Application note

RUAG ARANEA Rapid

Backhaul connections via satellite communication

RUAG ARANEA Rapid is a compact and hardened solution that enables communication in an area with no or limited communication infrastructure as well as limited network availability. Interconnecting heterogeneous communication technologies, the system enables backhaul links towards headquarter or command center and local access interfaces for voice and data services.

RUAG ARANEA Rapid is composed of a Core Unit containing standard computing and communications technologies, an Integration Unit with users' options, an antenna set and external power supply.

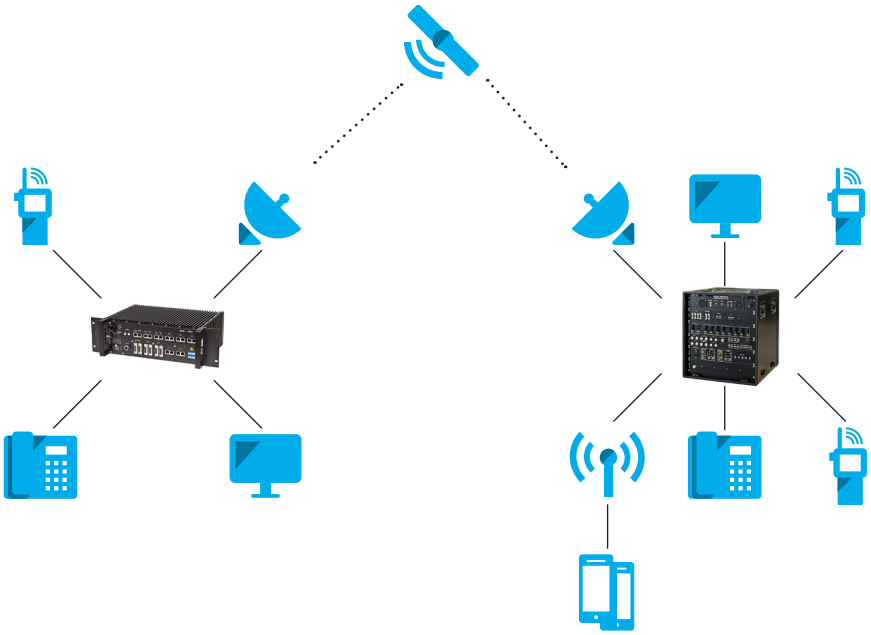
One of the important means for backhaul connectivity is realized by satellite communication. Satellite connections enable long distance communications and can by-pass terrestrial networks. Services are especially provisioned to remote areas and/or areas with restricted infrastructures. In addition, all types of connections are made possible via satellite communication.

With the system RUAG ARANEA Rapid, satellite communication is offered as an option.
RUAG's partner for satellite communication is ND SatCom with the SKYWAN solution.

Integration into RUAG ARANEA Rapid

The part of RUAG ARANEA Rapid containing satellite communication is composed of a satellite router with built-in modem and a dish antenna. Depending on users' needs, the SKYWAN satellite router is integrated into the box of the Rapid system or is directly attached to the antenna. The antenna sub-system ranges from small, lightweight manpack up to a larger, transportable, high-capacity / high throughput antenna system. SKYWAN offers any-to-any IP connectivity, Quality of Service, flexible network topologies and mission critical network availability.

Communication via satellite is fully integrated into the RUAG ARANEA Rapid and all functionalities of the system are available through the satellite link. The satellite communication sub-system is configured in the web GUI as an external element, whereas this sub-system has its own third-party management system (with no need for update during operations). Voice and data communications are reliable within the SKYWAN satellite networks. Applications loaded on the Rapid system are also accessible. Particularly, the Tactical Telephony (TTEL) application, radio bridging functionalities, video conferencing have been successfully integrated into the overall system with satellite communications.



Together ahead. RUAG

Network setup and use cases

Consider a network with RUAG ARANEA Rapid being locally connected with several IP-based devices such as VoIP telephones or laptops, as well as several radio networks. The Rapid system is connected to a remote location (typically a headquarter) with a satellite connection as backhaul link. In the headquarter, another access device from the RUAG ARANEA platform (e.g., a TAN T or a TAN S) is available with similar local connectivity as the Rapid system.

The following functionalities can be used between both access devices and through the satellite link:

- Tactical Telephony (TTEL): The TTEL devices can be faultlessly reached via the satellite connection.
- Radio bridge: The different radio networks can be connected together, also through the satellite link.
- Video conference: A video conference application loaded on a computer on both sides of the network can be run.
- IP: In general, IP-based technologies can be connected on both access devices. For example, RUAG ARANEA Tactical Messaging (TMSG) is usable in such a network configuration.
- Security: The security features of the RUAG ARANEA software, such as VPN IPSec can be used with the optionally encrypted satellite connection.

Users' advantages

By using a complete system RUAG ARANEA Rapid furnished with satellite communications, users take advantage of the following capabilities:

- Interconnection between heterogeneous networks is ensured, especially between incompatible local networks and backhaul links (incl. satellite).
- Network functionalities are all available locally on each access node of the network connected via satellite link.
- Radio bridging is available locally on each node as well as between radio networks separated by the satellite link.
- High bandwidth is offered for backhaul link compared to HF radio networks.
- All equipment are integrated and delivered together. RUAG offers satellite communications equipment from its partner ND SatCom.
- The integration of users' existing equipment for satellite communications is however possible with the core unit of RUAG ARANEA Rapid.

About RUAG's partner for satellite communications: ND SatCom

With over three decades of experience, ND SatCom is the premier supplier of and integrator for innovative satellite communication equipment systems and solutions to support customers with critical operations anywhere in the world. Customers in more than 130 countries have chosen ND SatCom as a trusted and reliable source of high-quality and secure turnkey and custom system-engineered communication solutions. The company's products and solutions are used in more than 200 transnational networks in government, military, telecom and broadcast environments. ND SatCom's flagship product, the SKYWAN platform, is used by major defence organizations to communicate securely, effectively and quickly over satellite. ND SatCom supports its customers with Integrated Logistics Support (ILS) during the planning, deployment and operational phase.

For further information about ND SatCom, please visit: www.ndsatcom.com

RUAG Defence | Allmendstrasse 86 | 3602 Thun | Schweiz
Telefon +41 33 228 22 65 | Fax +41 33 228 47 83 | marketing.defence@ruag.com | www.ruag.com/tacticalcomms

Legal domicile : RUAG Schweiz AG | Seetalstrasse 175 | Postfach 301 | 6032 Emmen | Switzerland