

DIGITAL  
& COMMUNICATION  
TECHNOLOGY

# RADIO DATA TERMINAL

## DT13



- **Direct access to digital systems of command and control, connection to weapon systems**
- **High resistance to EW (digital encryption, compression of transmitted data, remarkable shortening of transmission time)**
- **Reliable communication despite bad quality of radio channel**
- **User pursued modifications**



- **Input of operational data from PC**
- **Easy control**
- **Usable in field conditions and mobile applications (waterproof, shockproof)**



# RADIO DATA TERMINAL DT13



### Operating

The Terminal operation is very simple, based on interactive menus. It is equipped with 62 keys keyboard and 240 x 200 pixels display. Intensity of backlight for keyboard and display can be set individually. The acoustic signaling of incoming messages is also adjustable. The basic modes of operation (pages) are switched using a rotary switch. As an interface to other devices there are two RS232C or RS485 communication ports. The bus can be used when the terminal is deployed in larger onboard electronic system or for communication with external data devices.

### User features programming

The Terminal features may be programmed to fully comply with requirements of the particular military unit or kind of battle vehicle.

### Cloning

The programmable features (databases of call signs, hot messages and templates) can be easily copied from one terminal to another by means of cloning even in field conditions.

### Security against misuse

The Terminal is equipped with protection against intentional misuse – immediate erasure of all operational data, data transmission encryption, and automatic time stamp with the transmitted messages.

### Data transmission

Data transmission takes place with speeds of up to 4800 bps with encryption. Creating, editing and transmission of text messages up to 1000 characters long entered from the keyboard, transmission of structured data from predefined templates and transmission of "hot" messages (alarm or emergency signals) is possible. Different types of templates can be prepared at PC.

Received messages are being displayed and saved in memory. Saved messages may be subsequently viewed, transmitted via communication link to PC or printed. Data designated for transmission may be entered and edited also when the terminal is not connected to the radio. Thus it can be used for collecting the data in the field and their subsequent transmission to the radio network. Different data obtained from various sensors using the communication line or bus may therefore be transmitted even without intervention of the operator. The received data can be delivered to another devices. In such a way remote control and data upload to varied weapon systems may be achieved. Typical example is connection of the terminal to the laser range finder. Target positions thus can be communicated immediately after acquisition of the target by the reconnaissance patrol.

### GPS

The terminal offers several functions exploiting internal GPS receiver. Besides displaying the own position, and all functions for navigation according to the given route, it performs archiving of the measured position. Averaging or differential methods can be used for more accurate measurement of the navigational parameters.

- **Encrypted data transmission**
- **Upload of received messages to PC, printing**



- **Cloning of operational data**
- **Internal GPS receiver**



# Technical parameters

## BASIC PARAMETERS

Nominal power supply .....	12 V
Operating power supply .....	6.5 V to 33 V
Effective input voltage .....	1.7 V $\pm$ 0,3 V/5 k $\Omega$
Effective modulation voltage.....	0.55 V $\pm$ 0.05 V/2 k $\Omega$
<b>Current consumption at nominal voltage</b>	
without backlight .....	max. 300 mA
with backlight .....	max. 400 mA
<b>Operating time with RF13 (1 : 1 : 10)</b>	
without backlight .....	min. 9.5 h
with backlight .....	min. 8 h
<b>Operating time with RF1301 (1 : 1 : 10)</b>	
without backlight .....	min. 2.5 h
with backlight .....	min. 1.5 h
<b>Number of messages in log.....</b>	max. 99
<b>Data interface speed .....</b>	9600 bps
<b>Radio channel width.....</b>	(150 to 9000) Hz
<b>Standard interface .....</b>	2 x RS232, 1 x proprietary

## DATA TRANSMISSION

<b>Data speed over radio .....</b>	adjustable (300, 600, 1200, 2400 a 4800) bps
<b>Immediately displayed characters .....</b>	max. 30 characters on each of 8 lines
<b>Maximum number of addresses .....</b>	127
<b>Number of characters in call sign .....</b>	max. 8 alphanumeric characters
<b>Length of transmission text message .....</b>	max. 1023 characters
<b>Length of password .....</b>	max. 5 characters
<b>Number of hot messages.....</b>	max. 10

## GPS

<b>Accuracy (S/A on) 95 %</b>	
horizontal .....	better than 100 m
vertical .....	better than 174 m
DGPS.....	better than 5 m
averaging .....	20 m (30 minutes)
<b>Accuracy (S/A off) 95 %</b>	
horizontal .....	better than 29 m
vertical .....	better than 51 m
<b>Time to first fix.....</b>	45 s (warm start)
<b>Number of channels .....</b>	either 12 channels for C/A code or 5 channels for P/Y and C/A code
<b>Datum .....</b>	S42, WGS-84
<b>Navigational antennas .....</b>	passive with gain min. 0 dBi, active with amplifier (supply voltage 5 V)
<b>Archive memory capacity .....</b>	512 kB
<b>Way points memory capacity .....</b>	400
<b>VHF FM corrections receiver .....</b>	reception in band (87.5 to 108) MHz (RDS service), sensitivity 10 $\mu$ V

## OTHER PARAMETERS

<b>Dimensions .....</b>	(183.5 x 173.5 x 53) mm
<b>Weight.....</b>	max. 1.5 kg
<b>Operating temperatures range .....</b>	-30° C to +60° C
display.....	-20° C to +60° C
<b>Immersion .....</b>	depth 1 m for 2 hours
<b>Mechanical resistance</b>	
vibrations .....	(5 to 80) Hz/2 mm or 40 m.s <sup>-2</sup>
multiple shocks .....	150 m.s <sup>-2</sup> /(5 to 10) ms
single shocks .....	1000 m.s <sup>-2</sup> /(1 to 5) ms
<b>MTBF .....</b>	min. 10 000 hours