OPERATIONAL DESCRIPTION

The radio relay link ZENITH 24 station consists of three main parts:

1. The outdoor microwave unit that is integral with the antenna contains:
The RF block that includes the microwave receiver, power amplifier, and oscillators controlled by the phase-lock loop.
The data block that includes GEth 1000/100/10 switches, a modem and the monitoring system supervised by a controller. The power supply block that consists of DC-DC transformers that power the whole station. This complete block has been designed on one printed circuit board (PCB) which removed a lot of circuits and thus significantly increased reliability.

(Then there is the outdoor microwave unit called **ODU** - Outdoor unit for short in the text.)

2. The antenna set with the parabolic antenna, the radiator and the pole attachment.

3. Considering placement of the data block in ODU, the station ZENITH 24 has an indoor unit reduced to the protected terminal box **ALS1-GEth (RP) or ALS1-2GEth (RP)** that ensures transmission of customer data, powering of the station, and protection against the atmospheric origin overvoltage and overcurrent. (The protected terminal box is marked as **ALS1x** in the further text.) ODU can be connected to the microwave parabolic antennas of the types ALCOMA AL1-xx/ME,(∅ 0.35 m), AL2-xx/ME (∅ 0.65 m), AL3-xx/MP (∅ 0.90 m), and AL4-xx/MP (∅ 1.20 m). These antennas are standard equipped by icing protection (OPN) for use in demanding climatic conditions. The simply removable ODU is integrated with the antenna system into one compact whole.
Interconnection between the protected terminal box and ODU is done by a double shielded outside cable (S-STP Cat 7) with 4 pairs of conductors with the 100 Ω impedance. The link cable transmits customer data, powering for ODU and ODU monitoring signals.