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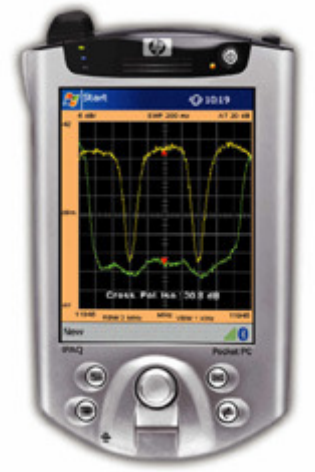


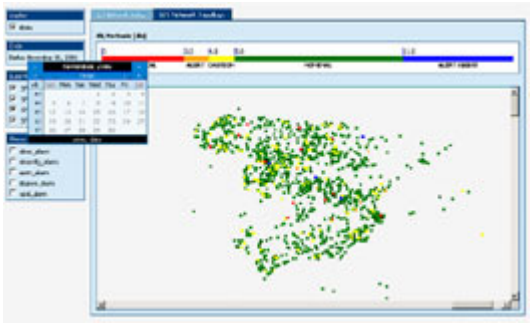
ALUSAT, SatMotion-Pocket streamline installation of remote communications via satellite

18 Feb 2008

The European Space Agency is supporting several companies interested in streamlining the installation process of satellite terminals. Among them is the Spanish-based company IntegrasSys. Through ESA's Initiative for ESA Telecom Newcomers (formerly the Start Up Projects Initiative) IntegraSys produced the Always Up Satellite Terminal (ALUSAT).

Regardless of what they purchase or where they live, consumers want one thing: quality at the best price. This premise is true when it comes to satellite communications. A study conducted by ESA indicated that installation of satellite terminals can be a costly affair and is a likely deterrent for consumers when it comes to investing in satcom technology.

ALUSAT is used as a terminal monitoring and repair aid targeted at low-cost broadband satellite networks with large subscriber communities, especially networks based on DVB-RCS. IntegraSys began work on the product after hearing feedback from network operators such as Hispasat who face the challenge of delivering affordable 2-way broadband via satellite. A great deal of time and money are spent on keeping these Very Small Aperture Terminals (VSATs) running.



Monitoring By Location

ALUSAT combines traditional network management with spectrum monitoring and measurement to accurately derive the terminal status and recover out-of-service or service-degraded terminals. The tool checks automatically for faults in the terminal and diagnoses them. If a terminal fails due to a minor problem such as a slight power adjustment, the system will detect the problem and automatically attempt a repair. Technicians, even minimally skilled ones, can access a graphical console and receive the report or obtain clear instructions on how to solve problems.

ALUSAT includes a recovery tool for network operators, enabling remote testing of installed terminals. All of this serves to reduce the number of unnecessary service calls and allows repair crews to spend their time

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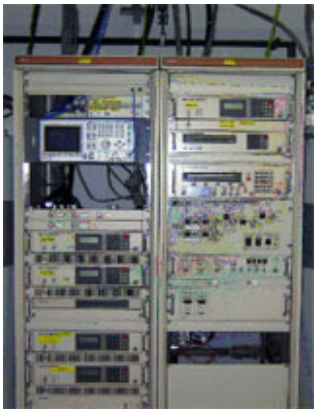
more effectively. The tool also keeps a database of terminal performance and allows monitoring over time to differentiate between outright failures from out-of-specification performance due to bad weather.

Feedback on Installer's PDA

"One of the key challenges in making satellite communications cost effective rests with efficient terminal installation," explains Michele Le Saux, Head of the Ground Segment Technology Section at ESA Telecom. "Traditionally, installers required expensive equipment and a way to telephone the network operations centre to complete the line-up operation. When remote sites had no mobile telephone coverage and no telephone, this proved to be quite a challenge. The installation process also required manual interaction with the satellite network operation centre, which could take up a great deal of time."



Network Operations Centre

SatMotion-Pocket, a tool designed by IntegraSys, allows installers to be guided through the procedure of pointing and aligning a satellite terminal and providing feedback on the quality of the antenna alignment directly to a PDA from the satellite terminal. It configures the indoor unit, helps acquire the forward link, and then performs a line-up of Equivalent Isotropic Radiated Power (EIRP) and cross polarisation isolation on the return channel. Installers get remote real-time monitoring information from the Network Operations Centre (NOC) via the satellite forward link, ensuring service in geographical areas where no other communications but the satellite are available. The 'intelligence' of the installation tool resides within the NOC. The software system coordinates the concurrent installation and line-up procedures, relieving the operators of this task, explains Le Saux.

SatMotion-Pocket is currently undergoing a revision through an ESA Telecom-supported project called UNISAT. UNISAT will adapt the SatMotion-Pocket to Satlabs Harmonised Monitoring and Control recommendations. Satmotion-Pocket will make use of the SatLabs-recommended DVB-RCS Management Information Base (MIB), enabling vendor independent terminal configuration and antenna alignment of DVB-RCS terminals compliant to the Harmonised Monitoring and Control specifications issued by the SatLabs Group.

For more information on the SatMotion-Pocket or UNISAT, ALUSAT, as well as ESA Telecom's Initiative for ESA Telecom Newcomers, visit the links located in the top right column of this page.

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