

RADIO-COMMUNICATION SERVICE TESTER

Addition No.2

to the Technical operation guide

ИТЦК468166.002 РЭ

2013

This Addition No.2 to the Technical operation guide ИТЦК468166.002 РЭ is designed for the user's acquaintance with the changes in control of the tester and carrying out measurements related to addition of the functions:

- 1) tuning of the FM receiver to a set frequency;
- 2) automatic switch-over between the modes of measurements of the transmitter and the receiver.

1 GENERAL INFORMATION

1.1 Tuning of the FM receiver to a set frequency.

The function is available only when measuring FM of radio stations.

In the mode of deviation, CND, LF of the detected signal of the FM receiver measurements the measuring receiver is conventionally tuned to a measured frequency of the transmitter carrier.

To reduce the time of measurements related to determination of a carrier frequency a possibility to set a frequency on which measurements will be performed by hand was added.

The mode of setting is selected in the parameter settings of the transmitter. The following variants of the tuning frequency are available:

- 1) measured;
- 2) set TRM;
- 3) set RCV;

1.1.1 "Measured" - tuning to a measured frequency of the transmitter carrier.

1.1.2 "Set TRM" - tuning to a frequency typed in the settings of the transmitter.

Enter of the tuning frequency is performed similar to enter of voltage and frequency of modulation.

1.1.3 "Set RCV" - tuning to a frequency typed in the settings of the receiver.

Indication of measurements can be stopped by pressing the "ENTER" button.

1.2 Automatic switch-over between the modes of measurements of the transmitter and the receiver.

In the set mode change-over between measurements of the receiver and the transmitter is performed only automatically depending on presence or absence of power at the output "RFI".

To switch over by the buttons between measurements of the receiver and the transmitter is not allowed.

The mode is selected in the "MODE" menu, "SETTINGS" submenu, "SWITCH-OVER RCV/TRM" item.

2 DESCRIPTION OF PERFORMED MEASUREMENTS

2.1 Tuning of the FM receiver to a set frequency.

2.1.1 In the parameter settings of the FM transmitter a "RECEIVING FREQUENCY" setting item was added.

To activate the menu of FM receiver setting selection the button "F3" is used.

Purpose of the menu buttons:

- 1) "F1" selection of tuning to a measured frequency;
- 2) "F2" selection of tuning to a set frequency in the "TRANSMITTER" mode;
- 3) "F3" selection of tuning to a set frequency in the "RECEIVER" mode;

The screen layout with tuning of the receiver to a set frequency in the mode of measurement of the FM transmitter is shown in fig.2.1.

The screen indicates the tuning frequency "TRM: 1600 kHz".

The tuning frequency is indicated only when deviation, CND, LF frequency are measured and with selected tuning to a set frequency.

The screen layout of the "RECEIVING FREQUENCY" menu is shown in fig.2.2.

TAB MODE		TRANSMITTER FM	
▶	MODULATION VOLTAGE	1.00 V	0.01
F2	MODULATION FREQUENCY	1.000 kHz	
F3	RECEIVING FREQUENCY	1.600 MHz	TRM
F4	SWITCH ON MODULATION		
ESC SETTINGS		AFOUT:	RF1:
TRM: 1,600 kHz		-- . -- kHz	

Figure 2.1

TAB MODE		TRANSMITTER FM	
▶	FREQUENCY OF RECEIVING MEASURED		
	SET TRM		
	SET RCV		
ESC SETTINGS		AFOUT:	RF1:
TRM: 1,600 kHz		-- . -- kHz	

Figure 2.2

2.2 Automatic switch-over between the modes of measurements of the transmitter and the receiver.

2.2.1 In the "SETTINGS" submenu of the "MODE" menu a "SWITCH-OVER RCV/TRM" item was added.

The mode of automatic switch-over is switched on and off by pressing the "F4" button.

The "MODE" menu is activated from measurements of the transmitter or the receiver by pressing the "TAB" button.

The menu "SETTINGS" is activated from the "MODE" menu by pressing the "F4" button.

The mode switching-on is indicated by the "AUTO" message.

The screen layout of the "SETTINGS" submenu with the automatic switch-over function switched off is shown in fig. 2.3.

SETTINGS	
F1	SWITCH ON AM
F2	ATTENUATORS
F3	SYSTEM
F4	SWITCH-OVER RCV/TRM

Figure 2.3

If in the device the function of automatic switch-over is switched on, indication of an action when pressing the button "F4" is shown below.

F4 ПЕРЕКЛЮЧЕНИЕ ПРМ/ПРД АВТО

The screen of measurements with switched on automatic switch-over is shown in fig.2.4.

TAB MODE	AUTO	RECEIVER FM
F1	SINAD	
F2	VOLTAGE	12.347 V
F3		
F4	SWITCH OFF MODULATION	
F5	LF FREQUENCY	0.300 kHz
ESC SETTINGS	AFOUT1:	RF1:
12.347 V		

Figure 2.4

2.2.2 The sequence of actions of switching on the mode from the transmitter measurements is shown below. There is no signal at the "RFI" output.

TAB MODE		TRANSMITTER FM
F1 FREQUENCY	0.000 kHz	
▶ POWER	0.000 W	
F3 DEVIATION		
F4 CND		
F5 LF FREQUENCY		
ESC SETTINGS	AFOUT:	RF1:
0.00 W		

Press the "TAB" button and go into the "MODE" menu.

TRANSMITTER FM	
F1	RECEIVER OF SETTING
F2	RECEIVER OF MEASUREMENT
F3	OSCILLOGRAPH
F4	SETTINGS
F5	MODULATION OUTPUT

Press the "F4" button and go into the "SETTINGS" menu.

SETTINGS	
F1	SWITCH ON AM
F2	ATTENUATORS
F3	SYSTEM
F4	SWITCH-OVER RCV/TRM

Press the "F4" button, switch on the mode and return automatically to the measurements of the receiver.

TAB MODE	AUTO	RECEIVER FM
F1	SINAD	
F2	VOLTAGE	12.347 V
F3		
F4	SWITCH OFF MODULATION	
F5	LF FREQUENCY	0.300 kHz
ESC SETTINGS	AFOUT1:	RF1:
12.347 V		