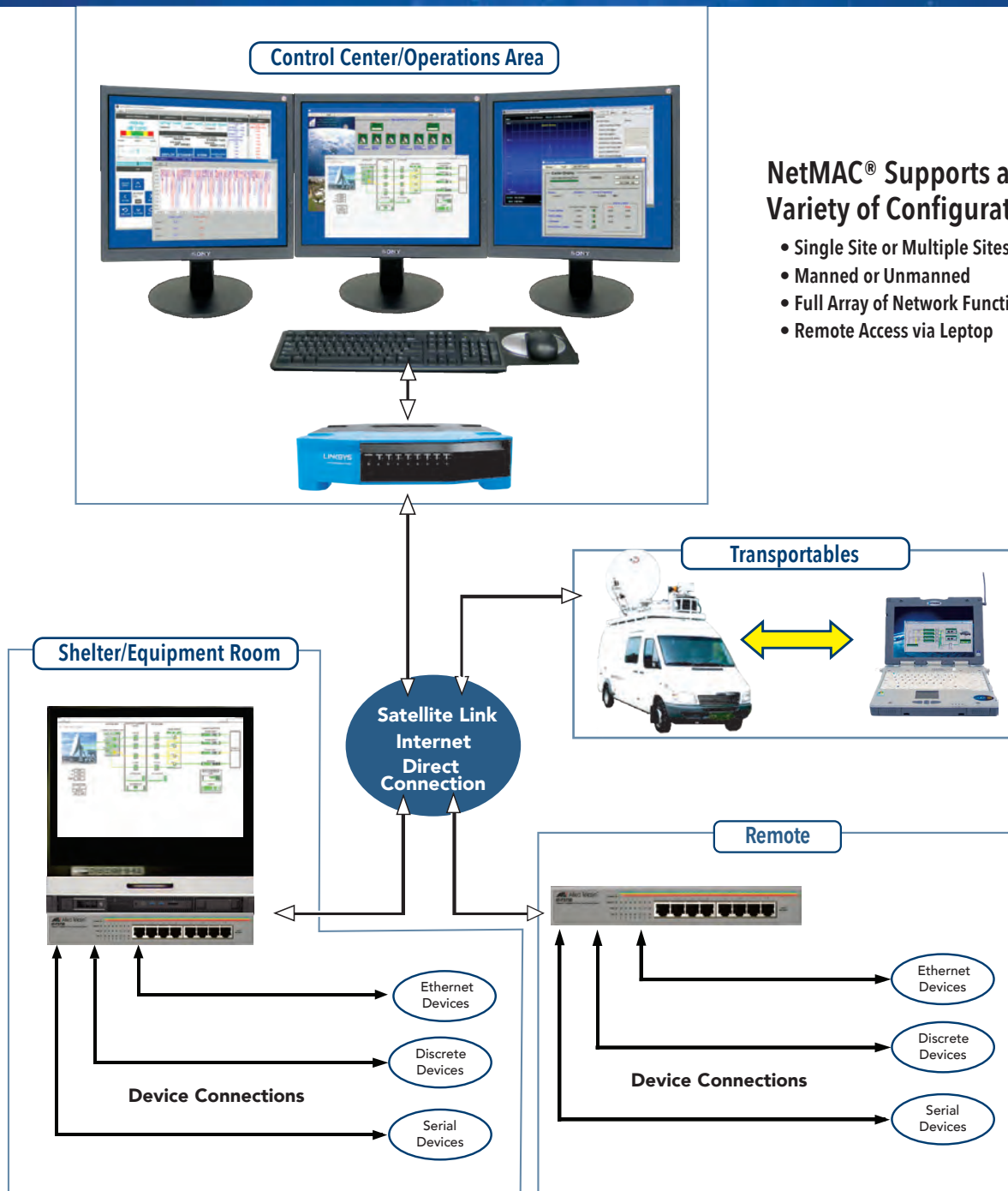
NetMAC[®] comes with the ability to view your message traffic live, and/or store to a file, allowing you to troubleshoot such things as: data errors, protocol problems, timing problems, random problems. by the setting of traps, etc.



Uplink Power Control (optional)

NetMAC[®] provides a cost effective uplink power control solution for one or multiple amplifiers.

NetMAC[®] Monitor and Control Total System Management



NetMAC[®] Supports a Variety of Configurations

- Single Site or Multiple Sites
- Manned or Unmanned
- Full Array of Network Functions
- Remote Access via Leptop

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The data should be used for basic information only.
Formal, controlled specifications may be obtained from CPI for use in equipment design.



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