User manual

Users Manual

1. Introduction

Easy to operate, this hand-held frequency counter is a super compact frequency measuring instrument.

2. Features

Multi-Function LCD Display
9-Digit Display
Analog bar and Digital Signal Strength Indicator
Display Holding
50 Display Readings Saving Power Indicator
Interactive User Menu
Equipped with UV antenna and USB power adapter.

3. Use

(1) Key Functions – when power is turned on, the lower part of the screen indicates the present function of the 3 keys.
[LIGHT]: function used to turn on or off the back light. No key operation for 5 minutes, the back light turns off automatically to save power.
(MENU]: Function used to enter the menu
[HOLD]: Function used to hold the screen reading
[EXIT]: Function used to exit the menu [SEL]: Function to confirm the selection and return to the previous menu
[NEXT]: Function used to select next [BACK]: Function used to return to the previous menu.

(2) Turning on and Turning off Power

Hold [F1] key for two seconds and the logo appears on the screen. The frequency counter now works.
Hold [F2] key for 2 seconds to turn off the frequency counter. POWER OFF! appears on the screen.

(3)　　Turning on Back Light

Press [F1] key to turn on the back light. Press [F1] key again to turn off the back light. No key operation for 5 minutes, the back light turns off automatically to save power.

(4)　　Holding Display

Press [F3] key to hold the frequency and signal strength reading on the screen. HOLD indicator is indicated on the screen. Press [F3] again to turn off display holding, and HOLD indicator disappears. In Display Holding mode, the function of [F2] (MENU) is SAVE.

The frequency and signal strength readings can be saved sequentially by pressing [F2].SAVE indicator flashes on the screen when saving. After saving, SAVE indicator disappears. [F2] is restored to the function of MENU, and display holding is turned off.

(5)Setting up Menu

Press [F2] key to enter the menu. There are 3 options in the menu:
[Range]: Measure range,
[Gate]: Gate setup
[User]: User menu setup

Press [F1] key to select the option.
Press [F2] key to enter the sub-menu.
Press [F3] key to exit the menu.

(6)   Setting up Measure Range (Only 180102)

Select Range in the menu.
Press [F3] key to select measure range.
Input impedance is 50 ohms when 50MHz – 2.6GHz range is selected.
Input impedance is 1 Meg ohms when 1OHz - 1OOMHz range is selected.

(7)   Setting up Gate

Select Gate in the menu.
Press [F2] to enter GATE options. Press [F3] to select the appropriate gate time. Press [F1] to exit.

(8)   Setting up User Menu

Hold: Function to hold the reading
Save: Function to save the measured data View: Function to view the saved data.Filter: Function to filter the unwanted signal so as to display "O" when the frequency counter is not measuring any signals.
Auto off: Function to turn off the power Automatically. The frequency counter is turned off 5 minutes after it is turned on, if ON is selected.

1)   Setting up Hold

Select Hold in User Menu. Press [F3] key to select Auto or Manual. When Auto is selected, press [F2] key to enter the holding level preset menu. Press [F2] key to increase the level, or press [F3] to decrease the level. When Manual is selected, holding level is set manually. Press [F1] key or [F2] key to return to the previous menu.

2)   Setting up Save

Select Save in the User Menu. If Auto is selected, data is saved automatically; if Manual is selected, data is saved manually.
Set Hold to Auto to start automatic saving. When the strength of the measured frequency exceeds the automatic holding level, the measured frequency and signal strength are saved. SAVE indicator flashes in the saving process, SAVE indicator disappears after saving.

In case of manual saving, press [F3] key to hold the screen reading. [F2] key now works as SAVE. Press F2 key to save the reading, SAVE indicator flashes in the saving process. SAVE indicator disappears after saving.

3)   Viewing Saved Data

Select View in the user menu to display the saved frequency and signal strength. The right tower corner indicates the location of the saved data in the memory. Press [F2] key or [F3] key to view the data. Press [F1] key to return to the previous menu.

4)   Selecting Filter

Select Filter in the User Menu. ON or OFF can be selected. The default selection is ON.

5)   Automatic Power Off

Select Auto Off in the User Menu. Select ON to start automatic power off. Select OFF to disable automatic power off.

(6)   Signal Strength Indicator

Analog bars and digits are both used to indicate the measured frequency signal strength.

The resolution of the indicator is 1dB. The maximum input sensitivity is -40dBm, input ranging from -40 dBm-+15dB m. Th e signal strength is only for reference, if the antenna is used to pick up the frequency to be measured.

4. Maintenance

(1)   Keeping the frequency counter maintained

If the frequency counter is not to be used for an extended period, please remove the battery. Open the battery cabin cover to remove the battery.

(2)   Charging the battery

When the frequency counter is used for the first time, the power of the removable battery in the frequency counter may be not enough. Please charge the battery before use. With the USB power adapter, the battery can be charged. The frequency counter does not have the function of exchanging data with the computer. Do not connect this USB to the PC USB.

When the adaptor is connected, the LED at the upper right corner lights, indicating battery charging. When charging is finished, the green LED lights. The battery is also charged when the frequency counter is in use.

The battery indicator at the upper right corner indicates the battery condition. When low battery indicator appears, please charge or replace the battery as soon as possible.

(3)   Extending the battery operating hours the frequency counter can be turned off automatically to save power if auto-power-off is turned on. If no key is pressed in 5 minutes, the frequency counter is turned off automatically. Three AAA Ni-MH batteries are used in the frequency counter. The built-in charging circuit manages the Ni MH battery charging effectively. Heavy duty alkaline batteries can also be used to power the frequency counter. But never try to charge the alkaline batteries.

(4)   Calibration

Connect the frequency counter to a standard frequency source. Remove the battery from the frequency counter and use power adapter to power the frequency counter. Adjust the CAL variable capacitor, until the frequency reading is the same with the standard signal.

6. Specifications

Model	IBQ101	IBQ102	
Range	50MHz-2.6GHz	10Hz – 100MHz	50MHz-2.6GHz
Amplifier	SO ohm	1 Meg ohm	50 ohm
Impedance	50ohm	1 Meg ohm	50 ohm
	VSWR<2:1	30pF	VSWR<2:1
Features	RF signal strength	RF signal strength (50 MHz – 2.6Ghz)	
	Screen Holding	Screen Holding	
	Save	Save	
	View	View	
	Battery indicator	Battery indicator	
Sensitivity	<5mV@ 100 MHz	<30mV@10Hz-50 MHz	<5mV@ 100 MHz
	<5mV@400 MHz		<5mV@400 MHz
	<I5mV@ IGHz	<35mV@10Hz-50 MHz	<I5mV@ IGHz
Gate	0.1 ms	0.01 s	0.01 m s
	0.1s	0.1 s	0.1 s
	1s	1s	1s
Time Base	<+/-30ppm	<+/-30ppm	
LSD	100 Hz/s	1Hz/1s (10Hz – 100MHz)	
		100Hz/1s (50MHz – 2.6GHz)	
Battery	3 X AAA Ni-MH		
P<iwer	5VDC IA		
Cabinet	ABS		
Size	85mm (H)55mm(D 2mm1W)		
ANT	(UHF)		