



ElettraSuite Pico Plus
Professional Compactness for small and medium
TETRA networks



ELETTRA
S U I T E

switching & control nodes



ELETTRA
S U I T E



SELEX
Communications

A Finmeccanica Company



ElettraSuite Pico Plus

Professional Compactness for small and medium TETRA networks

OVERVIEW

SELEX Communications' **ElettraSuite Pico Plus** is the new compact Switch & Control Node (SCN) belonging to the TETRA product family, designed to provide an entry level solution for small/medium networks.

Continuing our established tradition in infrastructure components, it is the product of both hardware and software improvements focused on customers' needs. When compared with other systems available in the market-place, it is one of the smallest and most compact, with an extensive set of features and high resilience.

When mounted on top of a TETRA base station (BS) (refer to the picture), the system is called **ElettraSuite Pico Plus-network**. It can be also integrated as part of larger regional or national networks.

In addition to a typical star topology with each BS linked directly to the switch, Pico Plus employs an innovative algorithm for ring deployment, without need of additional external devices. Its modular and fault tolerant architecture supports expansion both in terms of performances and functionality.

Moreover, Pico Plus also ensures TETRA performance with a state-of-the-art IP core, supporting both circuit and packet switching for VoIP interoperability, ready for migration to **TETRA Enhanced Data Service (TEDS)** with a software upgrade.

The TEDS standard has been developed to supply professional users with high-speed IP packet data services, with TETRA 1 backward-compatibility. It has been optimised for efficient use of PMR frequency bands with expected performances related to the available number of channels.

CAPABILITY

The main functionalities of the Pico Plus are similar to those of SCN Plus, namely:

- TETRA telephony: call control, short data service, mobility management;
- TETRA operation and maintenance;
- TETRA telephony database;
- External gateways telephony;
- TETRA IP packet data network;
- Security.

In a TETRA network, a Pico Plus node is responsible for:

- Allocation of traffic channels for the circuit voice/data calls;
- Queuing management, when traffic channels are not available;
- Allocation of available resources to subscribers, based on pre-configured priority tables.

An integrated authentication centre provides a secure data storage system embedded on the hardware platform and customisable End-to-End Encryption services, available for both terminals and operator sites and for telephonic gateways.

Interaction with the Network Management System follows the standard paradigm described in the ITU-T TMN, using CORBA.

To ensure a high level of resilience, the Pico Plus can integrate two TETRA switching units (TSU) on board in active/standby mode, with no single point of failure.

This ensures, in the event of malfunctions, a fast convergence with no service interruption.

Two different physical structures can be implemented:

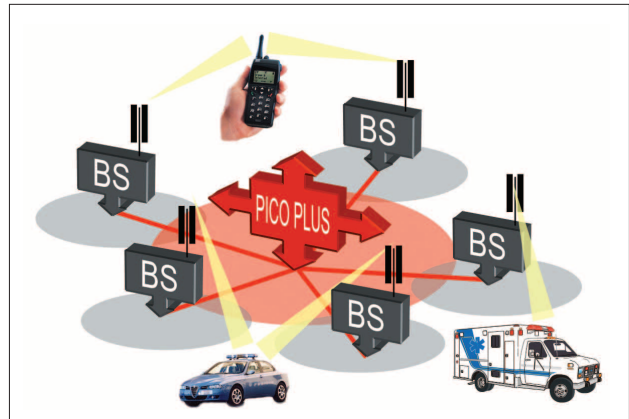
- Pico Plus top-mounted on a TETRA BS, realizing the **Pico Plus-network solution**.
- **Pico Plus stand-alone**.

When top-mounted, the Pico Plus can share hardware resources with the BS, providing or contributing to:

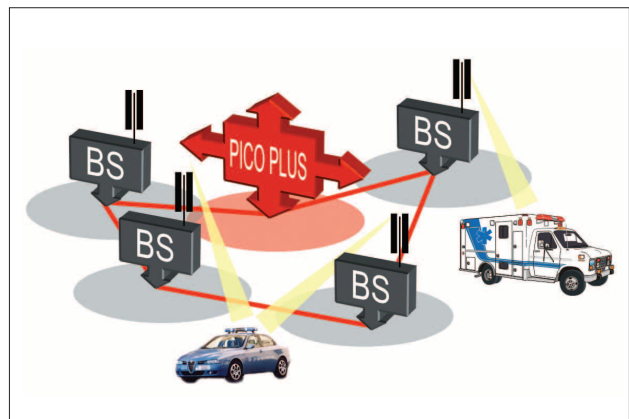
- Cost-effectiveness
- Optimisation of radio coverage
- Reliability

The internal gateway provides support to a wide range of interface cards, such as analogue 2/4 wires and digital ISDN BRI and PRI (E1, QSIG).

This comprehensive set makes both Pico Plus and PicoNode Plus the ideal solution when a high level of network interoperability (PSTN, analogue radio network, etc) is required.



Star topology



Ring topology



Pico Plus on BST2 top mounted, "ElettraSuite Pico Plus-network" configuration.

TECHNICAL DATA

Number of Base Station:	Up to 64
Number of Carriers:	Up to 128
E1 lines:	Up to 12
Number of Networked SCN	Max 8 in a Region, max 25 Regions
Number of Wan Dispatching St.	Up to 20
Number of Control Room Servers	Up to 8
Number of Subscribers	10,000
Dimensions Pico Plus overall (HxWxD):	62 x 60 x 60 cm (external measures), 11U (internal measures)
Environmental conditions and EMC:	<ul style="list-style-type: none"> Compliant to the essential requirements of the directive 1999/5/CE and then it is CE marked Compliant with EN 300 386. This standard concerns both emissions and immunity requirements. Emissions limits are those of the EN 55022 class A standard. Compliant to the EN60950 standard Operating conditions compliant with ETS 300 019-1-3, Class 3.1: <ul style="list-style-type: none"> Temperature: $+5 \div +40$ °C. Humidity: 5% to 85%, non-condensing. Storage conditions compliant with ETS 300 019-1-1, Class 1.2: <ul style="list-style-type: none"> Temperature: $-25 \div 55$ °C. Humidity: 10% to 100%, non-condensing. Transport conditions compliant with ETS 300-019-1-2, Class 2.2
Power Supply:	<ul style="list-style-type: none"> From -44 VDC to -60 VDC -48 VDC nominal
Power consumption:	Max 825 W in fully redunded configuration
Synchronisation Source	Pico Plus can use one of the following timing sources: <ul style="list-style-type: none"> External E1 signal. Use of an internal oscillator with high accuracy. Optional Internal GPS Time Reference Clock

