



Russian HDD Locating Systems

SNS «t series»

Quick User`s Guide



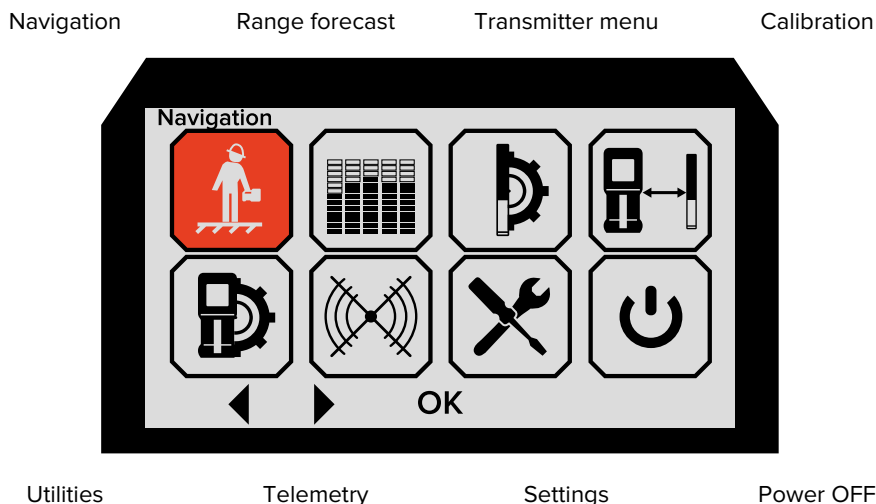
NewVision



Before you start to locate with SNS system:

- be sure in enough internal power supply of the Receiver;
- turn ON the Repeater, connect antenna and set up the telemetry;
- prepare batteries for the Transmitter.

Receivers's main menu



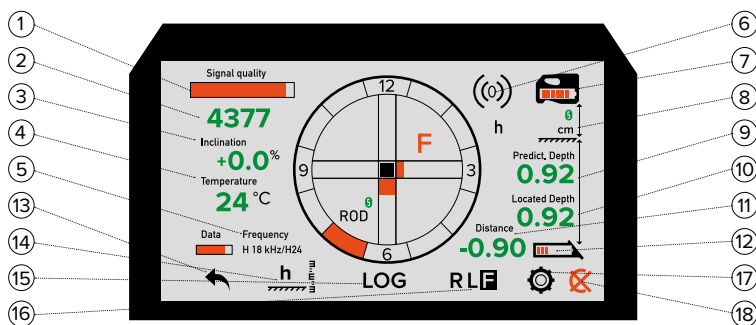
Arrows – screen pictogram, actions*



- moving by menu icons, short push
- confirmation
- changing parameters
- action with short push/long push functions (hold until function starts)

* Exept special functions.

Receiver's locating screen




- | | |
|---|---|
| <ol style="list-style-type: none"> 1. Quality of transmitter signal 2. Power of transmitter signal 3. Transmitter angle 4. Transmitter temperature 5. Transmitter power/frequency 6. No. Of telemetry channel 7. Receiver battery level 8. Distance to surface 9. Predicted depth (in the vicinity of the front point) | <ol style="list-style-type: none"> 10. Current depth 11. Horizontal distance to the transmitter 12. Transmitter battery level 13. Back to menu 14. Correction distance to surface 15. Record the shot (datalog) 16. Switching locating points 17. Extra menu (setting target depth, display inversion, setting the receiver mode) 18. Calibration failed/calibration error |
|---|---|





Noise test and transmitter's signal range prediction





IMPORTANT NOTICE!!!

Before you start drilling we strongly recommend walk all along the drilling path with Noise test procedure to chose one or several best modes and record them if needed

Range prediction




st Transmitter type				
kHz		← h →	Max.	PWR
2	150	9	15 m	L
8	172	9	17 m	
12	20	16	17 m	
18	71	12	17 m	
24	75	13	18 m	
30	97	13	23 m	
41	95	15	23 m	




Navigation icons:  PWR   

-  exit
- PWR** power mode
-  save measurement
-  next frequency and only it range prediction/all frequency scan starts
-  previous frequency and only it range prediction

Saving measurements

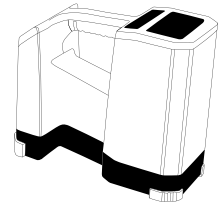
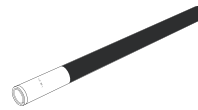
N	kHz							PWR
	2k	8k	12k	18k	24k	30k	41k	
1	9	9	16	12	13	13	15	L
2	12	9	10	7	3	3	8	S
3	10	14	7	18	20	21	23	S
4	2	20	14	17	15	15	18	H
5	8	15	15	12	6	25	23	S
6	8	15	15	12	6	20	10	L
7	8	15	15	12	6	28	15	H

Navigation icons:   

-  exit
-  erasing last record (with confirmation)
-  erasing whole table (with confirmation)

Transmitter programming

1. Insert batteries to the Transmitter according to correct polarity, close its cap and put it horizontally near the Receiver. In **10 seconds** Transmitter is ready for programming;



IMPORTANT NOTICE!!!

Radiomodem of the Transmitter is awaiting for the command from the Receiver within 15 minutes after Transmitter was started or got command to it from menues "Tansmitter programming" or "Calibration"

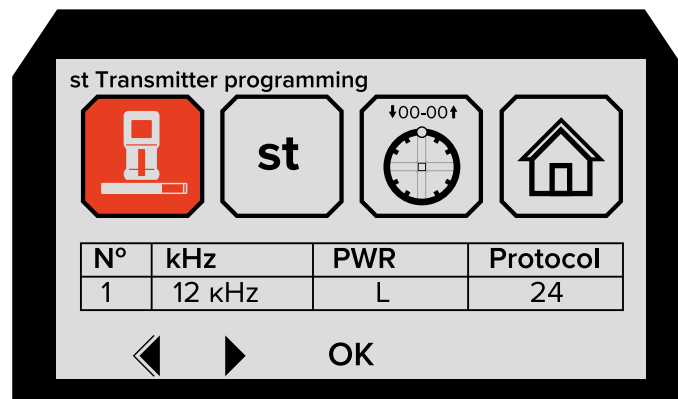
2. In "Transmitter menu" chose type of the Transmitter (st, st/A, st/E, st/EA, st/100) and go to menu "Transmitter programming";

Transmitter programming

Transmitter type

Clock position correction

Exit



Current mode

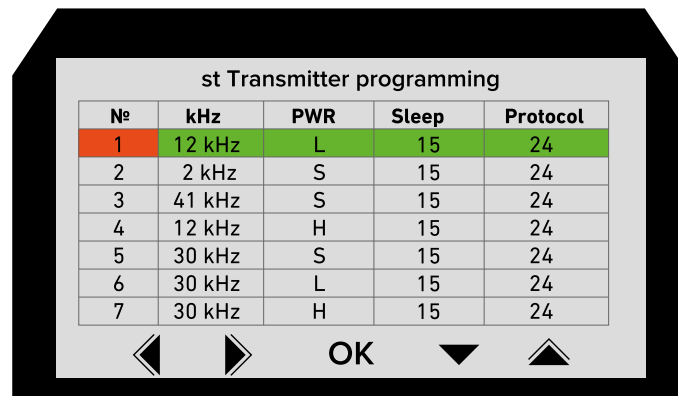
Mode #

Transmitter frequency

Transmitter power

Protocol

Programm the Transmitter modes (1-7): frequency, power, sleep mode and protocol

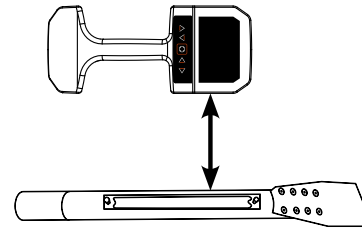


3. Move by cells using arrows ◀▶ ;
4. Chose parameters by arrows ▼▲ ;
5. OK – short push – go to next line;
6. ◀ – exit from menu;
7. ▶ – show tip (your saved measurements);
8. ▲ – clear the table;
9. OK – long push – Start programming process.

If at this moment red color is in non-filled line – first filled line will be set as the current mode. If red color is in filled line – that line will be set as the current mode

Transmitter calibration

1. Place the Transmitter to the transmitter housing;
2. Put drill head in parallel with the Receiver with 3 or 10 meter distance;



IMPORTANT NOTICE!!!

Don't put out Transmitter from drill head during calibration process, it will switch between programmed modes by itself

3. Go to "Calibration" menu;
4. According to Transmitter type chose "3m Calibration" (st, st/E, st/C, MKt1/2/3 and Pt) or "10m Calibration" (st/A, st/EA, st/100);
5. Chose convenient for you type of calibration and start process.

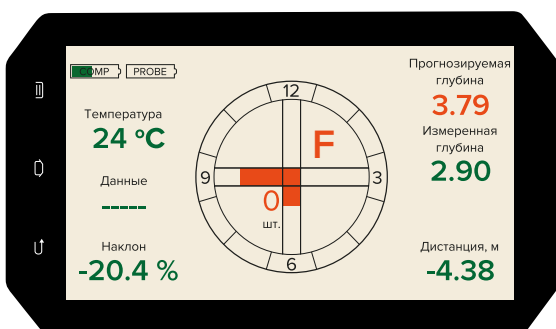
Transmitter type			
Nº	kHz	Parameters	Calibration
1	12 kHz	L_15_24	24 ✓
2	2 kHz	S_15_24	✗
3	41 kHz	S_15_24	✗
4	12 kHz	H_15_24	✗
5	30 kHz	S_15_24	✗
6	30 kHz	L_15_24	✗
7	30 kHz	H_15_24	✗

- ◀ exit from calibration menu
- ▶ calibration test
- OK long push – calibration of chosen mode
- ▼ long push – one-step calibration of all programmed modes
- ▲ line to line moving

IMPORTANT NOTICE!!!

After calibration of certain mode it will become current. After one-step calibration of all programmed modes, last one will be current. You can set up needed programmed mode in "Transmitter programming" menu or make calibration of needed mode ones again

Repeater

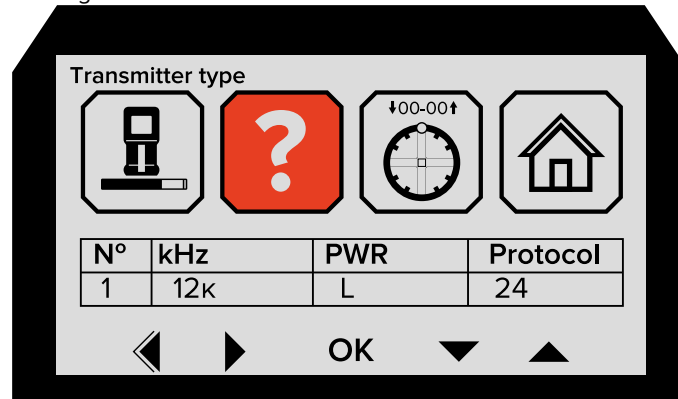


All information from the Receiver goes to Repeater by one of four telemetry channel and constantly displaying on the screen, including showing nearest locating point.

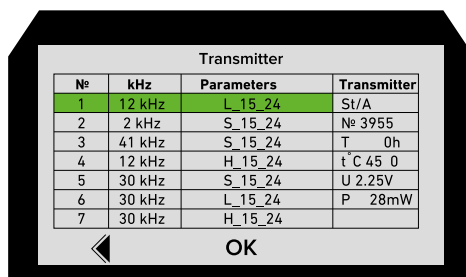
- transmitter angle;
- transmitter battery level;
- transmitter temperature;
- repeater power;
- telemetry status;
- predicted depth (in the vicinity of the Front point);
- current depth;
- horizontal distance to the transmitter.

Transmitter info

Transmitter programming Transmitter type Clock position correction Exit



To get info from the Transmitter, you need to turn it ON, go to “Transmitter menu”, chose “?” in “Transmitter type” and press “OK”.



Transmitter type
Serial number
Total working time
Maximum temperature
Power supply
Energy consumption*

“OK” – long push – copying transmitter programmed modes to the Receiver.

* Data of energy consumption shows how good transmitter signal passes drilling head.

Energy consumption limits for Transmitters: st, st/E, st/C, that will allow to reach manufacturer’s parameters of the distances and battery-working hours

Battery type Transmitter power	Energy consumption limits, mW	
	Alkaline 1C, Li-Ion 2C and chargeable 2C (ER261020M)	Li-Ion 1C (ER26500M)
L – low	100	100
S – standard	300	600
H – high	600	2500

Energy consumption limits for Transmitters: st/A, st/EA

Battery type Transmitter power	Energy consumption limits, mW	
	Alkaline 1C, Li-Ion 2C and chargeable 2C (ER261020M)	Li-Ion 1C (ER26500M)
L – low	200	600
S – standard	600	1400
H – high	1400	3200

IMPORTANT NOTICE!!!

If energy consumption limit will be exceeded – battery-working time will decrease proportionately. Transmitter signal range distance will not decrease